

Volkswagen 2018CY PEMS Report

Volkswagen Group of America
3800 Hamlin Rd
Auburn Hills, MI 48326

October 9, 2019

Background

The Volkswagen Group (VW), with its headquarters in Wolfsburg, Germany, is a large automobile manufacturer that comprises 12 brands from seven European countries: Volkswagen Passenger Cars, Audi, SEAT, ŠKODA, Bentley, Bugatti, Lamborghini, Porsche, Ducati, Volkswagen Commercial Vehicles, Scania, and MAN.

The Third Partial Consent Decree requires Volkswagen AG, Audi AG, and VWGoA to retain an independent third-party to conduct portable emissions measurement systems (PEMS) testing of Model Year (MY) 2017, 2018, and 2019 vehicles. This test program requires PEMS measurement of regulated criteria air pollutants and CO₂ under certain conditions as set forth in the Third Partial Consent Decree. The MY 2017 report was prepared last year and is available online. This report includes the test results of the MY 2018 vehicles in the U.S. Market.

Approach

The test plan was approved by the U.S. EPA and carried out by a third-party, the University of California, Riverside (UCR). For 2018, the plan includes emissions testing of eleven vehicles on public roads, over a range of conditions, utilizing PEMS. Emissions measured and reported include oxides of nitrogen (NO_x), carbon monoxide (CO), carbon dioxide (CO₂), and total hydrocarbons (THC). All vehicles were tested, configured, and operated by UCR and were independent of VW operations. Measurement quality control checks were performed with calibrated / certified gases before and after PEMS testing so the data provided in this report is valid and representative. The following three on-road cycles (City, Highway, and Mountain) were performed in the Los Angeles, CA area.

Results¹

The MY 2018 vehicles were tested between July 16, 2018 and August 19, 2018. The results are presented in the following tables. All vehicles were tested while fueled with commercially available E10 gasoline. Table 1 shows the vehicles tested, Table 2 lists the summary on-road emission results, and Tables 3, 4, and 5 list the route summary statistics.

¹ The original version of this report, dated November 27, 2018, was updated on October 9, 2019, to add footnotes 3 and 5 to Tables 3 and 5, respectively. No other changes were made to the original version of this report.

Table 1. Summary of vehicles tested for model year 2018 organized by test order (first to last)

Test Group	Vehicle Model	Manufacturer	VIN	Emission Class	Type of drive	Nominal power [HP]	Nominal torque [Nm]	Transmission	Exhaust gas treatment	Type of fuel	Start Mileage [mi]
JVGAJ03.0AUE	A7 3.0 L	Audi		IntT3B125/ULEVII	AWD	335	440	Automatic	TWC	Gasoline	10085
JVGAV04.0NUA	A8 4.0 L	Audi		IntT3B125/ULEVII	AWD	450	600	Automatic	TWC	Gasoline	6615
JVGAT02.0AAA	Atlas 2.0 L	VW		T3B125/ULEV125	FWD	235	350	Automatic	TWC	Gasoline	3609
JVGAV03.6VUG	Passat 3.6 L	VW		IntT3B125/ULEVII	FWD	276	360	Automatic	TWC	Gasoline	7387
JVGAJ02.0A3A	Tiguan TSI 2.0 L	VW		T3B30/SULEV30	FWD	186	300	Automatic	TWC	Gasoline	2679
JVGAV01.4V3B	A3 E-Tron 1.4 L	Audi		IntT3B30/SULEV30	FWD	147	250	Automatic	TWC	Gasoline	5050
JVGAT02.0VUD	Tiguan LTD 2.0 L	VW		IntT3B125/ULEVII	AWD	197	207	Automatic	TWC	Gasoline	2679
JVGAV01.4VUP	Jetta 1.4 L	VW		IntT3B125/ULEVII	FWD	147	250	Manual	TWC	Gasoline	9546
JVGAV02.0V3R	Passat 2.0 L	VW		T3B30/SULEV30	FWD	174	250	Automatic	TWC	Gasoline	3891
JVGAV02.5NAG	RS3 2.5 L	Audi		T3B125/ULEV125	AWD	400	480	Automatic	TWC	Gasoline	4433
JVGAJ02.0AAC	Q5 2.0 L	Audi		IntT3B125/ULEV125	AWD	252	370	Automatic	TWC	Gasoline	2793

Table 2. Summary of emission results for the on-road routes²

Test Group	Vehicle Model	Emission Class	City g/mi					Highway g/mi					Mountain g/mi				
			CO ₂	THC	CO	NO _x	NMOG	CO ₂	THC	CO	NO _x	NMOG	CO ₂	THC	CO	NO _x	NMOG
JVGAJ03.0AUE	A7 3.0 L	IntT3B125/ULEVII	558.4	0.0165	0.2306	0.0567	0.0168	353.7	0.0353	1.2081	0.0135	0.0359	395.9	0.0362	0.4750	0.0958	0.0369
JVGAV04.0NUA	A8 4.0 L	IntT3B125/ULEVII	588.8	0.0029	0.0715	0.0233	0.0029	376.2	-0.0001	0.2845	0.0080	-0.0001	482.7	0.0012	0.3533	0.0673	0.0012
JVGAT02.0AAA	Atlas 2.0 L	T3B125/ULEV125	335.9	0.0029	0.0197	0.0315	0.0029	366.0	0.0026	0.1546	0.0330	0.0027	352.0	0.0076	0.2996	0.0244	0.0077
JVGAV03.6VUG	Passat 3.6 L	IntT3B125/ULEVII	631.2	0.0041	0.1018	0.0352	0.0041	310.5	0.0114	0.1622	0.0150	0.0118	374.7	0.0388	0.9552	0.0289	0.0394
JVGAJ02.0A3A	Tiguan TSI 2.0 L	T3B30/SULEV30	407.1	0.0041	0.0619	0.0213	0.0041	334.8	-0.0001	0.3358	0.0148	-0.0001	356.6	0.0085	1.2595	0.0161	0.0087
JVGAV01.4V3B	A3 E-Tron 1.4 L	IntT3B30/SULEV30	261.8	0.0036	0.4638	0.0066	0.0037	275.0	0.0017	0.7649	0.0110	0.0017	270.9	0.0198	3.8875	0.0130	0.0201
JVGAT02.0VUD	Tiguan LTD 2.0 L	IntT3B125/ULEVII	548.3	0.0005	0.6679	0.0059	0.0005	360.6	0.0039	1.6695	0.0043	0.0040	449.2	0.0219	6.2224	0.0044	0.0223
JVGAV01.4VUP	Jetta 1.4 L	IntT3B125/ULEVII	349.9	0.0012	-0.0281	0.0396	0.0013	276.0	0.0033	0.6485	0.0120	0.0034	314.6	0.0160	2.1760	0.0229	0.0163
JVGAV02.0V3R	Passat 2.0 L	T3B30/SULEV30	389.3	0.0027	0.6011	0.0190	0.0028	278.4	-0.0010	0.7493	0.0091	-0.0010	348.1	0.0028	0.9358	0.0116	0.0028
JVGAV02.5NAG	RS3 2.5 L	T3B125/ULEV125	470.9	0.0050	0.0035	0.0613	0.0051	340.2	0.0102	1.4139	0.0360	0.0104	429.0	0.0263	5.3531	0.0720	0.0267
JVGAJ02.0AAC	Q5 2.0 L	IntT3B125/ULEV125	473.6	0.0096	0.2494	0.0253	0.0097	333.8	0.0094	0.1930	0.0194	0.0096	381.5	0.0121	0.2982	0.0213	0.0123

² NMOG was calculated using the formula $NMOG = 1.1 * NMHC (g/mi)$. NMHC was calculated as per 40 CFR Part 1065.660 (b)(1), using the formula $NMHC = 0.98 * THC$, where THC is in concentration (ppm). The A3 E-Tron 1.4L vehicle is a plug-in hybrid electric vehicle and was operated in the default EV (electric driving) mode. In this driving mode, the vehicle operated at 0% battery for all the test cycles performed. See Appendix C for more details. Negative values are not representative of less than zero emission values but may be a result of instrument zero drift that occurred during in-use testing.

Table 3. Summary trip statistics for the city route³

Test Group	Vehicle Model	Trip Duration [mm:ss]	Distance [mi]	Average speed [mph]	Maximum speed [mph]	v ^a (95th percentile) [m ² /s ²]	RPA [m/s ²]	Standstill proportion [%]	Constant proportion [%]	Acceleration proportion [%]	Deceleration proportion [%]	Road Gradient (95th percentile) [%]	Cumulative positive Altitude [m]	Altitude difference [m]	Average Amb Temperature [F]
JVGAJ03.0AUE	A7 3.0 L	63:59:00	15.9	14.9	-	12.3	0.24	29.7	7.1	31.5	31.6	2.7	172	9	99.9
JVGAJ04.0N1UA	A8 4.0 L	56:14:00	15.9	17.0	70.2	11.9	0.21	24.2	7.4	33.9	34.5	2.4	118	8	75.1
JVGAJ02.0AAA	Atlas TSI 2.0 L	49:32:00	16.5	20.0	69.0	11.1	0.19	21.5	8.5	34.7	35.3	2.7	122	-3	77.3
JVGAJ03.6VUG	Passat SEL 3.6 L	73:52:00	16.1	13.1	57.2	11.8	0.25	31.1	5.9	32.8	30.2	2.6	173	3	104.6
JVGAJ02.0A3A	Tiguan SEL TSI 2.0 L	57:32:00	16.2	16.9	69.0	11.7	0.22	23.2	6.8	34.9	35.1	2.5	129	6	75.3
JVGAJ01.4V3B	A3 E-Tron 1.4 L	57:05:00	16.3	17.1	65.9	14.3	0.24	27.5	7.0	32.0	33.5	2.8	138	1	76.8
JVGAJ02.0VUD	Tiguan LTD 2.0 L	54:28:00	16.1	17.7	60.3	12.4	0.22	21.1	8.4	33.8	36.7	2.5	137	4	77.3
JVGAJ01.4VUP	Jetta 1.4 L	54:07:00	16.5	18.3	62.1	13.2	0.23	22.4	7.3	33.3	37.0	3.0	153	6	76.7
JVGAJ02.0V3R	Passat 2.0 L	54:03:00	15.9	17.7	65.9	10.8	0.21	24.2	6.9	34.6	34.3	2.6	142	2	80.9
JVGAJ02.5NAG	RS3 2.5 L	54:07:00	16.1	17.8	68.4	14.0	0.23	26.2	7.0	34.2	32.7	2.9	156	-1	81.7
JVGAJ02.0AAC	Q5 2.0 L	53:12:00	16.2	18.3	78.3	15.7	0.25	26.1	6.5	33.3	34.1	2.5	121	10	75.0

Table 4. Summary trip statistics for the highway route

Test Group	Vehicle Model	Trip Duration [mm:ss:00]	Distance [mi]	Average speed [mph]	Maximum speed [mph]	v ^a (95th percentile) [m ² /s ²]	RPA [m/s ²]	Standstill proportion [%]	Constant proportion [%]	Acceleration proportion [%]	Deceleration proportion [%]	Road Gradient (95th percentile) [%]	Cumulative positive Altitude [m]	Altitude difference [m]	Average Amb Temperature [F]
JVGAJ03.0AUE	A7 3.0 L	41:37:00	37.8	54.6	79.5	15.7	0.11	5.6	18.5	38.4	37.4	2.8	177	-4	81.8
JVGAJ04.0N1UA	A8 4.0 L	43:16:00	38.3	53.1	78.9	16.0	0.13	2.6	16.8	41.0	39.6	2.8	181	-5	88.5
JVGAJ02.0AAA	Atlas TSI 2.0 L	58:35:00	39.5	40.5	75.8	14.1	0.15	3.2	15.3	43.2	38.3	2.7	204	-10	85.6
JVGAJ03.6VUG	Passat SEL 3.6 L	42:54:00	38.7	54.2	85.1	18.5	0.14	3.8	15.2	41.9	39.1	2.8	178	-14	84.7
JVGAJ02.0A3A	Tiguan SEL TSI 2.0 L	57:02:00	39.0	41.0	82.0	15.9	0.15	2.1	14.1	44.8	39.0	2.6	181	-14	85.0
JVGAJ01.4V3B	A3 E-Tron 1.4 L	78:50:00	38.8	29.5	77.1	15.1	0.15	4.4	16.2	39.8	39.6	2.7	191	-29	87.1
JVGAJ02.0VUD	Tiguan LTD 2.0 L	44:28:00	38.5	52.0	77.1	16.4	0.12	4.5	18.5	39.9	37.1	2.8	177	-16	84.9
JVGAJ01.4VUP	Jetta 1.4 L	47:17:00	39.6	50.3	81.4	18.5	0.14	3.6	14.9	41.6	40.0	2.9	187	-10	85.8
JVGAJ02.0V3R	Passat 2.0 L	46:30:00	38.3	49.4	79.5	13.5	0.12	3.7	19.2	40.6	36.4	2.8	177	-15	89.4
JVGAJ02.5NAG	RS3 2.5 L	42:26:00	38.6	54.5	80.2	17.6	0.13	3.3	17.6	41.4	37.7	2.9	170	-15	87.7
JVGAJ02.0AAC	Q5 2.0 L	56:36:00	38.8	41.1	78.9	19.1	0.14	3.2	16.3	39.1	41.4	2.8	193	-2	88.6

Table 5. Summary trip statistics for the mountain route^{4, 5}

Test Group	Vehicle Model	Trip Duration [mm:ss]	Distance [mi]	Average speed [mph]	Maximum speed [mph]	v ^a (95th percentile) [m ² /s ²]	RPA [m/s ²]	Standstill proportion [%]	Constant proportion [%]	Acceleration proportion [%]	Deceleration proportion [%]	Road Gradient (95th percentile) [%]	Cumulative positive Altitude [m]	Altitude difference [m]	Average Amb Temperature [F]
JVGAJ03.0AUE	A7 3.0 L	51:35:00	28.5	33.2	-	15.2	0.18	7.2	13.5	41.8	37.4	11.3	758	0	85.7
JVGAJ04.0N1UA	A8 4.0 L	53:10:00	28.7	32.4	71.5	14.8	0.16	10.8	13.4	37.8	38.0	10.4	765	3	87.3
JVGAJ02.0AAA	Atlas TSI 2.0 L	48:15:00	29.4	36.6	73.9	13.7	0.15	7.0	17.2	41.9	33.9	10.6	730	-2	88.8
JVGAJ03.6VUG	Passat SEL 3.6 L	46:31:00	28.8	37.1	78.3	15.5	0.20	9.3	11.4	41.9	37.4	10.9	724	-2	90.2
JVGAJ02.0A3A	Tiguan SEL TSI 2.0 L	49:25:00	29.0	35.2	73.3	16.0	0.16	10.6	15.0	39.4	35.0	10.7	735	2	86.1
JVGAJ01.4V3B	A3 E-Tron 1.4 L	46:08:00	29.0	37.7	75.8	18.8	0.19	9.0	12.0	41.4	37.7	-	731	1	86.0
JVGAJ02.0VUD	Tiguan LTD 2.0 L	53:12:00	28.6	32.3	71.5	18.3	0.21	13.0	10.0	41.1	35.8	10.6	729	-1	90.8
JVGAJ01.4VUP	Jetta 1.4 L	52:27:00	29.5	33.7	69.6	17.3	0.19	10.5	11.3	40.1	38.1	10.0	735	0	88.2
JVGAJ02.0V3R	Passat 2.0 L	54:21:00	28.5	31.4	68.4	15.8	0.20	11.6	10.2	41.8	36.4	10.6	719	-1	89.3
JVGAJ02.5NAG	RS3 2.5 L	53:53:00	28.6	31.9	78.9	21.3	0.23	13.6	9.4	40.7	36.3	10.4	724	-2	94.8
JVGAJ02.0AAC	Q5 2.0 L	44:48:00	28.9	38.7	75.8	19.3	0.20	6.9	10.3	43.0	39.8	10.4	724	1	88.2

³ The value of the Maximum speed [mph] for the A7 3.0 L, represented with the symbol “-”, was measured to be 158.5 mph, which is an implausible value and was likely produced as a default when the CAN signal temporarily went invalid.

⁴ The value of the Road Gradient (95th percentile) [%] for the A3 E-Tron 1.4 L, represented with the symbol “-”, was measured to be zero, which is not a reasonable value and may be a result of issues with the GPS system.

⁵ The value of the Maximum speed [mph] for the A7 3.0 L, represented with the symbol “-”, was measured to be 158.5 mph, which is an implausible value and was likely produced as a default when the CAN signal temporarily went invalid.



Highway Route

City Route

Mountain Route

Figure 1. On-road testing on California public roads

Summary

The emissions from the test vehicles was representative of typical in-use conditions for city, highway, and mountain driving. The conditions ranged from 75°F to 105°F, 0% to 11.3% grade, and from up to 2,500 feet from sea level. In summary, the emissions presented are representative of valid in-use testing.

Sincerely,

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College of Engineering - Center for Environmental Research and Technology
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Appendix A - Routes

The routes for the on-road testing included various geographies and climactic conditions, including stop-go city traffic, highway driving, and heavy grade/high elevation. The routes included a route in the LA downtown area, a highway route between Oxnard and Santa Barbara, CA, and a route in the Santa Barbara mountains. Table 1 provides the characteristics for the test routes, and the routes are shown geographically in Figure 1. These routes were approved by EPA as meeting their requirements for the Consent Decree PEMS testing. The routes are described in greater detail below.

Table 1. Description of test routes and key trip statistics

Route	Map Color Code	Accessibility (hrs)	Route Distance (mi)	Average Speed (mph)	Cum. Pos Elevation (ft)	95 th Percentile Grade %
1. LA - Downtown	Blue	9-14 or 20-24	16.2	17	465	2.7
2. Freeway cruise	Green	24hr	39	47	600	2.8
3. Mountain	Red	24hr	29	34.6	2400	10.6

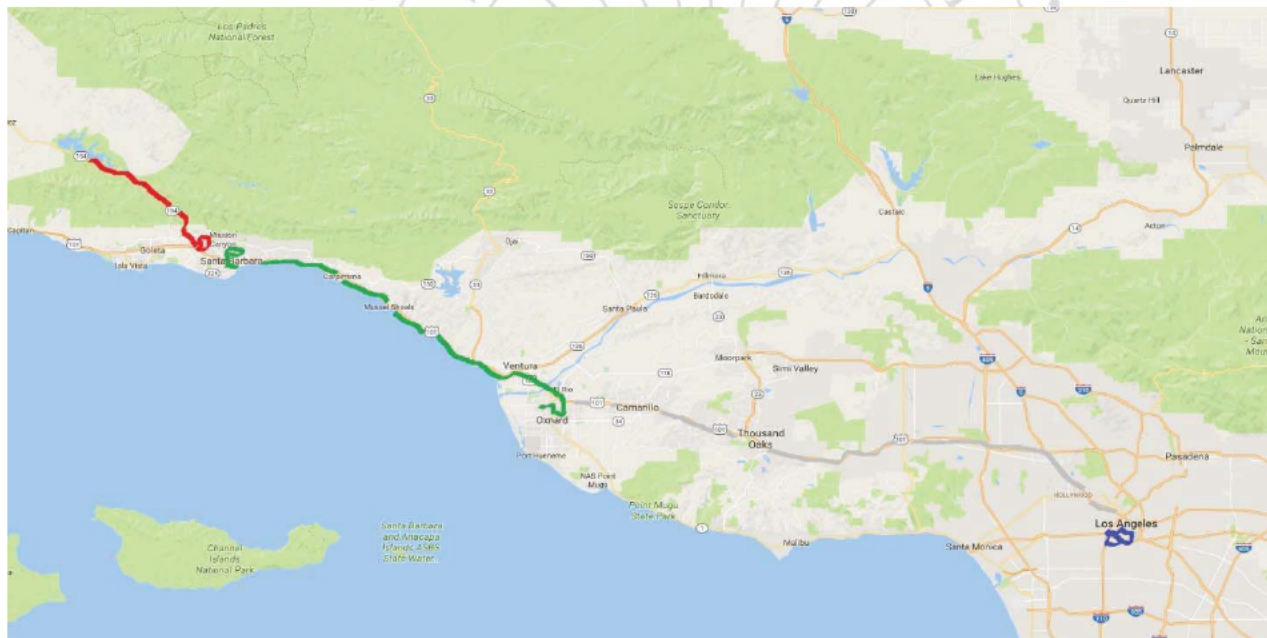


Figure 1. Overview of the three test routes

Figure 2 shows a map of the downtown LA area route, designated as Route 1, that is representative of urban driving in downtown Los Angeles. This route essentially represents the “*Los Angeles Route Four*” (i.e., LA4), which was ultimately used in developing the original FTP vehicle certification cycle, with some minor modifications at locations where the traffic pattern or roads have changed since development of the FTP. The average typical speed for this route is 17 mph, and a typical speed profile and elevation profile of this route is provided in Figure 3. The route is 16.2 miles long and starts and ends at University of Southern California (USC).

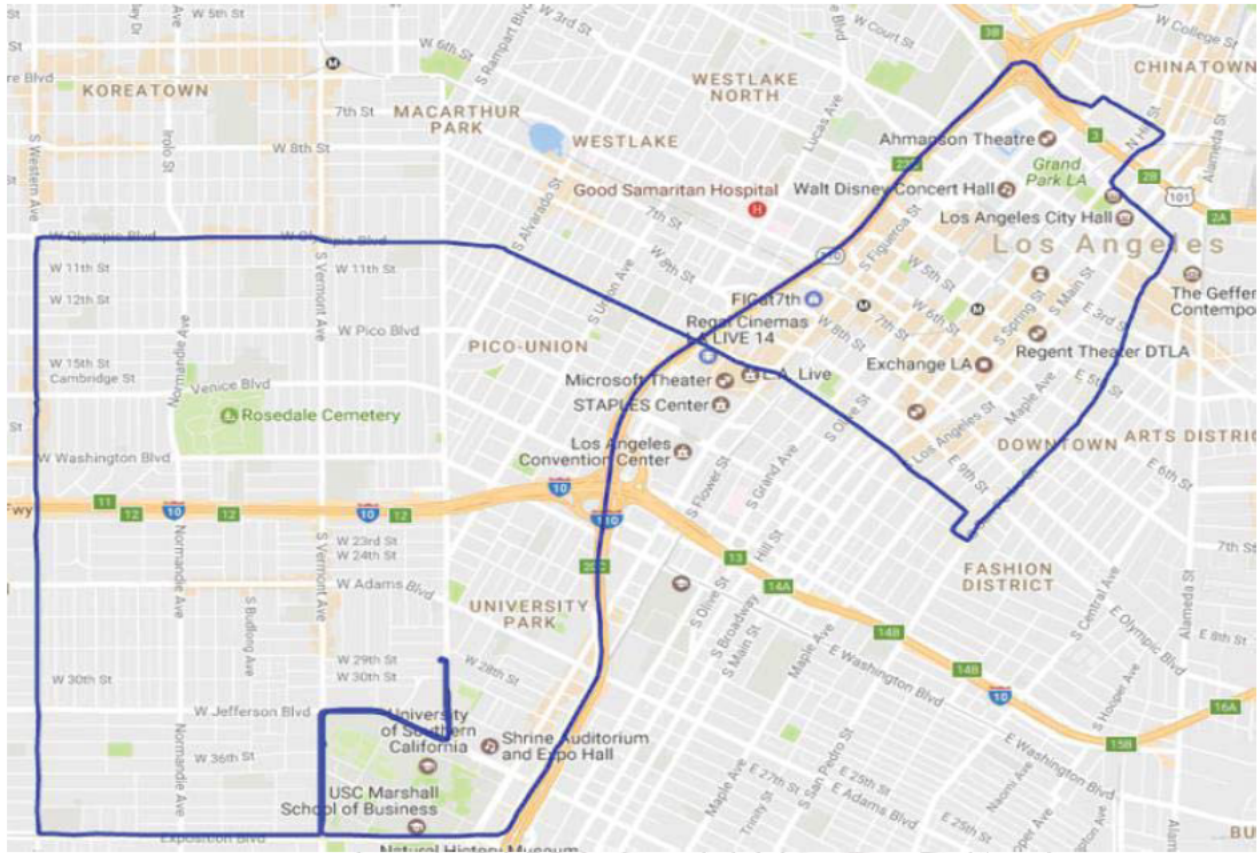


Figure 2. Map of Route 1, urban driving downtown Los Angeles

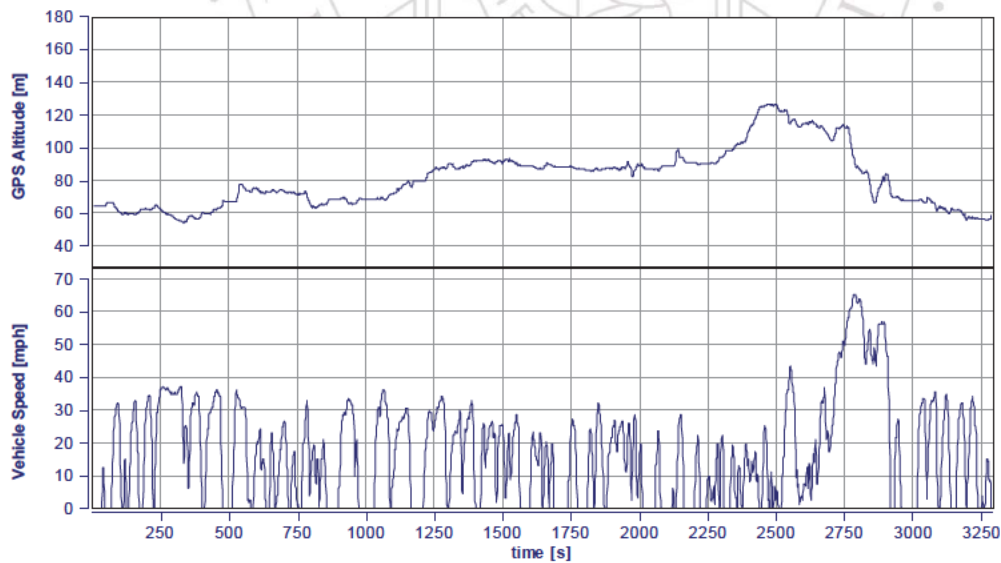


Figure 3. Speed and elevation profiles for Route 1, urban driving downtown Los Angeles

A map of the highway route, which is designated Route 2, is depicted in Figure 4. Route 2 is 39 miles in distance between Oxnard and Santa Barbara, CA. The typical average speed for this route is 47 mph, and a typical speed profile and elevation profile for this route is provided in Figure 5.

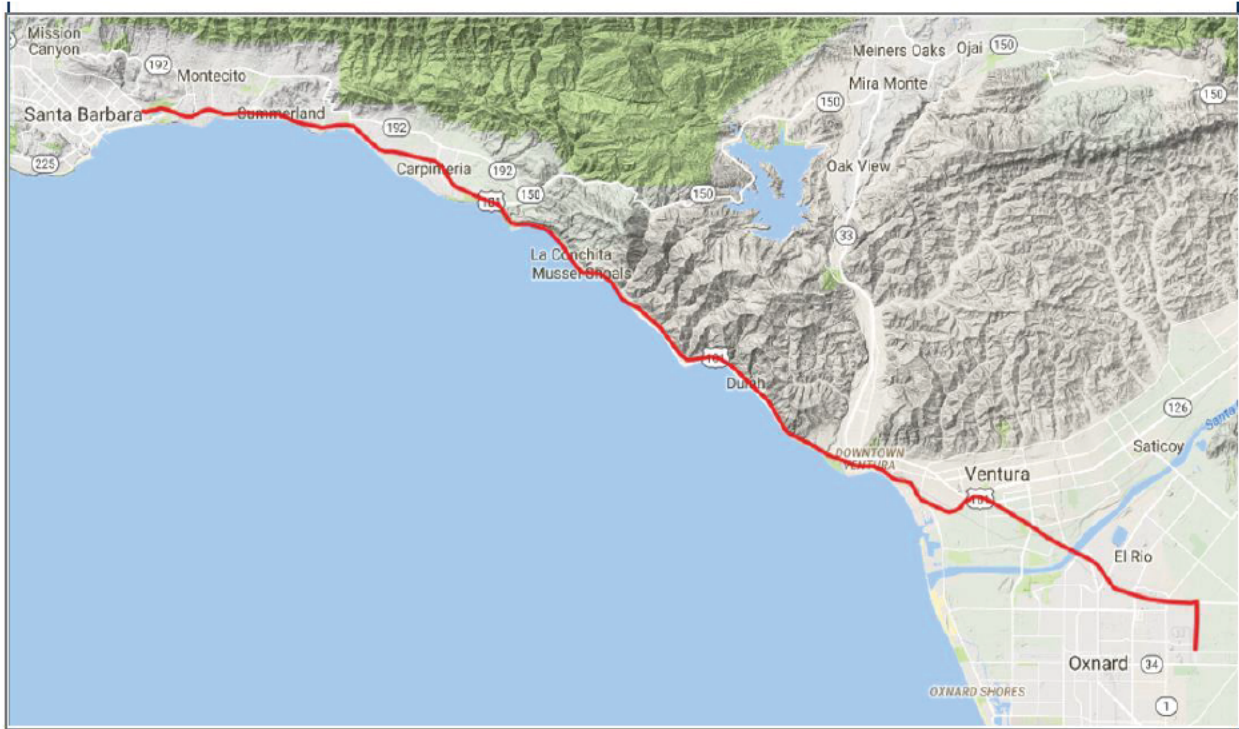


Figure 4. Topographic map of Route 2, highway driving between Oxnard and Santa Barbara

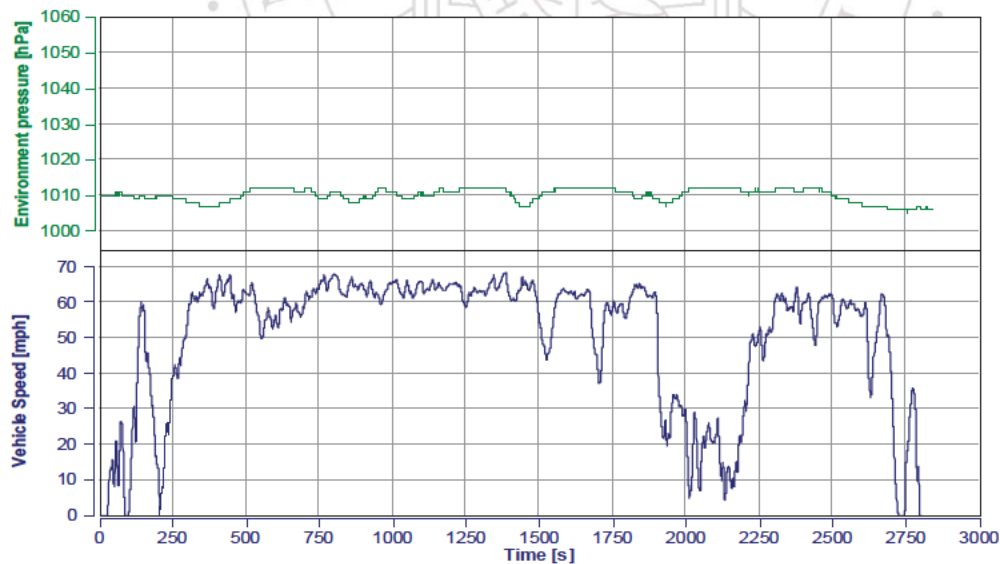


Figure 5. Speed and elevation profiles for Route 2, highway driving

A map of the uphill/downhill route, which is designated Route 3, is depicted in Figure 6. Route 3 is 29 miles in distance, with a majority of the miles in the Santa Barbara mountains. The typical average

speed for this route is 34.6 mph, and a typical speed profile and elevation profile for this route is provided in Figure 7. The route goes to a maximum elevation of 2,400 feet.

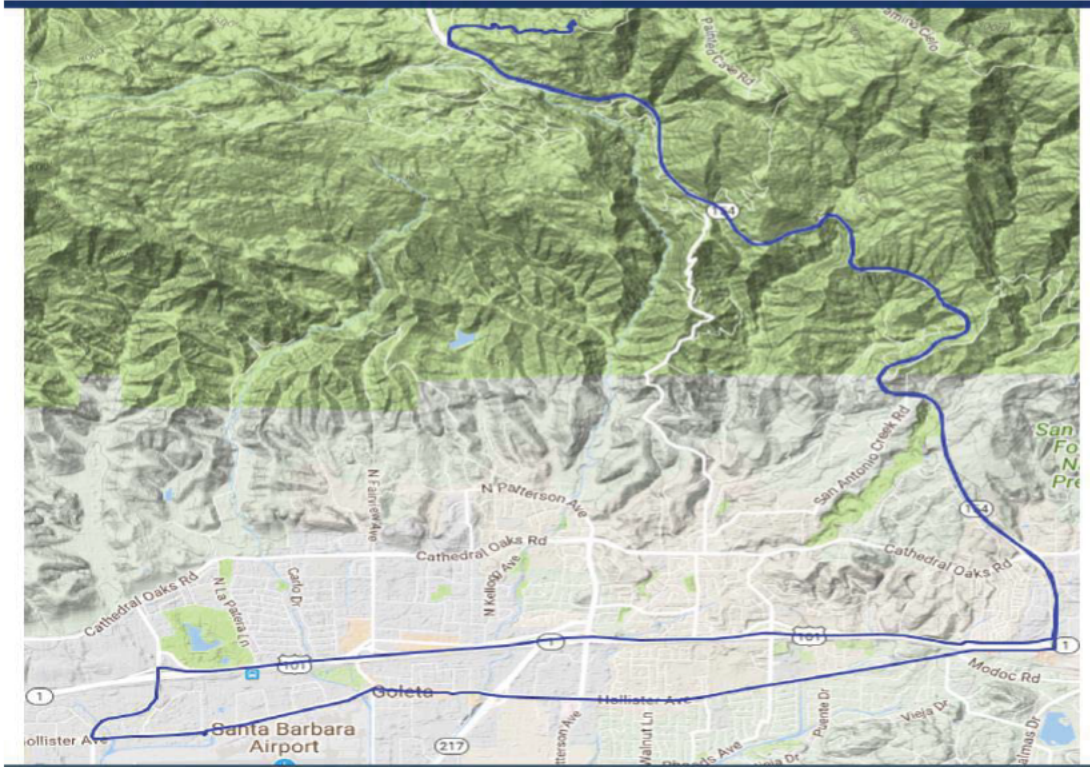


Figure 6. Topographic map of Route 3, uphill/downhill driving in the Santa Barbara Mountains

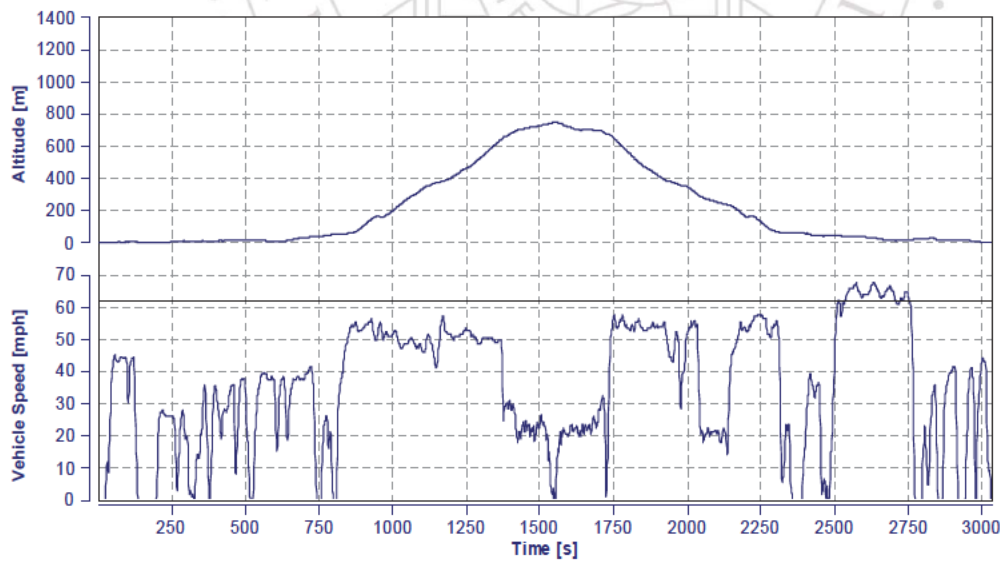


Figure 7. Speed and elevation profiles for Route 3, uphill/downhill driving

Appendix B - Detailed Test Data

Case: Highway

Page: Trip Summary

'Highway'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E. 2018

Trip Duration	2498.00	s	ave THC	25.72771	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	2498.00	s	ave NMHC	25.21315	ppm	BS CO	n/a	g/hphr
Trip Distance	37.83	mi	ave CH4	0.51455	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	37.83	mi	ave CO	563.98618	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	12.56577	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOX	5.55458	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	4.48	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	4.42	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.58	gall	tot THC	1.34914	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.56	gall	tot NMHC	1.24797	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.02990	g	DS CO2	353.98452	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	45.72128	g	DS CO	1.20849	g/mi
Trip Fuel Economy EU (ac)	23.91	mpg_US	tot CO2	13392.43137	g	DS THC	0.03566	g/mi
Trip Fuel Economy US (ac)	24.21	mpg_US	tot NO (d)	0.67480	g	DS NMHC	0.03299	g/mi
Trip Av. Eng. Speed	1509.35	rpm	tot NO2	-0.16534	g	DS CH4	0.00079	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.50947	g	DS NO (d)	0.01784	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	-0.00437	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.01347	g/mi
Trip Exhaust Mass	69.25	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	78.83	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	56.19	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	54.52369	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	5.20416	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Trip Summary Drift Corrected

'Highway'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E. 2018

Trip Duration	2498.00	s	ave THC DC	25.34191	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	2498.00	s	ave NMHC DC	24.83507	ppm	BS CO DC	n/a	g/hphr
Trip Distance	37.83	mi	ave CH4 DC	0.50684	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	37.83	mi	ave CO DC	563.82397	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	12.55745	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	5.57257	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	4.48	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	4.42	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.58	gall	tot THC DC	1.33433	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.56	gall	tot NMHC DC	1.23427	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.02957	g	DS CO2 DC	353.74994	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	45.70813	g	DS CO DC	1.20814	g/mi
Trip Fuel Economy EU (ac)	23.91	mpg_US	tot CO2 DC	13383.55633	g	DS THC DC	0.03527	g/mi
Trip Fuel Economy US (ac)	24.21	mpg_US	tot NO DC (d)	0.67736	g	DS NMHC DC	0.03262	g/mi
Trip Av. Eng. Speed	1509.35	rpm	tot NO2 DC	-0.16629	g	DS CH4 DC	0.00078	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.51107	g	DS NO DC (d)	0.01790	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	-0.00440	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.01351	g/mi
Trip Exhaust Mass	69.25	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	78.83	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	56.19	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	54.52369	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	5.20416	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Time Alignment Check

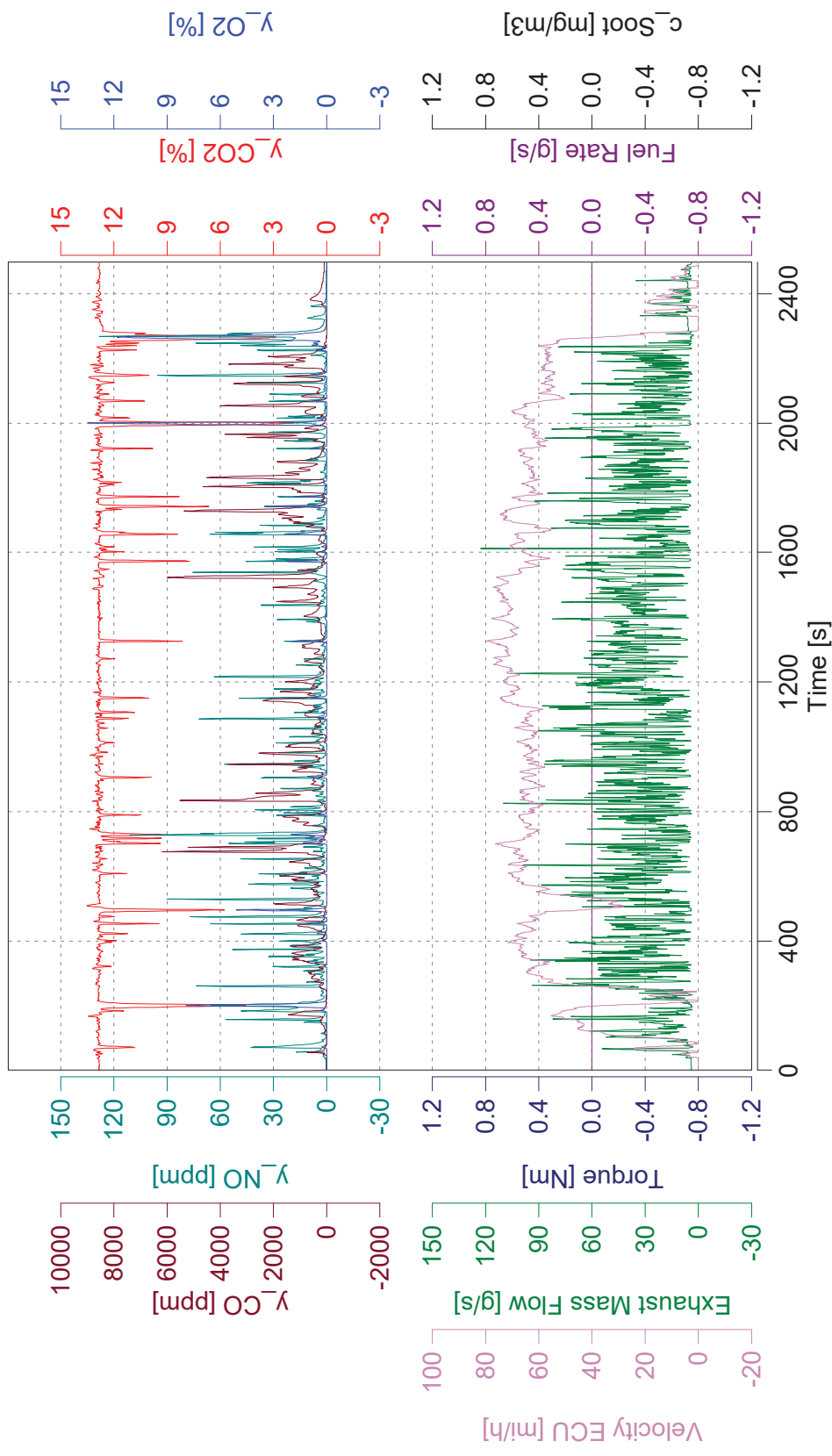
'Highway'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Time Alignment of Gas Concentrations

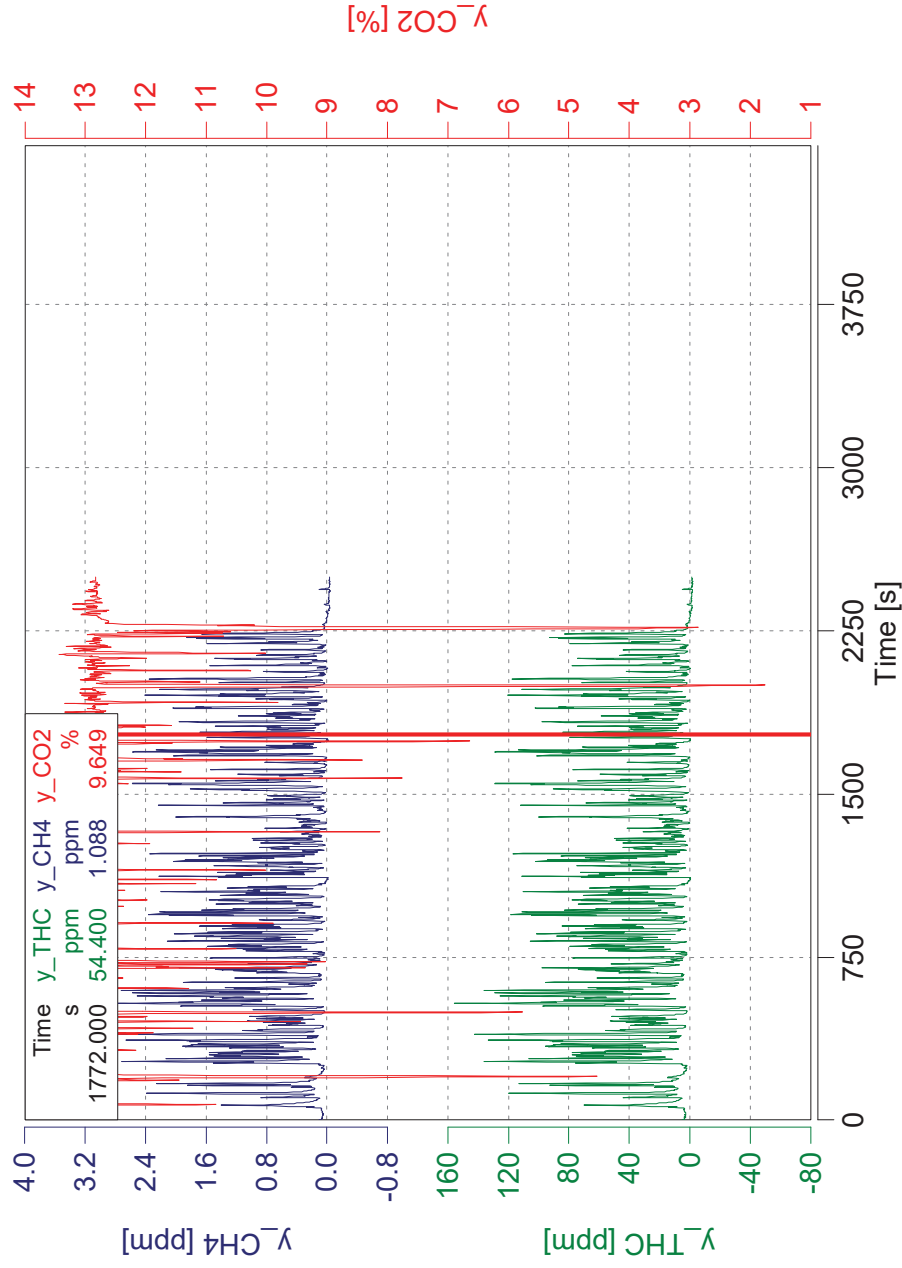
'Highway'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: Highway

Page: Ambient Conditions

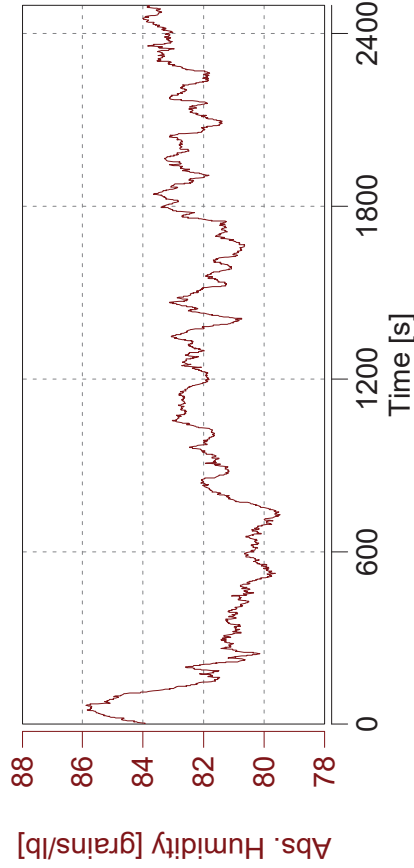
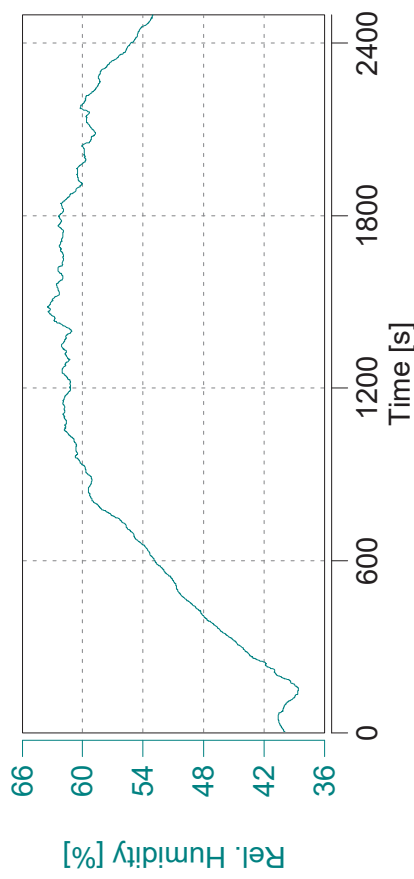
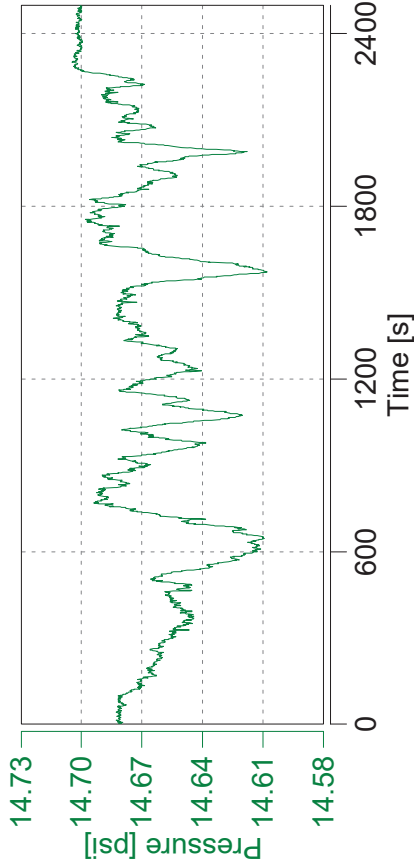
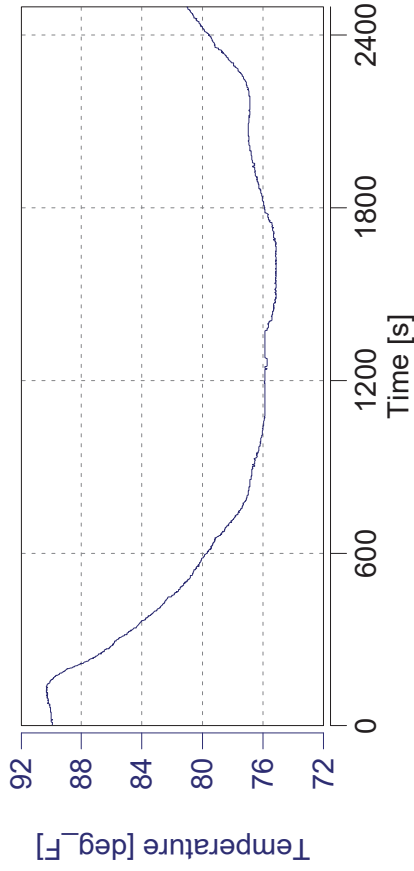
'Highway'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: GPS

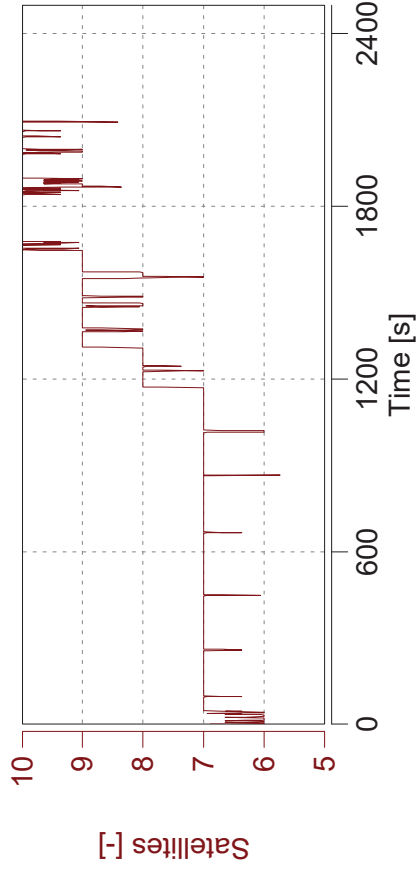
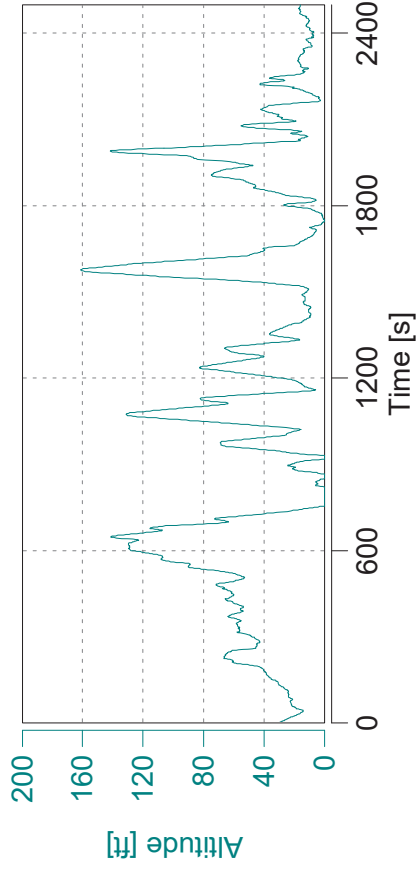
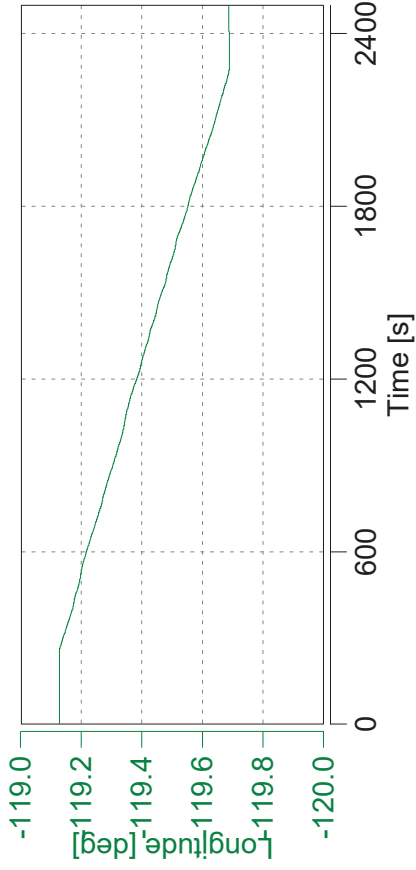
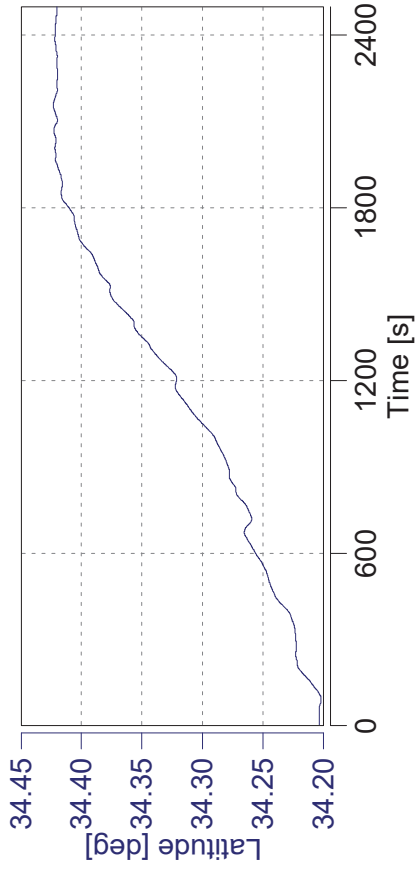
'Highway'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Engine: /
Vehicle: Audi A7 / 3.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (1)

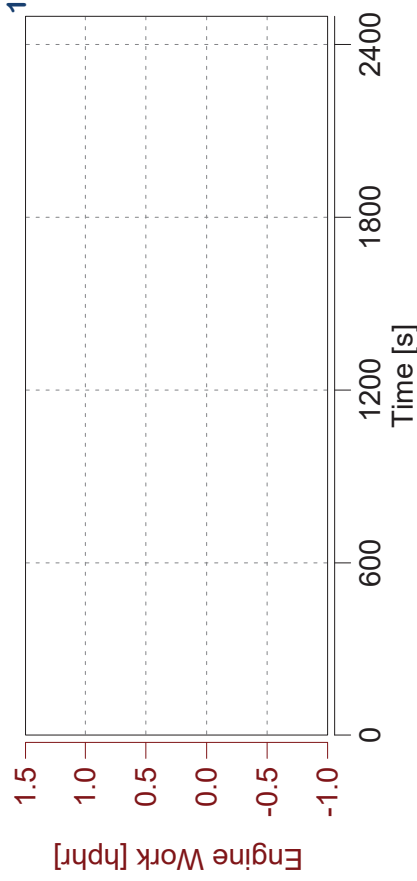
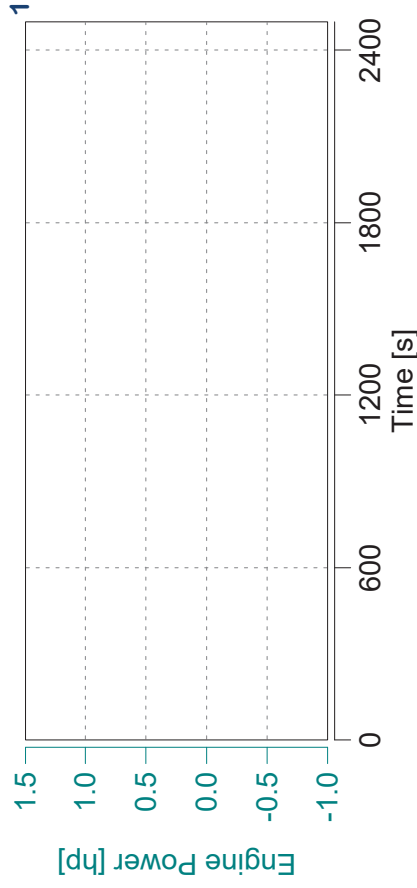
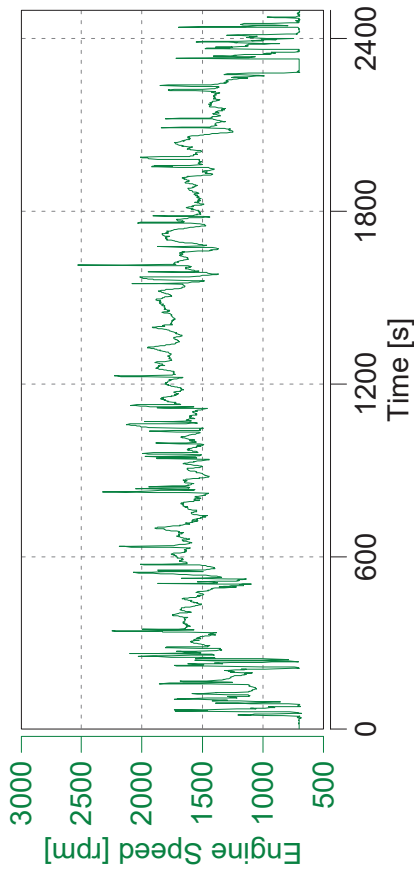
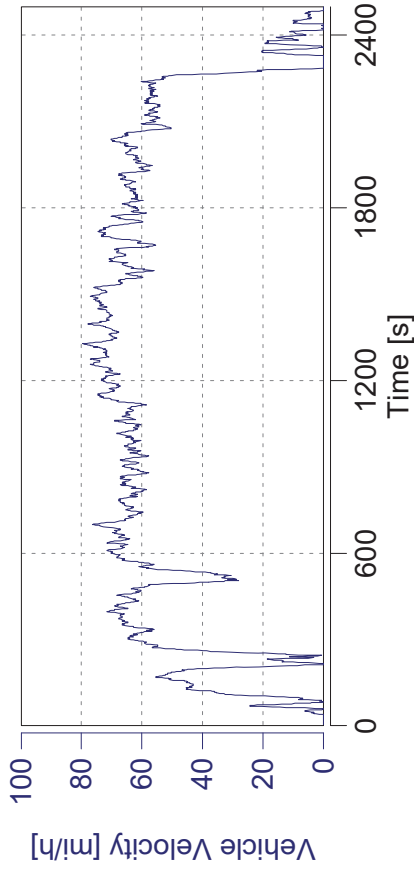
'Highway'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

1 ECM torque data was not available on the tested vehicle so some figures will show no results. This will be true for these figures on all vehicles.

Case: Highway

Page: Engine (2)

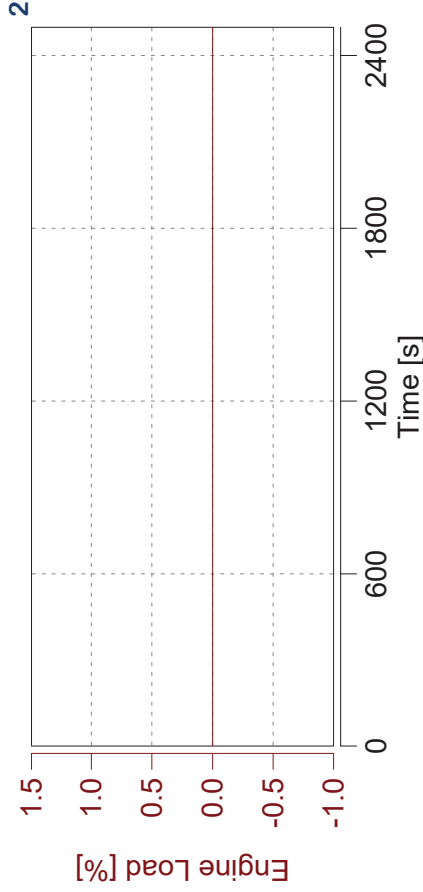
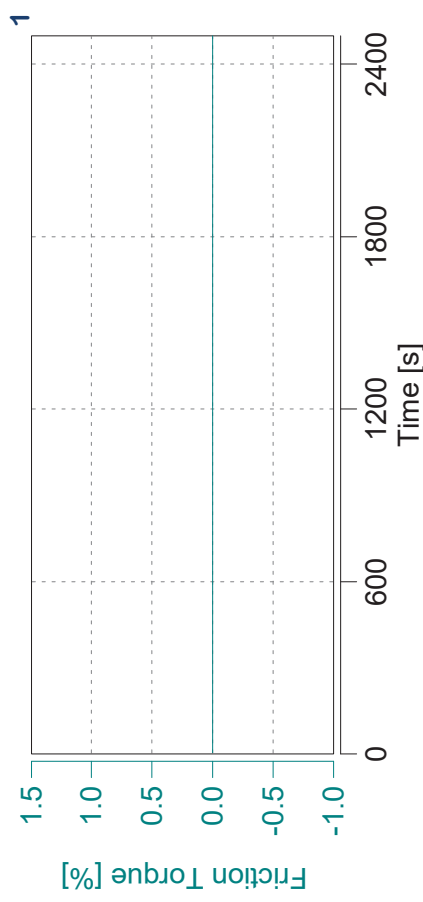
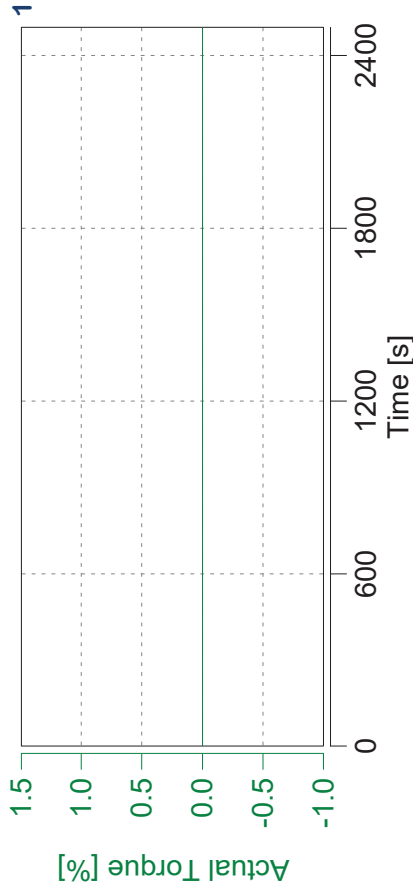
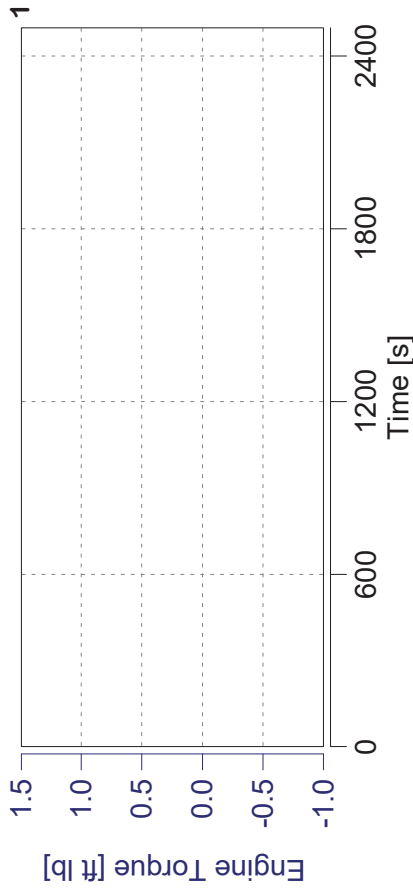
'Highway'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

1 ECM torque data was not available on the tested vehicle so some figures will show no results. This will be true for these figures on all vehicles.
2 ECM % Load data is available but the current AVL Concerto system is not plotting this data with this current release. This will be true for these figures on all vehicles.

Case: Highway

Page: Engine (3)

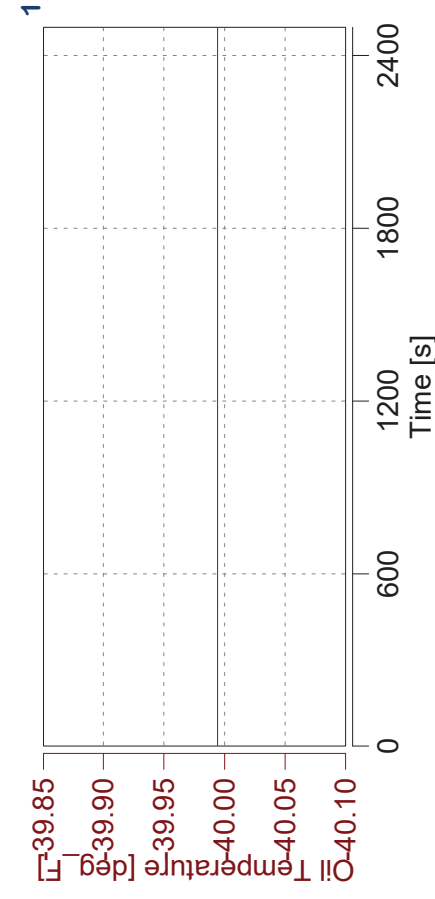
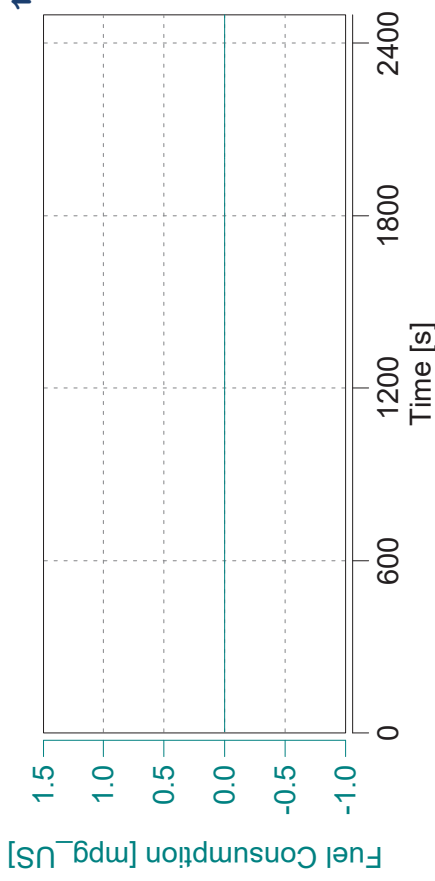
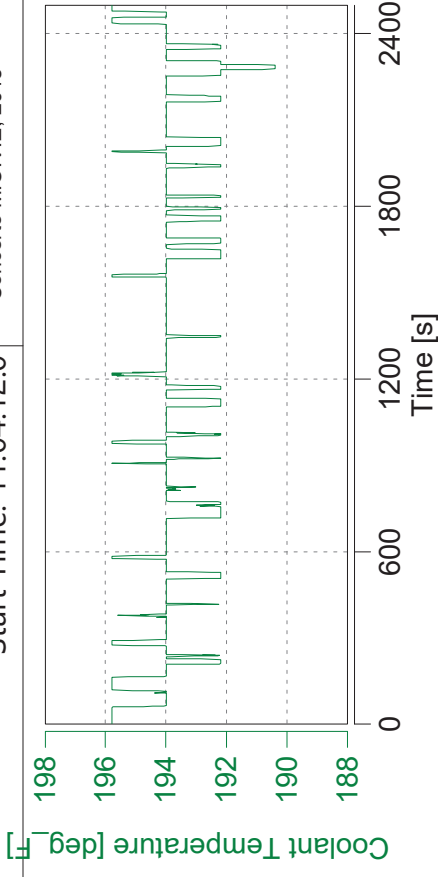
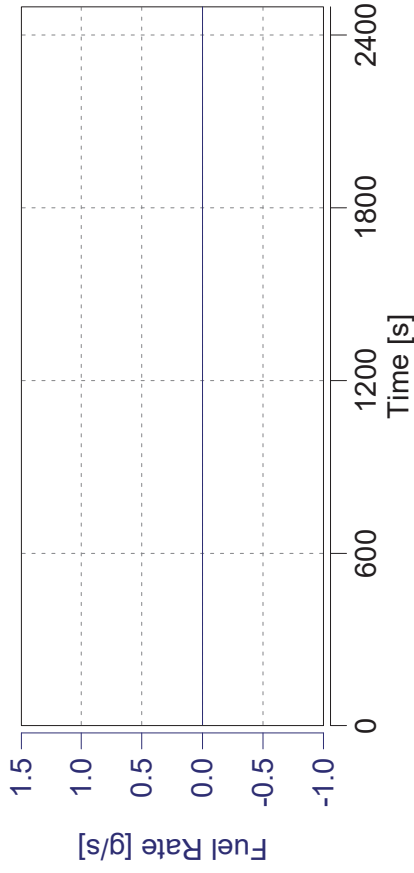
'Highway'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

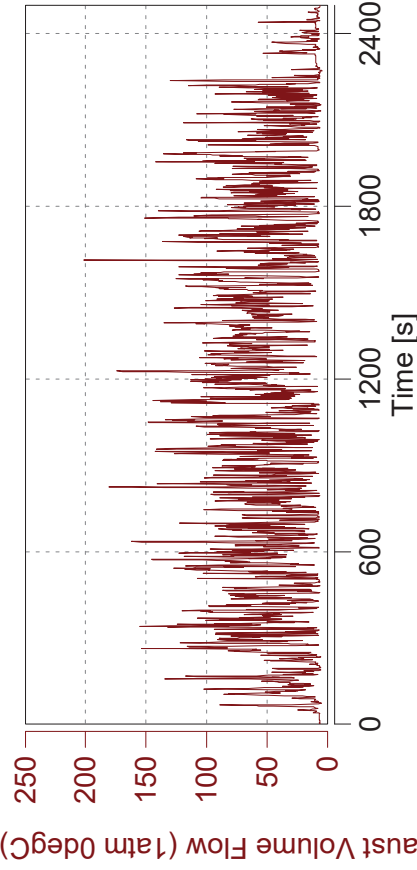
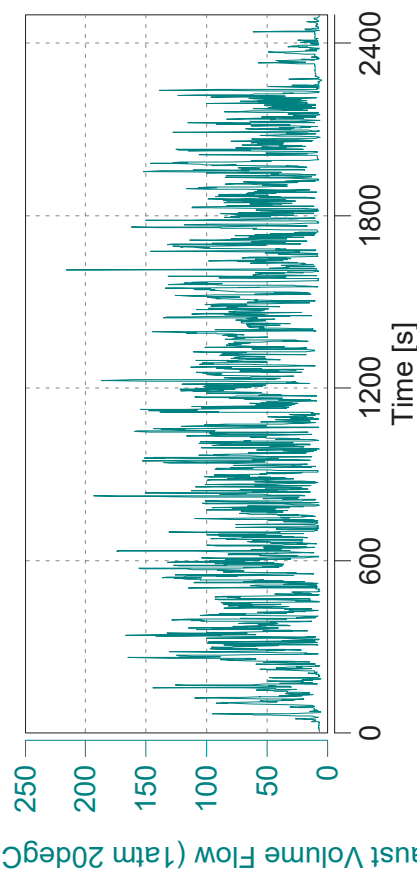
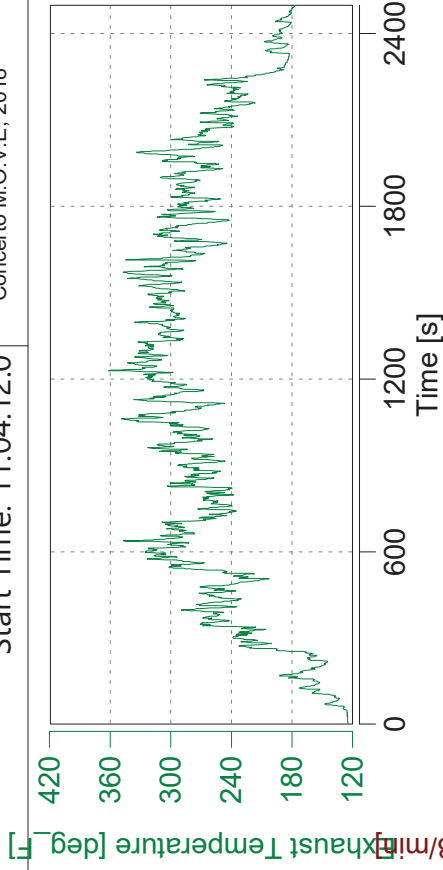
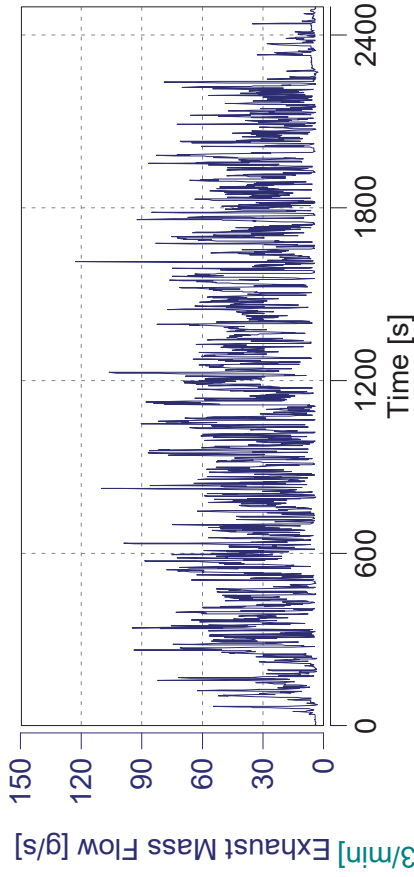
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

1 ECM fuel rate and oil temperature data was not available on the tested vehicle so some figures will show no results. This will be true for these figures on all vehicles.

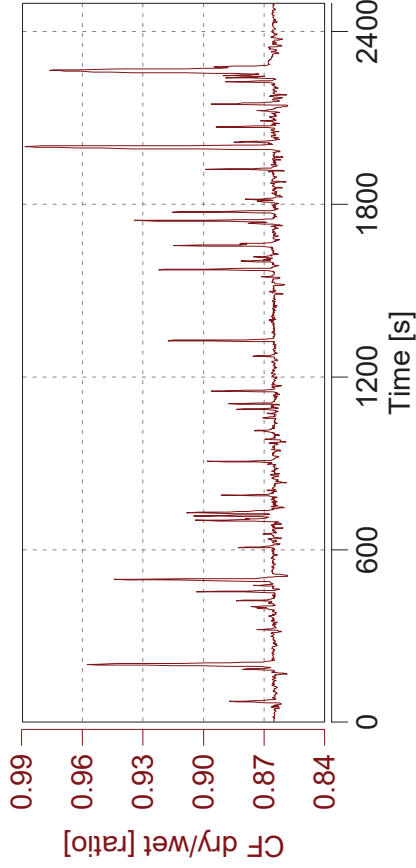
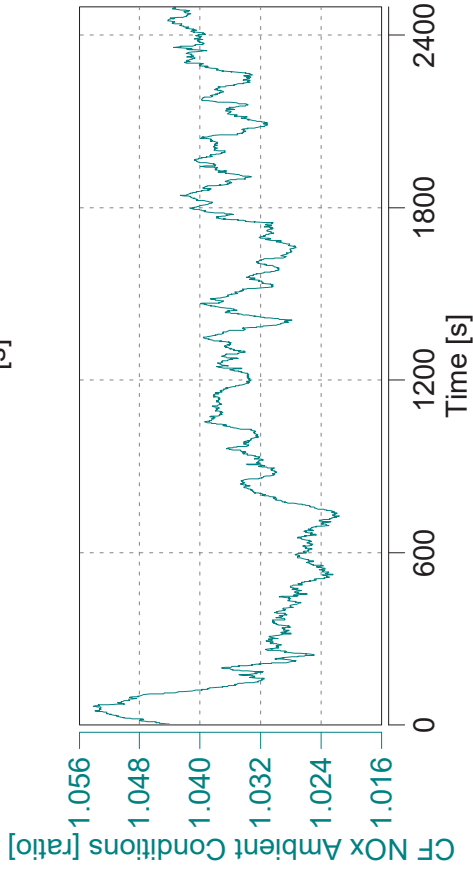
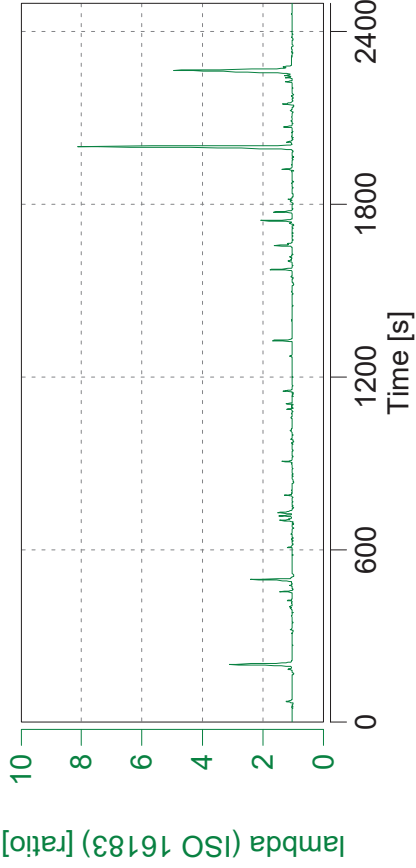
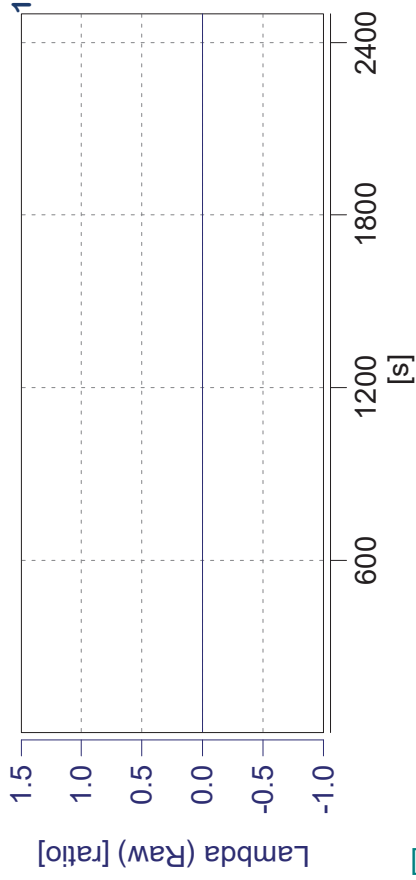


Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A7 / 3.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway
 Page: Exhaust Flow (2)

'Highway'
 Start Date: 07/16/2018
 Start Time: 11:04:12.0



Concerto Version: 480 Build 316, Serial Number: 1120
 M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A7 / 3.0L
 Engine: /
 NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90

1 ECM Lambda (Raw) [ratio] was not used in this testing. This will be true for these figures on all vehicles.

Case: Highway

Page: Corrected Emissions (1)

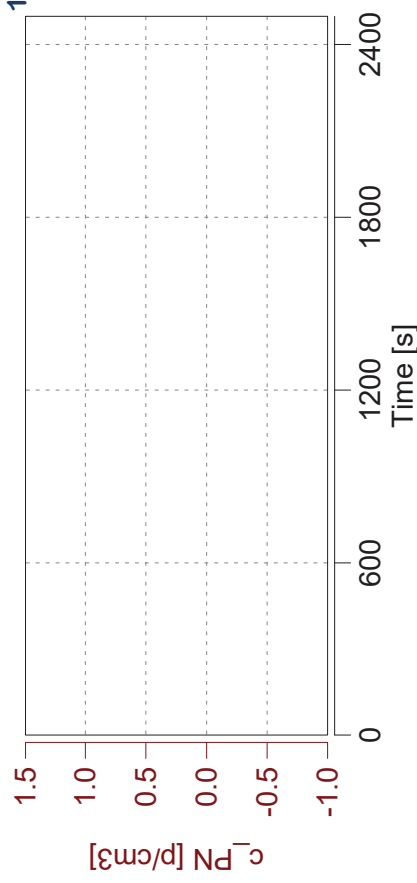
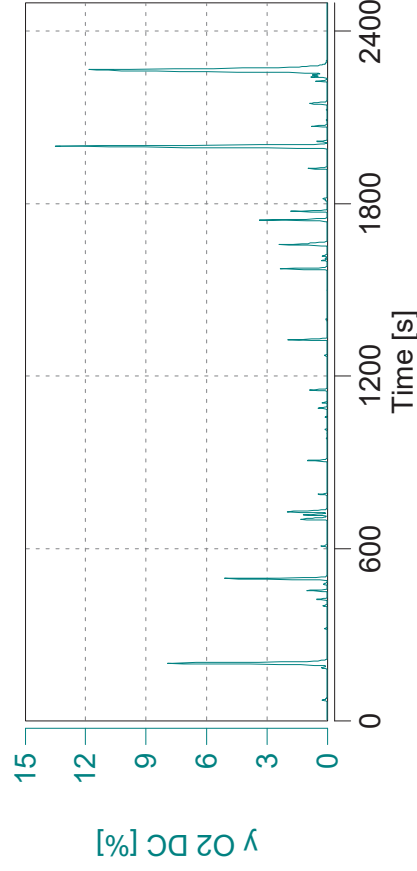
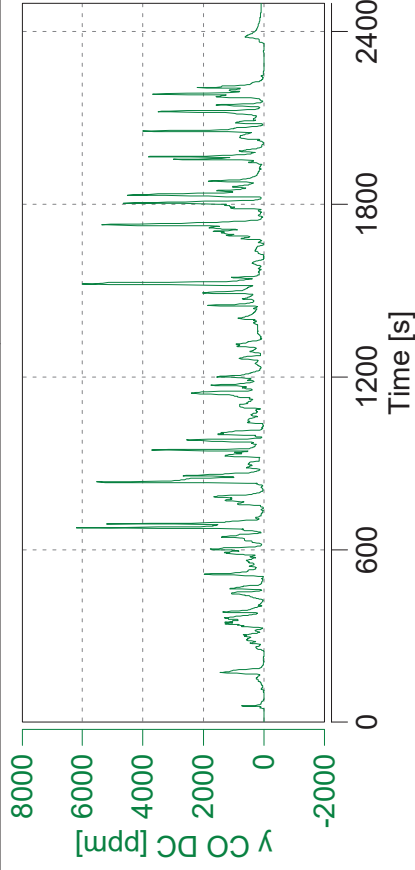
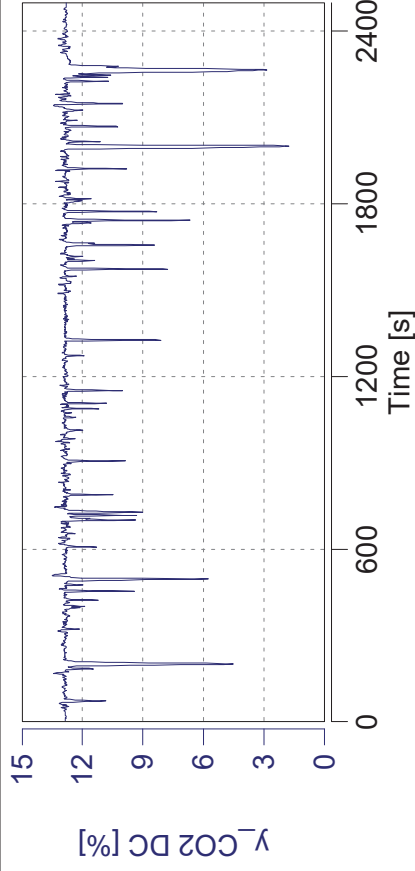
'Highway'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A7 / 3.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

1 c_PN [p/cm3] was not used in this testing. This will be true for these figures on all vehicles.

Case: Highway

Page: Corrected Emissions (2)

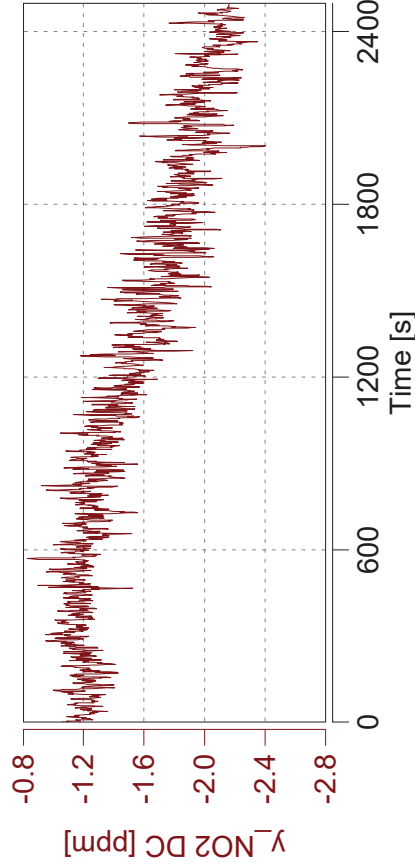
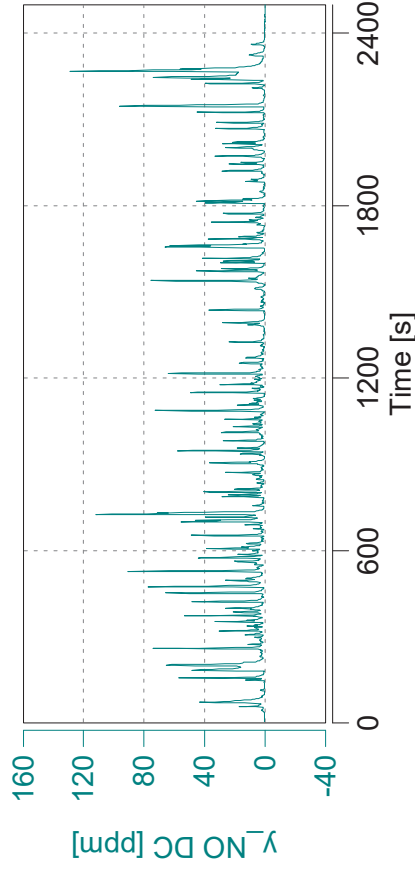
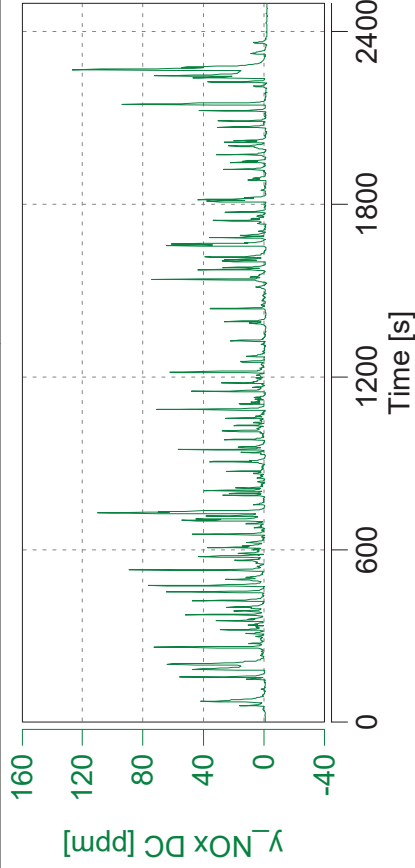
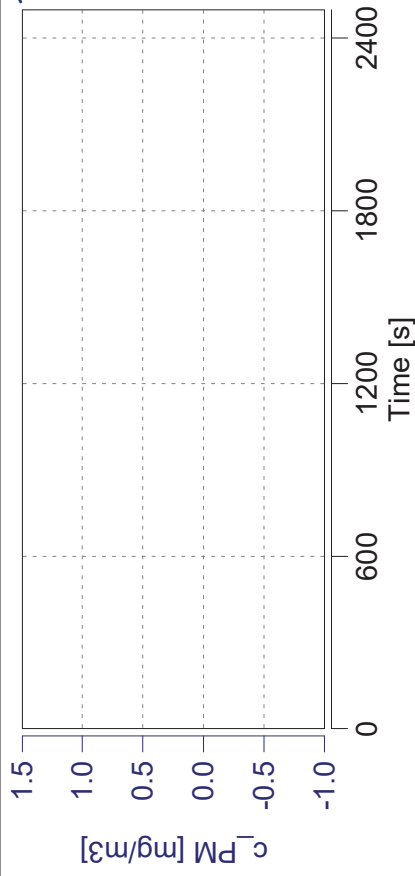
'Highway'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

1 c_PM [mg/m3] was not used in this testing. This will be true for these figures on all vehicles.

Case: Highway

Page: Corrected Emissions (3)

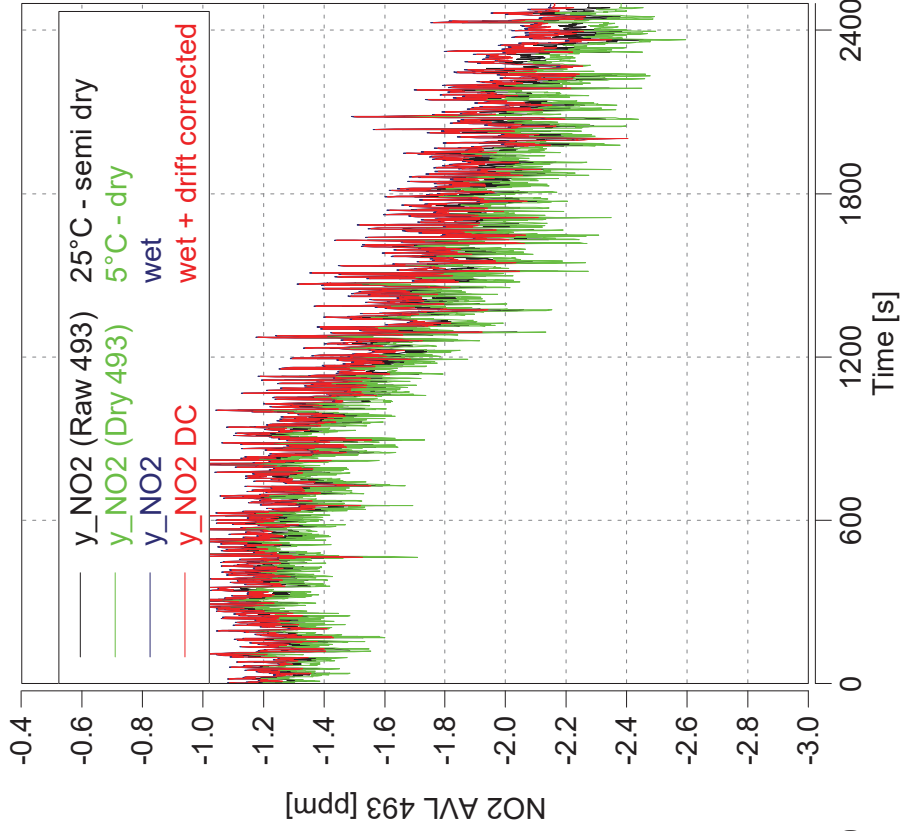
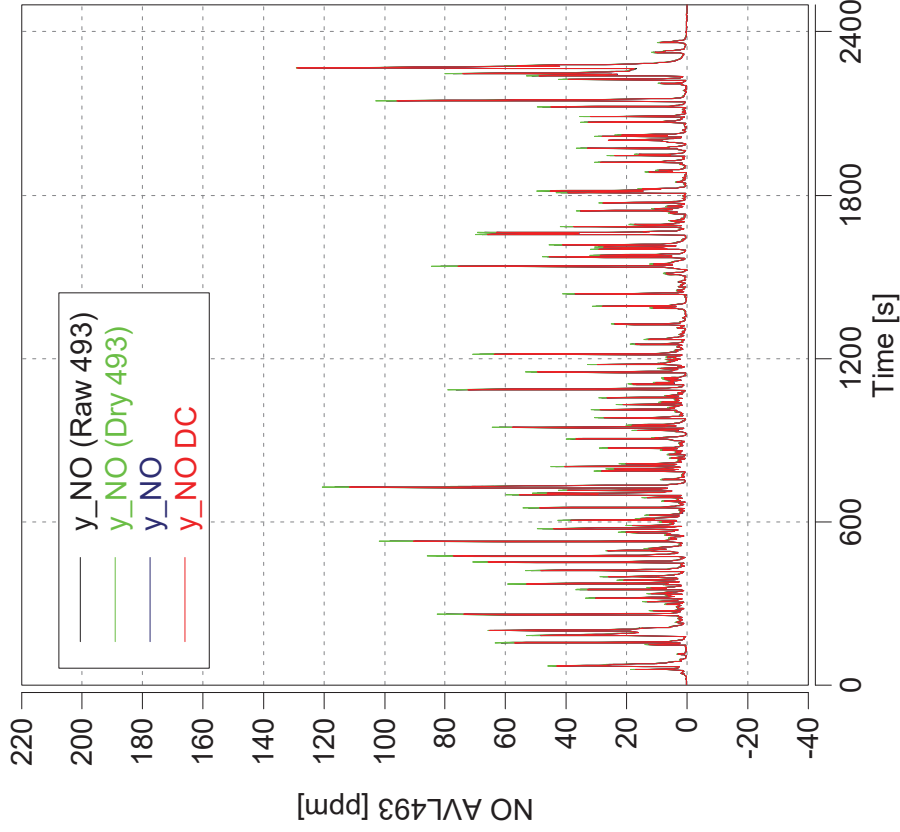
'Highway'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A7 / 3.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (4) NOx Corrections

'Highway'

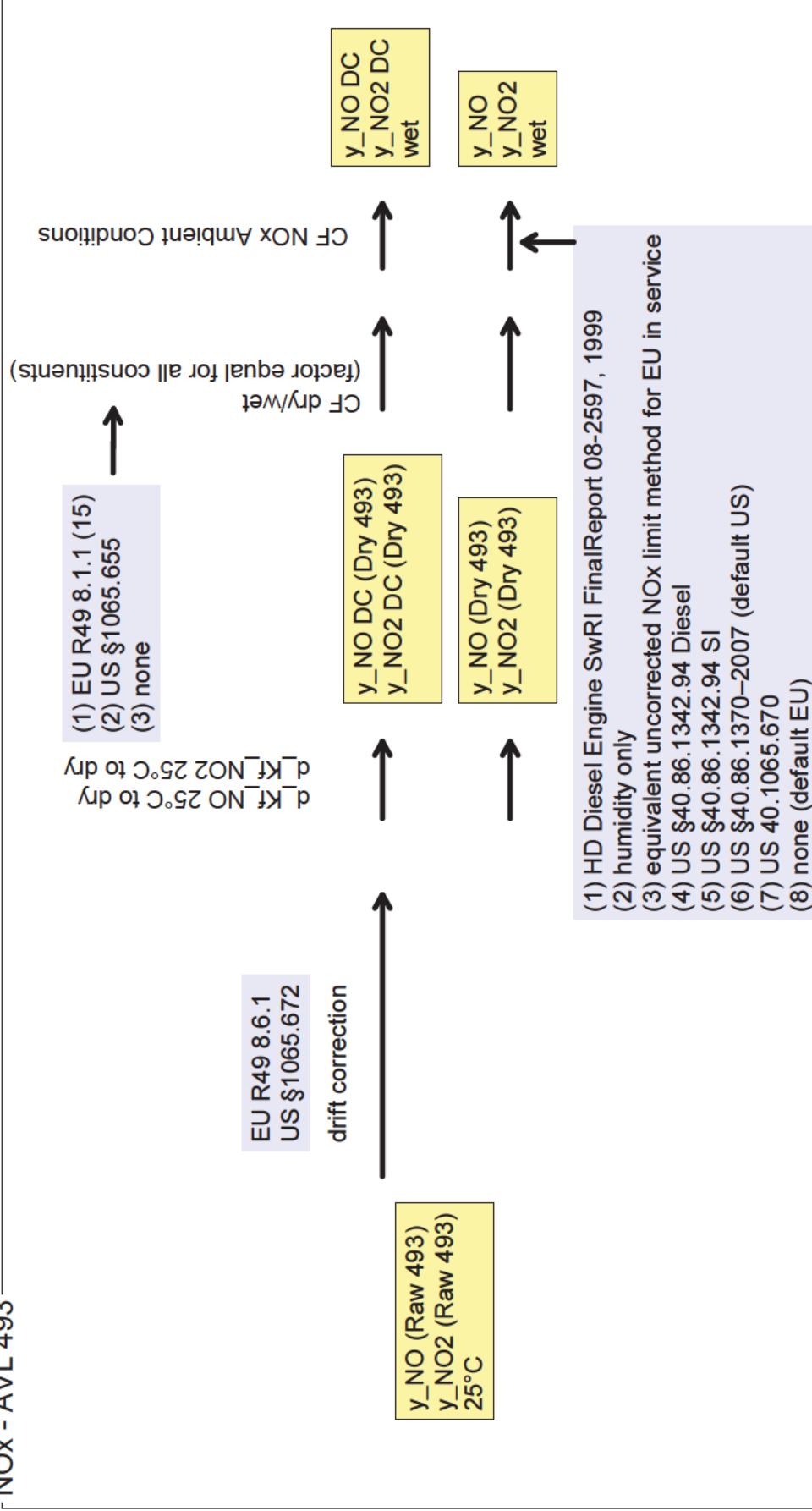
Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018

NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: / Vehicle: Audi A7 / 3.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (5)

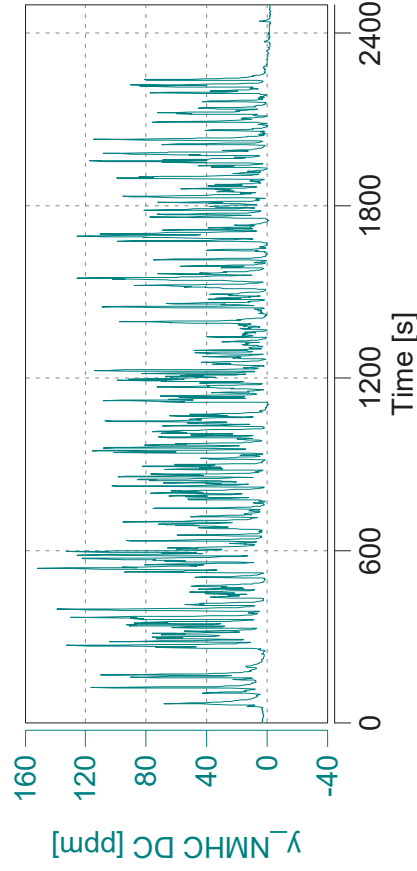
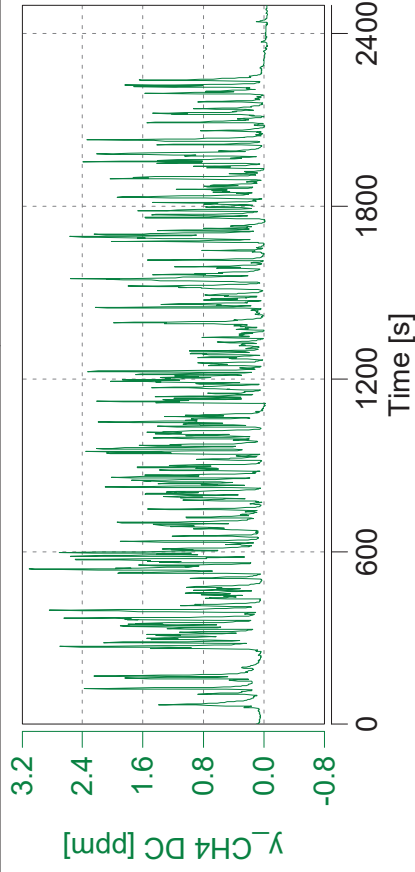
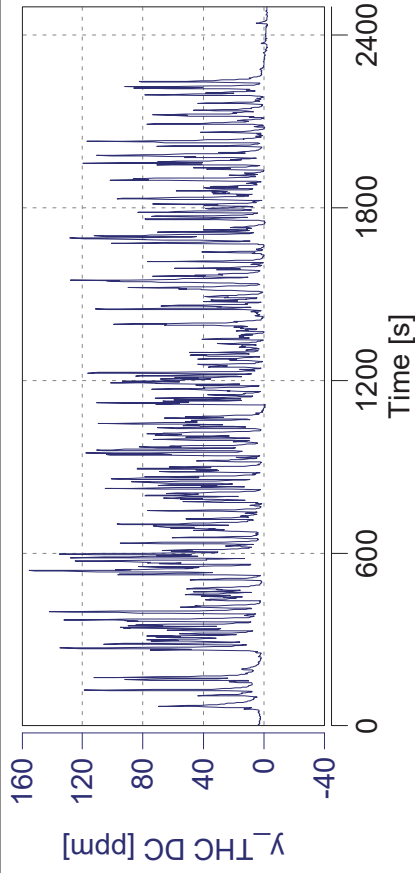
'Highway'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A7 / 3.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: NO/NO2/NOx Zero - Span

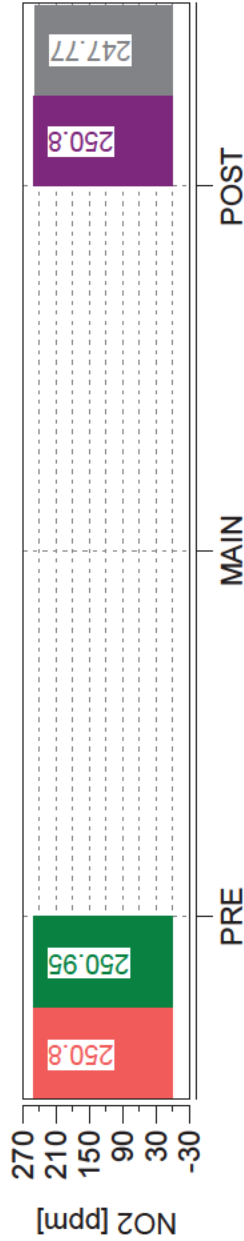
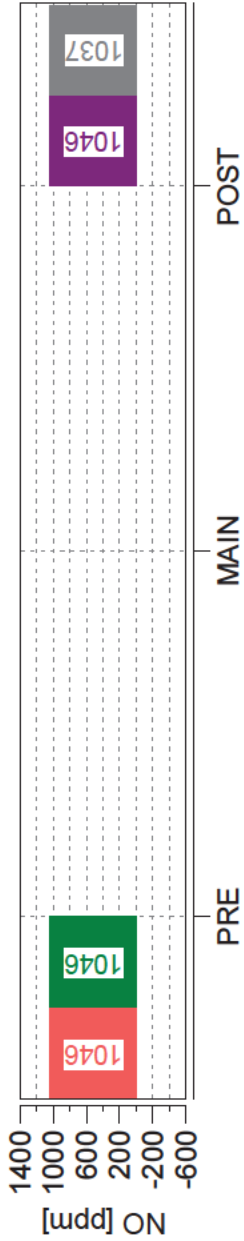
'Highway'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Audi A7 / 3.0L

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: CO/CO2 Zero - Span

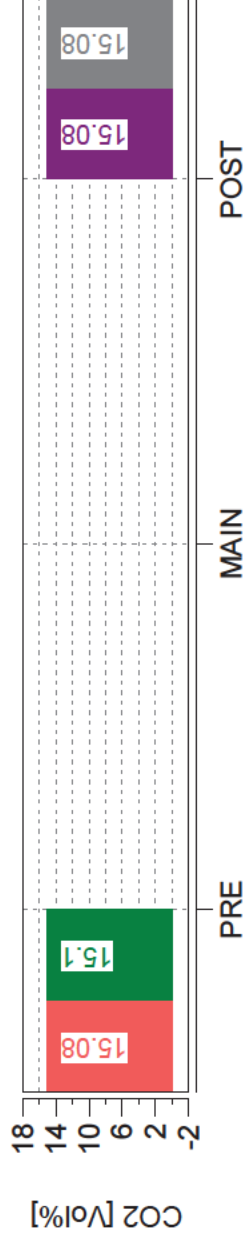
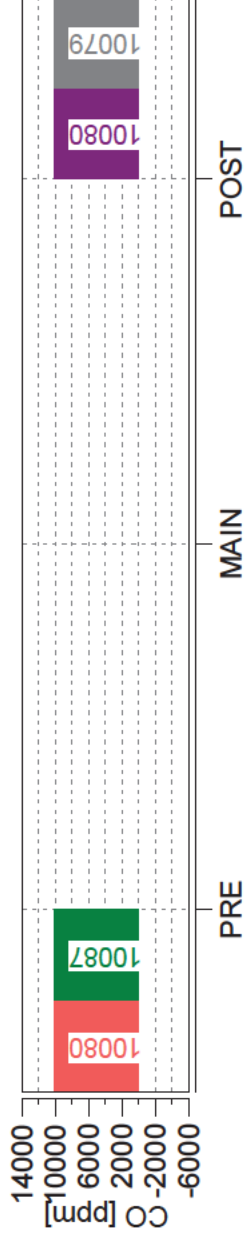
'Highway'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Audi A7 / 3.0L

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: THC/CH4 Zero - Span

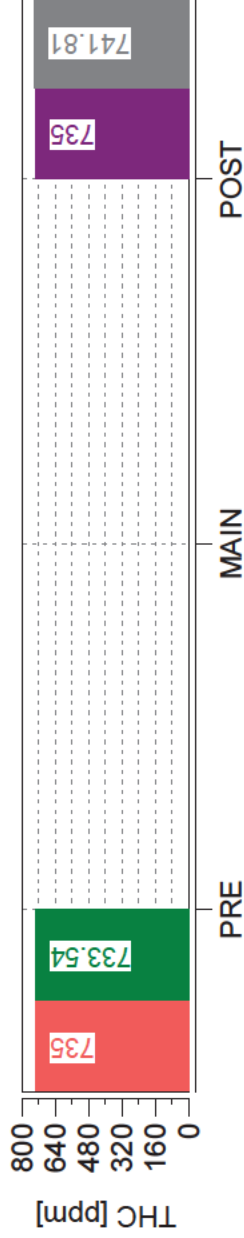
'Highway'

Start Date: 07/16/2018

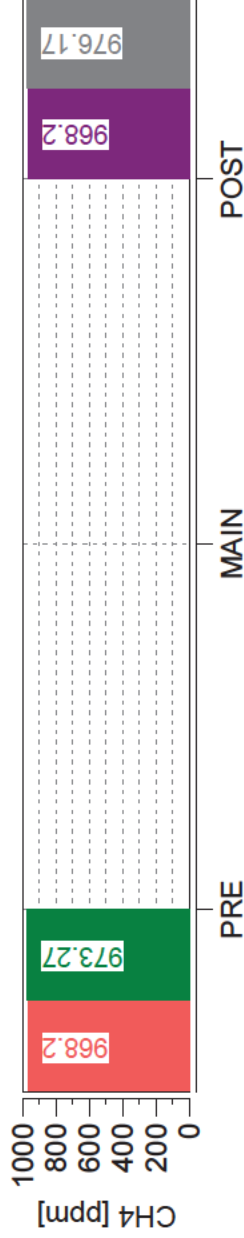
Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



GP_THC_Cal_gas_value
 GP_THC_Adjust_Actual
 GP_THC_Reference
 GP_THC_Audit_Actual



GP_CH4_Cal_gas_value
 GP_CH4_Adjust_Actual
 GP_CH4_Reference
 GP_CH4_Audit_Actual

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Trip Summary

'Mountain'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E. 2018

Trip Duration	3096.00	s	ave THC	20.76924	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	3096.00	s	ave NMHC	20.35386	ppm	BS CO	n/a	g/hphr
Trip Distance	28.53	mi	ave CH4	0.41538	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	28.53	mi	ave CO	153.60104	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	10.49360	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOX	20.05566	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	3.76	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.72	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.33	gall	tot THC	1.04684	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.31	gall	tot NMHC	0.96834	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.02320	g	DS CO2	396.15430	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	13.55297	g	DS CO	0.47511	g/mi
Trip Fuel Economy EU (ac)	21.46	mpg_US	tot CO2	11300.60313	g	DS THC	0.03670	g/mi
Trip Fuel Economy US (ac)	21.70	mpg_US	tot NO (d)	2.92178	g	DS NMHC	0.03395	g/mi
Trip Av. Eng. Speed	1591.71	rpm	tot NO2	-0.19923	g	DS CH4	0.00081	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	2.72254	g	DS NO (d)	0.10243	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	-0.00698	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.09544	g/mi
Trip Exhaust Mass	66.11	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	82.67	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	46.70	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	33.16949	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	6.75065	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Trip Summary Drift Corrected

'Mountain'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E. 2018

Trip Duration	3096.00	s	ave THC DC	20.39937	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	3096.00	s	ave NMHC DC	19.99139	ppm	BS CO DC	n/a	g/hphr
Trip Distance	28.53	mi	ave CH4 DC	0.40799	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	28.53	mi	ave CO DC	153.55687	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	10.48664	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	20.12799	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	3.76	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.72	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.33	gall	tot THC DC	1.03348	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.31	gall	tot NMHC DC	0.95598	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.02291	g	DS CO2 DC	395.89177	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	13.54907	g	DS CO DC	0.47498	g/mi
Trip Fuel Economy EU (ac)	21.46	mpg_US	tot CO2 DC	11293.11433	g	DS THC DC	0.03623	g/mi
Trip Fuel Economy US (ac)	21.70	mpg_US	tot NO DC (d)	2.93285	g	DS NMHC DC	0.03351	g/mi
Trip Av. Eng. Speed	1591.71	rpm	tot NO2 DC	-0.20038	g	DS CH4 DC	0.00080	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	2.73247	g	DS NO DC (d)	0.10281	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	-0.00702	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.09579	g/mi
Trip Exhaust Mass	66.11	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	82.67	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	46.70	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	33.16949	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	6.75065	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Time Alignment Check

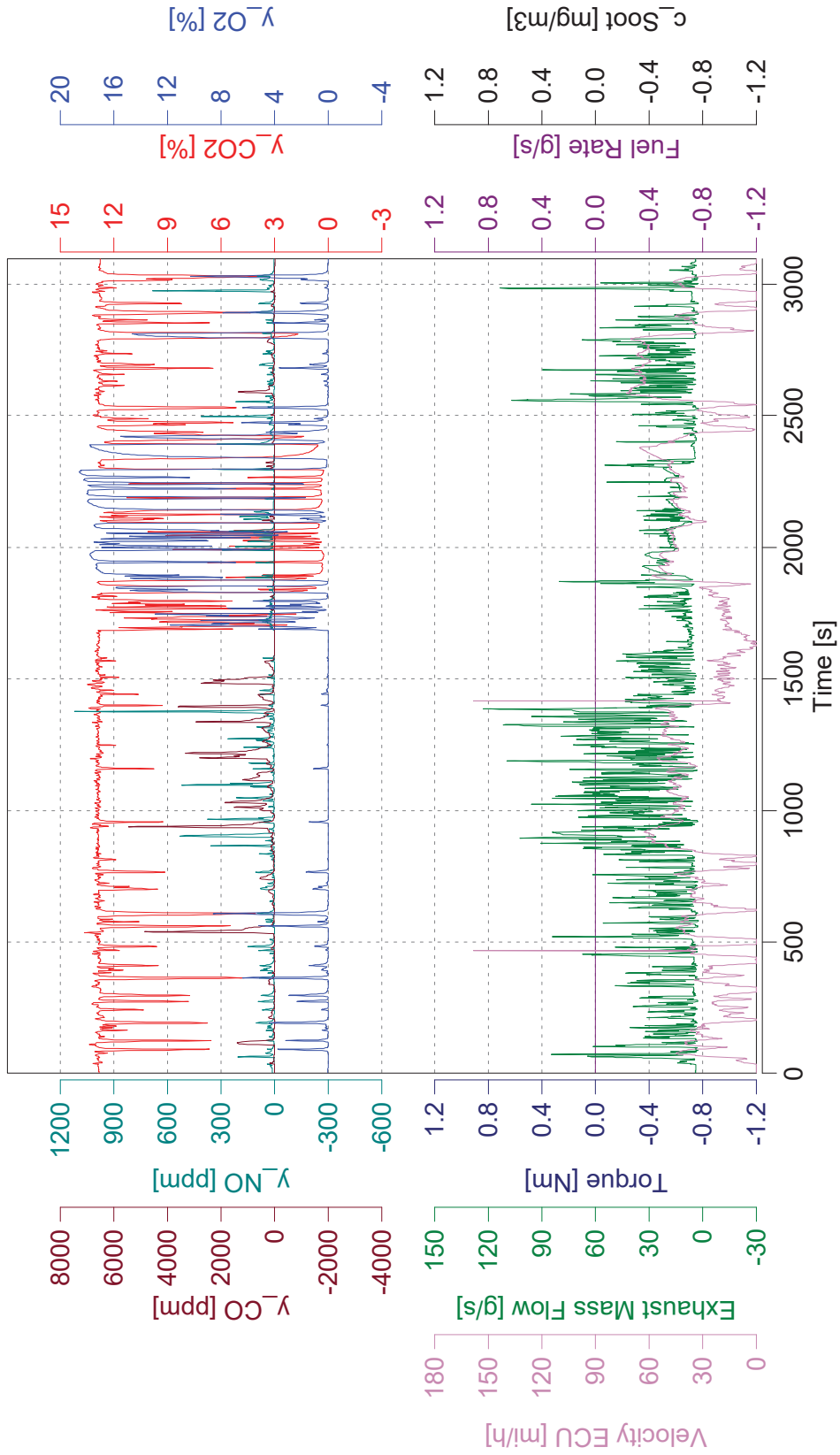
'Mountain'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E. 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /
Vehicle: Audi A7 / 3.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Time Alignment of Gas Concentrations

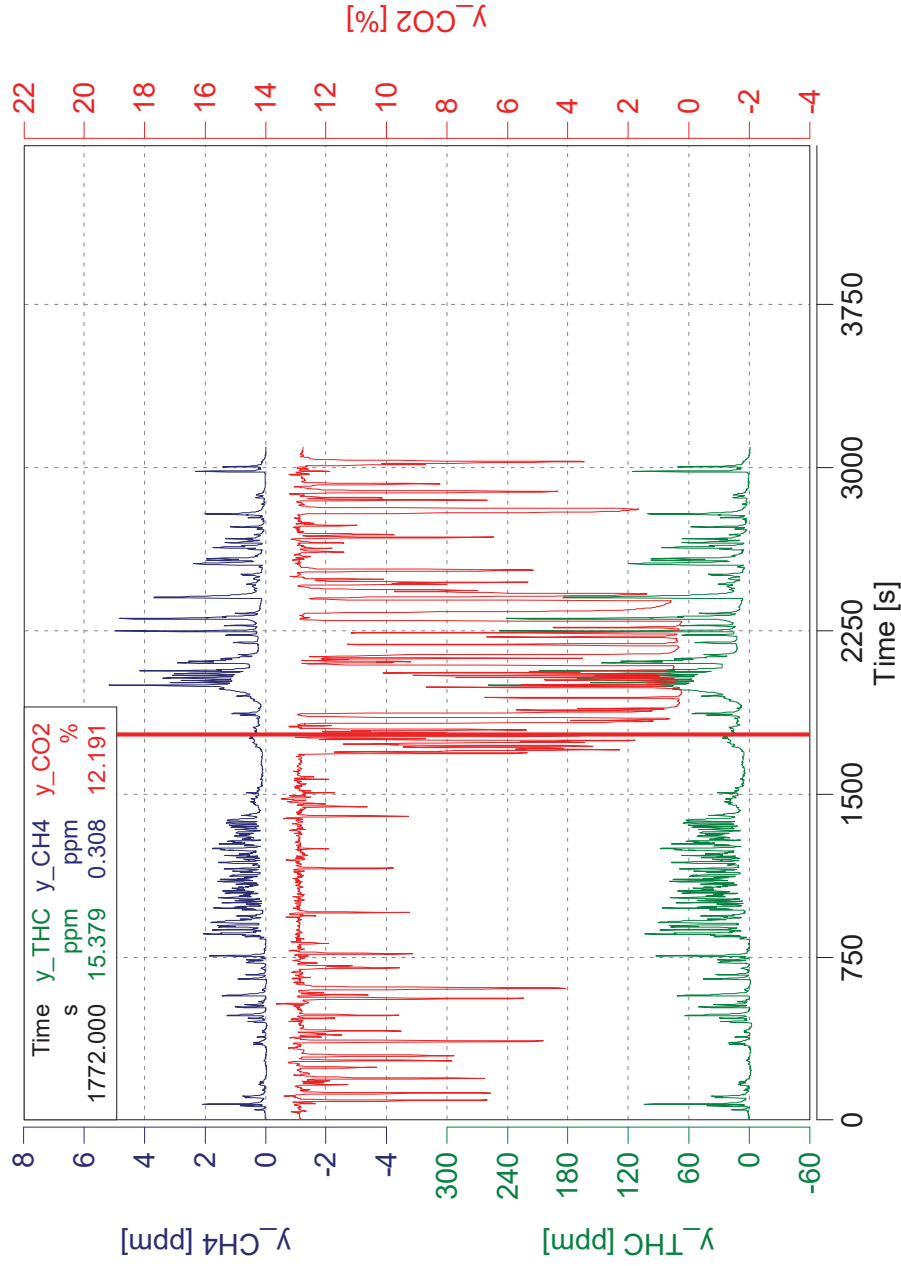
'Mountain'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Ambient Conditions

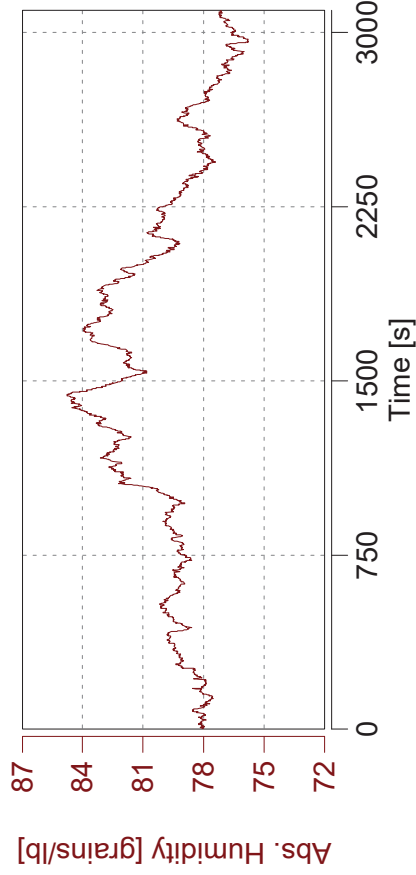
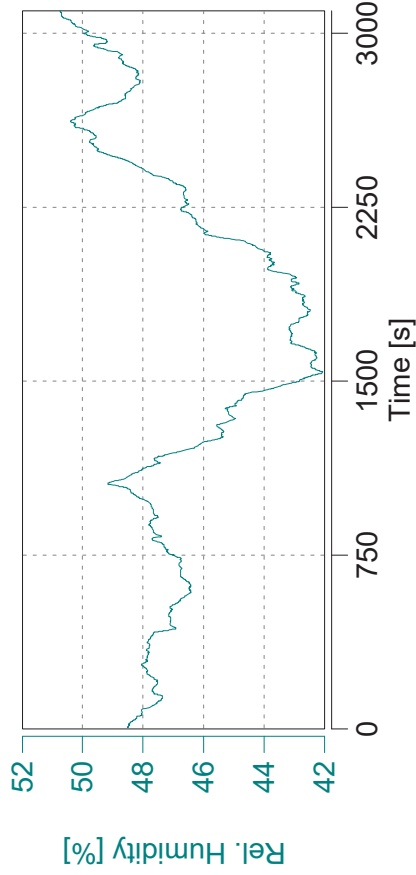
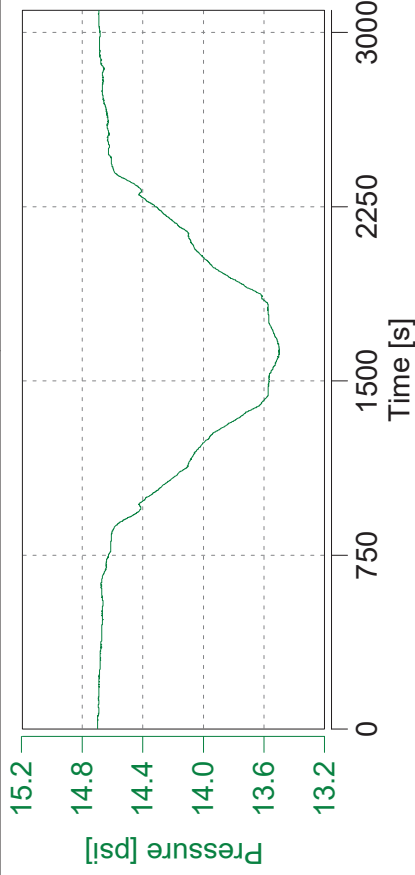
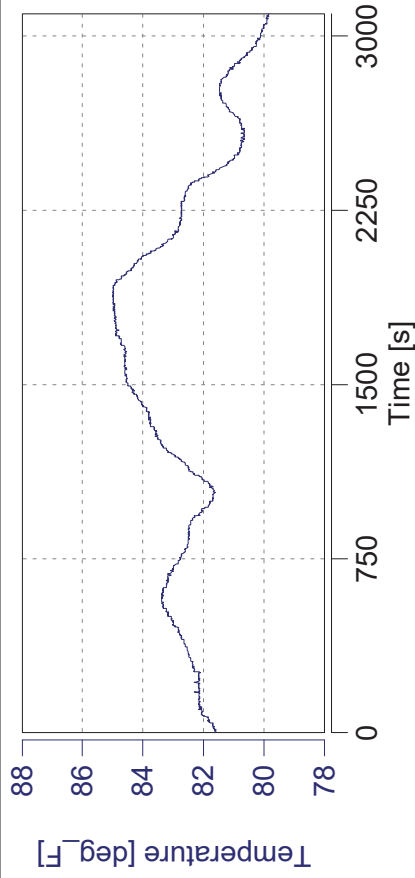
'Mountain'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: GPS

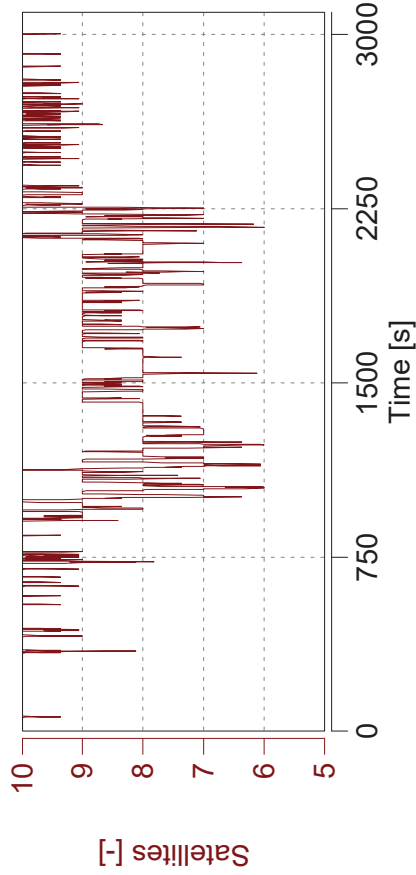
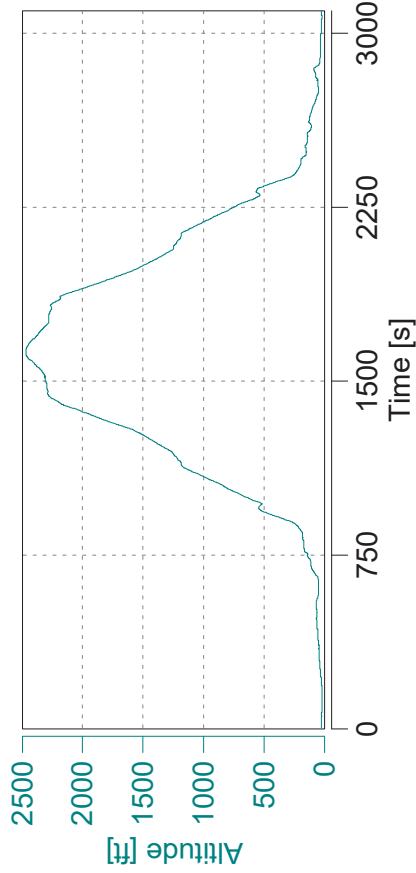
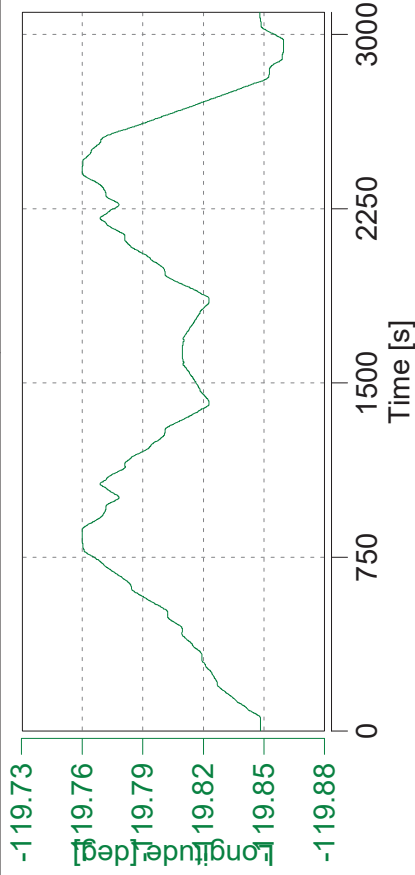
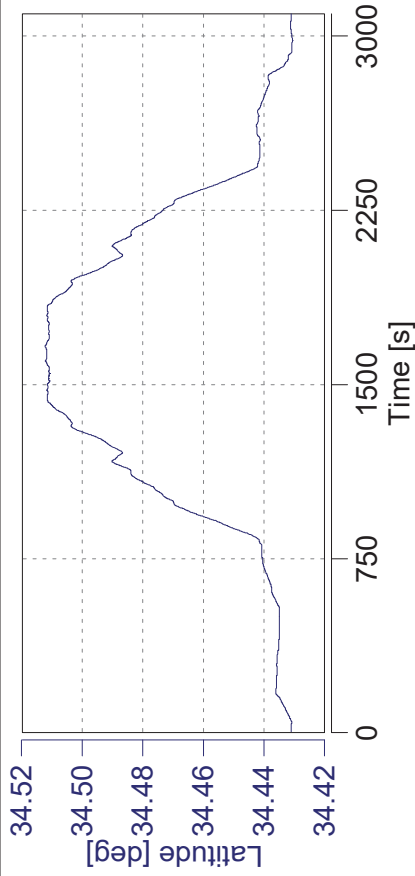
'Mountain'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (1)

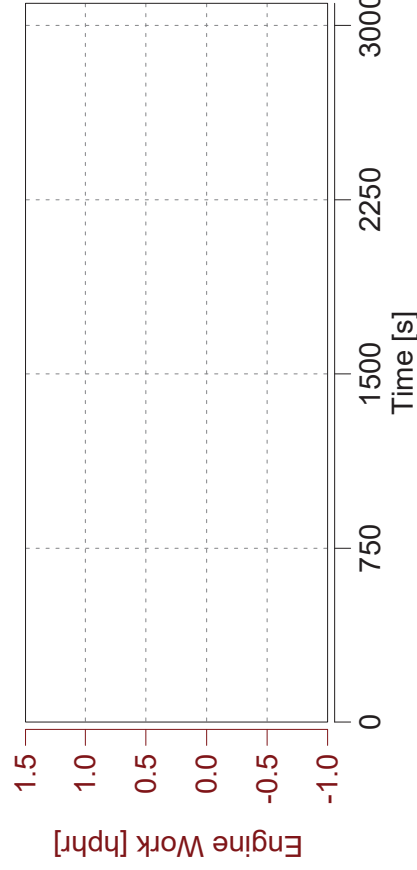
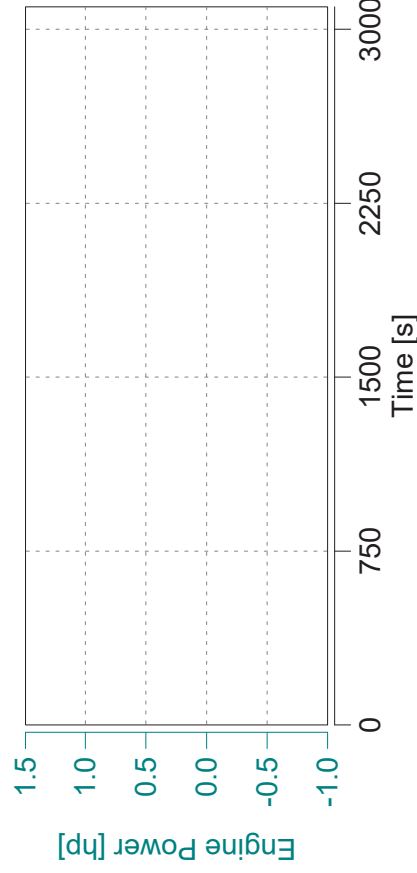
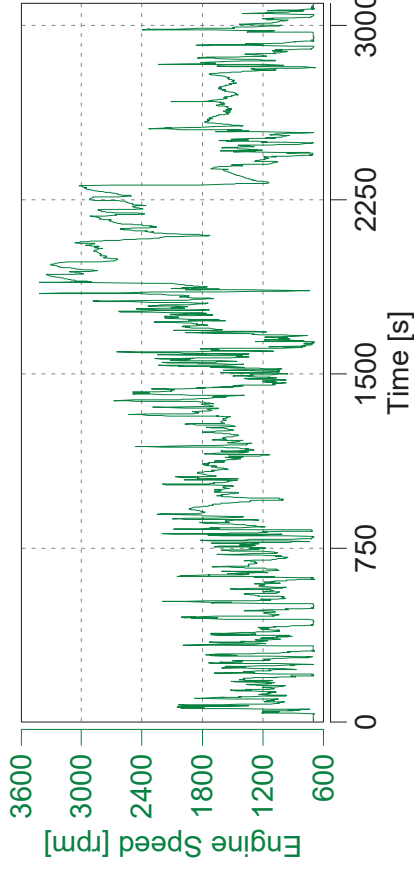
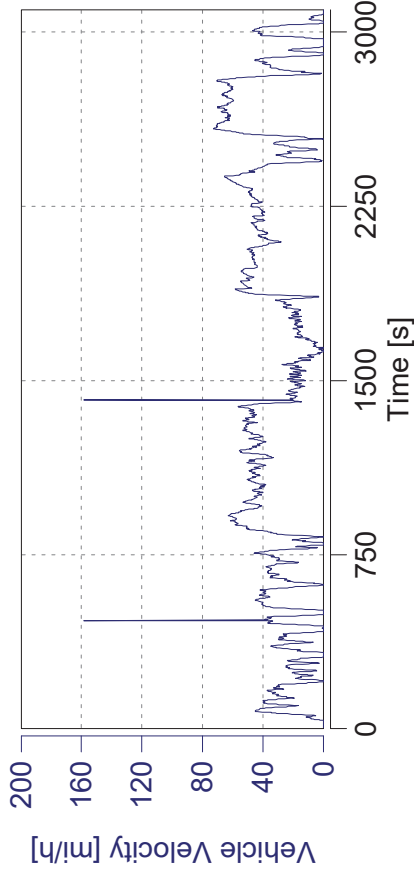
'Mountain'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (2)

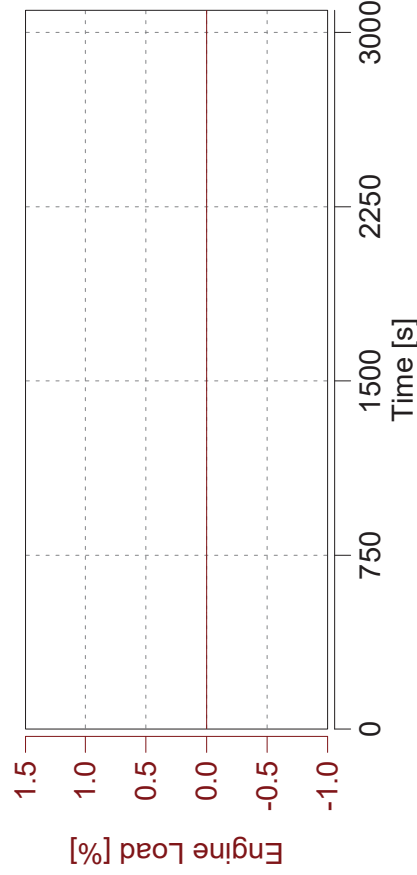
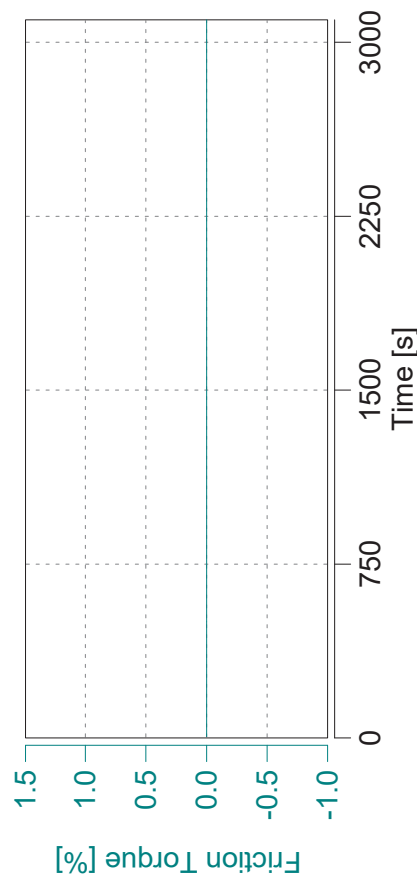
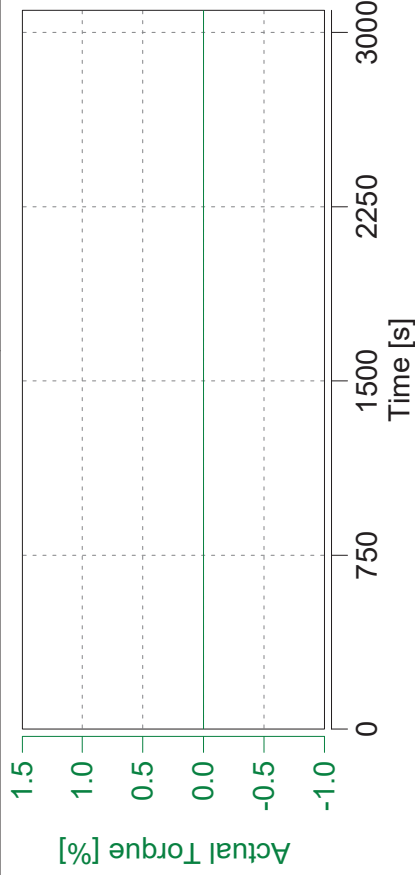
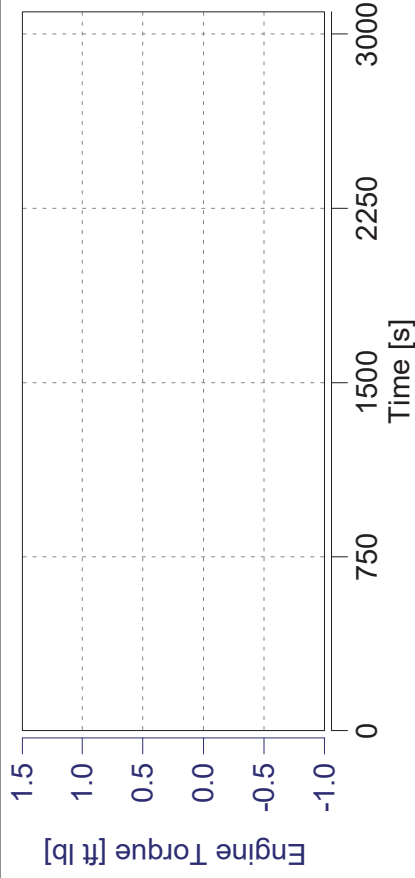
'Mountain'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (3)

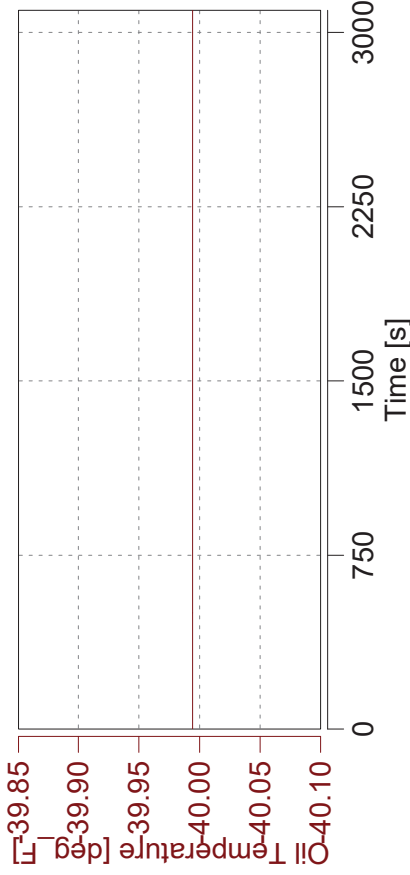
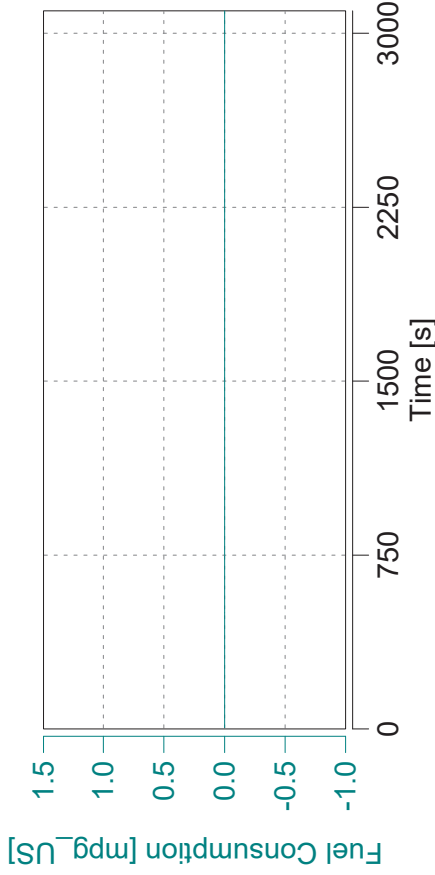
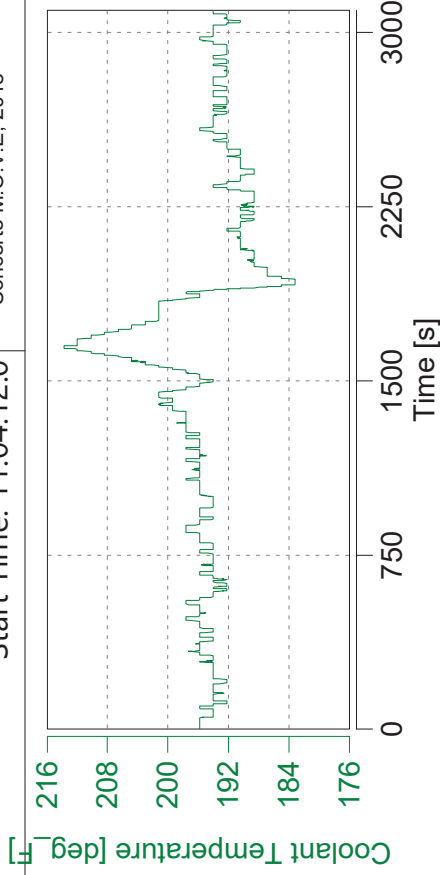
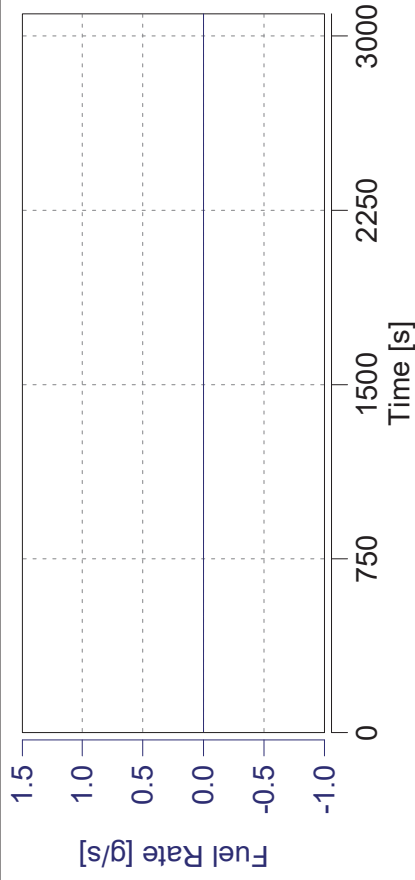
'Mountain'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Exhaust Flow (1)

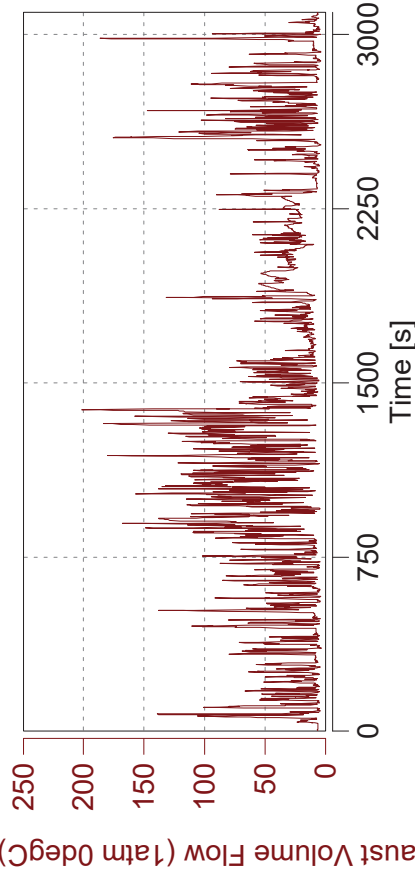
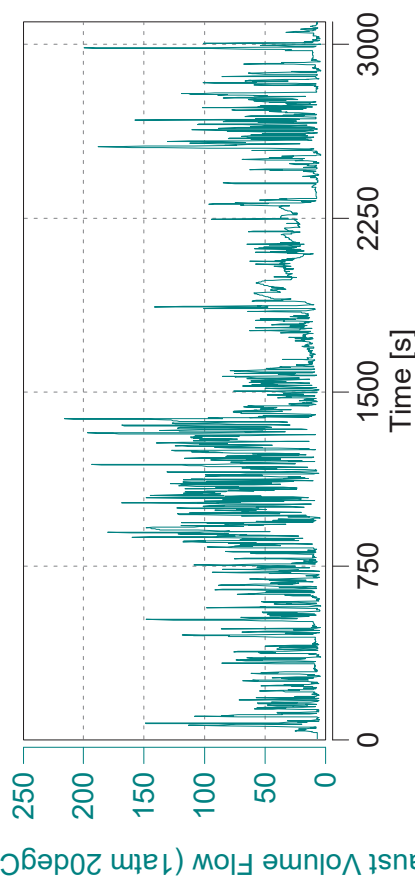
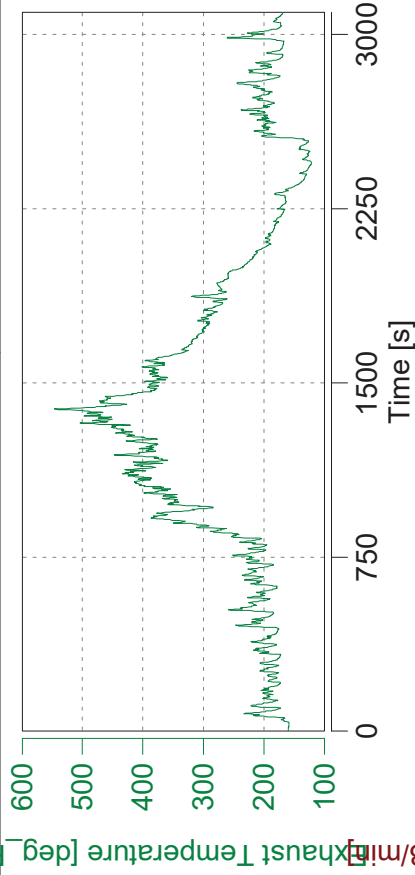
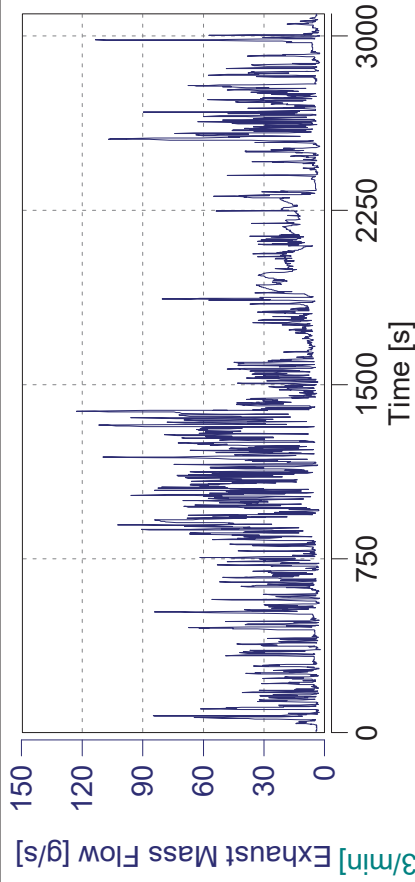
'Mountain'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Engine: /

Case: Mountain

Page: Exhaust Flow (2)

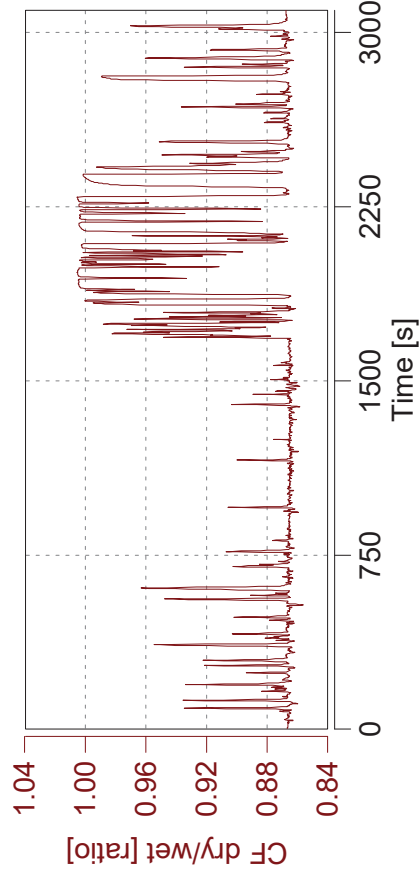
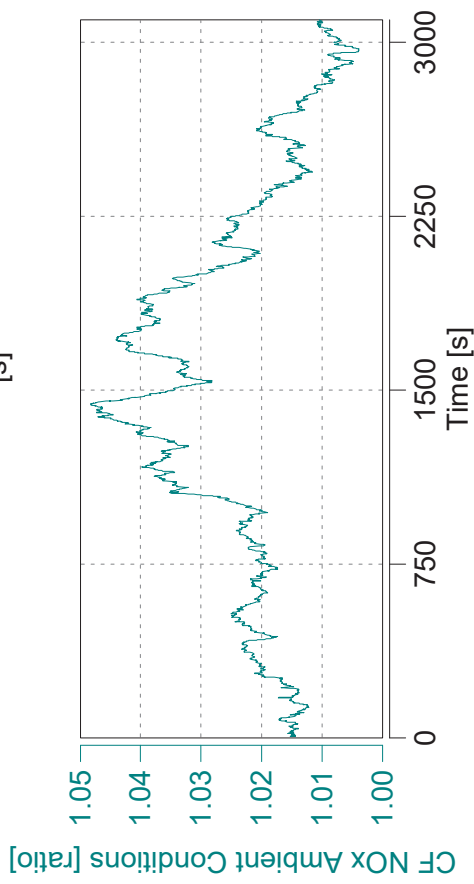
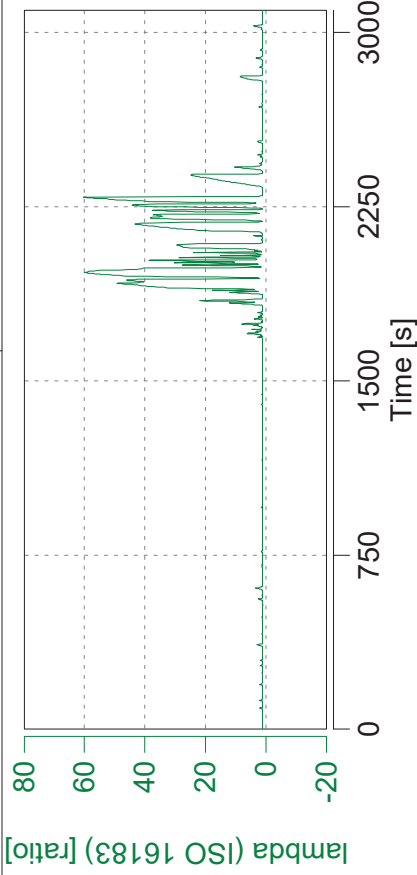
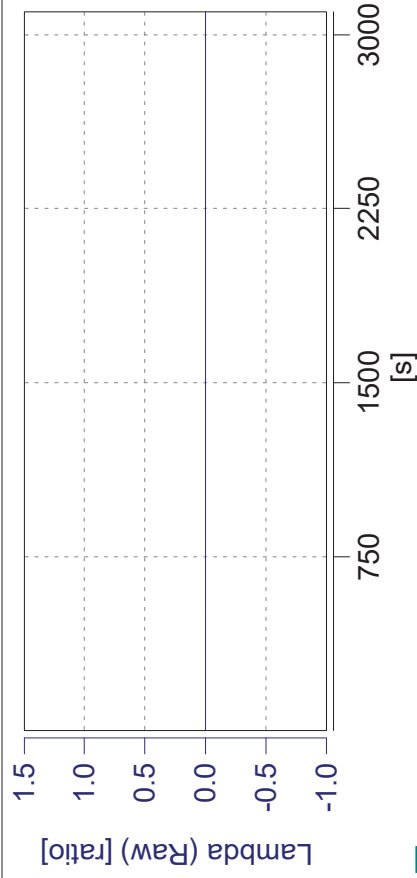
'Mountain'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (1)

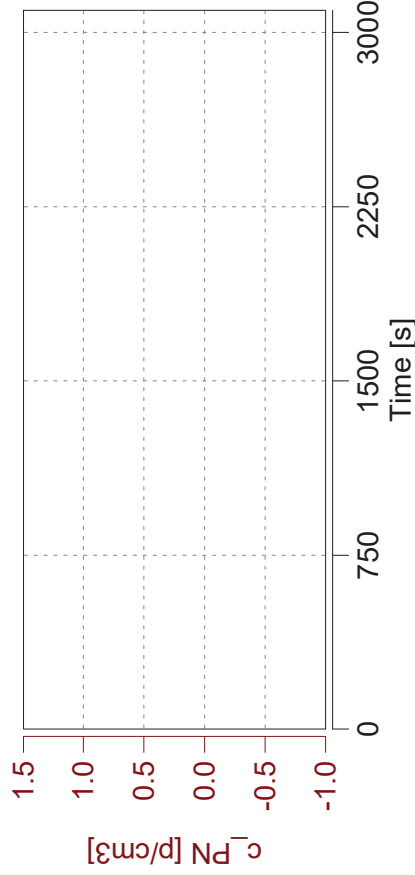
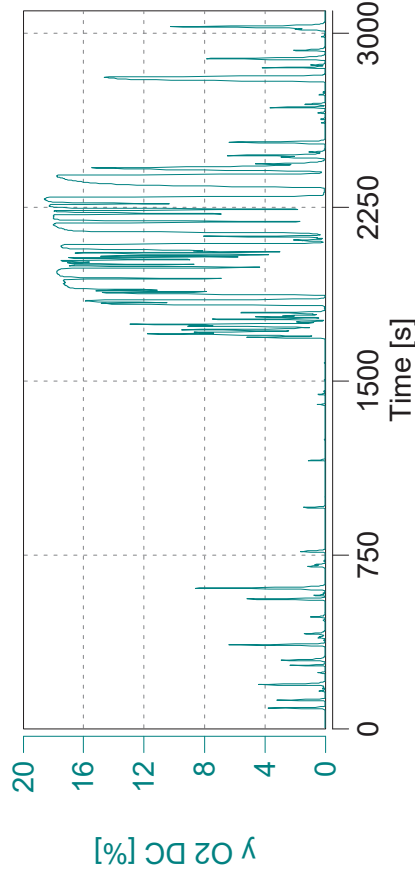
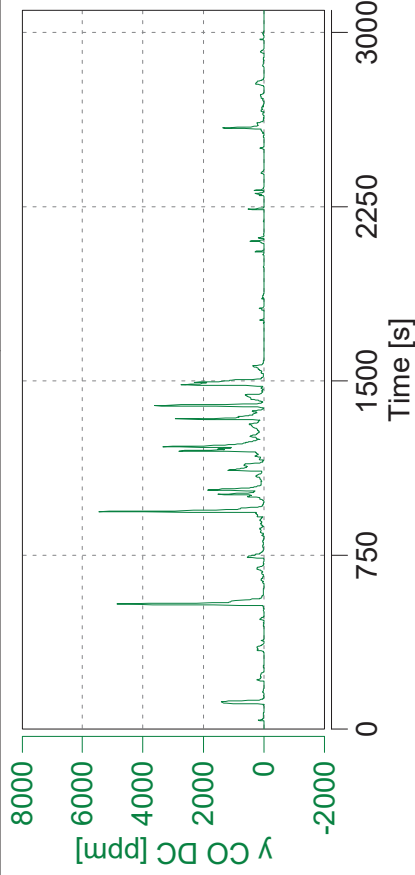
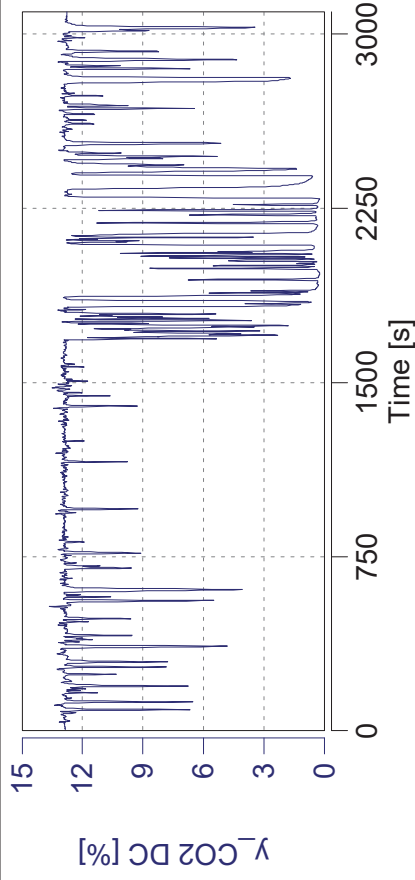
'Mountain'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A7 / 3.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (2)

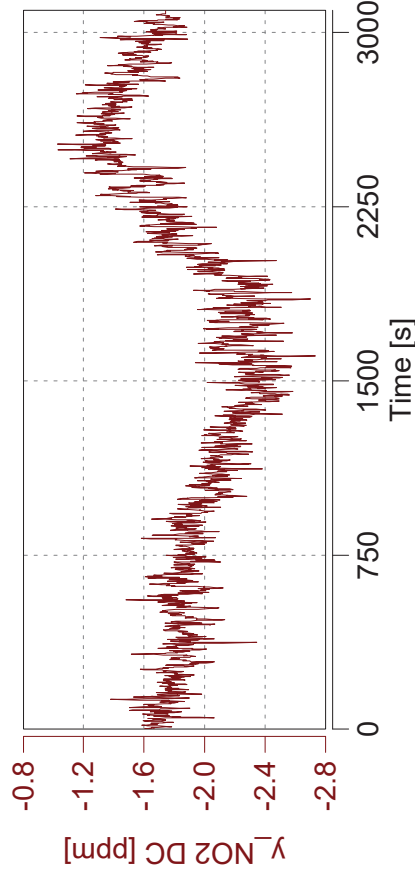
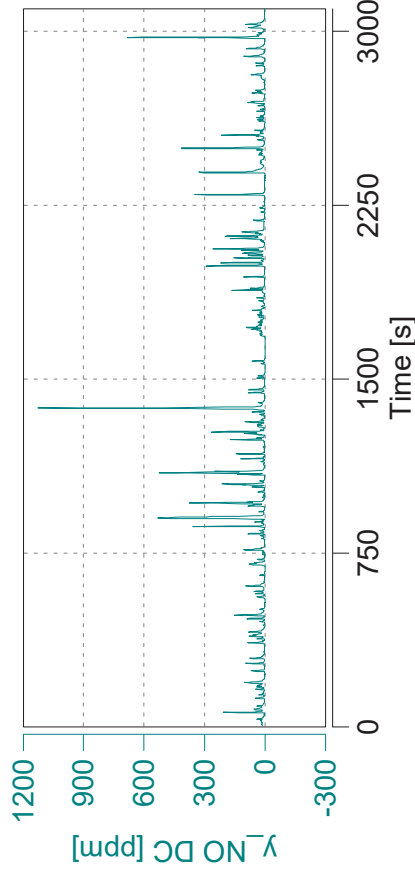
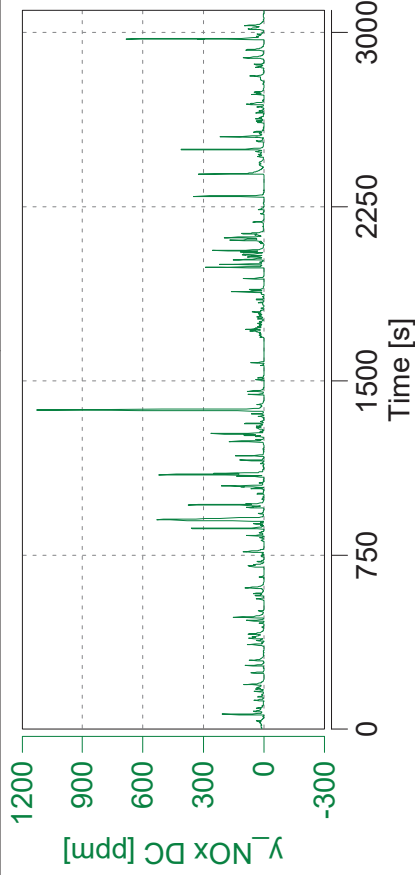
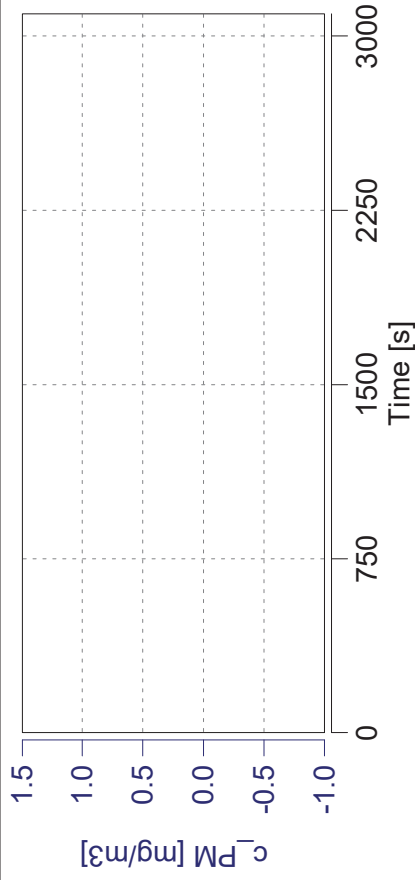
'Mountain'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A7 / 3.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (3)

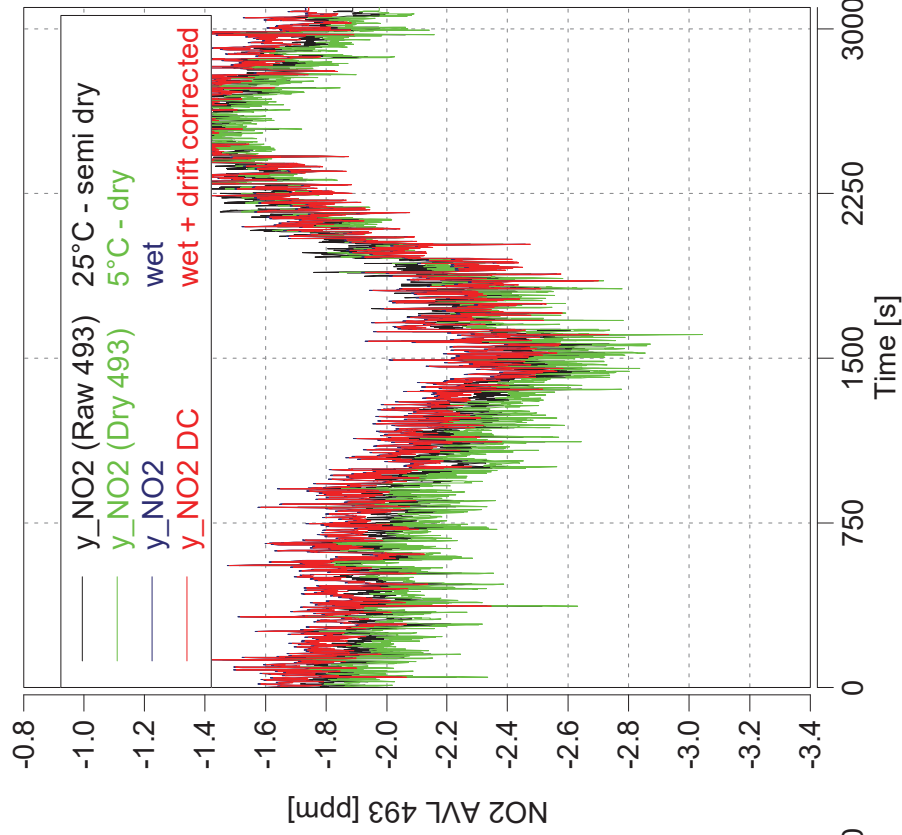
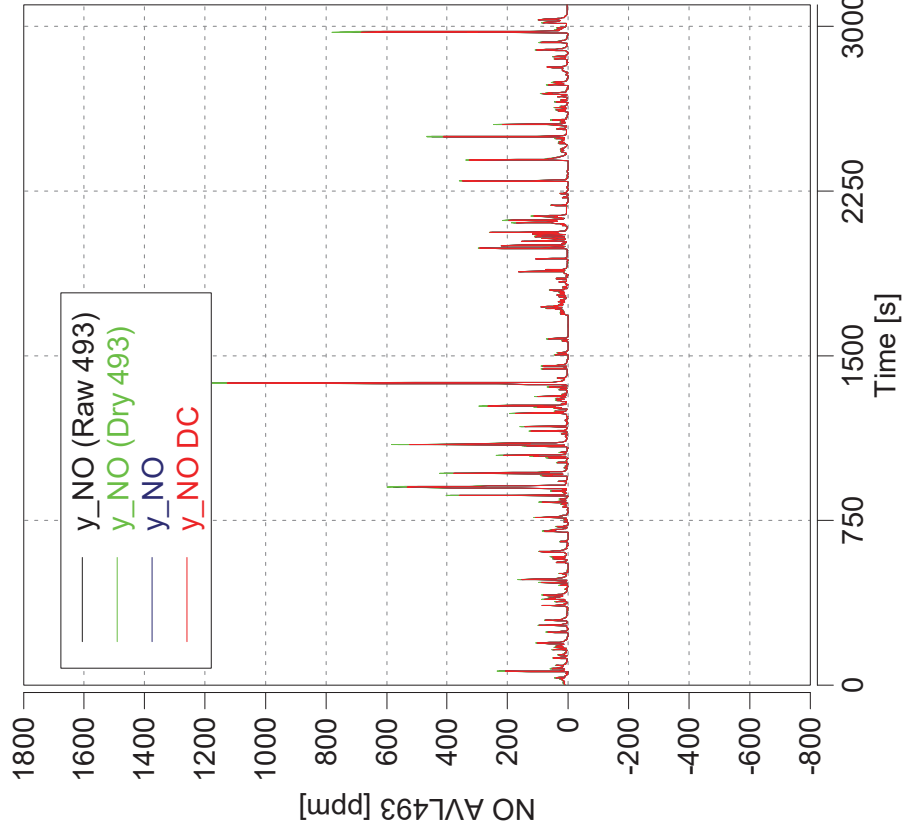
'Mountain'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (4) NOx Corrections

'Mountain'

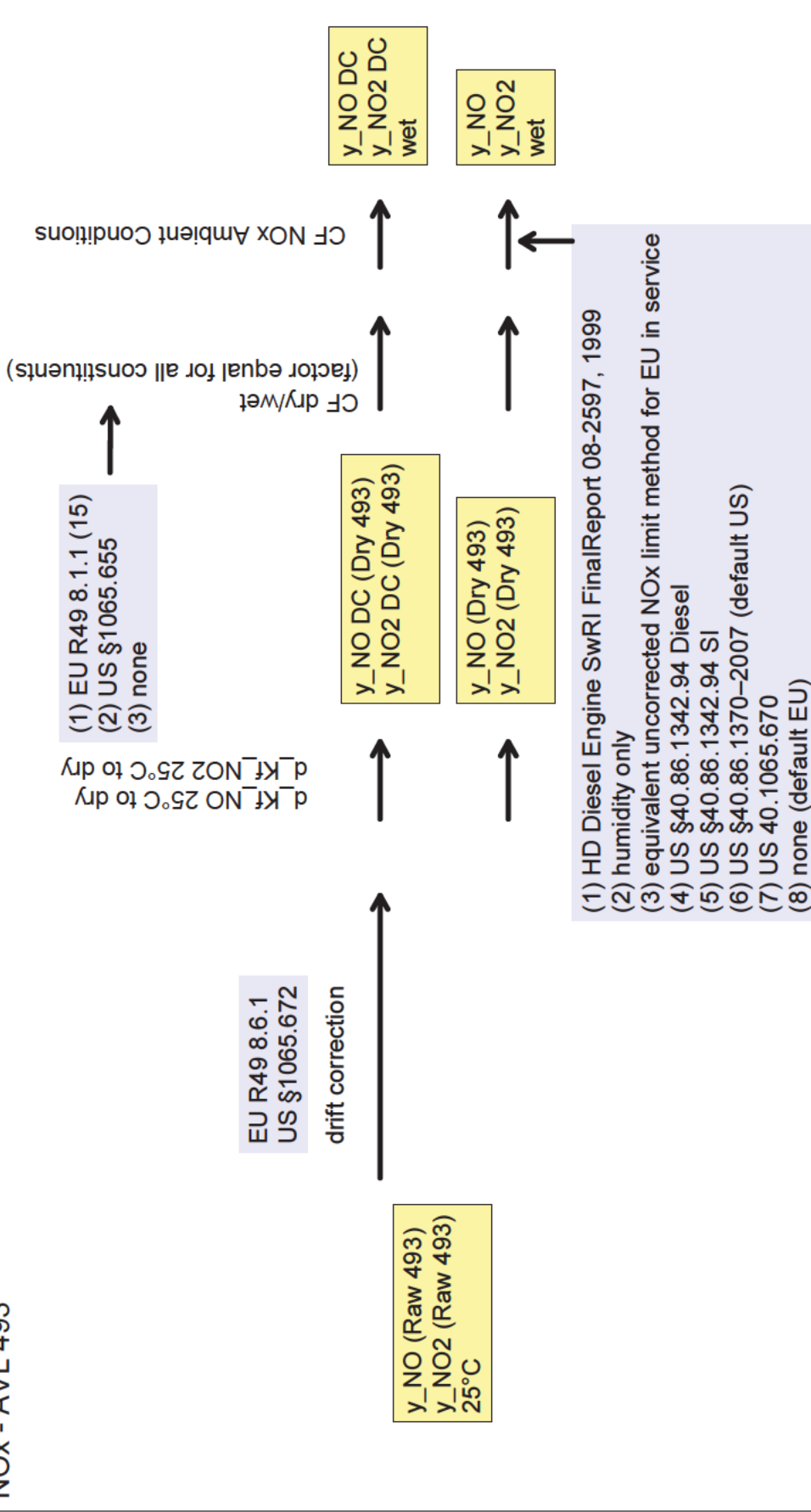
Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018

NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: / Vehicle: Audi A7 / 3.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (5)

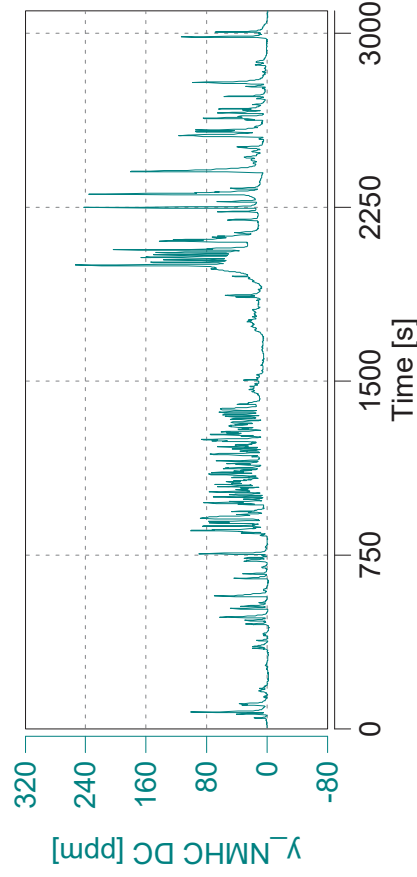
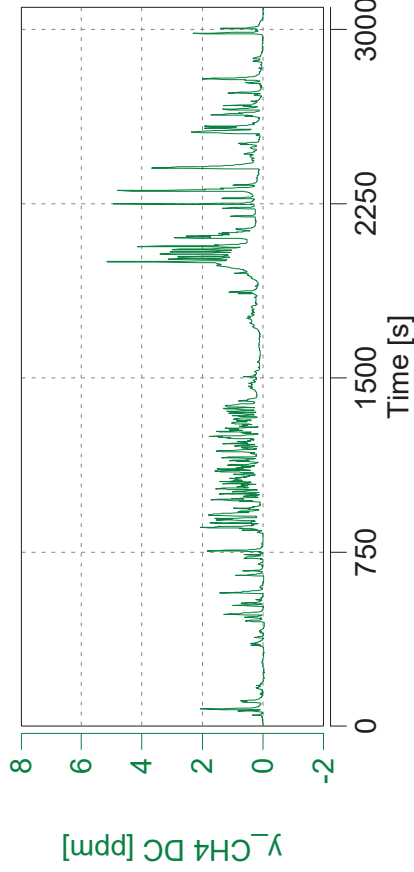
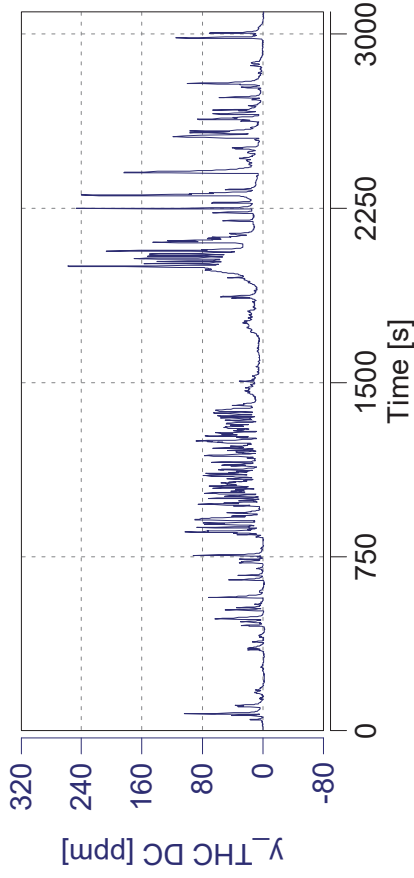
'Mountain'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A7 / 3.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: NO/NO2/NOx Zero - Span

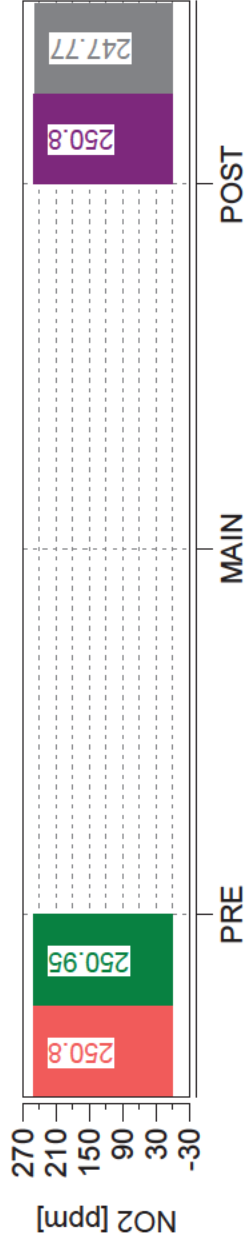
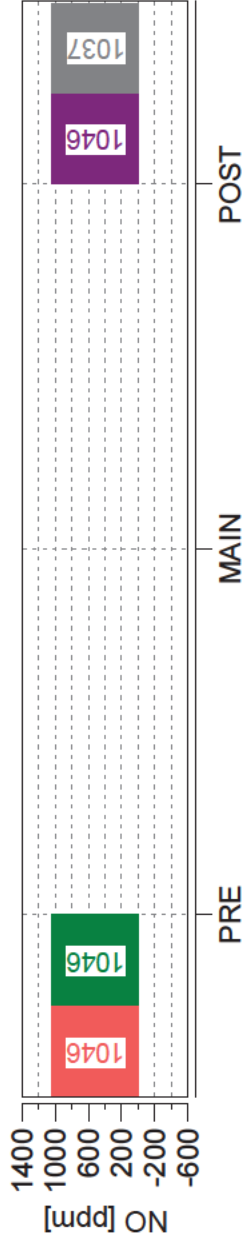
'Mountain'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: CO/CO2 Zero - Span

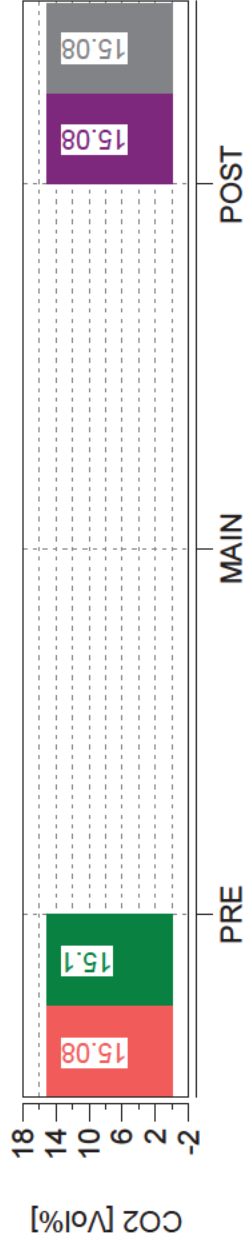
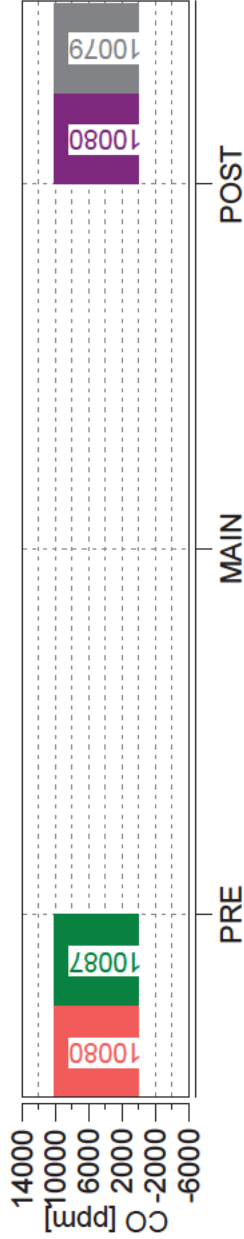
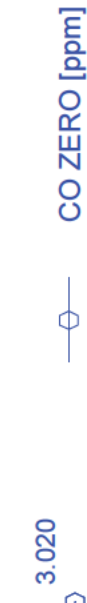
'Mountain'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: THC/CH4 Zero - Span

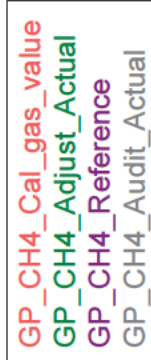
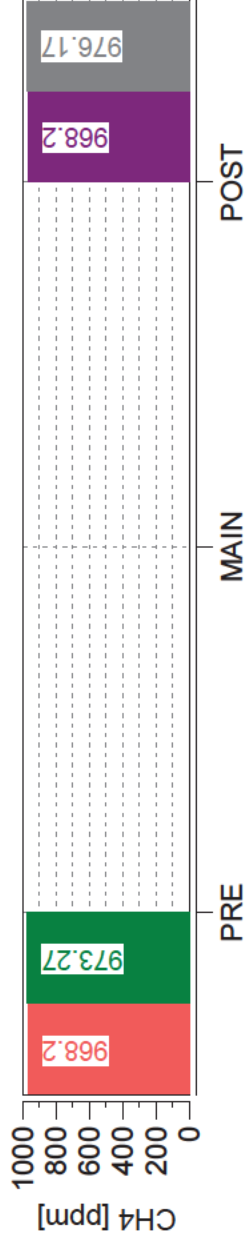
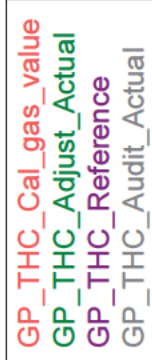
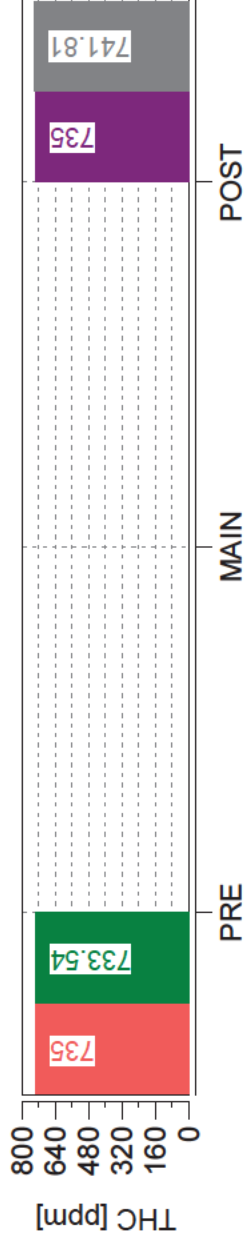
'Mountain'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Trip Summary

'City'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E. 2018

Trip Duration	3840.00	s	ave THC	6.15600	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	3840.00	s	ave NMHC	6.03288	ppm	BS CO	n/a	g/hphr
Trip Distance	15.93	mi	ave CH4	0.12312	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	15.93	mi	ave CO	61.88273	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	12.46785	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOX	13.51601	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	2.97	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	2.92	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.05	gall	tot THC	0.25810	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.03	gall	tot NMHC	0.23875	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00572	g	DS CO2	558.76719	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	3.69197	g	DS CO	0.23180	g/mi
Trip Fuel Economy EU (ac)	15.20	mpg_US	tot CO2	8899.64823	g	DS THC	0.01621	g/mi
Trip Fuel Economy US (ac)	15.41	mpg_US	tot NO (d)	0.84171	g	DS NMHC	0.01499	g/mi
Trip Av. Eng. Speed	1054.03	rpm	tot NO2	0.03484	g	DS CH4	0.00036	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.87655	g	DS NO (d)	0.05285	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	0.00219	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.05503	g/mi
Trip Exhaust Mass	46.23	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	90.92	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	42.33	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	14.93184	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	27.36979	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Trip Summary Drift Corrected

'City'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E. 2018

Trip Duration	3840.00	s	ave THC DC	6.35222	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	3840.00	s	ave NMHC DC	6.22517	ppm	BS CO DC	n/a	g/hphr
Trip Distance	15.93	mi	ave CH4 DC	0.12704	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	15.93	mi	ave CO DC	61.47915	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	12.45959	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	13.85895	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	2.97	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	2.92	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.05	gall	tot THC DC	0.26306	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.03	gall	tot NMHC DC	0.24334	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.00583	g	DS CO2 DC	558.39690	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	3.67239	g	DS CO DC	0.23057	g/mi
Trip Fuel Economy EU (ac)	15.20	mpg_US	tot CO2 DC	8893.75052	g	DS THC DC	0.01652	g/mi
Trip Fuel Economy US (ac)	15.41	mpg_US	tot NO DC (d)	0.84336	g	DS NMHC DC	0.01528	g/mi
Trip Av. Eng. Speed	1054.03	rpm	tot NO2 DC	0.05959	g	DS CH4 DC	0.00037	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.90295	g	DS NO DC (d)	0.05295	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	0.00374	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.05669	g/mi
Trip Exhaust Mass	46.23	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	90.92	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	42.33	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	14.93184	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	27.36979	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Time Alignment Check

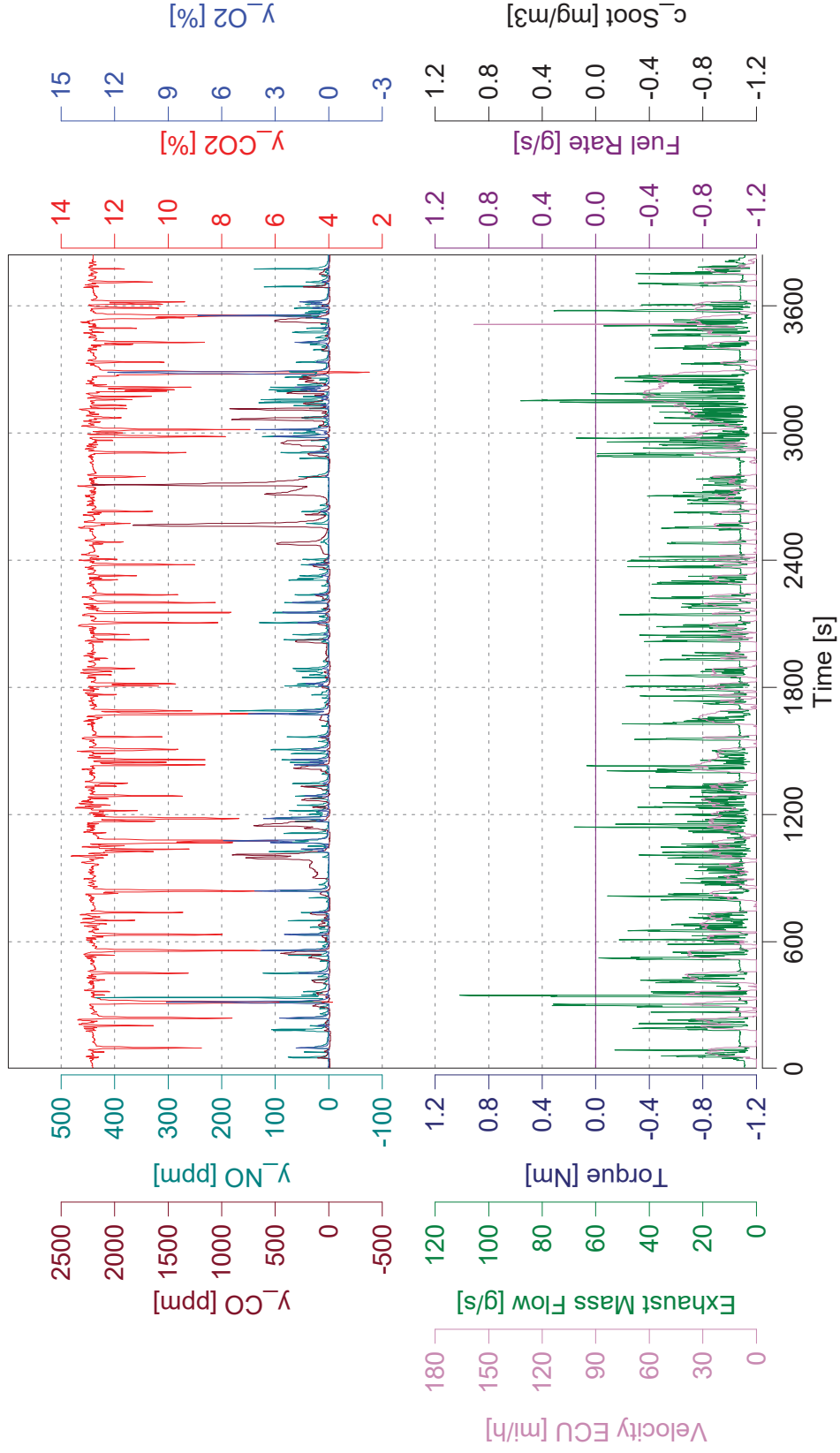
'City'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E. 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A7 / 3.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Time Alignment of Gas Concentrations

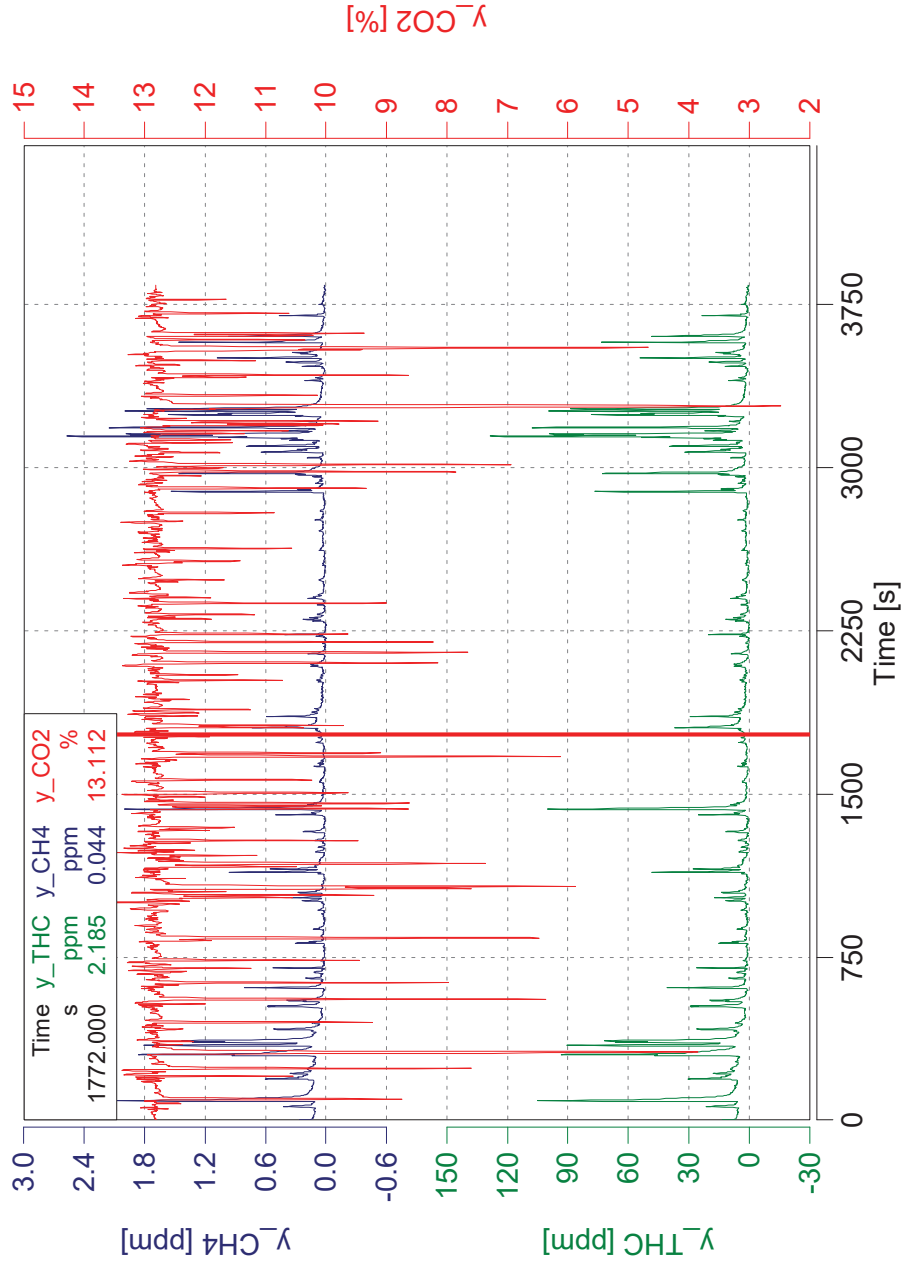
'City'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Ambient Conditions

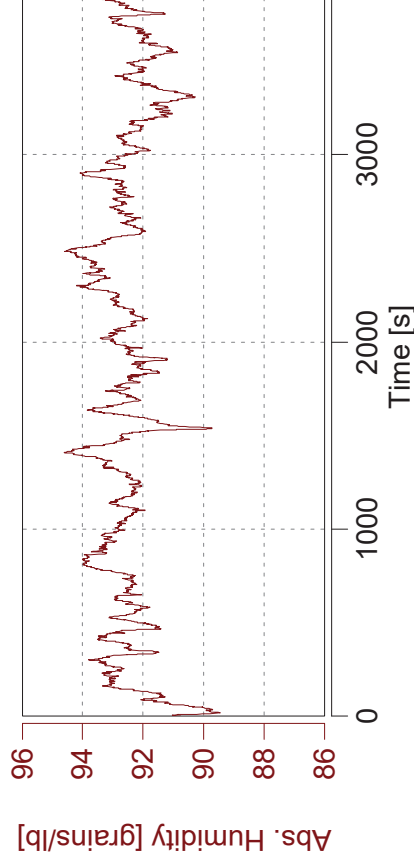
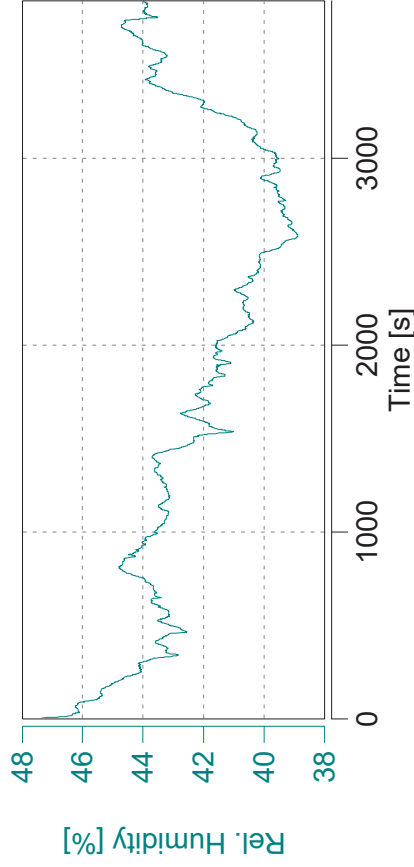
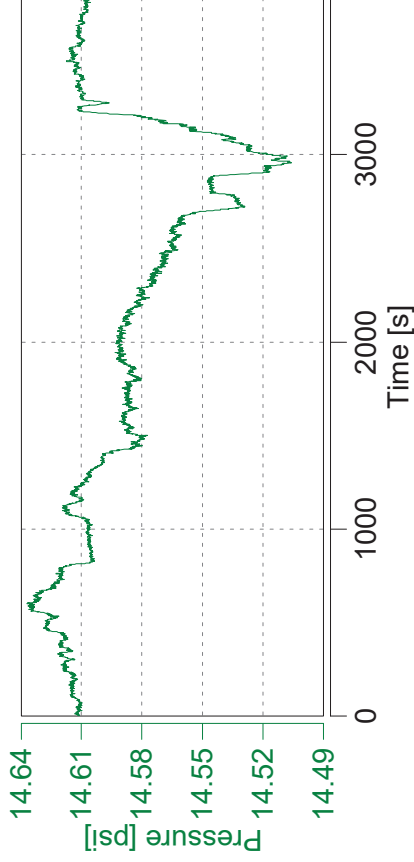
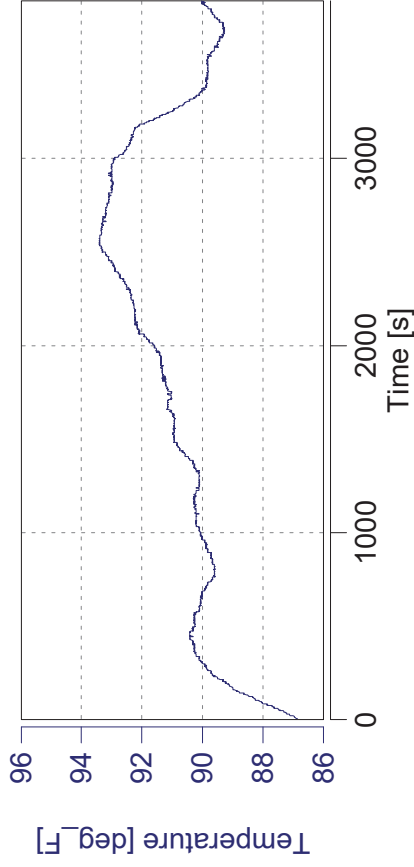
'City'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Engine: /

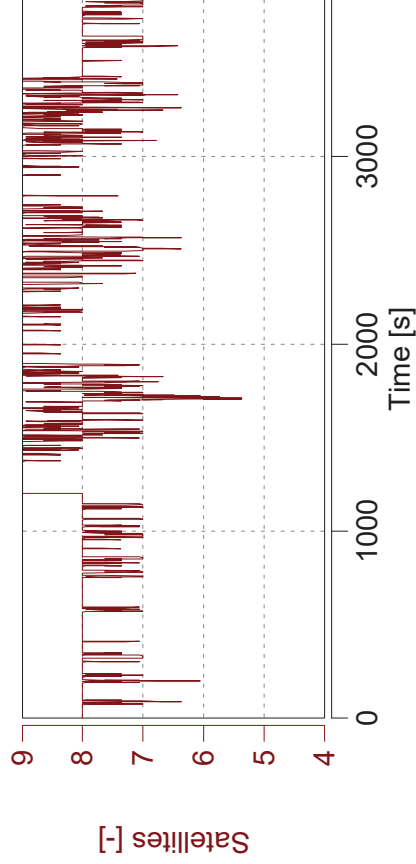
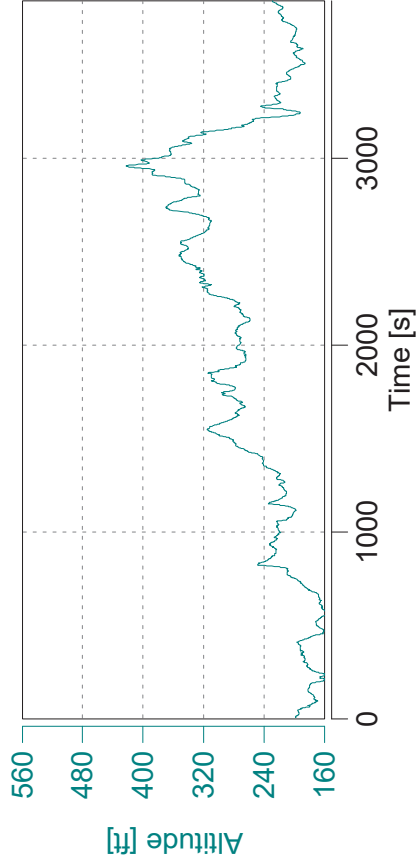
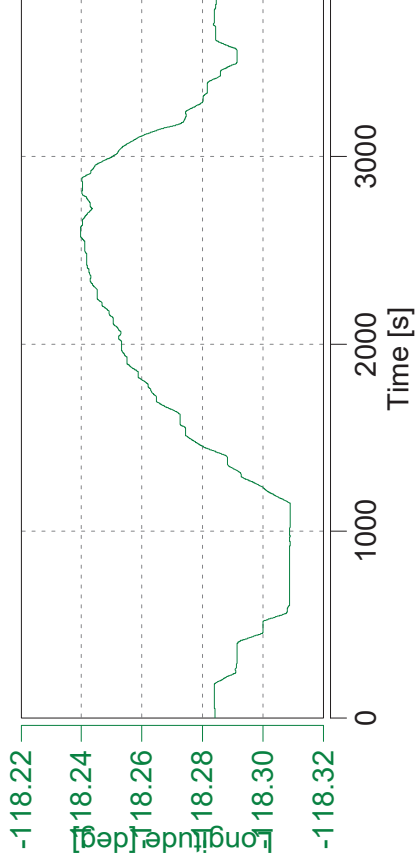
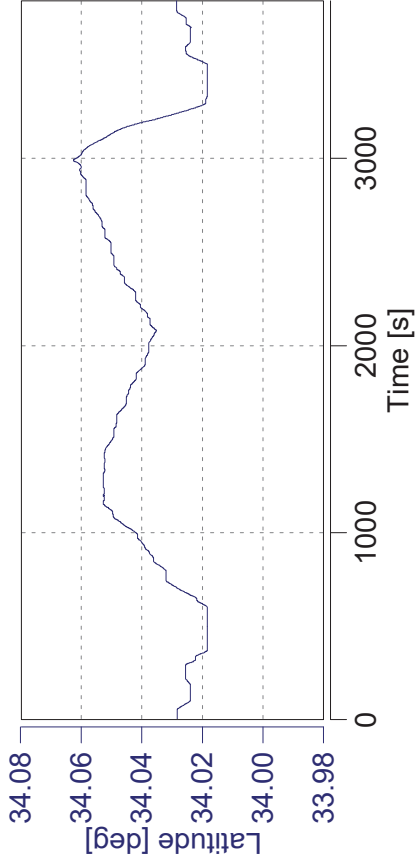
Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City
Page: GPS

'City'
Start Date: 07/16/2018
Start Time: 11:04:12.0



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A7 / 3.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (1)

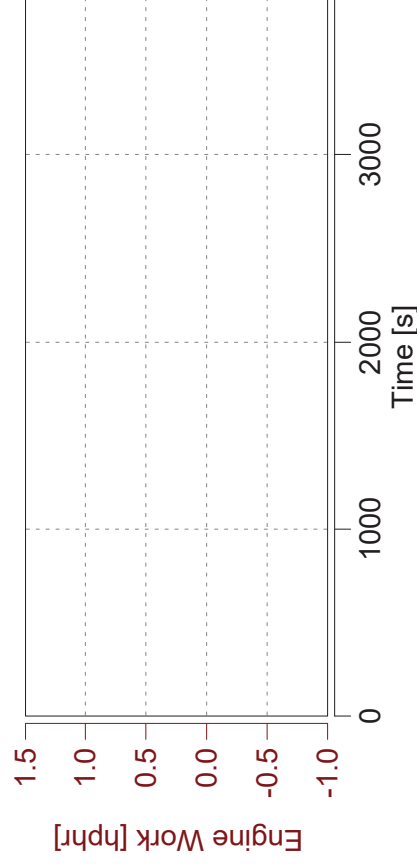
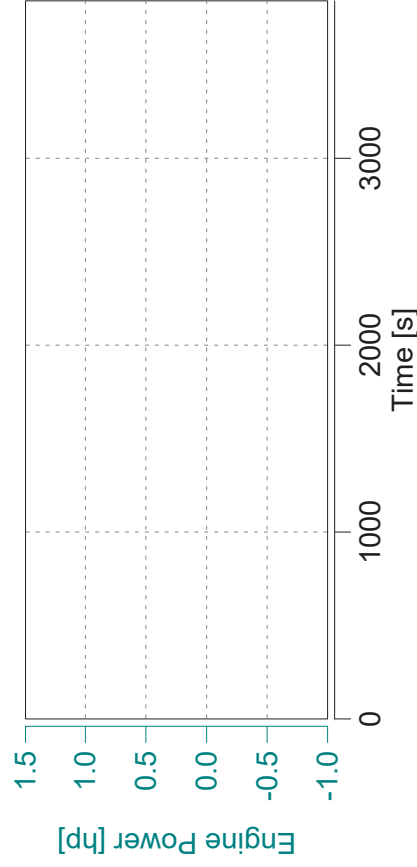
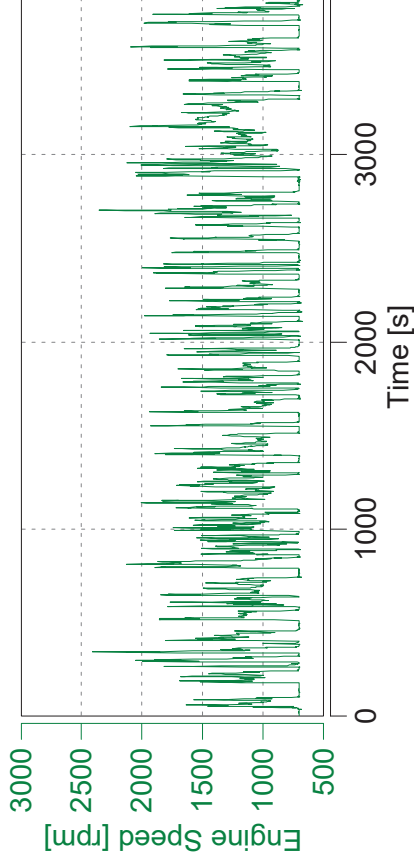
'City'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A7 / 3.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (2)

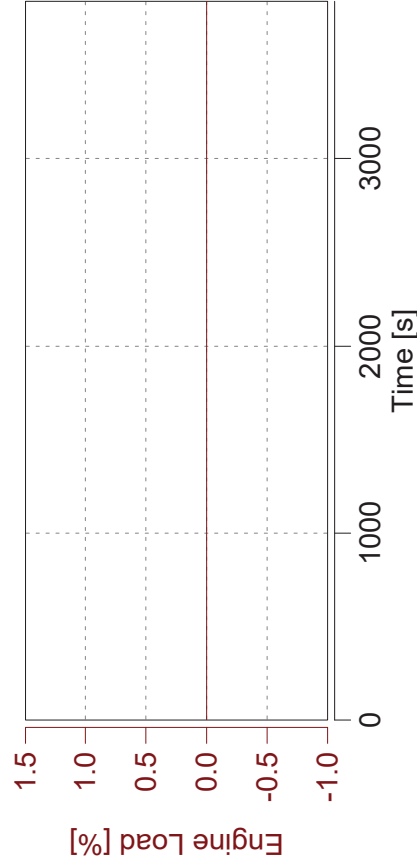
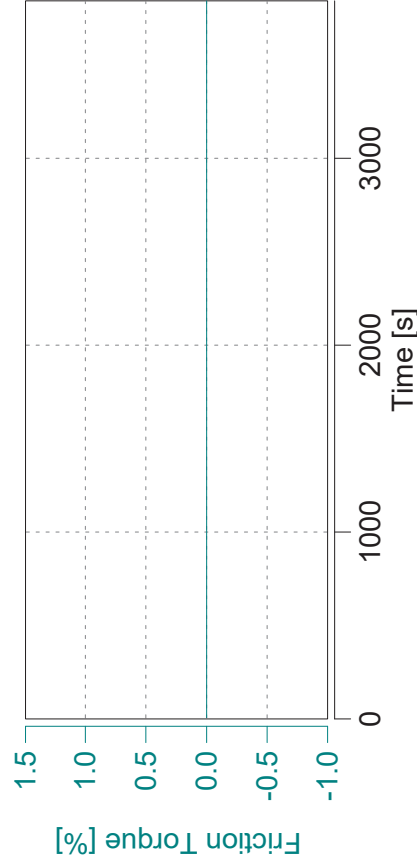
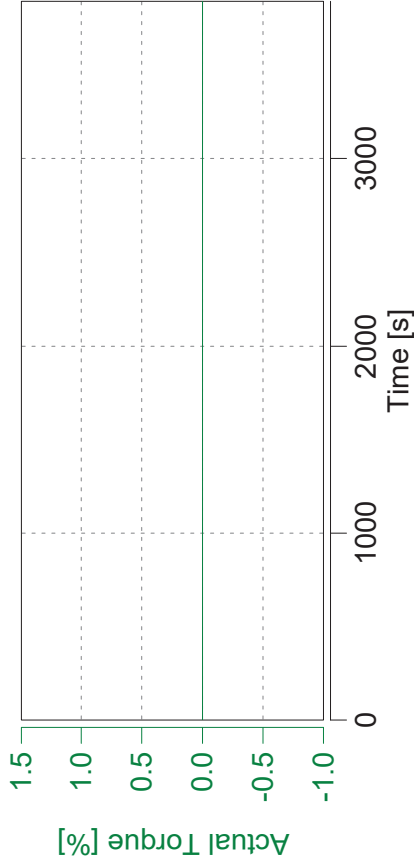
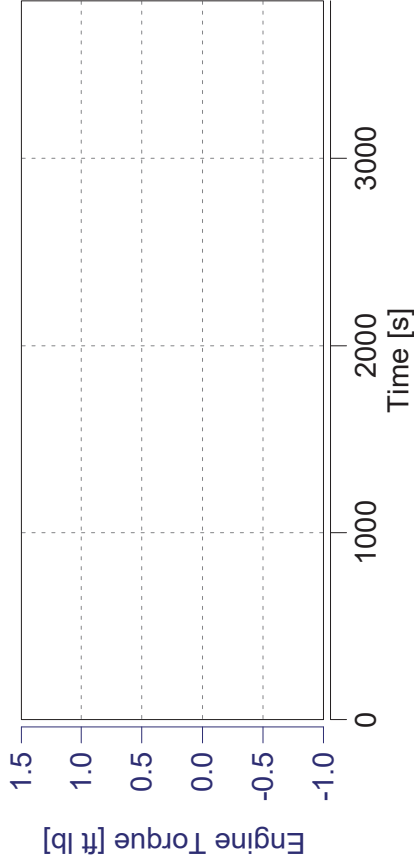
'City'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A7 / 3.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (3)

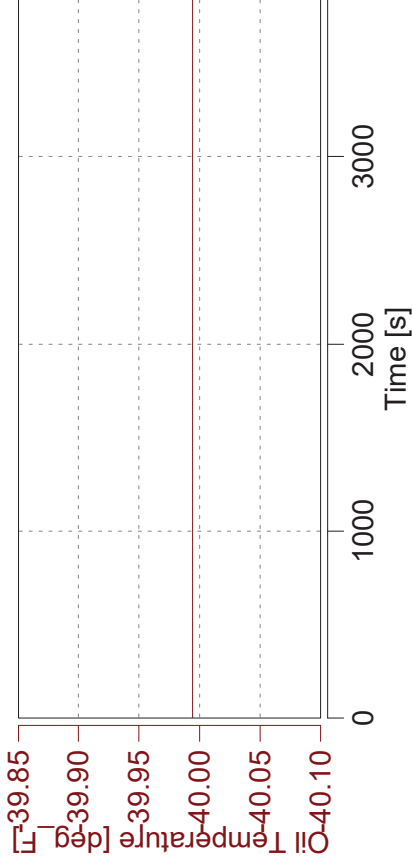
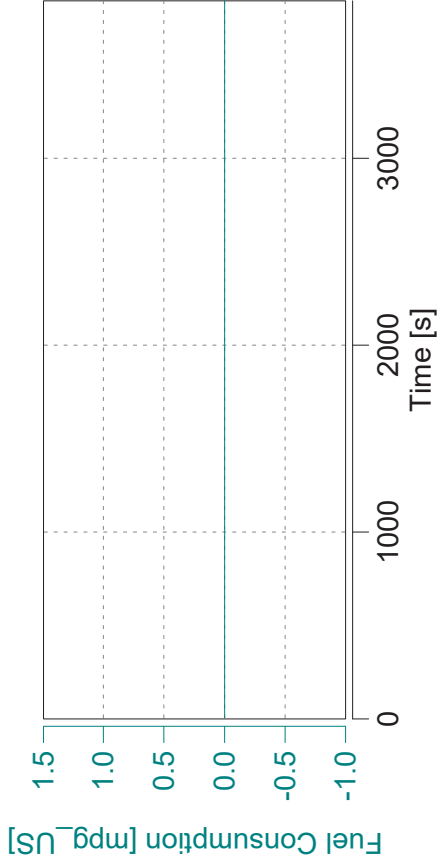
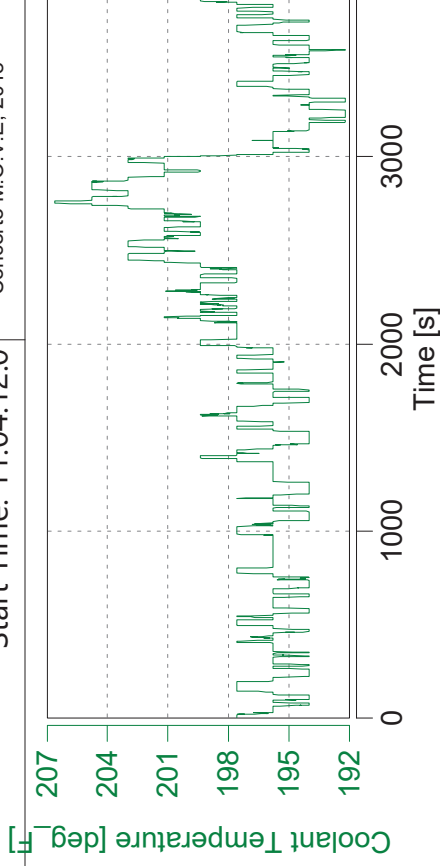
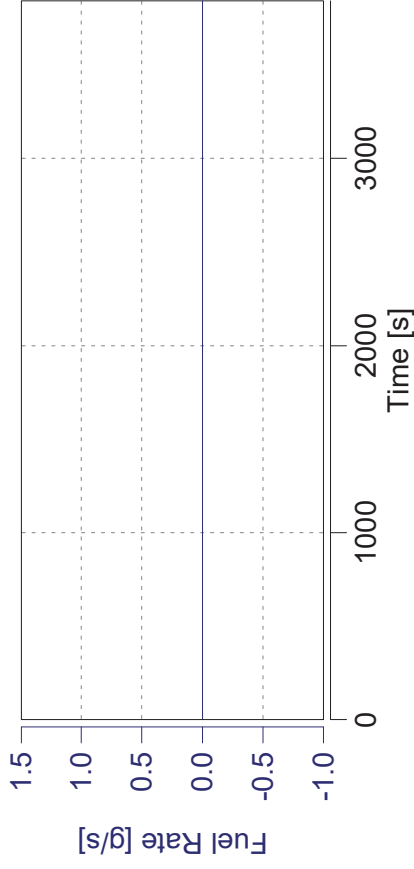
'City'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A7 / 3.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Exhaust Flow (1)

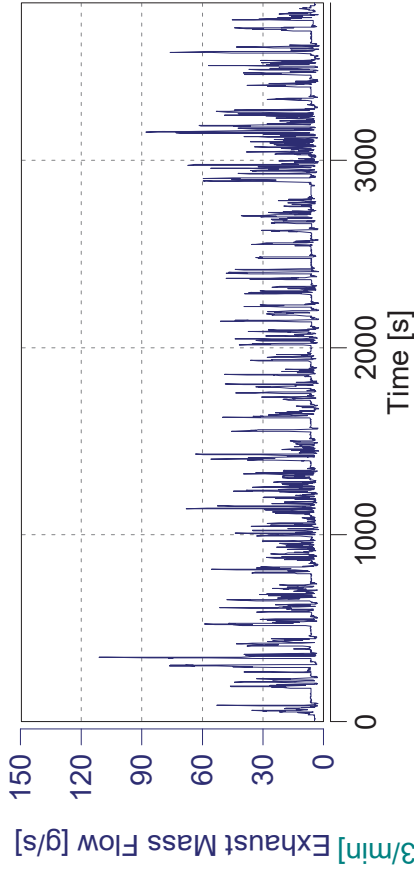
'City'

Start Date: 07/16/2018

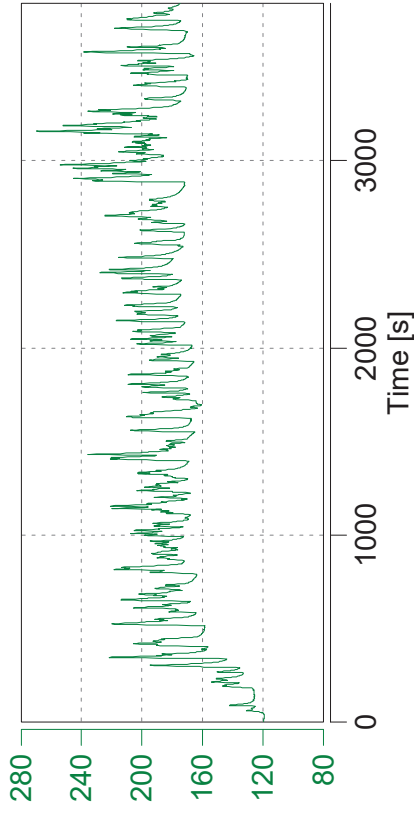
Start Time: 11:04:12.0



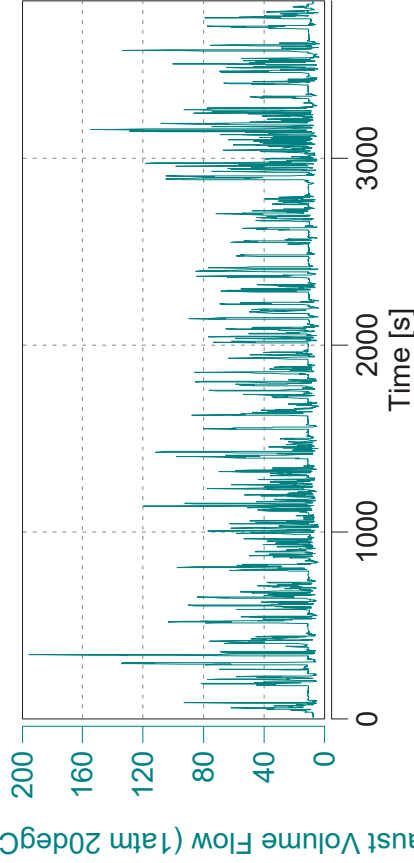
Concerto M.O.V.E., 2018



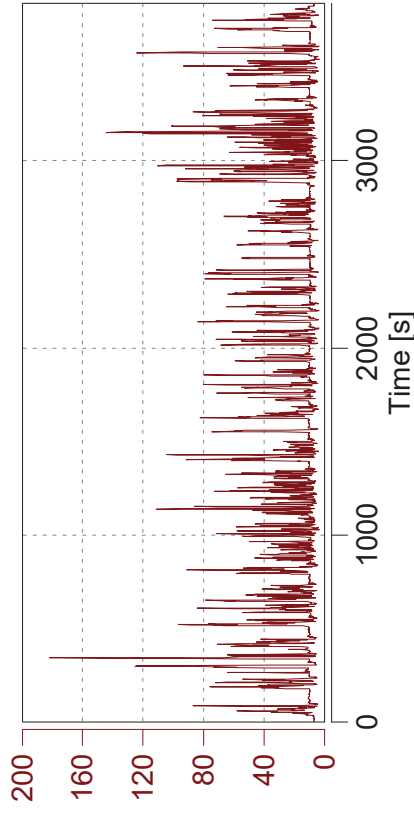
Exhaust Mass Flow [g/s]



Exhaust Temperature [deg F]



Exhaust Volume Flow (1atm 20degC) [ft3/min]



Exhaust Volume Flow (1atm 0degC) [ft3/min]

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Exhaust Flow (2)

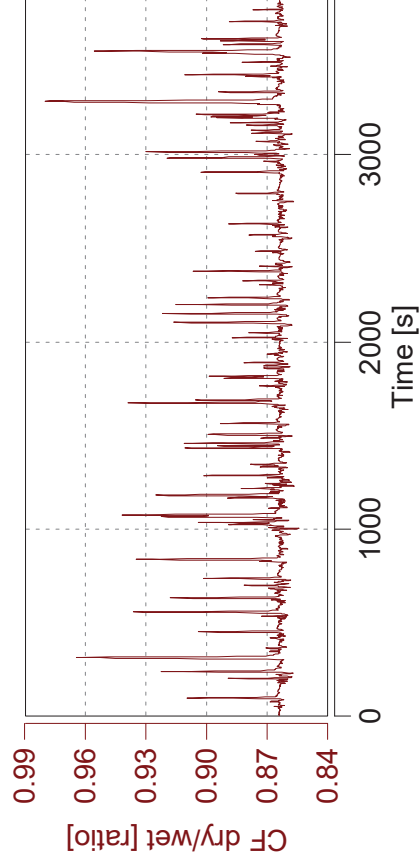
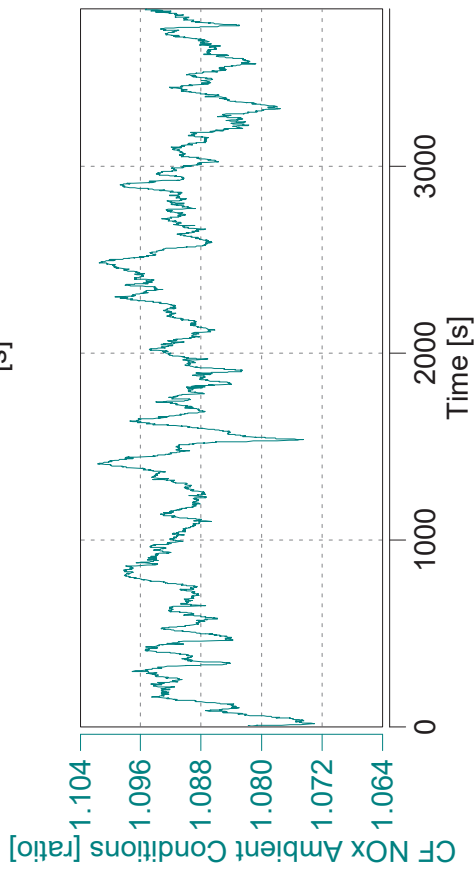
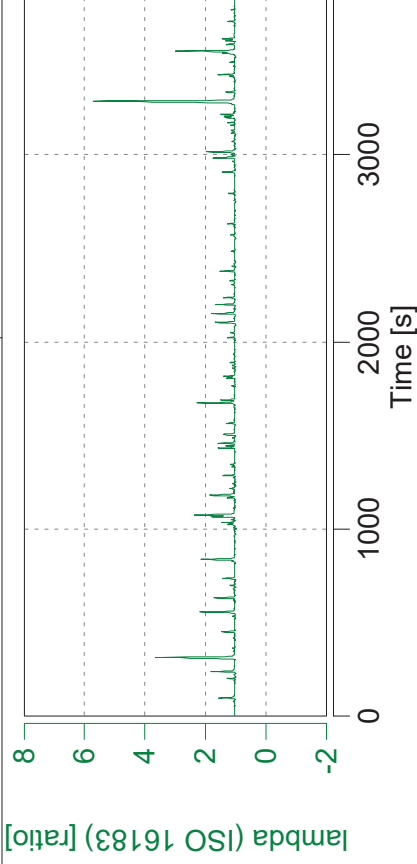
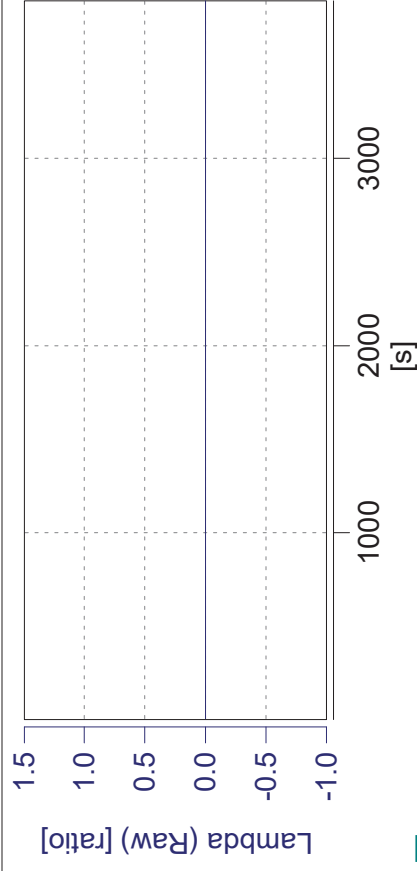
'City'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A7 / 3.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (1)

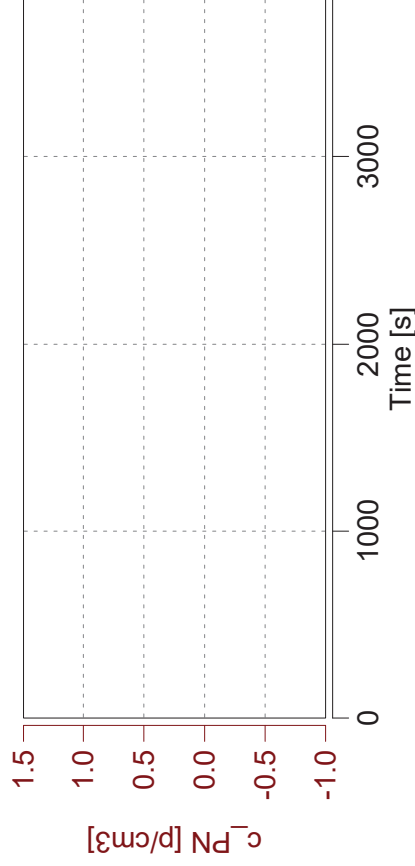
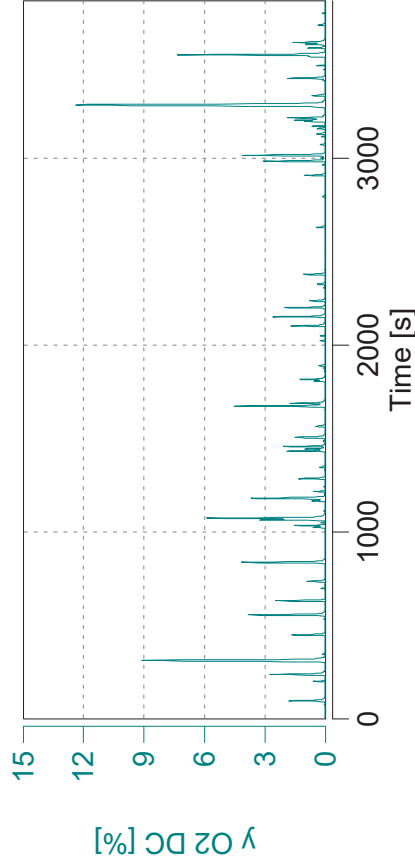
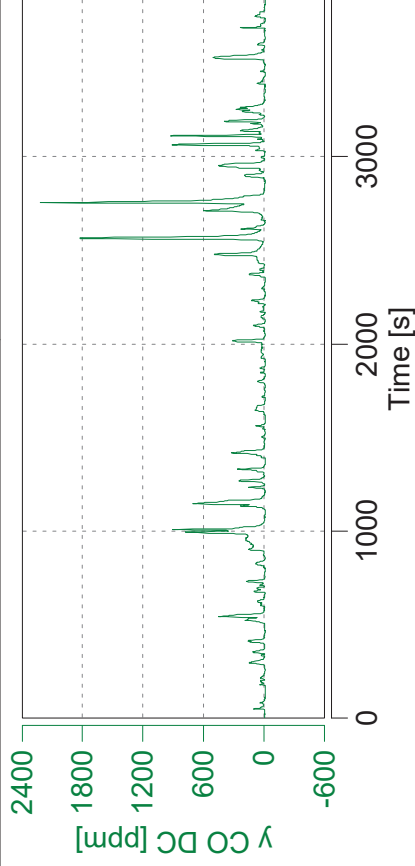
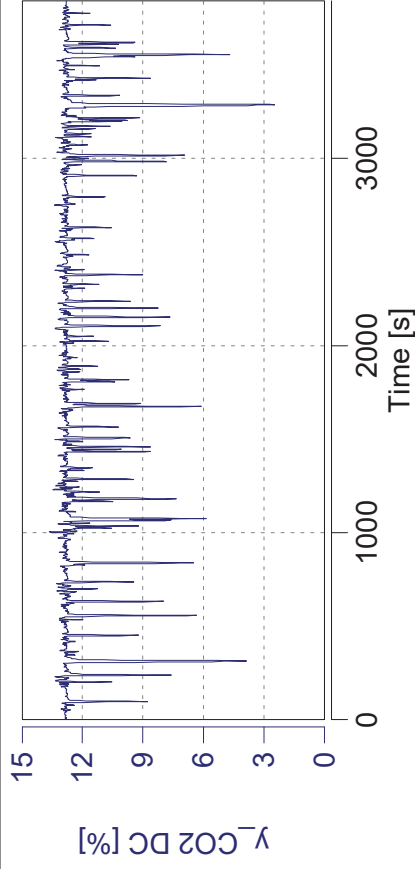
'City'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (2)

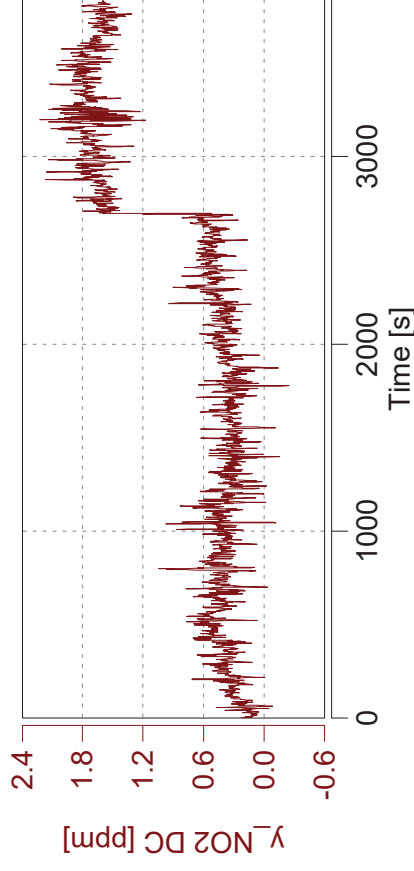
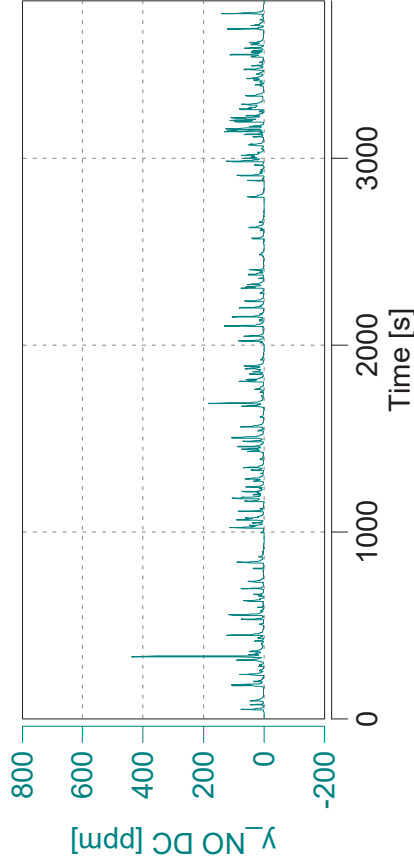
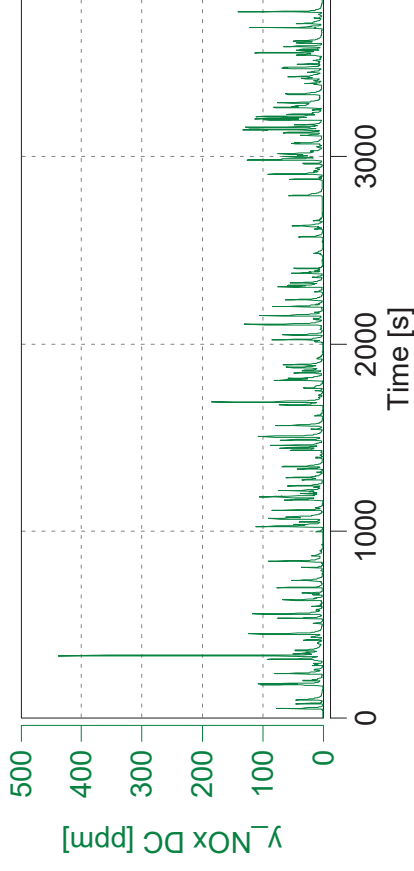
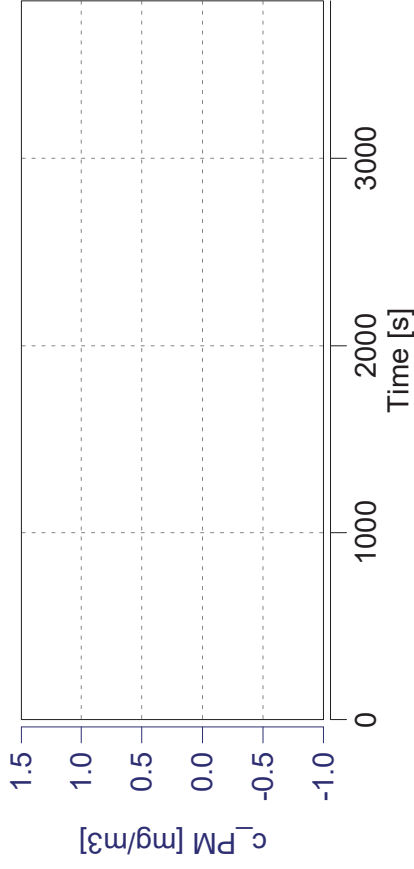
'City'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /
Vehicle: Audi A7 / 3.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (3)

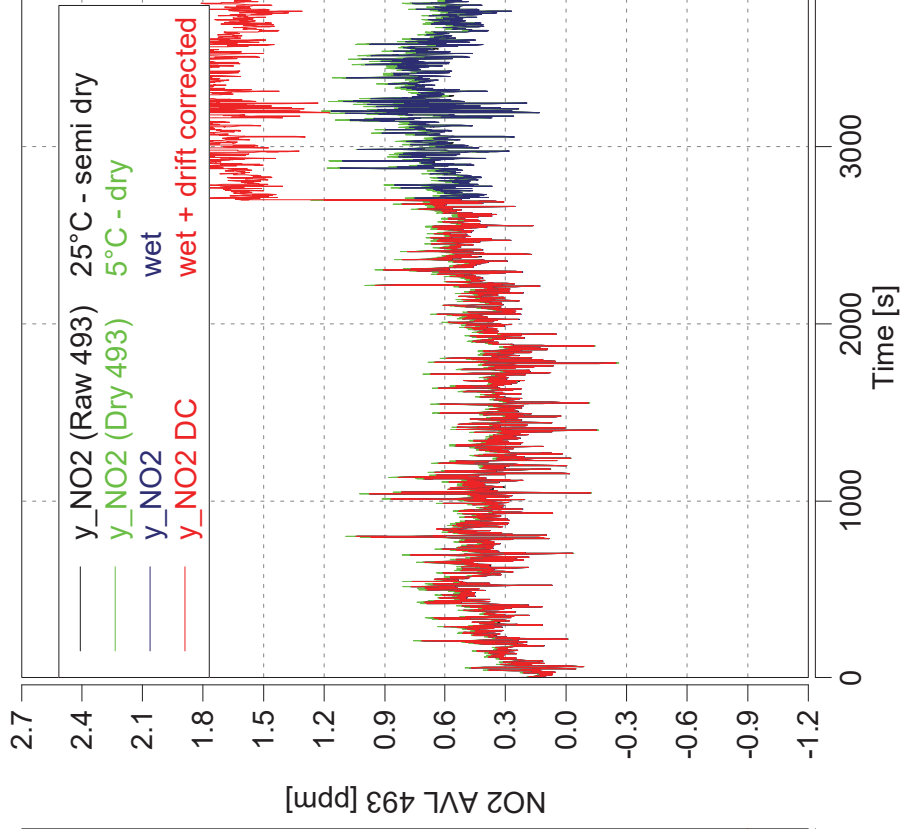
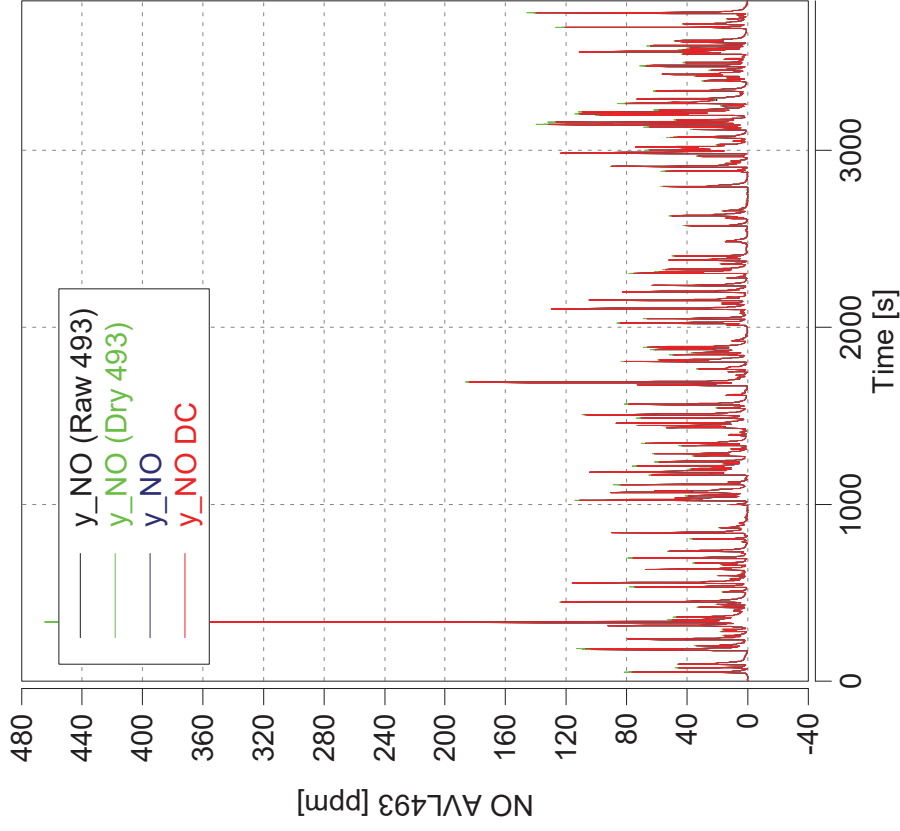
'City'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /
Vehicle: Audi A7 / 3.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

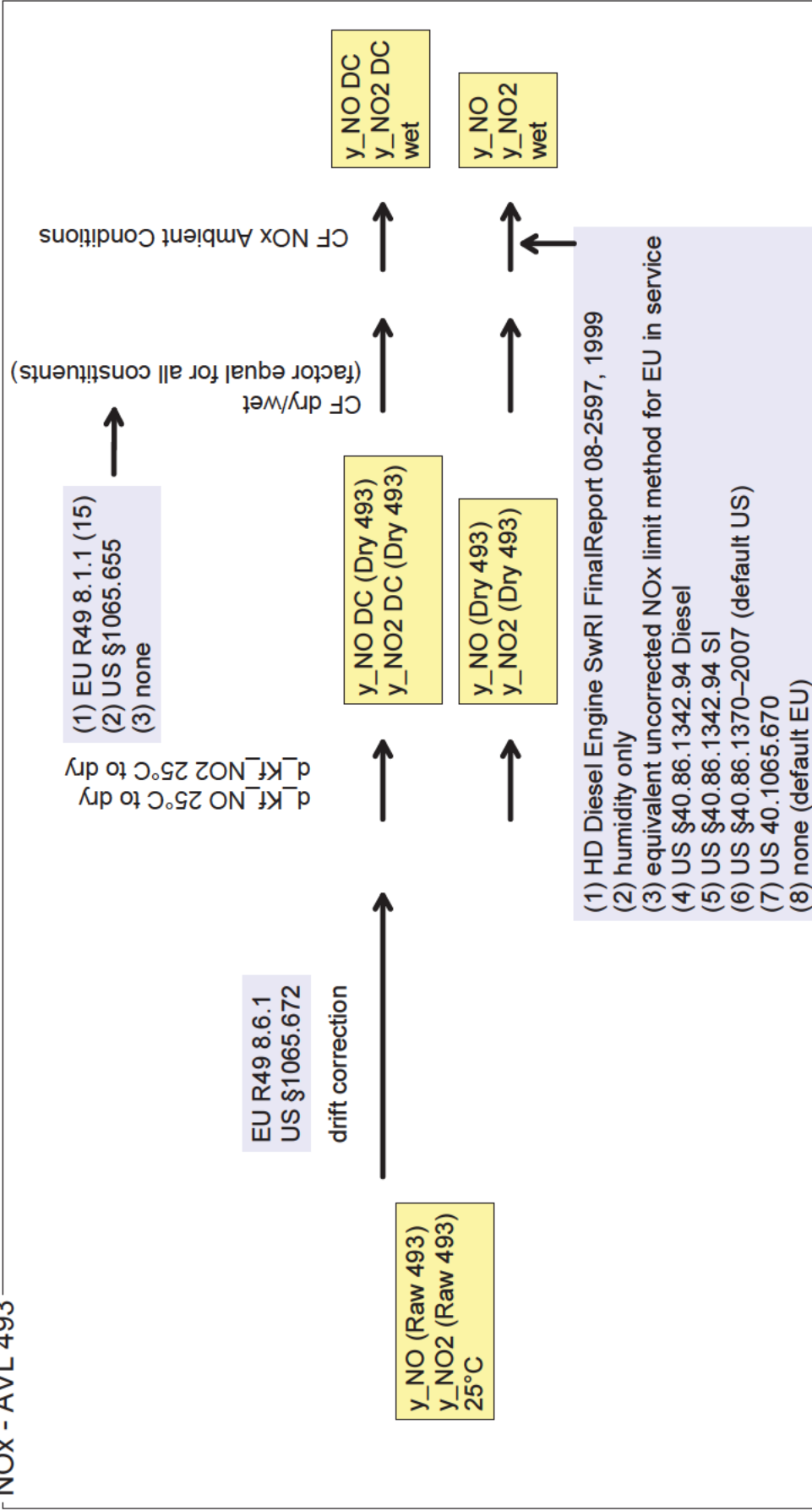
Case: City

Page: Corrected Emissions (4) NOx Corrections

'City'
Start Date: 07/16/2018
Start Time: 11:04:12.0



NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine /

Vehicle: Audi A7 / 3.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (5)

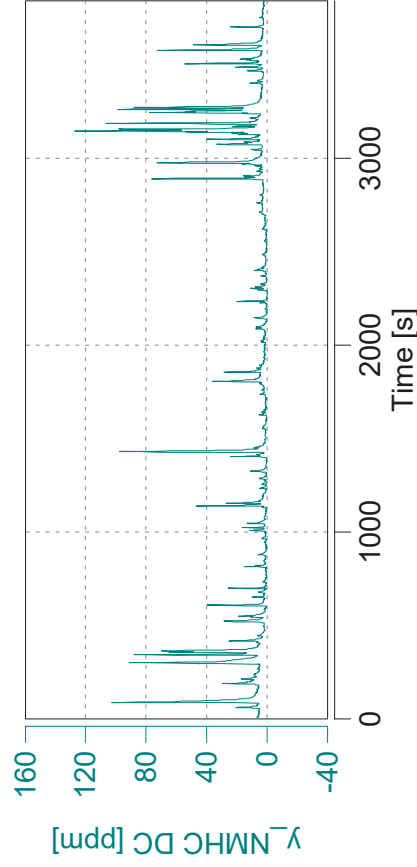
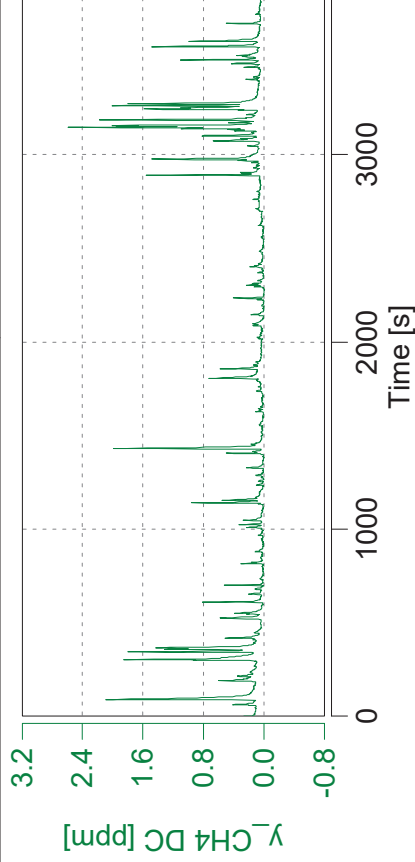
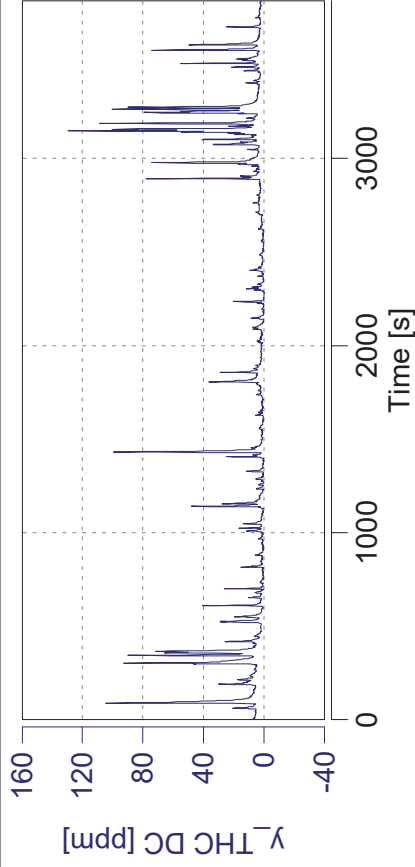
'City'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Engine: /
Vehicle: Audi A7 / 3.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: NO/NO2/NOx Zero - Span

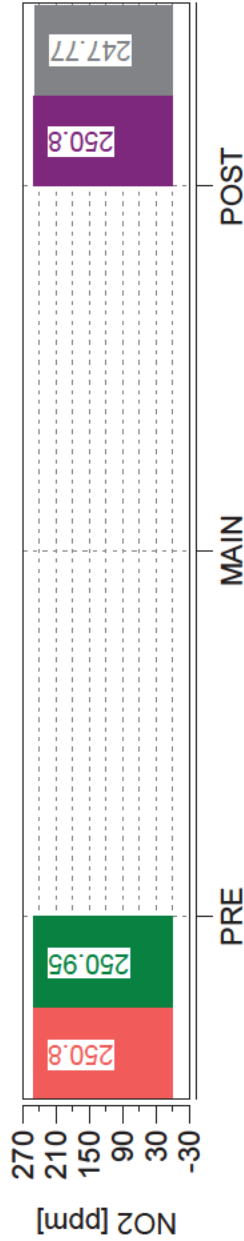
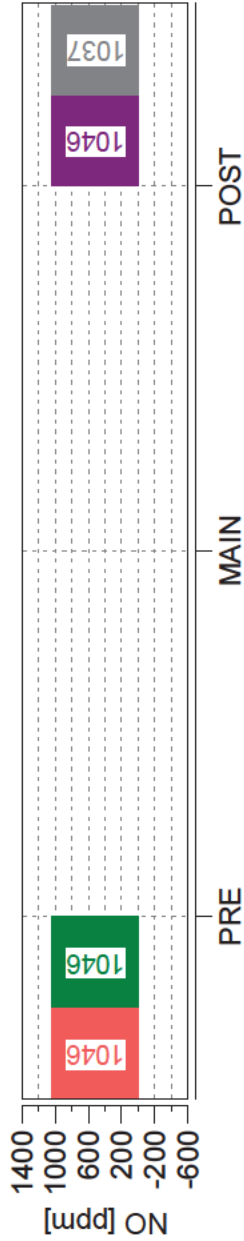
'City'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: City

Page: CO/CO2 Zero - Span

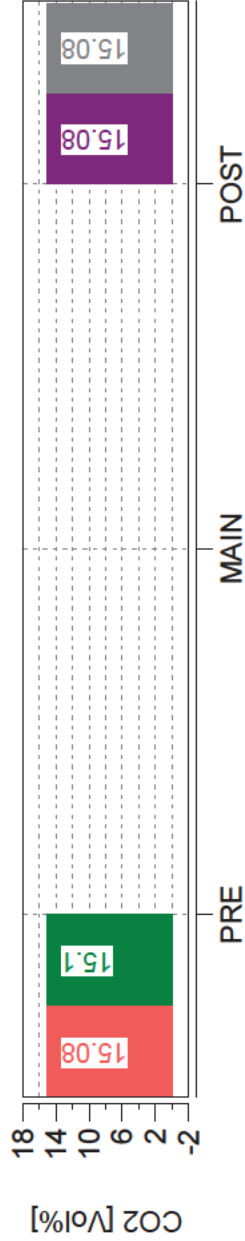
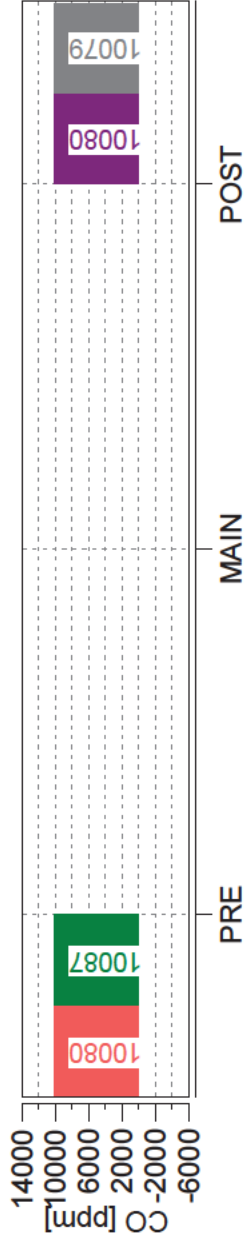
'City'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: THC/CH4 Zero - Span

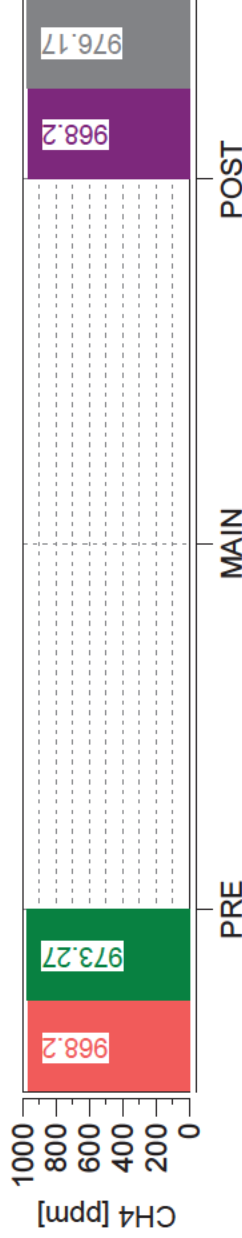
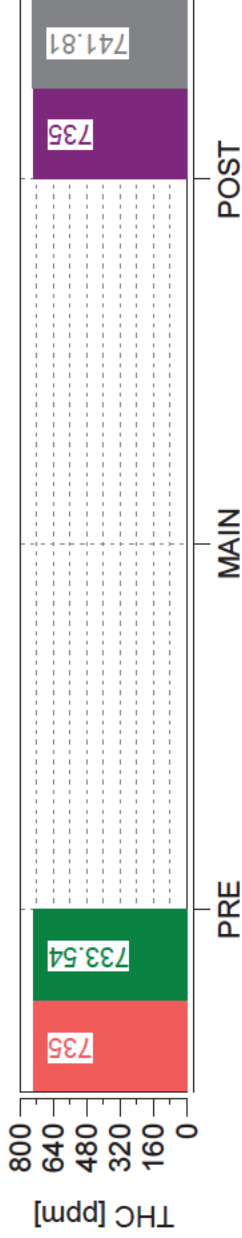
'City'

Start Date: 07/16/2018

Start Time: 11:04:12.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Audi A7 / 3.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: Highway

Page: Trip Summary

'Highway'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E. 2018

Trip Duration	2597.00	s	ave THC	-1.18566	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	2597.00	s	ave NMHC	-1.16195	ppm	BS CO	n/a	g/hphr
Trip Distance	38.25	mi	ave CH4	-0.02371	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	38.25	mi	ave CO	123.08730	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	11.89465	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOX	4.84016	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	4.80	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	4.73	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.70	gall	tot THC	-0.01477	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.67	gall	tot NMHC	-0.01366	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	-0.00033	g	DS CO2	376.54551	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	10.87672	g	DS CO	0.28435	g/mi
Trip Fuel Economy EU (ac)	22.56	mpg_US	tot CO2	14403.53276	g	DS THC	-0.00039	g/mi
Trip Fuel Economy US (ac)	22.87	mpg_US	tot NO (d)	0.30313	g	DS NMHC	-0.00036	g/mi
Trip Av. Eng. Speed	1598.12	rpm	tot NO2	-0.00560	g	DS CH4	-0.00001	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.29754	g	DS NO (d)	0.00792	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	-0.00015	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.00778	g/mi
Trip Exhaust Mass	75.96	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	85.55	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	49.44	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	53.02517	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	2.38737	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Trip Summary Drift Corrected

'Highway'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018

Parameter	Value	Unit	Parameter	Value	Unit	Parameter	Value	Unit
Trip Duration	2597.00	s	ave THC DC	-0.82949	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	2597.00	s	ave NMHC DC	-0.81290	ppm	BS CO DC	n/a	g/hphr
Trip Distance	38.25	mi	ave CH4 DC	-0.01659	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	38.25	mi	ave CO DC	123.11968	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	11.88283	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	4.98711	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	4.80	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	4.73	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.70	gall	tot THC DC	-0.00527	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.67	gall	tot NMHC DC	-0.00487	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	-0.00012	g	DS CO2 DC	376.17133	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	10.88253	g	DS CO DC	0.28450	g/mi
Trip Fuel Economy EU (ac)	22.56	mpg_US	tot CO2 DC	14389.21988	g	DS THC DC	-0.00014	g/mi
Trip Fuel Economy US (ac)	22.87	mpg_US	tot NO DC (d)	0.30890	g	DS NMHC DC	-0.00013	g/mi
Trip Av. Eng. Speed	1598.12	rpm	tot NO2 DC	-0.00200	g	DS CH4 DC	-0.00000	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.30690	g	DS NO DC (d)	0.00808	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	-0.00005	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.00802	g/mi
Trip Exhaust Mass	75.96	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	85.55	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	49.44	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	53.02517	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	2.38737	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Time Alignment Check

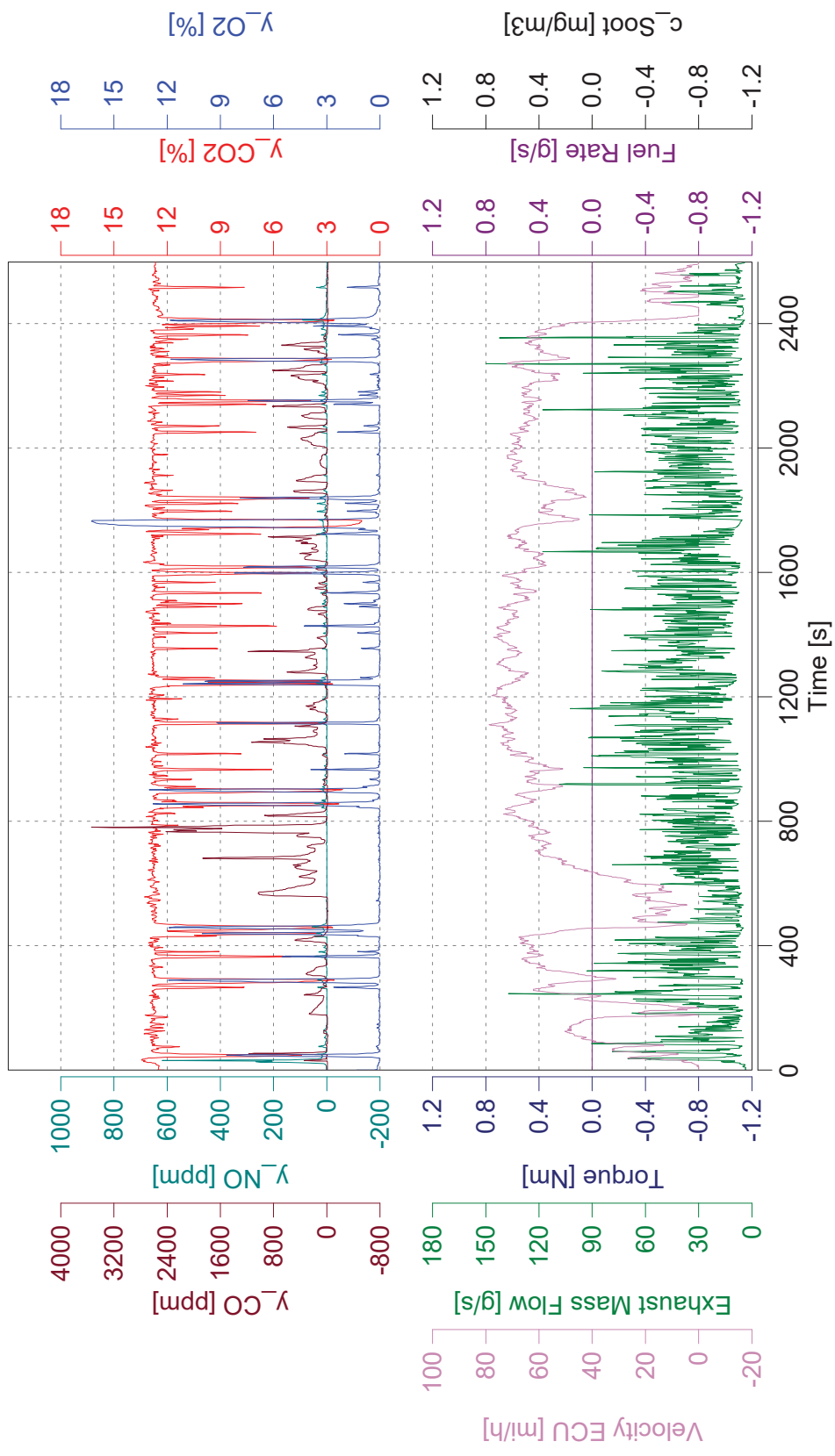
'Highway'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Time Alignment of Gas Concentrations

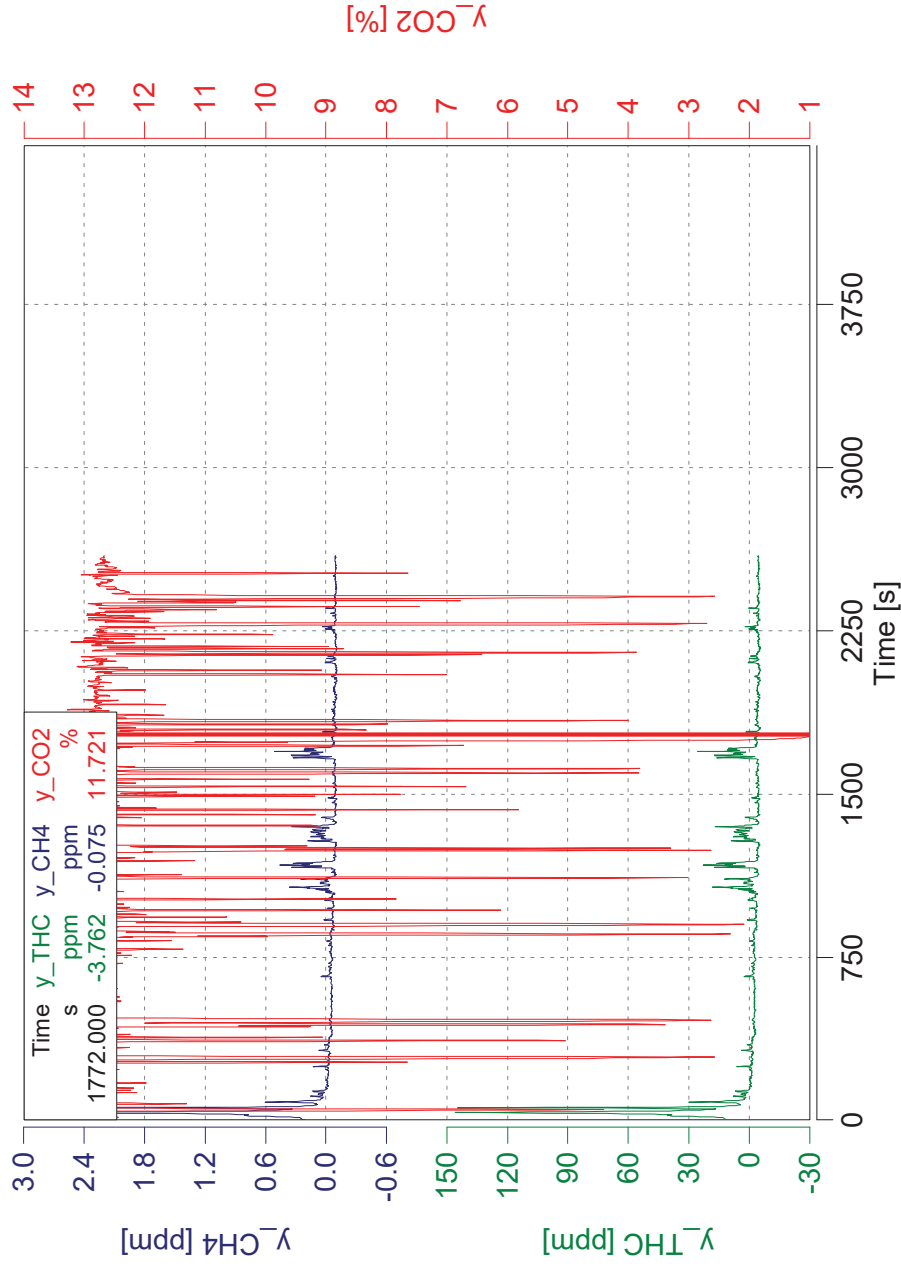
'Highway'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Ambient Conditions

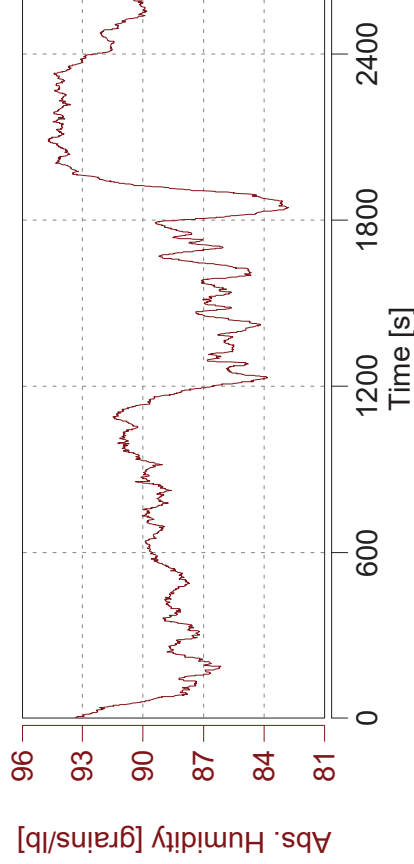
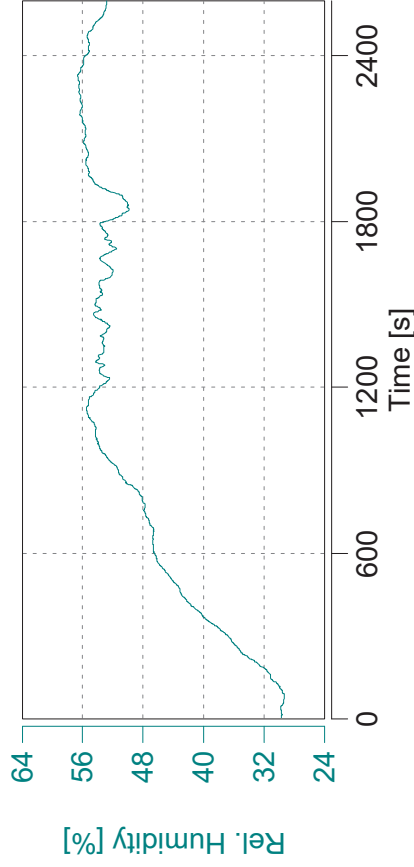
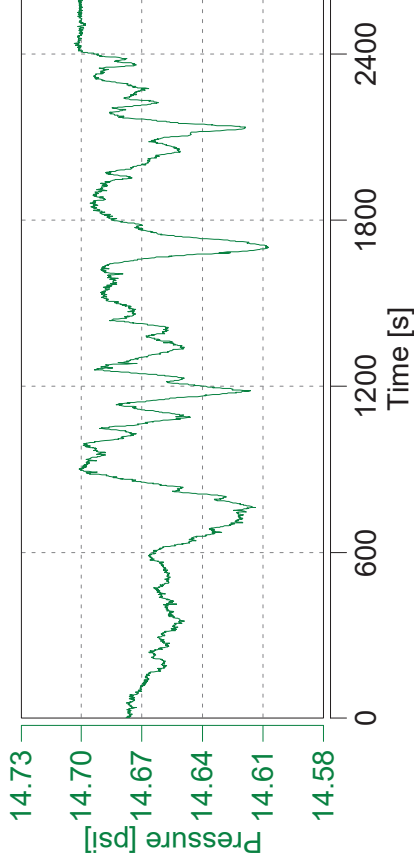
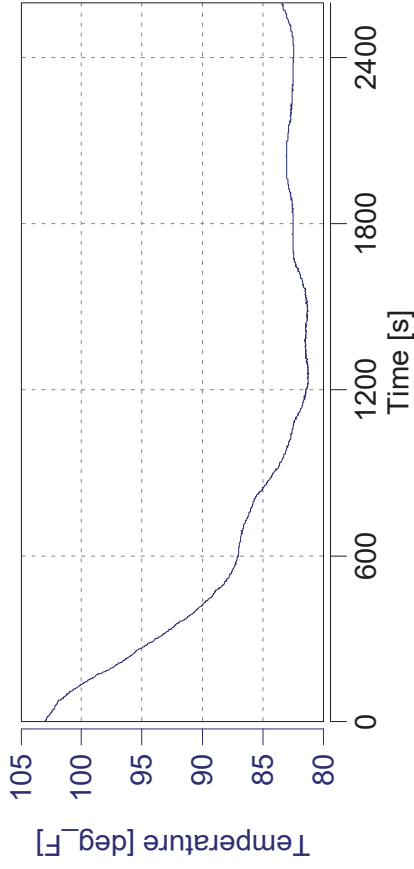
'Highway'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A8 / 4.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: GPS

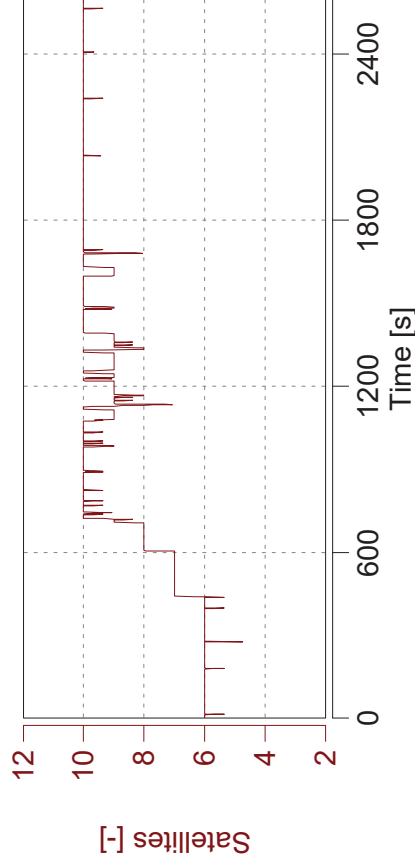
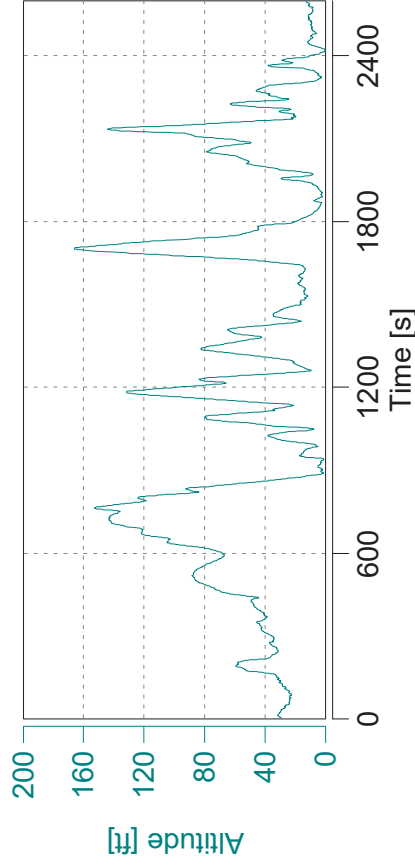
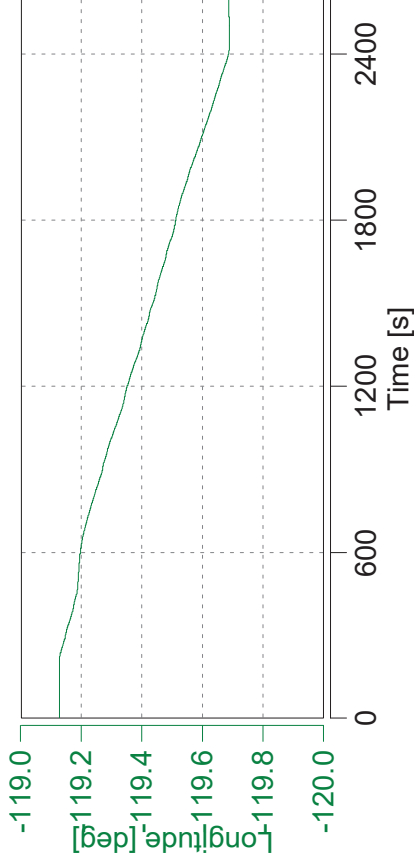
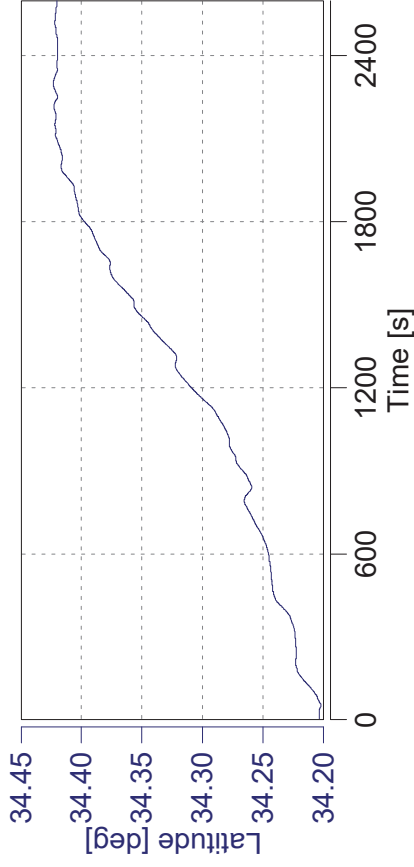
'Highway'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (1)

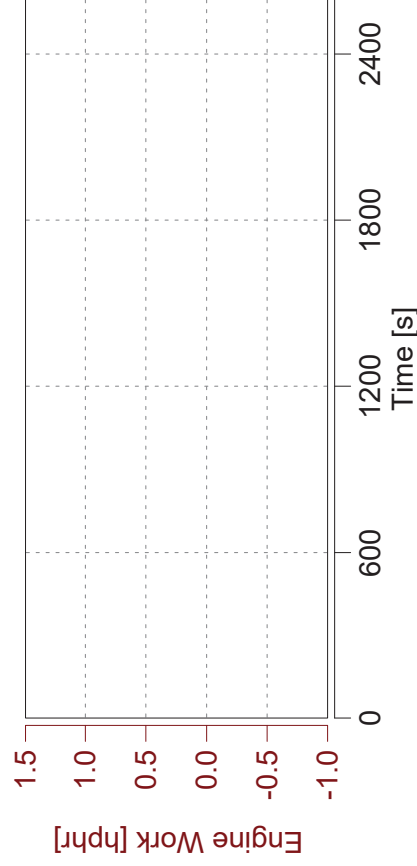
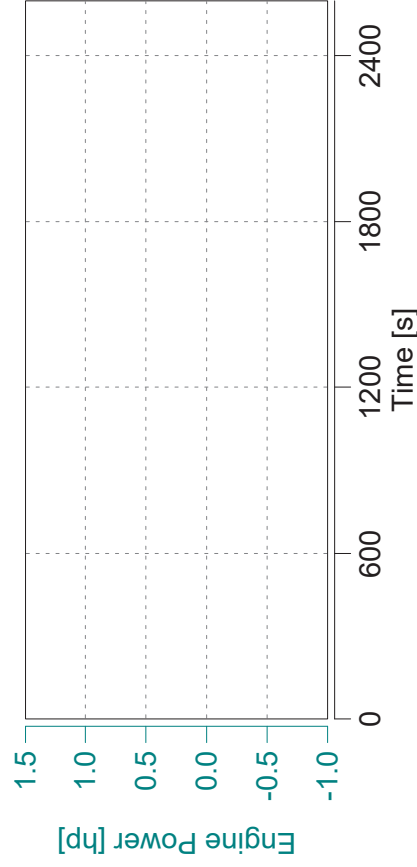
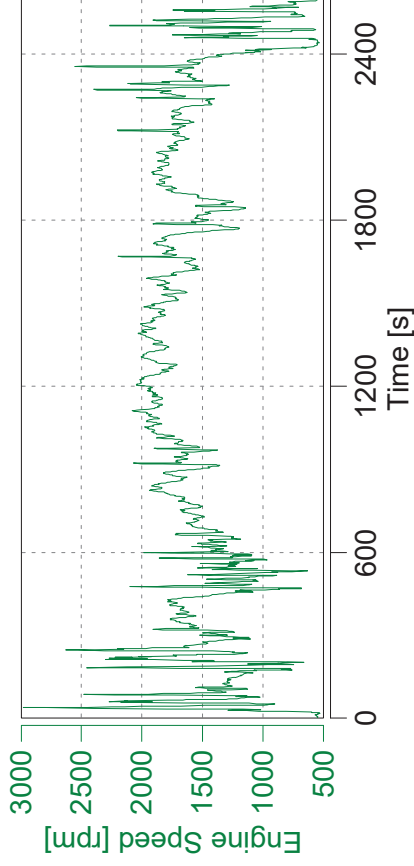
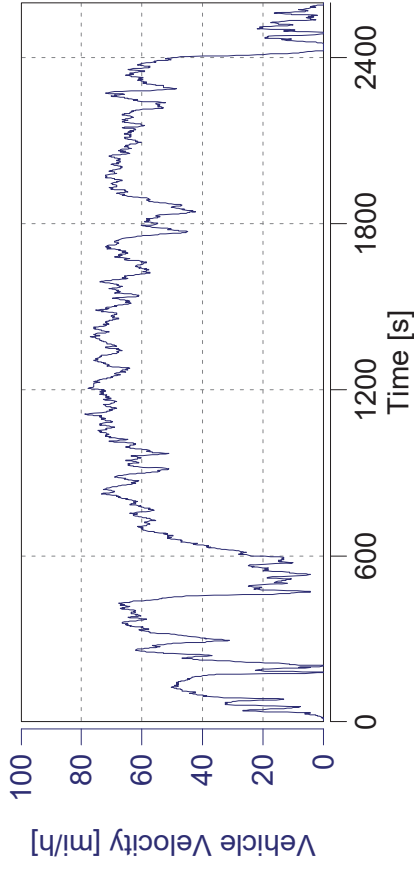
'Highway'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Engine: /
Vehicle: Audi A8 / 4.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (2)

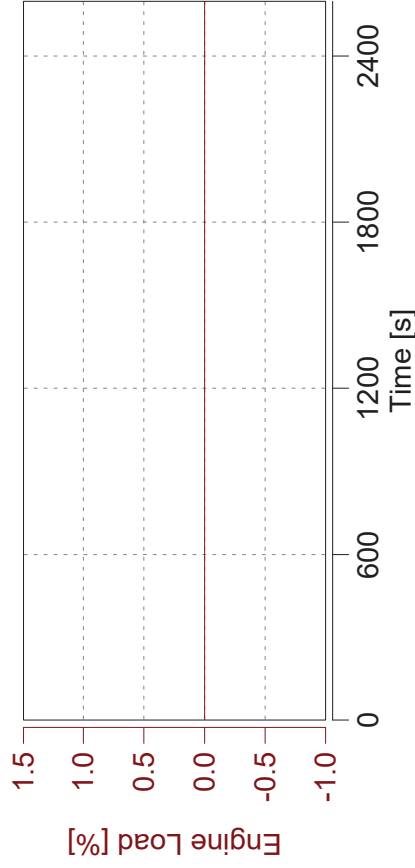
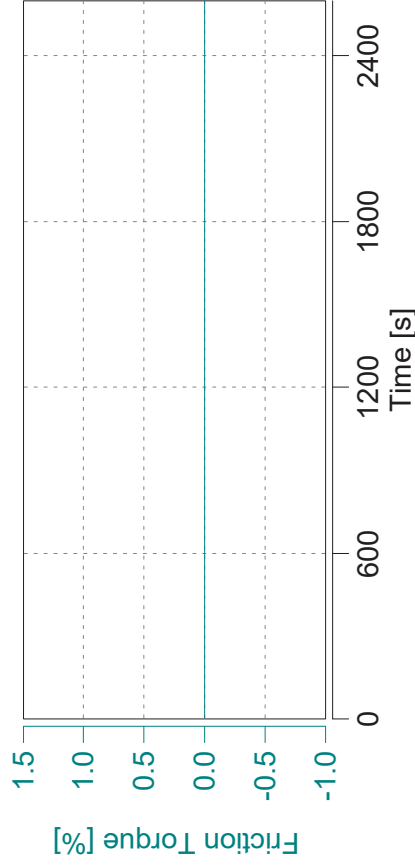
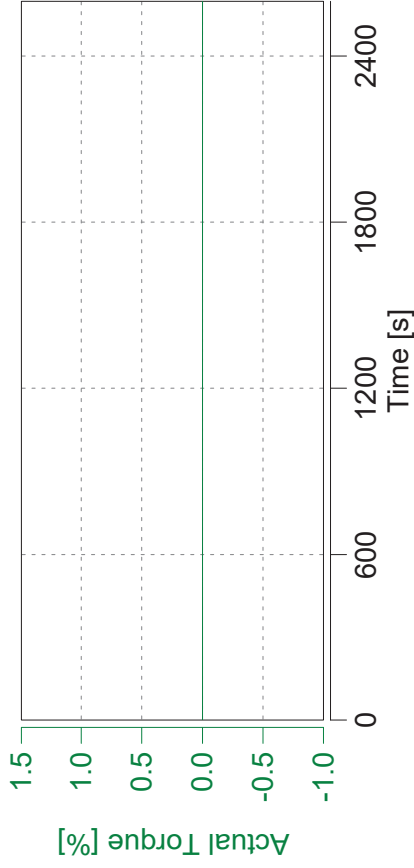
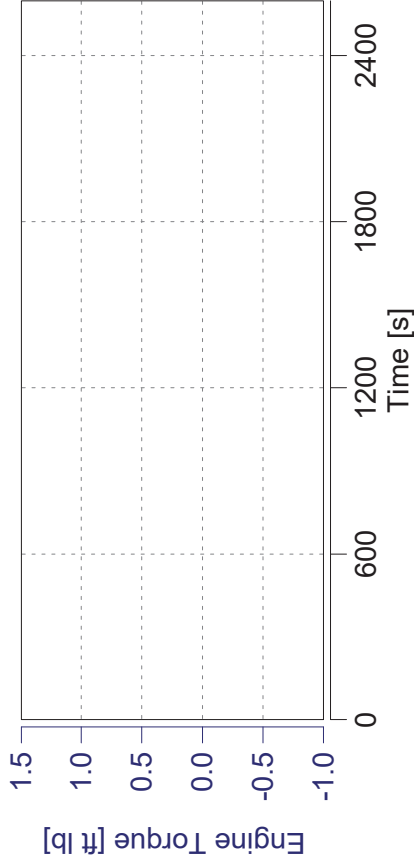
'Highway'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (3)

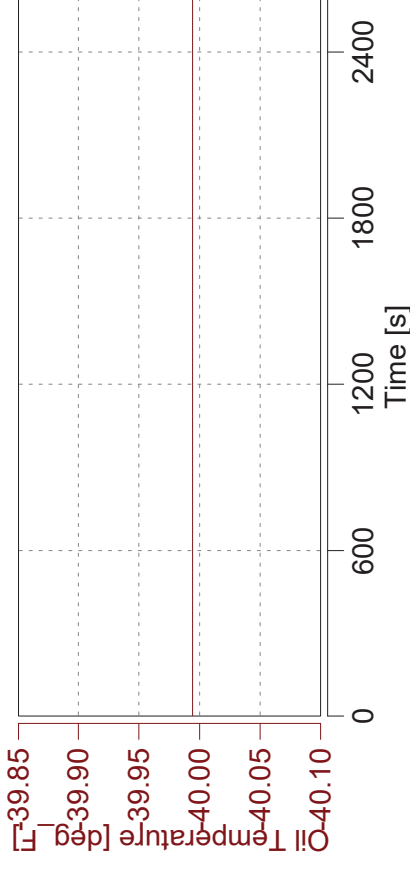
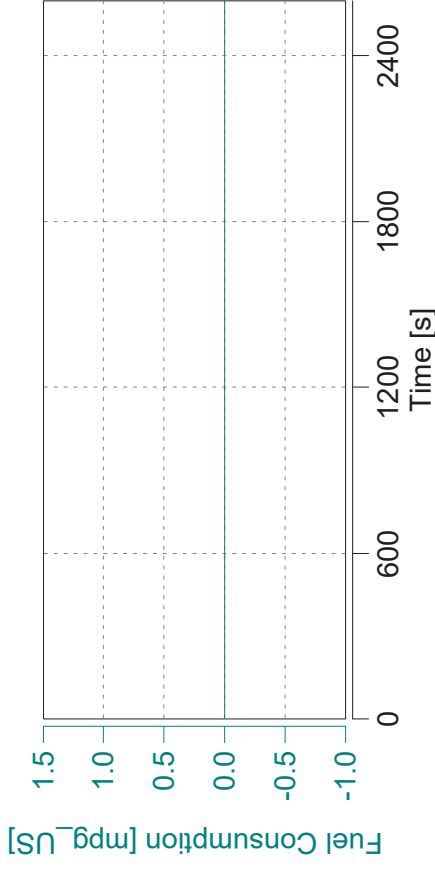
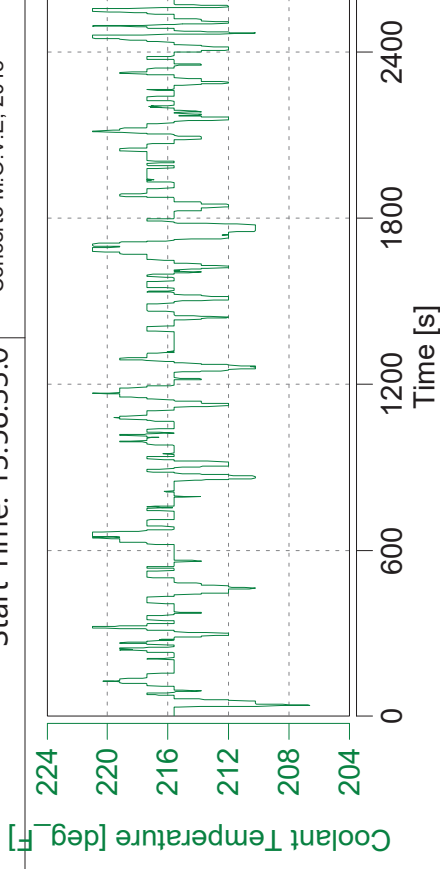
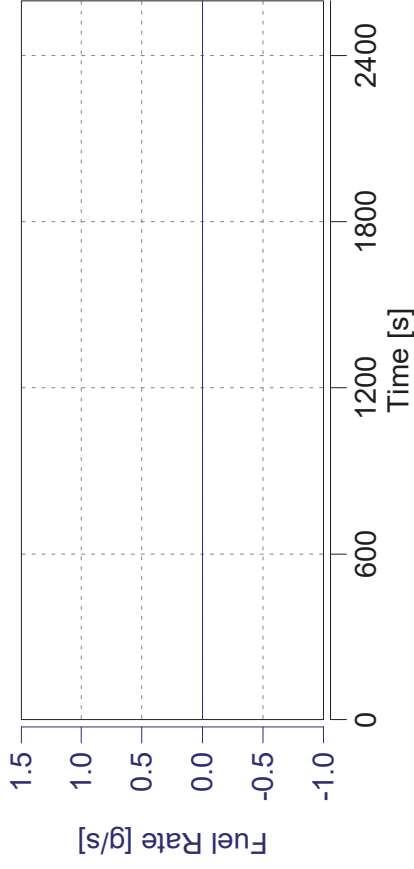
'Highway'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



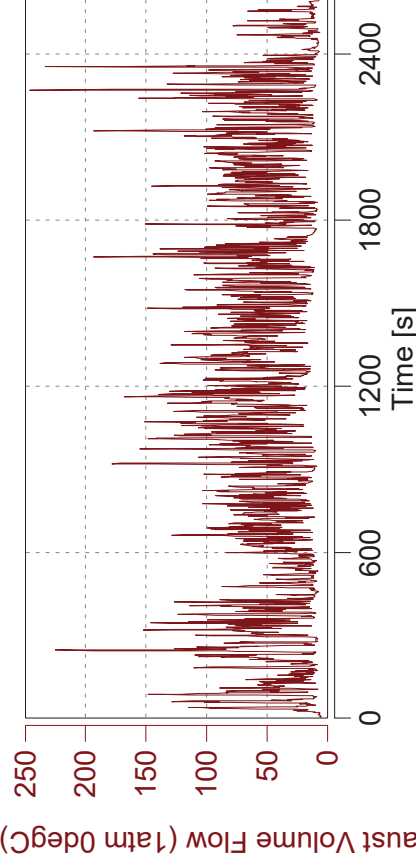
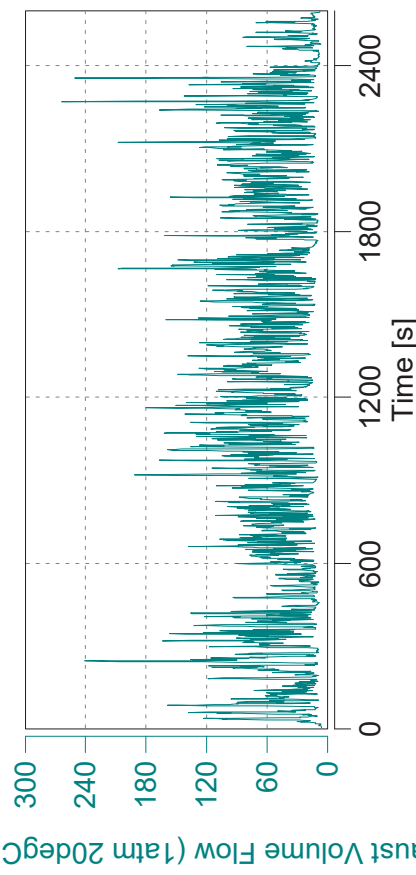
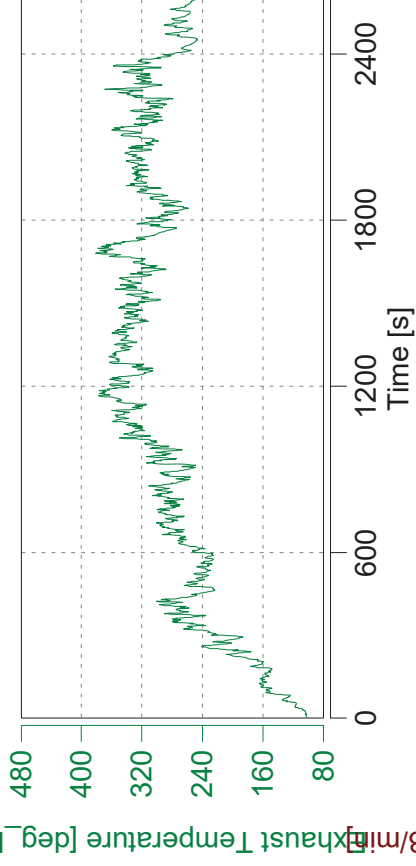
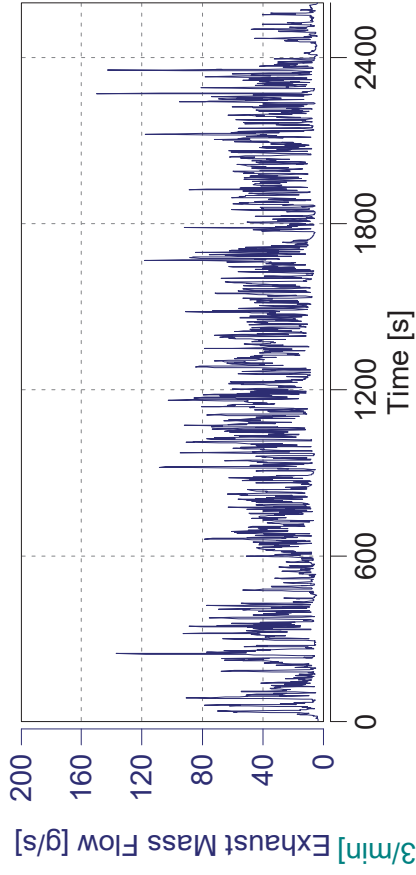
Concerto Version: 480 Build 316, Serial Number: 1120

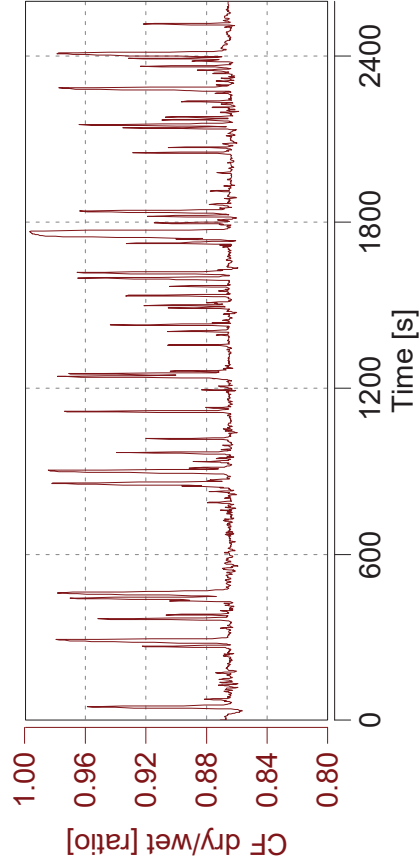
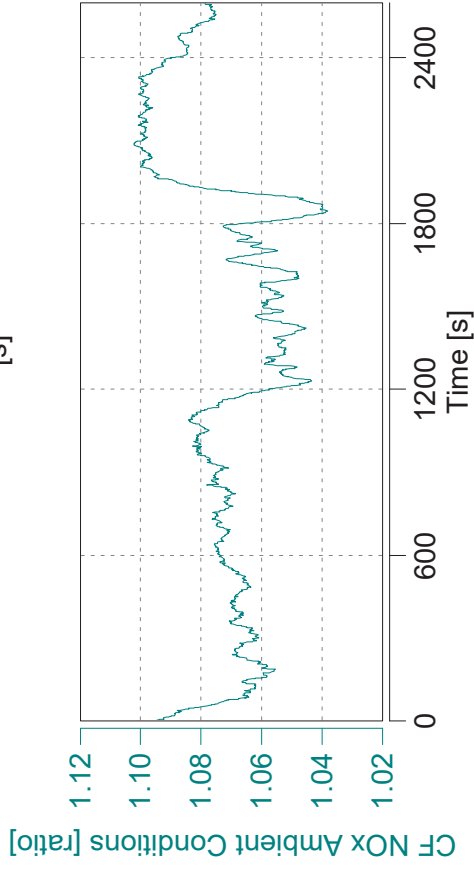
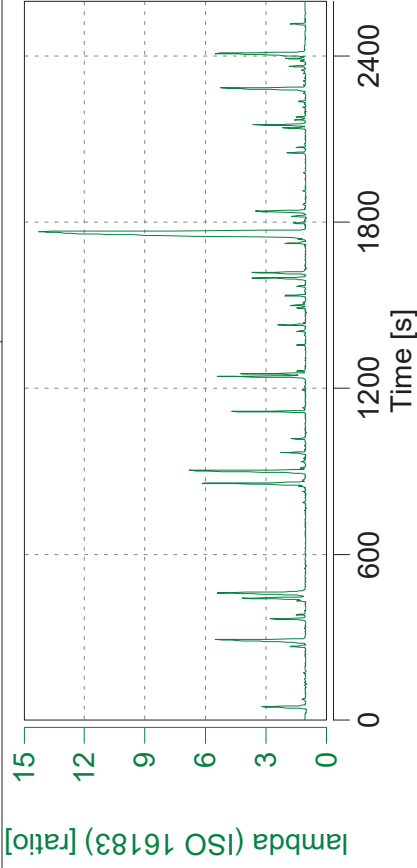
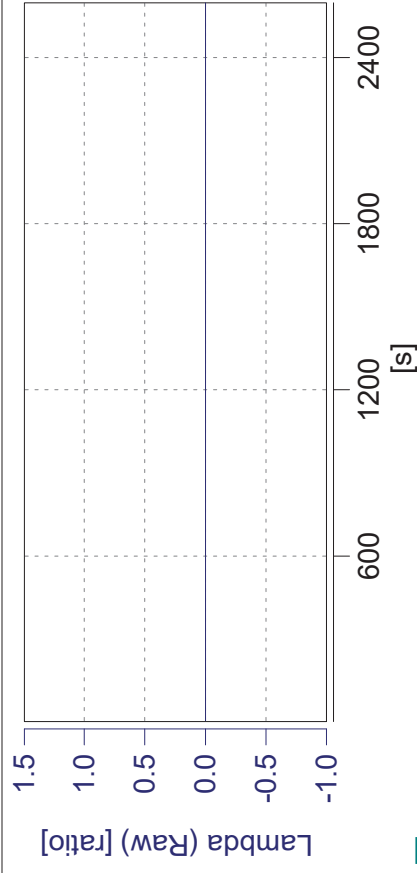
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90





Case: Highway

Page: Corrected Emissions (1)

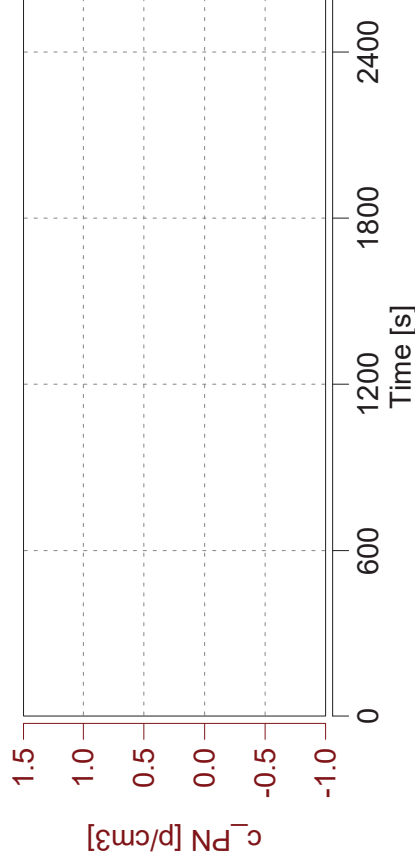
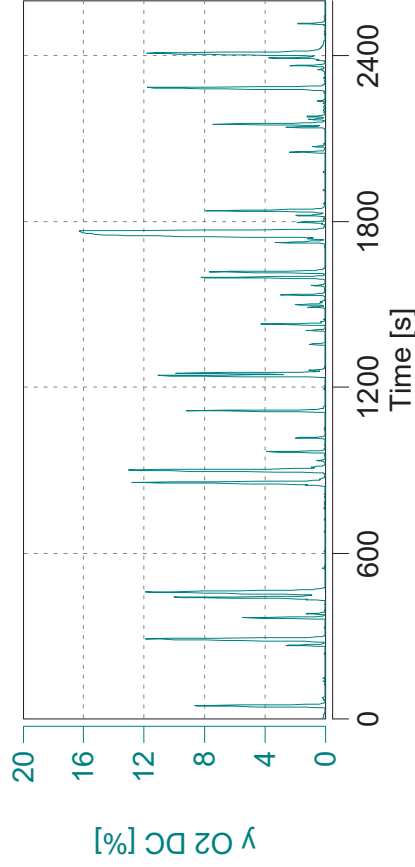
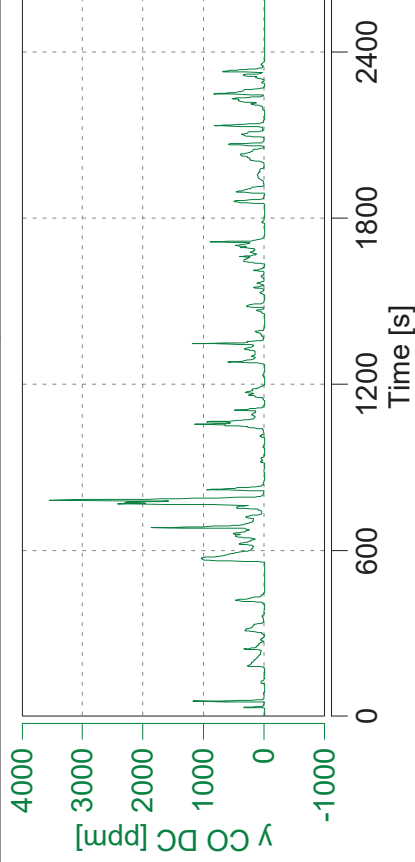
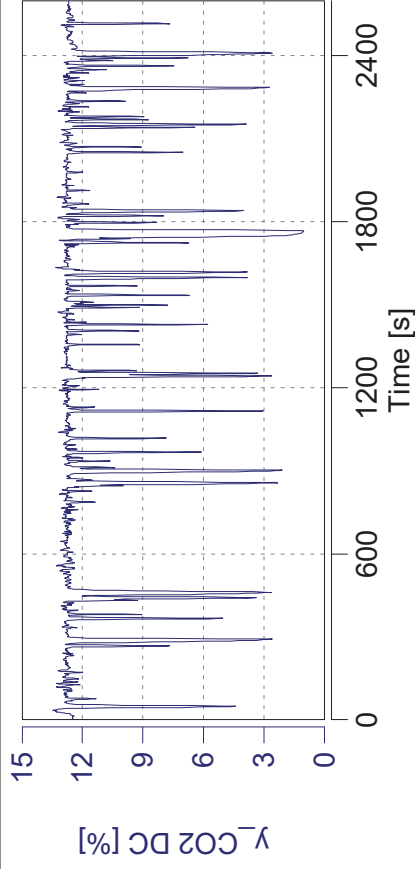
'Highway'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (2)

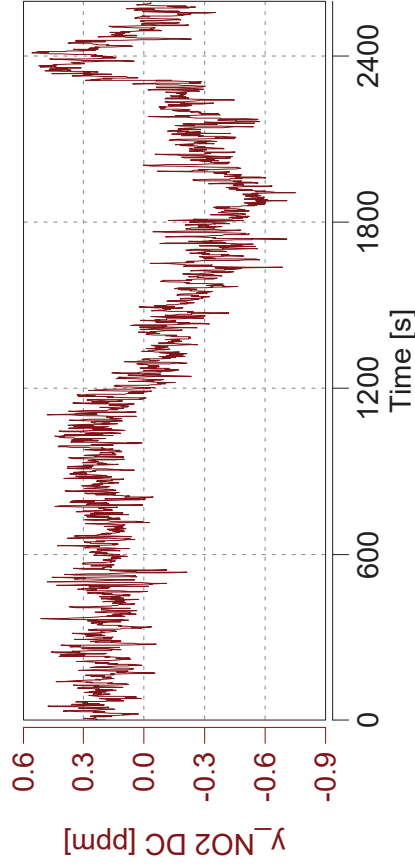
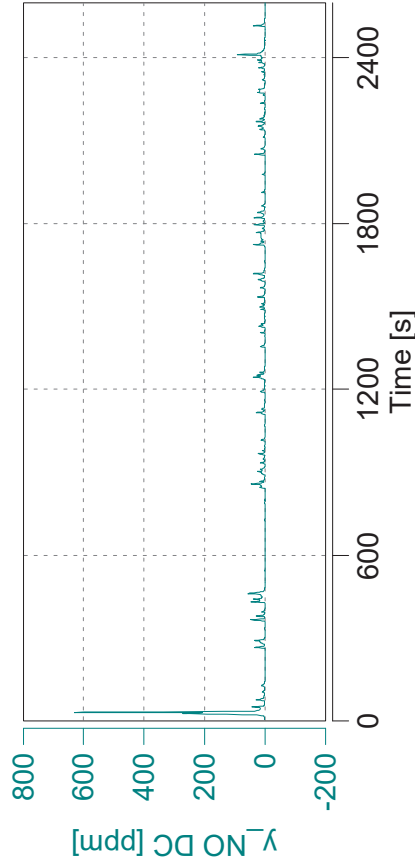
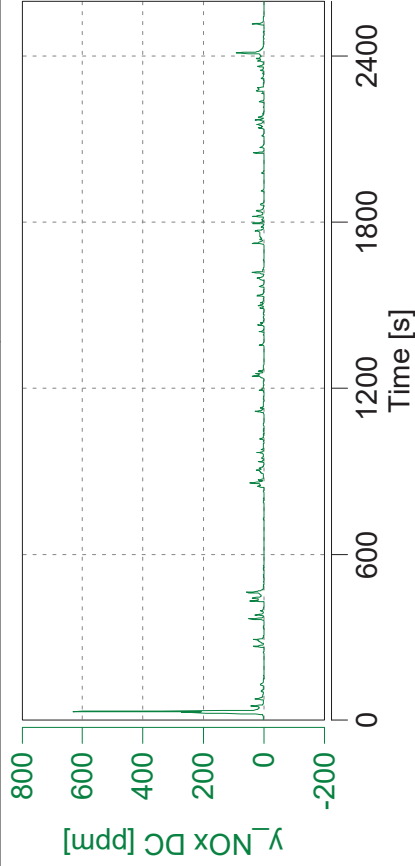
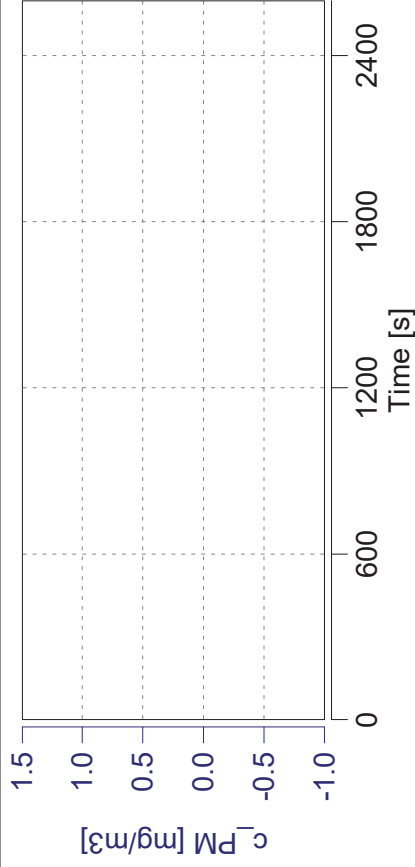
'Highway'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A8 / 4.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (3)

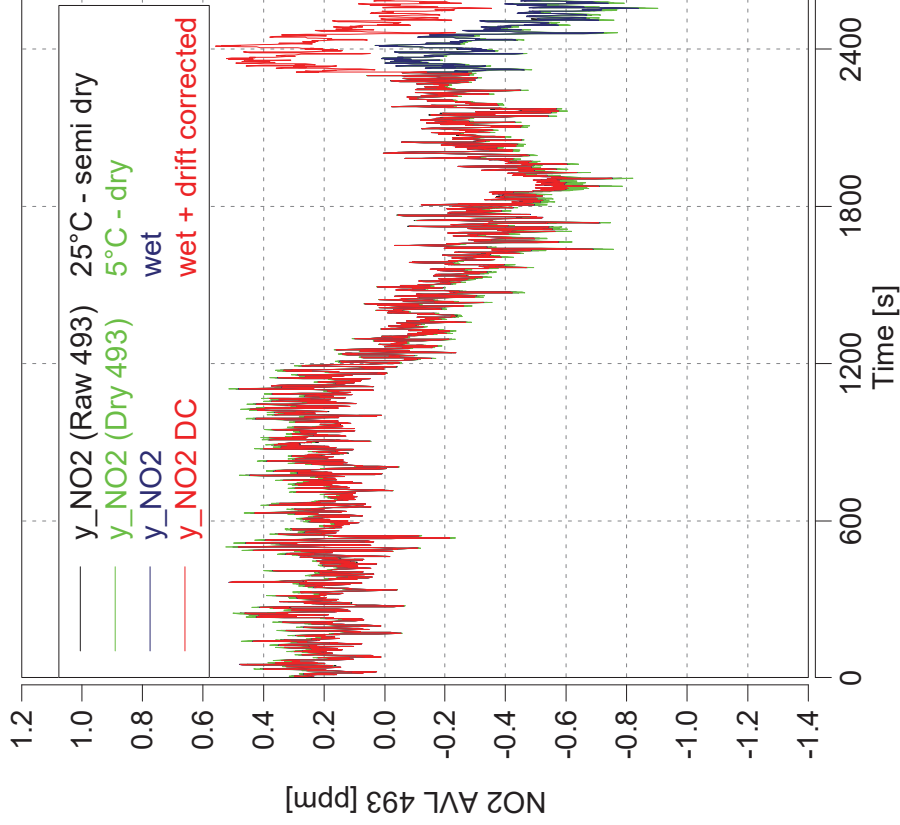
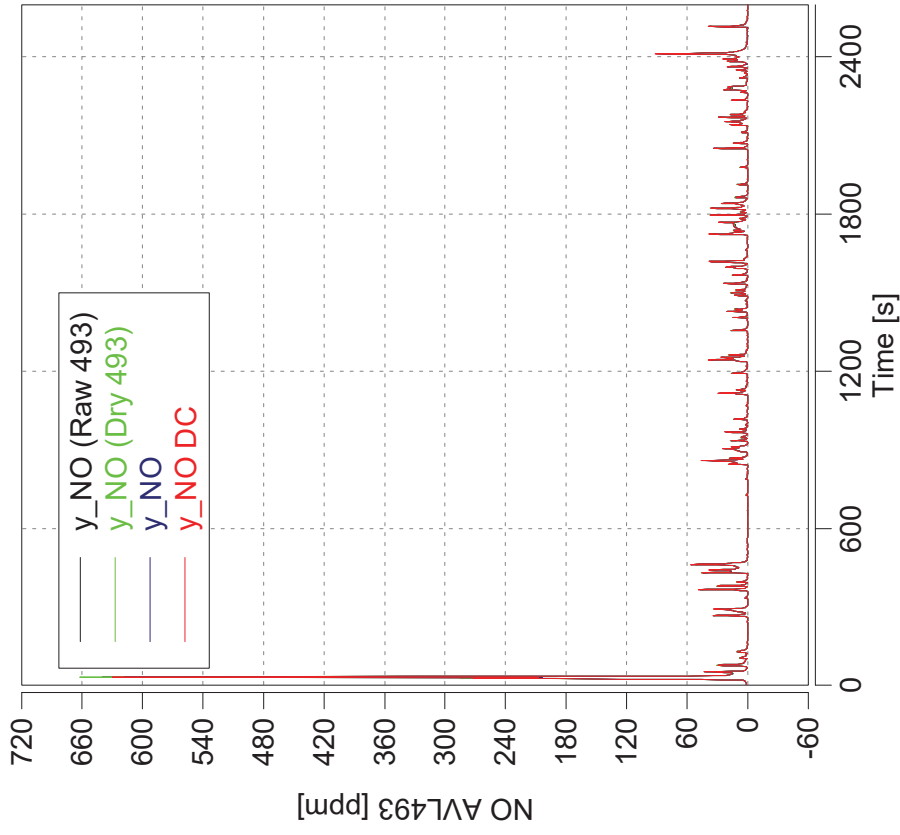
'Highway'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /
Vehicle: Audi A8 / 4.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (4) NOx Corrections

'Highway'

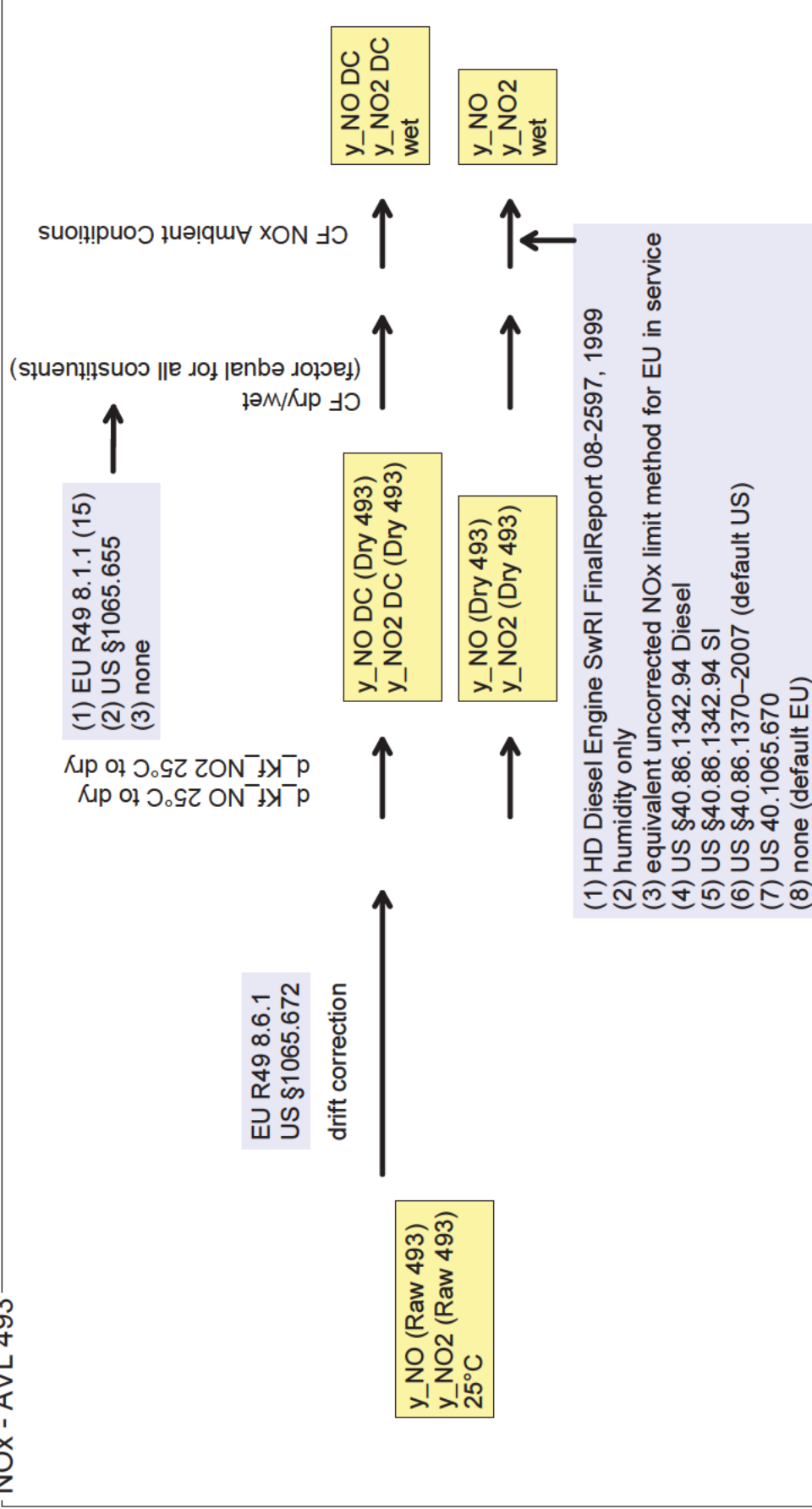
Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018

NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine /

Vehicle: Audi A8 / 4.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (5)

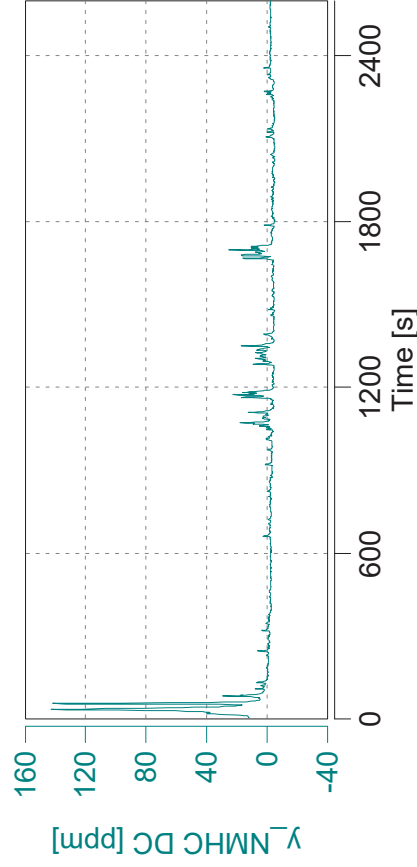
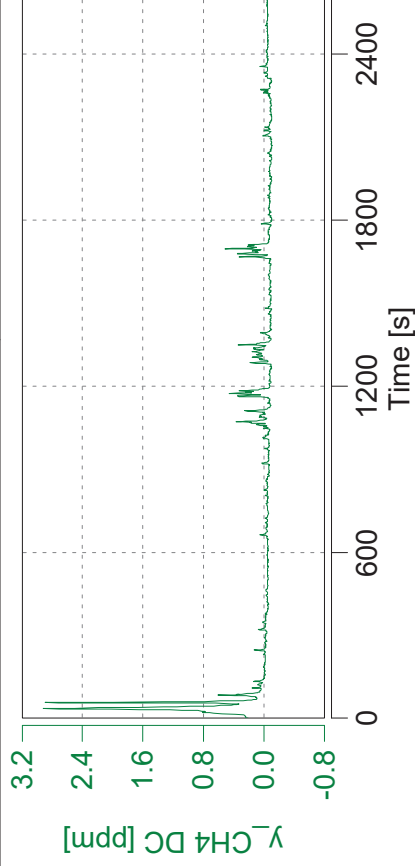
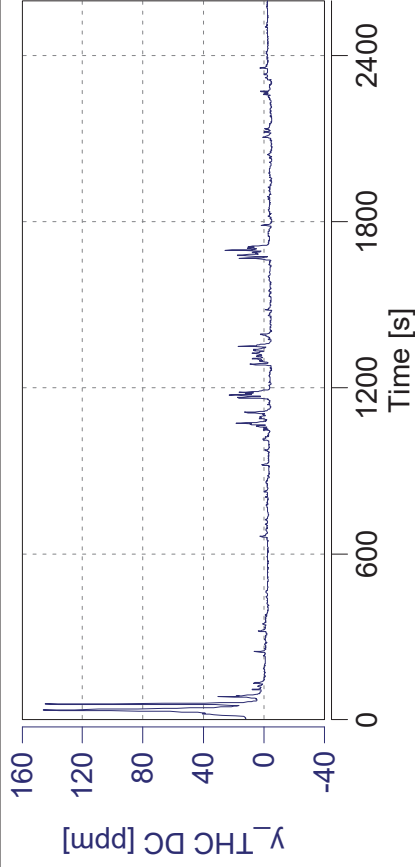
'Highway'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A8 / 4.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: NO/NO2/NOx Zero - Span

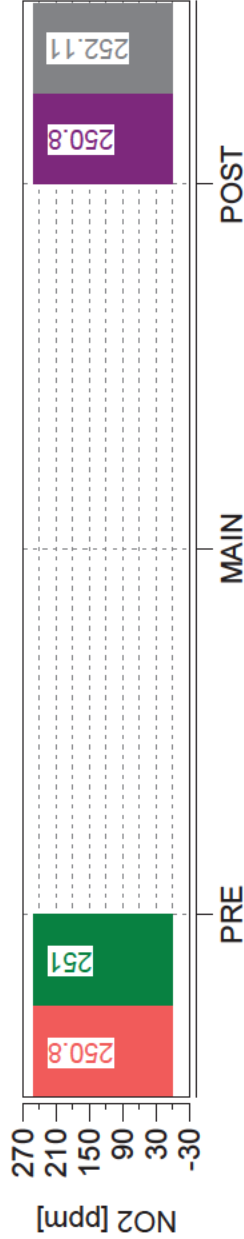
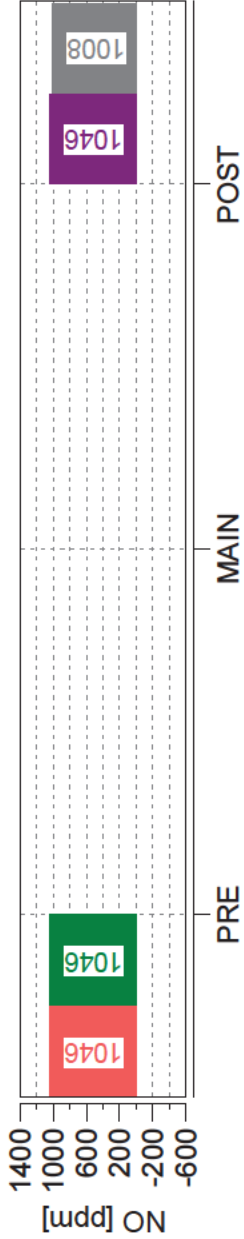
'Highway'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



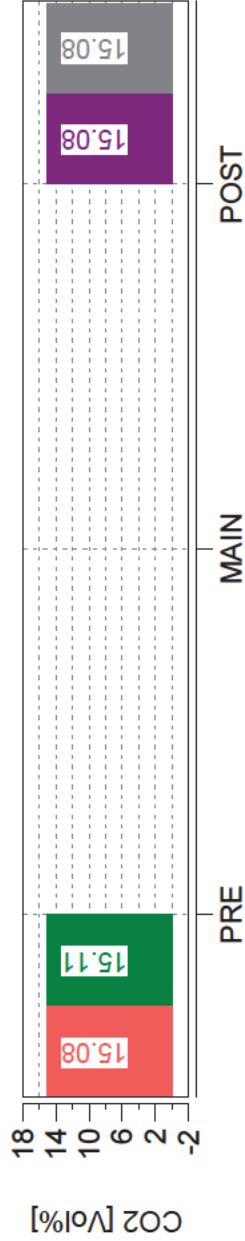
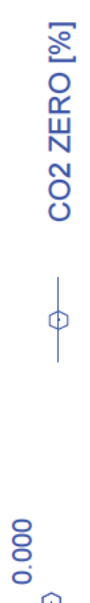
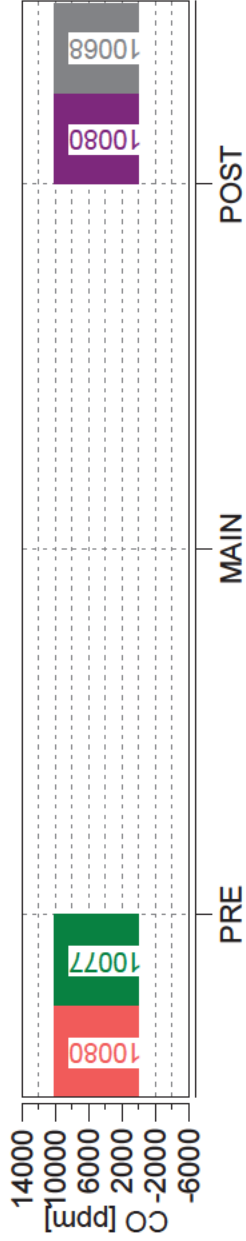
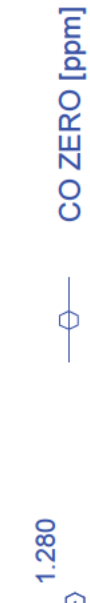
Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Audi A8 / 4.0L

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Case: Highway

Page: THC/CH4 Zero - Span

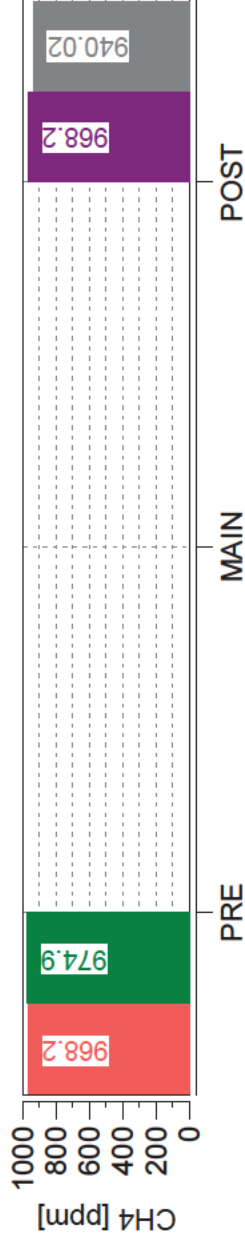
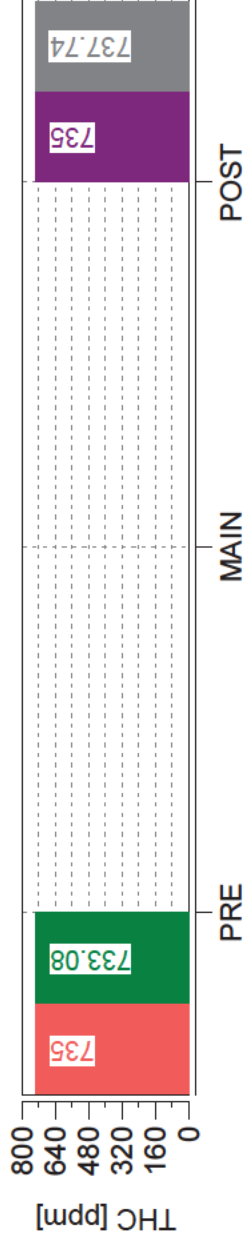
'Highway'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Trip Summary

'Mountain'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E. 2018

Trip Duration	3191.00	s	ave THC	-1.31993	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	3191.00	s	ave NMHC	-1.29353	ppm	BS CO	n/a	g/hphr
Trip Distance	28.67	mi	ave CH4	-0.02640	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	28.67	mi	ave CO	82.11470	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	10.68035	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOX	14.20508	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	4.61	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	4.55	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.63	gall	tot THC	0.02834	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.61	gall	tot NMHC	0.02621	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00063	g	DS CO2	483.15735	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	10.12213	g	DS CO	0.35302	g/mi
Trip Fuel Economy EU (ac)	17.59	mpg_US	tot CO2	13853.48351	g	DS THC	0.00099	g/mi
Trip Fuel Economy US (ac)	17.82	mpg_US	tot NO (d)	1.88234	g	DS NMHC	0.00091	g/mi
Trip Av. Eng. Speed	1691.55	rpm	tot NO2	0.01317	g	DS CH4	0.00002	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	1.89551	g	DS NO (d)	0.06565	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	0.00046	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.06611	g/mi
Trip Exhaust Mass	82.05	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	84.26	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	49.70	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	32.34790	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	10.02820	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
 (d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Trip Summary Drift Corrected

'Mountain'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E. 2018

Trip Duration	3191.00	s	ave THC DC	-1.19863	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	3191.00	s	ave NMHC DC	-1.17466	ppm	BS CO DC	n/a	g/hphr
Trip Distance	28.67	mi	ave CH4 DC	-0.02397	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	28.67	mi	ave CO DC	82.17707	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	10.66974	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	14.46439	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	4.61	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	4.55	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.63	gall	tot THC DC	0.03324	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.61	gall	tot NMHC DC	0.03075	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.00074	g	DS CO2 DC	482.67723	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	10.12981	g	DS CO DC	0.35329	g/mi
Trip Fuel Economy EU (ac)	17.59	mpg_US	tot CO2 DC	13839.71721	g	DS THC DC	0.00116	g/mi
Trip Fuel Economy US (ac)	17.82	mpg_US	tot NO DC (d)	1.91686	g	DS NMHC DC	0.00107	g/mi
Trip Av. Eng. Speed	1691.55	rpm	tot NO2 DC	0.01313	g	DS CH4 DC	0.00003	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	1.92999	g	DS NO DC (d)	0.06685	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	0.00046	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.06731	g/mi
Trip Exhaust Mass	82.05	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	84.26	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	49.70	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	32.34790	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	10.02820	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Time Alignment Check

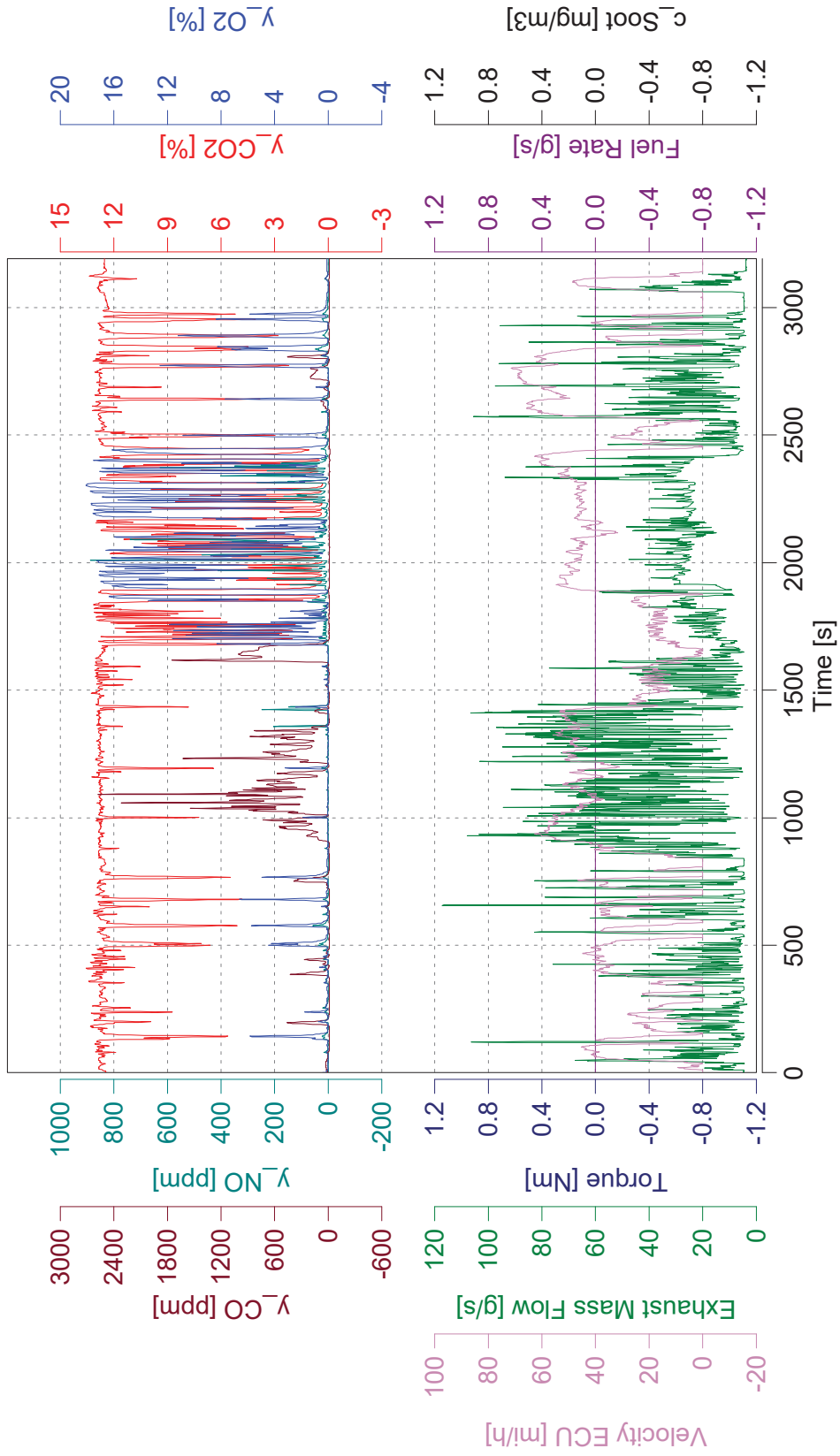
'Mountain'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316(CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Time Alignment of Gas Concentrations

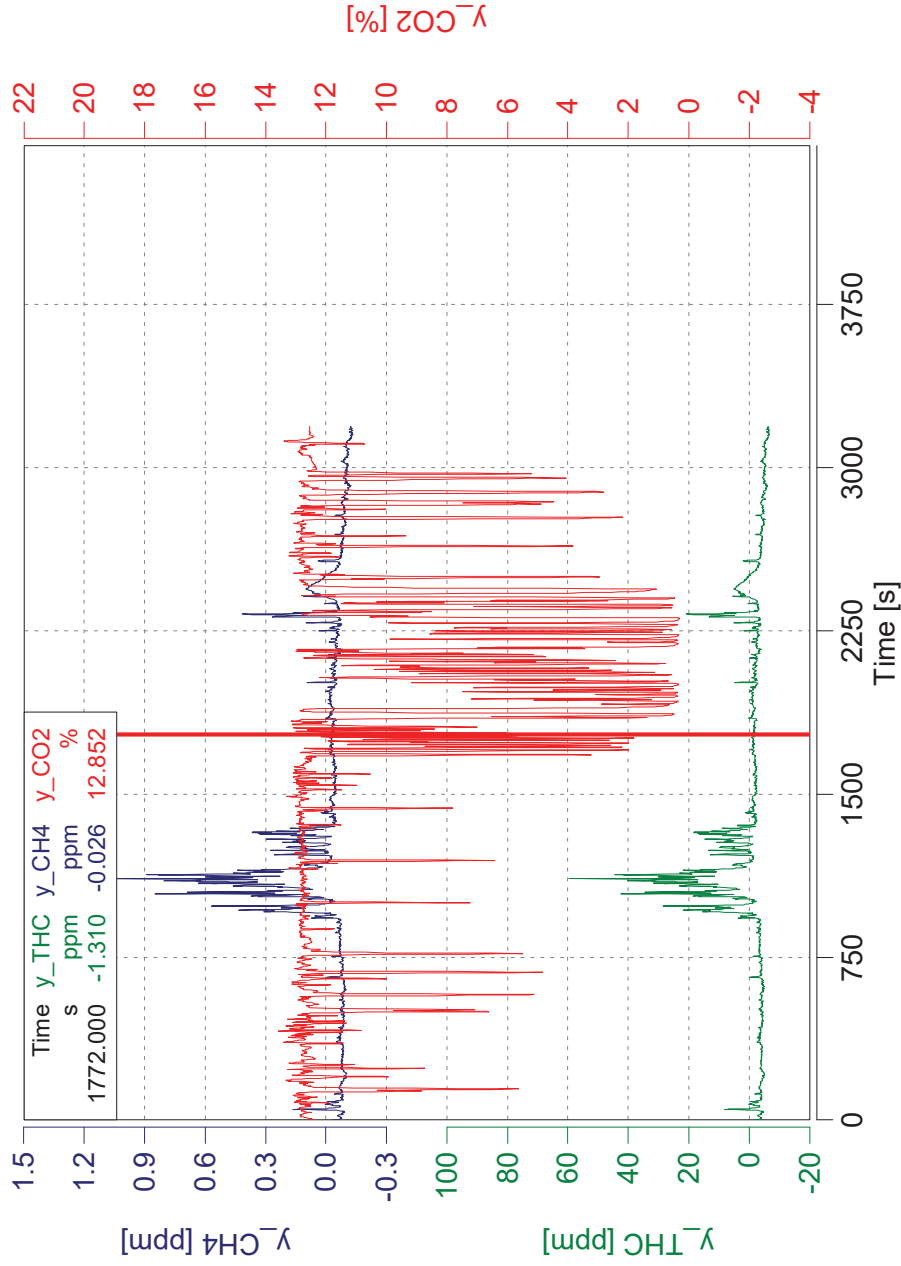
'Mountain'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Ambient Conditions

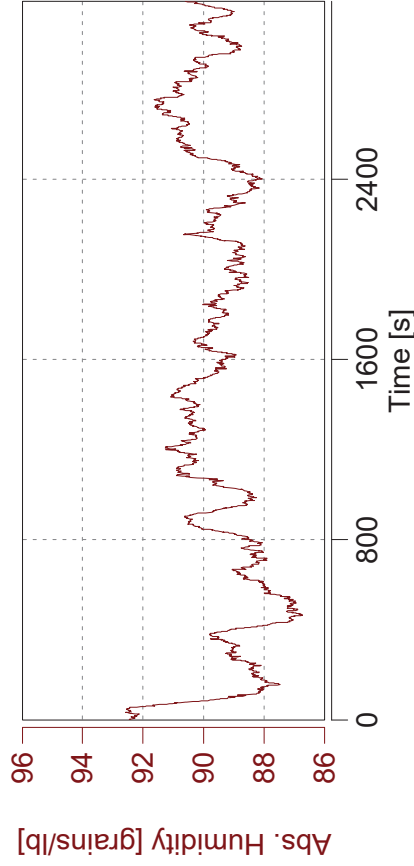
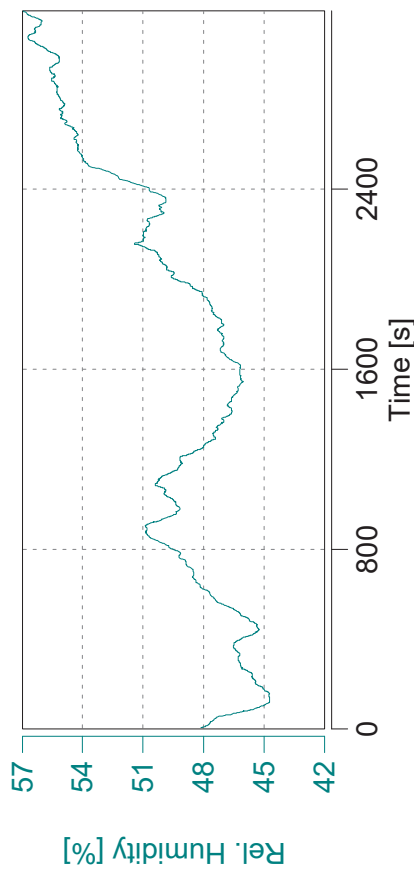
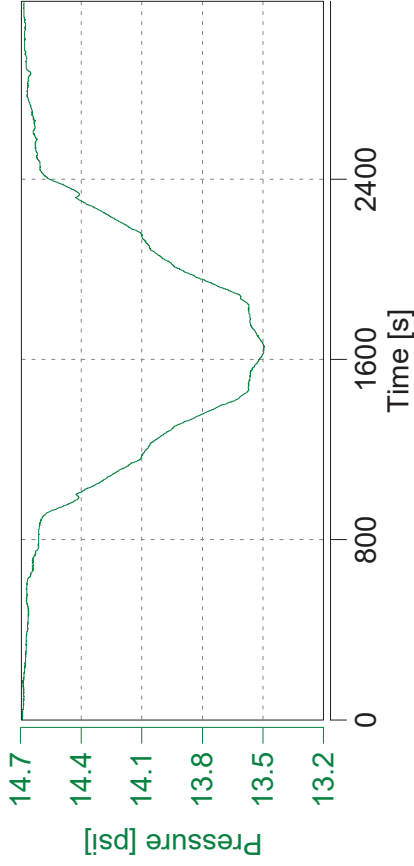
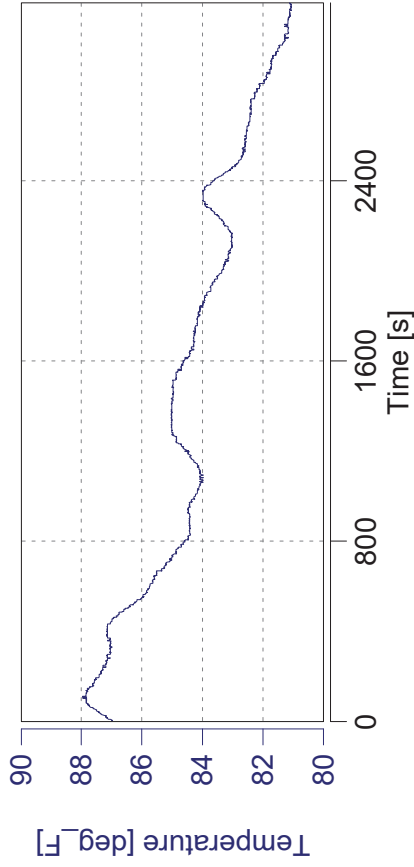
'Mountain'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: GPS

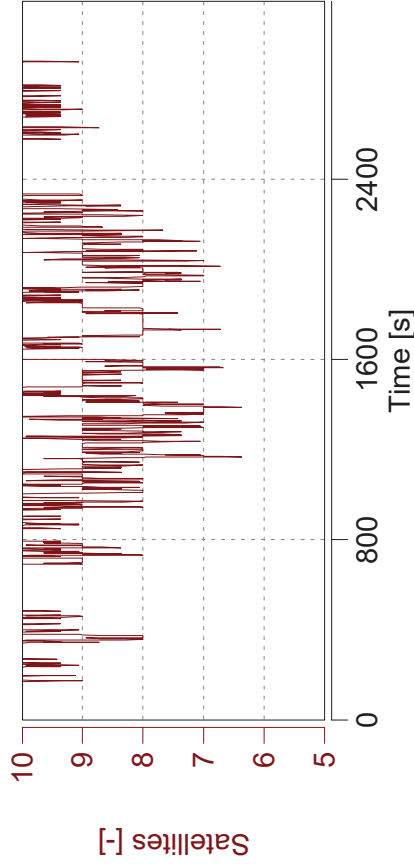
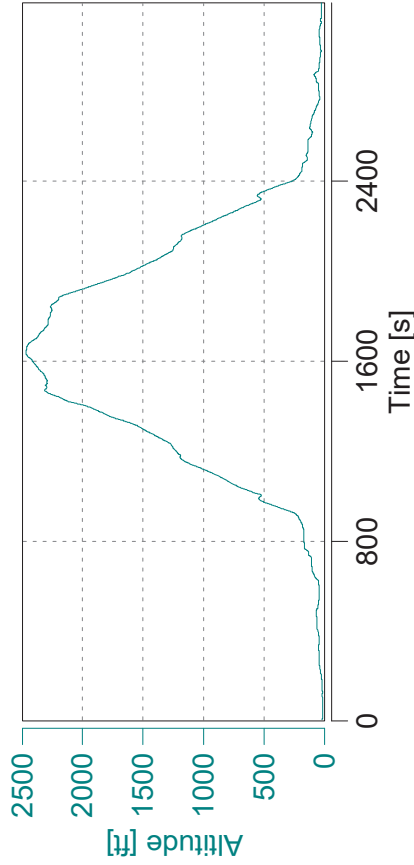
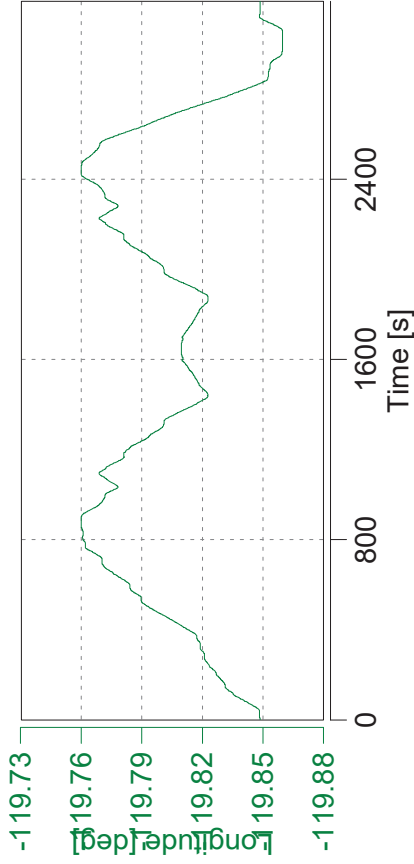
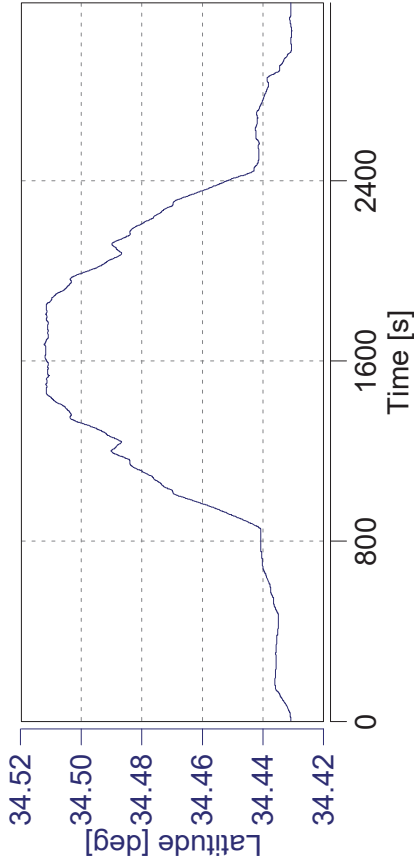
'Mountain'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

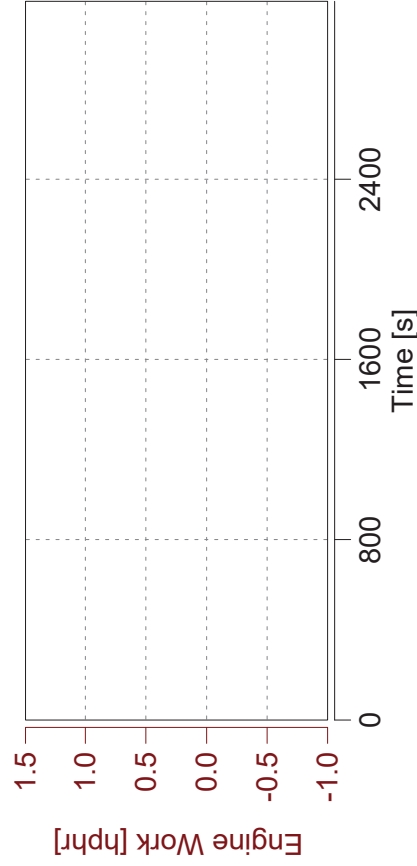
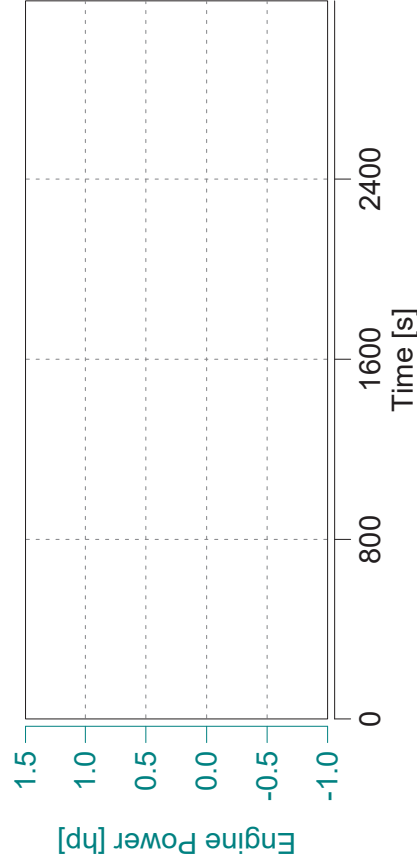
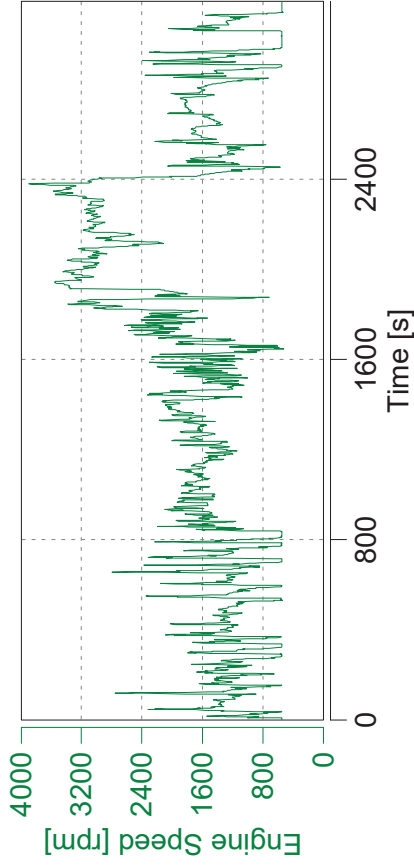
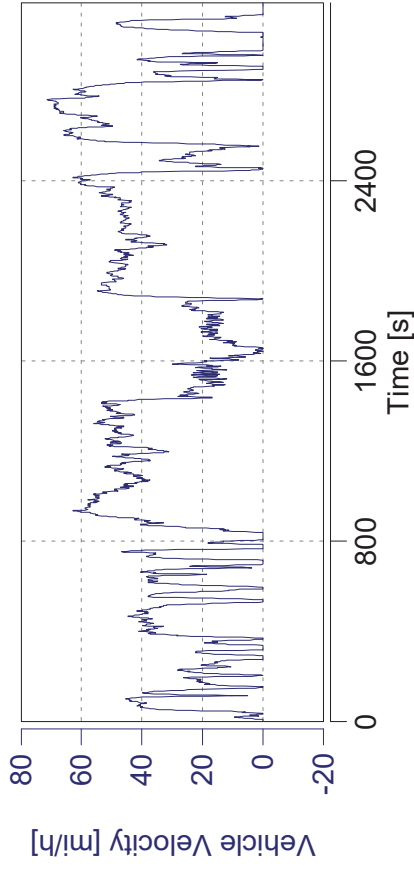
Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain
Page: Engine (1)

'Mountain'
Start Date: 07/19/2018
Start Time: 13:58:33.0



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A8 / 4.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (2)

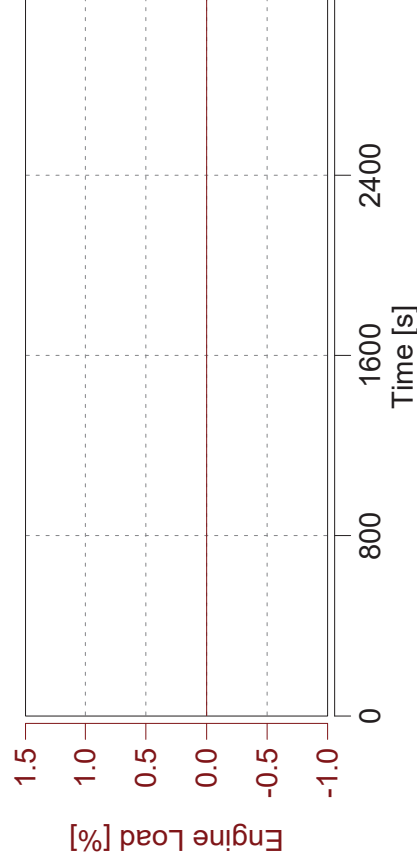
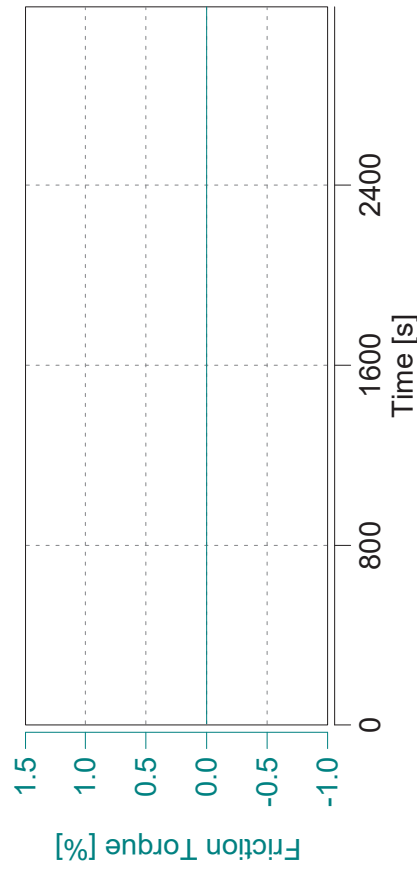
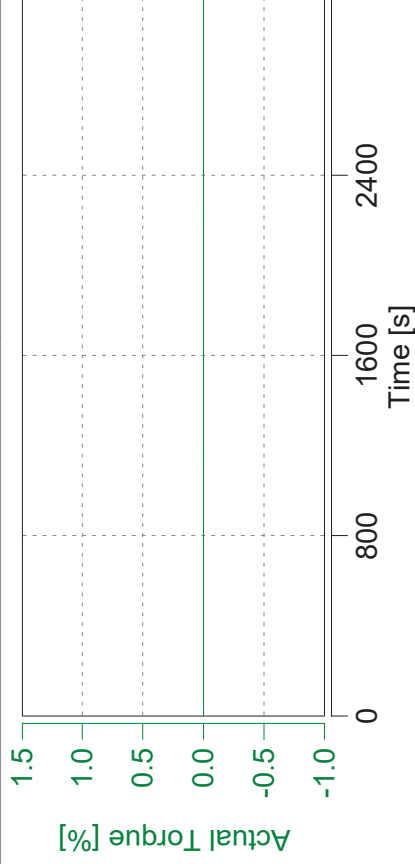
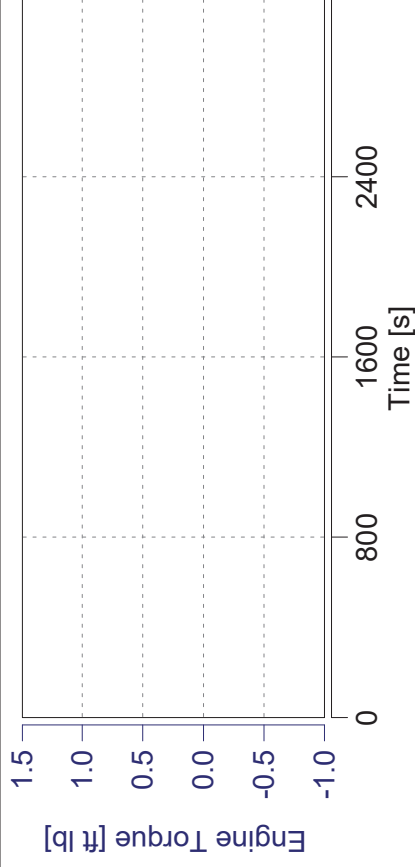
'Mountain'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

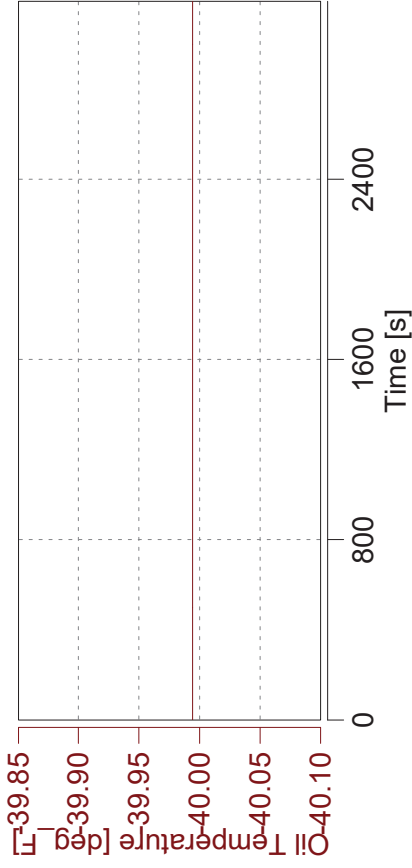
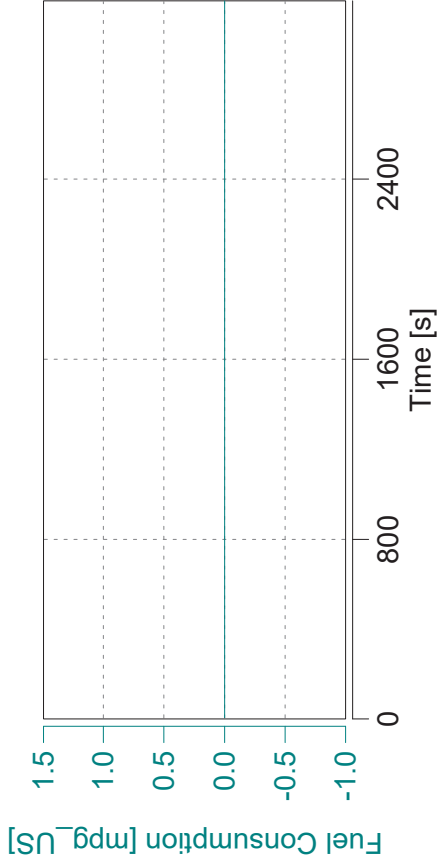
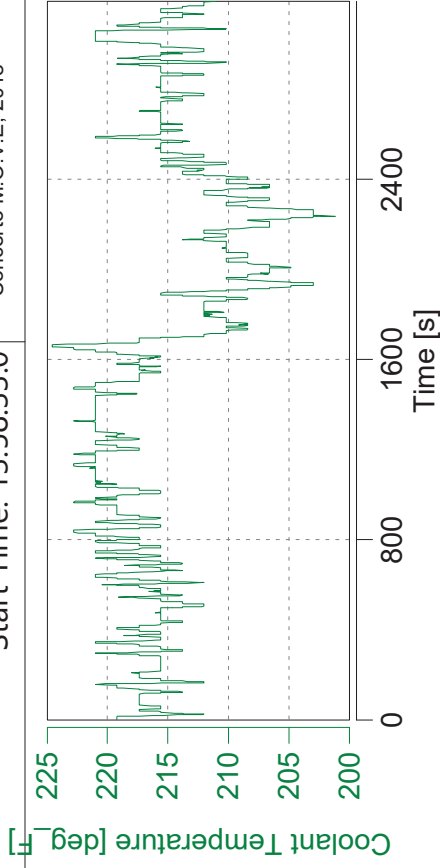
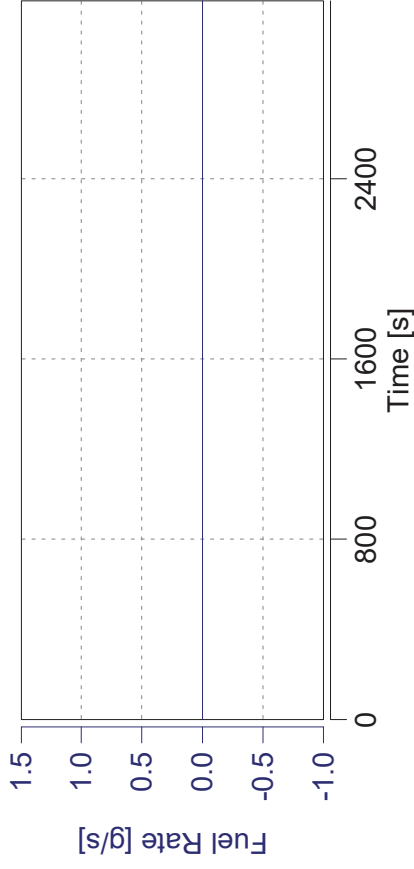
Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain
Page: Engine (3)

'Mountain'
Start Date: 07/19/2018
Start Time: 13:58:33.0



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A8 / 4.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Exhaust Flow (1)

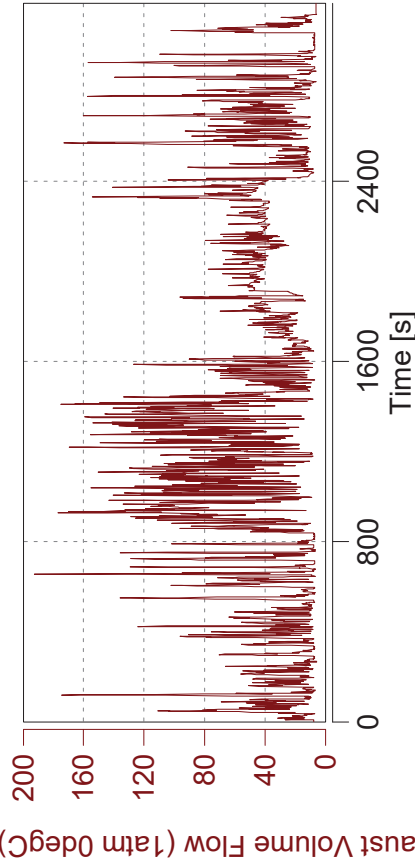
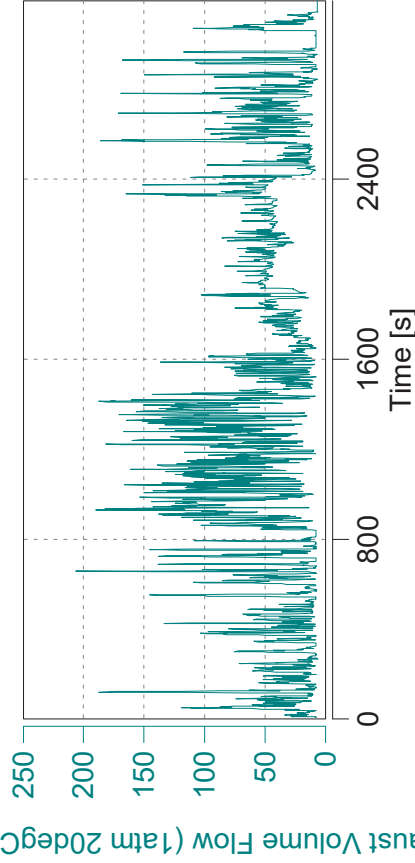
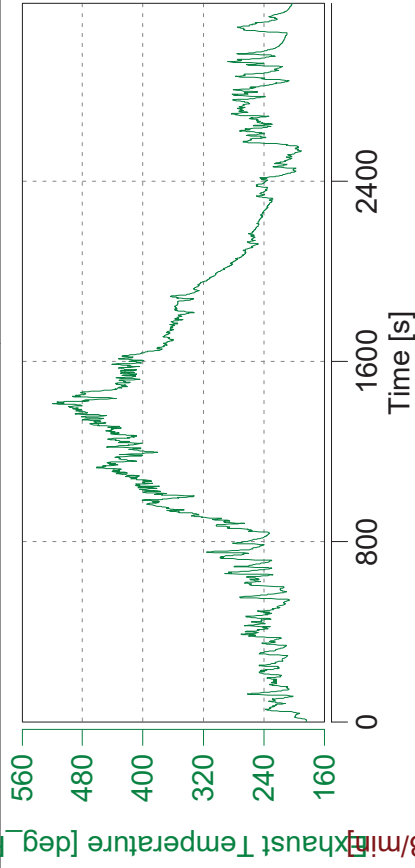
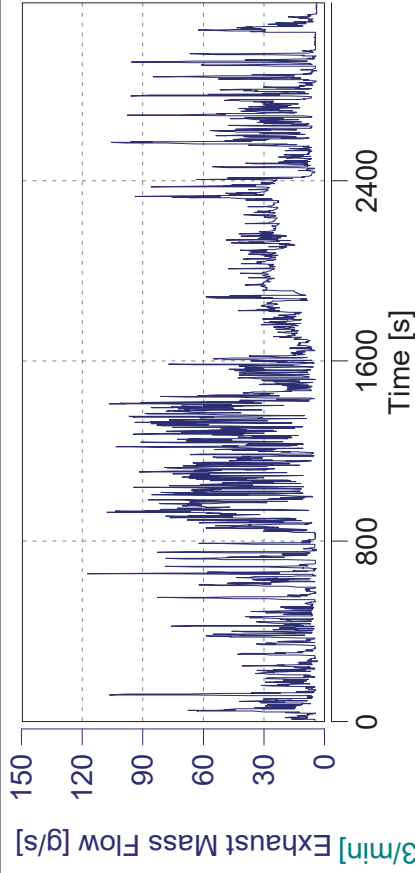
'Mountain'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A8 / 4.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Exhaust Flow (2)

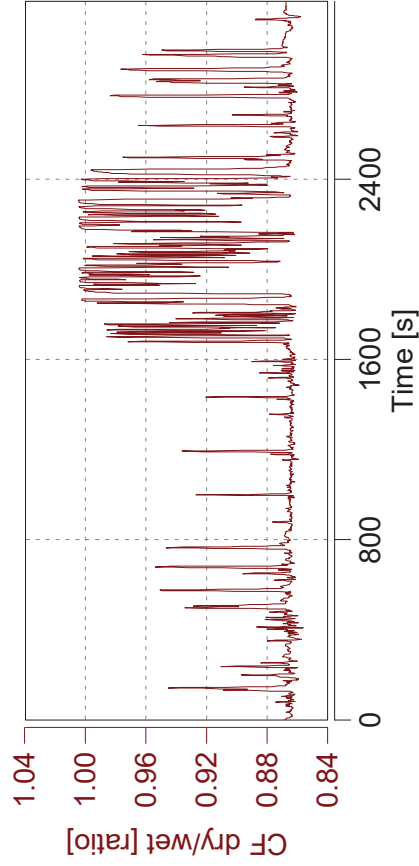
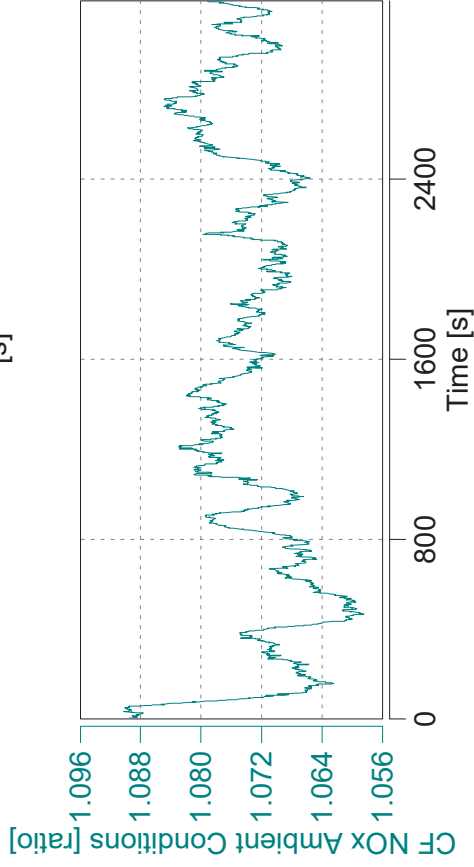
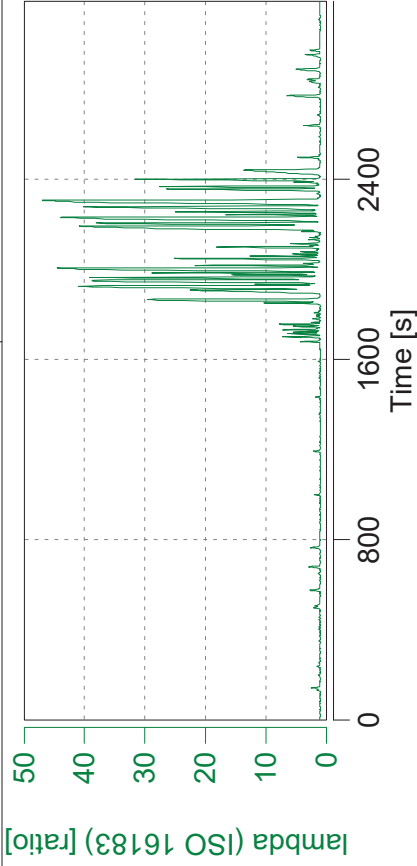
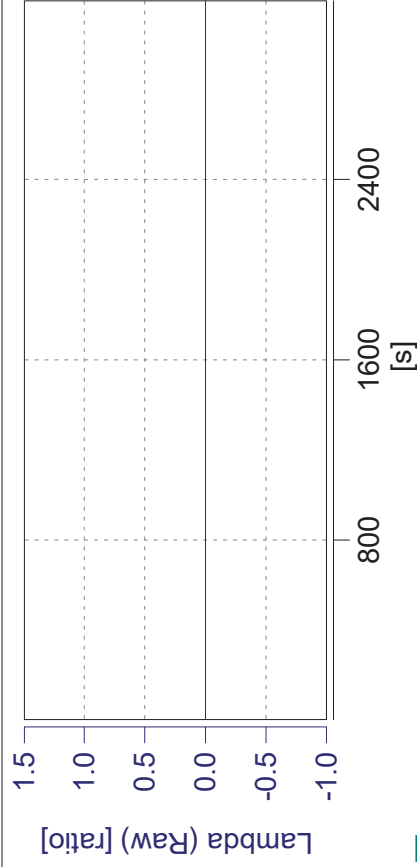
'Mountain'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (1)

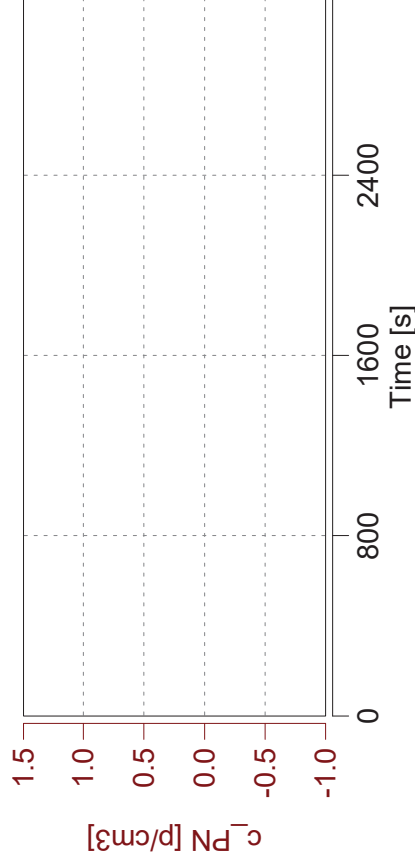
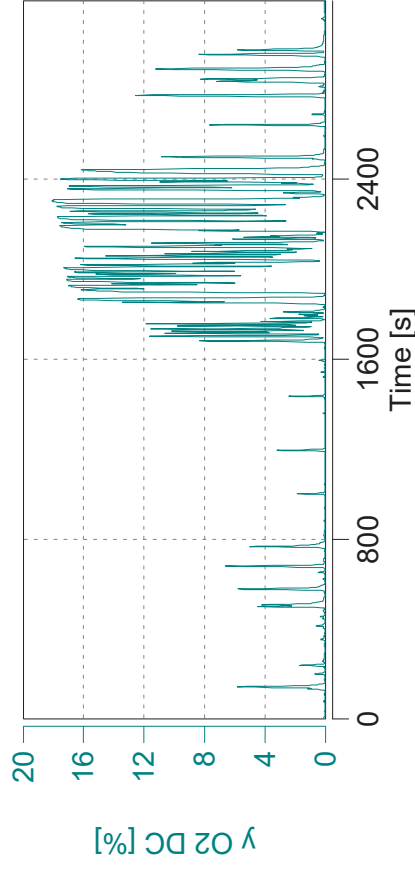
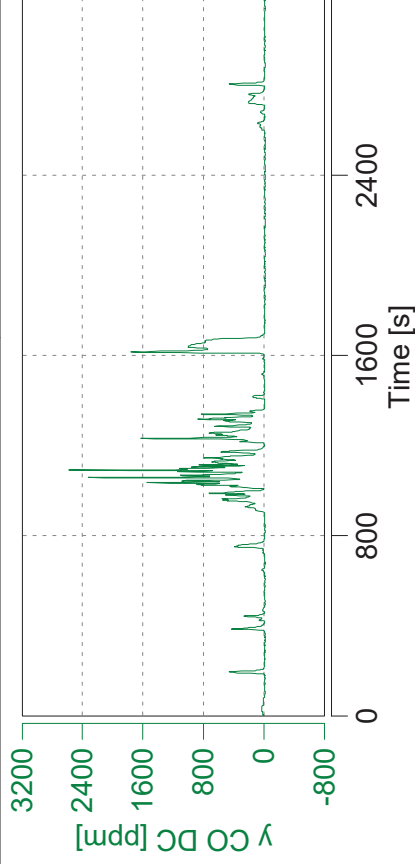
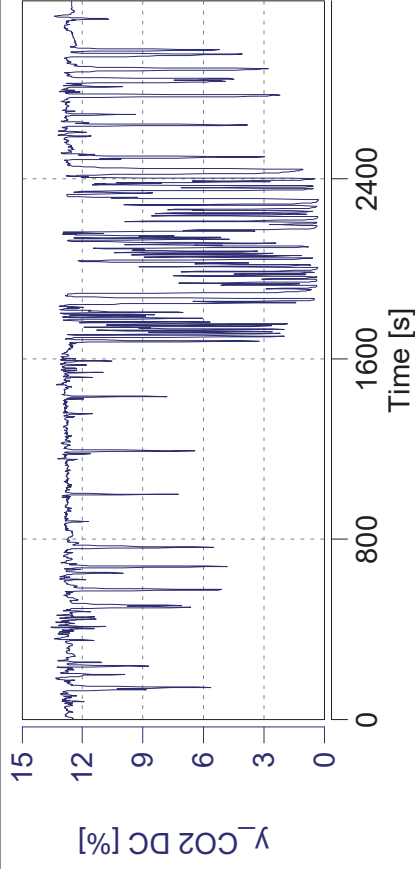
'Mountain'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A8 / 4.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (2)

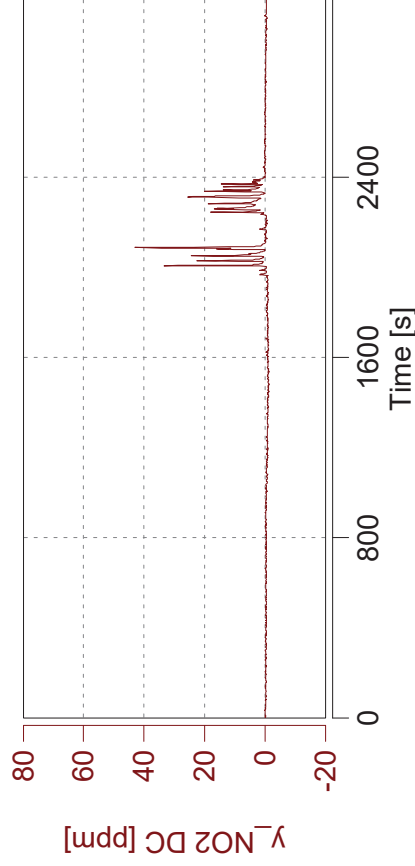
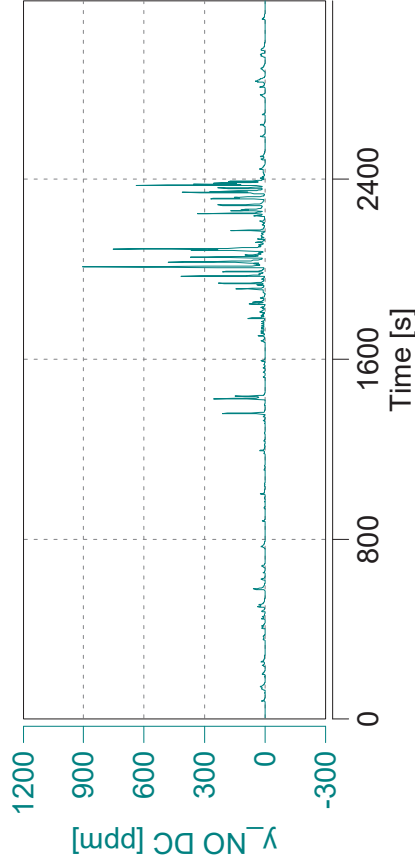
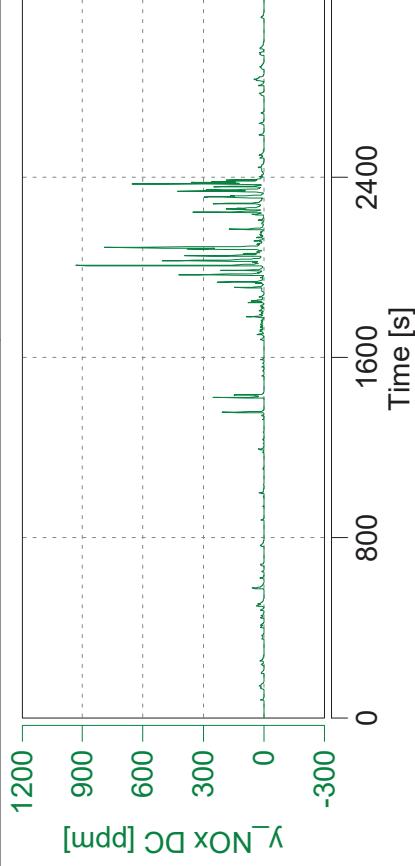
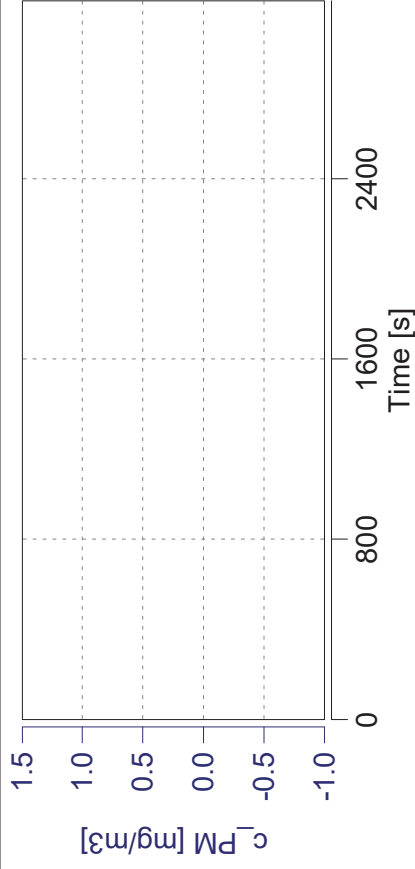
'Mountain'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A8 / 4.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (3)

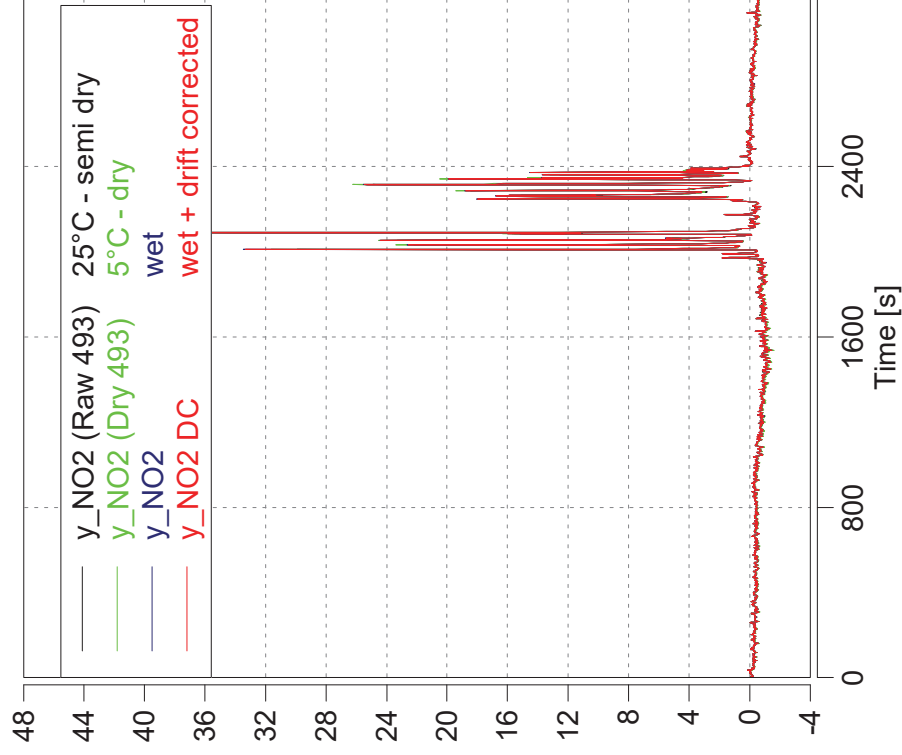
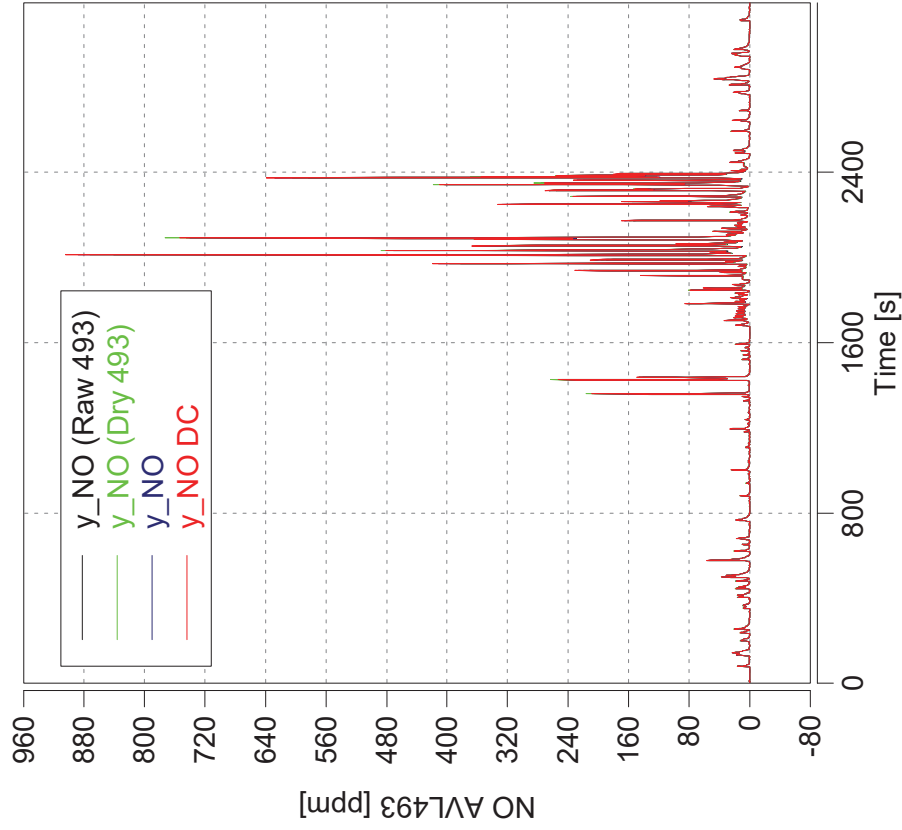
'Mountain'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

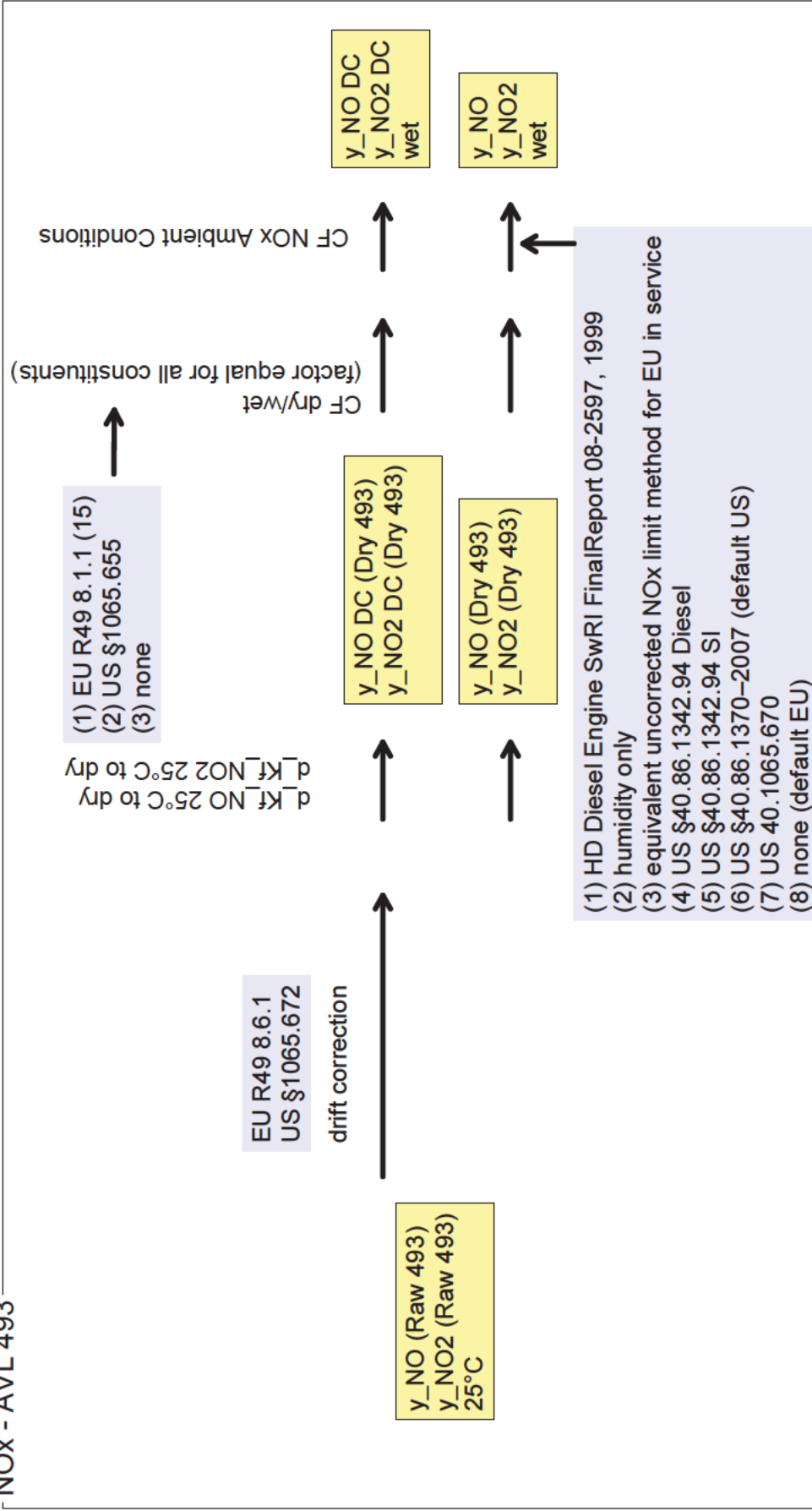
Case: Mountain

Page: Corrected Emissions (4) NOx Corrections

'Mountain'
Start Date: 07/19/2018
Start Time: 13:58:33.0



NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (5)

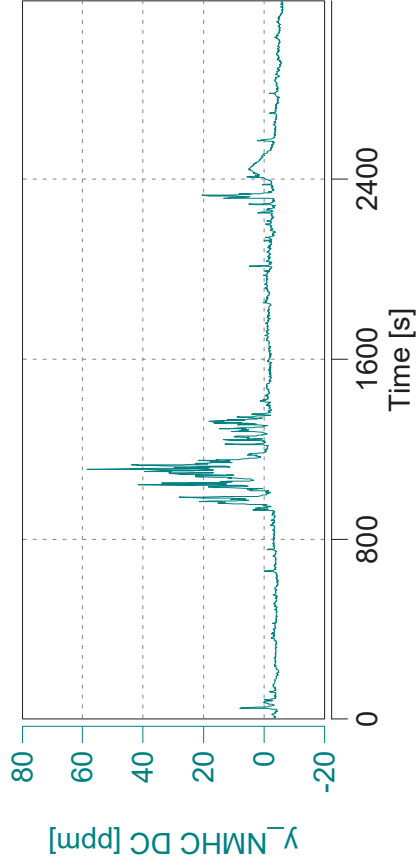
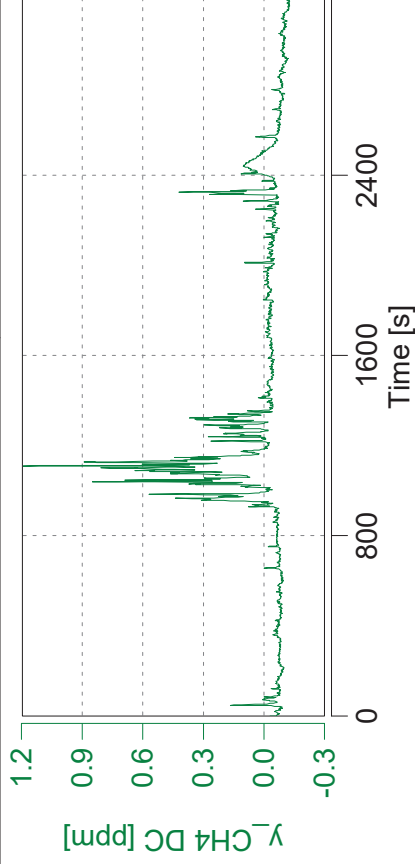
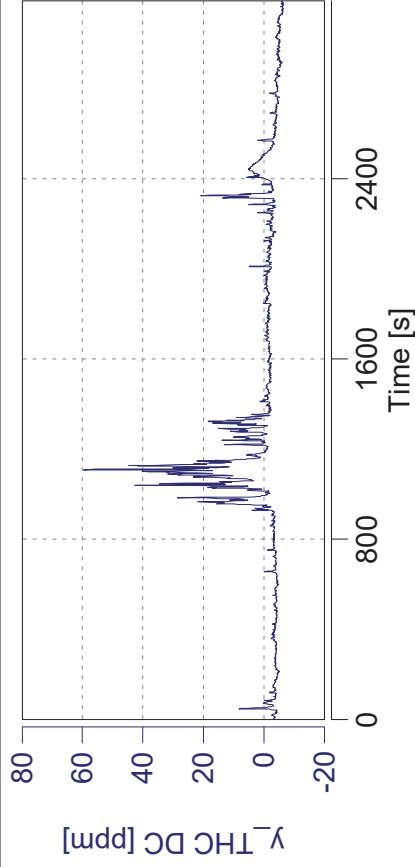
'Mountain'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A8 / 4.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: NO/NO2/NOx Zero - Span

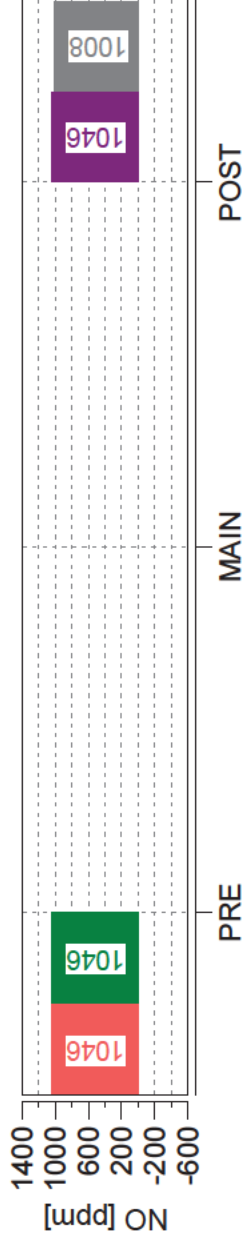
'Mountain'

Start Date: 07/19/2018

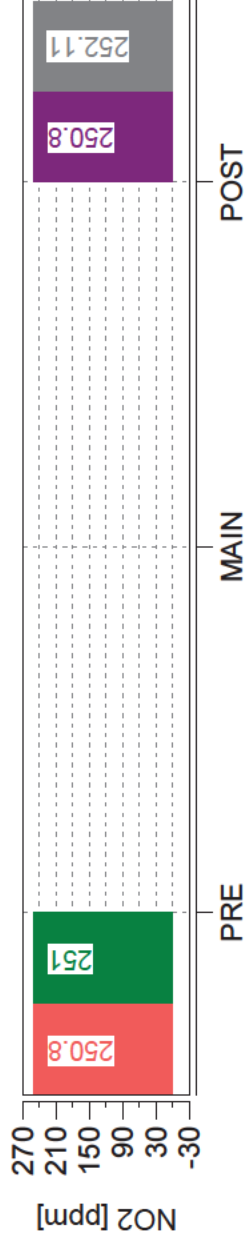
Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



GP_NO_Cal_gas_value
 GP_NO_Adjust_Actual
 GP_NO_Reference
 GP_NO_Audit_Actual



GP_NO2_Cal_gas_value
 GP_NO2_Adjust_Actual
 GP_NO2_Reference
 GP_NO2_Audit_Actual

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: CO/CO2 Zero - Span

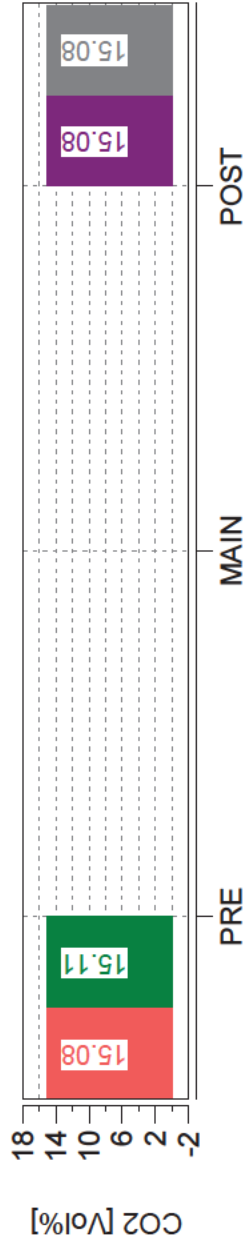
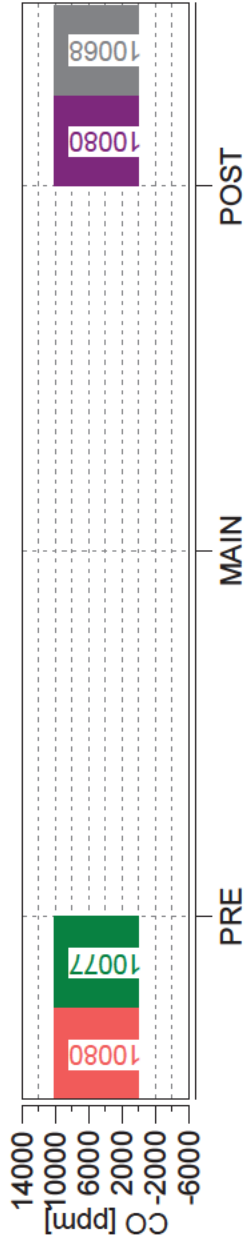
'Mountain'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: THC/CH4 Zero - Span

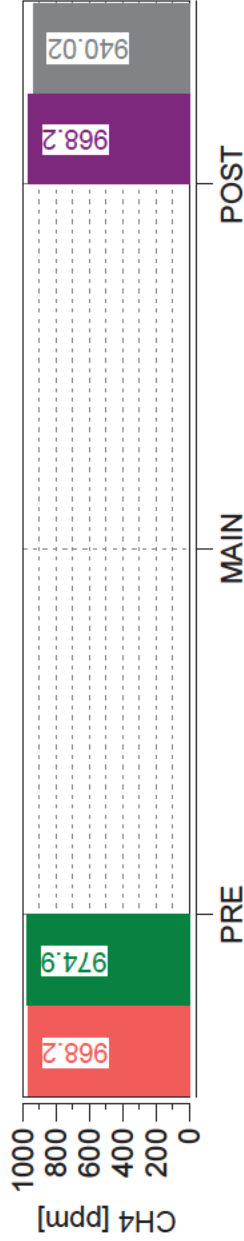
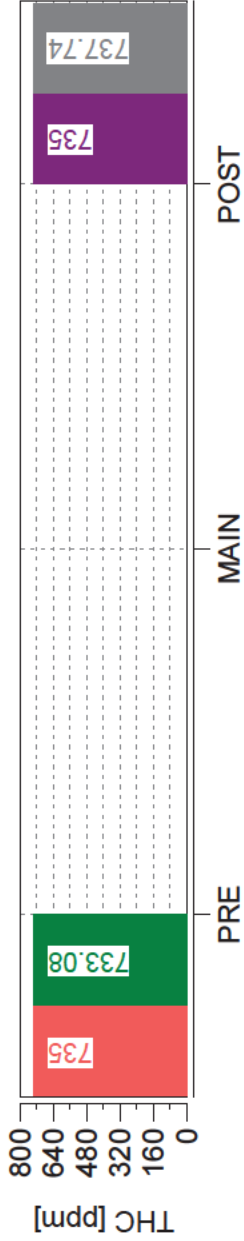
'Mountain'

Start Date: 07/19/2018

Start Time: 13:58:33.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Trip Summary

'City'

Start Date: 07/19/2018

Start Time: 21:06:14.0



Concerto M.O.V.E., 2018

Trip Duration	3375.00	s	ave THC	1.92947	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	3375.00	s	ave NMHC	1.89088	ppm	BS CO	n/a	g/hphr
Trip Distance	15.92	mi	ave CH4	0.03859	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	15.92	mi	ave CO	13.95555	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	12.38195	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx	6.83466	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	3.12	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.08	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.10	gall	tot THC	0.03698	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.09	gall	tot NMHC	0.03421	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00082	g	DS CO2	588.36122	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	1.15062	g	DS CO	0.07228	g/mi
Trip Fuel Economy EU (ac)	14.45	mpg_US	tot CO2	9366.22808	g	DS THC	0.00232	g/mi
Trip Fuel Economy US (ac)	14.62	mpg_US	tot NO (d)	0.36444	g	DS NMHC	0.00215	g/mi
Trip Av. Eng. Speed	1128.00	rpm	tot NO2	-0.00002	g	DS CH4	0.00005	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.36442	g	DS NO (d)	0.02289	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	-0.00000	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.02289	g/mi
Trip Exhaust Mass	49.06	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	72.08	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	70.94	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	16.98046	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	22.87407	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Trip Summary Drift Corrected

'City'

Start Date: 07/19/2018

Start Time: 21:06:14.0



Concerto M.O.V.E., 2018

Trip Duration	3375.00	s	ave THC DC	2.23539	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	3375.00	s	ave NMHC DC	2.19068	ppm	BS CO DC	n/a	g/hphr
Trip Distance	15.92	mi	ave CH4 DC	0.04471	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	15.92	mi	ave CO DC	13.70974	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	12.39017	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	6.91675	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	3.12	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.08	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.10	gall	tot THC DC	0.04602	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.09	gall	tot NMHC DC	0.04257	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.00102	g	DS CO2 DC	588.75164	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	1.13792	g	DS CO DC	0.07148	g/mi
Trip Fuel Economy EU (ac)	14.45	mpg_US	tot CO2 DC	9372.44323	g	DS THC DC	0.00289	g/mi
Trip Fuel Economy US (ac)	14.62	mpg_US	tot NO DC (d)	0.36542	g	DS NMHC DC	0.00267	g/mi
Trip Av. Eng. Speed	1128.00	rpm	tot NO2 DC	0.00494	g	DS CH4 DC	0.00006	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.37036	g	DS NO DC (d)	0.02295	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	0.00031	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.02327	g/mi
Trip Exhaust Mass	49.06	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	72.08	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	70.94	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	16.98046	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	22.87407	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Time Alignment Check

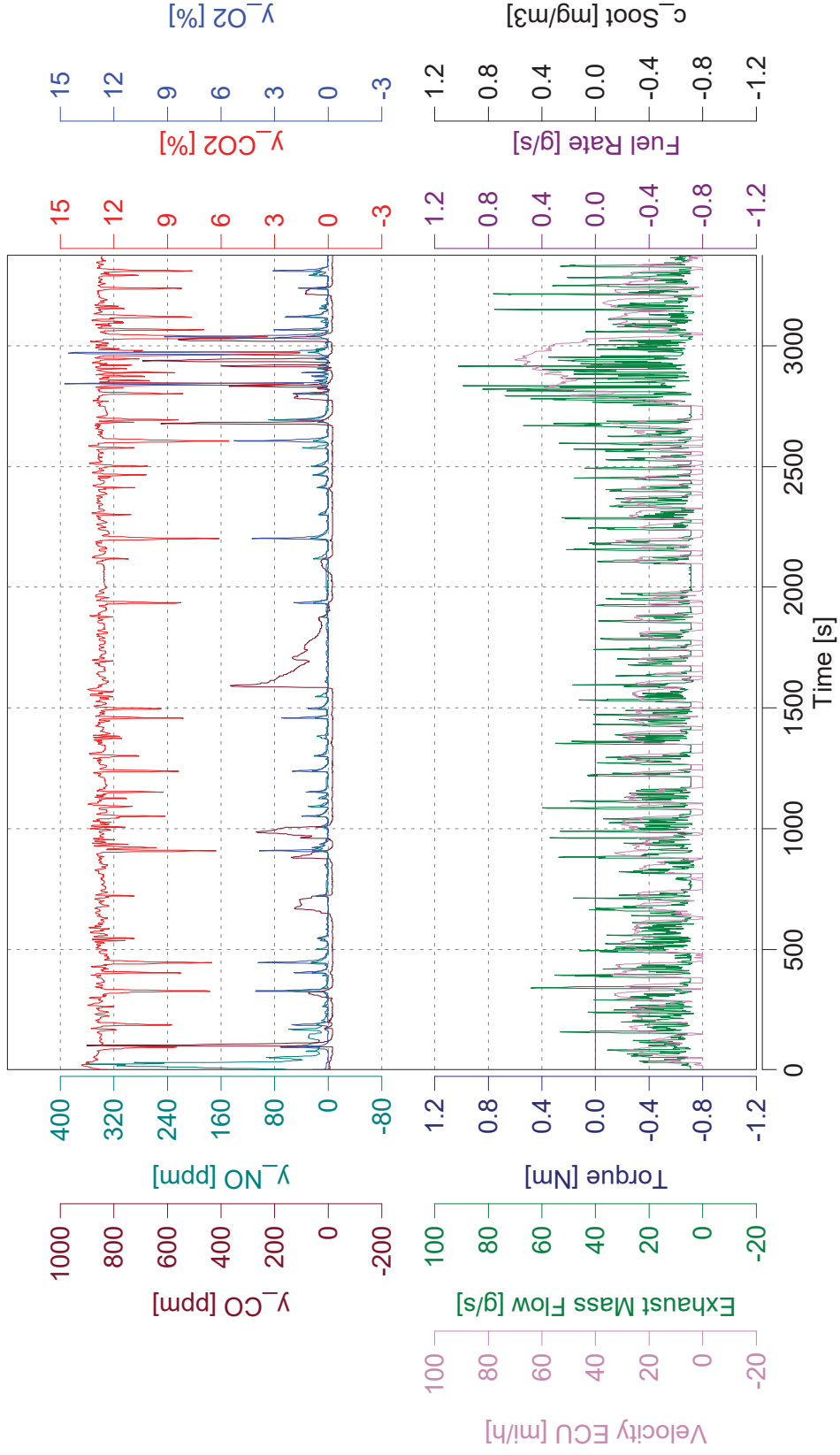
'City'

Start Date: 07/19/2018

Start Time: 21:06:14.0



Concerto M.O.V.E. 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Time Alignment of Gas Concentrations

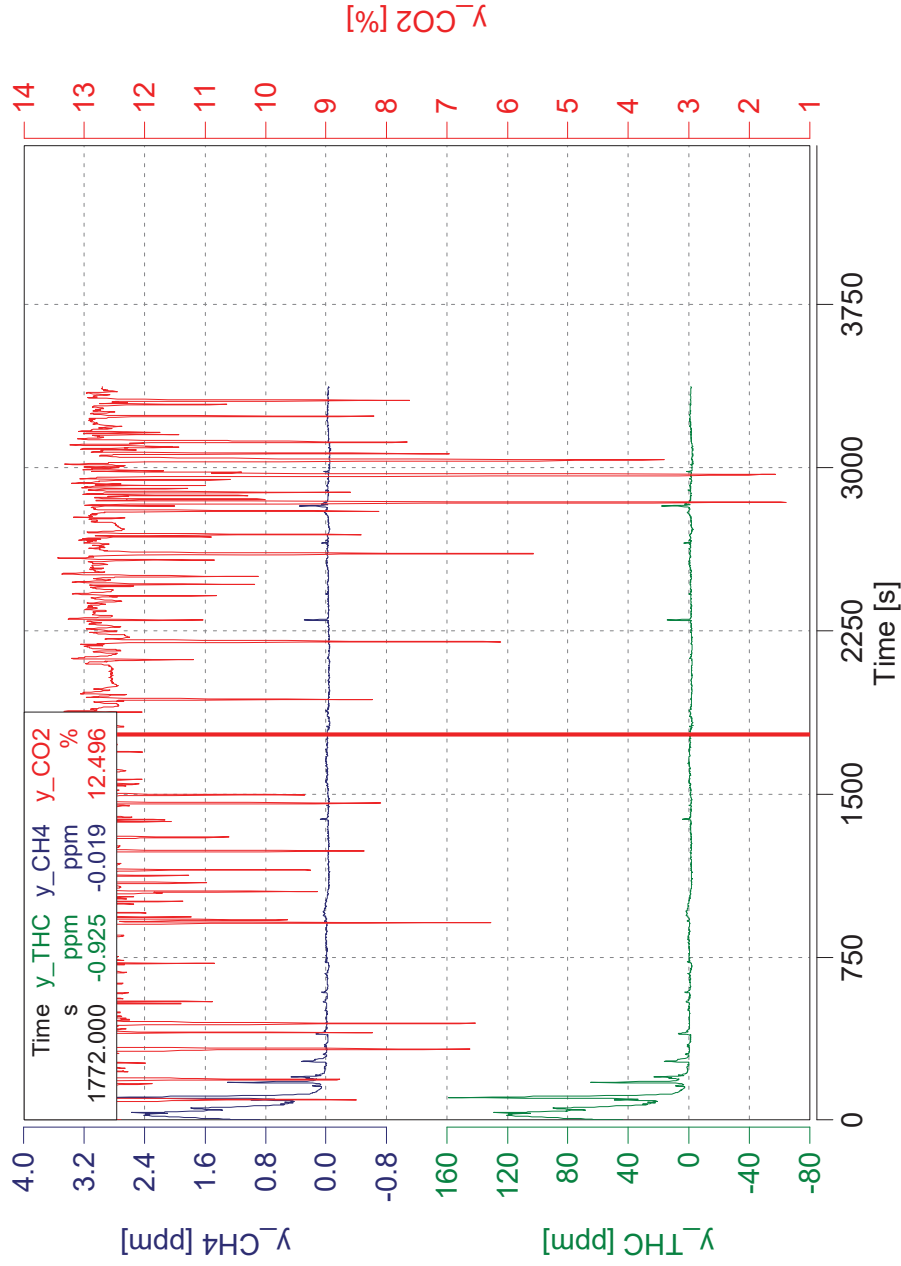
'City'

Start Date: 07/19/2018

Start Time: 21:06:14.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Ambient Conditions

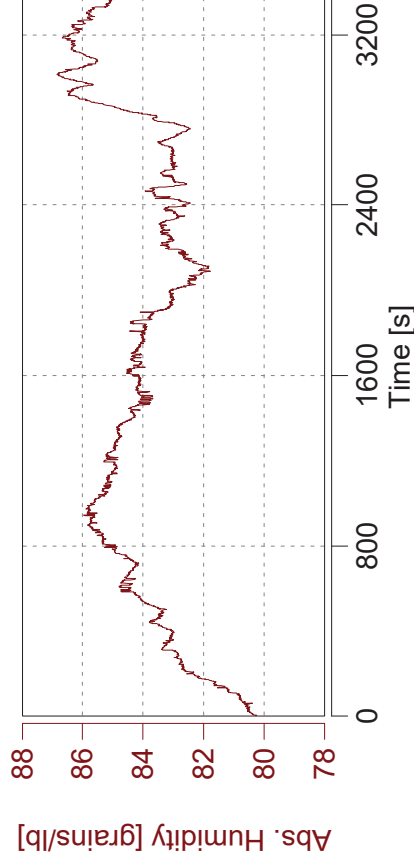
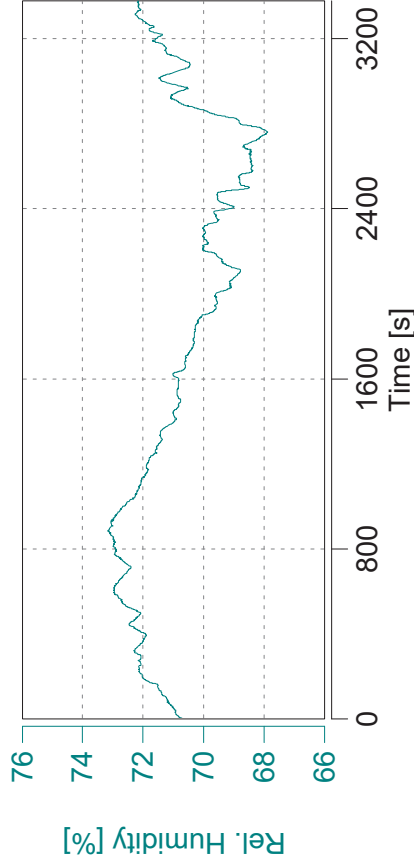
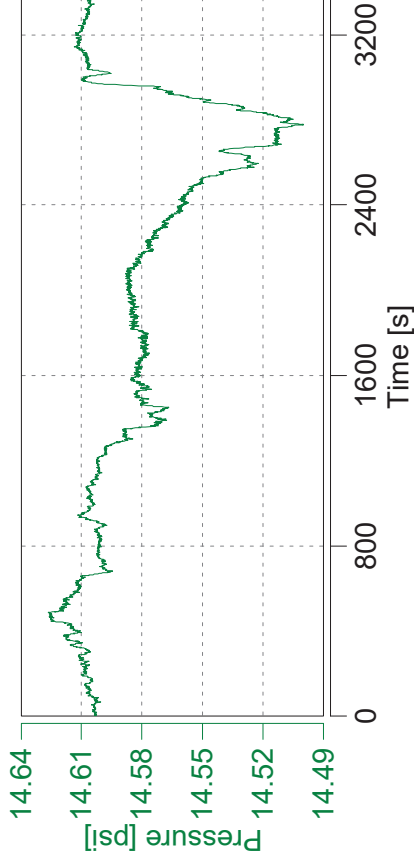
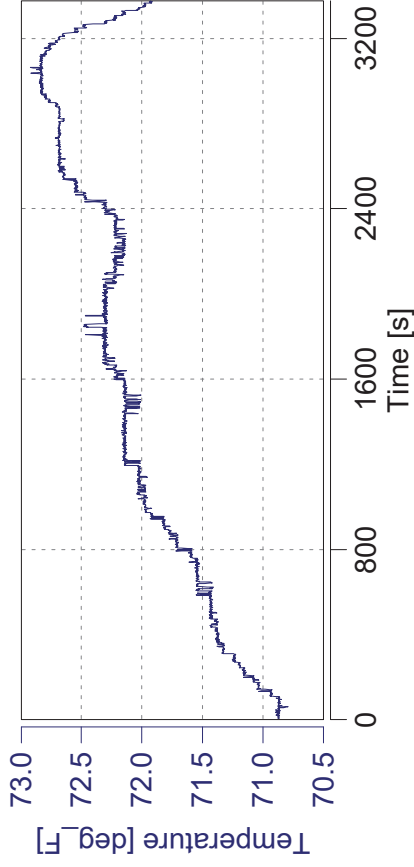
'City'

Start Date: 07/19/2018

Start Time: 21:06:14.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

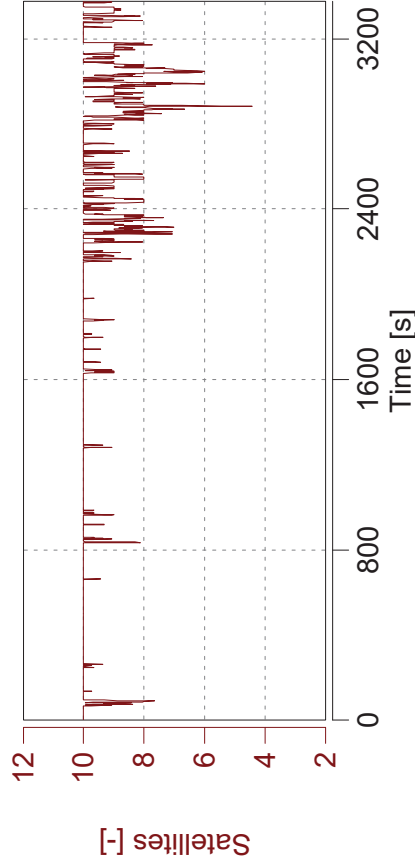
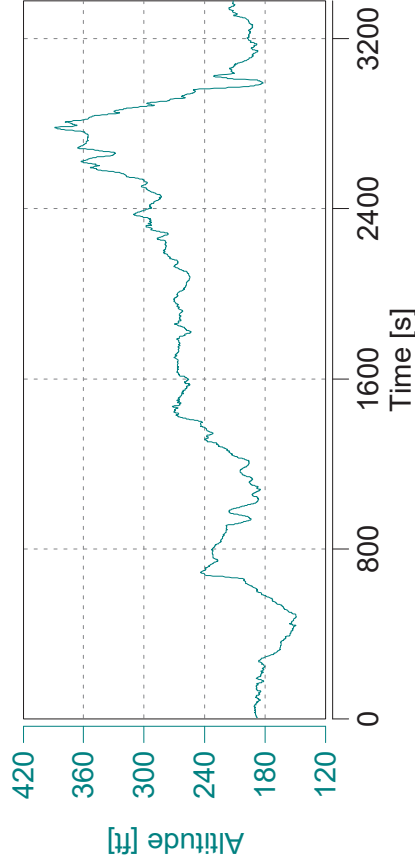
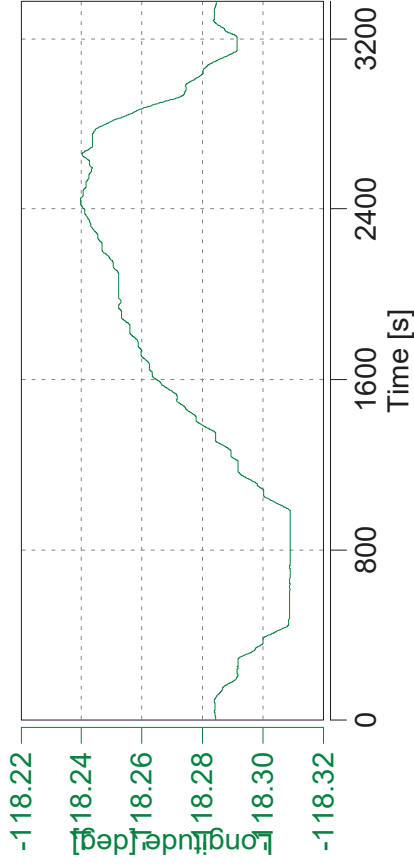
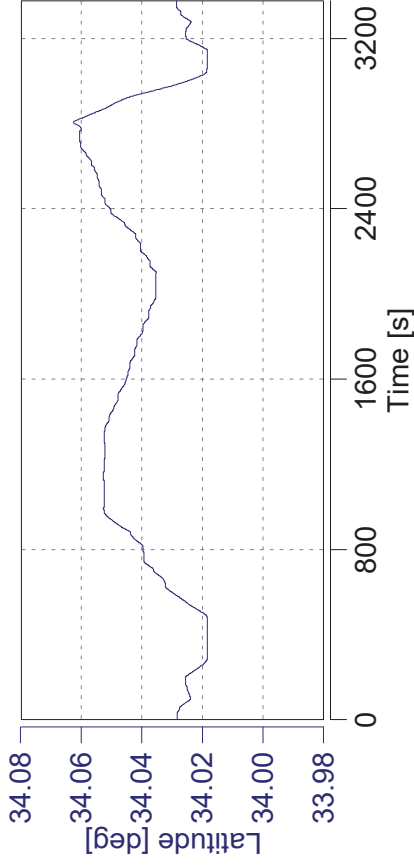
Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City
Page: GPS

'City'
Start Date: 07/19/2018
Start Time: 21:06:14.0



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A8 / 4.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (1)

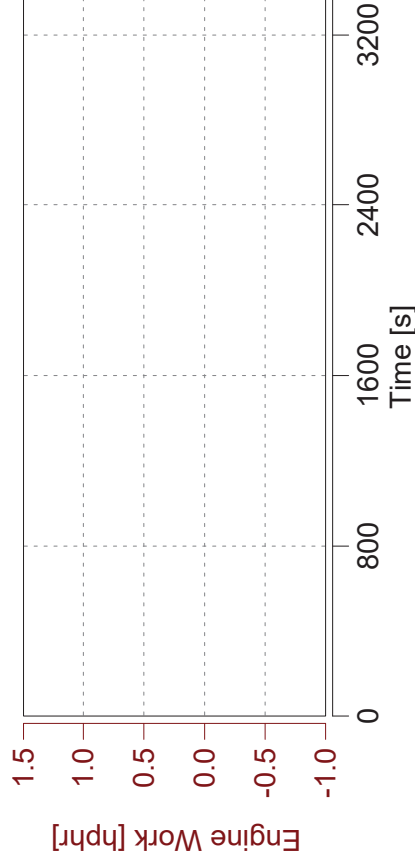
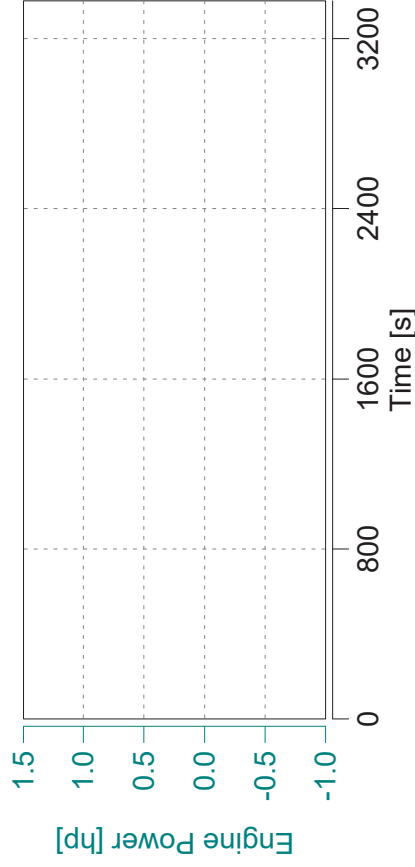
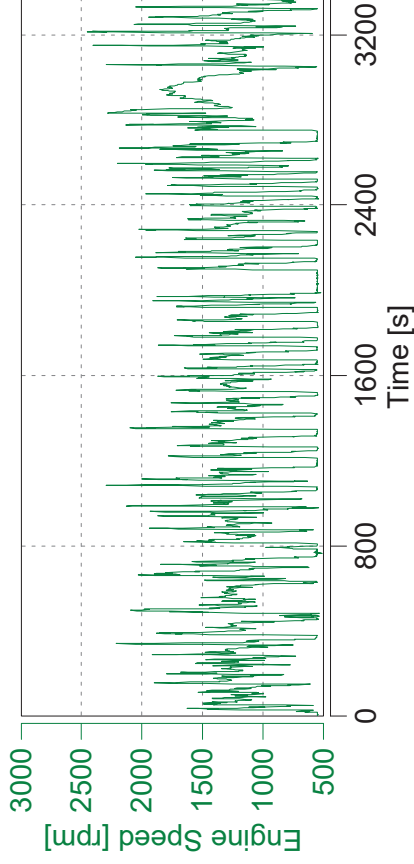
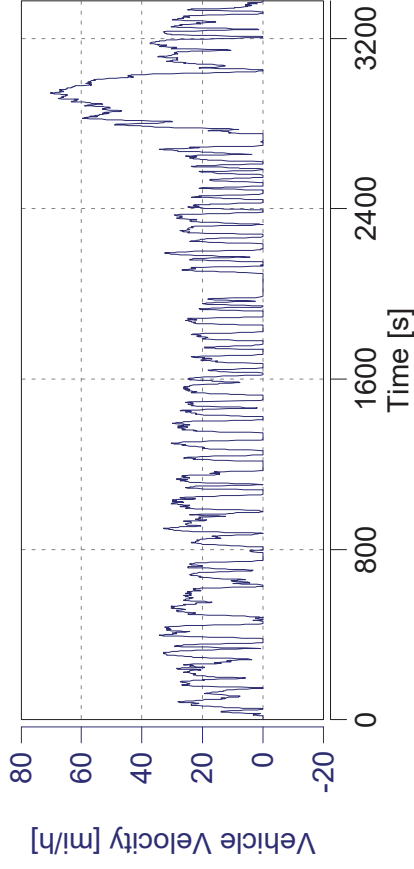
'City'

Start Date: 07/19/2018

Start Time: 21:06:14.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (2)

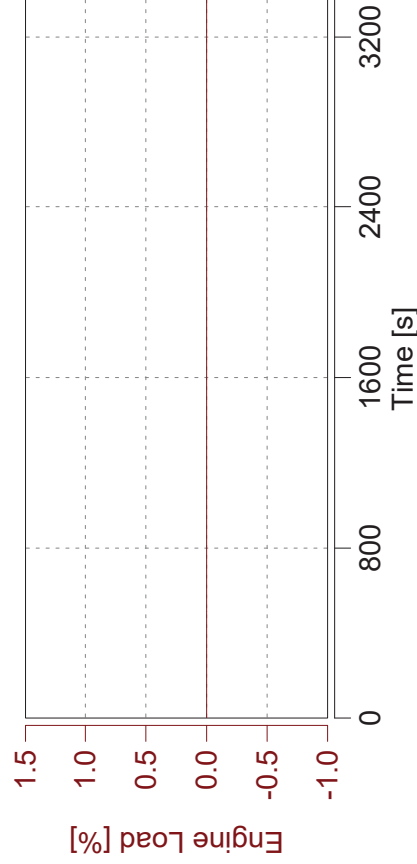
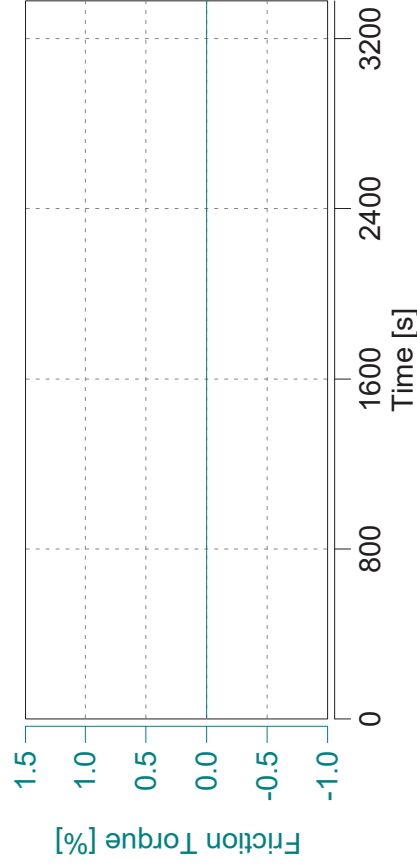
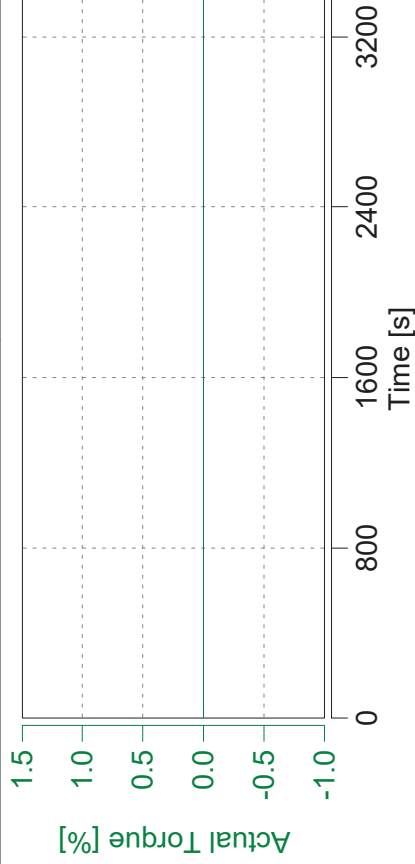
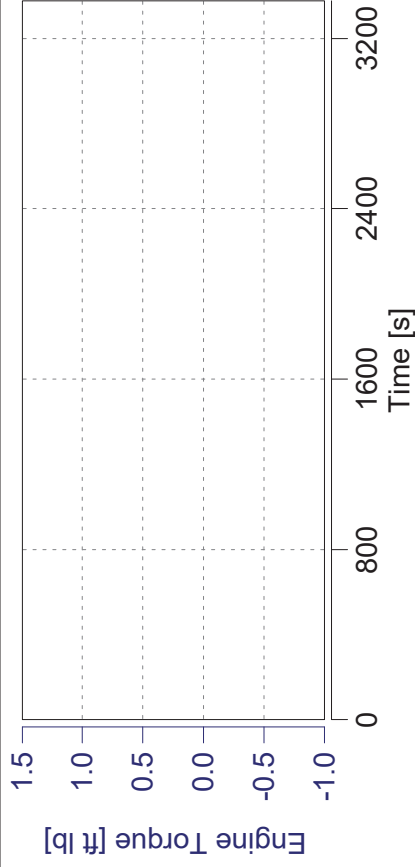
'City'

Start Date: 07/19/2018

Start Time: 21:06:14.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (3)

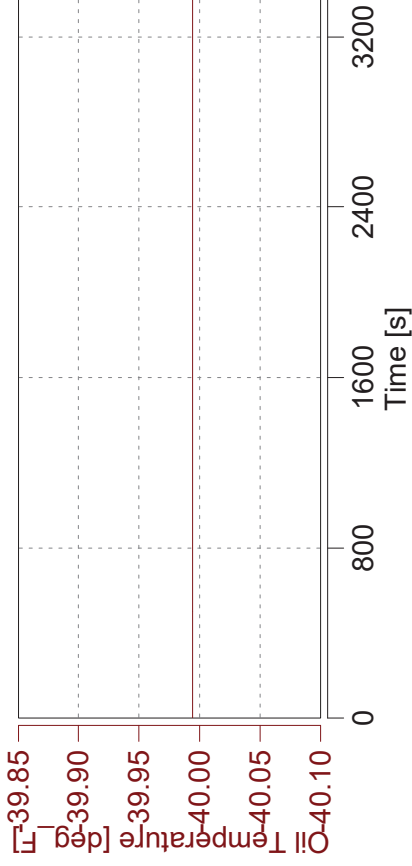
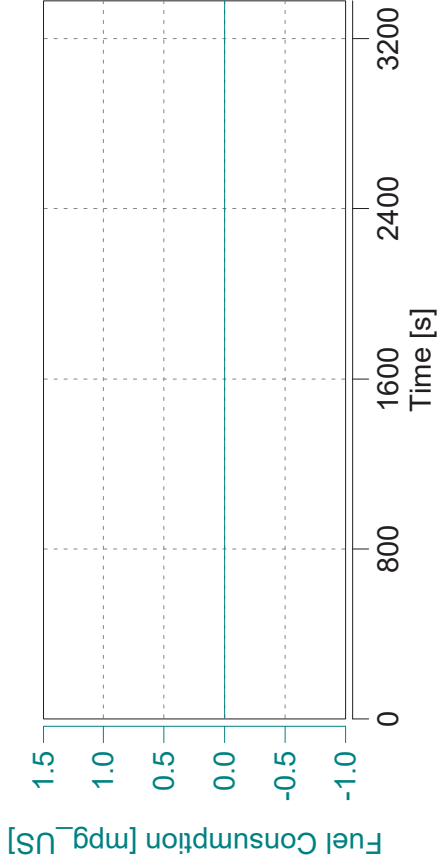
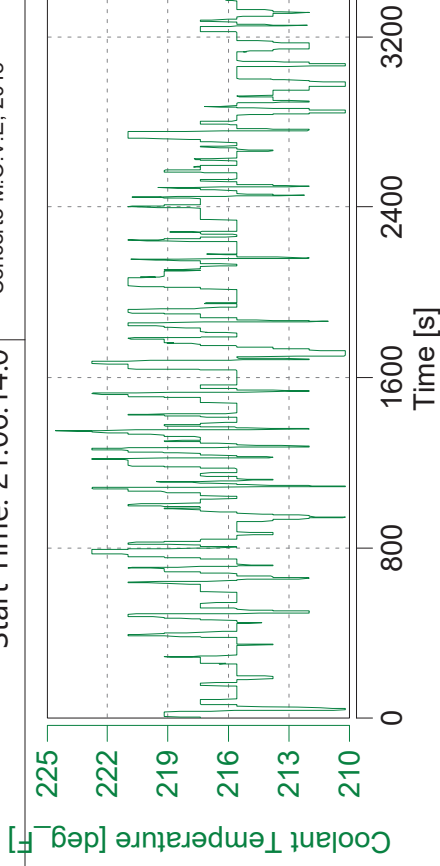
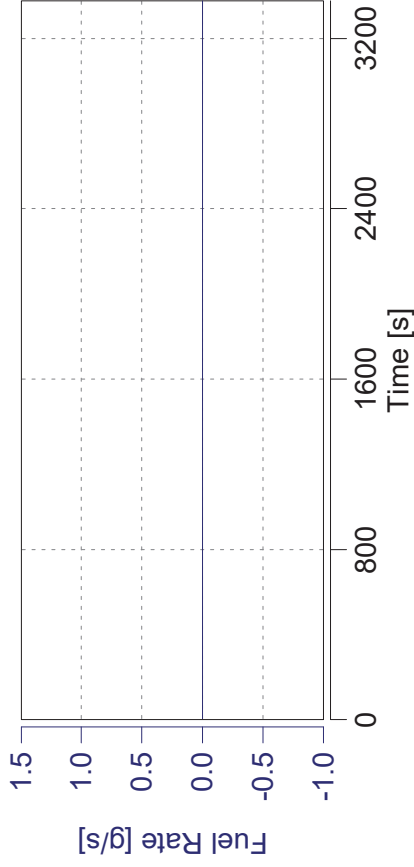
'City'

Start Date: 07/19/2018

Start Time: 21:06:14.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Exhaust Flow (1)

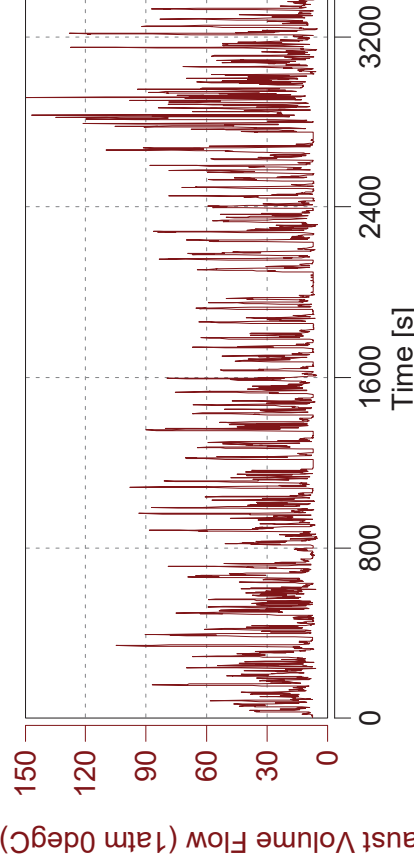
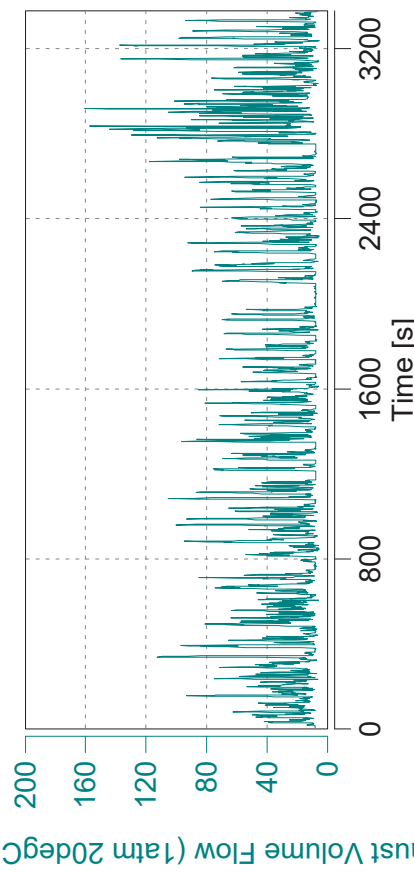
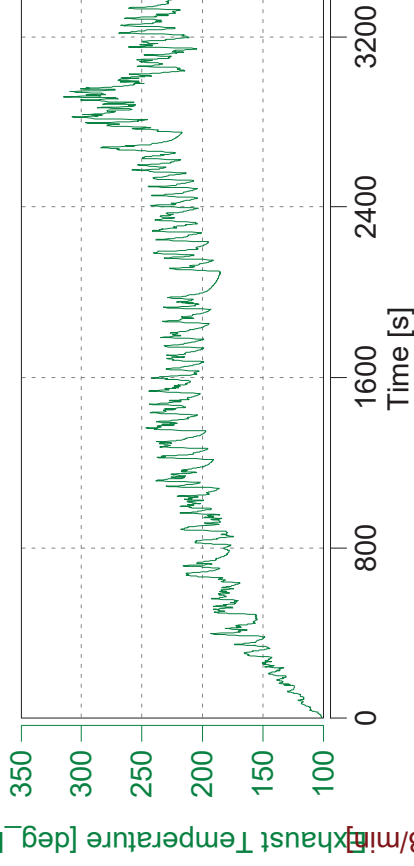
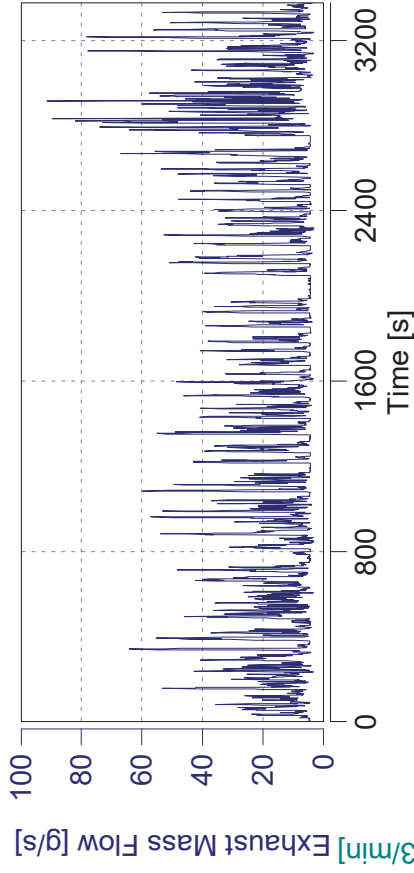
'City'

Start Date: 07/19/2018

Start Time: 21:06:14.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A8 / 4.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Exhaust Flow (2)

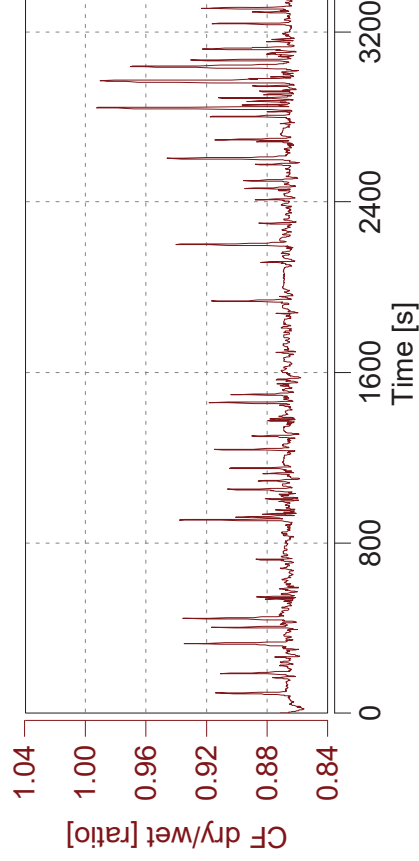
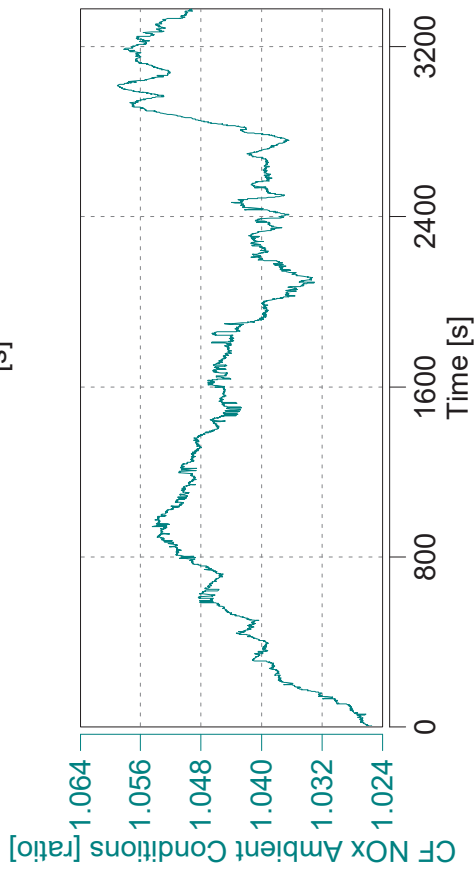
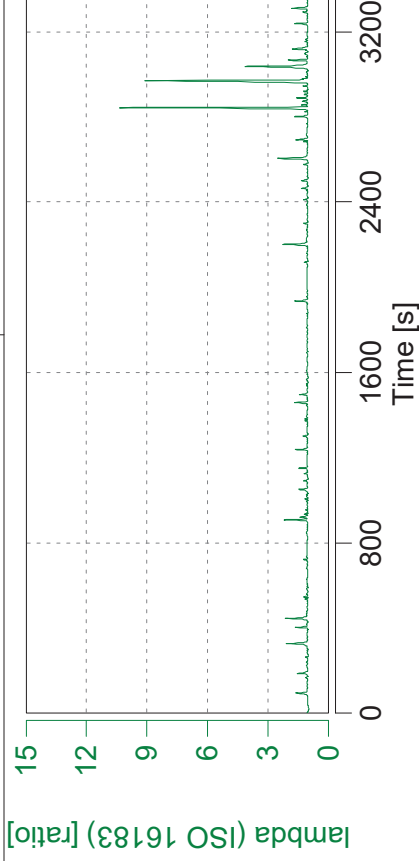
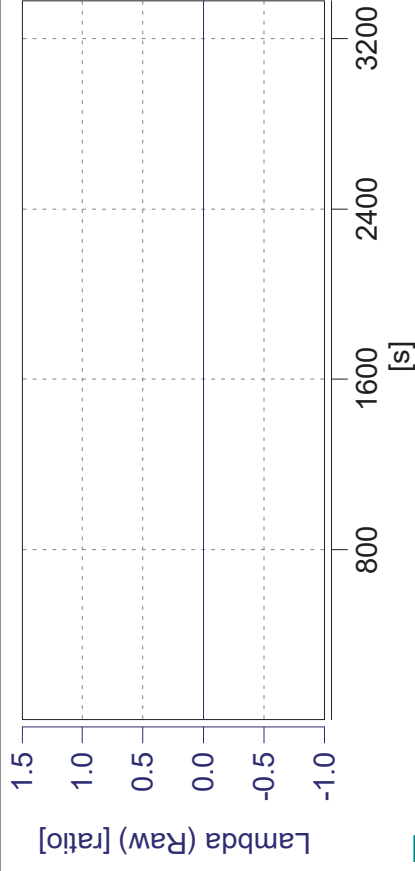
'City'

Start Date: 07/19/2018

Start Time: 21:06:14.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Audi A8 / 4.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (1)

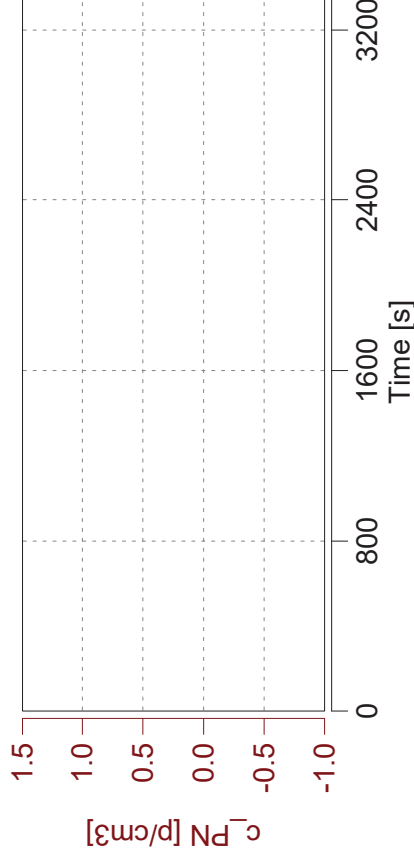
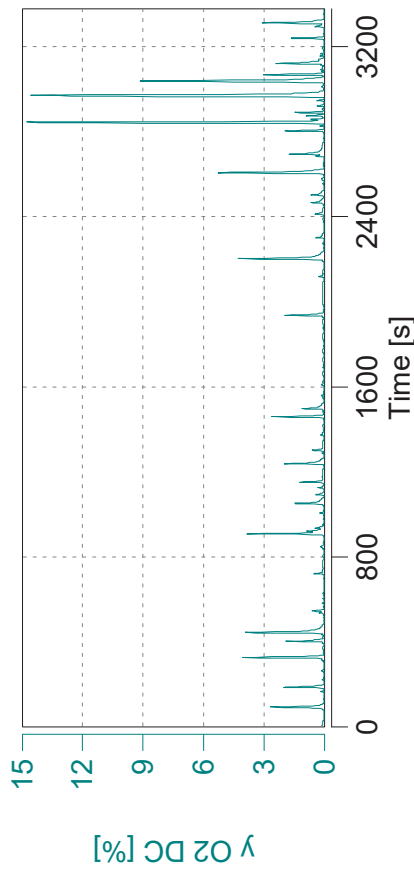
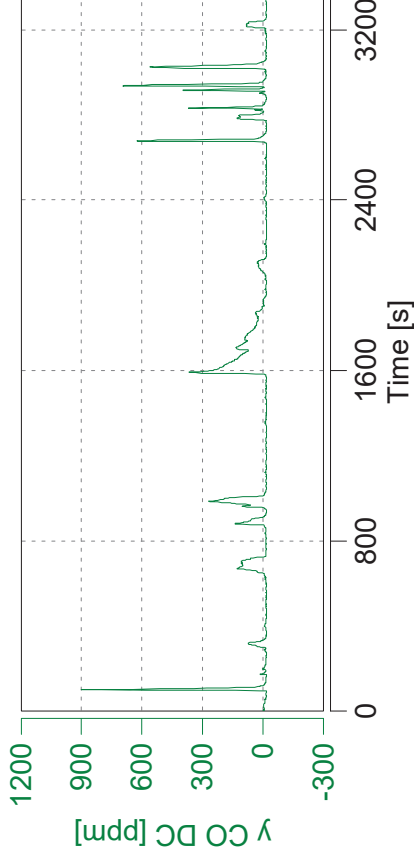
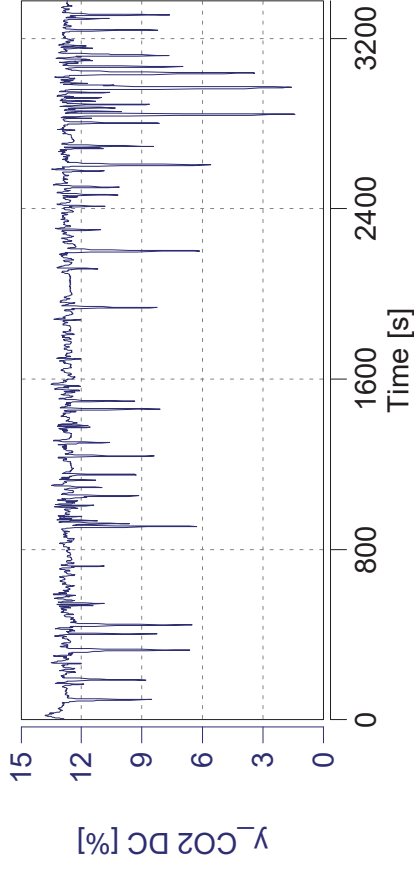
'City'

Start Date: 07/19/2018

Start Time: 21:06:14.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Engine: /
Vehicle: Audi A8 / 4.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (2)

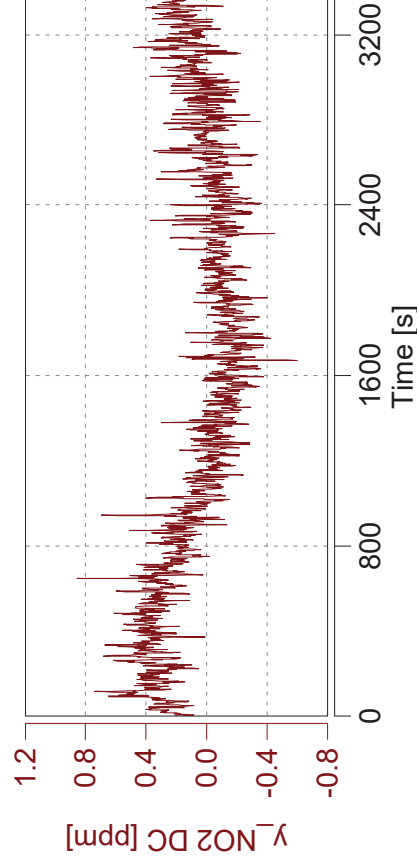
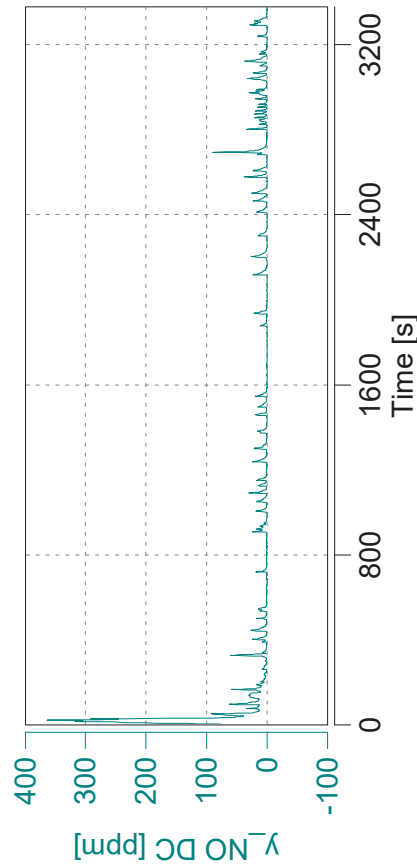
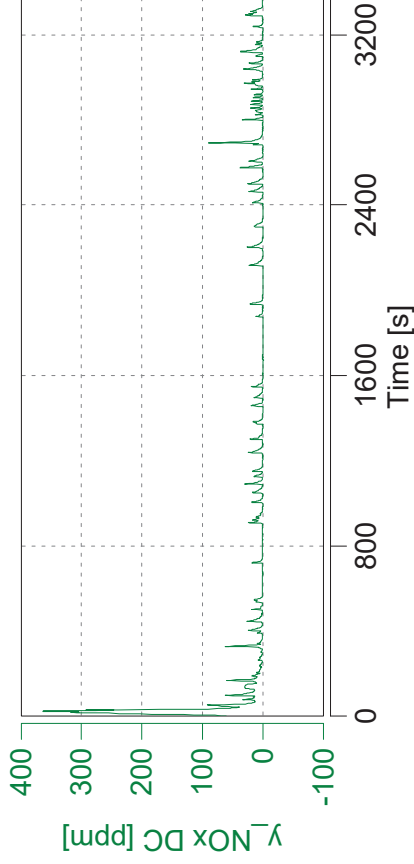
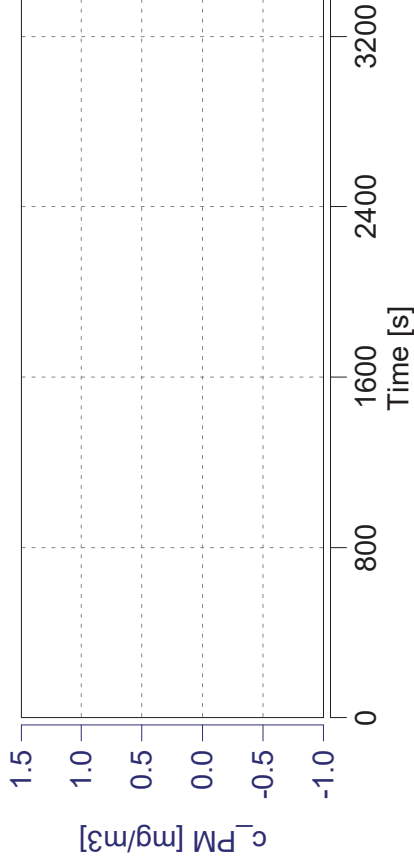
'City'

Start Date: 07/19/2018

Start Time: 21:06:14.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Engine: /
Vehicle: Audi A8 / 4.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (3)

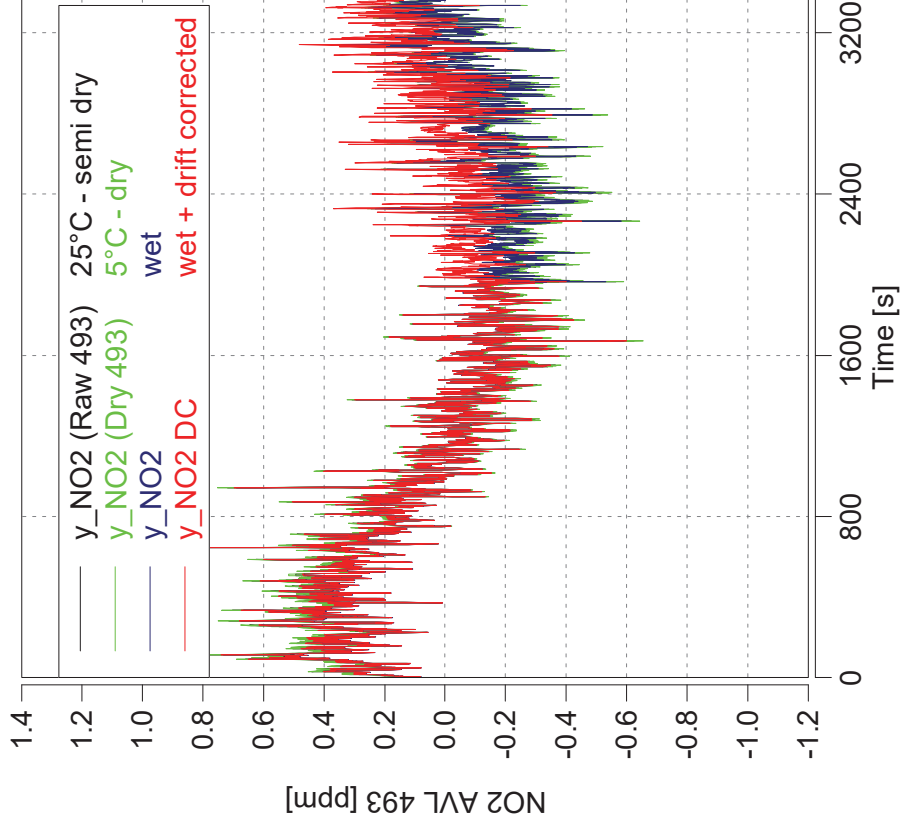
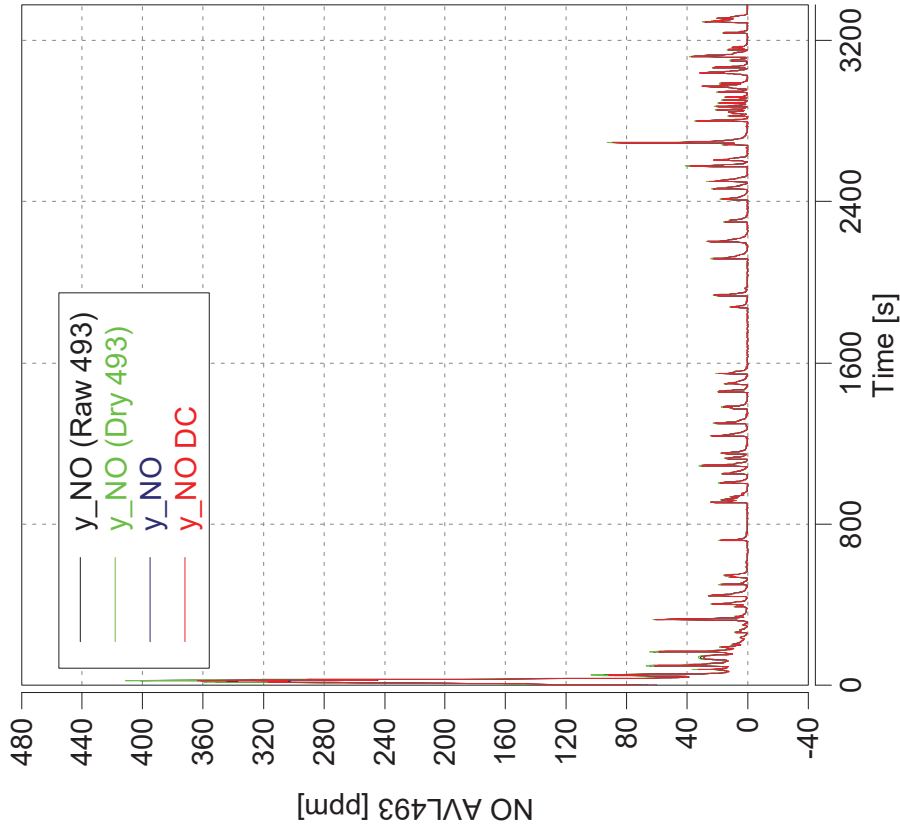
'City'

Start Date: 07/19/2018

Start Time: 21:06:14.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /
Vehicle: Audi A8 / 4.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (4) NOx Corrections

NOx - AVL 493

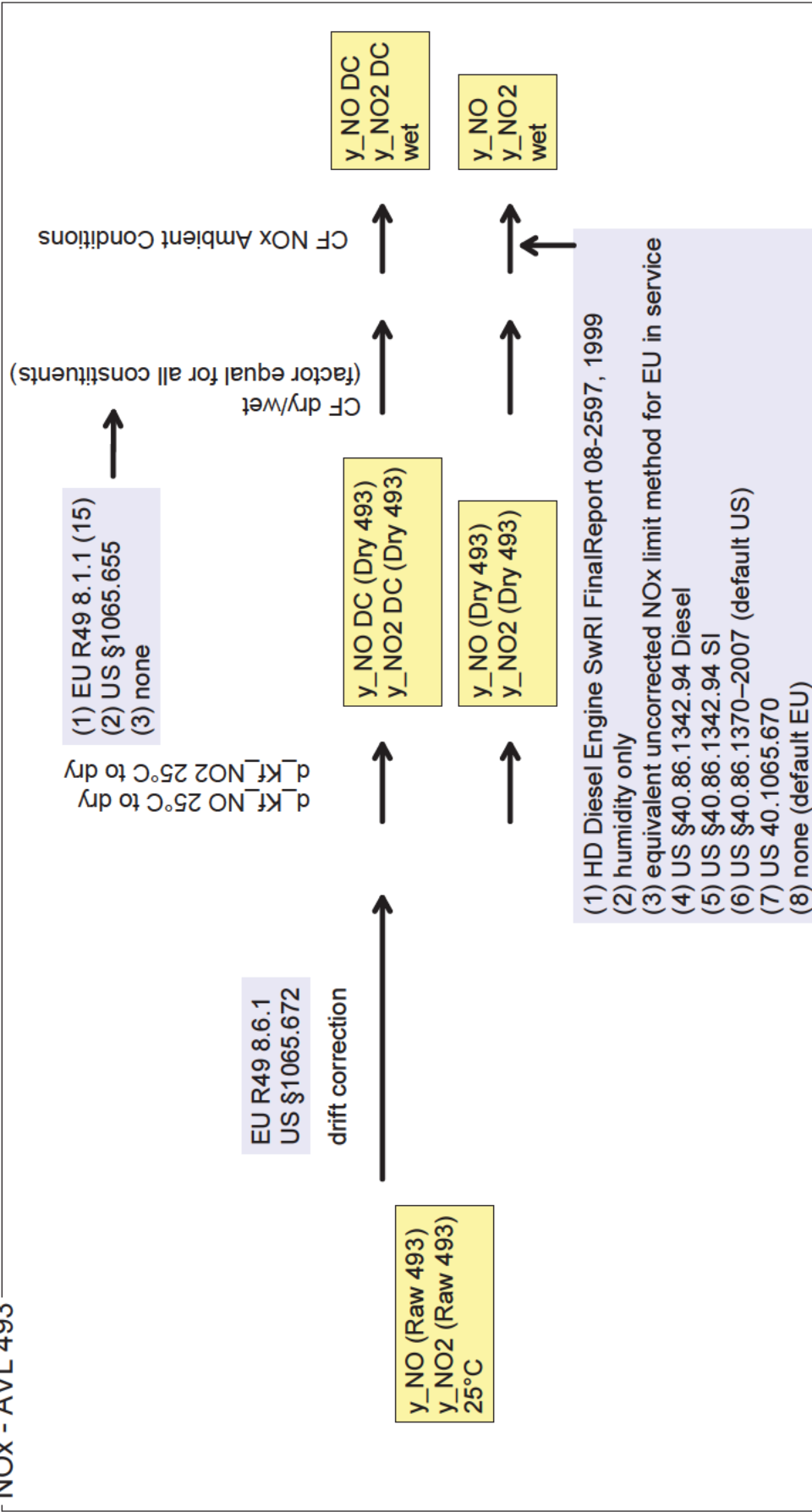
'City'

Start Date: 07/19/2018

Start Time: 21:06:14.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (5)

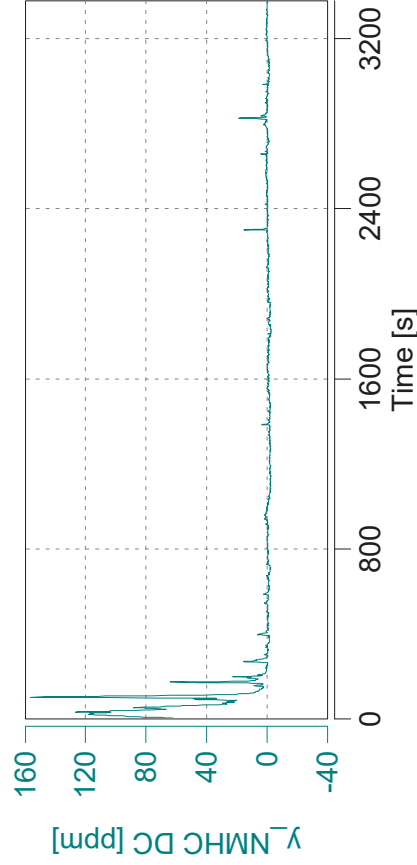
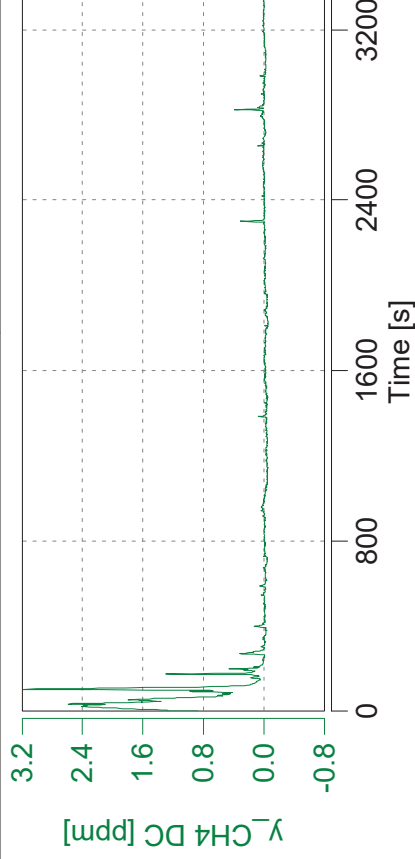
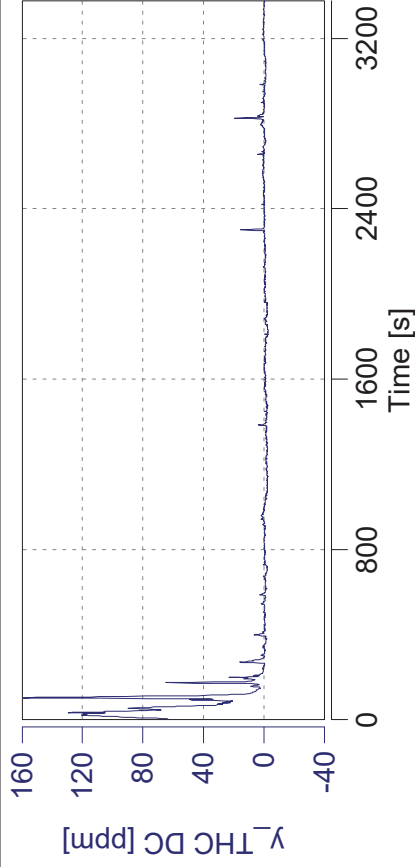
'City'

Start Date: 07/19/2018

Start Time: 21:06:14.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /
Vehicle: Audi A8 / 4.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: NO/NO2/NOx Zero - Span

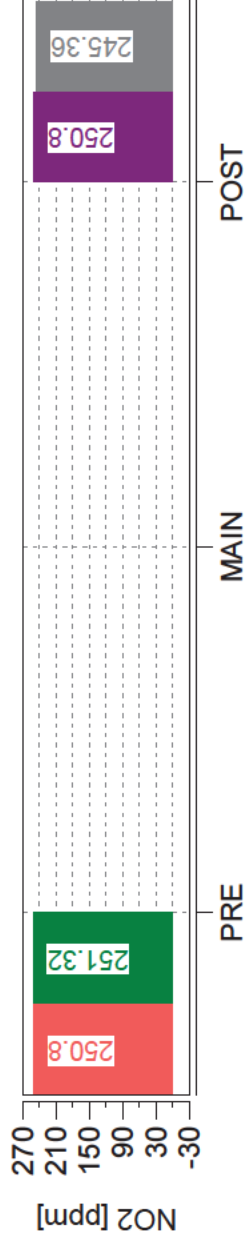
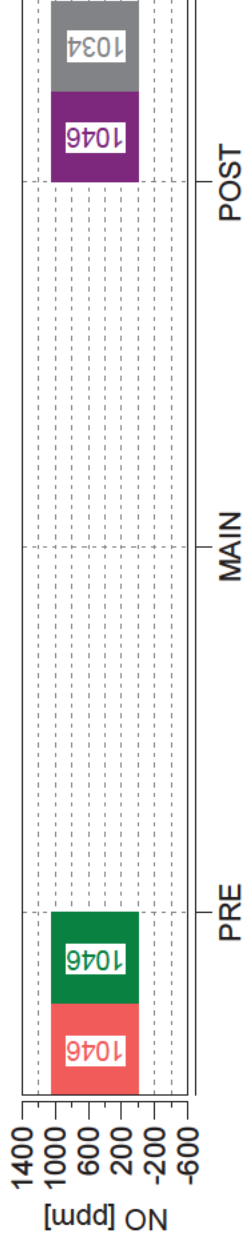
'City'

Start Date: 07/19/2018

Start Time: 21:06:14.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Audi A8 / 4.0L

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: CO/CO2 Zero - Span

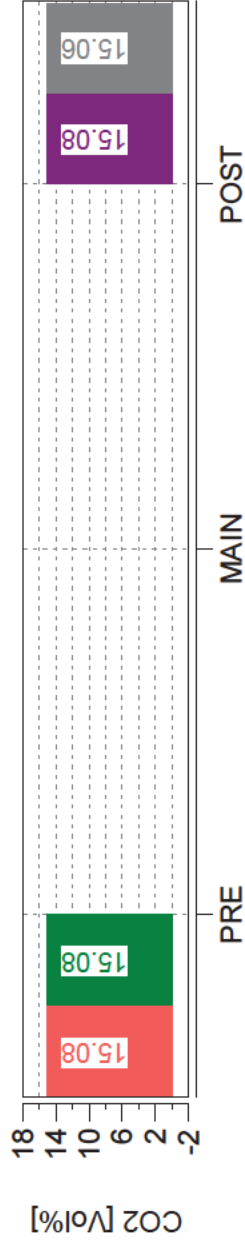
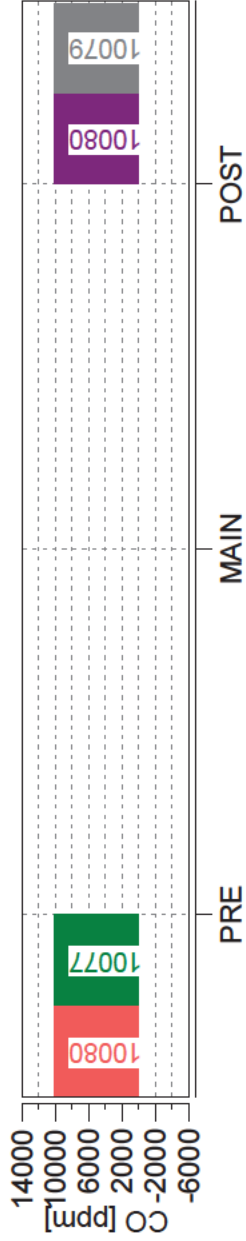
'City'

Start Date: 07/19/2018

Start Time: 21:06:14.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: THC/CH4 Zero - Span

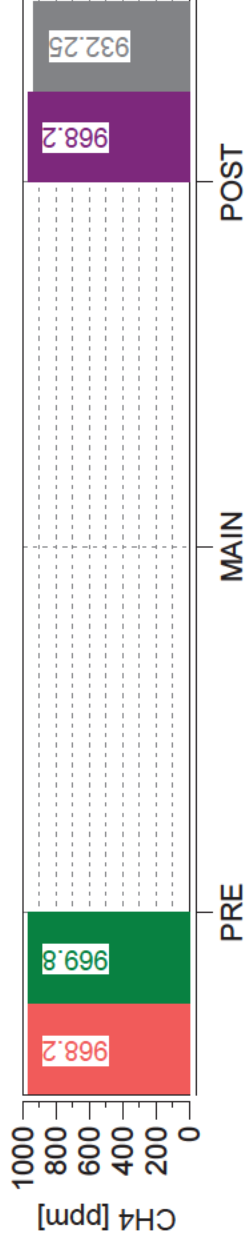
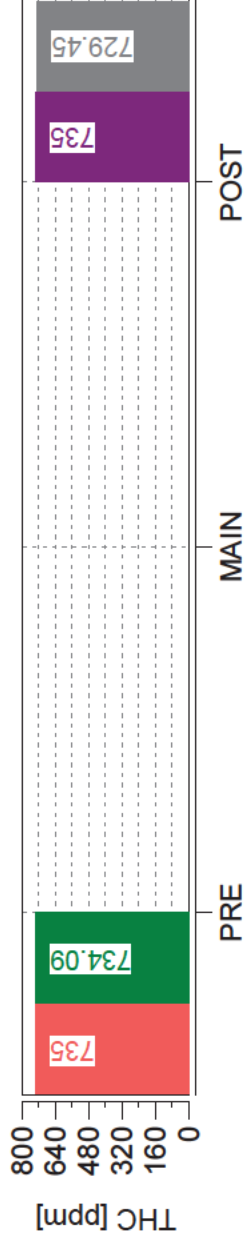
'City'

Start Date: 07/19/2018

Start Time: 21:06:14.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Audi A8 / 4.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: Highway
Page: Trip Summary

'Highway'
Start Date: 07/22/2018
Start Time: 14:05:43.0



Trip Duration	3516.00	s	ave THC	0.64359	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	3516.00	s	ave NMHC	0.63071	ppm	BS CO	n/a	g/hphr
Trip Distance	39.54	mi	ave CH4	0.01287	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	39.54	mi	ave CO	41.69274	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	12.09575	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx	12.00396	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	4.82	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	4.76	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.70	gall	tot THC	0.08630	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.68	gall	tot NMHC	0.07982	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00191	g	DS CO2	366.04805	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	6.12562	g	DS CO	0.15493	g/mi
Trip Fuel Economy EU (ac)	23.21	mpg_US	tot CO2	14472.36902	g	DS THC	0.00218	g/mi
Trip Fuel Economy US (ac)	23.51	mpg_US	tot NO (d)	1.12993	g	DS NMHC	0.00202	g/mi
Trip Av. Eng. Speed	1591.95	rpm	tot NO2	0.17686	g	DS CH4	0.00005	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	1.30678	g	DS NO (d)	0.02858	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	0.00447	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.03305	g/mi
Trip Exhaust Mass	76.39	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	82.64	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	52.53	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	40.48137	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	2.87258	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /
Vehicle: Atlas / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Trip Summary Drift Corrected

'Highway'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018

Trip Duration	3516.00	s	ave THC DC	1.1111	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	3516.00	s	ave NMHC DC	1.0889	ppm	BS CO DC	n/a	g/hphr
Trip Distance	39.54	mi	ave CH4 DC	0.0222	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	39.54	mi	ave CO DC	41.5222	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	12.0957	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	11.9858	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	4.82	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	4.76	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.70	gall	tot THC DC	0.1036	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.68	gall	tot NMHC DC	0.0958	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.0023	g	DS CO2 DC	366.0480	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	6.1143	g	DS CO DC	0.1546	g/mi
Trip Fuel Economy EU (ac)	23.21	mpg_US	tot CO2 DC	14472.3690	g	DS THC DC	0.0026	g/mi
Trip Fuel Economy US (ac)	23.51	mpg_US	tot NO DC (d)	1.1407	g	DS NMHC DC	0.0024	g/mi
Trip Av. Eng. Speed	1591.95	rpm	tot NO2 DC	0.1651	g	DS CH4 DC	0.0000	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	1.3058	g	DS NO DC (d)	0.0288	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	0.0041	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.0330	g/mi
Trip Exhaust Mass	76.39	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.0000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	82.64	deg_F	PM correction type	1.0000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	52.53	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.0000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.0000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	40.4813	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	2.8725	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.0000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.0000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.0000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Time Alignment Check

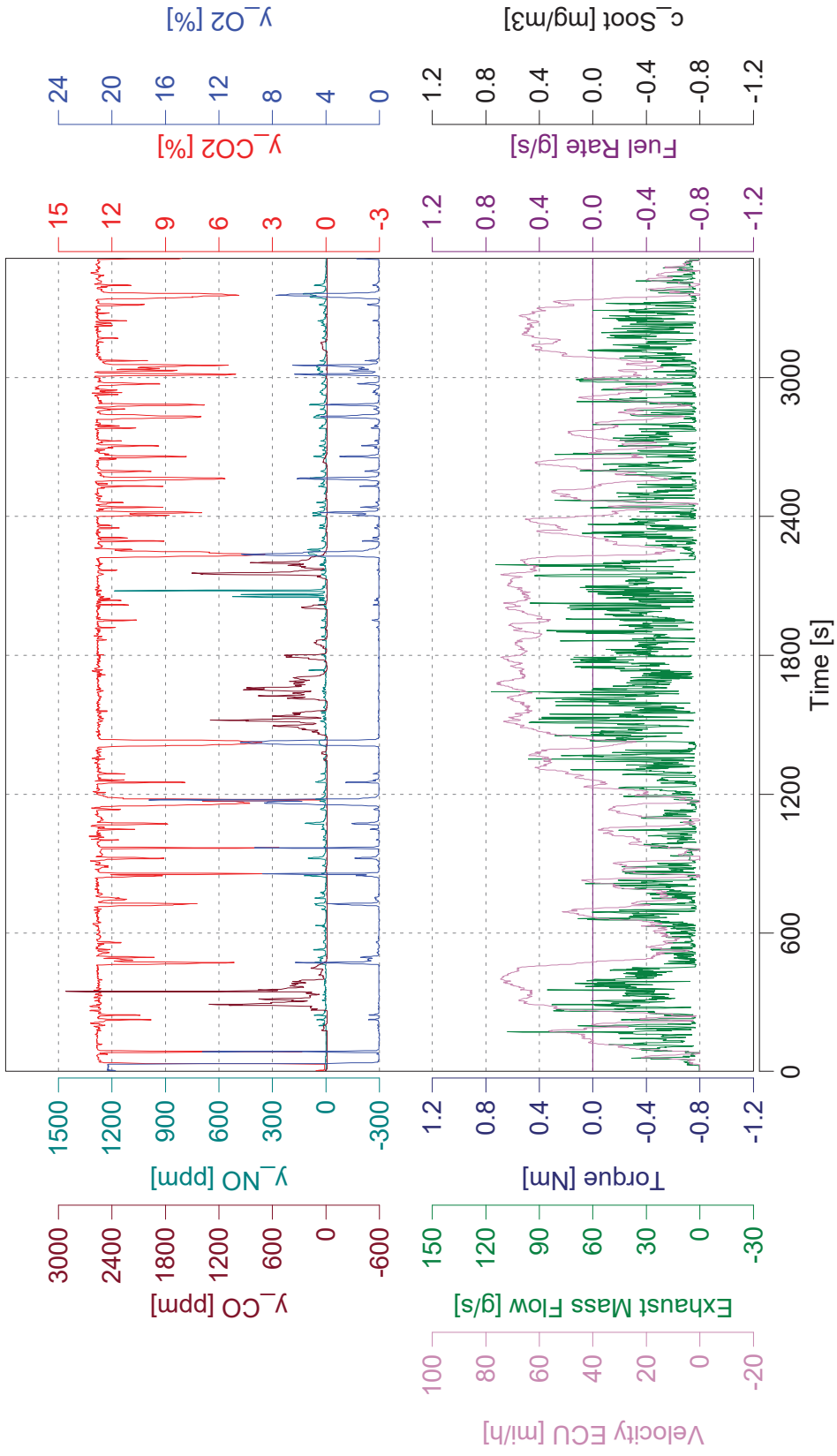
'Highway'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Time Alignment of Gas Concentrations

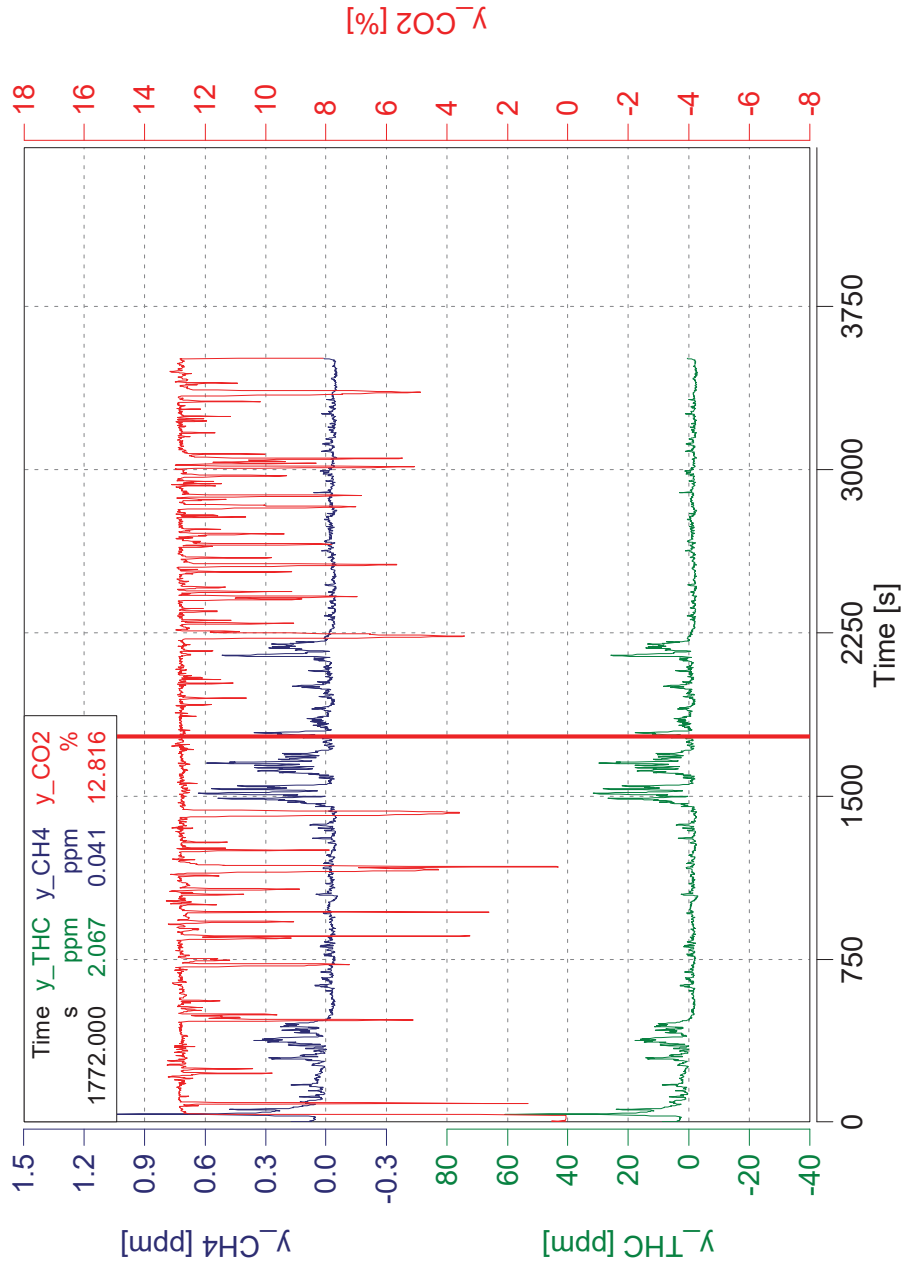
'Highway'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

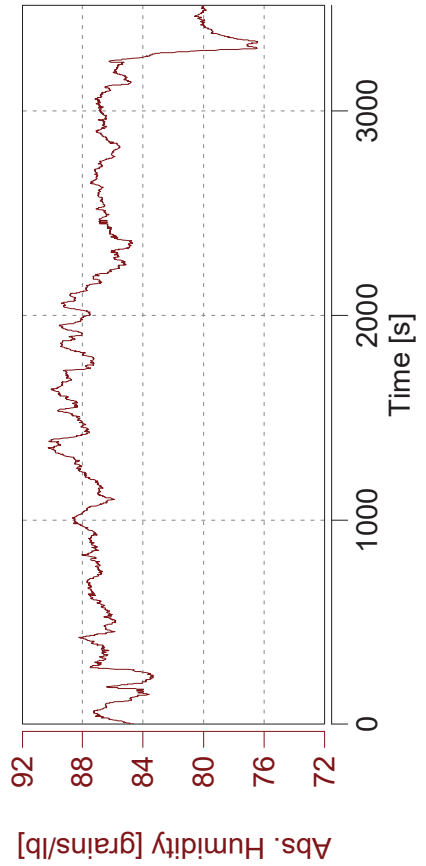
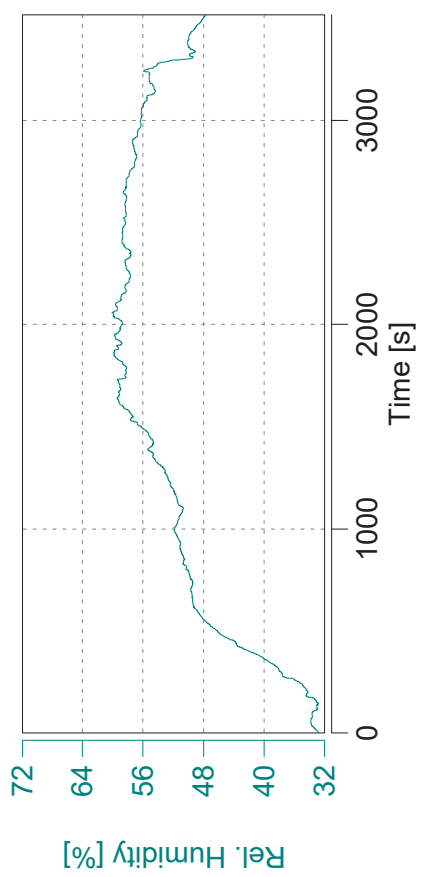
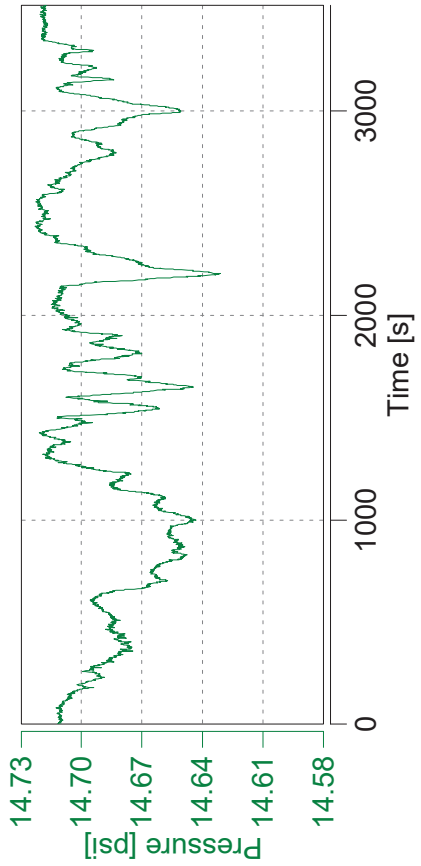
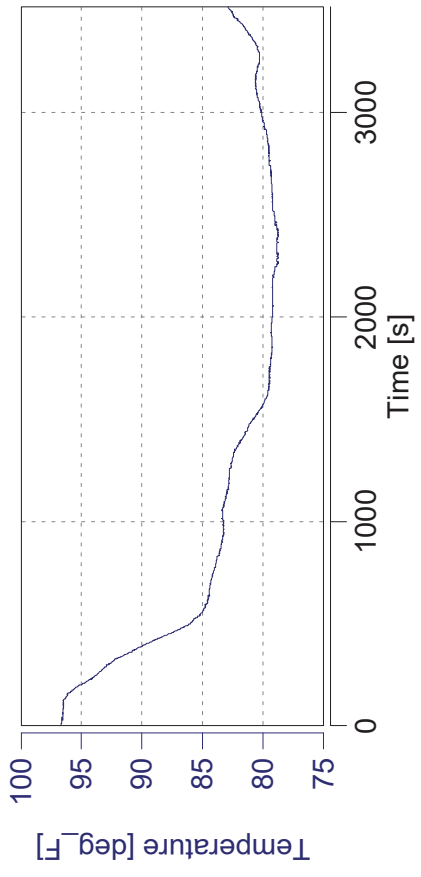
Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Engine: /
Vehicle: Atlas / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway
 Page: Ambient Conditions

'Highway'
 Start Date: 07/22/2018
 Start Time: 14:05:43.0



Concerto Version: 480 Build 316, Serial Number: 1120
 M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L
 Engine: /
 NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: GPS

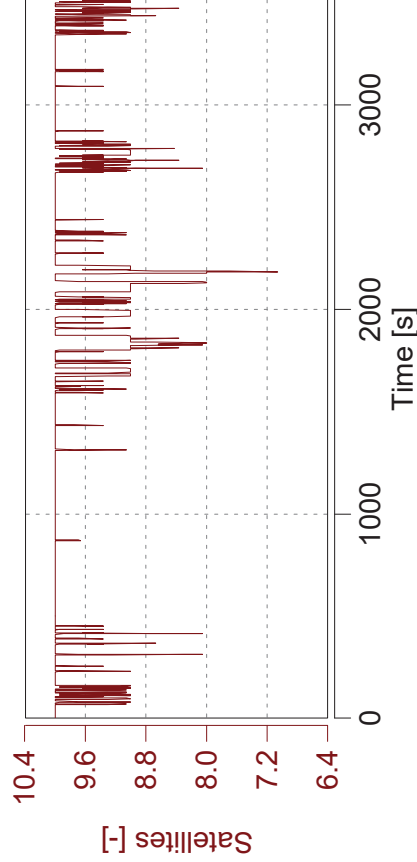
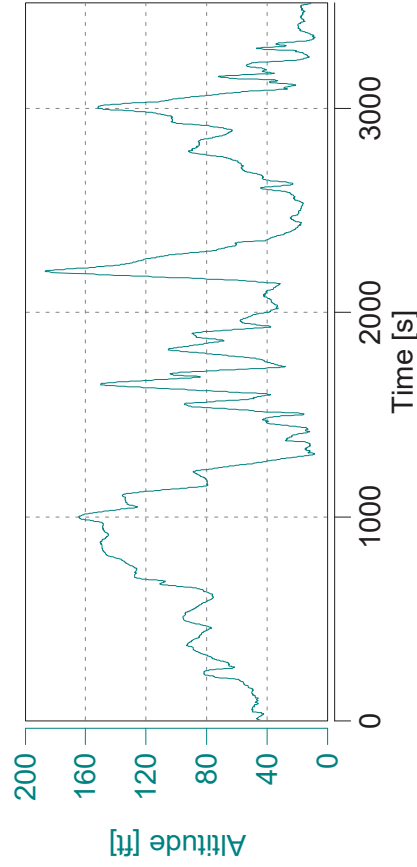
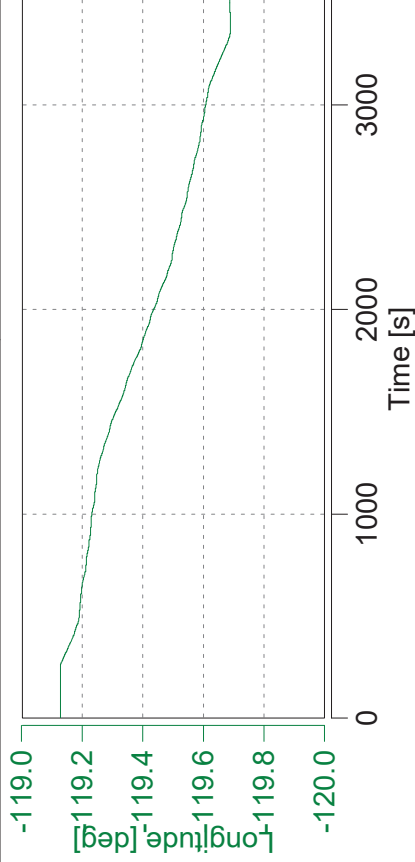
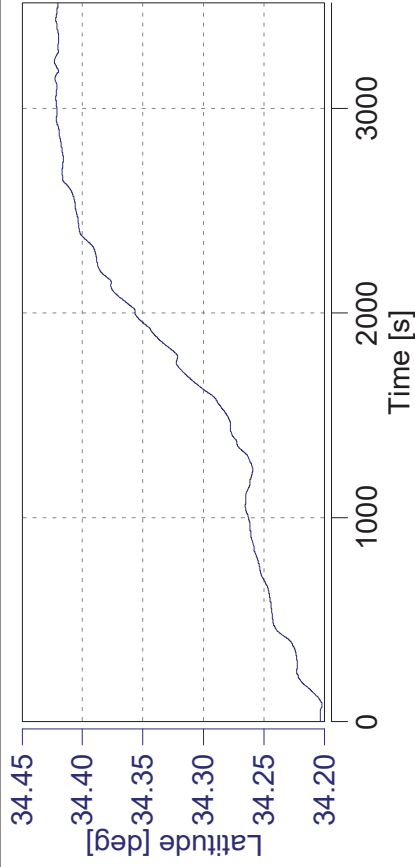
'Highway'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (1)

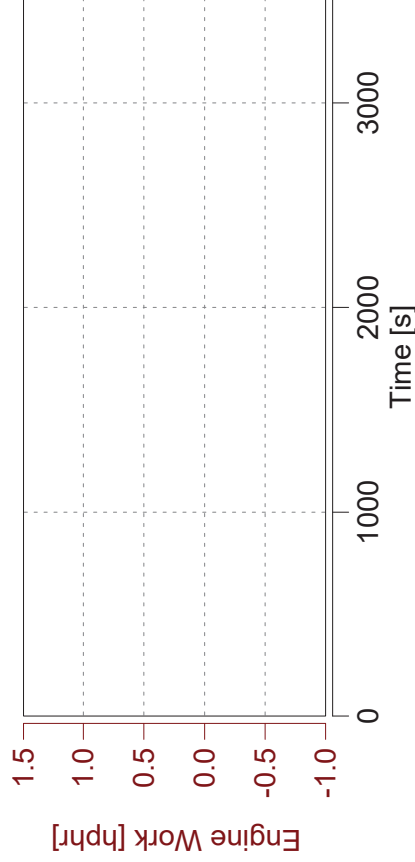
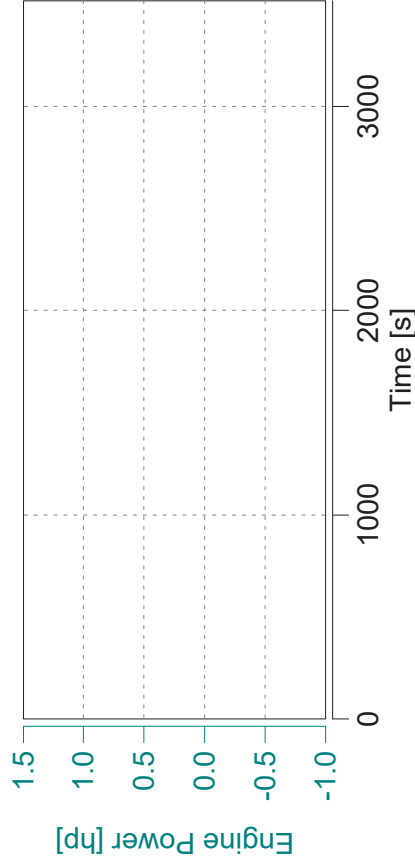
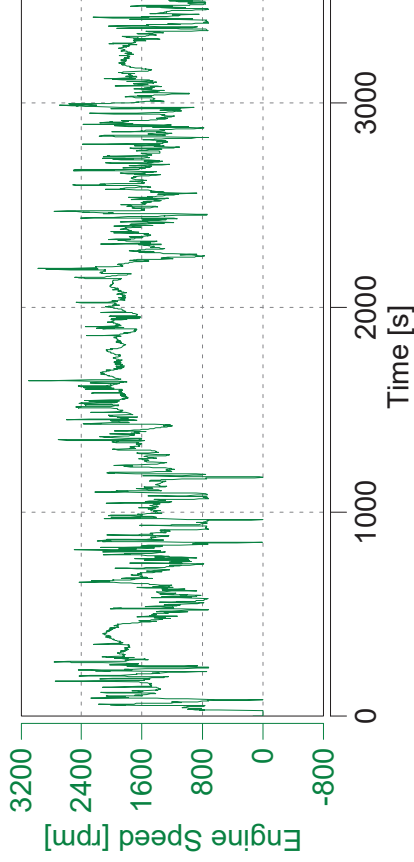
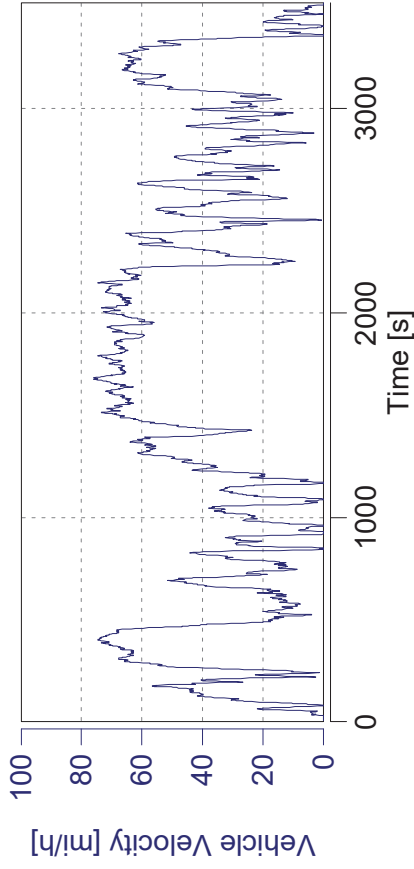
'Highway'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (2)

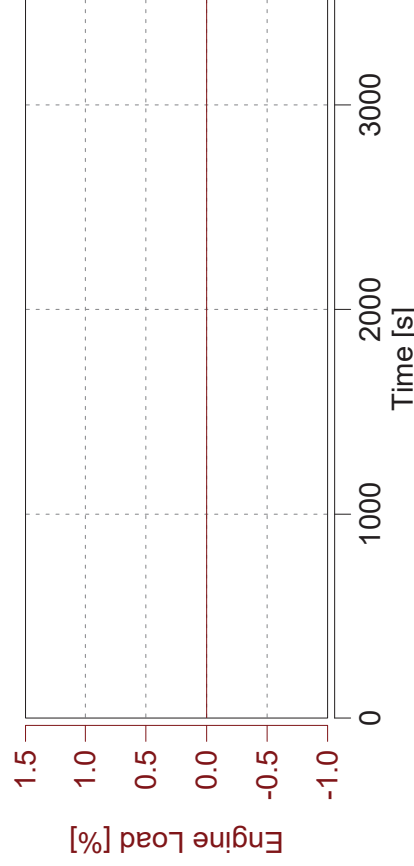
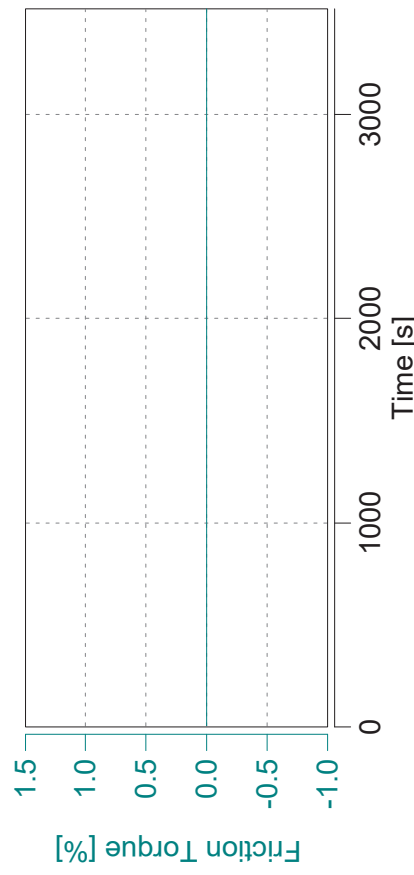
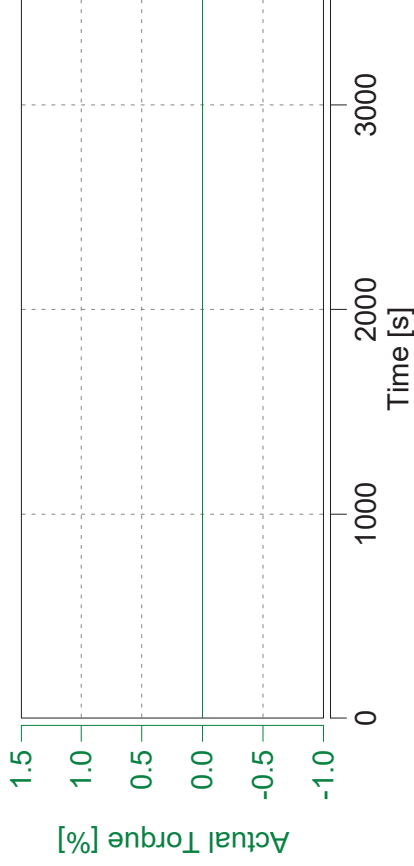
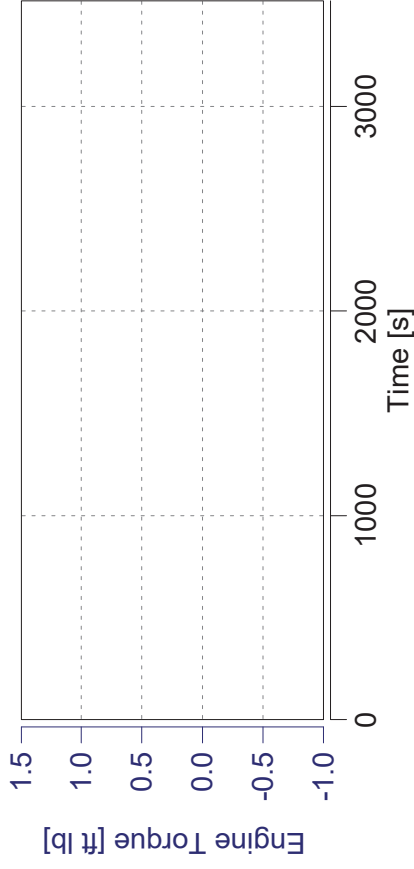
'Highway'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

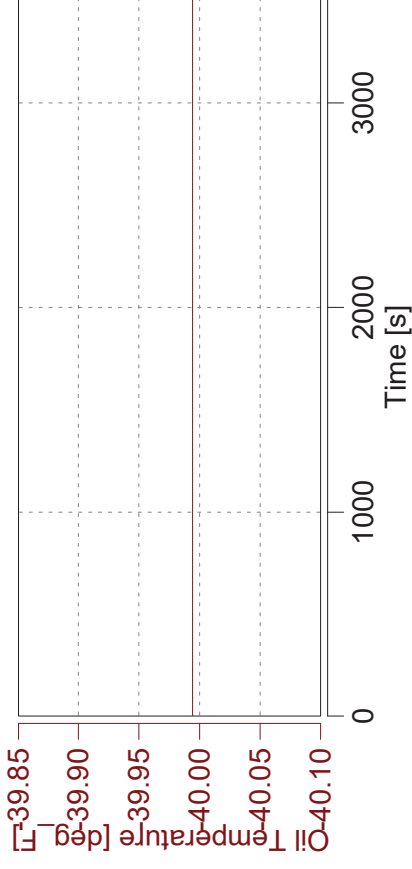
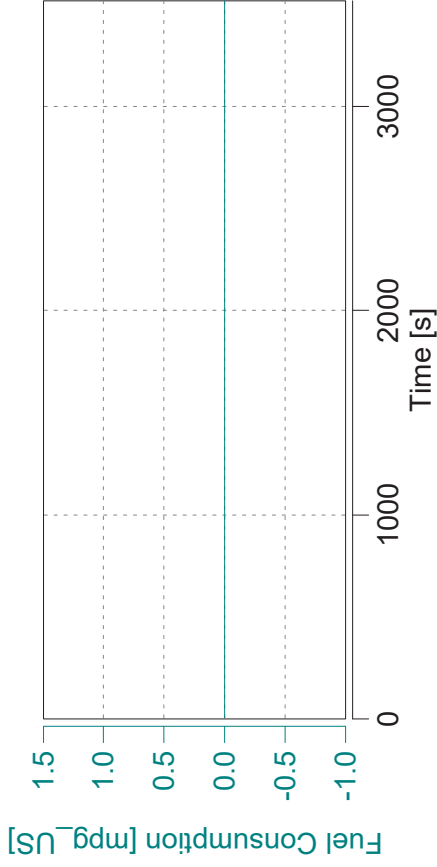
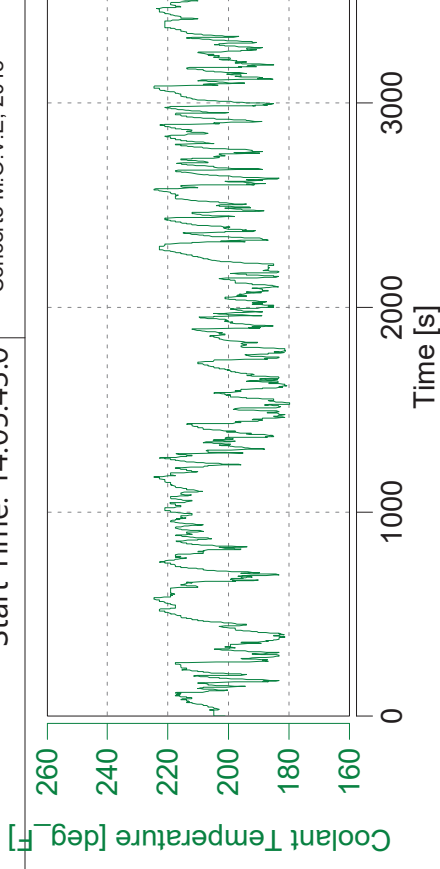
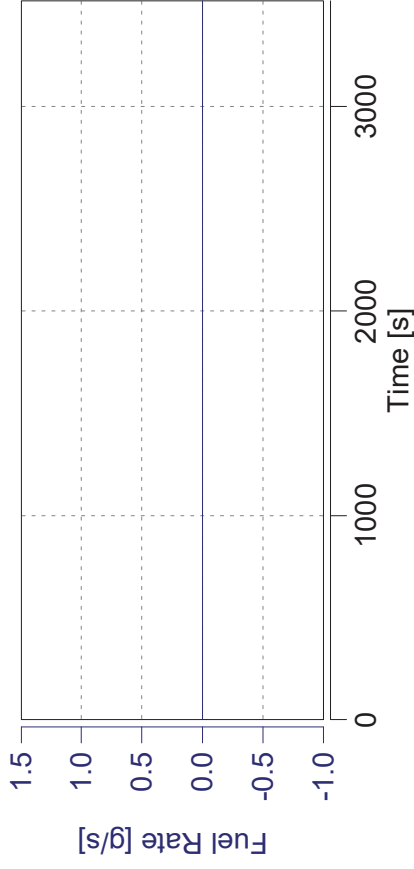
Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

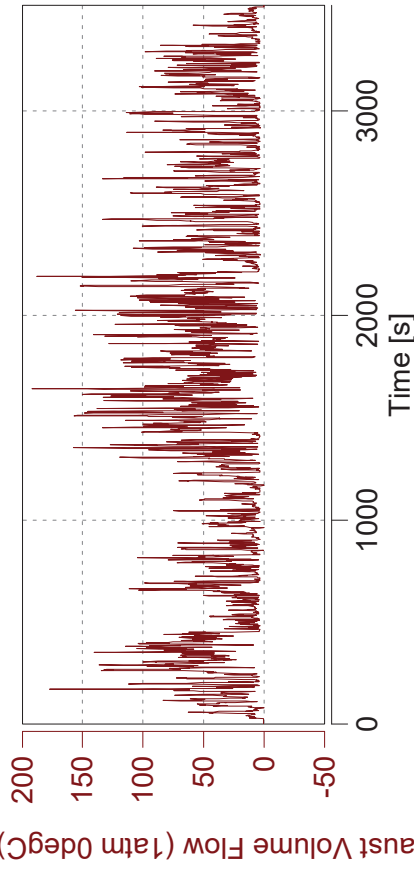
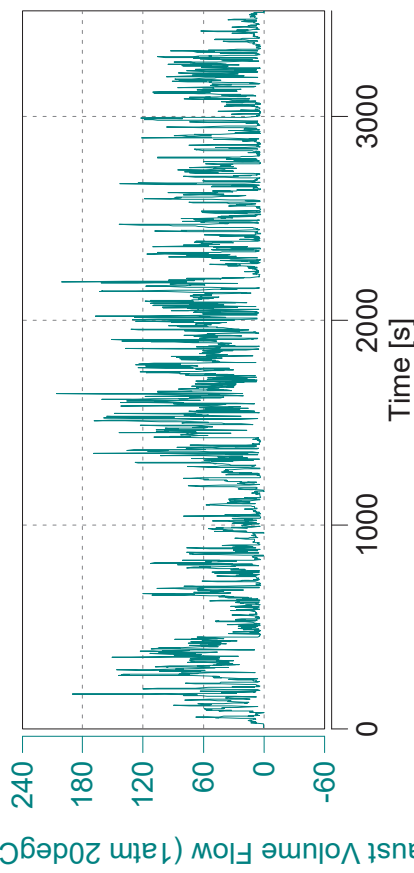
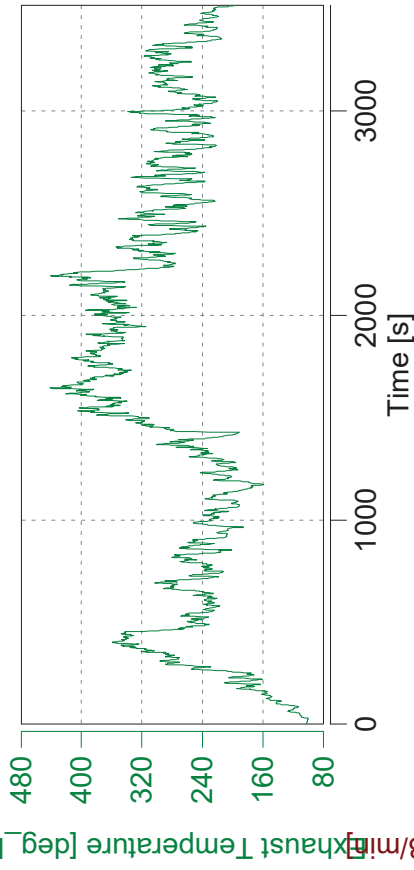
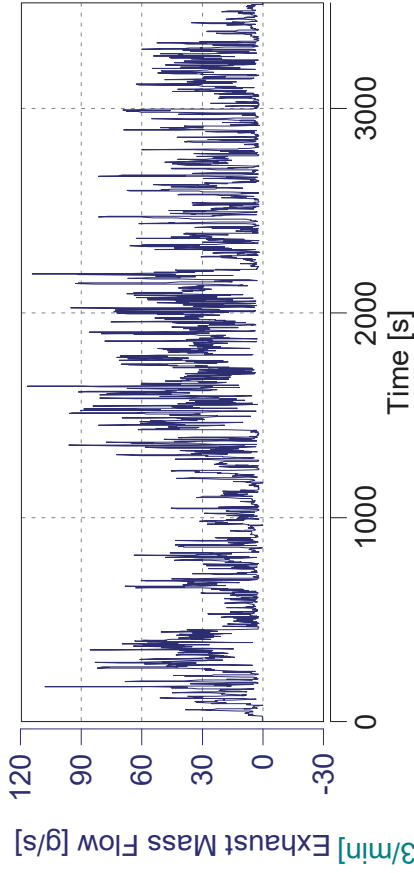
Case: Highway
Page: Engine (3)

'Highway'
Start Date: 07/22/2018
Start Time: 14:05:43.0



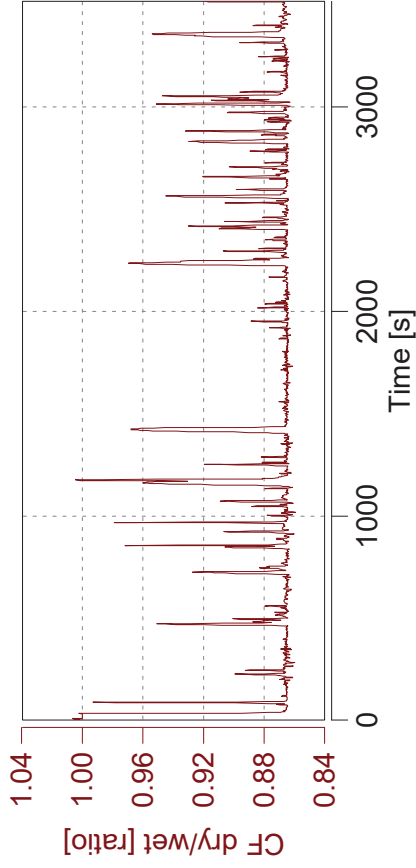
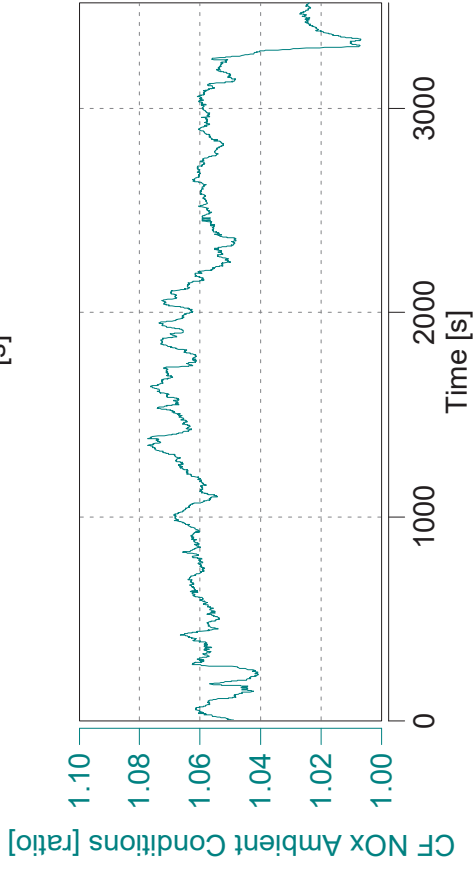
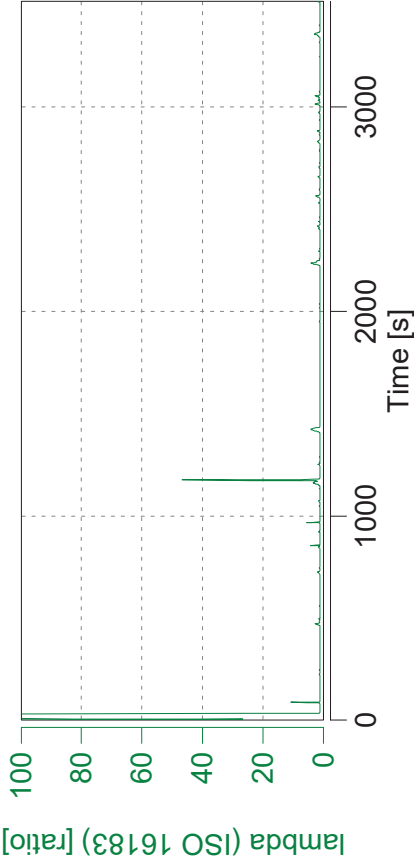
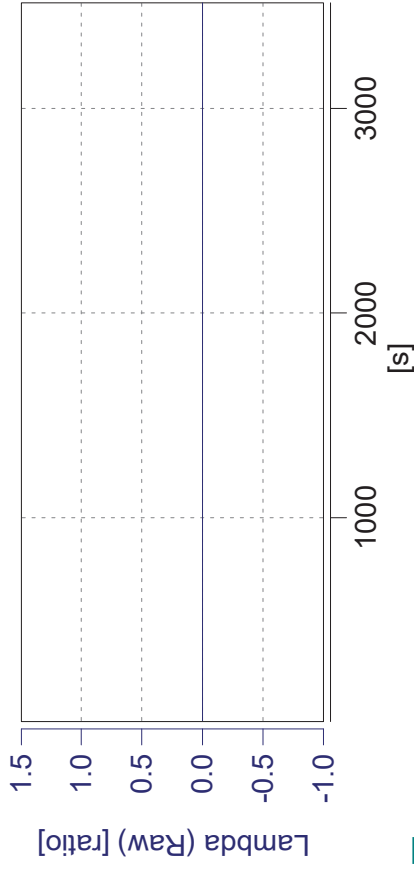
Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Case: Highway
 Page: Exhaust Flow (2)

'Highway'
 Start Date: 07/22/2018
 Start Time: 14:05:43.0



Concerto Version: 480 Build 316, Serial Number: 1120
 M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L
 Engine: /
 NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (1)

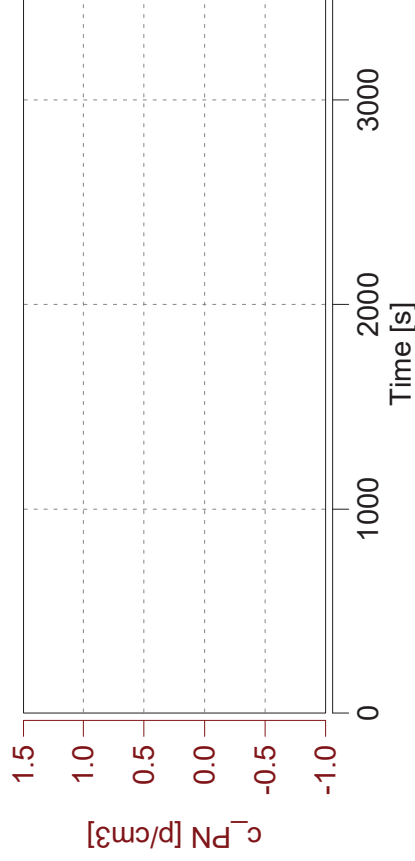
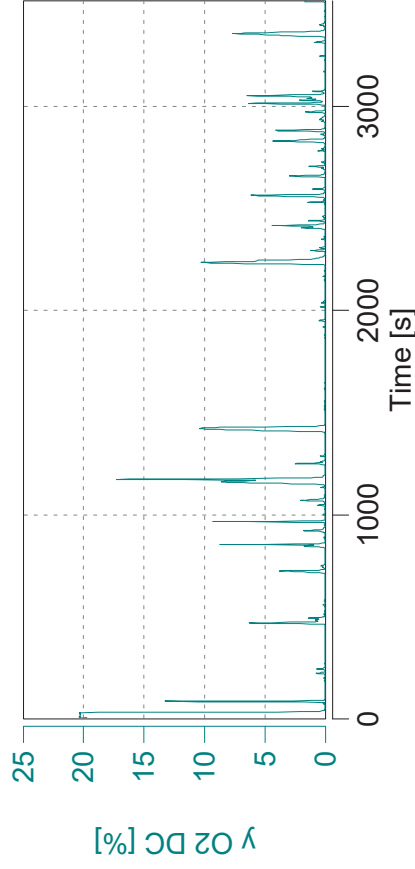
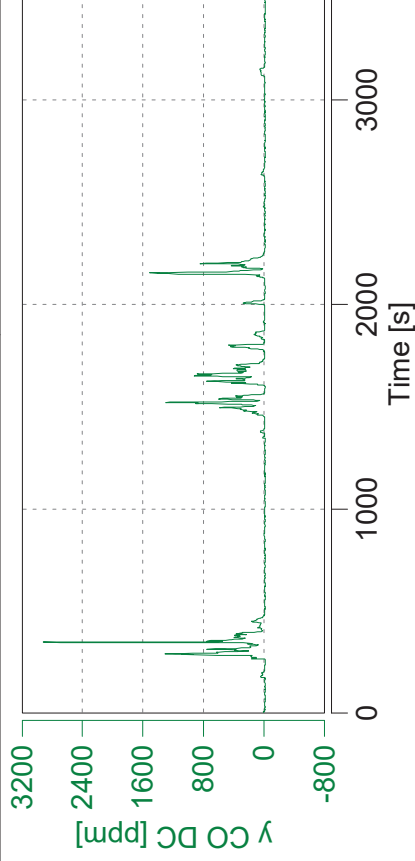
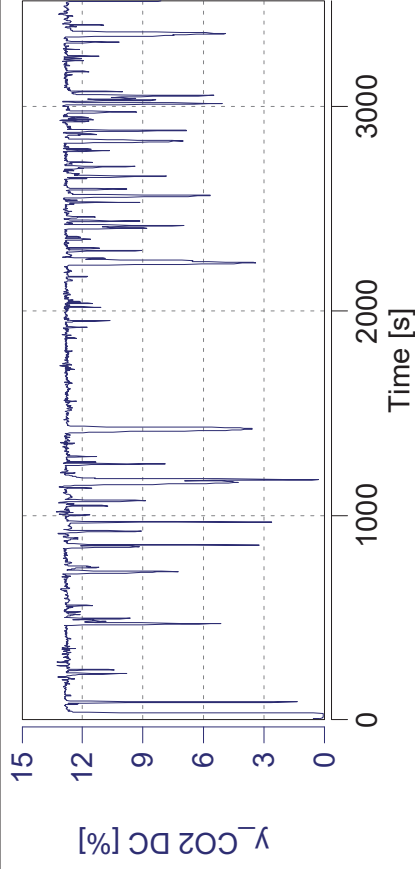
'Highway'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (2)

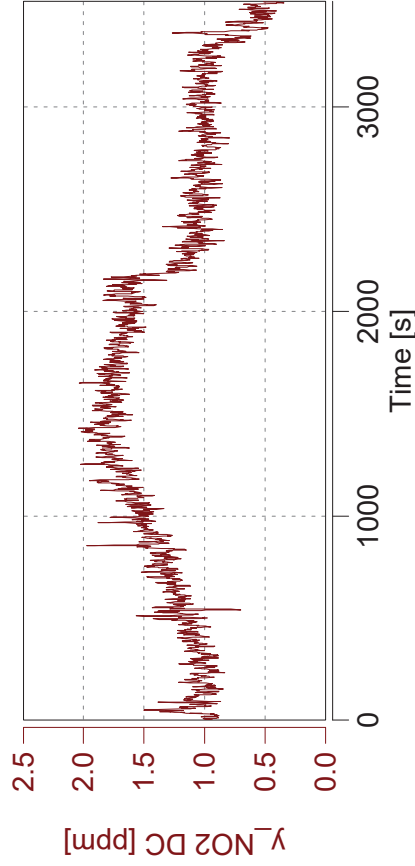
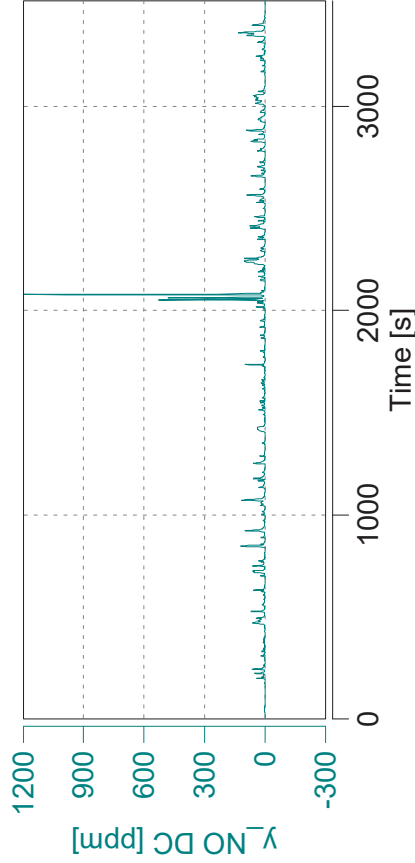
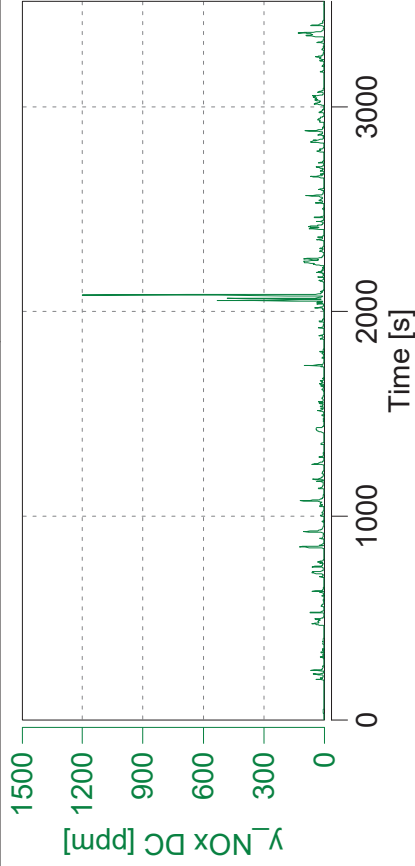
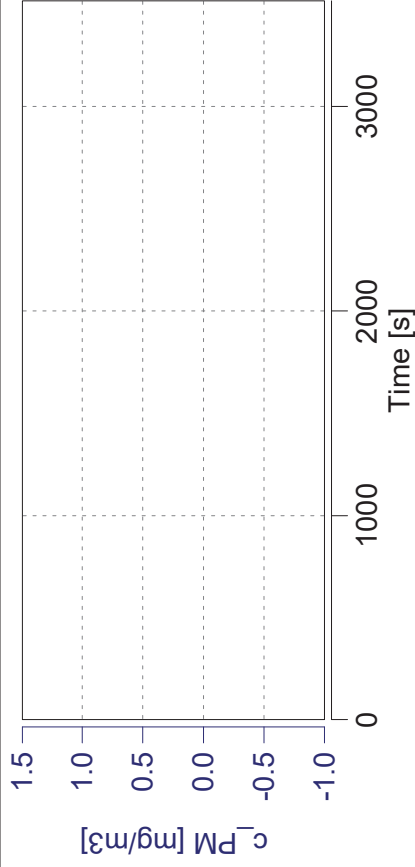
'Highway'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (3)

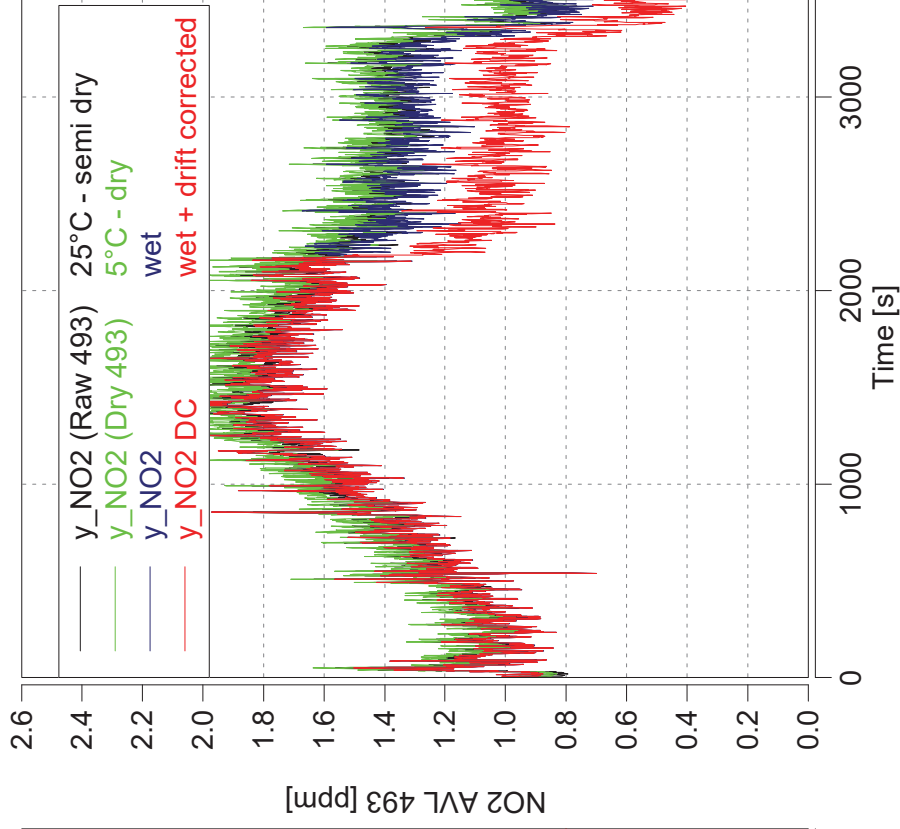
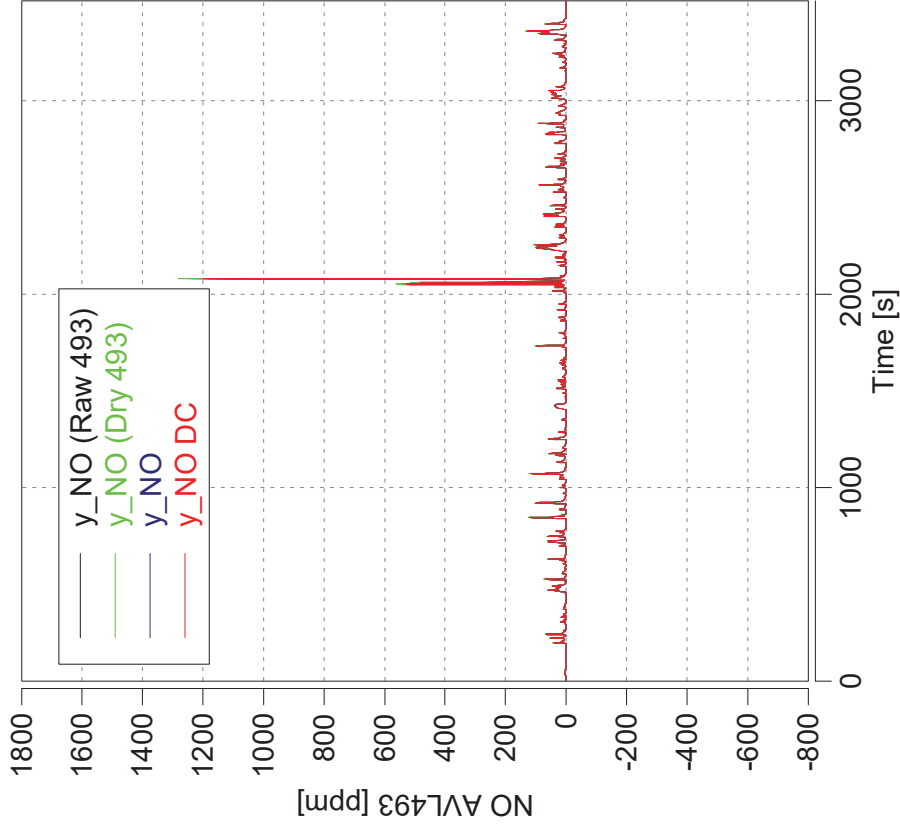
'Highway'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (4) NOx Corrections

'Highway'

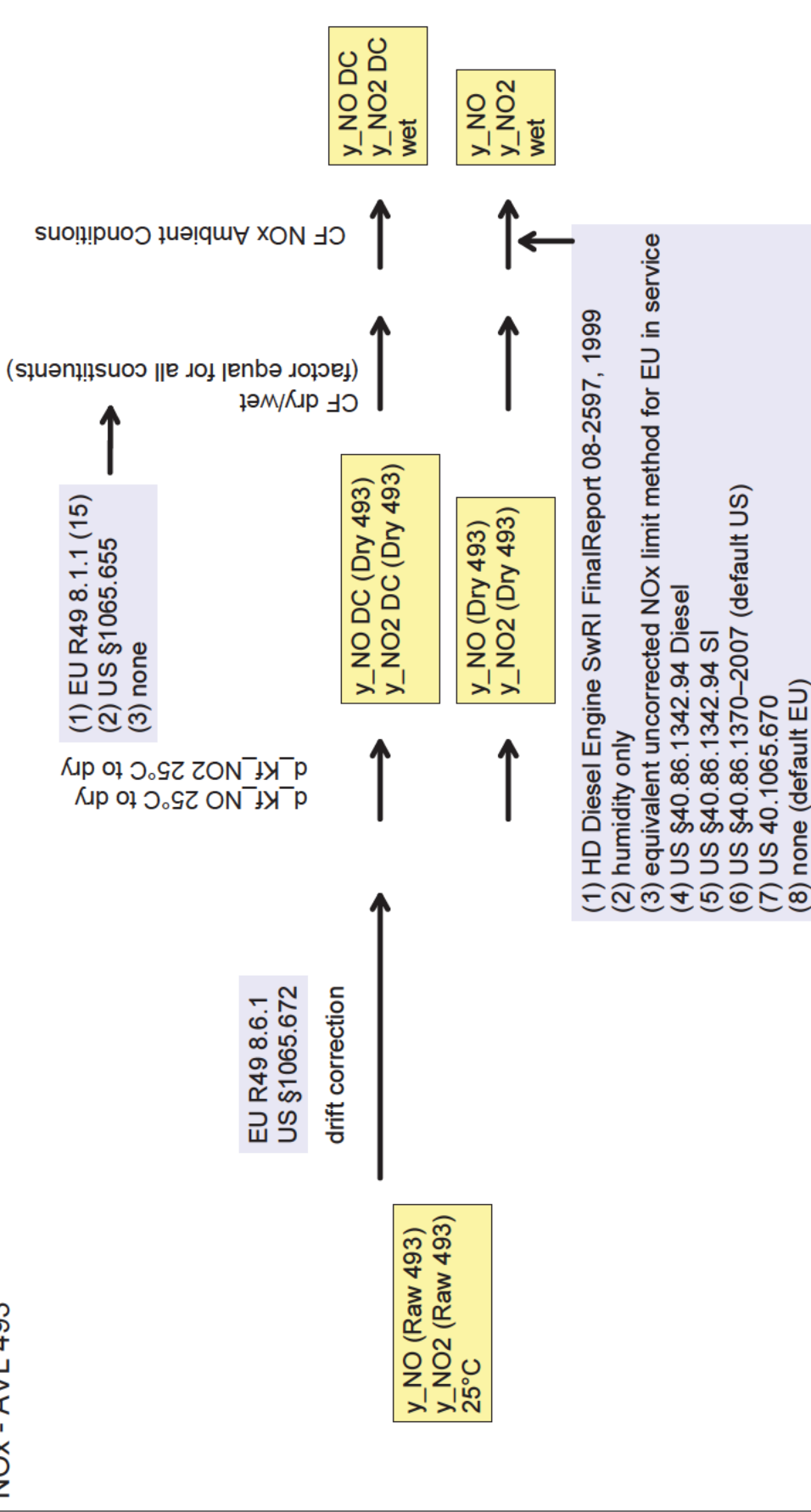
Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018

NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine / Vehicle: Atlas / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (5)

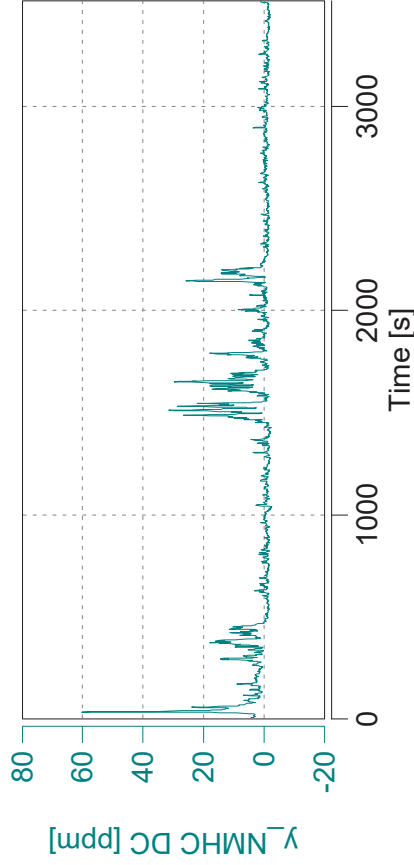
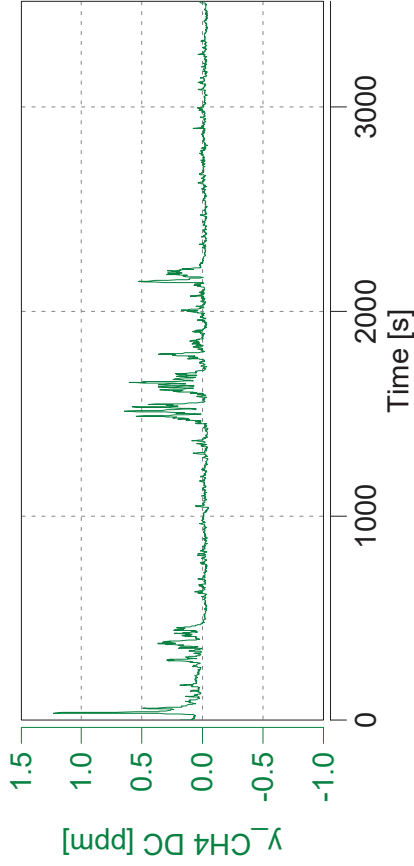
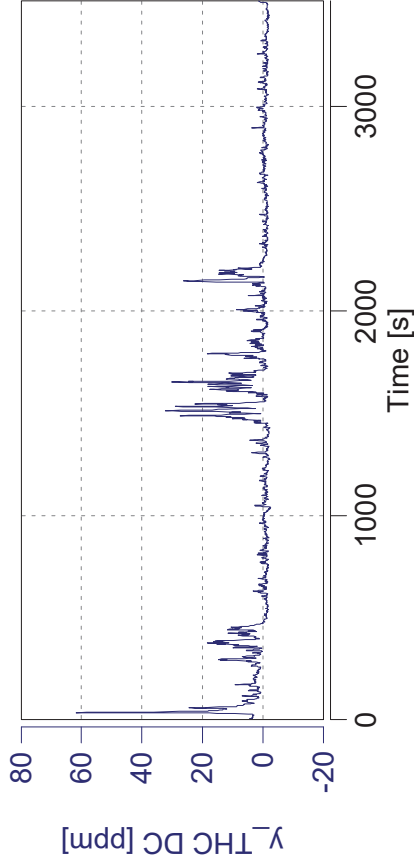
'Highway'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: NO/NO2/NOx Zero - Span

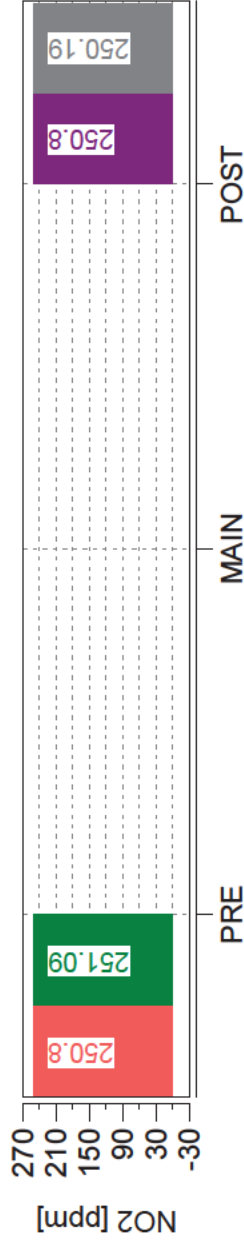
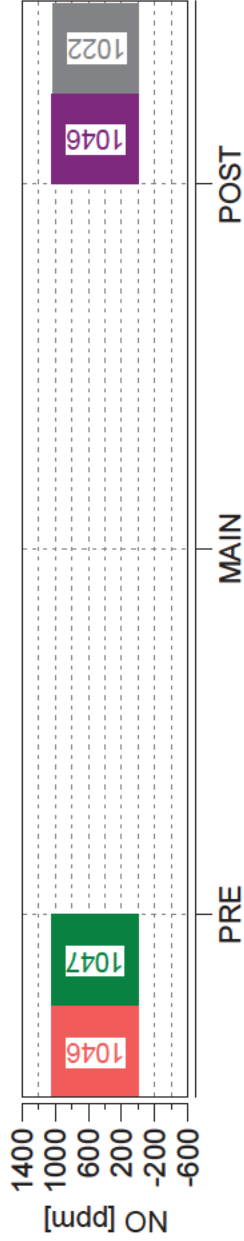
'Highway'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



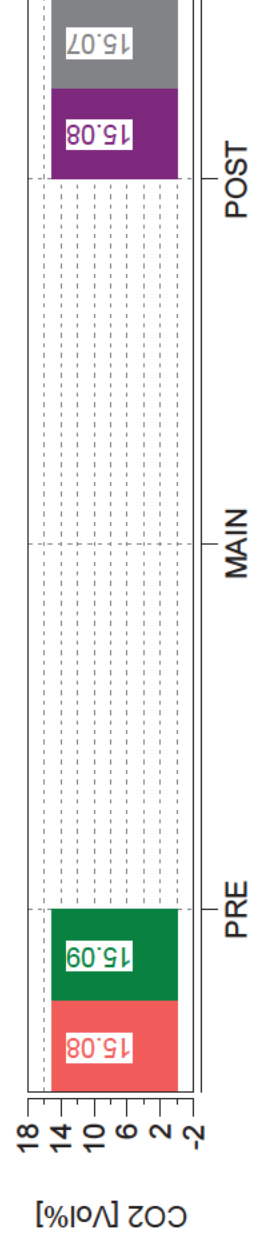
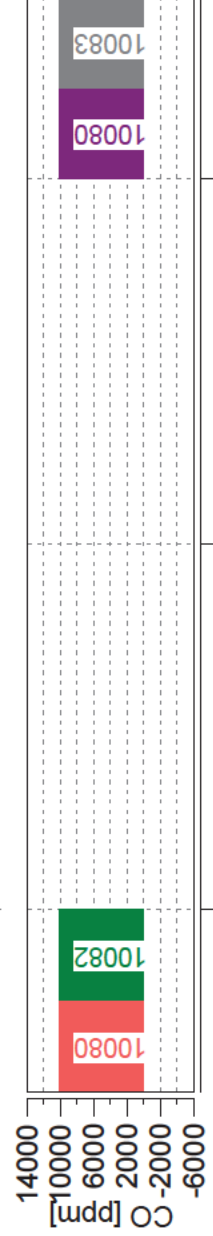
Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /



Case: Highway

Page: THC/CH4 Zero - Span

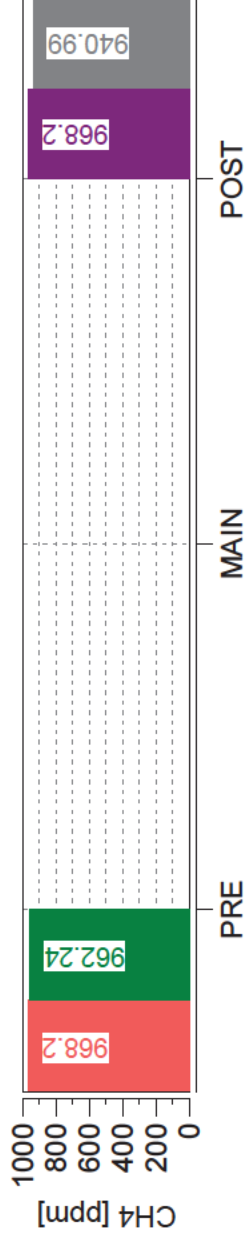
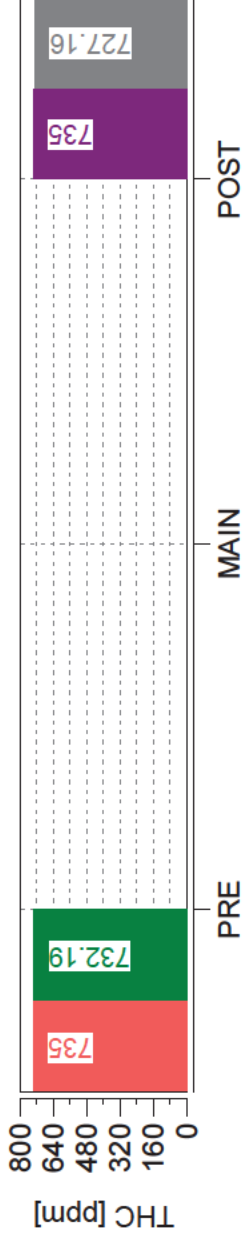
'Highway'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: Mountain

Page: Trip Summary

'Mountain'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E. 2018

Trip Duration	2896.00	s	ave THC	4.02943	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	2896.00	s	ave NMHC	3.94884	ppm	BS CO	n/a	g/hphr
Trip Distance	29.42	mi	ave CH4	0.08059	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	29.42	mi	ave CO	73.66033	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	10.44805	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOX	10.15130	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	3.45	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.41	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.22	gall	tot THC	0.21236	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.20	gall	tot NMHC	0.19643	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00471	g	DS CO2	352.03288	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	8.81663	g	DS CO	0.29971	g/mi
Trip Fuel Economy EU (ac)	24.16	mpg_US	tot CO2	10355.84142	g	DS THC	0.00722	g/mi
Trip Fuel Economy US (ac)	24.43	mpg_US	tot NO (d)	0.60841	g	DS NMHC	0.00668	g/mi
Trip Av. Eng. Speed	1904.71	rpm	tot NO2	0.10331	g	DS CH4	0.00016	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.71172	g	DS NO (d)	0.02068	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	0.00351	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.02419	g/mi
Trip Exhaust Mass	58.35	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	85.75	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	42.45	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	36.56841	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	6.73343	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Trip Summary Drift Corrected

'Mountain'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018

Trip Duration	2896.00	s	ave THC DC	4.38871	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	2896.00	s	ave NMHC DC	4.30094	ppm	BS CO DC	n/a	g/hphr
Trip Distance	29.42	mi	ave CH4 DC	0.08777	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	29.42	mi	ave CO DC	73.63951	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	10.44805	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	10.24731	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	3.45	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.41	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.22	gall	tot THC DC	0.22347	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.20	gall	tot NMHC DC	0.20671	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.00495	g	DS CO2 DC	352.03288	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	8.81413	g	DS CO DC	0.29962	g/mi
Trip Fuel Economy EU (ac)	24.16	mpg_US	tot CO2 DC	10355.84142	g	DS THC DC	0.00760	g/mi
Trip Fuel Economy US (ac)	24.43	mpg_US	tot NO DC (d)	0.61496	g	DS NMHC DC	0.00703	g/mi
Trip Av. Eng. Speed	1904.71	rpm	tot NO2 DC	0.10338	g	DS CH4 DC	0.00017	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.71834	g	DS NO DC (d)	0.02090	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	0.00351	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.02442	g/mi
Trip Exhaust Mass	58.35	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	85.75	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	42.45	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	36.56841	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	6.73343	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Time Alignment Check

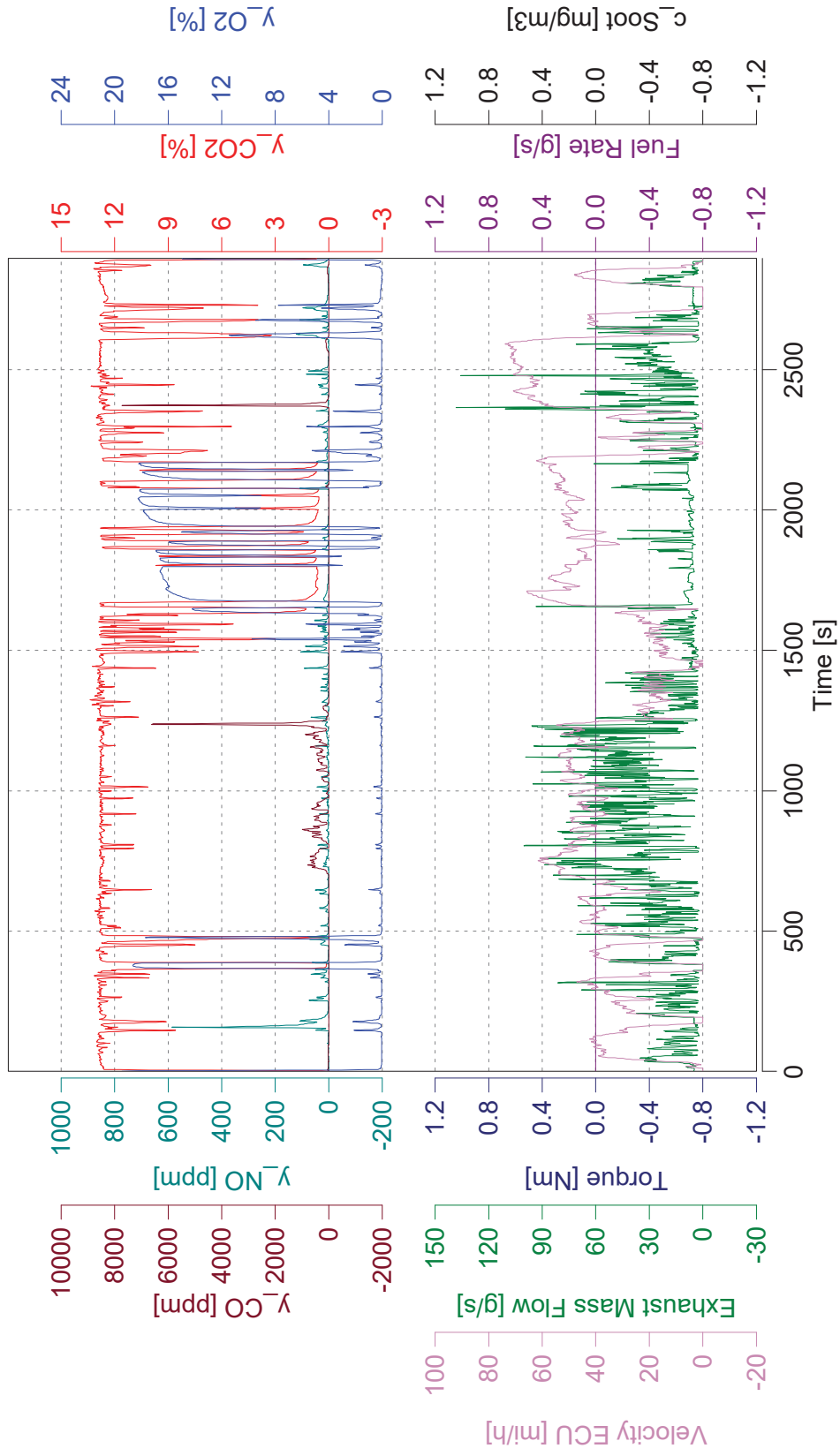
'Mountain'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316(CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Time Alignment of Gas Concentrations

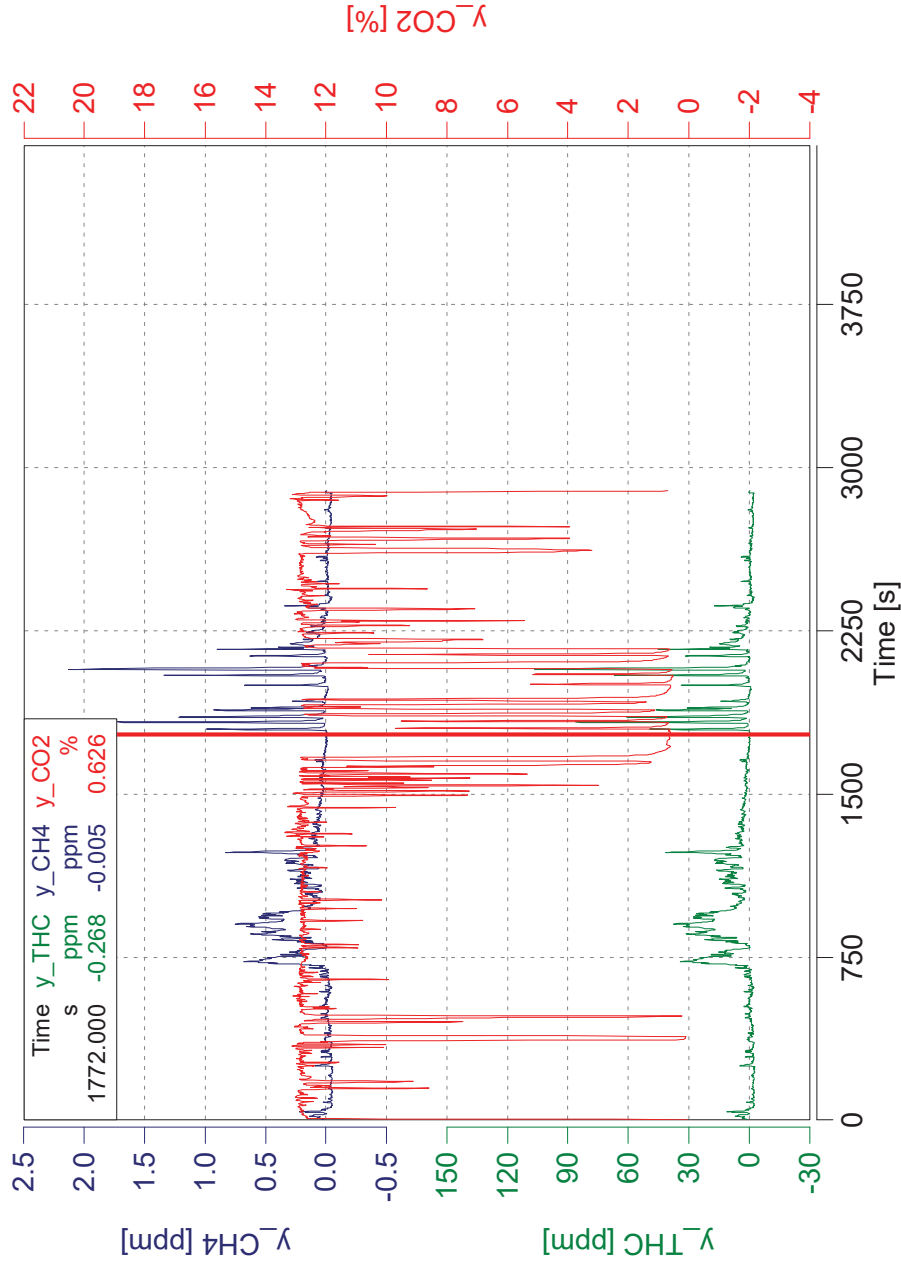
'Mountain'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Ambient Conditions

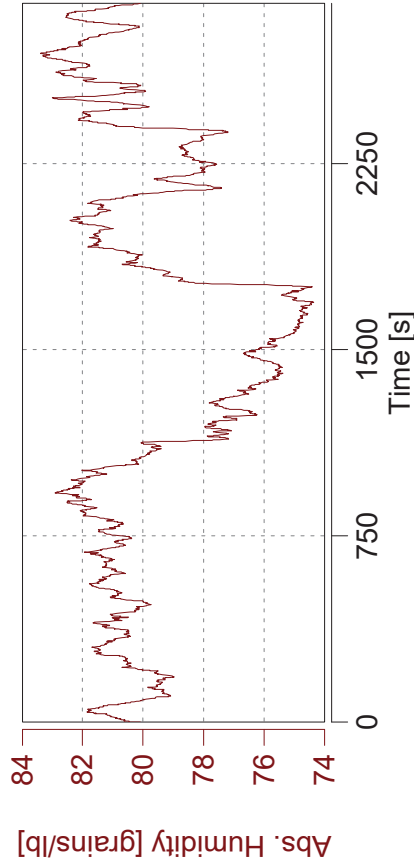
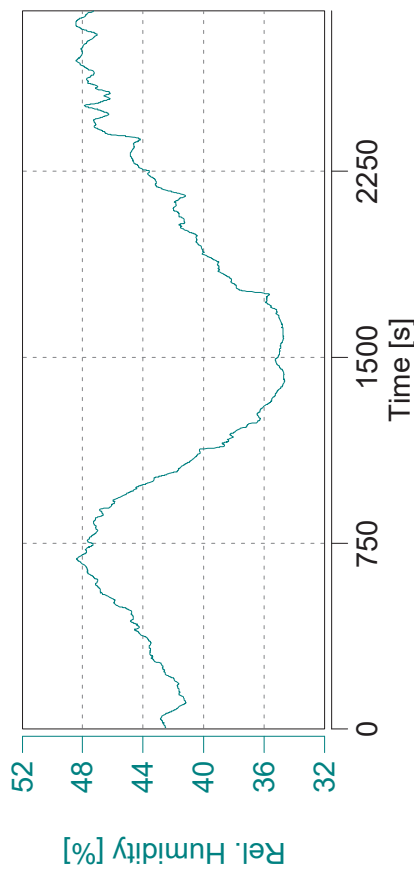
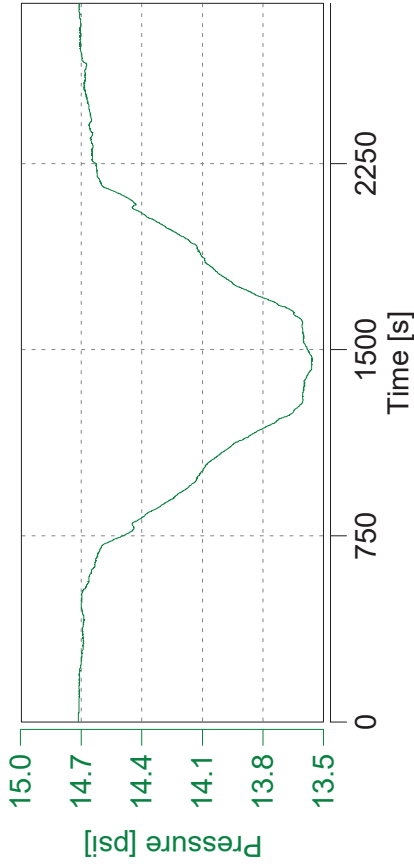
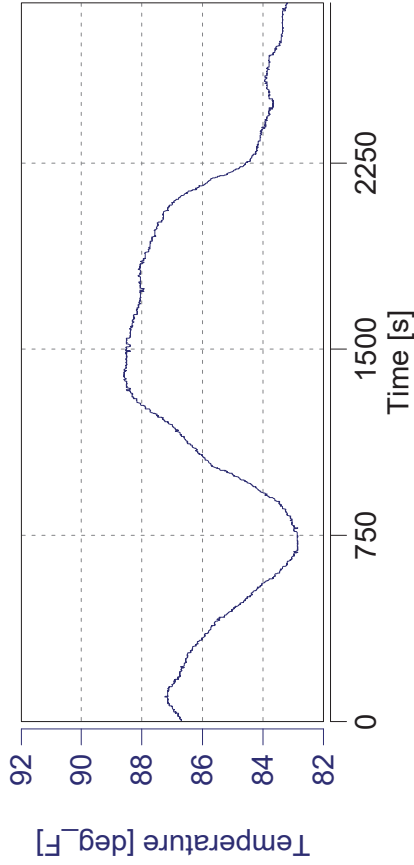
'Mountain'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: GPS

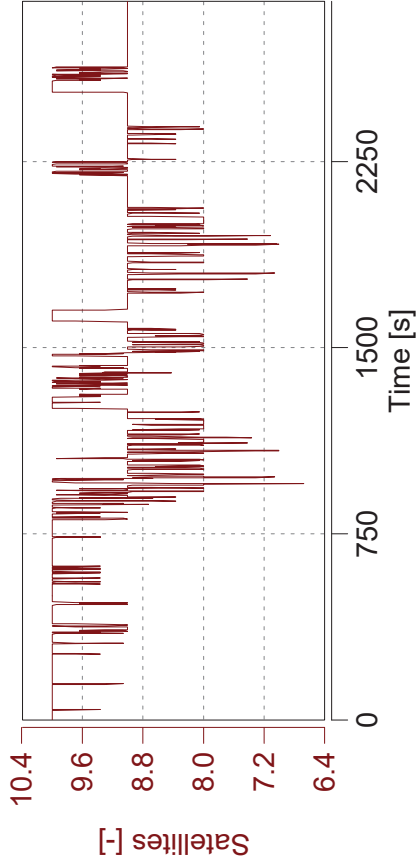
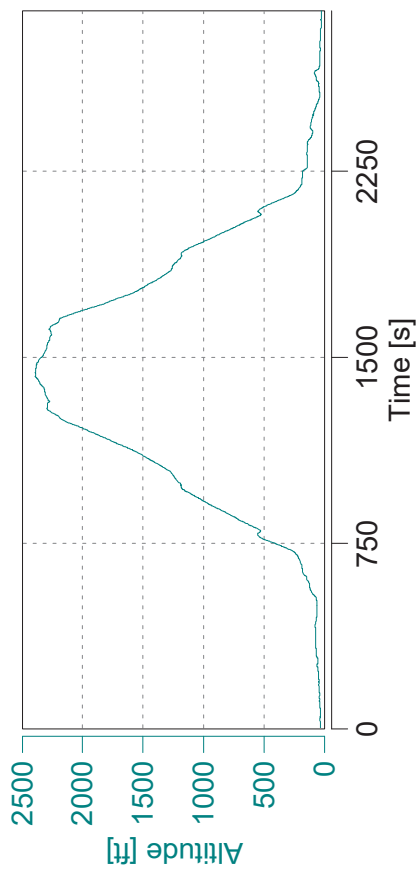
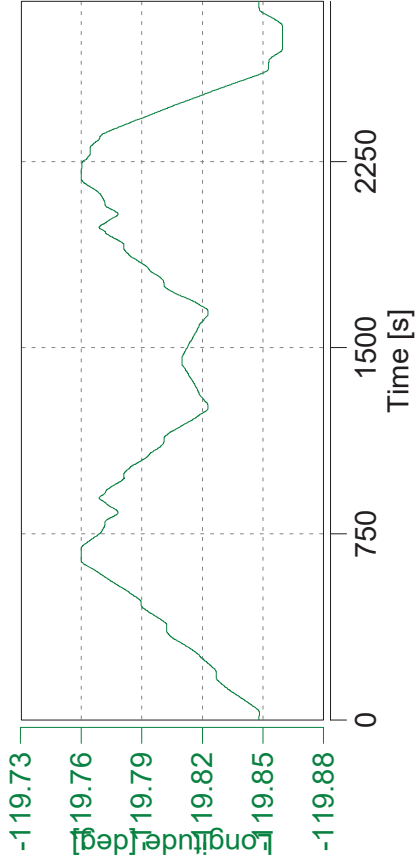
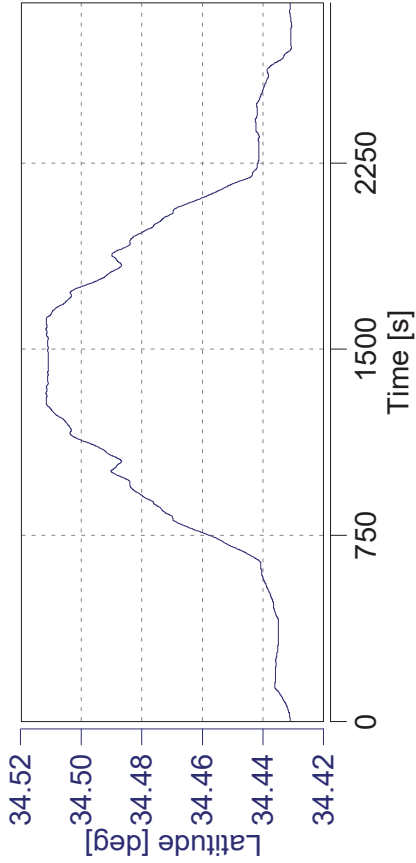
'Mountain'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L

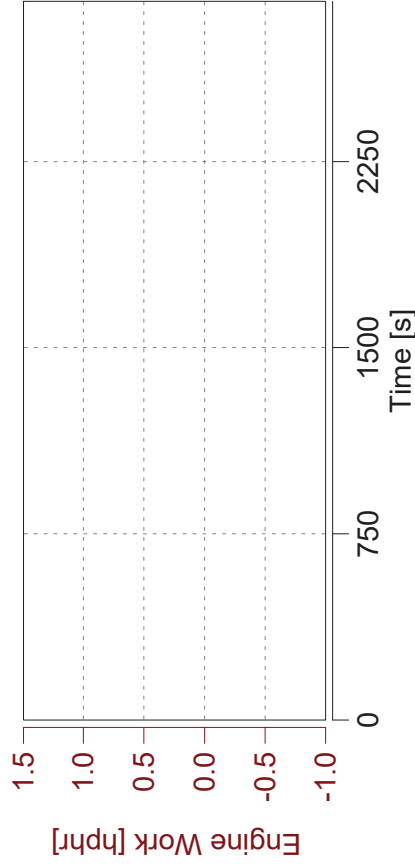
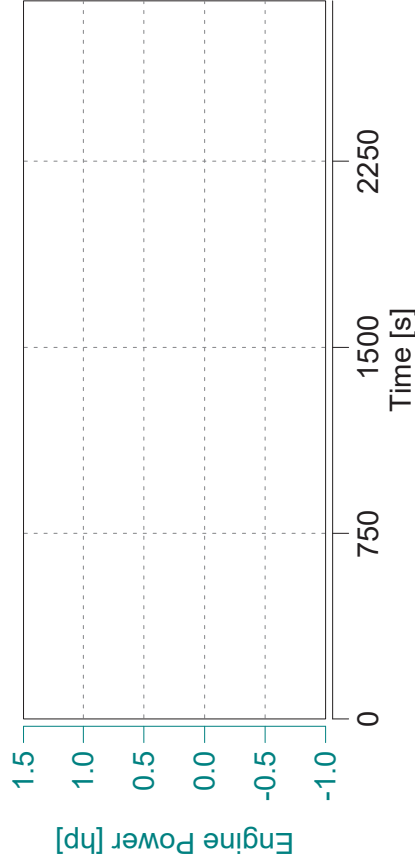
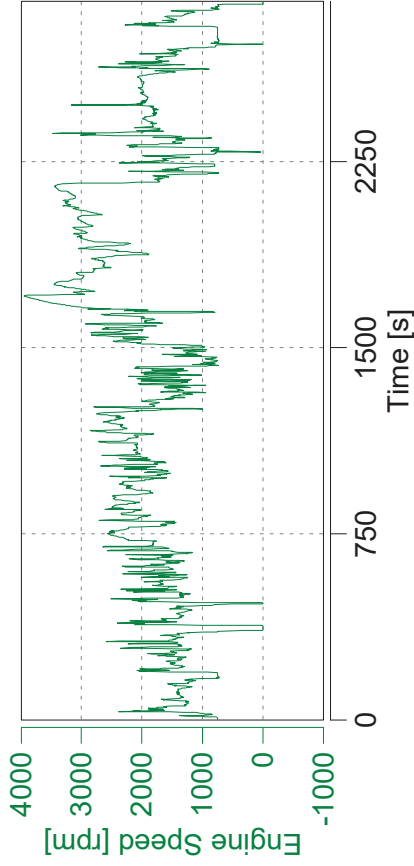
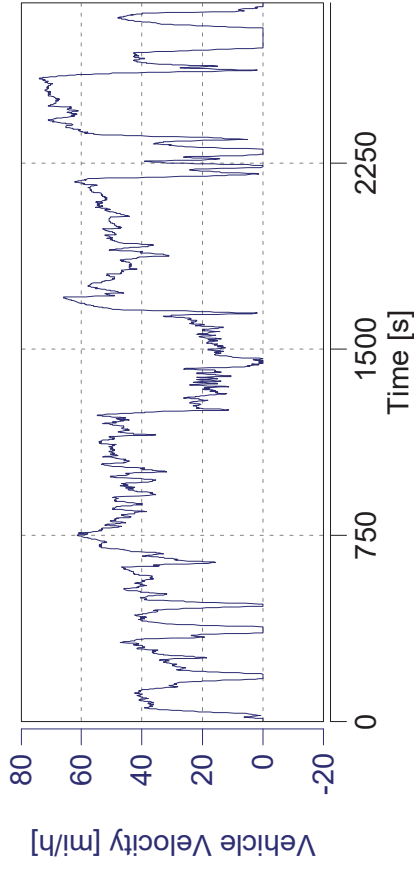
Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain
Page: Engine (1)

'Mountain'
Start Date: 07/22/2018
Start Time: 14:05:43.0



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (2)

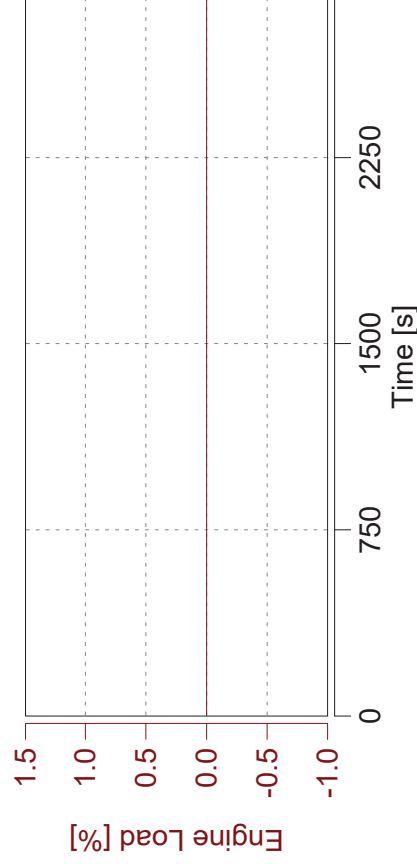
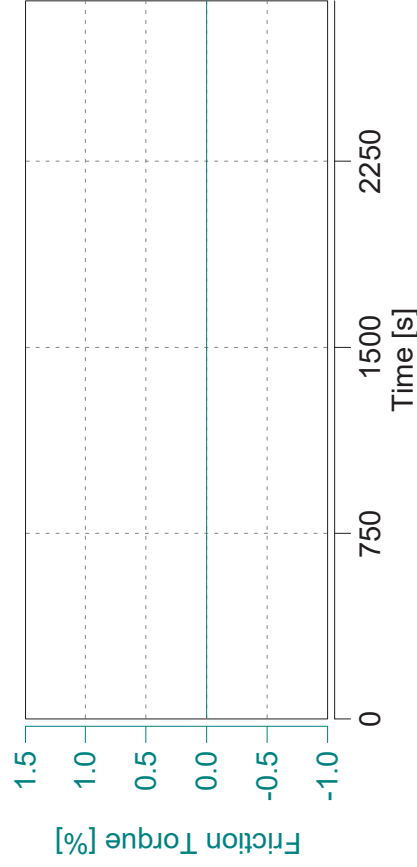
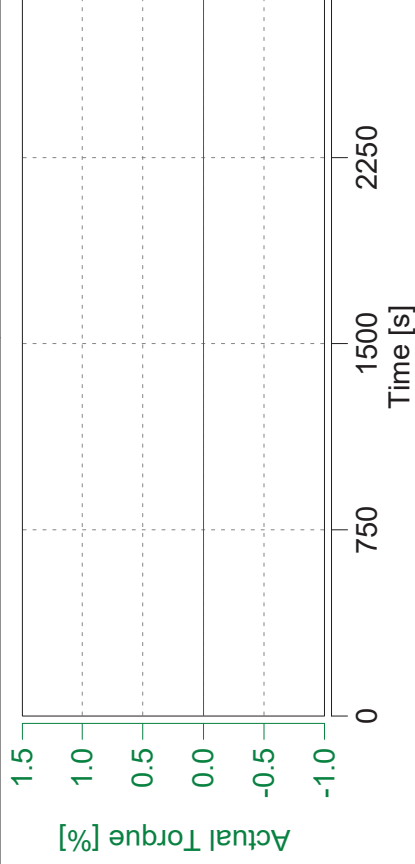
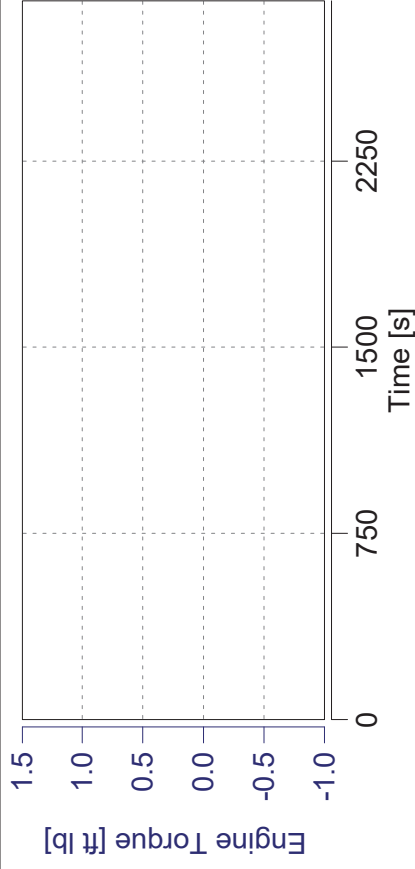
'Mountain'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (3)

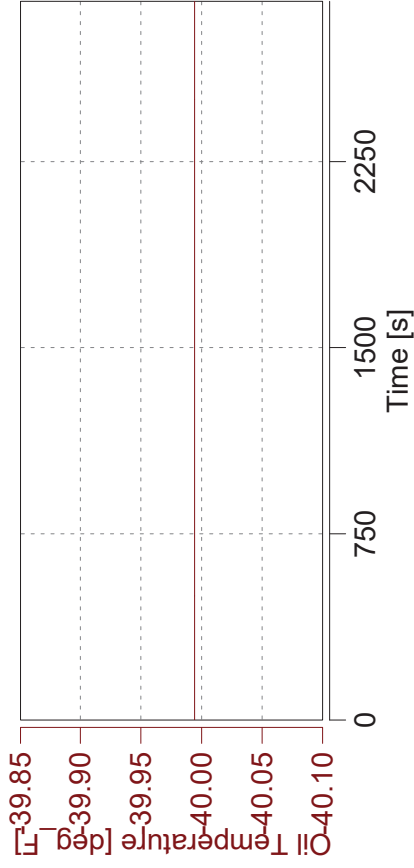
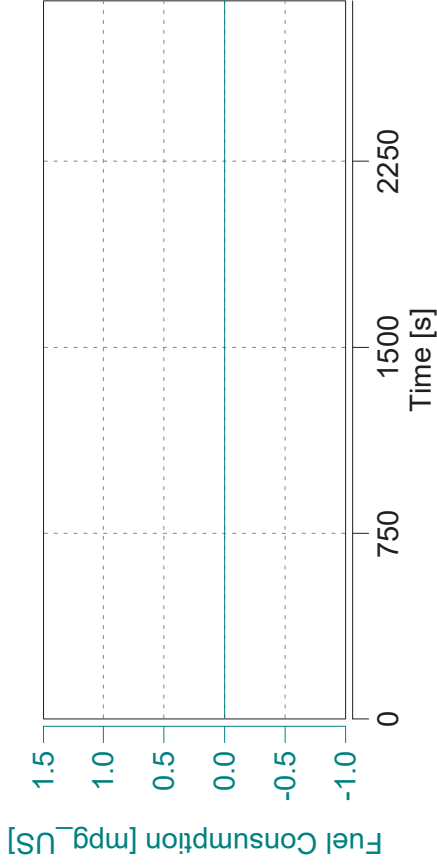
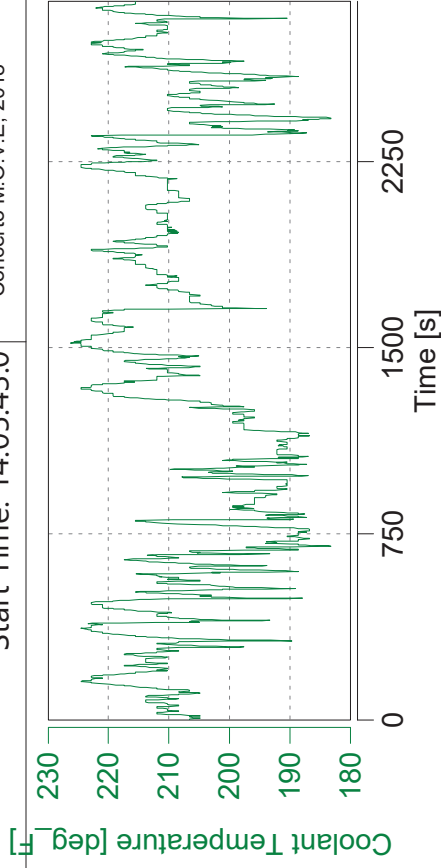
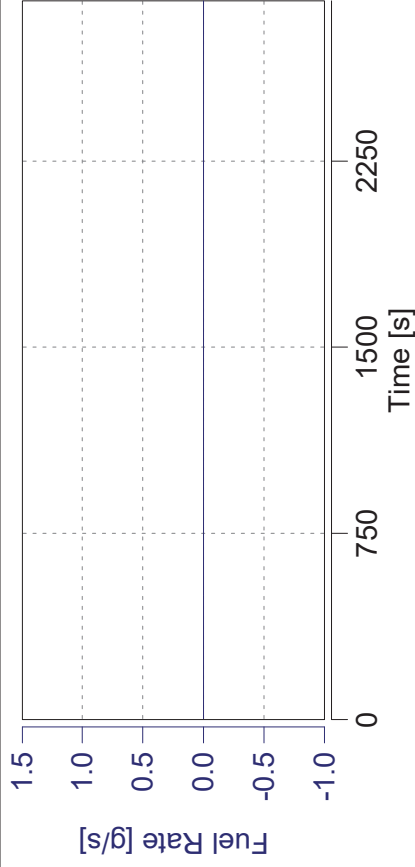
'Mountain'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Exhaust Flow (1)

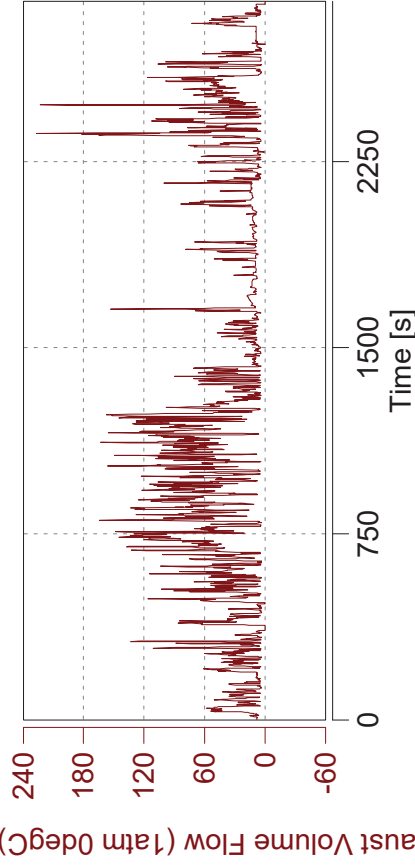
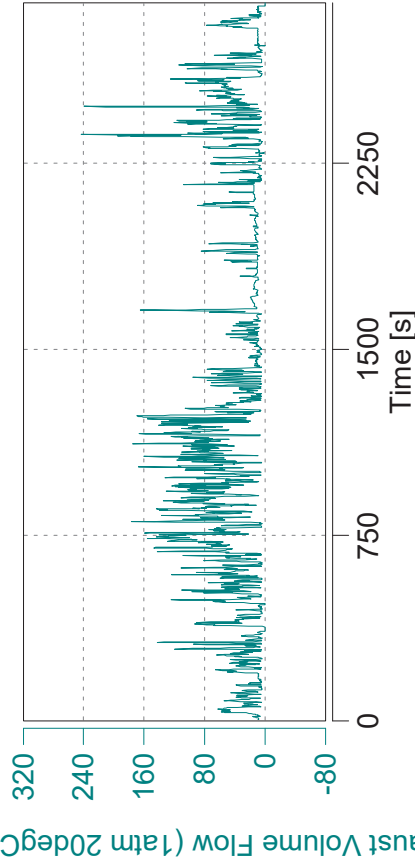
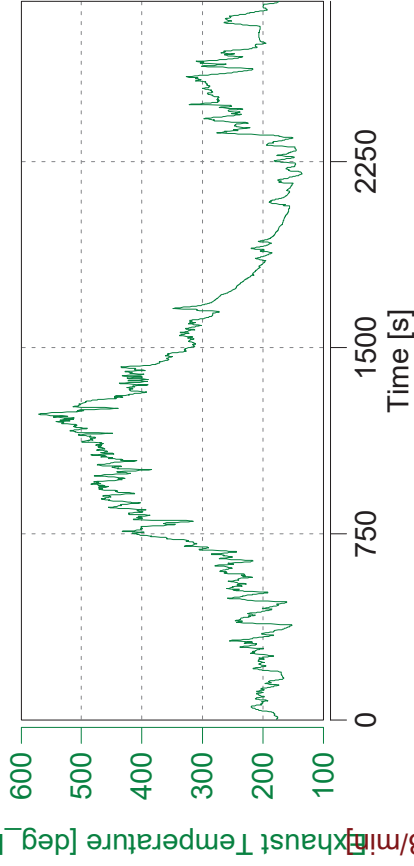
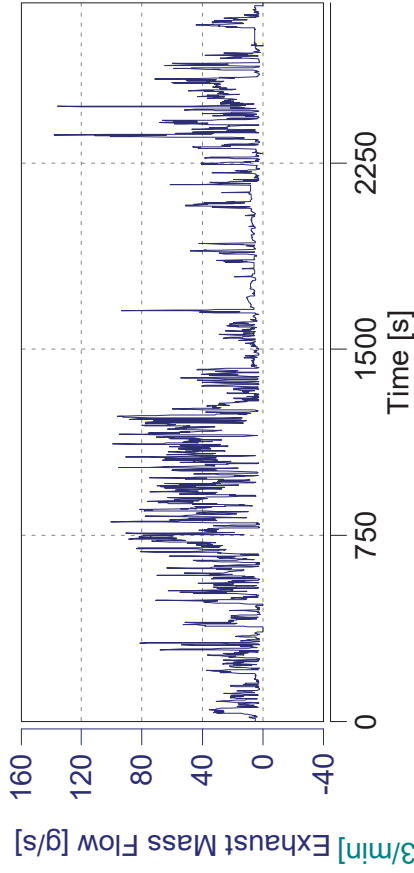
'Mountain'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Exhaust Flow (2)

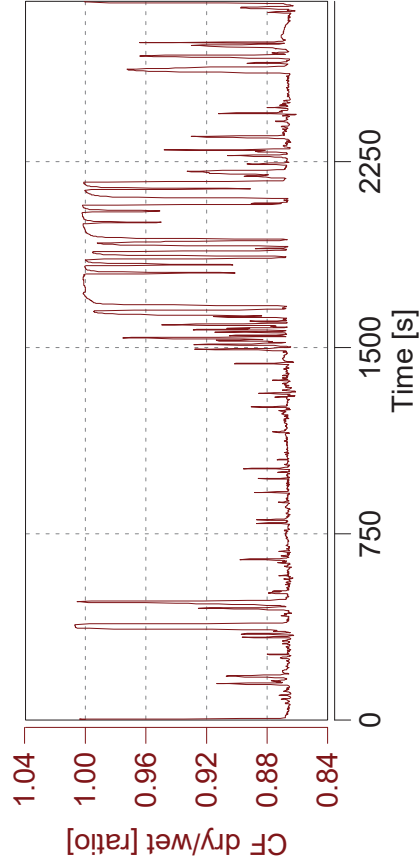
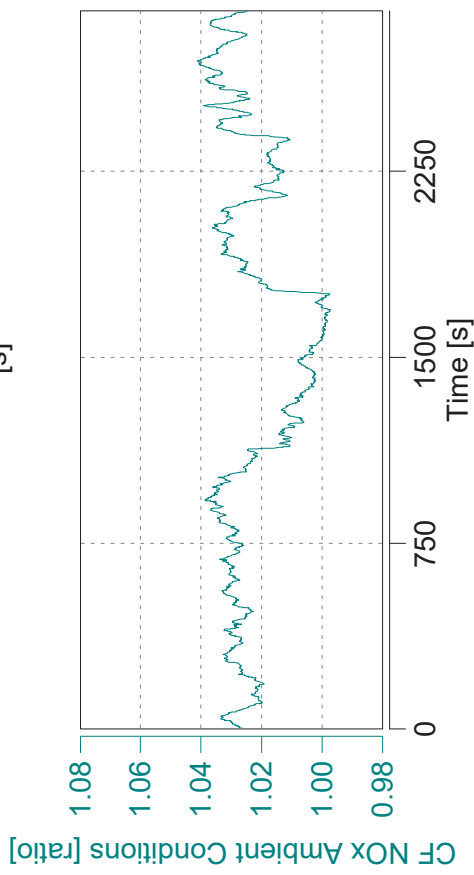
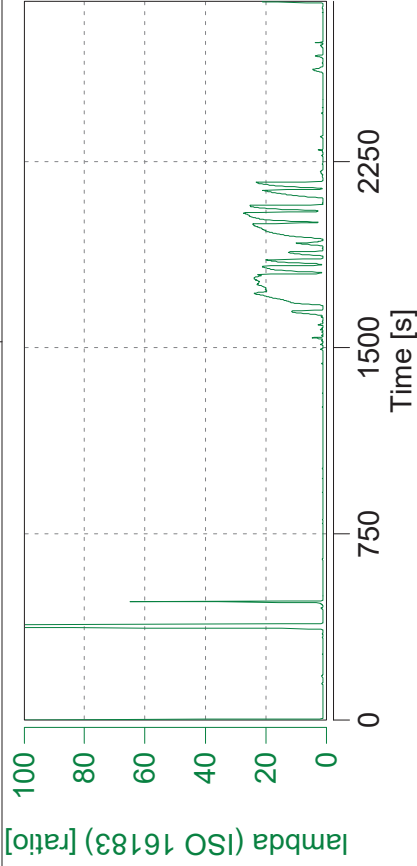
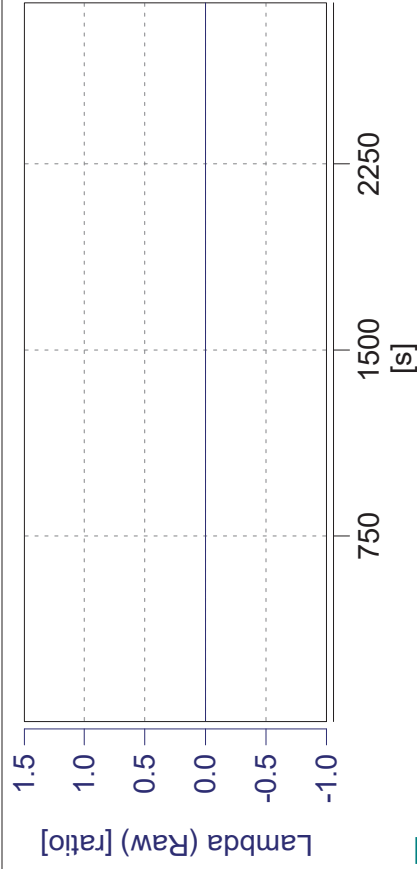
'Mountain'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (1)

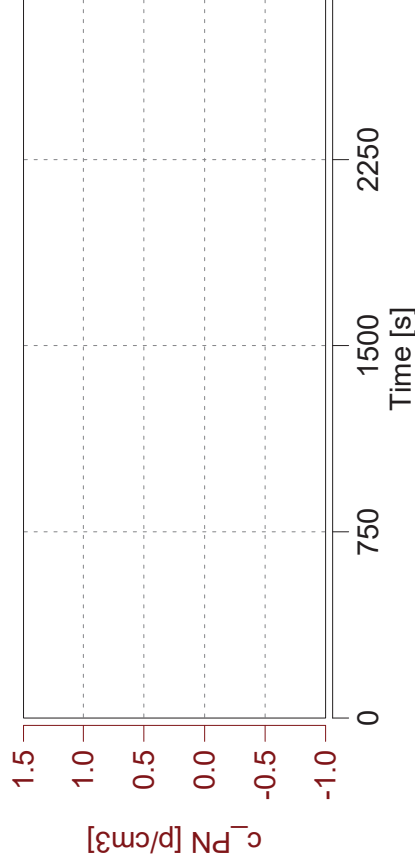
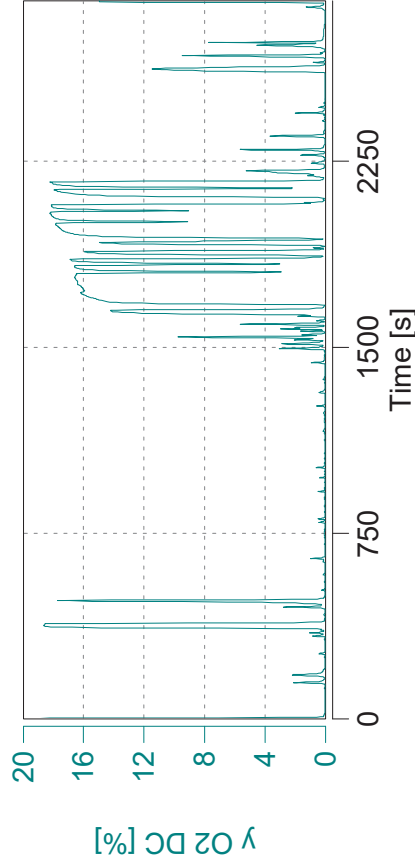
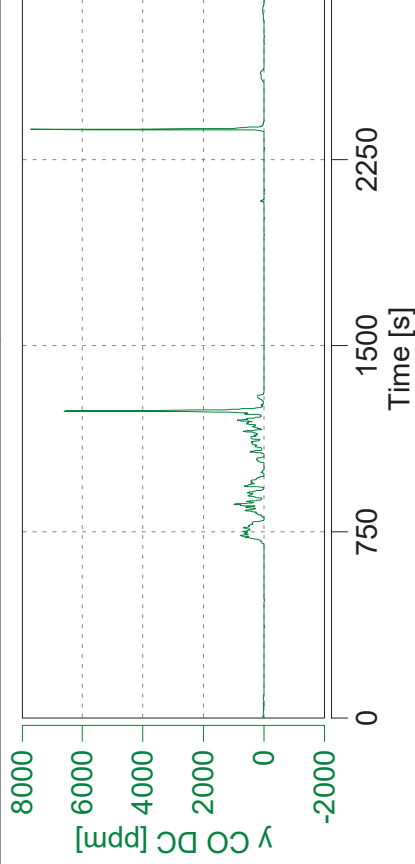
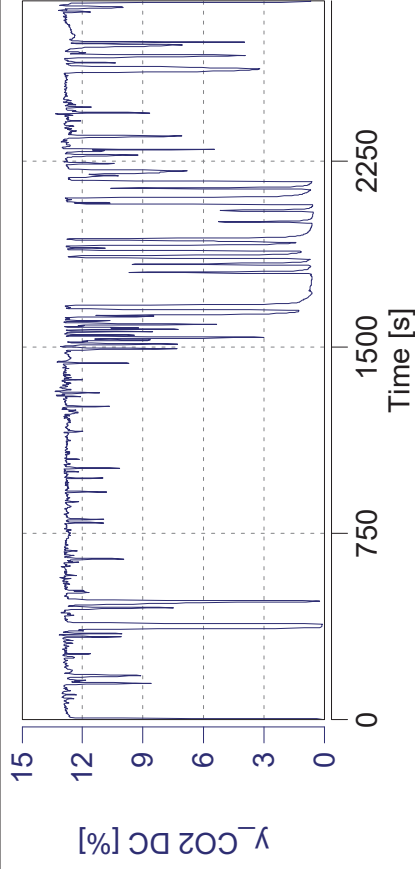
'Mountain'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (2)

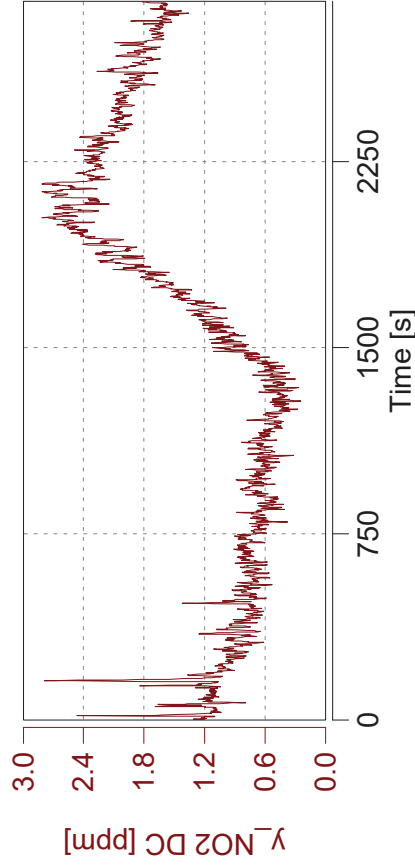
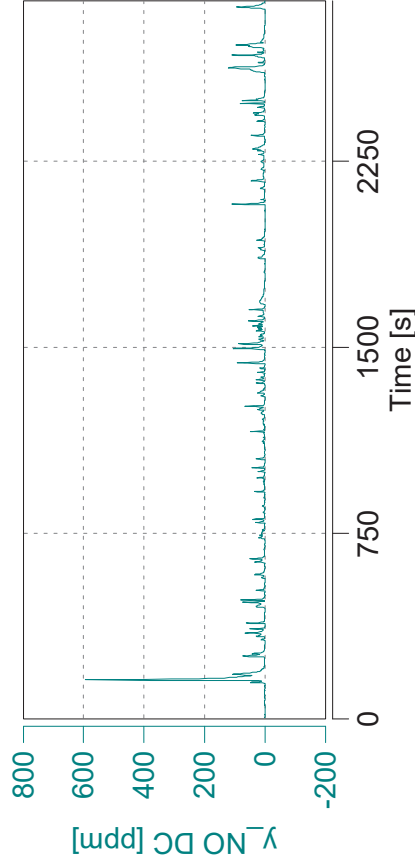
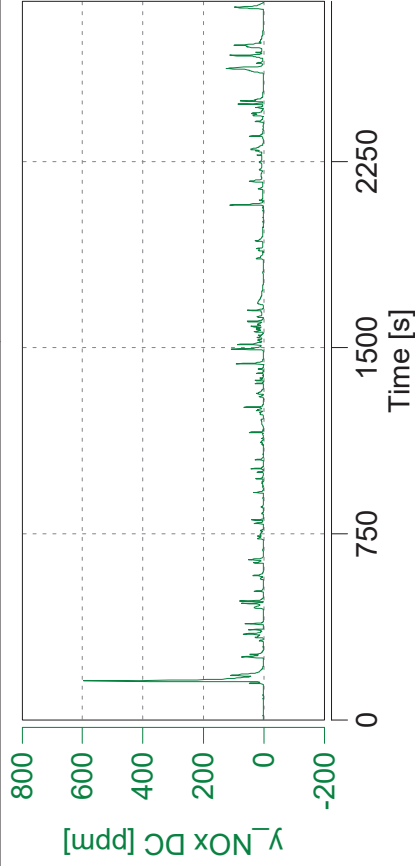
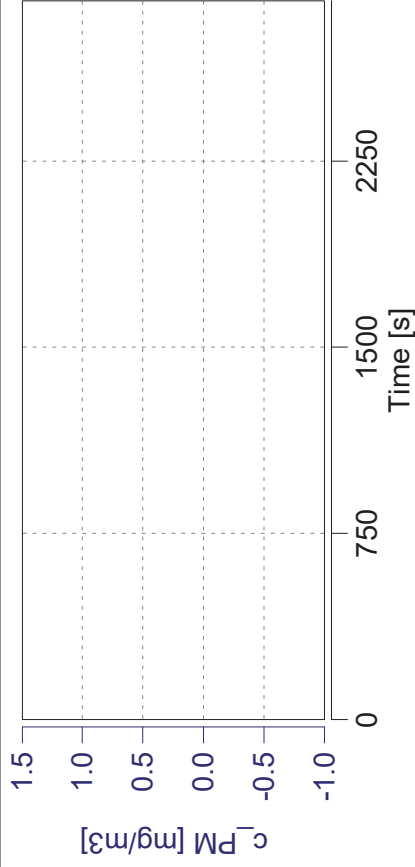
'Mountain'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (3)

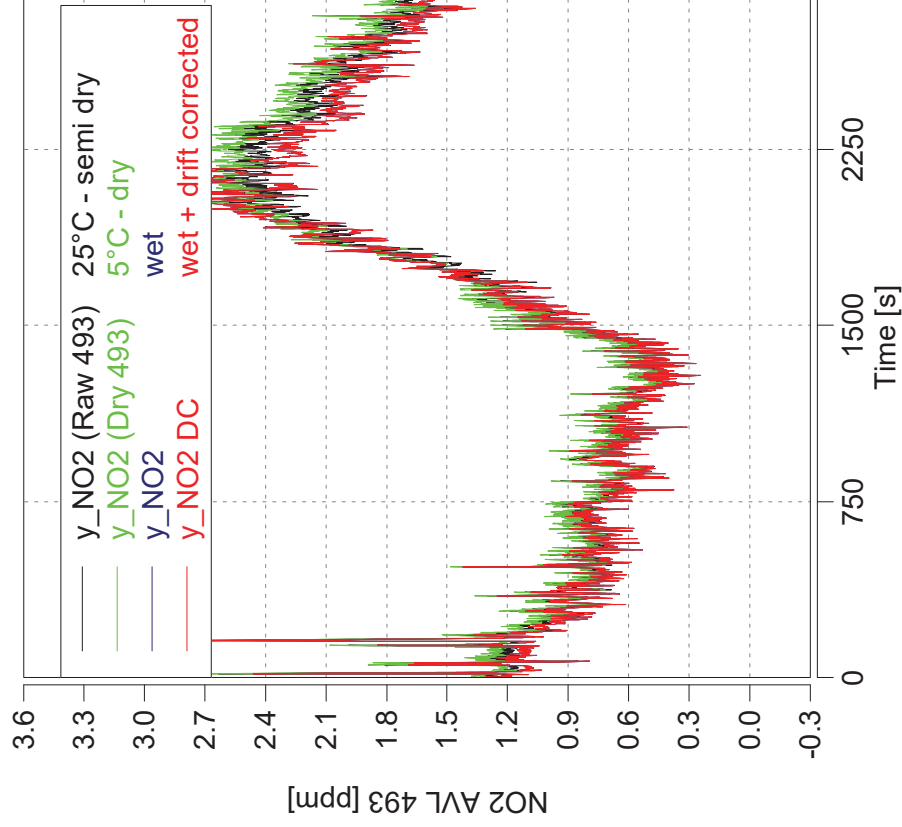
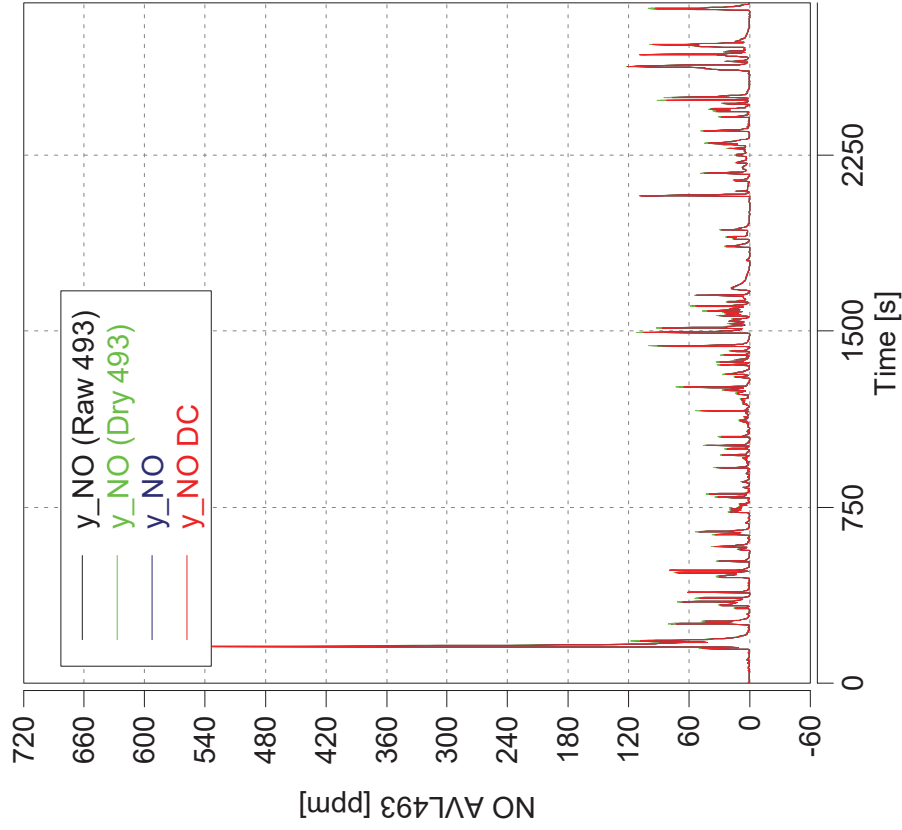
'Mountain'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (4) NOx Corrections

'Mountain'

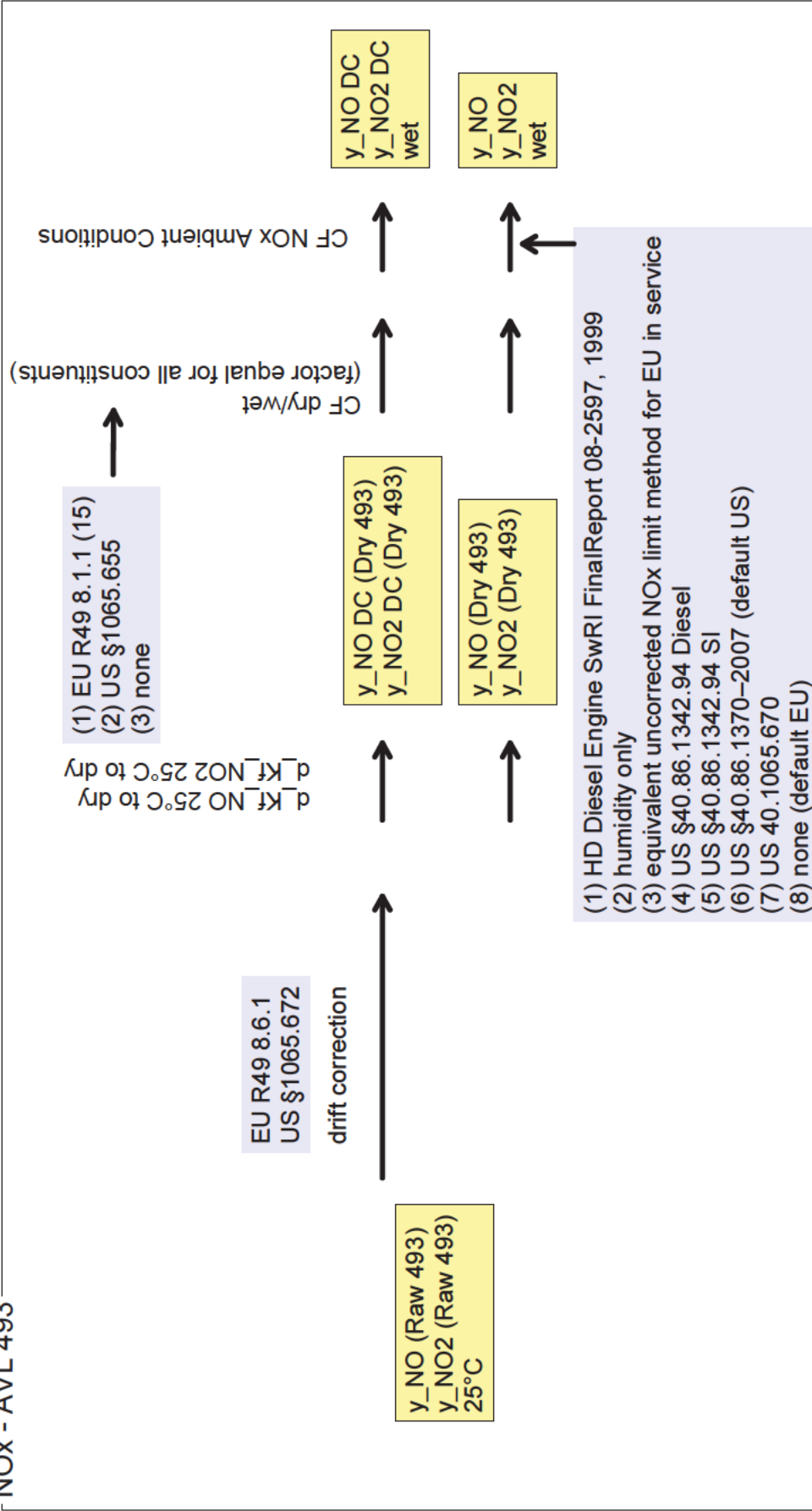
Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018

NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: / Vehicle: Atlas / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (5)

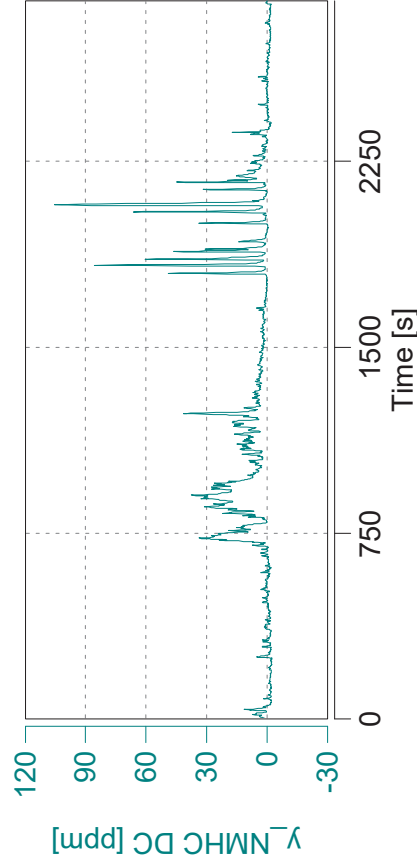
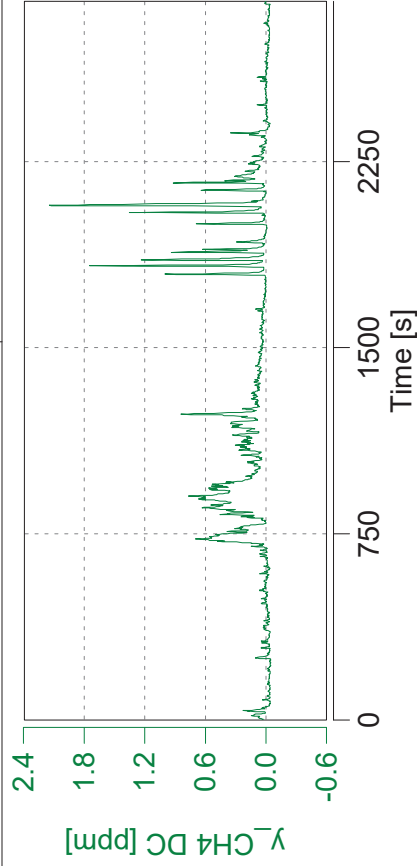
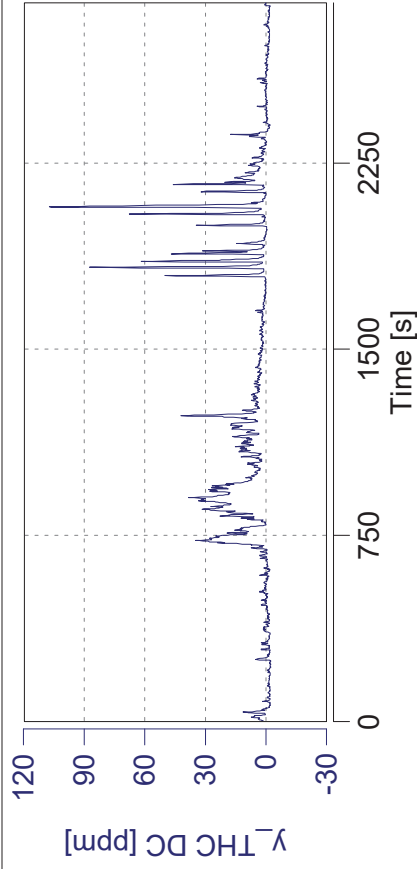
'Mountain'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: NO/NO2/NOx Zero - Span

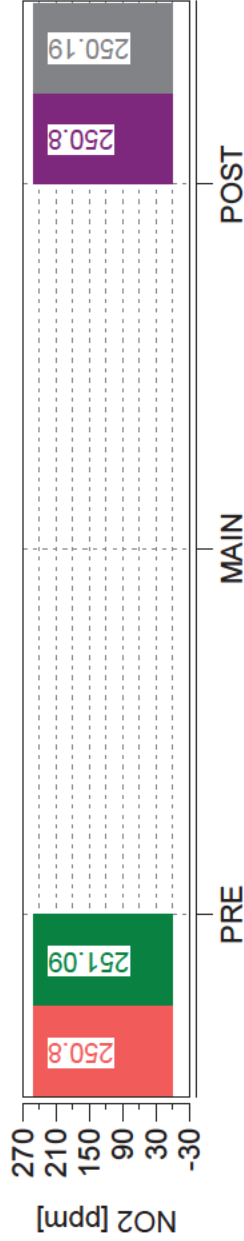
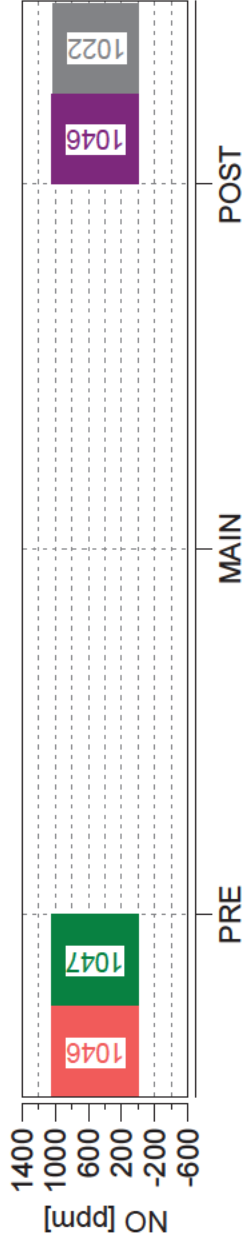
'Mountain'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: Mountain

Page: CO/CO2 Zero - Span

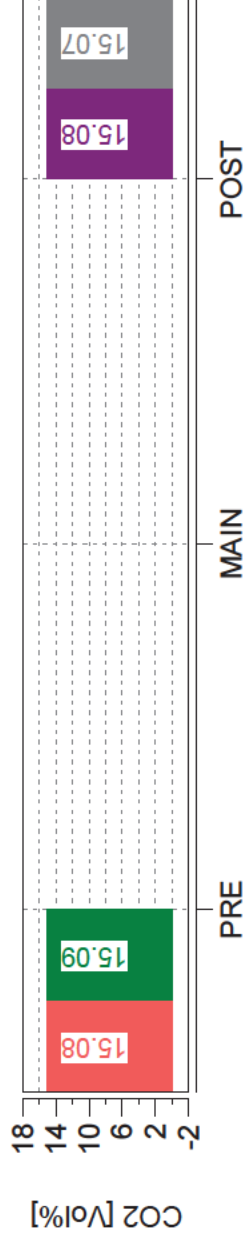
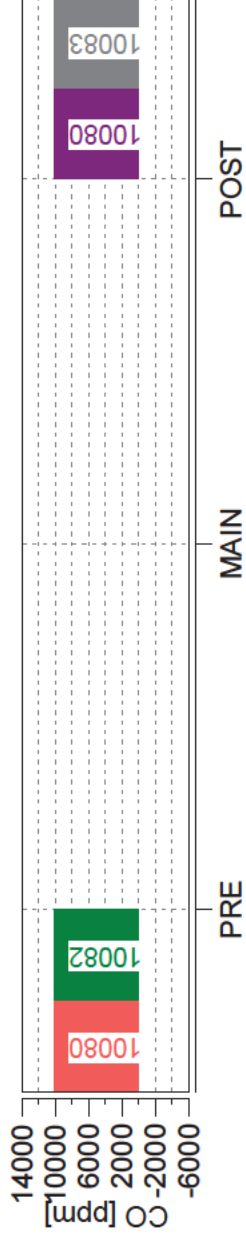
'Mountain'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: THC/CH4 Zero - Span

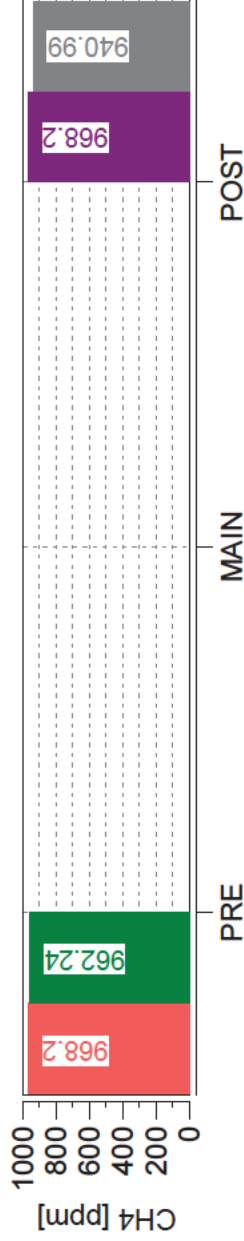
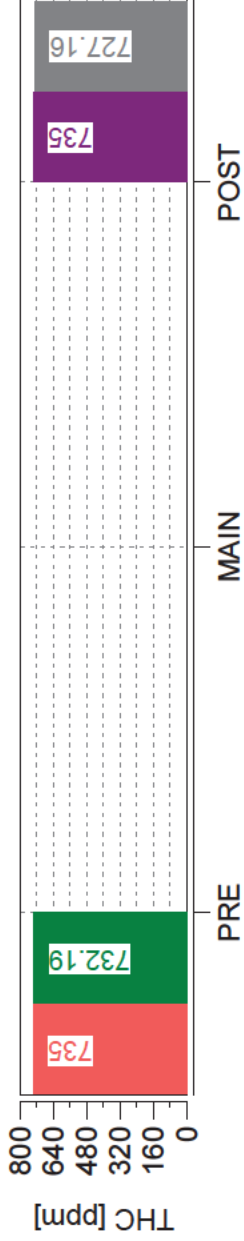
'Mountain'

Start Date: 07/22/2018

Start Time: 14:05:43.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine /

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Trip Summary

'City'

Start Date: 07/22/2018

Start Time: 21:12:50.0



Concerto M.O.V.E., 2018

Trip Duration	2973.00	s	ave THC	2.43036	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	2973.00	s	ave NMHC	2.38176	ppm	BS CO	n/a	g/hphr
Trip Distance	16.54	mi	ave CH4	0.04861	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	16.54	mi	ave CO	5.56667	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	10.74253	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOX	9.01567	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	1.85	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	1.83	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	0.65	gall	tot THC	0.04896	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	0.65	gall	tot NMHC	0.04528	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00109	g	DS CO2	336.04814	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	0.32526	g	DS CO	0.01967	g/mi
Trip Fuel Economy EU (ac)	25.34	mpg_US	tot CO2	5556.56521	g	DS THC	0.00296	g/mi
Trip Fuel Economy US (ac)	25.63	mpg_US	tot NO (d)	0.51065	g	DS NMHC	0.00274	g/mi
Trip Av. Eng. Speed	1214.24	rpm	tot NO2	0.00449	g	DS CH4	0.00007	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.51515	g	DS NO (d)	0.03088	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	0.00027	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.03115	g/mi
Trip Exhaust Mass	31.85	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	74.26	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	65.71	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	20.02223	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	20.55163	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
 (d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Trip Summary Drift Corrected

'City'

Start Date: 07/22/2018

Start Time: 21:12:50.0



Concerto M.O.V.E., 2018

Trip Duration	2973.00	s	ave THC DC	2.35796	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	2973.00	s	ave NMHC DC	2.31080	ppm	BS CO DC	n/a	g/hphr
Trip Distance	16.54	mi	ave CH4 DC	0.04716	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	16.54	mi	ave CO DC	5.57311	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	10.73897	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	9.12183	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	1.85	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	1.83	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	0.65	gall	tot THC DC	0.04788	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	0.65	gall	tot NMHC DC	0.04429	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.00106	g	DS CO2 DC	335.93675	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	0.32563	g	DS CO DC	0.01969	g/mi
Trip Fuel Economy EU (ac)	25.34	mpg_US	tot CO2 DC	5554.72345	g	DS THC DC	0.00290	g/mi
Trip Fuel Economy US (ac)	25.63	mpg_US	tot NO DC (d)	0.51668	g	DS NMHC DC	0.00268	g/mi
Trip Av. Eng. Speed	1214.24	rpm	tot NO2 DC	0.00452	g	DS CH4 DC	0.00006	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.52120	g	DS NO DC (d)	0.03125	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	0.00027	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.03152	g/mi
Trip Exhaust Mass	31.85	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	74.26	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	65.71	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	20.02223	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	20.55163	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Time Alignment Check

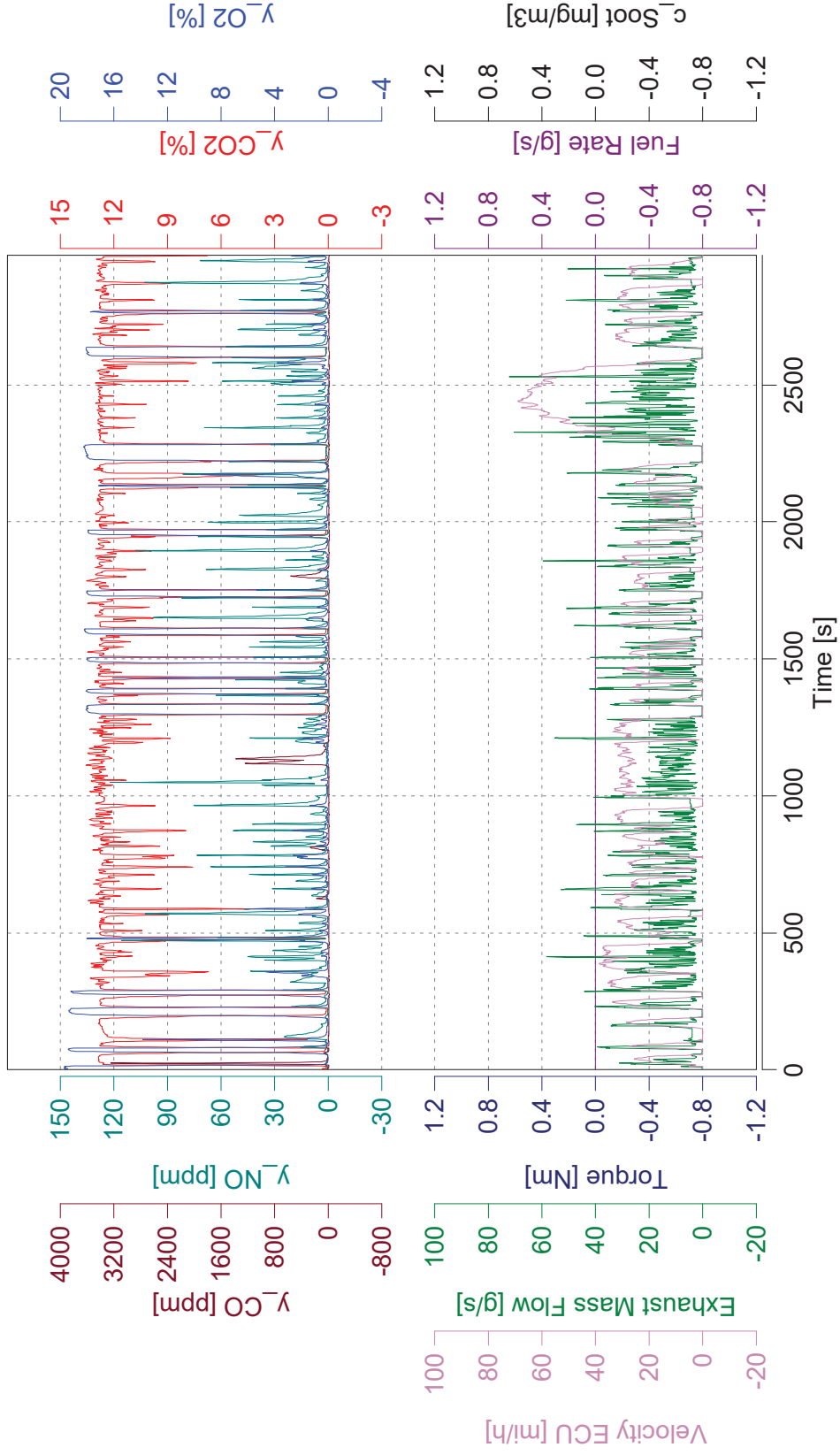
'City'

Start Date: 07/22/2018

Start Time: 21:12:50.0



Concerto M.O.V.E. 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Time Alignment of Gas Concentrations

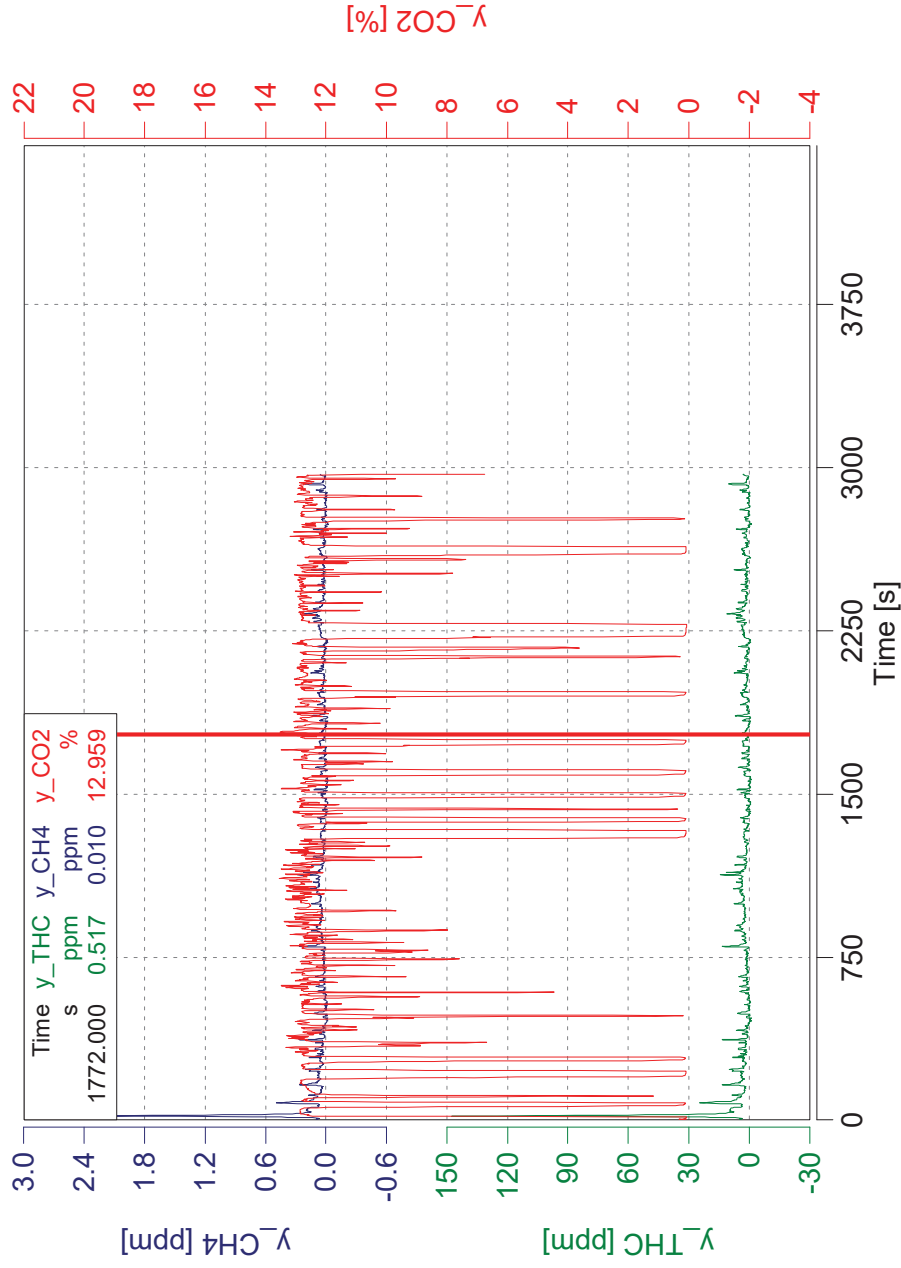
'City'

Start Date: 07/22/2018

Start Time: 21:12:50.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Ambient Conditions

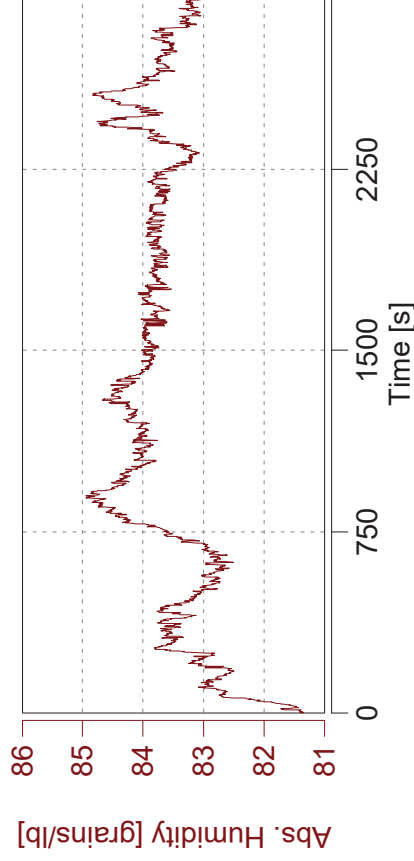
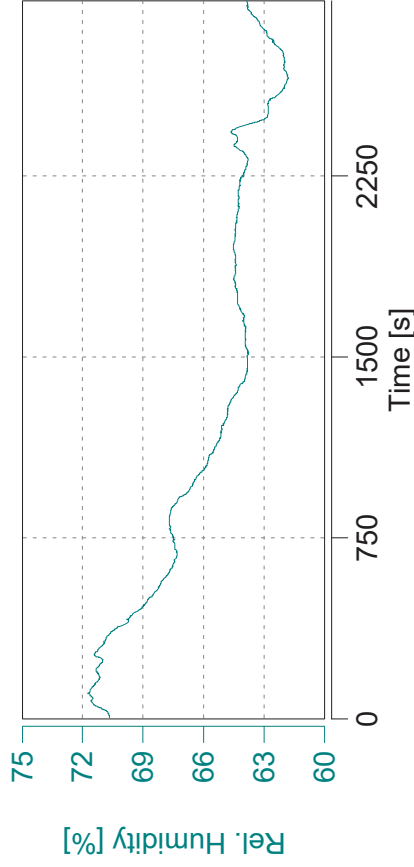
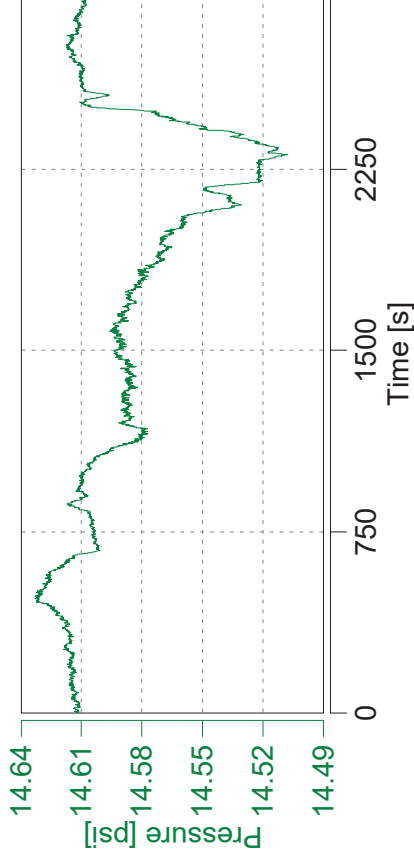
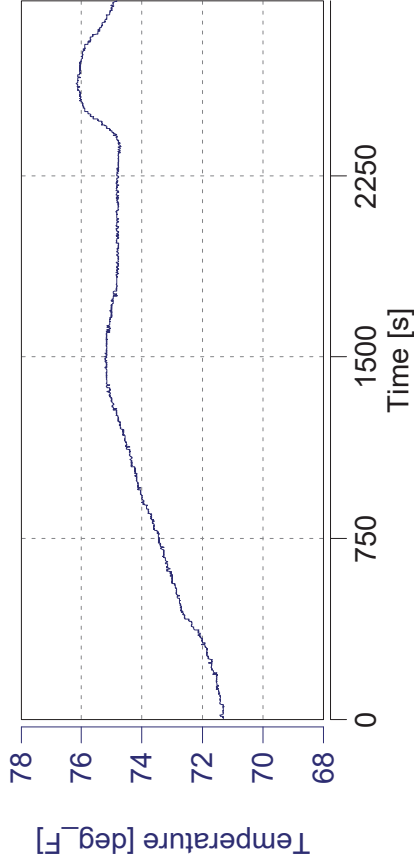
'City'

Start Date: 07/22/2018

Start Time: 21:12:50.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Engine: /

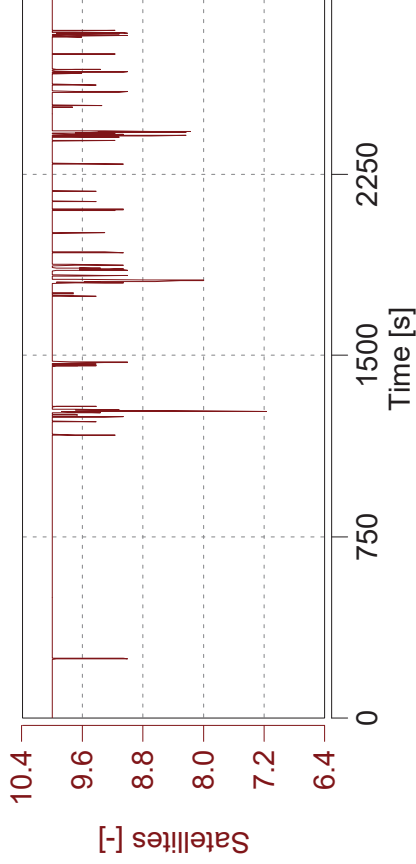
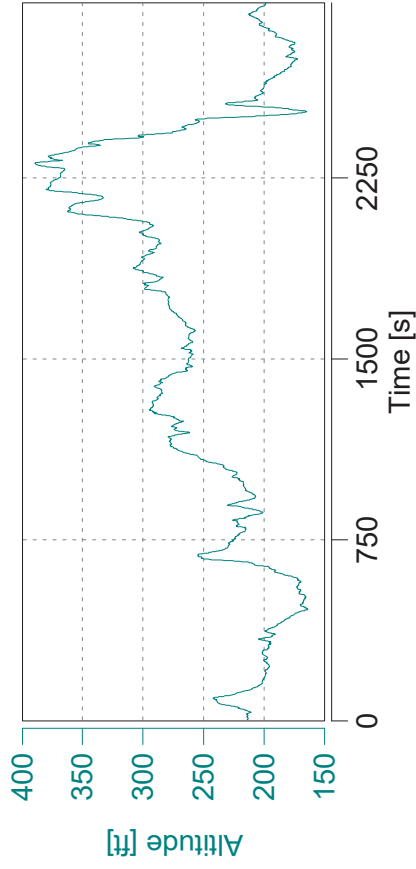
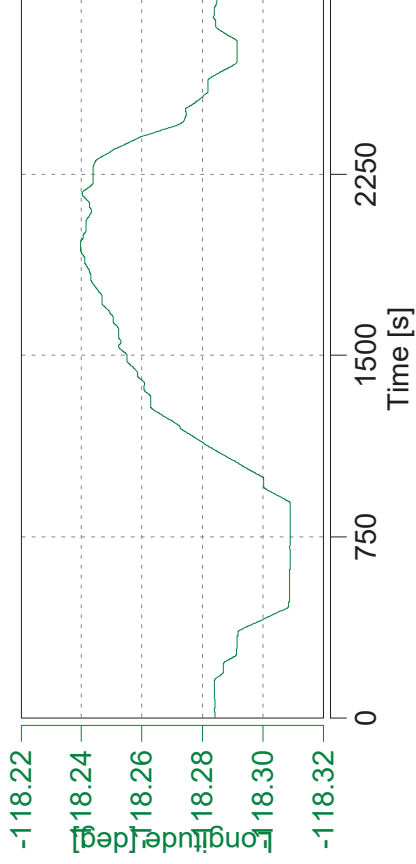
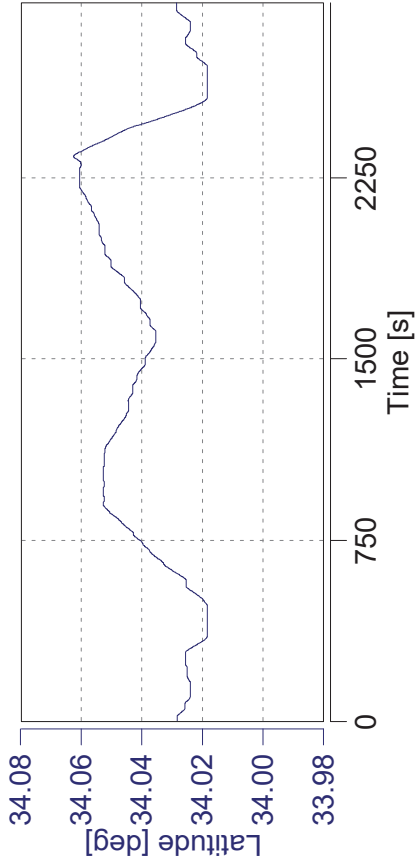
Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City
Page: GPS

'City'
Start Date: 07/22/2018
Start Time: 21:12:50.0



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (1)

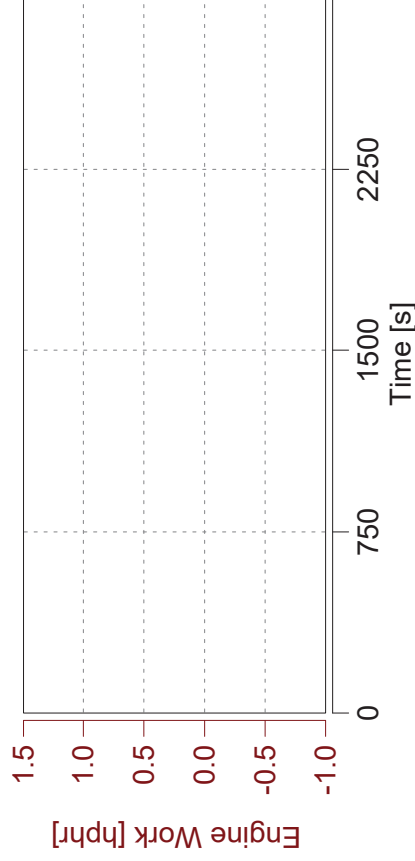
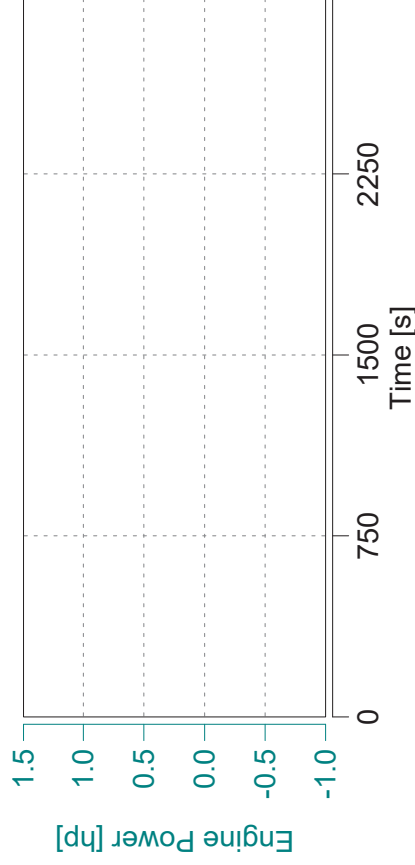
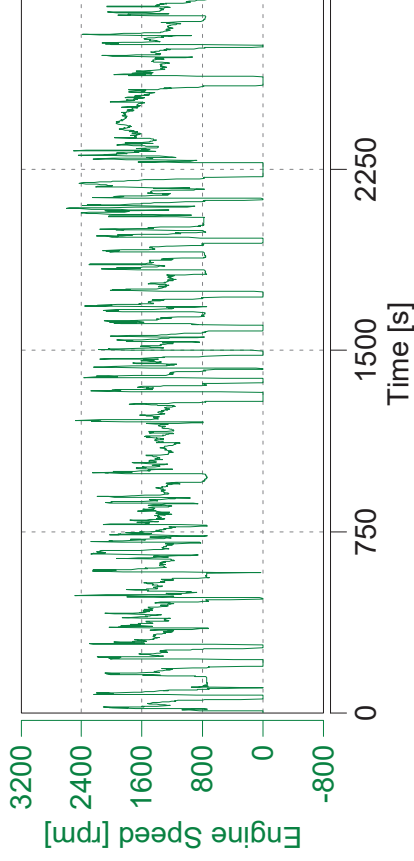
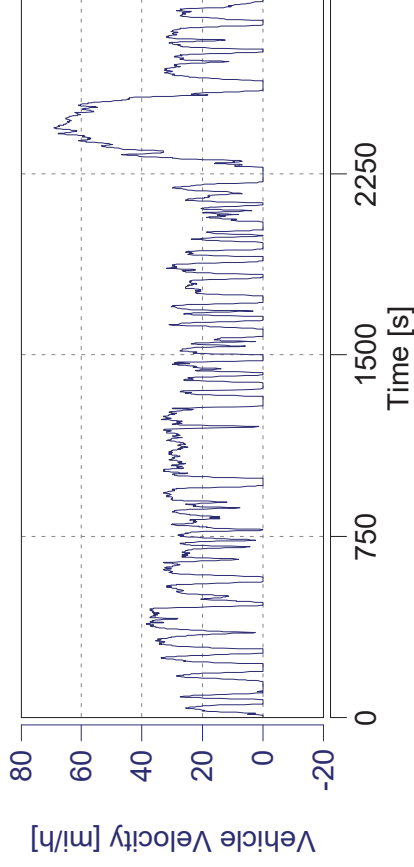
'City'

Start Date: 07/22/2018

Start Time: 21:12:50.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (2)

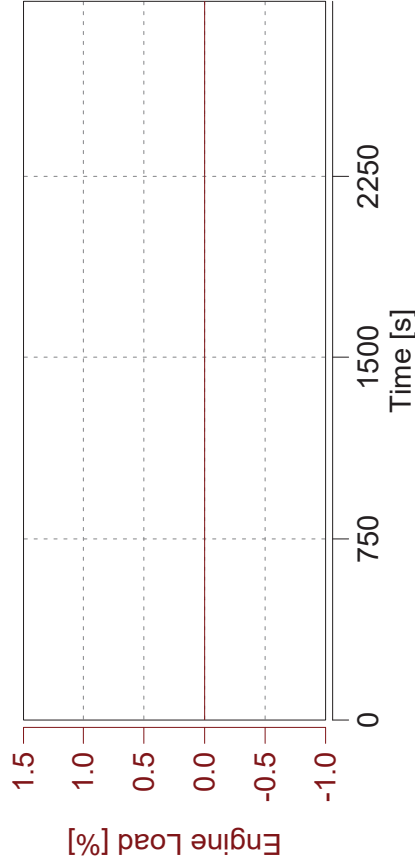
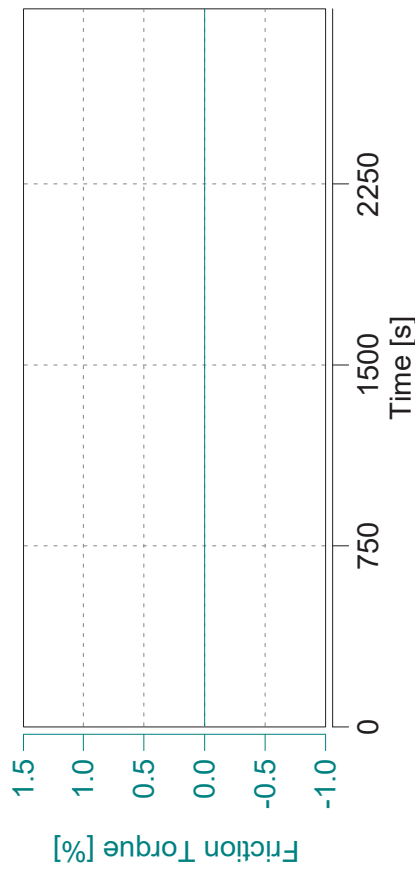
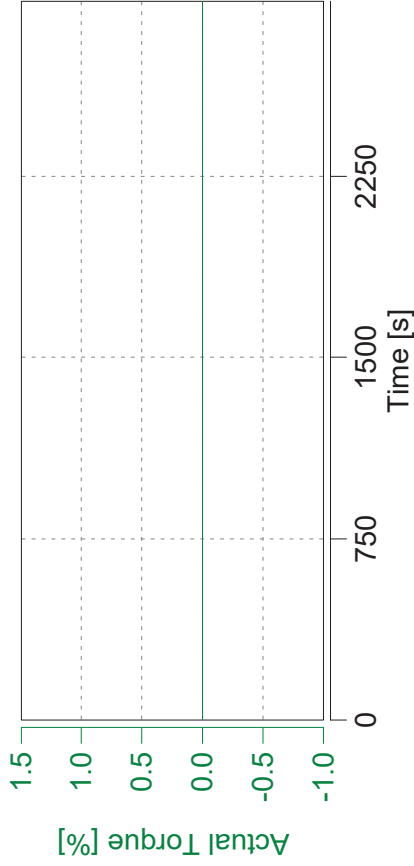
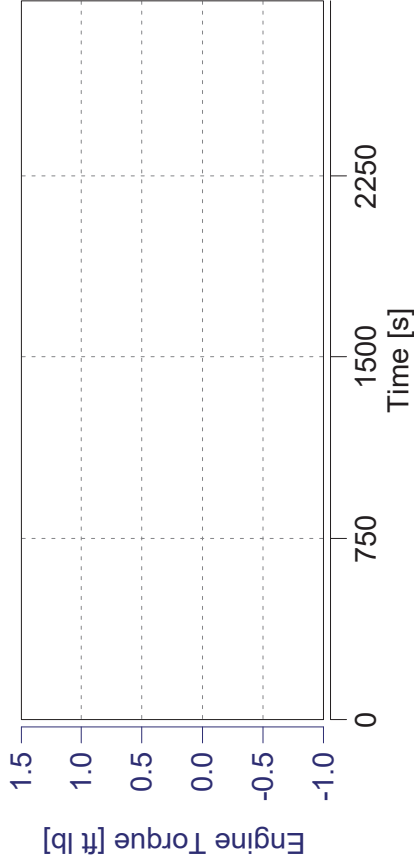
'City'

Start Date: 07/22/2018

Start Time: 21:12:50.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (3)

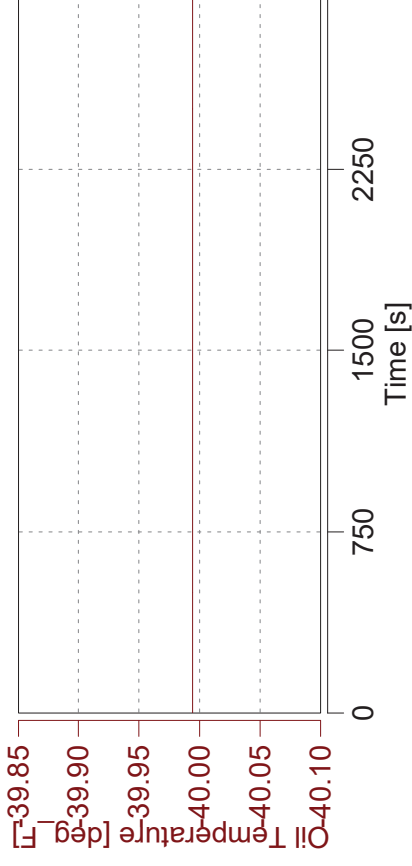
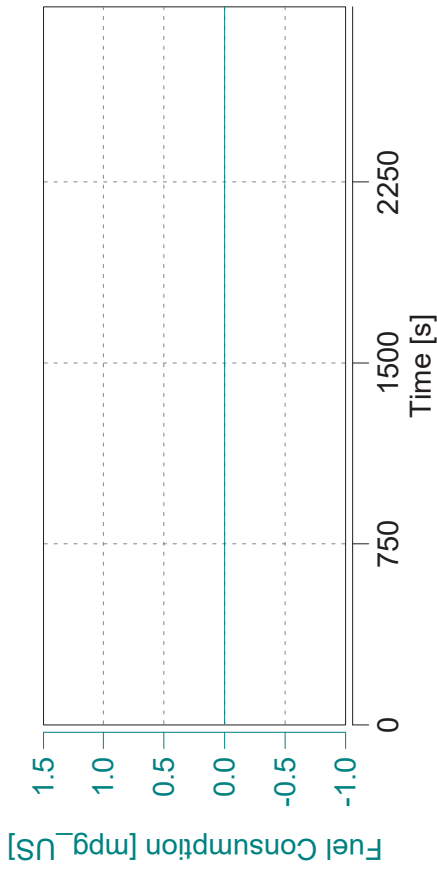
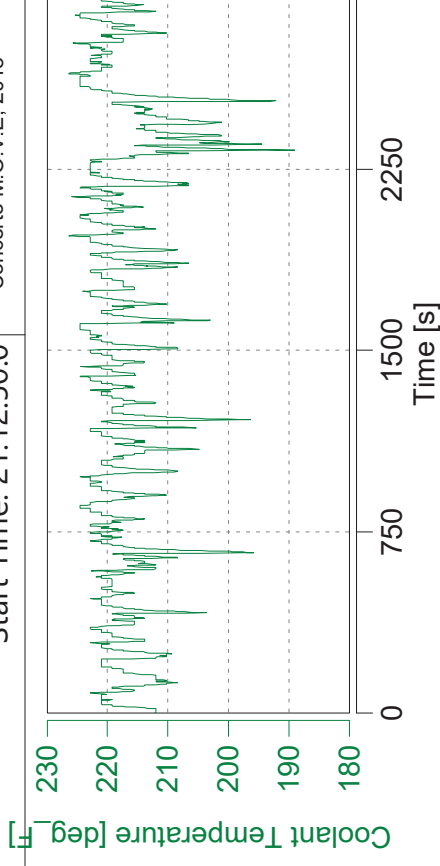
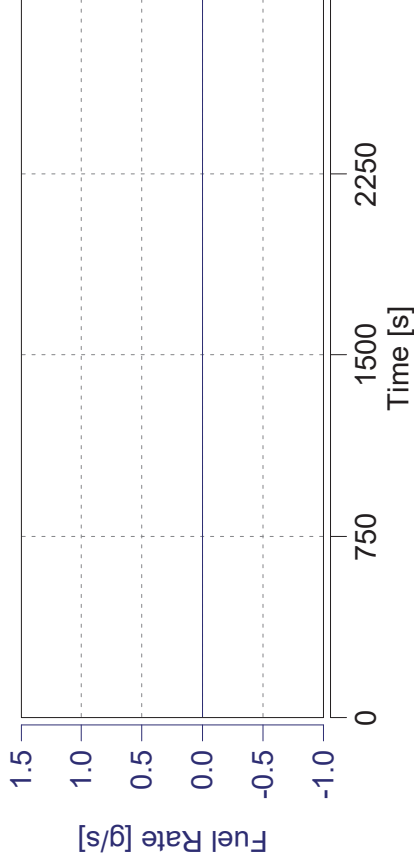
'City'

Start Date: 07/22/2018

Start Time: 21:12:50.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Exhaust Flow (1)

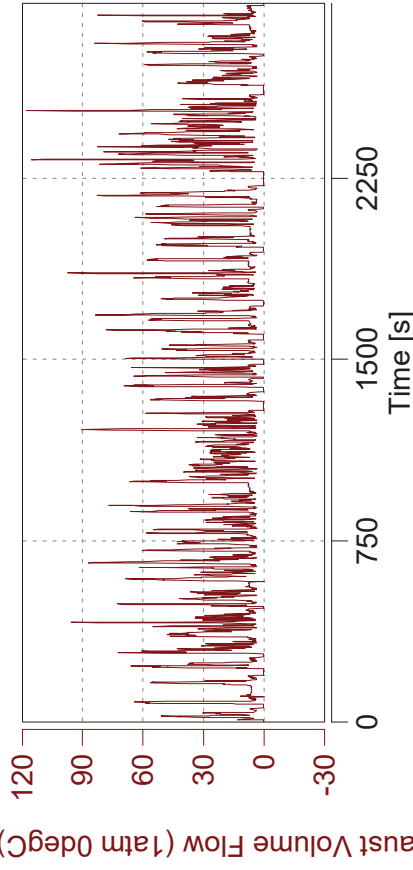
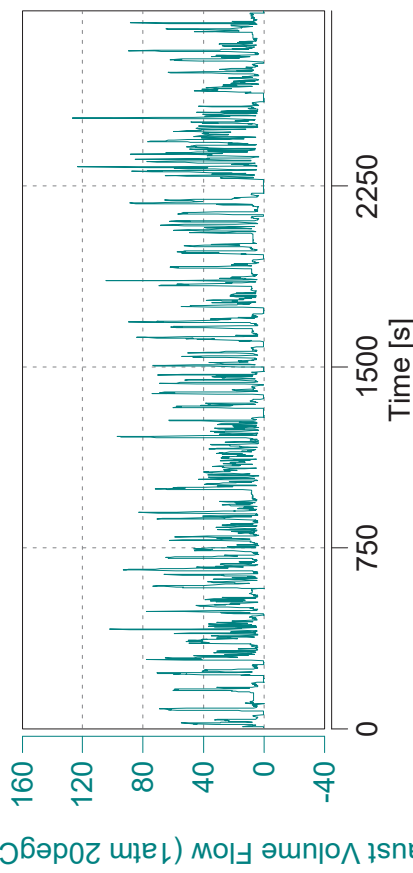
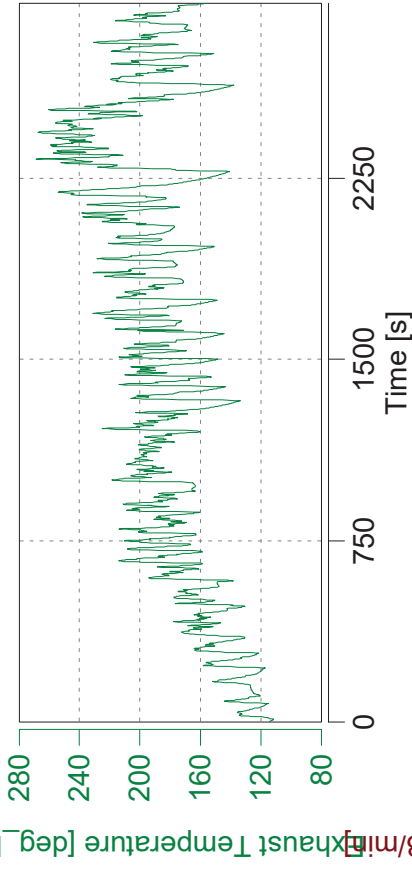
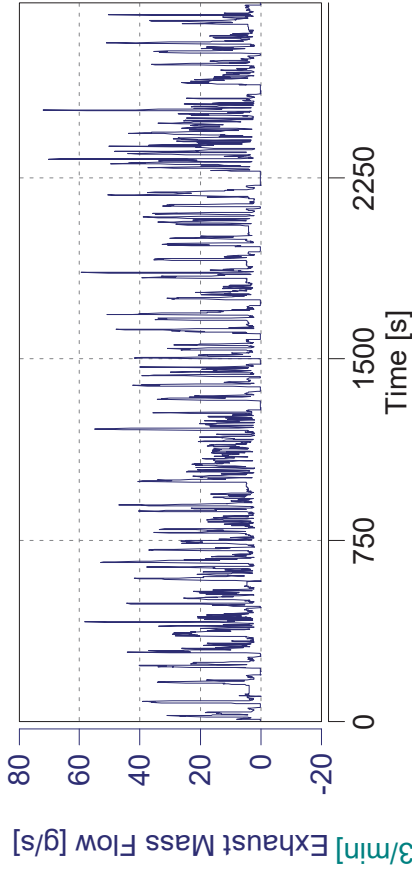
'City'

Start Date: 07/22/2018

Start Time: 21:12:50.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Exhaust Flow (2)

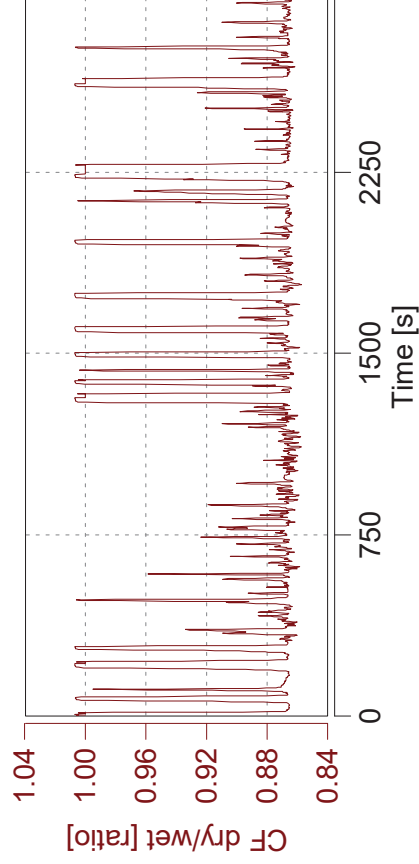
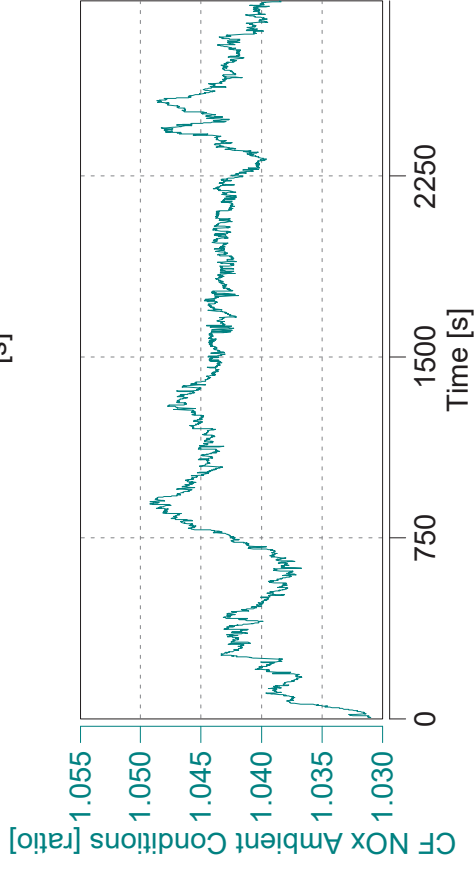
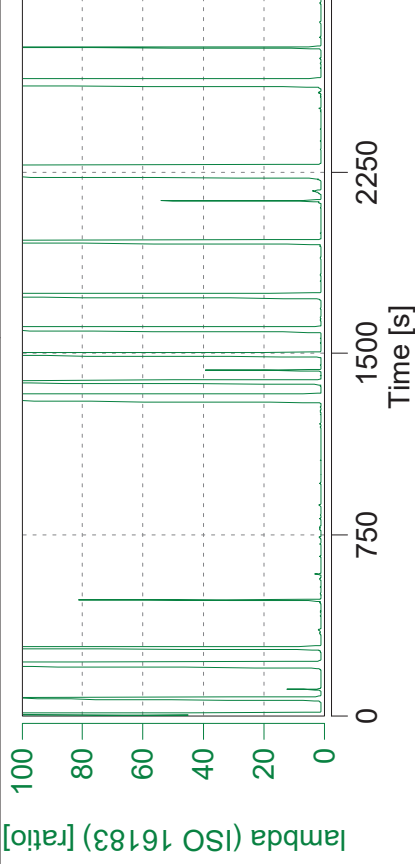
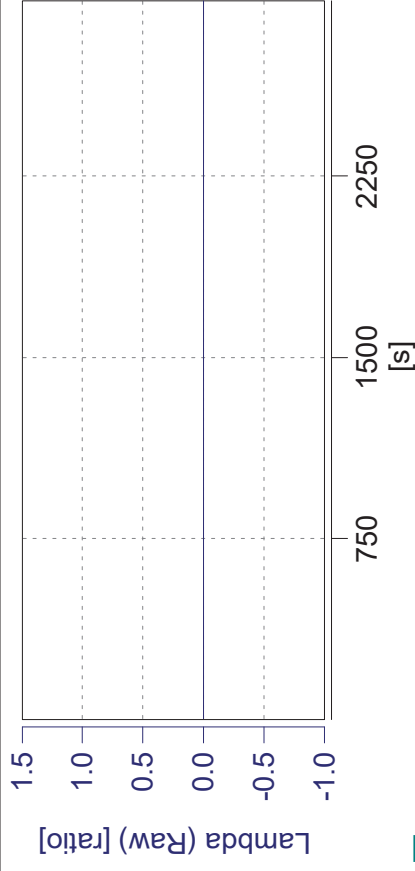
'City'

Start Date: 07/22/2018

Start Time: 21:12:50.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (1)

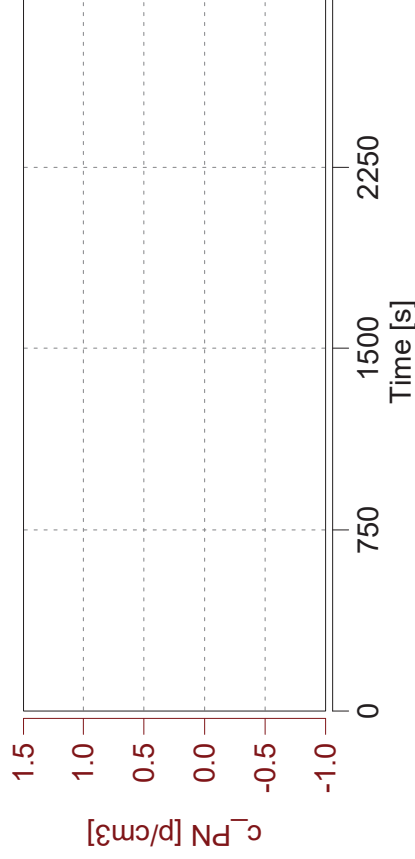
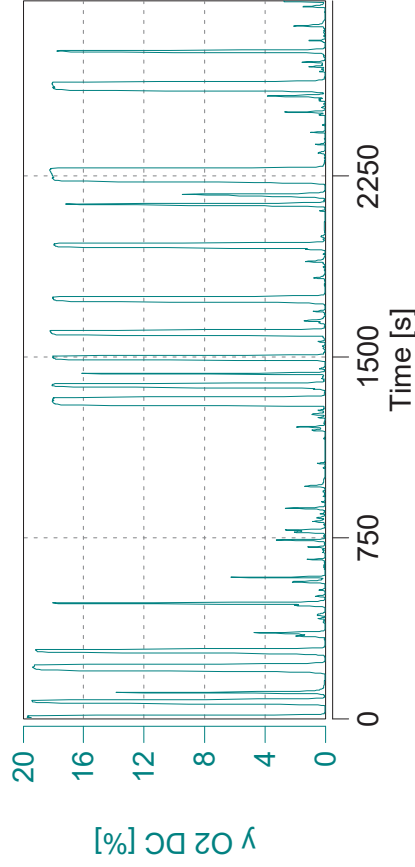
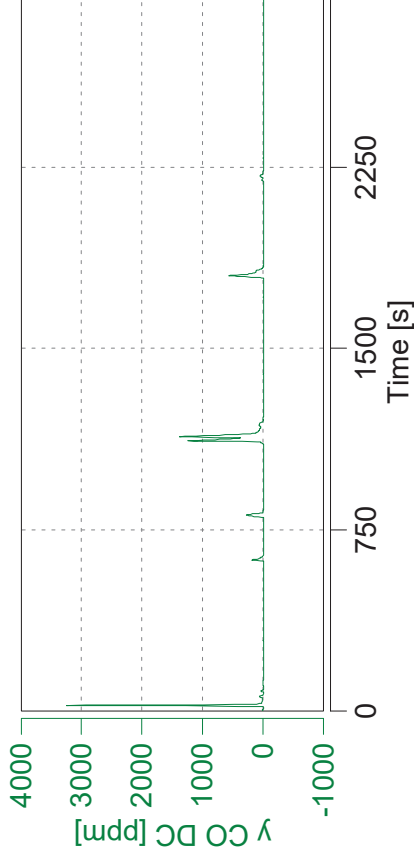
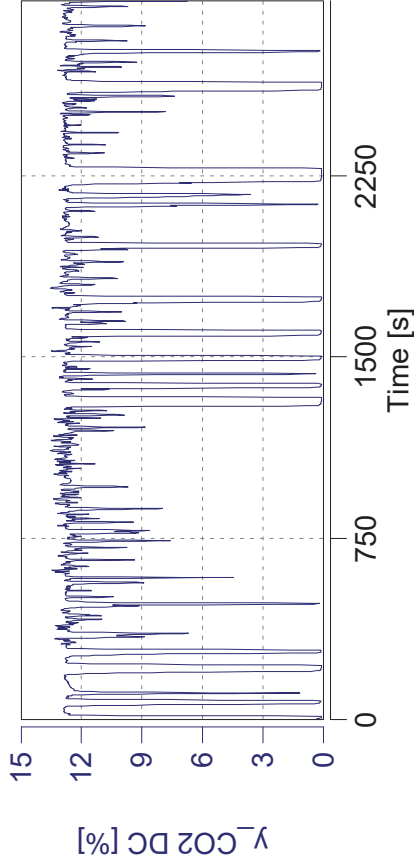
'City'

Start Date: 07/22/2018

Start Time: 21:12:50.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (2)

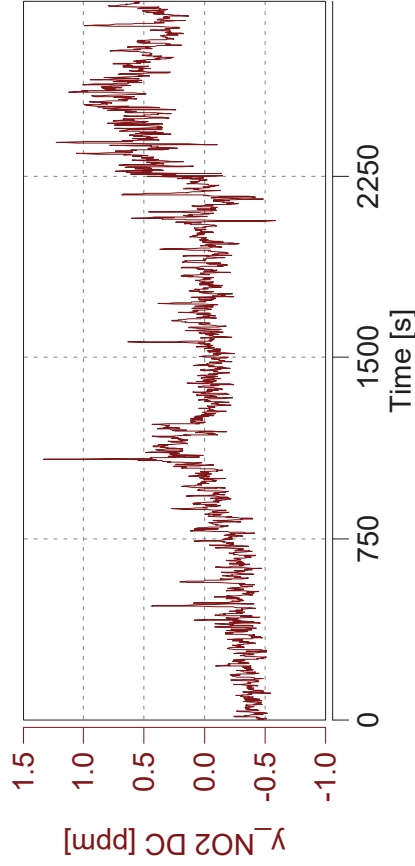
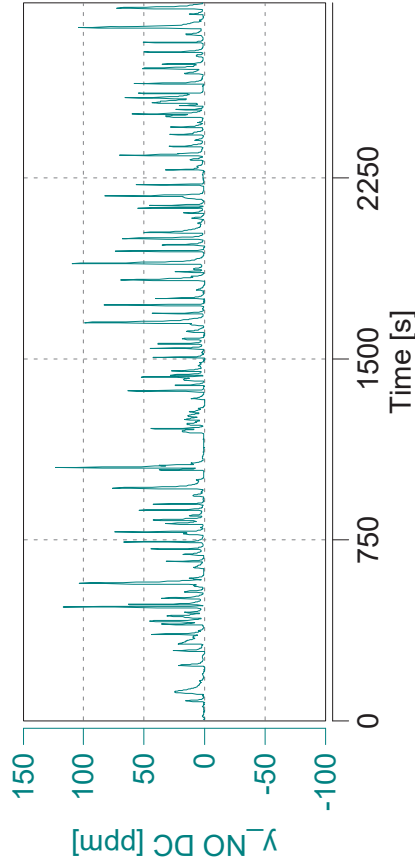
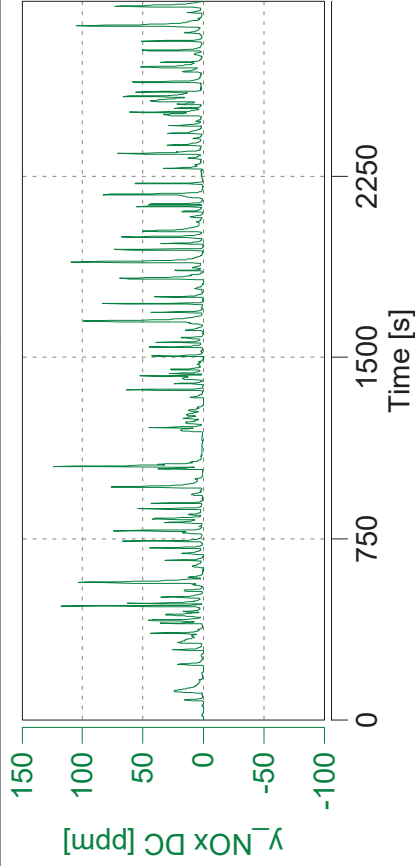
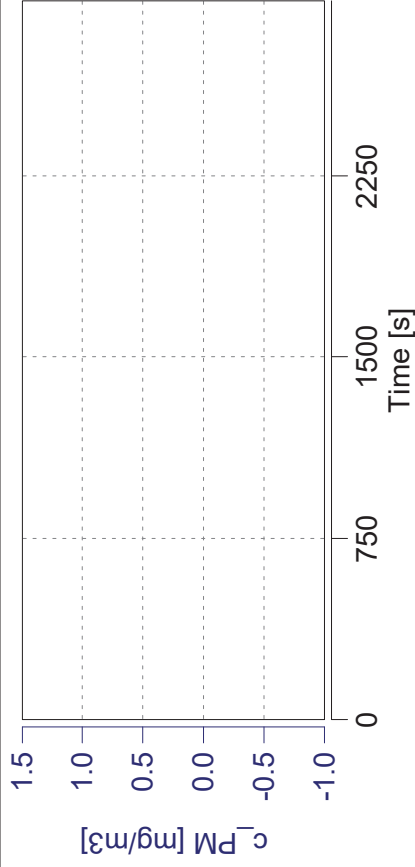
'City'

Start Date: 07/22/2018

Start Time: 21:12:50.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (3)

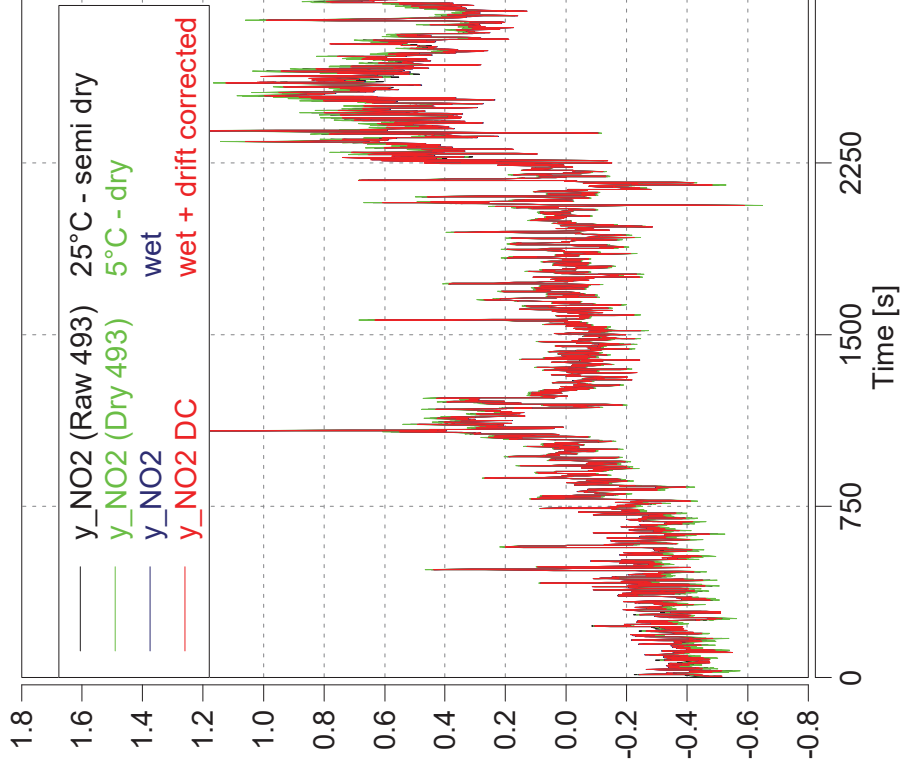
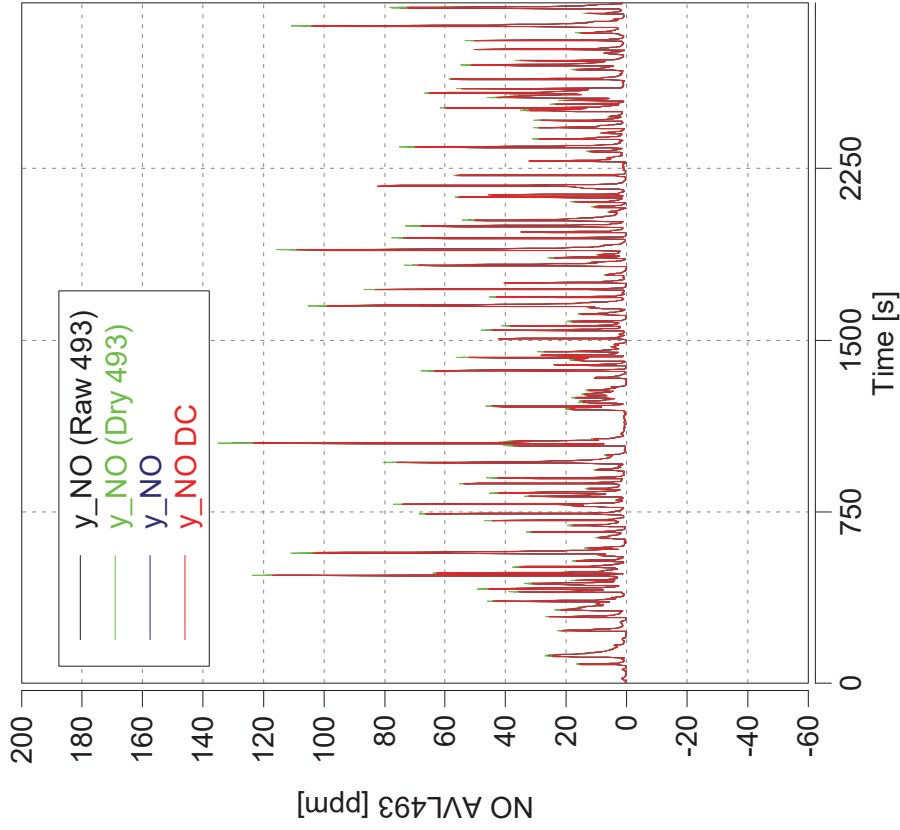
'City'

Start Date: 07/22/2018

Start Time: 21:12:50.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (4) NOx Corrections

'City'

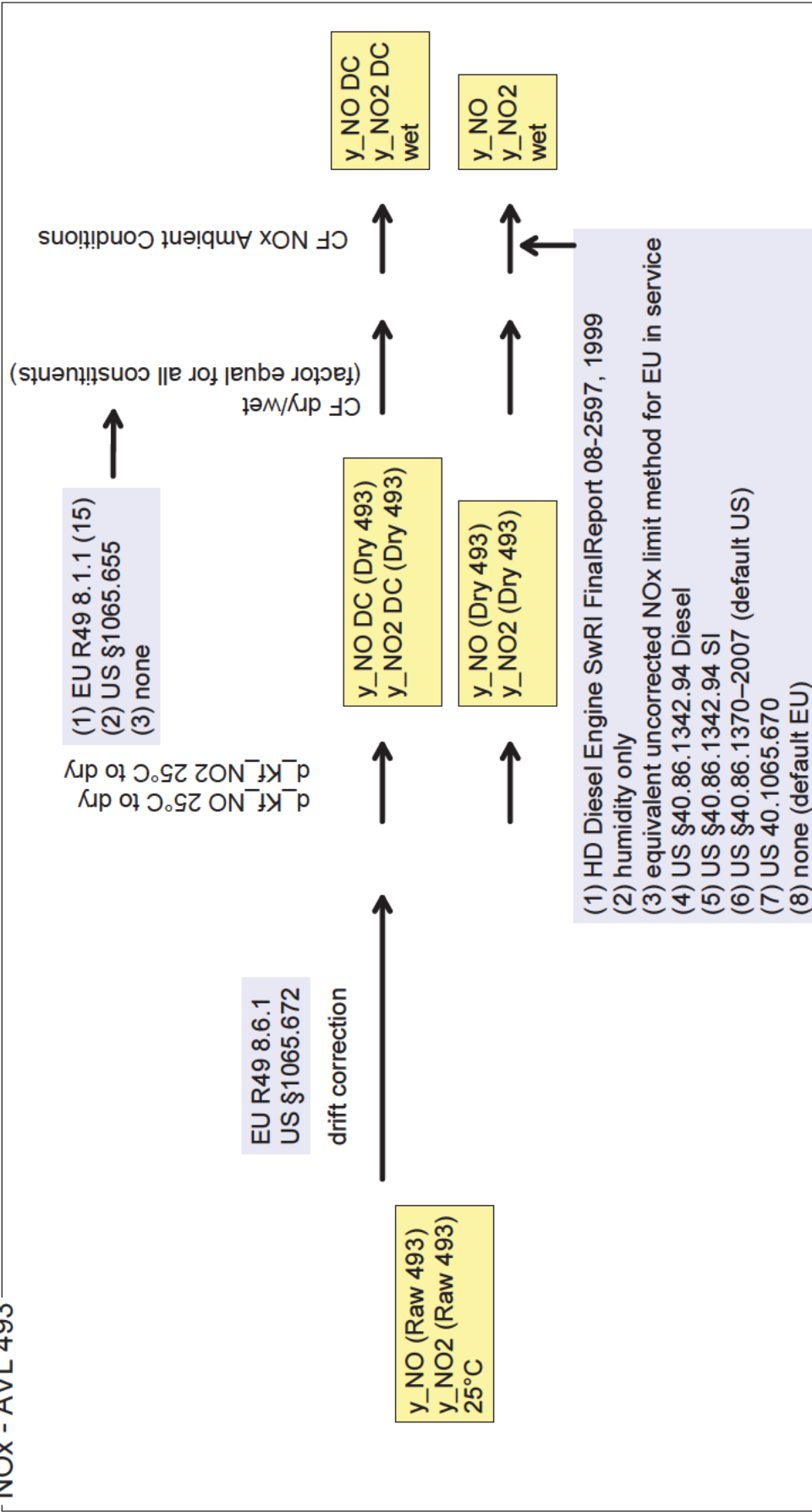
Start Date: 07/22/2018

Start Time: 21:12:50.0



Concerto M.O.V.E., 2018

NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine /

Vehicle: Atlas / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (5)

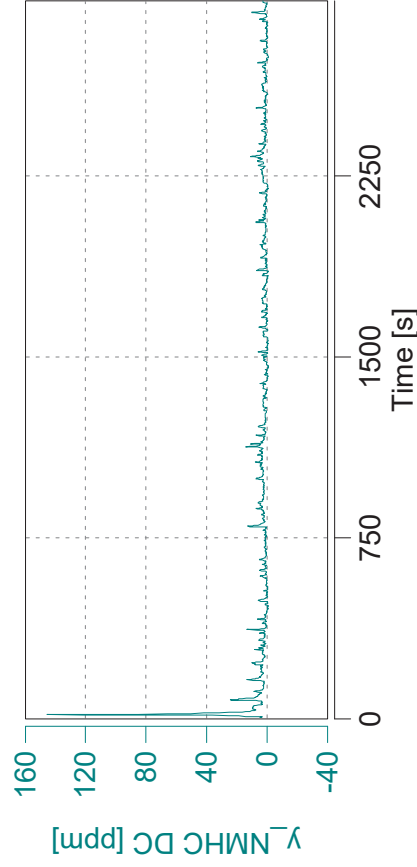
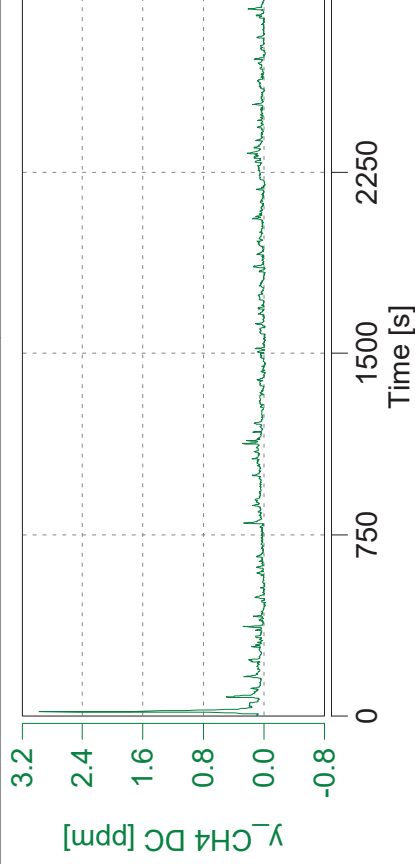
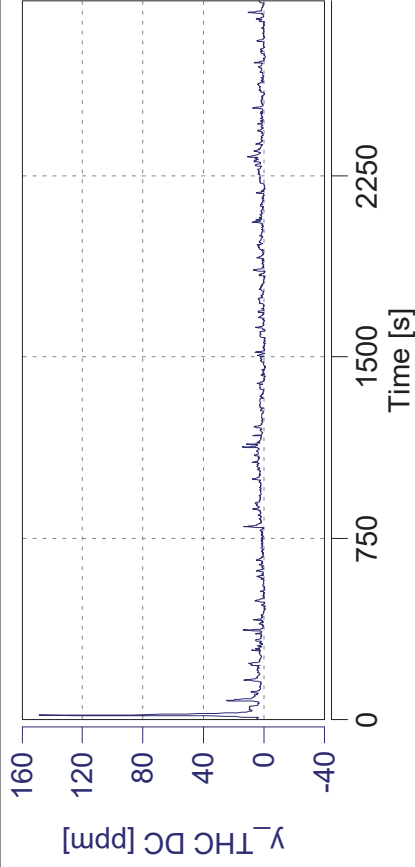
'City'

Start Date: 07/22/2018

Start Time: 21:12:50.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_0
Vehicle: Atlas / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: NO/NO2/NOx Zero - Span

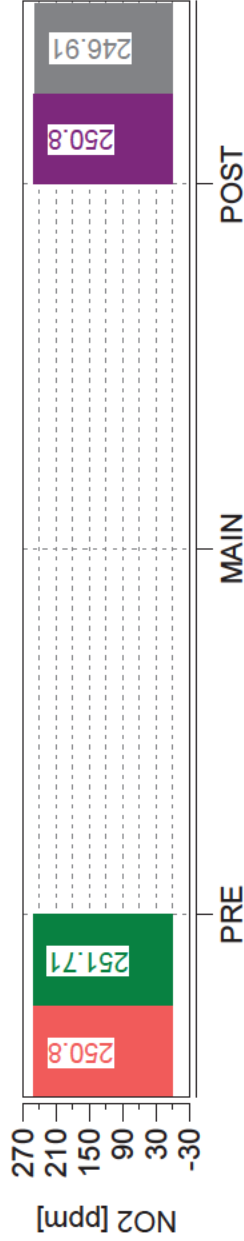
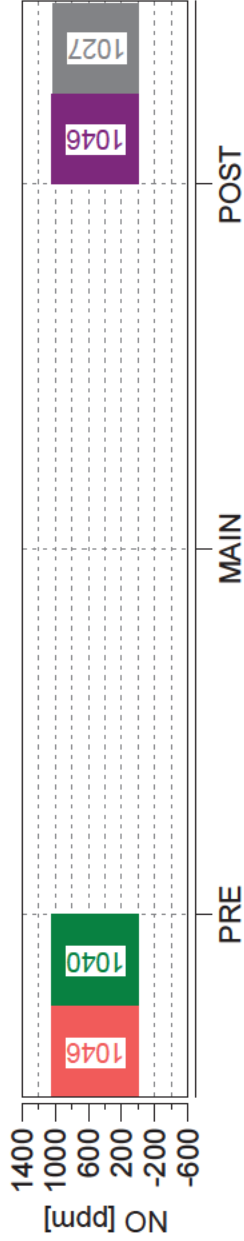
'City'

Start Date: 07/22/2018

Start Time: 21:12:50.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: City

Page: CO/CO2 Zero - Span

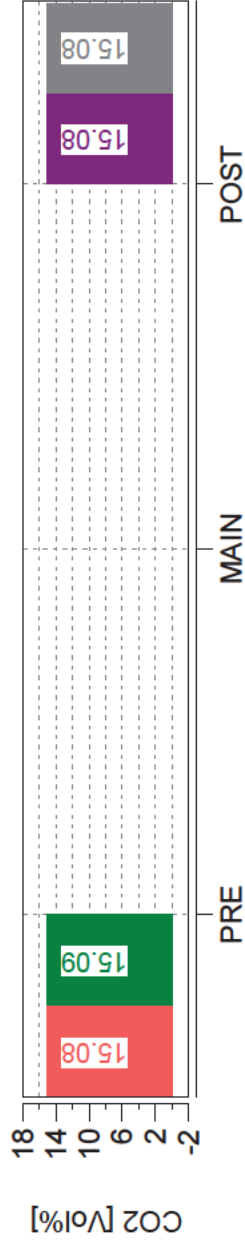
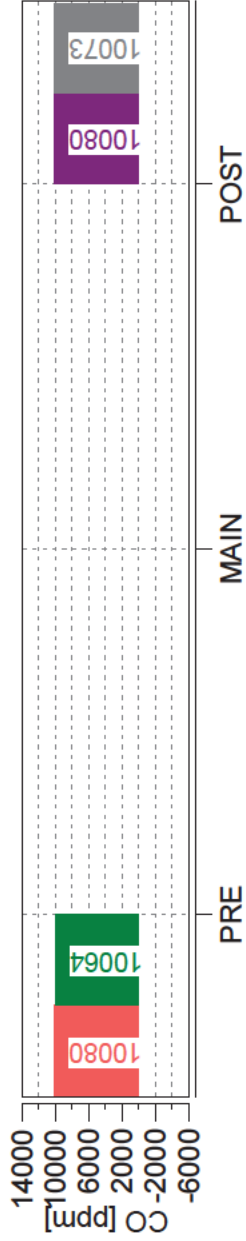
'City'

Start Date: 07/22/2018

Start Time: 21:12:50.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: THC/CH4 Zero - Span

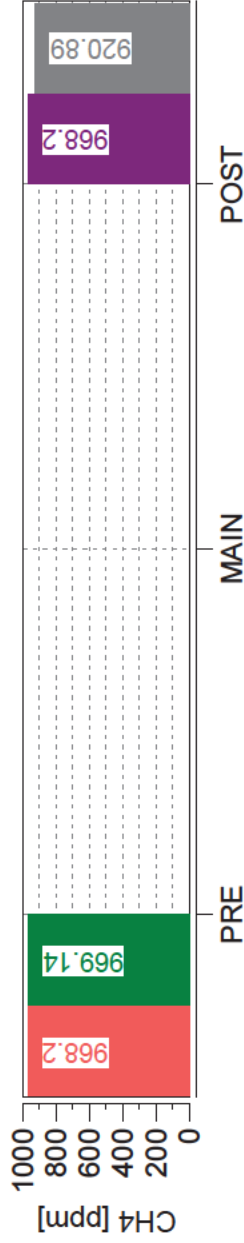
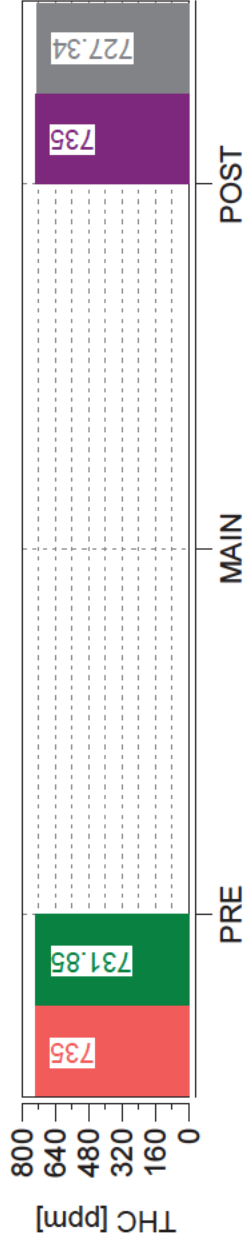
'City'

Start Date: 07/22/2018

Start Time: 21:12:50.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Atlas / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway
Page: Trip Summary

'Highway'
Start Date: 07/24/2018
Start Time: 15:28:13.0



Concerto M.O.V.E., 2018

Trip Duration	2575.00	s	ave THC	6.96557	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	2575.00	s	ave NMHC	6.82626	ppm	BS CO	n/a	g/hphr
Trip Distance	38.73	mi	ave CH4	0.13931	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	38.73	mi	ave CO	55.36077	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	11.61345	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx	7.19378	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	4.01	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.96	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.42	gall	tot THC	0.44269	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.40	gall	tot NMHC	0.40949	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00981	g	DS CO2	311.14285	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	6.27936	g	DS CO	0.16212	g/mi
Trip Fuel Economy EU (ac)	27.36	mpg_US	tot CO2	12051.49233	g	DS THC	0.01143	g/mi
Trip Fuel Economy US (ac)	27.71	mpg_US	tot NO (d)	0.58823	g	DS NMHC	0.01057	g/mi
Trip Av. Eng. Speed	1858.22	rpm	tot NO2	-0.01378	g	DS CH4	0.00025	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.57445	g	DS NO (d)	0.01519	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	-0.00036	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.01483	g/mi
Trip Exhaust Mass	64.87	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	81.73	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	54.32	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	54.15097	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	3.53398	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /
Vehicle: Passat SEL / 3.6L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Trip Summary Drift Corrected

'Highway'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018

Trip Duration	2575.00	s	ave THC DC	7.18797	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	2575.00	s	ave NMHC DC	7.04421	ppm	BS CO DC	n/a	g/hphr
Trip Distance	38.73	mi	ave CH4 DC	0.14376	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	38.73	mi	ave CO DC	55.31315	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	11.59039	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	7.26690	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	4.01	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.96	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.42	gall	tot THC DC	0.44923	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.40	gall	tot NMHC DC	0.41554	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.00996	g	DS CO2 DC	310.52509	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	6.28105	g	DS CO DC	0.16216	g/mi
Trip Fuel Economy EU (ac)	27.36	mpg_US	tot CO2 DC	12027.56482	g	DS THC DC	0.01160	g/mi
Trip Fuel Economy US (ac)	27.71	mpg_US	tot NO DC (d)	0.59155	g	DS NMHC DC	0.01073	g/mi
Trip Av. Eng. Speed	1858.22	rpm	tot NO2 DC	-0.01162	g	DS CH4 DC	0.00026	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.57993	g	DS NO DC (d)	0.01527	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	-0.00030	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.01497	g/mi
Trip Exhaust Mass	64.87	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	81.73	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	54.32	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	54.15097	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	3.53398	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Time Alignment Check

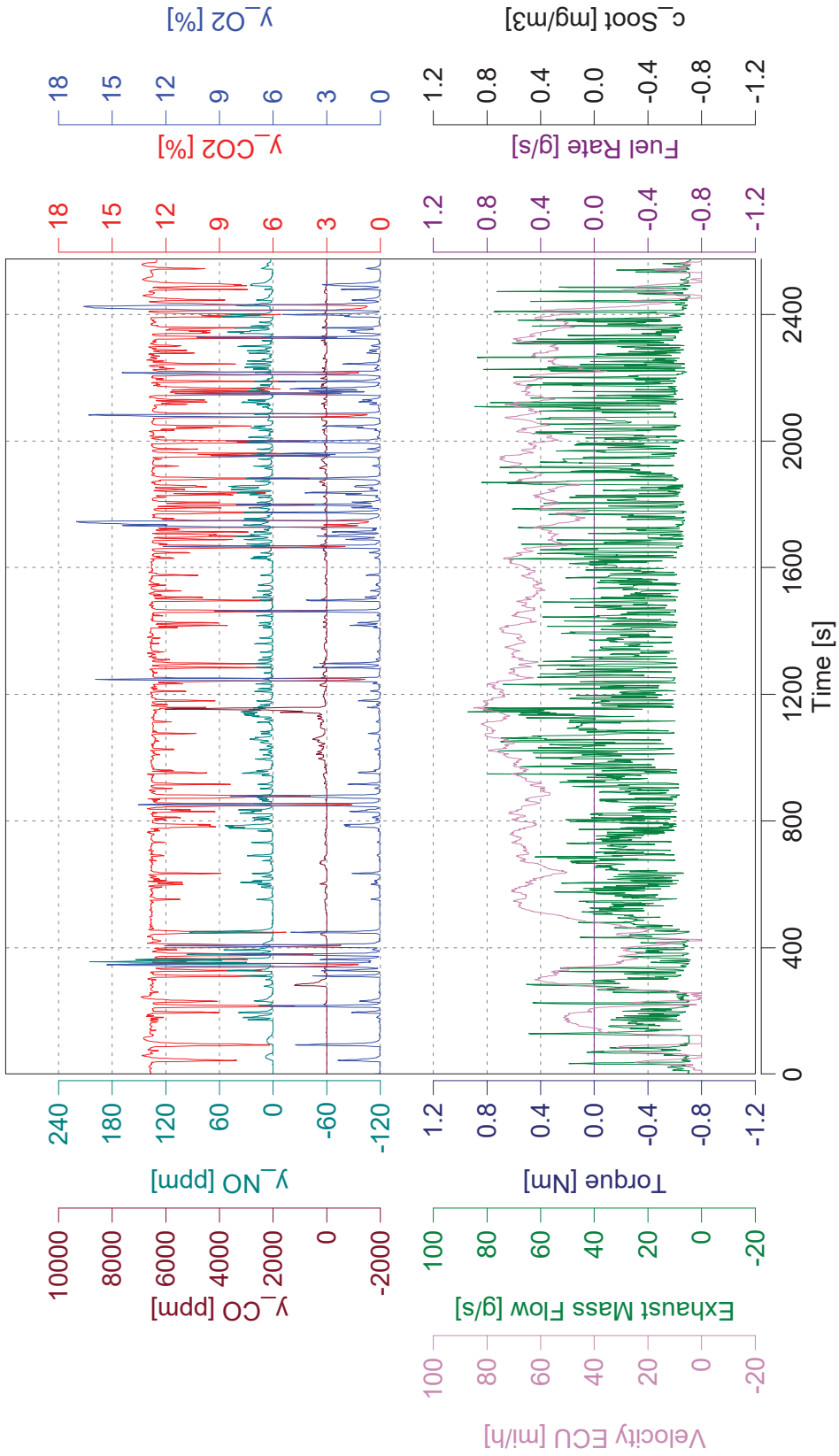
'Highway'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Time Alignment of Gas Concentrations

'Highway'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Ambient Conditions

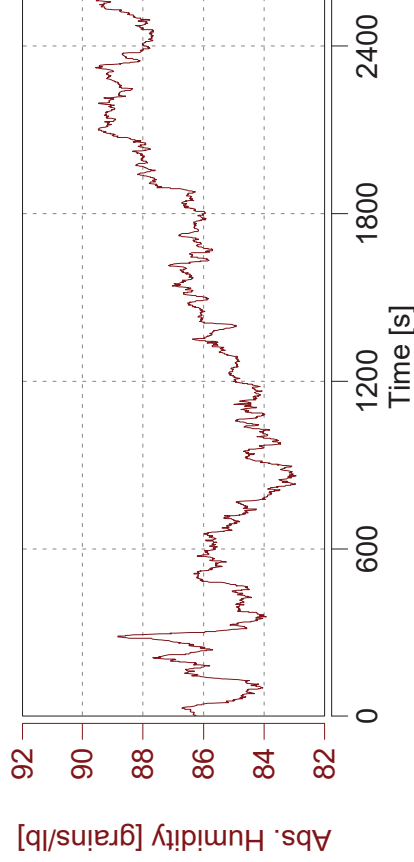
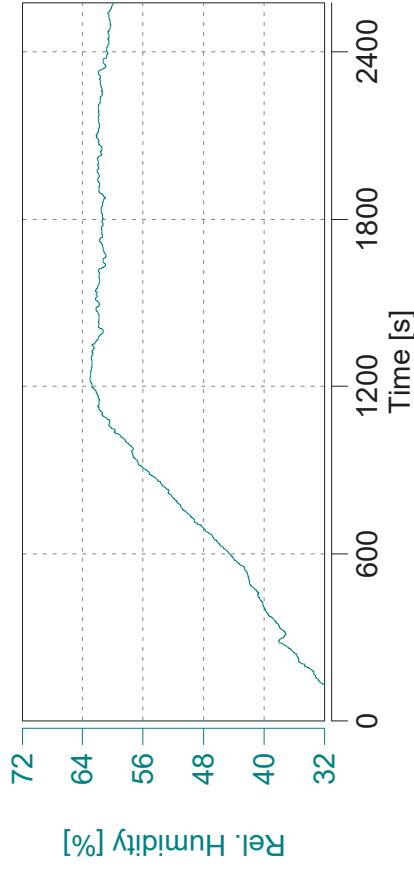
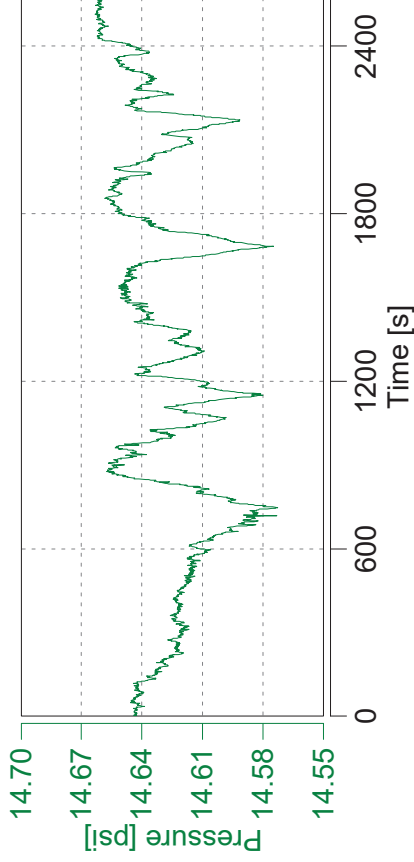
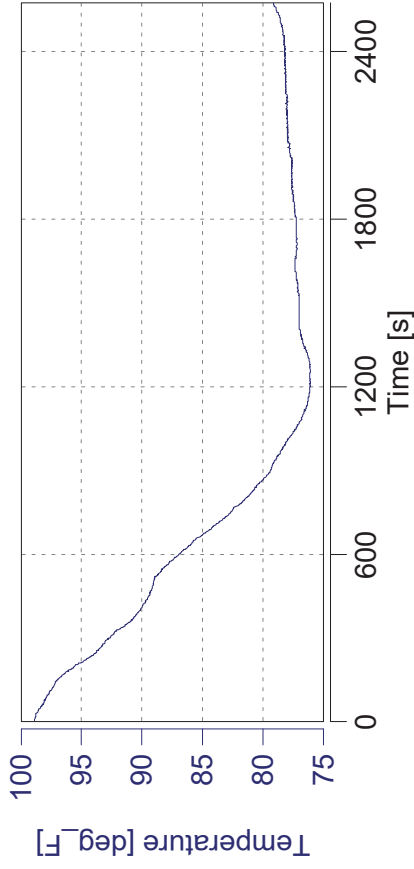
'Highway'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat SEL / 3.6L
Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: GPS

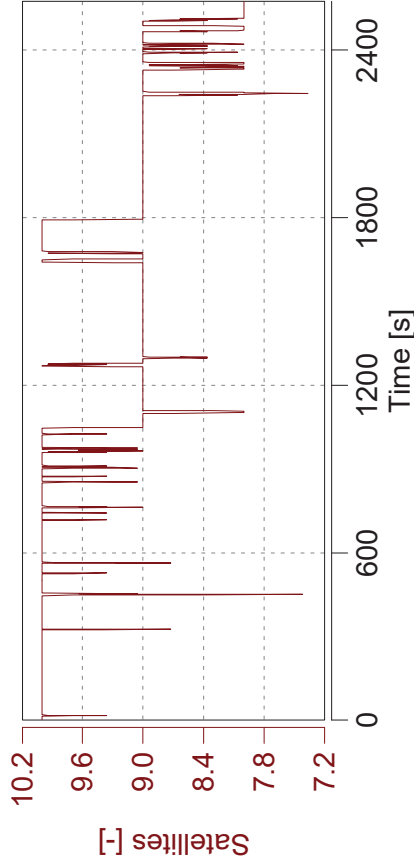
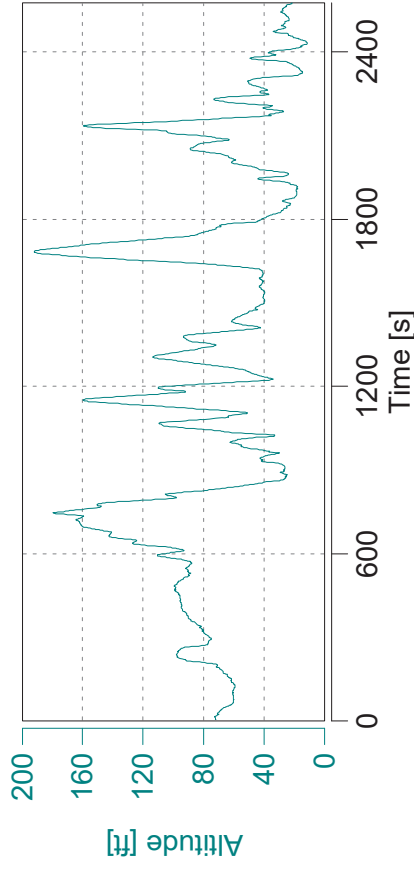
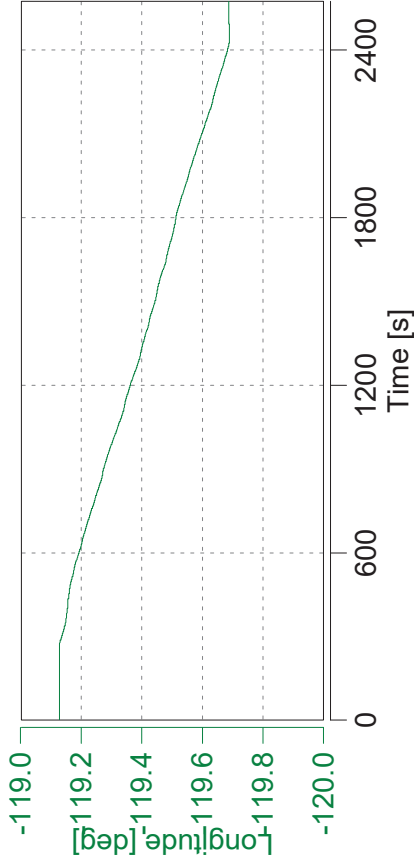
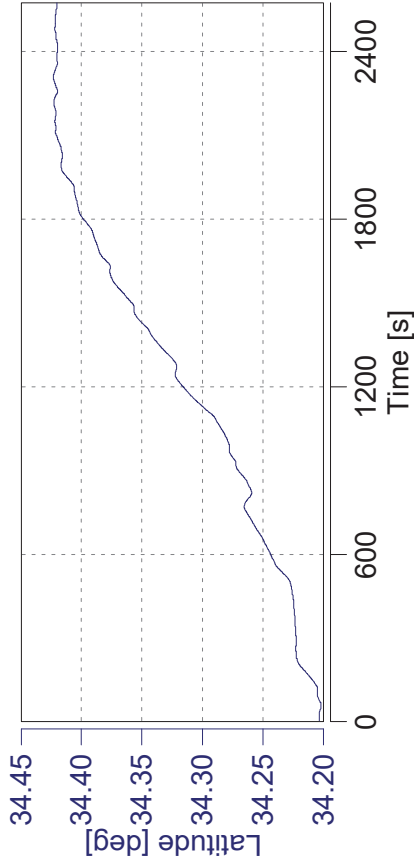
'Highway'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (1)

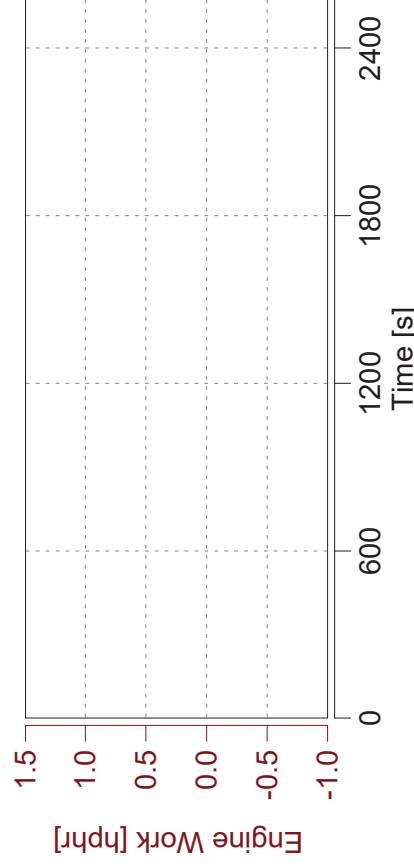
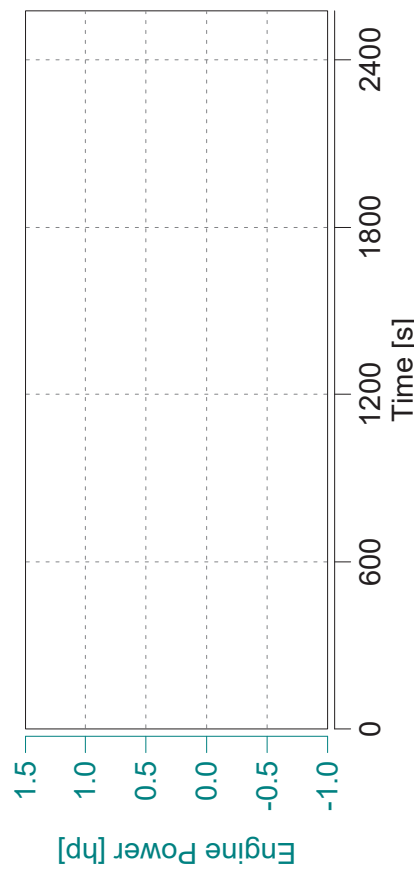
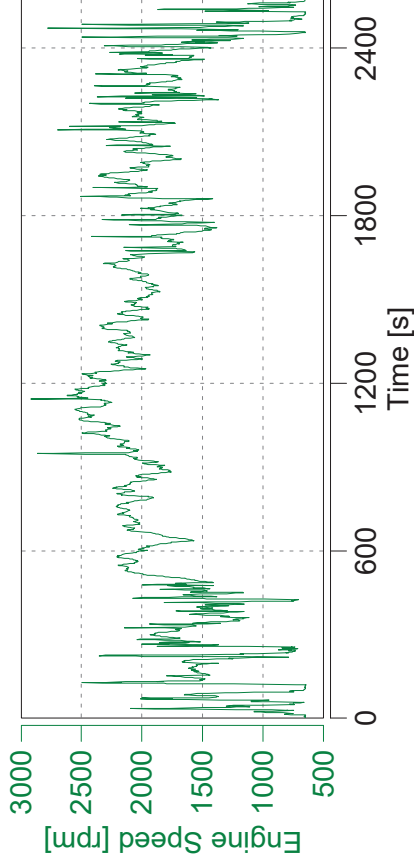
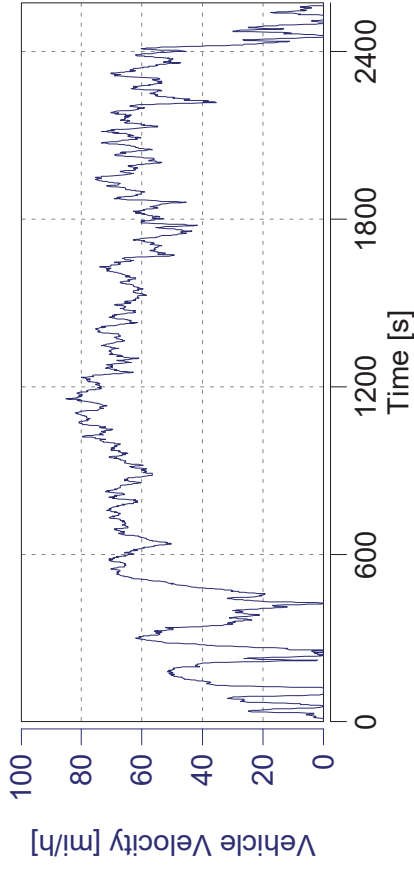
'Highway'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018

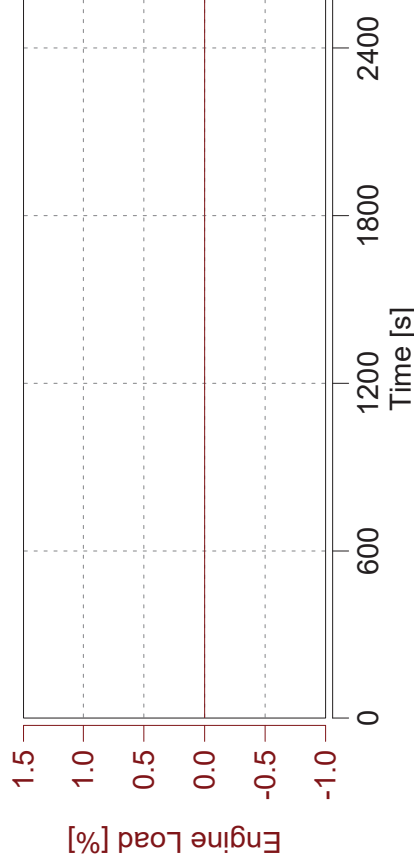
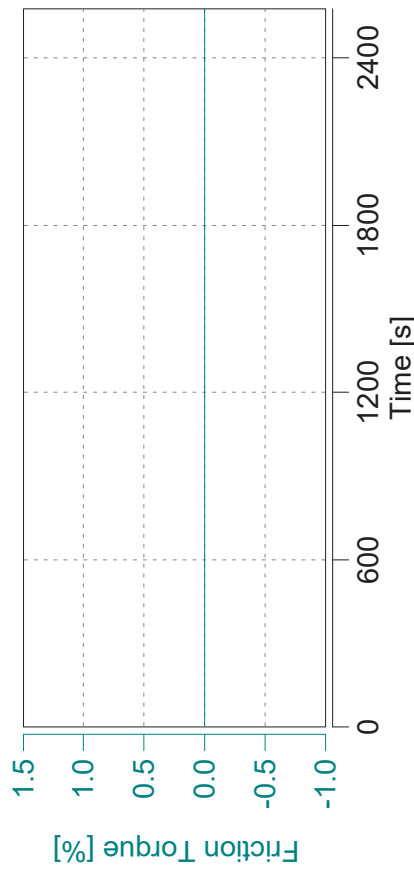
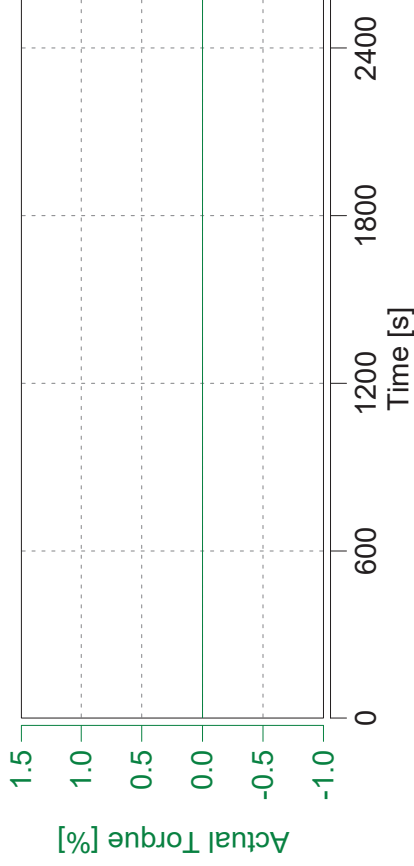
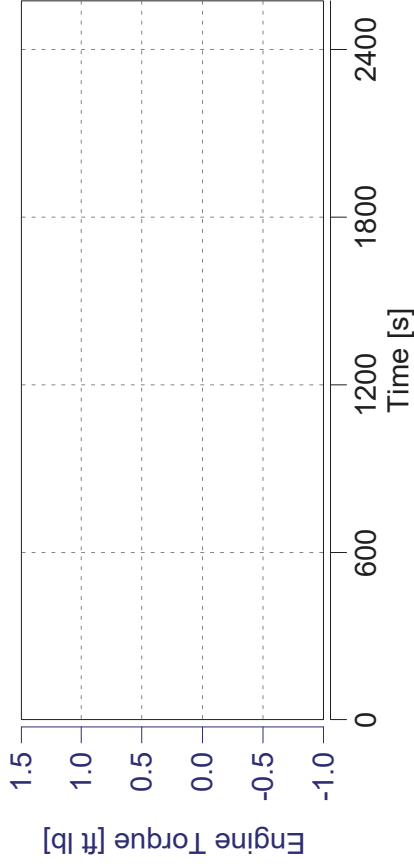


Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Vehicle: Passat SEL / 3.6L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI Engine: /
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway
Page: Engine (2)

'Highway'
Start Date: 07/24/2018
Start Time: 15:28:13.0



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat SEL / 3.6L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (3)

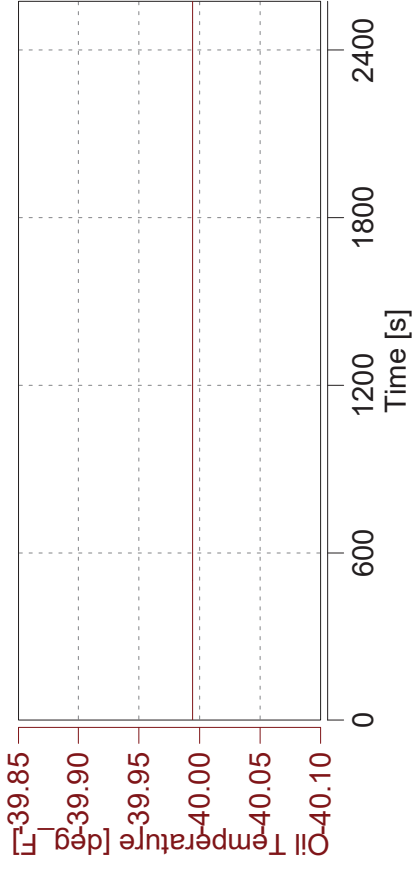
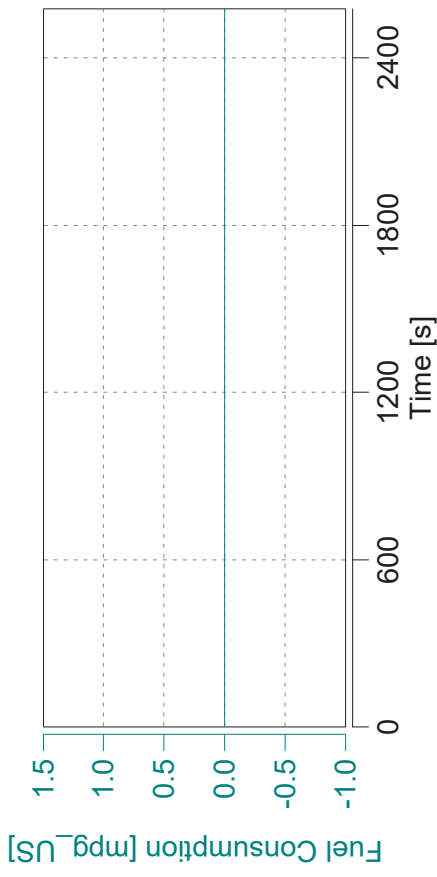
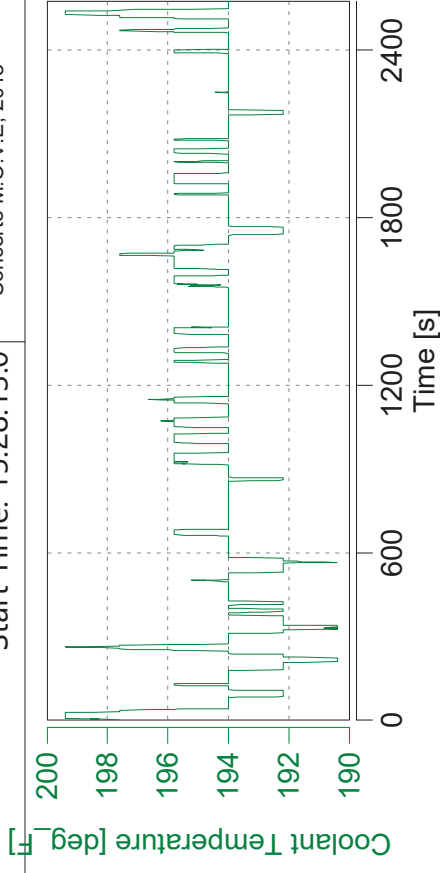
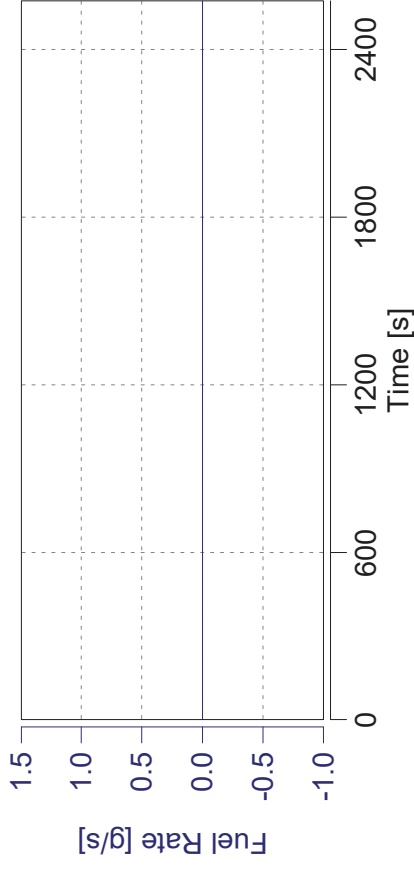
'Highway'

Start Date: 07/24/2018

Start Time: 15:28:13.0

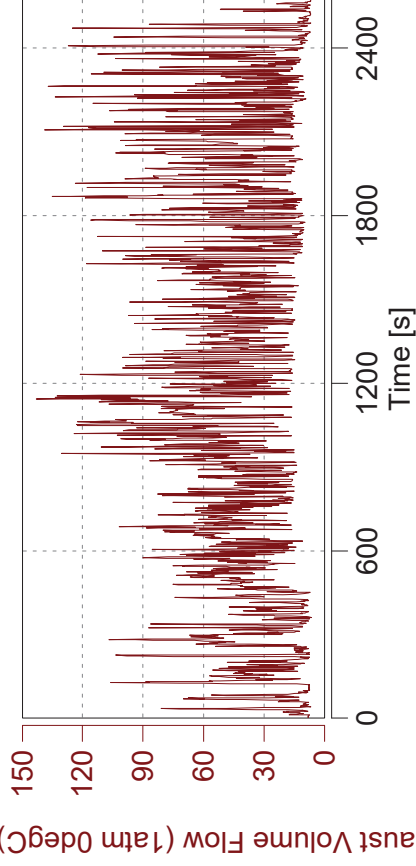
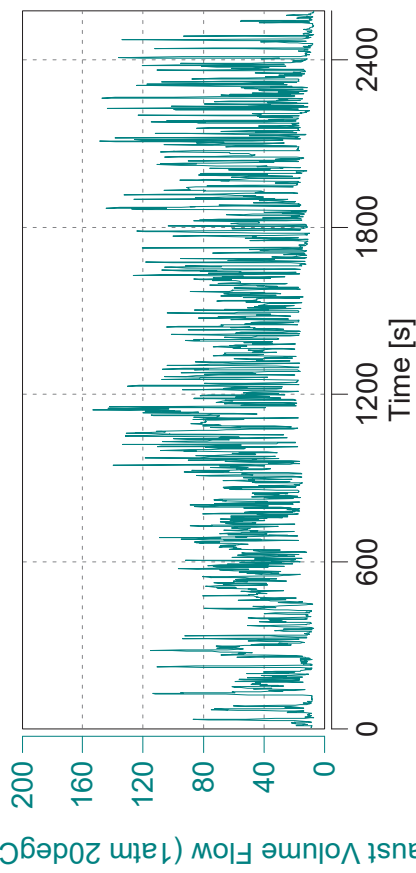
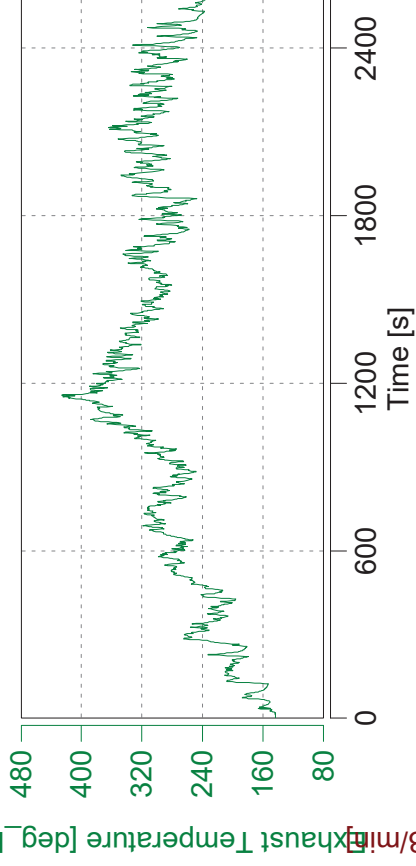
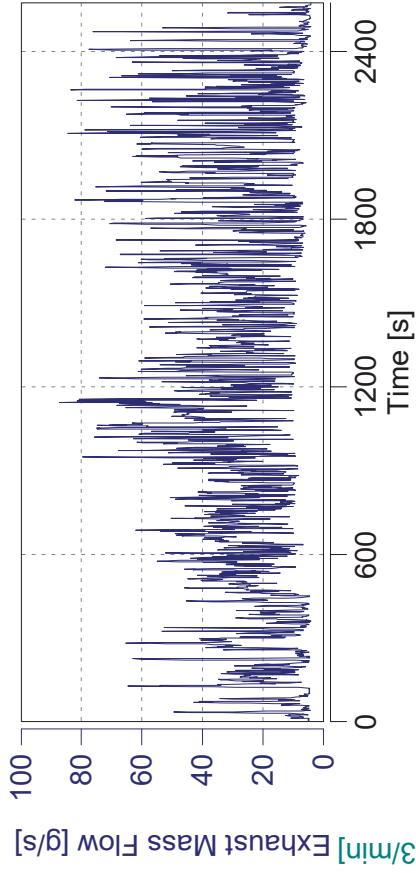


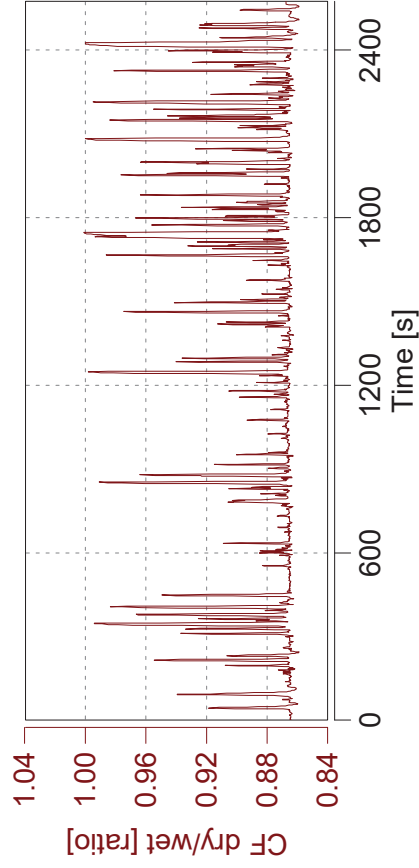
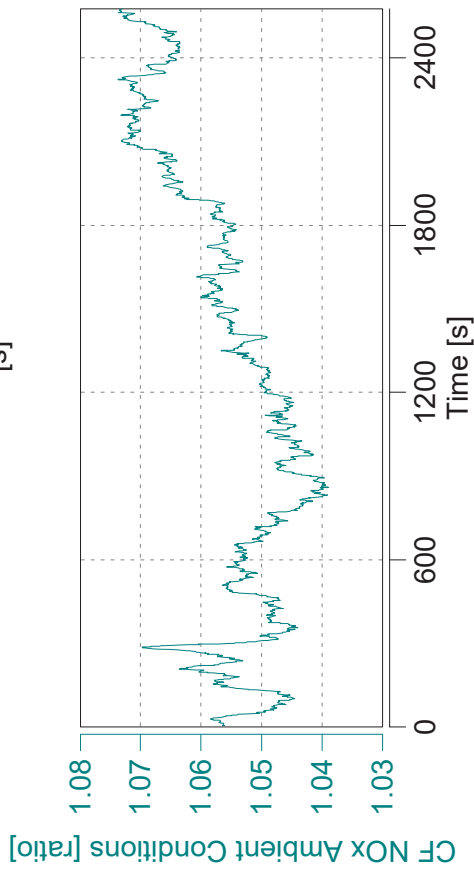
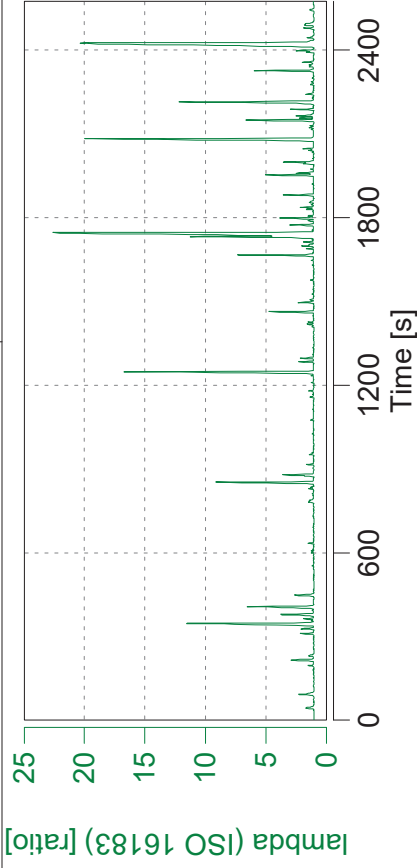
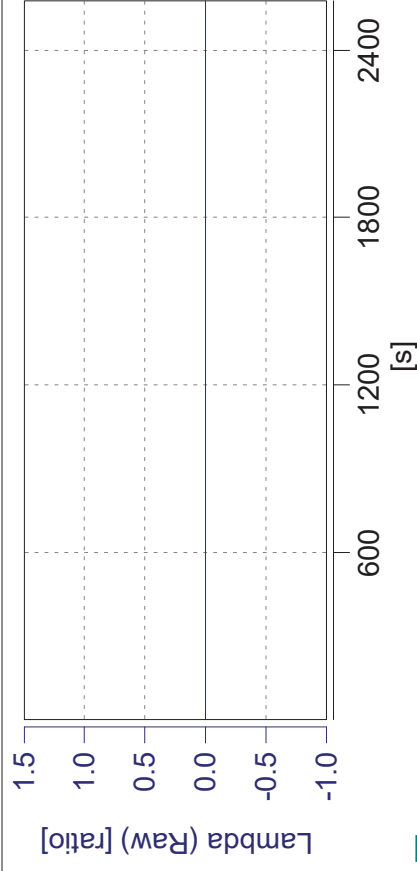
Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine /
Vehicle: Passat SEL / 3.6L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90





Concerto Version: 480 Build 316, Serial Number: 1120
 M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat SEL / 3.6L
 Engine: /
 NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (1)

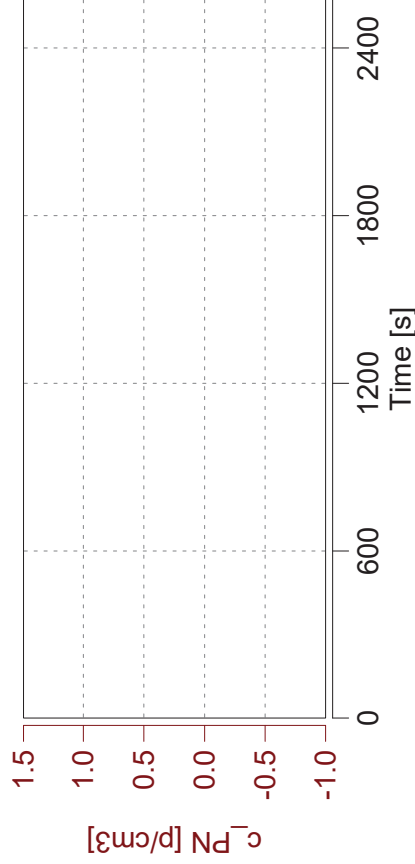
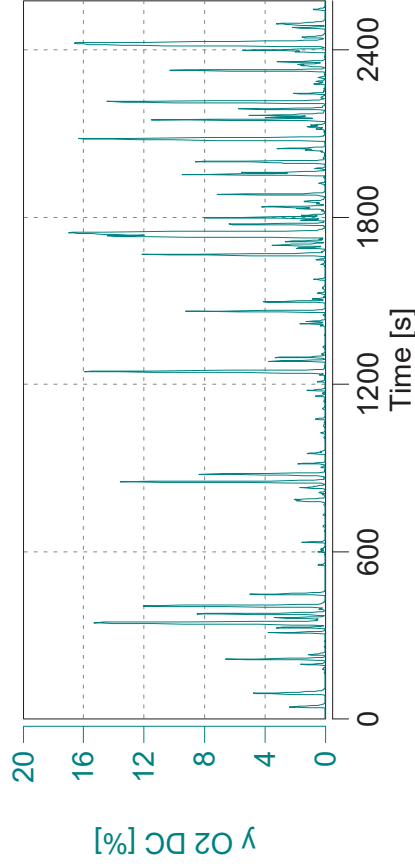
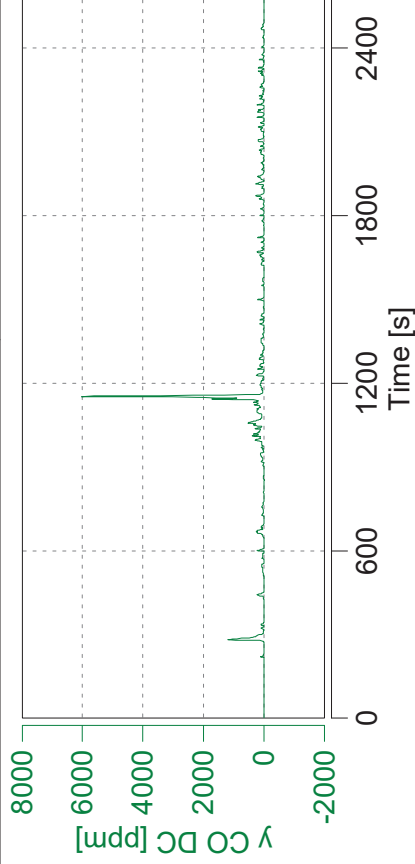
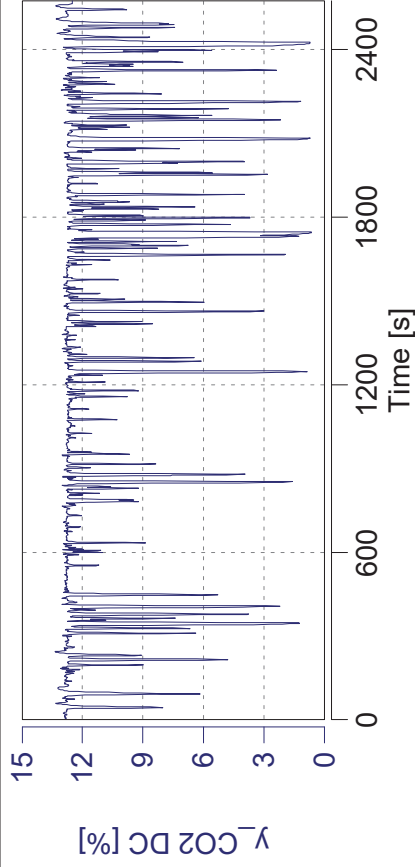
'Highway'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (2)

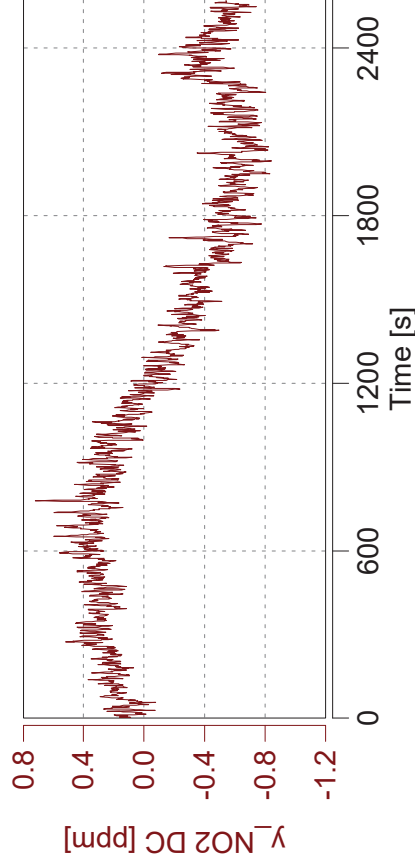
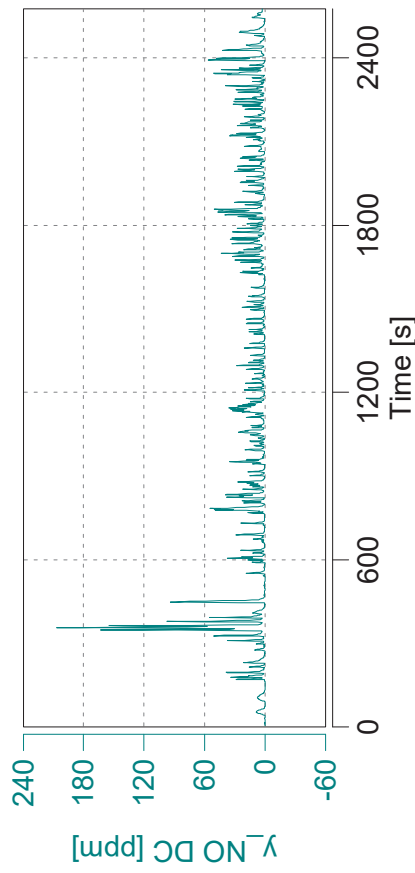
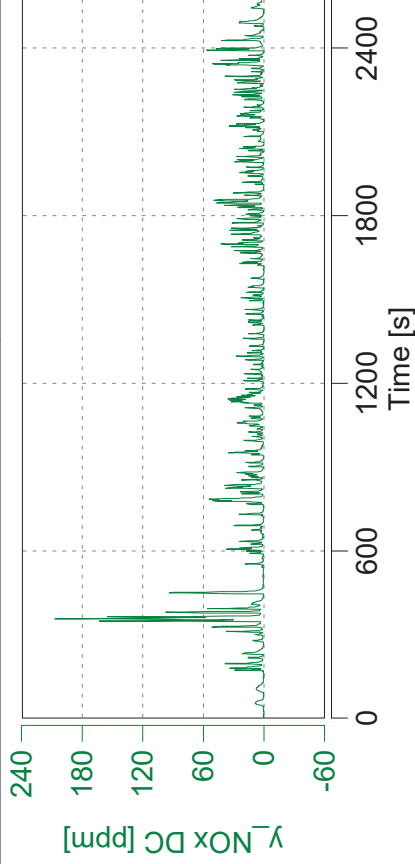
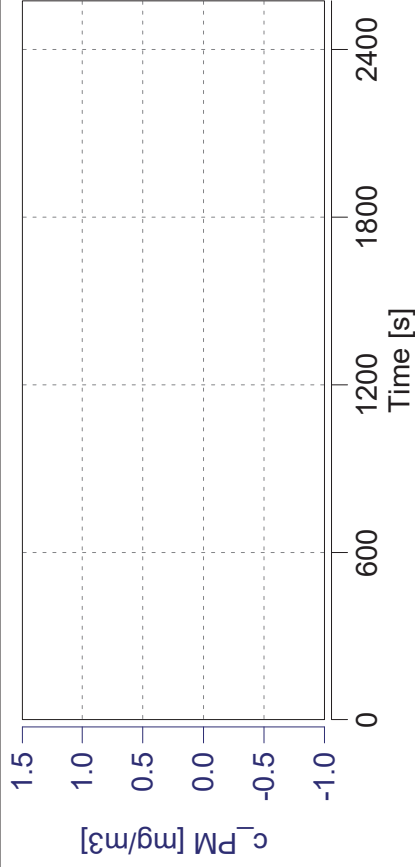
'Highway'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Vehicle: Passat SEL / 3.6L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI Engine: /
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (3)

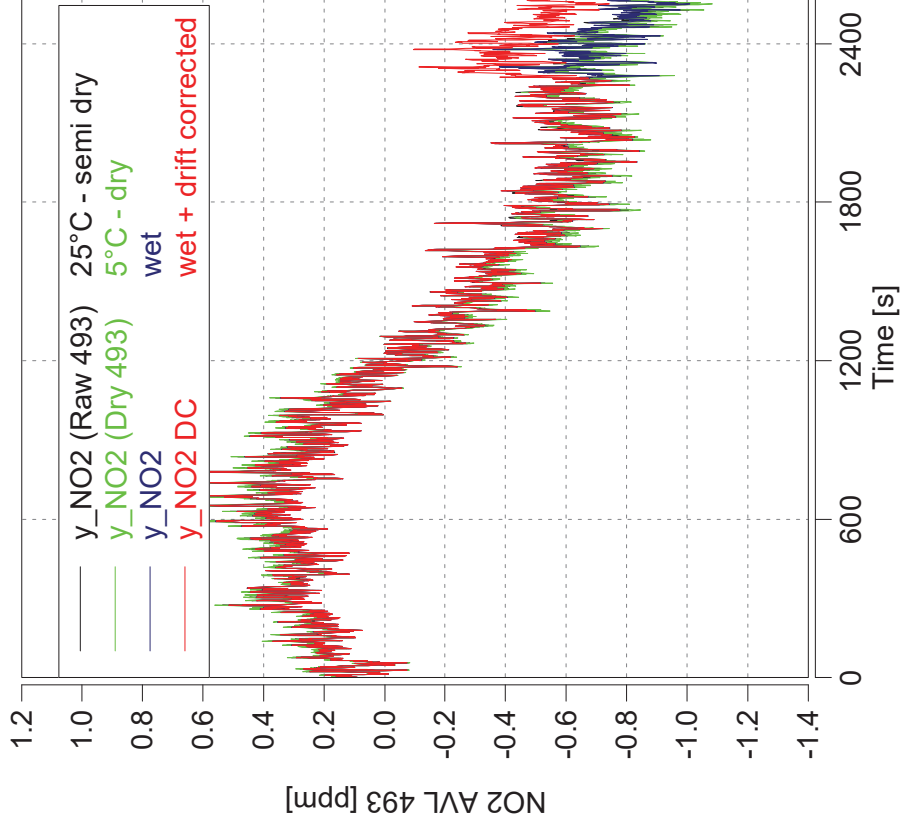
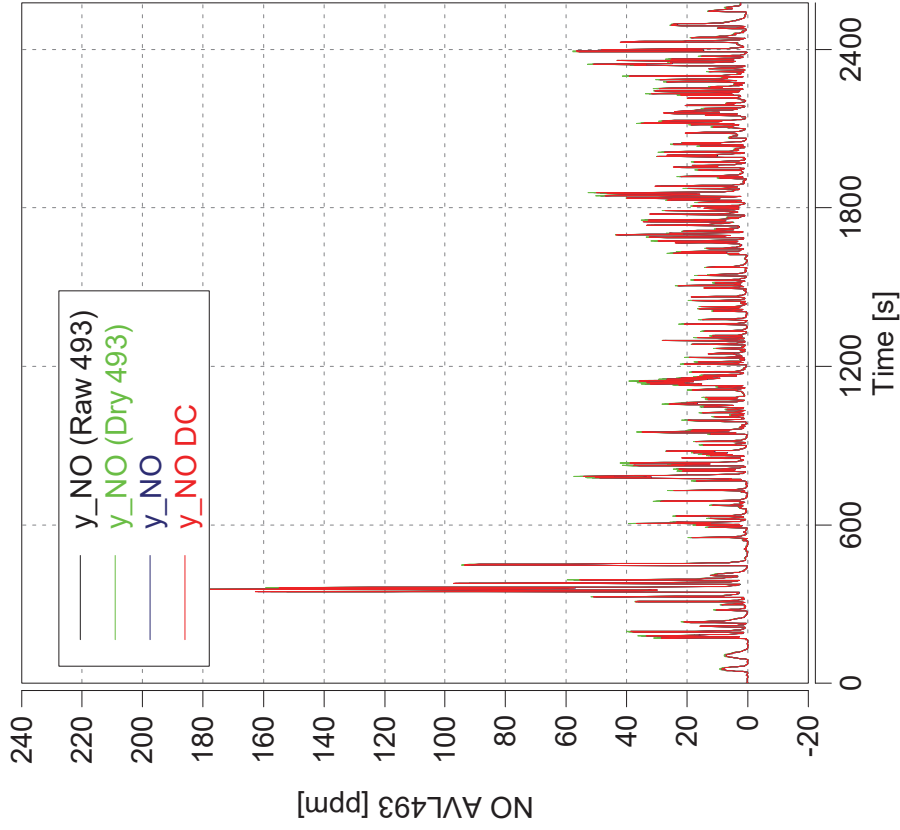
'Highway'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat SEL / 3.6L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (4) NOx Corrections

'Highway'

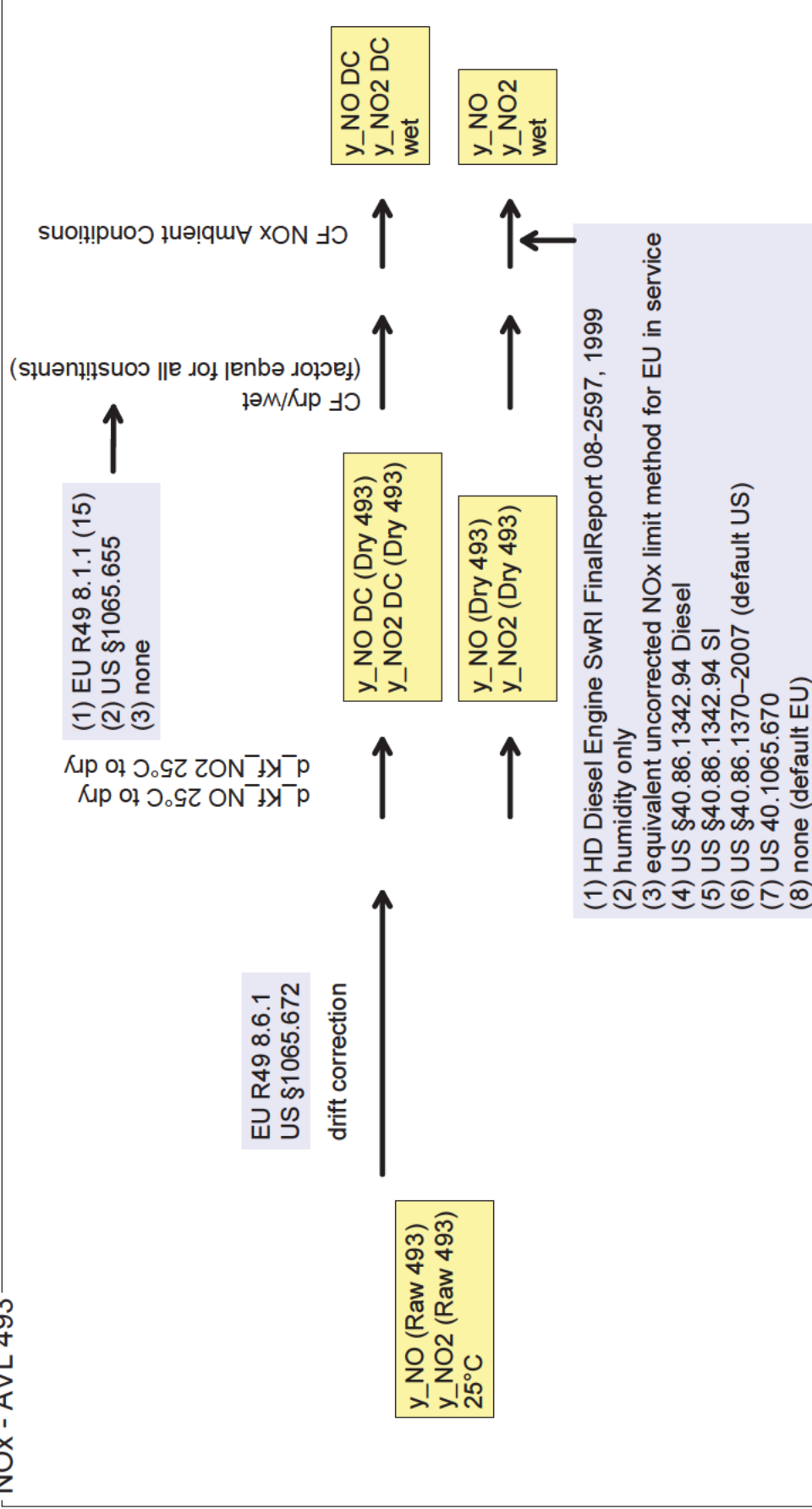
Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018

NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine /

Vehicle: Passat SEL / 3.6L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (5)

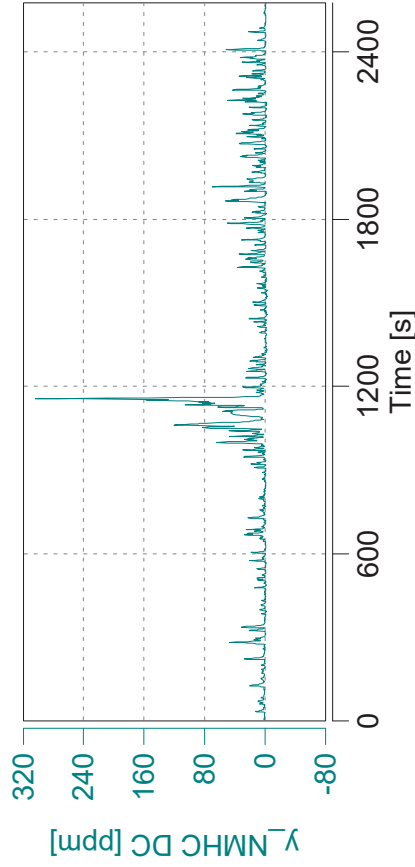
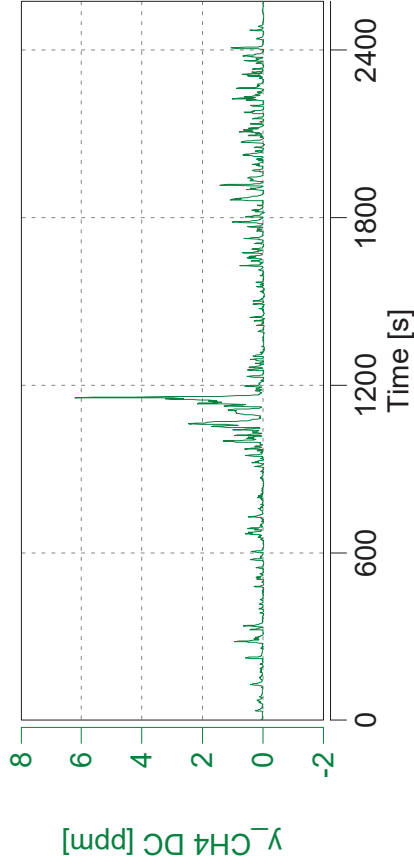
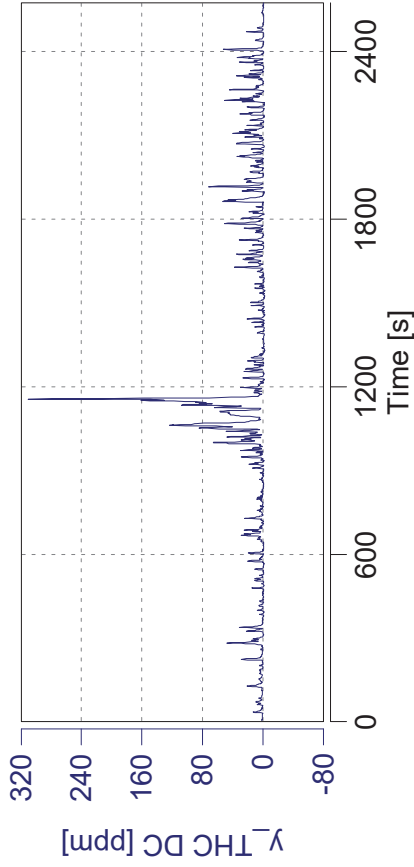
'Highway'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: NO/NO2/NOx Zero - Span

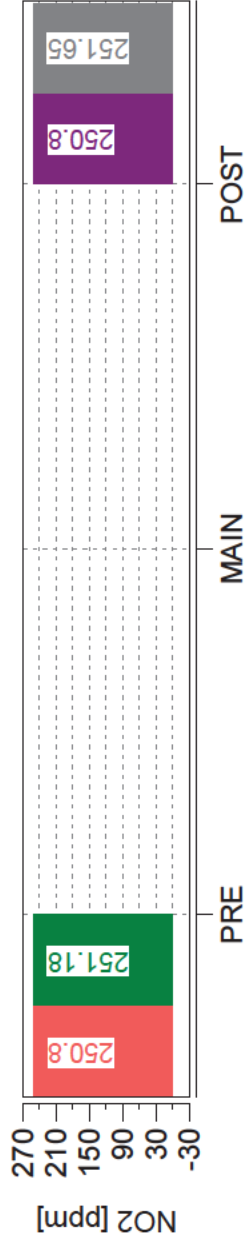
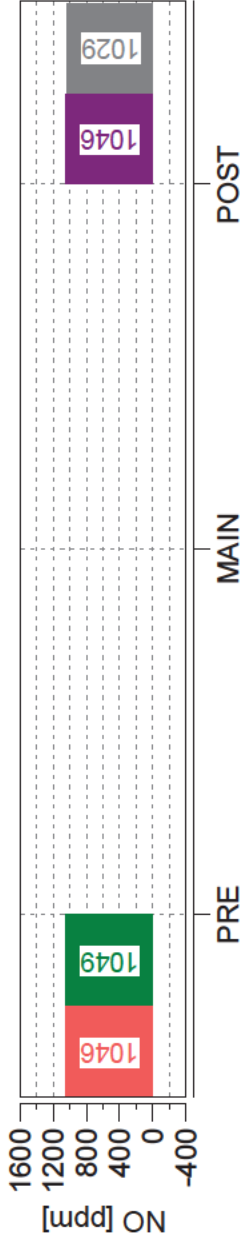
'Highway'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



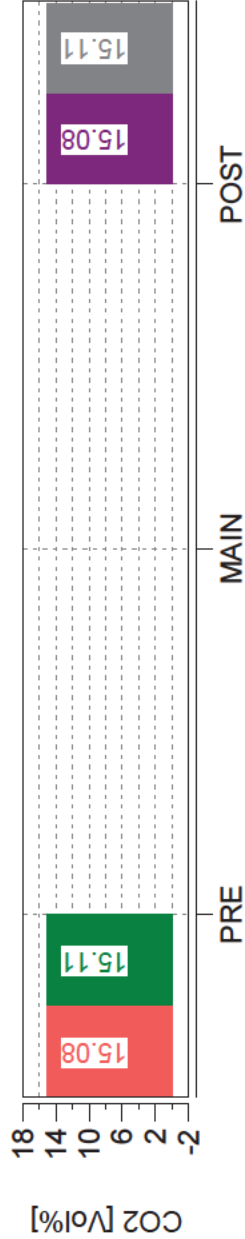
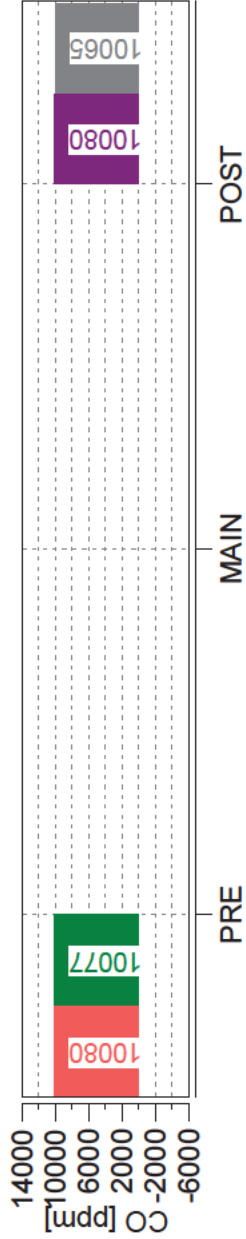
Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Passat SEL / 3.6L

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Case: Highway

Page: THC/CH4 Zero - Span

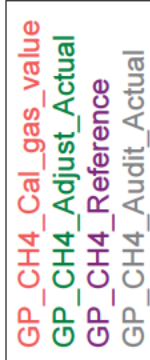
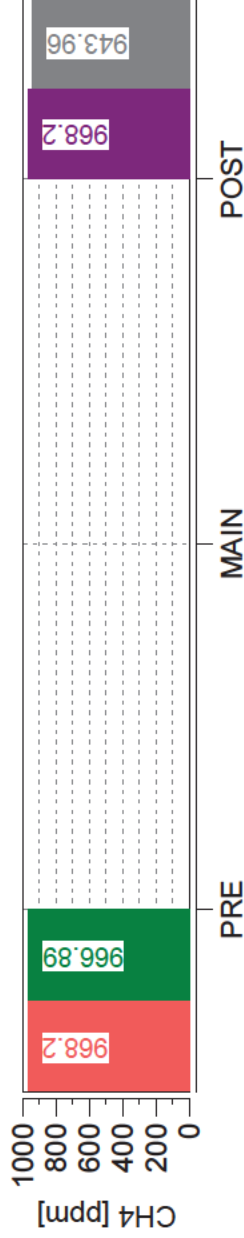
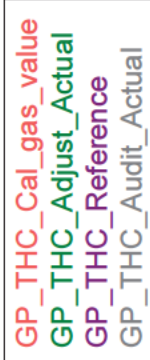
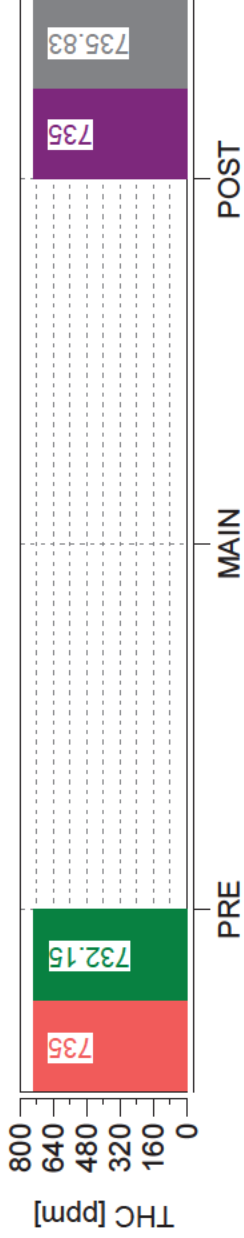
'Highway'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Trip Summary

'Mountain'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E. 2018

Trip Duration	2792.00	s	ave THC	17.92801	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	2792.00	s	ave NMHC	17.56945	ppm	BS CO	n/a	g/hphr
Trip Distance	28.78	mi	ave CH4	0.35856	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	28.78	mi	ave CO	197.37925	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	10.33678	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOX	9.83834	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	3.60	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.56	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.27	gall	tot THC	1.10981	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.26	gall	tot NMHC	1.02658	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.02460	g	DS CO2	375.45486	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	27.46121	g	DS CO	0.95431	g/mi
Trip Fuel Economy EU (ac)	22.61	mpg_US	tot CO2	10804.03778	g	DS THC	0.03857	g/mi
Trip Fuel Economy US (ac)	22.88	mpg_US	tot NO (d)	0.85621	g	DS NMHC	0.03568	g/mi
Trip Av. Eng. Speed	1807.51	rpm	tot NO2	-0.03055	g	DS CH4	0.00085	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.82565	g	DS NO (d)	0.02975	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	-0.00106	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.02869	g/mi
Trip Exhaust Mass	61.90	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	87.16	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	42.84	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	37.10355	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	8.95415	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Trip Summary Drift Corrected

'Mountain'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018

Parameter	Value	Unit	Parameter	Value	Unit
Trip Duration	2792.00	s	ave THC DC	18.08050	ppm
Trip Duration (a)	2792.00	s	ave NMHC DC	17.71889	ppm
Trip Distance	28.78	mi	ave CH4 DC	0.36161	ppm
Trip Distance (a)	28.78	mi	ave CO DC	197.55858	ppm
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	10.31626	%
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	9.89874	ppm
Trip Fuel Cons. EU (ac)	3.60	kg	ave PM	n/a	mg/m3
Trip Fuel Cons. US (ac)	3.56	kg	ave Soot meas	n/a	mg/m3
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3
Trip Fuel Cons. Volume EU (ac)	1.27	gall	tot THC DC	1.11519	g
Trip Fuel Cons. Volume US (ac)	1.26	gall	tot NMHC DC	1.03156	g
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.02472	g
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	27.48616	g
Trip Fuel Economy EU (ac)	22.61	mpg_US	tot CO2 DC	10782.58701	g
Trip Fuel Economy US (ac)	22.88	mpg_US	tot NO DC (d)	0.86126	g
Trip Av. Eng. Speed	1807.51	rpm	tot NO2 DC	-0.03048	g
Trip Av. Torque	n/a	lbft	tot NOx DC	0.83078	g
Trip Av. Power	n/a	hp	tot Soot	n/a	g
Trip Work	n/a	hphr	tot Soot meas	n/a	g
Trip Exhaust Mass	61.90	kg	tot PM	n/a	g
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-
Trip Av. Amb. Temperature	87.16	deg_F	PM correction type	1.00000	alpha(HC)
Trip Av. Humidity	42.84	%	tot Soot on PM filter (estim.)	n/a	mg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-
			Soot --> PM alpha scaling factor	0.00000	-
			Trip Av. Veh. Speed	37.10355	mi/hr
			Trip Velocity Zero	8.95415	%
			Trip Velocity Urban	0.00000	%
			Trip Velocity Rural	0.00000	%
			Trip Velocity Motorway	100.00000	%
			FS CO2 DC	n/a	g/kg
			FS CO DC	n/a	g/kg
			FS THC DC	n/a	g/kg
			FS NMHC DC	n/a	g/kg
			FS CH4 DC	n/a	g/kg
			FS NO DC (d)	n/a	g/kg
			FS NO2 DC	n/a	g/kg
			FS NOx DC	n/a	g/kg
			FS Soot	n/a	g/kg
			FS Soot meas	n/a	g/kg
			FS PM	n/a	g/kg
			FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
 (d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Time Alignment Check

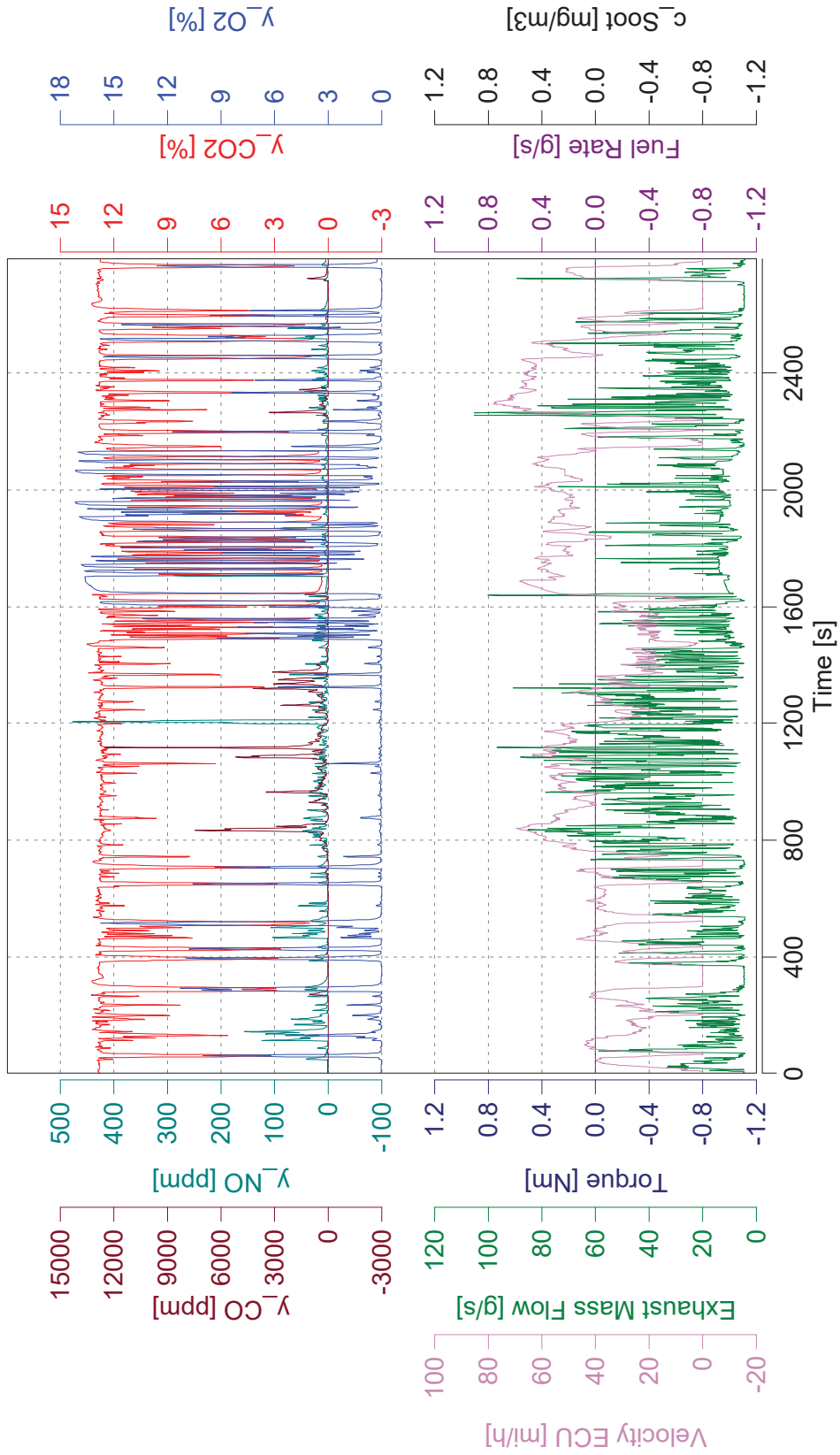
'Mountain'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Time Alignment of Gas Concentrations

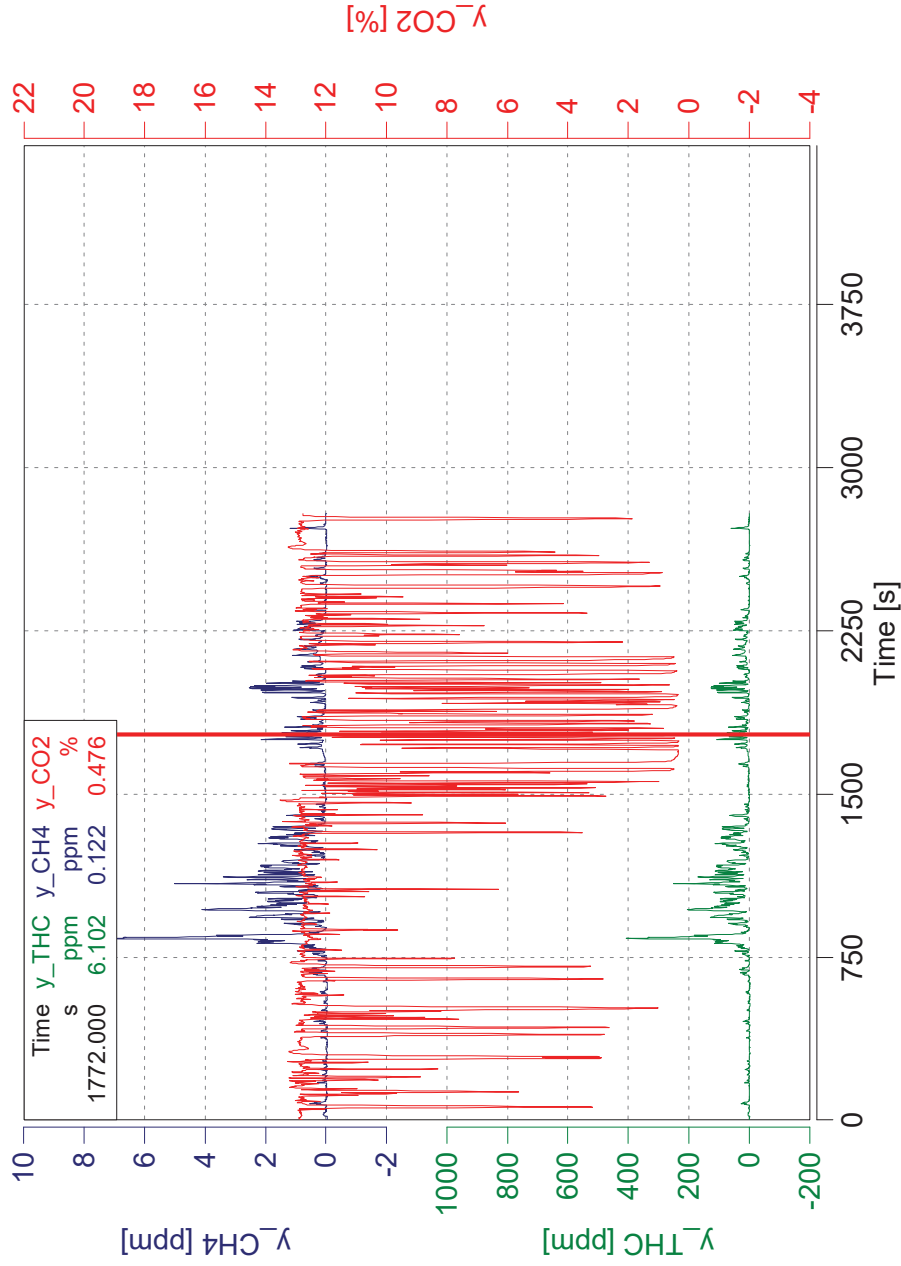
'Mountain'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Ambient Conditions

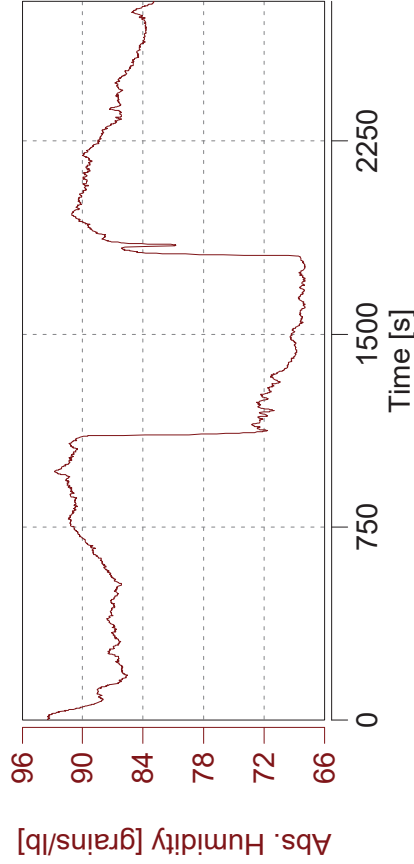
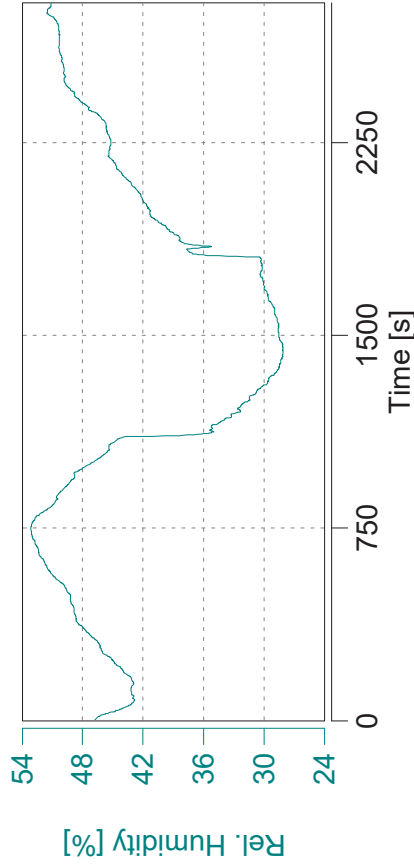
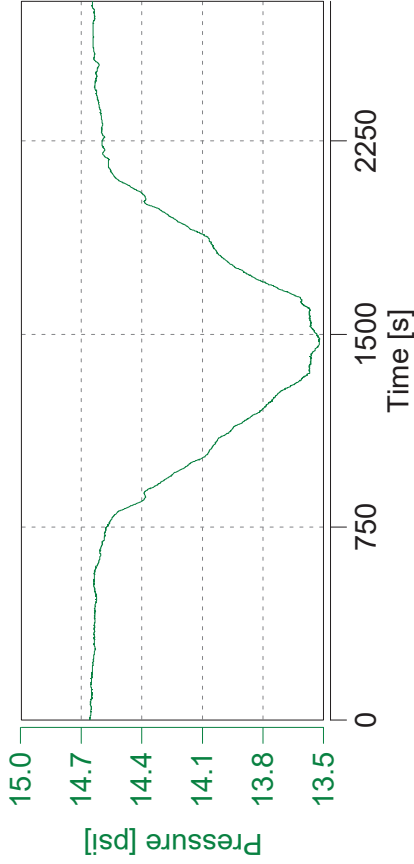
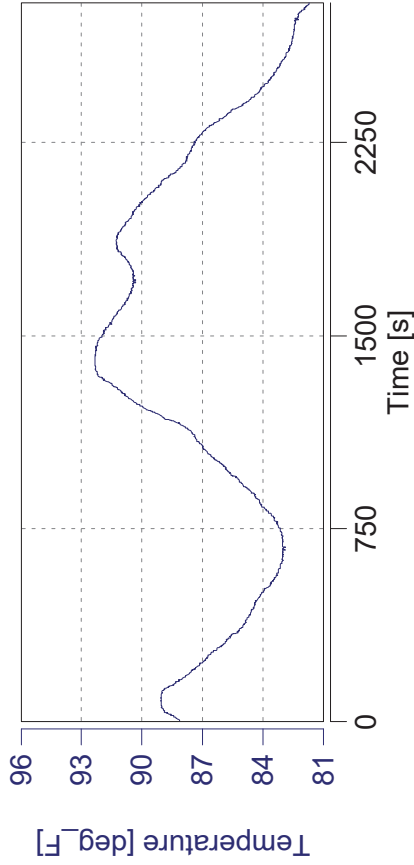
'Mountain'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat SEL / 3.6L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: GPS

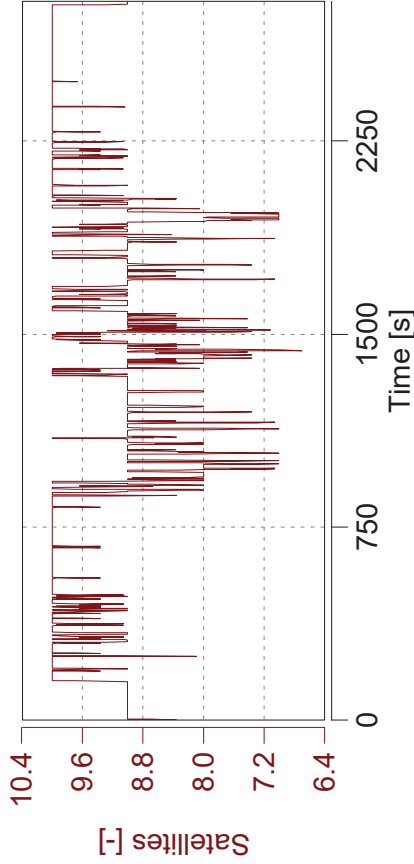
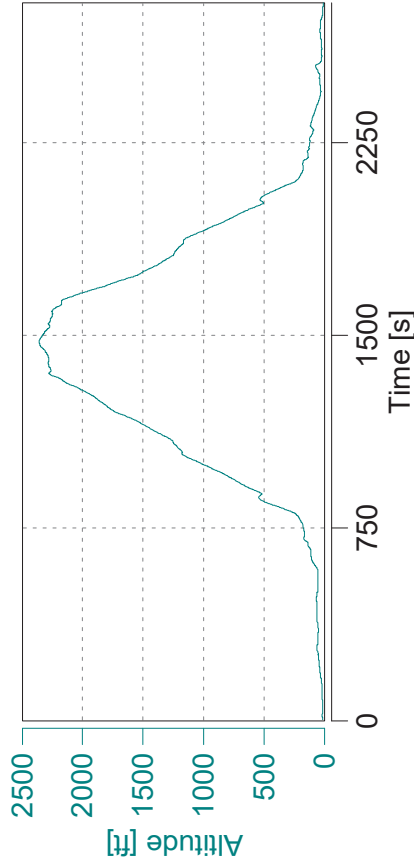
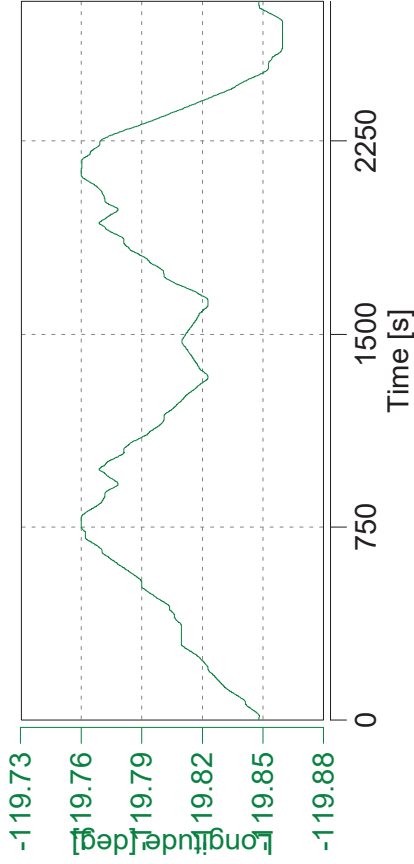
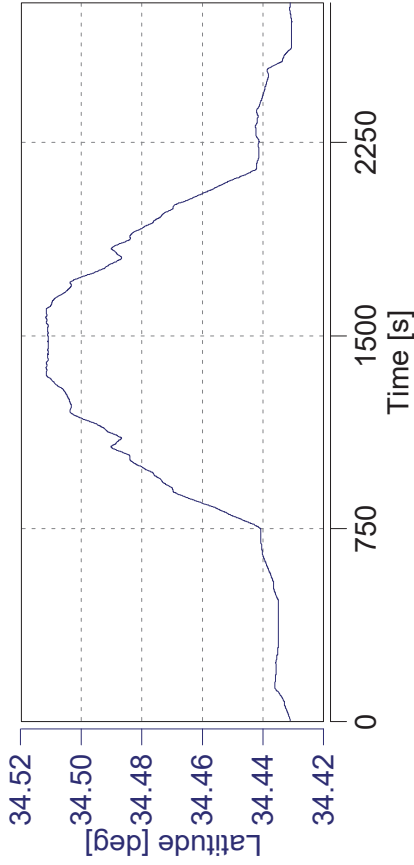
'Mountain'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Engine: /

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (1)

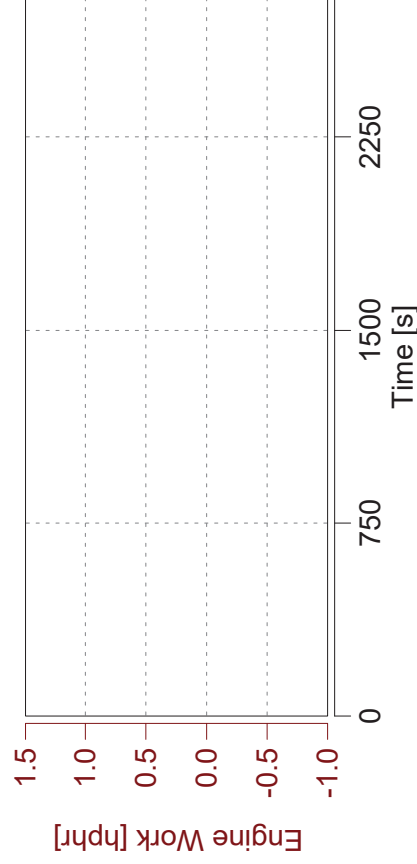
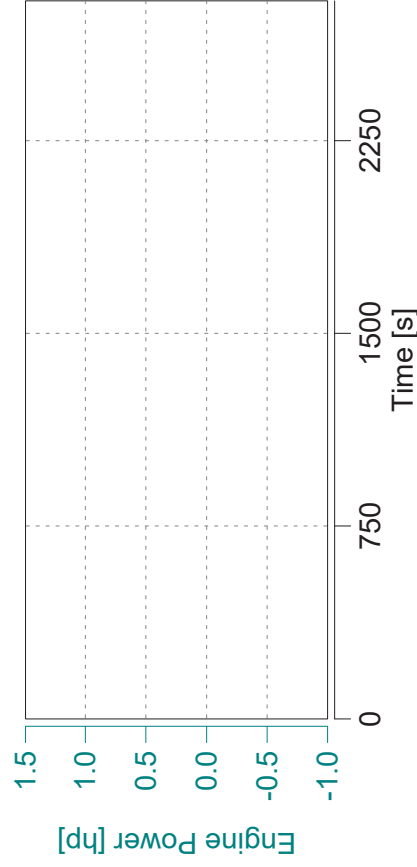
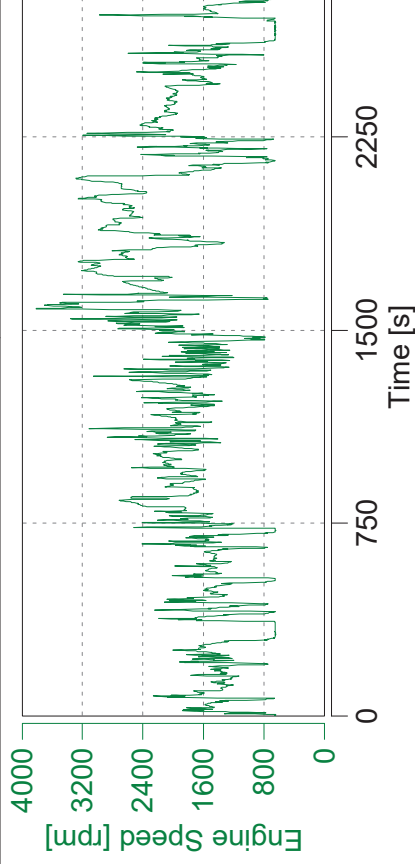
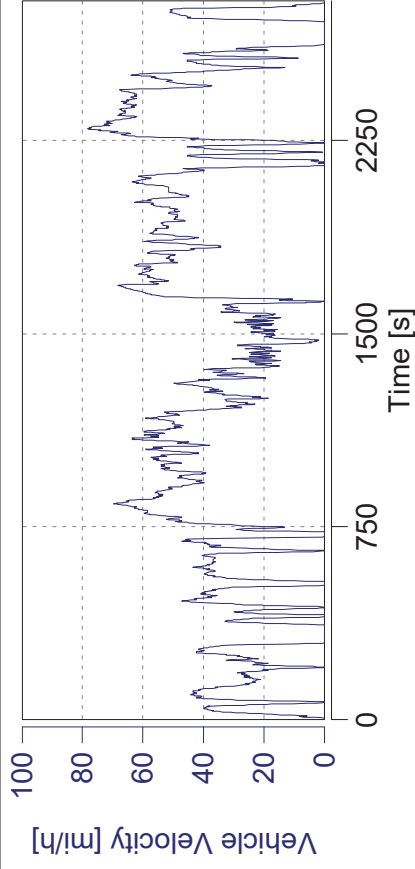
'Mountain'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat SEL / 3.6L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (2)

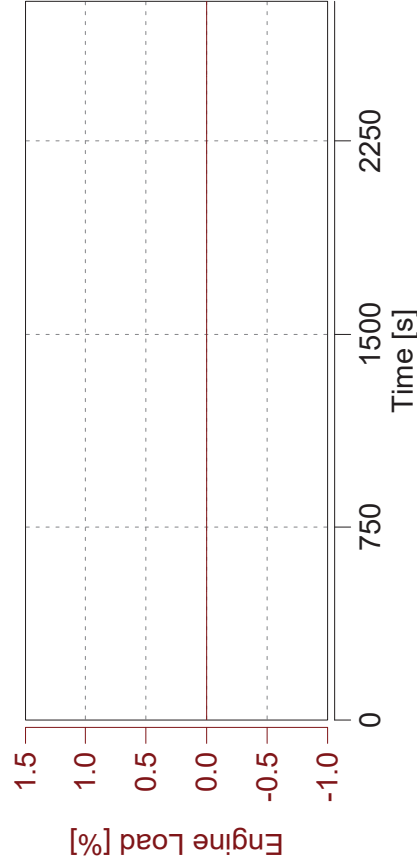
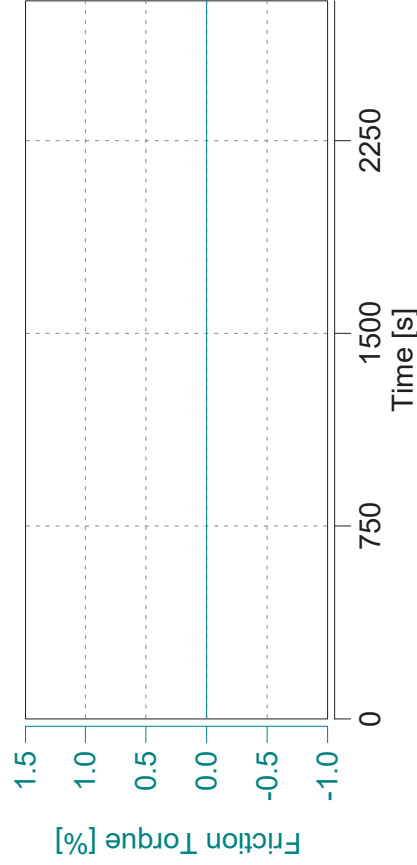
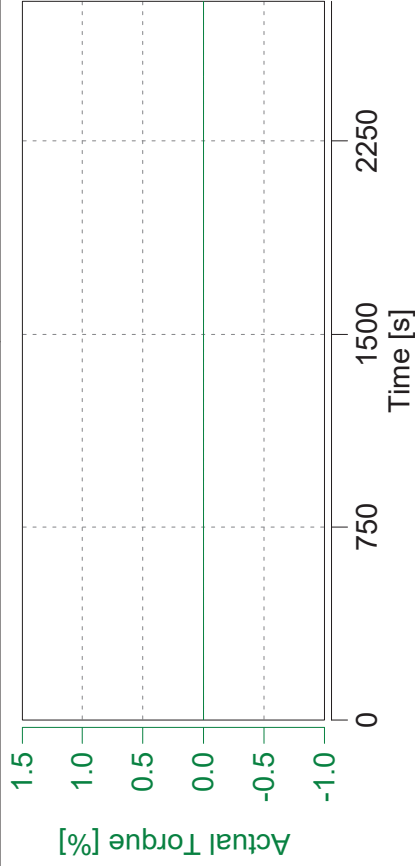
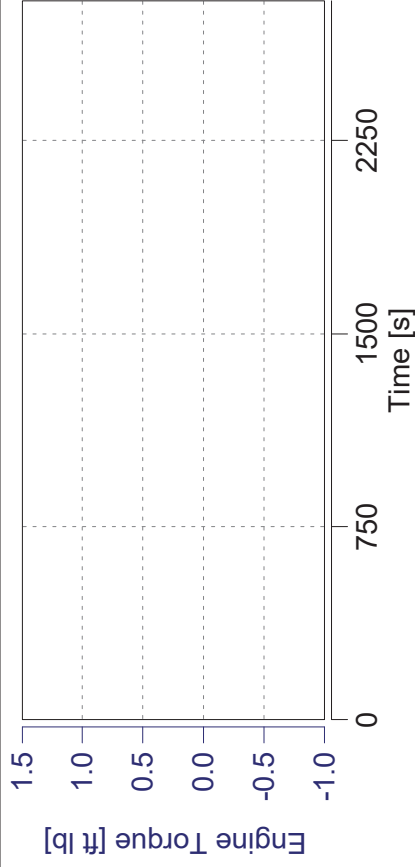
'Mountain'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (3)

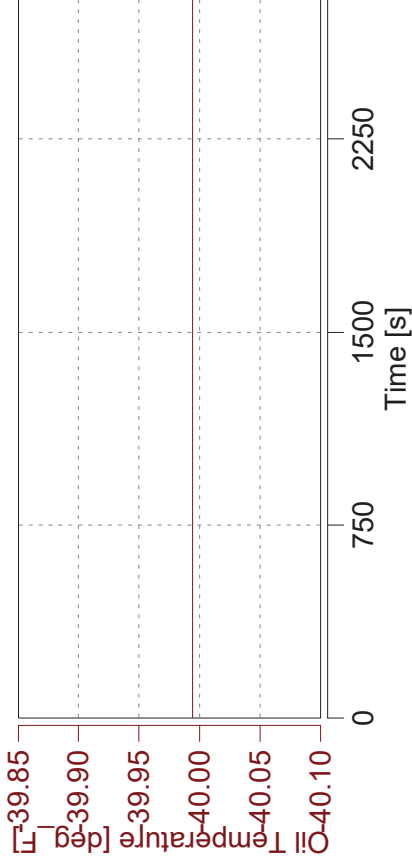
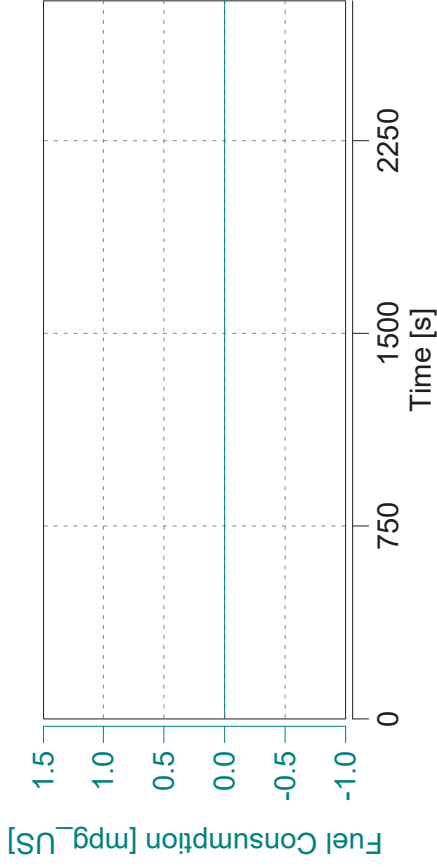
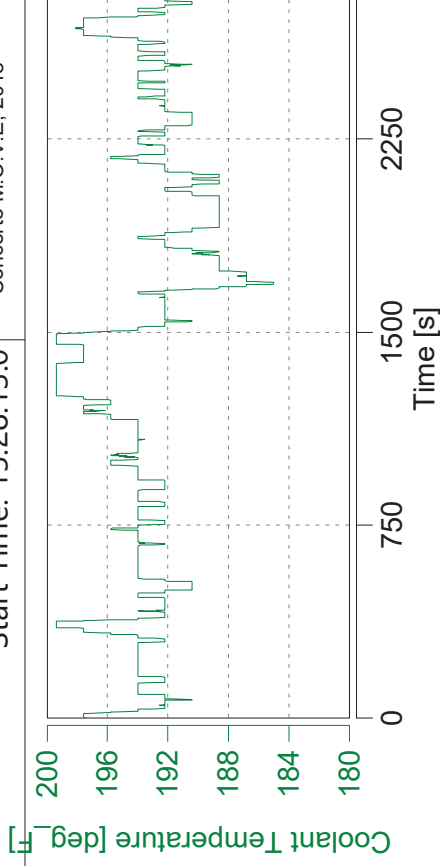
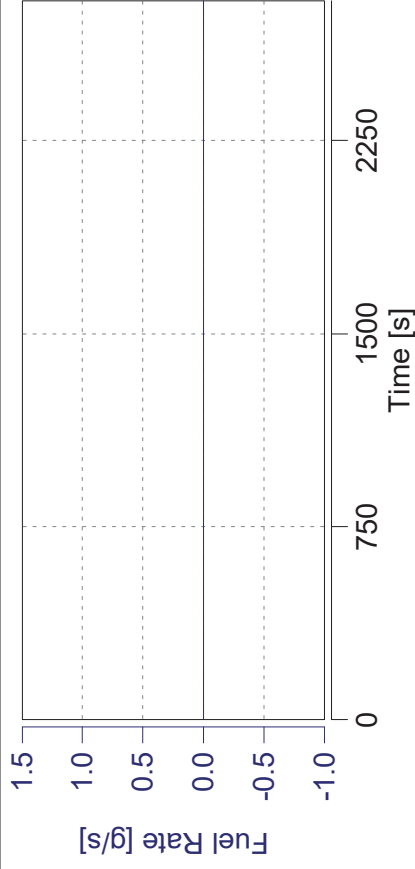
'Mountain'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Exhaust Flow (1)

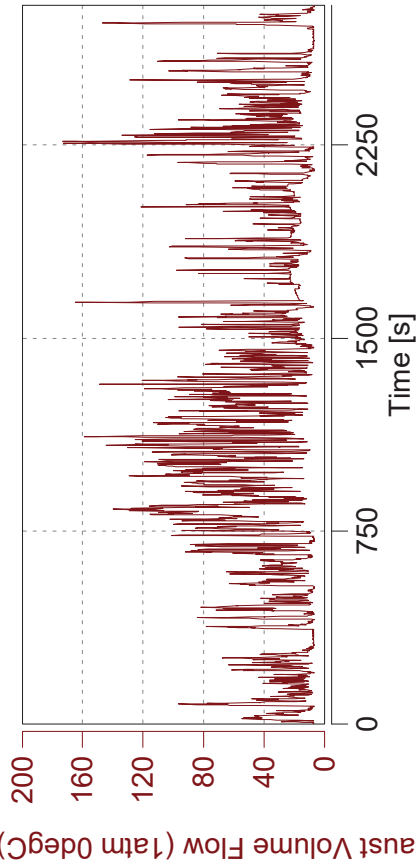
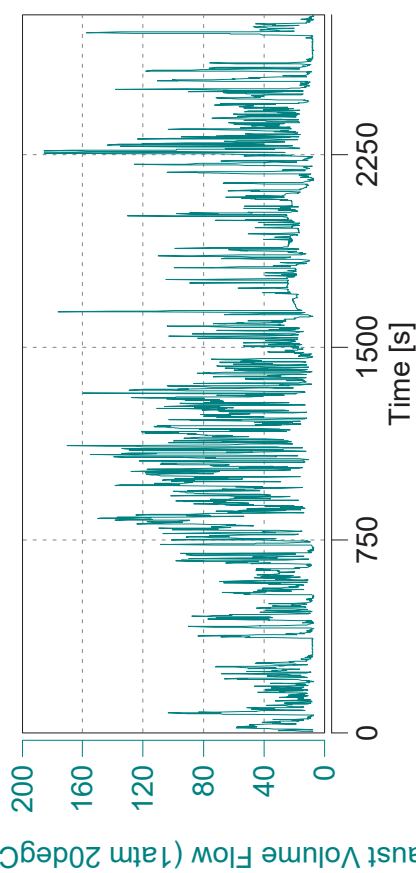
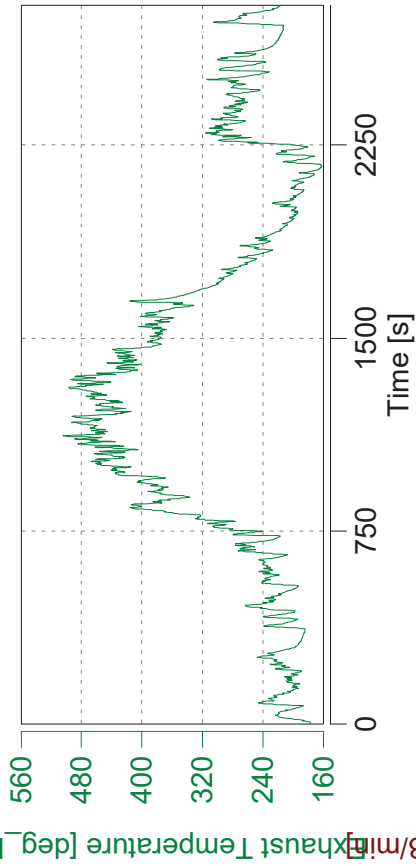
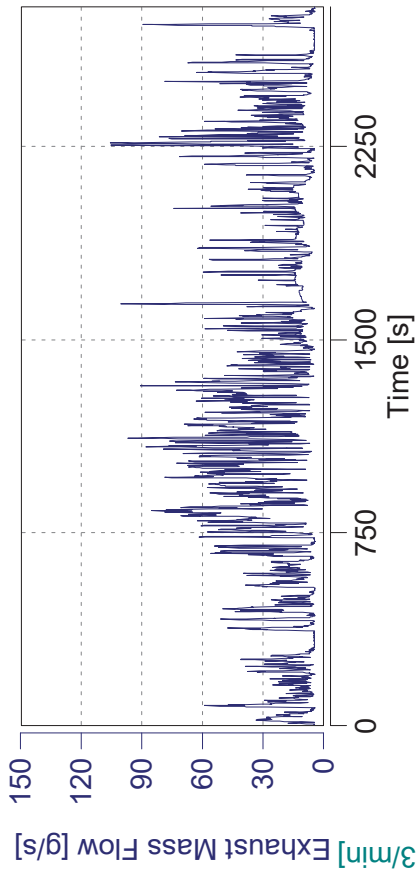
'Mountain'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat SEL / 3.6L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Exhaust Flow (2)

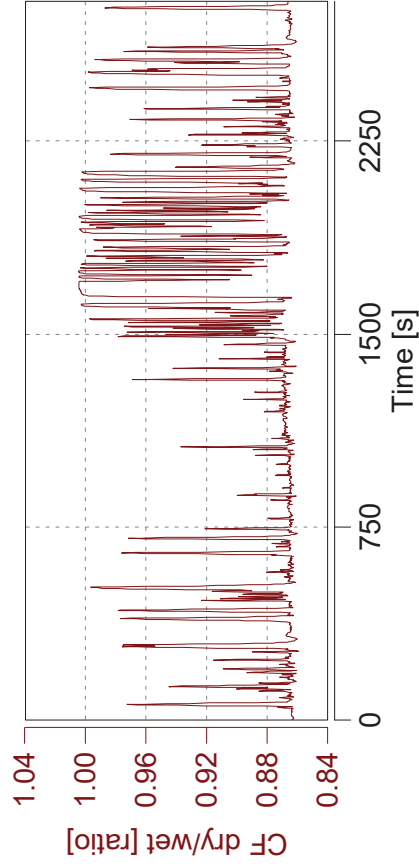
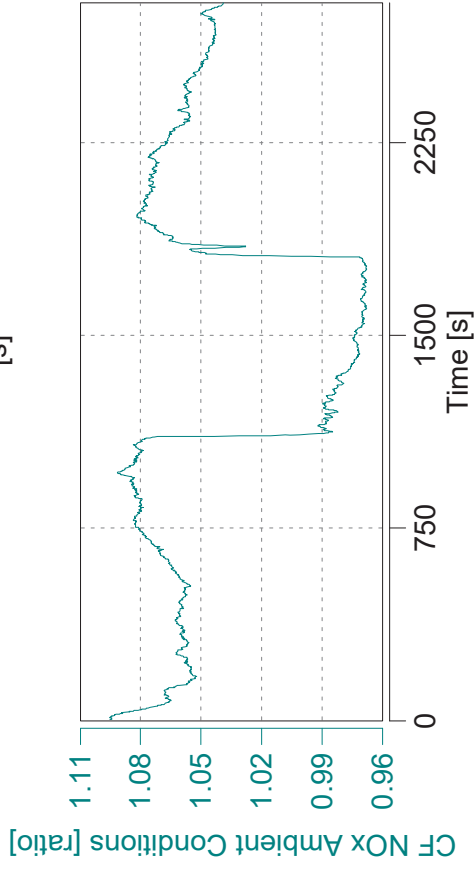
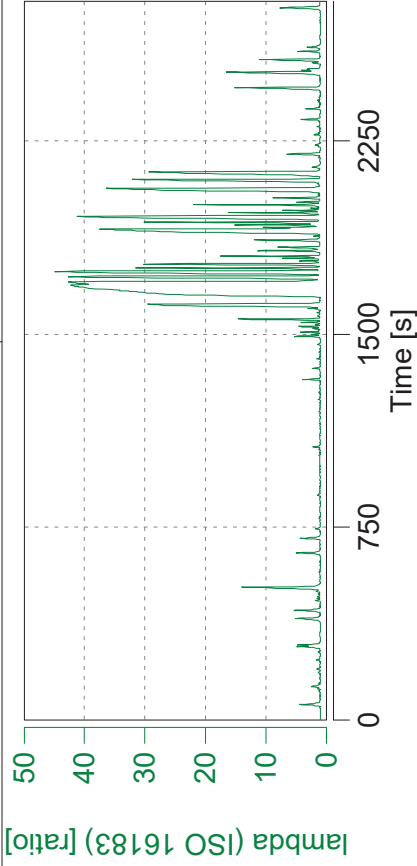
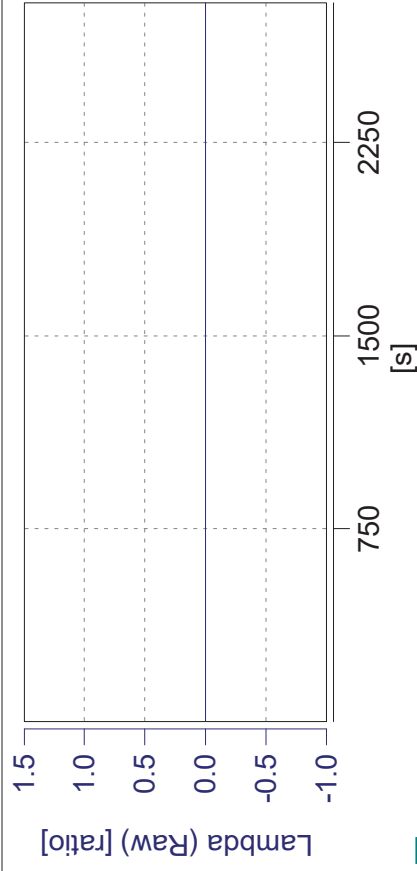
'Mountain'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (1)

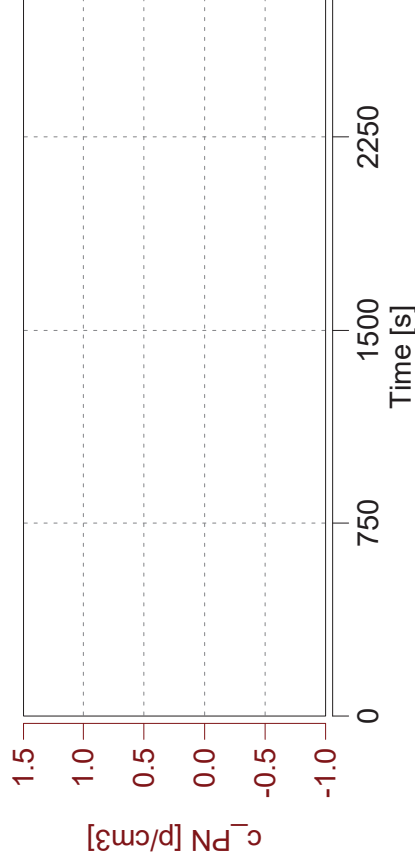
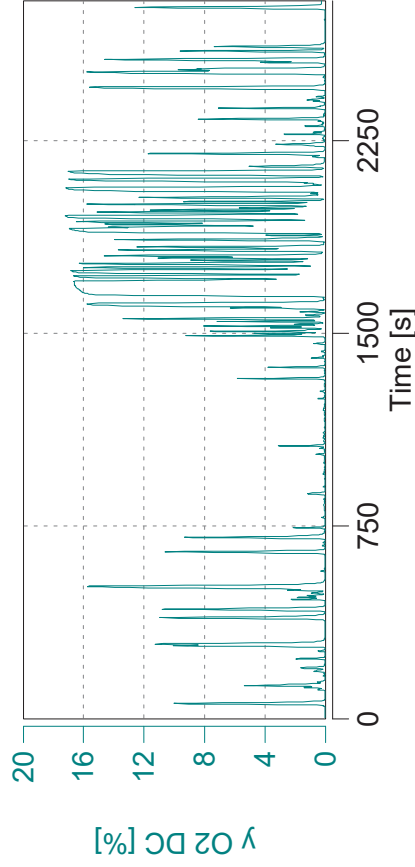
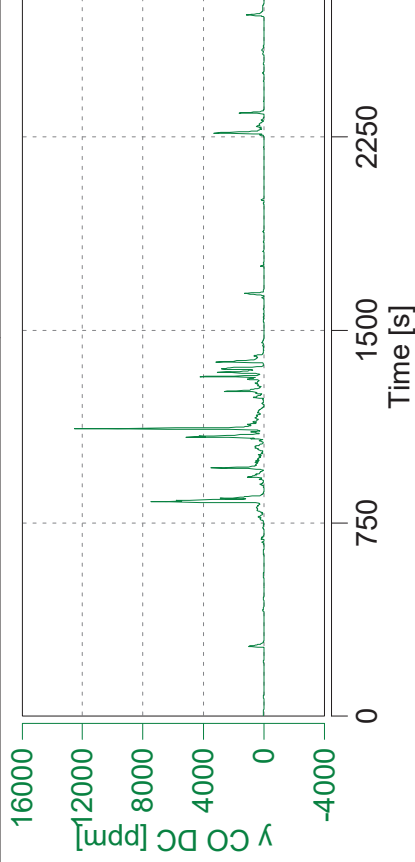
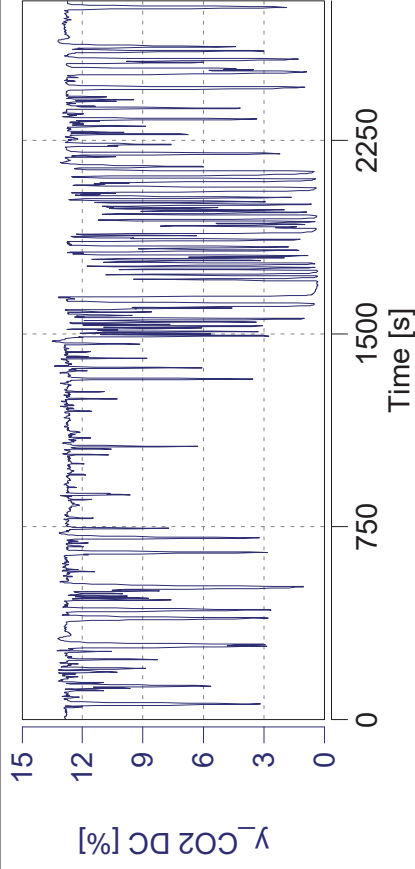
'Mountain'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (2)

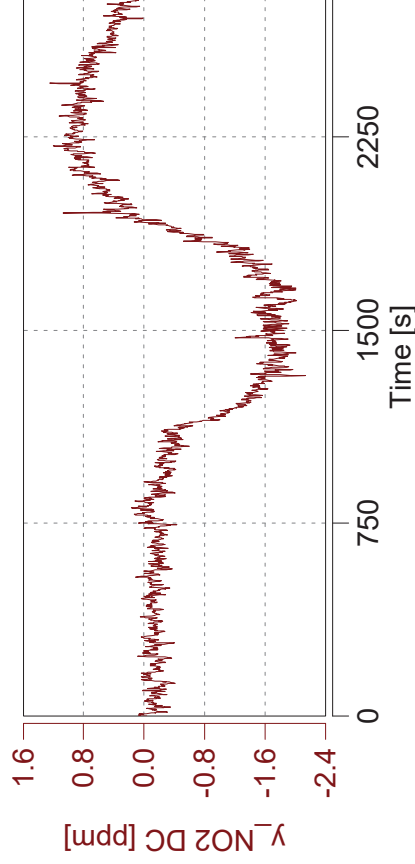
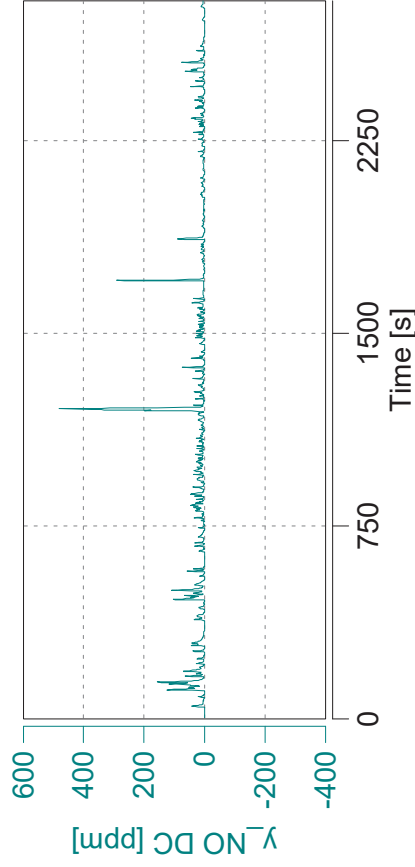
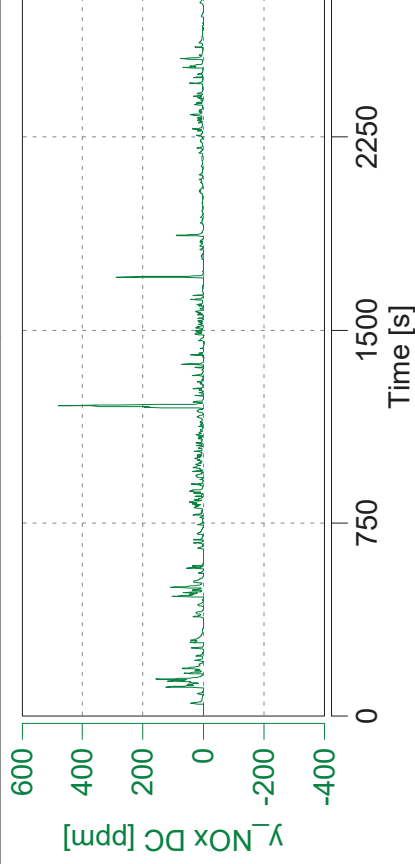
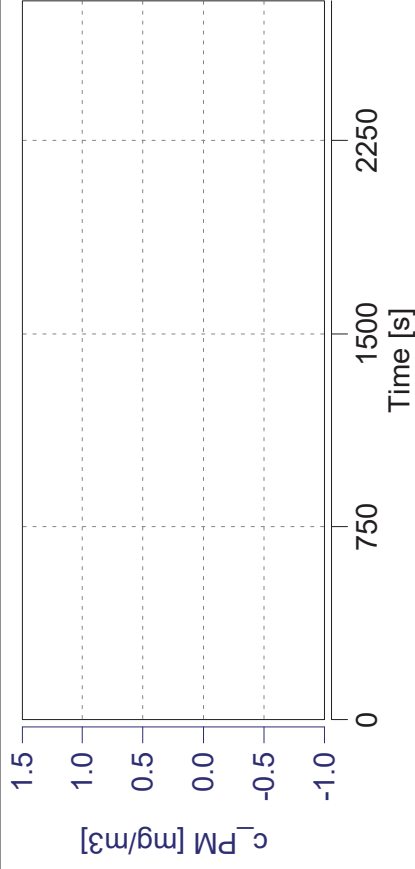
'Mountain'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat SEL / 3.6L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (3)

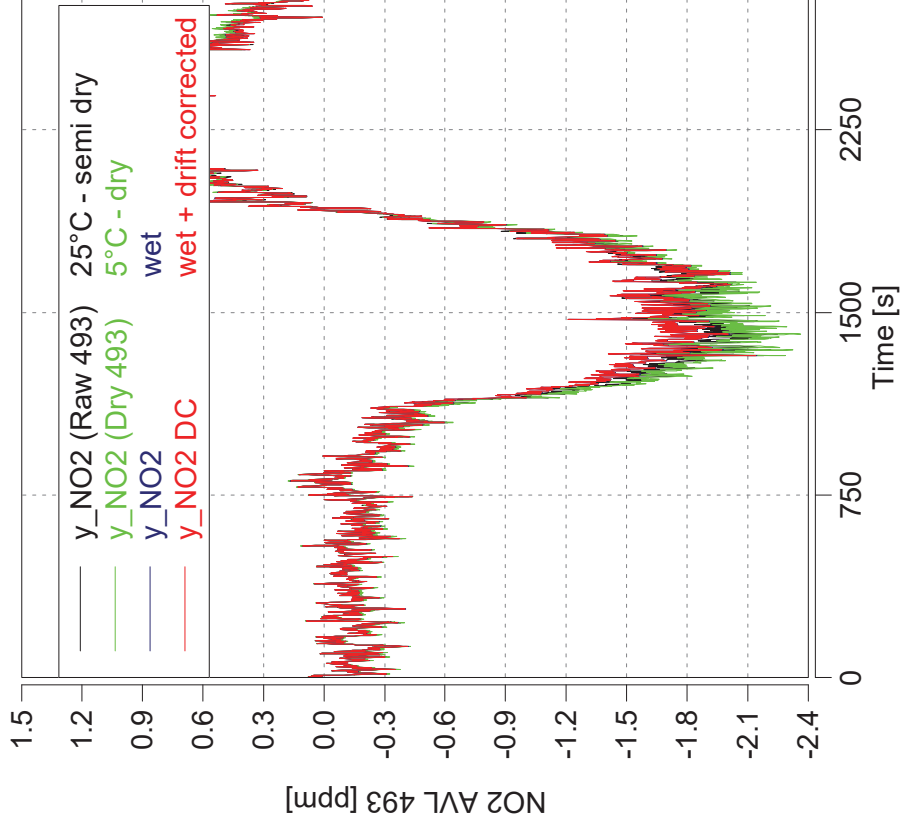
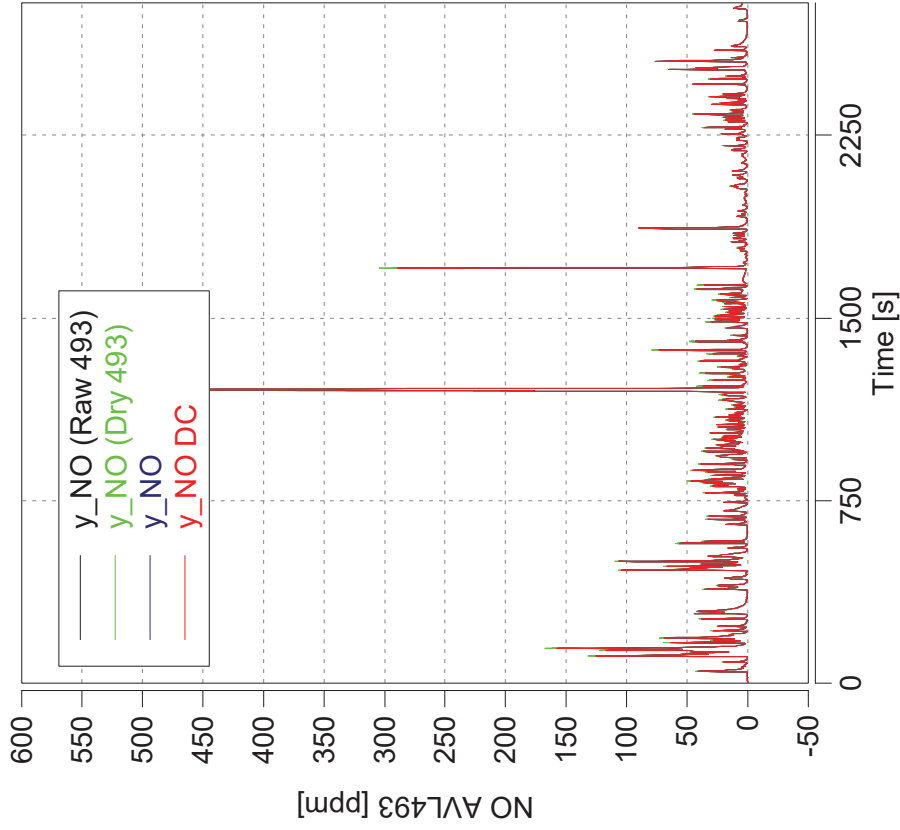
'Mountain'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (4) NOx Corrections

'Mountain'

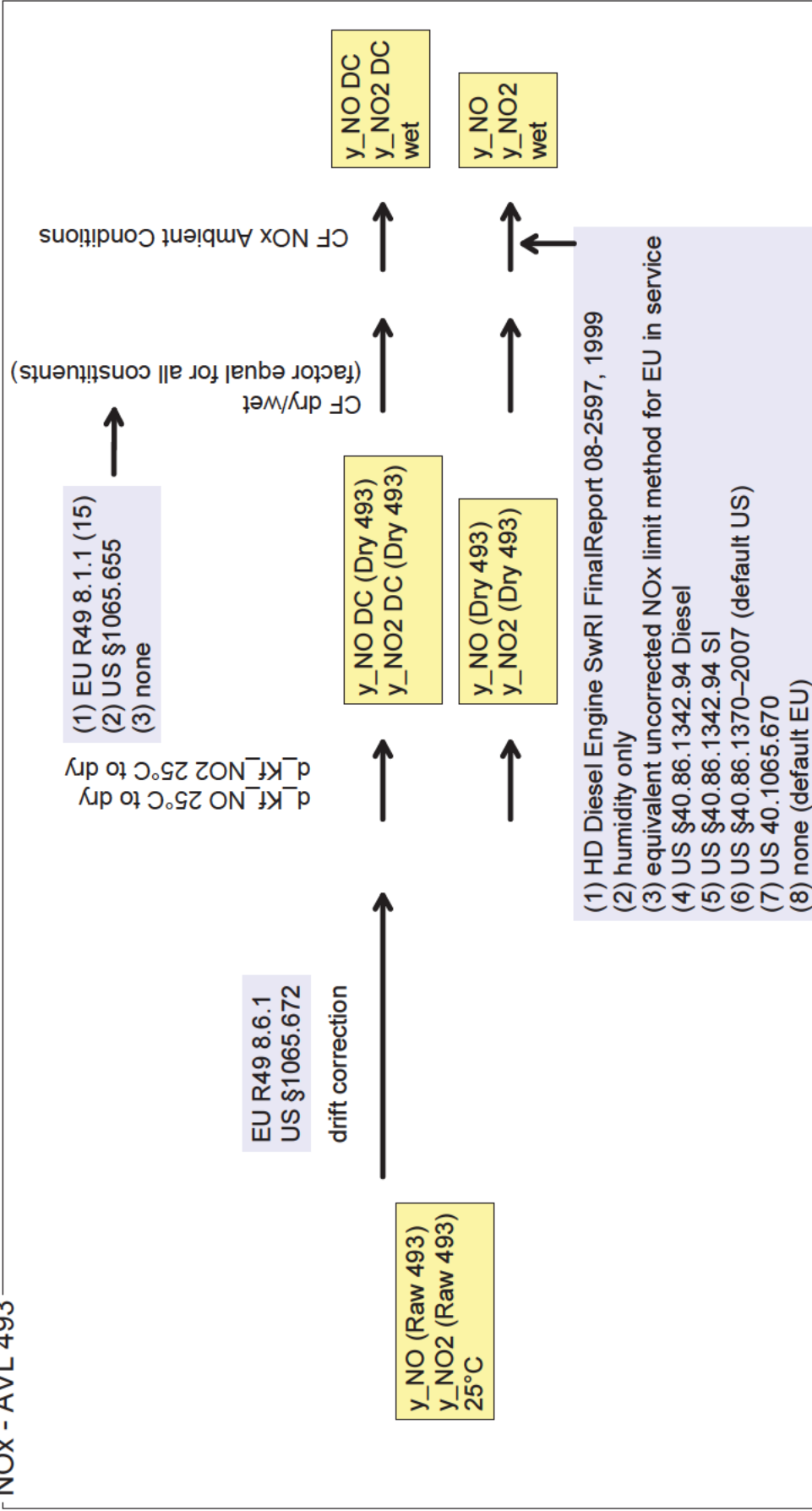
Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018

NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat SEL / 3.6L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (5)

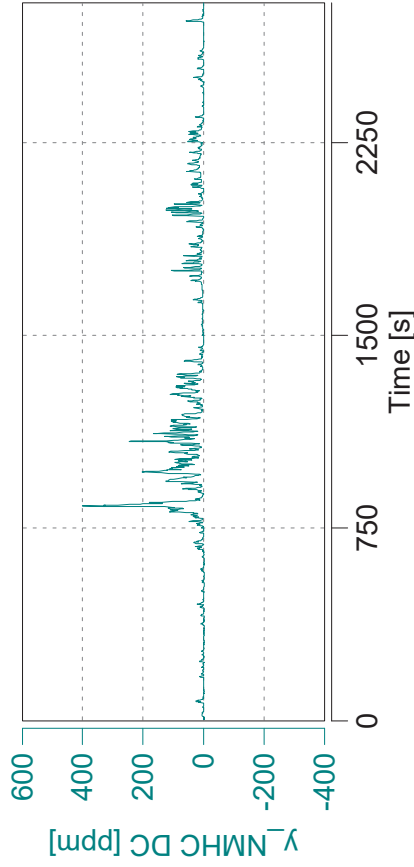
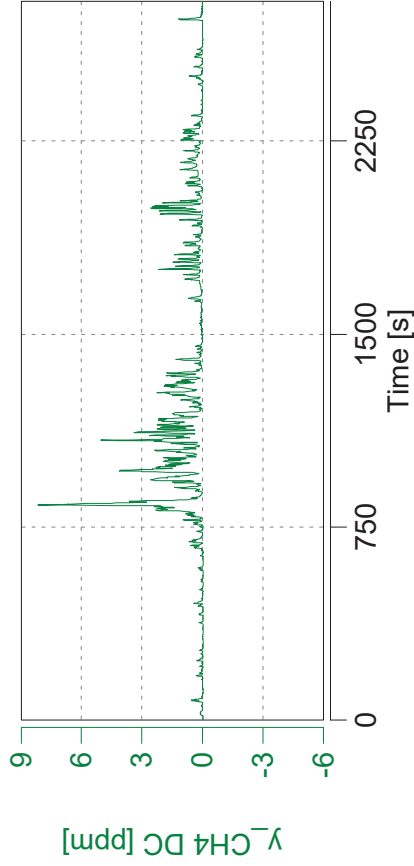
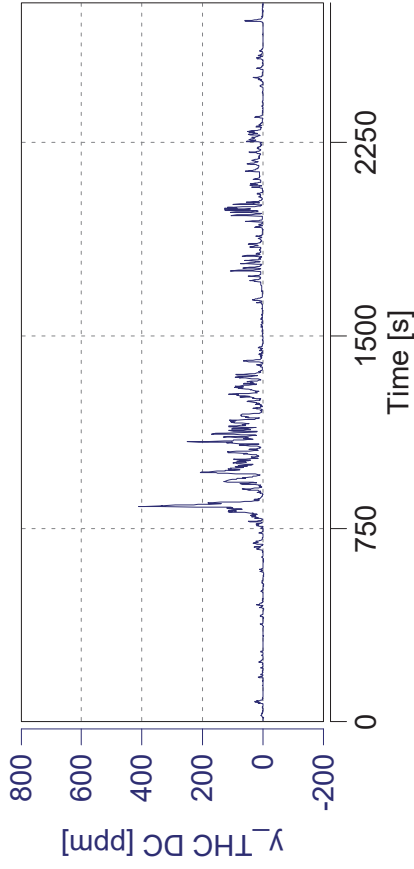
'Mountain'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Vehicle: Passat SEL / 3.6L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI Engine: /
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: NO/NO2/NOx Zero - Span

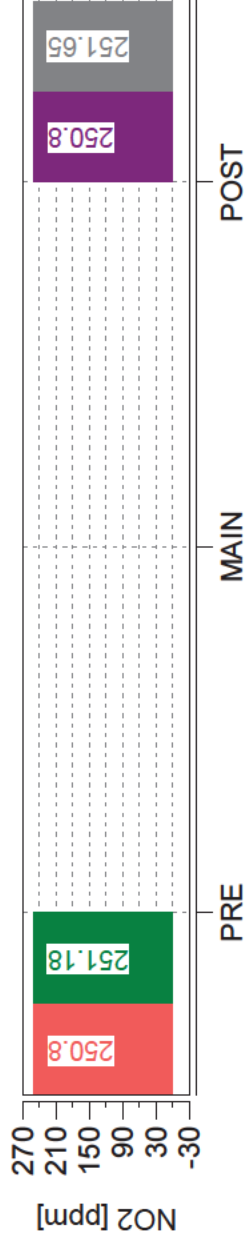
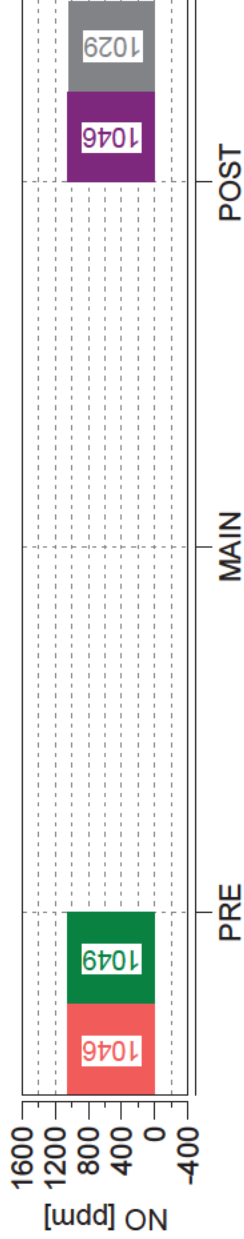
'Mountain'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: CO/CO2 Zero - Span

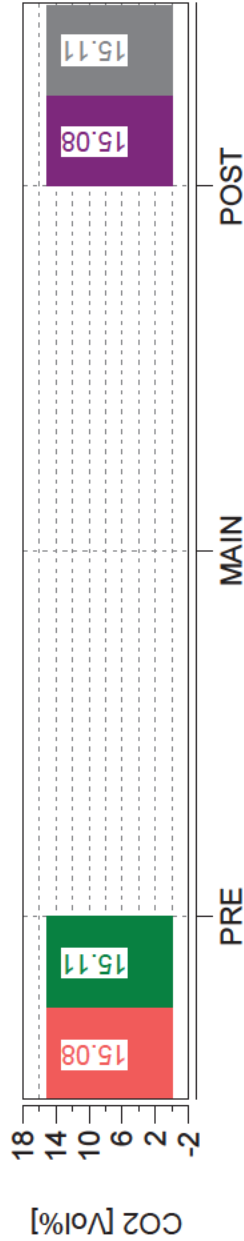
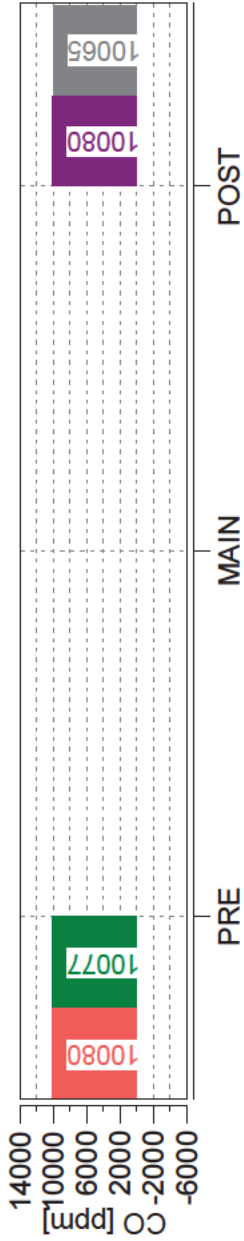
'Mountain'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine /

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: THC/CH4 Zero - Span

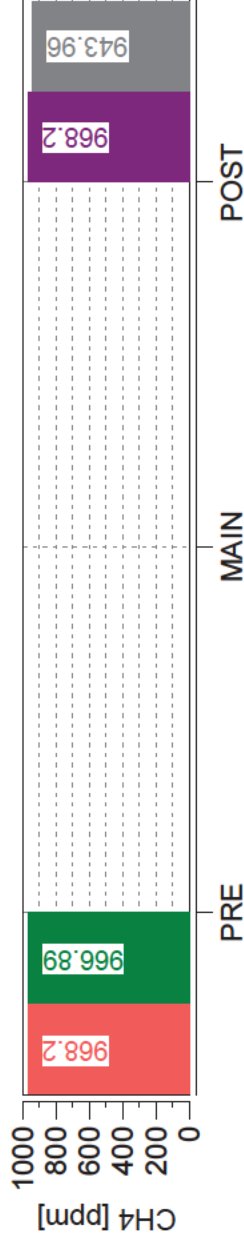
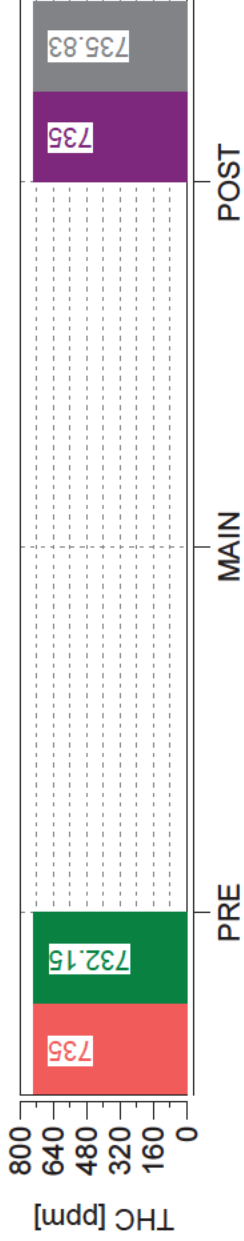
'Mountain'

Start Date: 07/24/2018

Start Time: 15:28:13.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Trip Summary

'City'

Start Date: 07/24/2018

Start Time: 10:39:01.0



Concerto M.O.V.E., 2018

Trip Duration	4433.00	s	ave THC	0.20670	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	4433.00	s	ave NMHC	0.20257	ppm	BS CO	n/a	g/hphr
Trip Distance	16.08	mi	ave CH4	0.00413	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	16.08	mi	ave CO	14.76484	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	12.20801	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx	8.53158	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	3.38	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.33	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.20	gall	tot THC	0.05213	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.18	gall	tot NMHC	0.04822	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00116	g	DS CO2	631.38051	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	1.65866	g	DS CO	0.10318	g/mi
Trip Fuel Economy EU (ac)	13.45	mpg_US	tot CO2	10149.90313	g	DS THC	0.00324	g/mi
Trip Fuel Economy US (ac)	13.64	mpg_US	tot NO (d)	0.48735	g	DS NMHC	0.00300	g/mi
Trip Av. Eng. Speed	1140.80	rpm	tot NO2	0.10256	g	DS CH4	0.00007	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.58991	g	DS NO (d)	0.03032	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	0.00638	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.03670	g/mi
Trip Exhaust Mass	53.67	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	101.77	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	31.08	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	13.05496	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	28.94203	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Trip Summary Drift Corrected

'City'

Start Date: 07/24/2018

Start Time: 10:39:01.0



Concerto M.O.V.E. 2018

Trip Duration	4433.00	s	ave THC DC	0.69587	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	4433.00	s	ave NMHC DC	0.68196	ppm	BS CO DC	n/a	g/hphr
Trip Distance	16.08	mi	ave CH4 DC	0.01392	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	16.08	mi	ave CO DC	14.34794	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	12.20396	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	8.24246	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	3.38	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.33	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.20	gall	tot THC DC	0.06533	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.18	gall	tot NMHC DC	0.06043	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.00145	g	DS CO2 DC	631.17124	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	1.63665	g	DS CO DC	0.10181	g/mi
Trip Fuel Economy EU (ac)	13.45	mpg_US	tot CO2 DC	10146.53889	g	DS THC DC	0.00406	g/mi
Trip Fuel Economy US (ac)	13.64	mpg_US	tot NO DC (d)	0.48040	g	DS NMHC DC	0.00376	g/mi
Trip Av. Eng. Speed	1140.80	rpm	tot NO2 DC	0.08486	g	DS CH4 DC	0.00009	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.56525	g	DS NO DC (d)	0.02988	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	0.00528	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.03516	g/mi
Trip Exhaust Mass	53.67	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	101.77	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	31.08	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	13.05496	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	28.94203	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Time Alignment Check

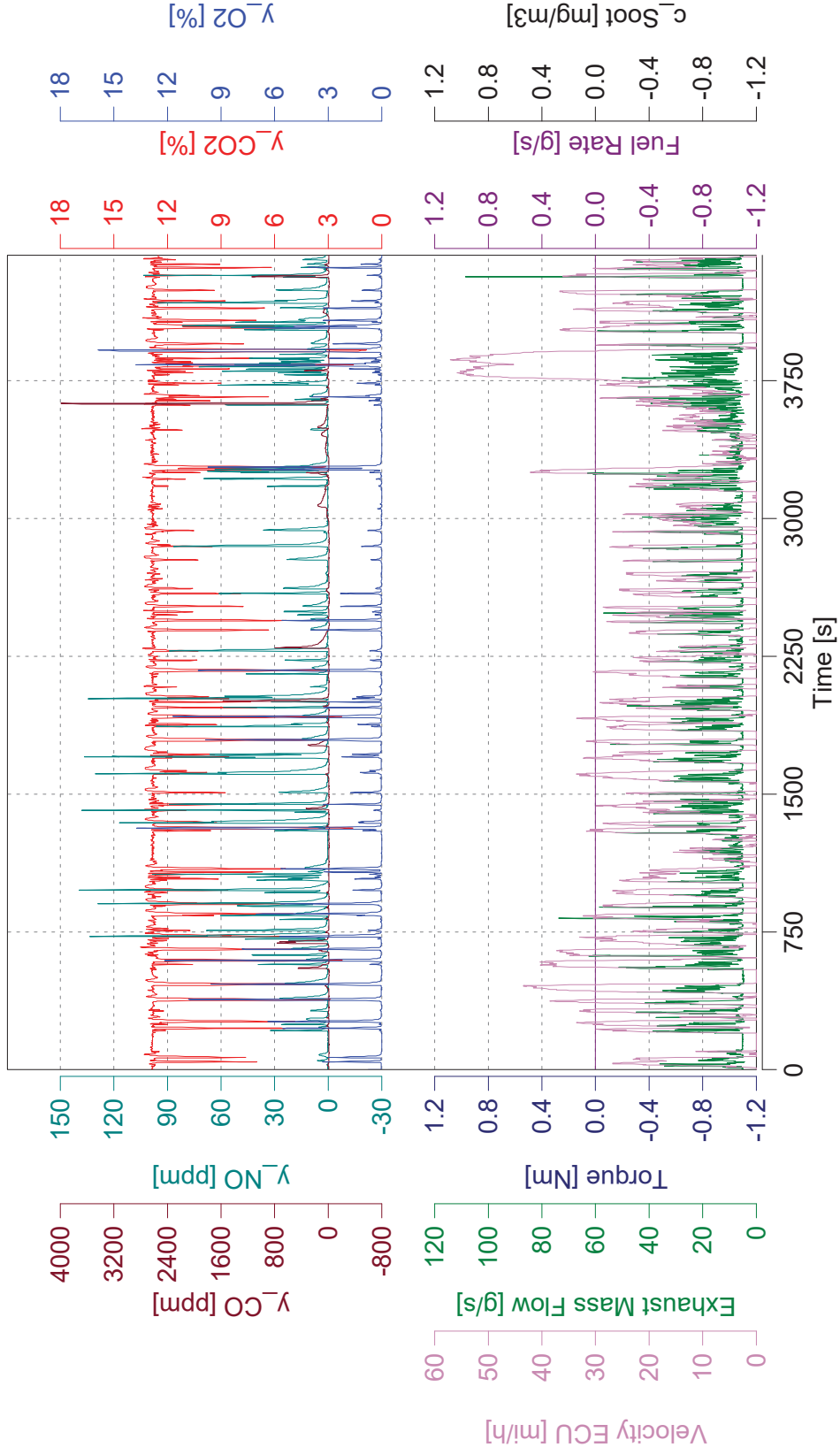
'City'

Start Date: 07/24/2018

Start Time: 10:39:01.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Time Alignment of Gas Concentrations

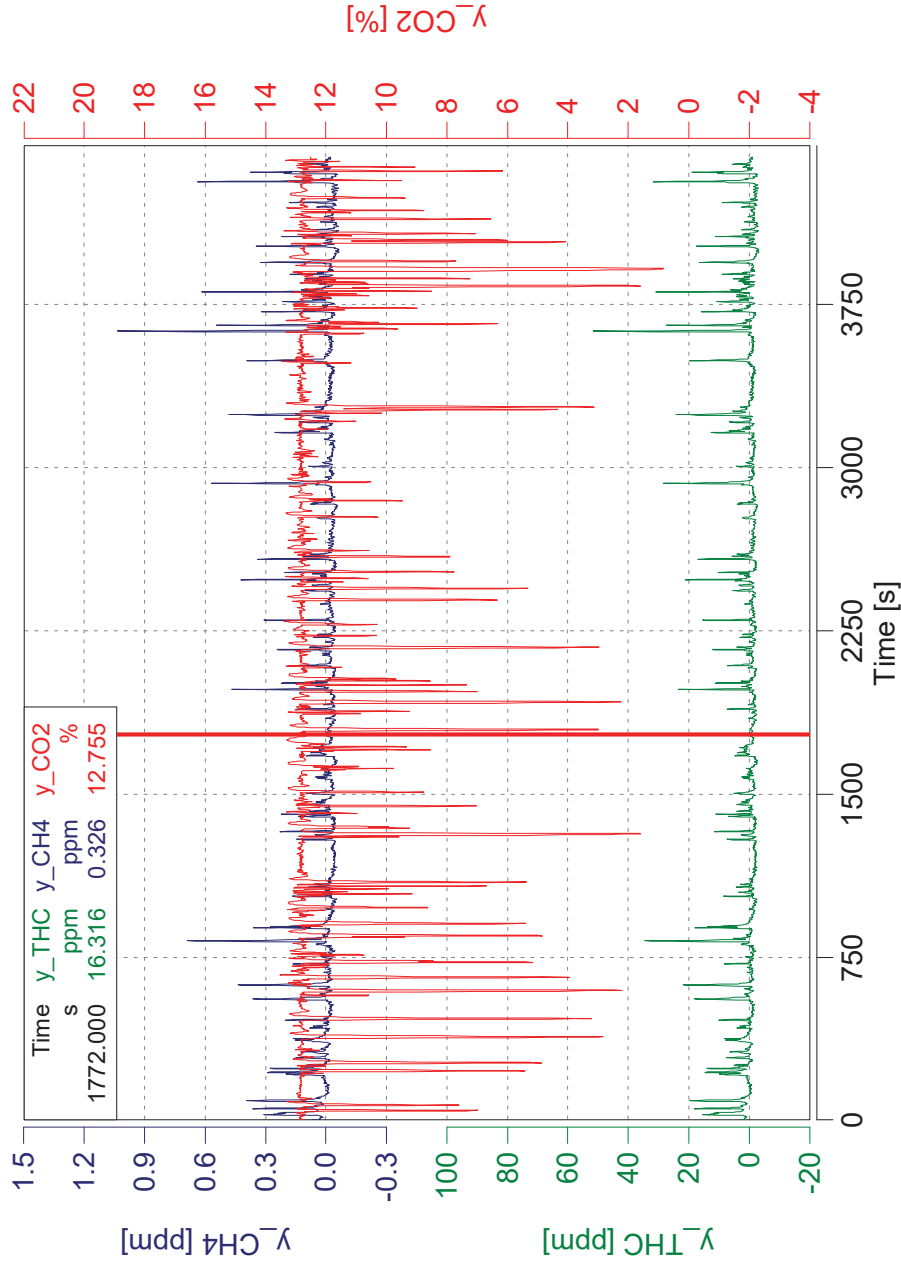
'City'

Start Date: 07/24/2018

Start Time: 10:39:01.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Ambient Conditions

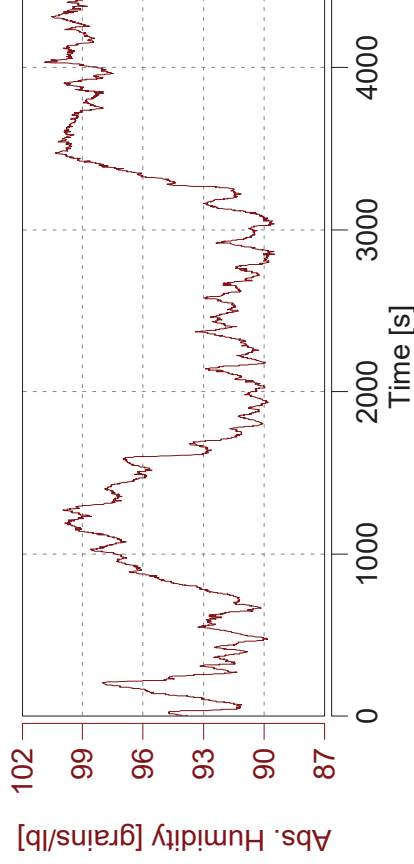
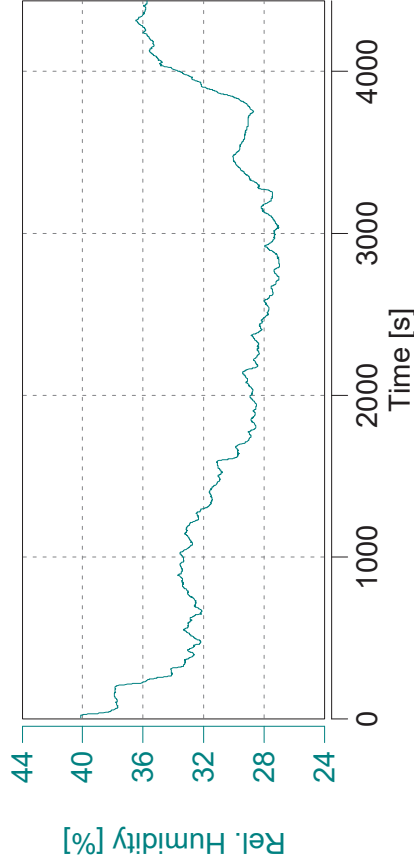
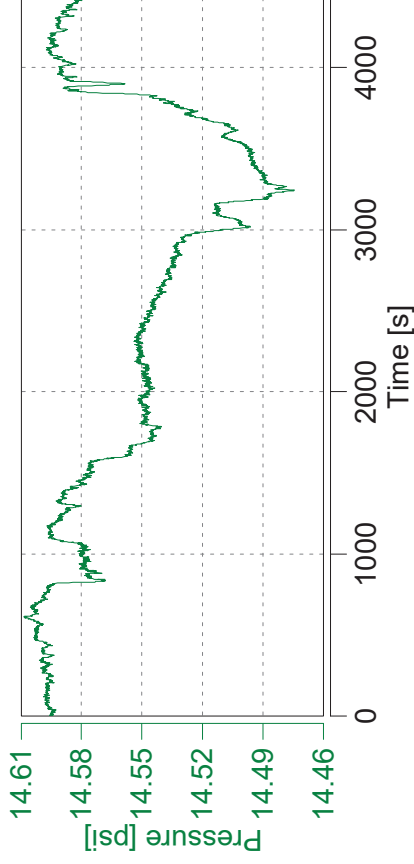
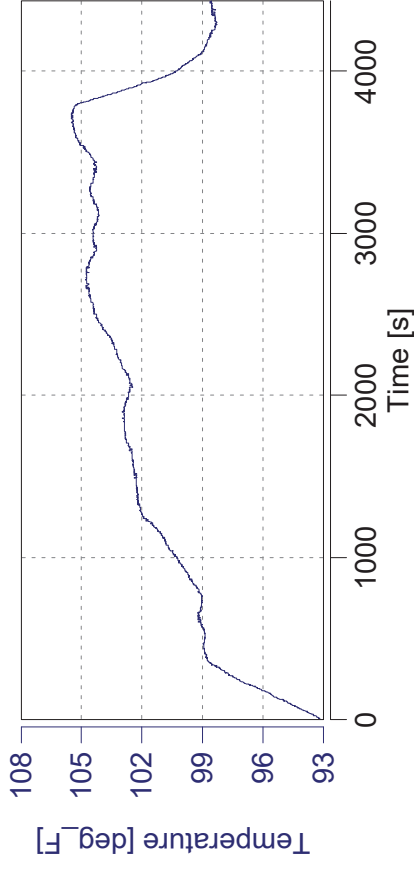
'City'

Start Date: 07/24/2018

Start Time: 10:39:01.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

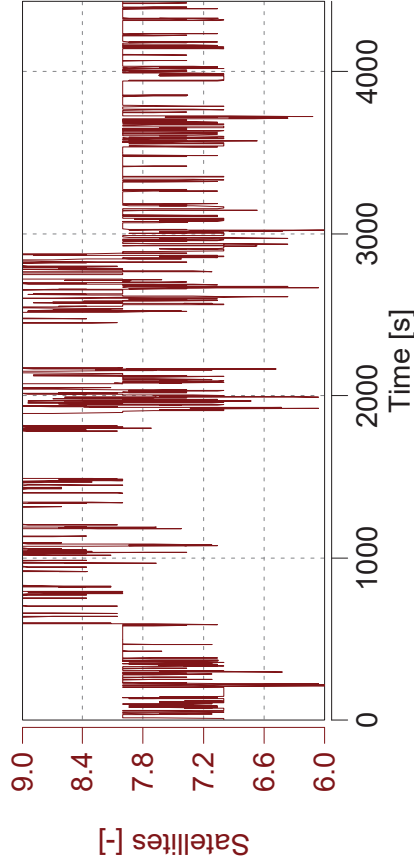
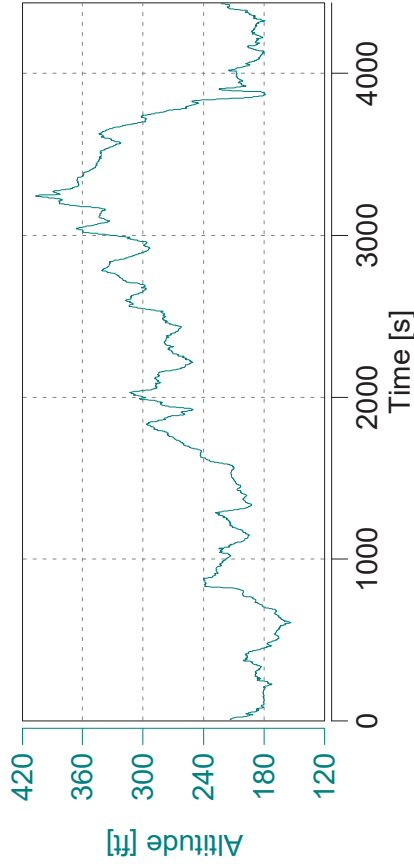
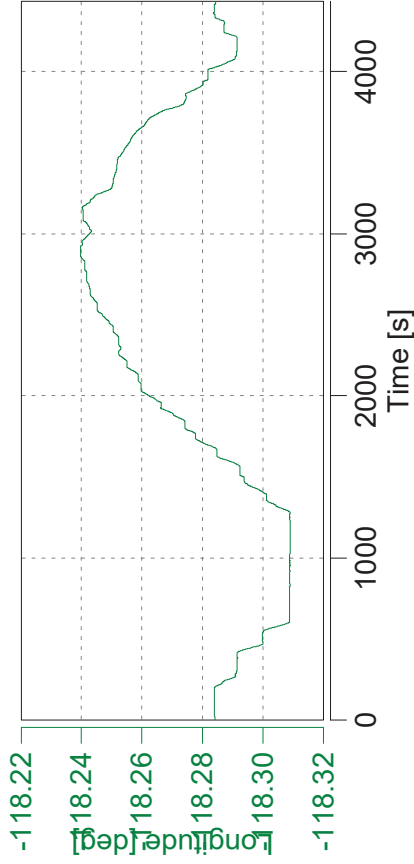
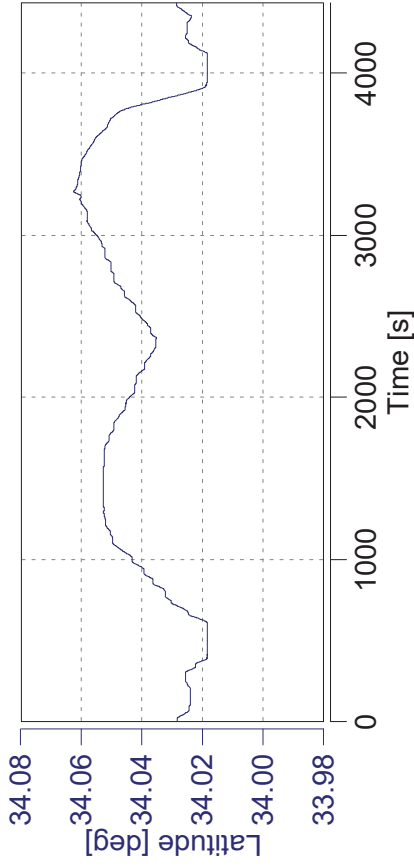
Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City
Page: GPS

'City'
Start Date: 07/24/2018
Start Time: 10:39:01.0



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat SEL / 3.6L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (1)

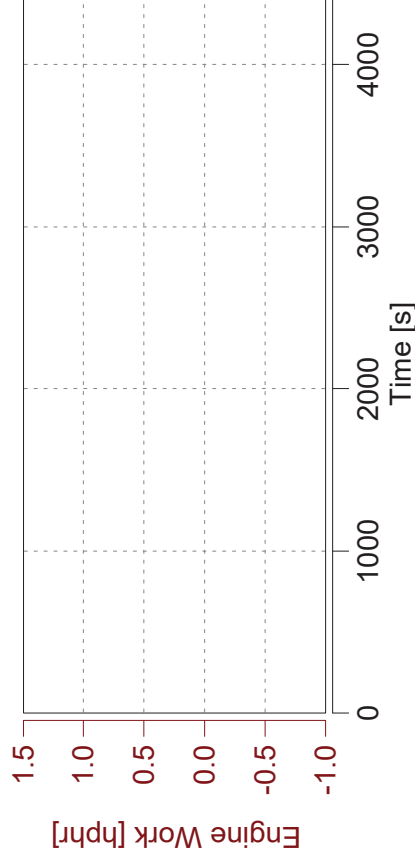
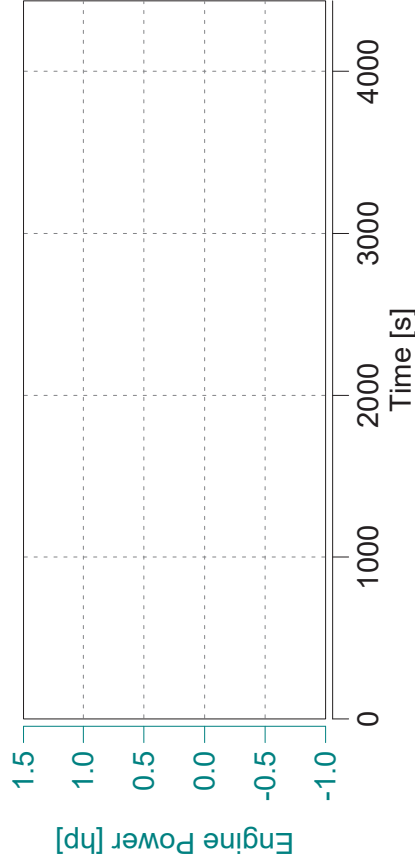
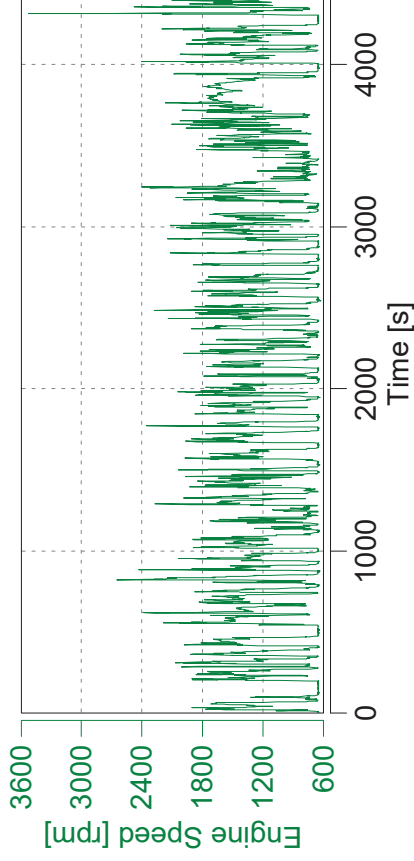
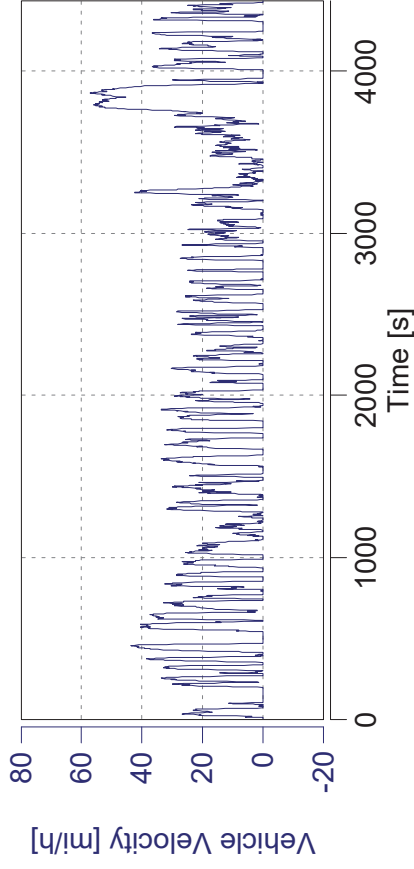
'City'

Start Date: 07/24/2018

Start Time: 10:39:01.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat SEL / 3.6L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (2)

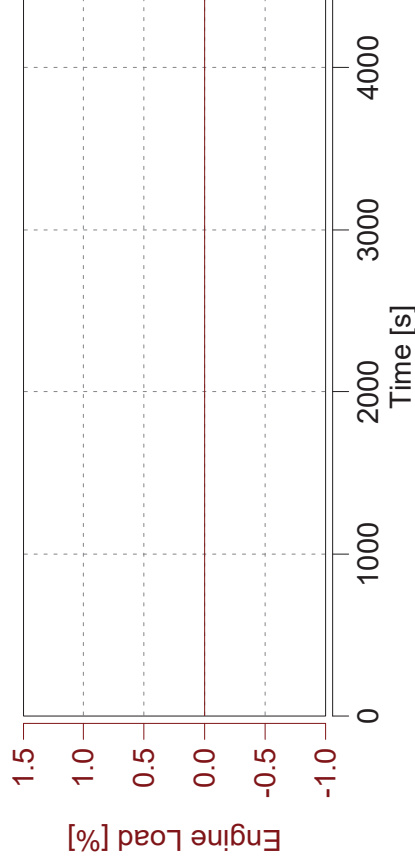
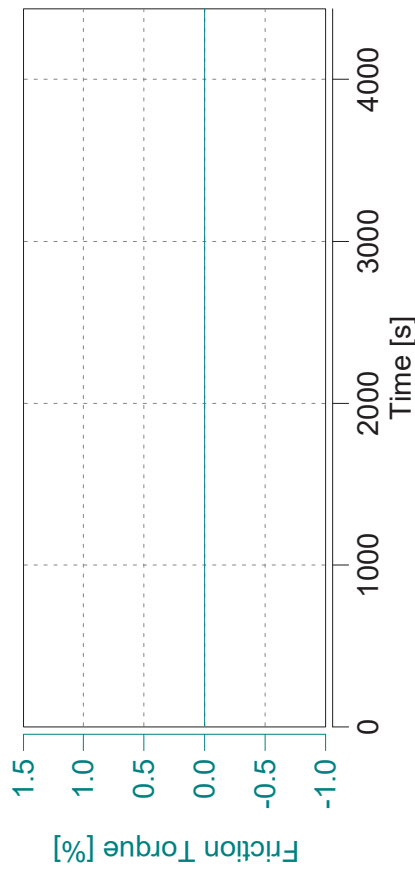
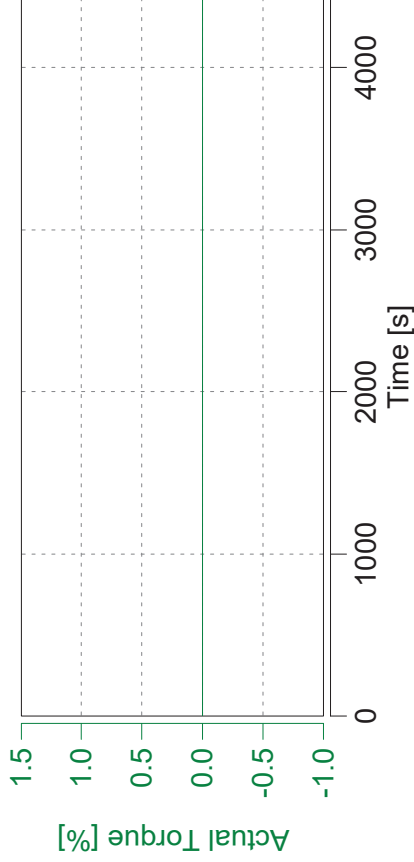
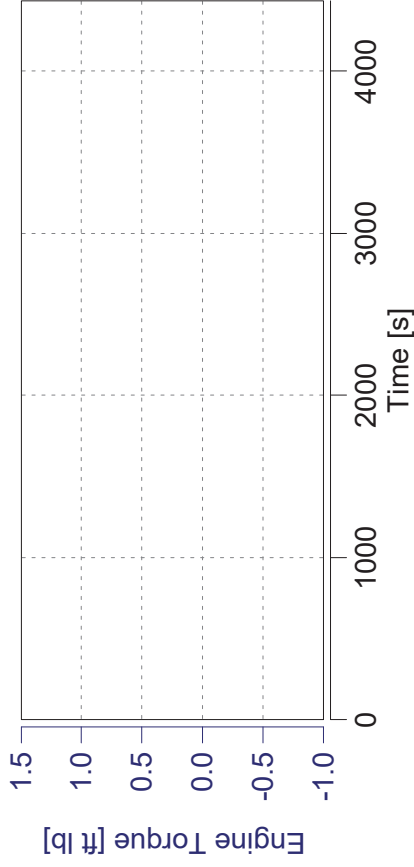
'City'

Start Date: 07/24/2018

Start Time: 10:39:01.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (3)

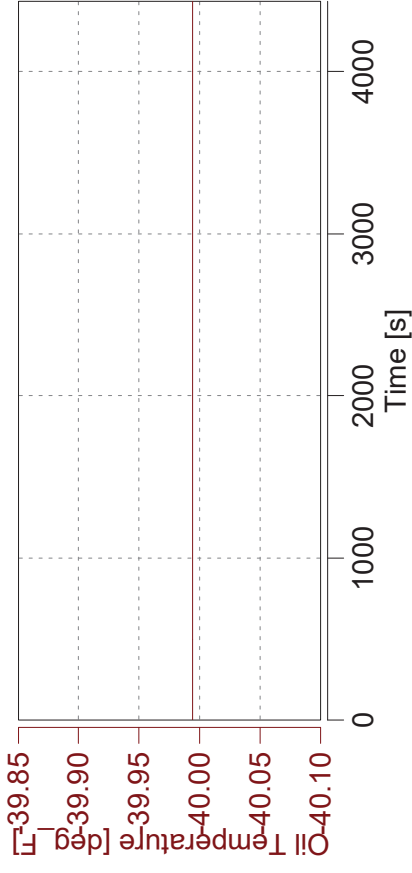
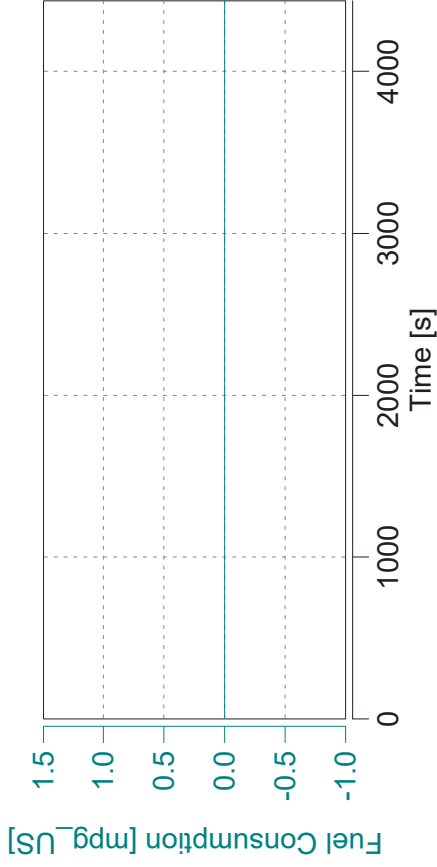
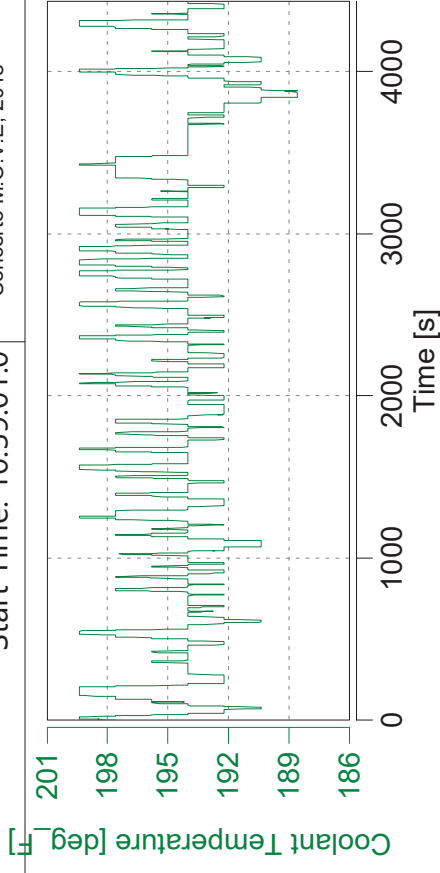
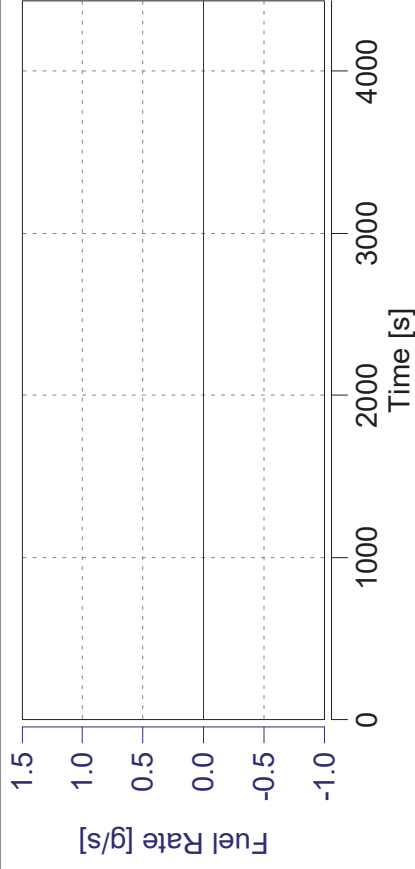
'City'

Start Date: 07/24/2018

Start Time: 10:39:01.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat SEL / 3.6L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Exhaust Flow (1)

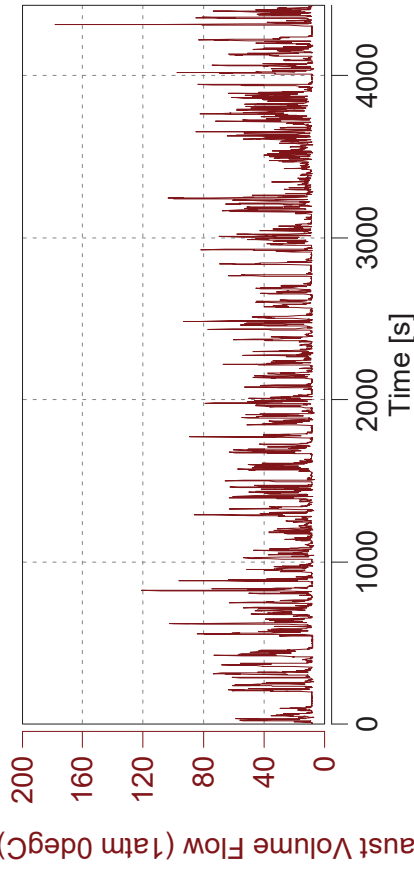
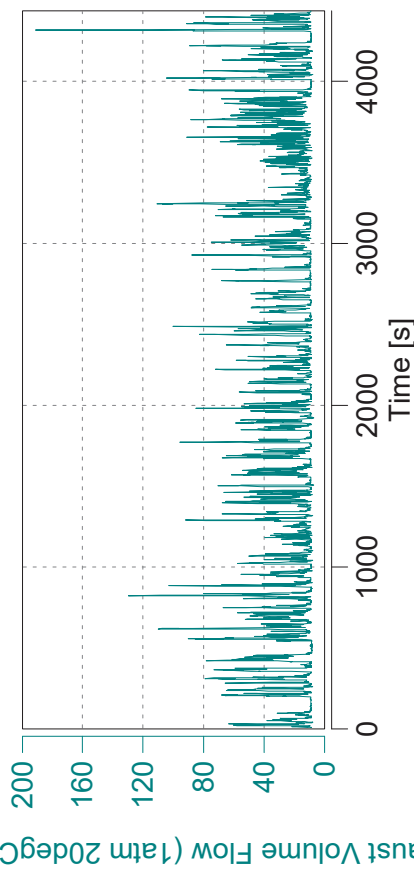
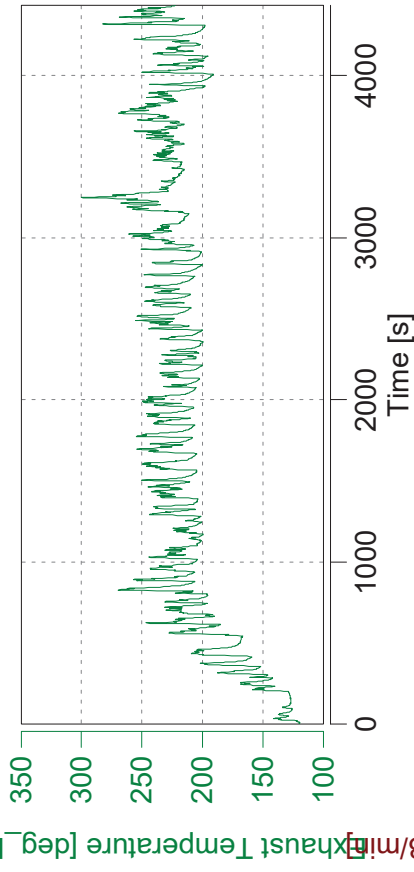
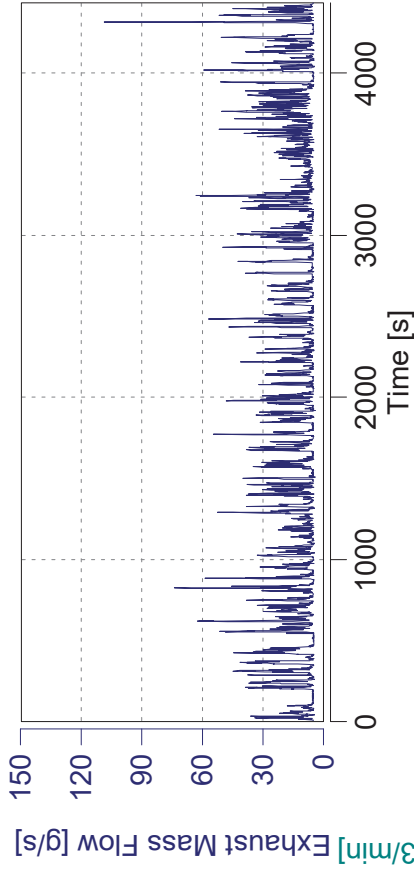
'City'

Start Date: 07/24/2018

Start Time: 10:39:01.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat SEL / 3.6L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Exhaust Flow (2)

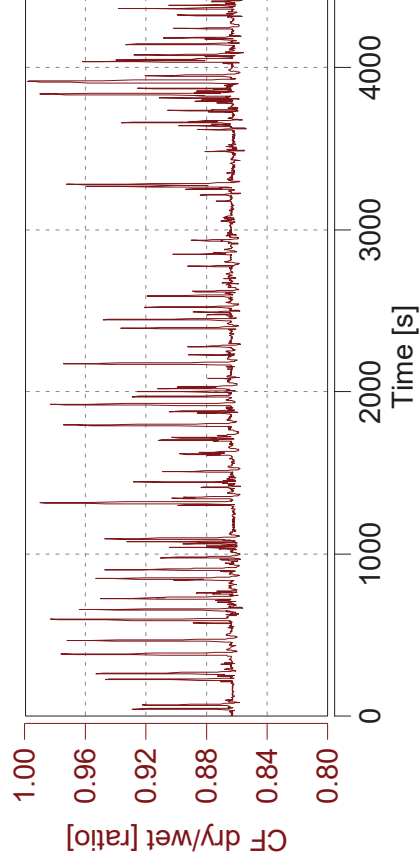
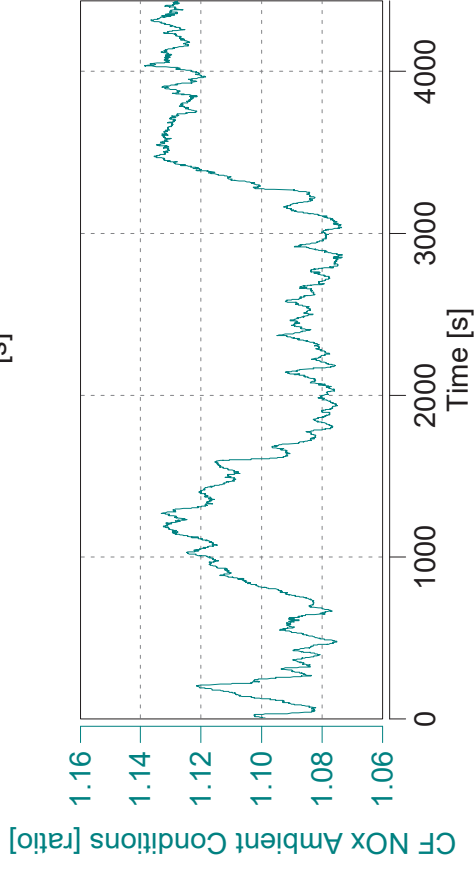
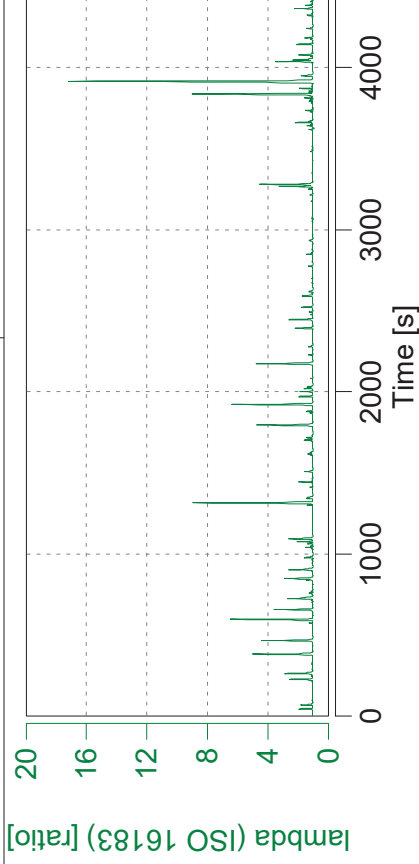
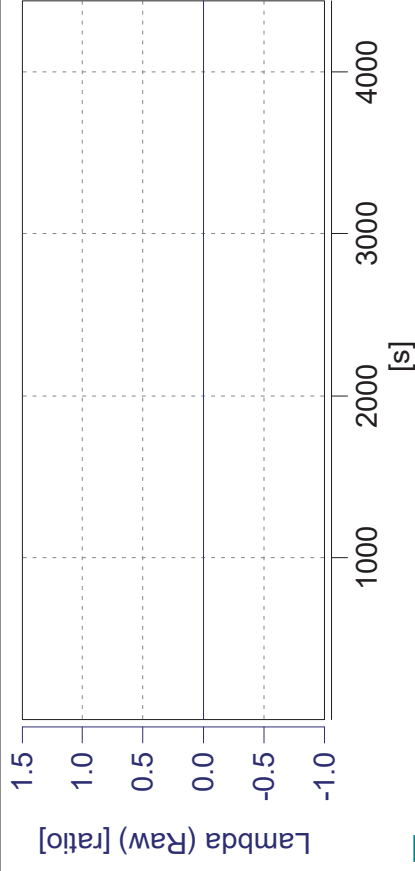
'City'

Start Date: 07/24/2018

Start Time: 10:39:01.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat SEL / 3.6L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (1)

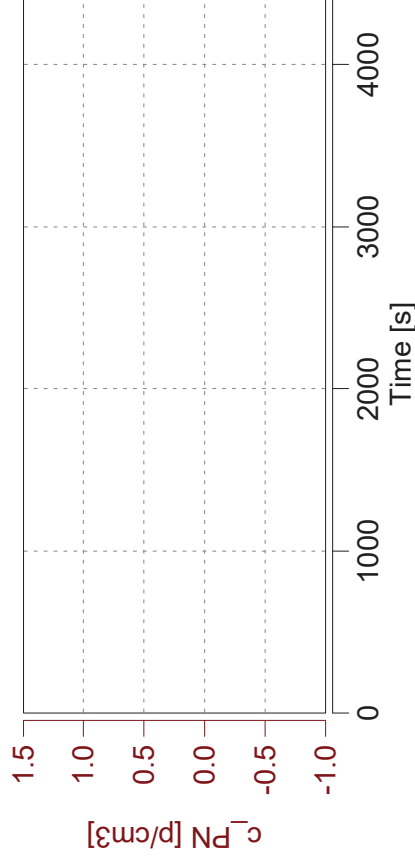
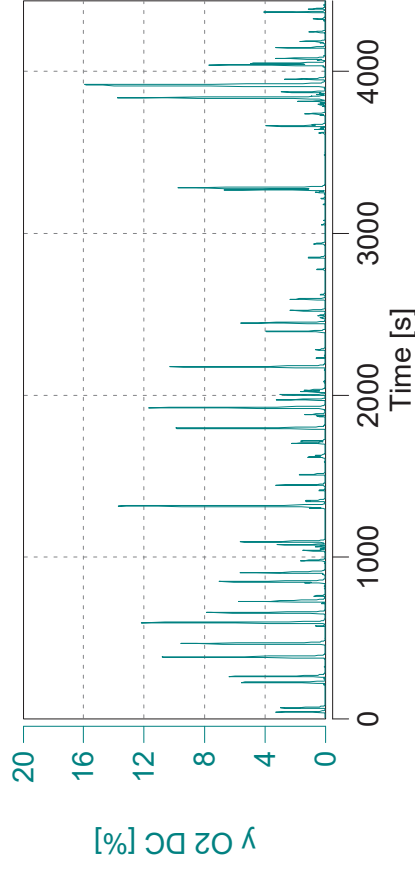
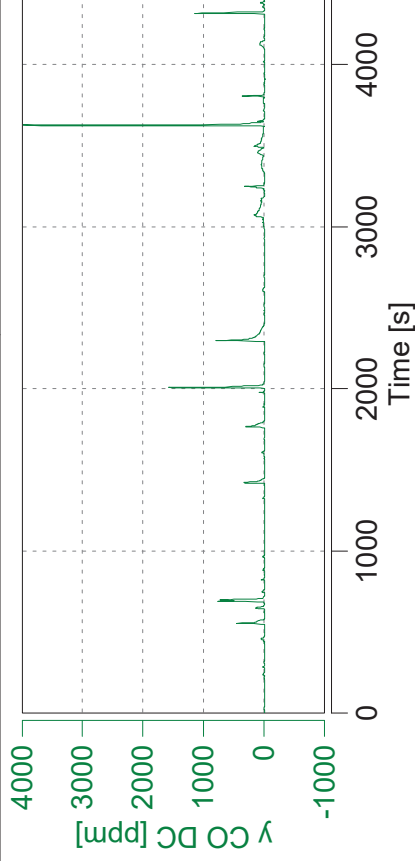
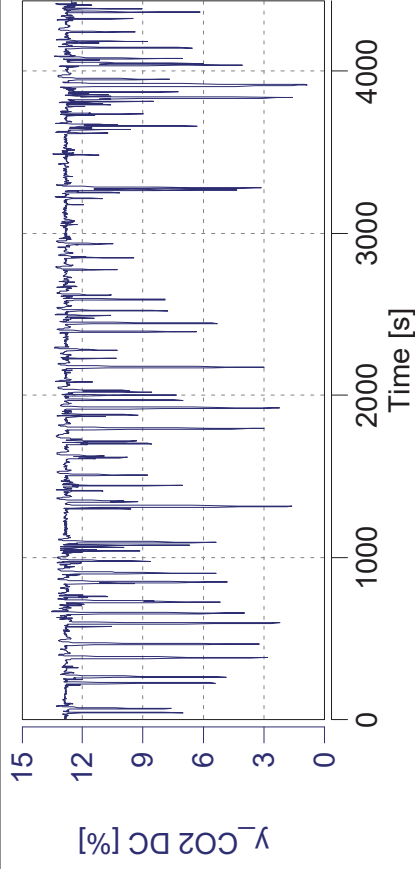
'City'

Start Date: 07/24/2018

Start Time: 10:39:01.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat SEL / 3.6L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (2)

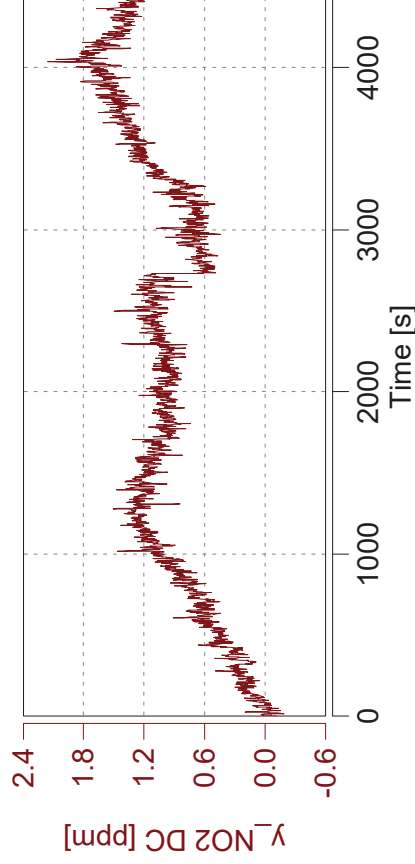
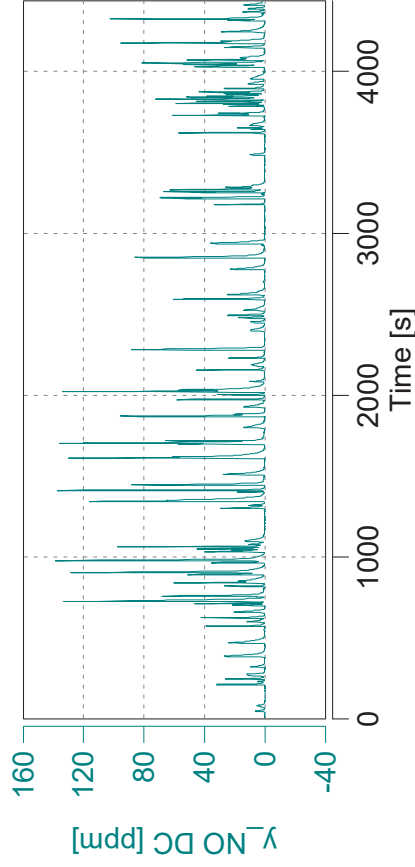
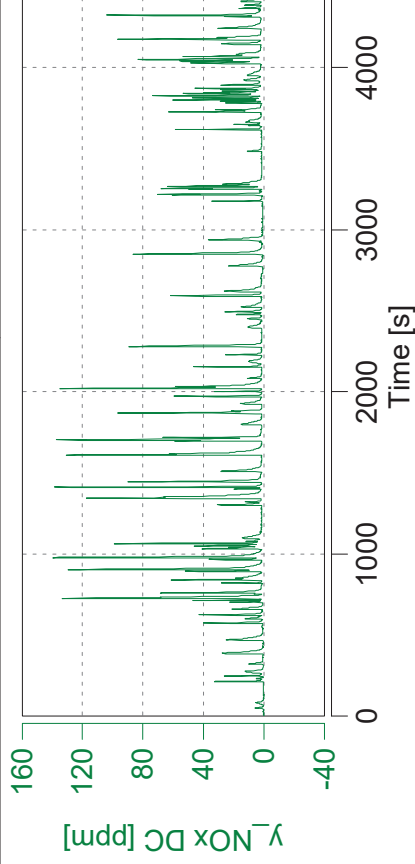
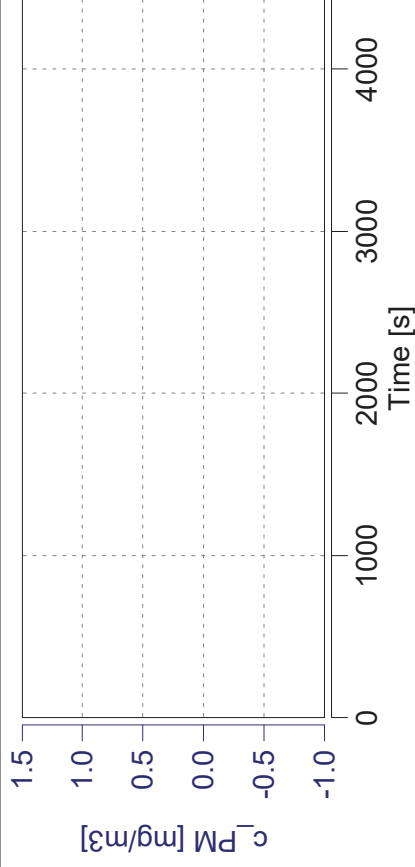
'City'

Start Date: 07/24/2018

Start Time: 10:39:01.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Vehicle: Passat SEL / 3.6L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI Engine: /
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (3)

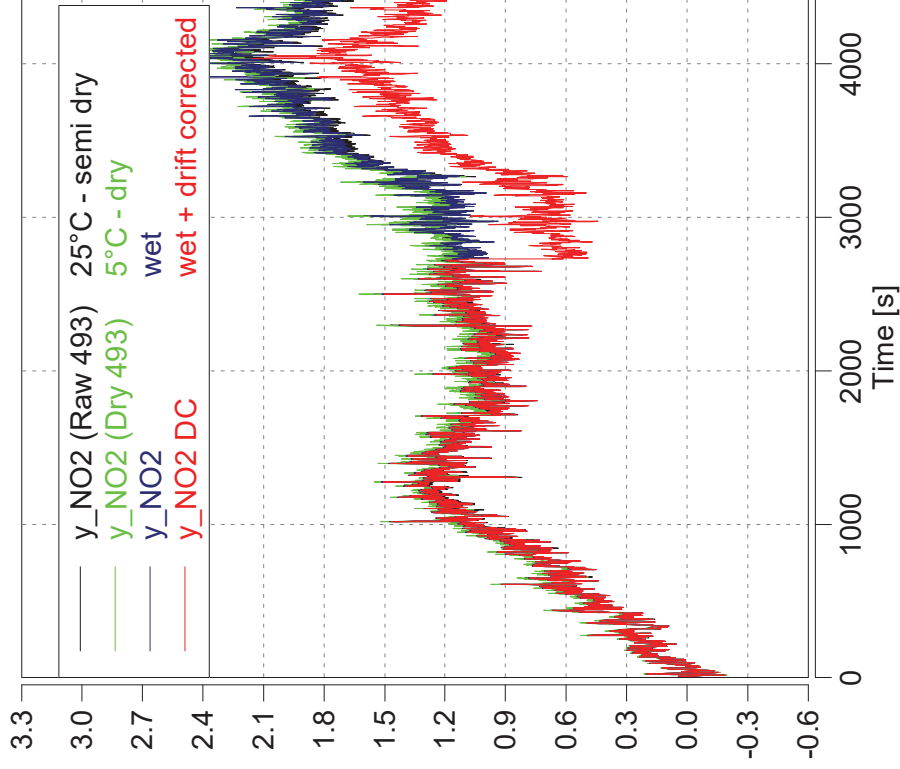
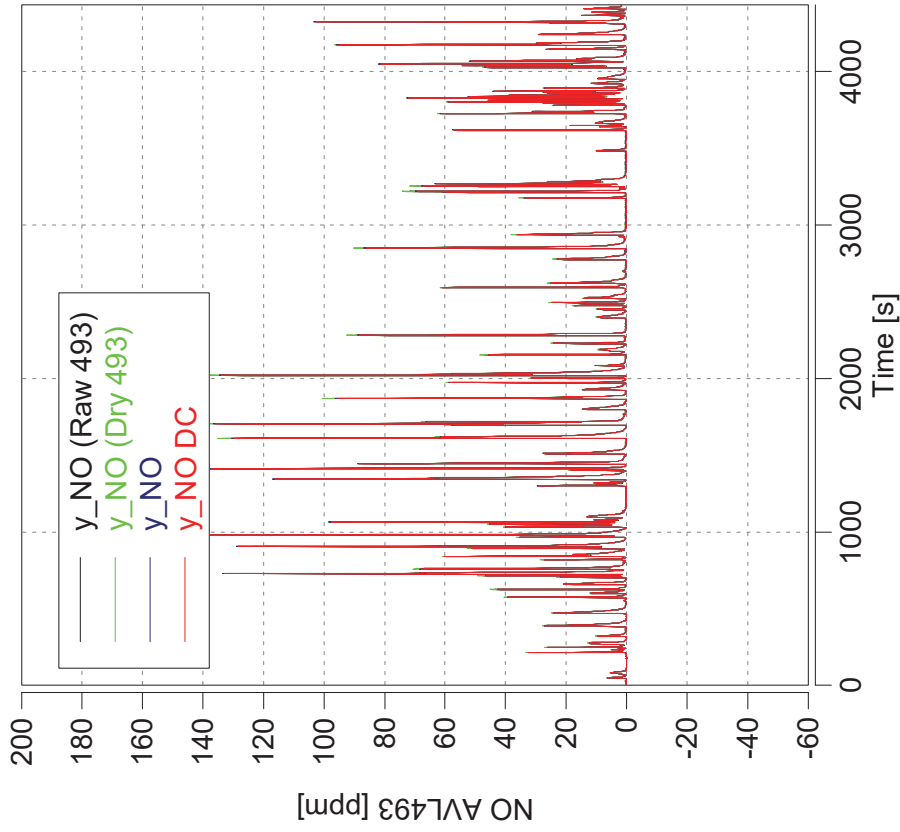
'City'

Start Date: 07/24/2018

Start Time: 10:39:01.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /
Vehicle: Passat SEL / 3.6L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

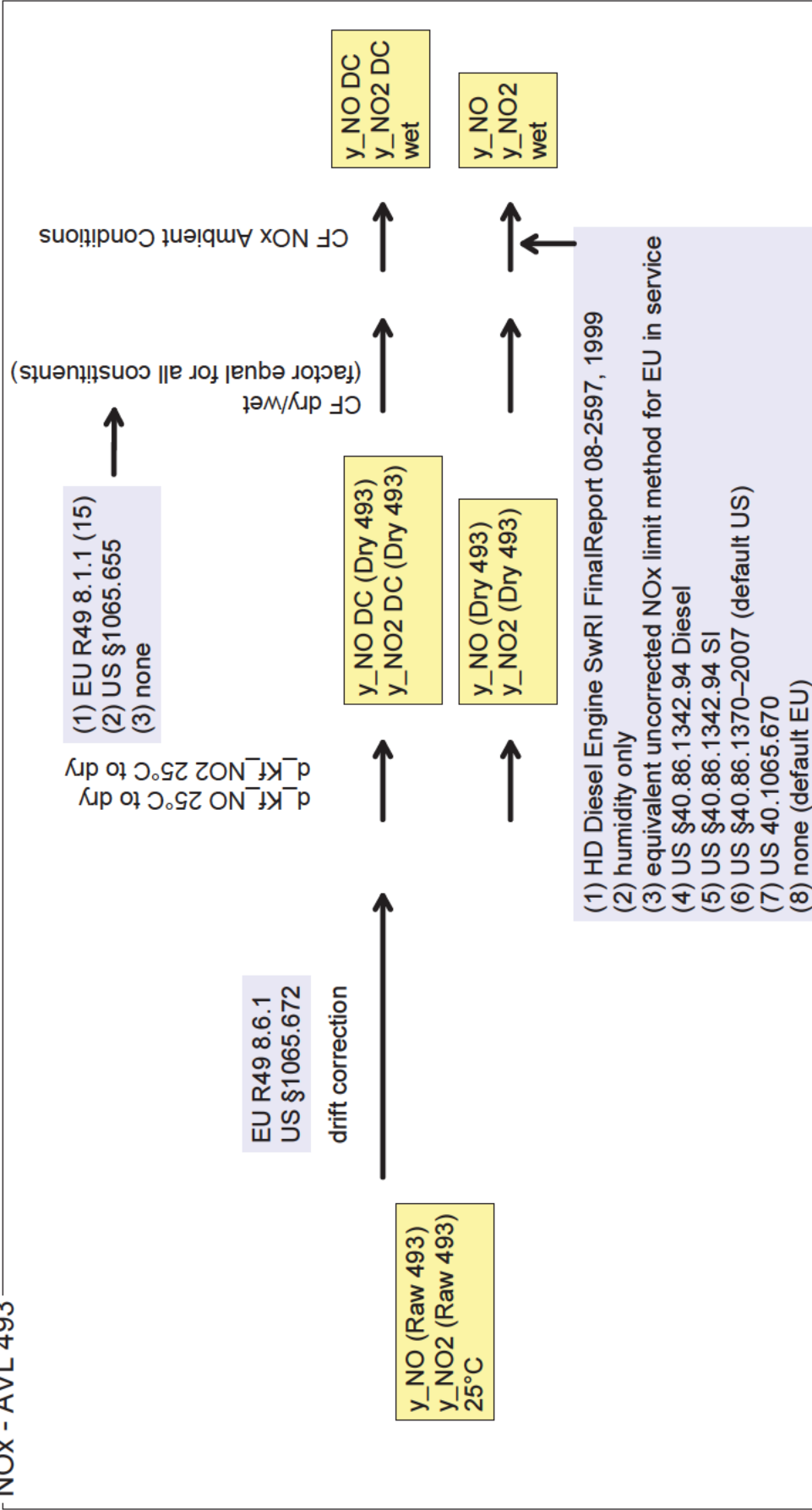
Case: City

Page: Corrected Emissions (4) NOx Corrections

'City'
Start Date: 07/24/2018
Start Time: 10:39:01.0



NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat SEL / 3.6L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (5)

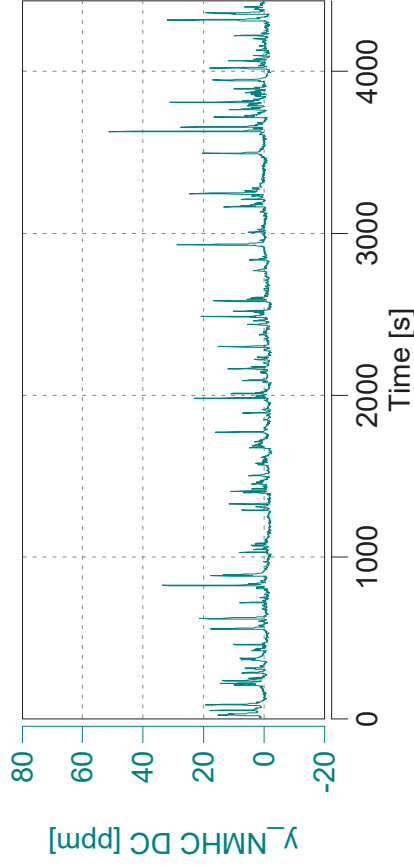
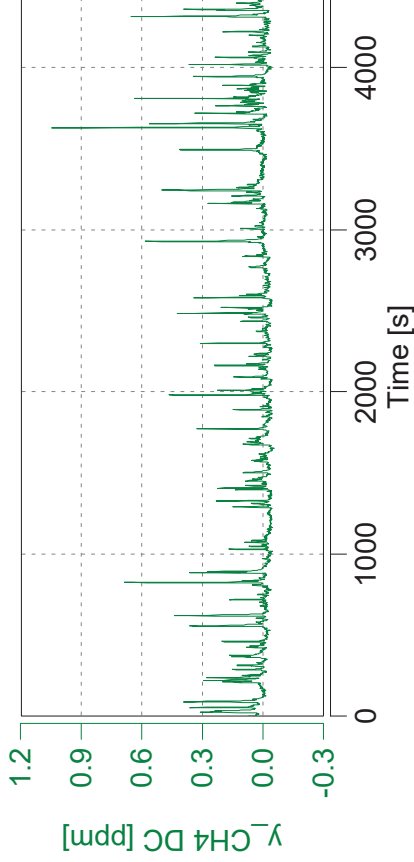
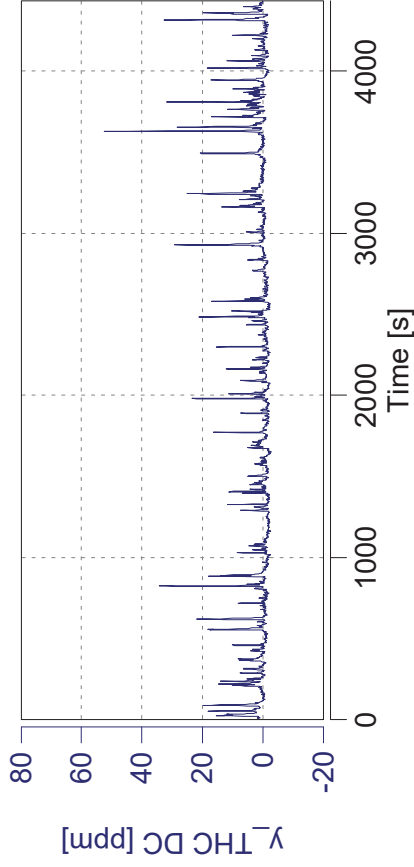
'City'

Start Date: 07/24/2018

Start Time: 10:39:01.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_0
Vehicle: Passat SEL / 3.6L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: NO/NO2/NOx Zero - Span

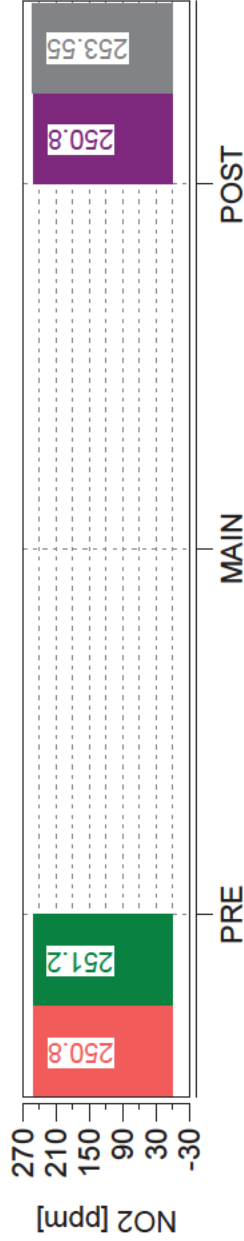
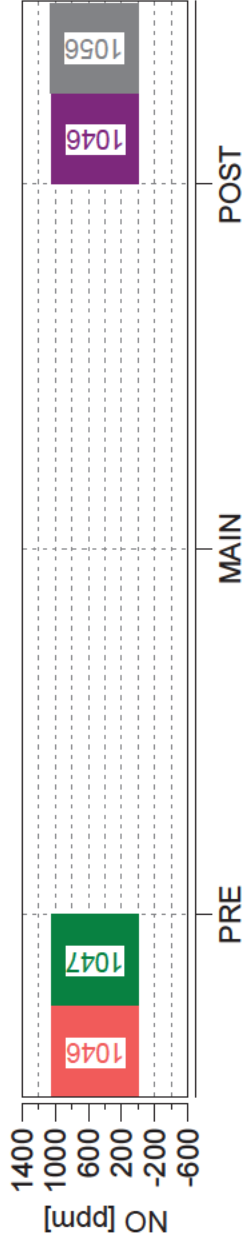
'City'

Start Date: 07/24/2018

Start Time: 10:39:01.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Passat SEL / 3.6L

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: CO/CO2 Zero - Span

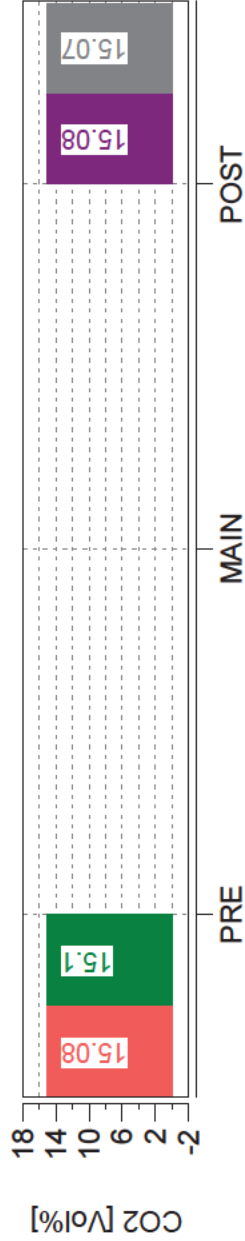
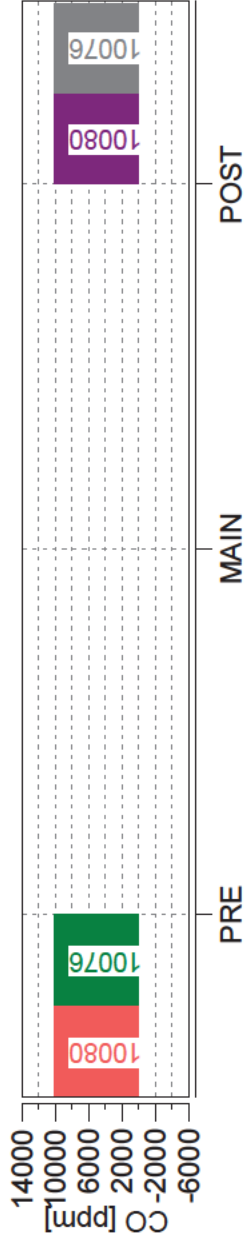
'City'

Start Date: 07/24/2018

Start Time: 10:39:01.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Passat SEL / 3.6L

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: THC/CH4 Zero - Span

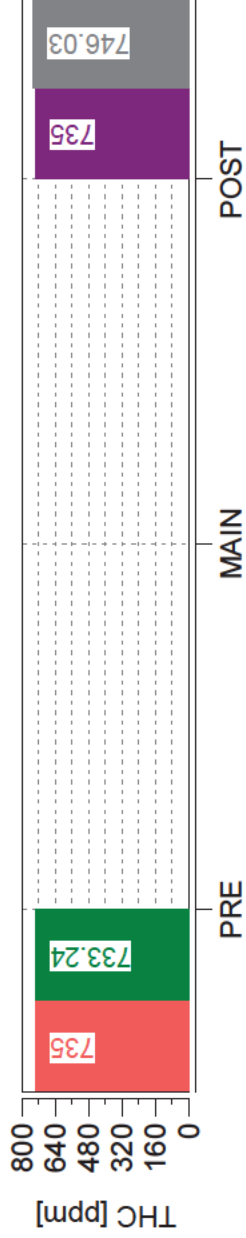
'City'

Start Date: 07/24/2018

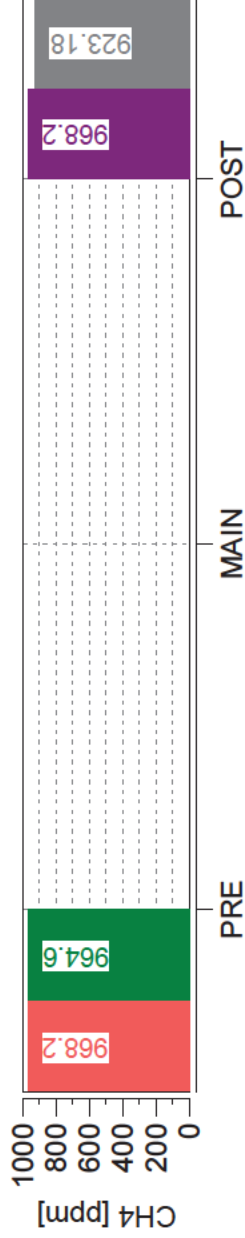
Start Time: 10:39:01.0



Concerto M.O.V.E., 2018



GP_THC_Cal_gas_value
 GP_THC_Adjust_Actual
 GP_THC_Reference
 GP_THC_Audit_Actual



GP_CH4_Cal_gas_value
 GP_CH4_Adjust_Actual
 GP_CH4_Reference
 GP_CH4_Audit_Actual

Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Passat SEL / 3.6L

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway
Page: Trip Summary

'Highway'
Start Date: 07/26/2018
Start Time: 12:37:18.0



Trip Duration	3423.00	s	ave THC	-0.48547	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	3423.00	s	ave NMHC	-0.47576	ppm	BS CO	n/a	g/hphr
Trip Distance	38.95	mi	ave CH4	-0.00971	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	38.95	mi	ave CO	158.57422	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	12.07708	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOX	6.23847	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	4.35	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	4.29	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.54	gall	tot THC	-0.01443	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.52	gall	tot NMHC	-0.01335	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	-0.00032	g	DS CO2	334.79923	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	13.09980	g	DS CO	0.33632	g/mi
Trip Fuel Economy EU (ac)	25.33	mpg_US	tot CO2	13040.47115	g	DS THC	-0.00037	g/mi
Trip Fuel Economy US (ac)	25.68	mpg_US	tot NO (d)	0.41456	g	DS NMHC	-0.00034	g/mi
Trip Av. Eng. Speed	1652.33	rpm	tot NO2	0.16359	g	DS CH4	-0.00001	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.57815	g	DS NO (d)	0.01064	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	0.00420	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.01484	g/mi
Trip Exhaust Mass	70.23	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	81.95	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	57.91	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	40.96420	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	1.81128	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /
Vehicle: Tiguan SEL / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Trip Summary Drift Corrected

'Highway'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018

Trip Duration	3423.00	s	ave THC DC	-0.20553	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	3423.00	s	ave NMHC DC	-0.20142	ppm	BS CO DC	n/a	g/hphr
Trip Distance	38.95	mi	ave CH4 DC	-0.00411	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	38.95	mi	ave CO DC	158.22494	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	12.07708	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	6.21456	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	4.35	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	4.29	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.54	gall	tot THC DC	-0.00559	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.52	gall	tot NMHC DC	-0.00517	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	-0.00012	g	DS CO2 DC	334.79923	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	13.08078	g	DS CO DC	0.33583	g/mi
Trip Fuel Economy EU (ac)	25.33	mpg_US	tot CO2 DC	13040.47115	g	DS THC DC	-0.00014	g/mi
Trip Fuel Economy US (ac)	25.68	mpg_US	tot NO DC (d)	0.41681	g	DS NMHC DC	-0.00013	g/mi
Trip Av. Eng. Speed	1652.33	rpm	tot NO2 DC	0.15860	g	DS CH4 DC	-0.00000	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.57541	g	DS NO DC (d)	0.01070	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	0.00407	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.01477	g/mi
Trip Exhaust Mass	70.23	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	81.95	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	57.91	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	40.96420	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	1.81128	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguana SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Time Alignment Check

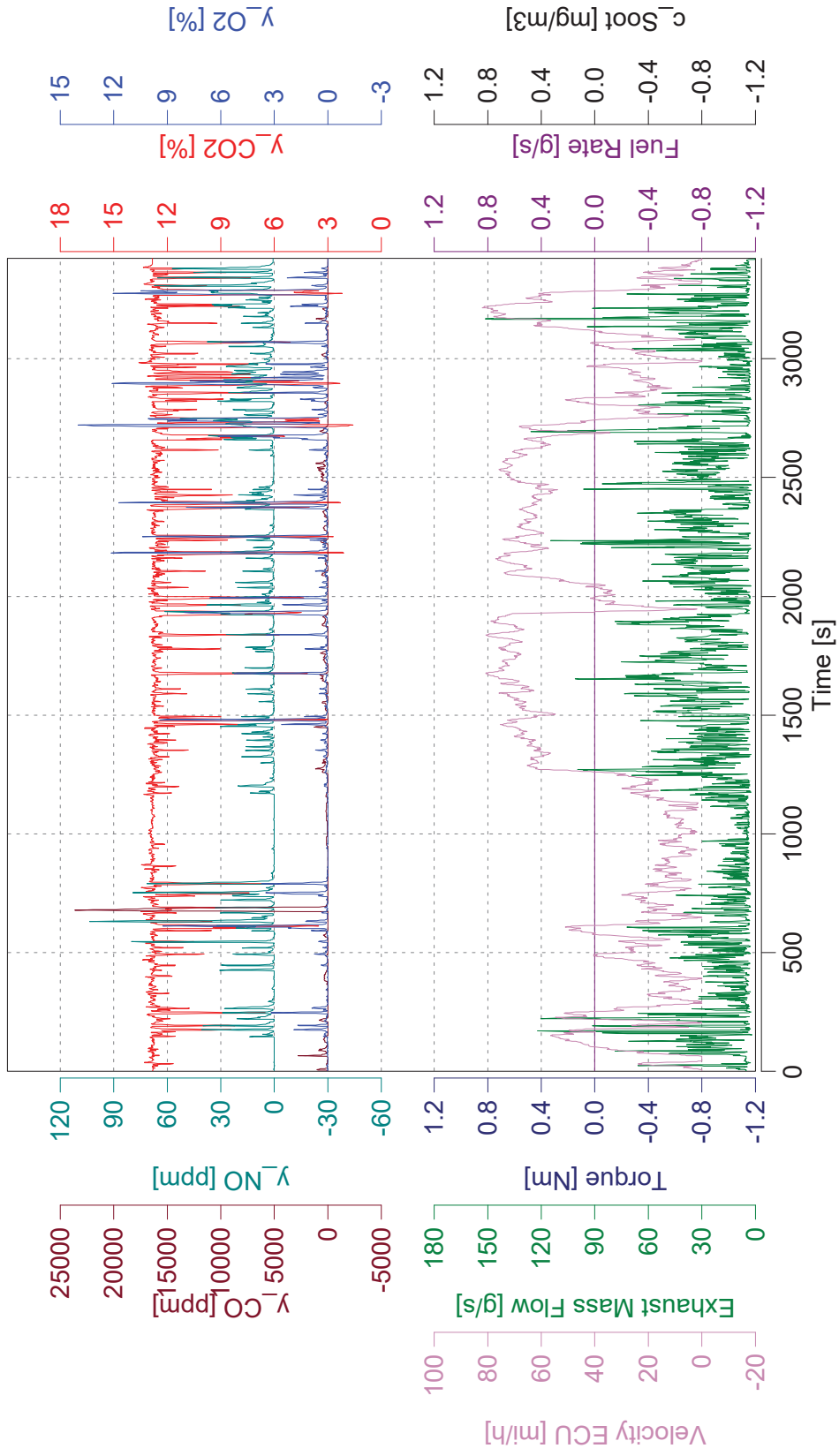
'Highway'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Time Alignment of Gas Concentrations

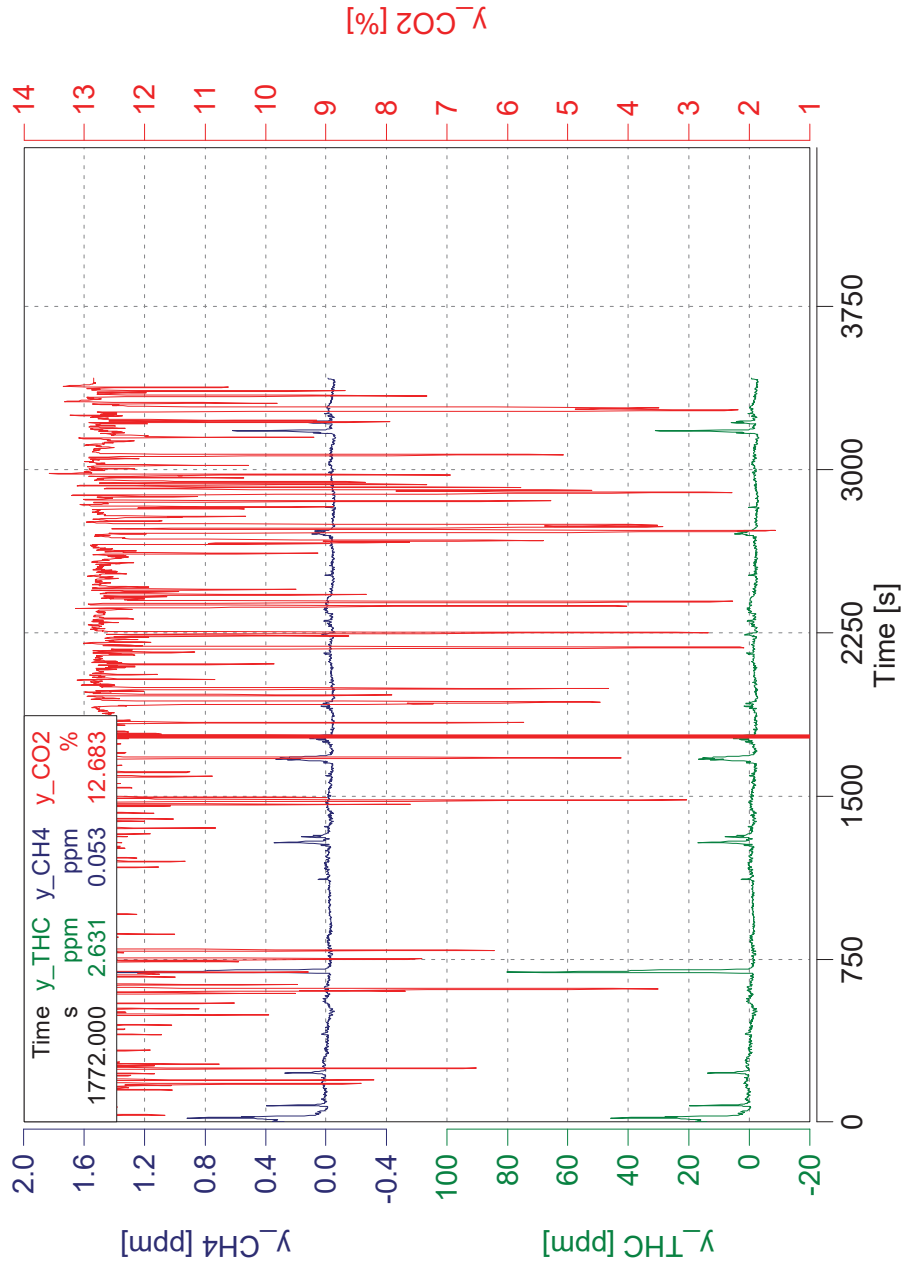
'Highway'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

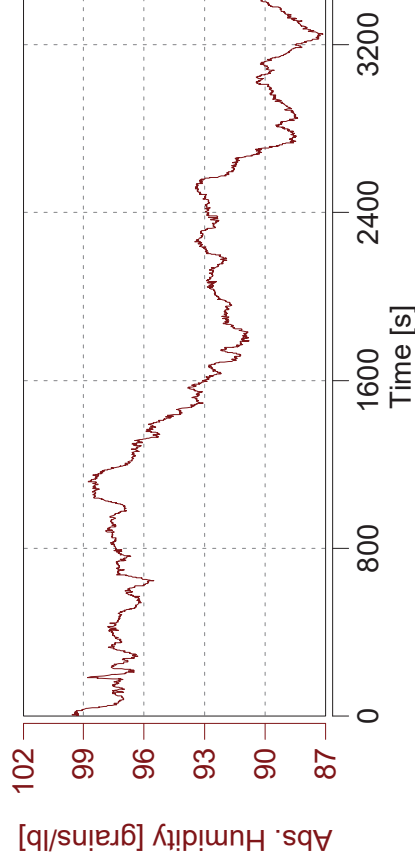
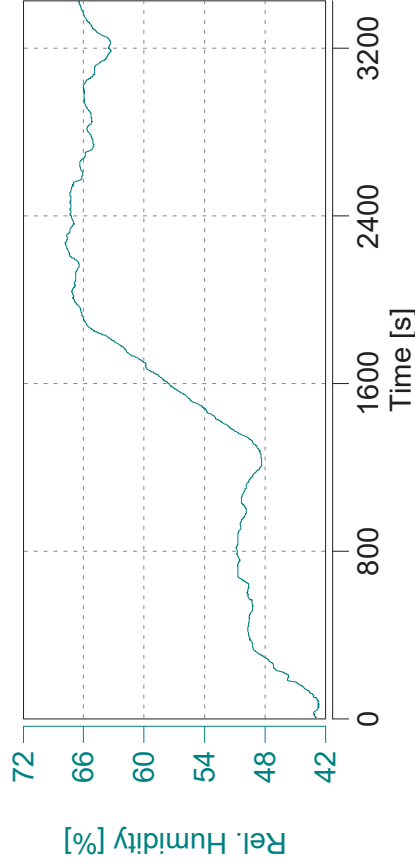
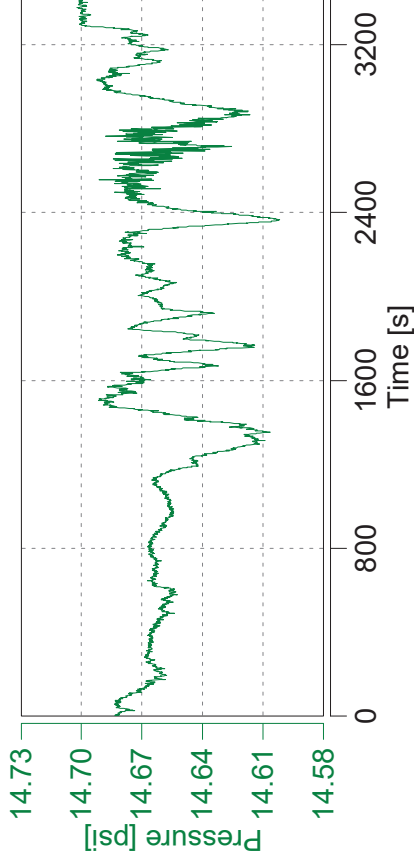
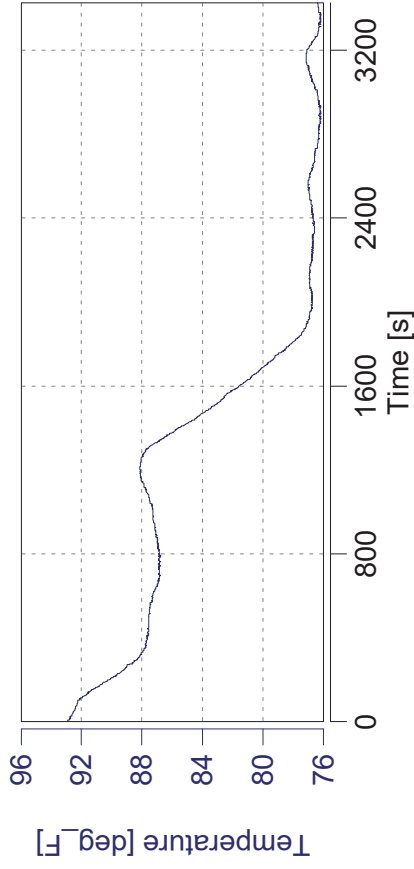
Case: Highway

Page: Ambient Conditions

'Highway'
Start Date: 07/26/2018
Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan SEL / 2.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: GPS

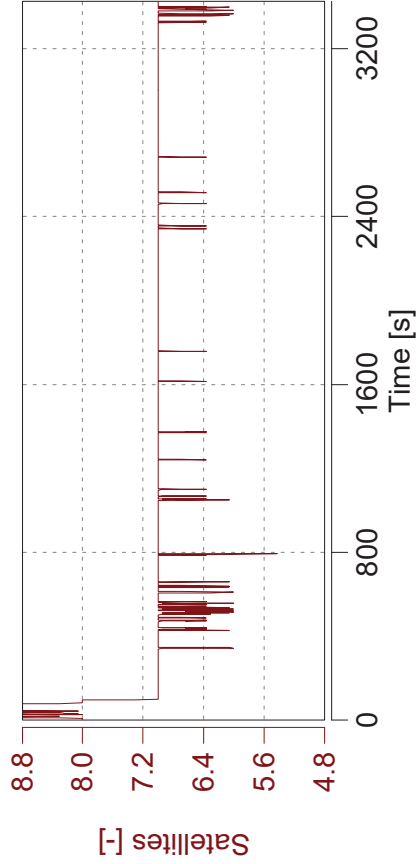
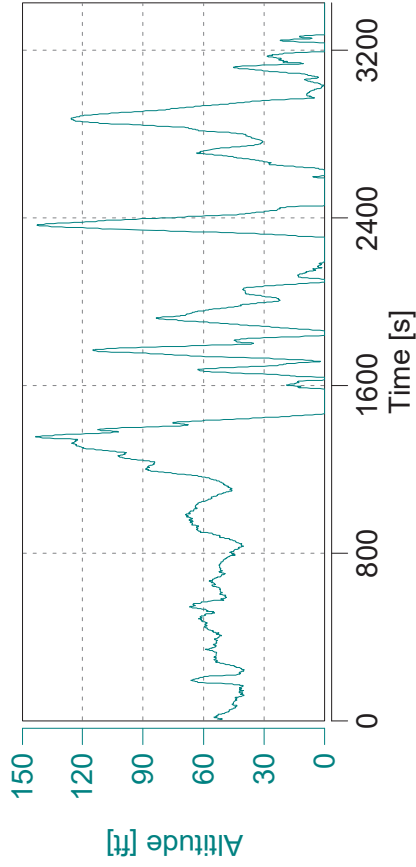
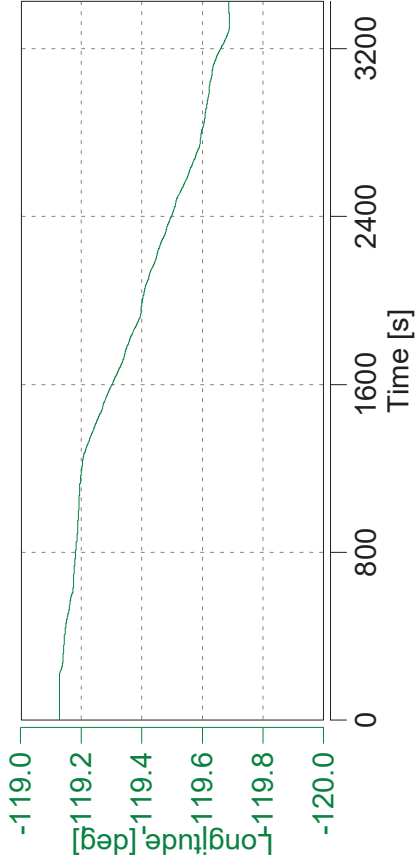
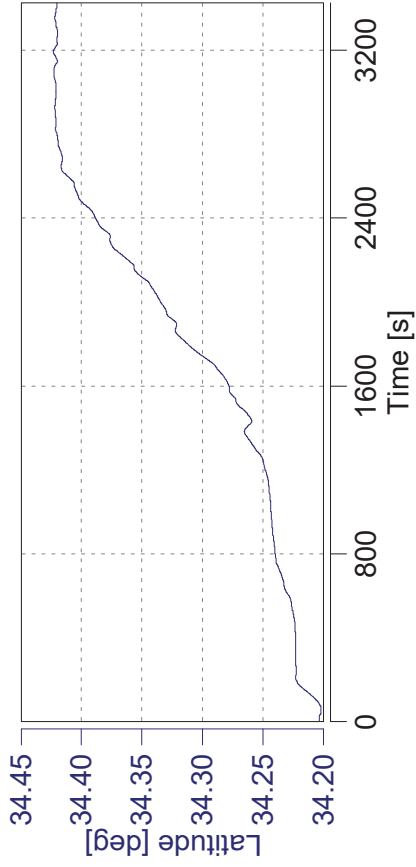
'Highway'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (1)

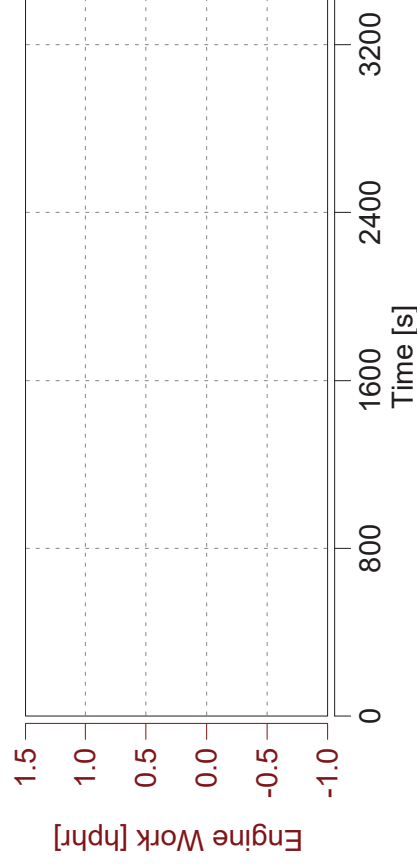
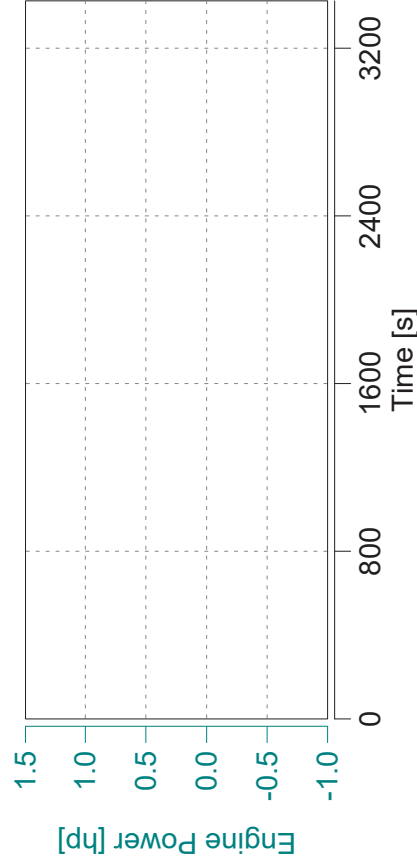
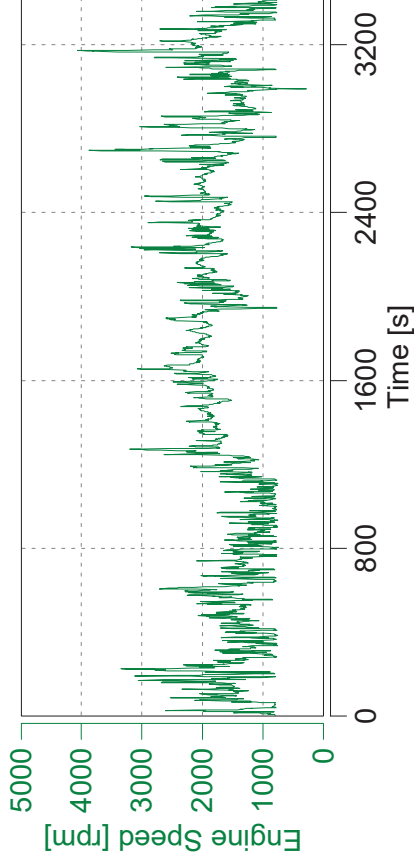
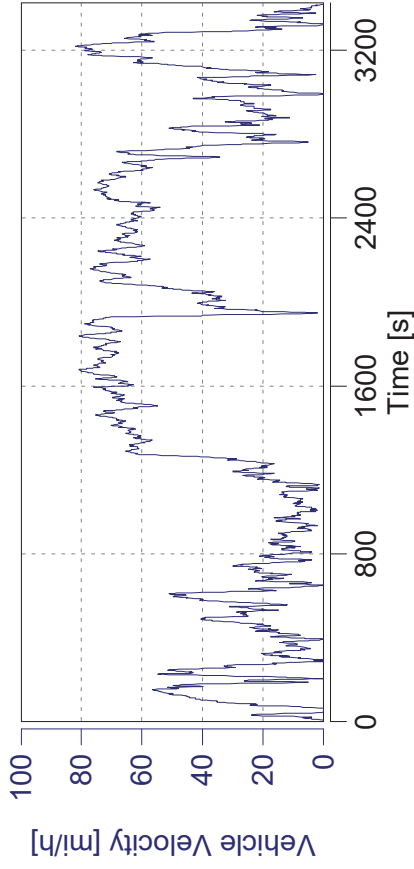
'Highway'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (2)

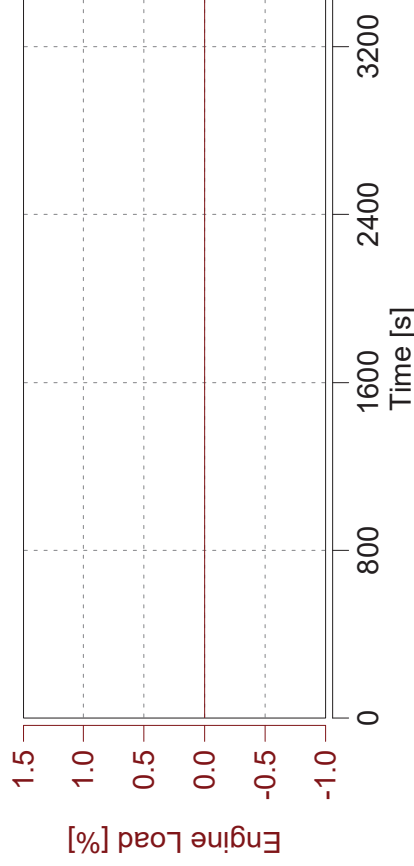
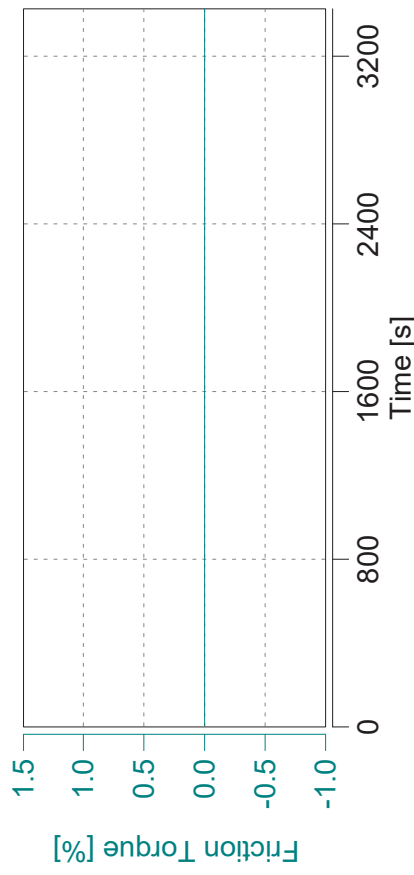
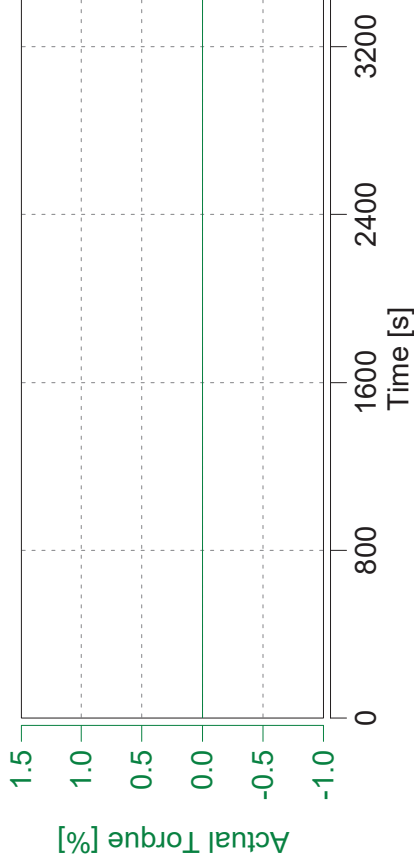
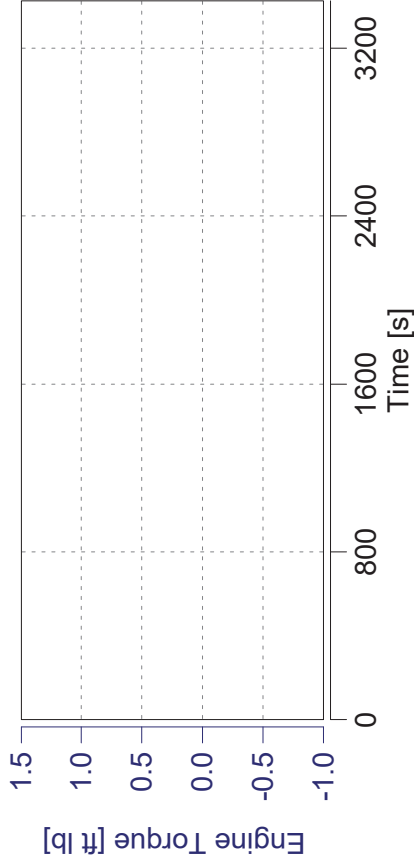
'Highway'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (3)

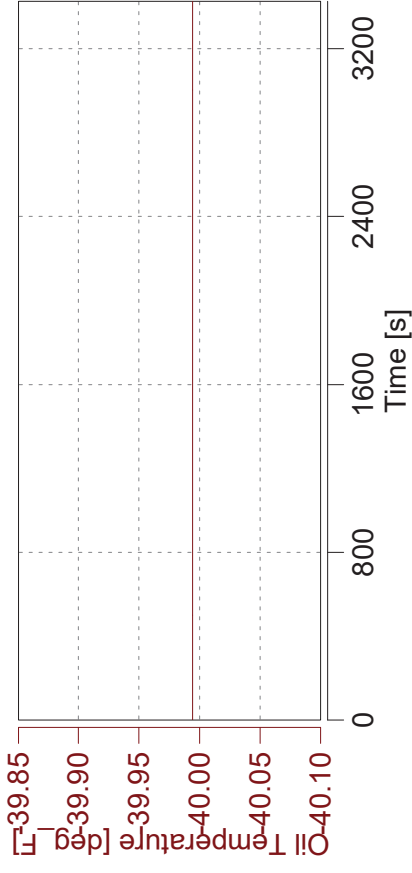
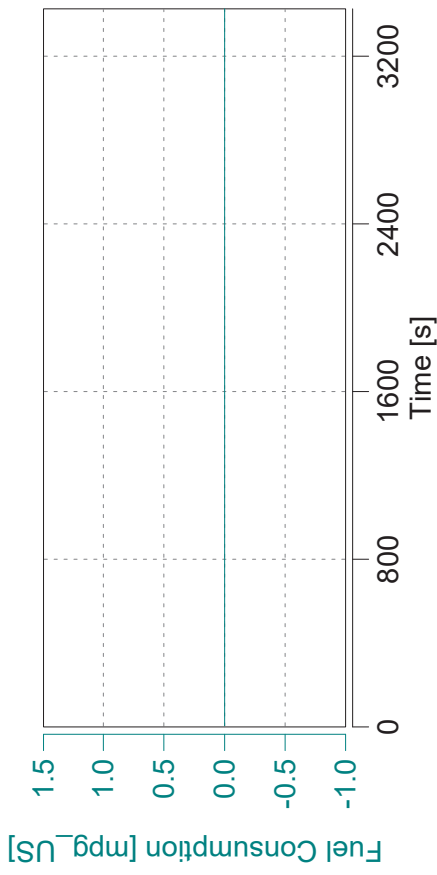
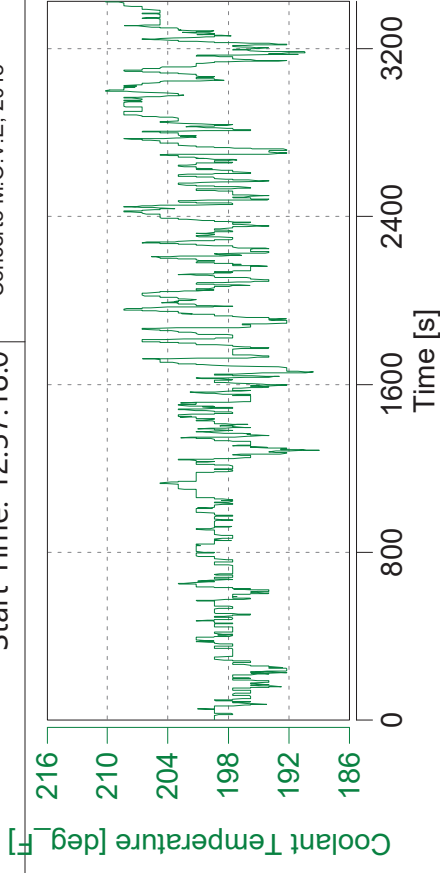
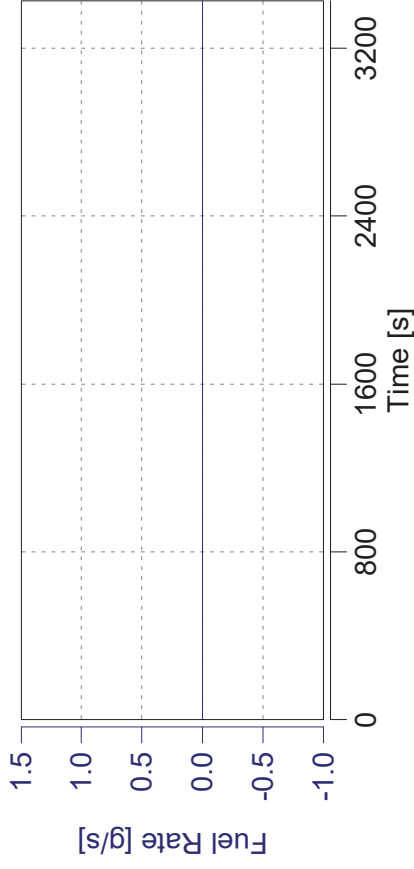
'Highway'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



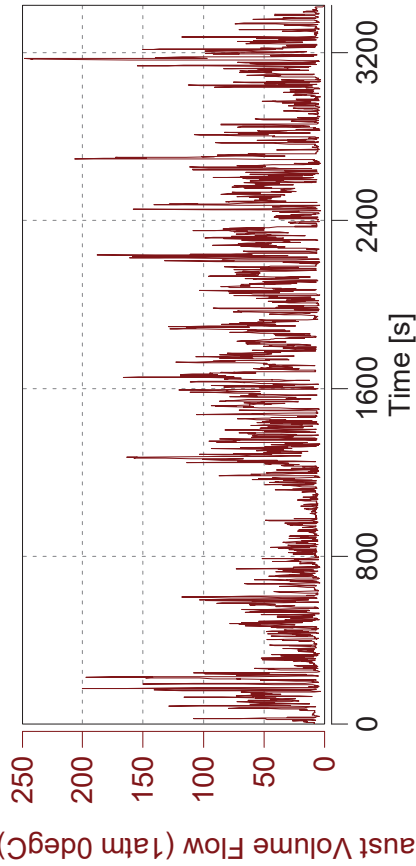
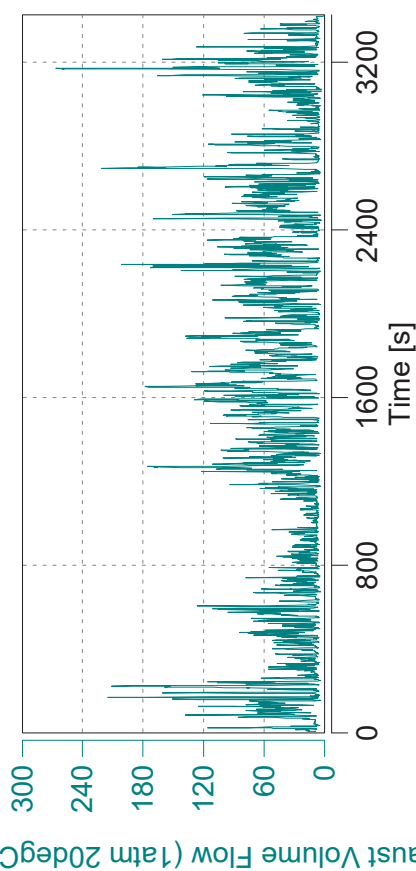
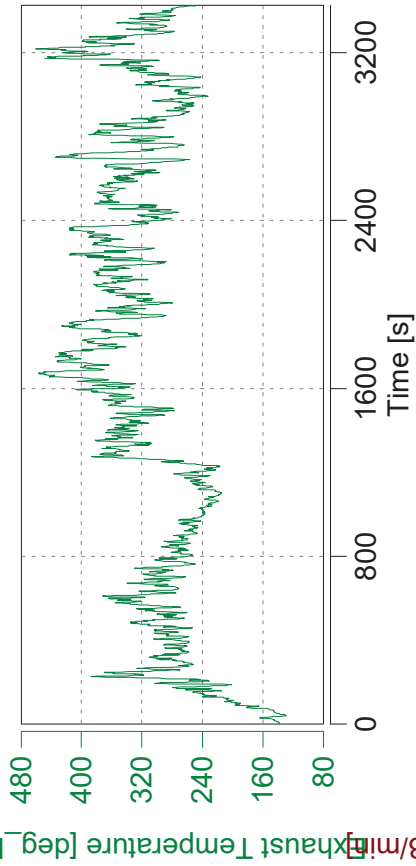
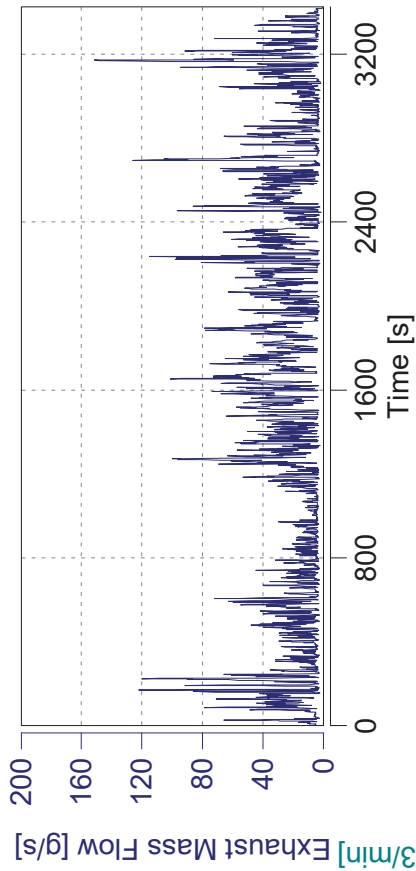
Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

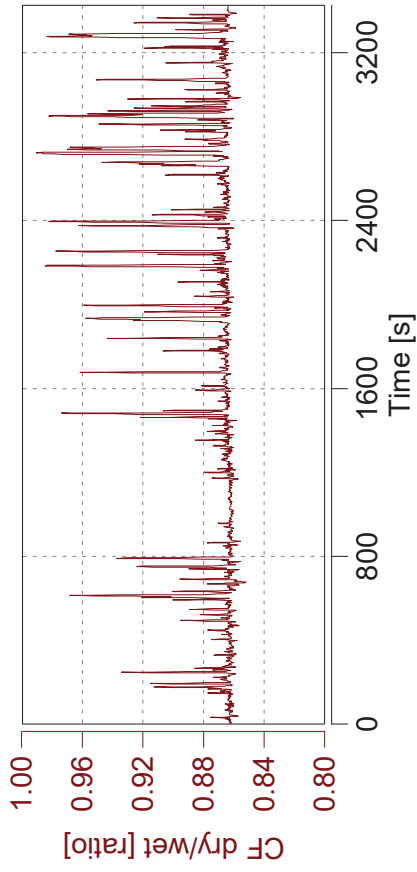
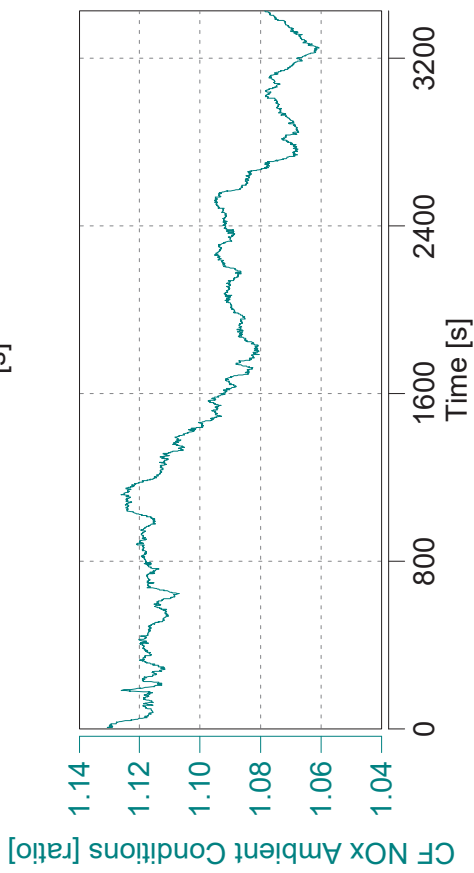
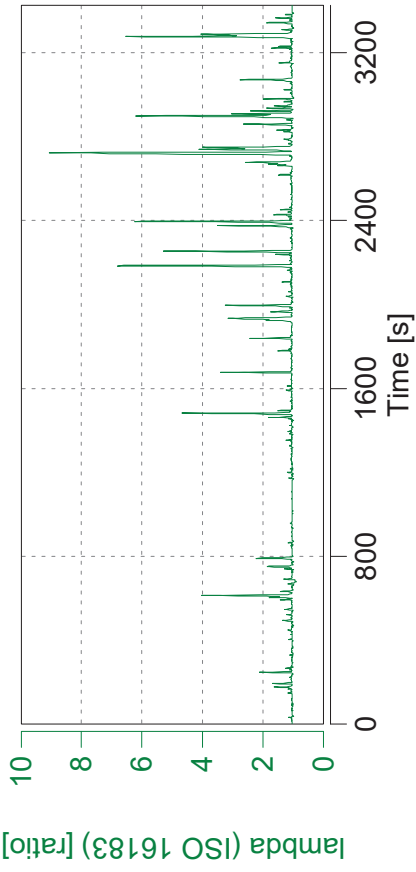
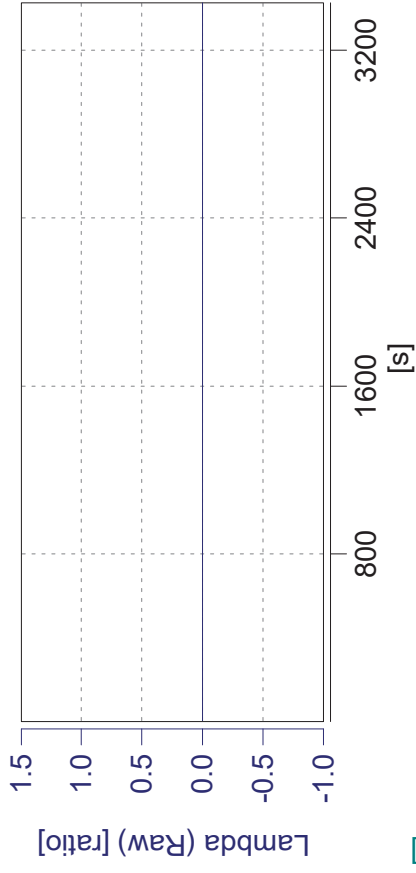
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Case: Highway
Page: Exhaust Flow (2)

'Highway'
Start Date: 07/26/2018
Start Time: 12:37:18.0



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan SEL / 2.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (1)

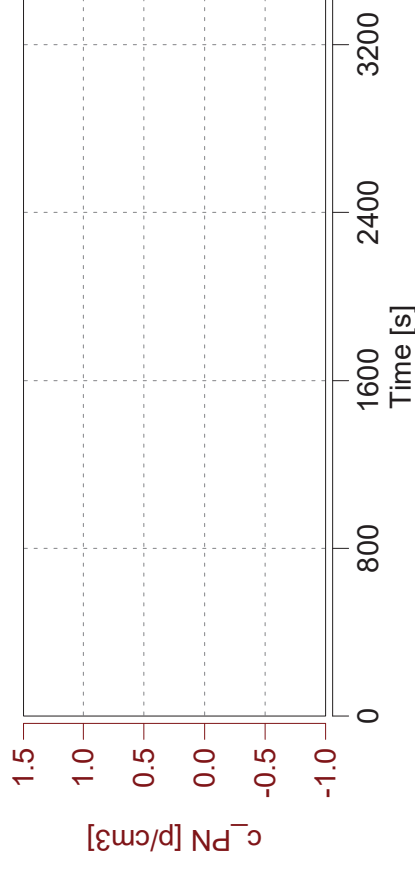
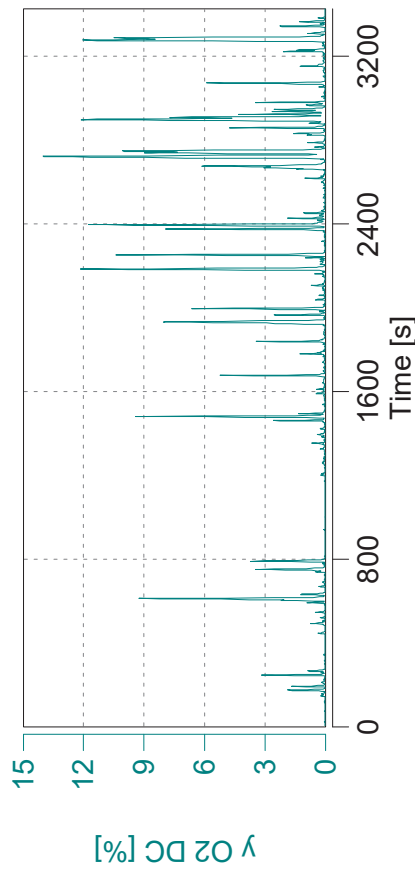
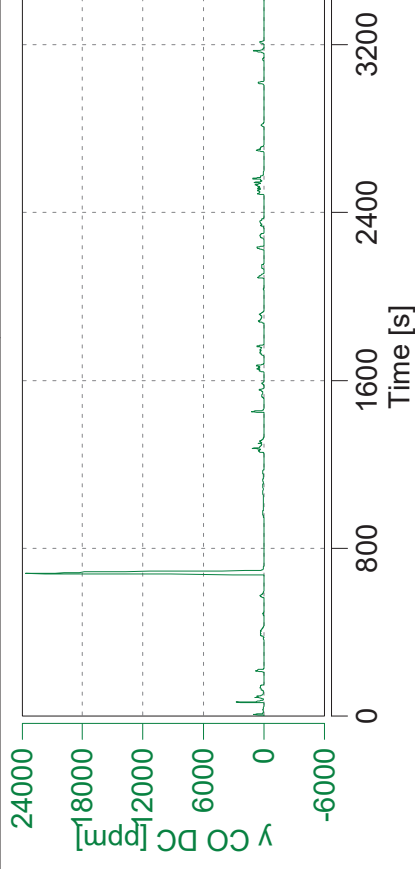
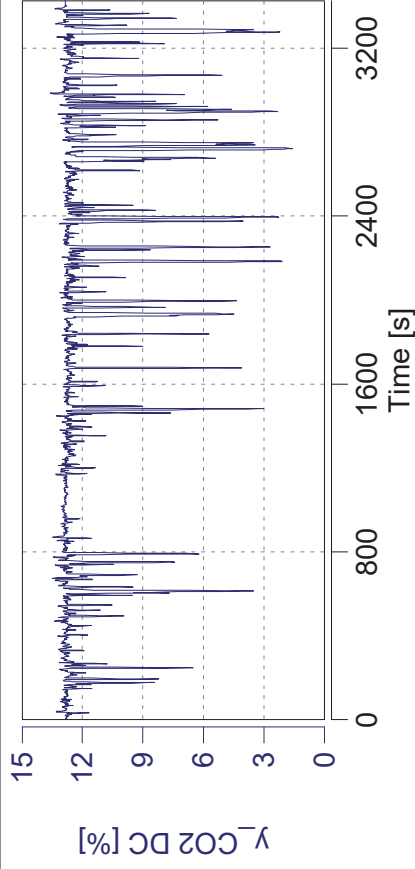
'Highway'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan SEL / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (2)

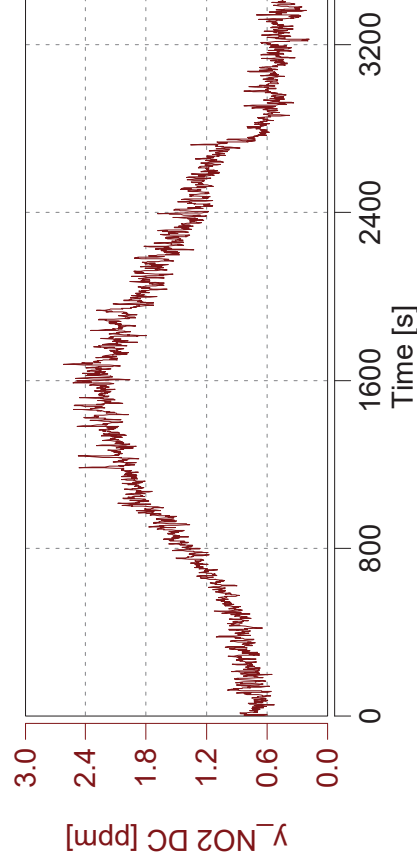
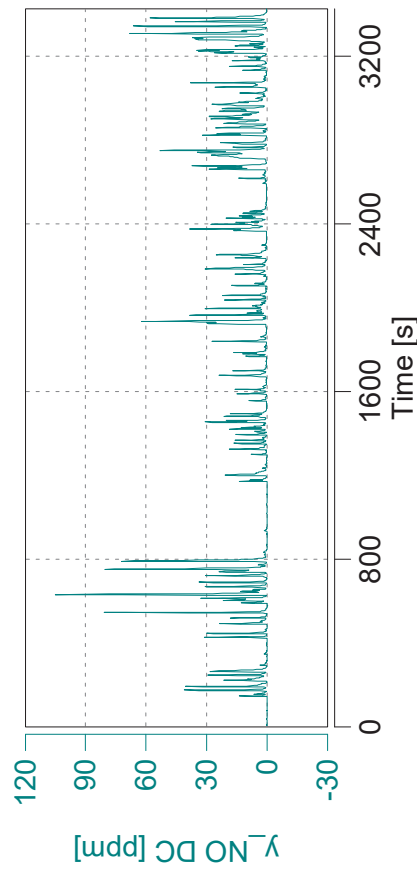
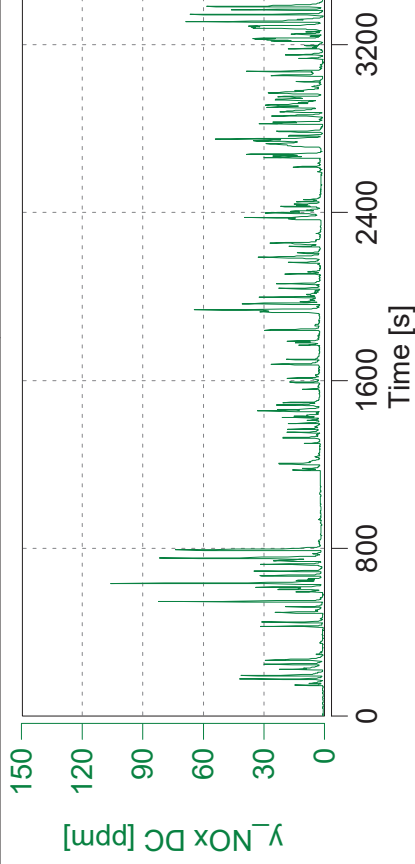
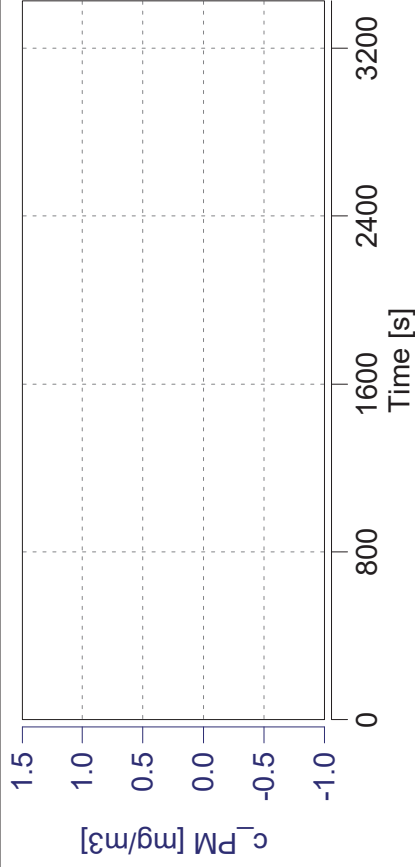
'Highway'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (3)

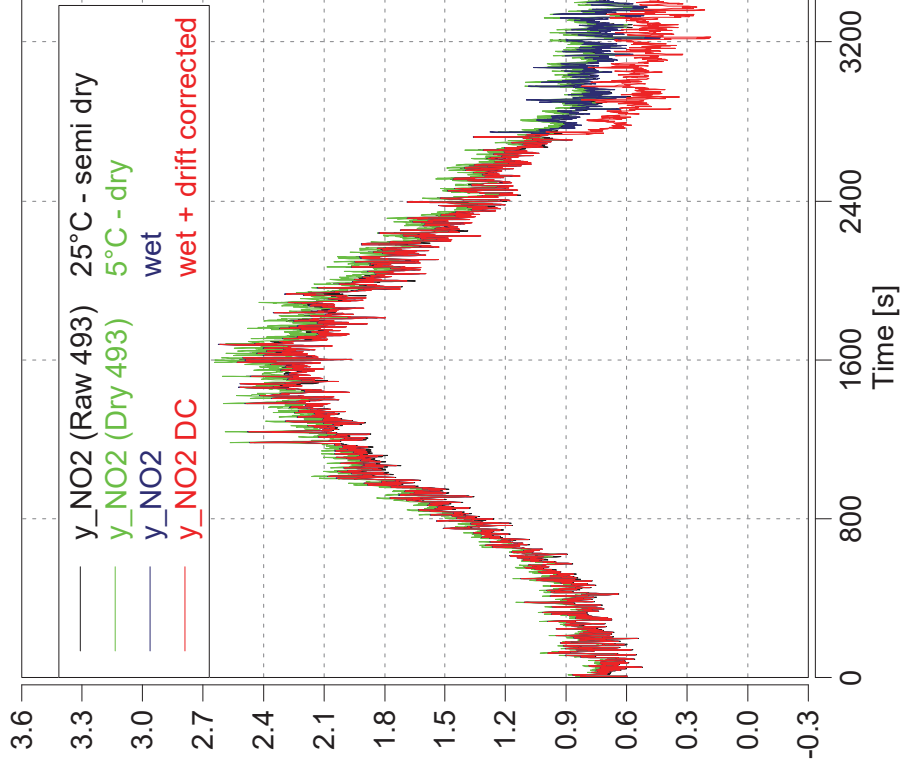
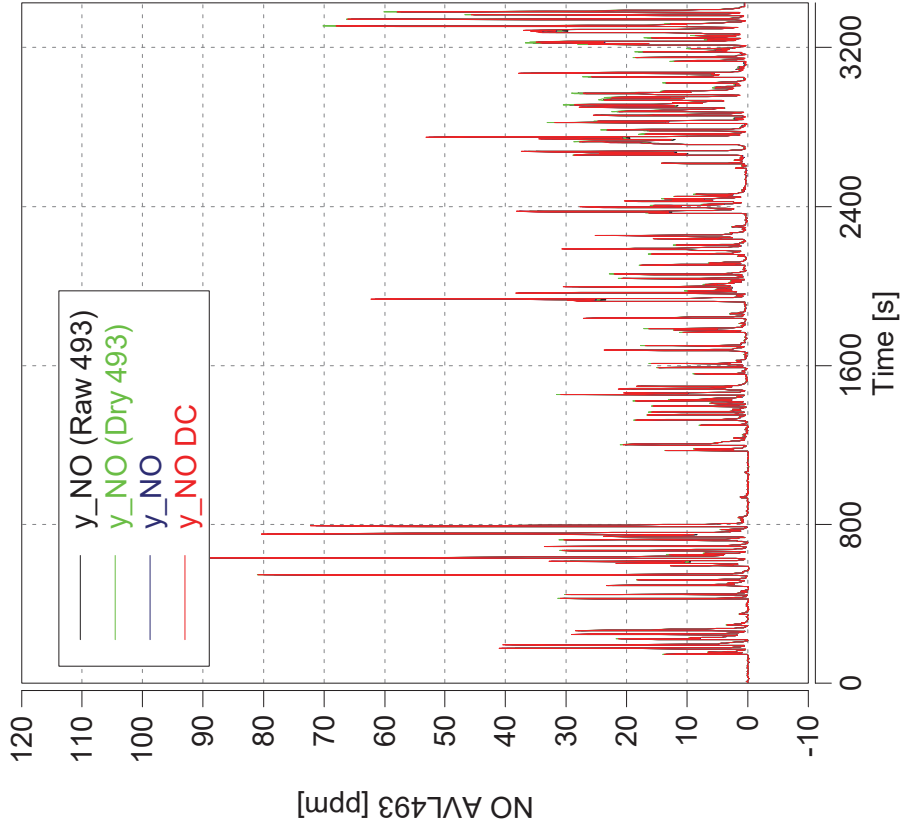
'Highway'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (4) NOx Corrections

'Highway'

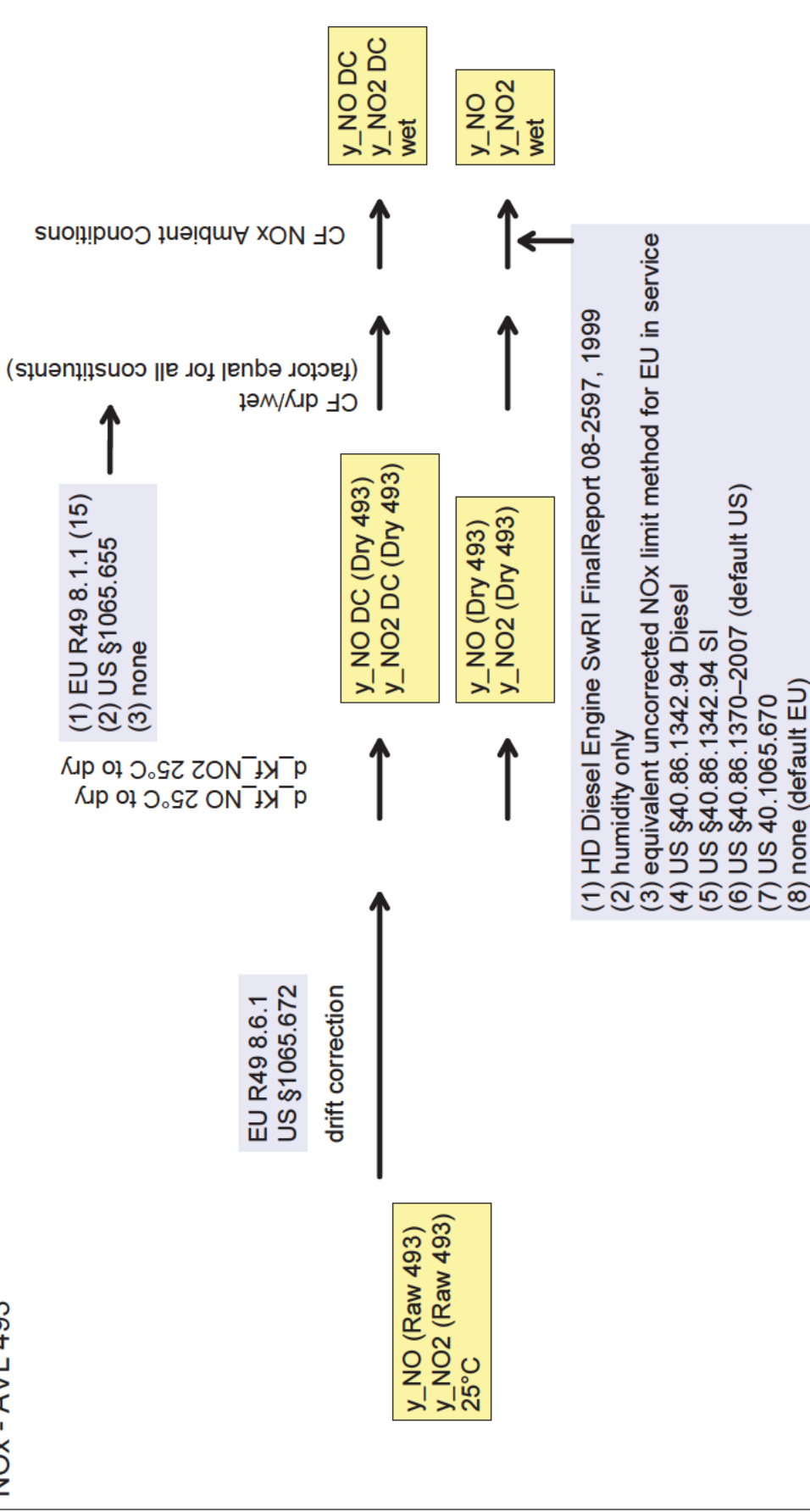
Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018

NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (5)

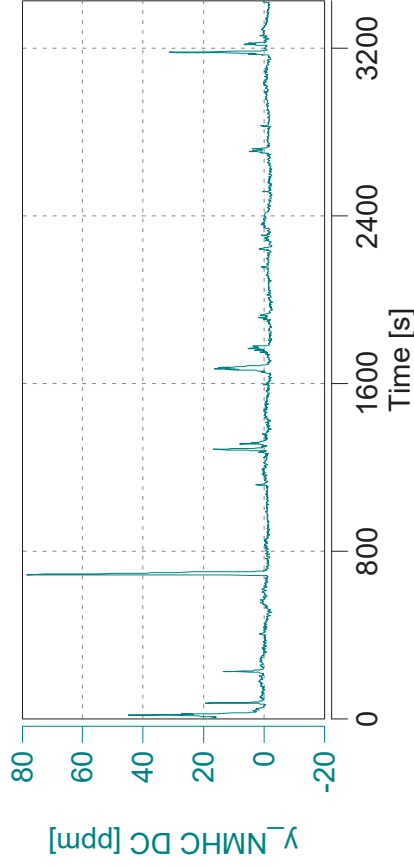
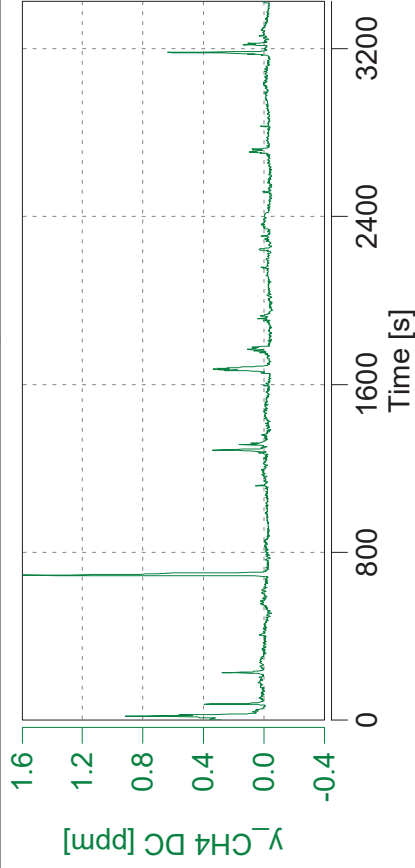
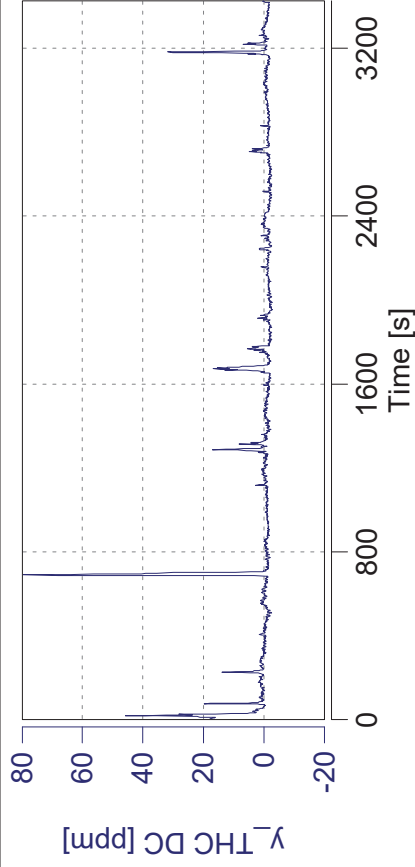
'Highway'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Engine: /
Vehicle: Tiguan SEL / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: NO/NO2/NOx Zero - Span

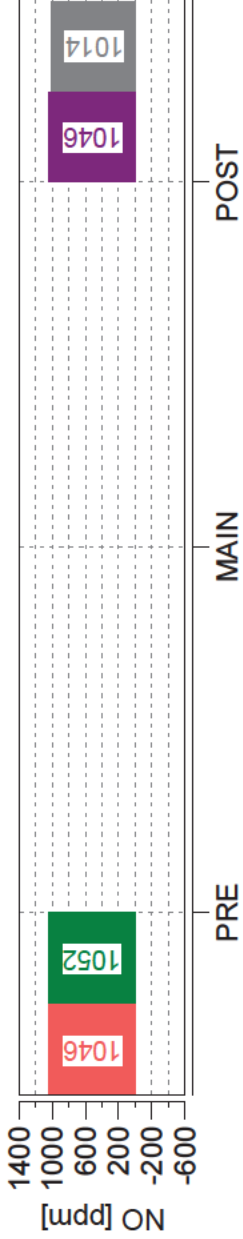
'Highway'

Start Date: 07/26/2018

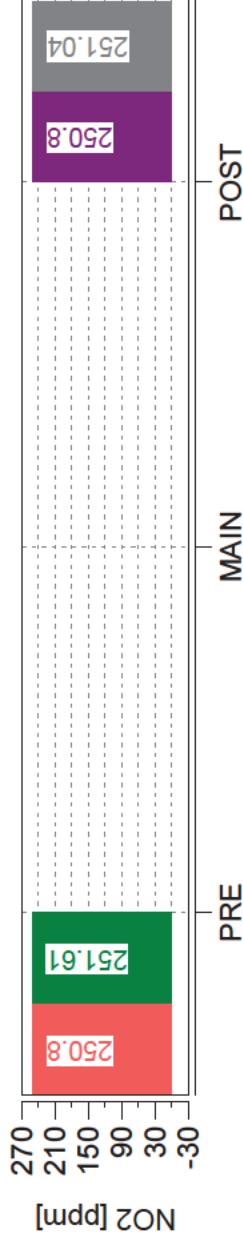
Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



GP_NO_Cal_gas_value
 GP_NO_Adjust_Actual
 GP_NO_Reference
 GP_NO_Audit_Actual



GP_NO2_Cal_gas_value
 GP_NO2_Adjust_Actual
 GP_NO2_Reference
 GP_NO2_Audit_Actual

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: CO/CO2 Zero - Span

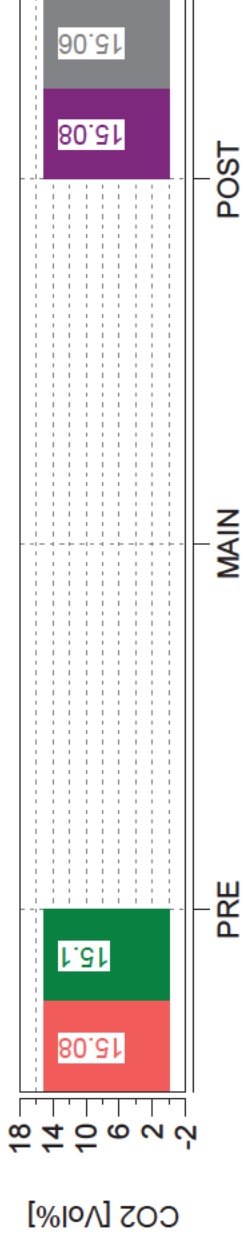
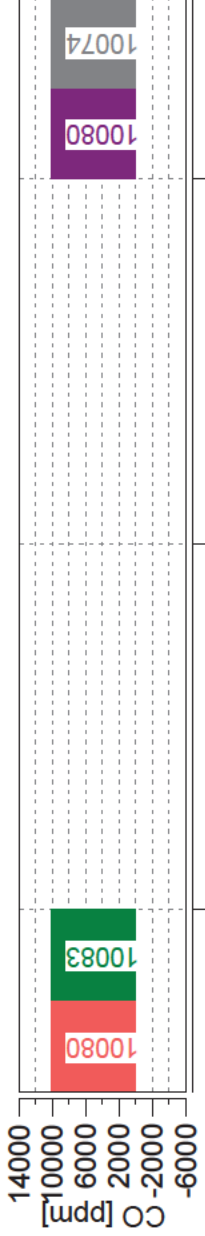
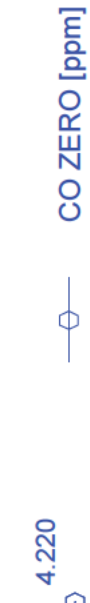
'Highway'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: THC/CH4 Zero - Span

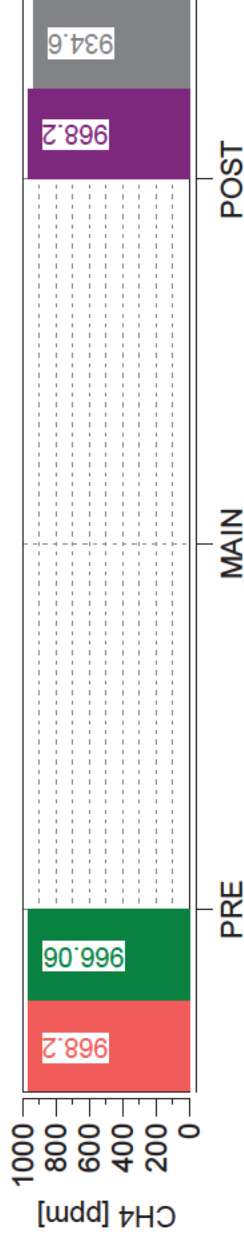
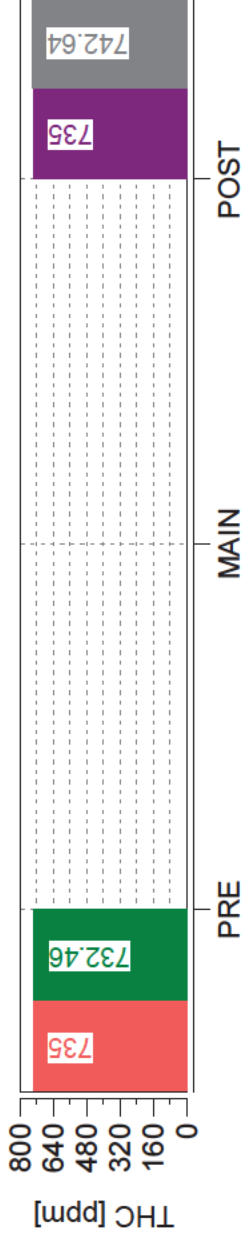
'Highway'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Tiguan SEL / 2.0L

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Trip Summary

'Mountain'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E. 2018

Trip Duration	2966.00	s	ave THC	4.25812	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	2966.00	s	ave NMHC	4.17296	ppm	BS CO	n/a	g/hphr
Trip Distance	29.02	mi	ave CH4	0.08516	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	29.02	mi	ave CO	218.77181	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	9.54155	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOX	6.23969	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	3.46	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.42	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.22	gall	tot THC	0.24500	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.21	gall	tot NMHC	0.22662	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00543	g	DS CO2	356.61724	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	36.54724	g	DS CO	1.25929	g/mi
Trip Fuel Economy EU (ac)	23.71	mpg_US	tot CO2	10349.80543	g	DS THC	0.00844	g/mi
Trip Fuel Economy US (ac)	24.01	mpg_US	tot NO (d)	0.34649	g	DS NMHC	0.00781	g/mi
Trip Av. Eng. Speed	1893.07	rpm	tot NO2	0.11819	g	DS CH4	0.00019	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.46468	g	DS NO (d)	0.01194	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	0.00407	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.01601	g/mi
Trip Exhaust Mass	59.57	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	83.14	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	50.50	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	35.22583	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	10.11463	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Trip Summary Drift Corrected

'Mountain'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018

Parameter	Value	Unit	Method	Notes
Trip Duration	2966.00	s		
Trip Duration (a)	2966.00	s		
Trip Distance	29.02	mi		
Trip Distance (a)	29.02	mi		
Trip Fuel Cons. (b)	0.00	kg		
Trip Fuel Cons. (ab)	0.00	kg		
Trip Fuel Cons. EU (ac)	3.46	kg		
Trip Fuel Cons. US (ac)	3.42	kg		
Trip Fuel Cons. Volume (b)	0.00	gall		
Trip Fuel Cons. Volume (ab)	0.00	gall		
Trip Fuel Cons. Volume EU (ac)	1.22	gall		
Trip Fuel Cons. Volume US (ac)	1.21	gall		
Trip Fuel Economy (b)	n/a	mpg_US		
Trip Fuel Economy (ab)	n/a	mpg_US		
Trip Fuel Economy EU (ac)	23.71	mpg_US		
Trip Fuel Economy US (ac)	24.01	mpg_US		
Trip Av. Eng. Speed	1893.07	rpm		
Trip Av. Torque	n/a	lbft		
Trip Av. Power	n/a	hp		
Trip Work	n/a	hphr		
Trip Exhaust Mass	59.57	kg		
Trip Exhaust Mass EU (ac)	n/a	kg		
Trip Exhaust Mass US (ac)	n/a	kg		
Trip Av. Amb. Temperature	83.14	deg_F		
Trip Av. Humidity	50.50	%		
Fuel Type	Petrol (E10)			
ave THC DC	4.35066	ppm		
ave NMHC DC	4.26365	ppm		
ave CH4 DC	0.08701	ppm		
ave CO DC	218.80328	ppm		
ave CO2 DC	9.54155	%		
ave NOx DC	6.29390	ppm		
ave PM	n/a	mg/m3		
ave Soot meas	n/a	mg/m3		
ave Soot	n/a	mg/m3		
ave PN DC	n/a	#/cm3		
tot THC DC	0.24732	g		
tot NMHC DC	0.22877	g		
tot CH4 DC	0.00548	g		
tot CO DC	36.55250	g		
tot CO2 DC	10349.80543	g		
tot NO DC (d)	0.35066	g		
tot NO2 DC	0.11794	g		
tot NOx DC	0.46860	g		
tot Soot	n/a	g		
tot Soot meas	n/a	g		
tot PM	n/a	g		
tot PN DC	n/a	#		
PM measurement type	0.00000	-		
PM correction type	1.00000	alpha(HC)		
tot Soot on PM filter (estim.)	n/a	mg		
Soot --> PM simple scaling factor	1.00000	-		
Soot --> PM alpha scaling factor	0.00000	-		
Trip Av. Veh. Speed	35.22583	mi/hr		
Trip Velocity Zero	10.11463	%		
Trip Velocity Urban	0.00000	%		
Trip Velocity Rural	0.00000	%		
Trip Velocity Motorway	100.00000	%		
BS CO2 DC	n/a	g/hphr		
BS CO DC	n/a	g/hphr		
BS THC DC	n/a	g/hphr		
BS NMHC DC	n/a	g/hphr		
BS CH4 DC	n/a	g/hphr		
BS NO DC (d)	n/a	g/hphr		
BS NO2 DC	n/a	g/hphr		
BS NOx DC	n/a	g/hphr		
BS Soot	n/a	g/hphr		
BS Soot meas	n/a	g/hphr		
BS PM	n/a	g/hphr		
BS PN DC	n/a	#/hphr		
DS CO2 DC	356.61724	g/mi		
DS CO DC	1.25947	g/mi		
DS THC DC	0.00852	g/mi		
DS NMHC DC	0.00788	g/mi		
DS CH4 DC	0.00019	g/mi		
DS NO DC (d)	0.01208	g/mi		
DS NO2 DC	0.00406	g/mi		
DS NOx DC	0.01615	g/mi		
DS Soot	n/a	g/mi		
DS Soot meas	n/a	g/mi		
DS PM	n/a	g/mi		
DS PN DC	n/a	#/mi		
FS CO2 DC	n/a	g/kg		
FS CO DC	n/a	g/kg		
FS THC DC	n/a	g/kg		
FS NMHC DC	n/a	g/kg		
FS CH4 DC	n/a	g/kg		
FS NO DC (d)	n/a	g/kg		
FS NO2 DC	n/a	g/kg		
FS NOx DC	n/a	g/kg		
FS Soot	n/a	g/kg		
FS Soot meas	n/a	g/kg		
FS PM	n/a	g/kg		
FS PN DC	n/a	#/kg		

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
 (d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Time Alignment Check

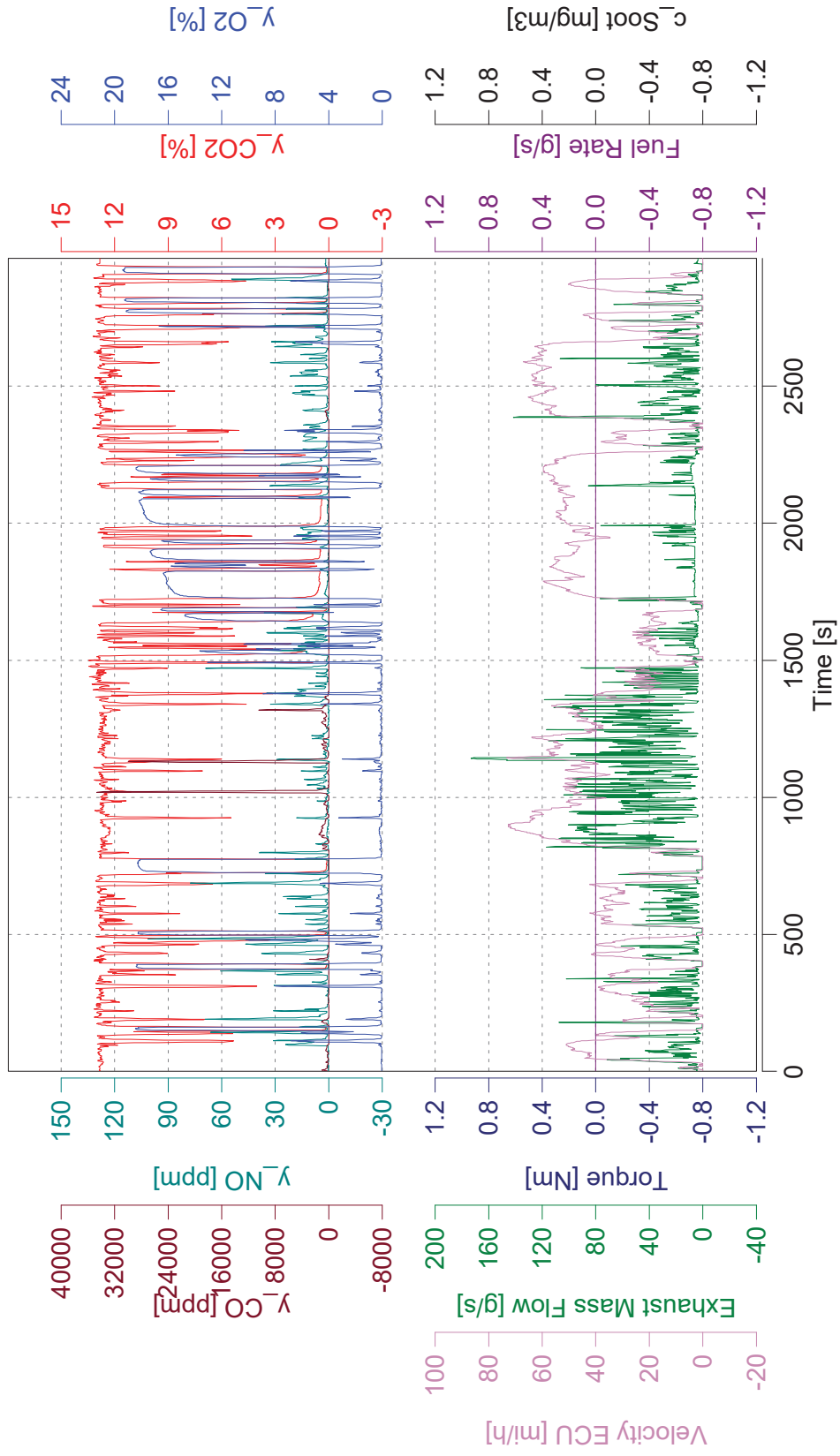
'Mountain'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Time Alignment of Gas Concentrations

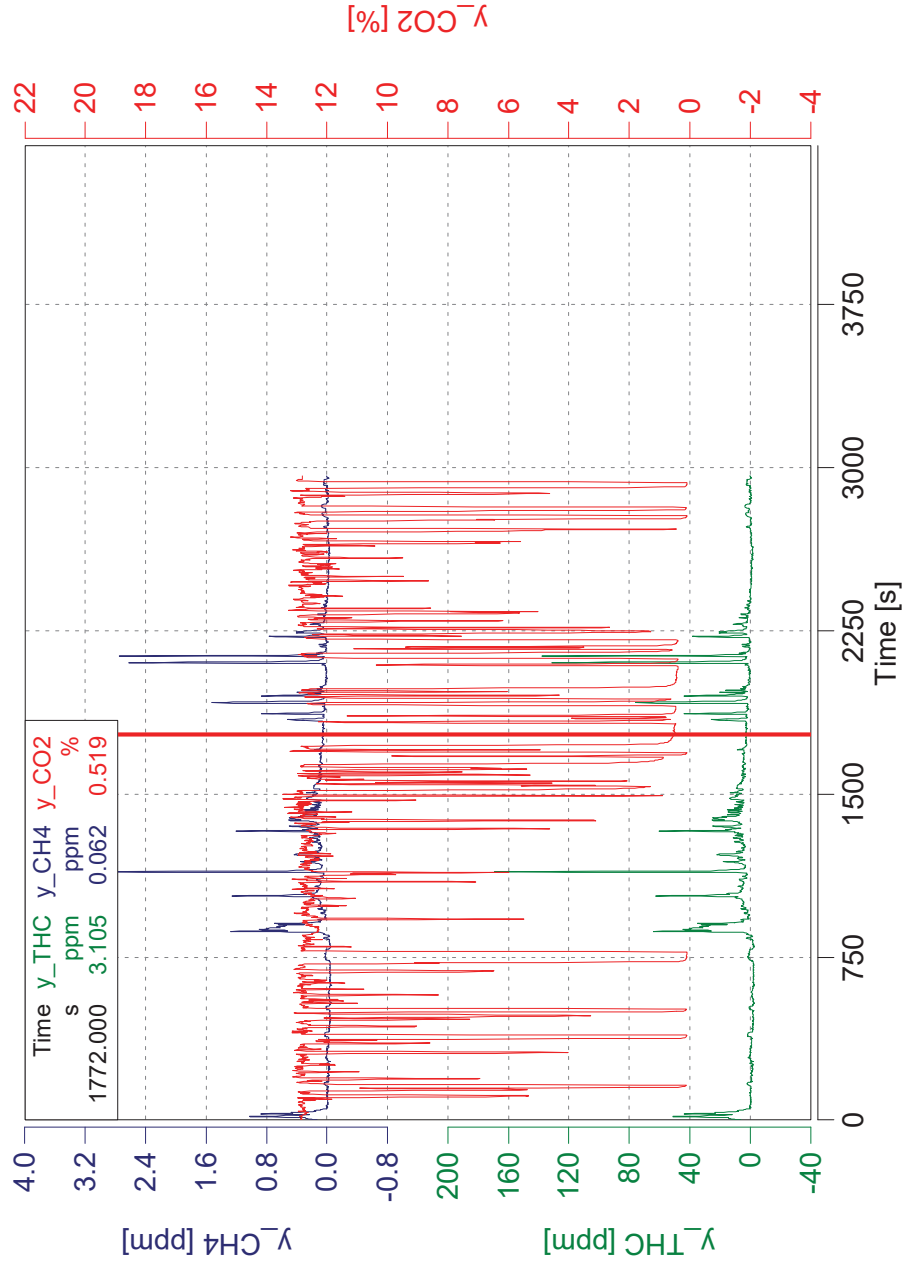
'Mountain'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Ambient Conditions

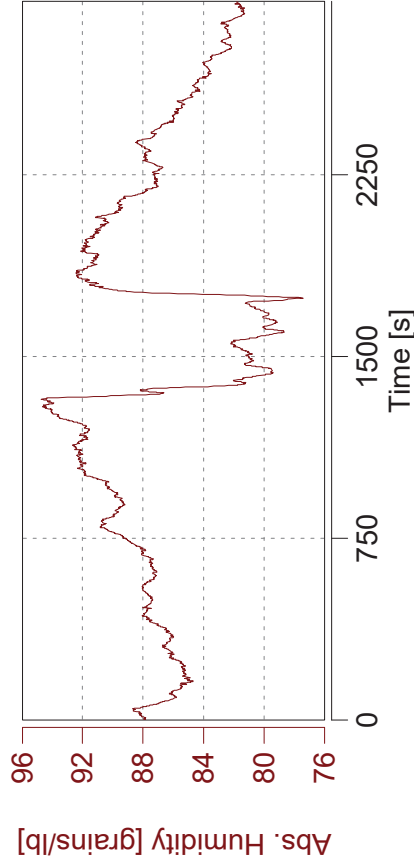
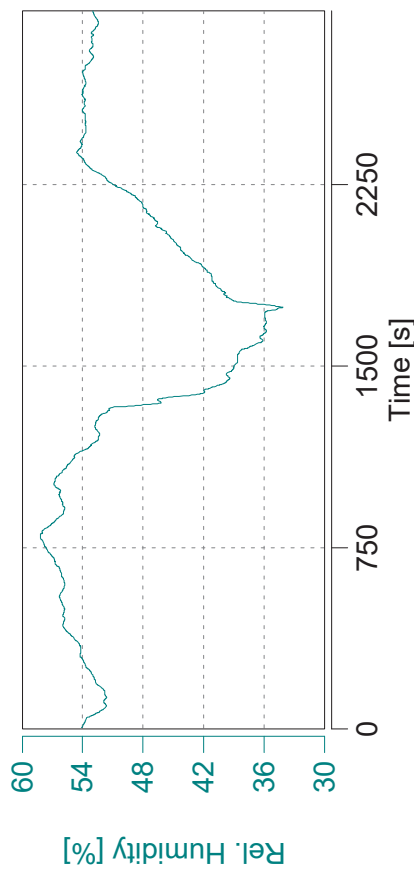
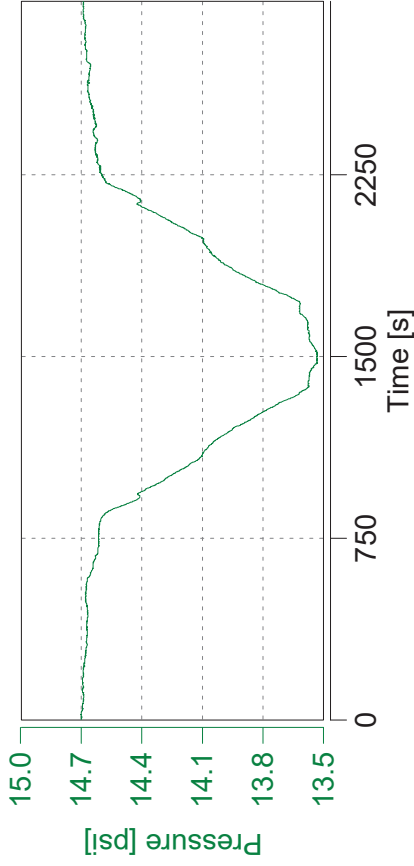
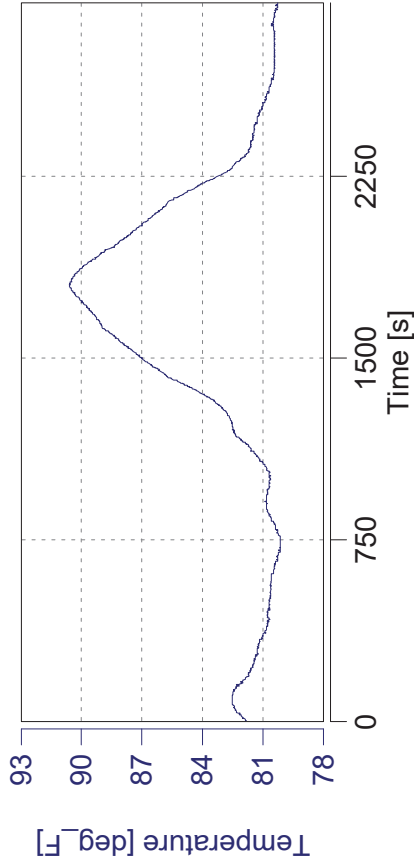
'Mountain'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan SEL / 2.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: GPS

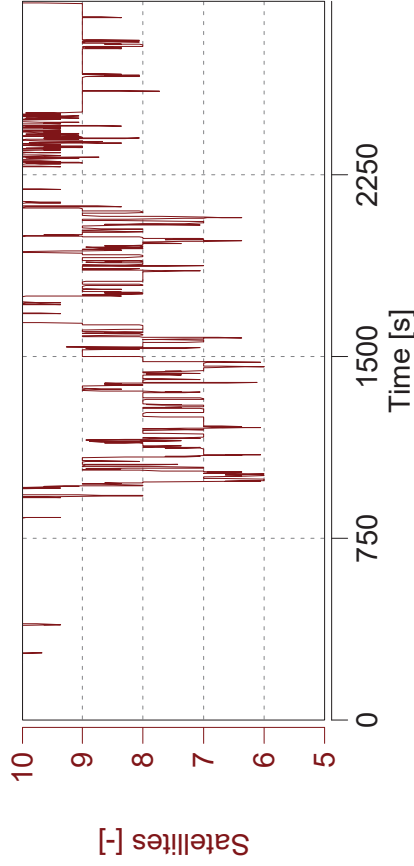
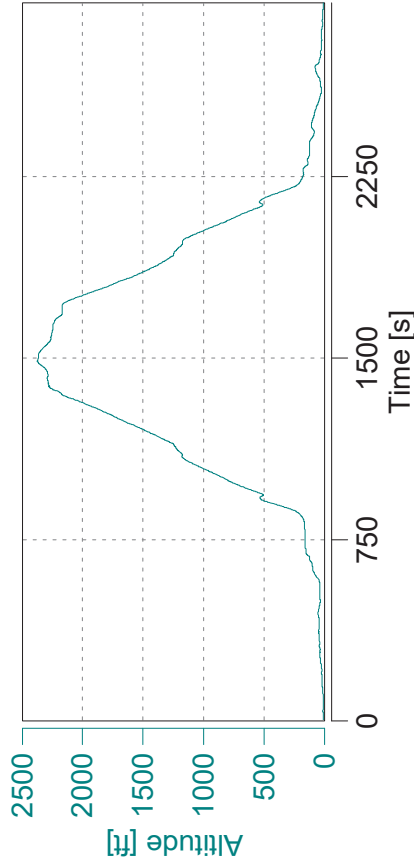
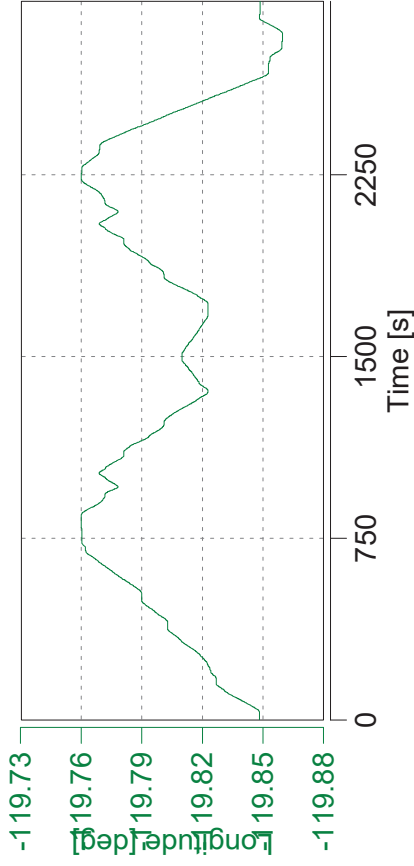
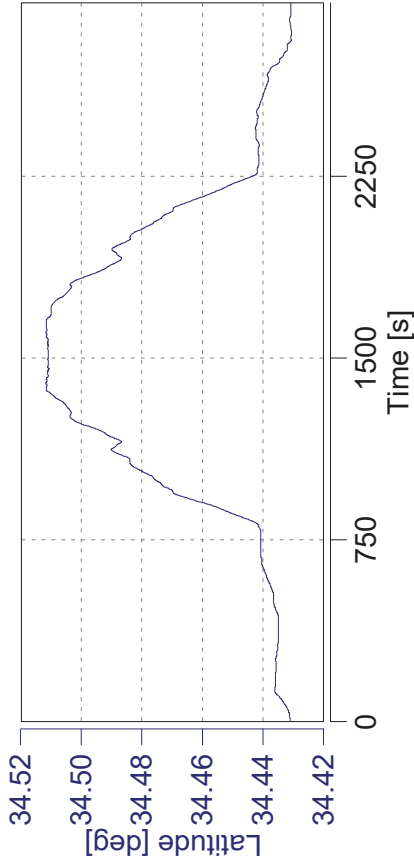
'Mountain'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (1)

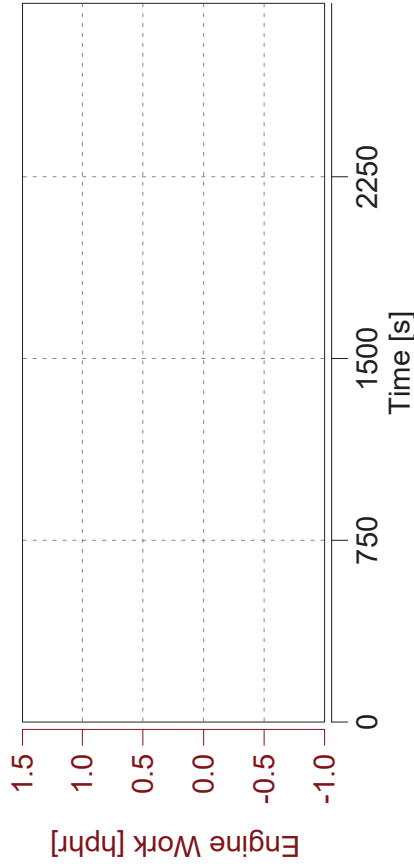
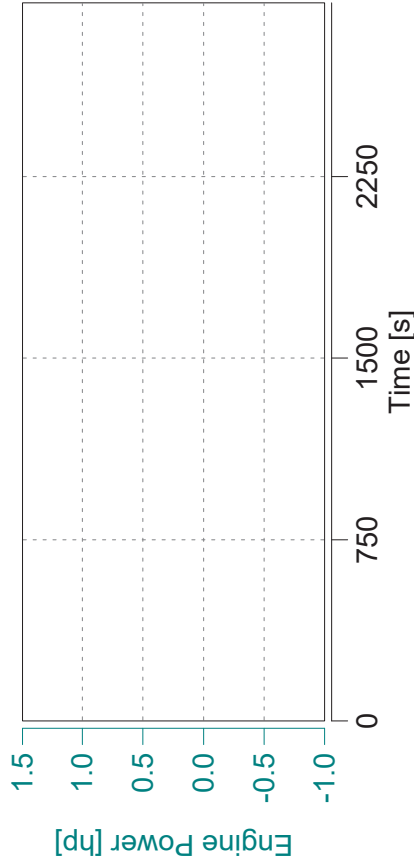
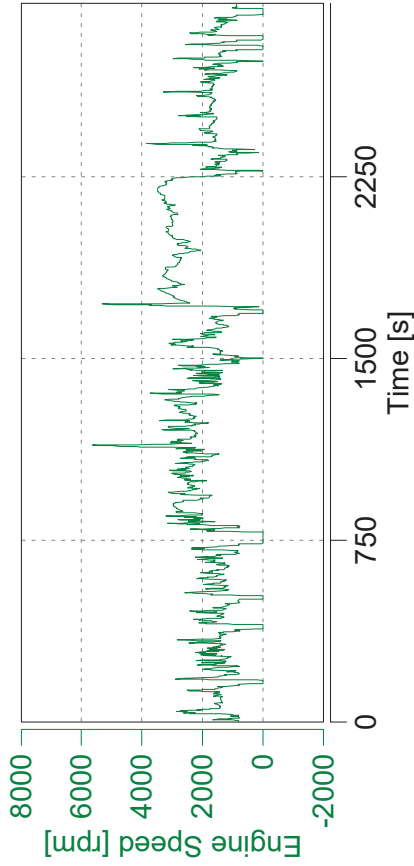
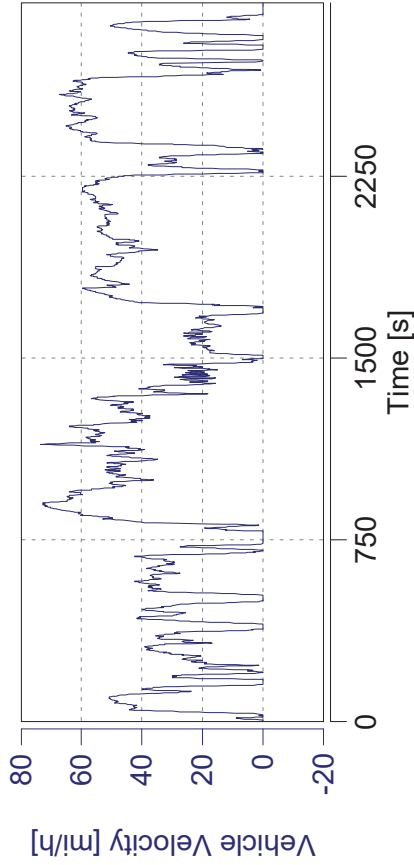
'Mountain'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (2)

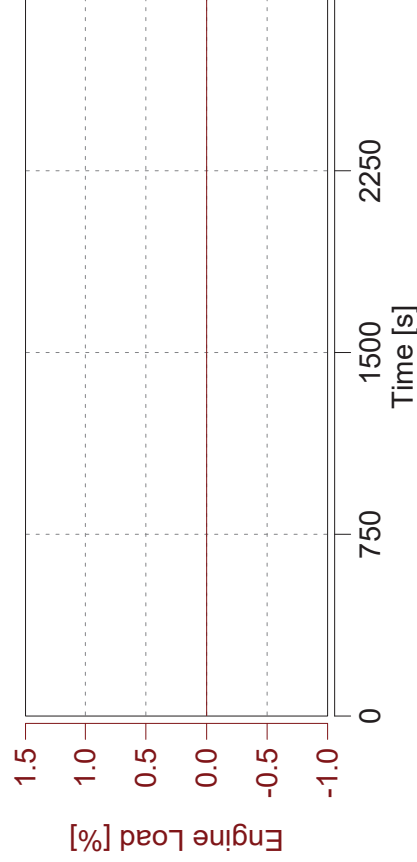
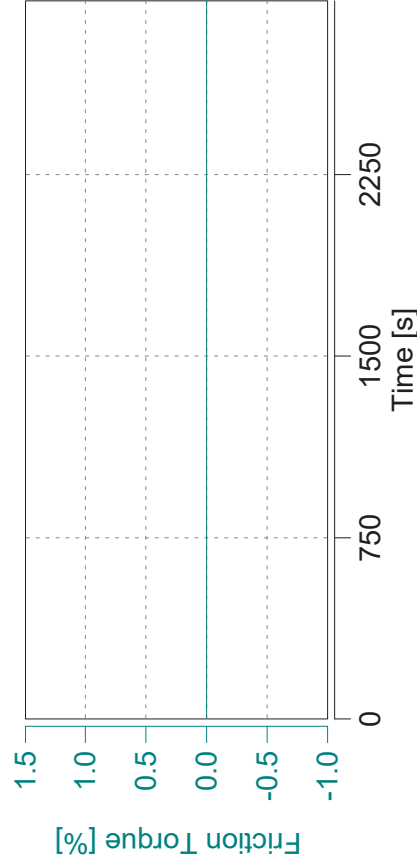
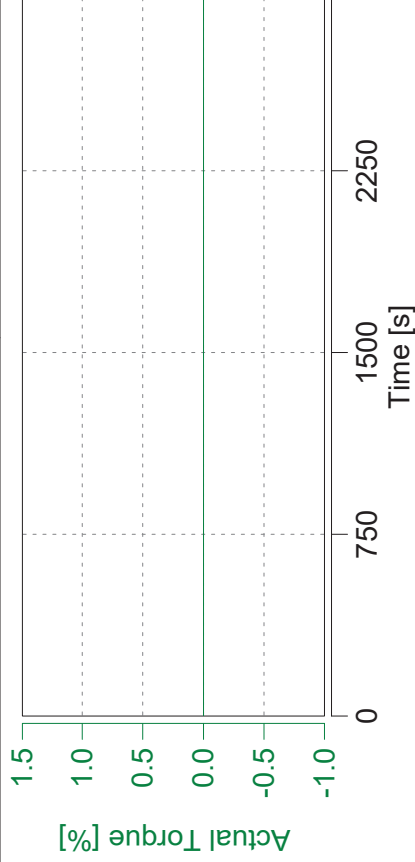
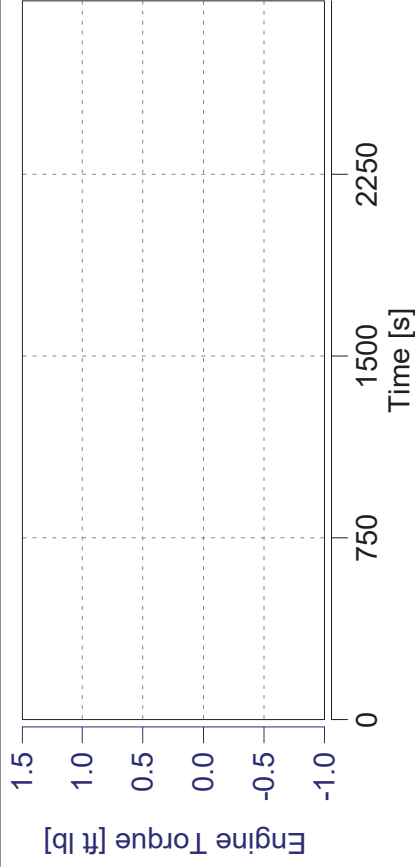
'Mountain'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (3)

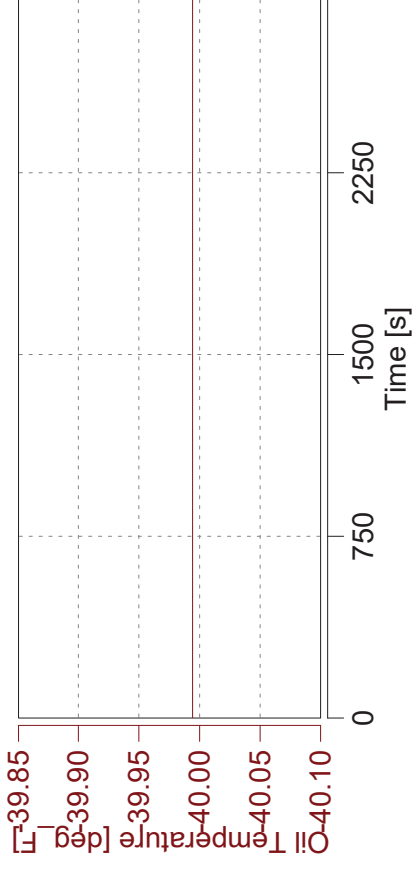
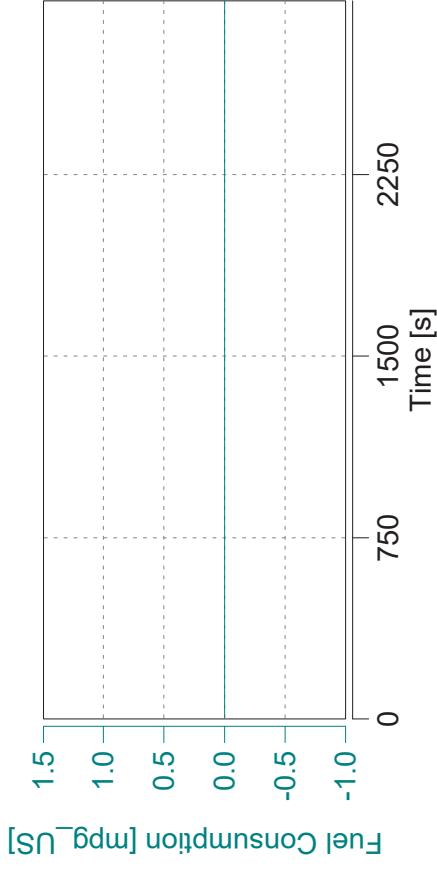
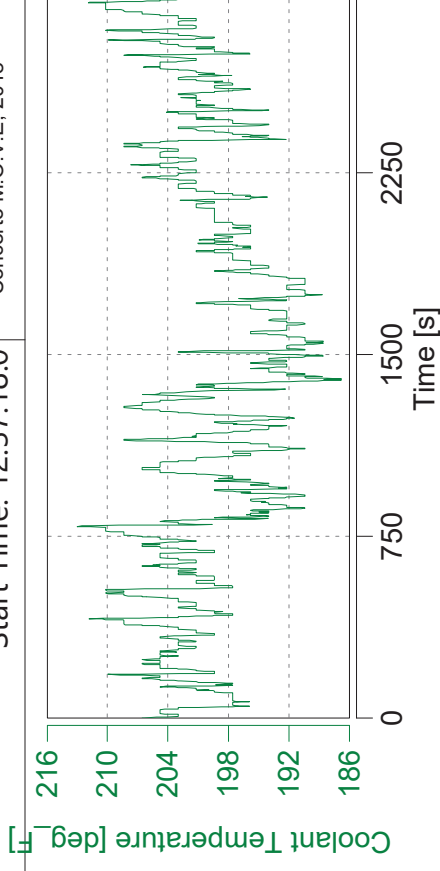
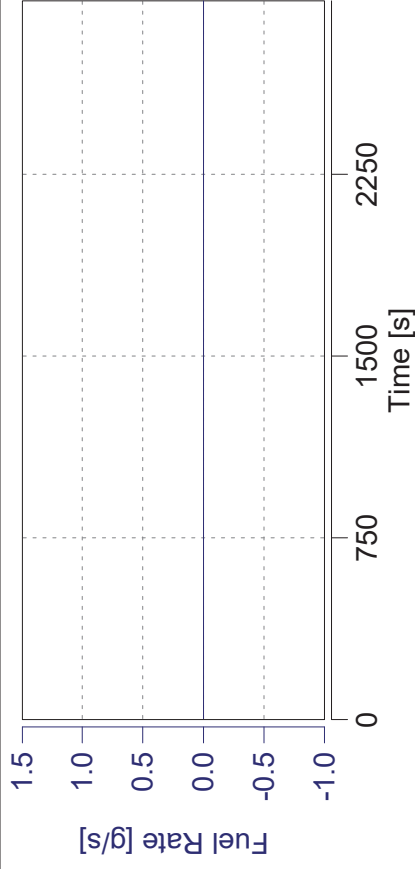
'Mountain'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Exhaust Flow (1)

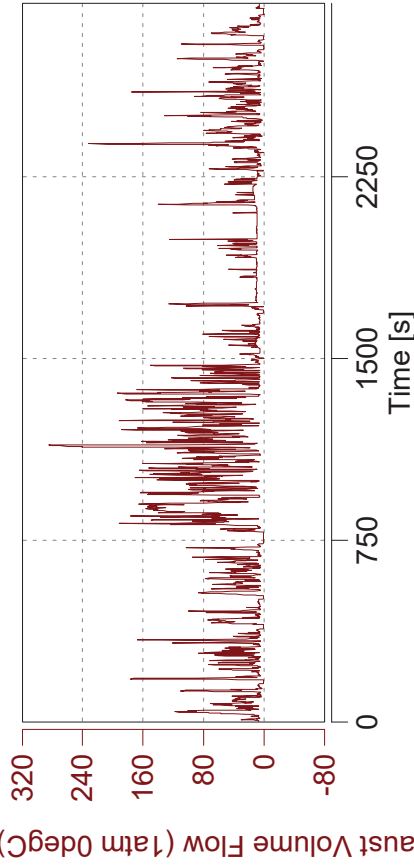
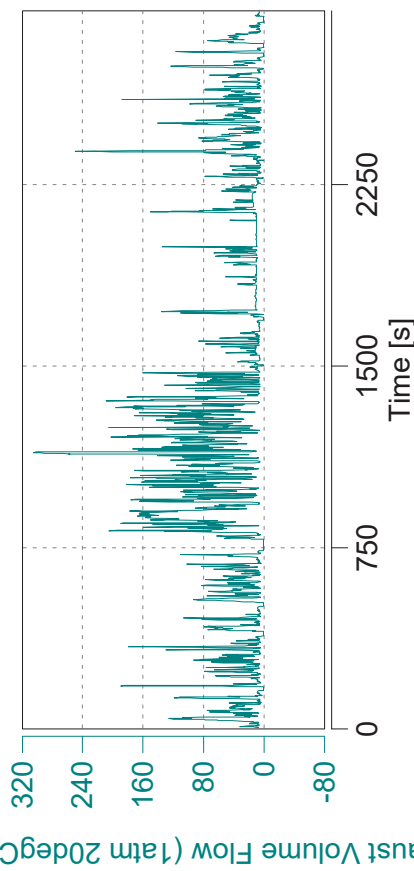
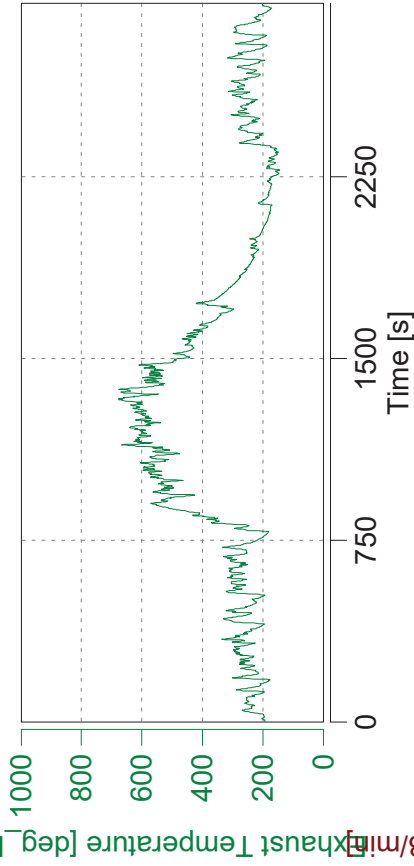
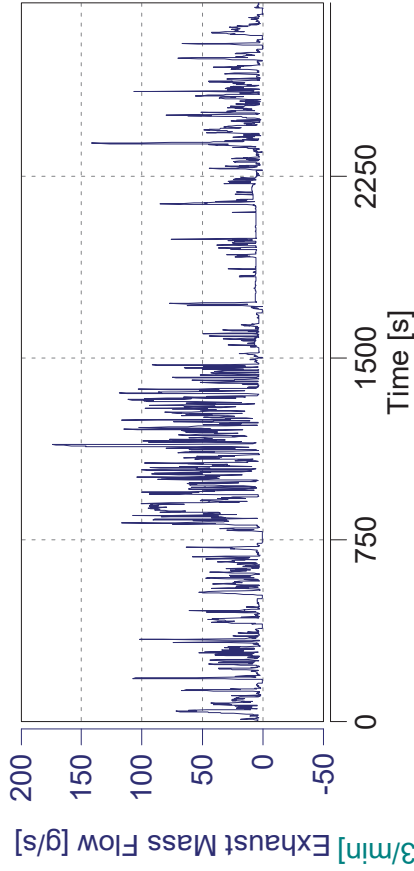
'Mountain'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Exhaust Flow (2)

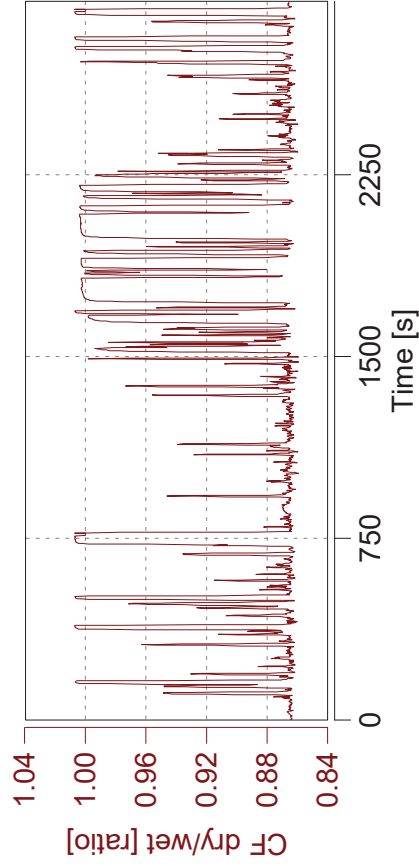
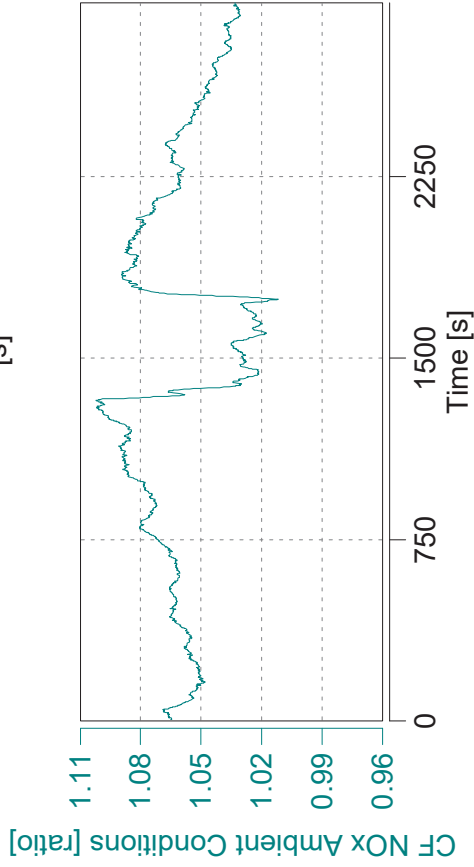
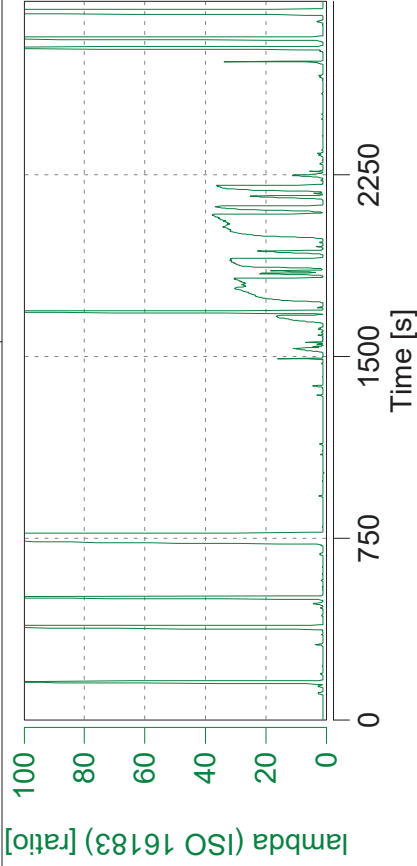
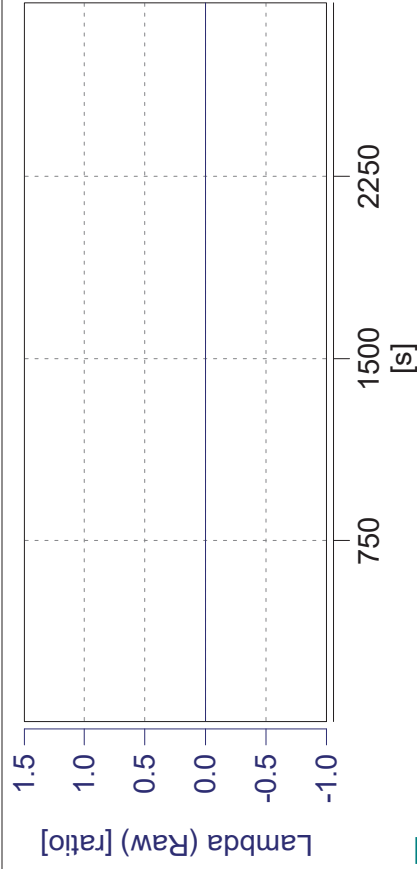
'Mountain'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (1)

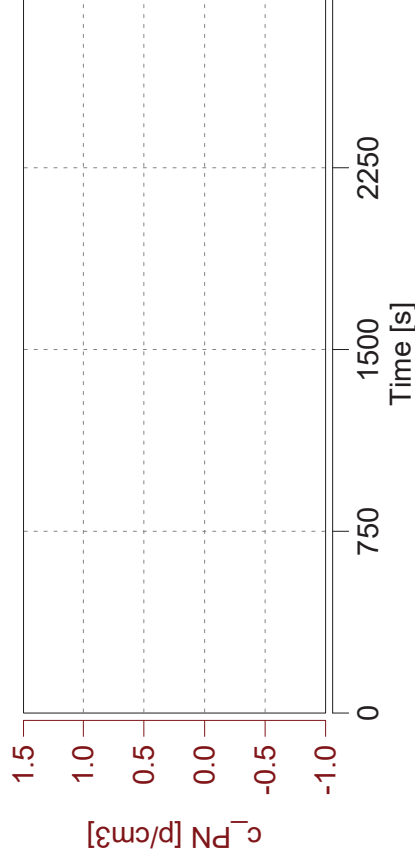
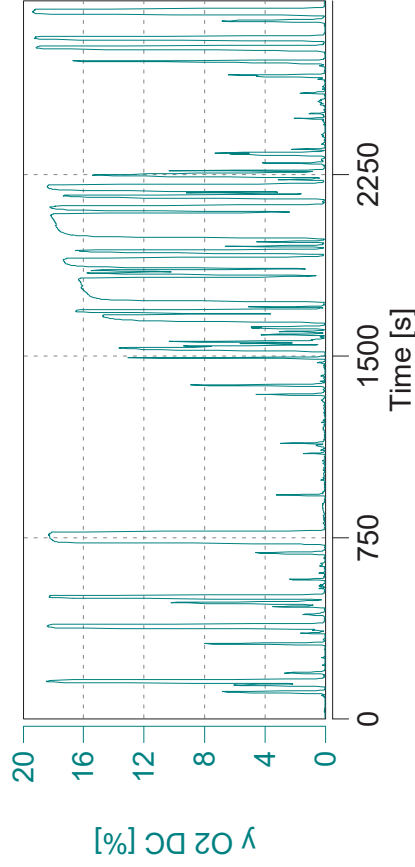
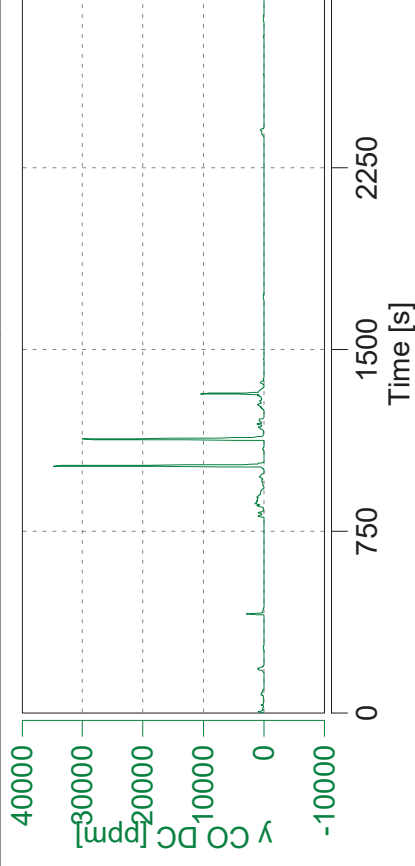
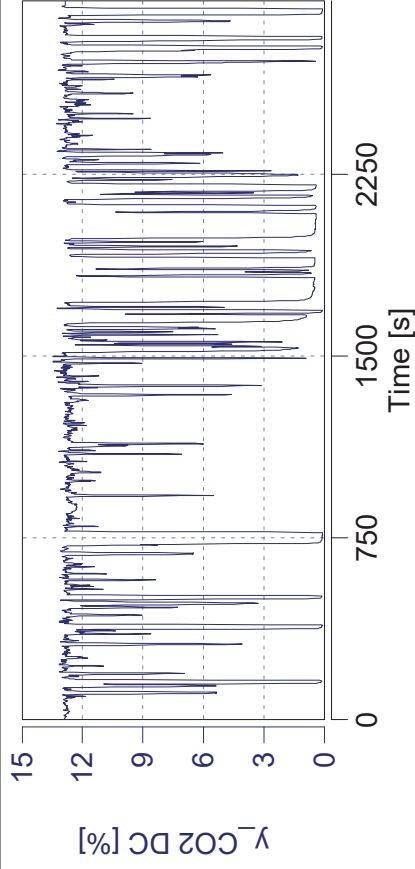
'Mountain'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (2)

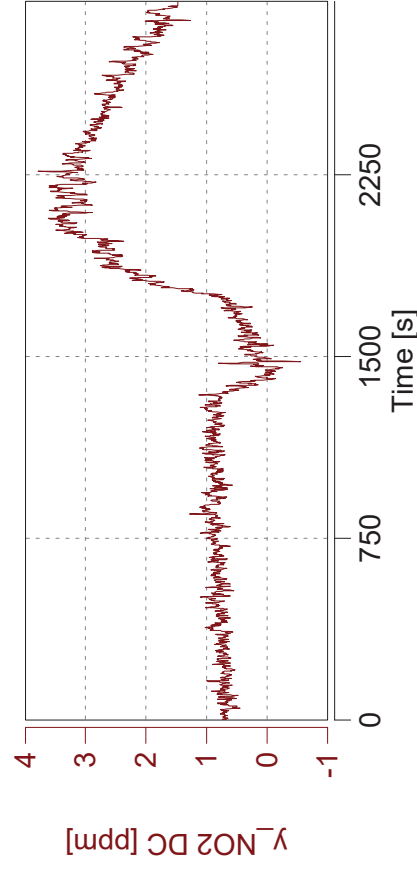
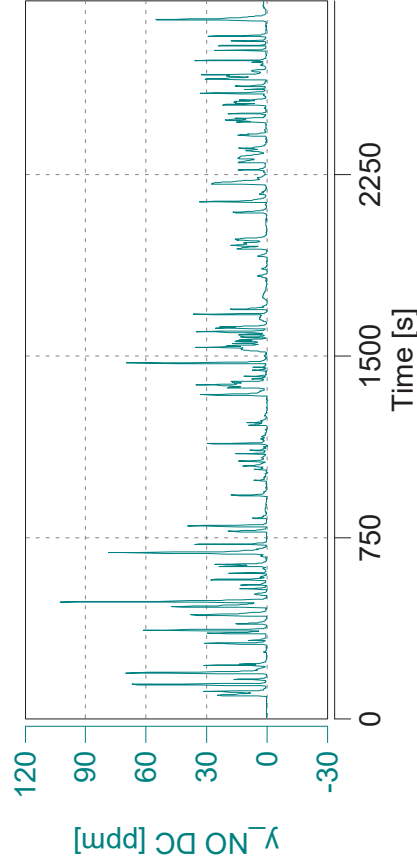
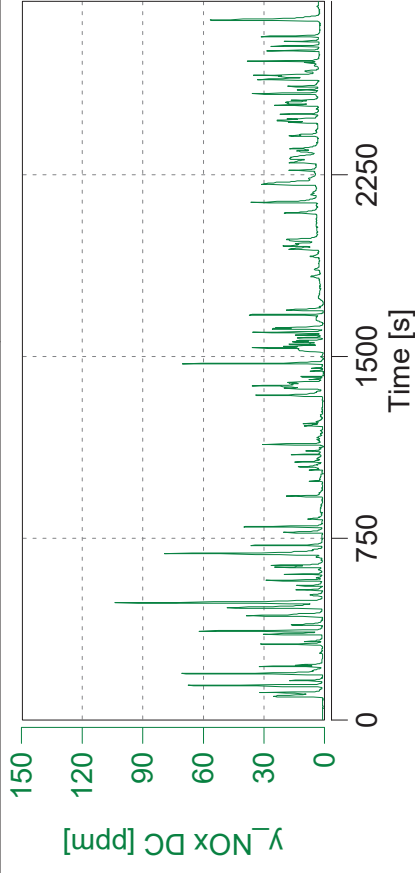
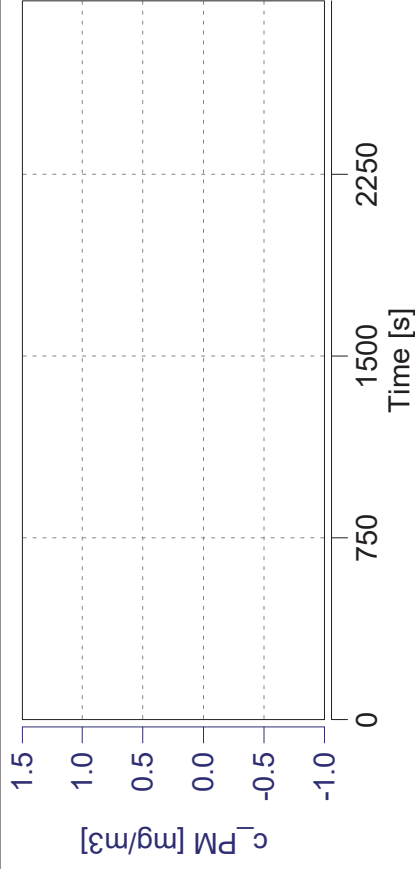
'Mountain'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (3)

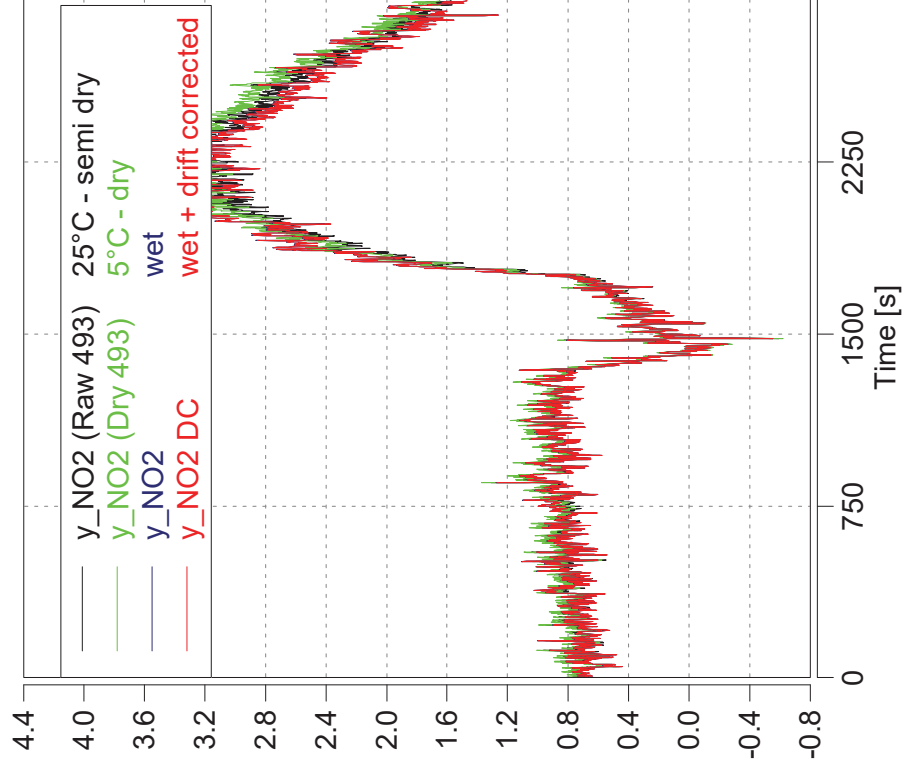
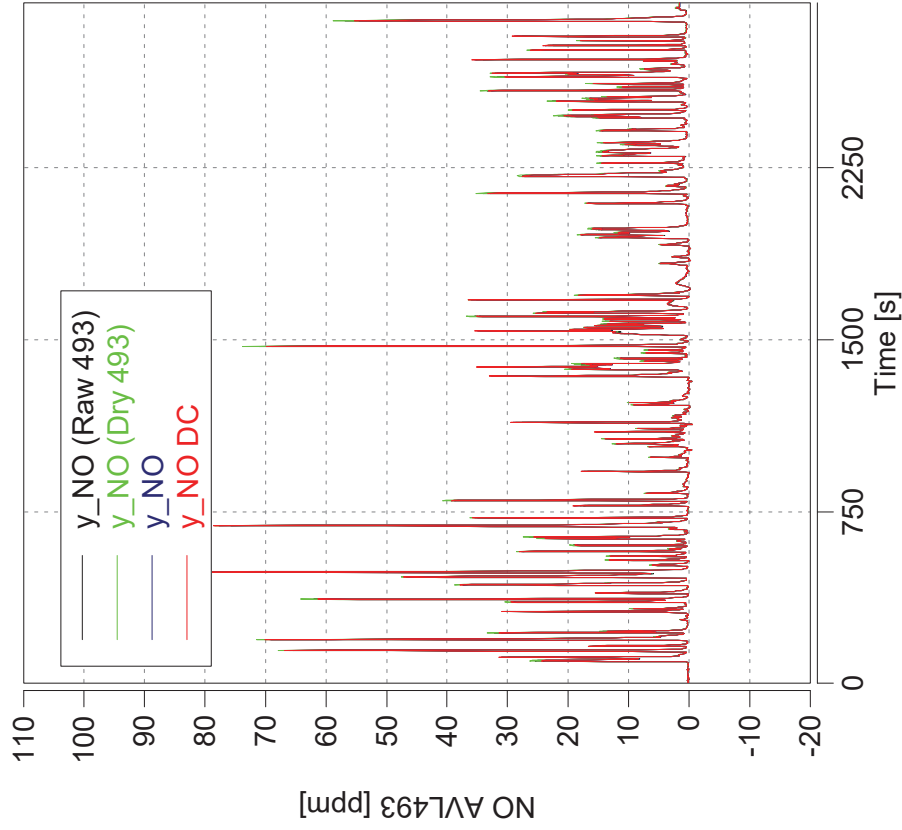
'Mountain'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (4) NOx Corrections

'Mountain'

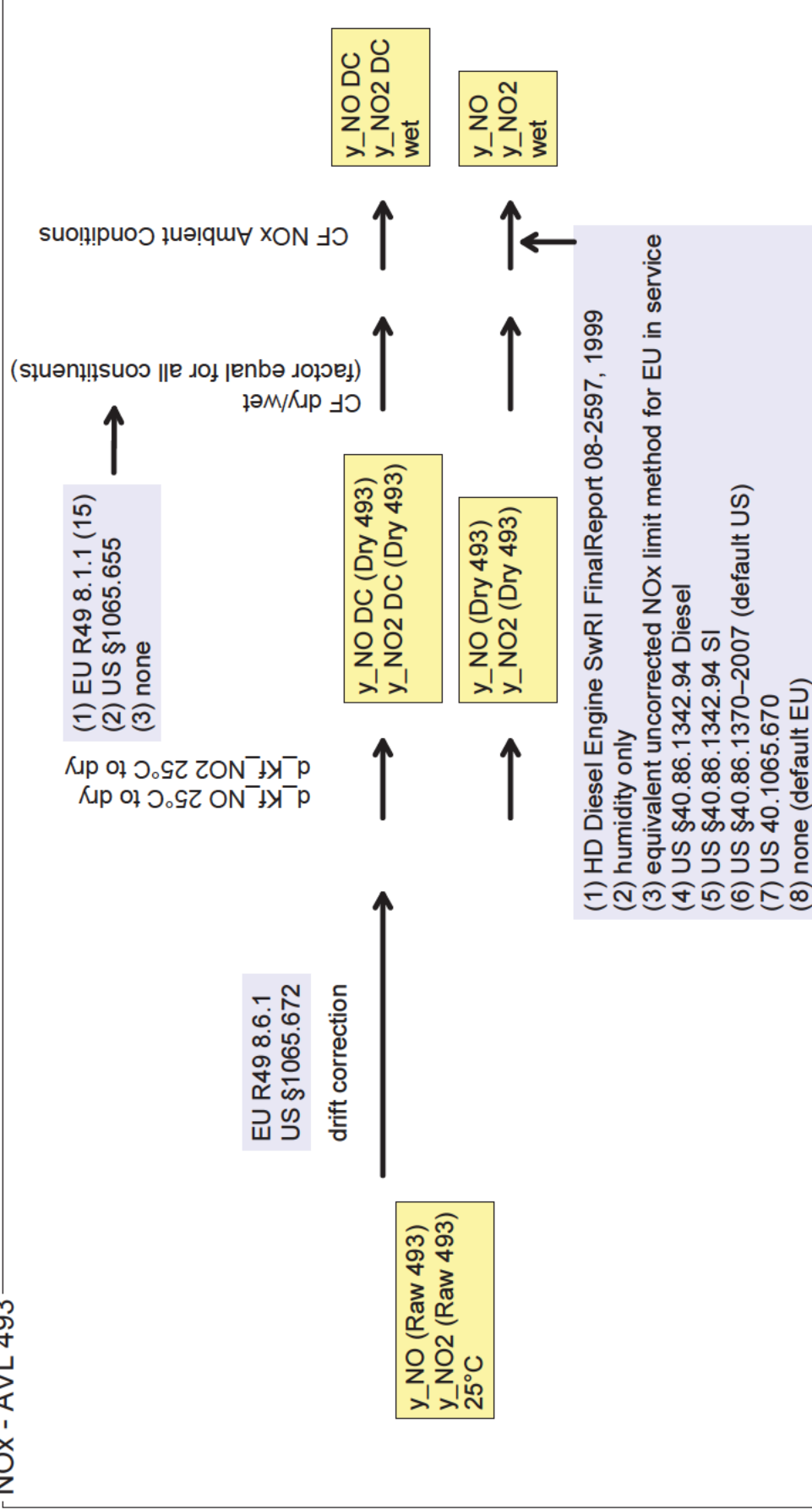
Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018

NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (5)

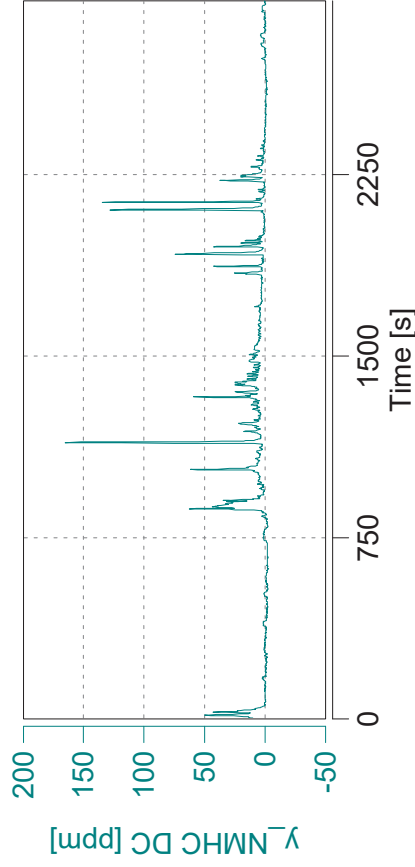
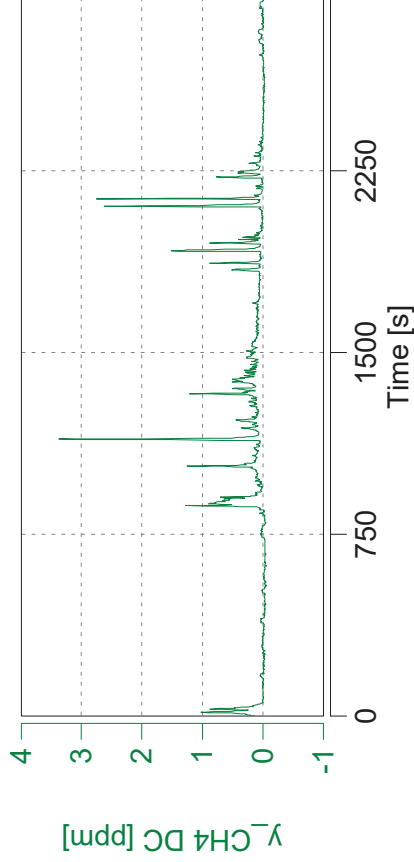
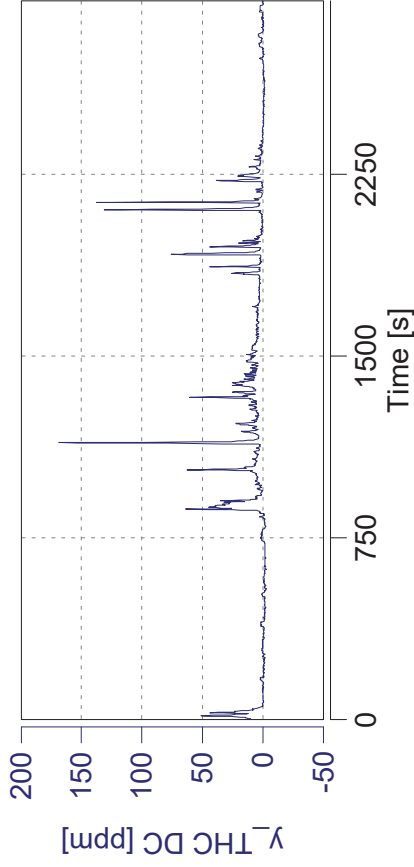
'Mountain'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan SEL / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: NO/NO2/NOx Zero - Span

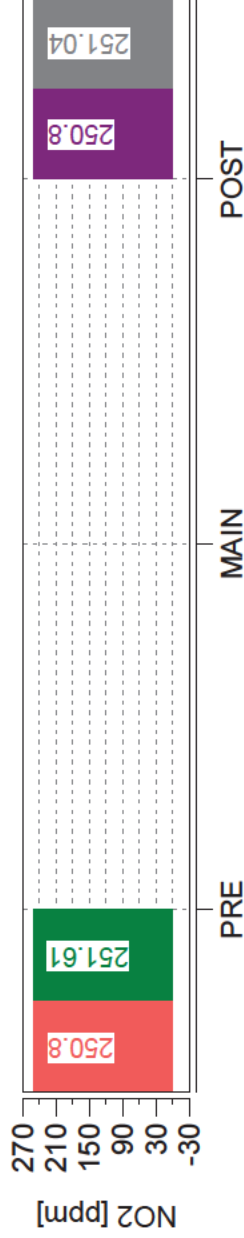
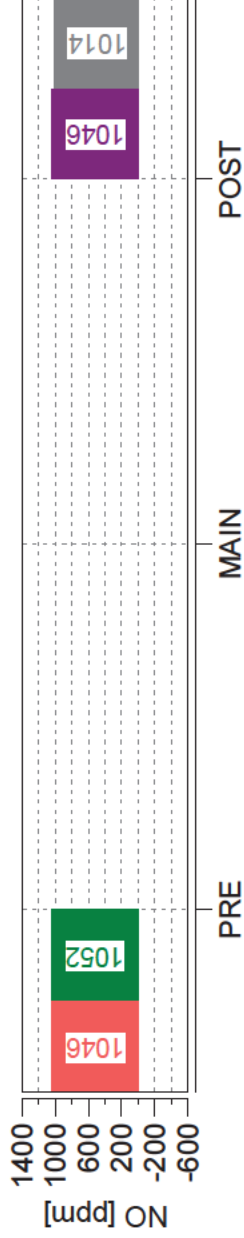
'Mountain'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: CO/CO2 Zero - Span

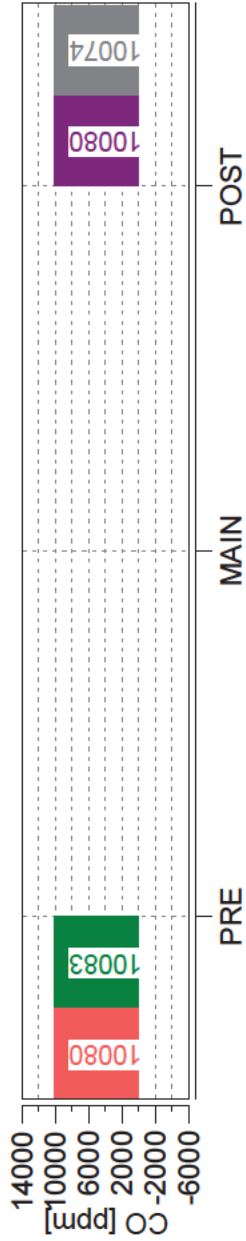
'Mountain'

Start Date: 07/26/2018

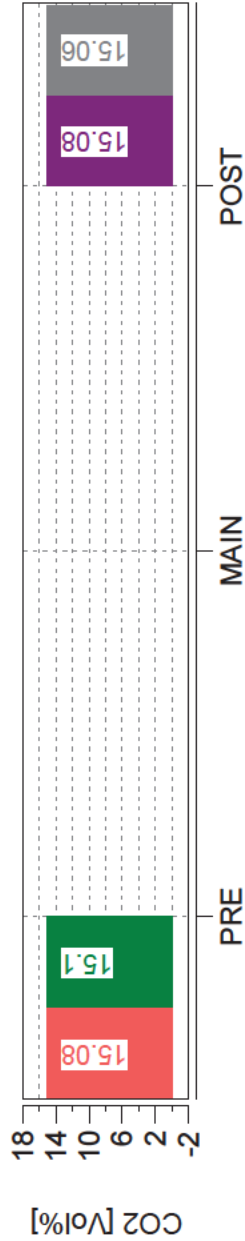
Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



GP_CO_Cal_gas_value
 GP_CO_Adjust_Actual
 GP_CO_Reference
 GP_CO_Audit_Actual



GP_CO2_Cal_gas_value
 GP_CO2_Adjust_Actual
 GP_CO2_Reference
 GP_CO2_Audit_Actual

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: THC/CH4 Zero - Span

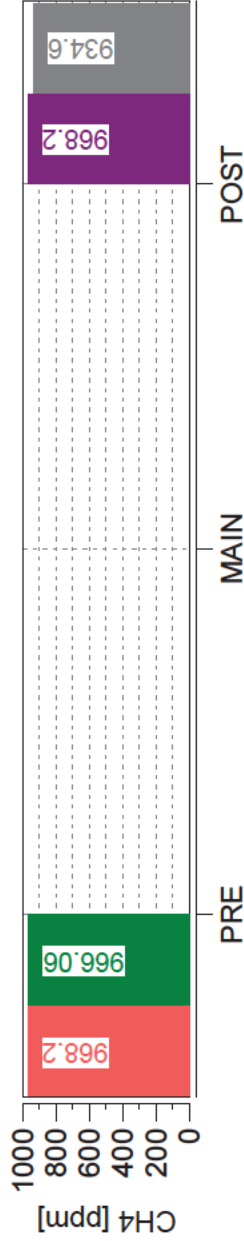
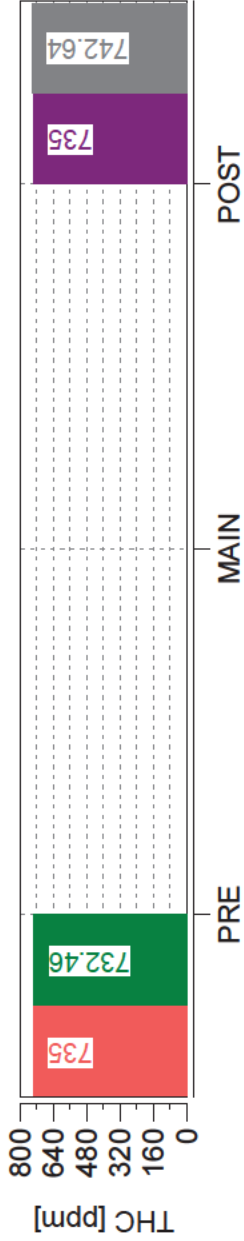
'Mountain'

Start Date: 07/26/2018

Start Time: 12:37:18.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Trip Summary

'City'

Start Date: 07/26/2018

Start Time: 20:42:45.0



Concerto M.O.V.E. 2018

Trip Duration	3453.00	s	ave THC	2.52813	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	3453.00	s	ave NMHC	2.47757	ppm	BS CO	n/a	g/hphr
Trip Distance	16.24	mi	ave CH4	0.05056	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	16.24	mi	ave CO	11.45876	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	10.97231	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOX	8.06887	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	2.20	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	2.17	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	0.78	gall	tot THC	0.05890	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	0.77	gall	tot NMHC	0.05448	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00131	g	DS CO2	407.05232	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	1.01612	g	DS CO	0.06257	g/mi
Trip Fuel Economy EU (ac)	20.86	mpg_US	tot CO2	6610.47924	g	DS THC	0.00363	g/mi
Trip Fuel Economy US (ac)	21.15	mpg_US	tot NO (d)	0.31817	g	DS NMHC	0.00335	g/mi
Trip Av. Eng. Speed	1171.99	rpm	tot NO2	0.02347	g	DS CH4	0.00008	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.34164	g	DS NO (d)	0.01959	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	0.00145	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.02104	g/mi
Trip Exhaust Mass	36.72	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	72.32	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	79.86	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	16.93124	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	21.22792	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
 (d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Trip Summary Drift Corrected

'City'

Start Date: 07/26/2018

Start Time: 20:42:45.0



Concerto M.O.V.E., 2018

Trip Duration	3453.00	s	ave THC DC	2.88729	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	3453.00	s	ave NMHC DC	2.82955	ppm	BS CO DC	n/a	g/hphr
Trip Distance	16.24	mi	ave CH4 DC	0.05775	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	16.24	mi	ave CO DC	11.16123	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	10.97231	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	8.12826	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	2.20	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	2.17	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	0.78	gall	tot THC DC	0.06596	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	0.77	gall	tot NMHC DC	0.06101	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.00146	g	DS CO2 DC	407.05232	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	1.00545	g	DS CO DC	0.06191	g/mi
Trip Fuel Economy EU (ac)	20.86	mpg_US	tot CO2 DC	6610.47924	g	DS THC DC	0.00406	g/mi
Trip Fuel Economy US (ac)	21.15	mpg_US	tot NO DC (d)	0.31769	g	DS NMHC DC	0.00376	g/mi
Trip Av. Eng. Speed	1171.99	rpm	tot NO2 DC	0.02767	g	DS CH4 DC	0.00009	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.34536	g	DS NO DC (d)	0.01956	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	0.00170	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.02127	g/mi
Trip Exhaust Mass	36.72	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	72.32	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	79.86	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	16.93124	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	21.22792	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Time Alignment Check

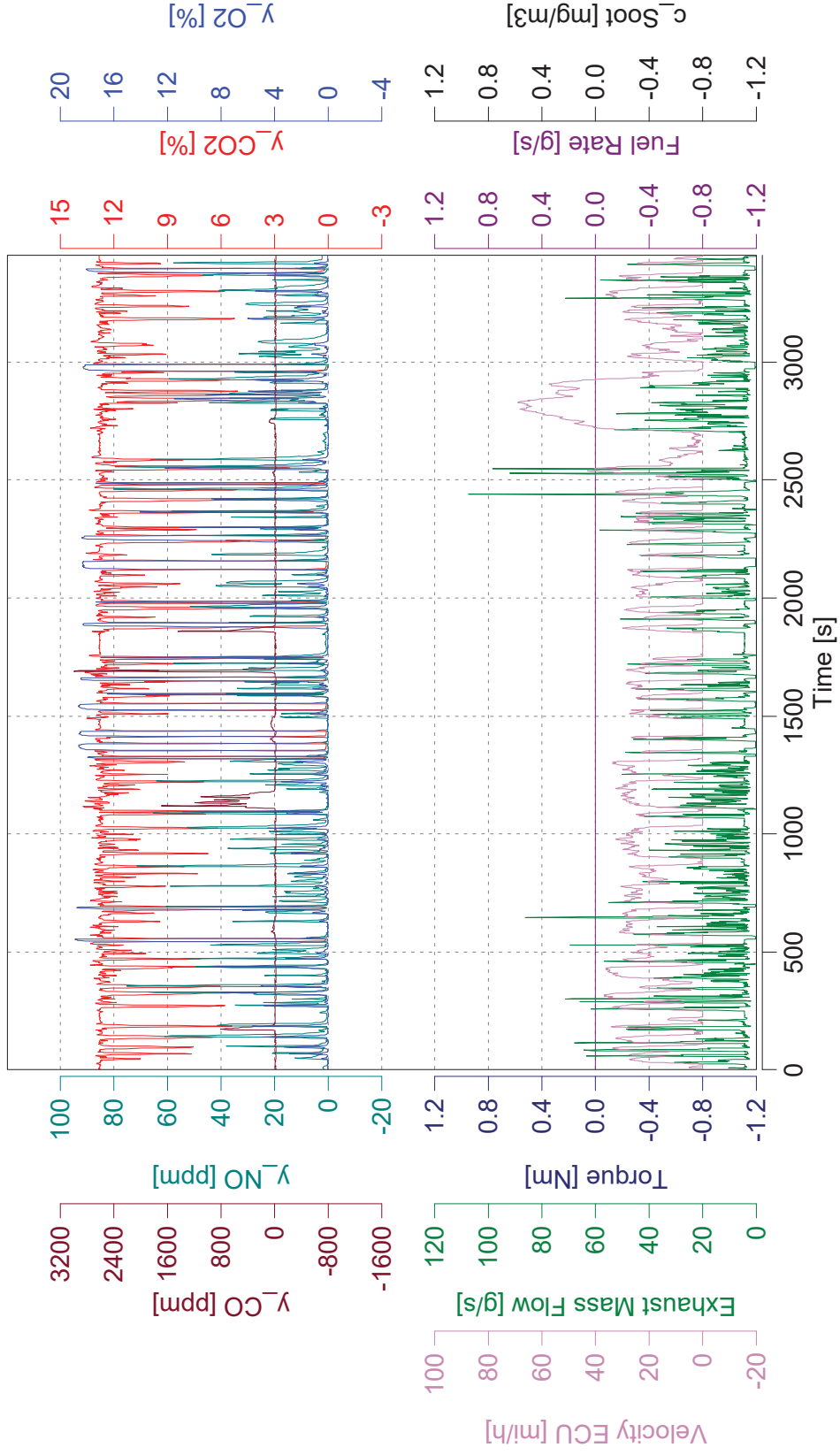
'City'

Start Date: 07/26/2018

Start Time: 20:42:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Time Alignment of Gas Concentrations

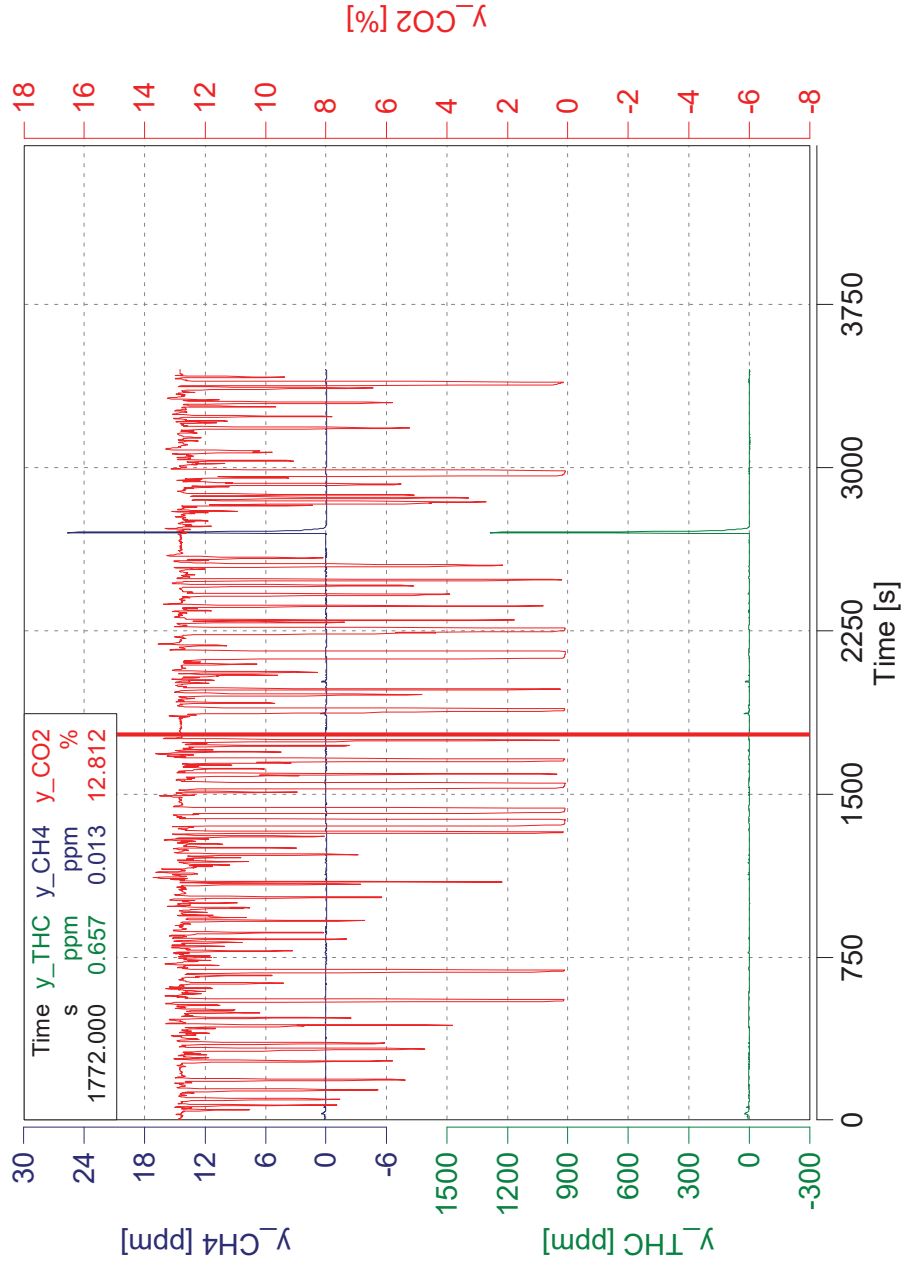
'City'

Start Date: 07/26/2018

Start Time: 20:42:45.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Ambient Conditions

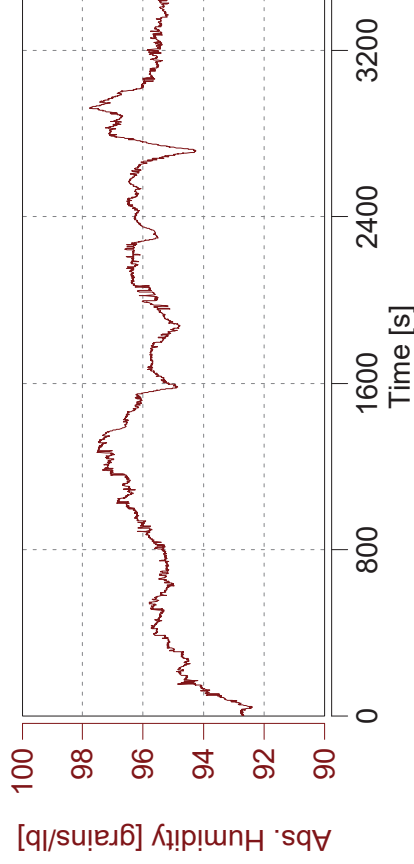
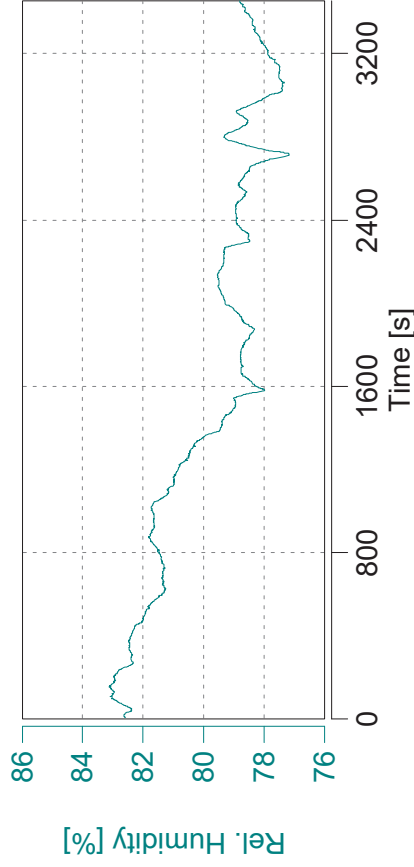
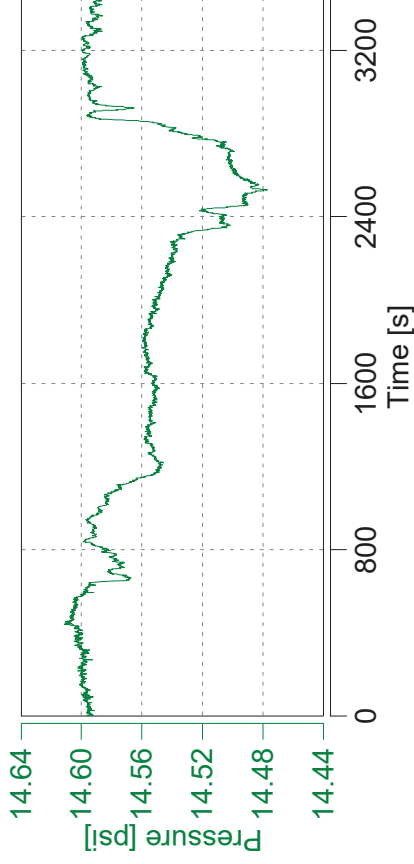
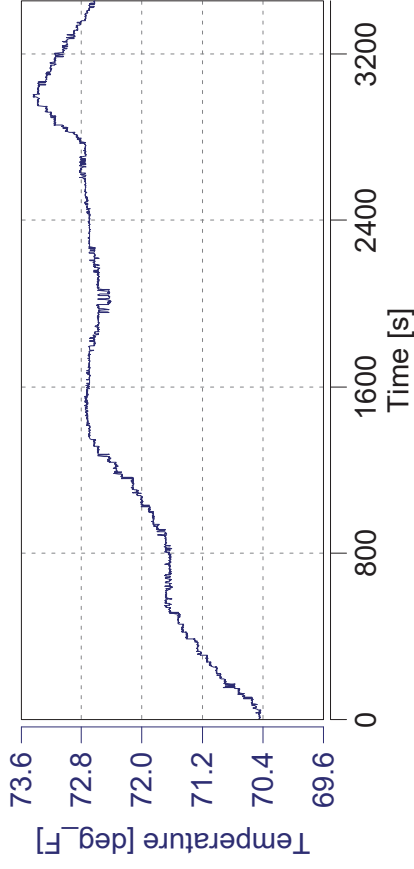
'City'

Start Date: 07/26/2018

Start Time: 20:42:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

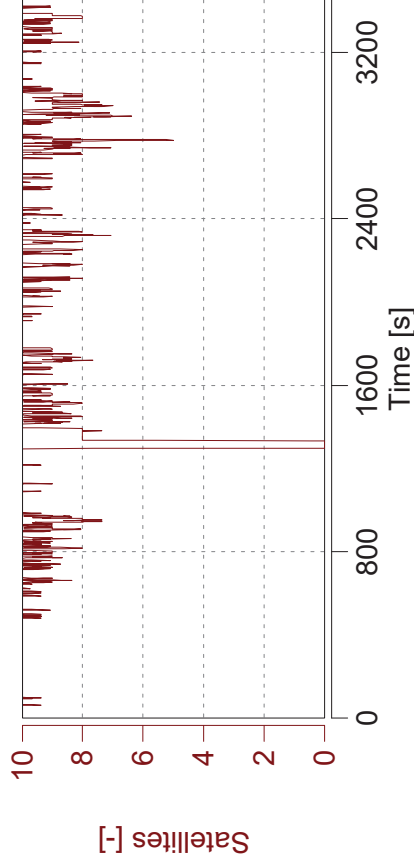
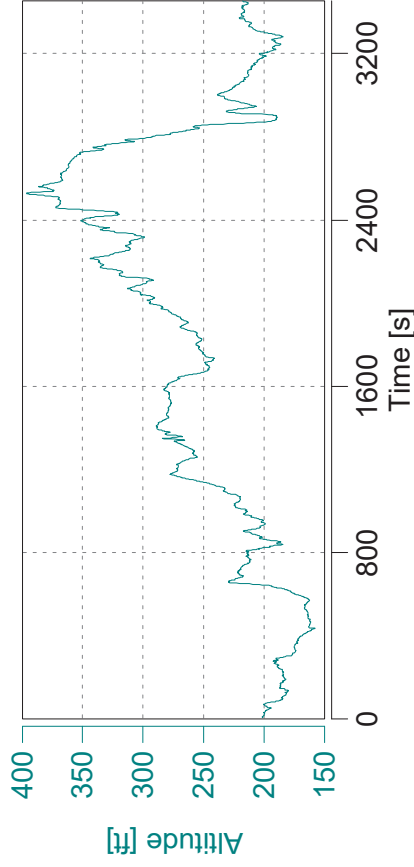
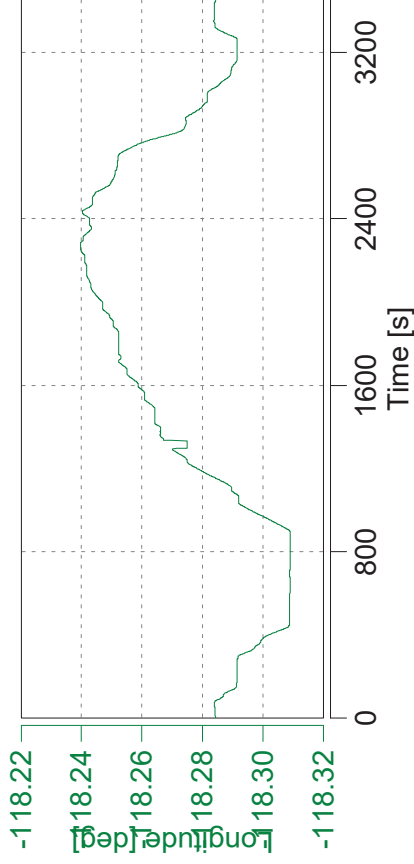
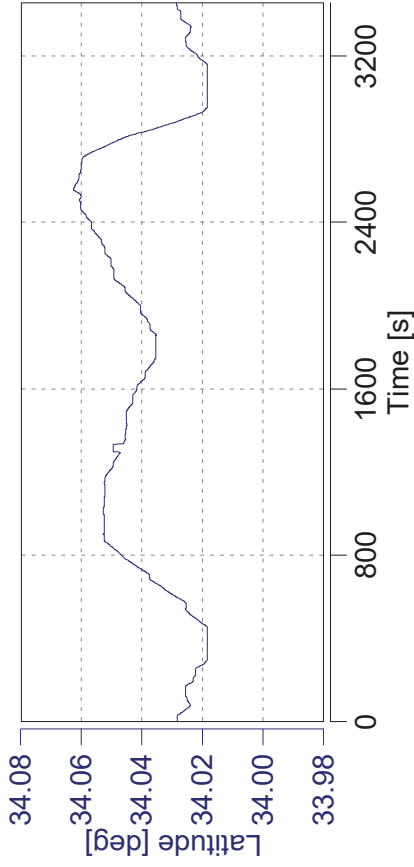
Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City
Page: GPS

'City'
Start Date: 07/26/2018
Start Time: 20:42:45.0



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan SEL / 2.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (1)

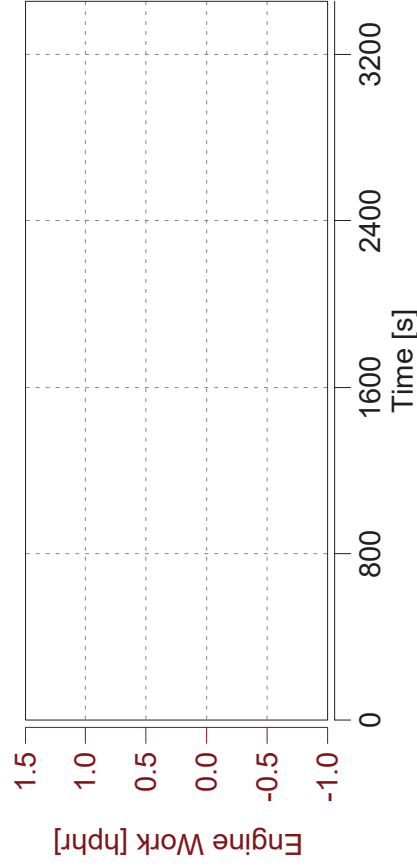
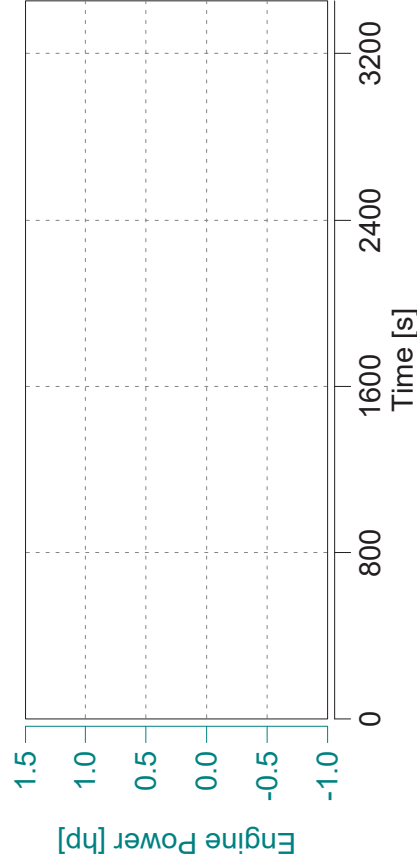
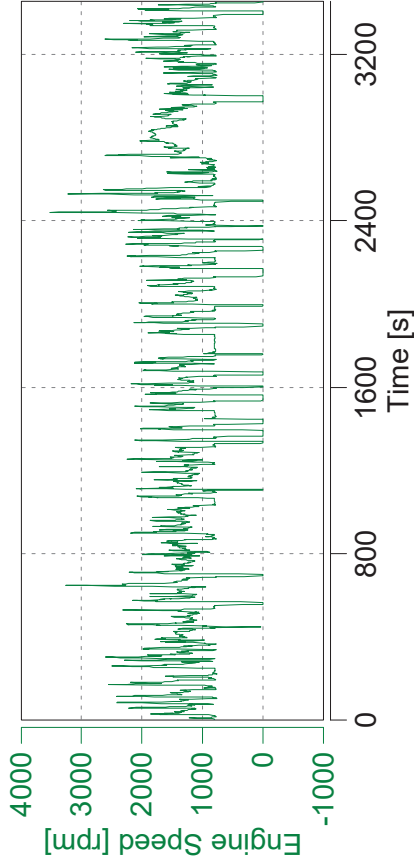
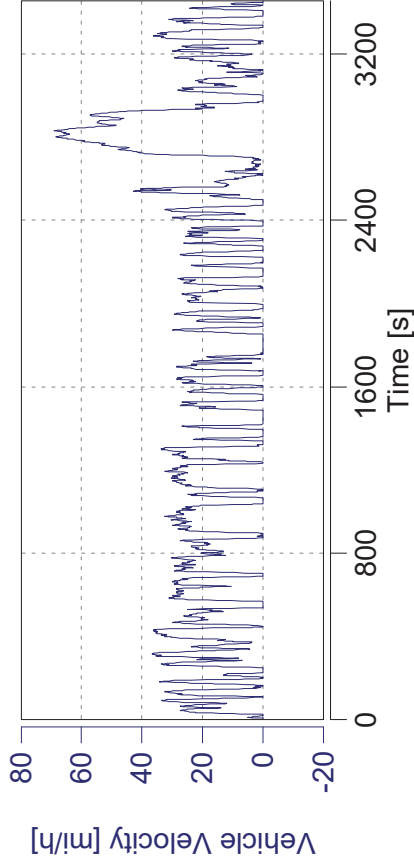
'City'

Start Date: 07/26/2018

Start Time: 20:42:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (2)

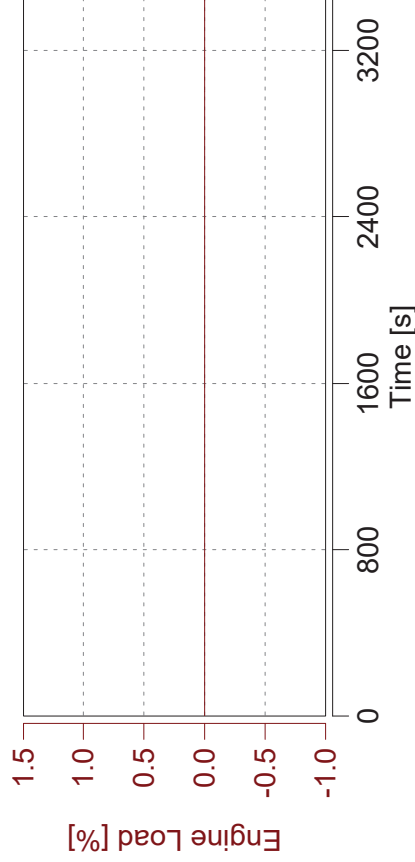
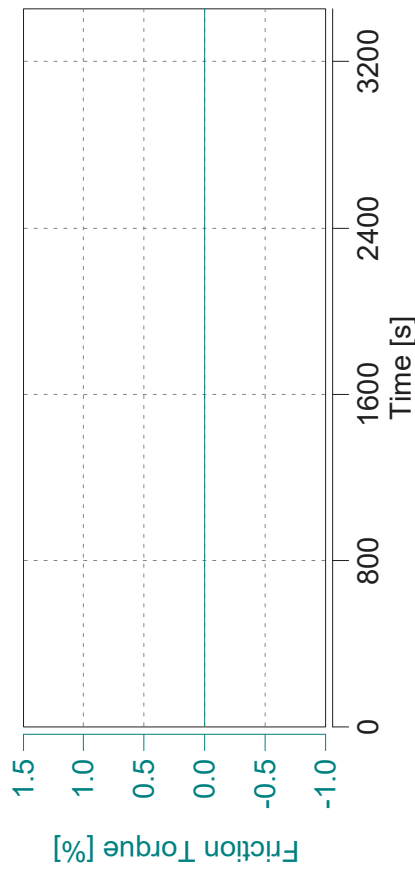
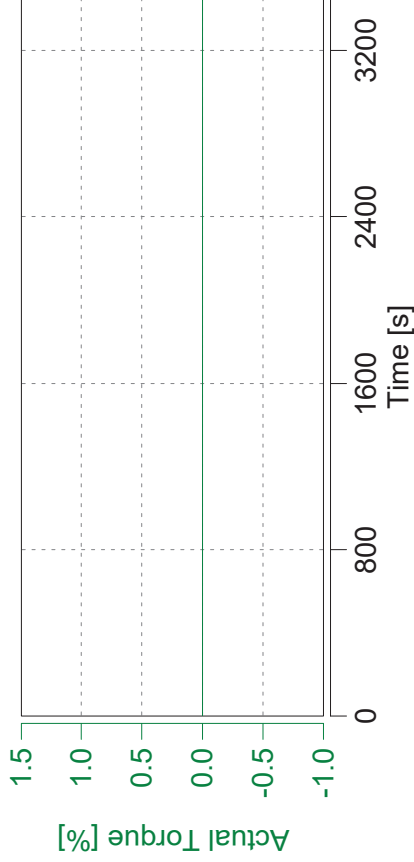
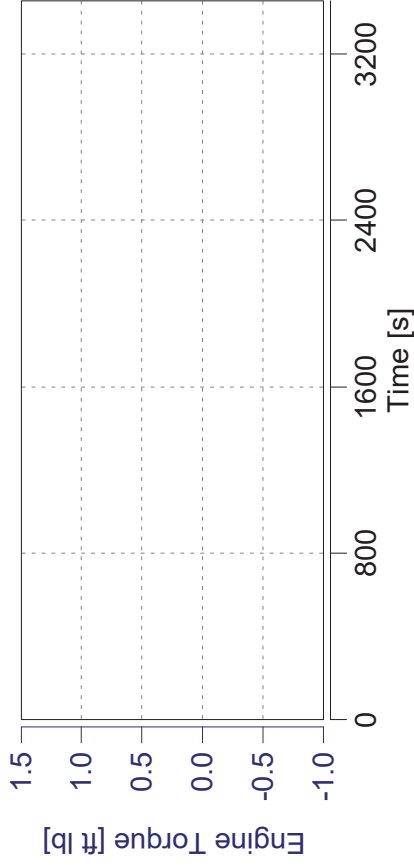
'City'

Start Date: 07/26/2018

Start Time: 20:42:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (3)

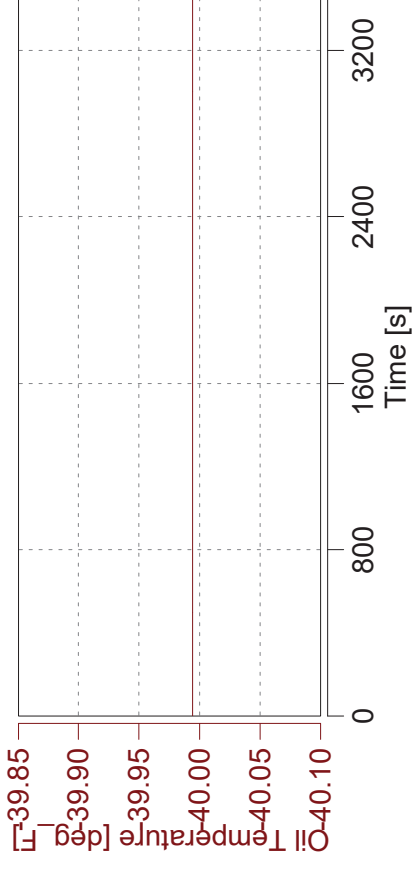
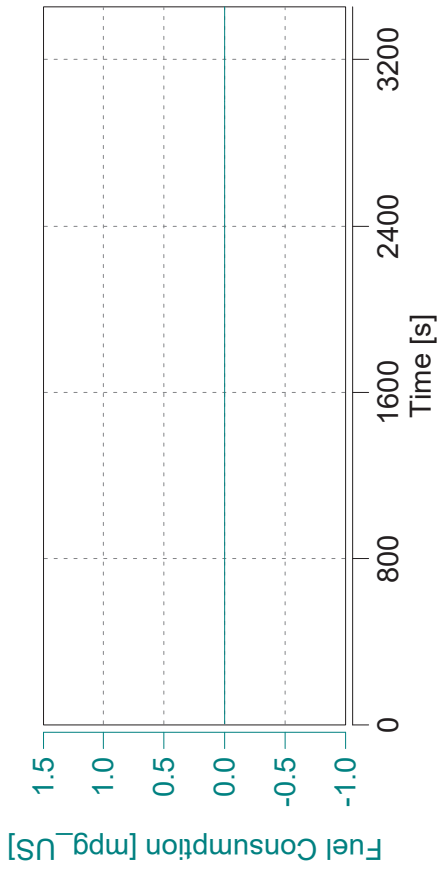
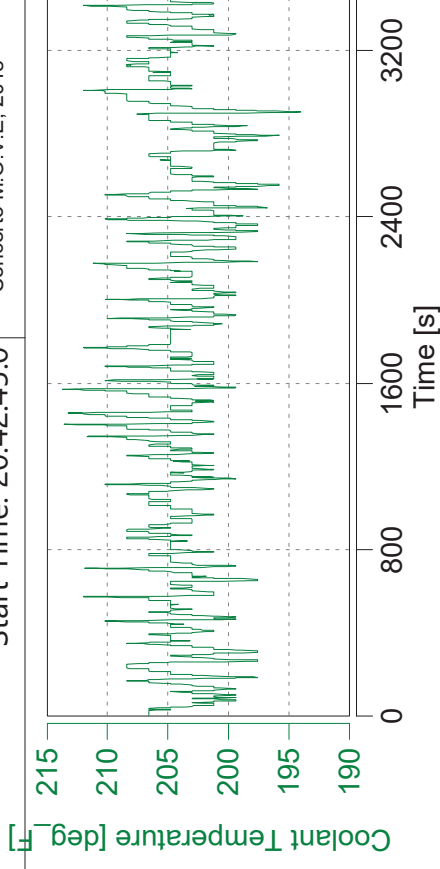
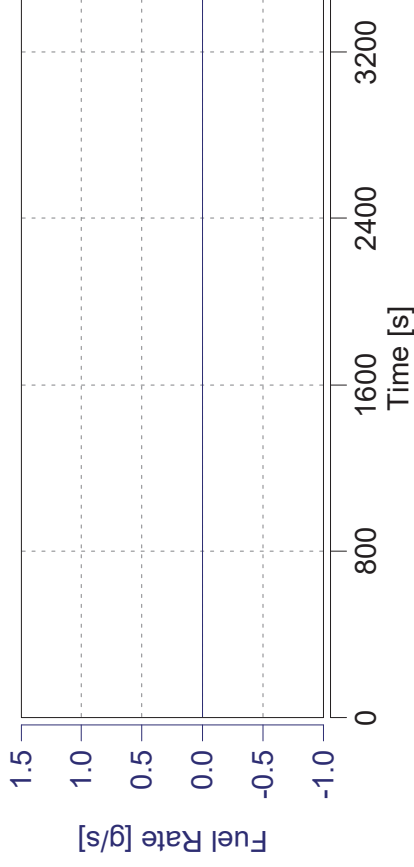
'City'

Start Date: 07/26/2018

Start Time: 20:42:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan SEL / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Exhaust Flow (1)

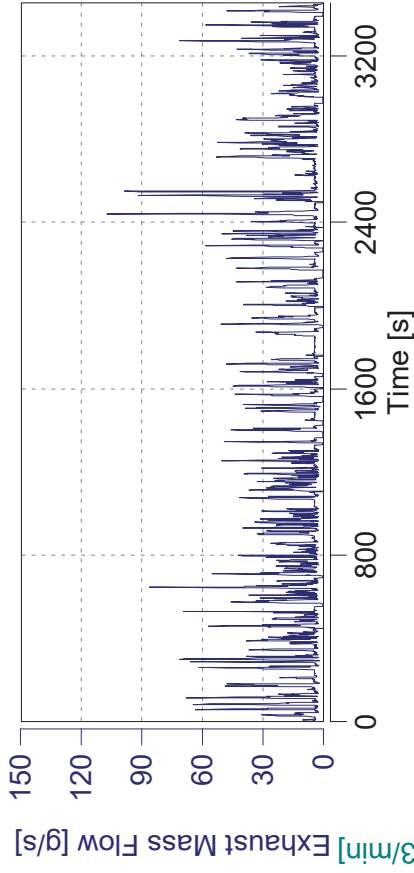
'City'

Start Date: 07/26/2018

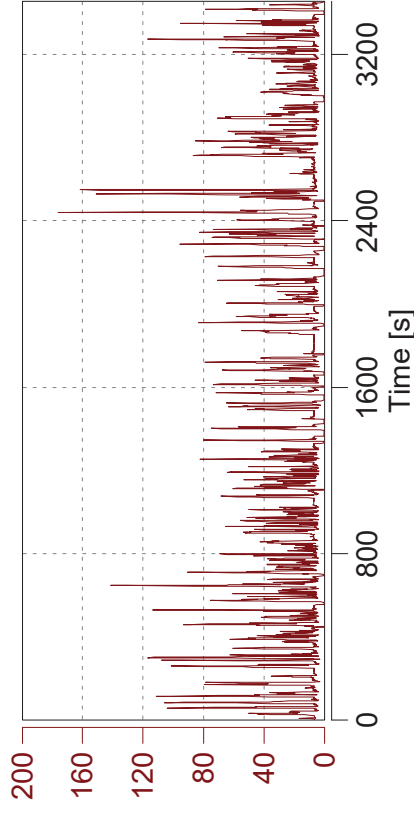
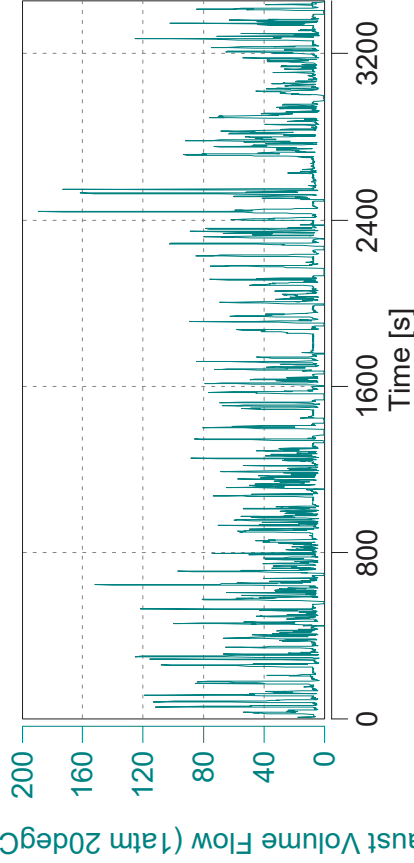
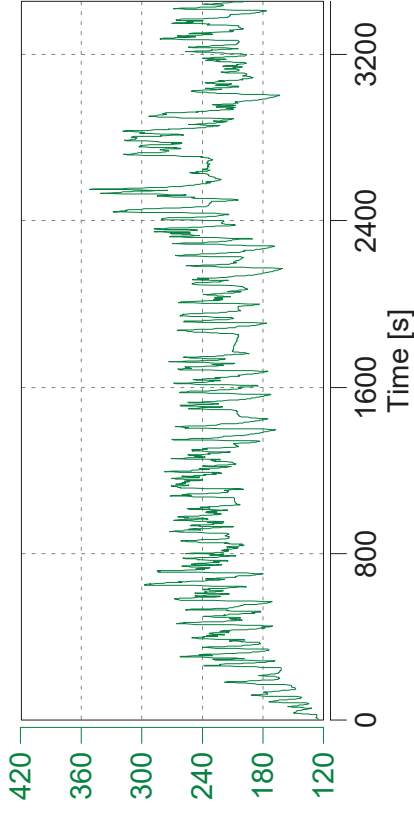
Start Time: 20:42:45.0



Concerto M.O.V.E., 2018



Exhaust Temperature [deg F]



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan SEL / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Exhaust Flow (2)

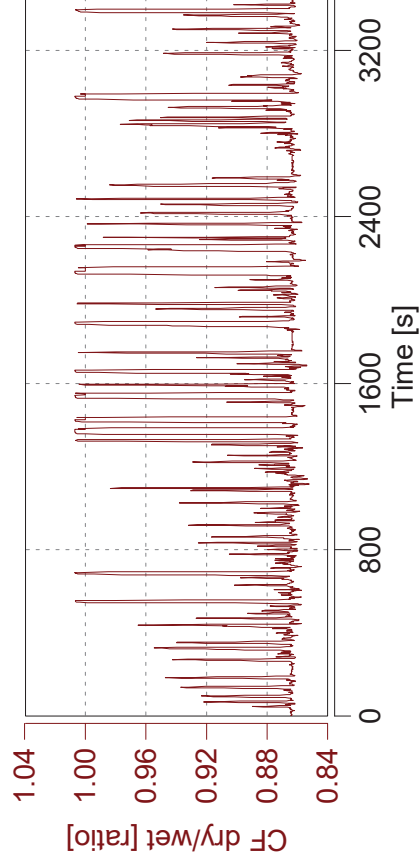
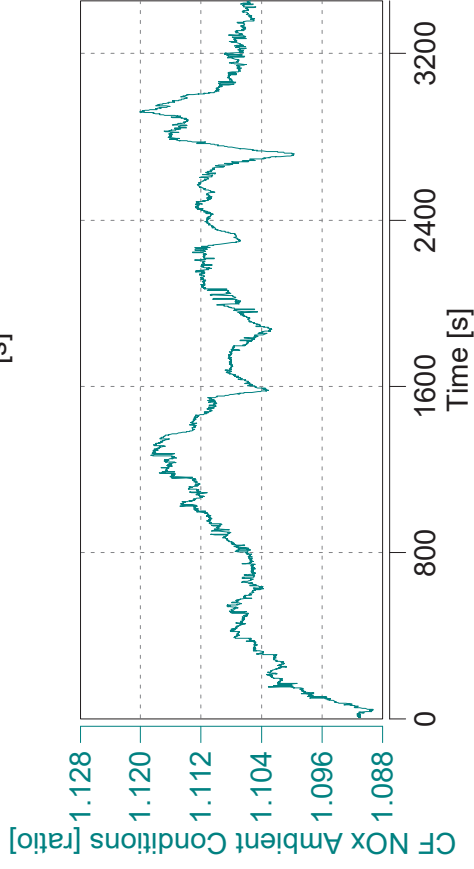
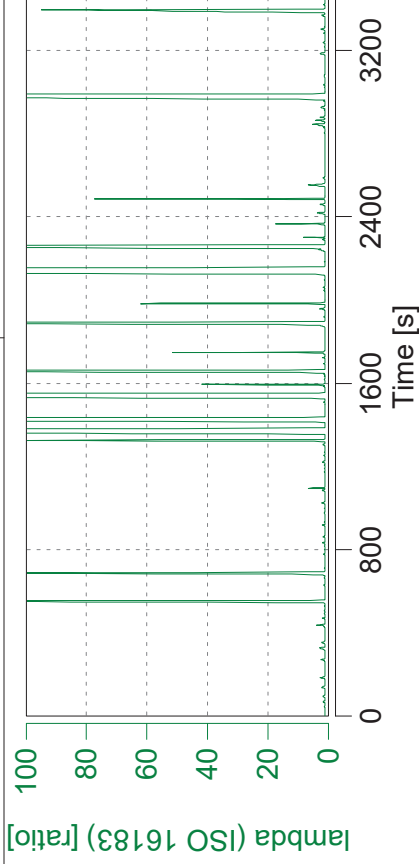
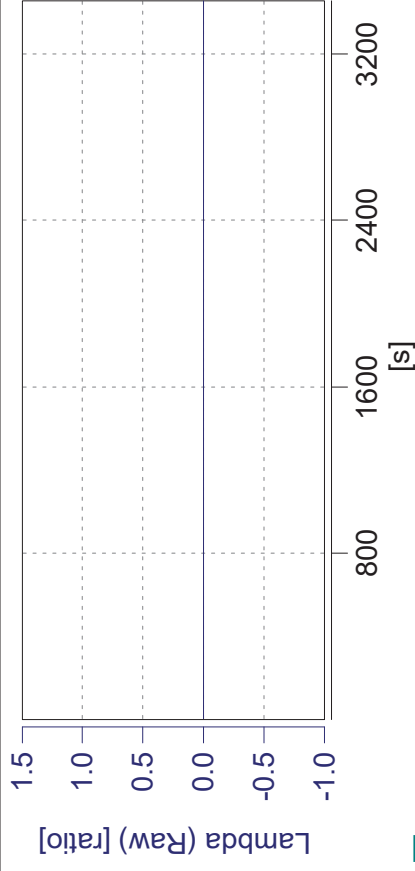
'City'

Start Date: 07/26/2018

Start Time: 20:42:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (1)

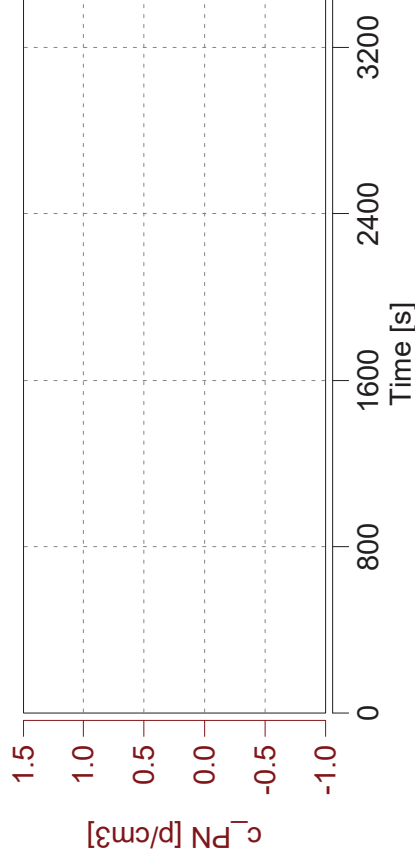
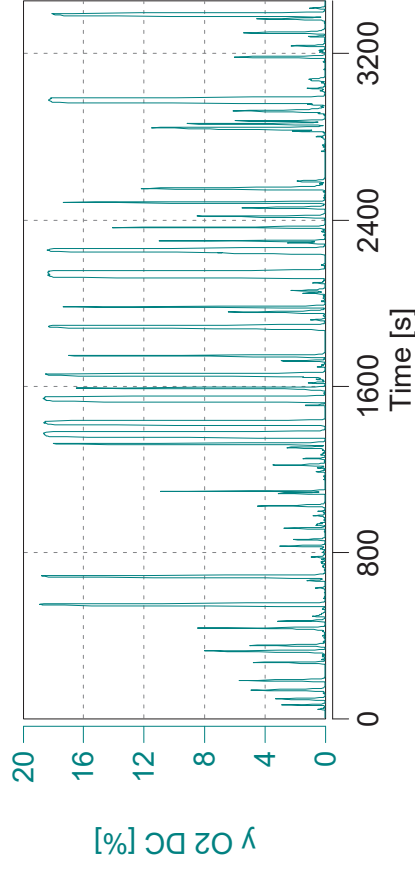
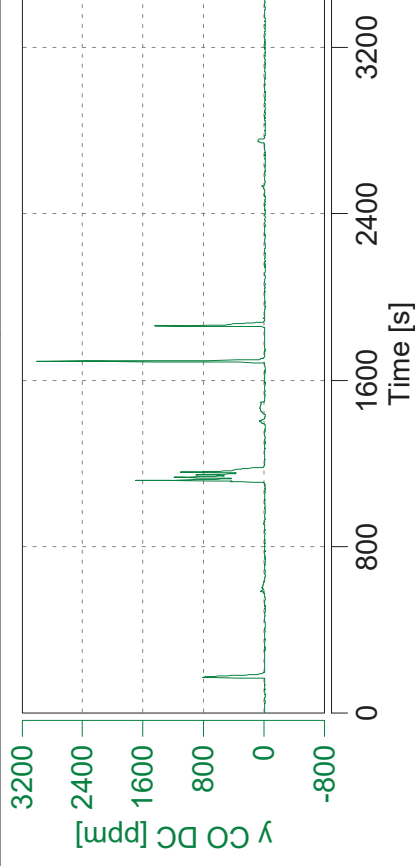
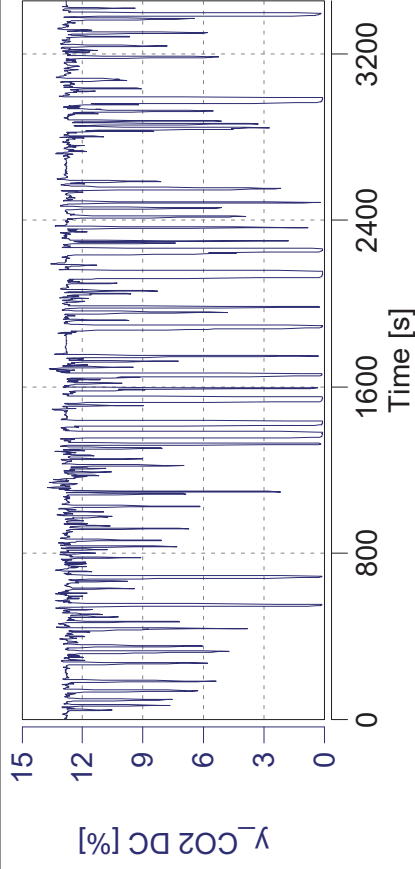
'City'

Start Date: 07/26/2018

Start Time: 20:42:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (2)

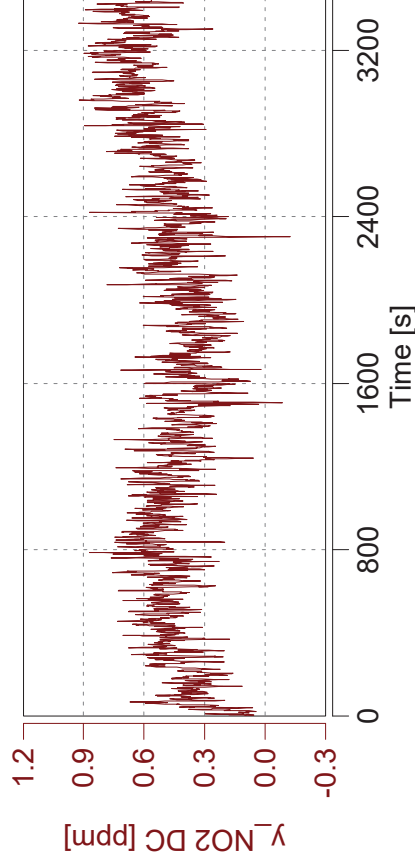
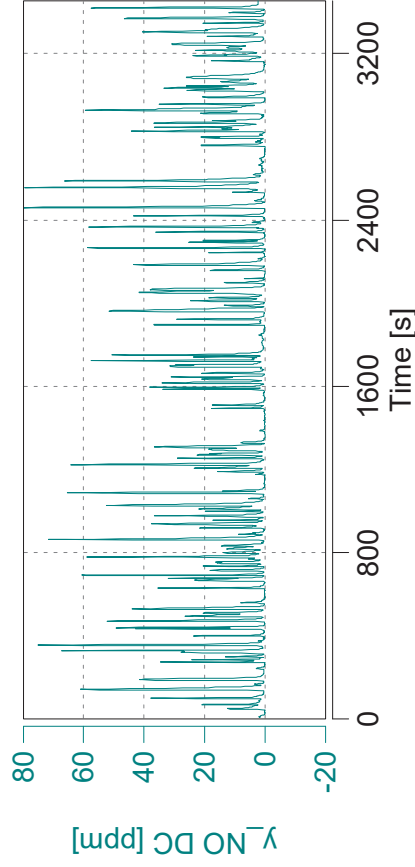
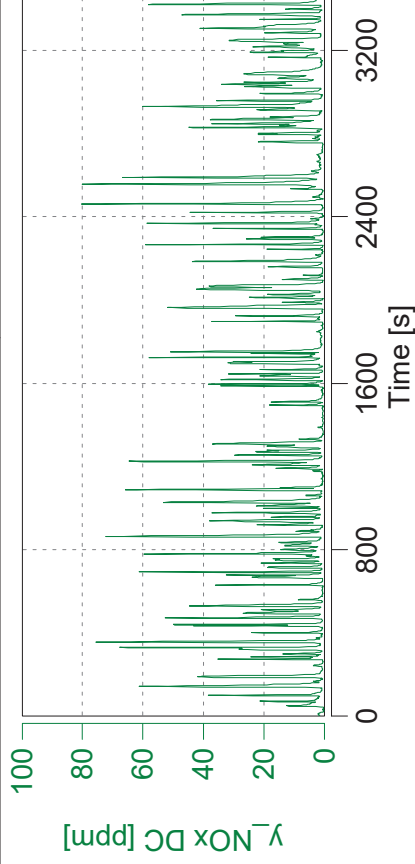
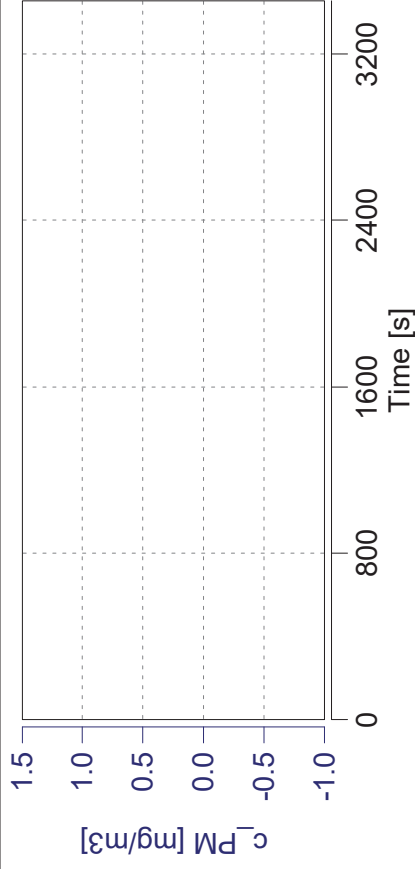
'City'

Start Date: 07/26/2018

Start Time: 20:42:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan SEL / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (3)

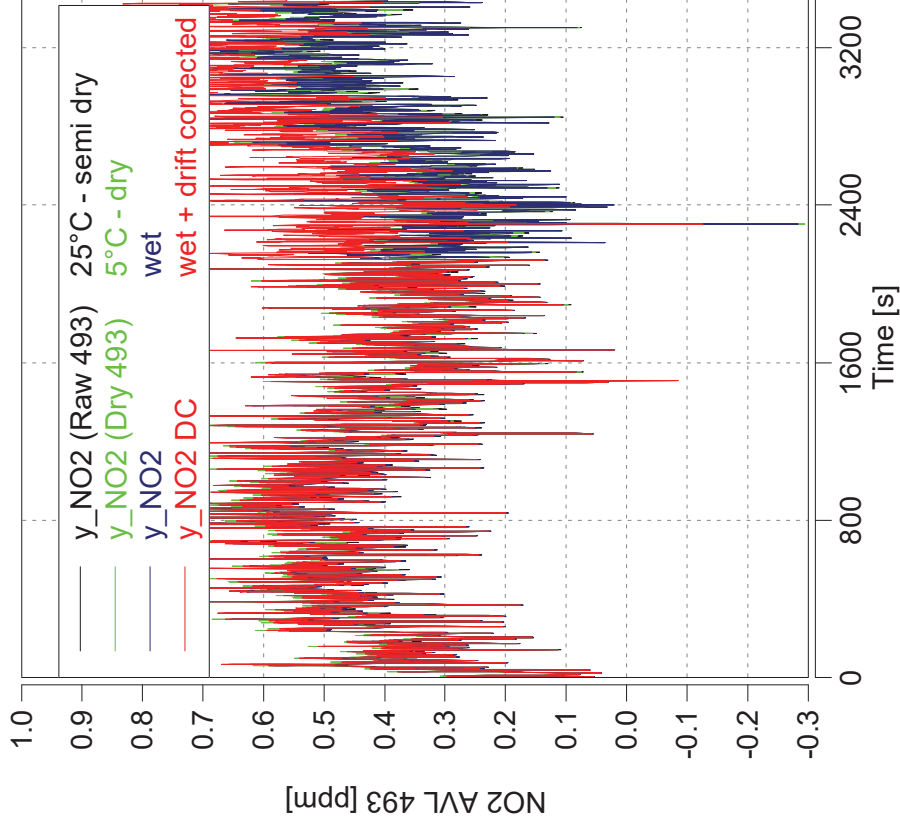
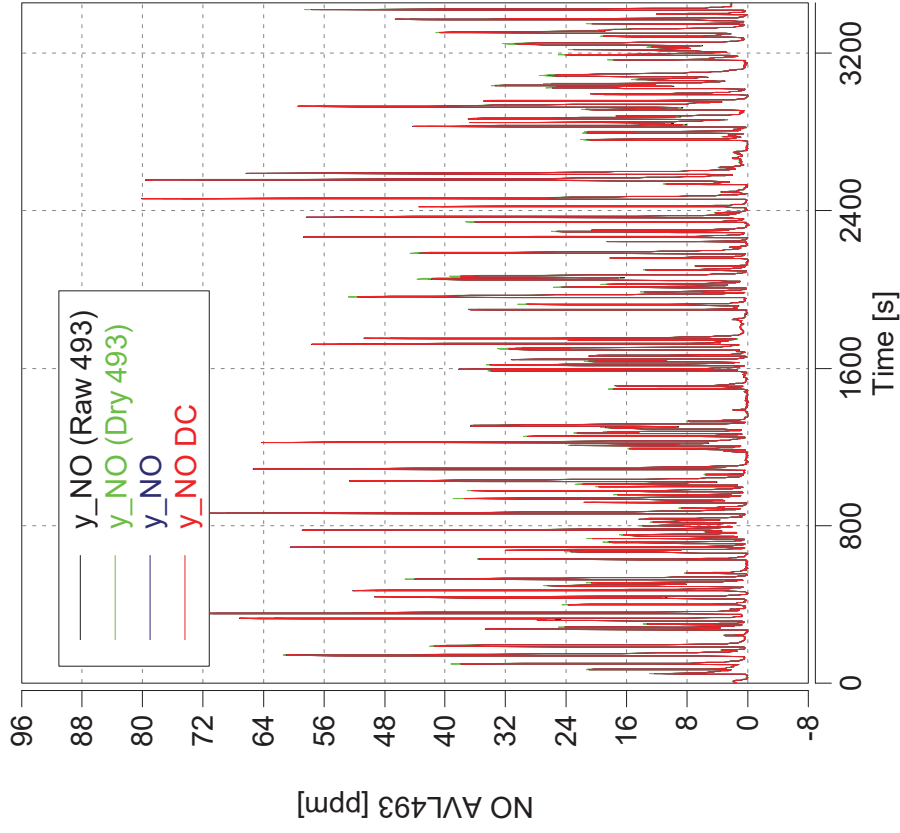
'City'

Start Date: 07/26/2018

Start Time: 20:42:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan SEL / 2.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (4) NOx Corrections

NOx - AVL 493

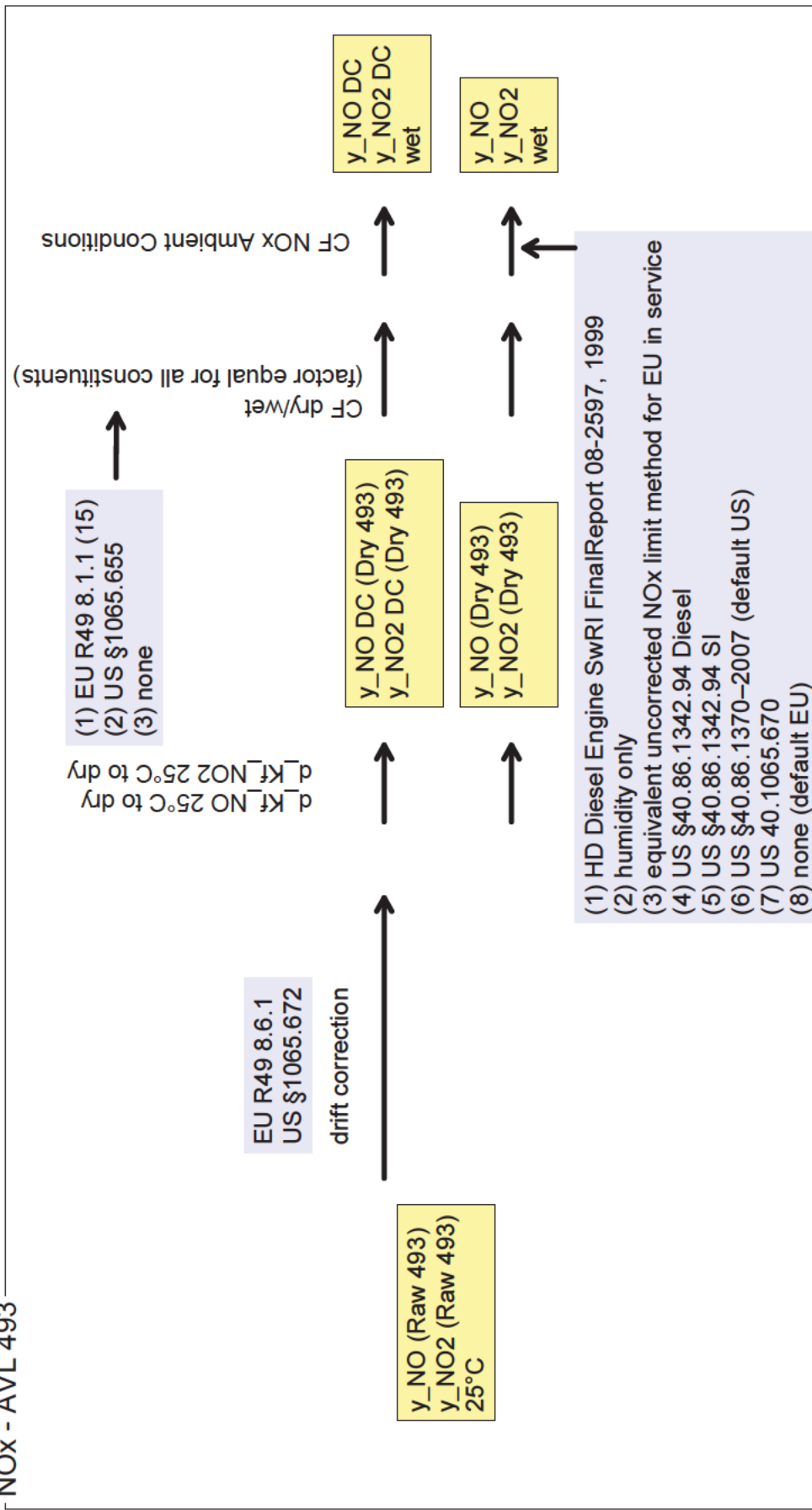
'City'

Start Date: 07/26/2018

Start Time: 20:42:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (5)

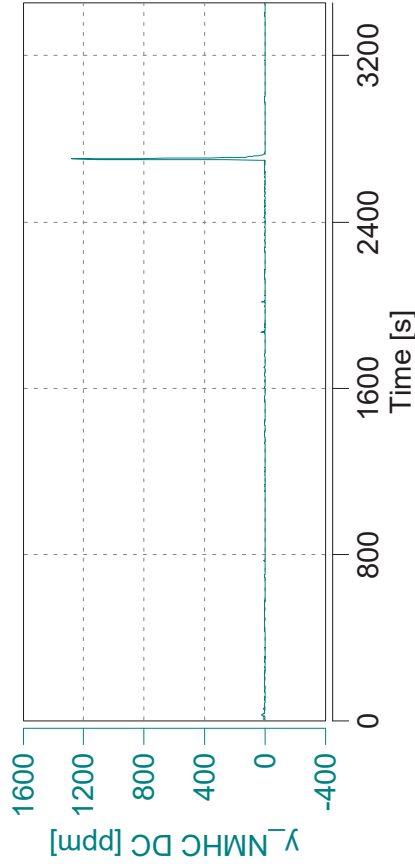
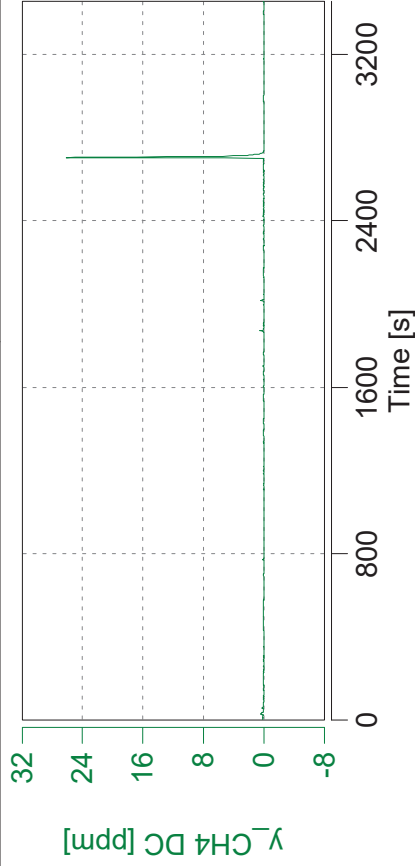
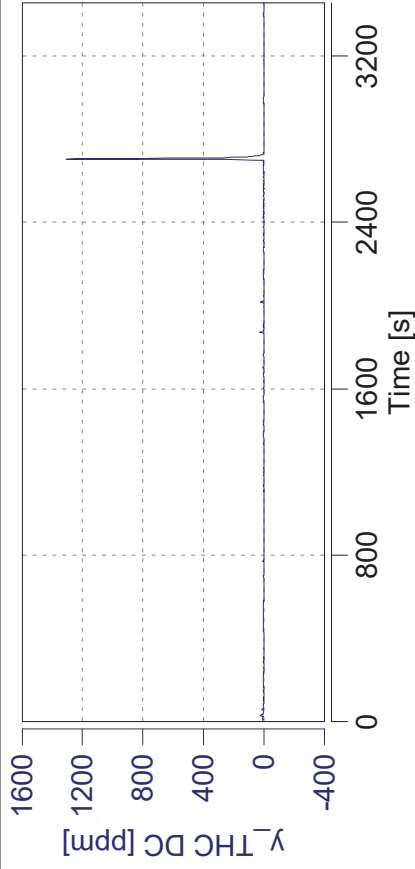
'City'

Start Date: 07/26/2018

Start Time: 20:42:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Vehicle: Tiguan SEL / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI Engine: /
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: NO/NO2/NOx Zero - Span

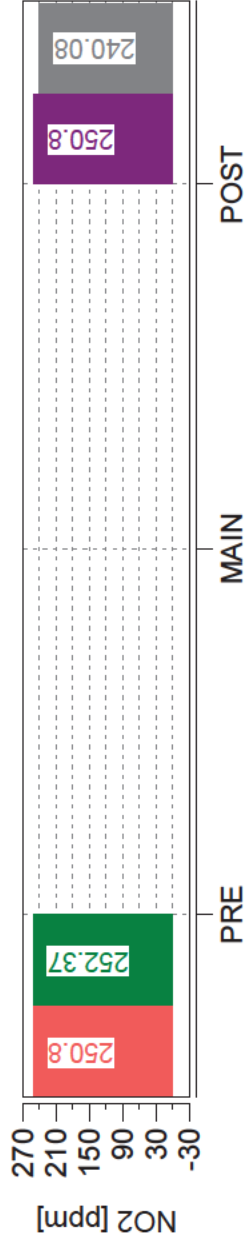
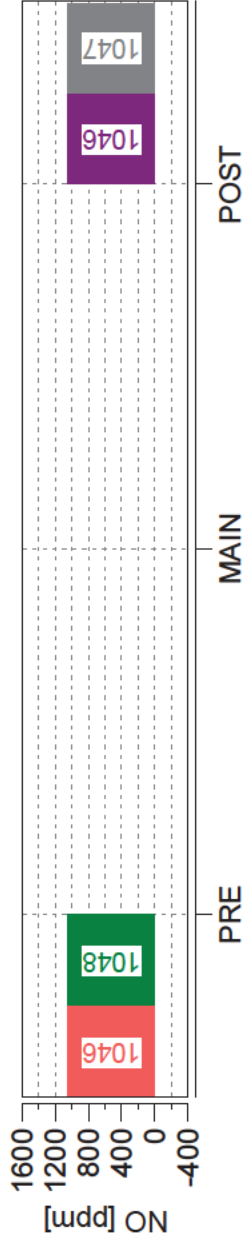
'City'

Start Date: 07/26/2018

Start Time: 20:42:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: CO/CO2 Zero - Span

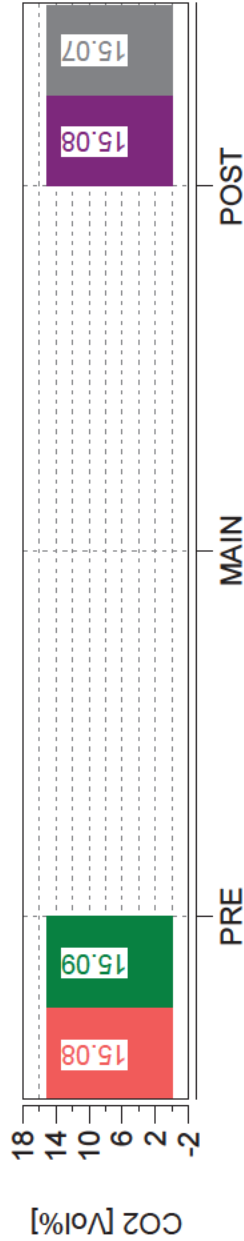
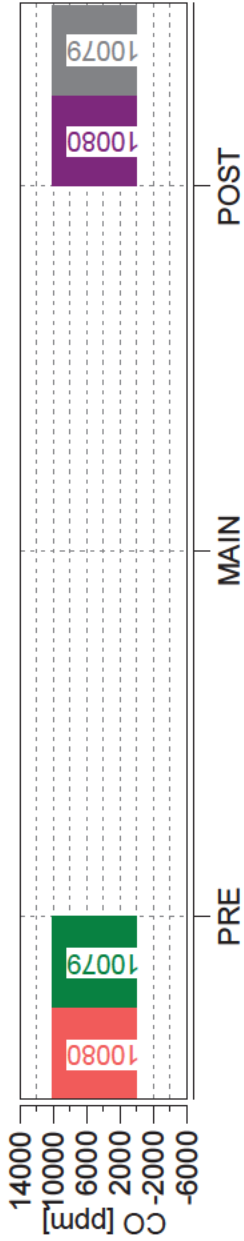
'City'

Start Date: 07/26/2018

Start Time: 20:42:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: THC/CH4 Zero - Span

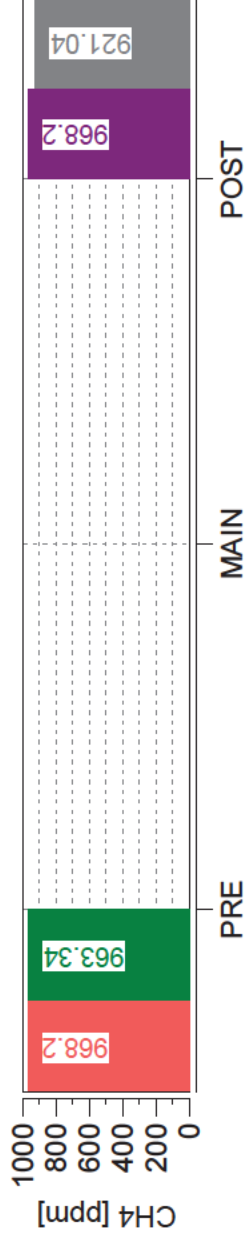
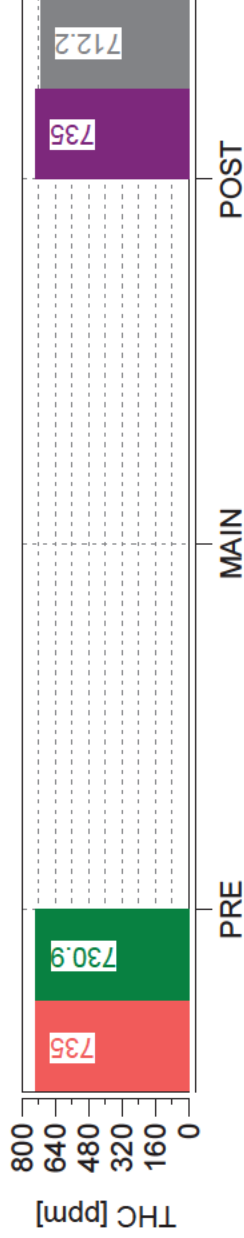
'City'

Start Date: 07/26/2018

Start Time: 20:42:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan SEL / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway
Page: Trip Summary

'Highway'
Start Date: 07/28/2018
Start Time: 11:33:17.0



Trip Duration	4731.00	s	ave THC	0.88216	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	4731.00	s	ave NMHC	0.86451	ppm	BS CO	n/a	g/hphr
Trip Distance	38.79	mi	ave CH4	0.01764	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	38.79	mi	ave CO	204.62991	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	8.11844	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOX	5.65479	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	3.57	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.52	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.26	gall	tot THC	0.04339	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.24	gall	tot NMHC	0.04014	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00096	g	DS CO2	275.05878	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	29.71051	g	DS CO	0.76602	g/mi
Trip Fuel Economy EU (ac)	30.77	mpg_US	tot CO2	10668.28119	g	DS THC	0.00112	g/mi
Trip Fuel Economy US (ac)	31.18	mpg_US	tot NO (d)	0.32691	g	DS NMHC	0.00103	g/mi
Trip Av. Eng. Speed	1067.13	rpm	tot NO2	0.10711	g	DS CH4	0.00002	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.43401	g	DS NO (d)	0.00843	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	0.00276	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.01119	g/mi
Trip Exhaust Mass	56.73	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	84.10	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	51.78	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	29.51335	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	3.80469	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /
Vehicle: A3 E-Tron / 1.4L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Trip Summary Drift Corrected

'Highway'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E. 2018

Trip Duration	4731.00	s	ave THC DC	1.42914	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	4731.00	s	ave NMHC DC	1.40056	ppm	BS CO DC	n/a	g/hphr
Trip Distance	38.79	mi	ave CH4 DC	0.02858	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	38.79	mi	ave CO DC	203.98229	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	8.11575	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	5.60031	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	3.57	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.52	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.26	gall	tot THC DC	0.06492	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.24	gall	tot NMHC DC	0.06006	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.00144	g	DS CO2 DC	274.96761	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	29.66732	g	DS CO DC	0.76491	g/mi
Trip Fuel Economy EU (ac)	30.77	mpg_US	tot CO2 DC	10664.74513	g	DS THC DC	0.00167	g/mi
Trip Fuel Economy US (ac)	31.18	mpg_US	tot NO DC (d)	0.32228	g	DS NMHC DC	0.00155	g/mi
Trip Av. Eng. Speed	1067.13	rpm	tot NO2 DC	0.10526	g	DS CH4 DC	0.00004	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.42754	g	DS NO DC (d)	0.00831	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	0.00271	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.01102	g/mi
Trip Exhaust Mass	56.73	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	84.10	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	51.78	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	29.51335	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	3.80469	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Time Alignment Check

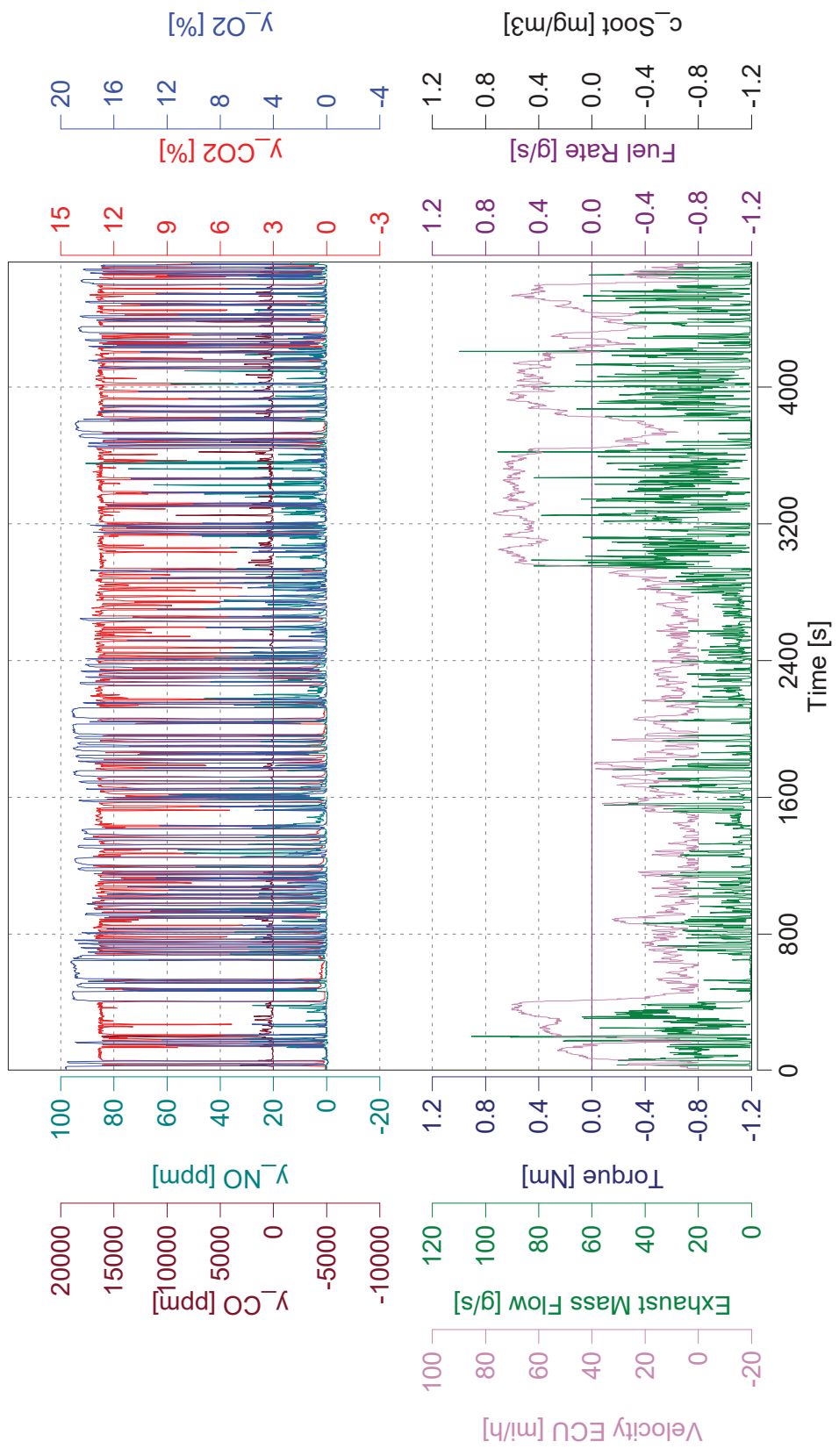
'Highway'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Time Alignment of Gas Concentrations

'Highway'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

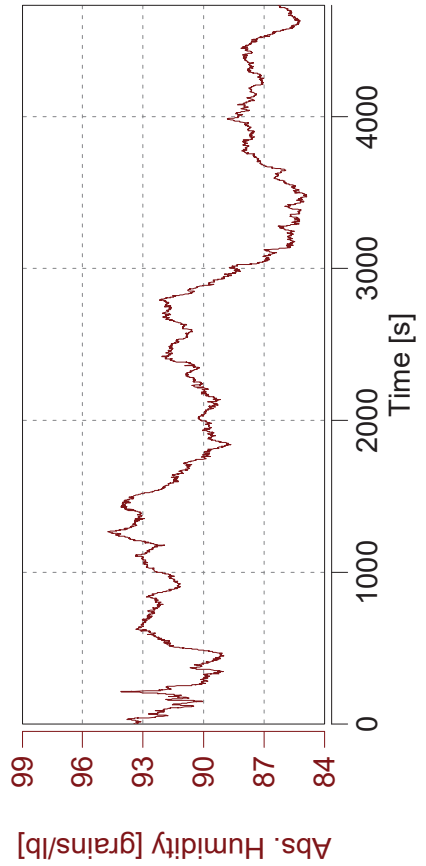
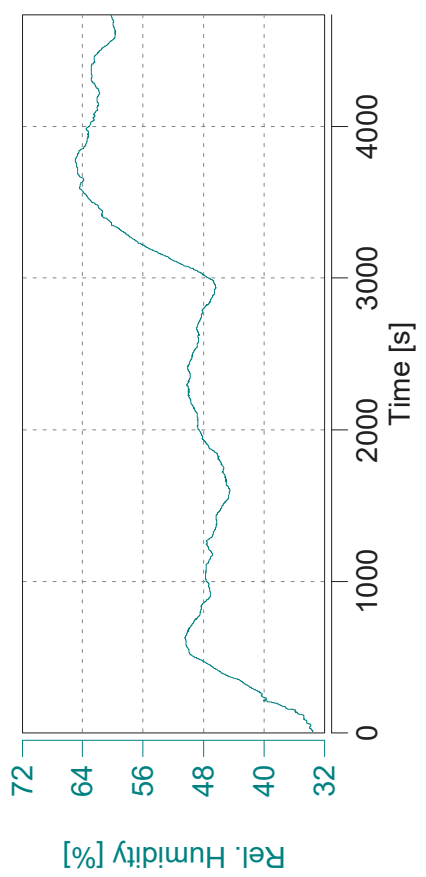
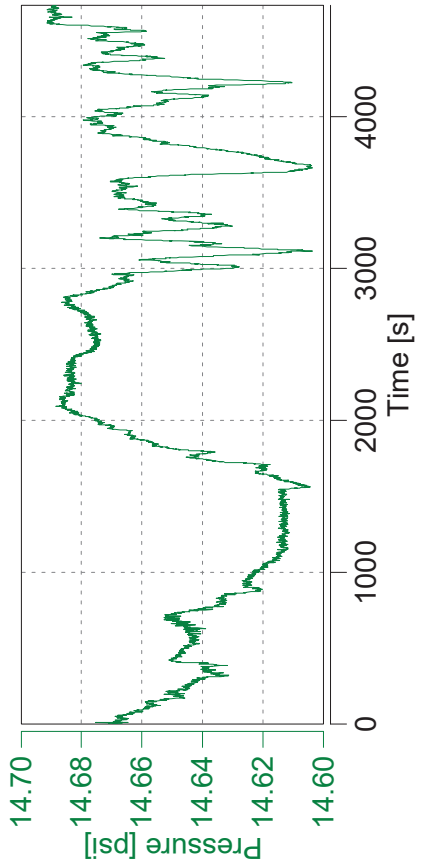
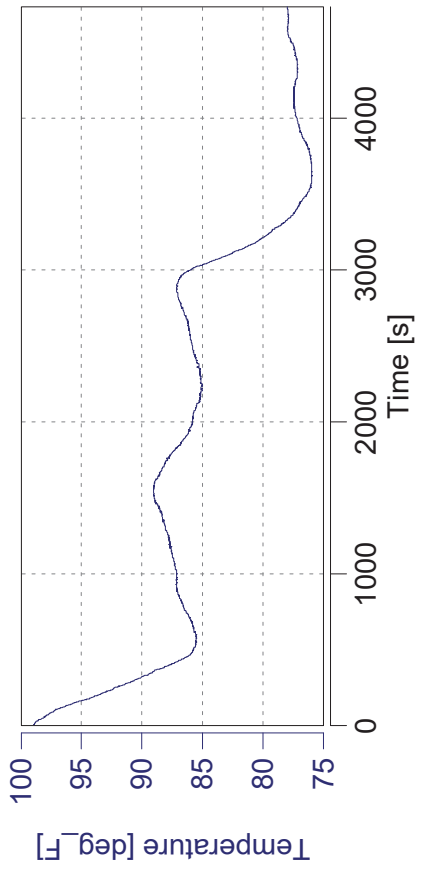
Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Concerto Version: 480 Build 316, Serial Number: 1120
 M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: A3 E-Tron / 1.4L
 Engine: /
 NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: GPS

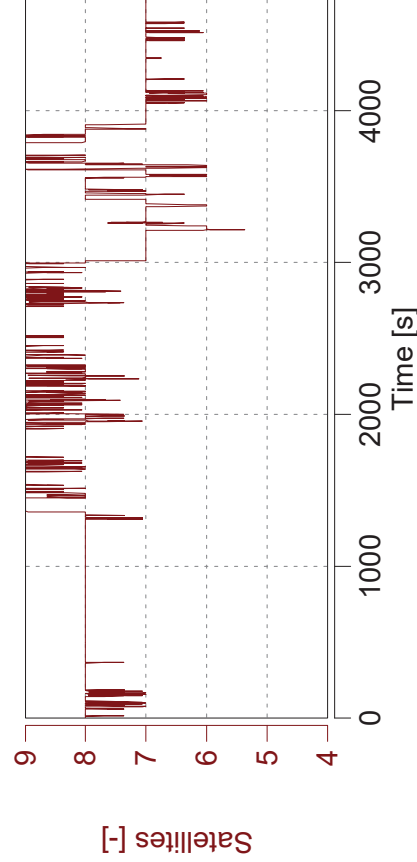
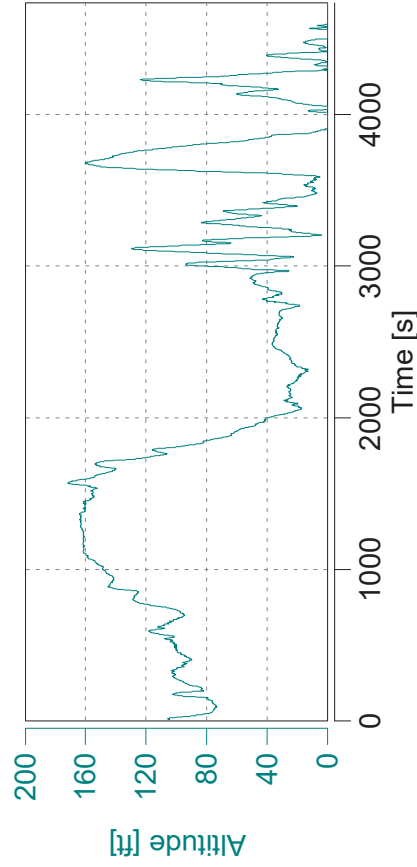
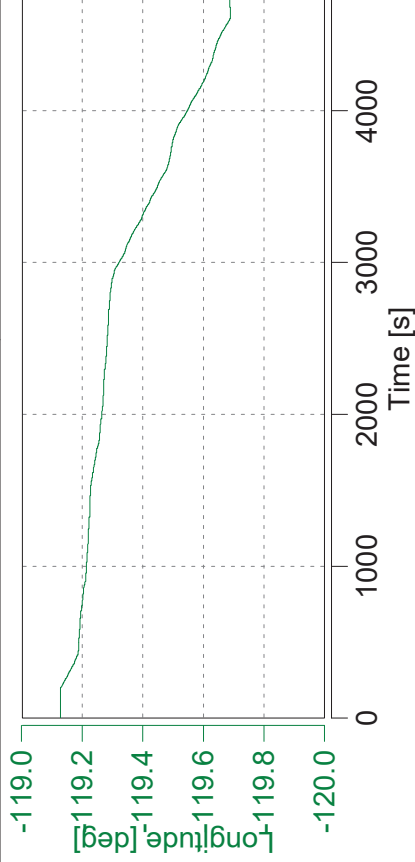
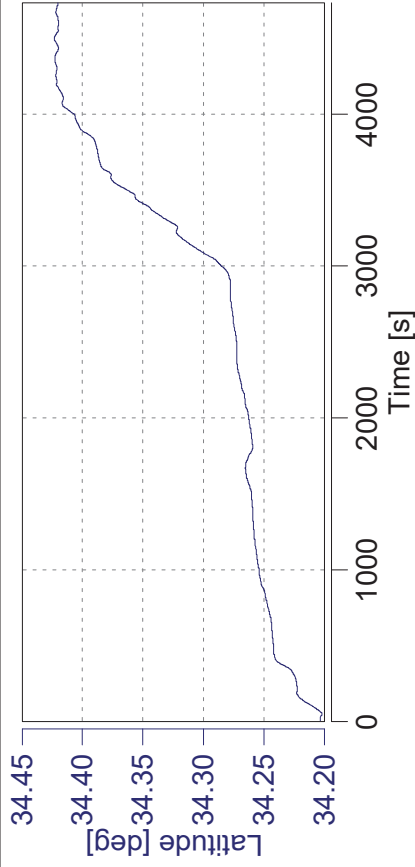
'Highway'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (1)

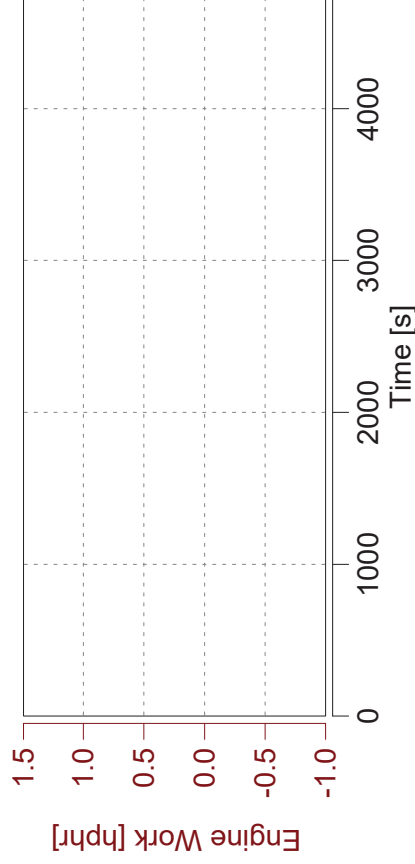
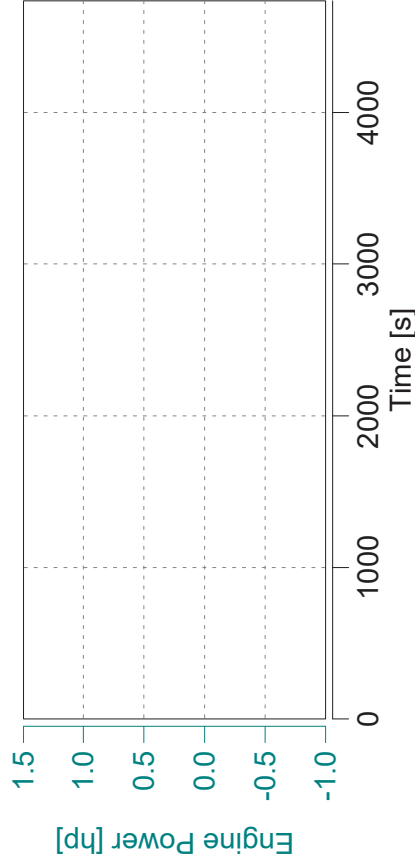
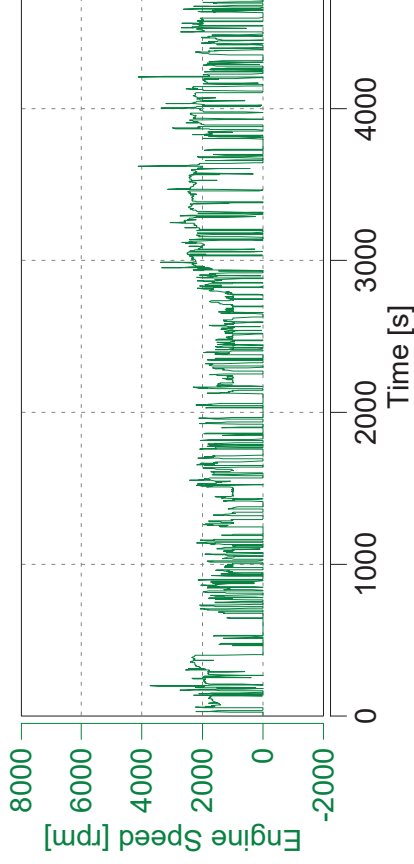
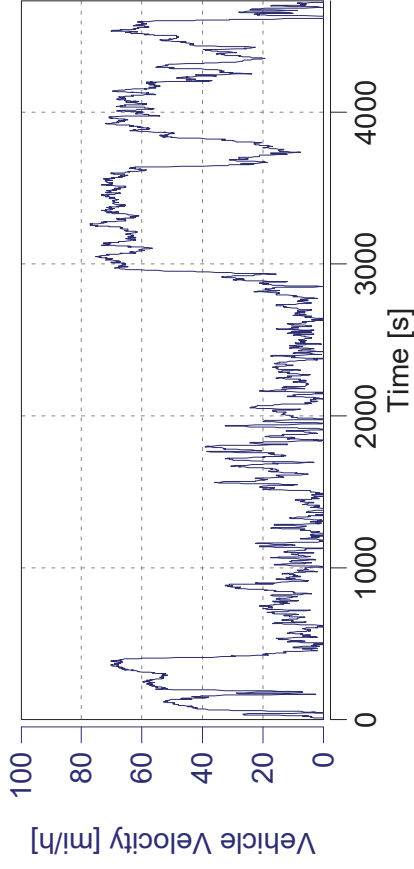
'Highway'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

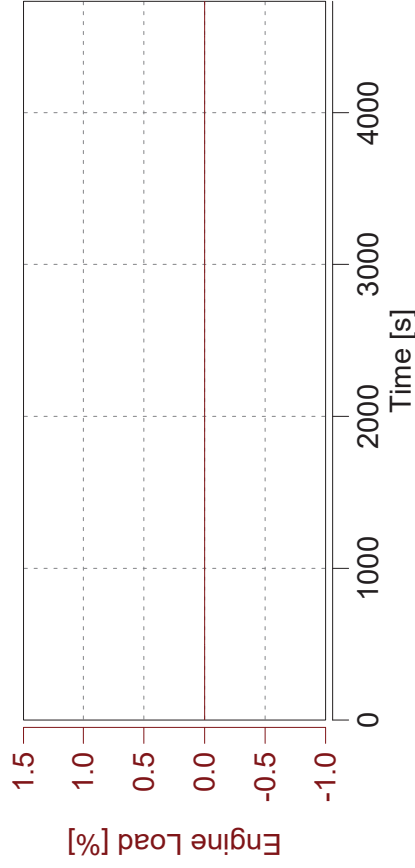
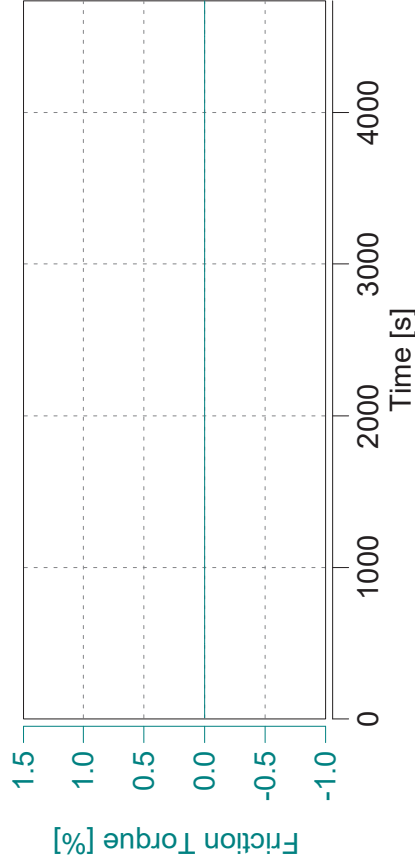
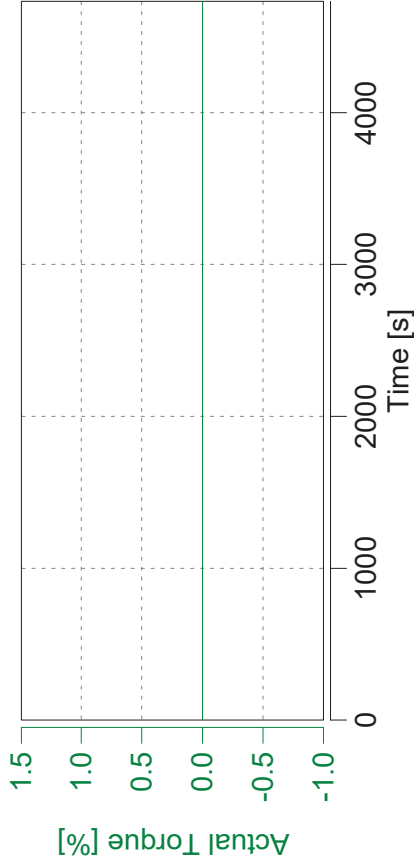
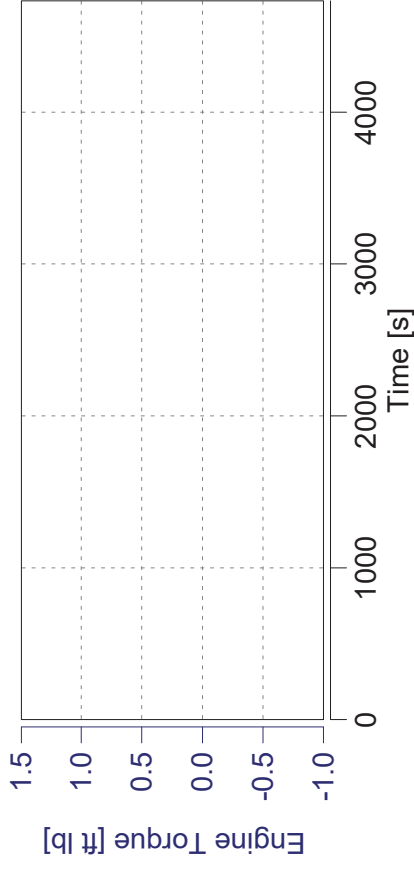
Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway
Page: Engine (2)

'Highway'
Start Date: 07/28/2018
Start Time: 11:33:17.0



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: A3 E-Tron / 1.4L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (3)

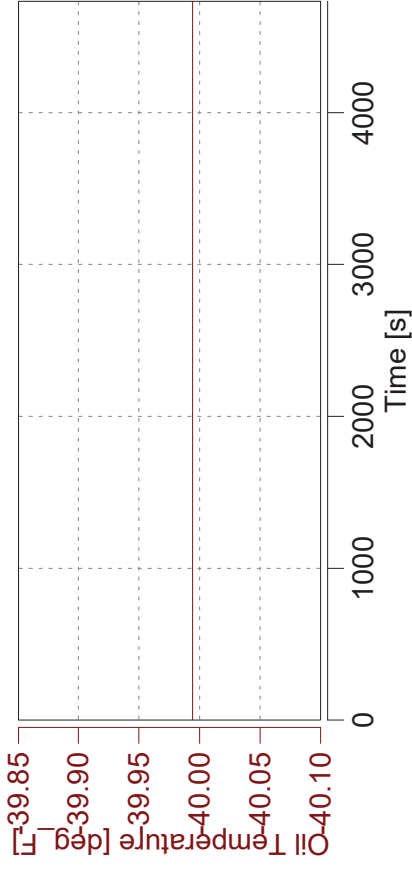
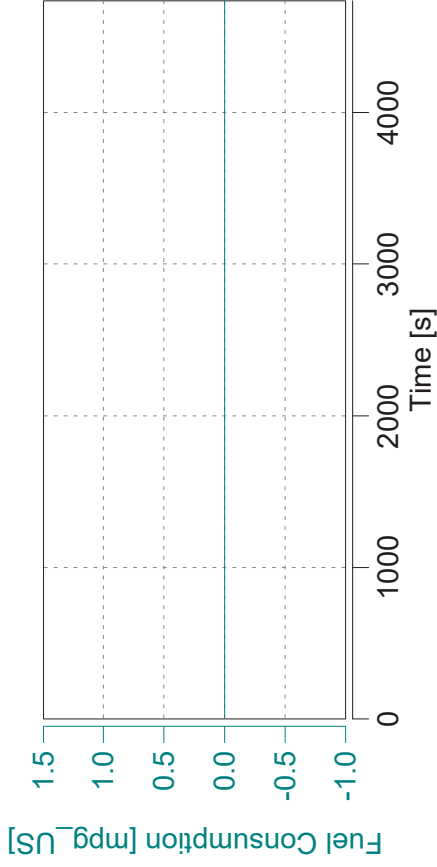
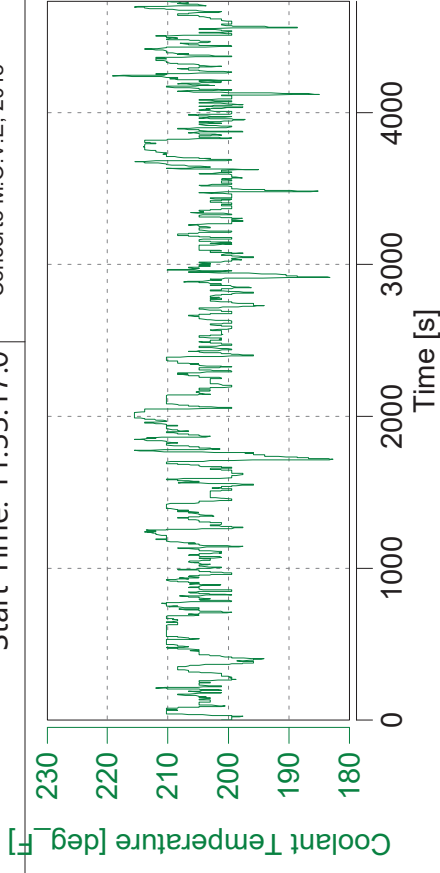
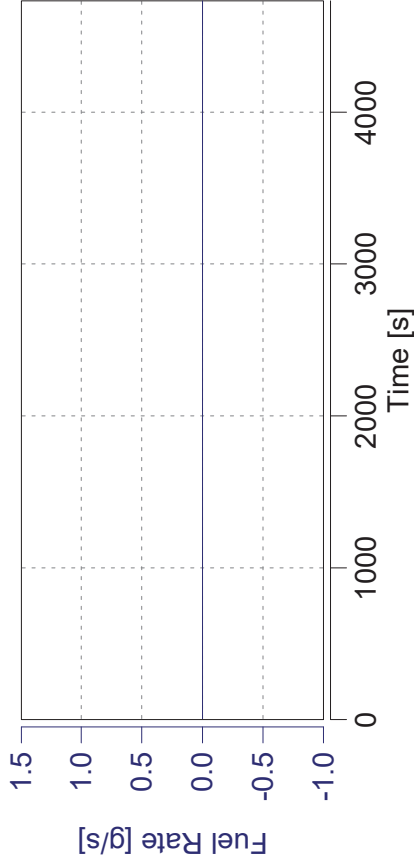
'Highway'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



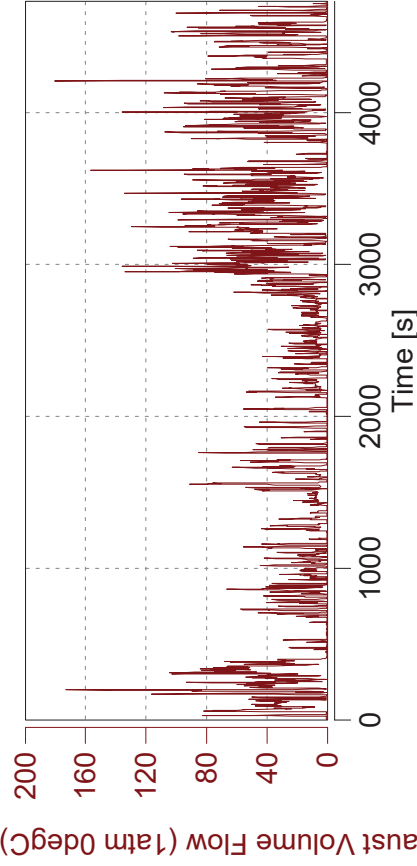
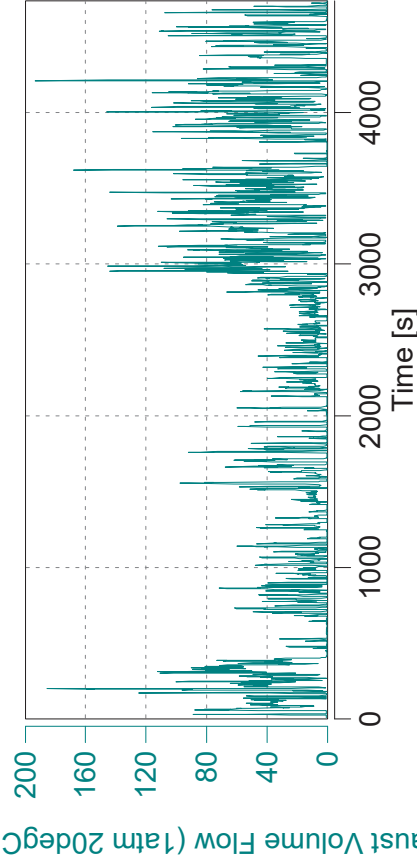
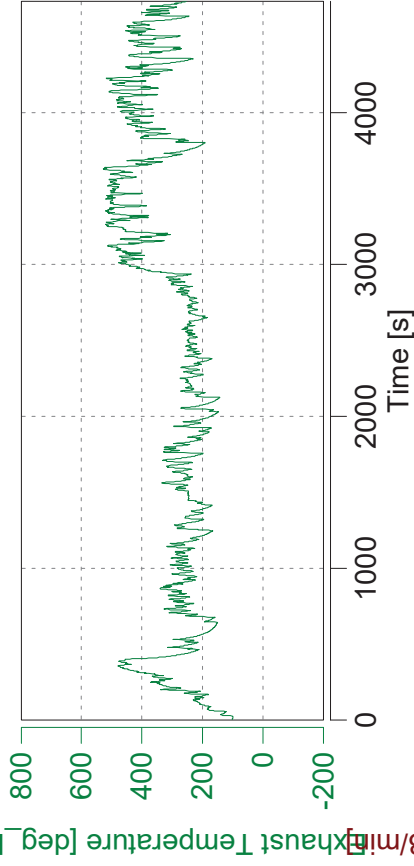
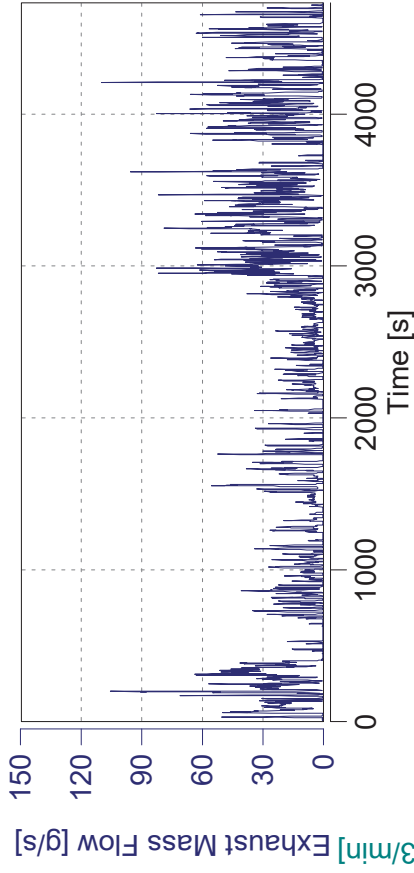
Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

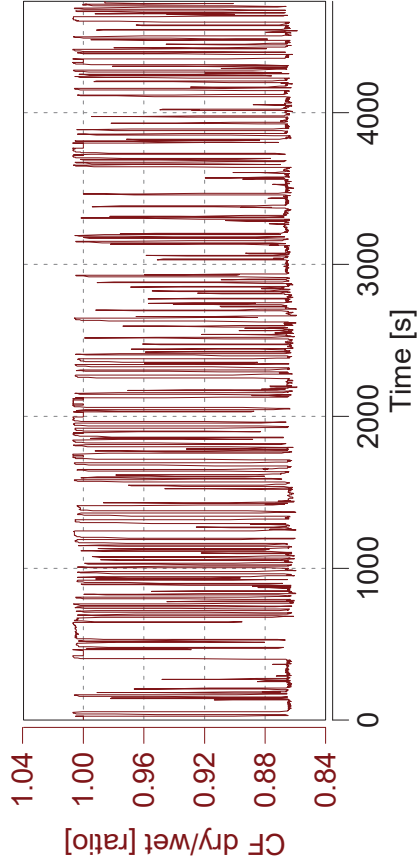
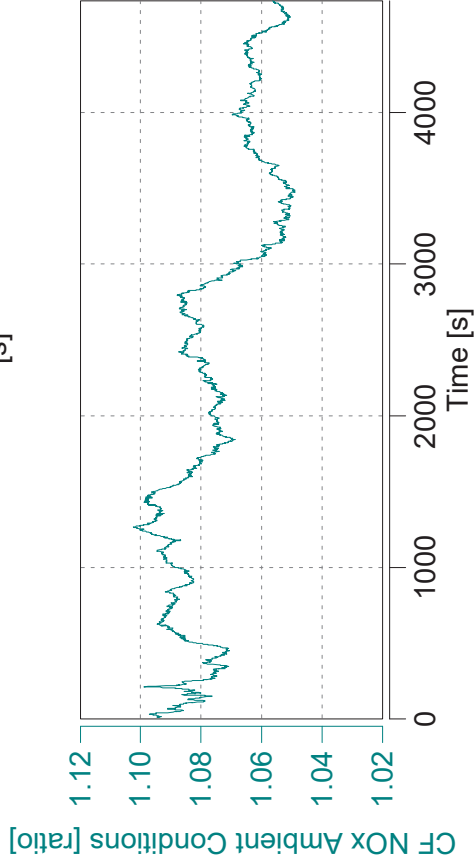
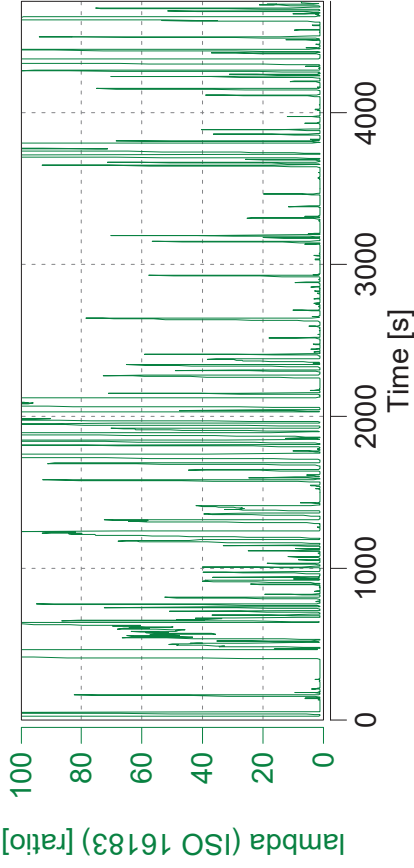
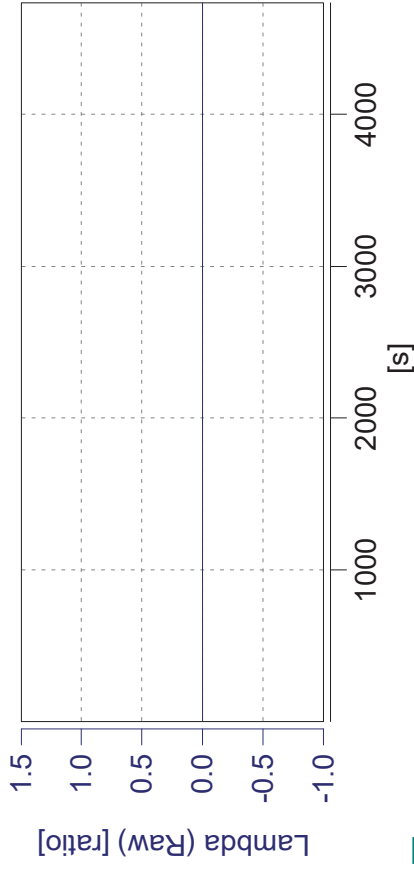
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Case: Highway
Page: Exhaust Flow (2)

'Highway'
Start Date: 07/28/2018
Start Time: 11:33:17.0



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: A3 E-Tron / 1.4L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (1)

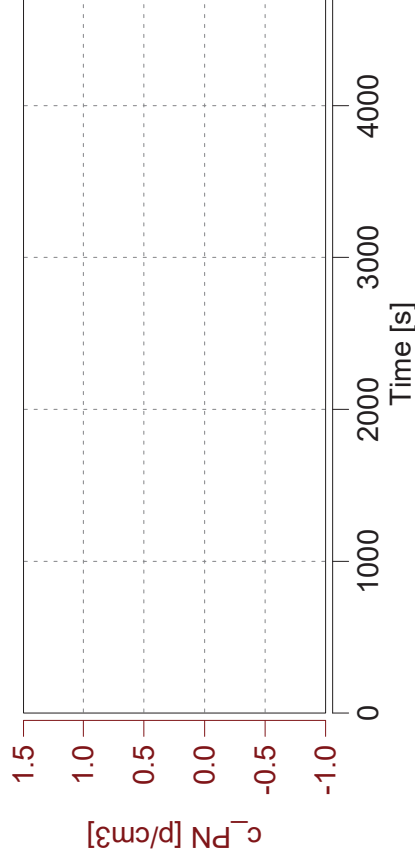
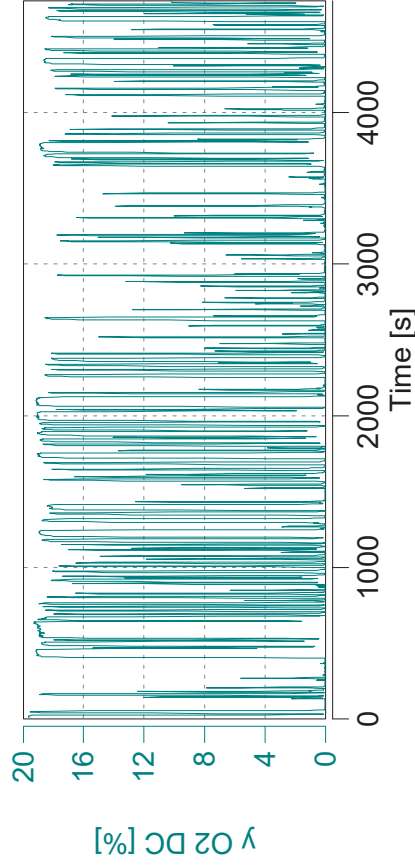
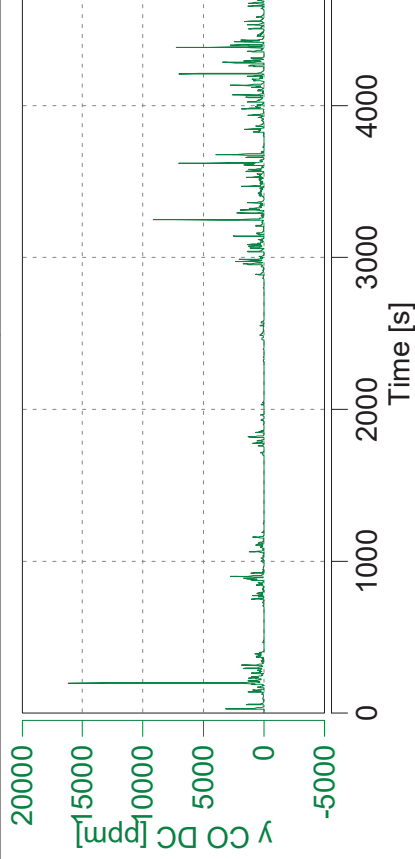
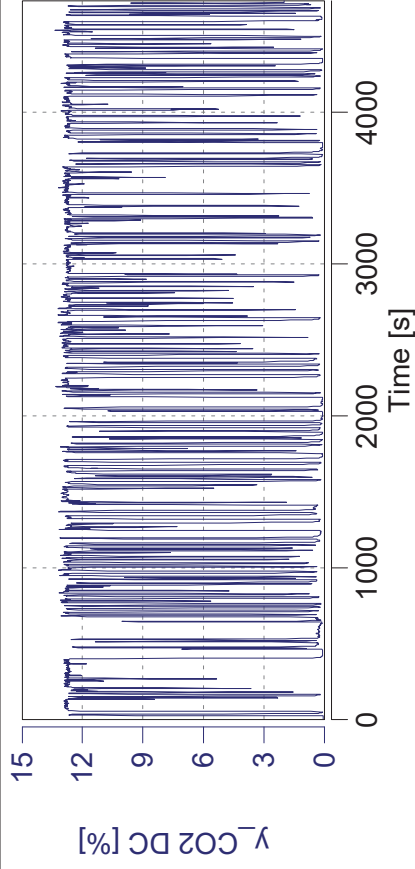
'Highway'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (2)

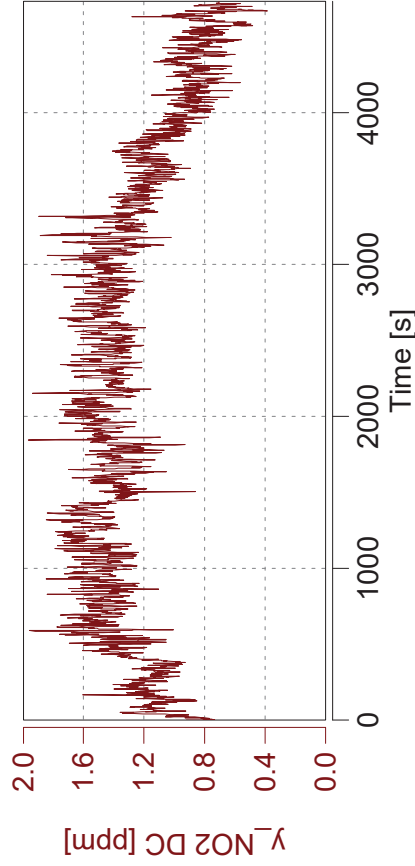
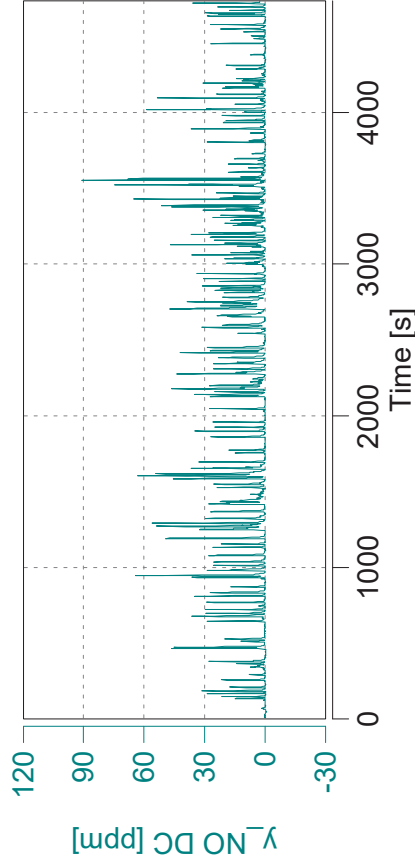
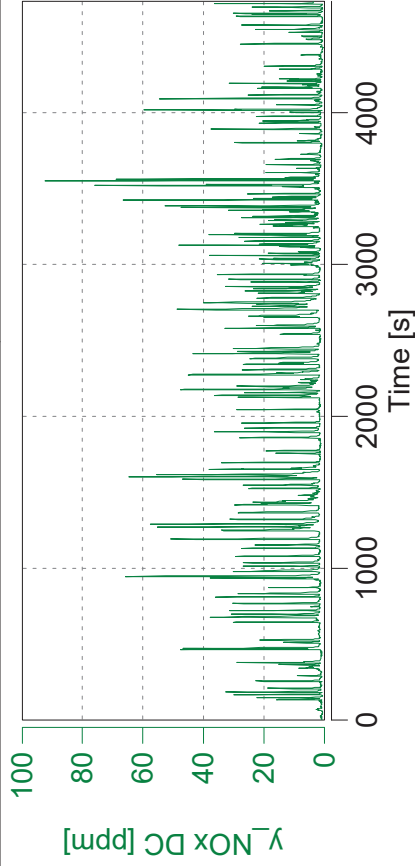
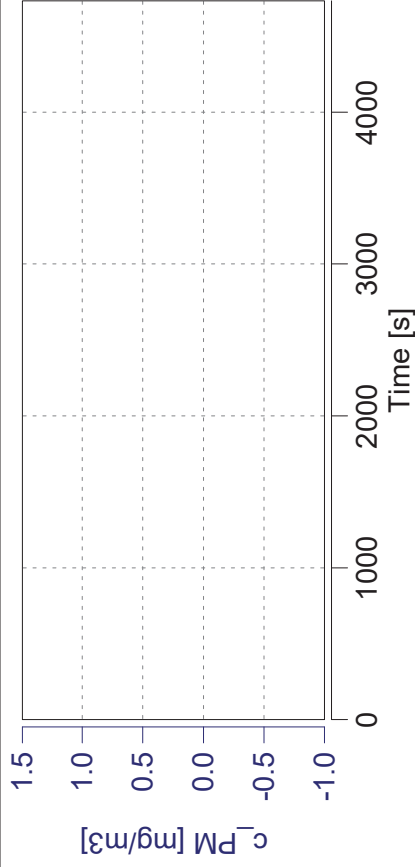
'Highway'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: A3 E-Tron / 1.4L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (3)

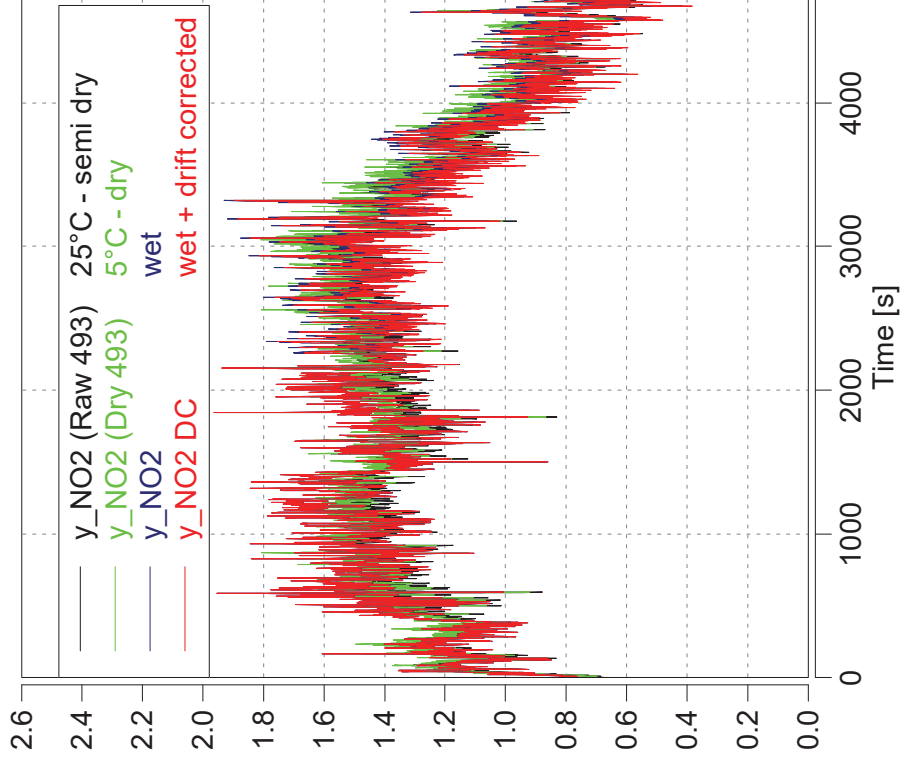
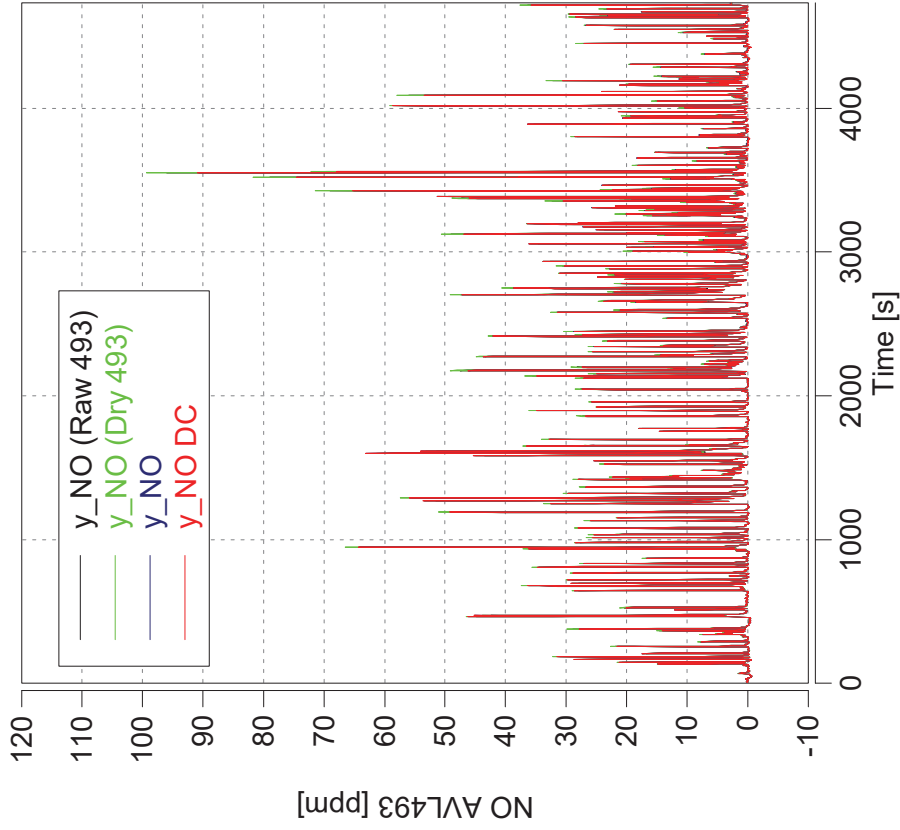
'Highway'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /
Vehicle: A3 E-Tron / 1.4L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (4) NOx Corrections

'Highway'

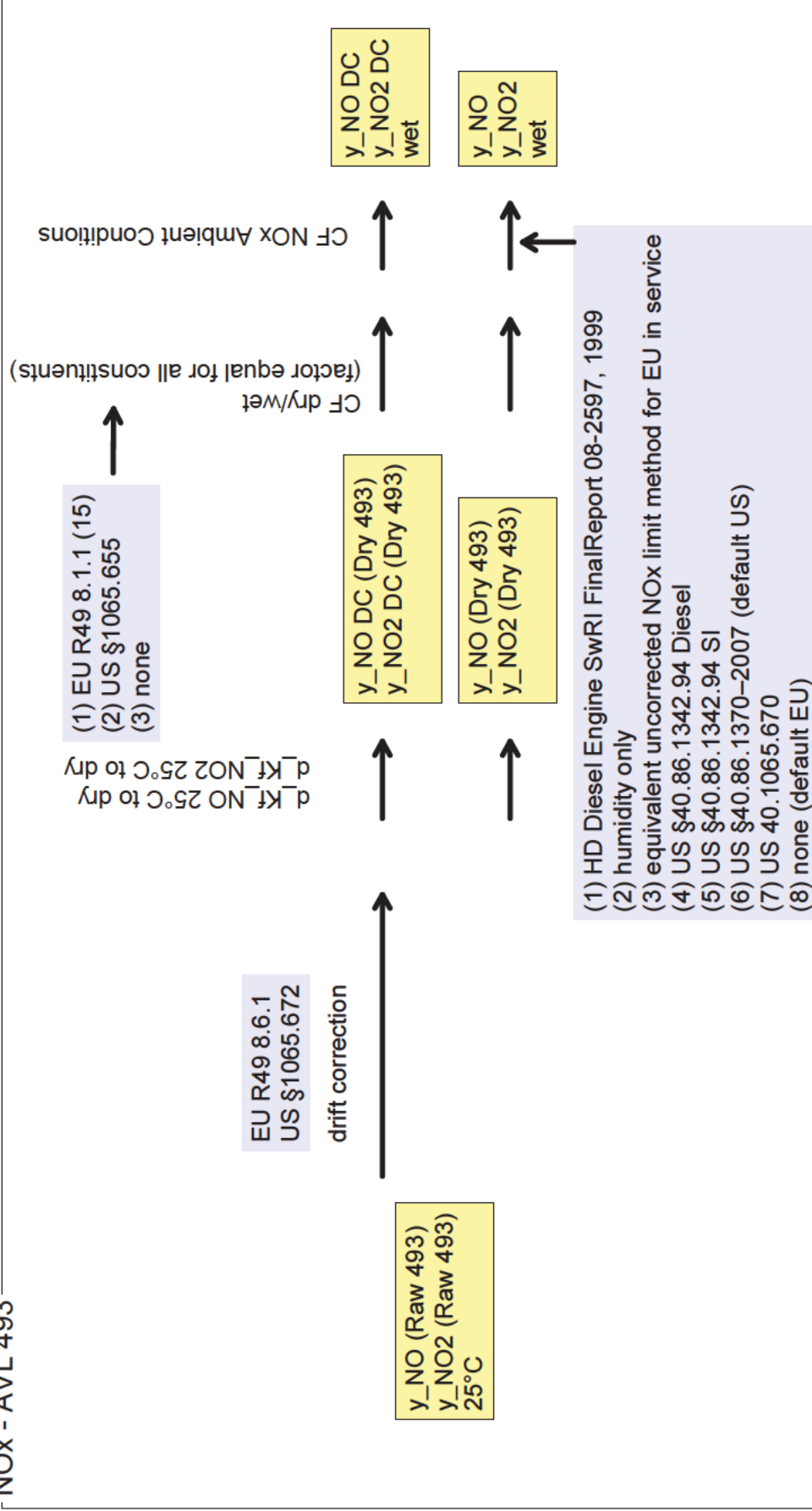
Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018

NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine /

Vehicle: A3 E-Tron / 1.4L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

- (1) HD Diesel Engine SwRI FinalReport 08-2597, 1999
- (2) humidity only
- (3) equivalent uncorrected NOx limit method for EU in service
- (4) US §40.86.1342.94 Diesel
- (5) US §40.86.1342.94 SI
- (6) US §40.86.1370-2007 (default US)
- (7) US 40.1065.670
- (8) none (default EU)

Case: Highway

Page: Corrected Emissions (5)

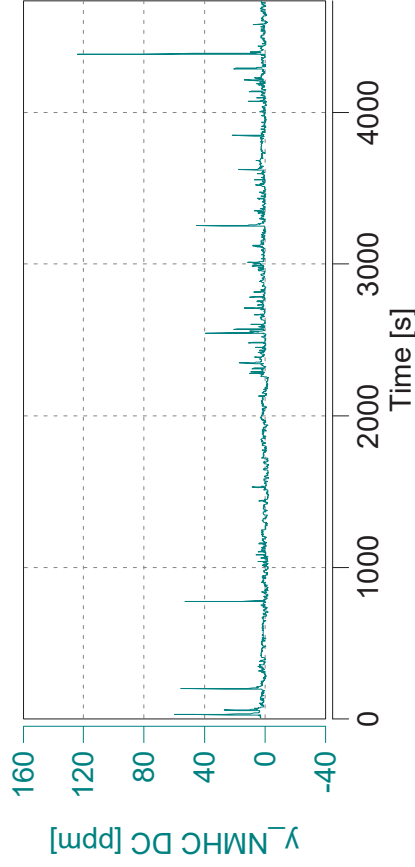
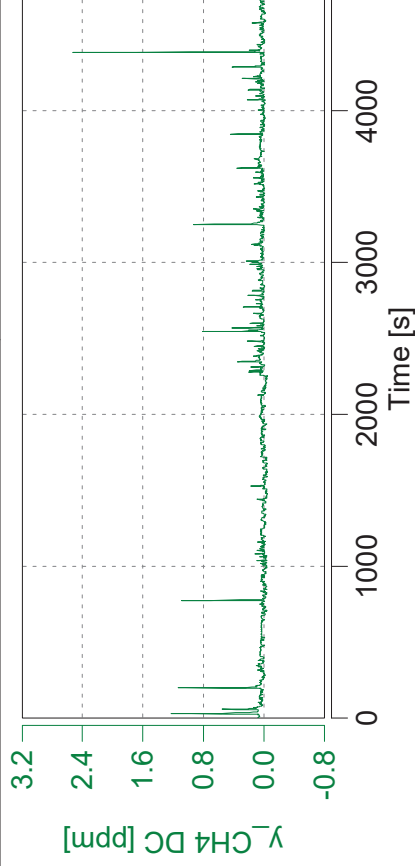
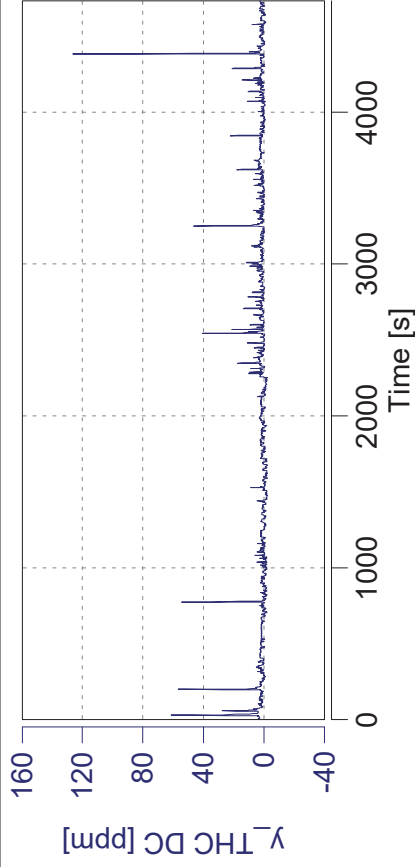
'Highway'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: A3 E-Tron / 1.4L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: NO/NO2/NOx Zero - Span

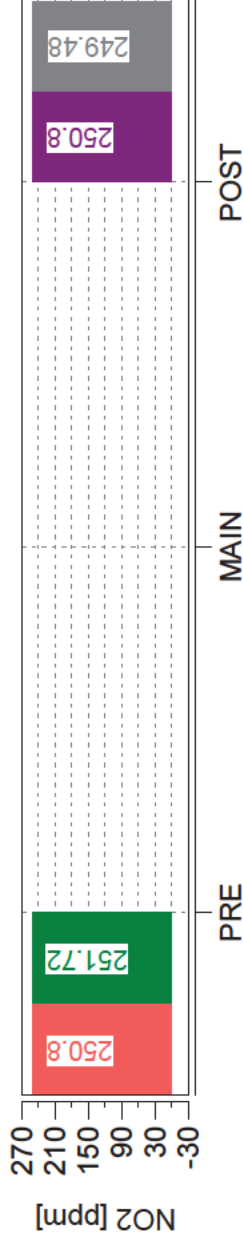
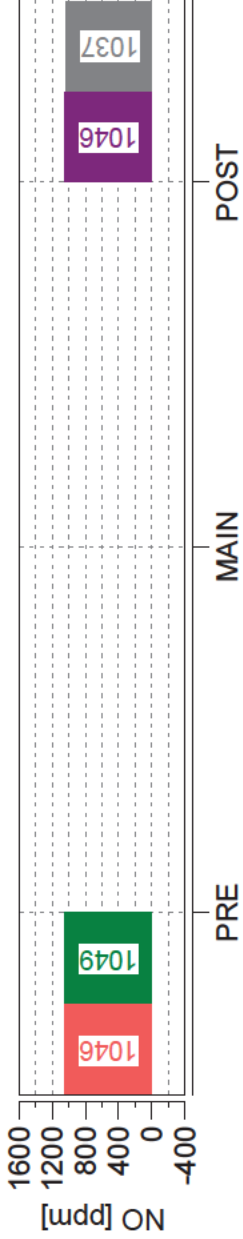
'Highway'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: A3 E-Tron / 1.4L

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: CO/CO2 Zero - Span

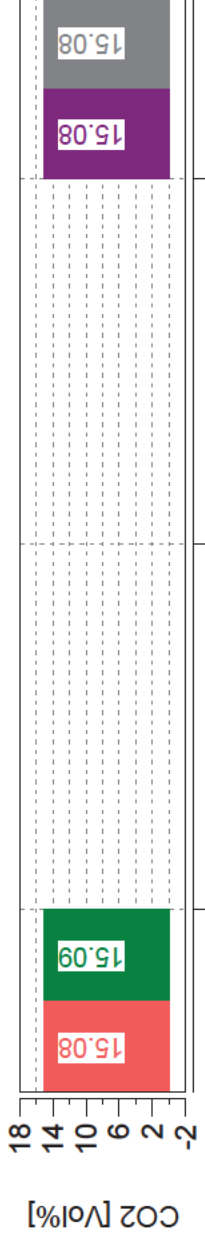
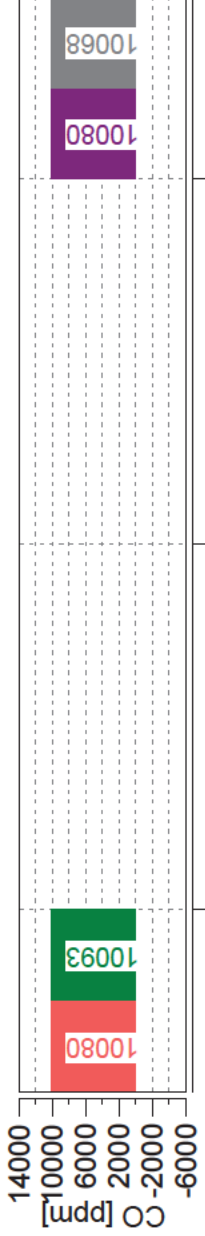
'Highway'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: THC/CH4 Zero - Span

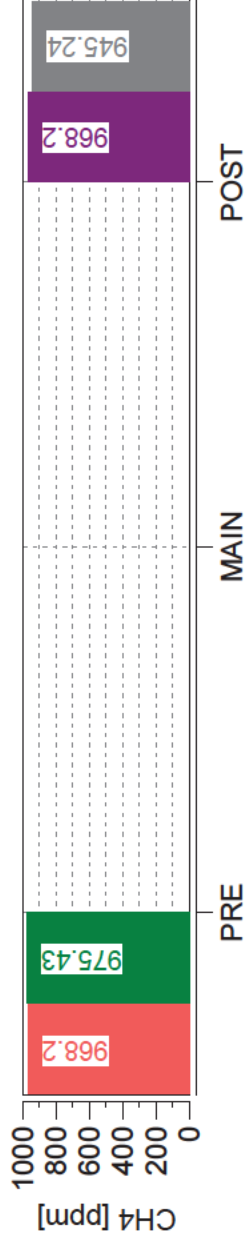
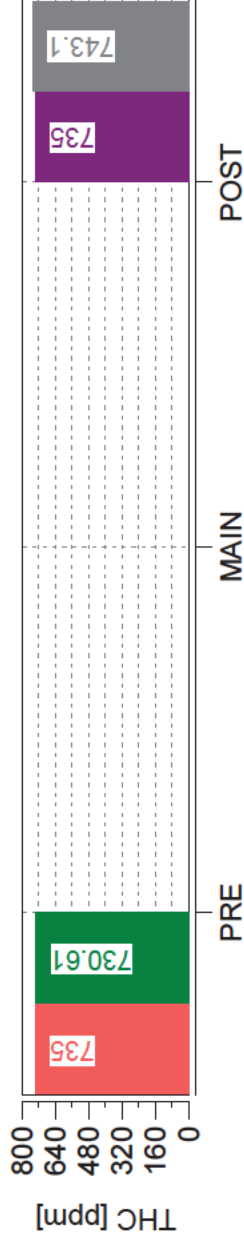
'Highway'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Trip Summary

'Mountain'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E. 2018

Trip Duration	2769.00	s	ave THC	10.04718	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	2769.00	s	ave NMHC	9.84624	ppm	BS CO	n/a	g/hphr
Trip Distance	28.96	mi	ave CH4	0.20094	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	28.96	mi	ave CO	689.25390	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	7.23538	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOX	4.92750	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	2.67	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	2.64	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	0.95	gall	tot THC	0.57831	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	0.93	gall	tot NMHC	0.53494	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.01282	g	DS CO2	271.03762	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	112.57446	g	DS CO	3.88768	g/mi
Trip Fuel Economy EU (ac)	30.64	mpg_US	tot CO2	7848.36901	g	DS THC	0.01997	g/mi
Trip Fuel Economy US (ac)	31.08	mpg_US	tot NO (d)	0.35463	g	DS NMHC	0.01847	g/mi
Trip Av. Eng. Speed	1112.31	rpm	tot NO2	0.02116	g	DS CH4	0.00044	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.37579	g	DS NO (d)	0.01225	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	0.00073	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.01298	g/mi
Trip Exhaust Mass	42.49	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	82.98	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	49.19	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	37.64691	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	8.55905	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Trip Summary Drift Corrected

'Mountain'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018

Trip Duration	2769.00	s	ave THC DC	9.80149	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	2769.00	s	ave NMHC DC	9.60546	ppm	BS CO DC	n/a	g/hphr
Trip Distance	28.96	mi	ave CH4 DC	0.19603	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	28.96	mi	ave CO DC	689.21288	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	7.23298	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	4.93987	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	2.67	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	2.64	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	0.95	gall	tot THC DC	0.57229	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	0.93	gall	tot NMHC DC	0.52937	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.01268	g	DS CO2 DC	270.94778	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	112.56776	g	DS CO DC	3.88744	g/mi
Trip Fuel Economy EU (ac)	30.64	mpg_US	tot CO2 DC	7845.76763	g	DS THC DC	0.01976	g/mi
Trip Fuel Economy US (ac)	31.08	mpg_US	tot NO DC (d)	0.35563	g	DS NMHC DC	0.01828	g/mi
Trip Av. Eng. Speed	1112.31	rpm	tot NO2 DC	0.02118	g	DS CH4 DC	0.00044	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.37681	g	DS NO DC (d)	0.01228	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	0.00073	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.01301	g/mi
Trip Exhaust Mass	42.49	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	82.98	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	49.19	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	37.64691	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	8.55905	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Time Alignment Check

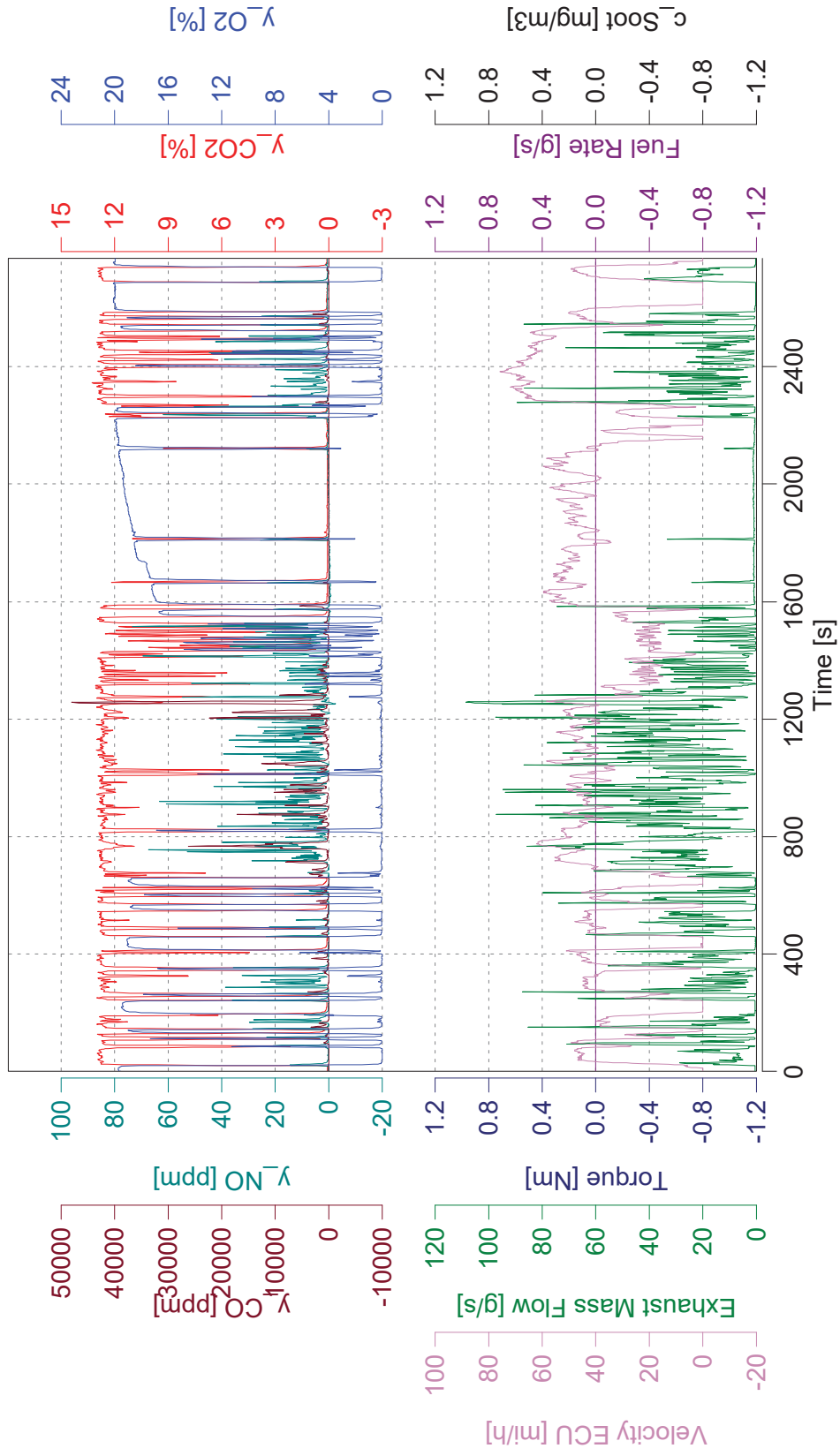
'Mountain'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Time Alignment of Gas Concentrations

'Mountain'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Ambient Conditions

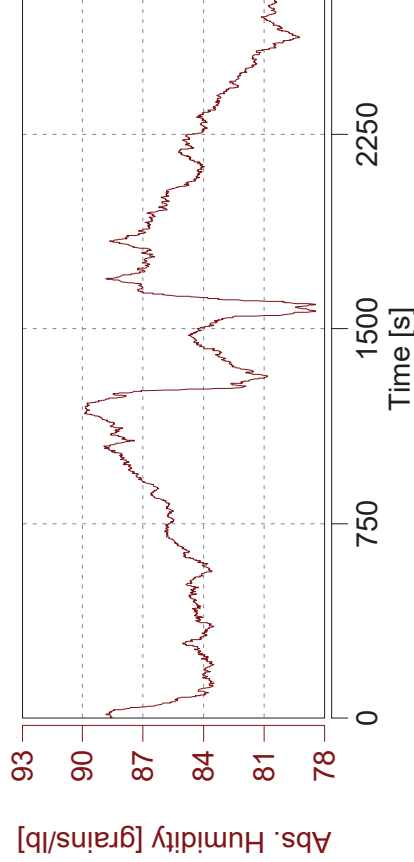
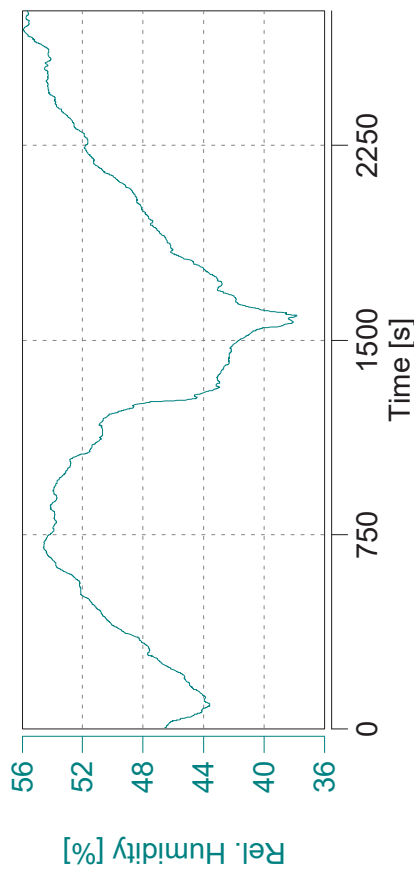
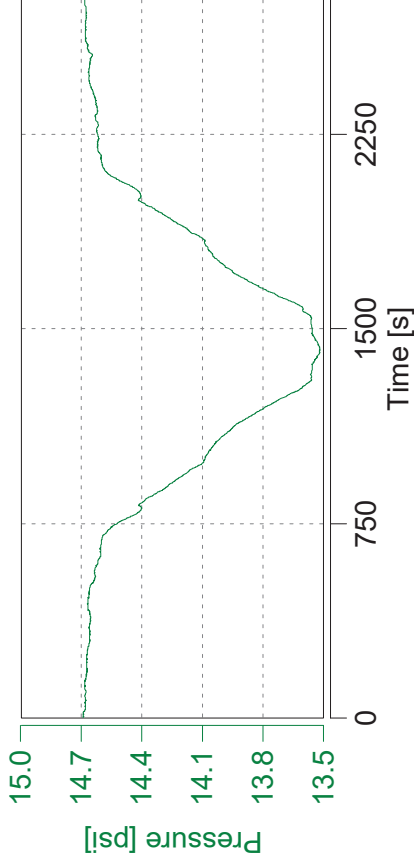
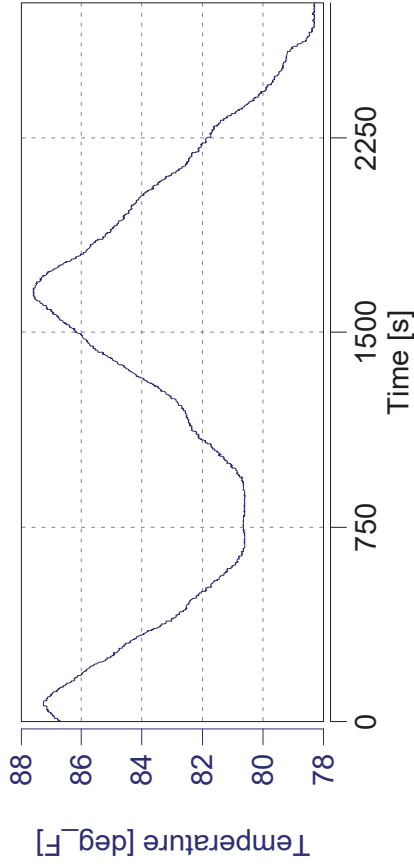
'Mountain'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316(CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: A3 E-Tron / 1.4L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

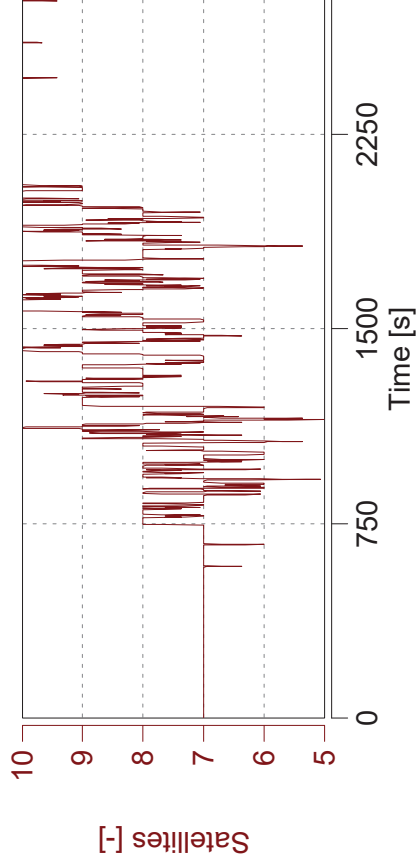
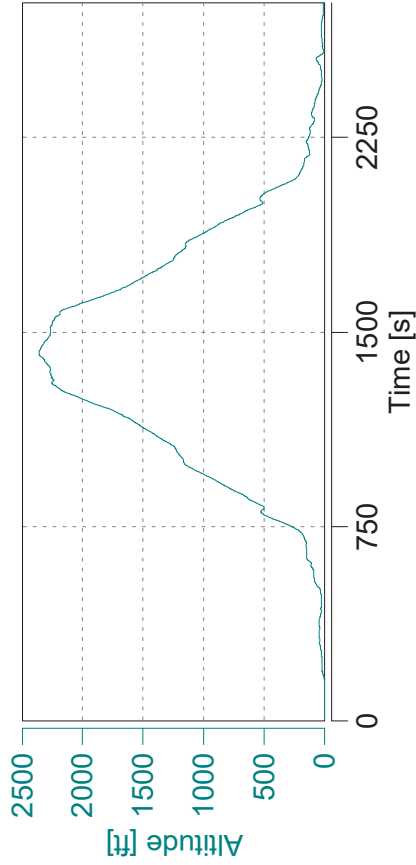
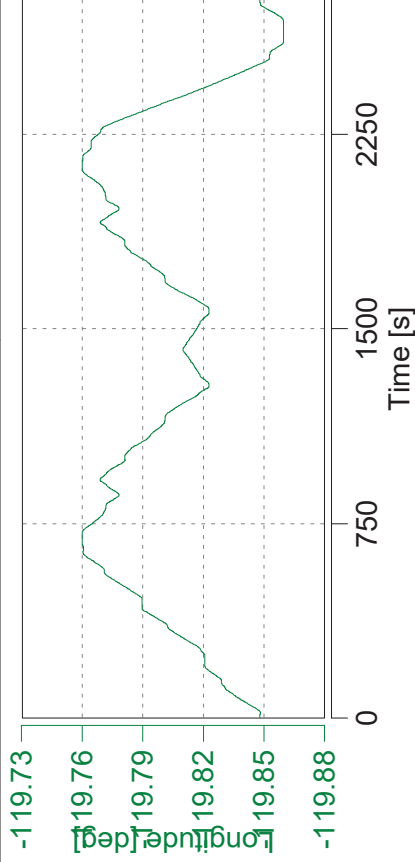
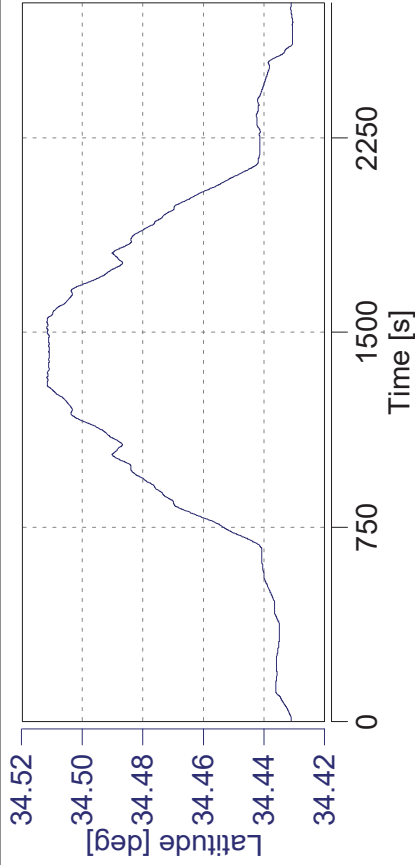
Page: GPS

'Mountain'

Start Date: 07/28/2018

Start Time: 11:33:17.0

Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (1)

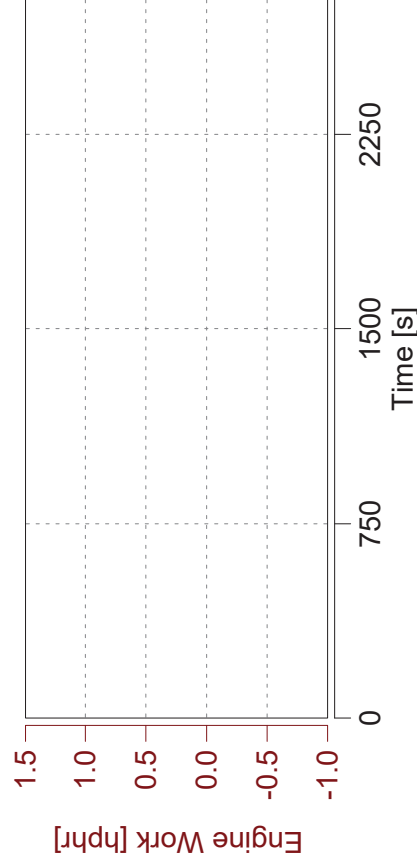
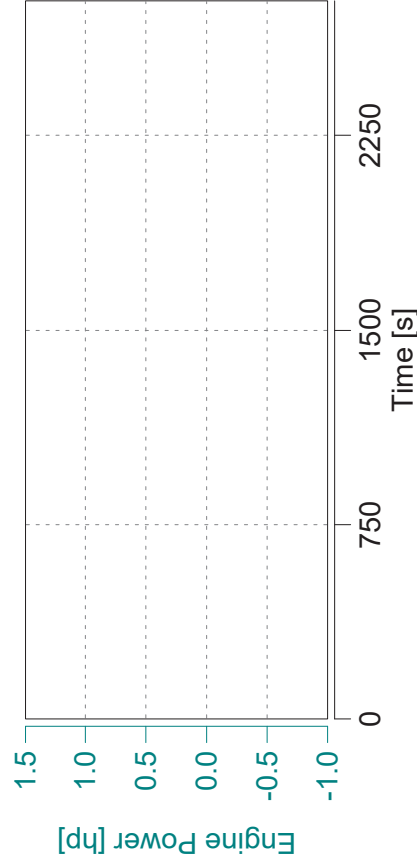
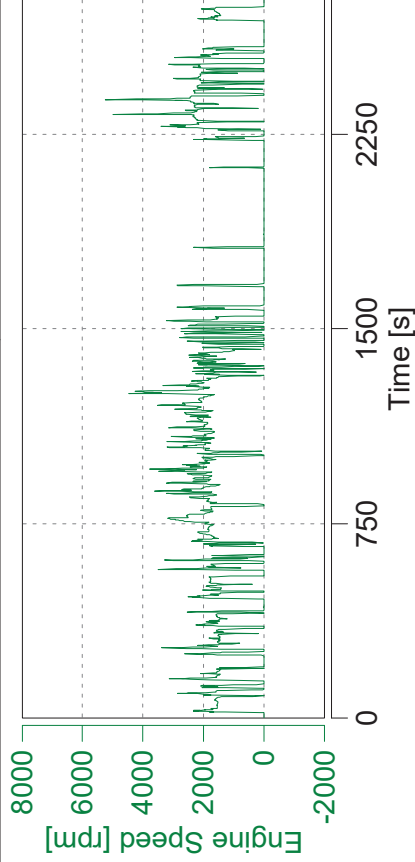
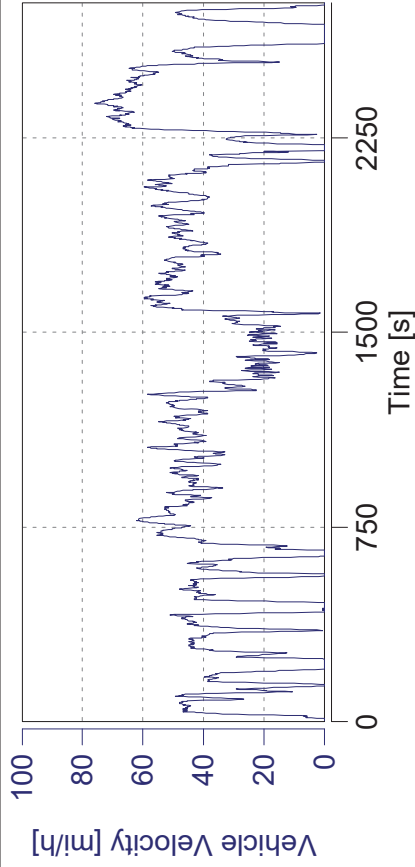
'Mountain'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: A3 E-Tron / 1.4L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (2)

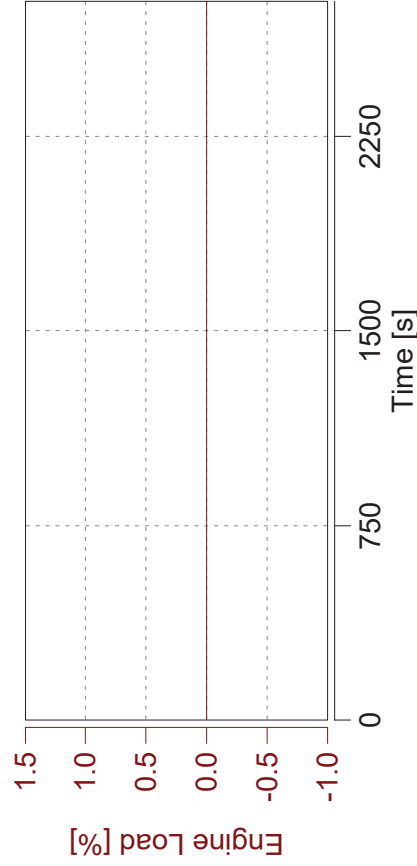
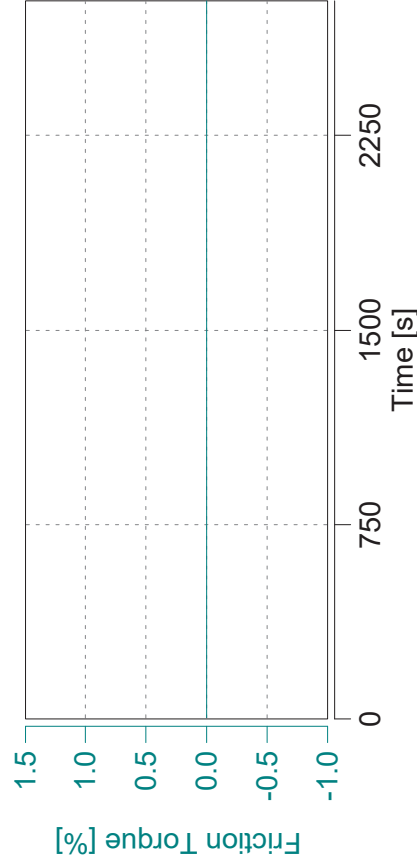
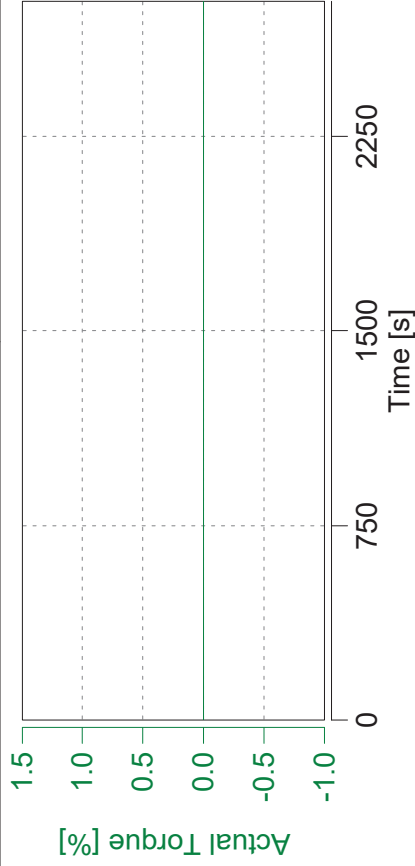
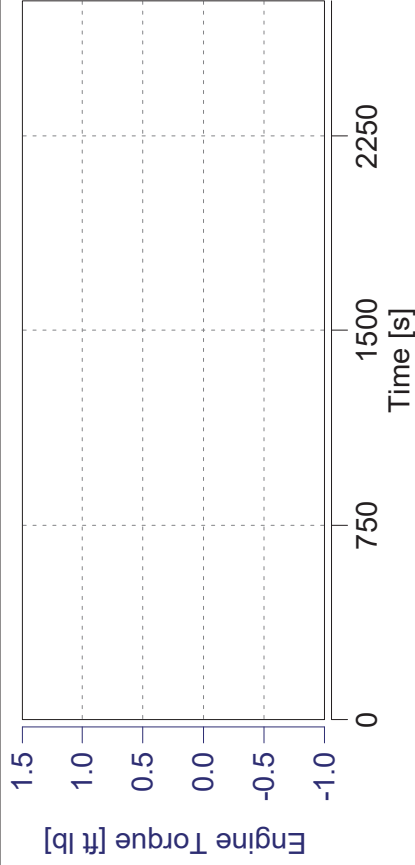
'Mountain'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (3)

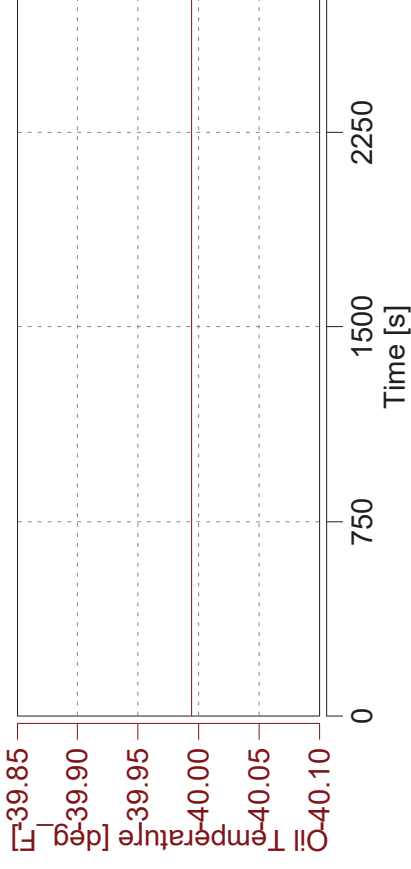
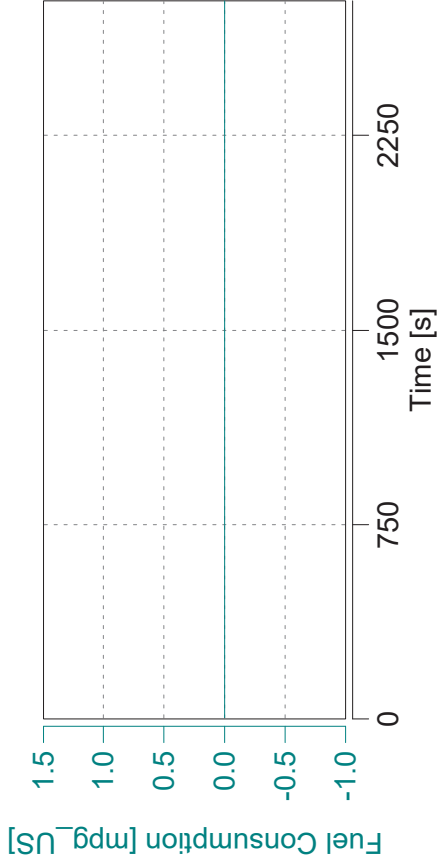
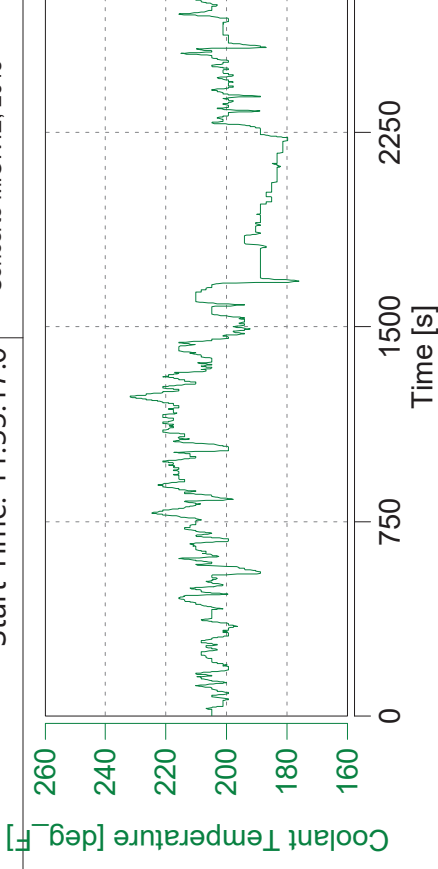
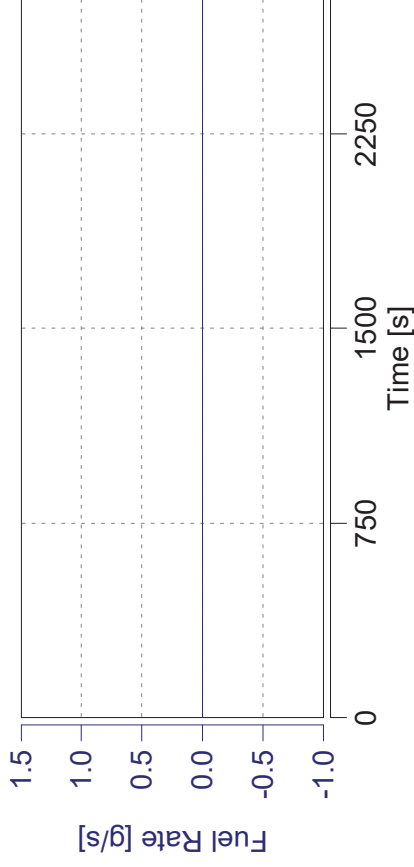
'Mountain'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

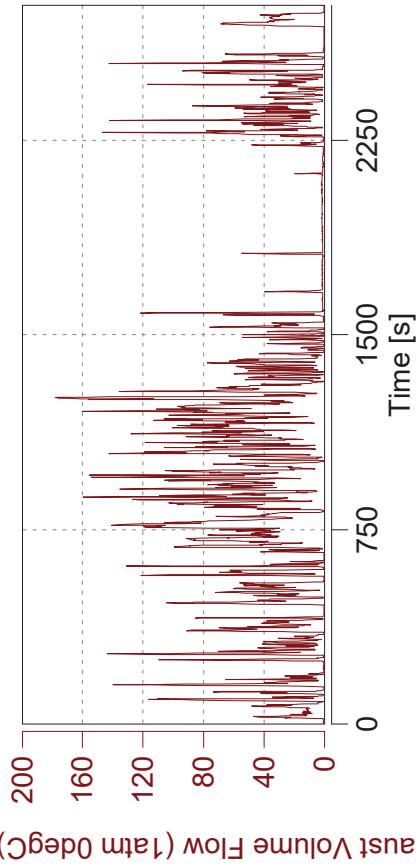
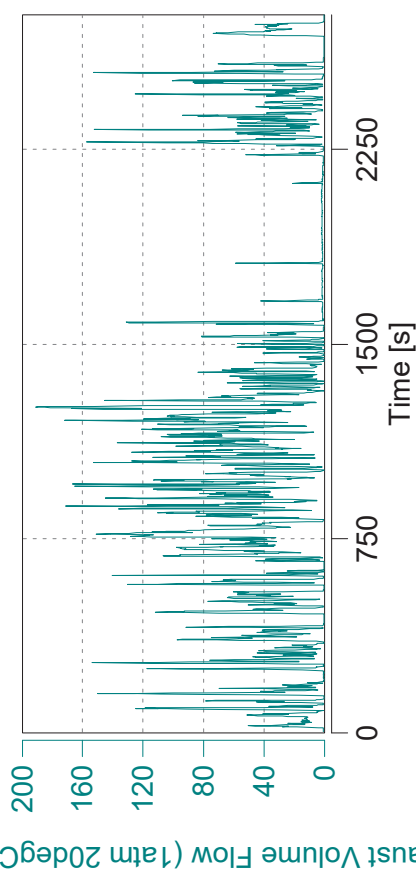
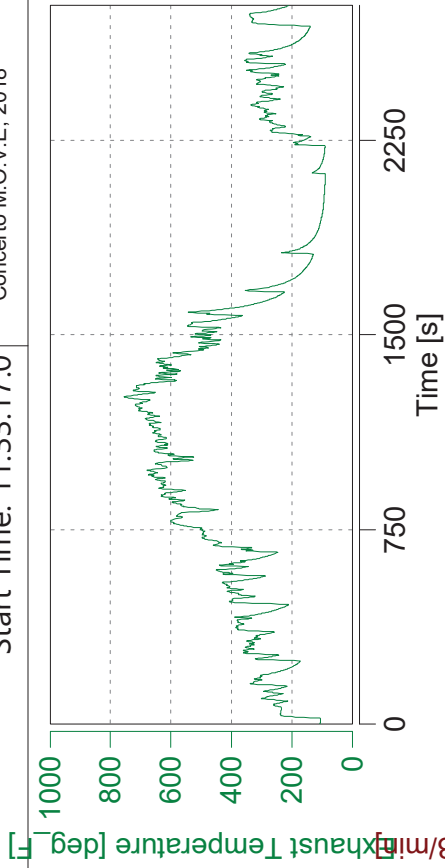
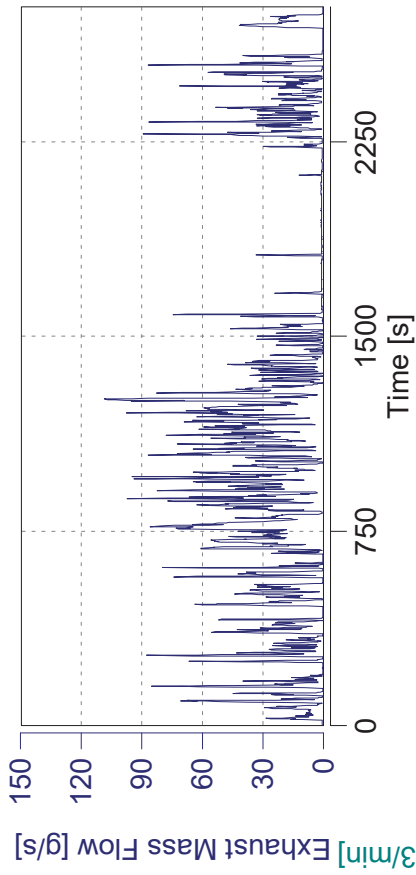
Page: Exhaust Flow (1)

'Mountain'

Start Date: 07/28/2018

Start Time: 11:33:17.0

Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Exhaust Flow (2)

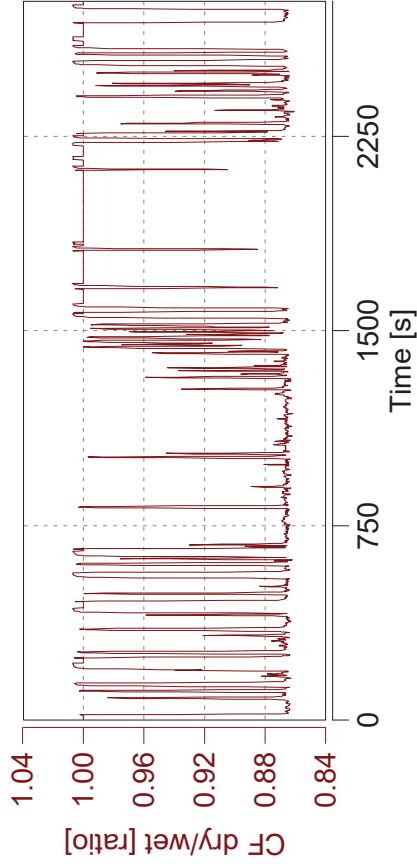
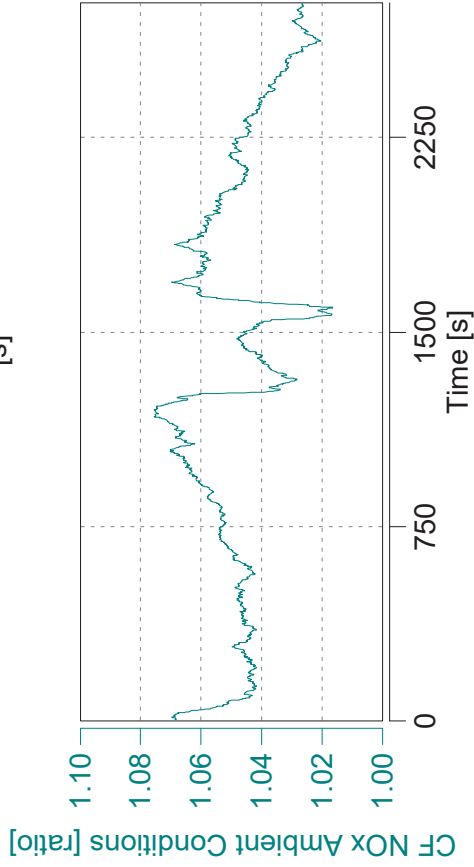
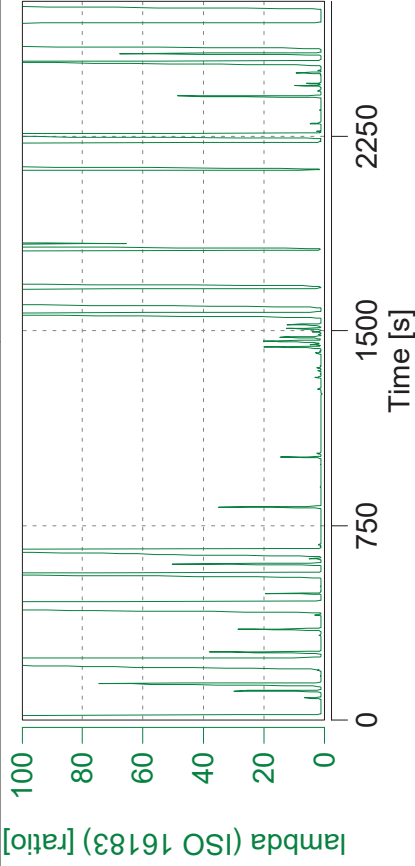
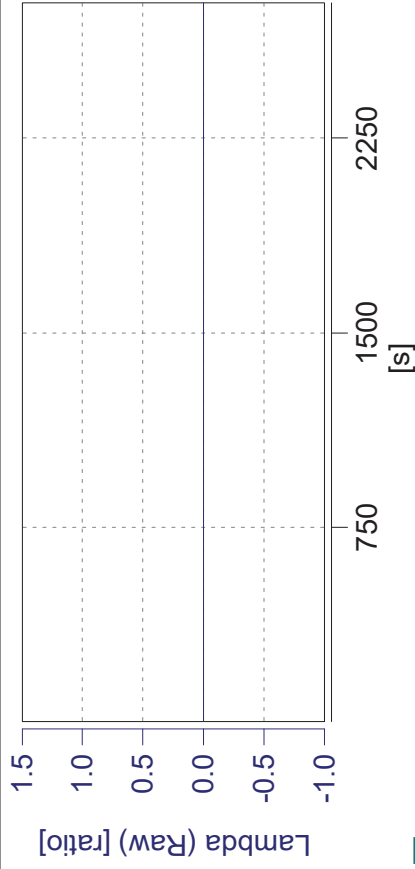
'Mountain'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (1)

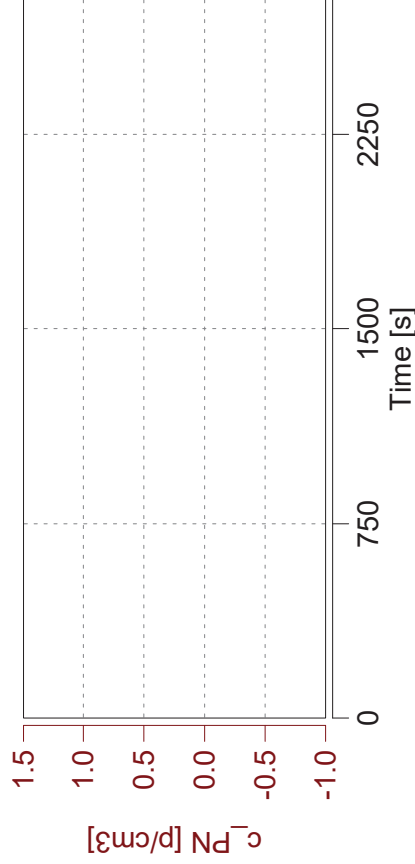
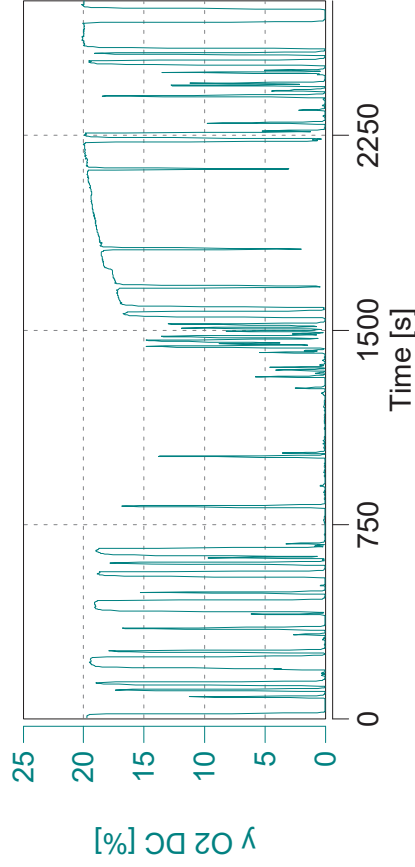
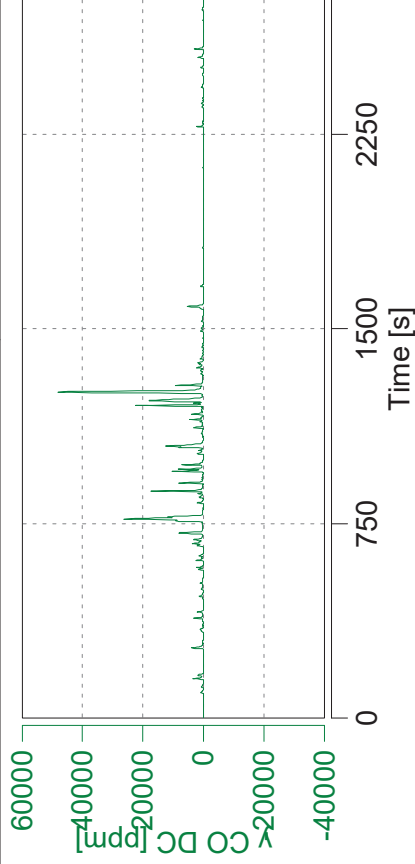
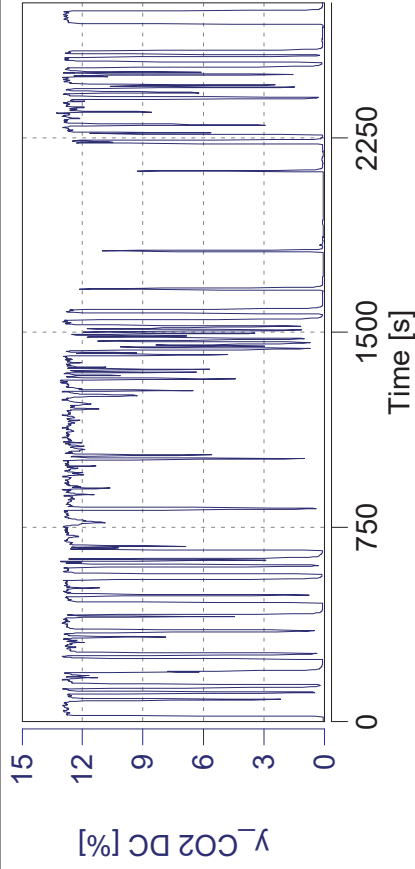
'Mountain'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (2)

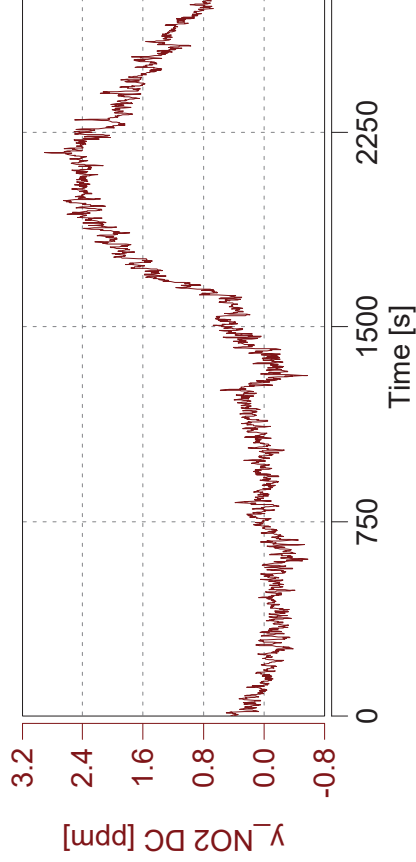
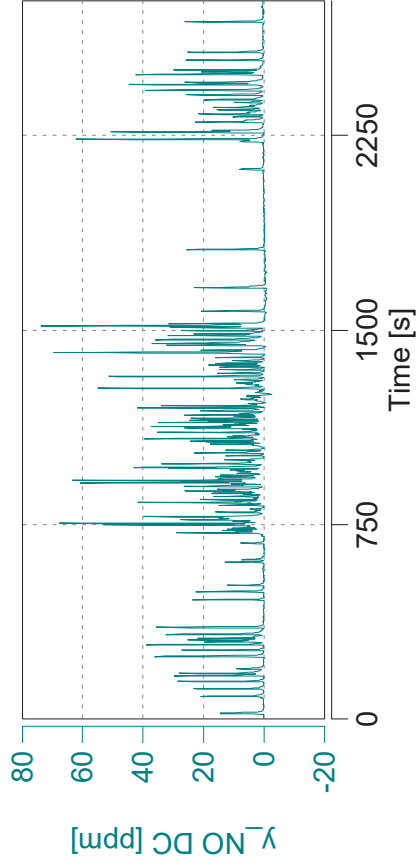
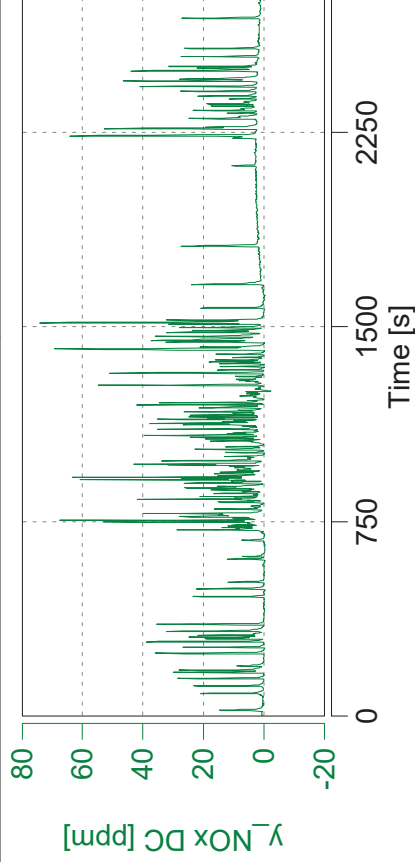
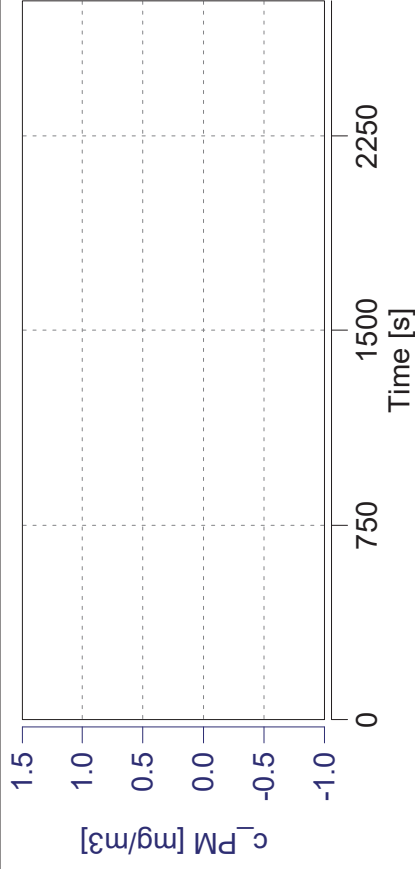
'Mountain'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: A3 E-Tron / 1.4L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (3)

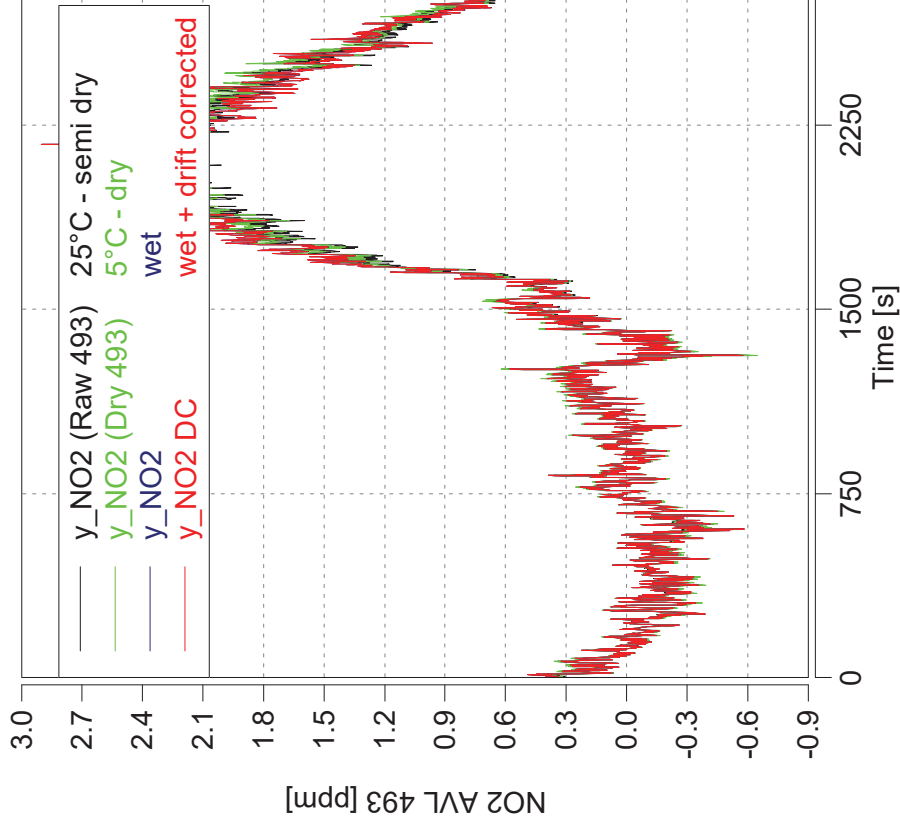
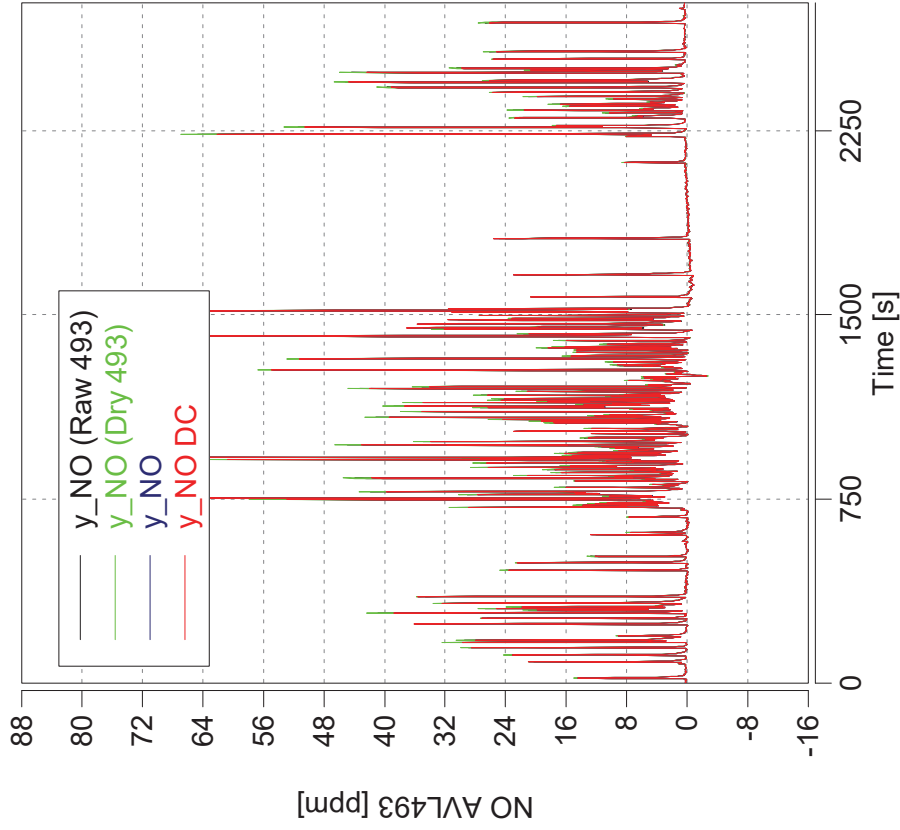
'Mountain'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

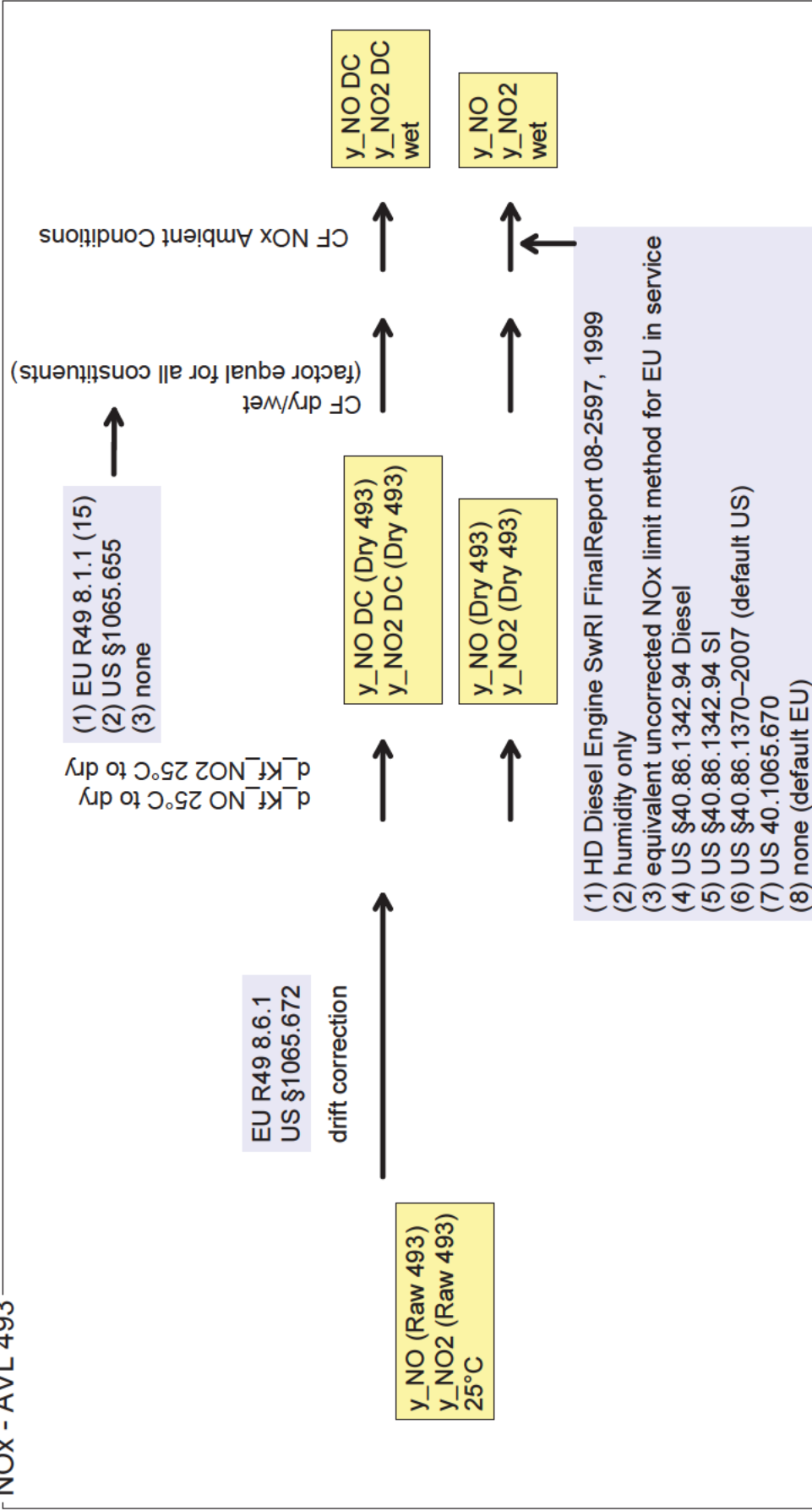
Case: Mountain

Page: Corrected Emissions (4) NOx Corrections

'Mountain'
Start Date: 07/28/2018
Start Time: 11:33:17.0



NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine /

Vehicle: A3 E-Tron / 1.4L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (5)

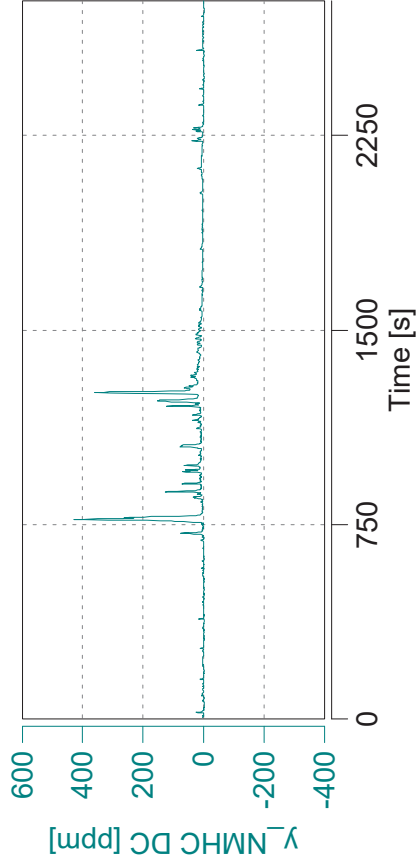
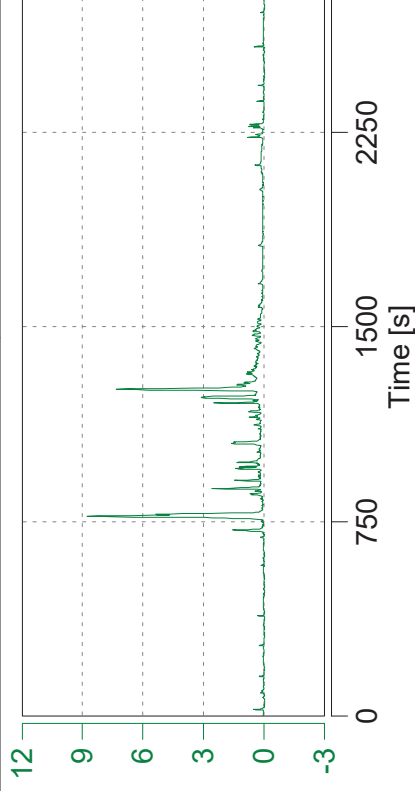
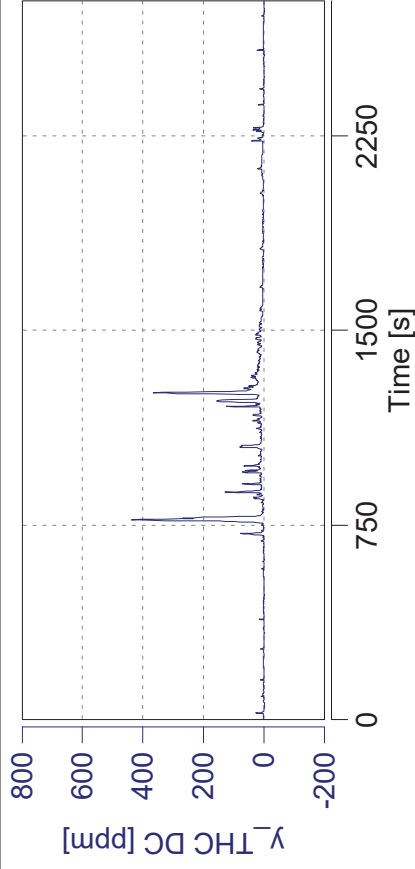
'Mountain'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: A3 E-Tron / 1.4L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: NO/NO2/NOx Zero - Span

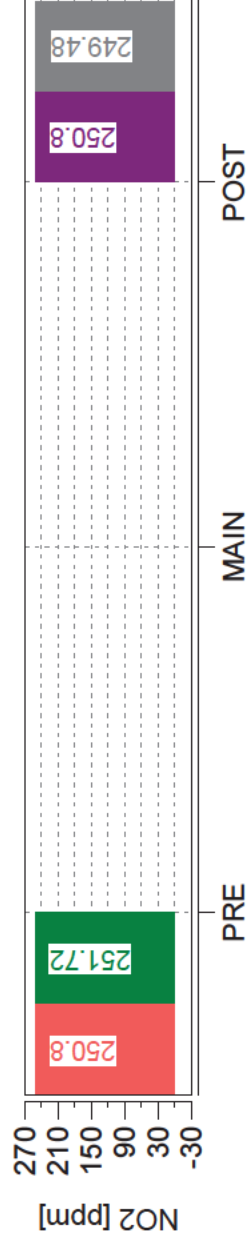
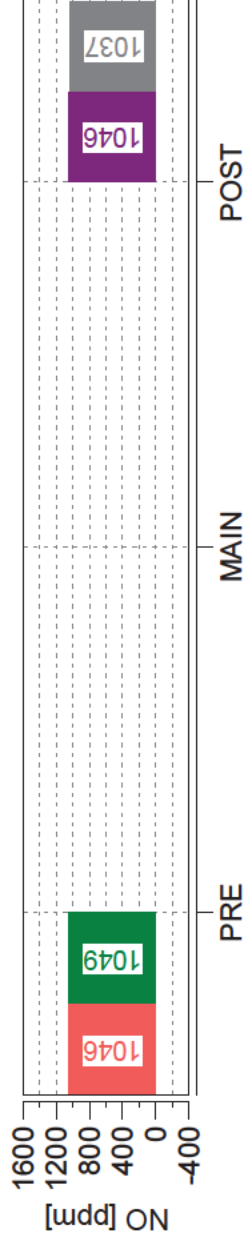
'Mountain'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: CO/CO2 Zero - Span

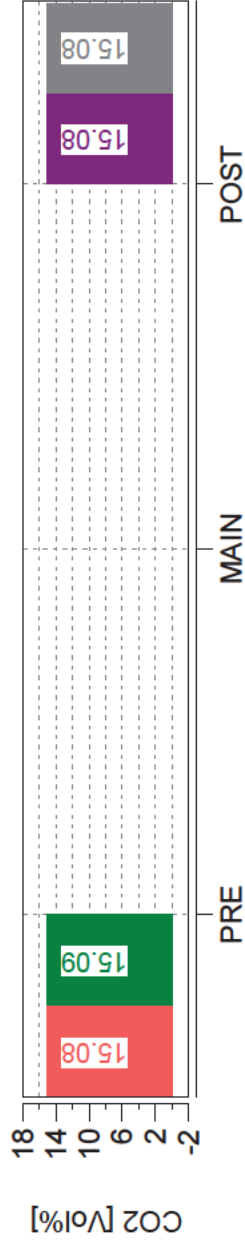
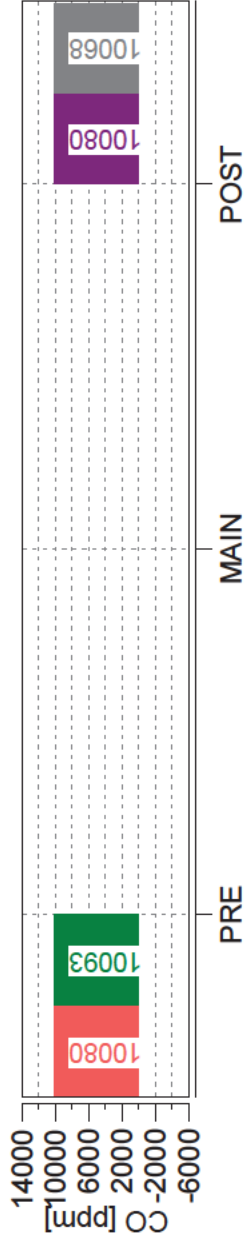
'Mountain'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: THC/CH4 Zero - Span

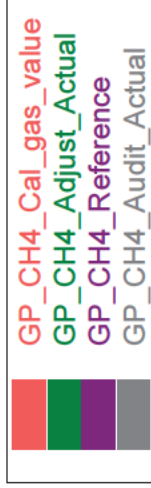
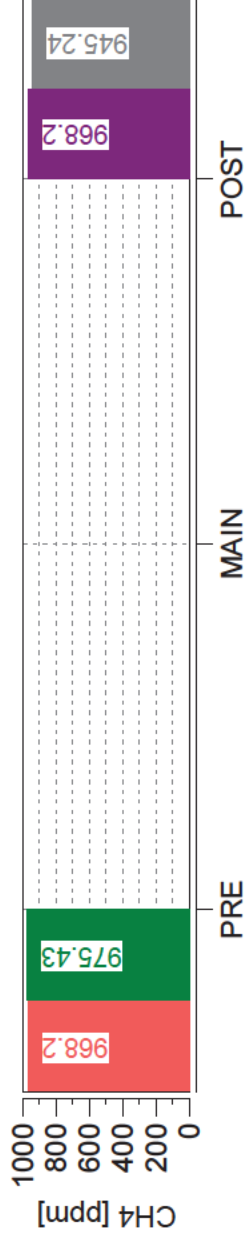
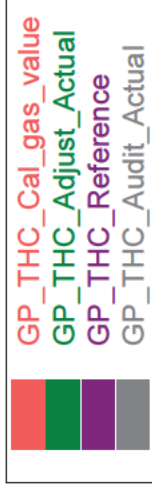
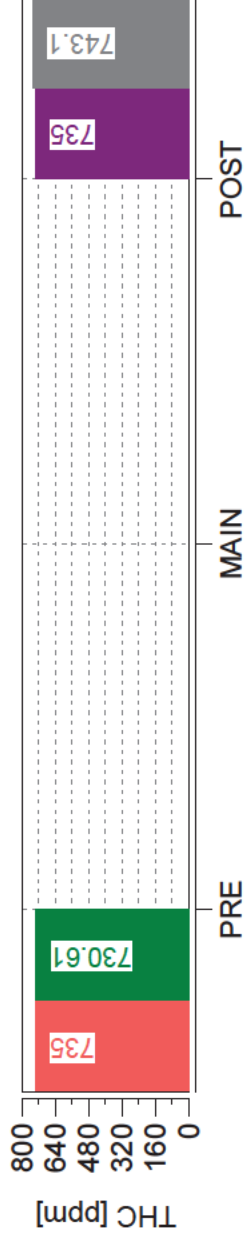
'Mountain'

Start Date: 07/28/2018

Start Time: 11:33:17.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Trip Summary

'City'

Start Date: 07/28/2018

Start Time: 18:26:28.0



Concerto M.O.V.E., 2018

Trip Duration	3426.00	s	ave THC	4.98626	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	3426.00	s	ave NMHC	4.88654	ppm	BS CO	n/a	g/hphr
Trip Distance	16.25	mi	ave CH4	0.09973	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	16.25	mi	ave CO	151.71762	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	5.42565	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx	2.41695	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	1.42	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	1.40	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	0.50	gall	tot THC	0.06013	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	0.50	gall	tot NMHC	0.05562	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00133	g	DS CO2	262.05139	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	7.53948	g	DS CO	0.46383	g/mi
Trip Fuel Economy EU (ac)	32.36	mpg_US	tot CO2	4259.57198	g	DS THC	0.00370	g/mi
Trip Fuel Economy US (ac)	32.80	mpg_US	tot NO (d)	0.09128	g	DS NMHC	0.00342	g/mi
Trip Av. Eng. Speed	616.55	rpm	tot NO2	0.01437	g	DS CH4	0.00008	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.10566	g	DS NO (d)	0.00562	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	0.00088	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.00650	g/mi
Trip Exhaust Mass	23.07	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	73.84	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	72.98	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	17.08027	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	26.67834	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Trip Summary Drift Corrected

'City'

Start Date: 07/28/2018

Start Time: 18:26:28.0



Concerto M.O.V.E., 2018

Trip Duration	3426.00	s	ave THC DC	4.88867	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	3426.00	s	ave NMHC DC	4.79090	ppm	BS CO DC	n/a	g/hphr
Trip Distance	16.25	mi	ave CH4 DC	0.09777	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	16.25	mi	ave CO DC	151.70783	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	5.42026	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	2.44300	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	1.42	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	1.40	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave Soot meas	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	0.50	gall	ave PN DC	0.05902	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	0.50	gall	tot THC DC	0.05460	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot NMHC DC	0.00131	g	DS CO2 DC	261.79099	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CH4 DC	7.53899	g	DS CO DC	0.46380	g/mi
Trip Fuel Economy EU (ac)	32.36	mpg_US	tot CO DC	4255.33922	g	DS THC DC	0.00363	g/mi
Trip Fuel Economy US (ac)	32.80	mpg_US	tot CO2 DC	0.09209	g	DS NMHC DC	0.00336	g/mi
Trip Av. Eng. Speed	616.55	rpm	tot NO DC (d)	0.01465	g	DS CH4 DC	0.00008	g/mi
Trip Av. Torque	n/a	lbft	tot NO2 DC	0.10674	g	DS NO DC (d)	0.00567	g/mi
Trip Av. Power	n/a	hp	tot NOx DC	n/a	g	DS NO2 DC	0.00090	g/mi
Trip Work	n/a	hphr	tot Soot	n/a	g	DS NOx DC	0.00657	g/mi
Trip Exhaust Mass	23.07	kg	tot Soot meas	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PM	n/a	g	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	tot PN DC	n/a	#	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	73.84	deg_F	PM measurement type	0.00000	-	DS PN DC	n/a	#/mi
Trip Av. Humidity	72.98	%	PM correction type	1.00000	alpha(HC)	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		tot Soot on PM filter (estim.)	n/a	mg	FS CO DC	n/a	g/kg
			Soot --> PM simple scaling factor	1.00000	-	FS THC DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS NMHC DC	n/a	g/kg
			Trip Av. Veh. Speed	17.08027	mi/hr	FS CH4 DC	n/a	g/kg
			Trip Velocity Zero	26.67834	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NOx DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
 (d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Time Alignment Check

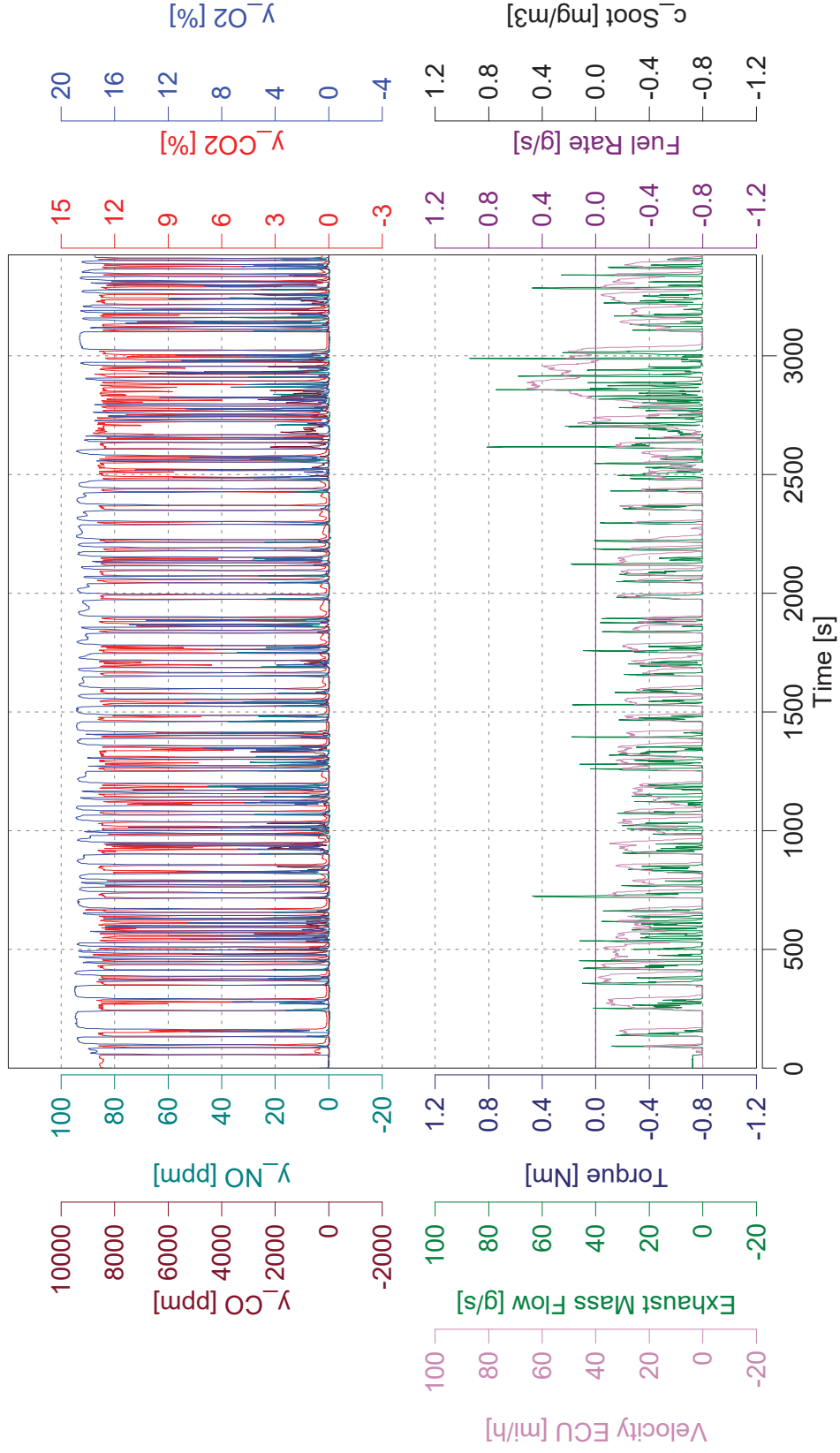
'City'

Start Date: 07/28/2018

Start Time: 18:26:28.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Time Alignment of Gas Concentrations

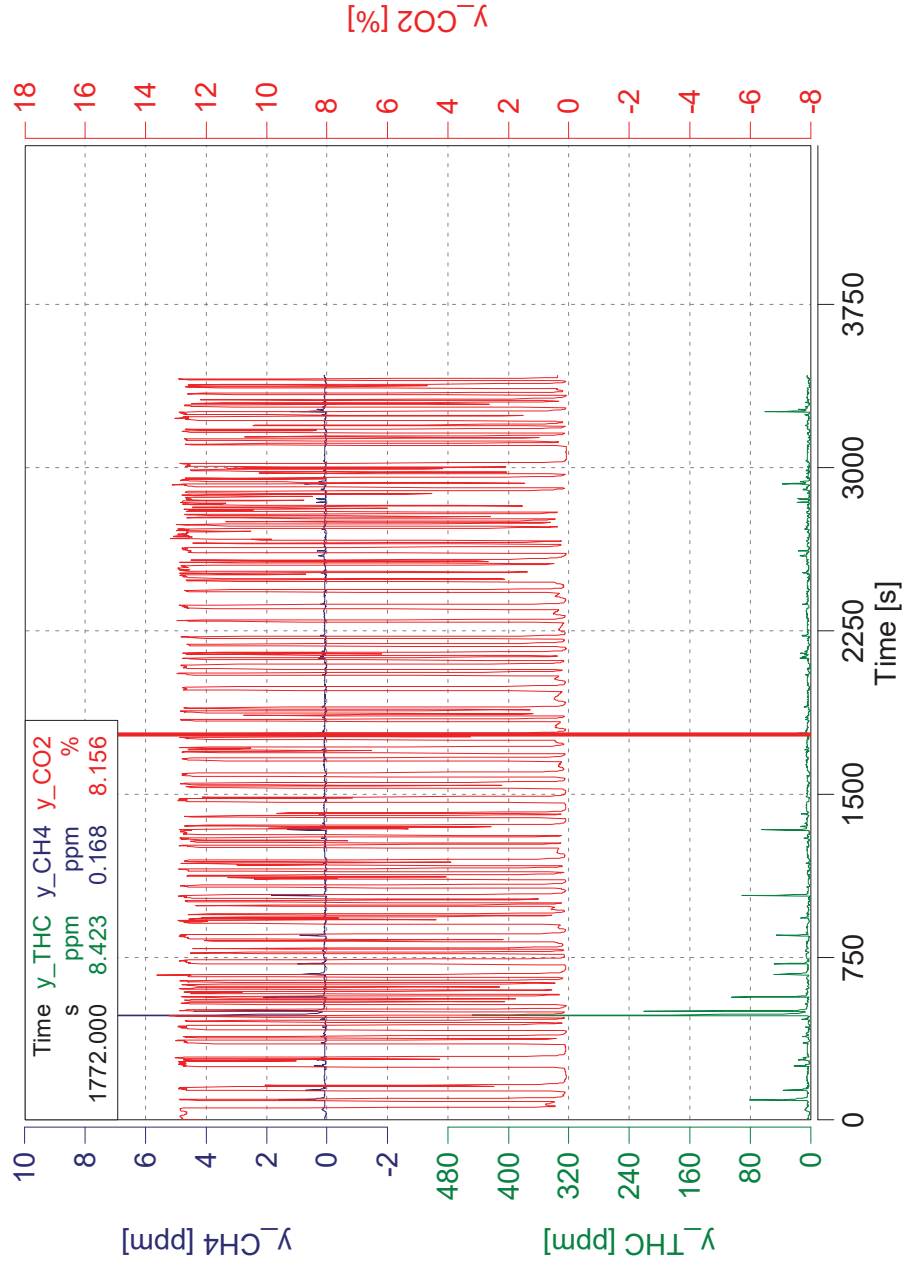
'City'

Start Date: 07/28/2018

Start Time: 18:26:28.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Ambient Conditions

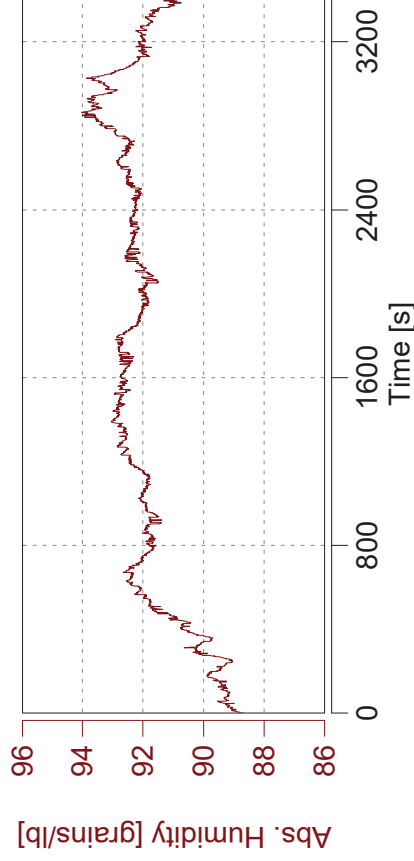
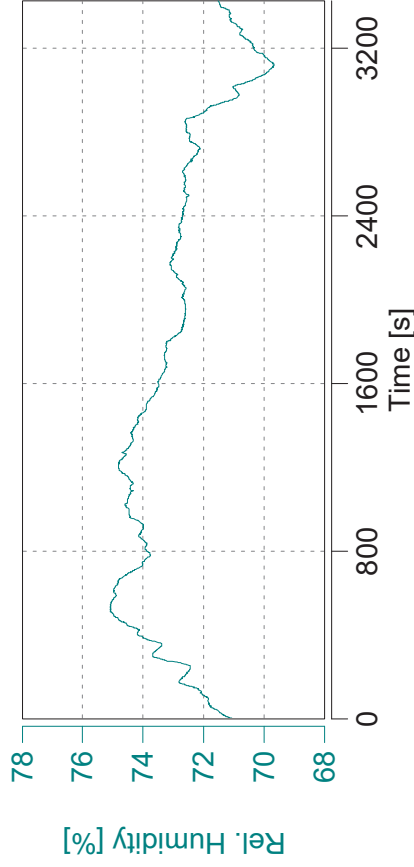
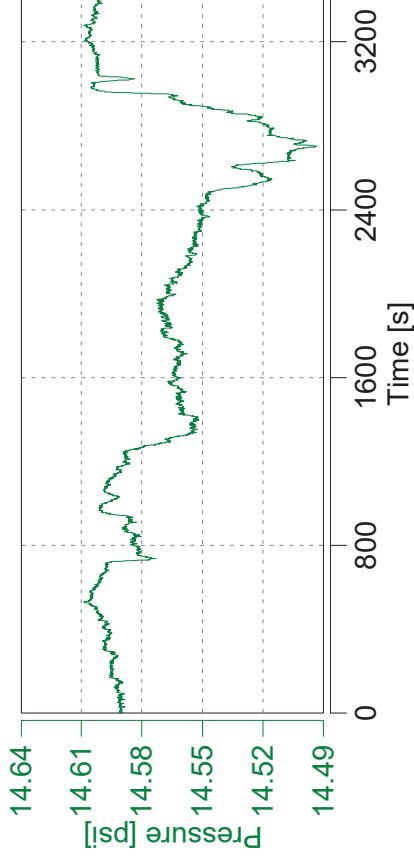
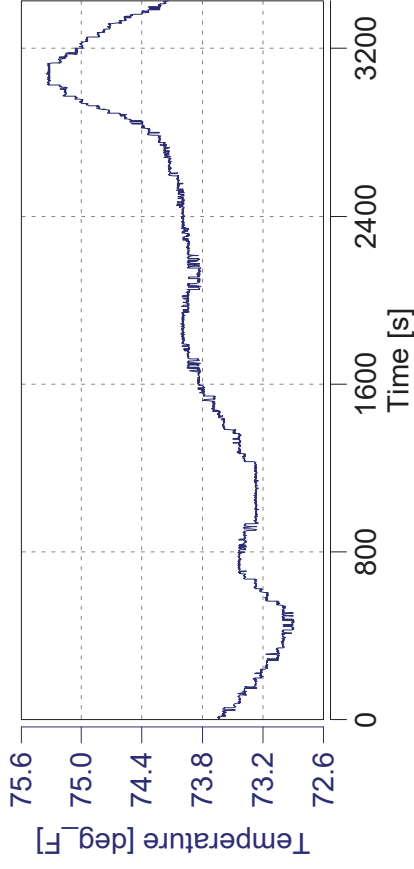
'City'

Start Date: 07/28/2018

Start Time: 18:26:28.0



Concerto M.O.V.E., 2018

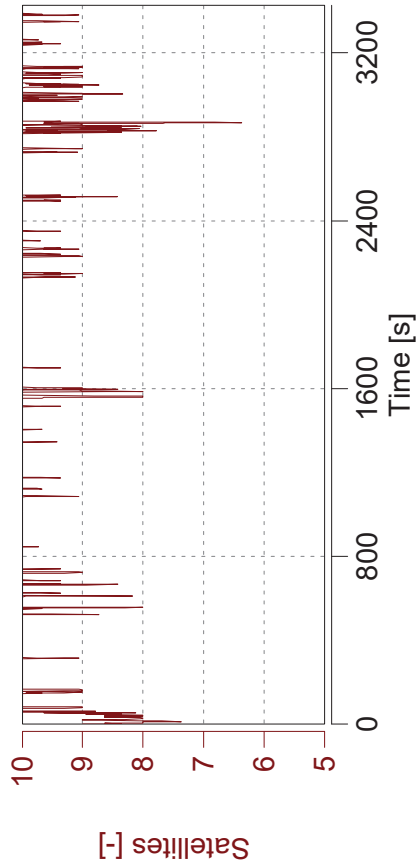
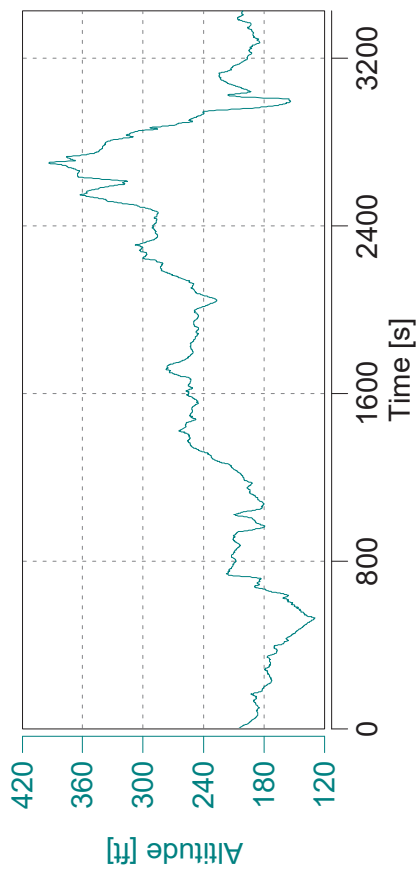
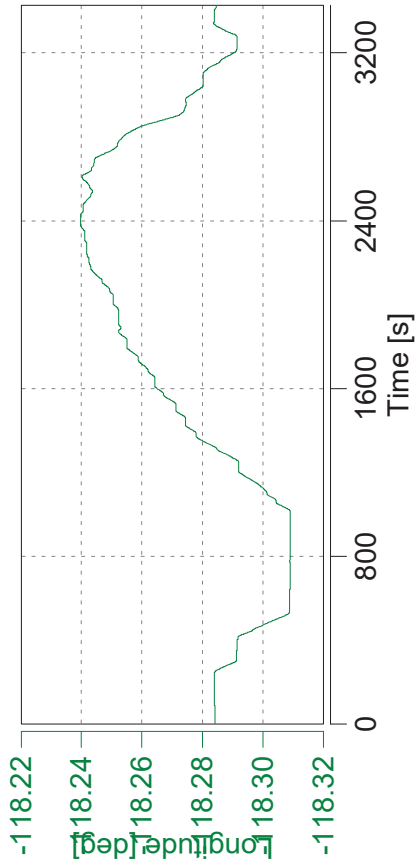
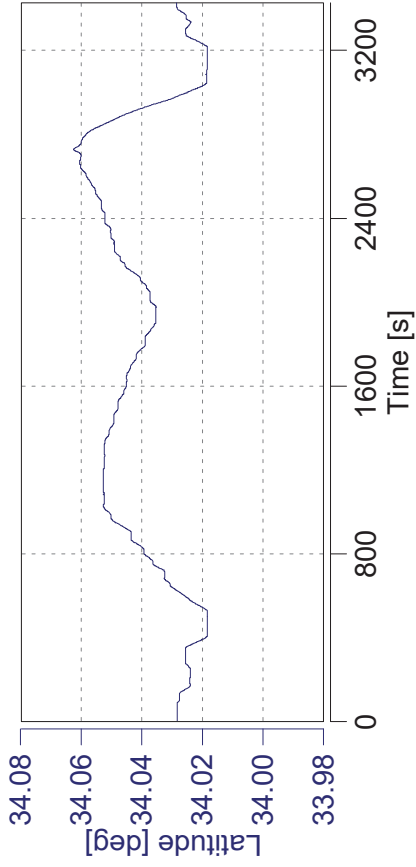


Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: A3 E-Tron / 1.4L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City
Page: GPS

'City'
Start Date: 07/28/2018
Start Time: 18:26:28.0



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: A3 E-Tron / 1.4L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (1)

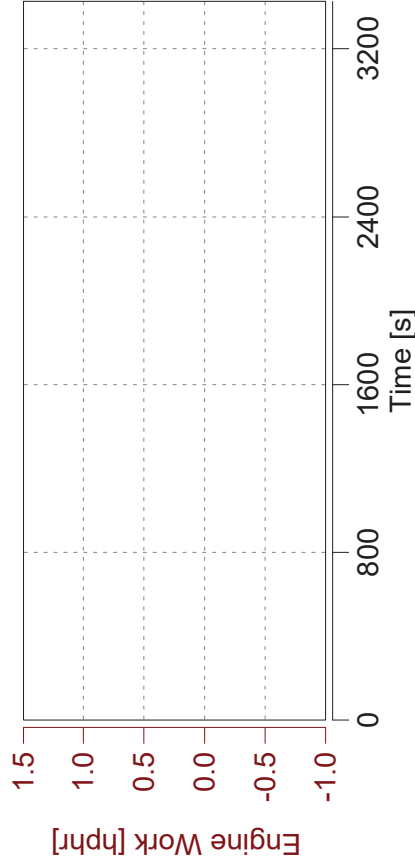
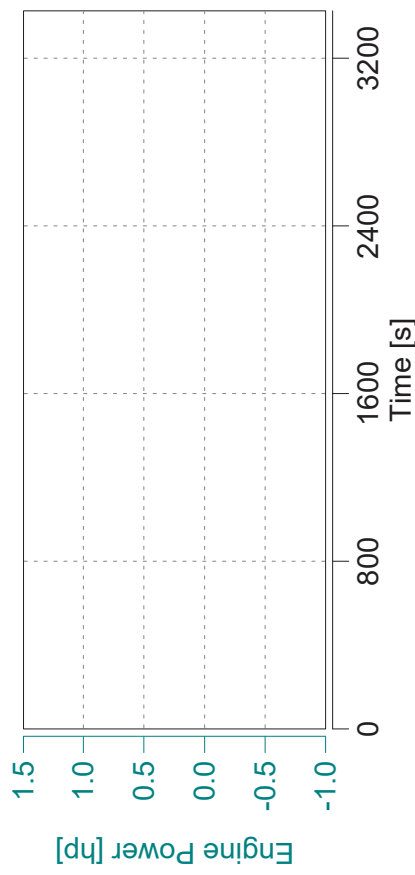
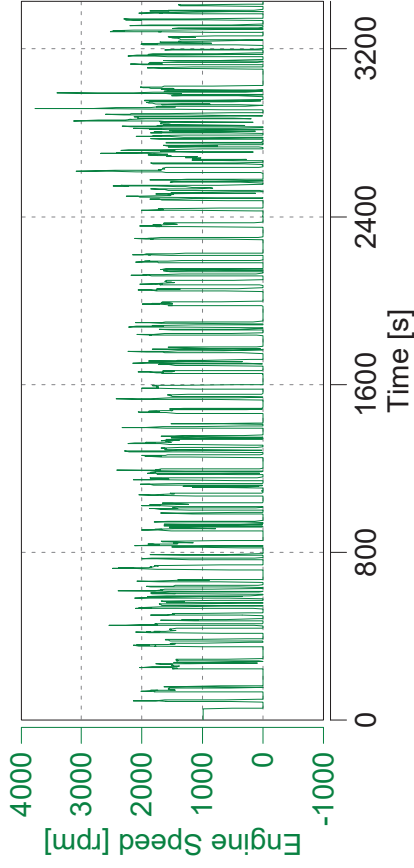
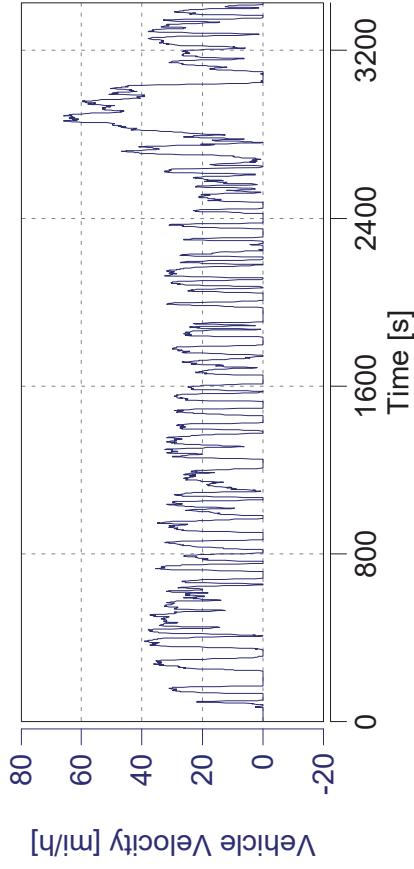
'City'

Start Date: 07/28/2018

Start Time: 18:26:28.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (2)

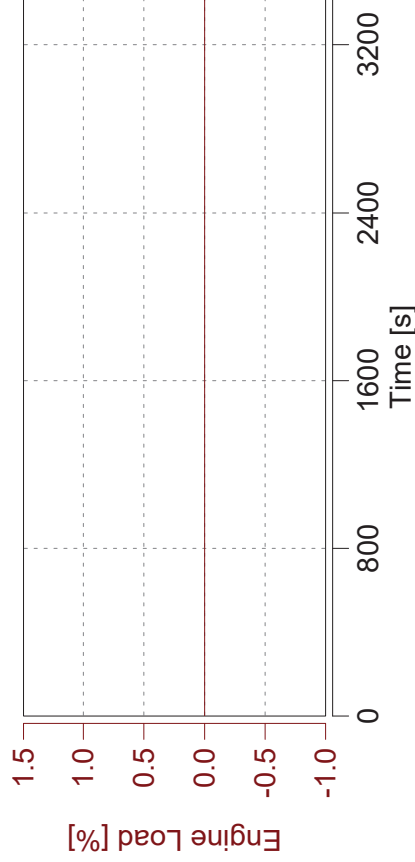
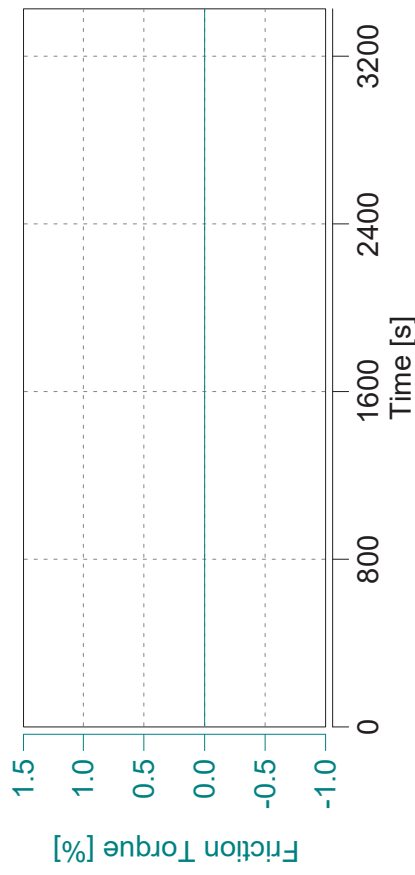
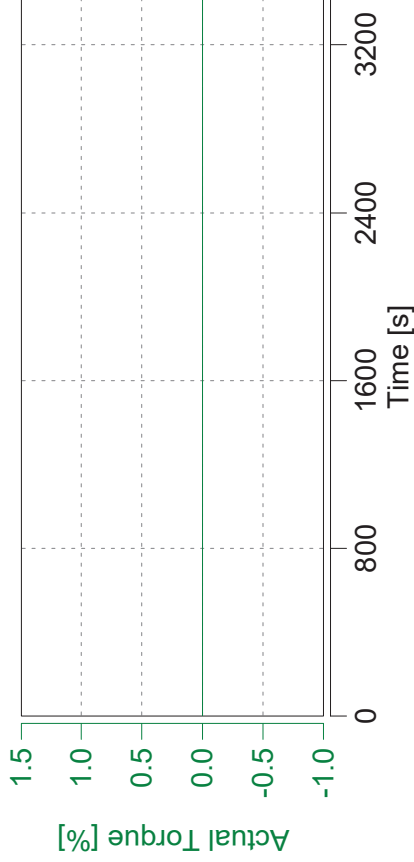
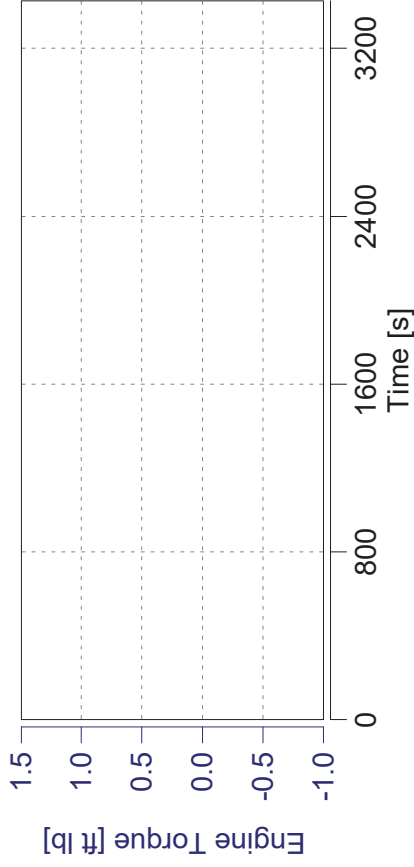
'City'

Start Date: 07/28/2018

Start Time: 18:26:28.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (3)

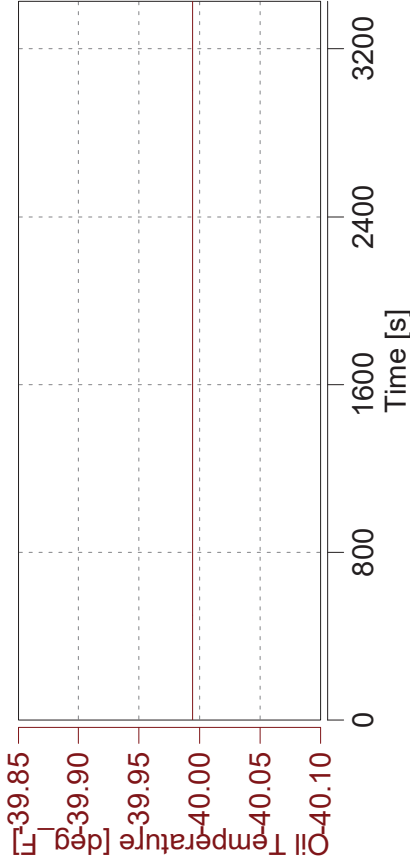
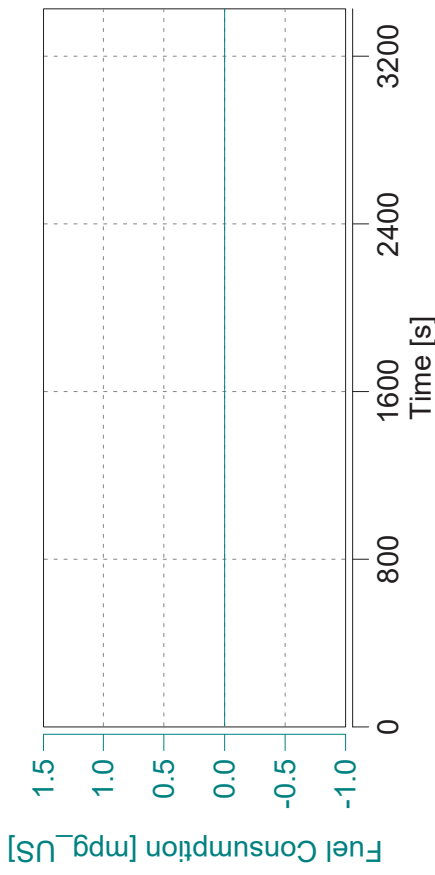
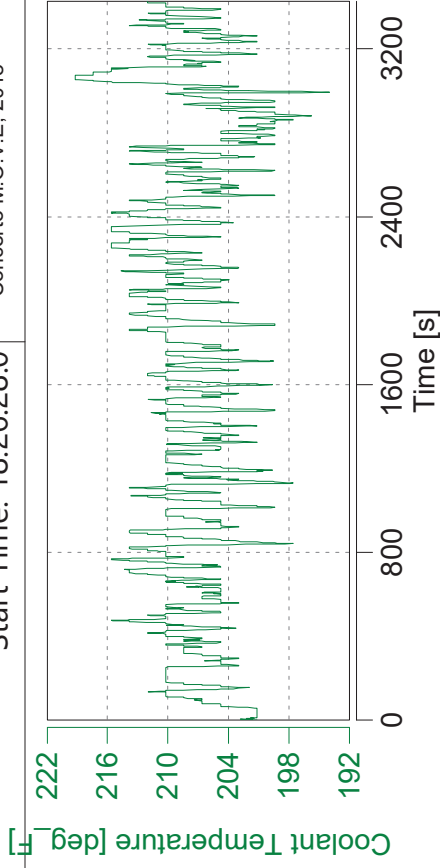
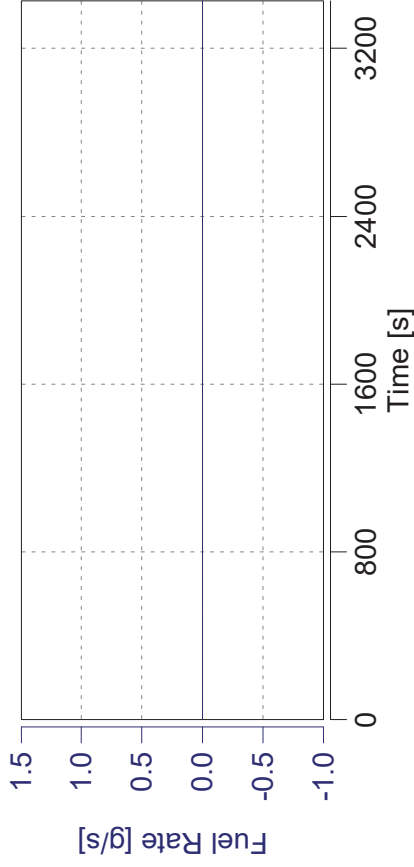
'City'

Start Date: 07/28/2018

Start Time: 18:26:28.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /
Vehicle: A3 E-Tron / 1.4L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Exhaust Flow (1)

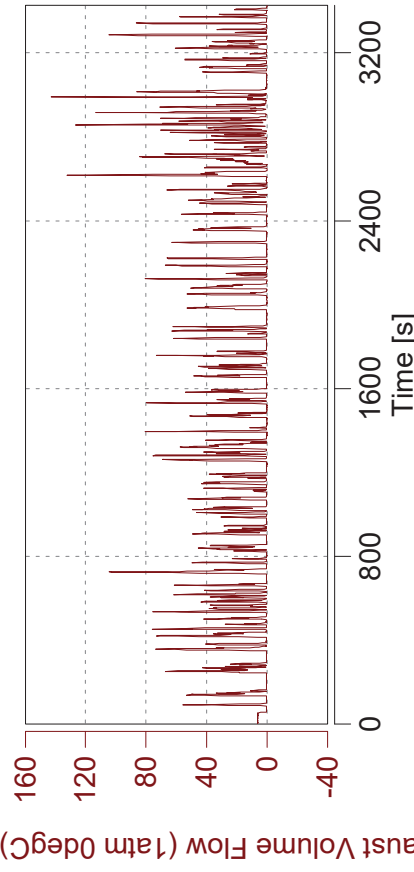
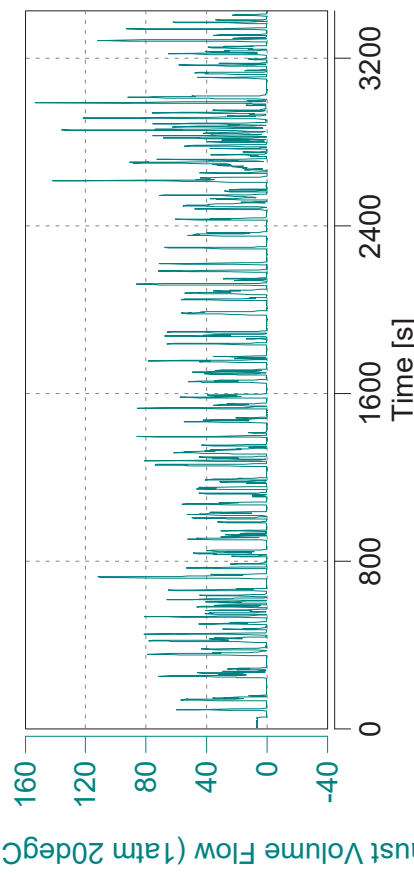
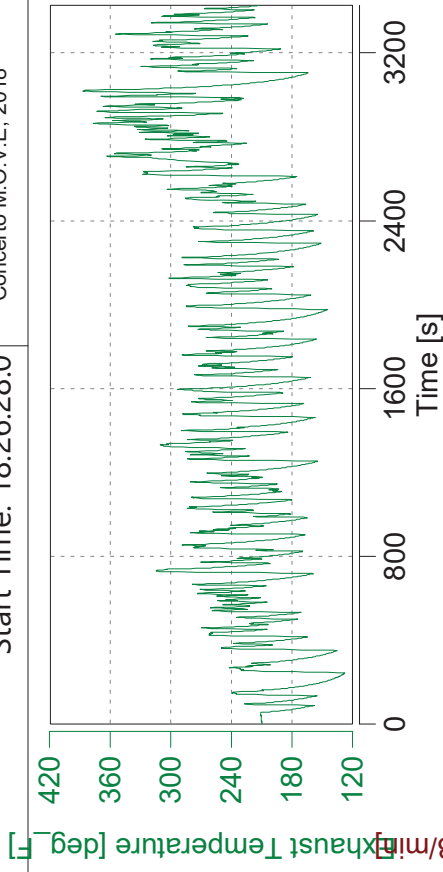
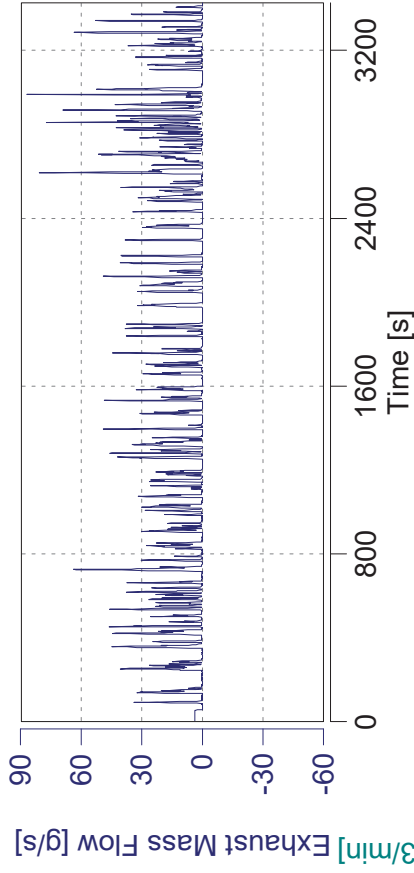
'City'

Start Date: 07/28/2018

Start Time: 18:26:28.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Exhaust Flow (2)

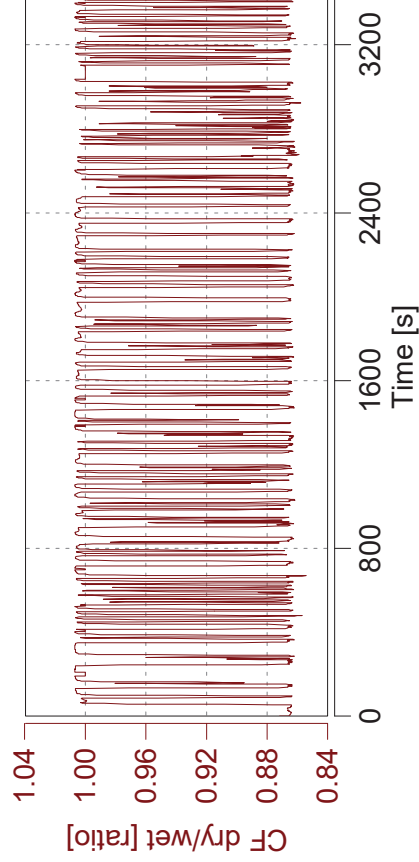
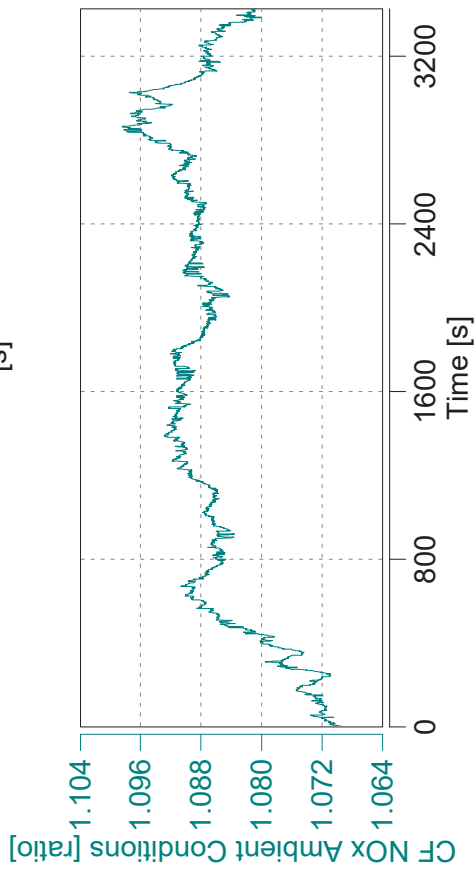
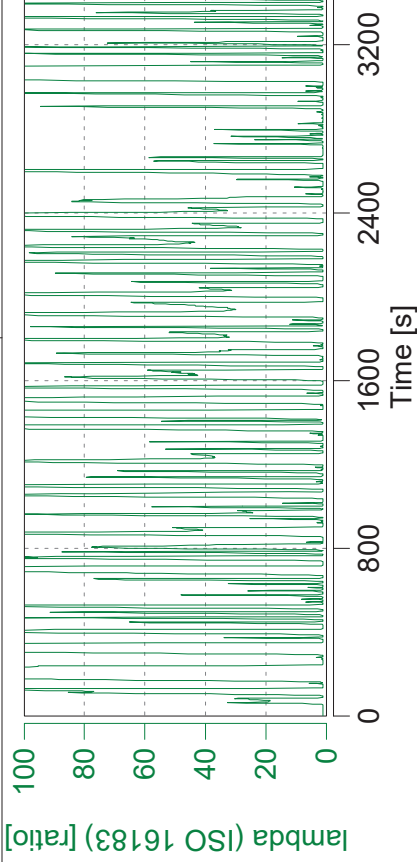
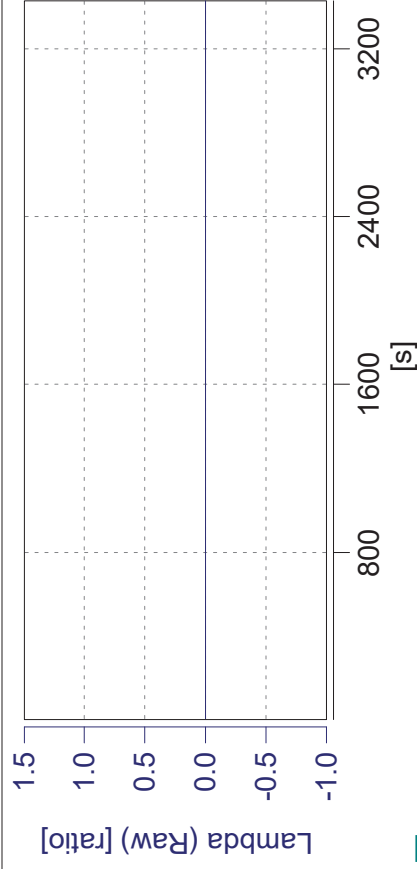
'City'

Start Date: 07/28/2018

Start Time: 18:26:28.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (1)

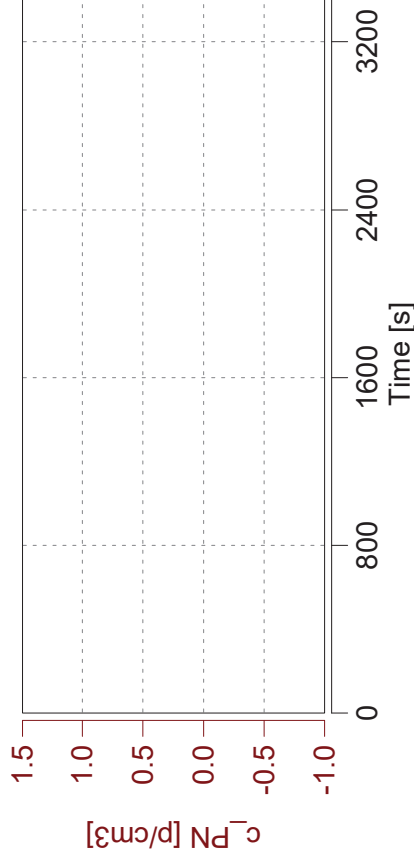
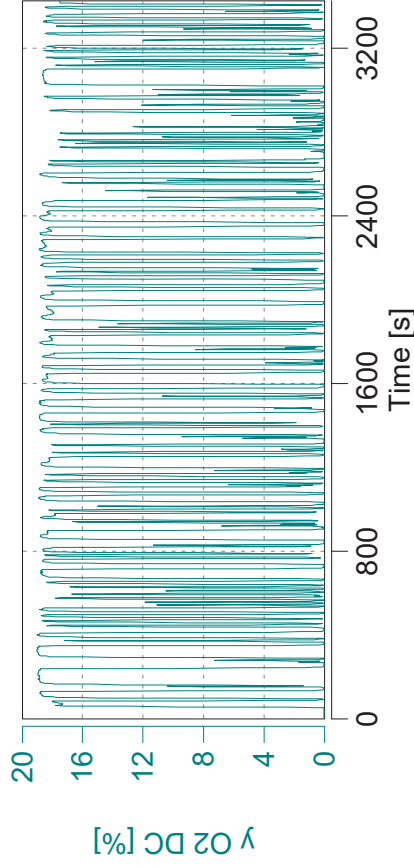
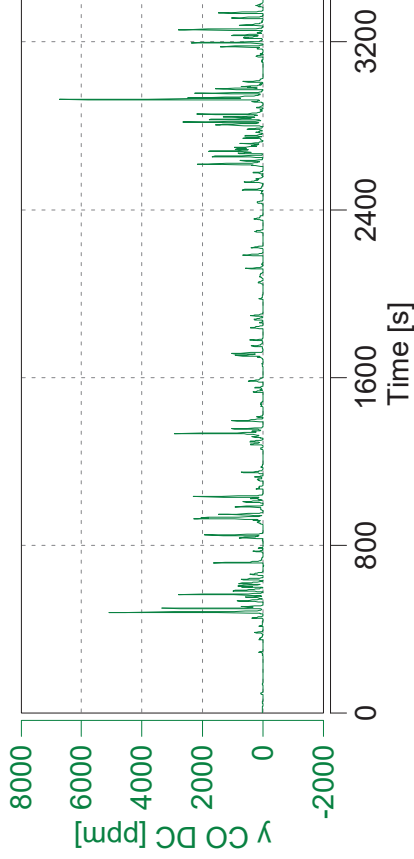
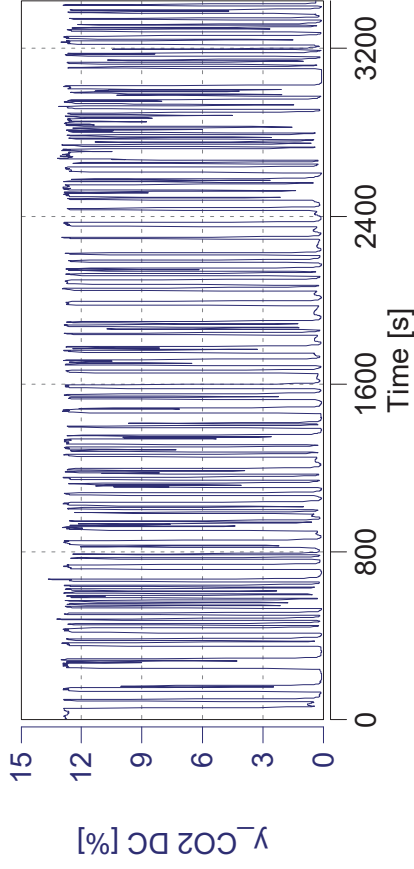
'City'

Start Date: 07/28/2018

Start Time: 18:26:28.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: A3 E-Tron / 1.4L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (2)

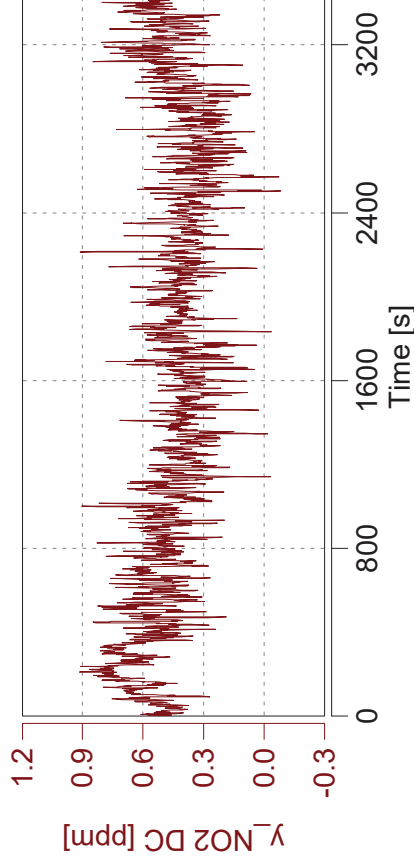
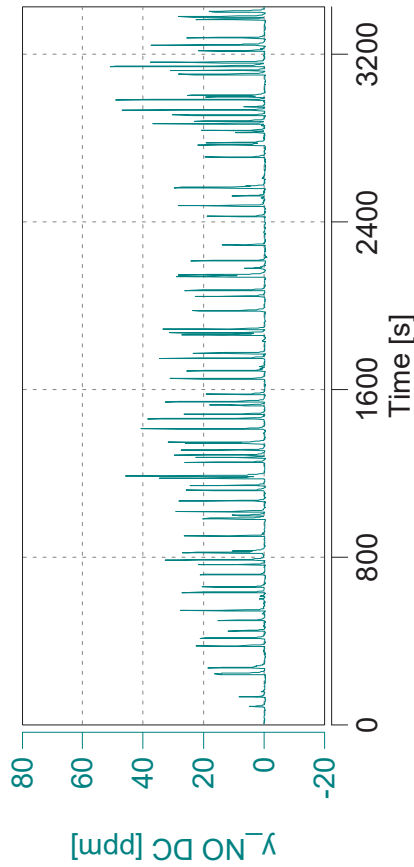
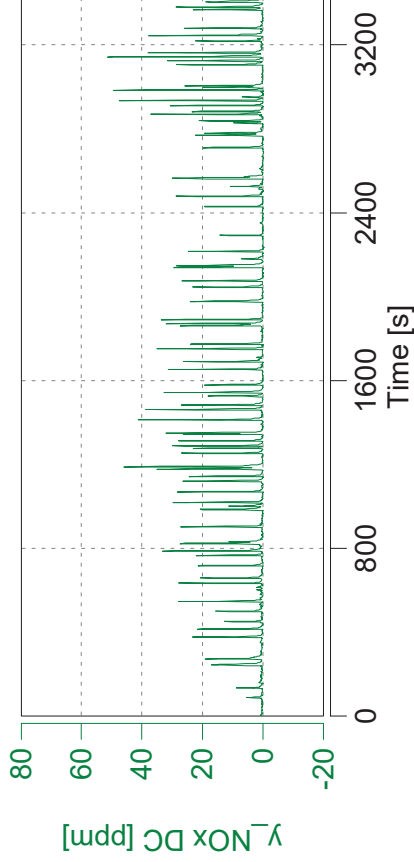
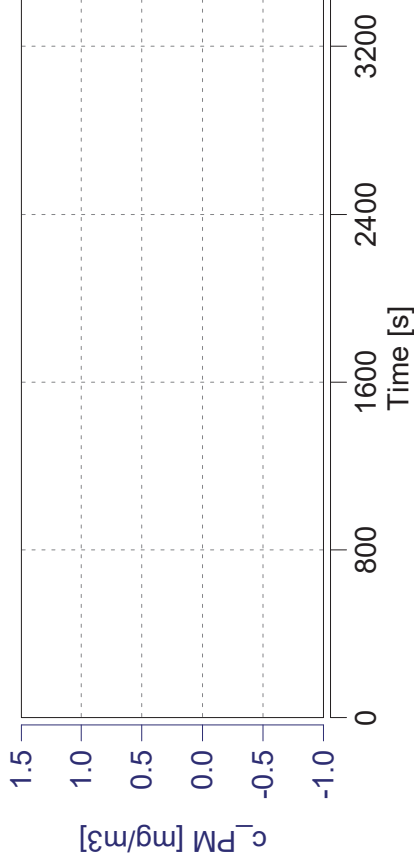
'City'

Start Date: 07/28/2018

Start Time: 18:26:28.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: A3 E-Tron / 1.4L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (3)

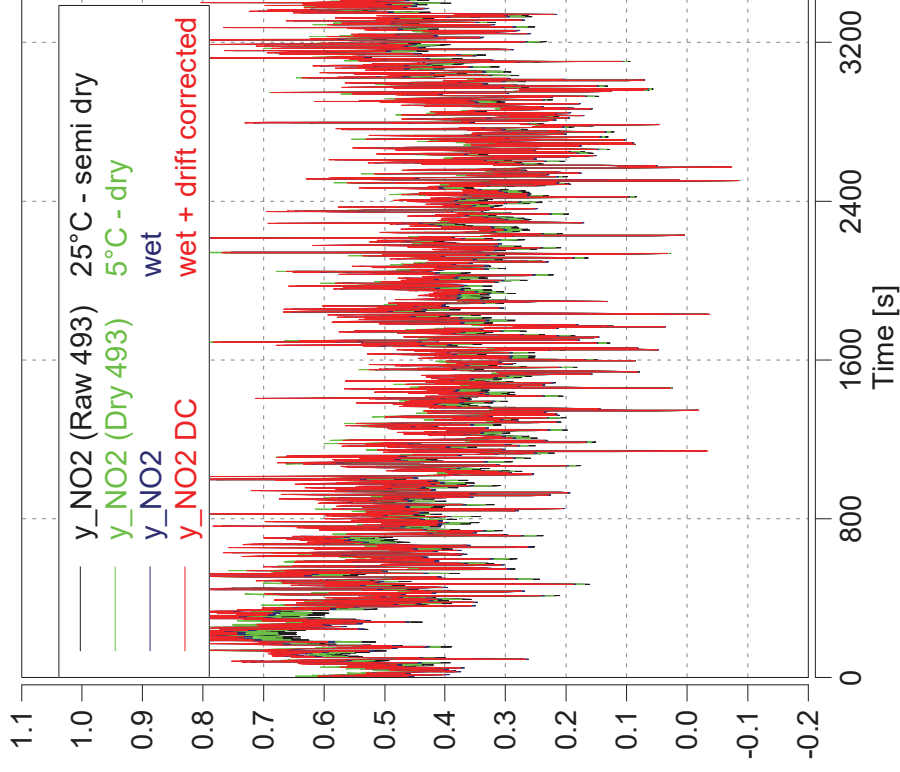
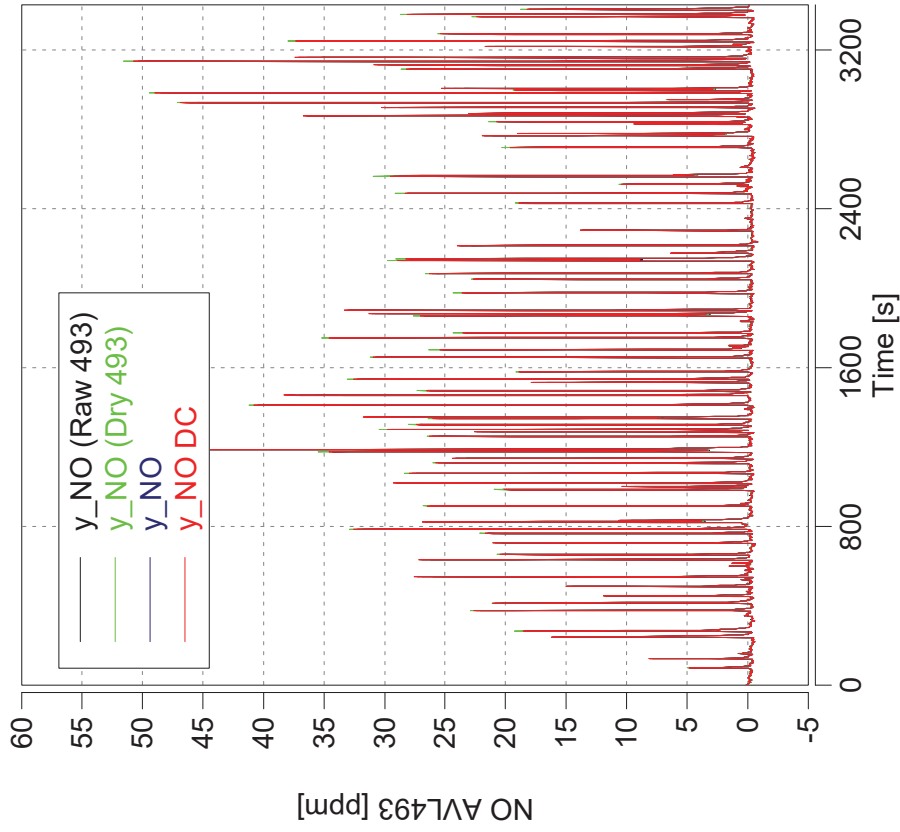
'City'

Start Date: 07/28/2018

Start Time: 18:26:28.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: A3 E-Tron / 1.4L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (4) NOx Corrections

NOx - AVL 493

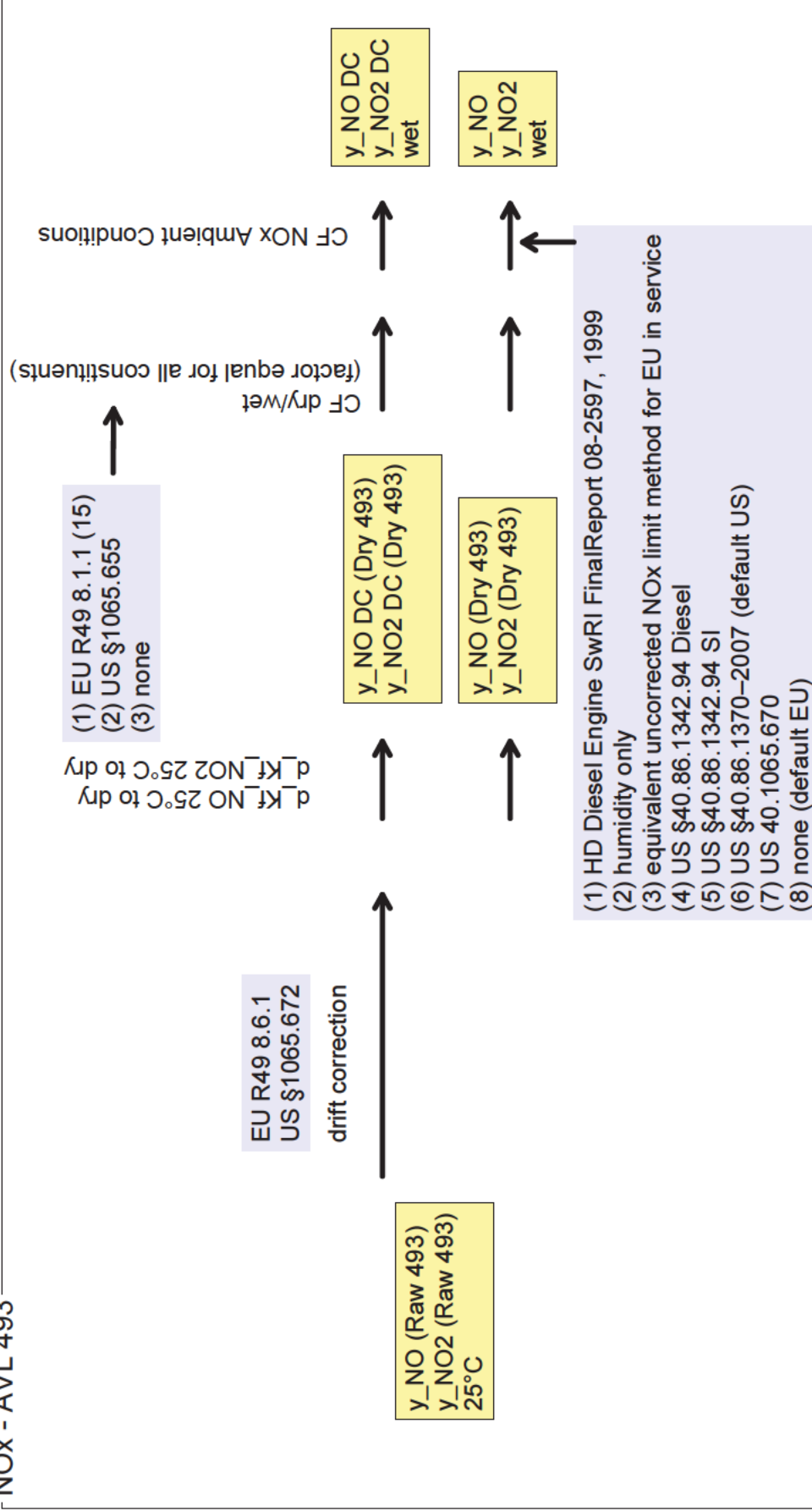
'City'

Start Date: 07/28/2018

Start Time: 18:26:28.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: / Vehicle: A3 E-Tron / 1.4L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (5)

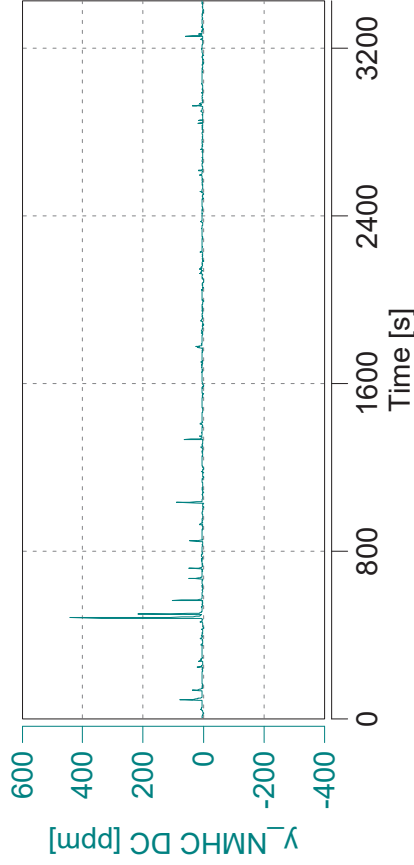
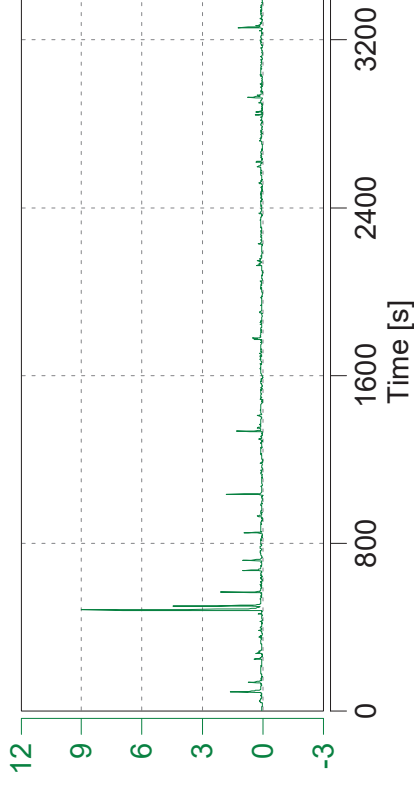
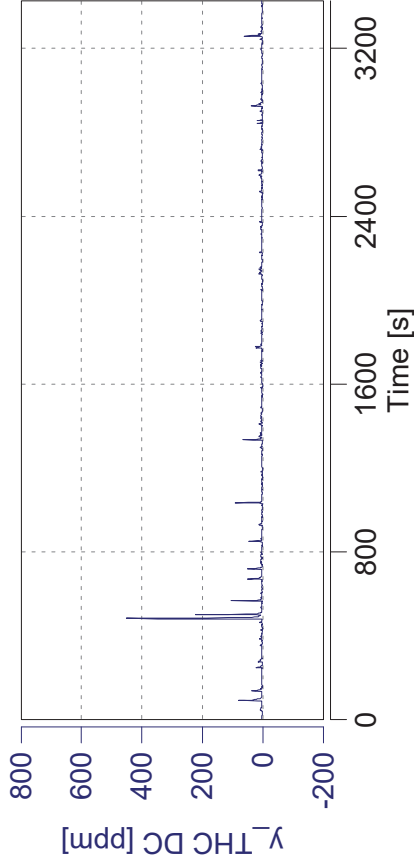
'City'

Start Date: 07/28/2018

Start Time: 18:26:28.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: A3 E-Tron / 1.4L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: NO/NO2/NOx Zero - Span

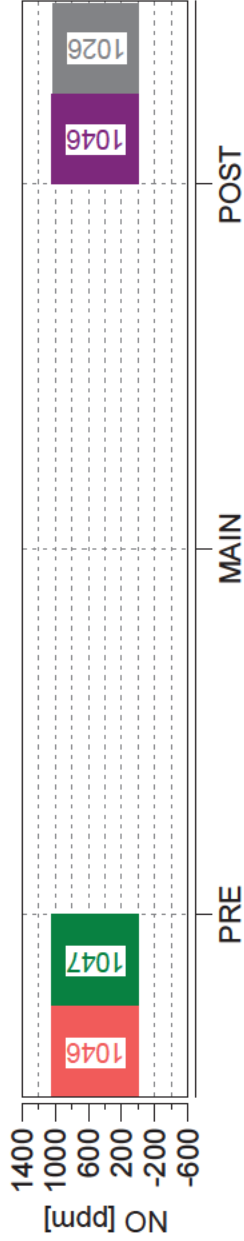
'City'

Start Date: 07/28/2018

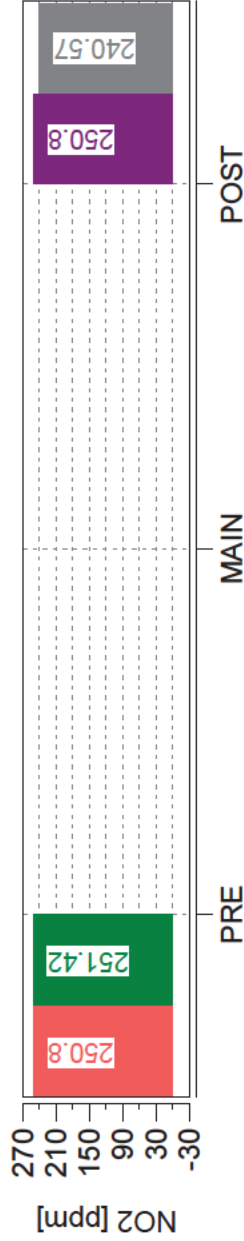
Start Time: 18:26:28.0



Concerto M.O.V.E., 2018



GP_NO_Cal_gas_value
GP_NO_Adjust_Actual
GP_NO_Reference
GP_NO_Audit_Actual



GP_NO2_Cal_gas_value
GP_NO2_Adjust_Actual
GP_NO2_Reference
GP_NO2_Audit_Actual

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: CO/CO2 Zero - Span

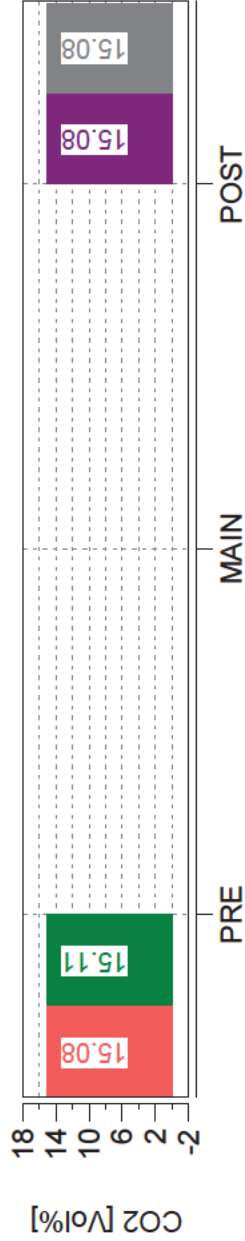
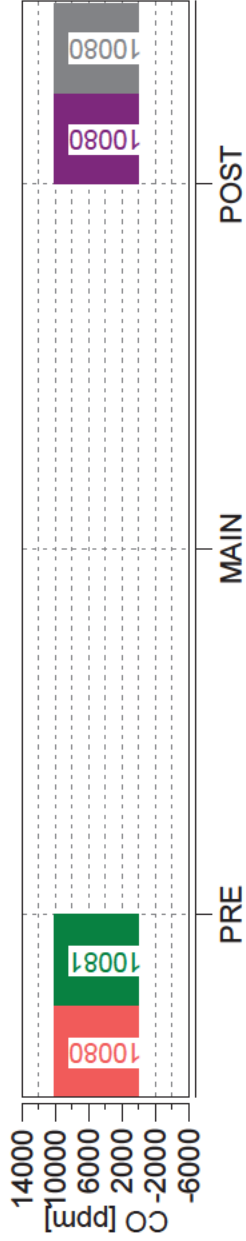
'City'

Start Date: 07/28/2018

Start Time: 18:26:28.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: A3 E-Tron / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: THC/CH4 Zero - Span

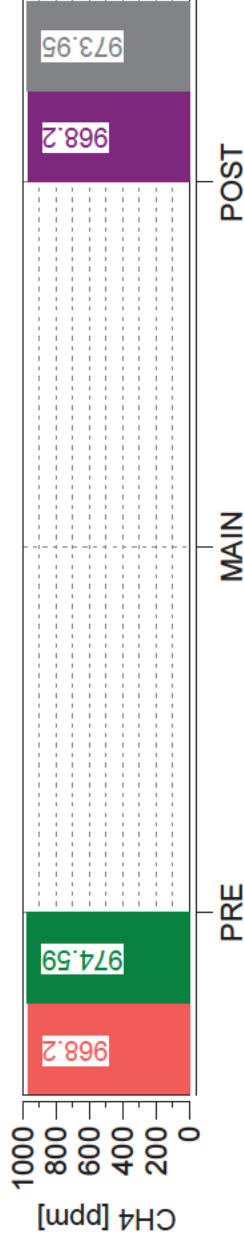
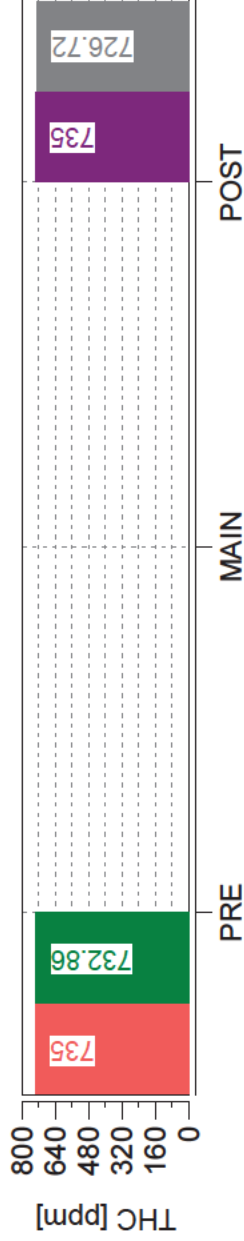
'City'

Start Date: 07/28/2018

Start Time: 18:26:28.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: A3 E-Tron / 1.4L

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway
Page: Trip Summary

'Highway'
Start Date: 07/31/2018
Start Time: 14:11:25.0



Trip Duration	2669.00	s	ave THC	2.90851	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	2669.00	s	ave NMHC	2.85034	ppm	BS CO	n/a	g/hphr
Trip Distance	38.53	mi	ave CH4	0.05817	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	38.53	mi	ave CO	800.71910	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	12.50080	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOX	1.49427	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	4.66	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	4.60	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.65	gall	tot THC	0.14418	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.63	gall	tot NMHC	0.13337	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00320	g	DS CO2	361.09445	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	64.26173	g	DS CO	1.66786	g/mi
Trip Fuel Economy EU (ac)	23.40	mpg_US	tot CO2	13912.78470	g	DS THC	0.00374	g/mi
Trip Fuel Economy US (ac)	23.71	mpg_US	tot NO (d)	0.18200	g	DS NMHC	0.00346	g/mi
Trip Av. Eng. Speed	1830.66	rpm	tot NO2	-0.01800	g	DS CH4	0.00008	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.16400	g	DS NO (d)	0.00472	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	-0.00047	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.00426	g/mi
Trip Exhaust Mass	72.96	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	81.91	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	52.69	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	51.96934	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	4.38366	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /
Vehicle: Tiguan LTD / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Trip Summary Drift Corrected

'Highway'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018

Trip Duration	2669.00	s	ave THC DC	3.09926	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	2669.00	s	ave NMHC DC	3.03728	ppm	BS CO DC	n/a	g/hphr
Trip Distance	38.53	mi	ave CH4 DC	0.06199	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	38.53	mi	ave CO DC	801.51289	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	12.48425	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	1.49093	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	4.66	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	4.60	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.65	gall	tot THC DC	0.15045	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.63	gall	tot NMHC DC	0.13917	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.00333	g	DS CO2 DC	360.61617	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	64.32673	g	DS CO DC	1.66955	g/mi
Trip Fuel Economy EU (ac)	23.40	mpg_US	tot CO2 DC	13894.35717	g	DS THC DC	0.00390	g/mi
Trip Fuel Economy US (ac)	23.71	mpg_US	tot NO DC (d)	0.18353	g	DS NMHC DC	0.00361	g/mi
Trip Av. Eng. Speed	1830.66	rpm	tot NO2 DC	-0.01961	g	DS CH4 DC	0.00009	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.16392	g	DS NO DC (d)	0.00476	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	-0.00051	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.00425	g/mi
Trip Exhaust Mass	72.96	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	81.91	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	52.69	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	51.96934	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	4.38366	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Time Alignment Check

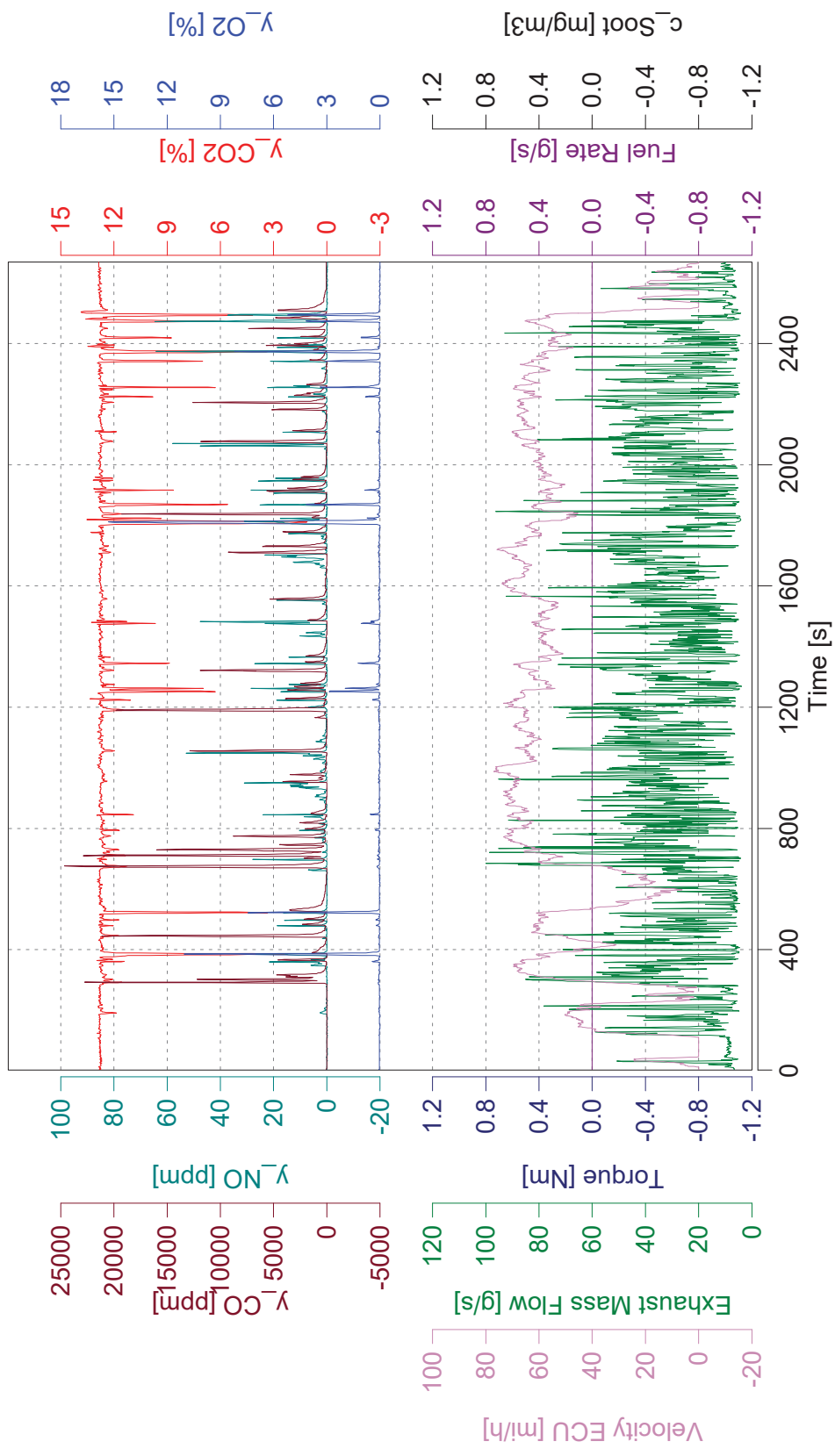
'Highway'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Time Alignment of Gas Concentrations

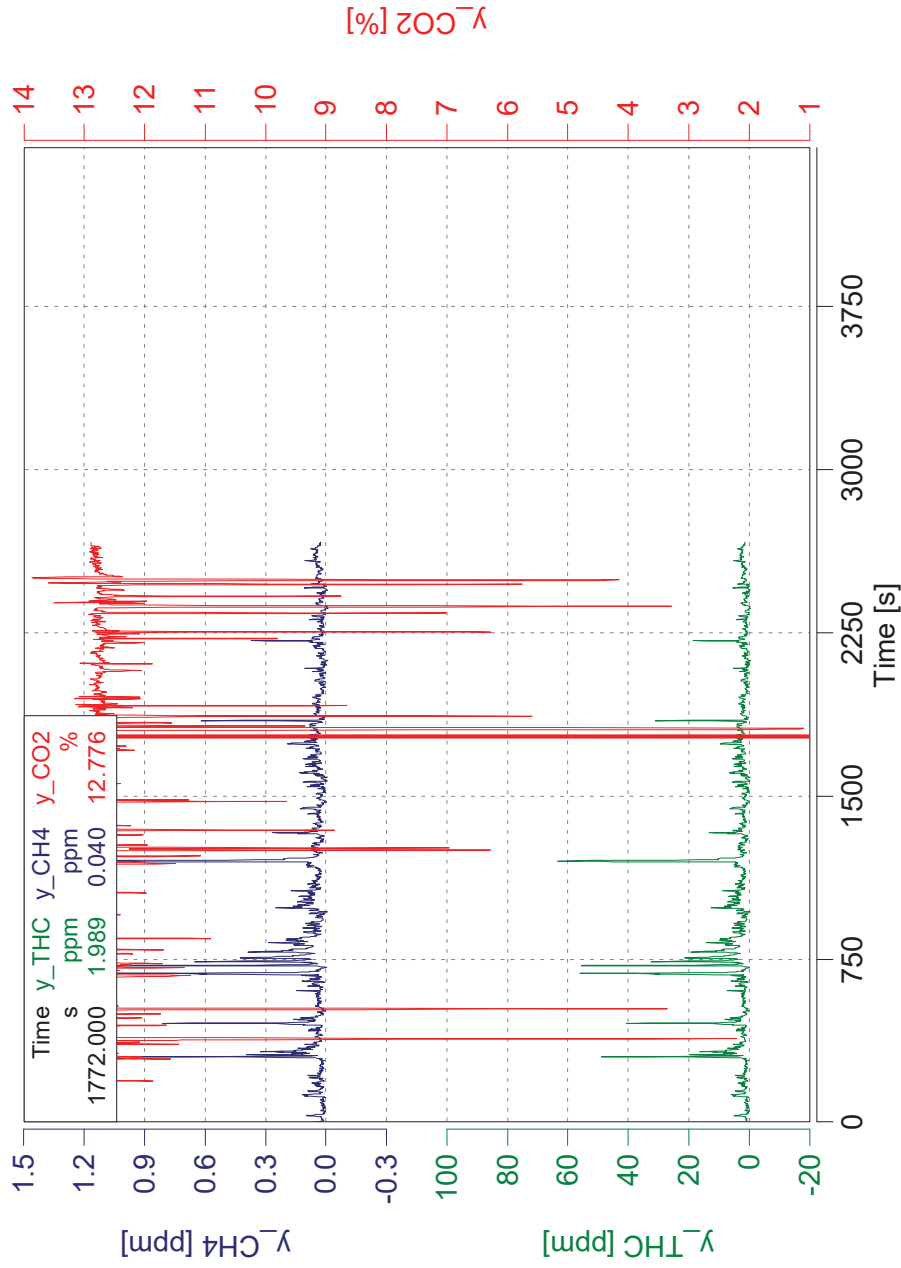
'Highway'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

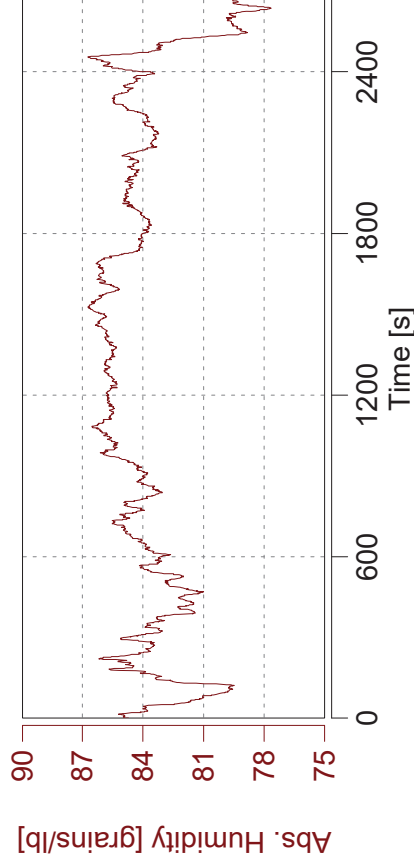
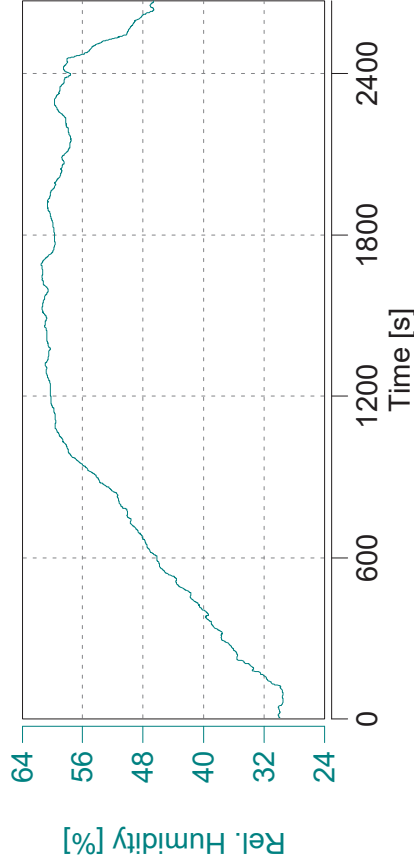
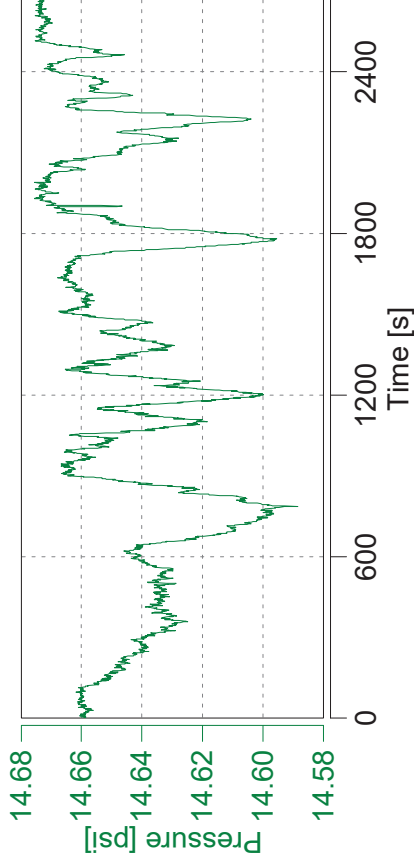
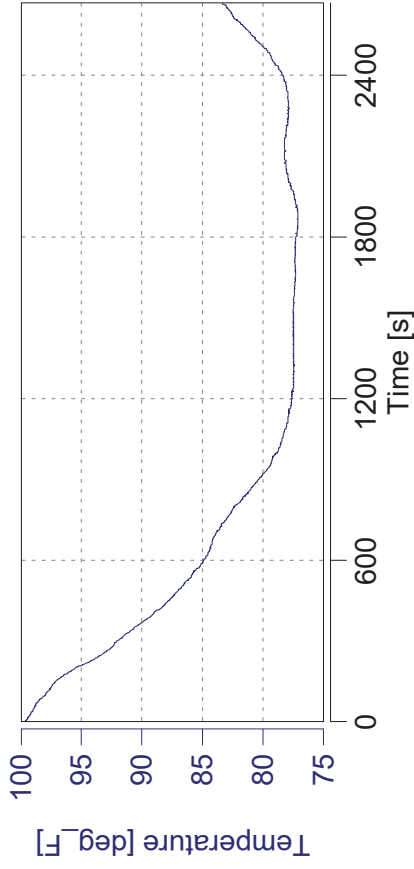
Case: Highway

Page: Ambient Conditions

'Highway'
Start Date: 07/31/2018
Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan LTD / 2.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: GPS

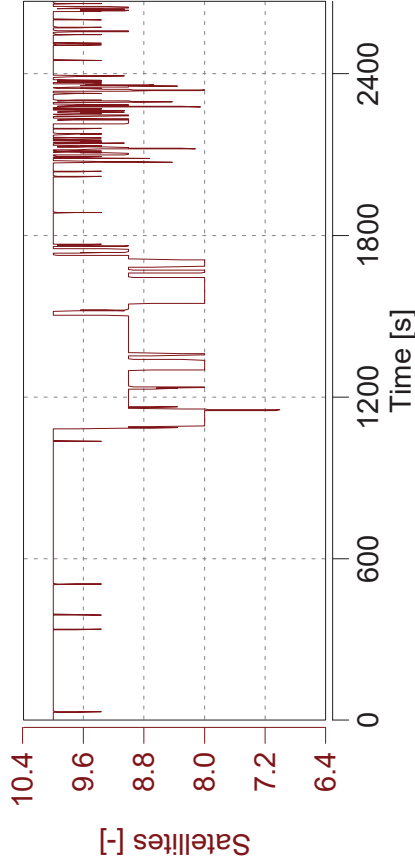
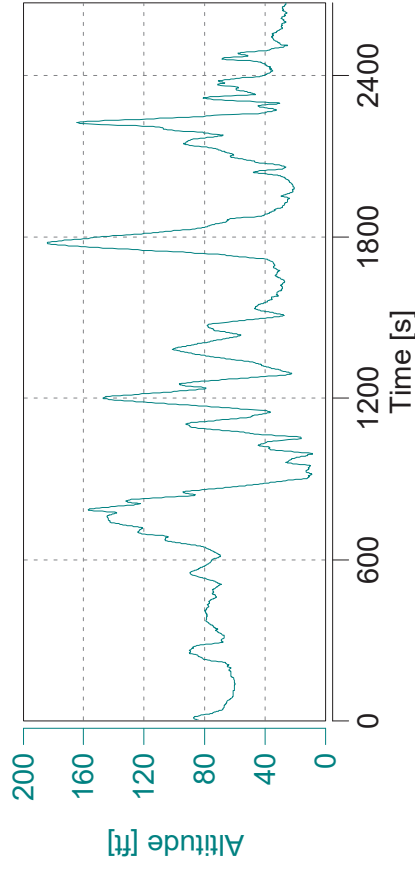
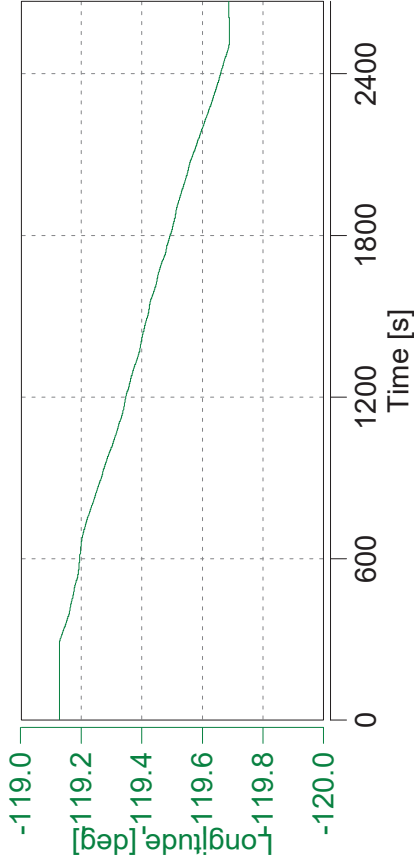
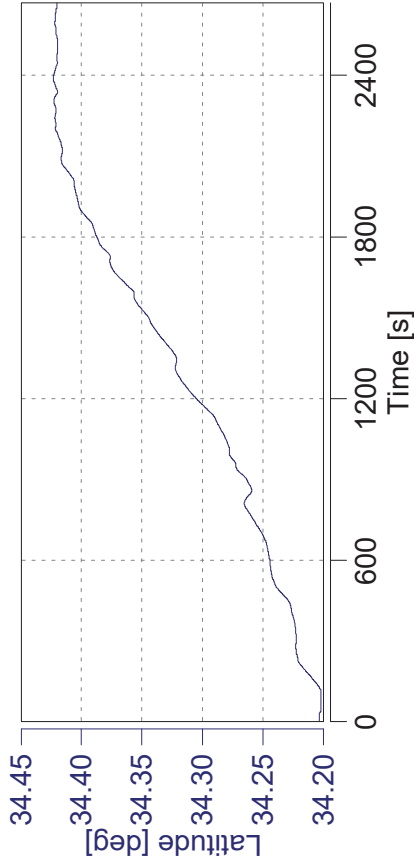
'Highway'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan LTD / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (1)

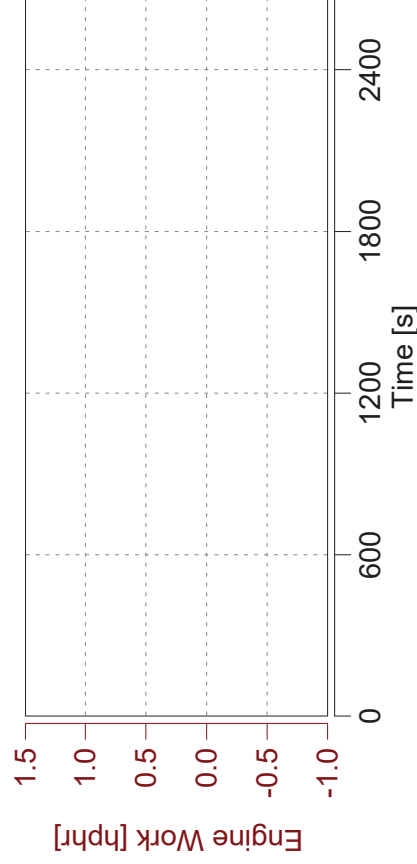
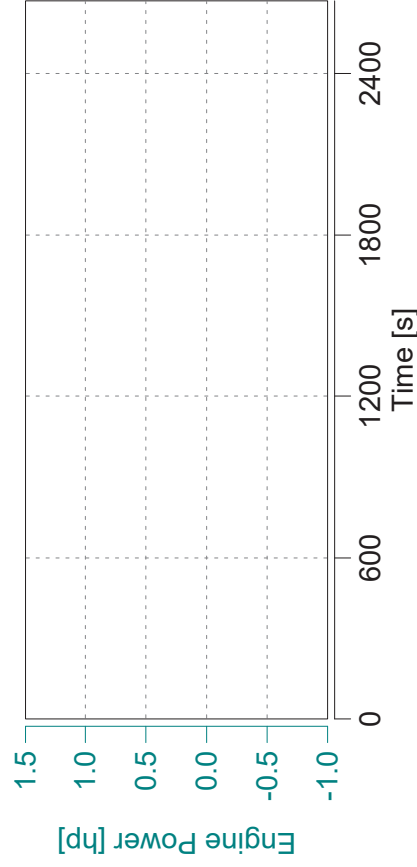
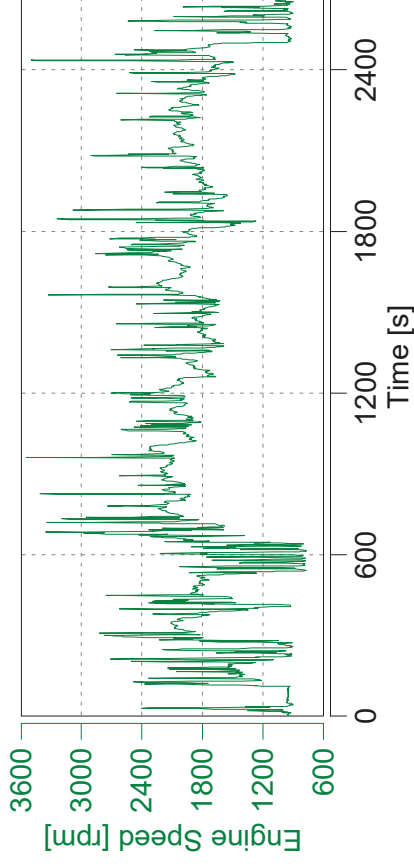
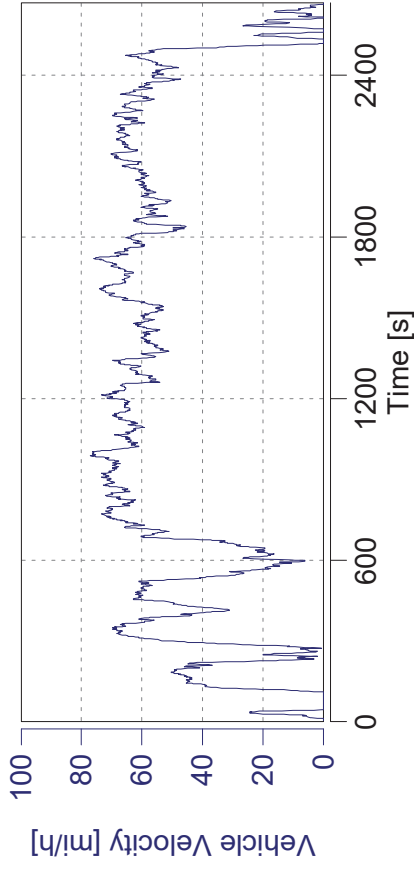
'Highway'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (2)

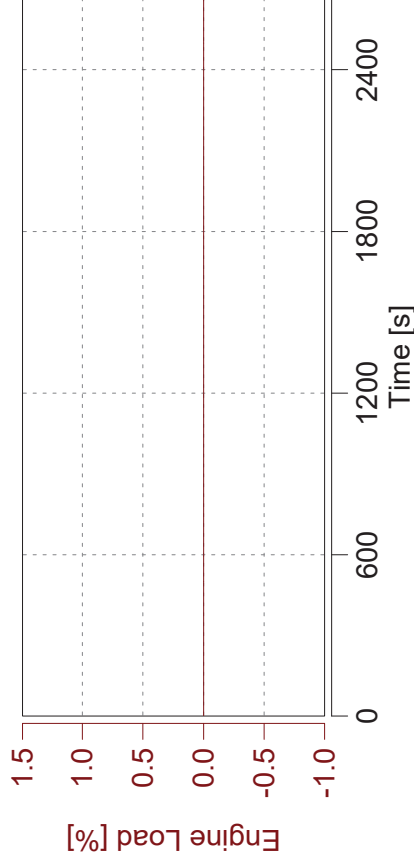
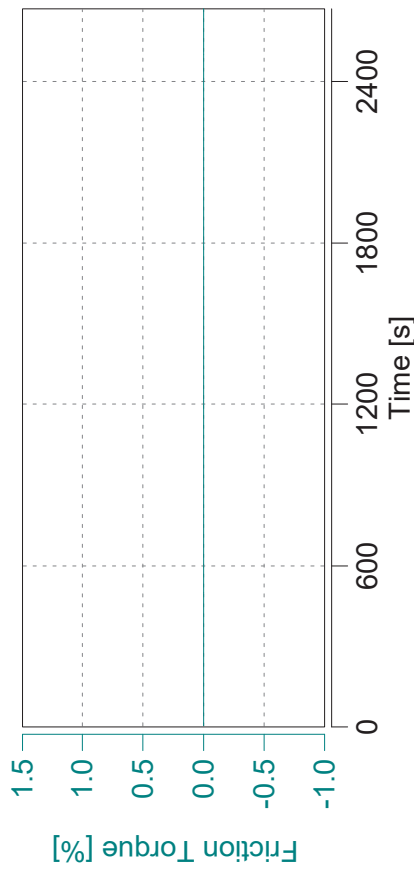
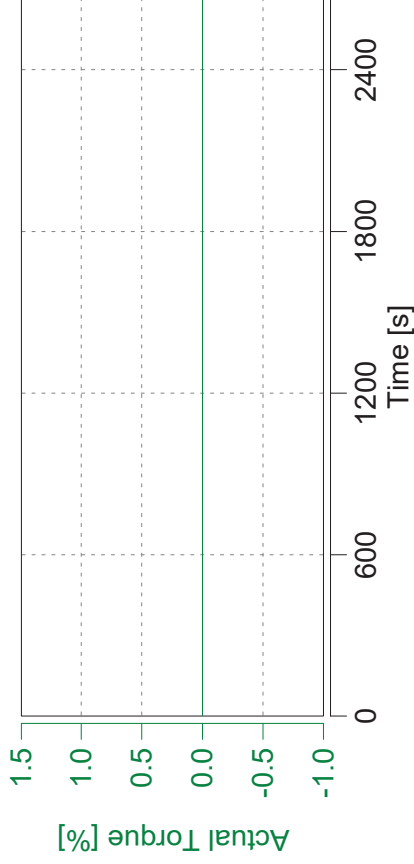
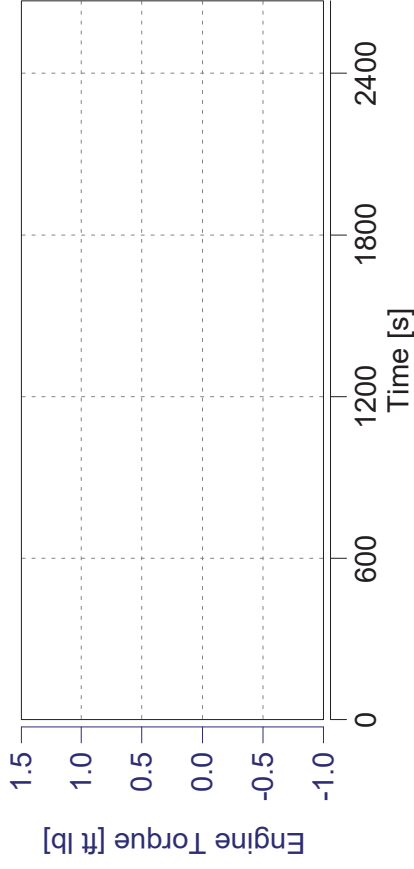
'Highway'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Engine: /
Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (3)

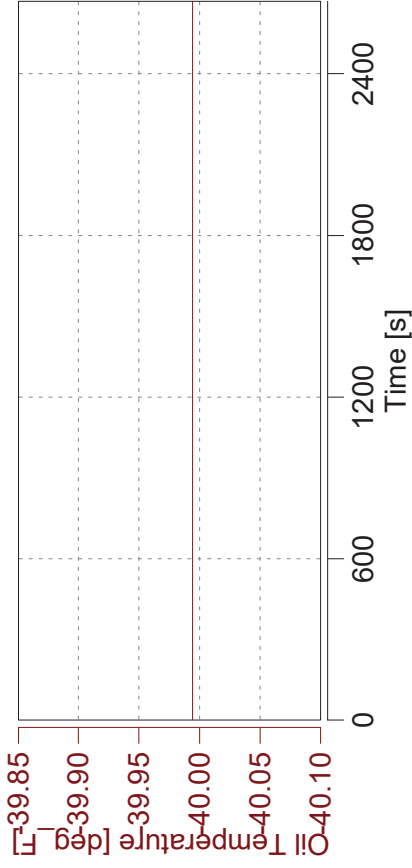
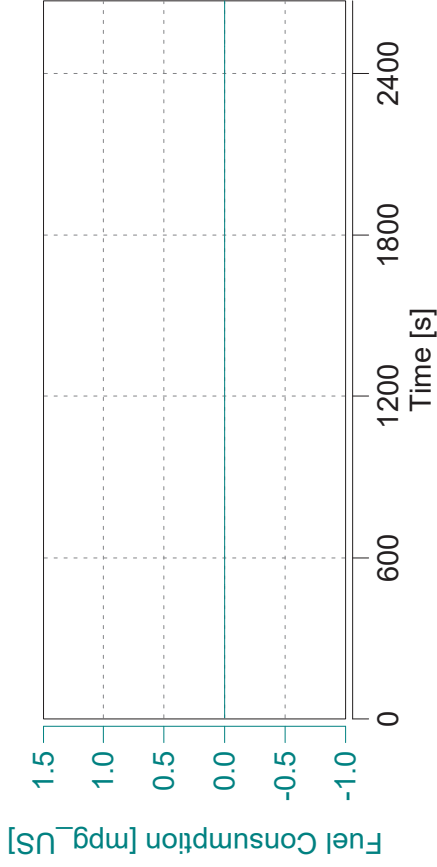
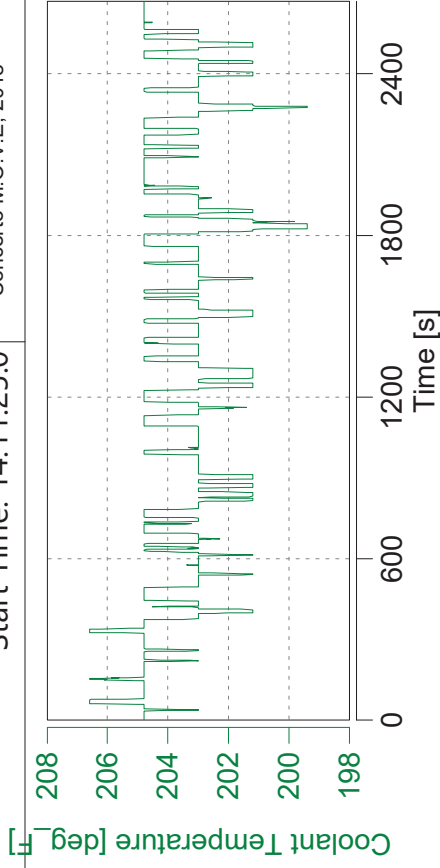
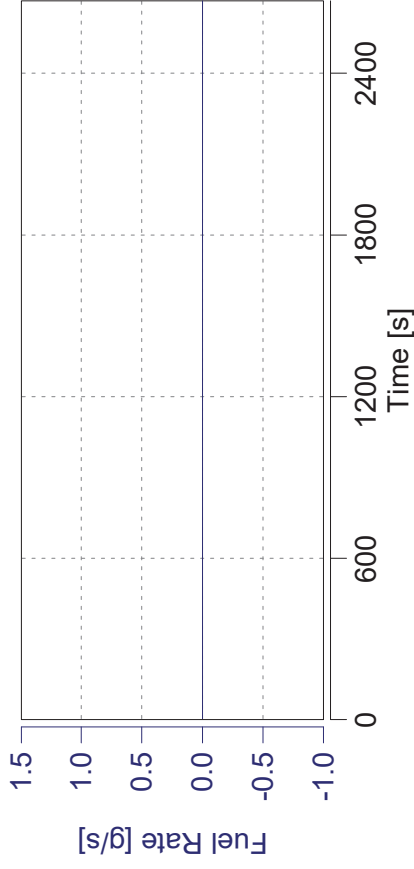
'Highway'

Start Date: 07/31/2018

Start Time: 14:11:25.0

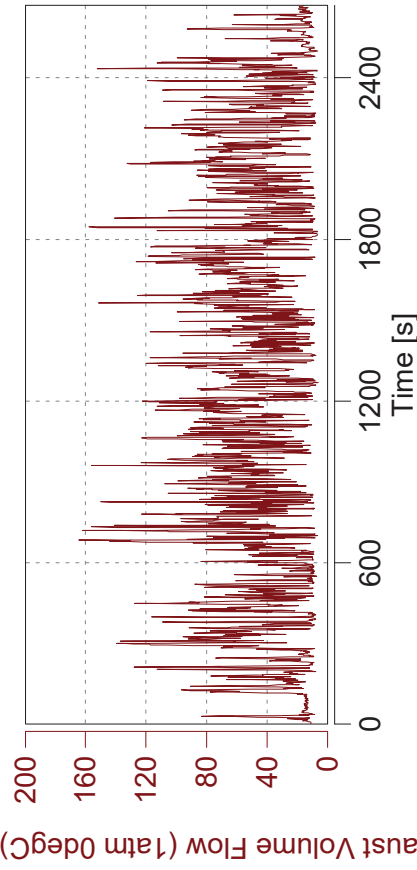
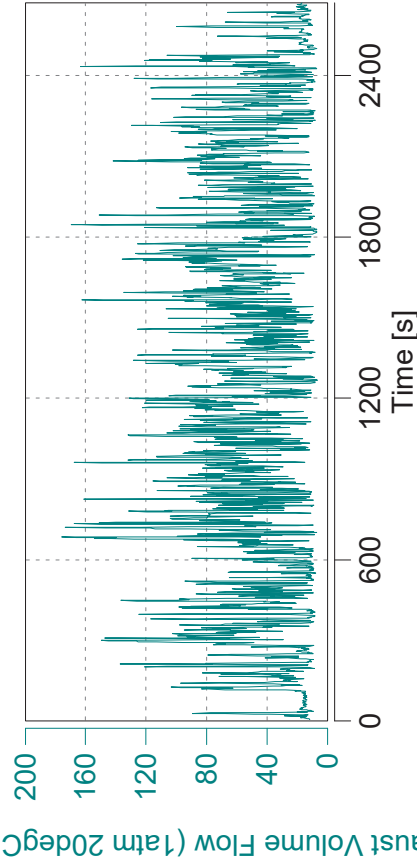
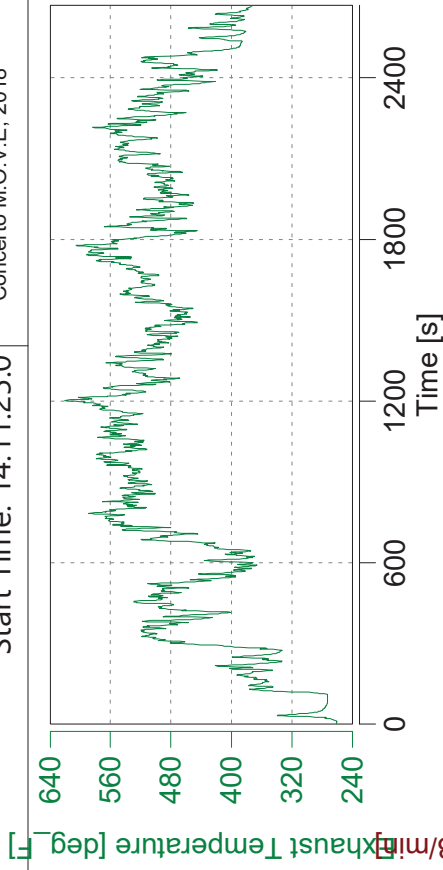
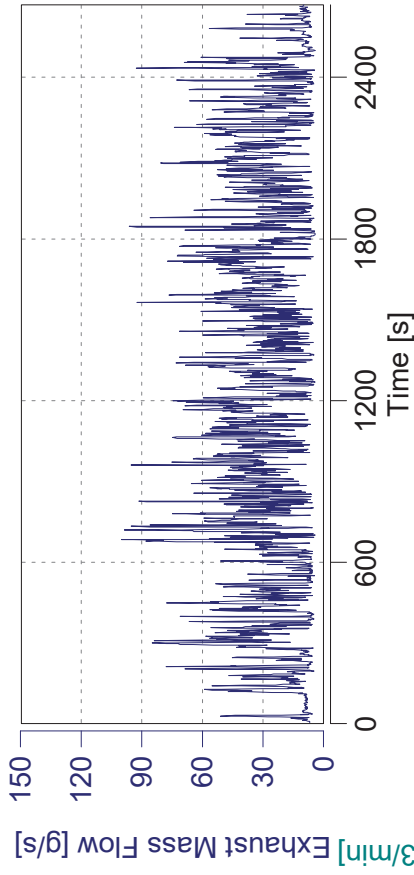


Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316(CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Engine: /
Vehicle: Tiguan LTD / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

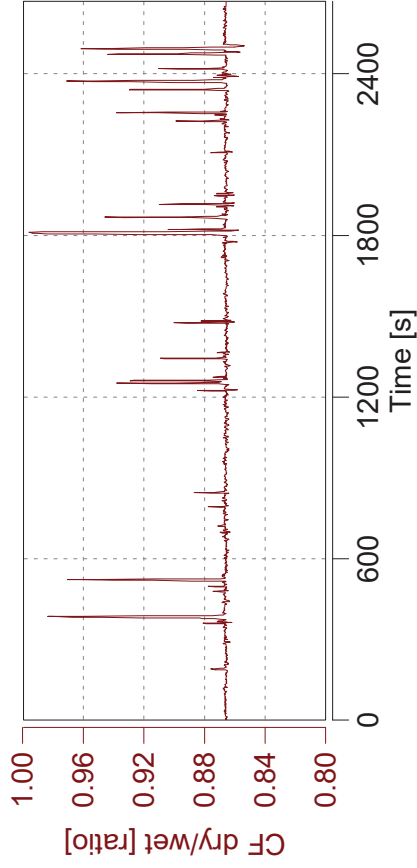
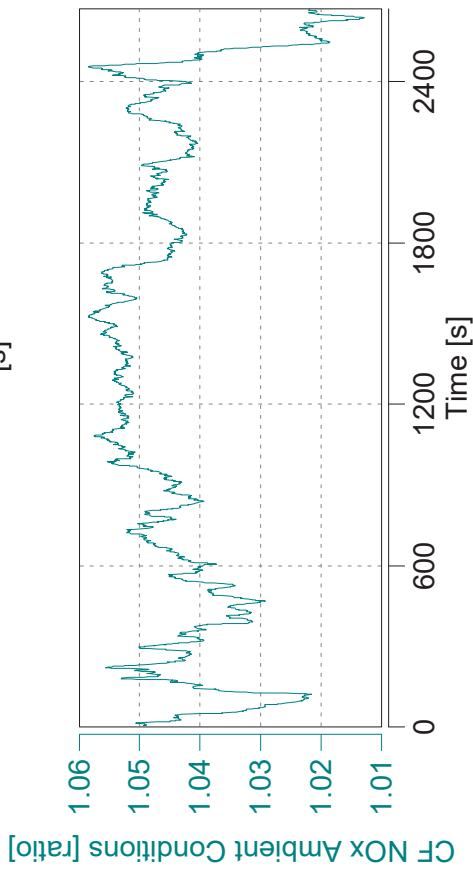
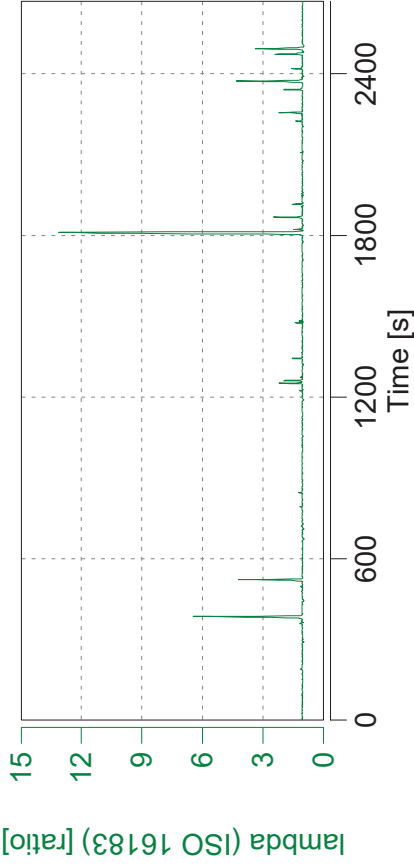
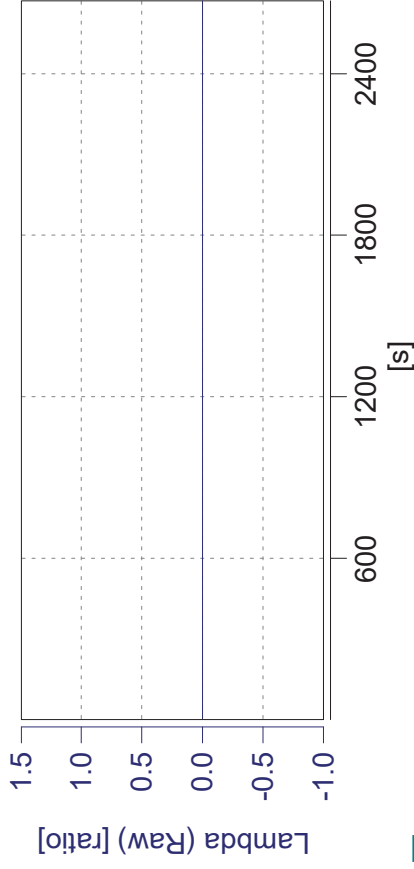


Concerto Version: 480 Build 316, Serial Number: 1120
 M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan LTD / 2.0L
 Engine: /
 NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway
Page: Exhaust Flow (2)

'Highway'
Start Date: 07/31/2018
Start Time: 14:11:25.0



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan LTD / 2.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (1)

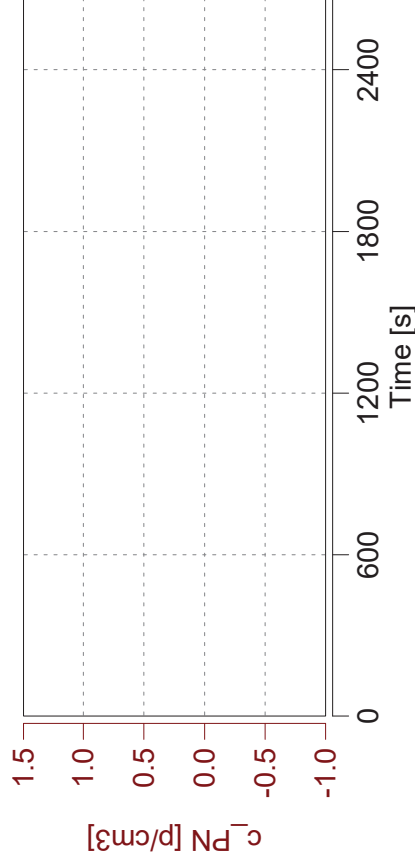
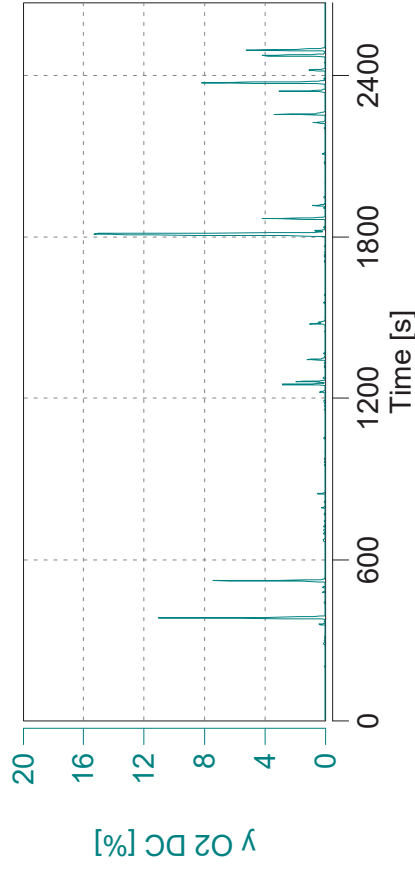
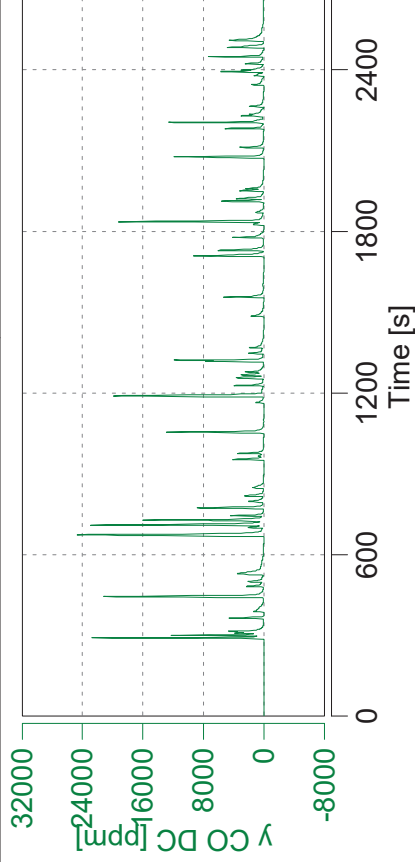
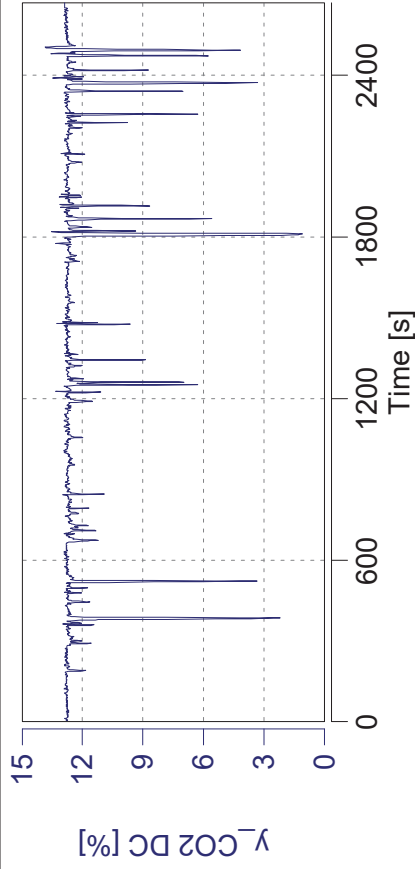
'Highway'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (2)

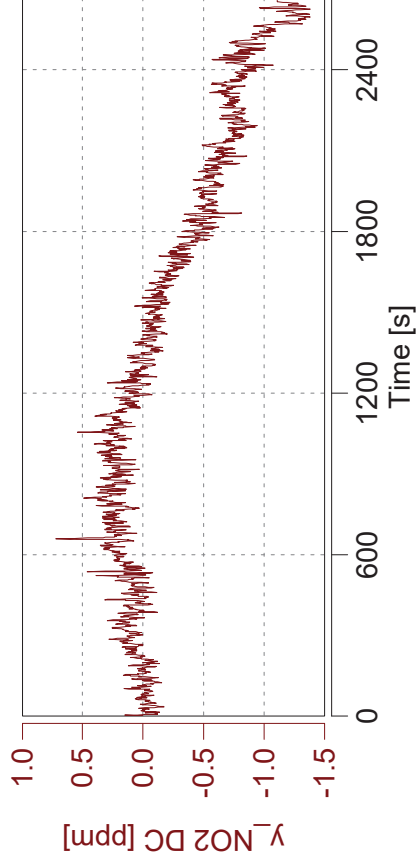
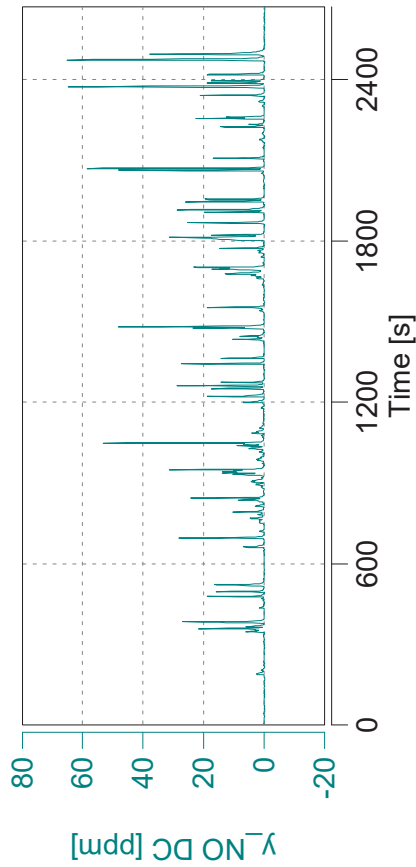
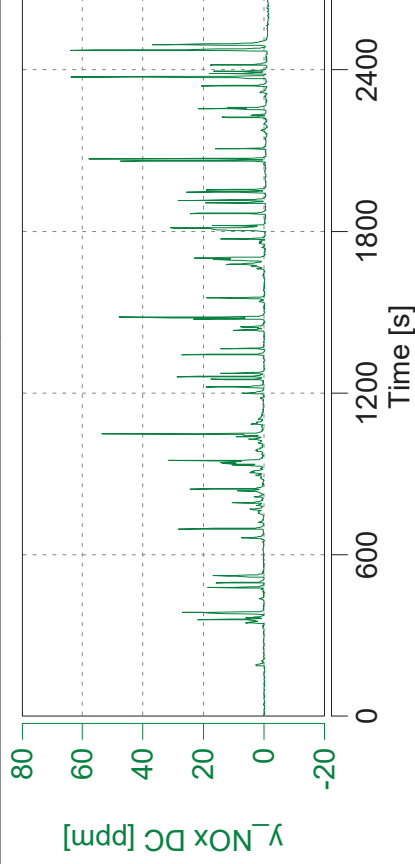
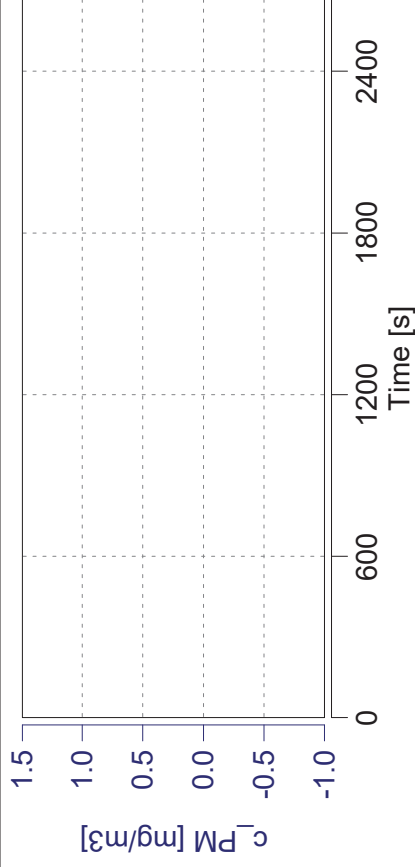
'Highway'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (3)

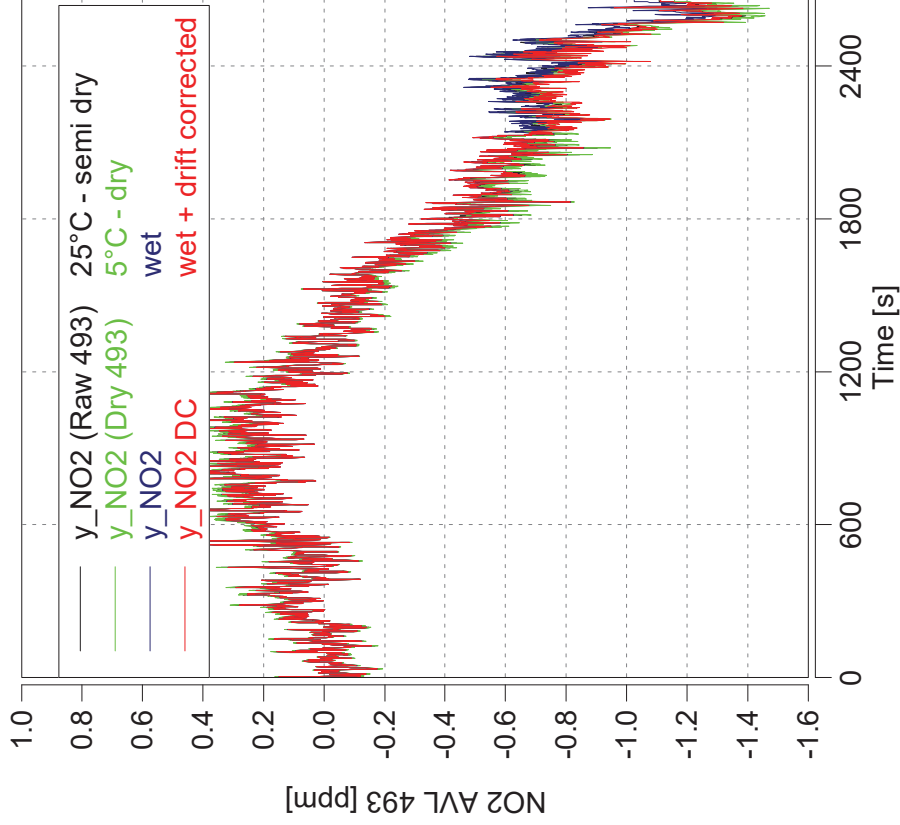
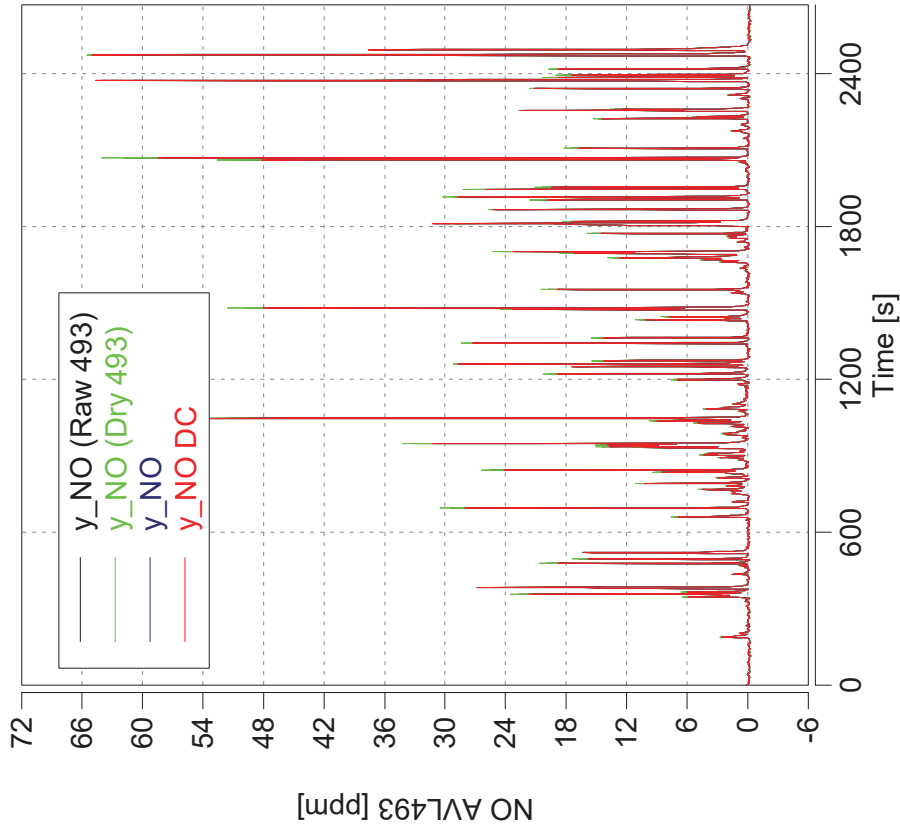
'Highway'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan LTD / 2.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (4) NOx Corrections

'Highway'

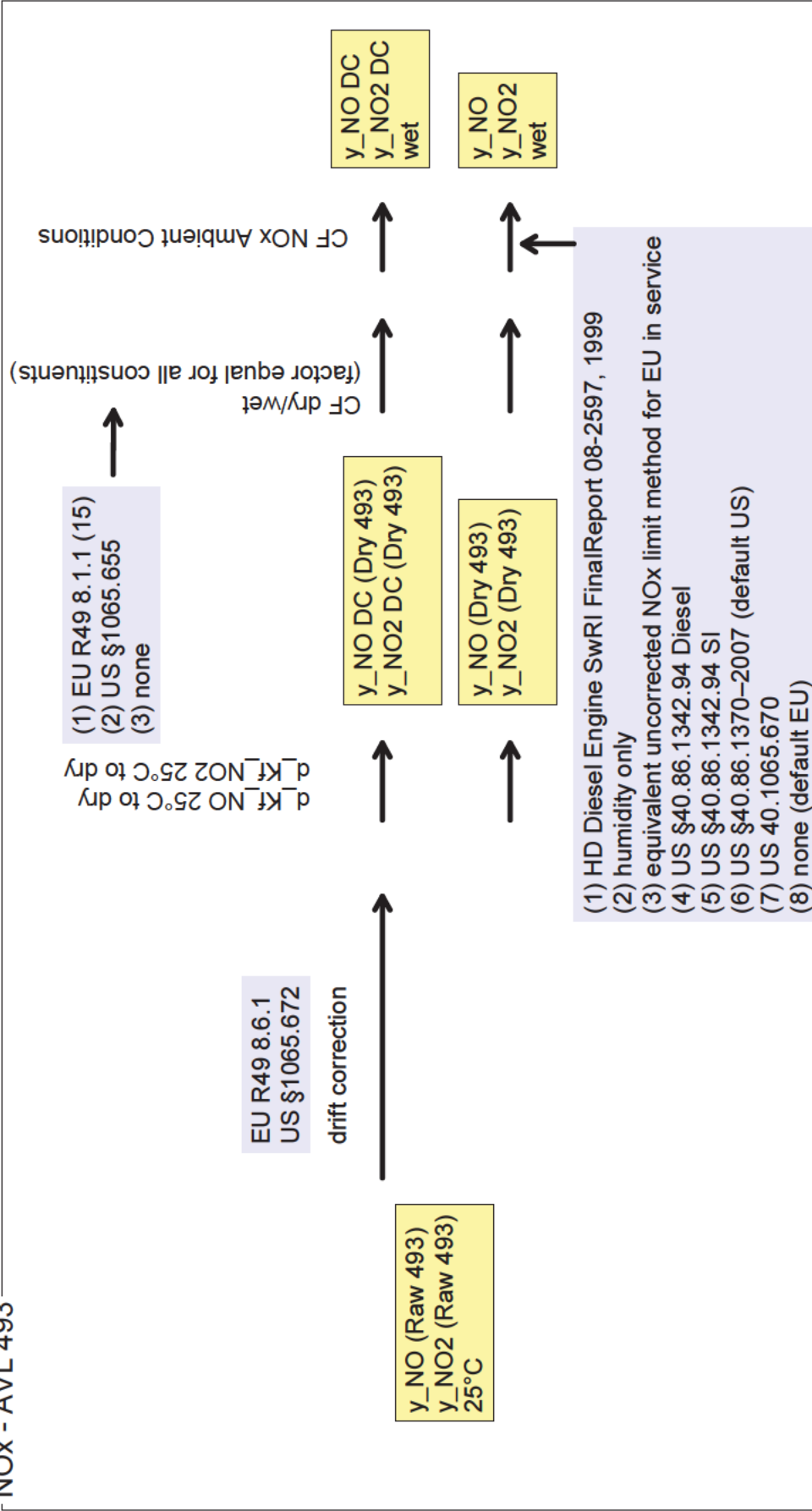
Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018

NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine /

Vehicle: Tiguan LTD / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

- (1) HD Diesel Engine SwRI FinalReport 08-2597, 1999
- (2) humidity only
- (3) equivalent uncorrected NOx limit method for EU in service
- (4) US §40.86.1342.94 Diesel
- (5) US §40.86.1342.94 SI
- (6) US §40.86.1370-2007 (default US)
- (7) US 40.1065.670
- (8) none (default EU)

Case: Highway

Page: Corrected Emissions (5)

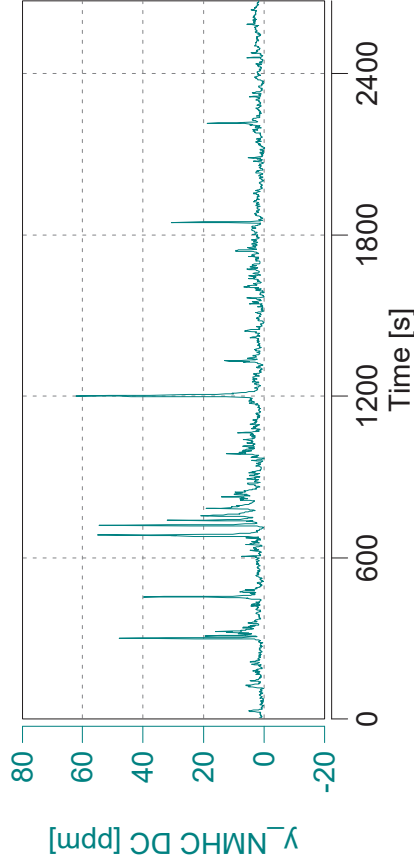
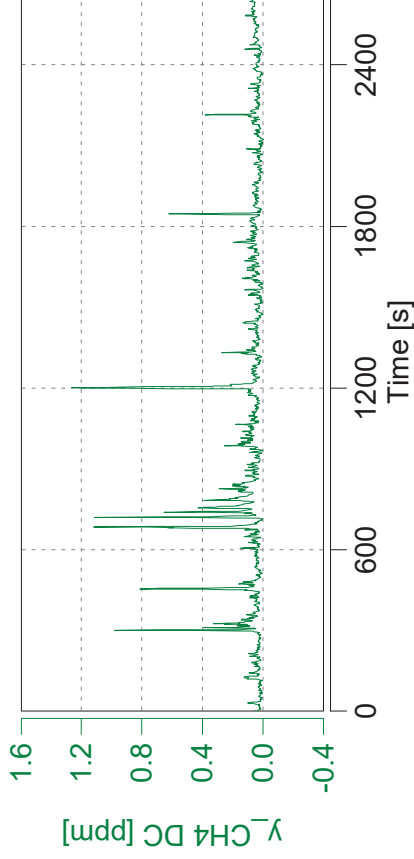
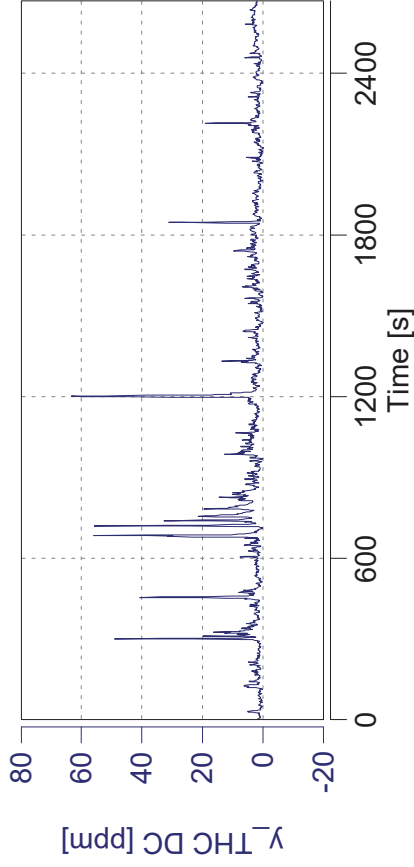
'Highway'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Engine: /
Vehicle: Tiguan LTD / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: NO/NO2/NOx Zero - Span

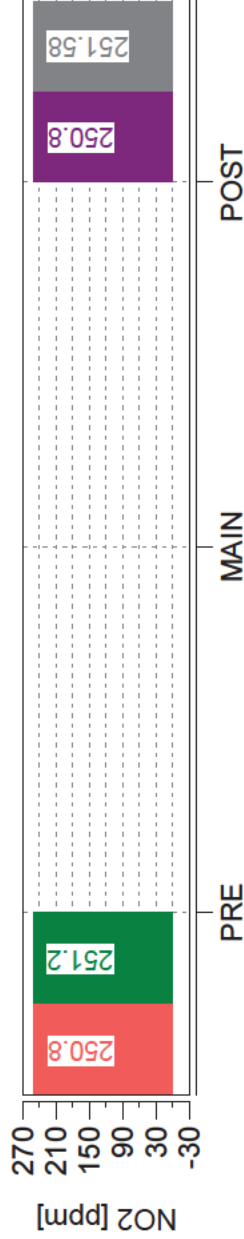
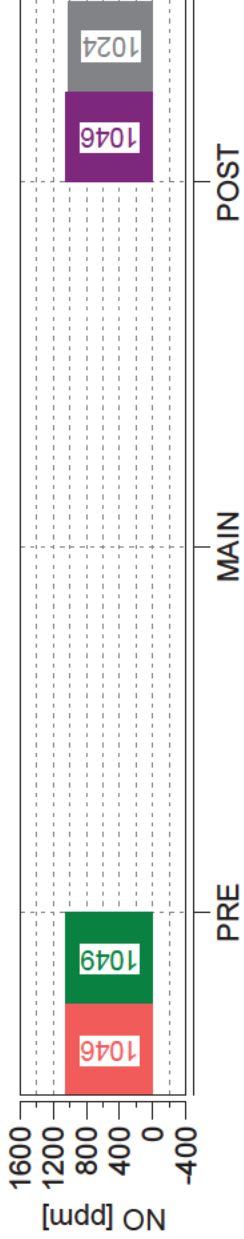
'Highway'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



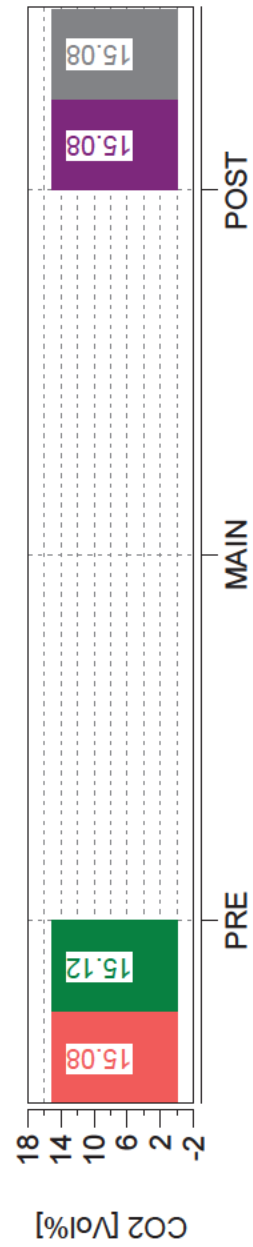
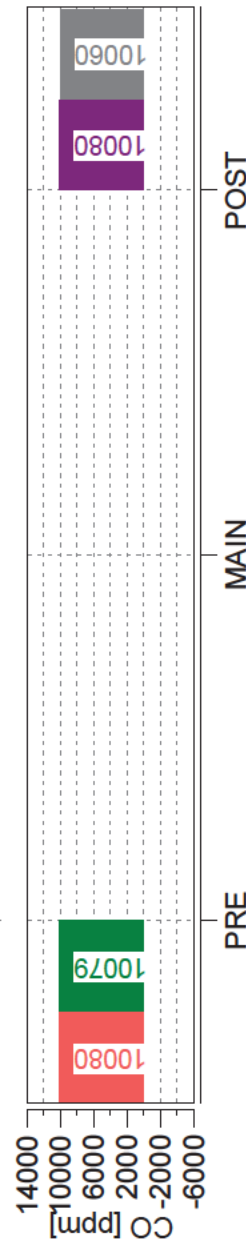
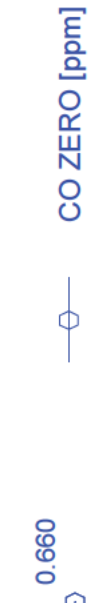
Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Concerto Version: 480 Build 316, Serial Number: 1120
 M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /
 Vehicle: Tiguan LTD / 2.0L
 NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: THC/CH4 Zero - Span

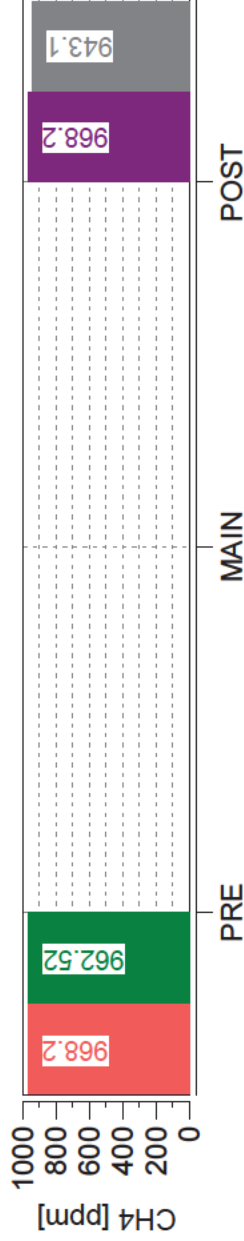
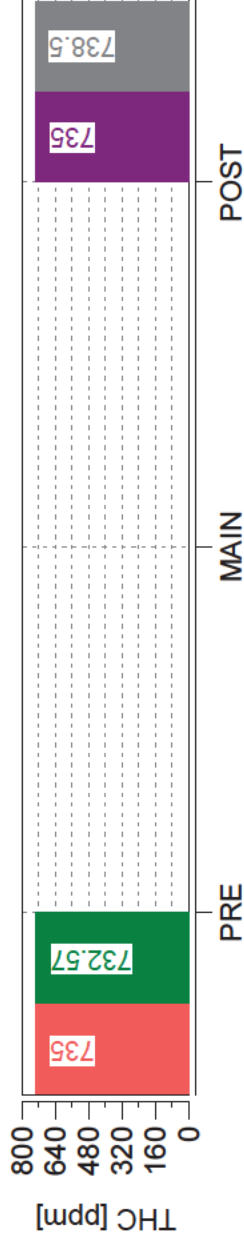
'Highway'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Trip Summary

'Mountain'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E. 2018

Trip Duration	3193.00	s	ave THC	12.15074	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	3193.00	s	ave NMHC	11.90773	ppm	BS CO	n/a	g/hphr
Trip Distance	28.62	mi	ave CH4	0.24301	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	28.62	mi	ave CO	1484.77992	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	12.13036	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx	1.64213	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	4.37	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	4.32	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.54	gall	tot THC	0.62431	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.53	gall	tot NMHC	0.57749	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.01384	g	DS CO2	449.77214	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	177.90496	g	DS CO	6.21581	g/mi
Trip Fuel Economy EU (ac)	18.55	mpg_US	tot CO2	12873.10107	g	DS THC	0.02181	g/mi
Trip Fuel Economy US (ac)	18.76	mpg_US	tot NO (d)	0.11823	g	DS NMHC	0.02018	g/mi
Trip Av. Eng. Speed	1662.32	rpm	tot NO2	0.00777	g	DS CH4	0.00048	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.12600	g	DS NO (d)	0.00413	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	0.00027	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.00440	g/mi
Trip Exhaust Mass	68.62	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	87.80	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	35.76	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	32.26965	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	12.46477	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Trip Summary Drift Corrected

'Mountain'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E. 2018

Trip Duration	3193.00	s	ave THC DC	12.24876	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	3193.00	s	ave NMHC DC	12.00378	ppm	BS CO DC	n/a	g/hphr
Trip Distance	28.62	mi	ave CH4 DC	0.24498	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	28.62	mi	ave CO DC	1486.35032	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	12.11429	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	1.65363	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	4.37	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	4.32	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave Soot meas	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.54	gall	ave PN DC	0.62748	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.53	gall	tot THC DC	0.58043	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot NMHC DC	0.01391	g	DS CO2 DC	449.17642	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CH4 DC	178.09313	g	DS CO DC	6.22238	g/mi
Trip Fuel Economy EU (ac)	18.55	mpg_US	tot CO DC	12856.05061	g	DS THC DC	0.02192	g/mi
Trip Fuel Economy US (ac)	18.76	mpg_US	tot CO2 DC	0.11922	g	DS NMHC DC	0.02028	g/mi
Trip Av. Eng. Speed	1662.32	rpm	tot NO DC (d)	0.00775	g	DS CH4 DC	0.00049	g/mi
Trip Av. Torque	n/a	lbft	tot NO2 DC	0.12697	g	DS NO DC (d)	0.00417	g/mi
Trip Av. Power	n/a	hp	tot NOx DC	n/a	g	DS NO2 DC	0.00027	g/mi
Trip Work	n/a	hphr	tot Soot	n/a	g	DS NOx DC	0.00444	g/mi
Trip Exhaust Mass	68.62	kg	tot Soot meas	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PM	n/a	g	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	tot PN DC	n/a	#	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	87.80	deg_F	PM measurement type	0.00000	-	DS PN DC	n/a	#/mi
Trip Av. Humidity	35.76	%	PM correction type	1.00000	alpha(HC)	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		tot Soot on PM filter (estim.)	n/a	mg	FS CO DC	n/a	g/kg
			Soot --> PM simple scaling factor	1.00000	-	FS THC DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS NMHC DC	n/a	g/kg
			Trip Av. Veh. Speed	32.26965	mi/hr	FS CH4 DC	n/a	g/kg
			Trip Velocity Zero	12.46477	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NOx DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Time Alignment Check

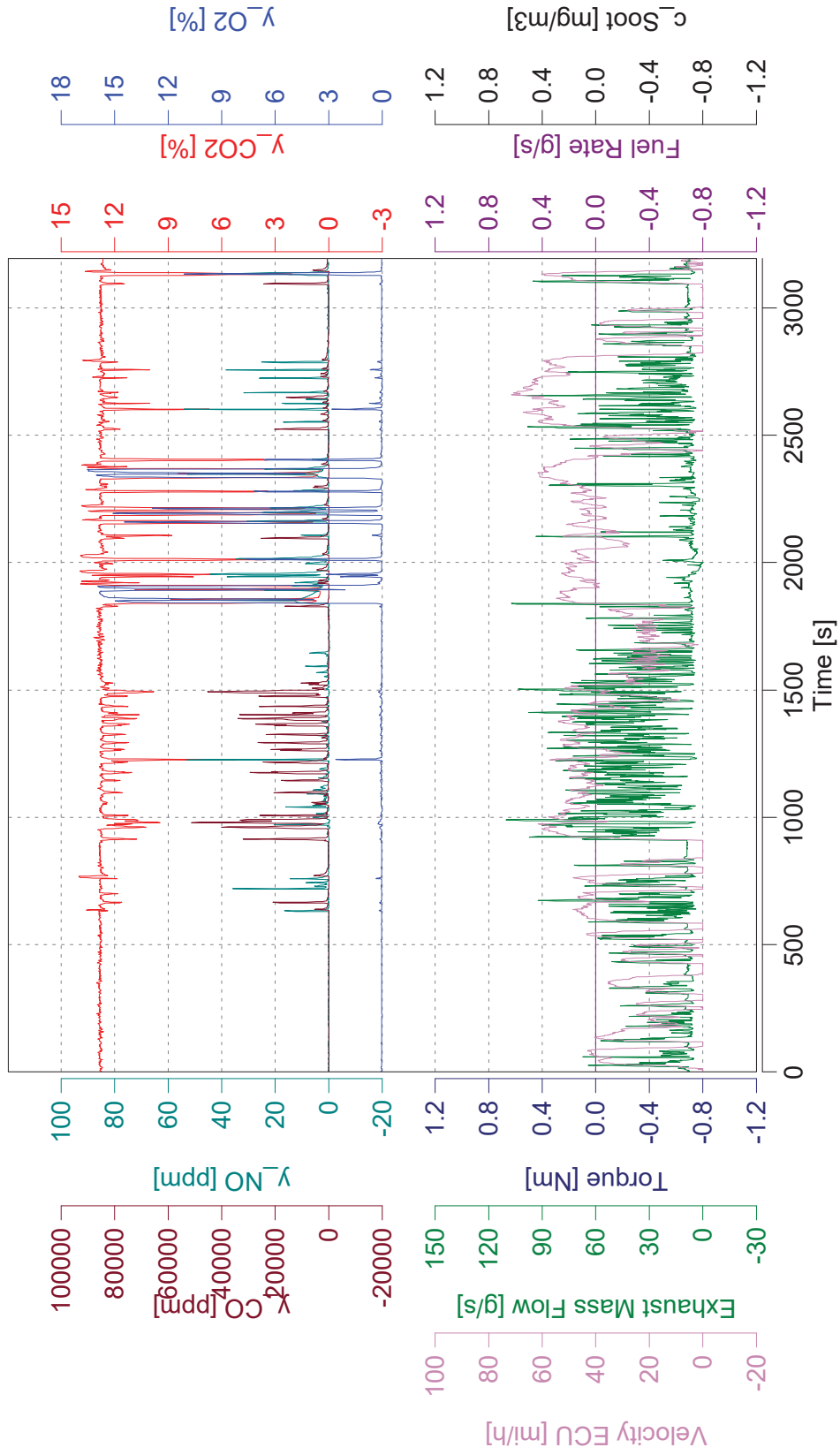
'Mountain'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Time Alignment of Gas Concentrations

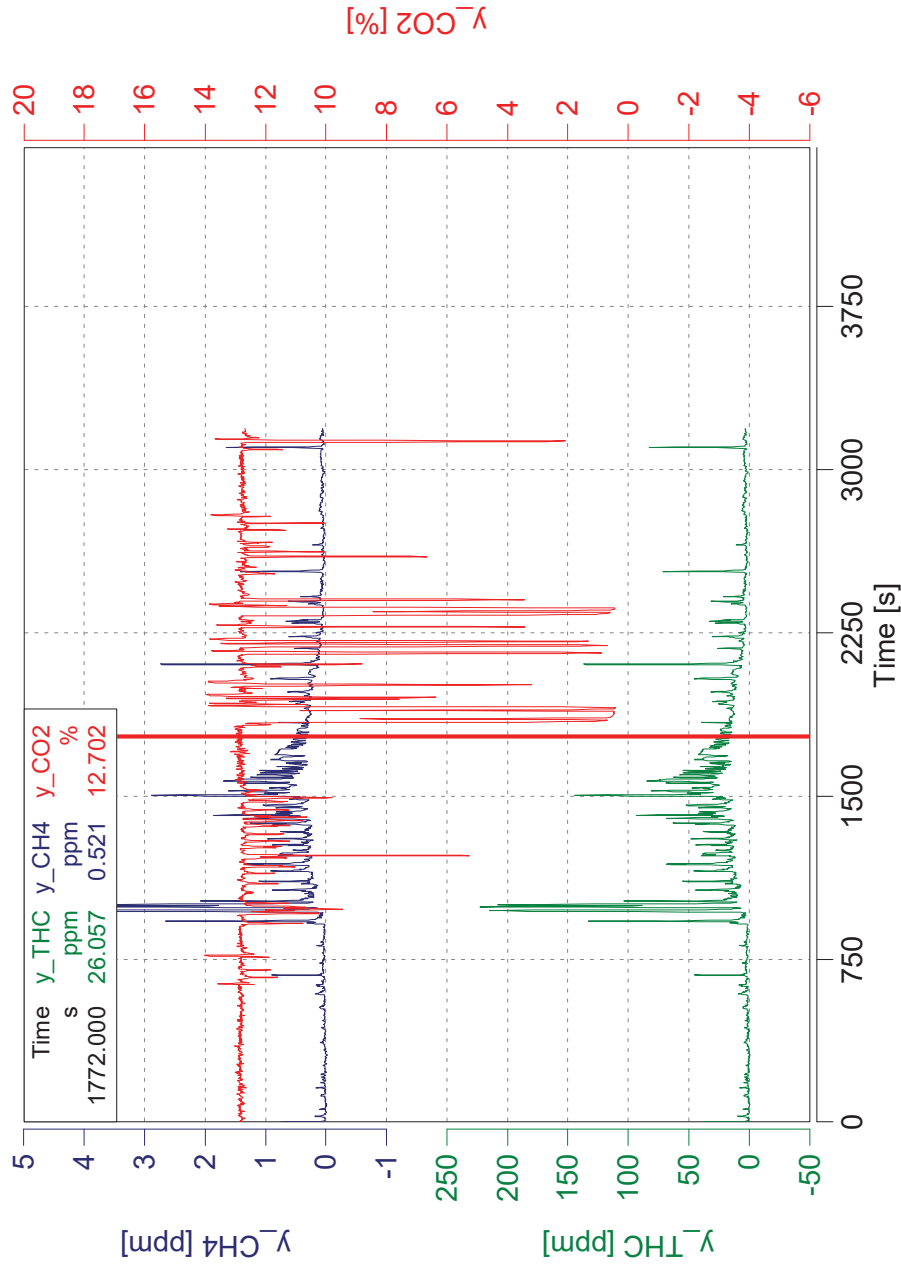
'Mountain'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Ambient Conditions

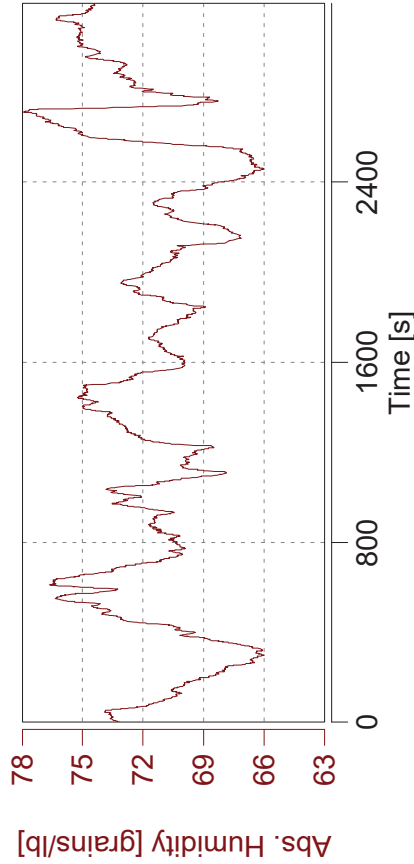
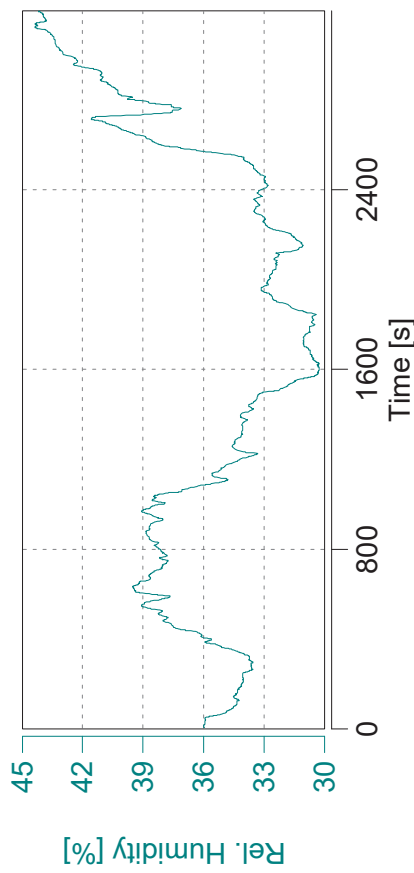
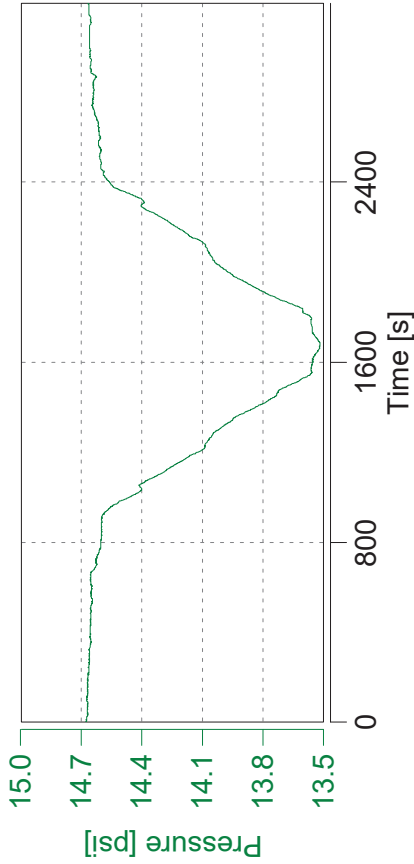
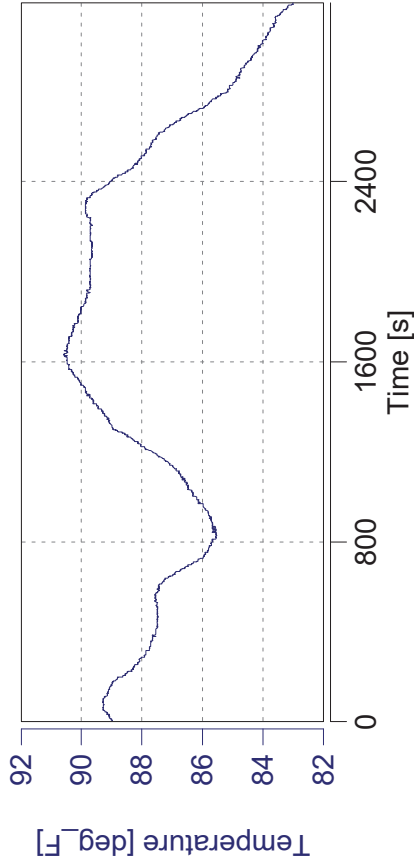
'Mountain'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan LTD / 2.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: GPS

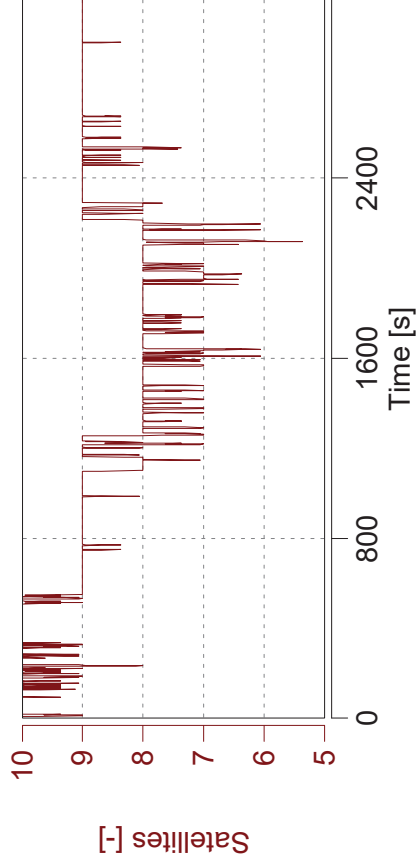
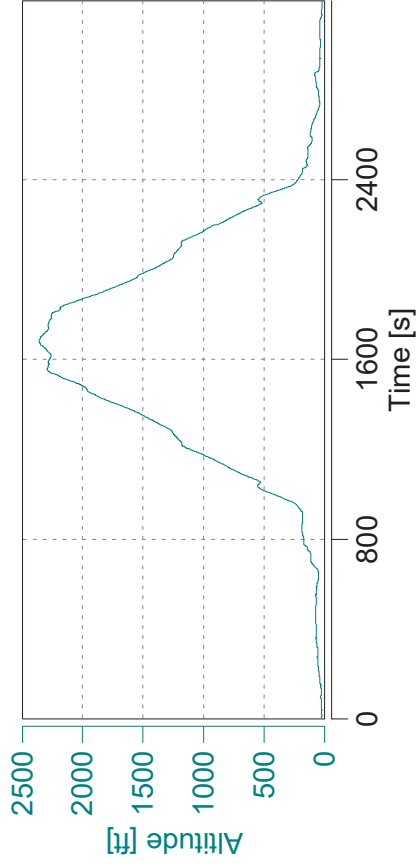
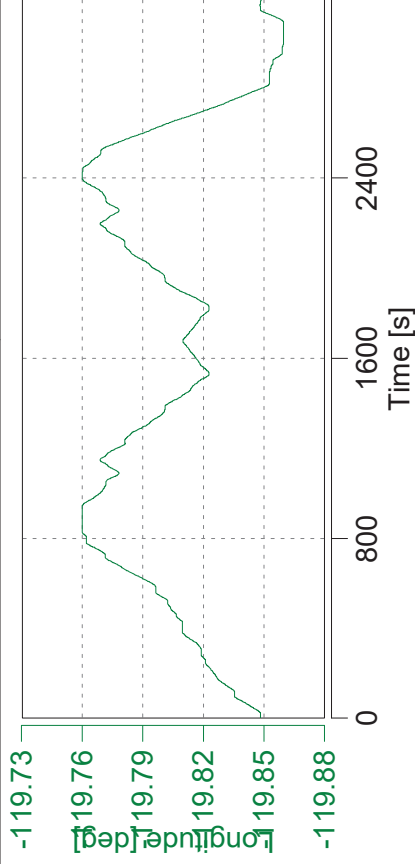
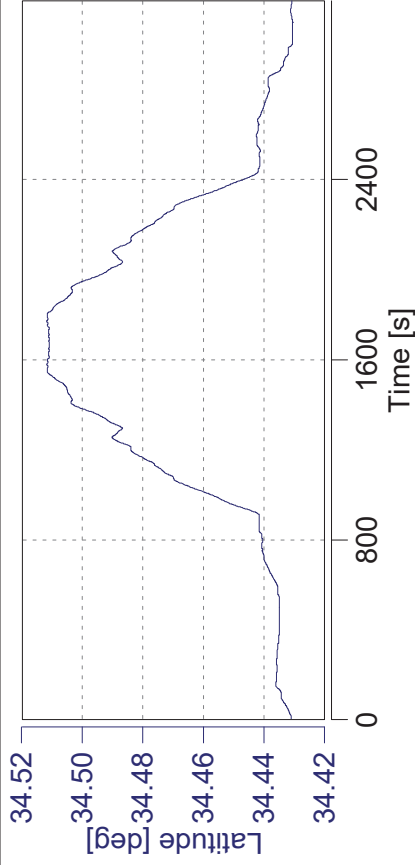
'Mountain'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316(CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Vehicle: Tiguan LTD / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (1)

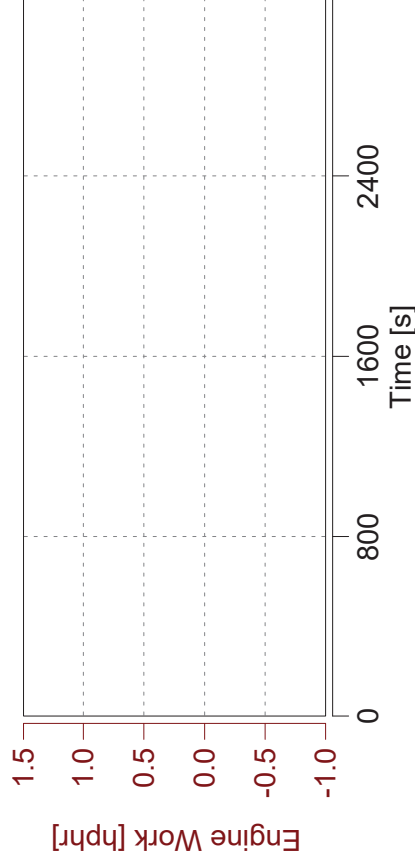
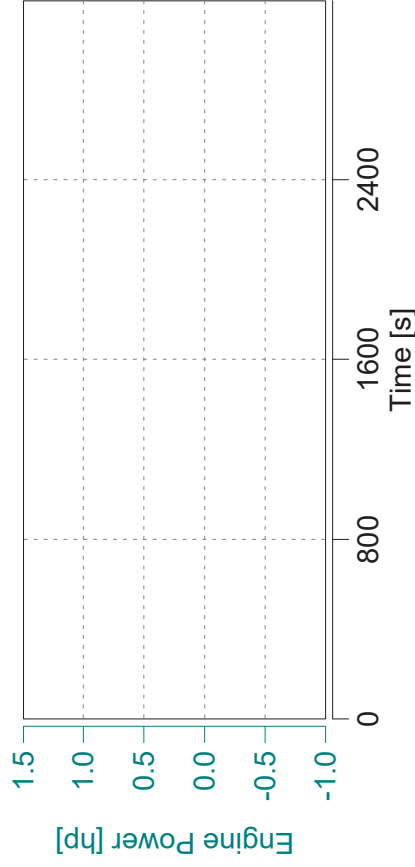
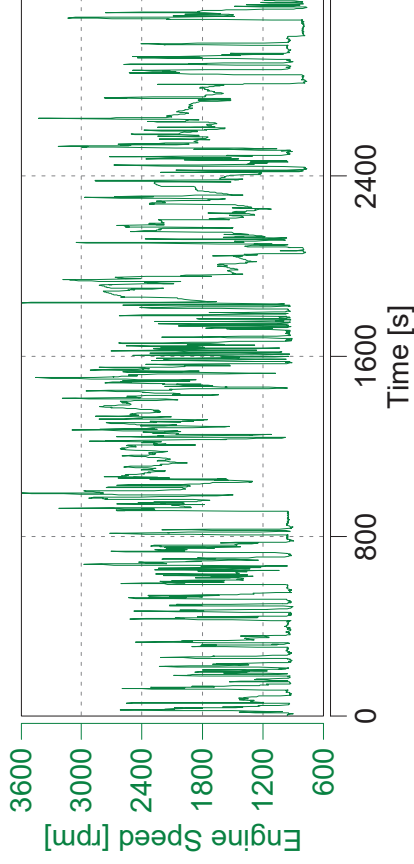
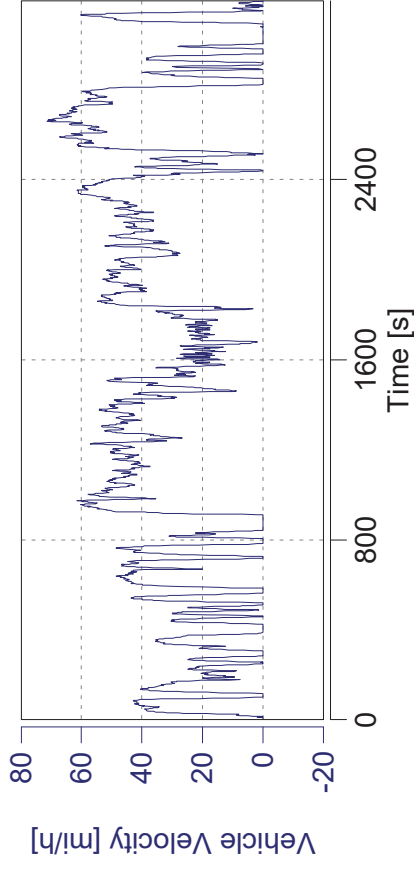
'Mountain'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan LTD / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (2)

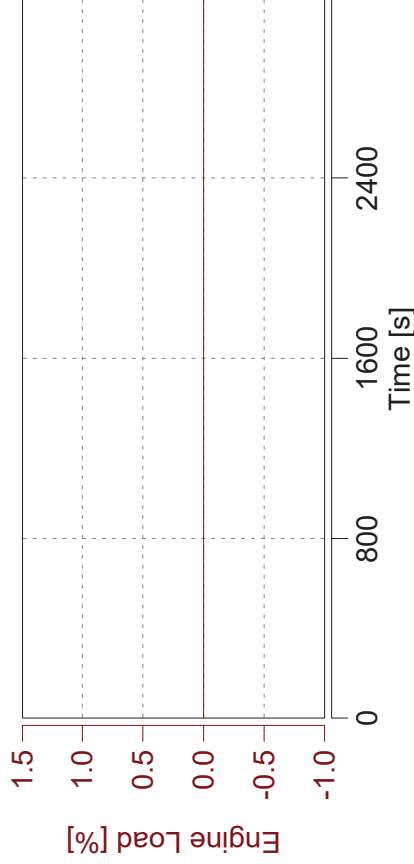
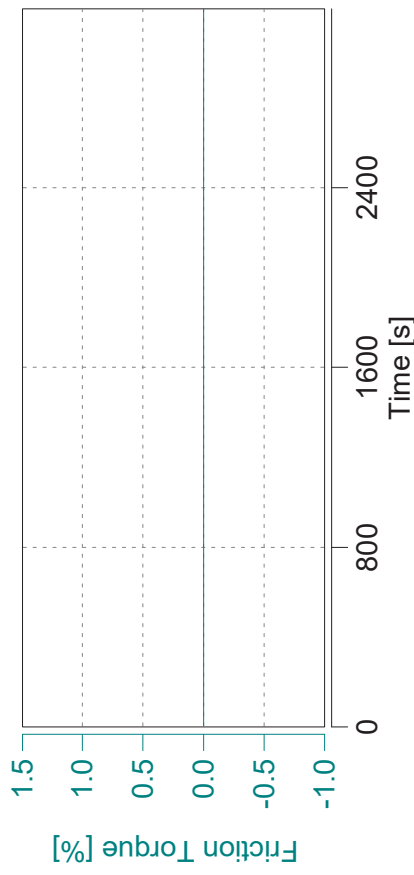
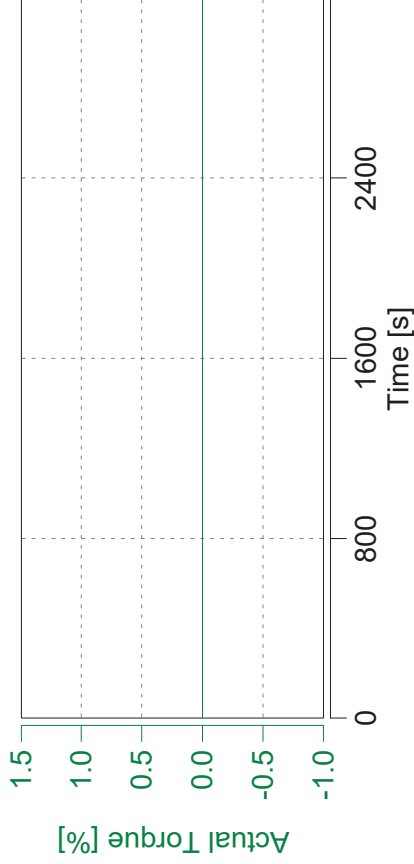
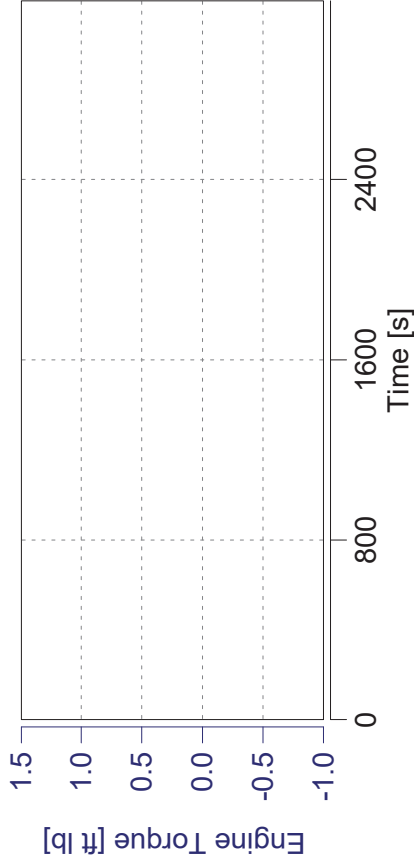
'Mountain'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

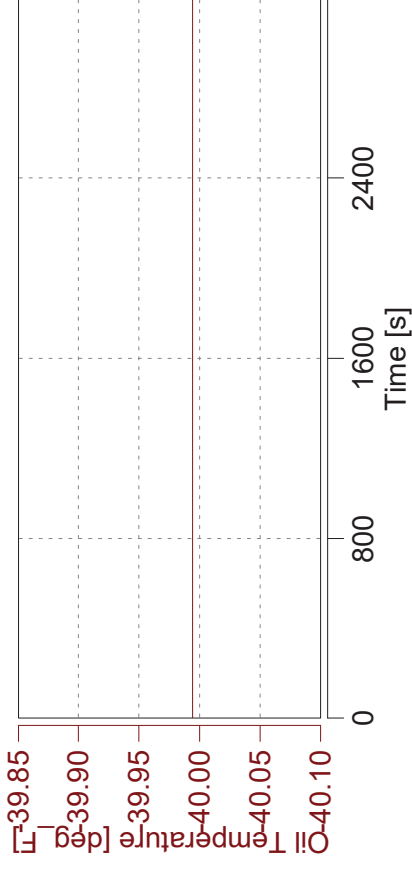
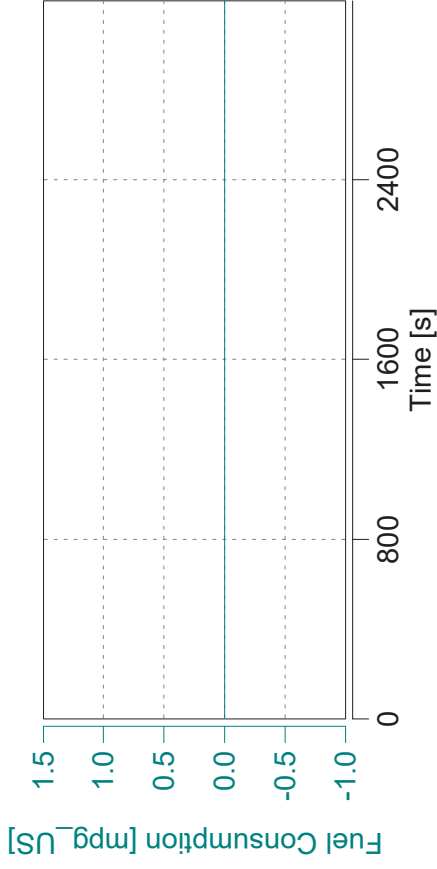
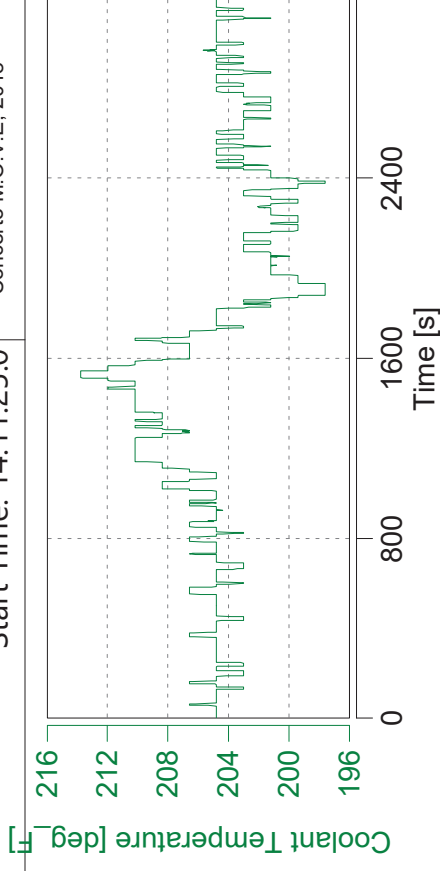
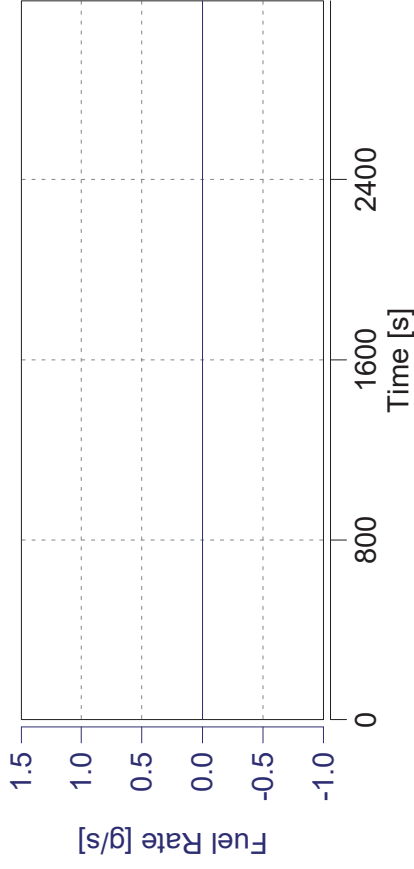
Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain
Page: Engine (3)

'Mountain'
Start Date: 07/31/2018
Start Time: 14:11:25.0



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan LTD / 2.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Exhaust Flow (1)

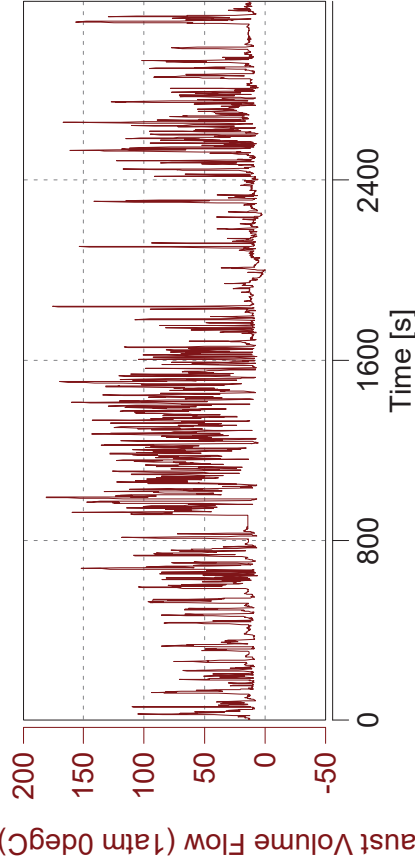
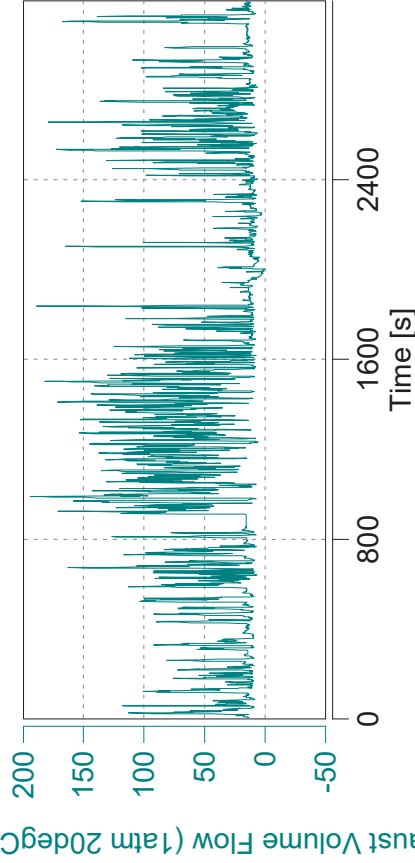
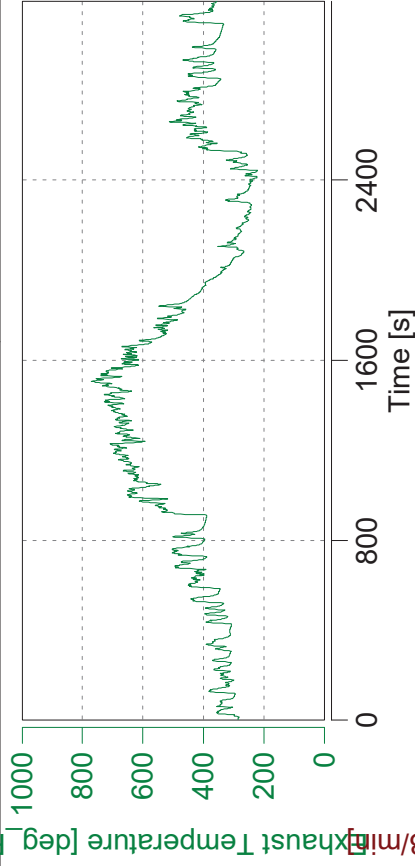
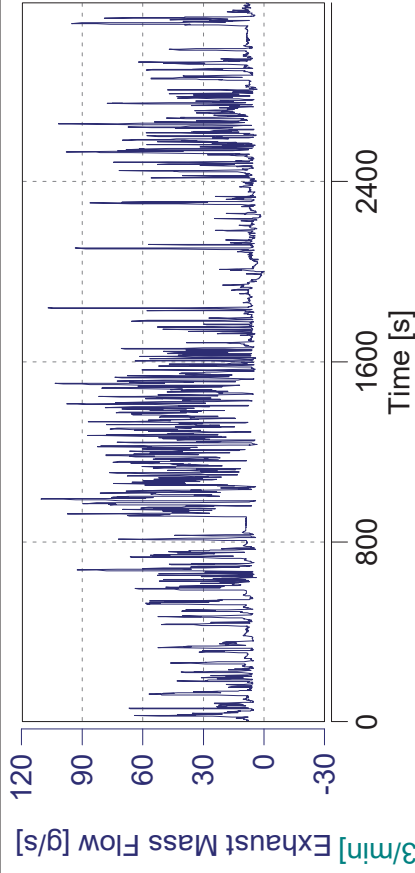
'Mountain'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Exhaust Flow (2)

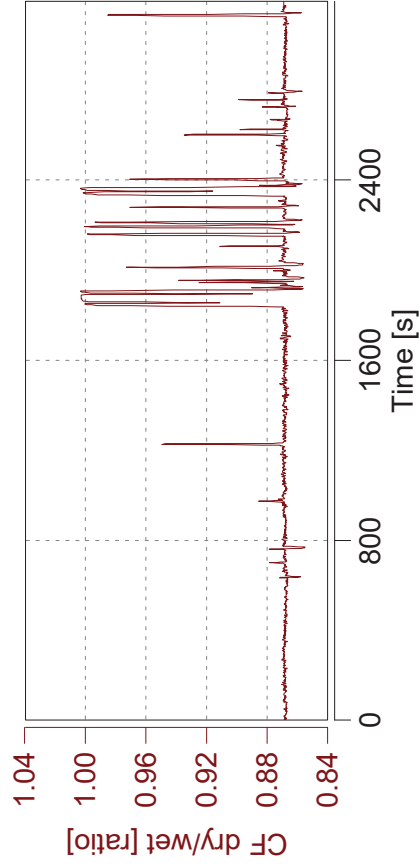
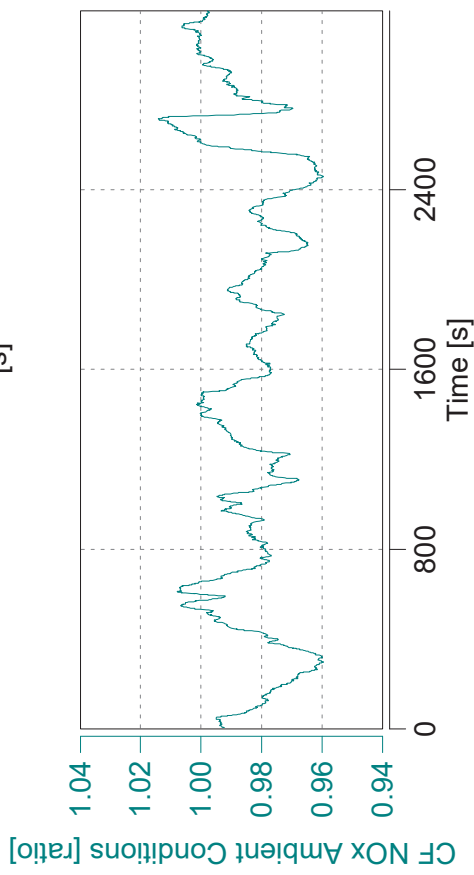
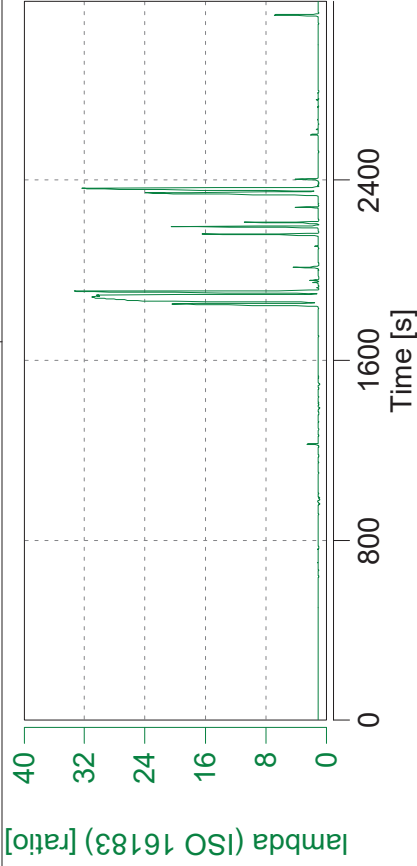
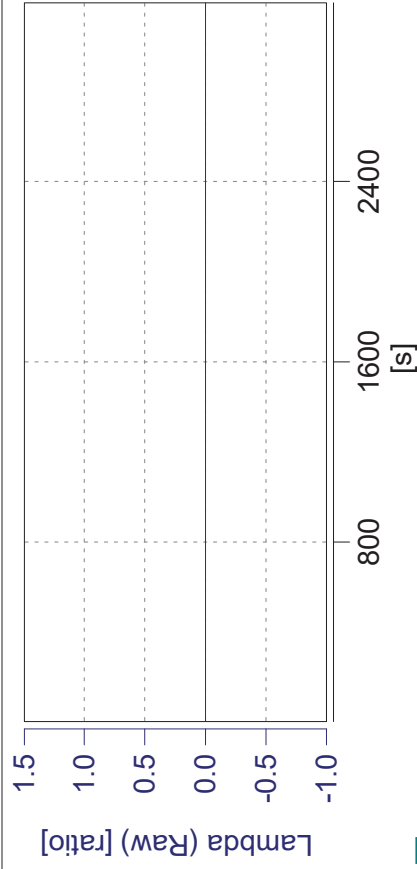
'Mountain'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (1)

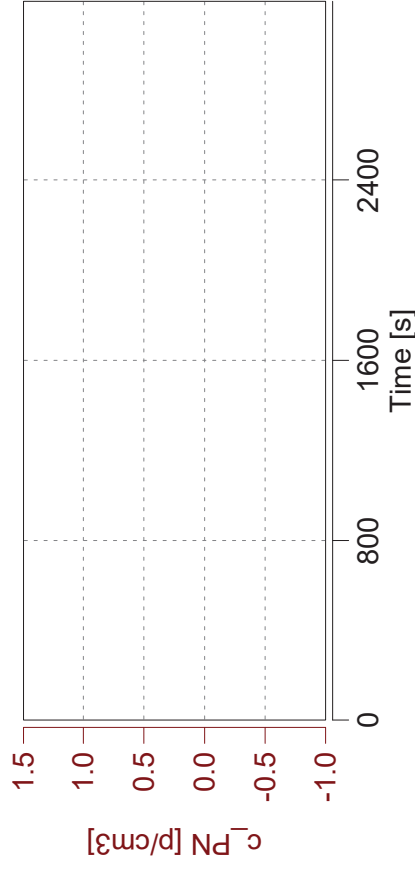
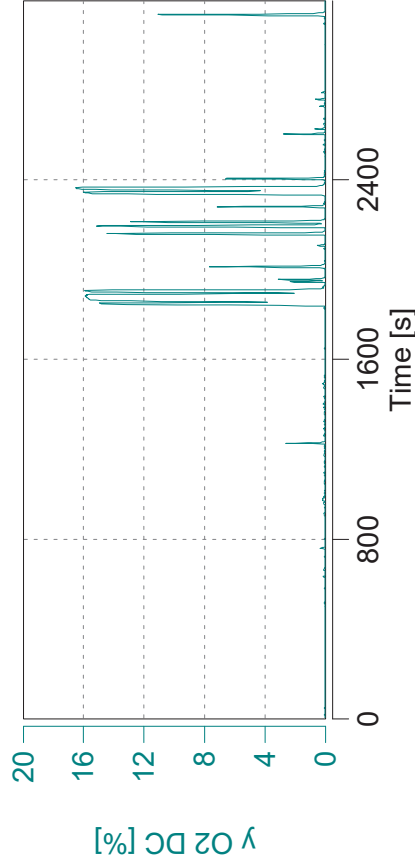
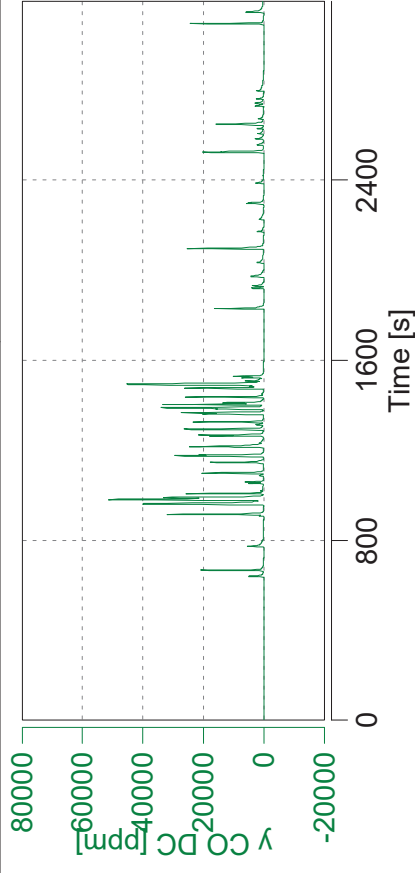
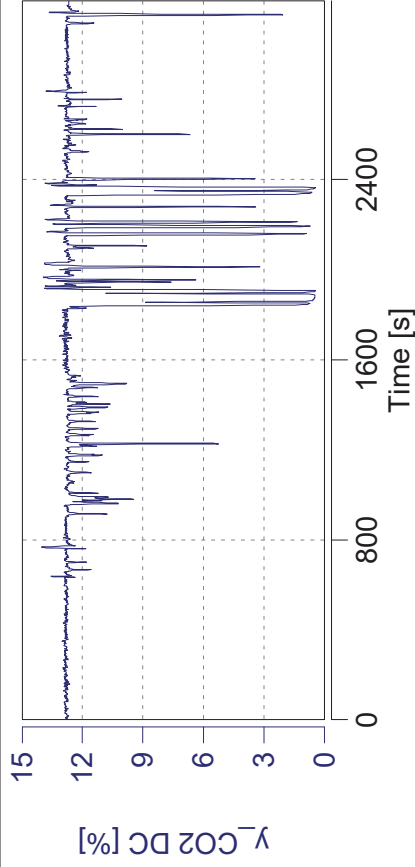
'Mountain'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (2)

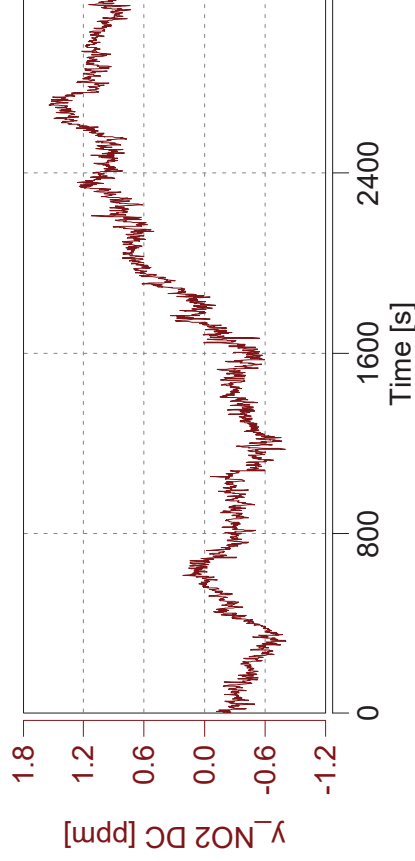
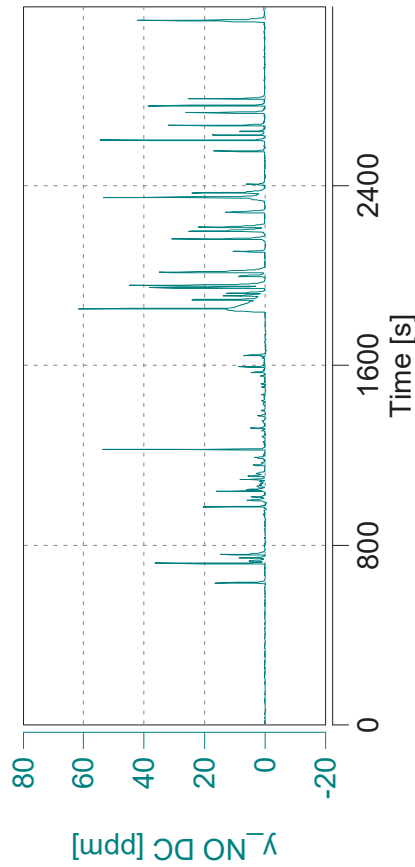
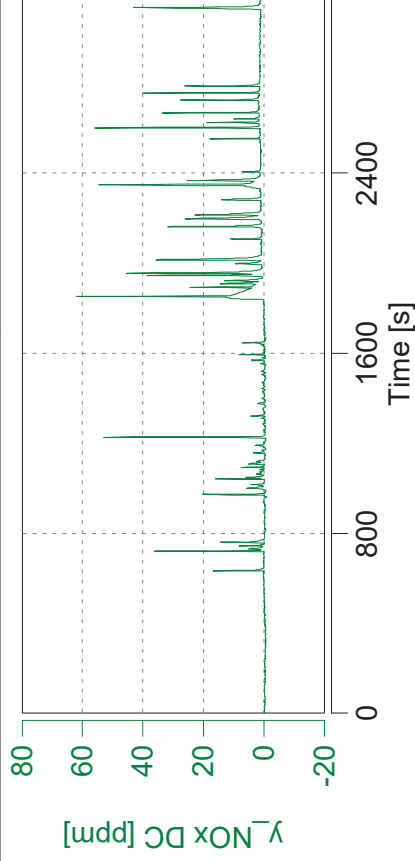
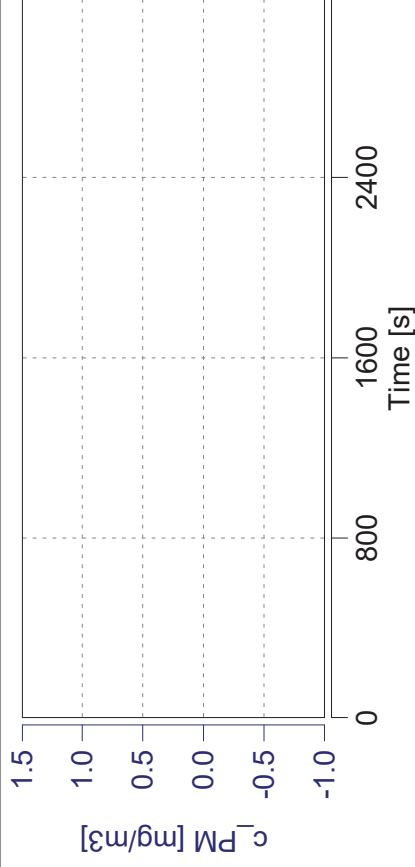
'Mountain'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan LTD / 2.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (3)

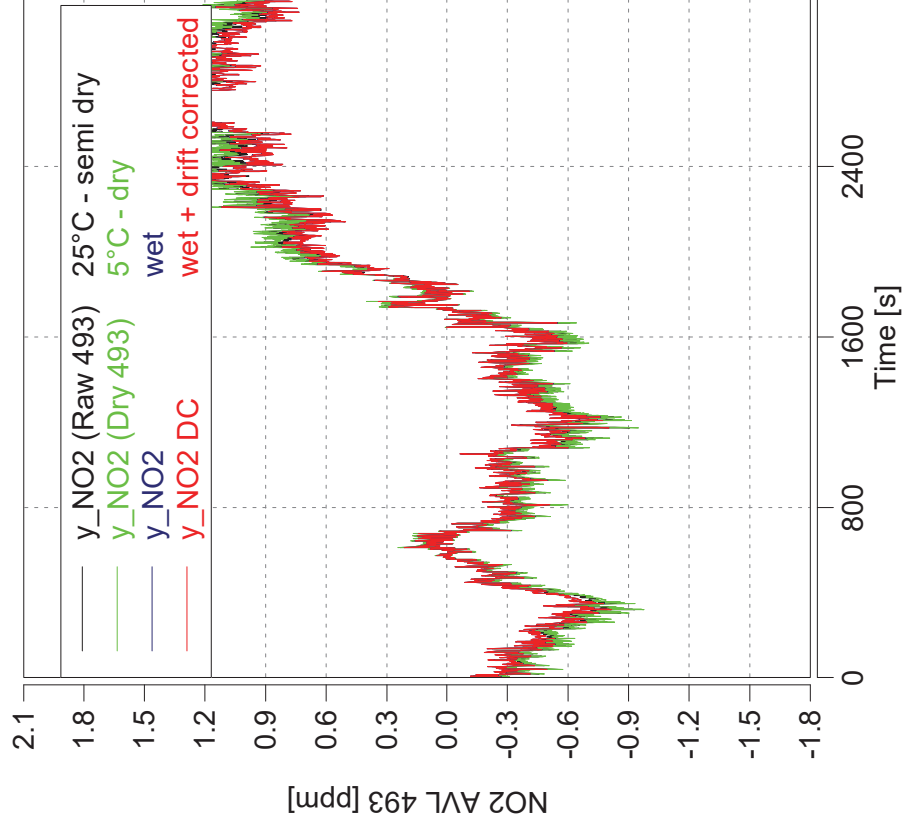
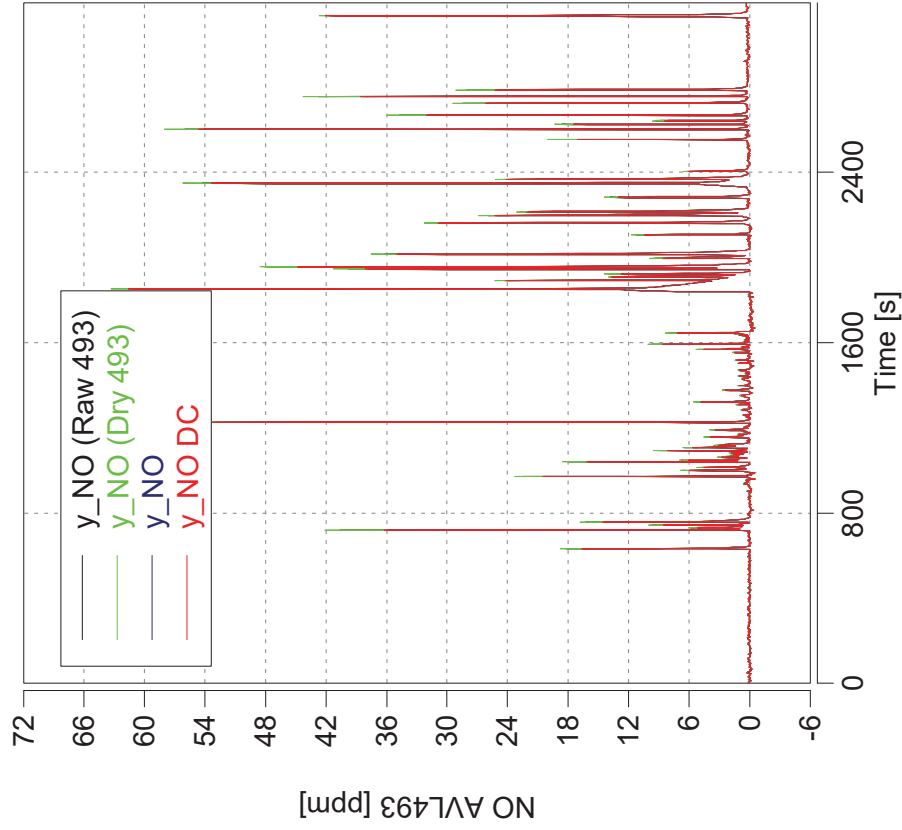
'Mountain'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (4) NOx Corrections

'Mountain'

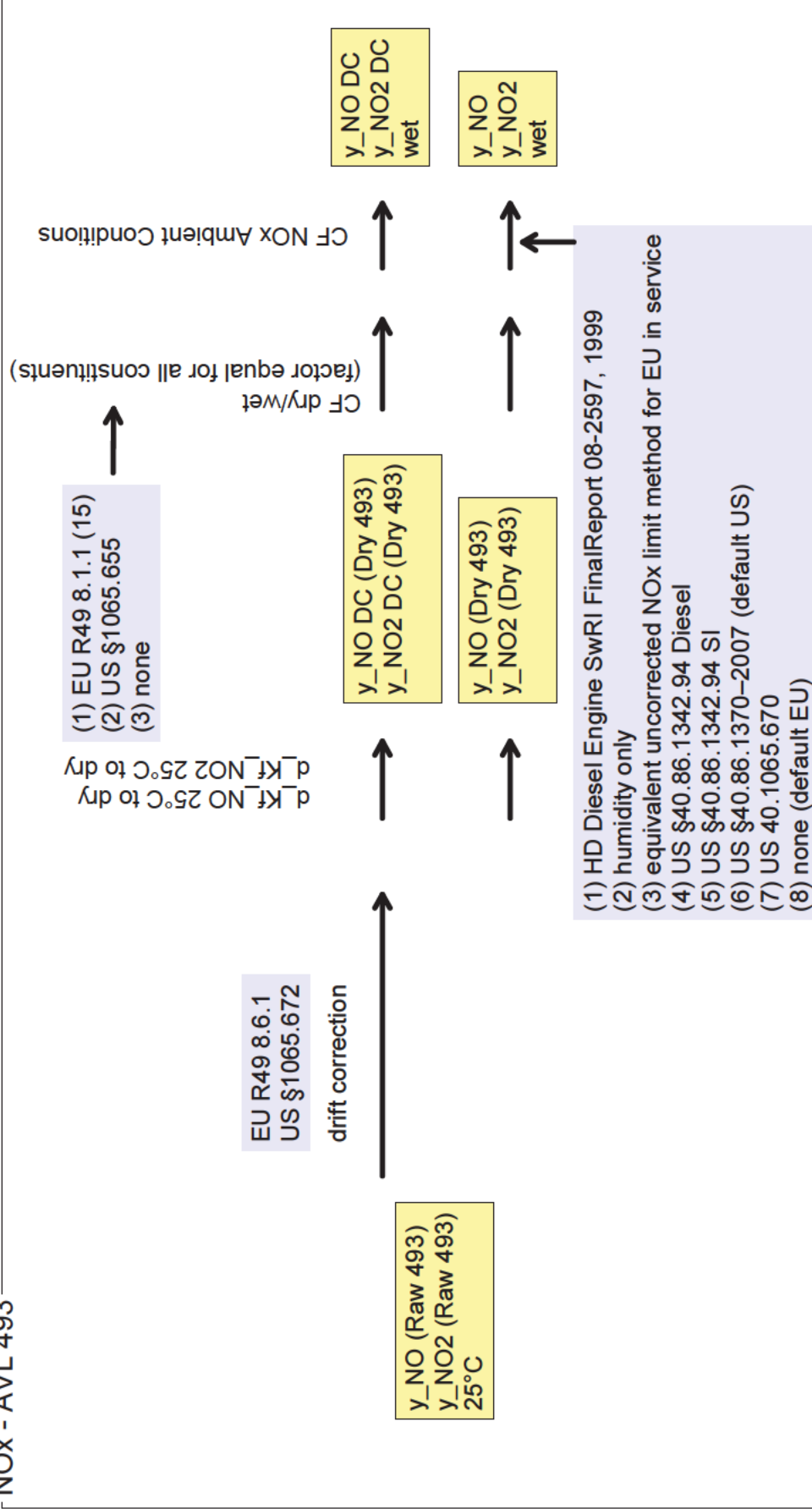
Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018

NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: / Vehicle: Tiguan LTD / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (5)

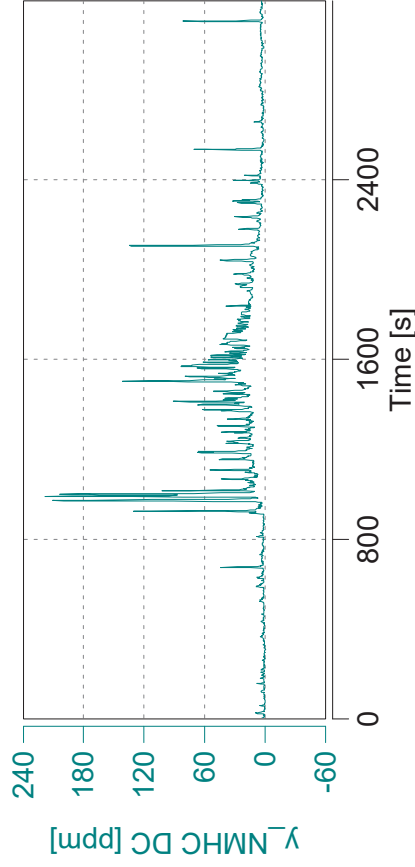
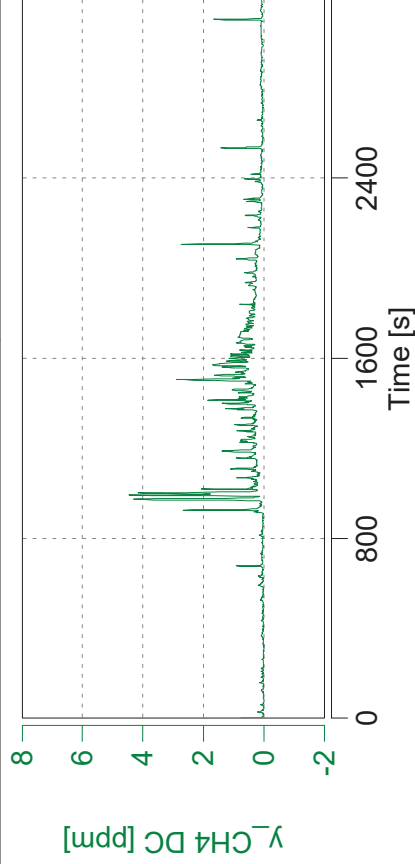
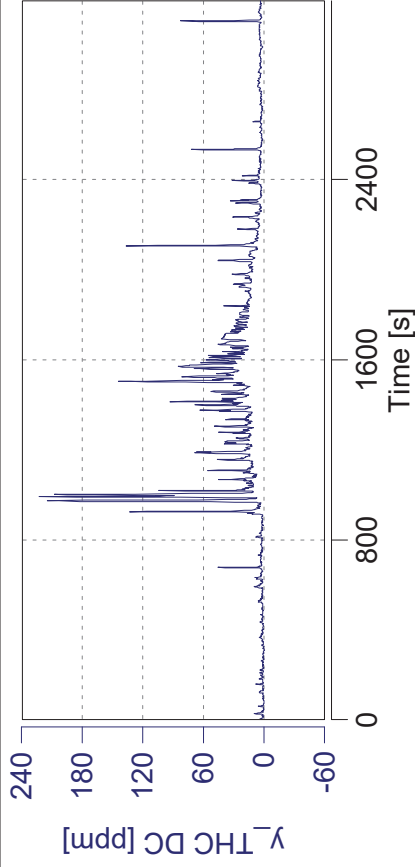
'Mountain'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan LTD / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: NO/NO2/NOx Zero - Span

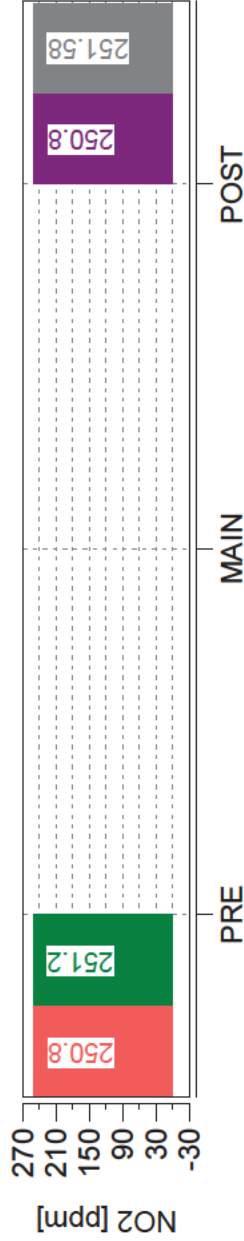
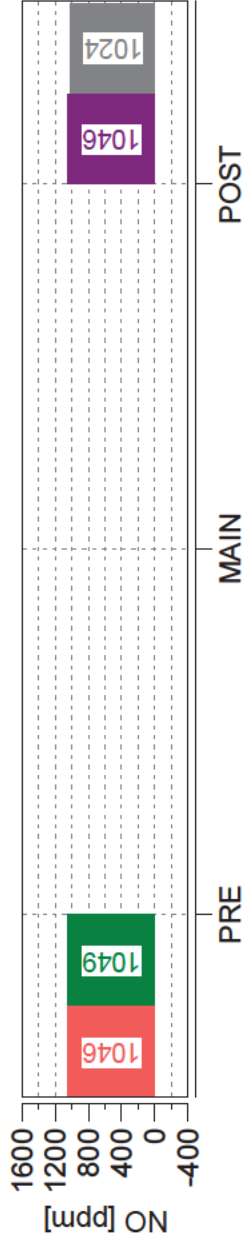
'Mountain'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: CO/CO2 Zero - Span

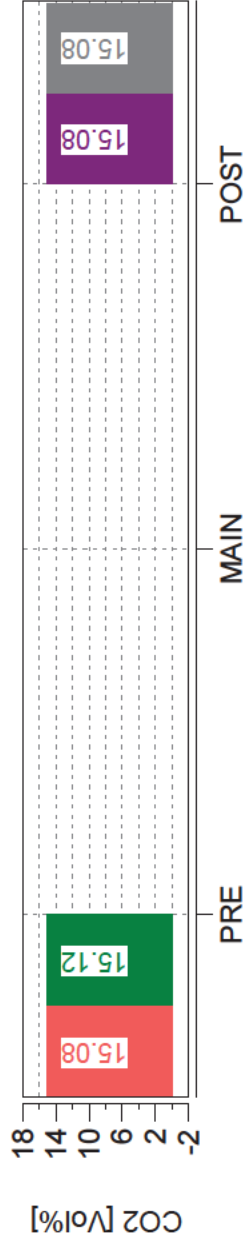
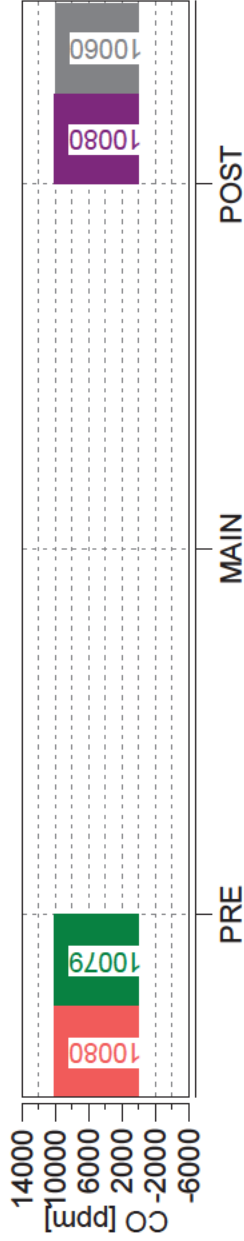
'Mountain'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: THC/CH4 Zero - Span

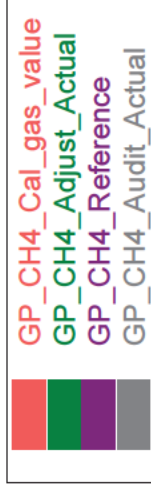
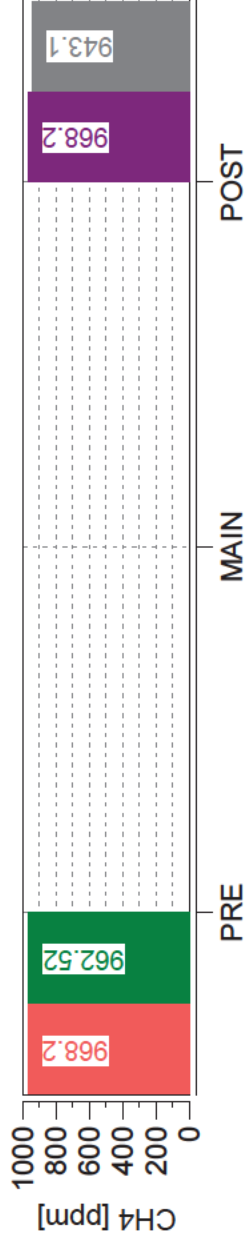
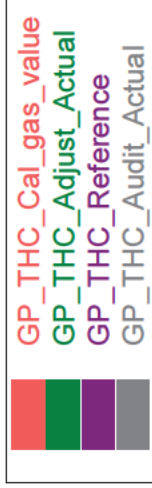
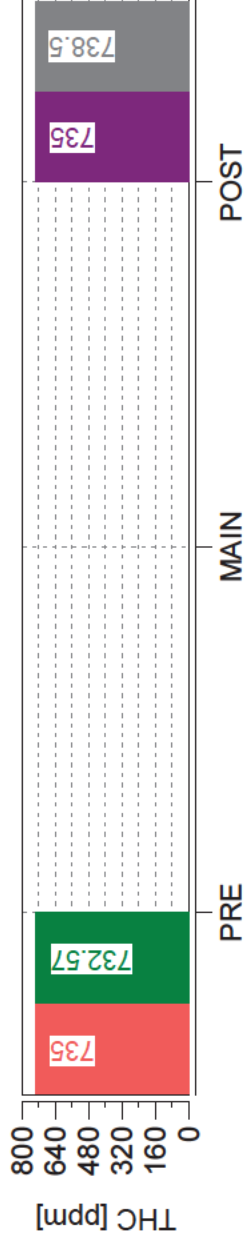
'Mountain'

Start Date: 07/31/2018

Start Time: 14:11:25.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Trip Summary

'City'

Start Date: 07/31/2018

Start Time: 20:35:08.0



Concerto M.O.V.E., 2018

Trip Duration	3267.00	s	ave THC	0.37543	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	3267.00	s	ave NMHC	0.36792	ppm	BS CO	n/a	g/hphr
Trip Distance	16.05	mi	ave CH4	0.00751	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	16.05	mi	ave CO	227.90237	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	12.75056	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOX	1.42179	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	2.93	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	2.90	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.04	gall	tot THC	0.01158	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.02	gall	tot NMHC	0.01071	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00026	g	DS CO2	549.06150	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	10.70871	g	DS CO	0.66736	g/mi
Trip Fuel Economy EU (ac)	15.48	mpg_US	tot CO2	8810.45394	g	DS THC	0.00072	g/mi
Trip Fuel Economy US (ac)	15.67	mpg_US	tot NO (d)	0.04477	g	DS NMHC	0.00067	g/mi
Trip Av. Eng. Speed	1209.65	rpm	tot NO2	0.05249	g	DS CH4	0.00002	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.09726	g	DS NO (d)	0.00279	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	0.00327	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.00606	g/mi
Trip Exhaust Mass	45.48	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	74.32	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	66.88	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	17.68197	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	19.98776	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Trip Summary Drift Corrected

'City'

Start Date: 07/31/2018

Start Time: 20:35:08.0



Concerto M.O.V.E. 2018

Trip Duration	3267.00	s	ave THC DC	0.18582	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	3267.00	s	ave NMHC DC	0.18211	ppm	BS CO DC	n/a	g/hphr
Trip Distance	16.05	mi	ave CH4 DC	0.00372	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	16.05	mi	ave CO DC	228.07688	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	12.73367	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	1.39493	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	2.93	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	2.90	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.04	gall	tot THC DC	0.00750	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.02	gall	tot NMHC DC	0.00694	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.00017	g	DS CO2 DC	548.33426	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	10.71687	g	DS CO DC	0.66787	g/mi
Trip Fuel Economy EU (ac)	15.48	mpg_US	tot CO2 DC	8798.78447	g	DS THC DC	0.00047	g/mi
Trip Fuel Economy US (ac)	15.67	mpg_US	tot NO DC (d)	0.04452	g	DS NMHC DC	0.00043	g/mi
Trip Av. Eng. Speed	1209.65	rpm	tot NO2 DC	0.05057	g	DS CH4 DC	0.00001	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.09509	g	DS NO DC (d)	0.00277	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	0.00315	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.00593	g/mi
Trip Exhaust Mass	45.48	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	74.32	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	66.88	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	17.68197	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	19.98776	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Time Alignment Check

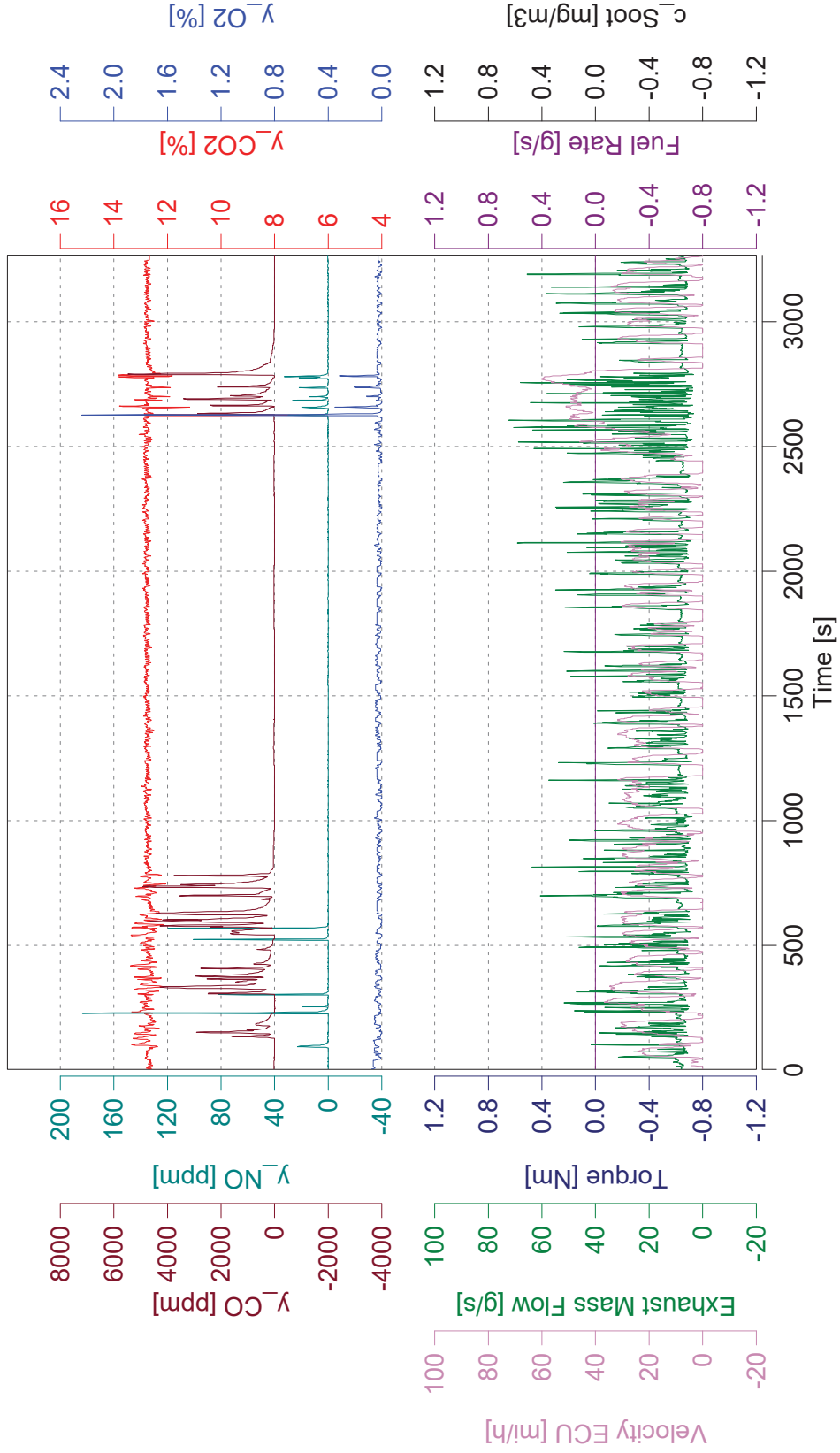
'City'

Start Date: 07/31/2018

Start Time: 20:35:08.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /
Vehicle: Tiguan LTD / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Time Alignment of Gas Concentrations

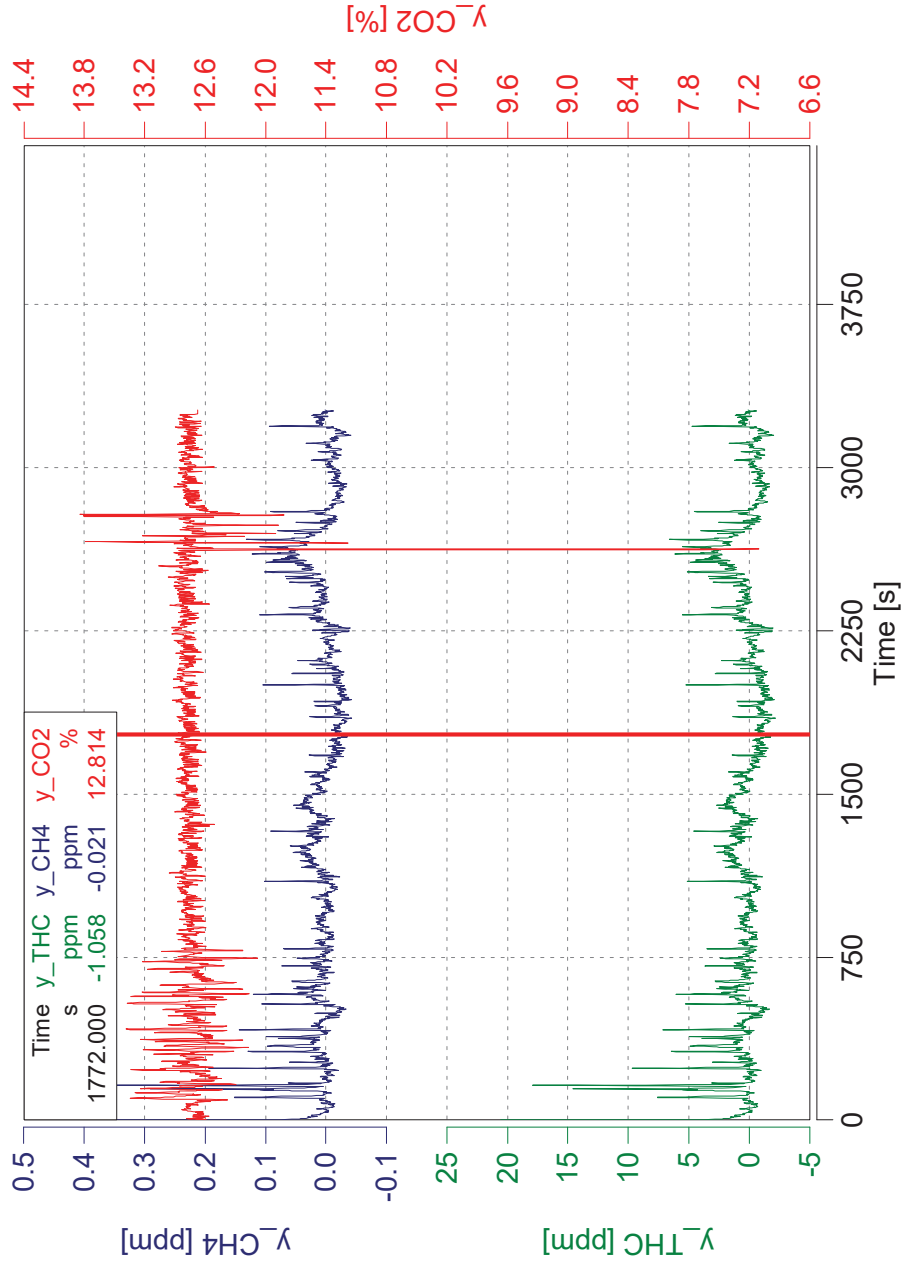
'City'

Start Date: 07/31/2018

Start Time: 20:35:08.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

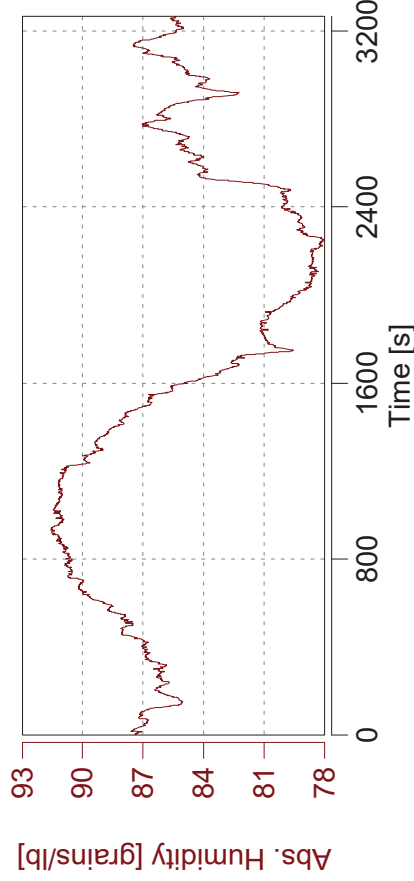
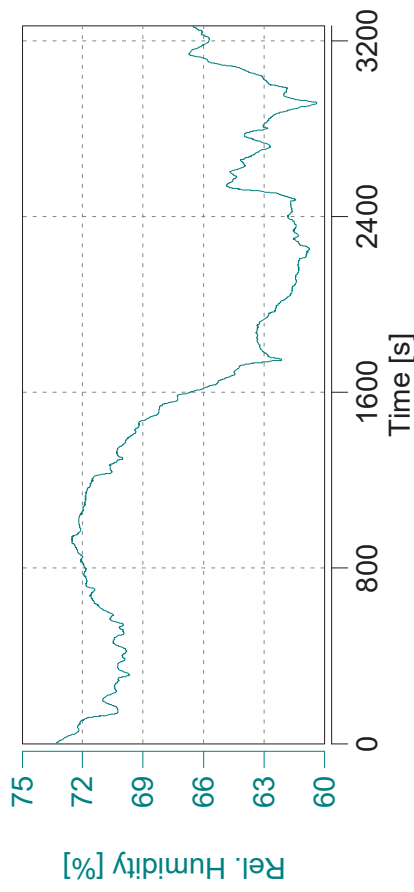
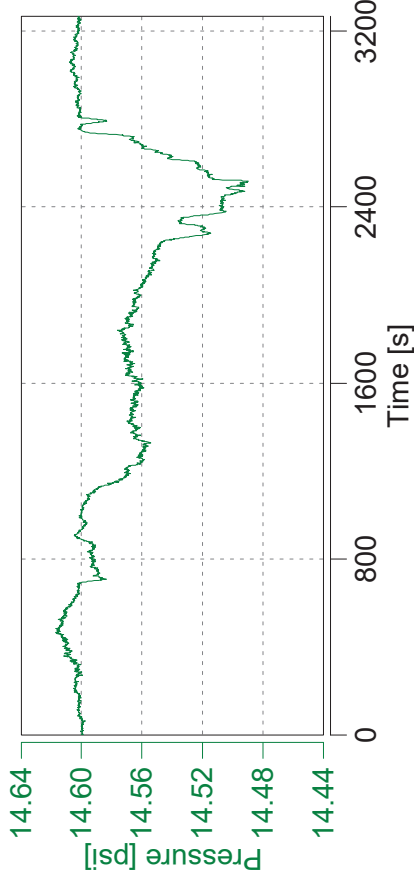
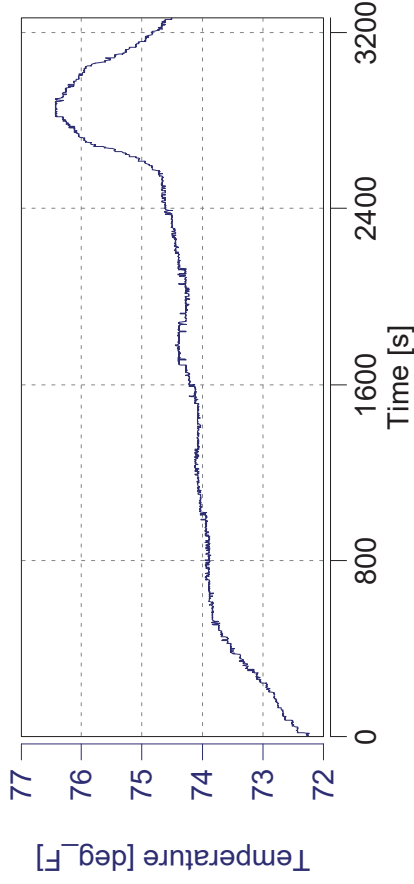
Case: City

Page: Ambient Conditions

'City'
Start Date: 07/31/2018
Start Time: 20:35:08.0



Concerto M.O.V.E., 2018

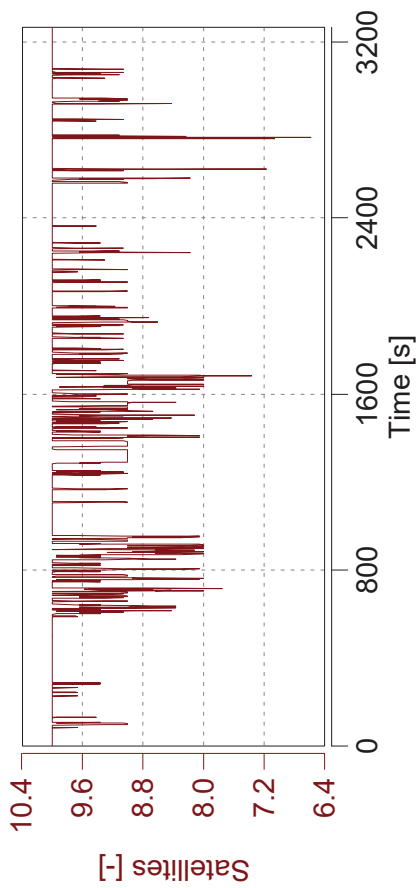
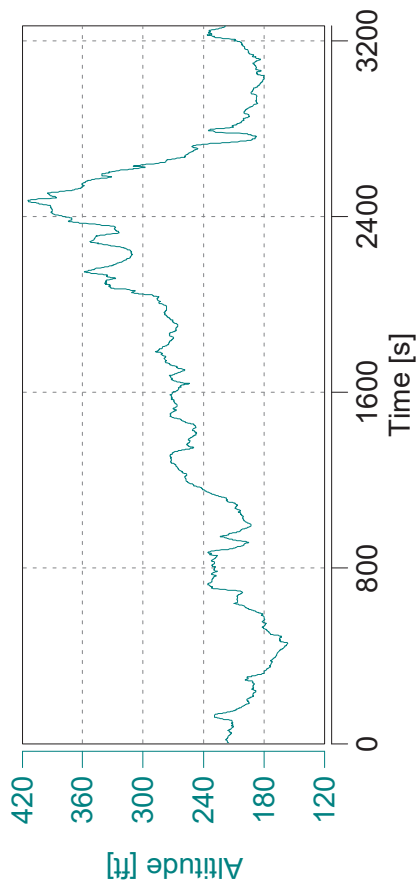
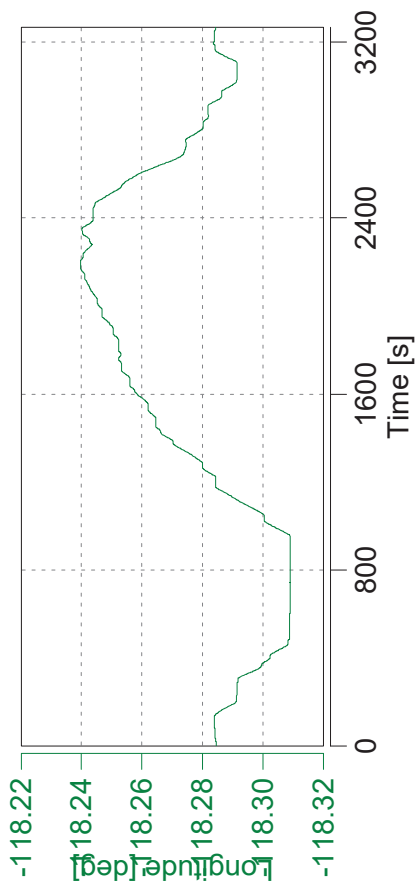
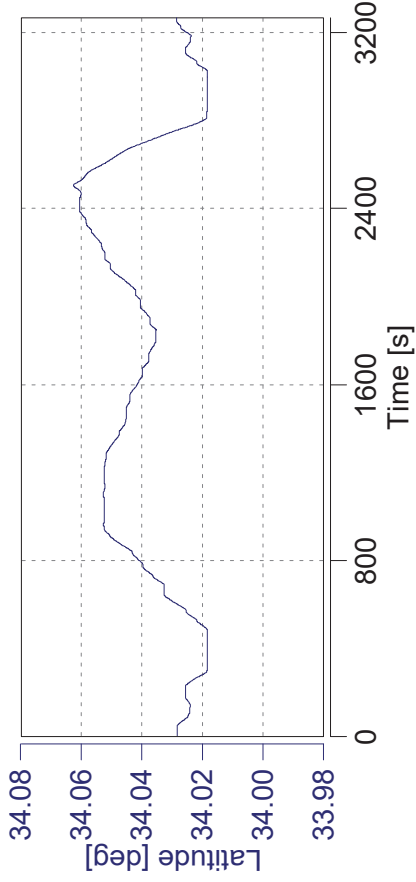


Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan LTD / 2.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City
Page: GPS

'City'
Start Date: 07/31/2018
Start Time: 20:35:08.0



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan LTD / 2.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (1)

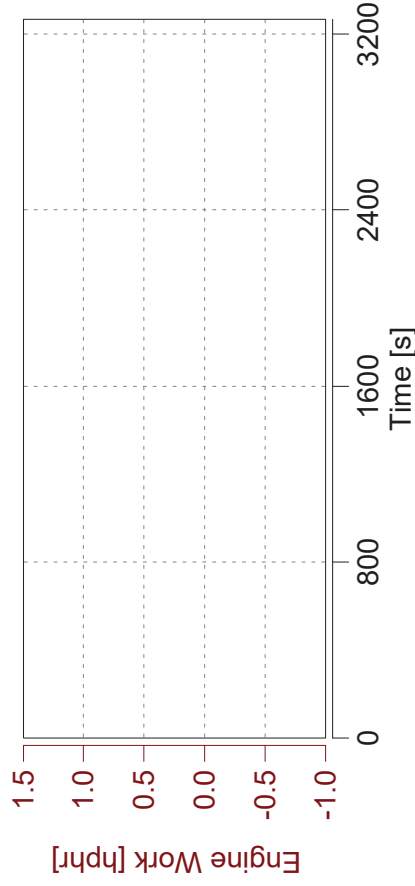
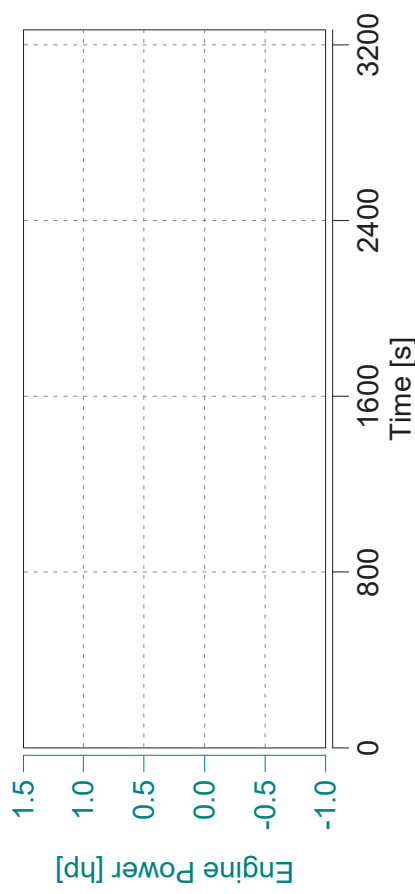
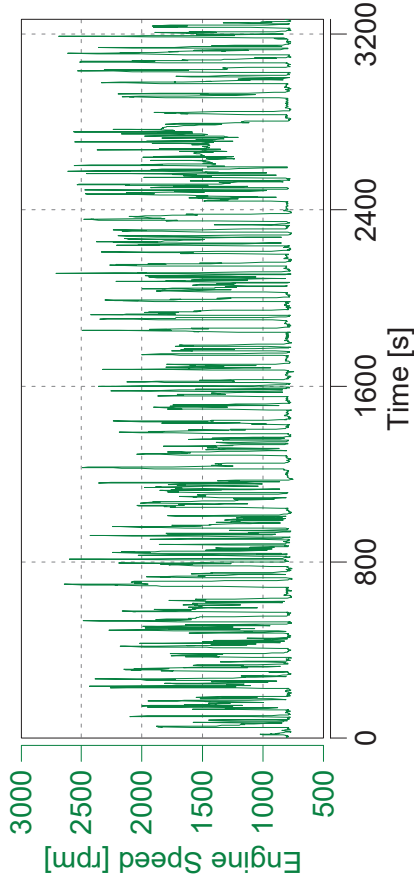
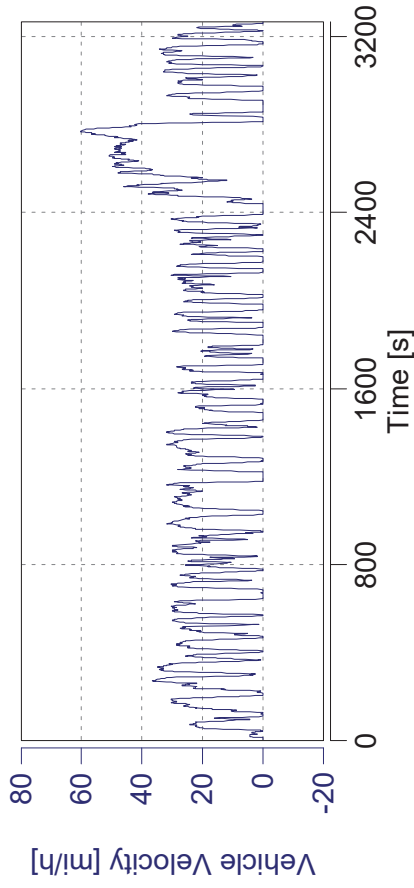
'City'

Start Date: 07/31/2018

Start Time: 20:35:08.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan LTD / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (2)

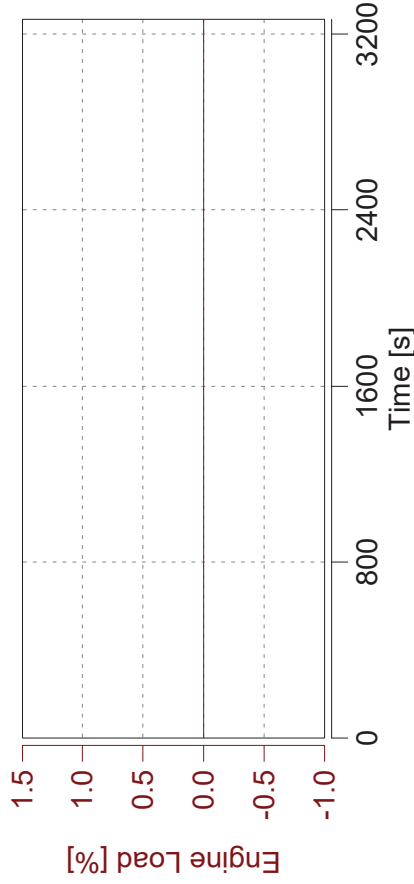
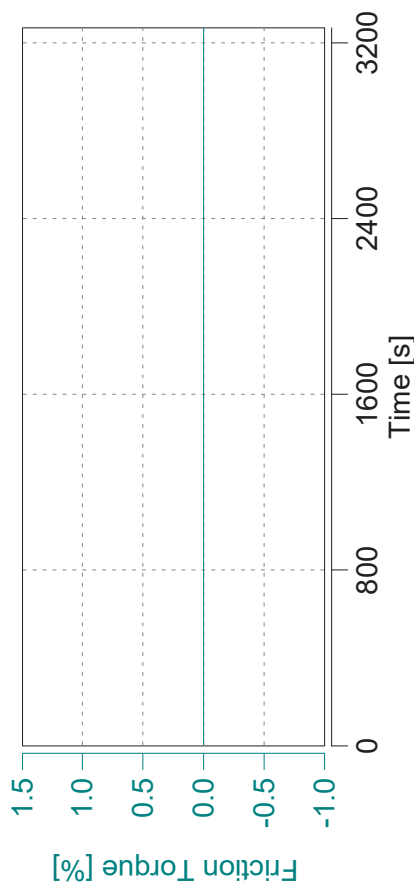
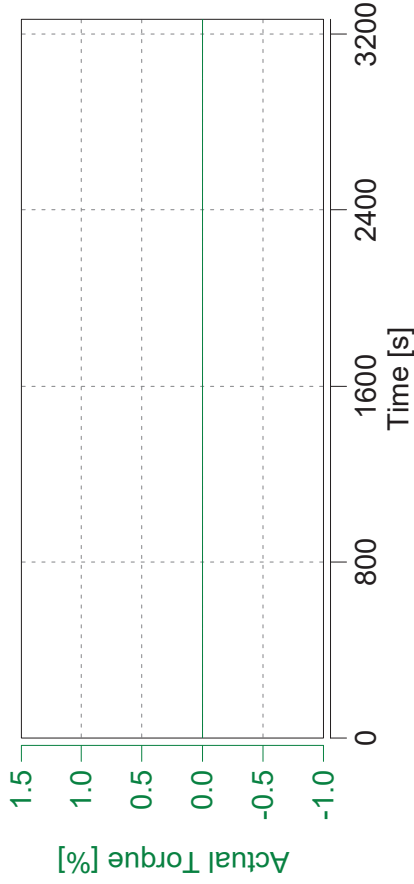
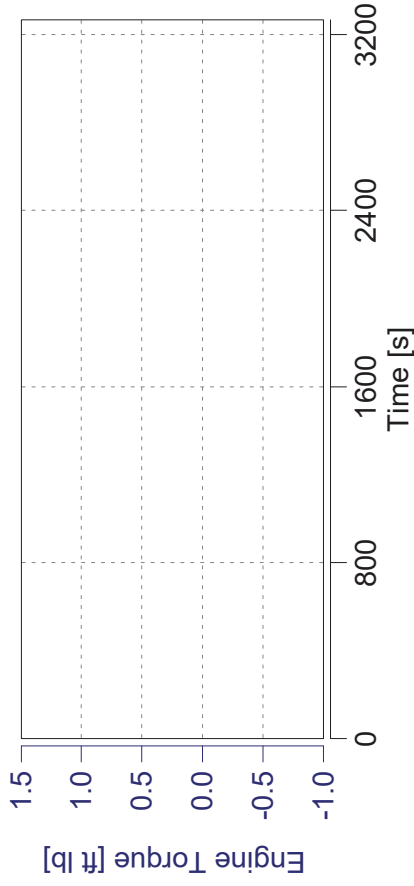
'City'

Start Date: 07/31/2018

Start Time: 20:35:08.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Engine: /
Vehicle: Tiguan LTD / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (3)

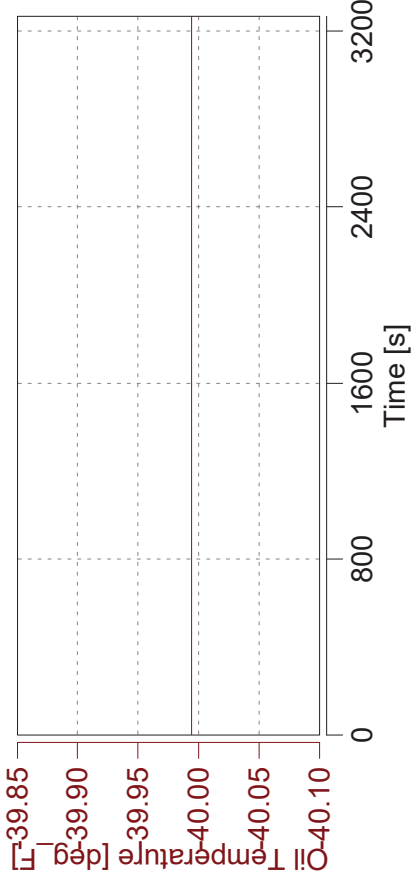
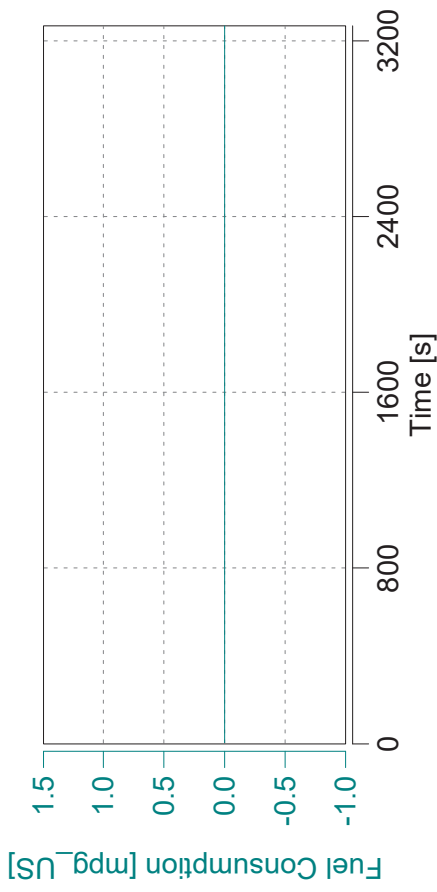
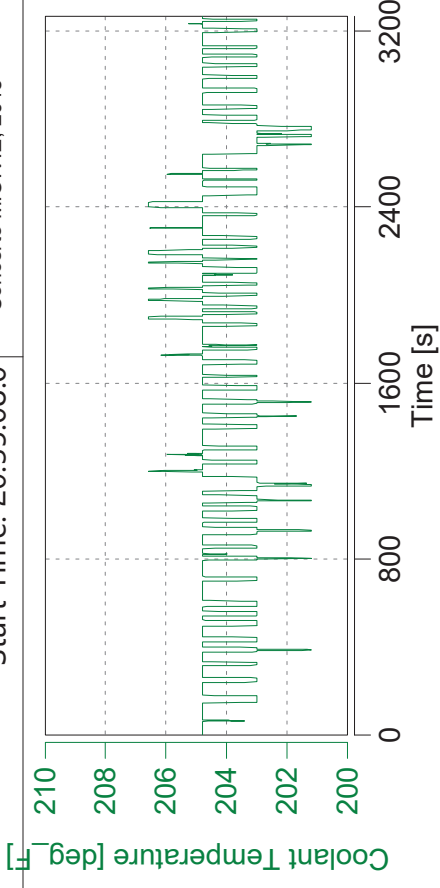
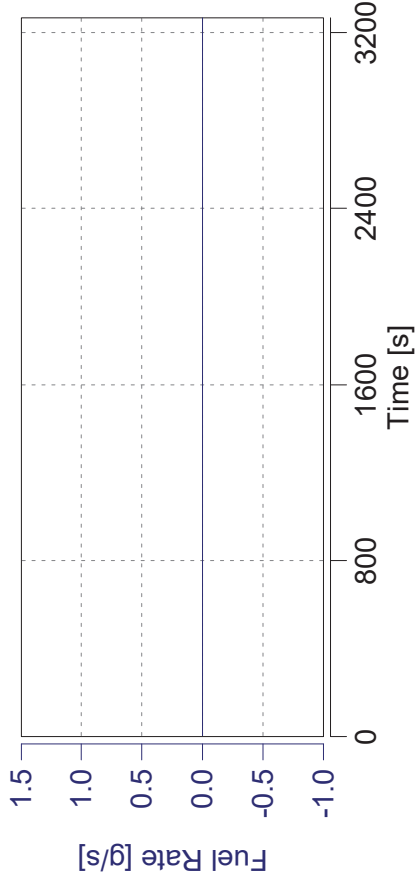
'City'

Start Date: 07/31/2018

Start Time: 20:35:08.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Engine: /
Vehicle: Tiguan LTD / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Exhaust Flow (1)

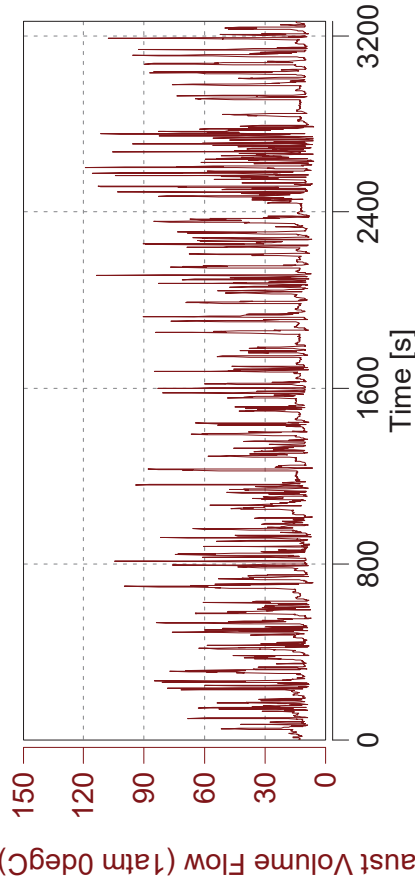
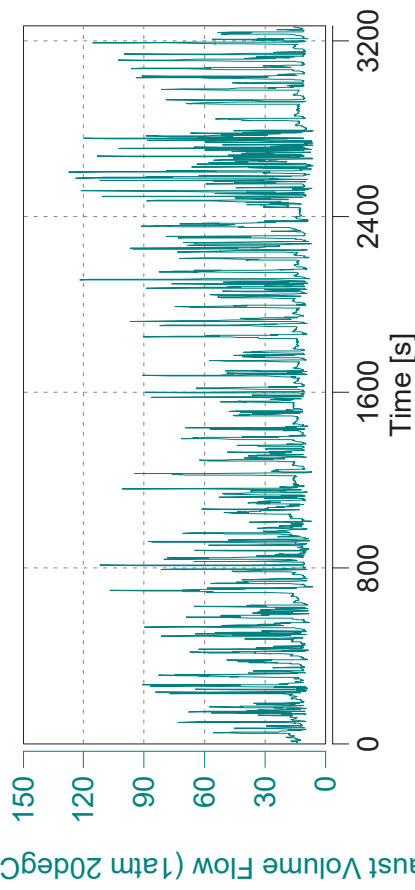
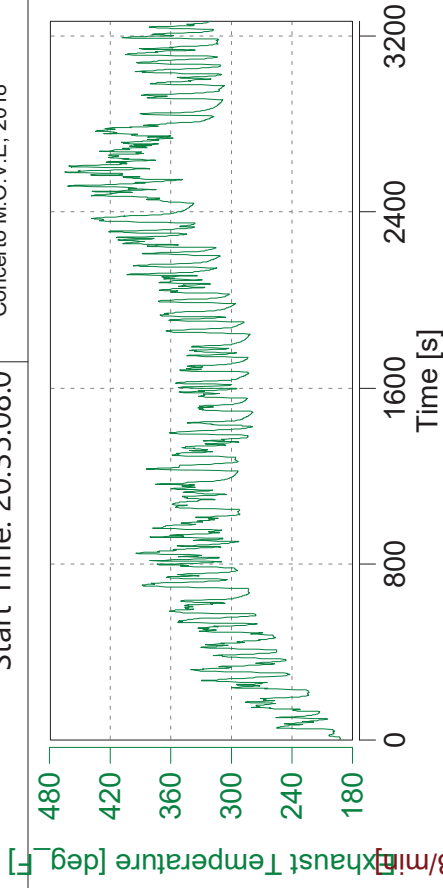
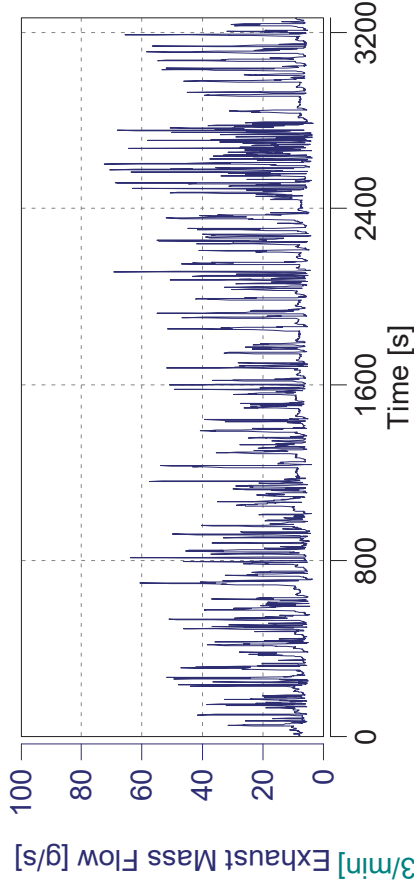
'City'

Start Date: 07/31/2018

Start Time: 20:35:08.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan LTD / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Exhaust Flow (2)

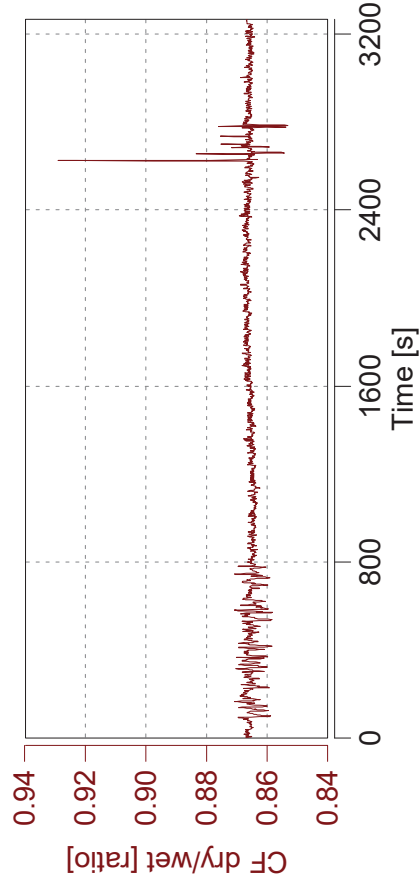
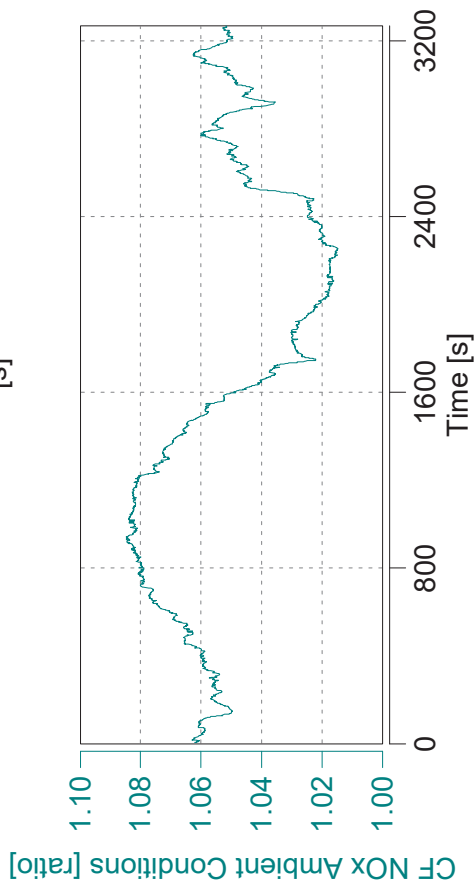
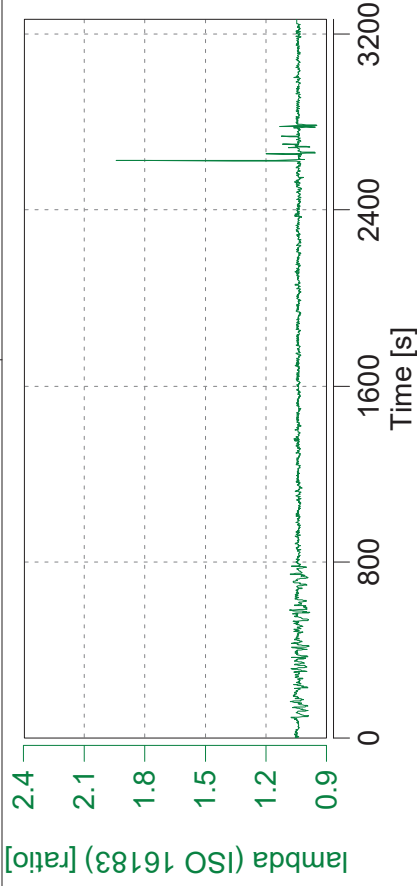
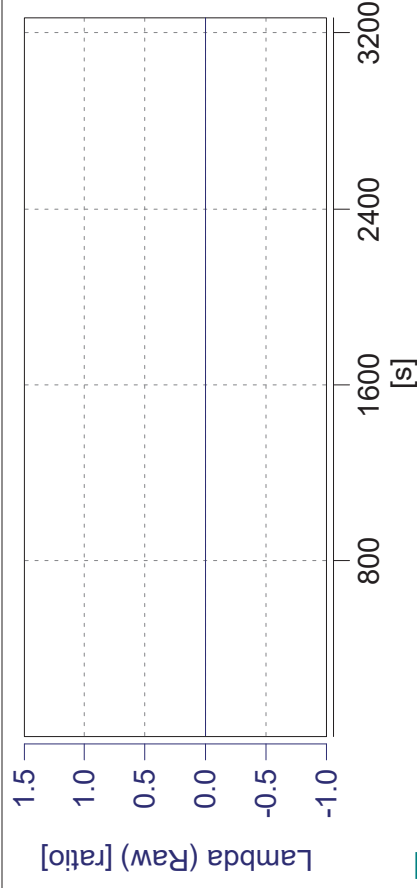
'City'

Start Date: 07/31/2018

Start Time: 20:35:08.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (1)

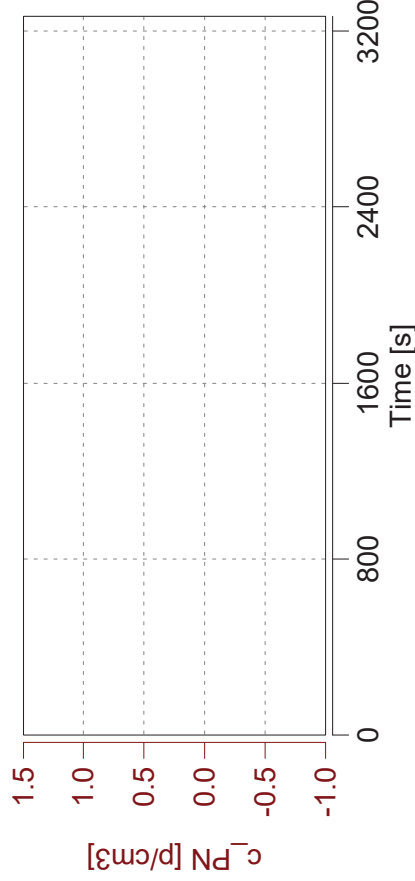
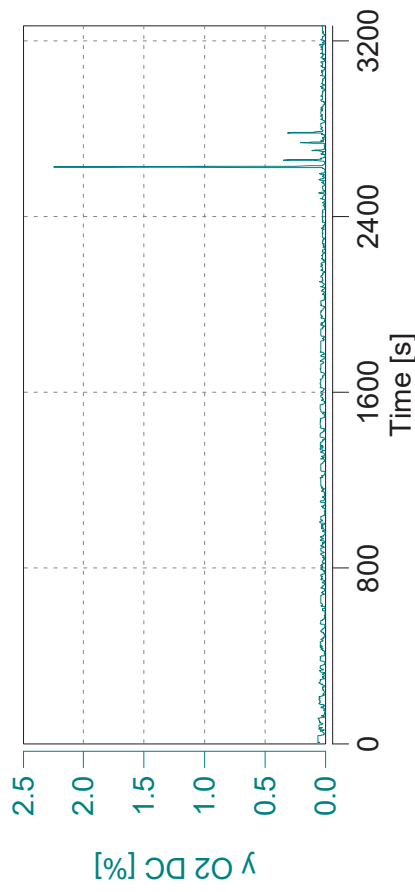
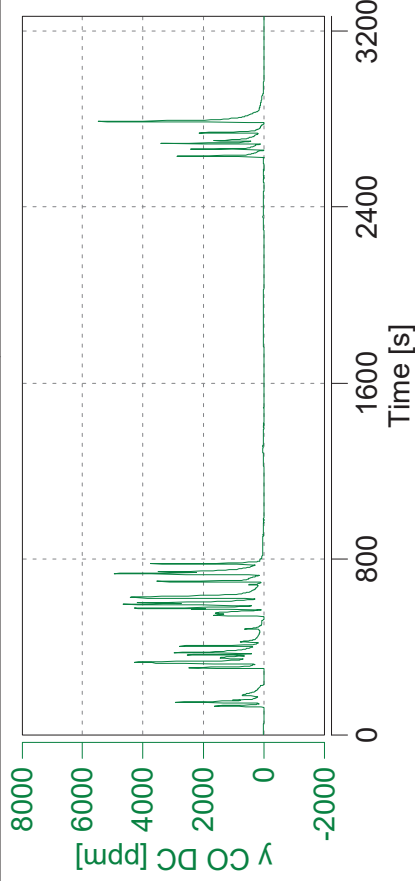
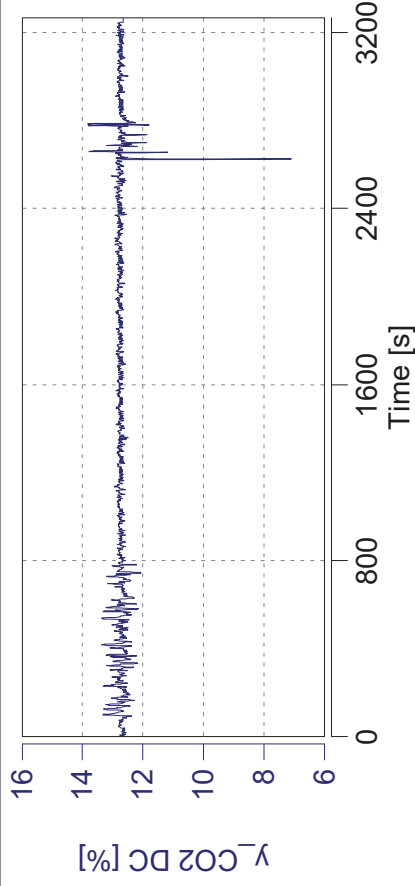
'City'

Start Date: 07/31/2018

Start Time: 20:35:08.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (2)

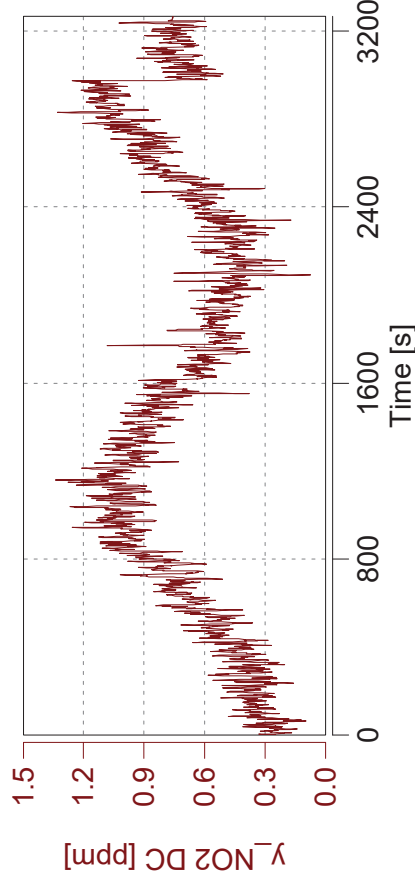
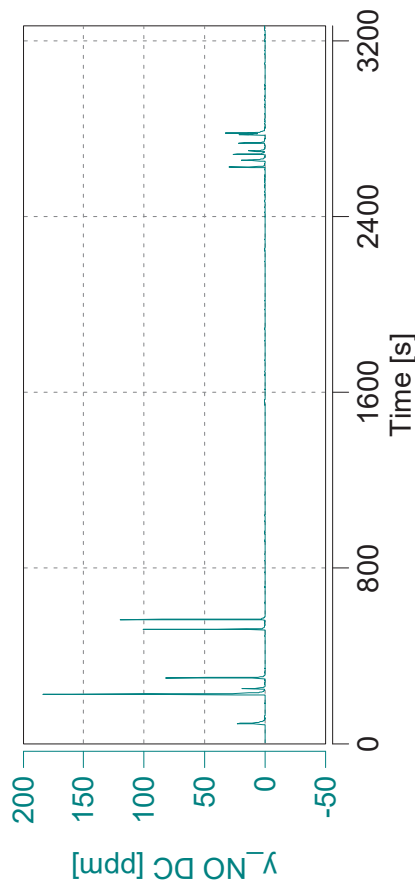
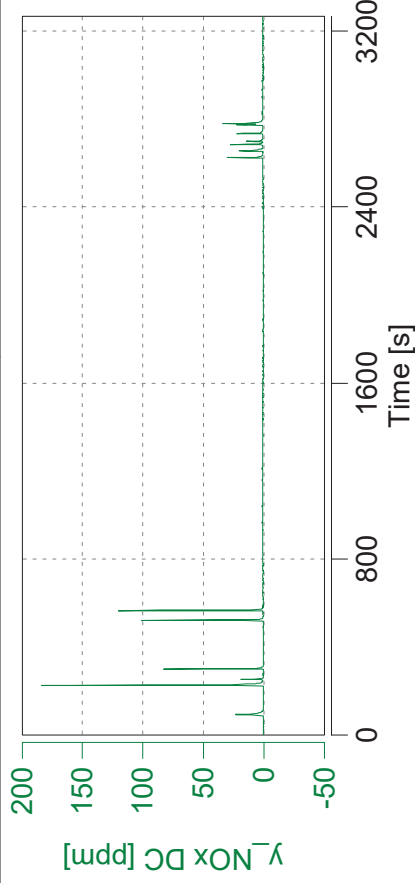
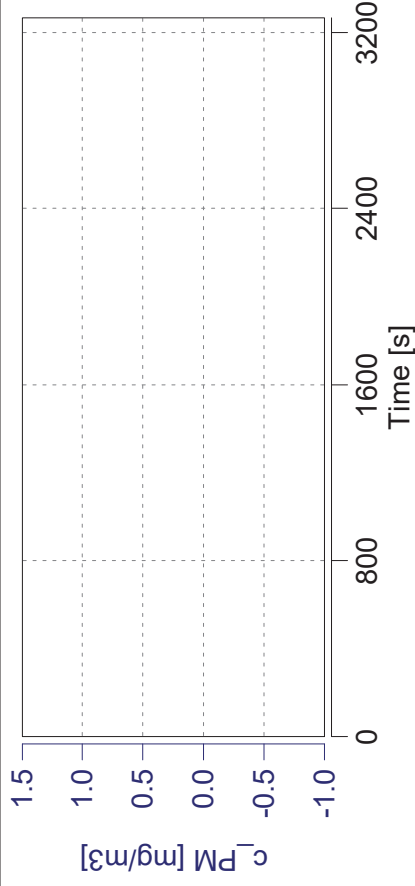
'City'

Start Date: 07/31/2018

Start Time: 20:35:08.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Engine: /

Case: City

Page: Corrected Emissions (3)

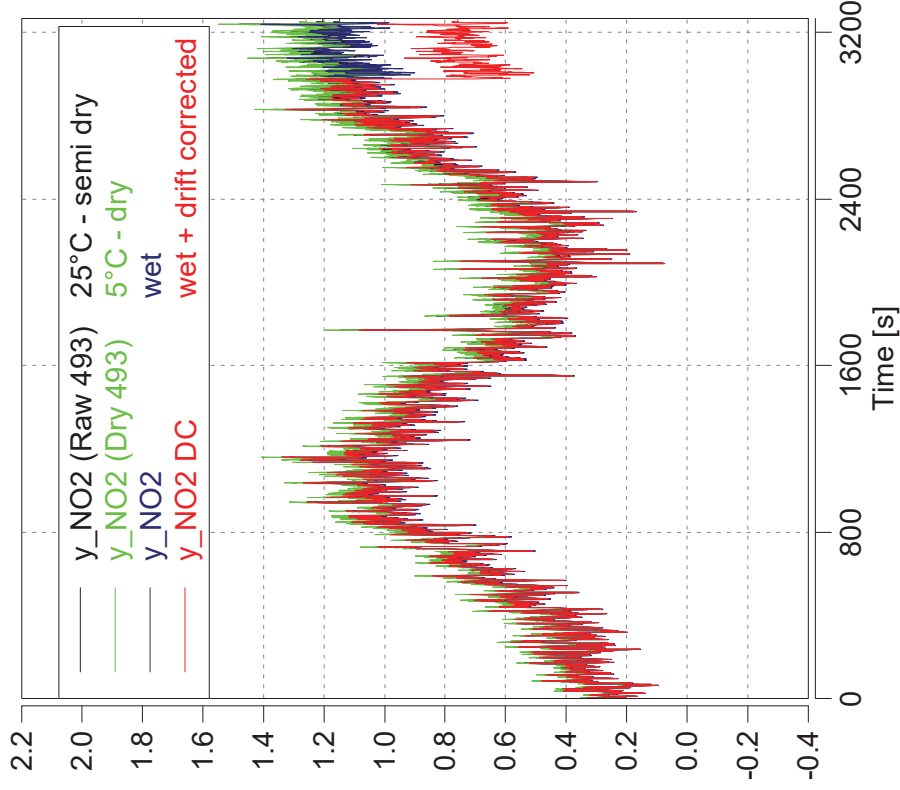
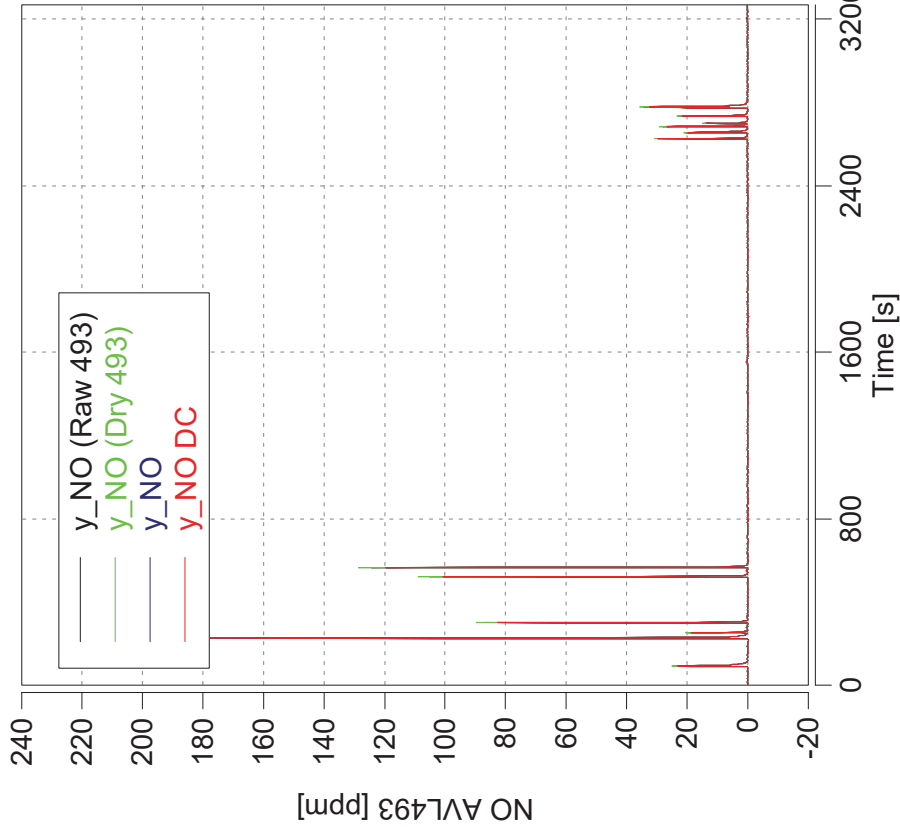
'City'

Start Date: 07/31/2018

Start Time: 20:35:08.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (4) NOx Corrections

'City'

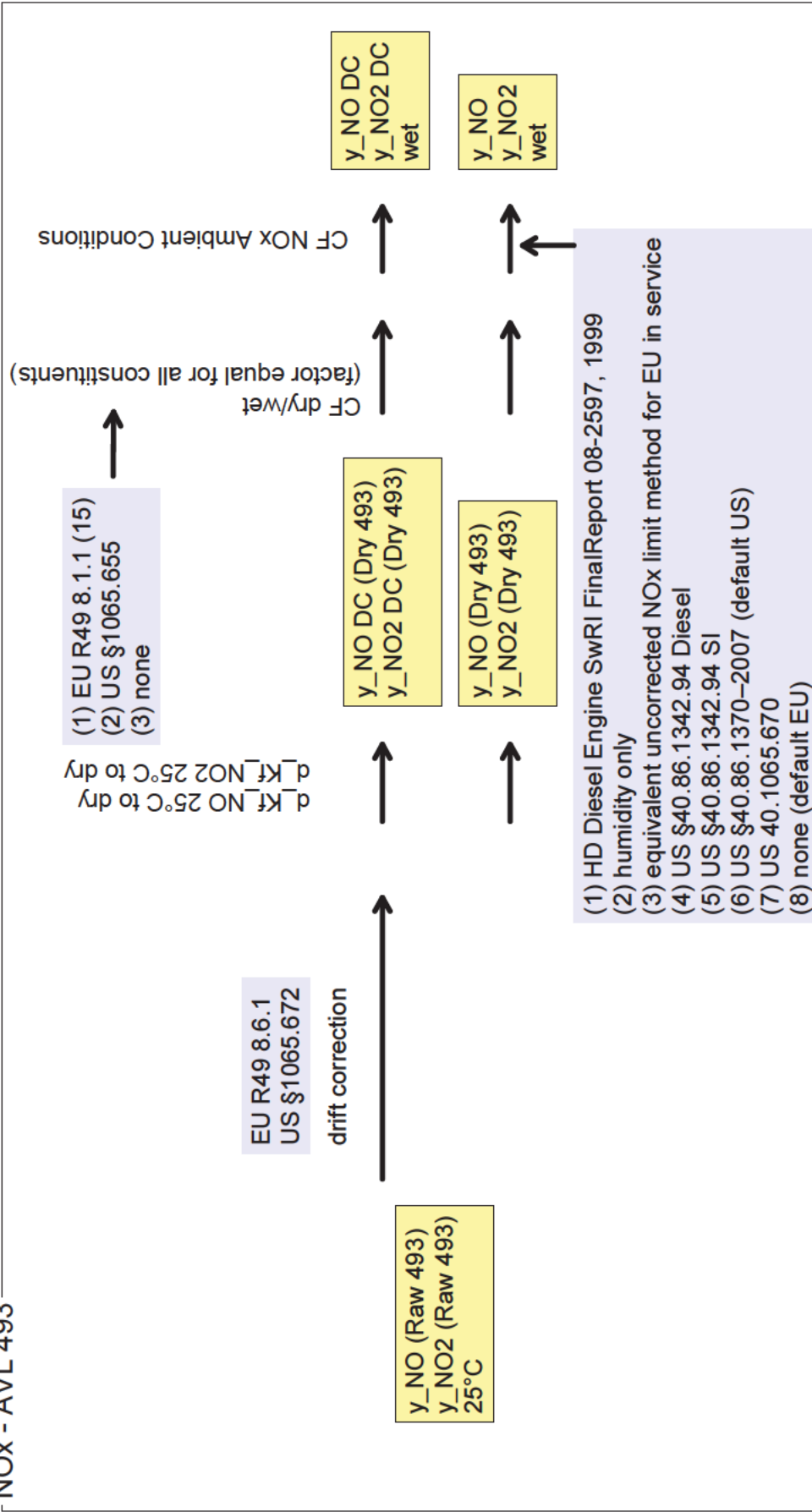
Start Date: 07/31/2018

Start Time: 20:35:08.0



Concerto M.O.V.E., 2018

NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan LTD / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (5)

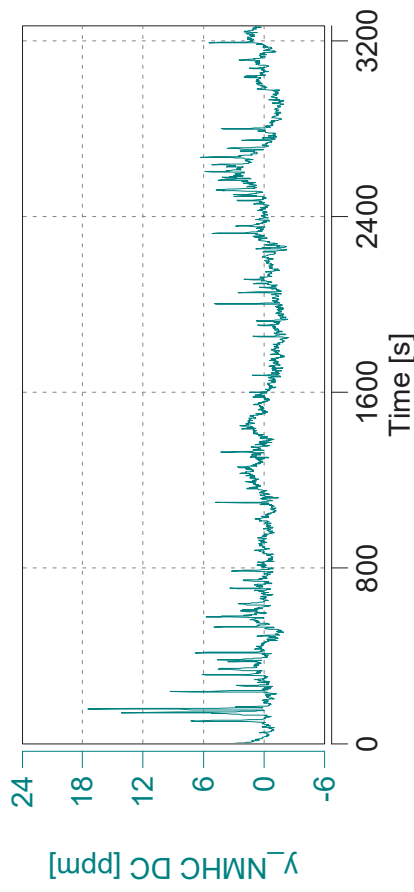
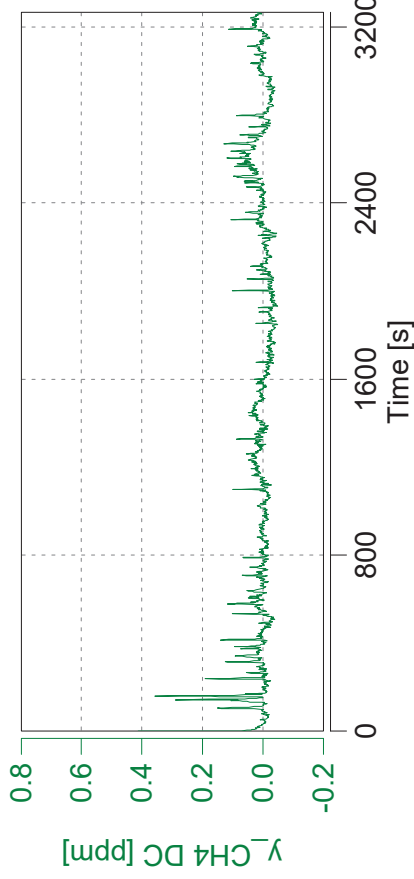
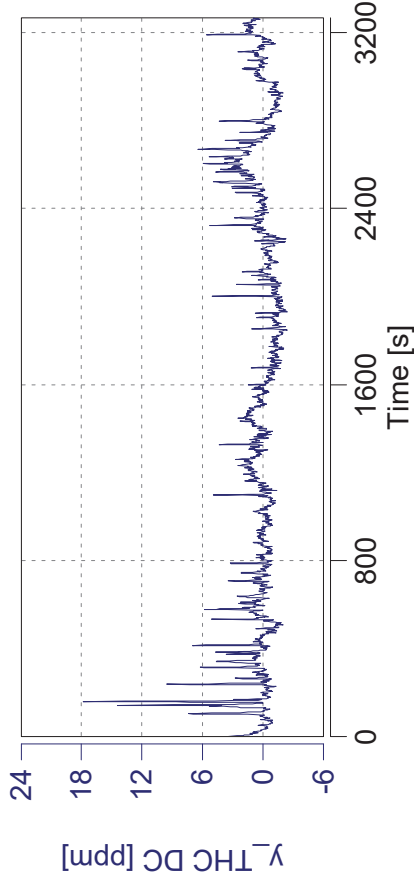
'City'

Start Date: 07/31/2018

Start Time: 20:35:08.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Tiguan LTD / 2.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: NO/NO2/NOx Zero - Span

'City'

Start Date: 07/31/2018

Start Time: 20:35:08.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: CO/CO2 Zero - Span

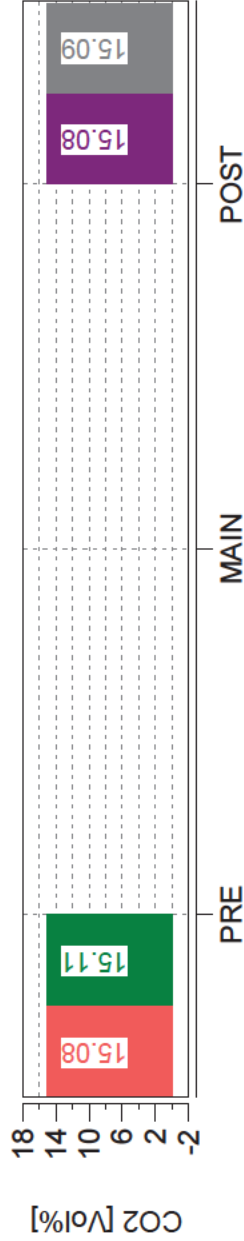
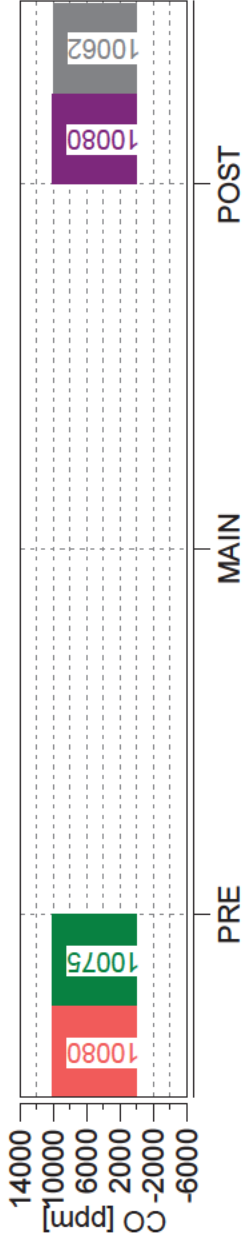
'City'

Start Date: 07/31/2018

Start Time: 20:35:08.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Tiguan LTD / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: THC/CH4 Zero - Span

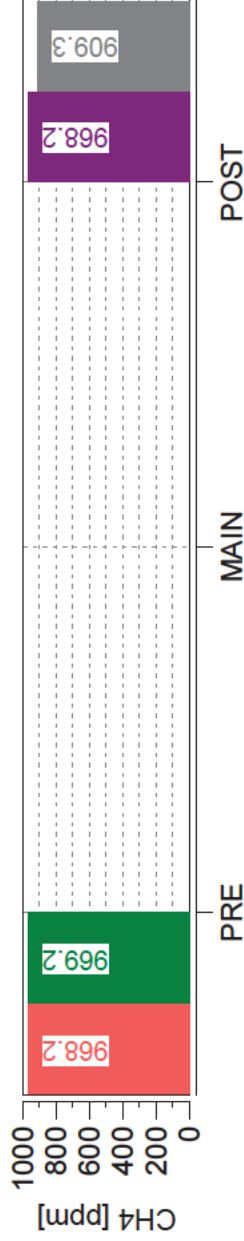
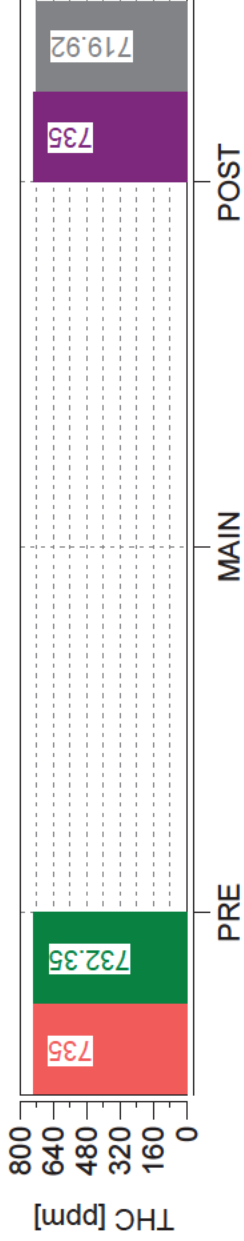
'City'

Start Date: 07/31/2018

Start Time: 20:35:08.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Tiguan LTD / 2.0L

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway
Page: Trip Summary

'Highway'
Start Date: 08/02/2018
Start Time: 13:40:03.0



Concerto M.O.V.E. 2018

Trip Duration	2838.00	s	ave THC	1.59496	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	2838.00	s	ave NMHC	1.56306	ppm	BS CO	n/a	g/hphr
Trip Distance	39.60	mi	ave CH4	0.03190	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	39.60	mi	ave CO	170.12627	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	12.00342	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOX	8.94071	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	3.65	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.60	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.29	gall	tot THC	0.12832	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.27	gall	tot NMHC	0.11870	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00284	g	DS CO2	275.87295	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	25.66351	g	DS CO	0.64810	g/mi
Trip Fuel Economy EU (ac)	30.71	mpg_US	tot CO2	10924.08546	g	DS THC	0.00324	g/mi
Trip Fuel Economy US (ac)	31.09	mpg_US	tot NO (d)	0.41390	g	DS NMHC	0.00300	g/mi
Trip Av. Eng. Speed	2058.88	rpm	tot NO2	0.05821	g	DS CH4	0.00007	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.47211	g	DS NO (d)	0.01045	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	0.00147	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.01192	g/mi
Trip Exhaust Mass	57.50	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	82.81	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	50.36	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	50.23034	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	3.24172	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 4R8.4.2_Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /
Vehicle: Jetta / 1.4L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Trip Summary Drift Corrected

'Highway'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E. 2018

Trip Duration	2838.00	s	ave THC DC	1.76714	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	2838.00	s	ave NMHC DC	1.73180	ppm	BS CO DC	n/a	g/hphr
Trip Distance	39.60	mi	ave CH4 DC	0.03534	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	39.60	mi	ave CO DC	170.23075	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	12.00740	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	8.96906	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	3.65	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.60	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.29	gall	tot THC DC	0.13197	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.27	gall	tot NMHC DC	0.12207	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.00292	g	DS CO2 DC	275.96445	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	25.68114	g	DS CO DC	0.64854	g/mi
Trip Fuel Economy EU (ac)	30.71	mpg_US	tot CO2 DC	10927.70871	g	DS THC DC	0.00333	g/mi
Trip Fuel Economy US (ac)	31.09	mpg_US	tot NO DC (d)	0.41524	g	DS NMHC DC	0.00308	g/mi
Trip Av. Eng. Speed	2058.88	rpm	tot NO2 DC	0.05830	g	DS CH4 DC	0.00007	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.47354	g	DS NO DC (d)	0.01049	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	0.00147	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.01196	g/mi
Trip Exhaust Mass	57.50	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	82.81	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	50.36	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	50.23034	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	3.24172	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Time Alignment Check

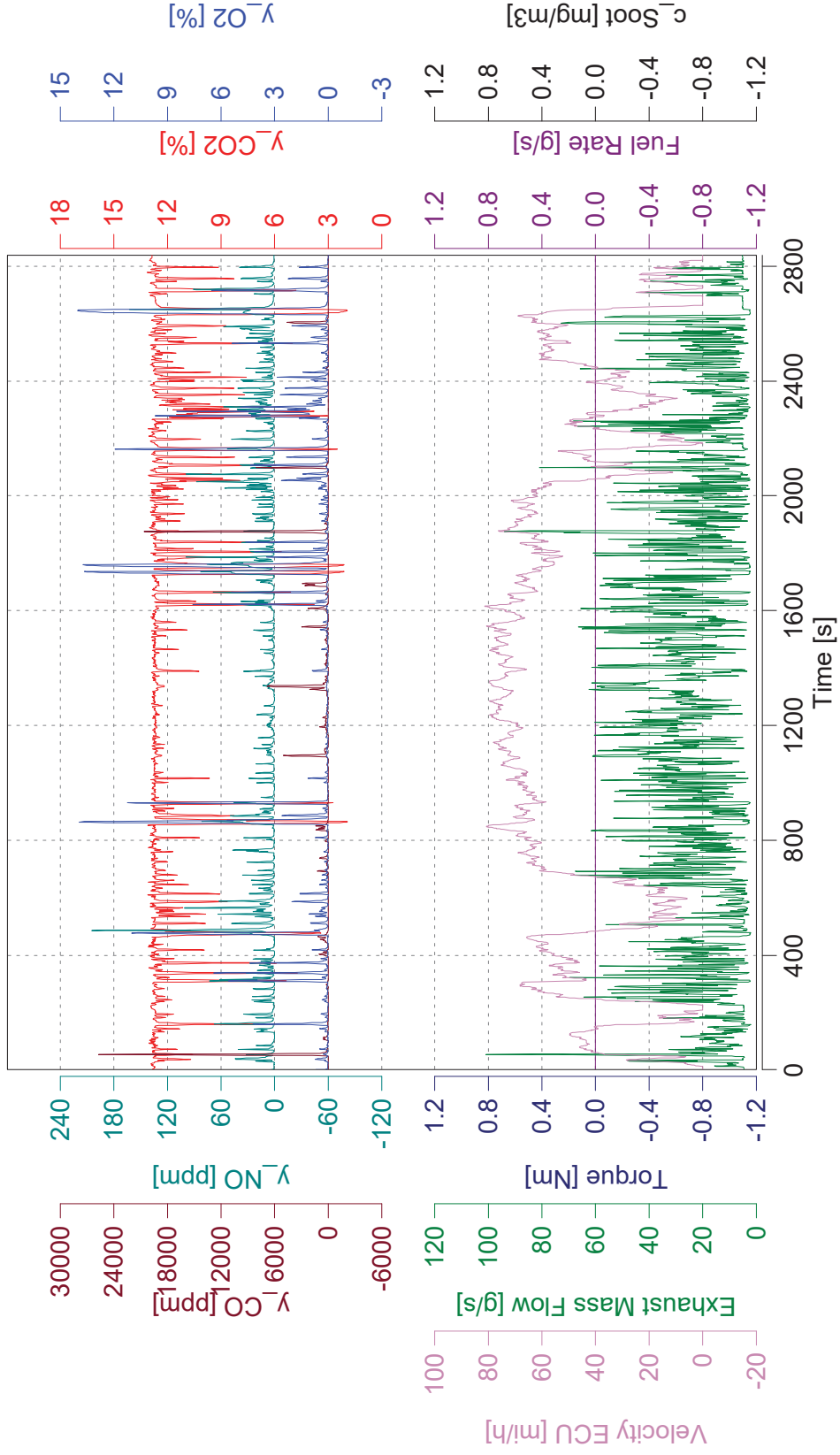
'Highway'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Time Alignment of Gas Concentrations

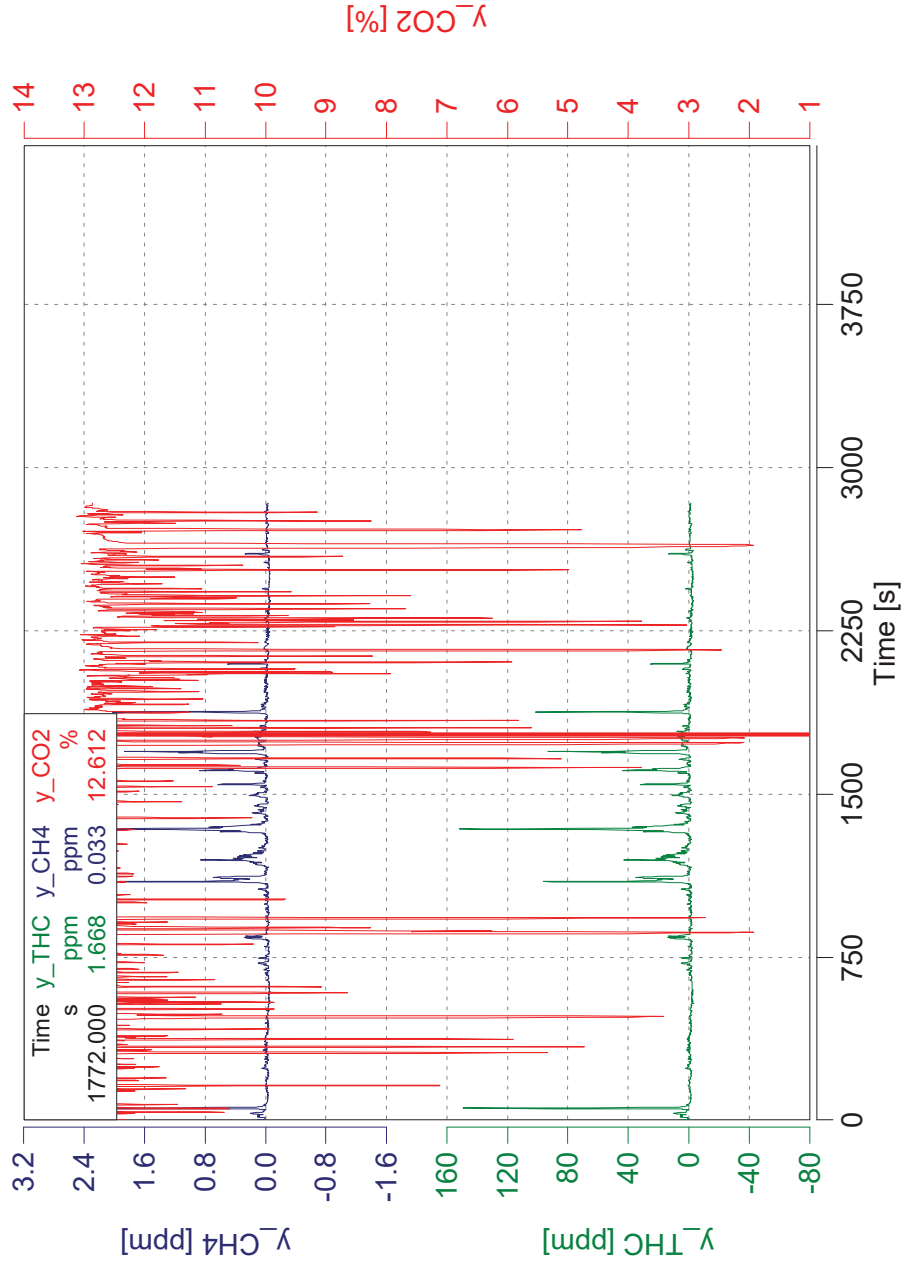
'Highway'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

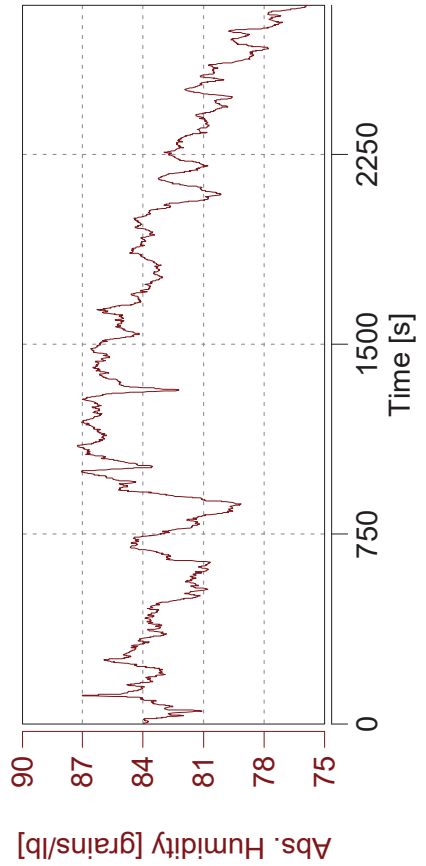
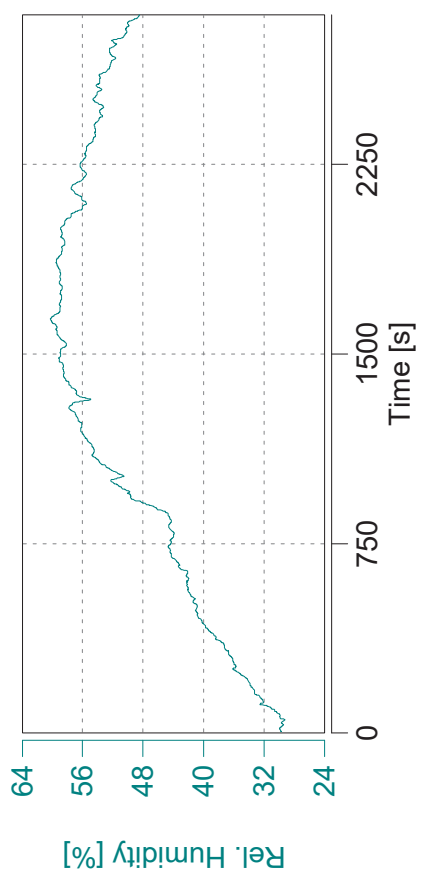
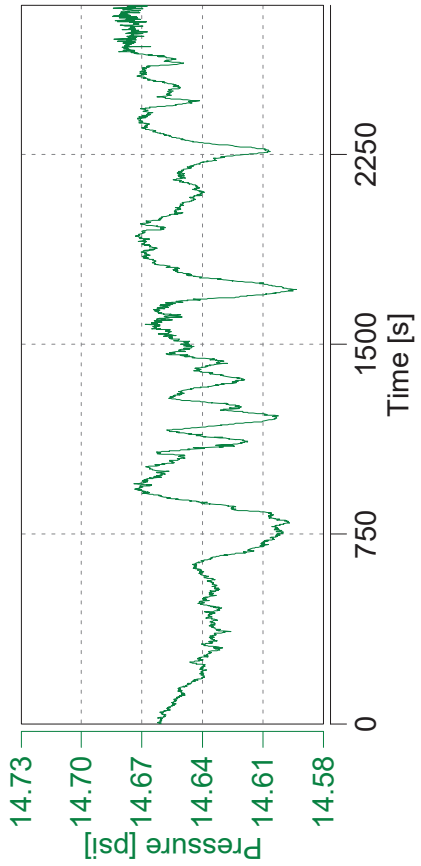
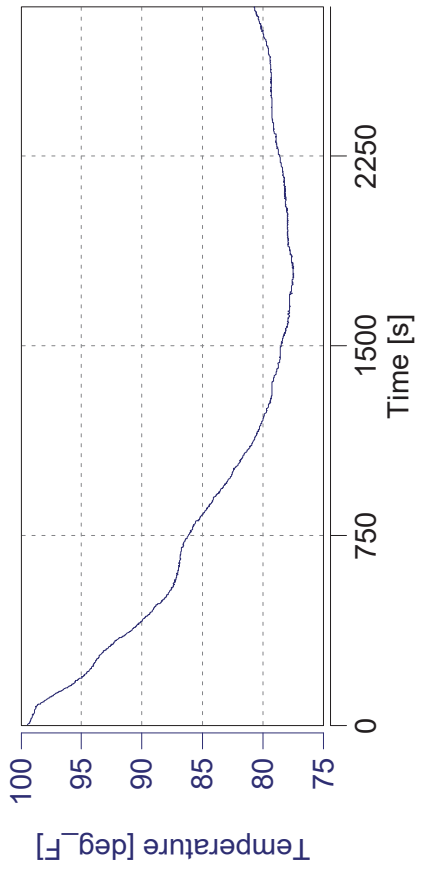
Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Case: Highway

Page: GPS

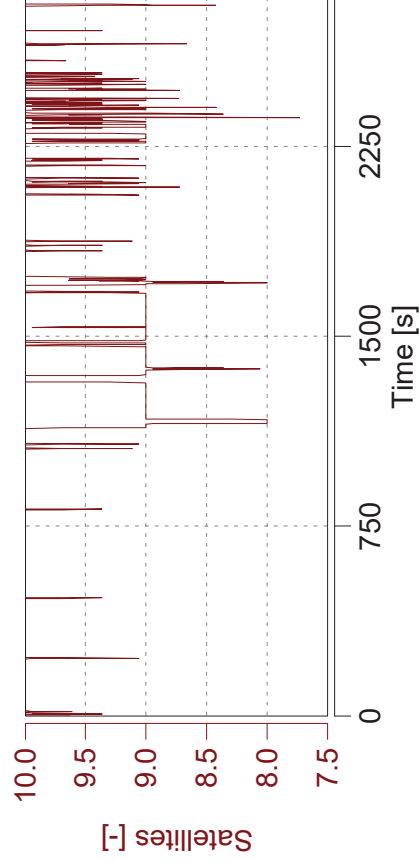
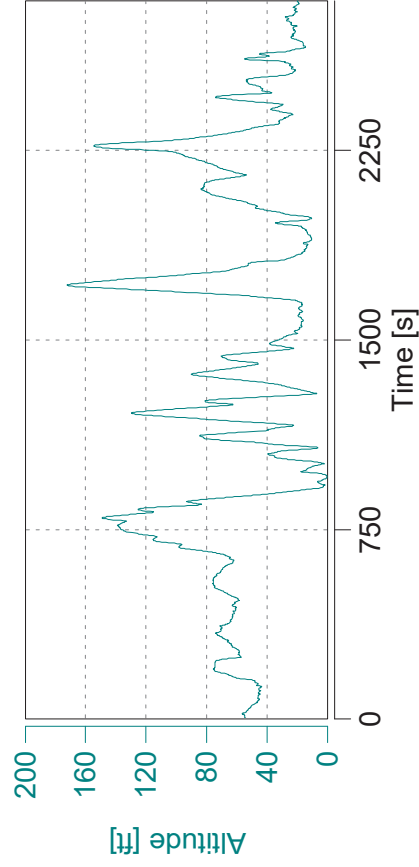
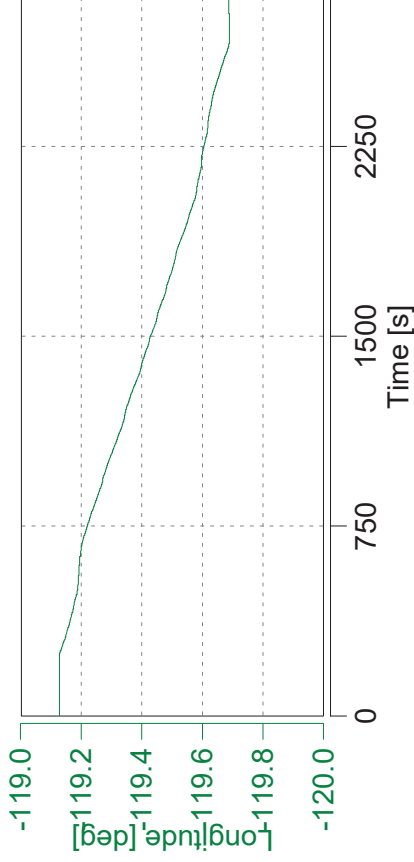
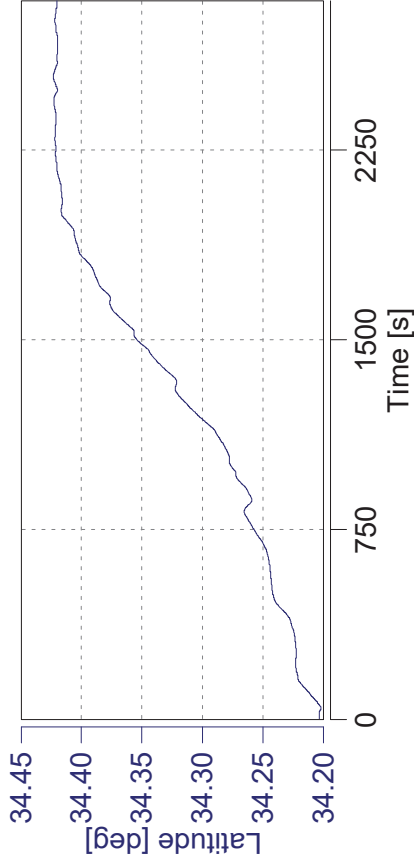
'Highway'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Jetta / 1.4L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (1)

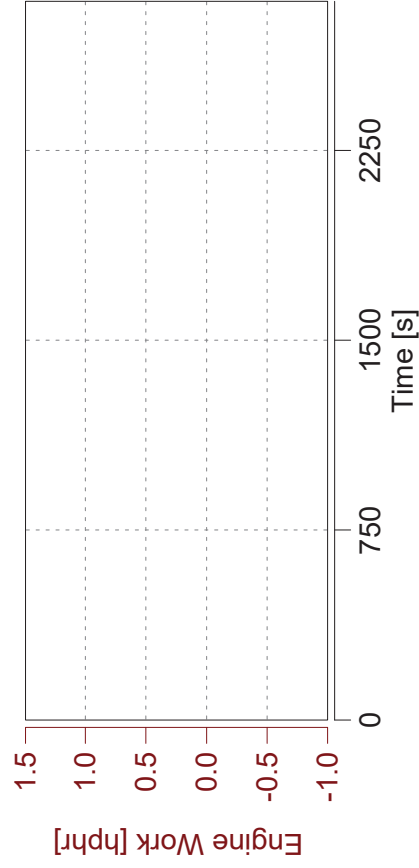
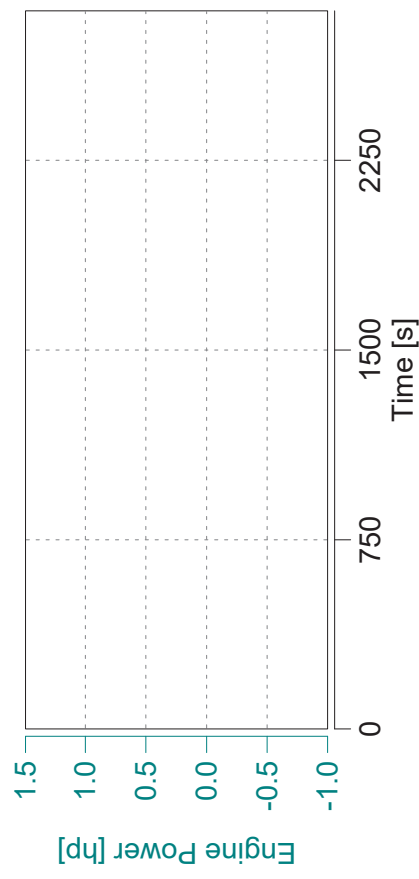
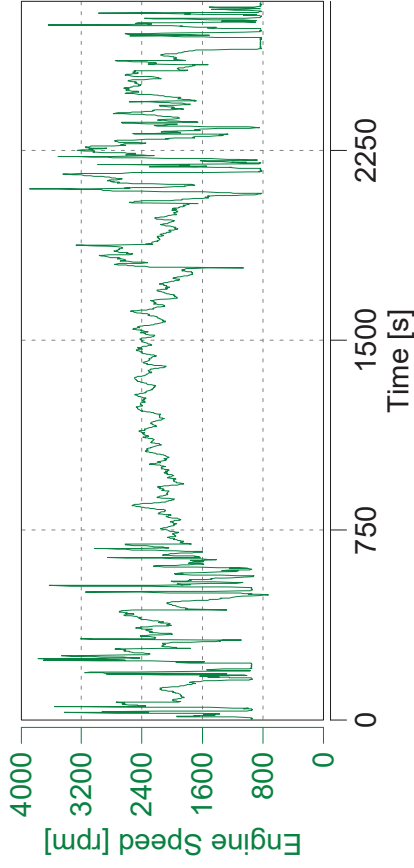
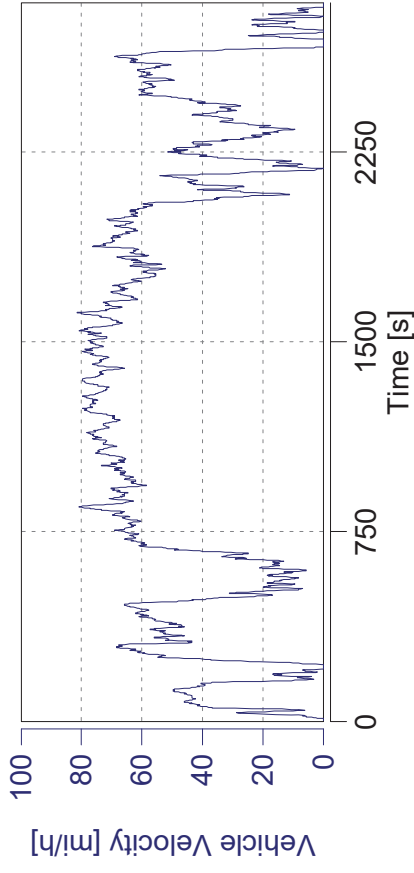
'Highway'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (2)

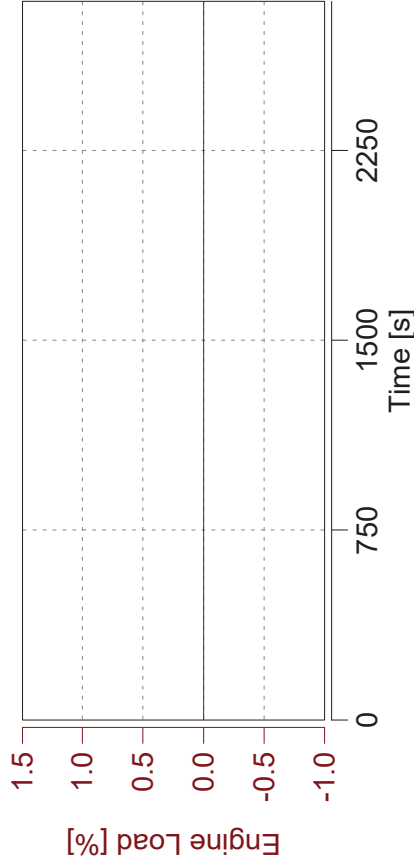
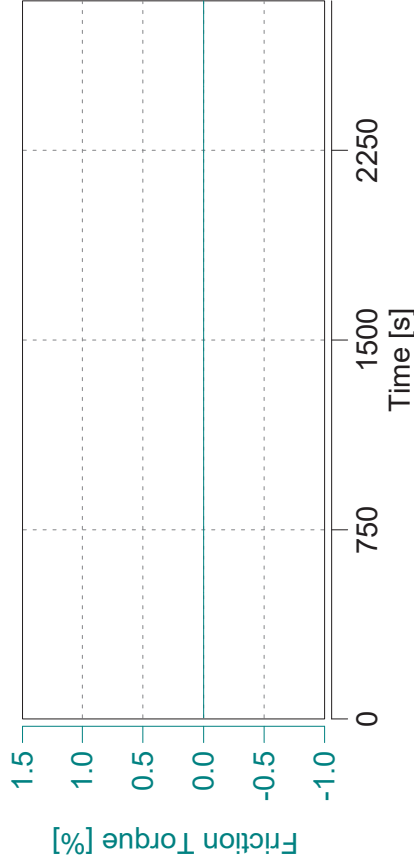
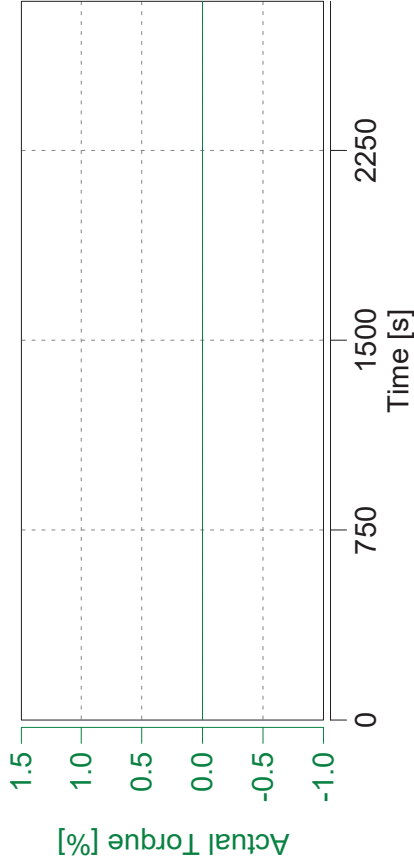
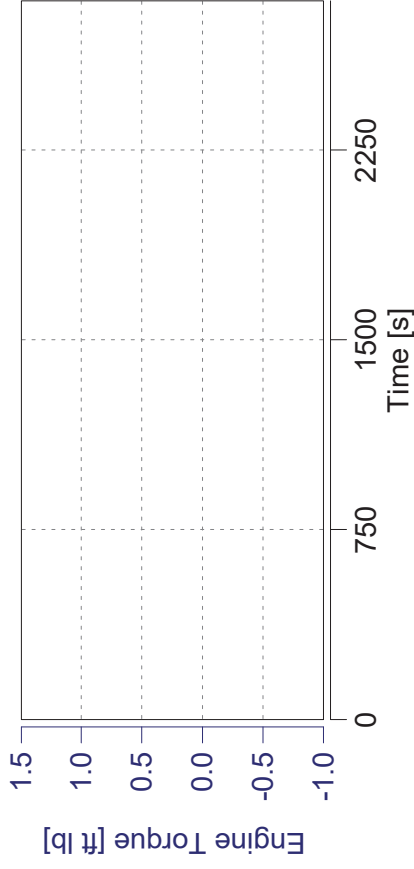
'Highway'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (3)

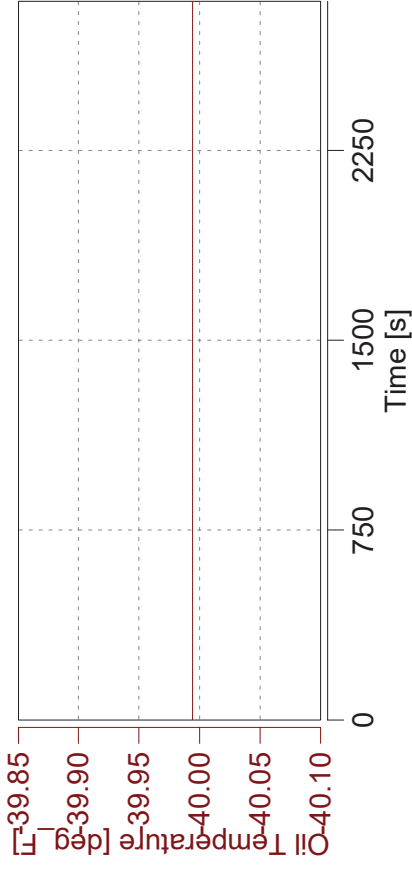
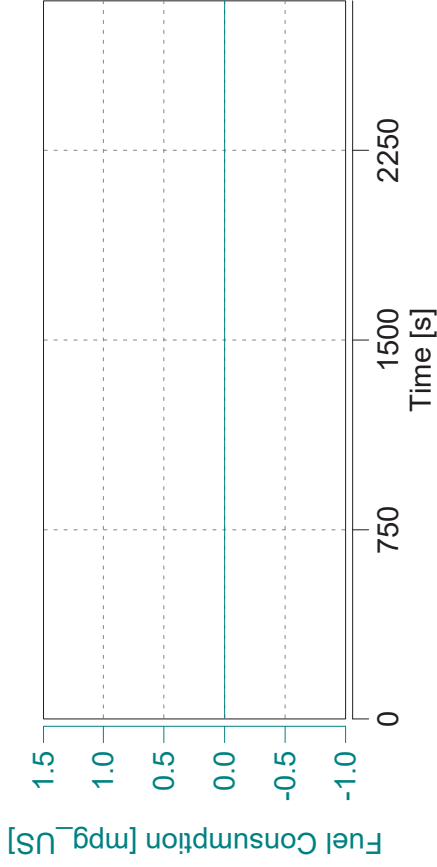
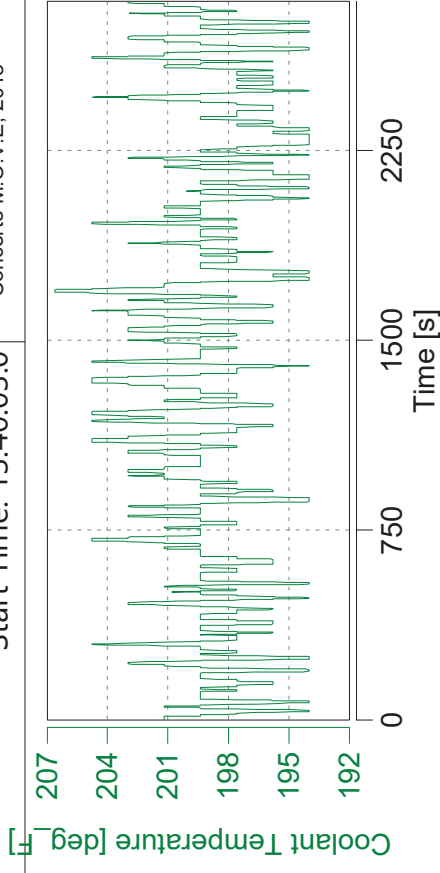
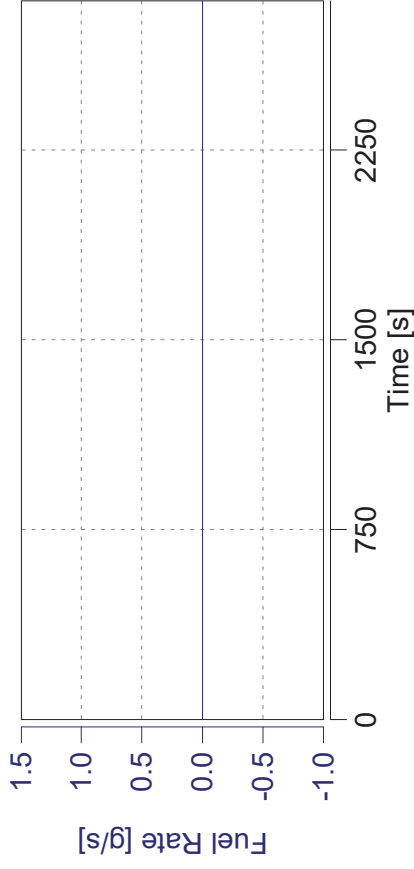
'Highway'

Start Date: 08/02/2018

Start Time: 13:40:03.0

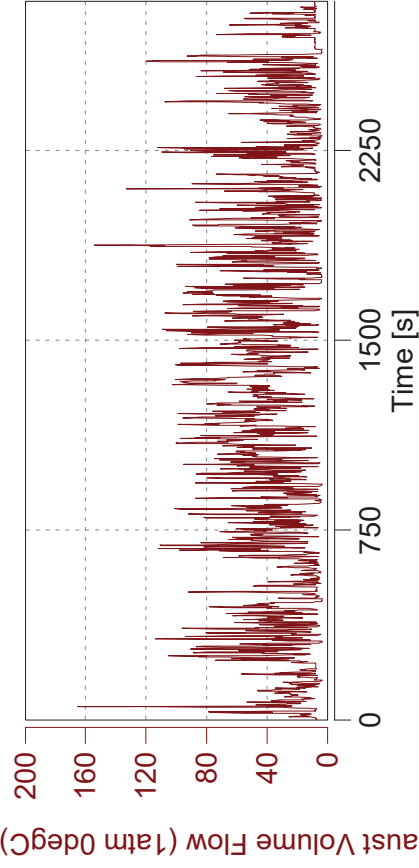
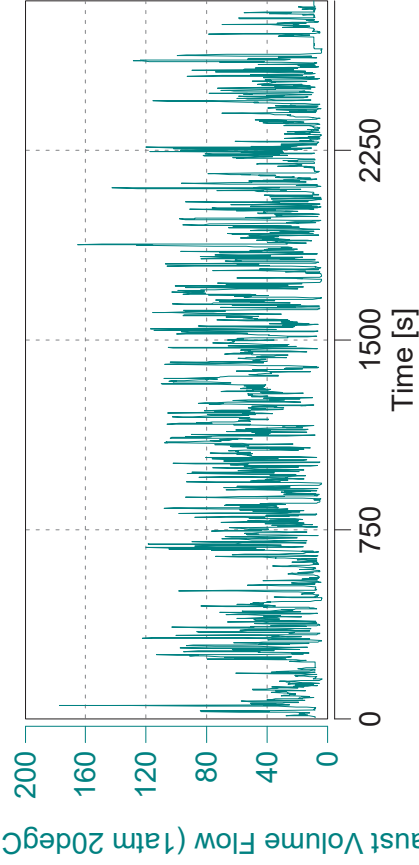
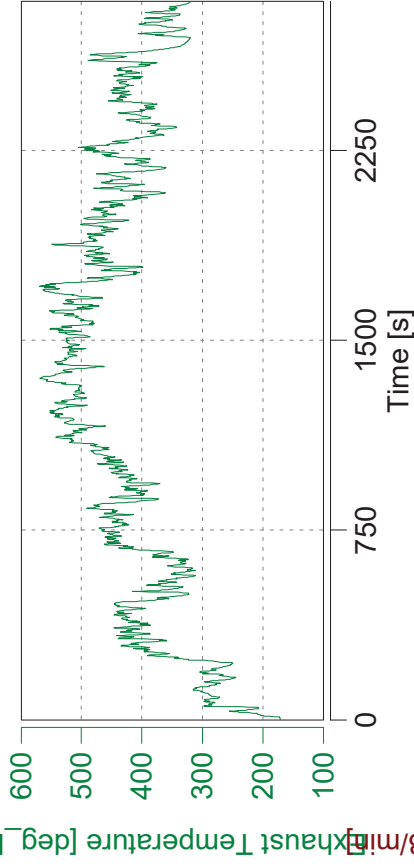
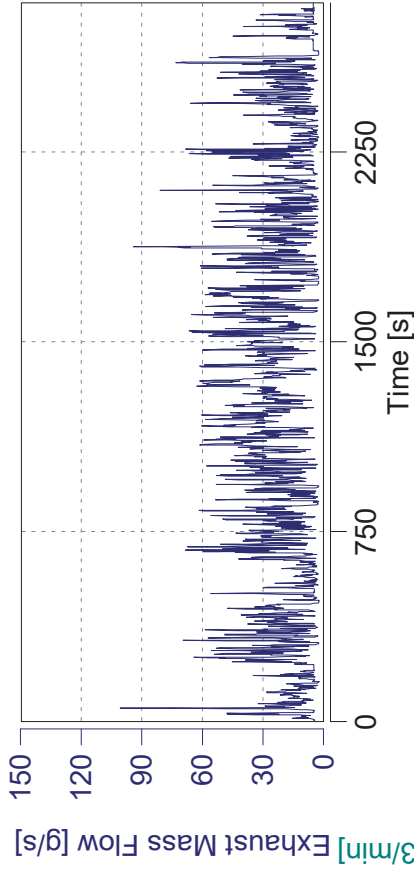


Concerto M.O.V.E., 2018



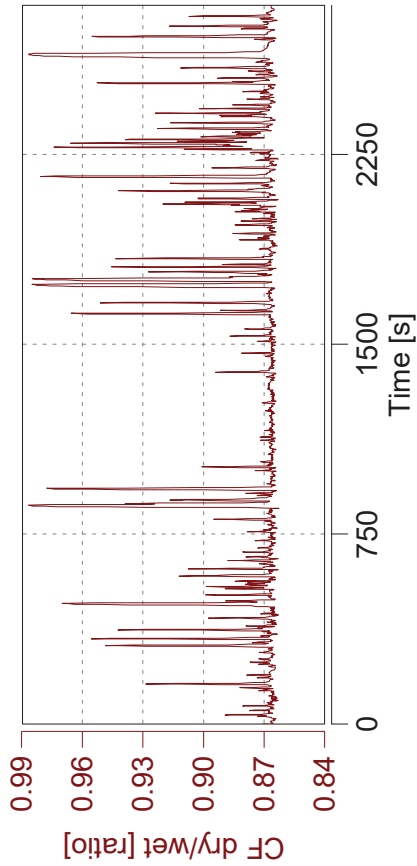
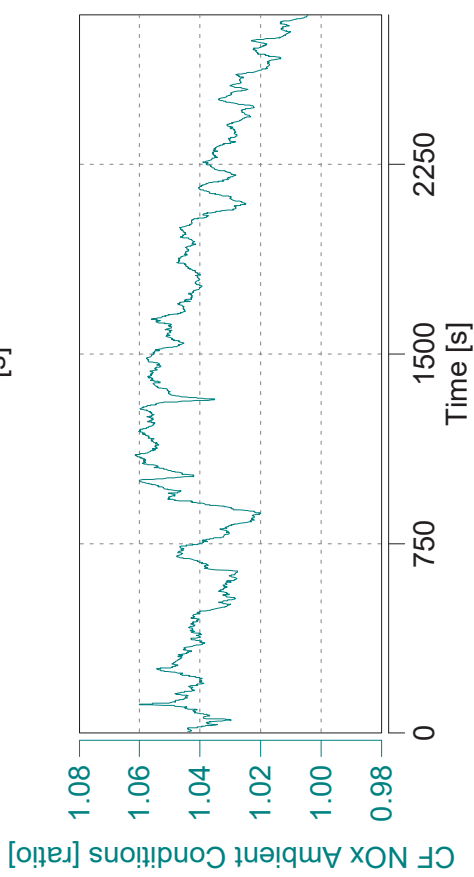
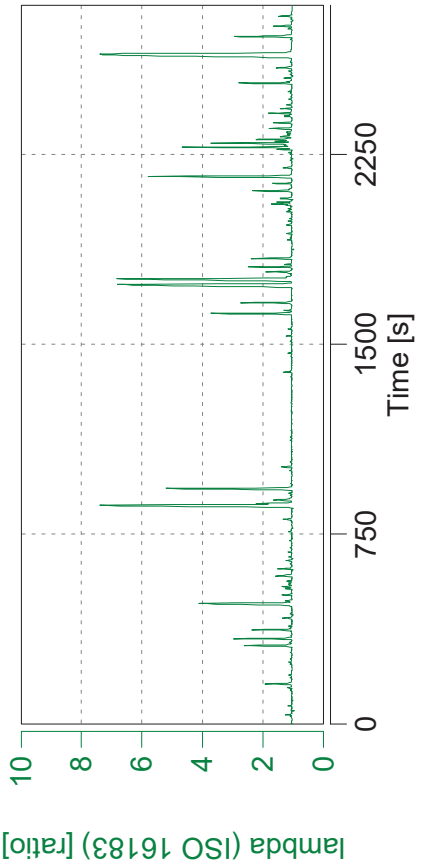
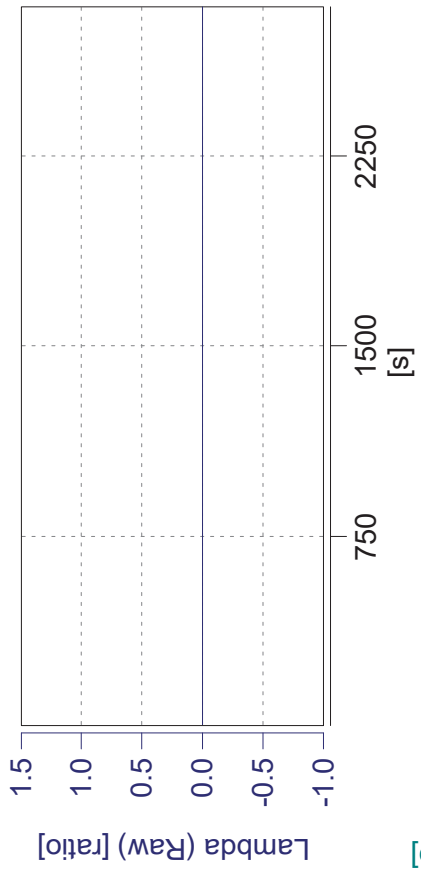
Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Jetta / 1.4L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Case: Highway
 Page: Exhaust Flow (2)

'Highway'
 Start Date: 08/02/2018
 Start Time: 13:40:03.0



Concerto Version: 480 Build 316, Serial Number: 1120
 M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Jetta / 1.4L
 Engine: /
 NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (1)

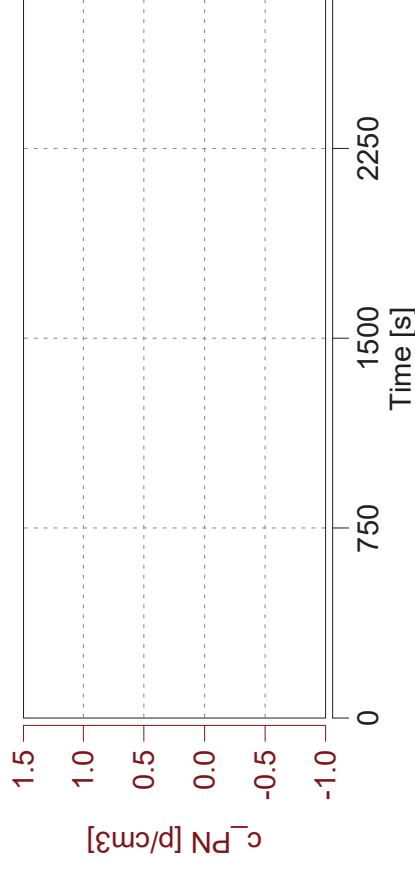
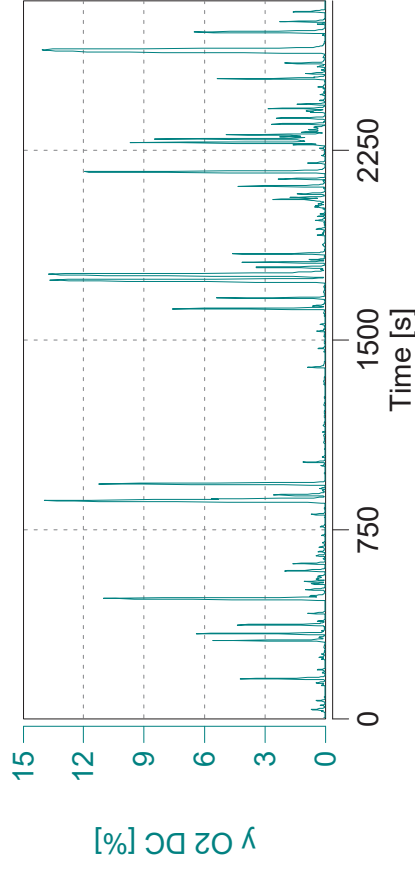
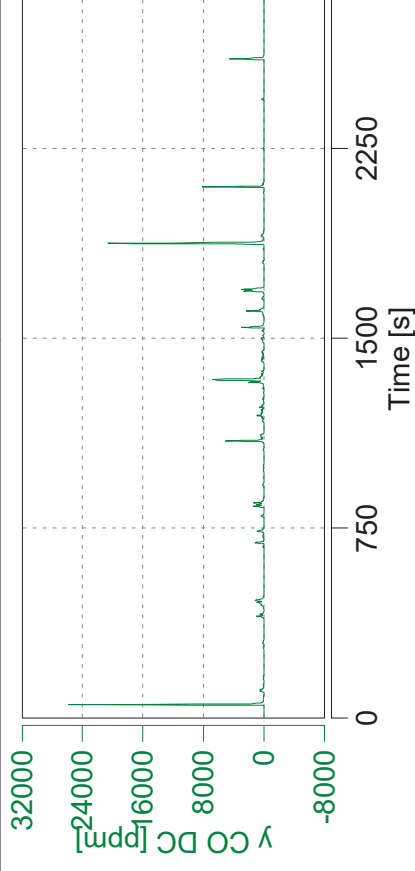
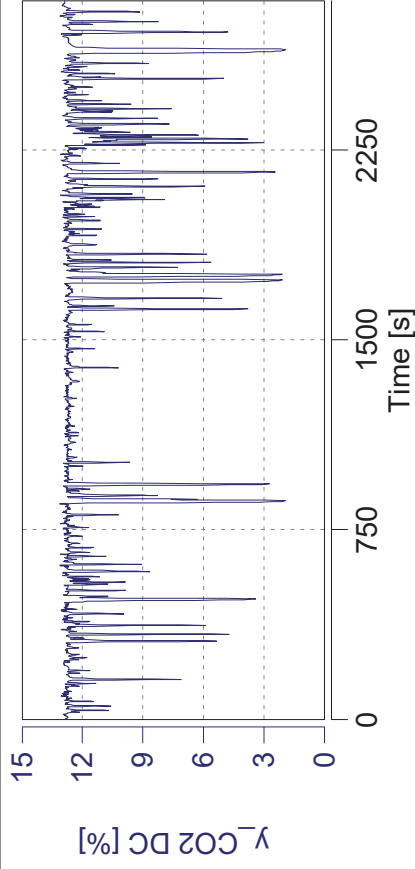
'Highway'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Jetta / 1.4L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (2)

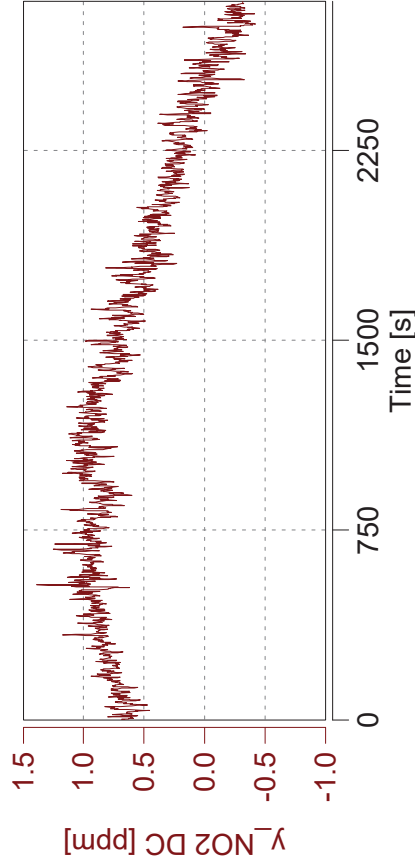
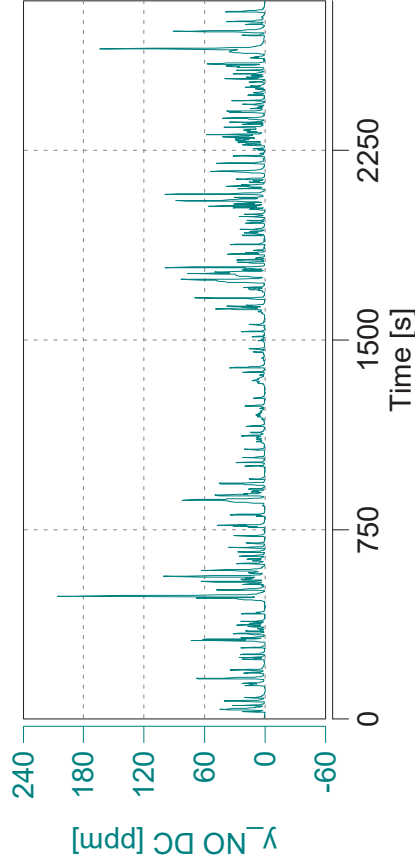
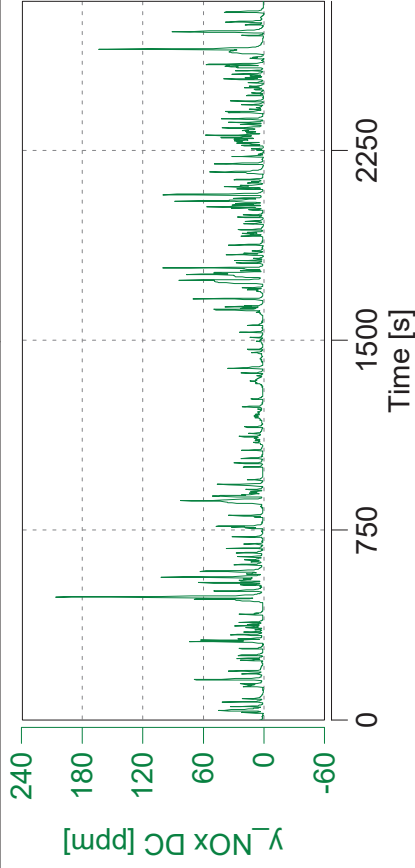
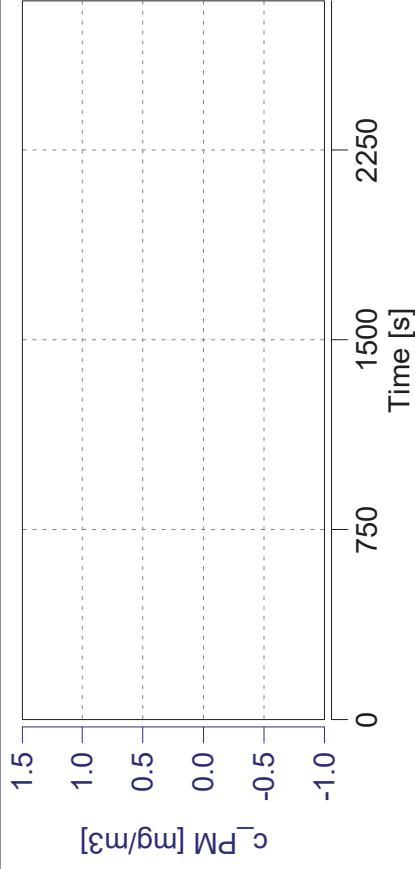
'Highway'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Jetta / 1.4L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (3)

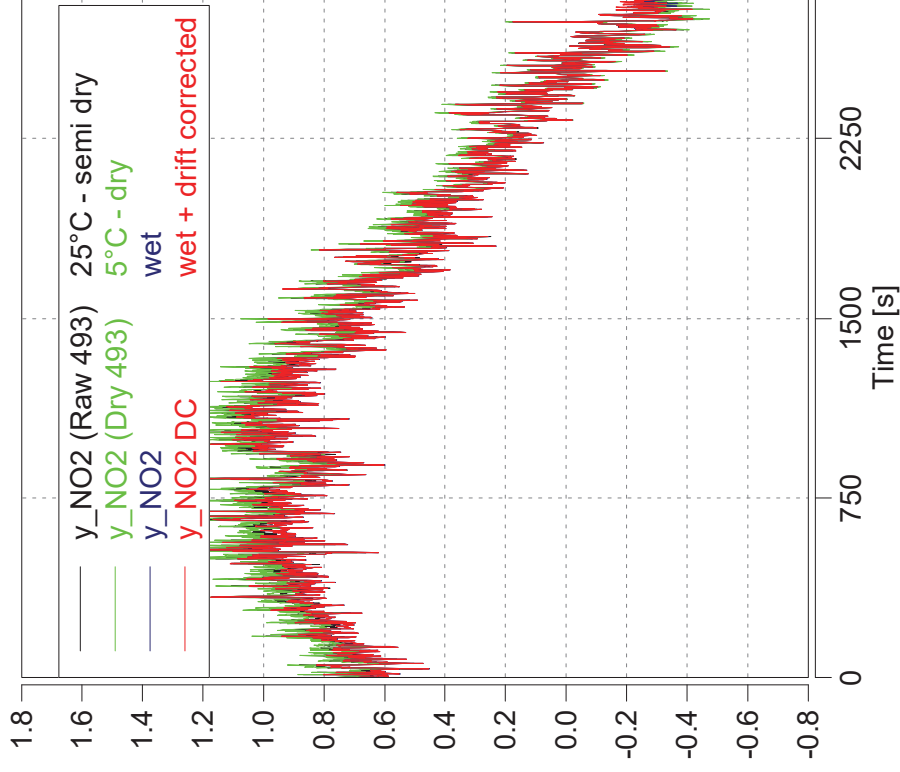
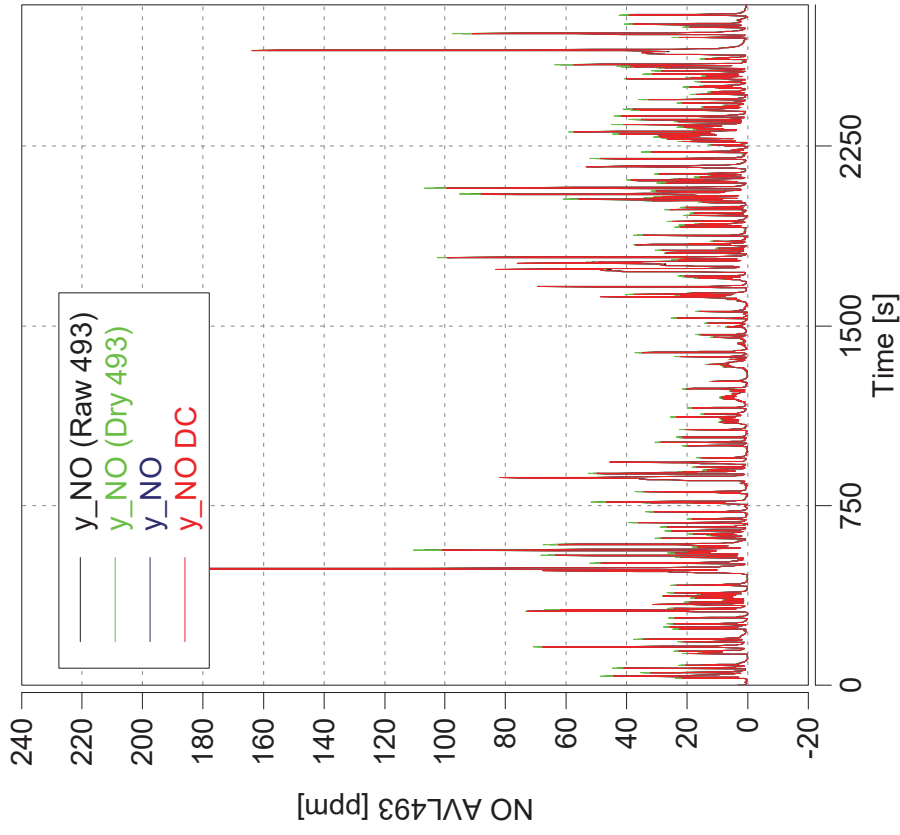
'Highway'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Jetta / 1.4L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (4) NOx Corrections

'Highway'

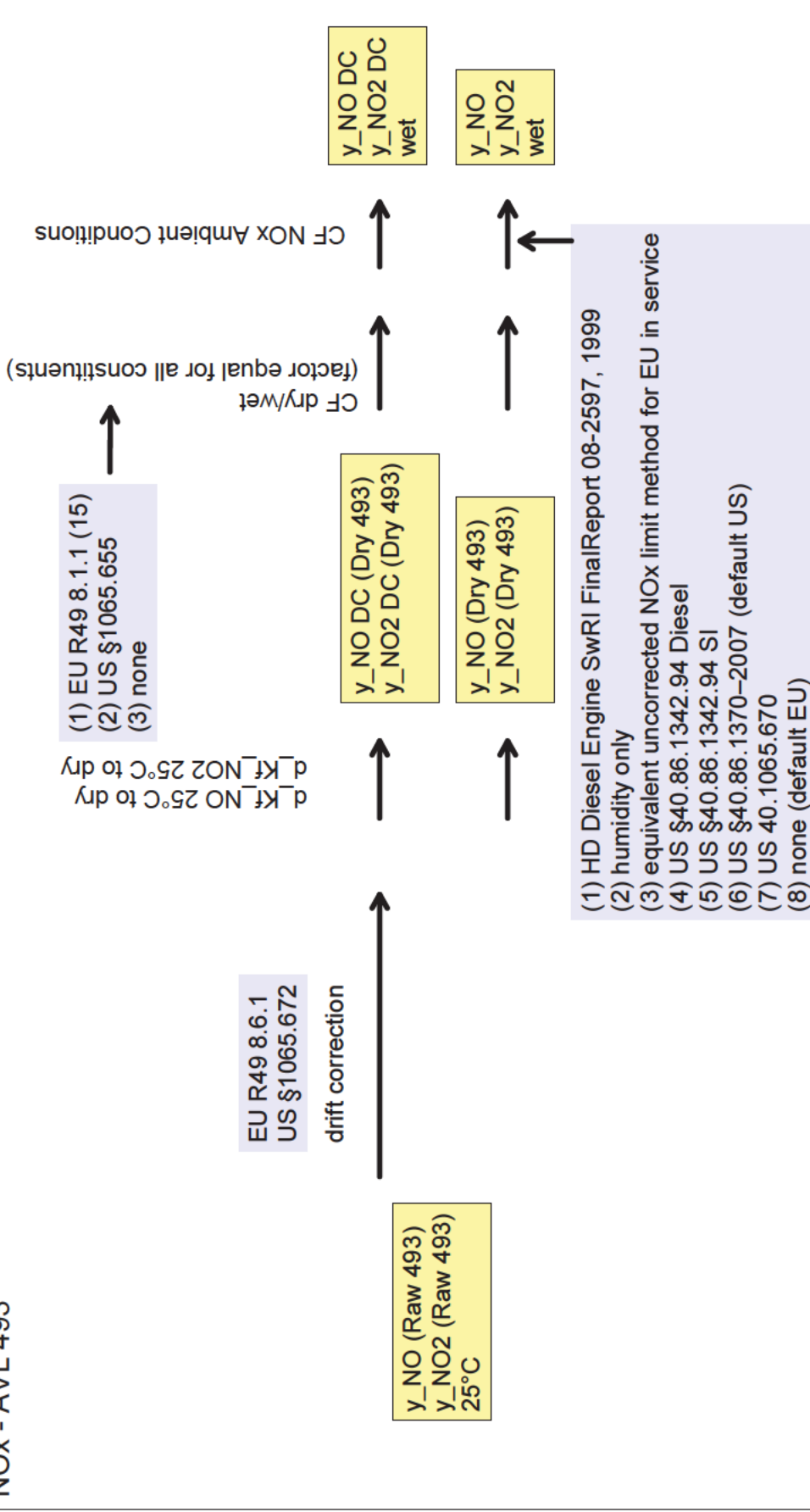
Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018

NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine /

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (5)

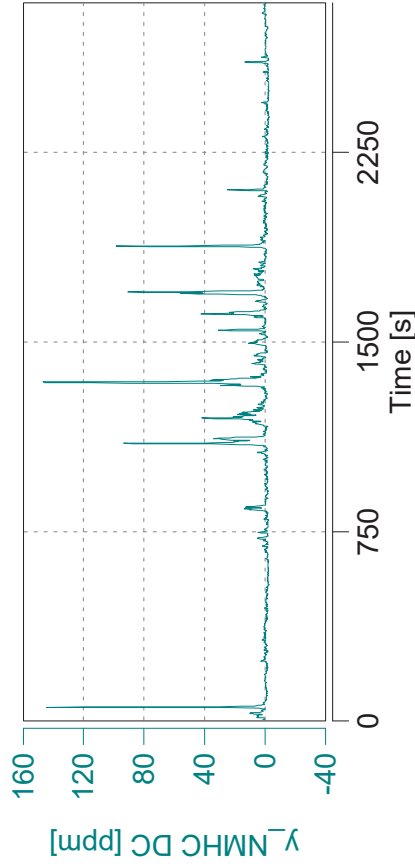
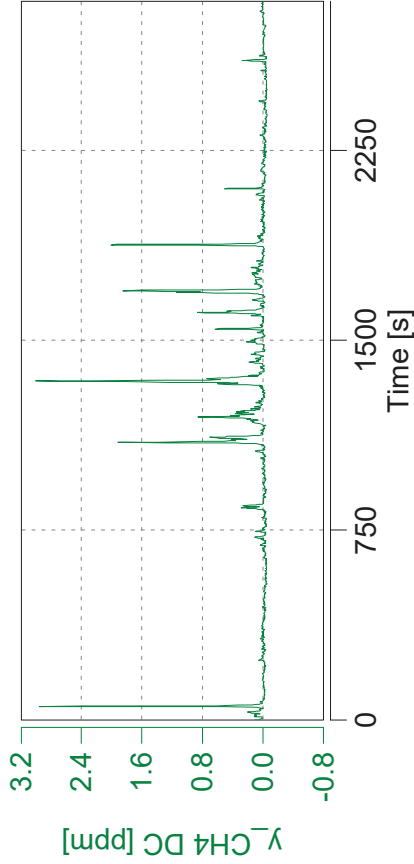
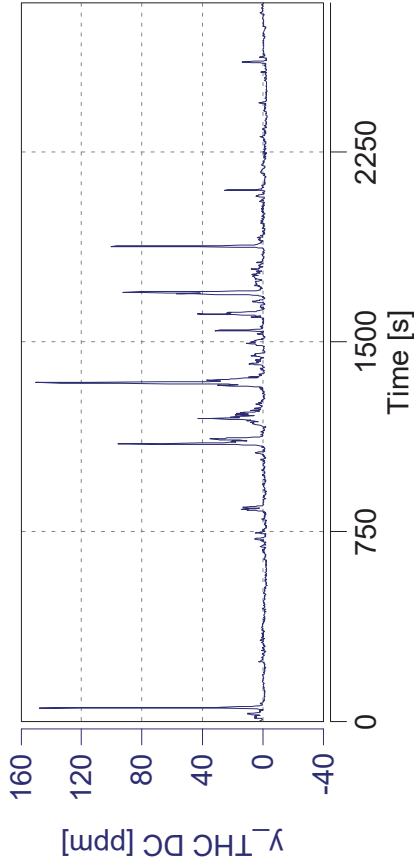
'Highway'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Engine: /
Vehicle: Jetta / 1.4L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: NO/NO2/NOx Zero - Span

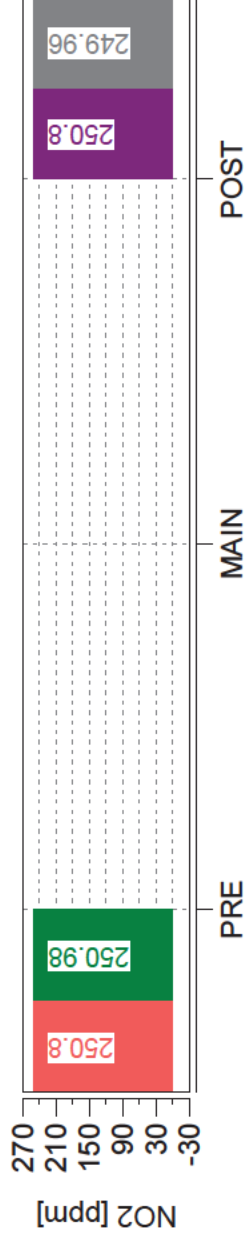
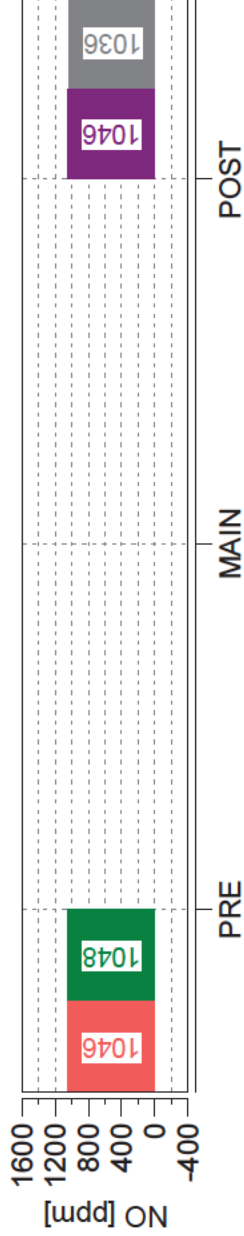
'Highway'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



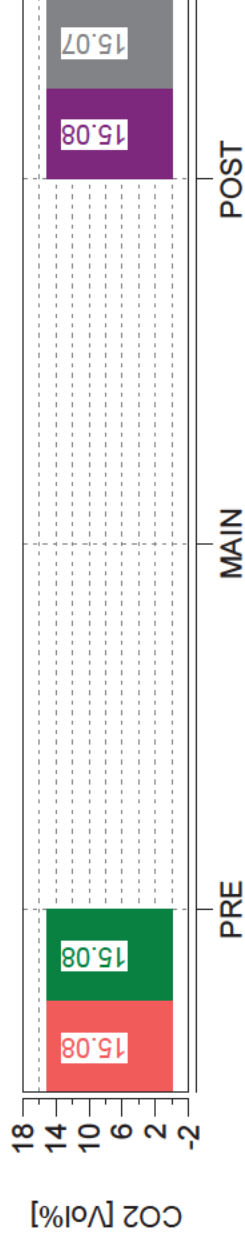
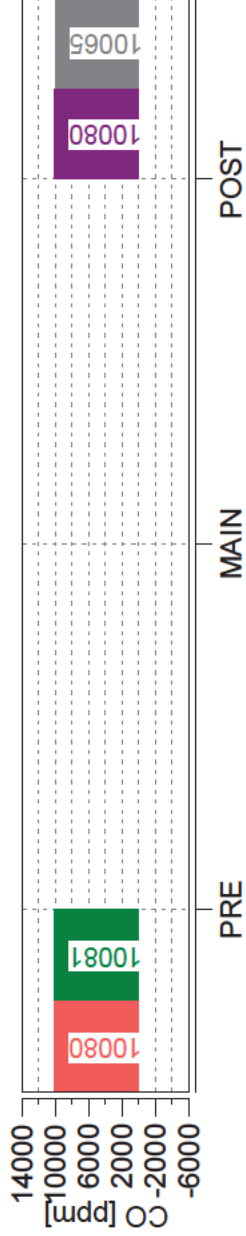
Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Case: Highway

Page: THC/CH4 Zero - Span

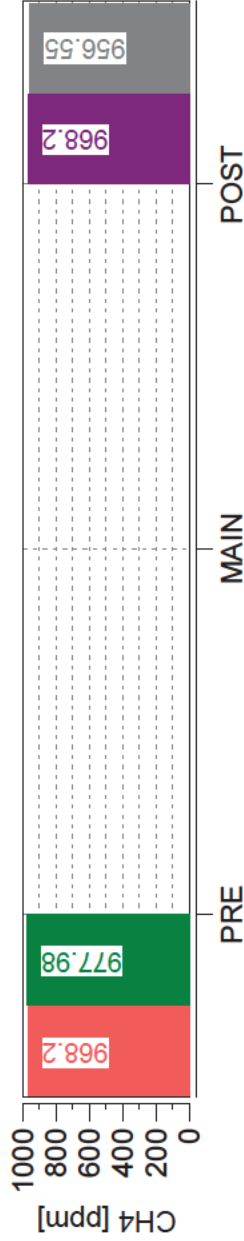
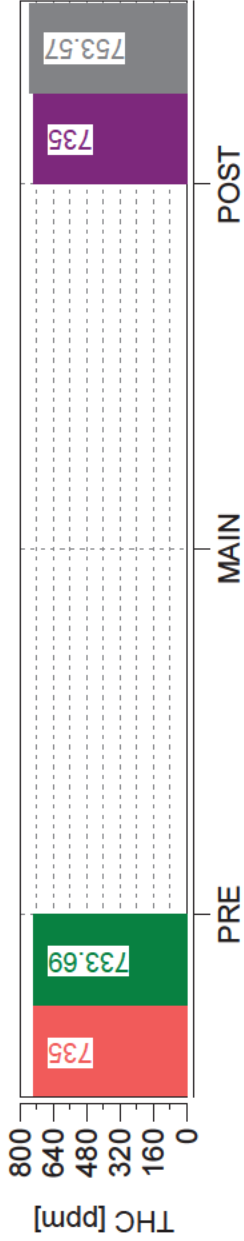
'Highway'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Trip Summary

'Mountain'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E. 2018

Trip Duration	3148.00	s	ave THC	10.22970	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	3148.00	s	ave NMHC	10.02511	ppm	BS CO	n/a	g/hphr
Trip Distance	29.45	mi	ave CH4	0.20459	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	29.45	mi	ave CO	348.61596	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	10.74012	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx	10.39617	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	3.11	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.08	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.10	gall	tot THC	0.47268	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.09	gall	tot NMHC	0.43724	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.01048	g	DS CO2	314.54237	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	64.03472	g	DS CO	2.17448	g/mi
Trip Fuel Economy EU (ac)	26.77	mpg_US	tot CO2	9262.74610	g	DS THC	0.01605	g/mi
Trip Fuel Economy US (ac)	27.07	mpg_US	tot NO (d)	0.66005	g	DS NMHC	0.01485	g/mi
Trip Av. Eng. Speed	1987.80	rpm	tot NO2	0.01154	g	DS CH4	0.00036	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.67159	g	DS NO (d)	0.02241	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	0.00039	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.02281	g/mi
Trip Exhaust Mass	50.45	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	85.25	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	40.75	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	33.67661	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	9.87929	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Trip Summary Drift Corrected

'Mountain'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018

Parameter	Value	Unit	Method	Scale
Trip Duration	3148.00	s		
Trip Duration (a)	3148.00	s		
Trip Distance	29.45	mi		
Trip Distance (a)	29.45	mi		
Trip Fuel Cons. (b)	0.00	kg		
Trip Fuel Cons. (ab)	0.00	kg		
Trip Fuel Cons. EU (ac)	3.11	kg		
Trip Fuel Cons. US (ac)	3.08	kg		
Trip Fuel Cons. Volume (b)	0.00	gall		
Trip Fuel Cons. Volume (ab)	0.00	gall		
Trip Fuel Cons. Volume EU (ac)	1.10	gall		
Trip Fuel Cons. Volume US (ac)	1.09	gall		
Trip Fuel Economy (b)	n/a	mpg_US		
Trip Fuel Economy (ab)	n/a	mpg_US		
Trip Fuel Economy EU (ac)	26.77	mpg_US		
Trip Fuel Economy US (ac)	27.07	mpg_US		
Trip Av. Eng. Speed	1987.80	rpm		
Trip Av. Torque	n/a	lbft		
Trip Av. Power	n/a	hp		
Trip Work	n/a	hphr		
Trip Exhaust Mass	50.45	kg		
Trip Exhaust Mass EU (ac)	n/a	kg		
Trip Exhaust Mass US (ac)	n/a	kg		
Trip Av. Amb. Temperature	85.25	deg_F		
Trip Av. Humidity	40.75	%		
Fuel Type			Petrol (E10)	
ave THC DC	10.28421	ppm		
ave NMHC DC	10.07853	ppm		
ave CH4 DC	0.20568	ppm		
ave CO DC	348.85822	ppm		
ave CO2 DC	10.74368	%		
ave NOx DC	10.42936	ppm		
ave PM	n/a	mg/m3		
ave Soot meas	n/a	mg/m3		
ave Soot	n/a	mg/m3		
ave PN DC	n/a	#/cm3		
tot THC DC	0.47151	g		
tot NMHC DC	0.43615	g		
tot CH4 DC	0.01045	g		
tot CO DC	64.07922	g		
tot CO2 DC	9265.81832	g		
tot NO DC (d)	0.66218	g		
tot NO2 DC	0.01156	g		
tot NOx DC	0.67373	g		
tot Soot	n/a	g		
tot Soot meas	n/a	g		
tot PM	n/a	g		
tot PN DC	n/a	#		
PM measurement type	0.00000	-		
PM correction type	1.00000	alpha(HC)		
tot Soot on PM filter (estim.)	n/a	mg		
Soot --> PM simple scaling factor	1.00000	-		
Soot --> PM alpha scaling factor	0.00000	-		
Trip Av. Veh. Speed	33.67661	mi/hr		
Trip Velocity Zero	9.87929	%		
Trip Velocity Urban	0.00000	%		
Trip Velocity Rural	0.00000	%		
Trip Velocity Motorway	100.00000	%		

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

BS CO2 DC	n/a	g/hphr
BS CO DC	n/a	g/hphr
BS THC DC	n/a	g/hphr
BS NMHC DC	n/a	g/hphr
BS CH4 DC	n/a	g/hphr
BS NO DC (d)	n/a	g/hphr
BS NO2 DC	n/a	g/hphr
BS NOx DC	n/a	g/hphr
BS Soot	n/a	g/hphr
BS Soot meas	n/a	g/hphr
BS PM	n/a	g/hphr
BS PN DC	n/a	#/hpr
DS CO2 DC	314.64670	g/mi
DS CO DC	2.17599	g/mi
DS THC DC	0.01601	g/mi
DS NMHC DC	0.01481	g/mi
DS CH4 DC	0.00035	g/mi
DS NO DC (d)	0.02249	g/mi
DS NO2 DC	0.00039	g/mi
DS NOx DC	0.02288	g/mi
DS Soot	n/a	g/mi
DS Soot meas	n/a	g/mi
DS PM	n/a	g/mi
DS PN DC	n/a	#/mi
FS CO2 DC	n/a	g/kg
FS CO DC	n/a	g/kg
FS THC DC	n/a	g/kg
FS NMHC DC	n/a	g/kg
FS CH4 DC	n/a	g/kg
FS NO DC (d)	n/a	g/kg
FS NO2 DC	n/a	g/kg
FS NOx DC	n/a	g/kg
FS Soot	n/a	g/kg
FS Soot meas	n/a	g/kg
FS PM	n/a	g/kg
FS PN DC	n/a	#/kg

Case: Mountain

Page: Time Alignment Check

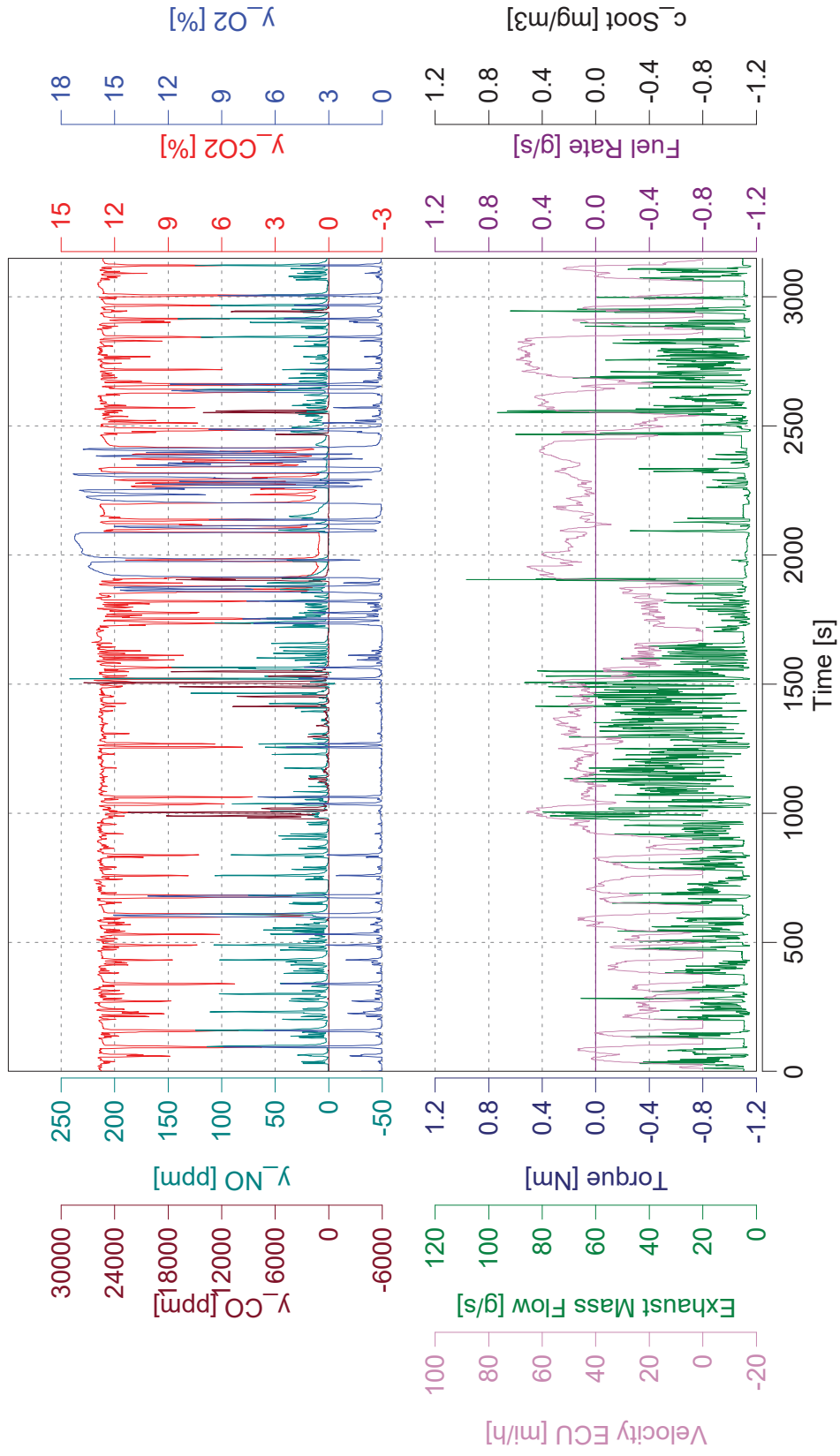
'Mountain'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Time Alignment of Gas Concentrations

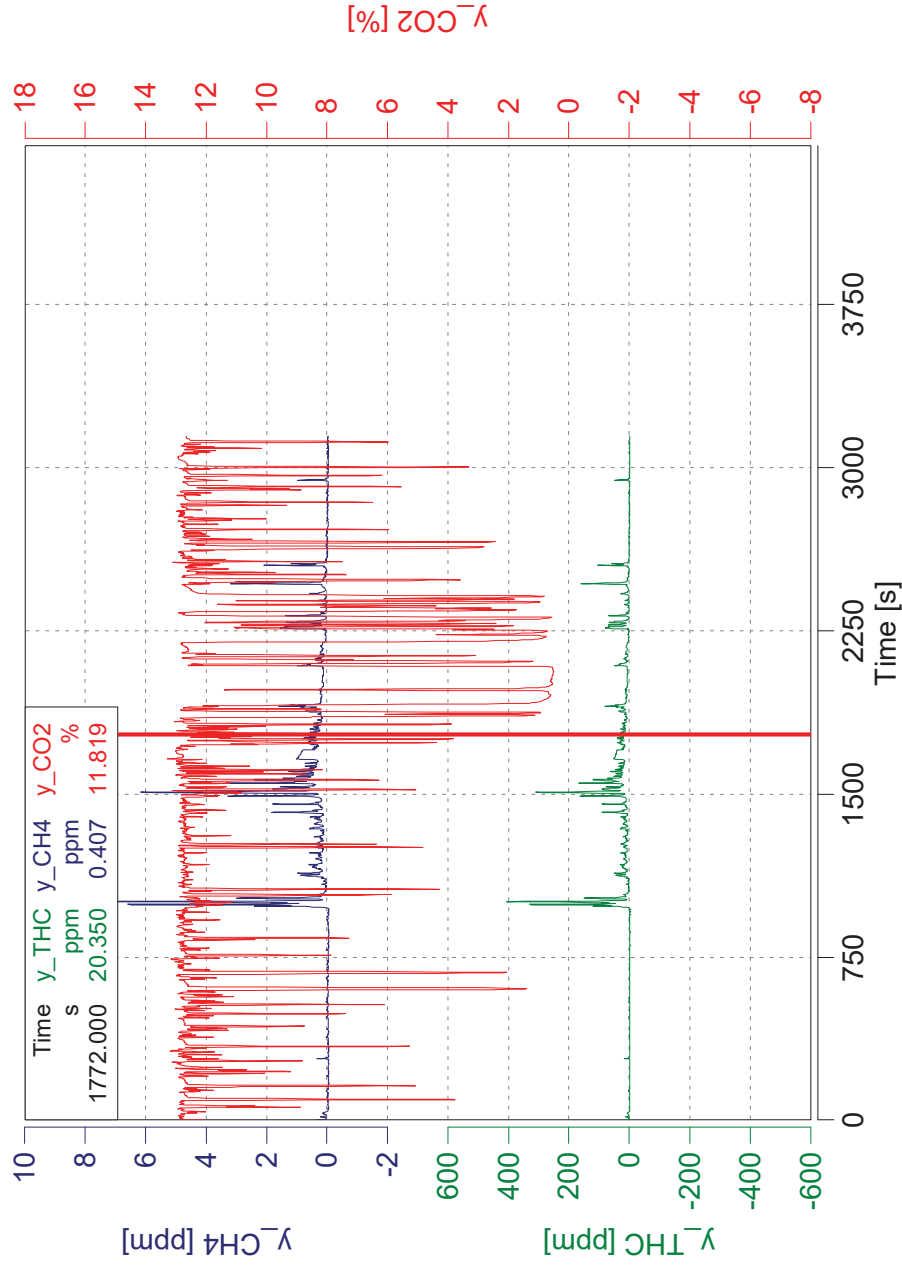
'Mountain'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Ambient Conditions

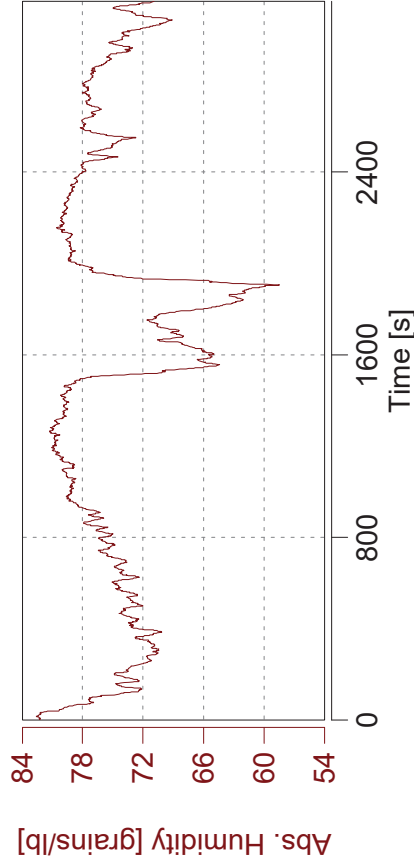
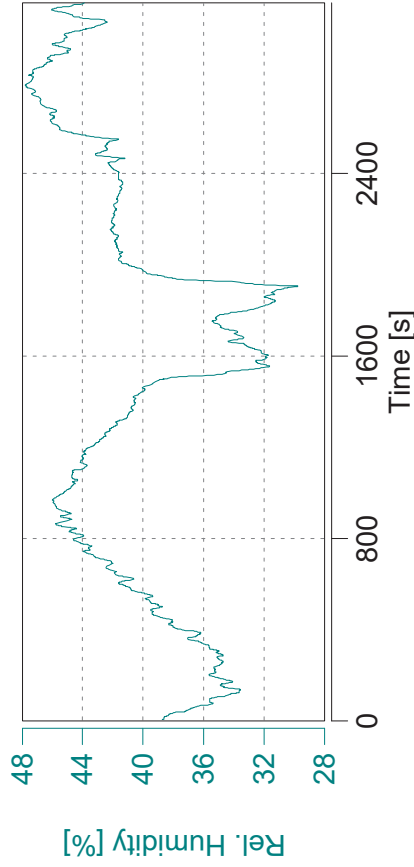
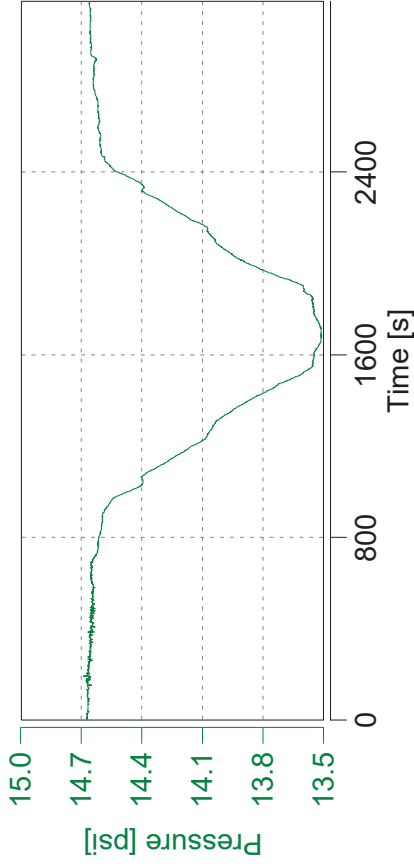
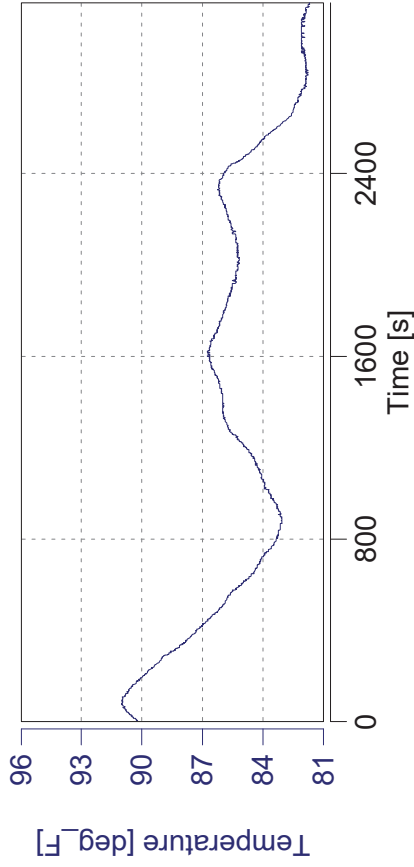
'Mountain'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: GPS

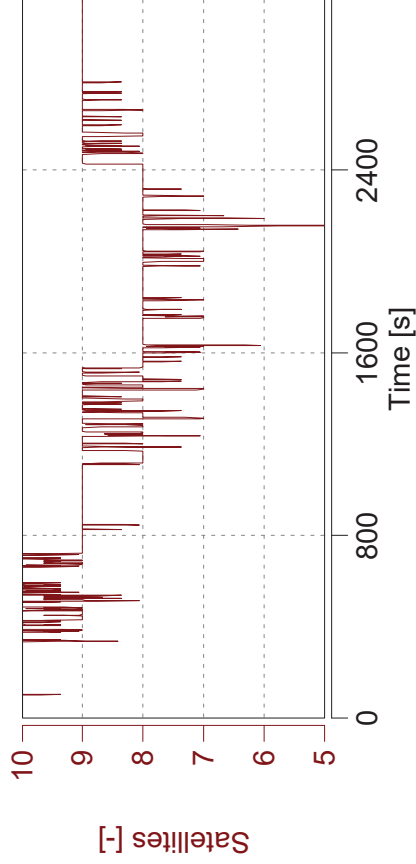
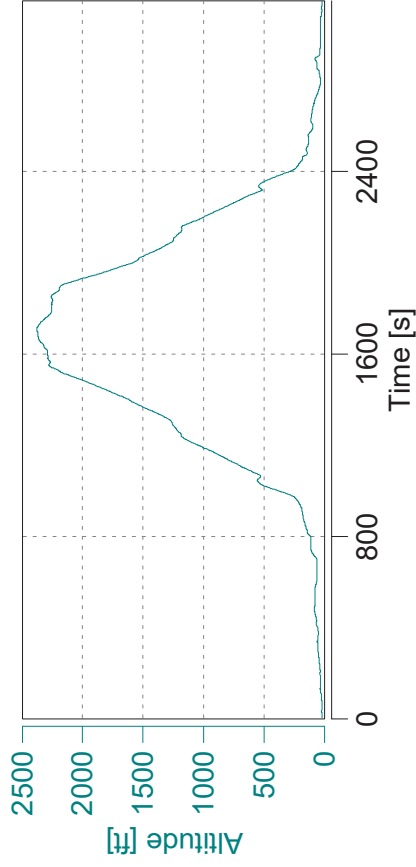
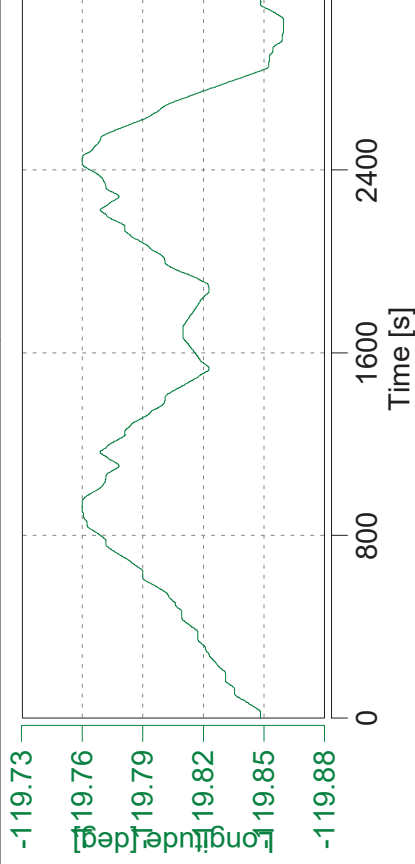
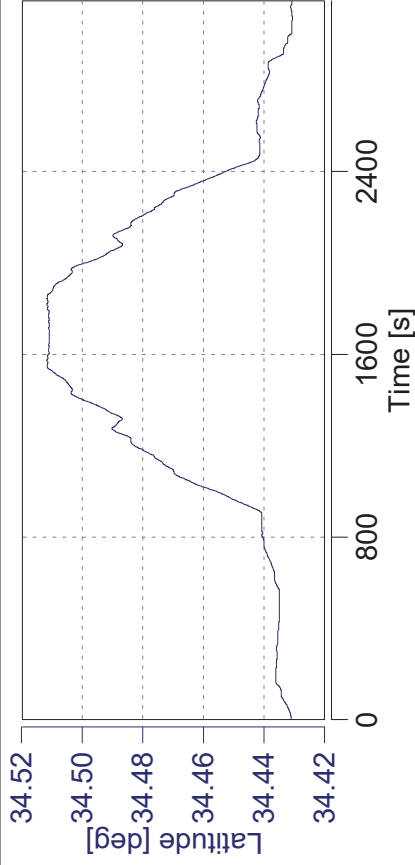
'Mountain'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Engine: /

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (1)

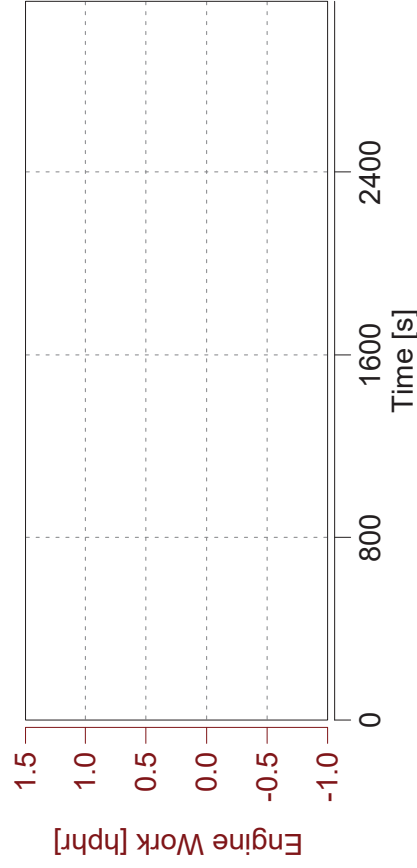
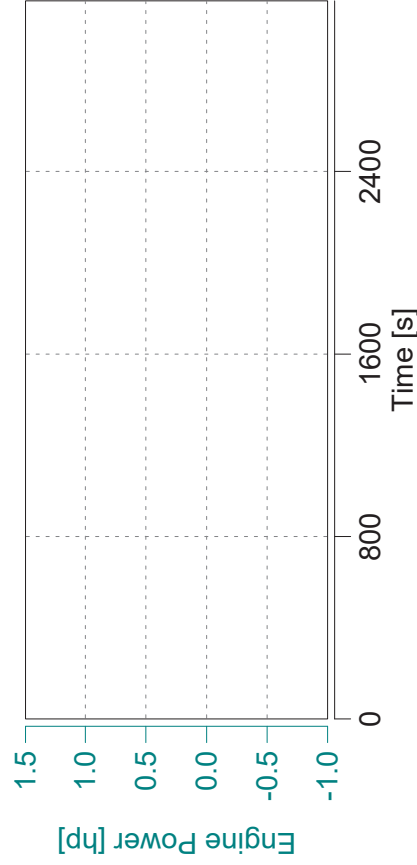
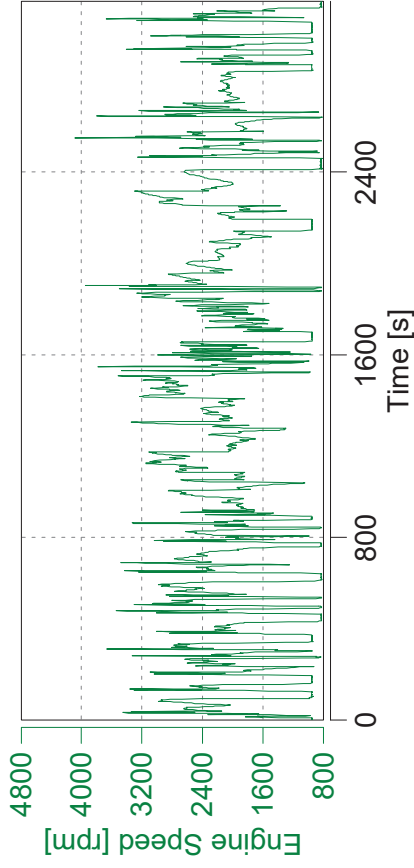
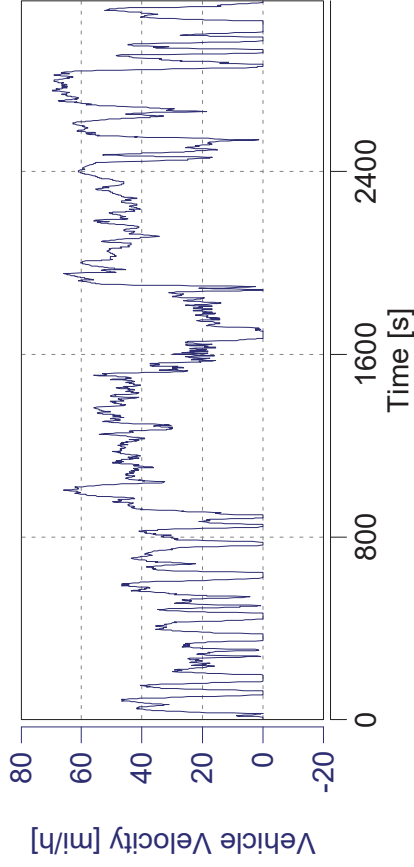
'Mountain'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (2)

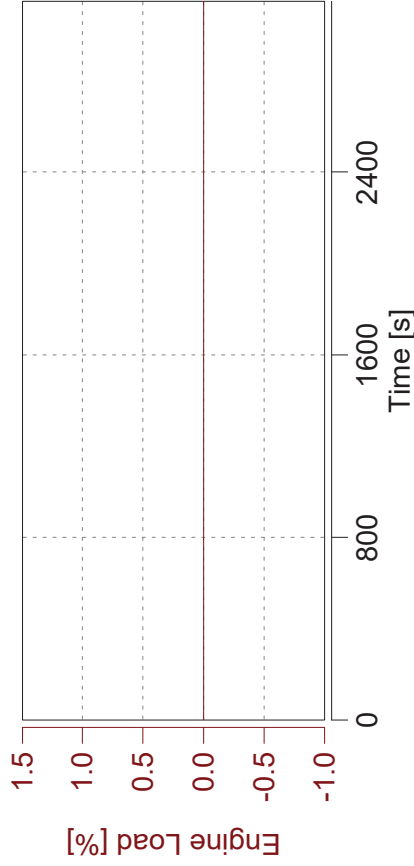
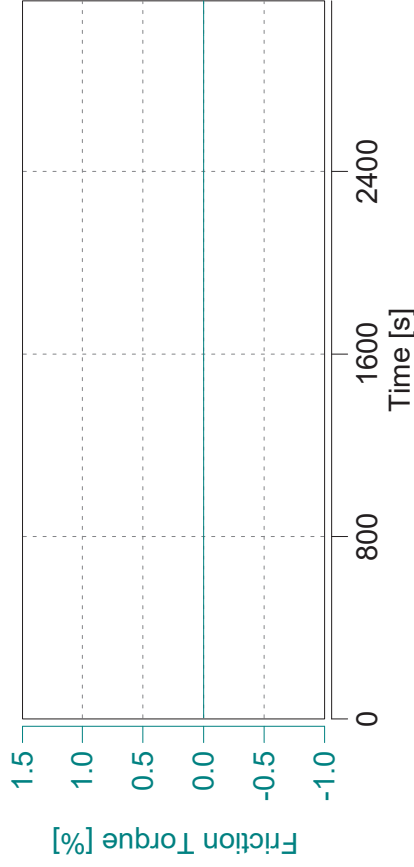
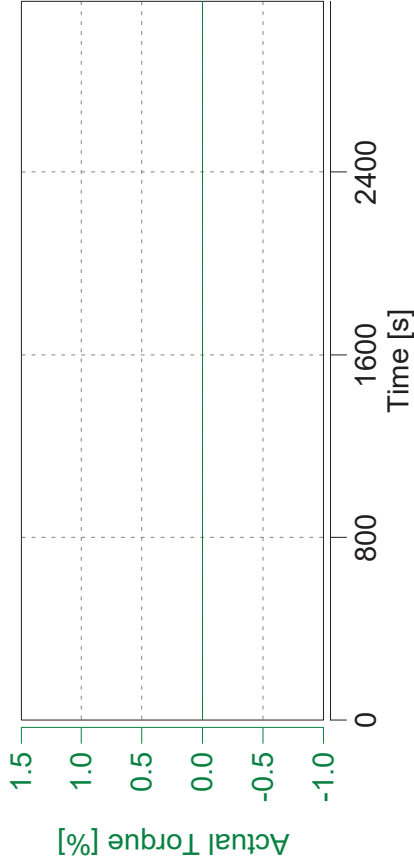
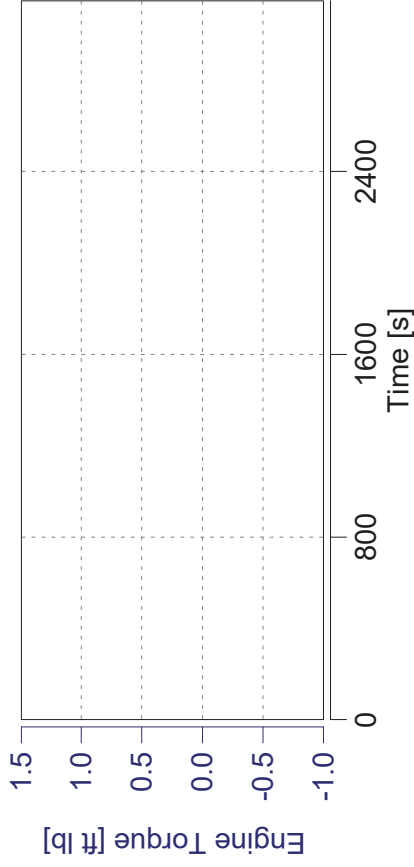
'Mountain'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (3)

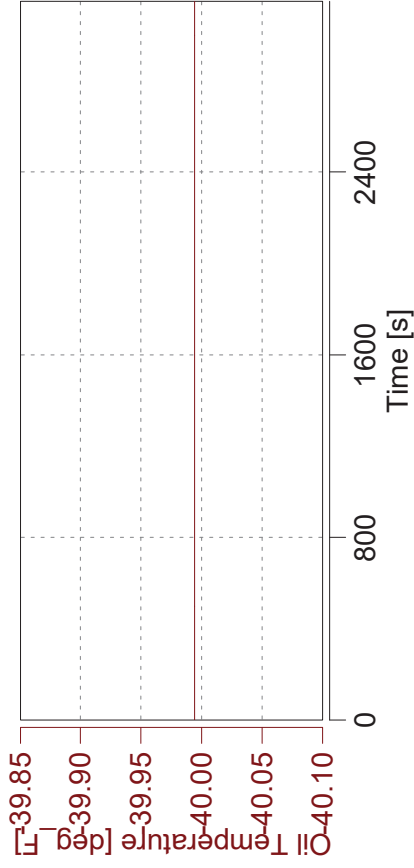
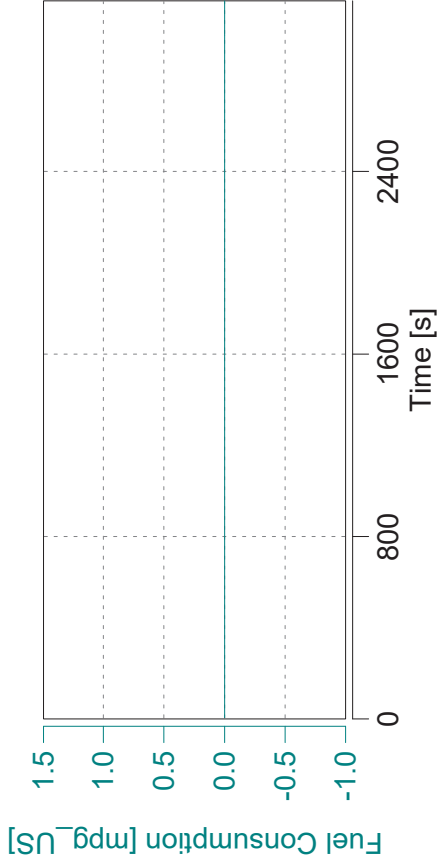
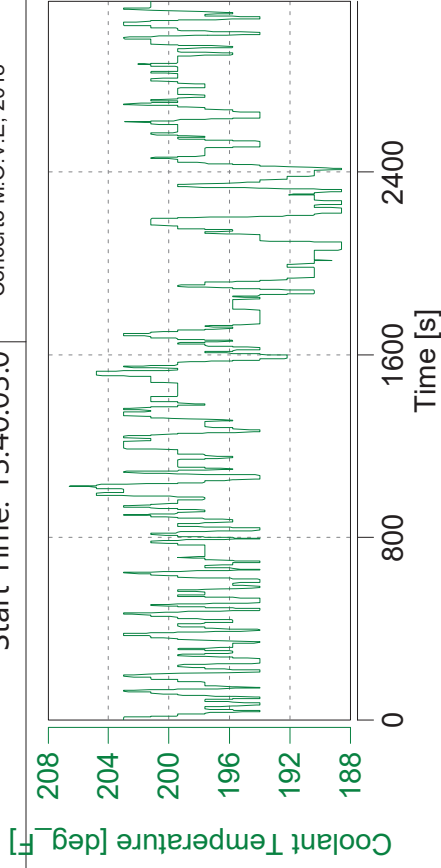
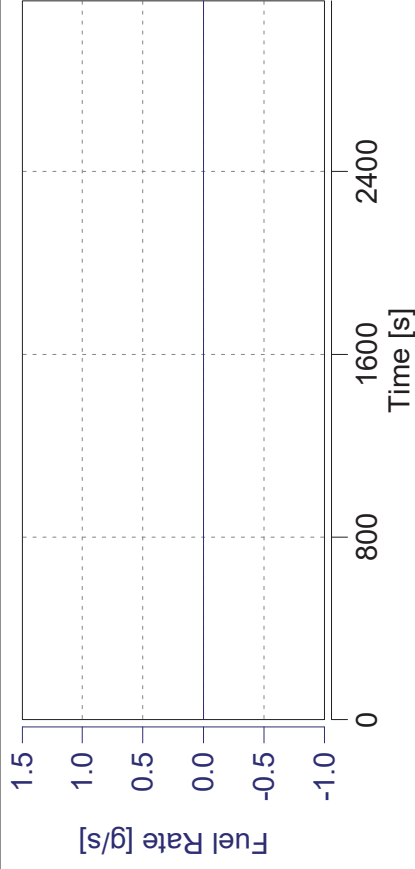
'Mountain'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Exhaust Flow (1)

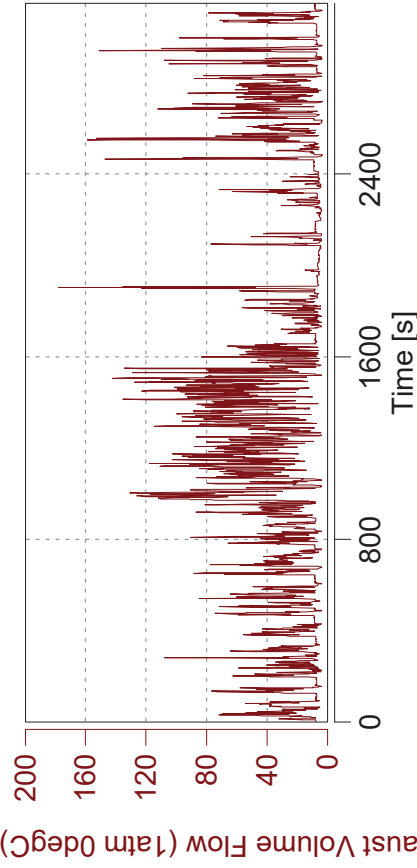
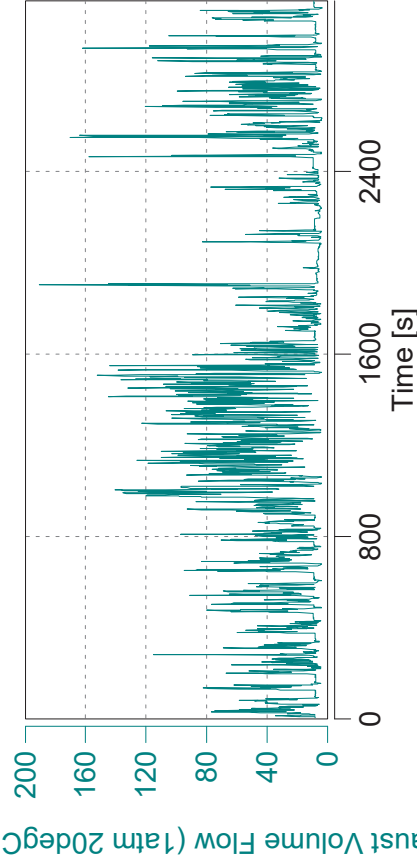
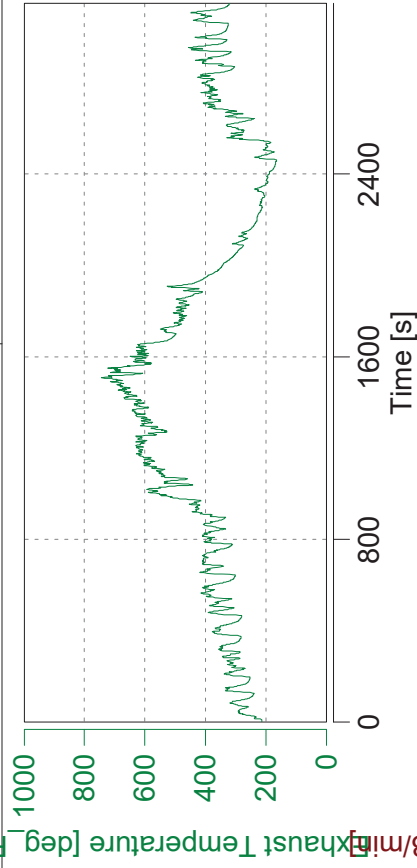
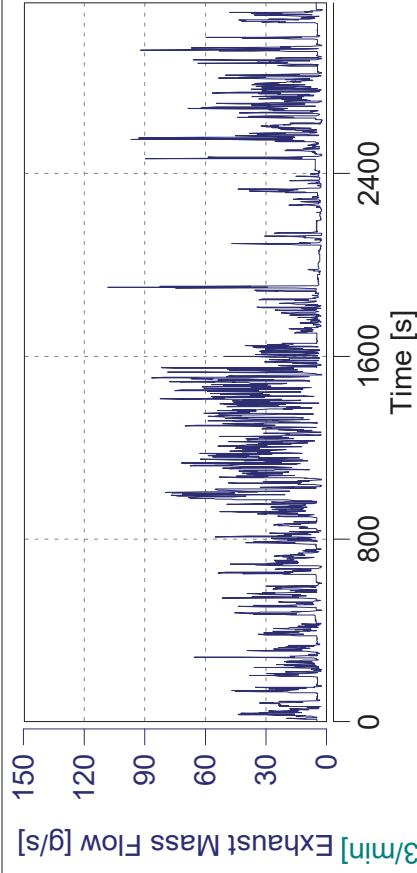
'Mountain'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Jetta / 1.4L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Exhaust Flow (2)

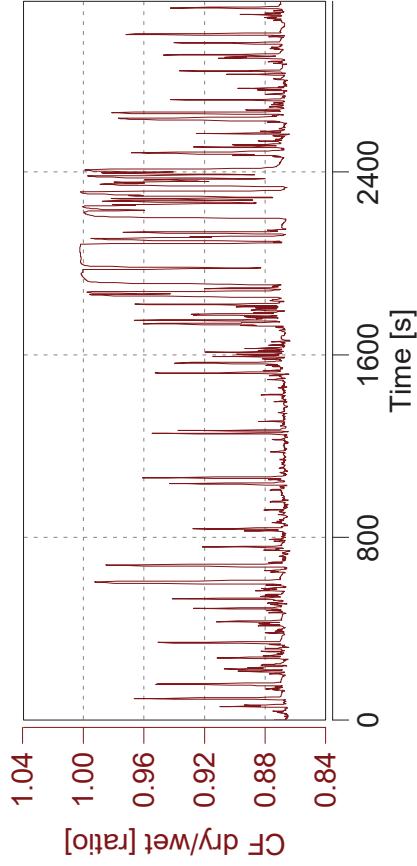
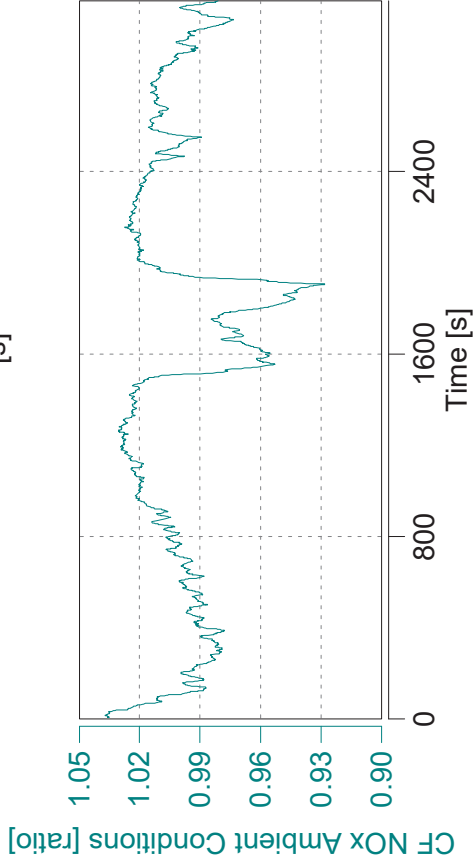
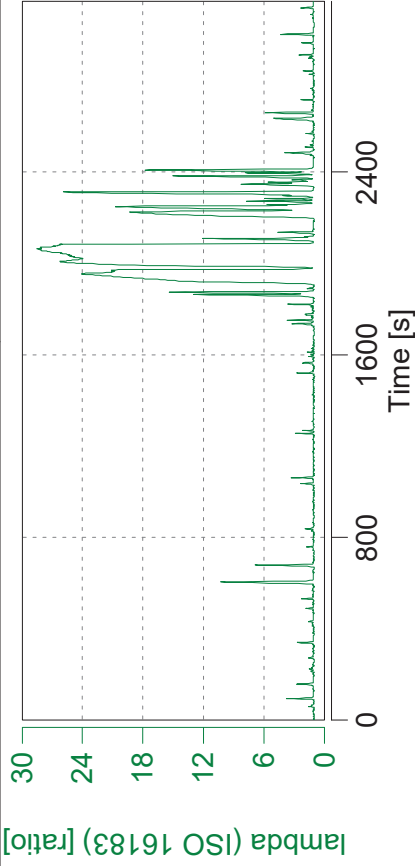
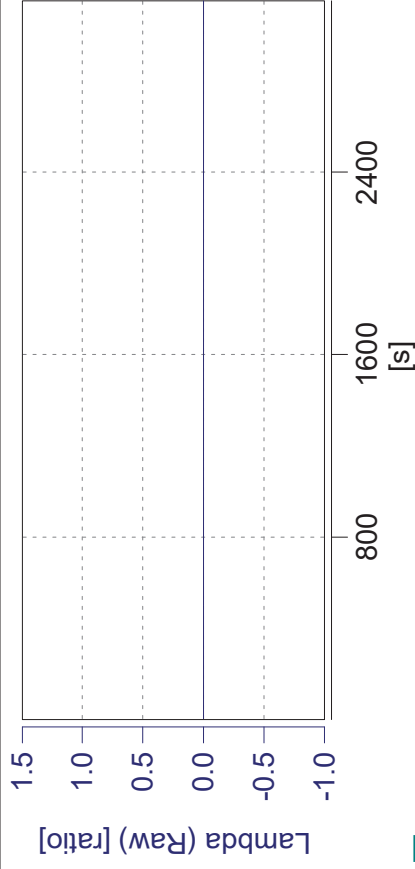
'Mountain'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (1)

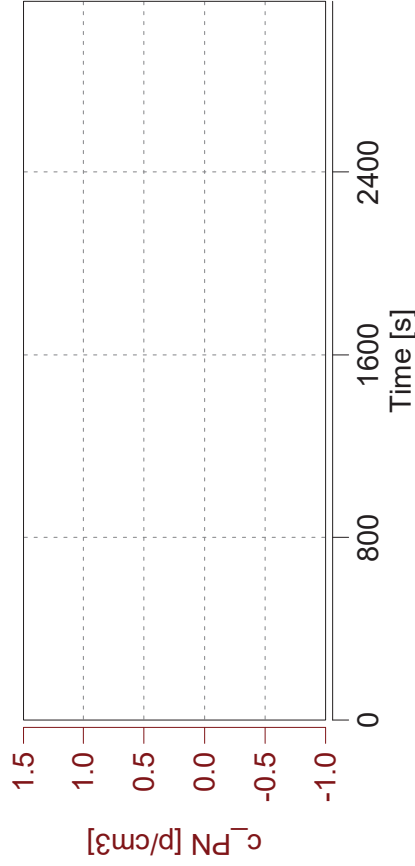
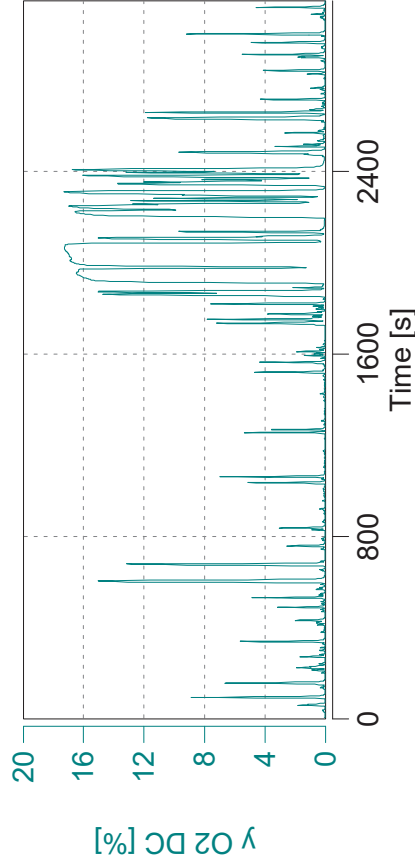
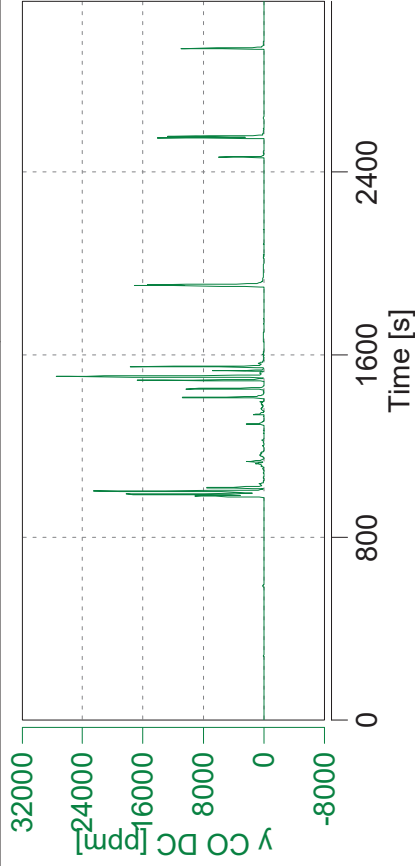
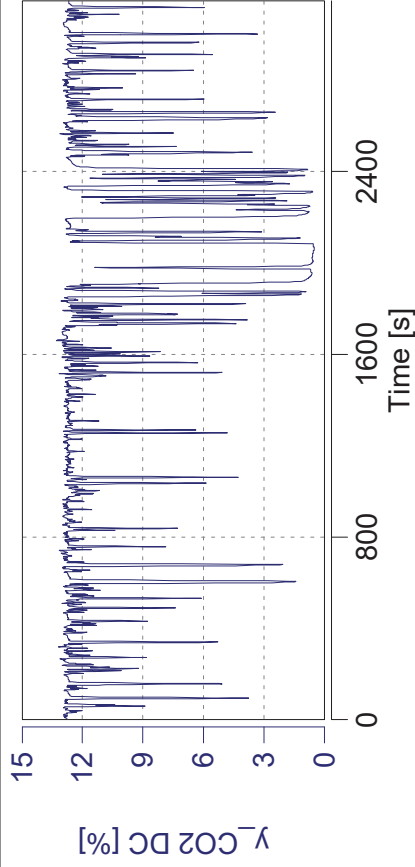
'Mountain'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Jetta / 1.4L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (2)

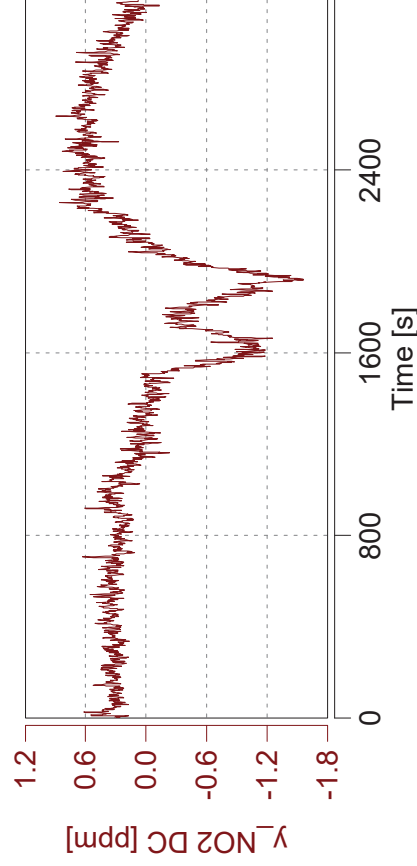
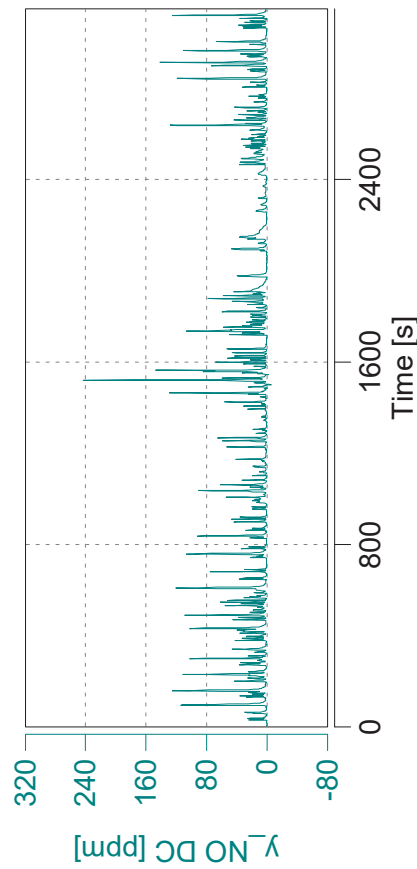
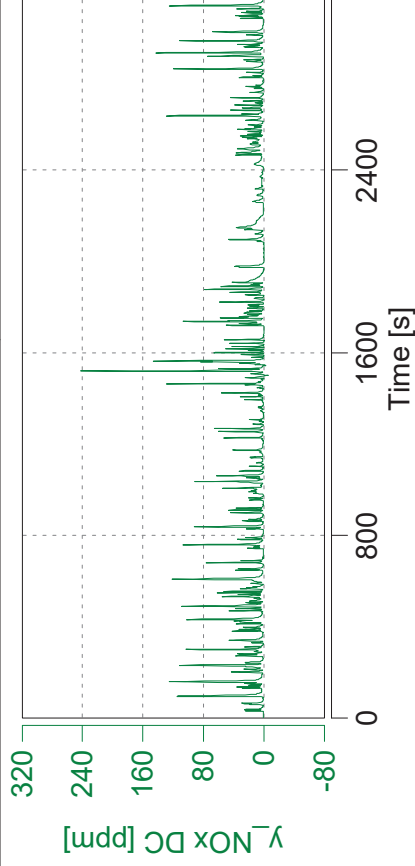
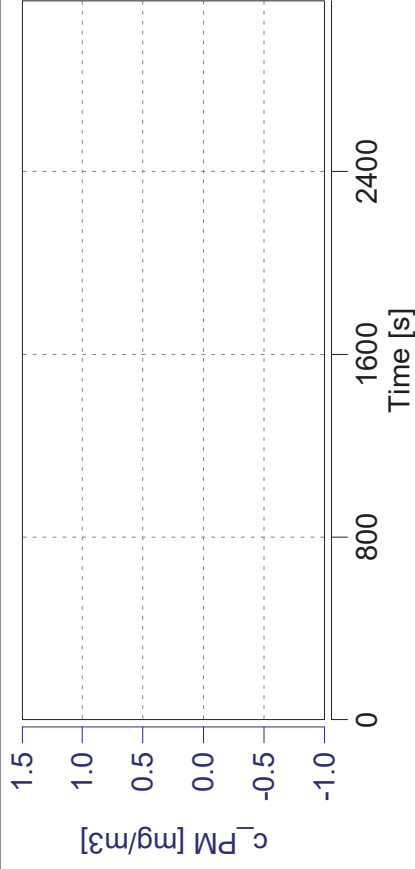
'Mountain'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (3)

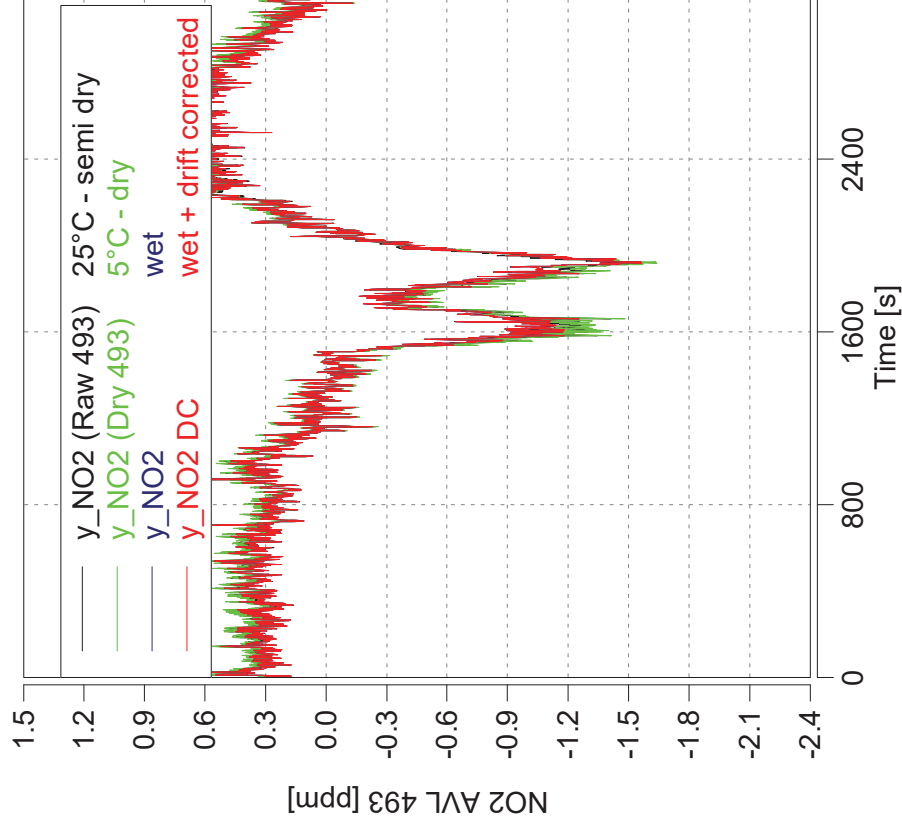
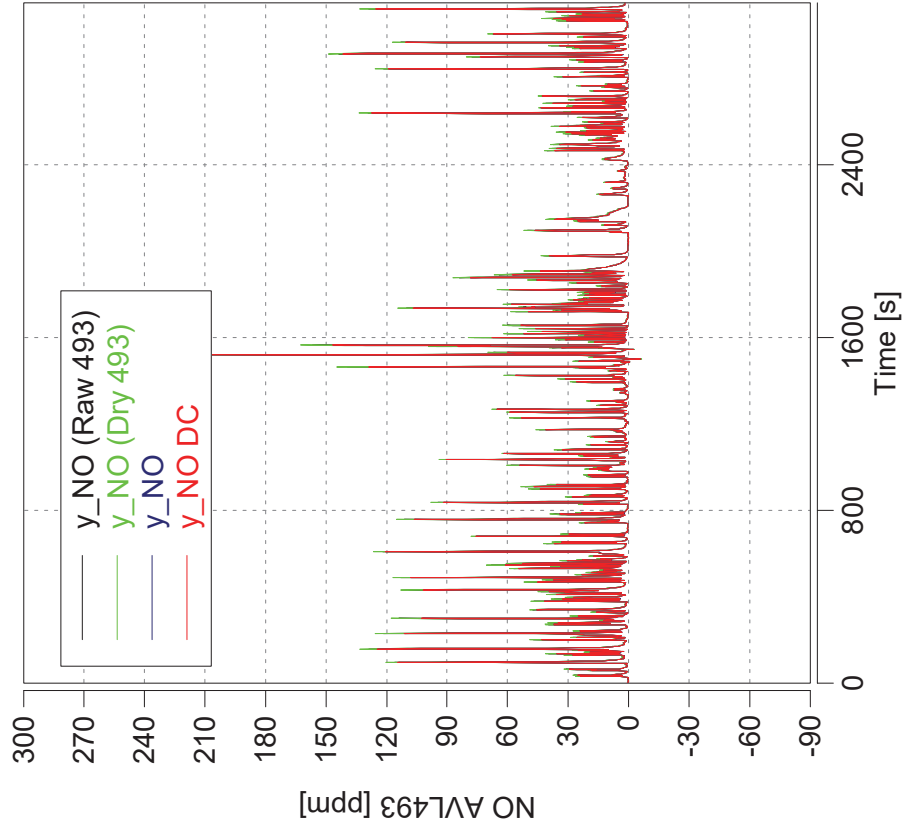
'Mountain'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Engine: /

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

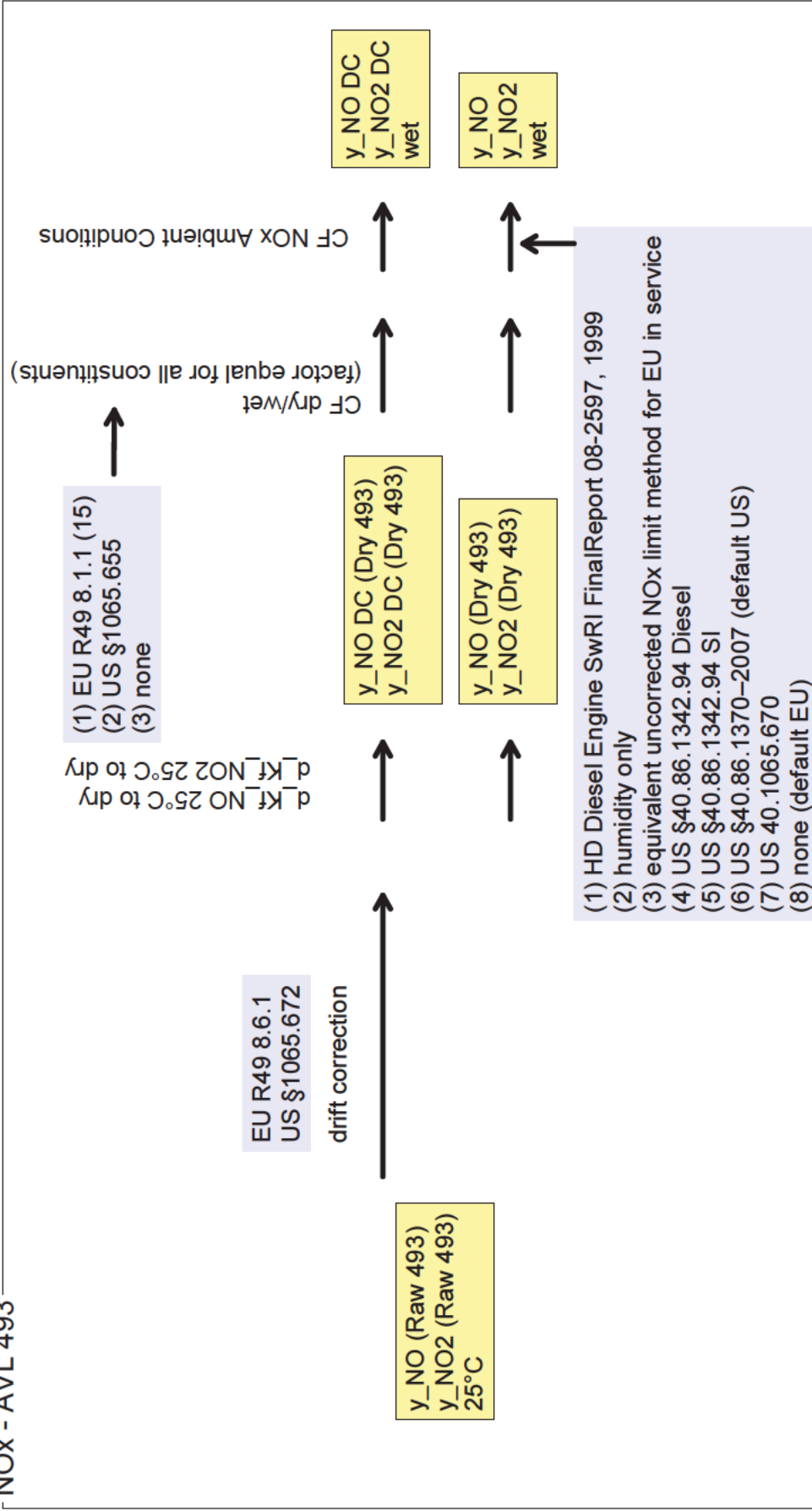
Case: Mountain

Page: Corrected Emissions (4) NOx Corrections

'Mountain'
Start Date: 08/02/2018
Start Time: 13:40:03.0



NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine /

Vehicle: Jetta / 1.4L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (5)

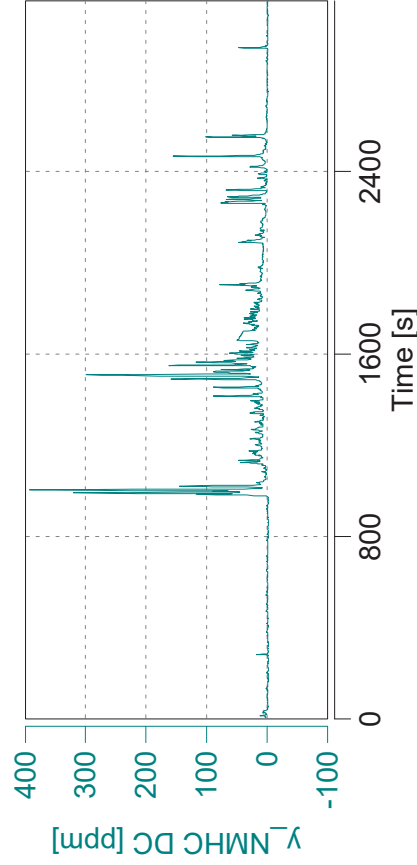
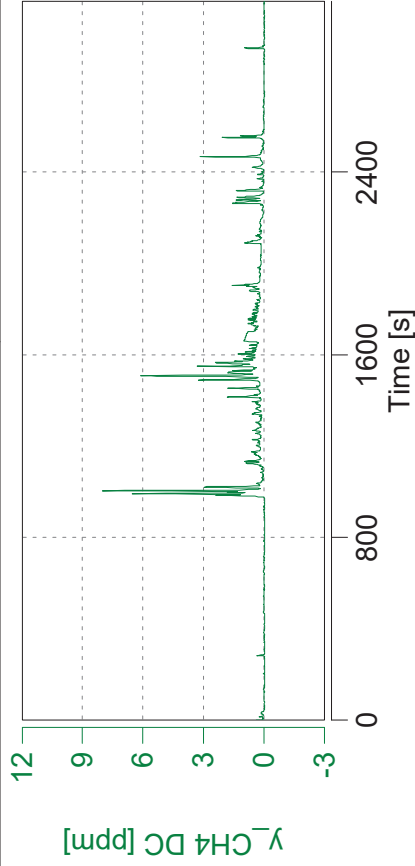
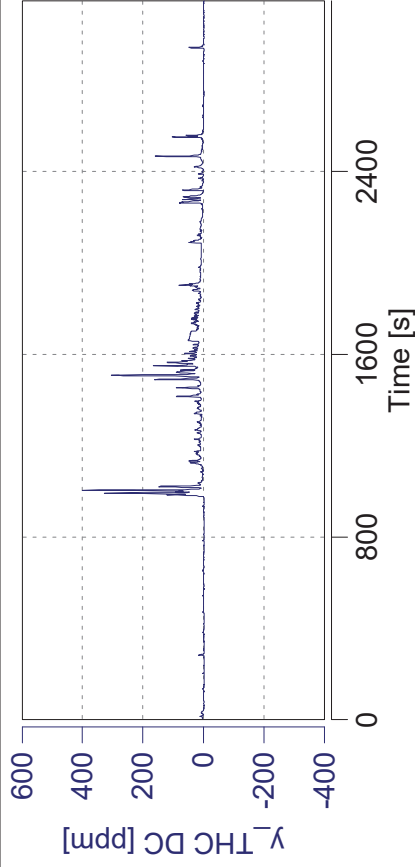
'Mountain'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Jetta / 1.4L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: NO/NO2/NOx Zero - Span

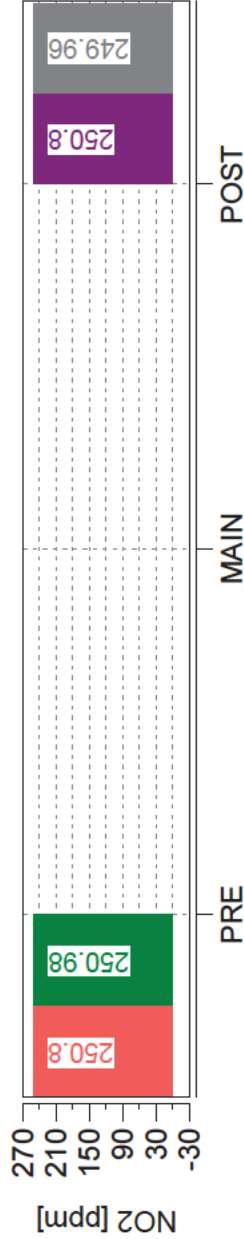
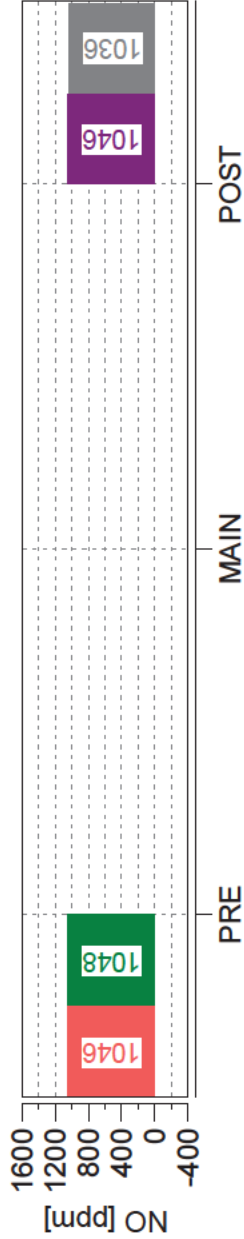
'Mountain'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: CO/CO2 Zero - Span

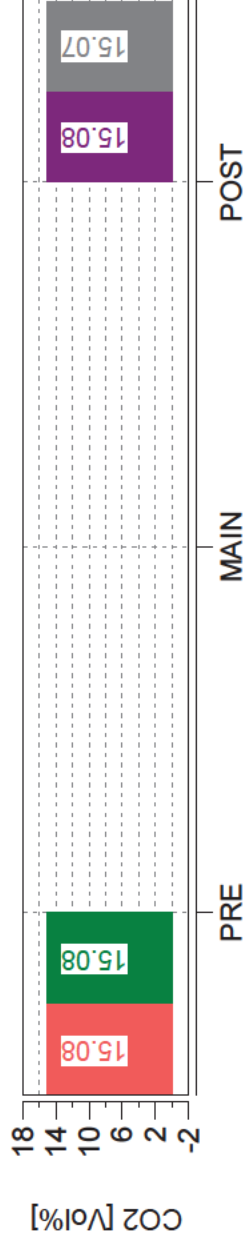
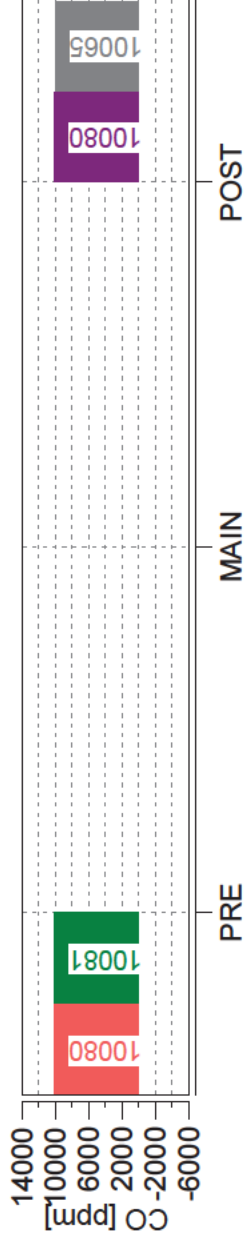
'Mountain'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: THC/CH4 Zero - Span

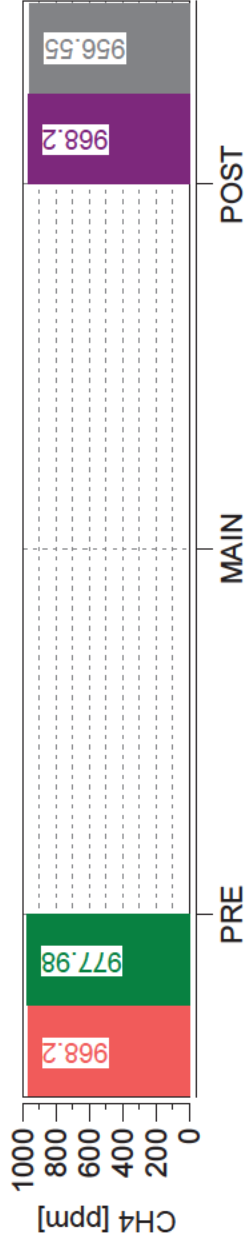
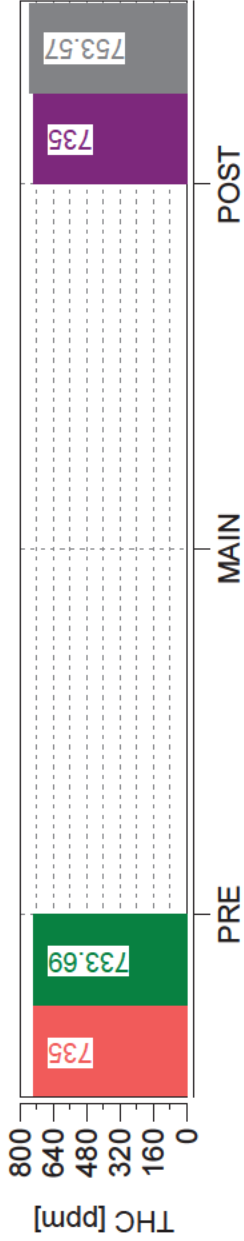
'Mountain'

Start Date: 08/02/2018

Start Time: 13:40:03.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Trip Summary

'City'

Start Date: 08/02/2018

Start Time: 20:48:45.0



Concerto M.O.V.E. 2018

Trip Duration	3248.00	s	ave THC	0.22682	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	3248.00	s	ave NMHC	0.22229	ppm	BS CO	n/a	g/hphr
Trip Distance	16.51	mi	ave CH4	0.00454	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	16.51	mi	ave CO	-16.60561	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	11.99753	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx	12.72225	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	1.92	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	1.90	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	0.68	gall	tot THC	0.01164	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	0.67	gall	tot NMHC	0.01076	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00026	g	DS CO2	350.11966	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	-0.46140	g	DS CO	-0.02794	g/mi
Trip Fuel Economy EU (ac)	24.32	mpg_US	tot CO2	5781.26123	g	DS THC	0.00070	g/mi
Trip Fuel Economy US (ac)	24.61	mpg_US	tot NO (d)	0.63064	g	DS NMHC	0.00065	g/mi
Trip Av. Eng. Speed	1593.03	rpm	tot NO2	0.02228	g	DS CH4	0.00002	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.65292	g	DS NO (d)	0.03819	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	0.00135	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.03954	g/mi
Trip Exhaust Mass	30.94	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	73.65	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	67.64	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	18.30175	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	21.64409	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
 (d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Trip Summary Drift Corrected

'City'

Start Date: 08/02/2018

Start Time: 20:48:45.0



Concerto M.O.V.E., 2018

Trip Duration	3248.00	s	ave THC DC	0.80820	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	3248.00	s	ave NMHC DC	0.79204	ppm	BS CO DC	n/a	g/hphr
Trip Distance	16.51	mi	ave CH4 DC	0.01616	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	16.51	mi	ave CO DC	-16.68378	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	11.98958	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	12.75219	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	1.92	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	1.90	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	0.68	gall	tot THC DC	0.02063	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	0.67	gall	tot NMHC DC	0.01908	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.00046	g	DS CO2 DC	349.88764	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	-0.46383	g	DS CO DC	-0.02809	g/mi
Trip Fuel Economy EU (ac)	24.32	mpg_US	tot CO2 DC	5777.43005	g	DS THC DC	0.00125	g/mi
Trip Fuel Economy US (ac)	24.61	mpg_US	tot NO DC (d)	0.63364	g	DS NMHC DC	0.00116	g/mi
Trip Av. Eng. Speed	1593.03	rpm	tot NO2 DC	0.02079	g	DS CH4 DC	0.00003	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.65443	g	DS NO DC (d)	0.03837	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	0.00126	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.03963	g/mi
Trip Exhaust Mass	30.94	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	73.65	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	67.64	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	18.30175	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	21.64409	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Time Alignment Check

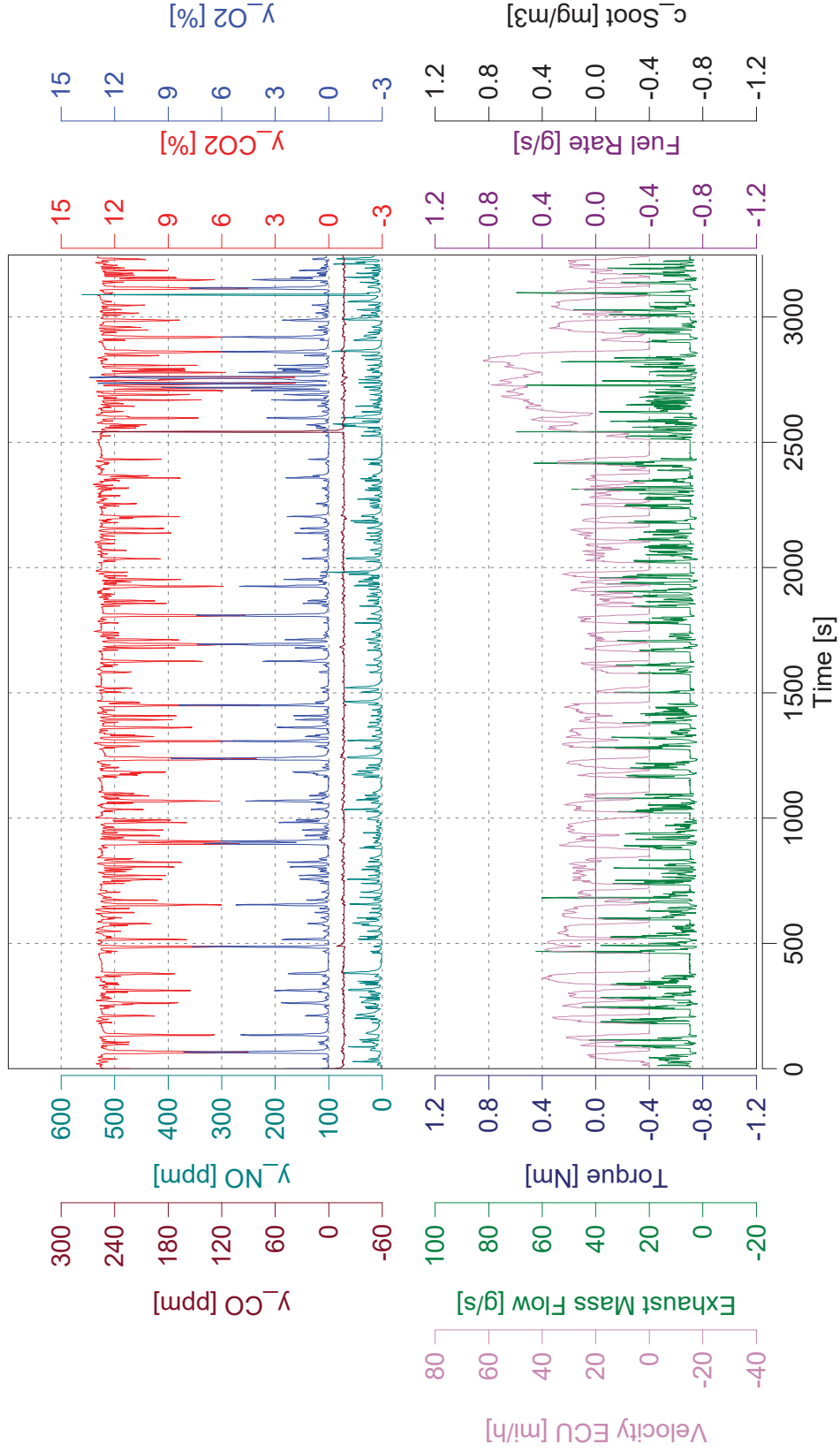
'City'

Start Date: 08/02/2018

Start Time: 20:48:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Time Alignment of Gas Concentrations

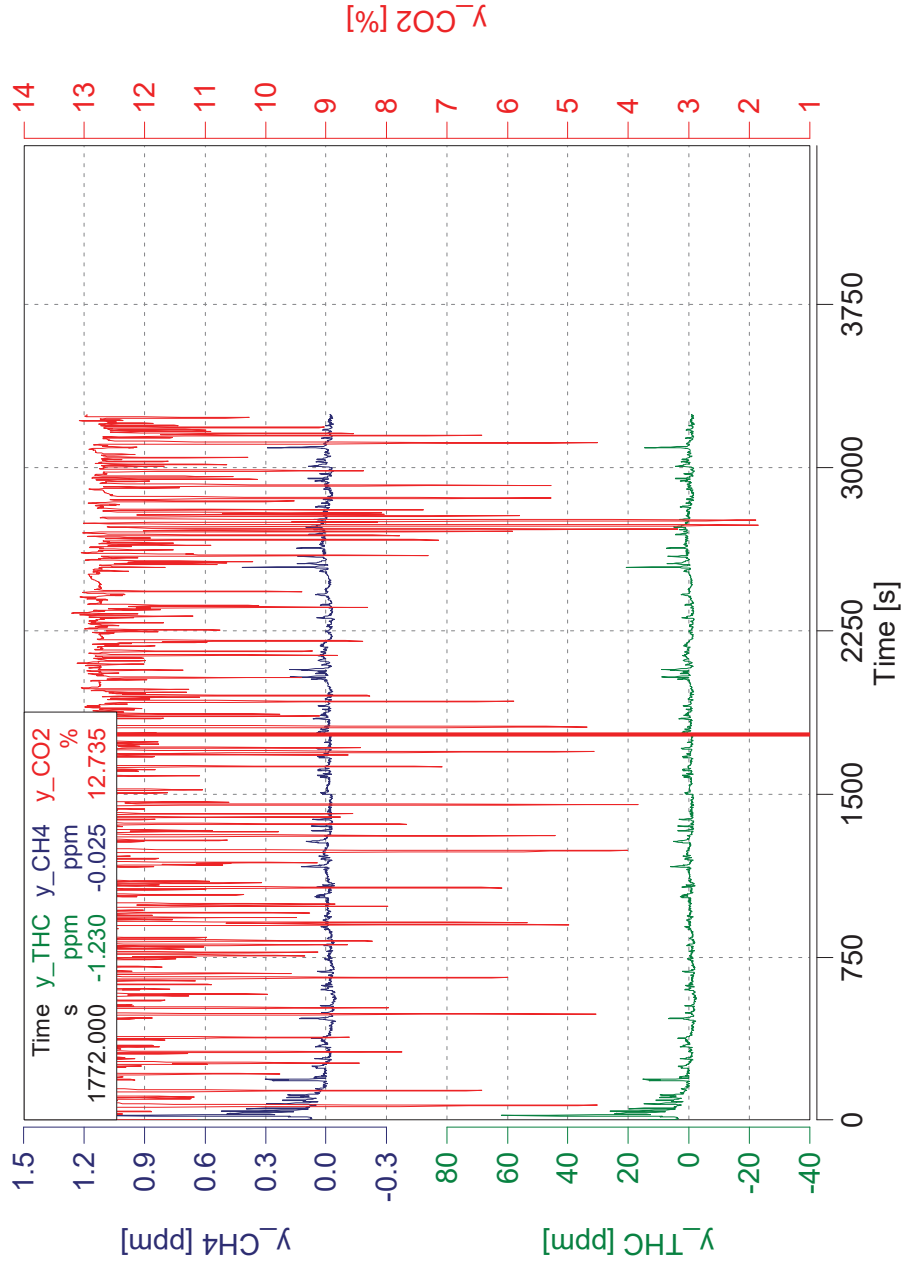
'City'

Start Date: 08/02/2018

Start Time: 20:48:45.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Ambient Conditions

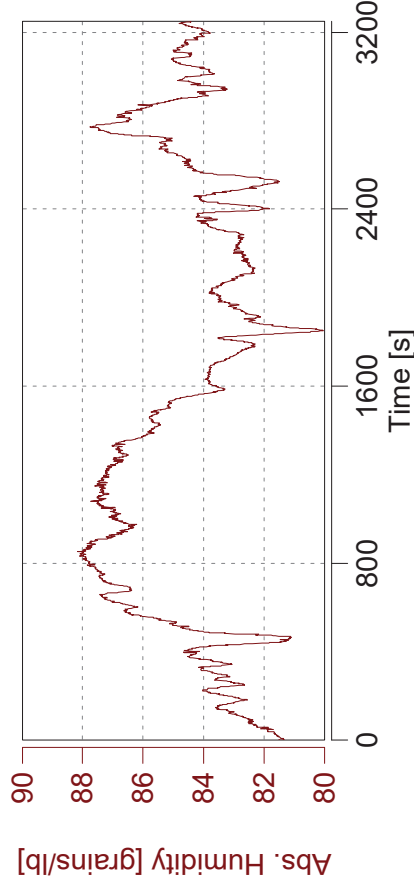
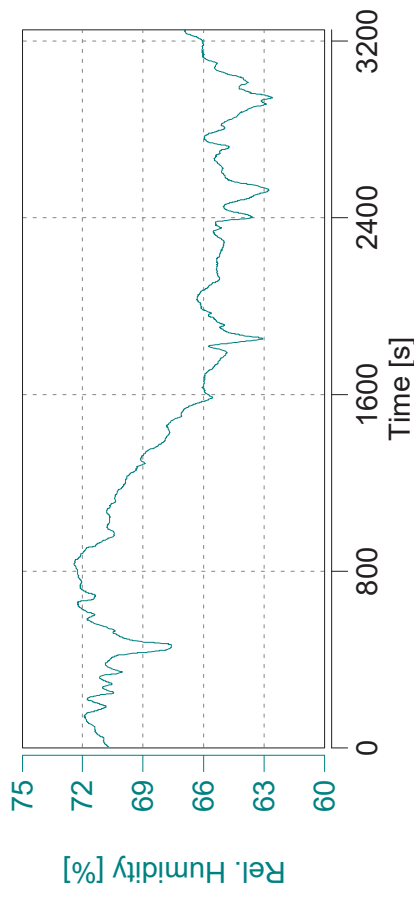
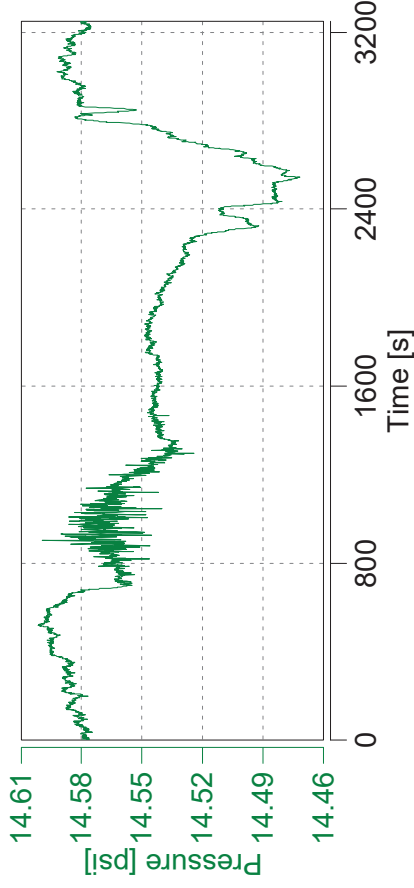
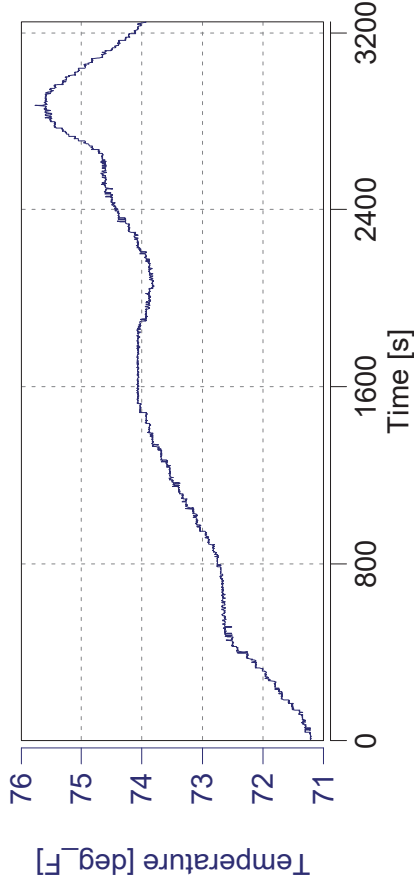
'City'

Start Date: 08/02/2018

Start Time: 20:48:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

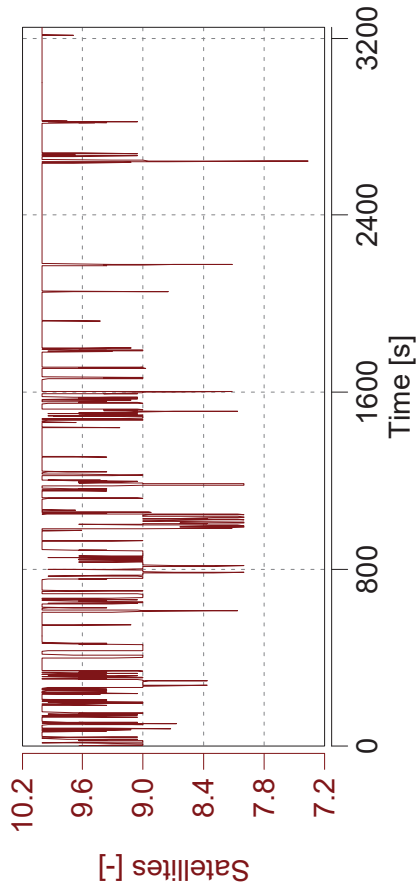
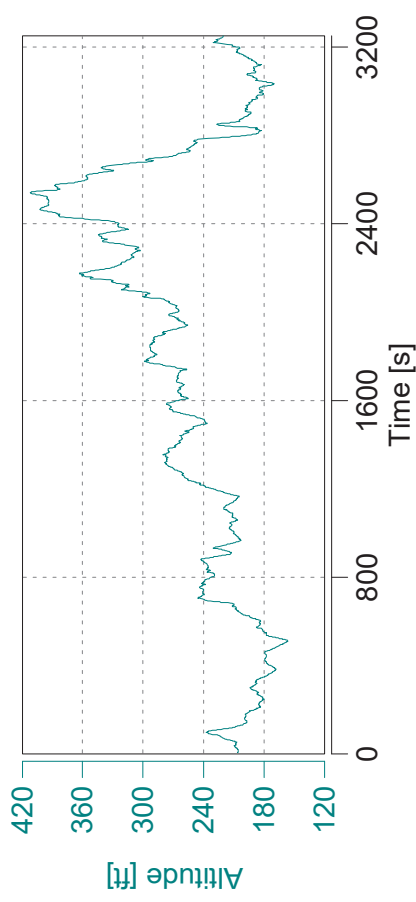
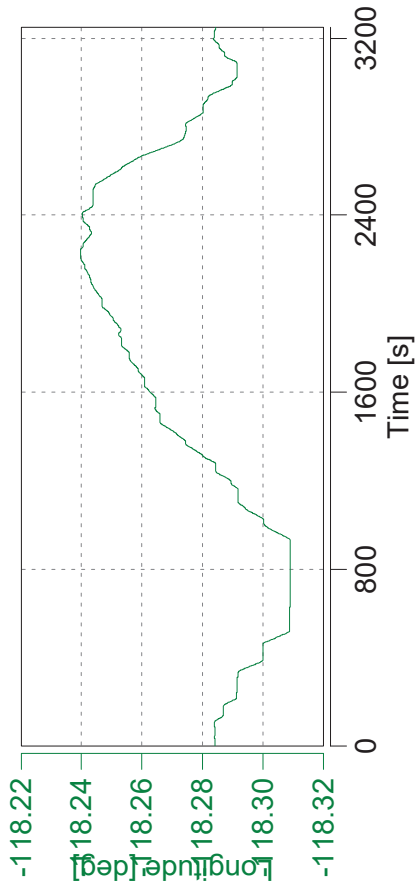
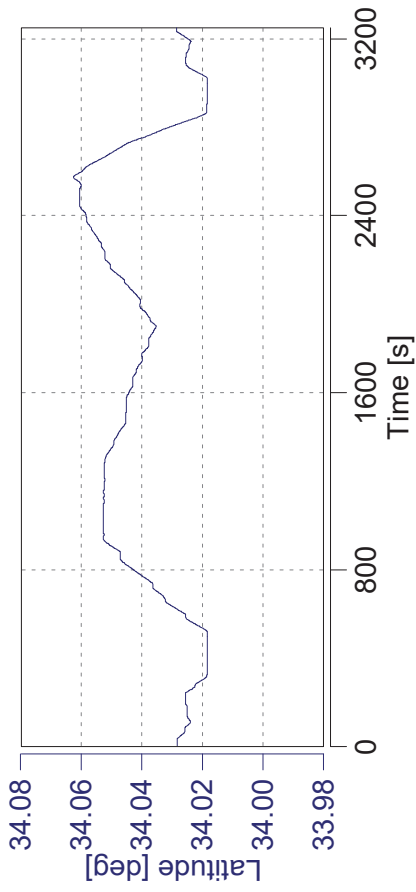
Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City
Page: GPS

'City'
Start Date: 08/02/2018
Start Time: 20:48:45.0



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Jetta / 1.4L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (1)

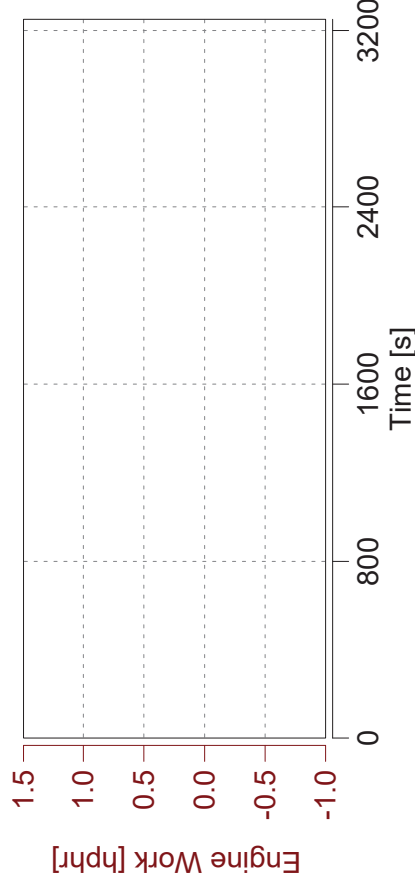
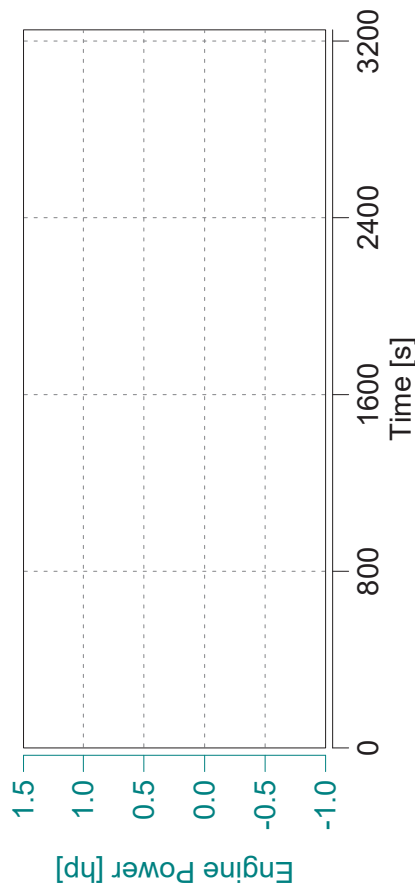
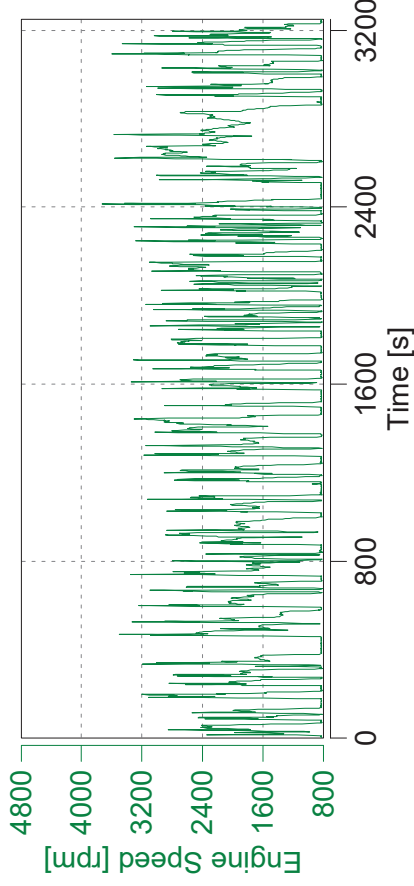
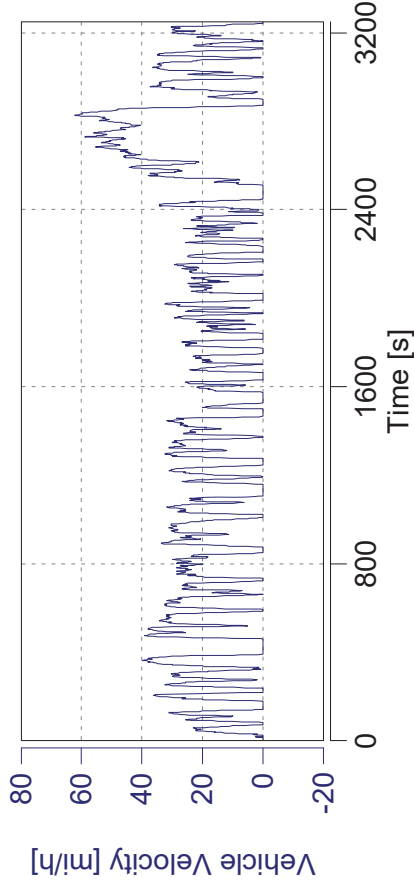
'City'

Start Date: 08/02/2018

Start Time: 20:48:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (2)

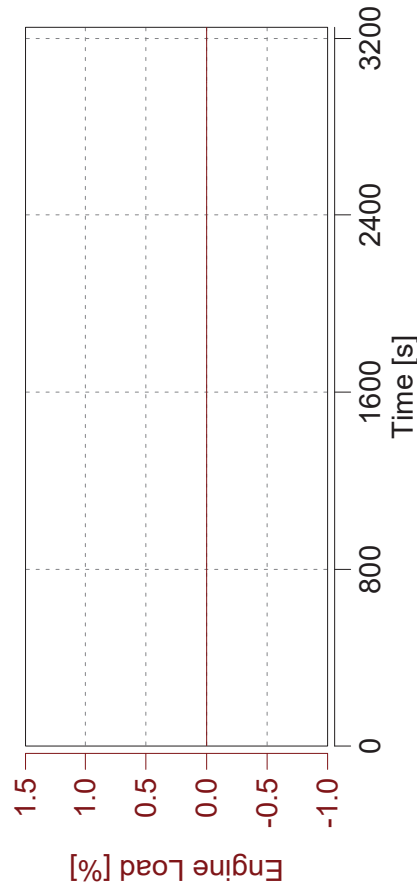
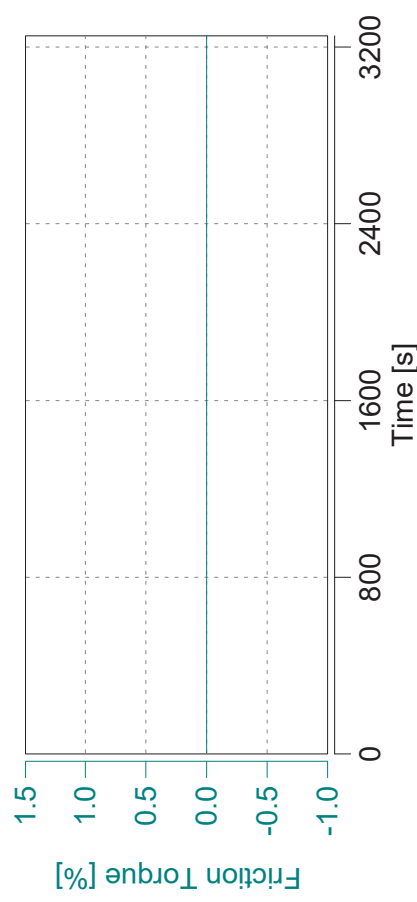
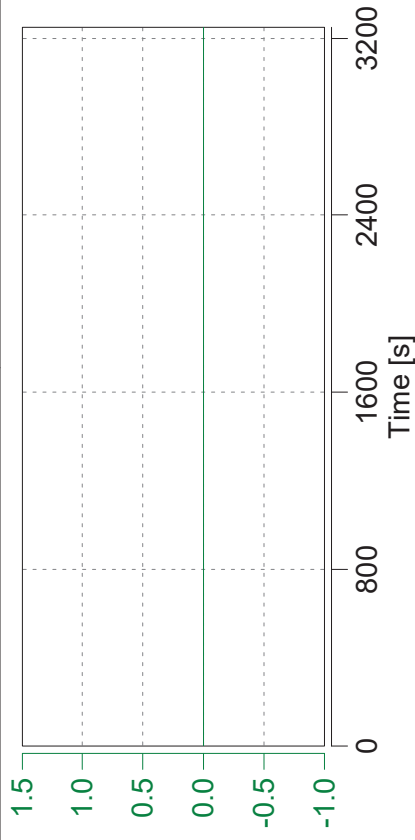
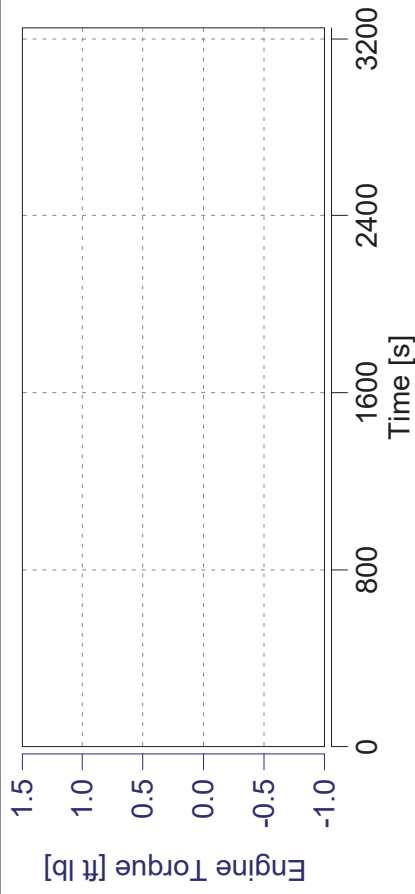
'City'

Start Date: 08/02/2018

Start Time: 20:48:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Engine: /
Vehicle: Jetta / 1.4L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (3)

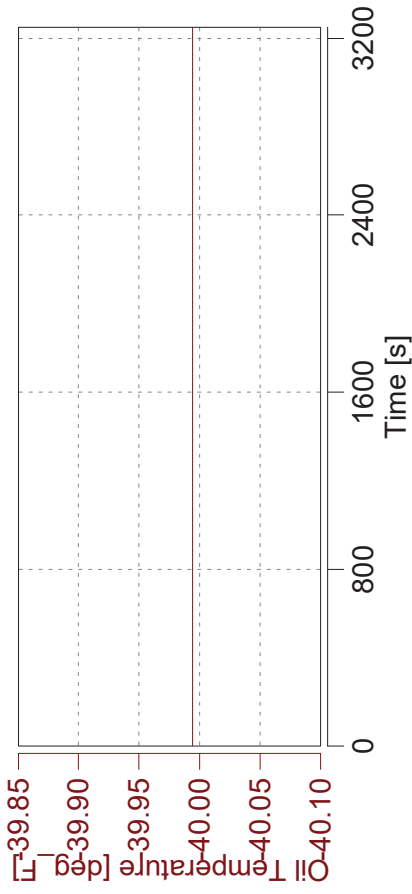
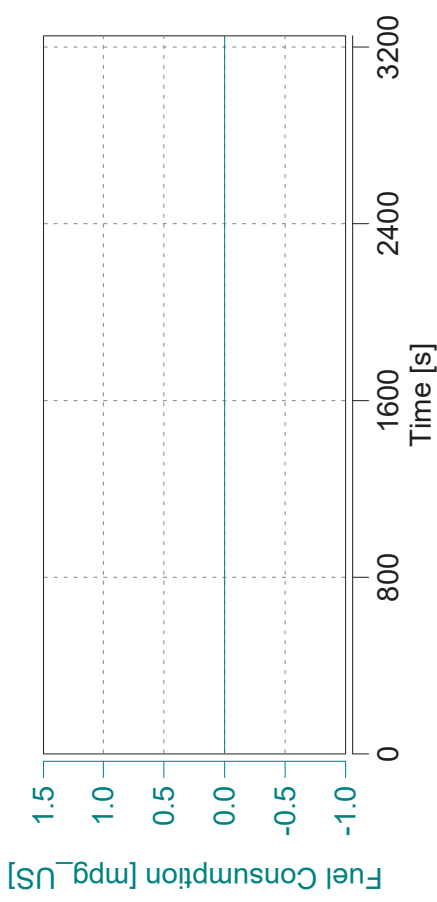
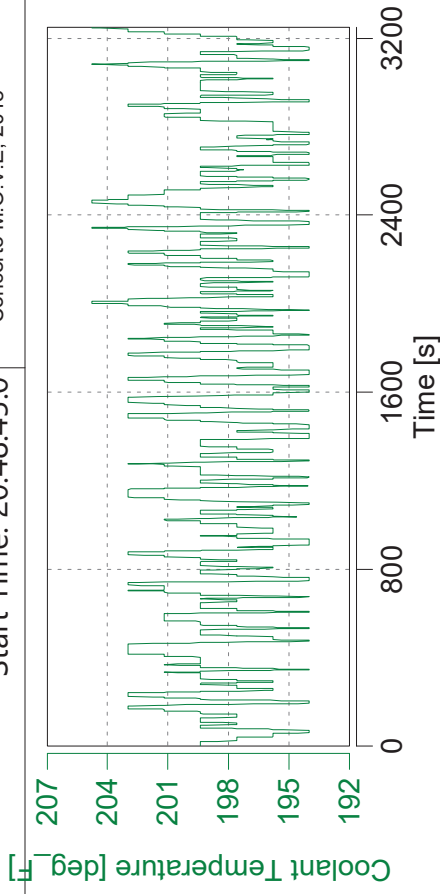
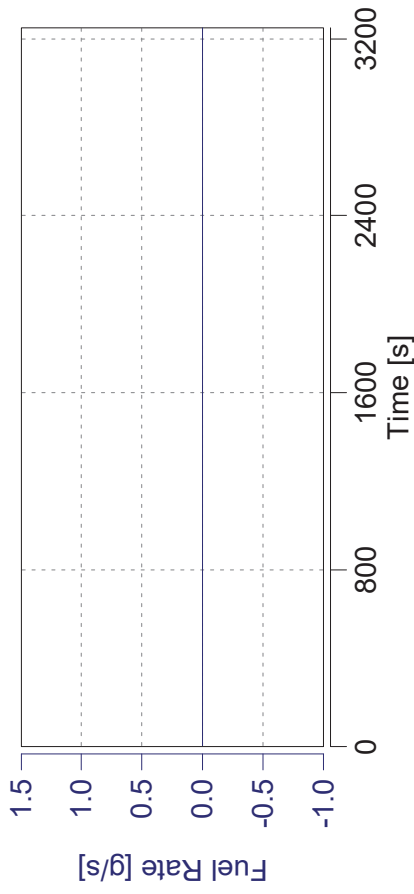
'City'

Start Date: 08/02/2018

Start Time: 20:48:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Engine: /
Vehicle: Jetta / 1.4L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Exhaust Flow (1)

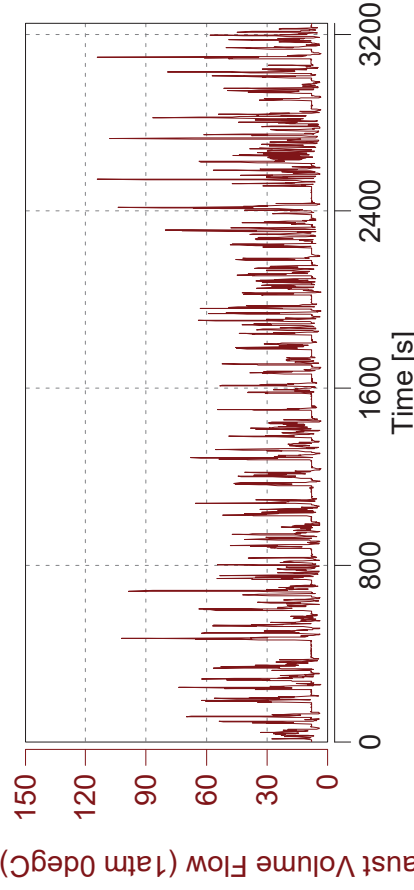
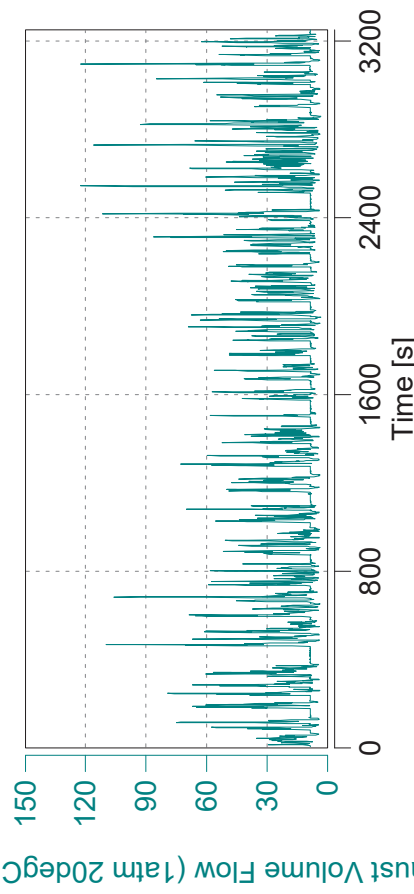
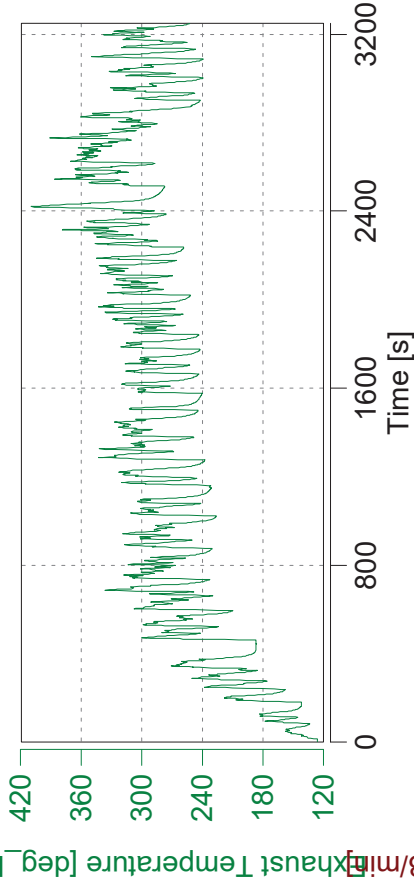
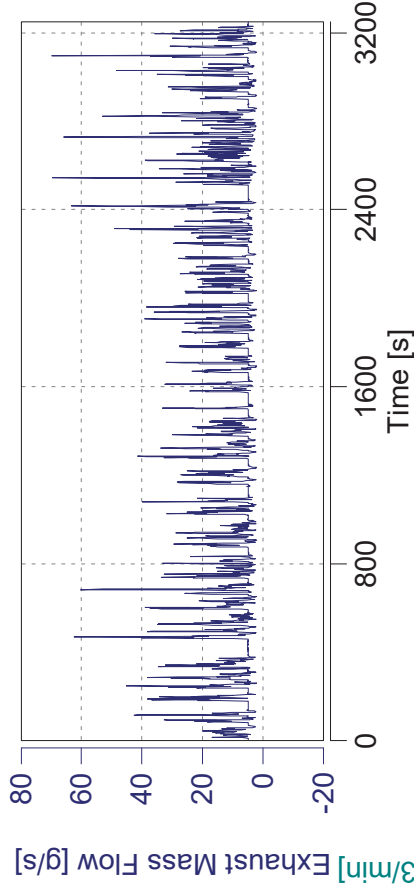
'City'

Start Date: 08/02/2018

Start Time: 20:48:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Jetta / 1.4L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Exhaust Flow (2)

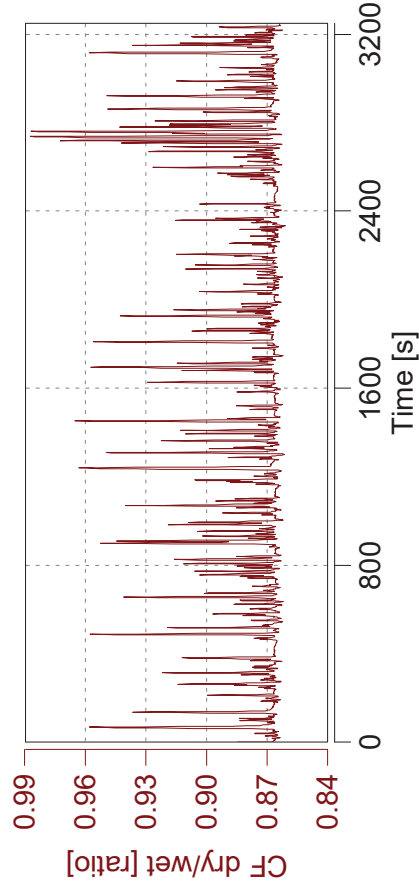
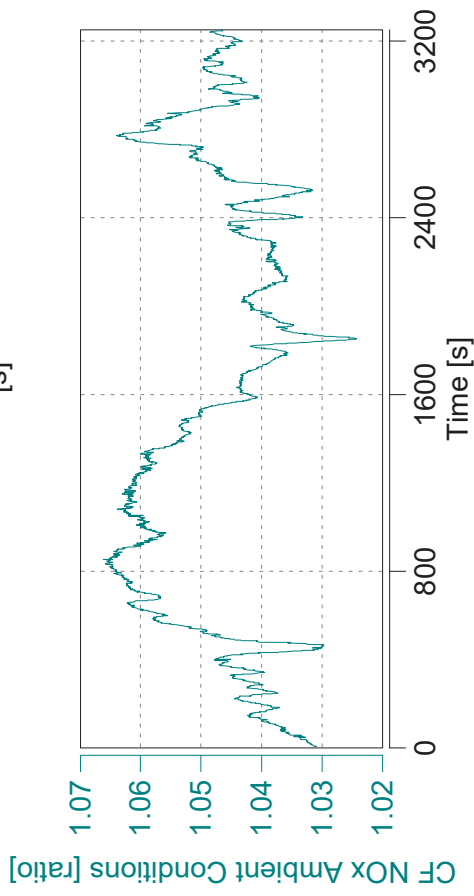
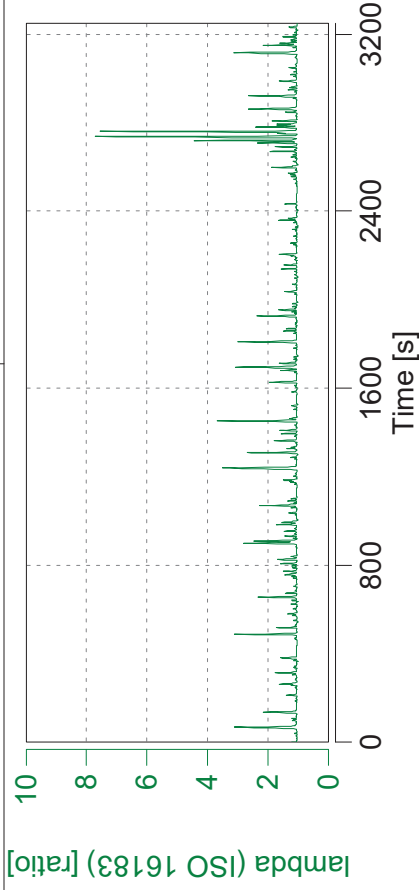
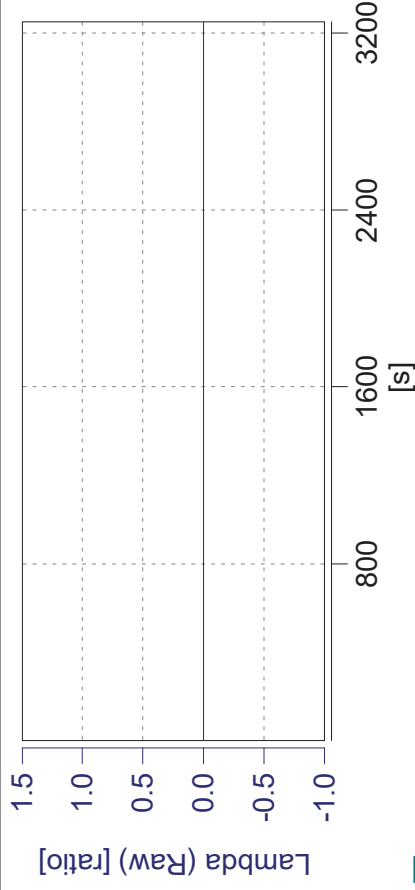
'City'

Start Date: 08/02/2018

Start Time: 20:48:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Jetta / 1.4L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (1)

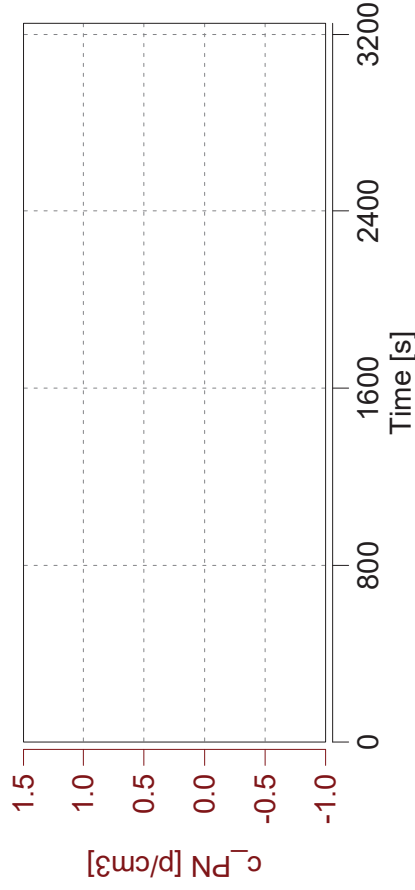
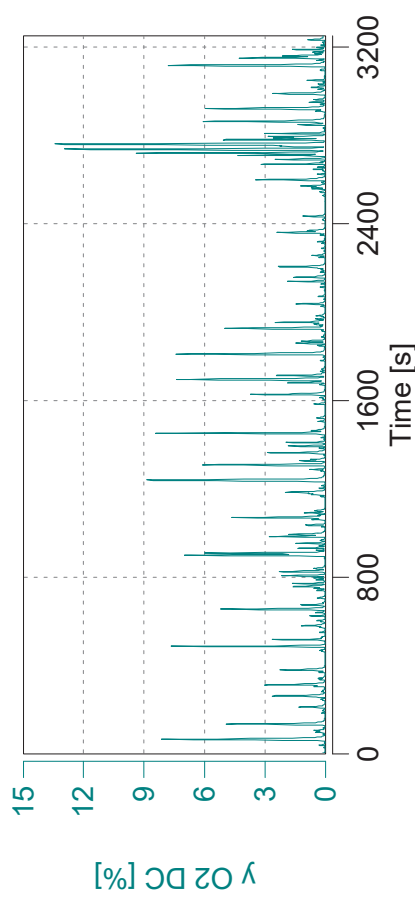
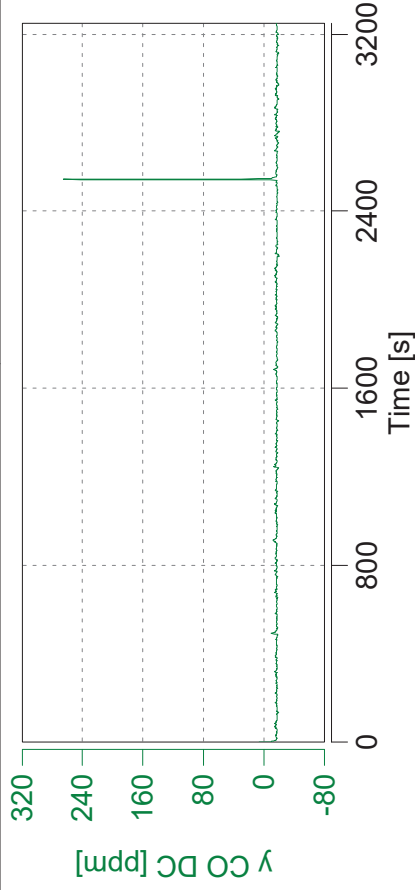
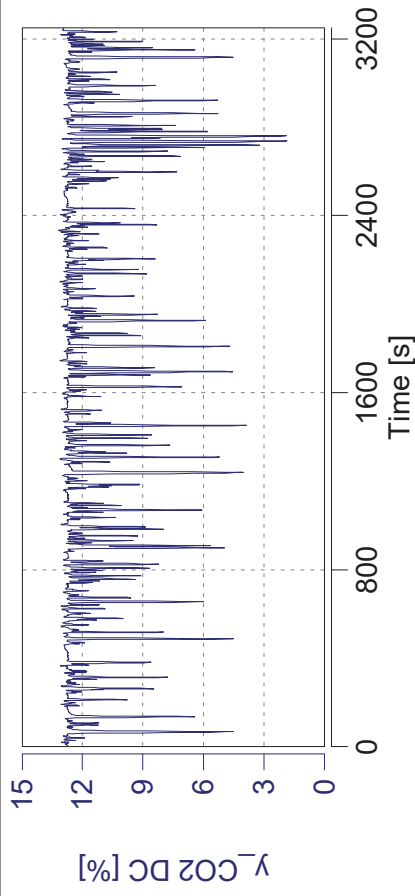
'City'

Start Date: 08/02/2018

Start Time: 20:48:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Jetta / 1.4L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (2)

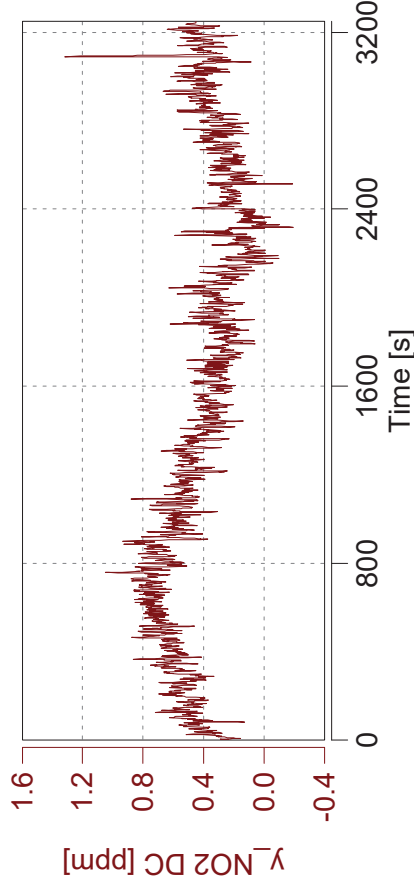
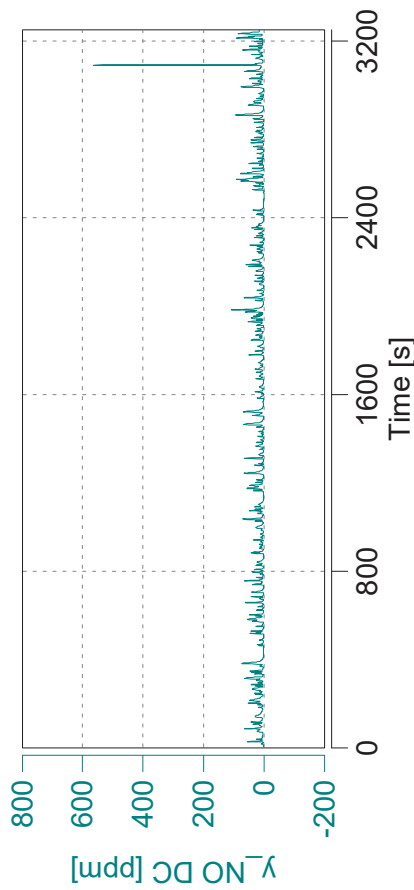
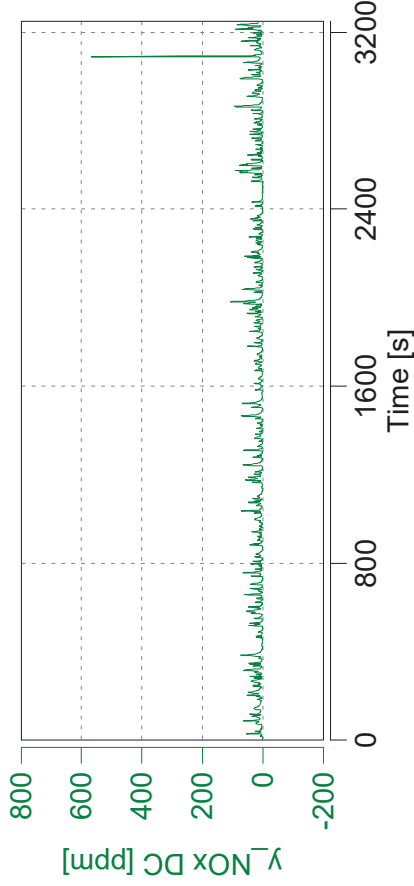
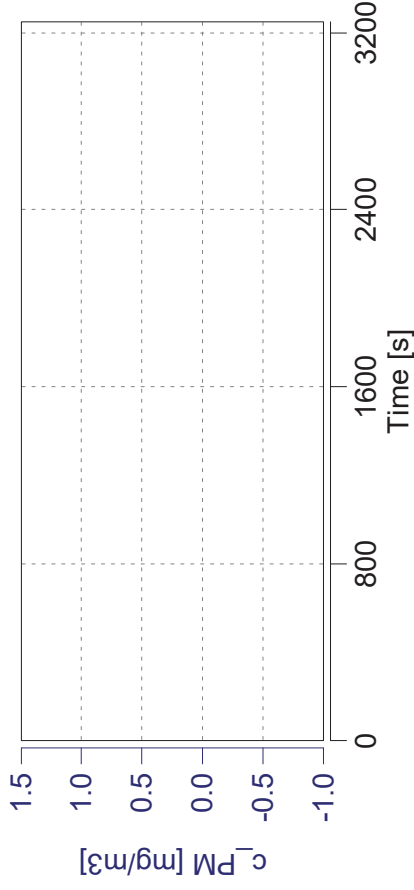
'City'

Start Date: 08/02/2018

Start Time: 20:48:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Jetta / 1.4L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (3)

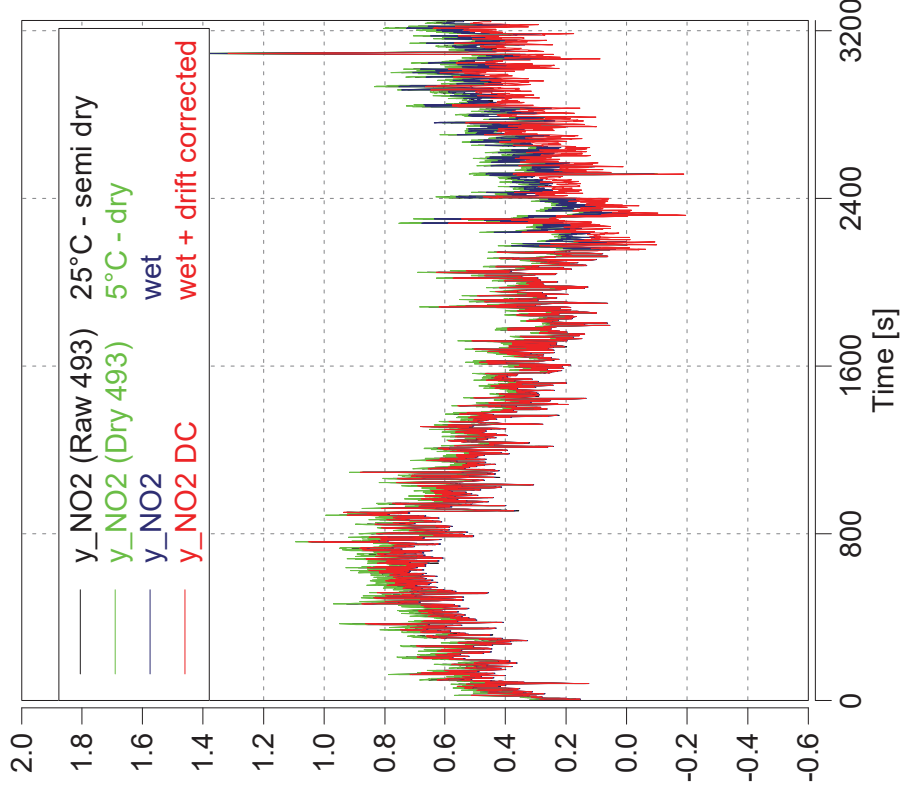
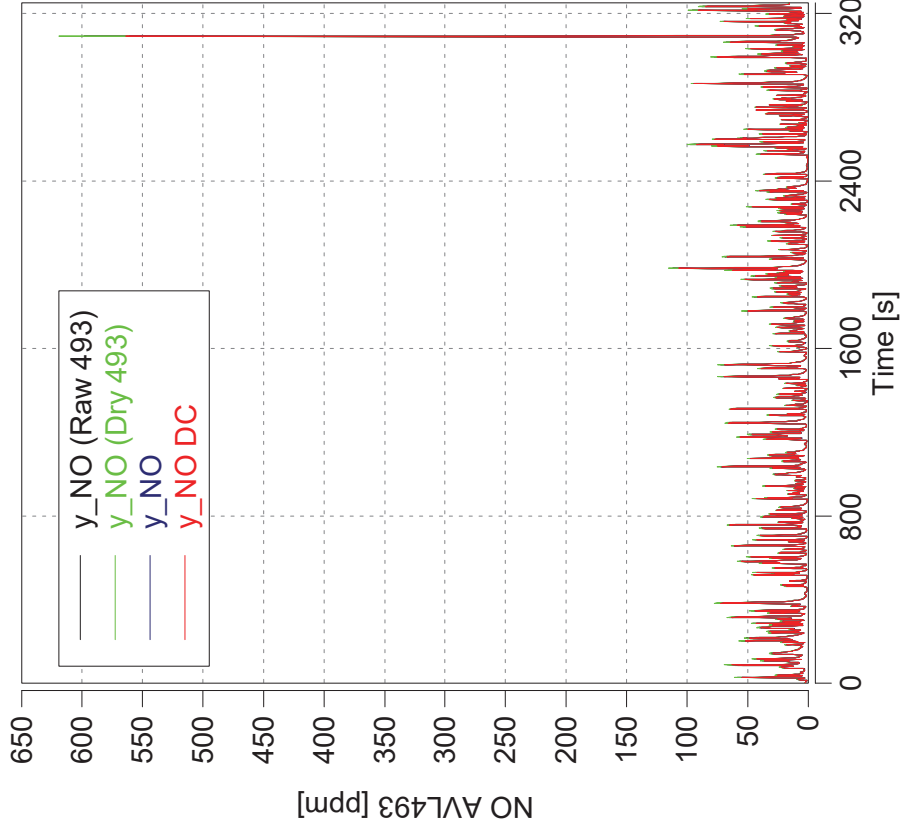
'City'

Start Date: 08/02/2018

Start Time: 20:48:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /
Vehicle: Jetta / 1.4L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (4) NOx Corrections

'City'

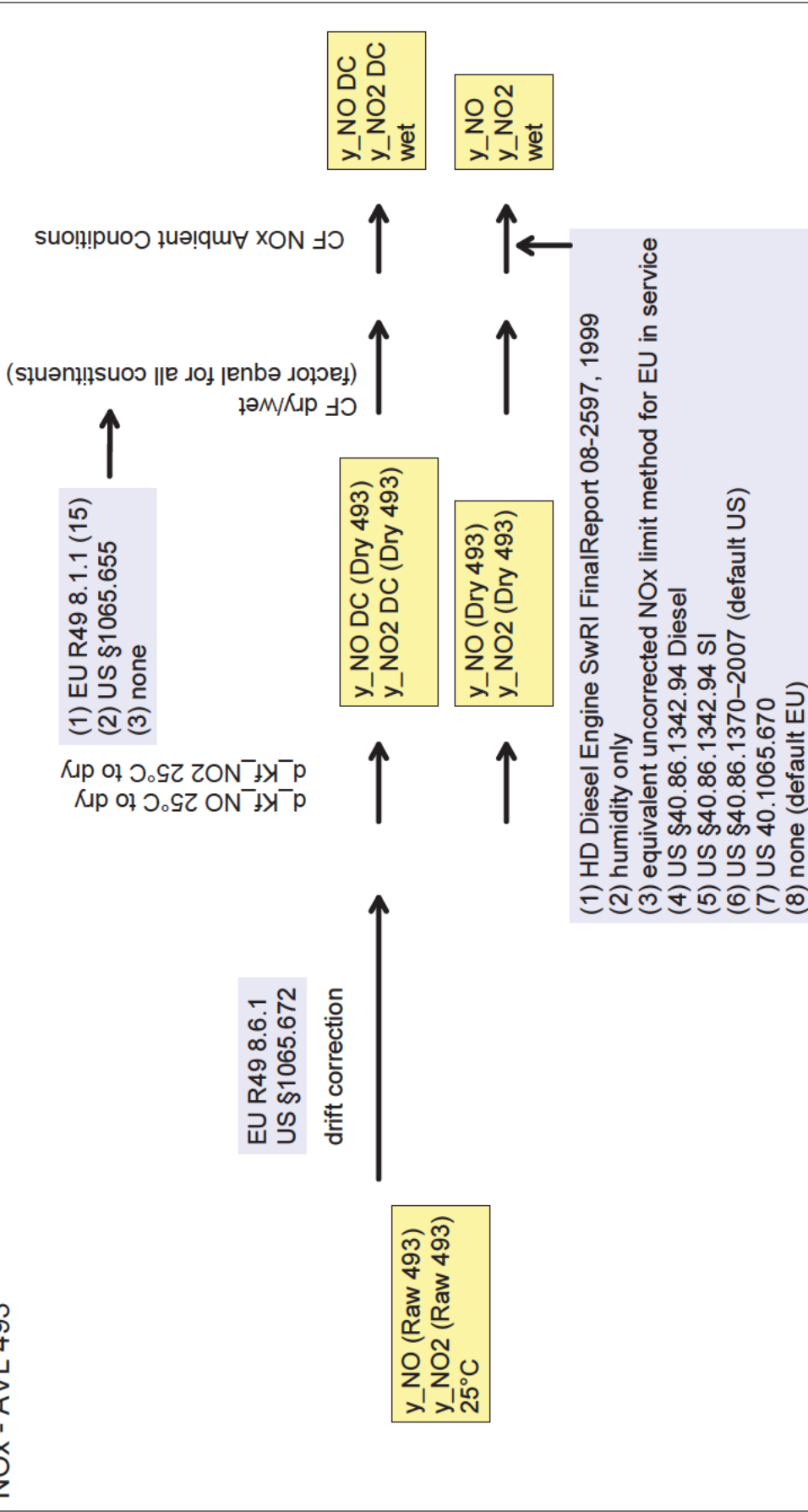
Start Date: 08/02/2018

Start Time: 20:48:45.0



Concerto M.O.V.E., 2018

NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine /

Vehicle: Jetta / 1.4L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (5)

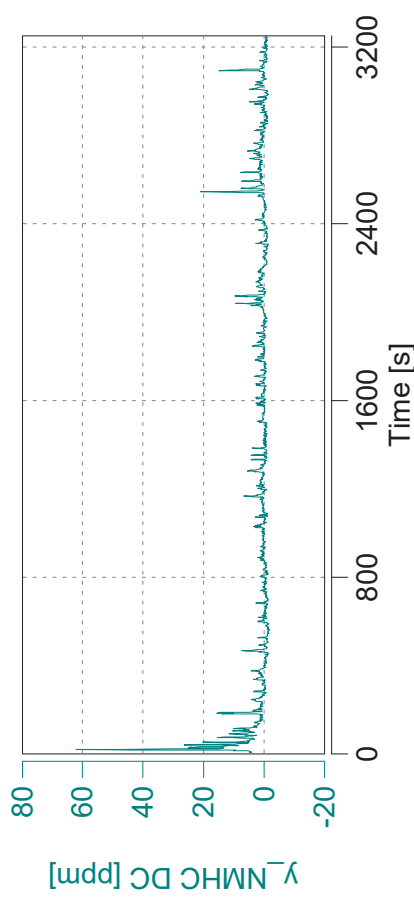
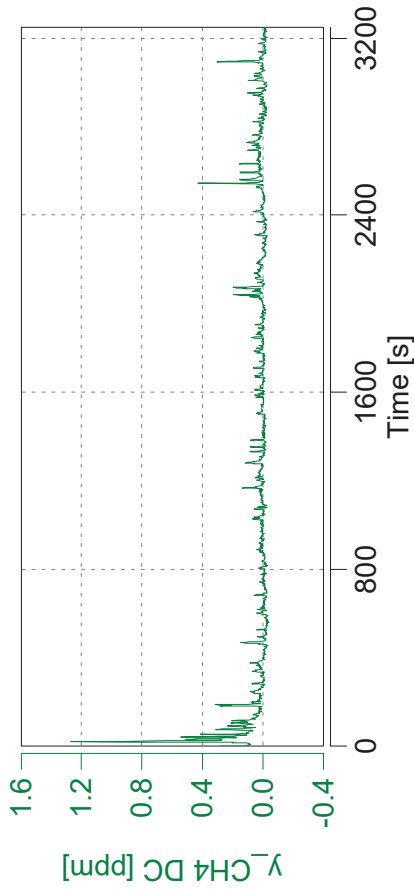
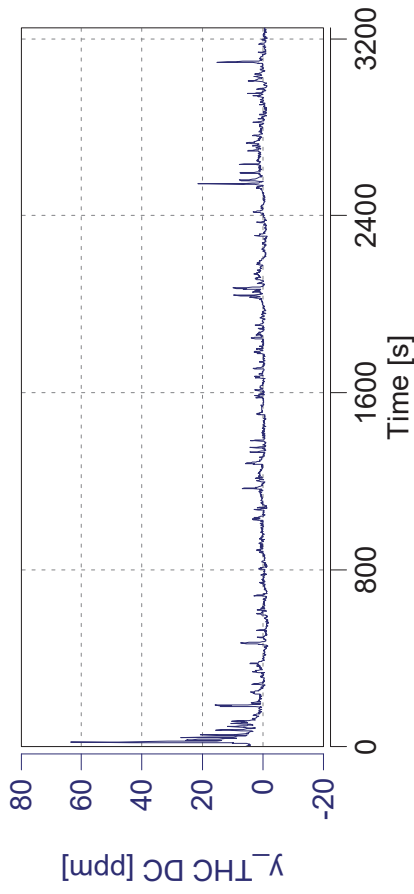
'City'

Start Date: 08/02/2018

Start Time: 20:48:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Vehicle: Jetta / 1.4L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI Engine: /
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: NO/NO2/NOx Zero - Span

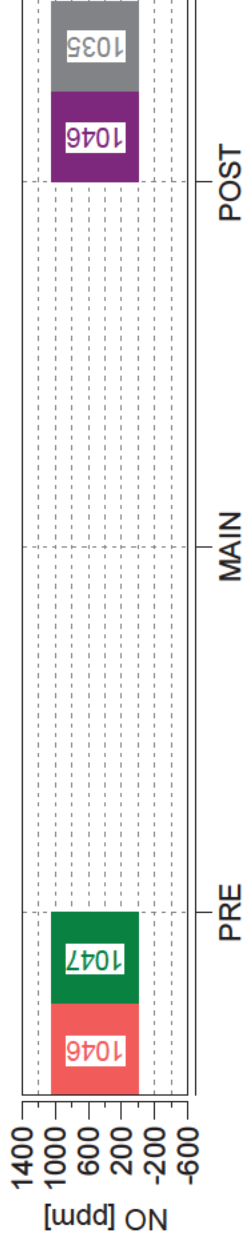
'City'

Start Date: 08/02/2018

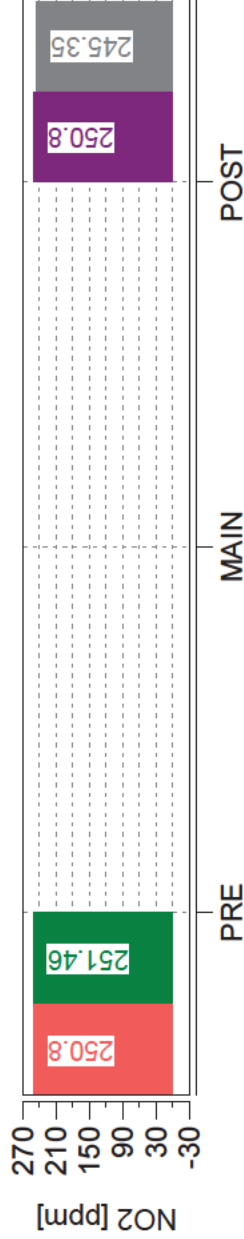
Start Time: 20:48:45.0



Concerto M.O.V.E., 2018



GP_NO_Cal_gas_value
GP_NO_Adjust_Actual
GP_NO_Reference
GP_NO_Audit_Actual



GP_NO2_Cal_gas_value
GP_NO2_Adjust_Actual
GP_NO2_Reference
GP_NO2_Audit_Actual

Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: City

Page: CO/CO2 Zero - Span

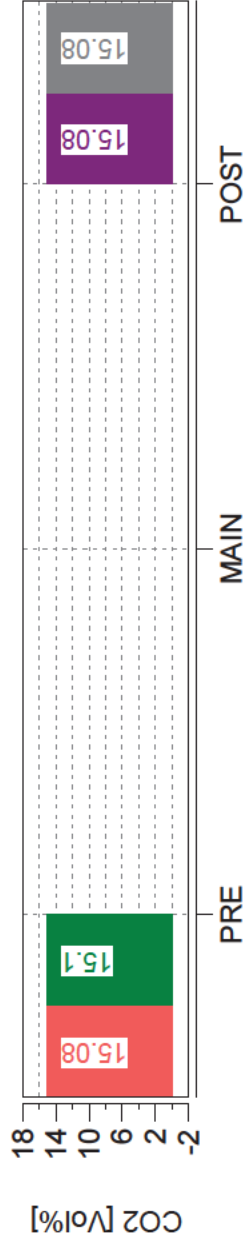
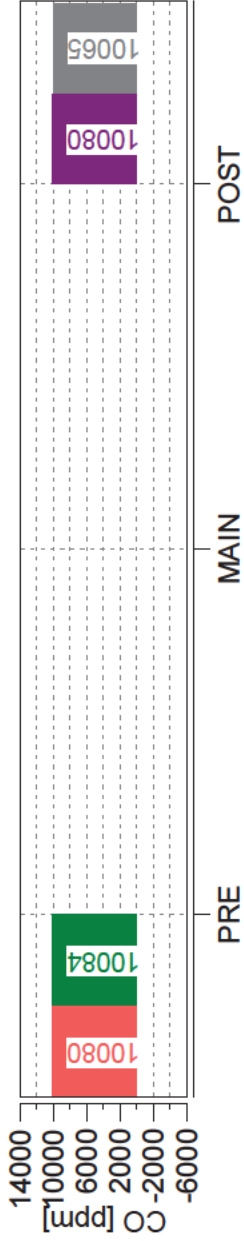
'City'

Start Date: 08/02/2018

Start Time: 20:48:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: City

Page: THC/CH4 Zero - Span

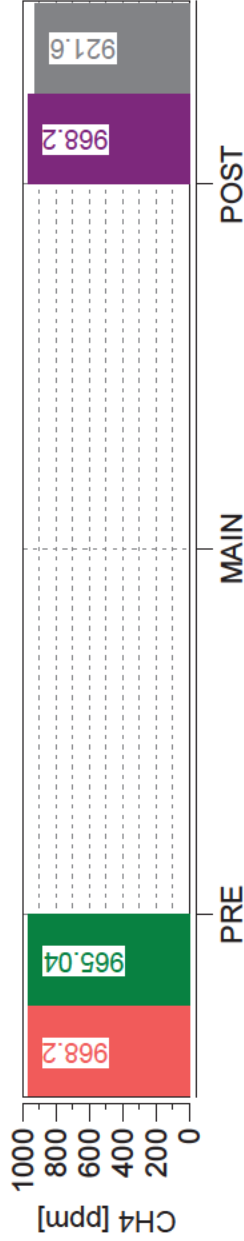
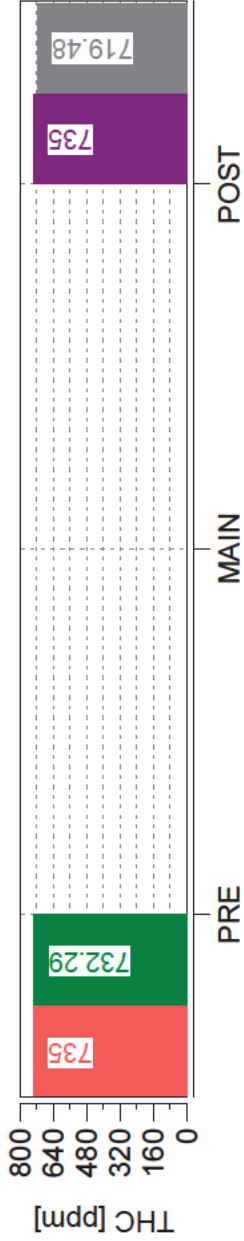
'City'

Start Date: 08/02/2018

Start Time: 20:48:45.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Jetta / 1.4L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway
Page: Trip Summary

'Highway'
Start Date: 08/07/2018
Start Time: 14:56:47.0



Concerto M.O.V.E. 2018

Trip Duration	2791.00	s	ave THC	-1.31501	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	2791.00	s	ave NMHC	-1.28871	ppm	BS CO	n/a	g/hphr
Trip Distance	38.25	mi	ave CH4	-0.02630	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	38.25	mi	ave CO	529.13203	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	12.19952	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOX	4.89324	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	3.56	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.51	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.26	gall	tot THC	-0.03264	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.24	gall	tot NMHC	-0.03020	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	-0.00072	g	DS CO2	278.20673	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	28.63177	g	DS CO	0.74845	g/mi
Trip Fuel Economy EU (ac)	30.38	mpg_US	tot CO2	10642.66869	g	DS THC	-0.00085	g/mi
Trip Fuel Economy US (ac)	30.80	mpg_US	tot NO (d)	0.29546	g	DS NMHC	-0.00079	g/mi
Trip Av. Eng. Speed	1723.03	rpm	tot NO2	0.04879	g	DS CH4	-0.00002	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.34425	g	DS NO (d)	0.00772	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	0.00128	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.00900	g/mi
Trip Exhaust Mass	56.59	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	86.44	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	49.98	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	49.34300	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	3.40380	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /
Vehicle: Passat / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Trip Summary Drift Corrected

'Highway'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018

Trip Duration	2791.00	s	ave THC DC	-1.39979	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	2791.00	s	ave NMHC DC	-1.37179	ppm	BS CO DC	n/a	g/hphr
Trip Distance	38.25	mi	ave CH4 DC	-0.02800	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	38.25	mi	ave CO DC	529.66378	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	12.20762	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	4.94691	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	3.56	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.51	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.26	gall	tot THC DC	-0.03832	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.24	gall	tot NMHC DC	-0.03544	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	-0.00085	g	DS CO2 DC	278.39134	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	28.66536	g	DS CO DC	0.74933	g/mi
Trip Fuel Economy EU (ac)	30.38	mpg_US	tot CO2 DC	10649.73084	g	DS THC DC	-0.00100	g/mi
Trip Fuel Economy US (ac)	30.80	mpg_US	tot NO DC (d)	0.29590	g	DS NMHC DC	-0.00093	g/mi
Trip Av. Eng. Speed	1723.03	rpm	tot NO2 DC	0.05121	g	DS CH4 DC	-0.00002	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.34711	g	DS NO DC (d)	0.00773	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	0.00134	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.00907	g/mi
Trip Exhaust Mass	56.59	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	86.44	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	49.98	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	49.34300	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	3.40380	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Time Alignment Check

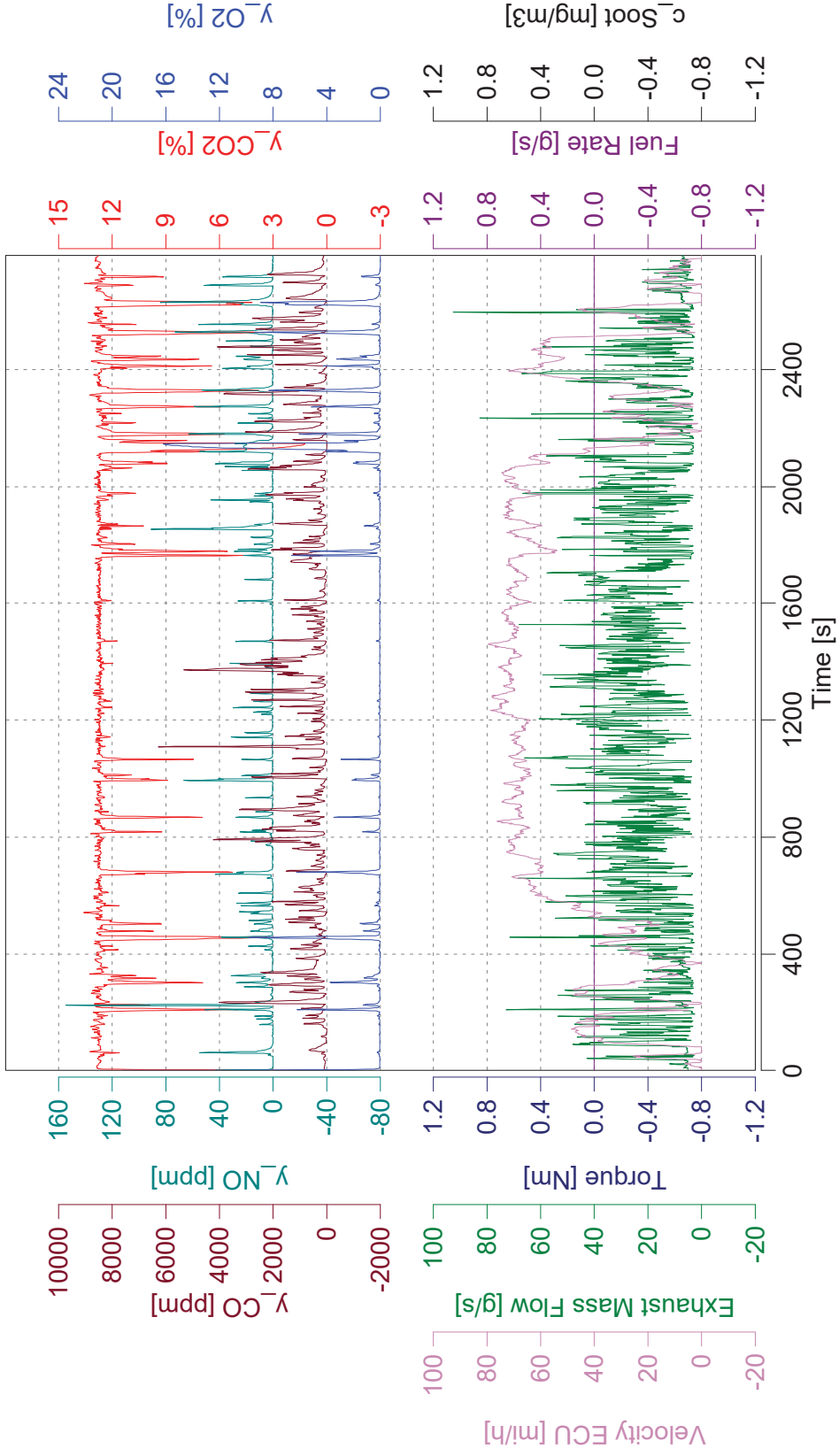
'Highway'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E. 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: Highway

Page: Time Alignment of Gas Concentrations

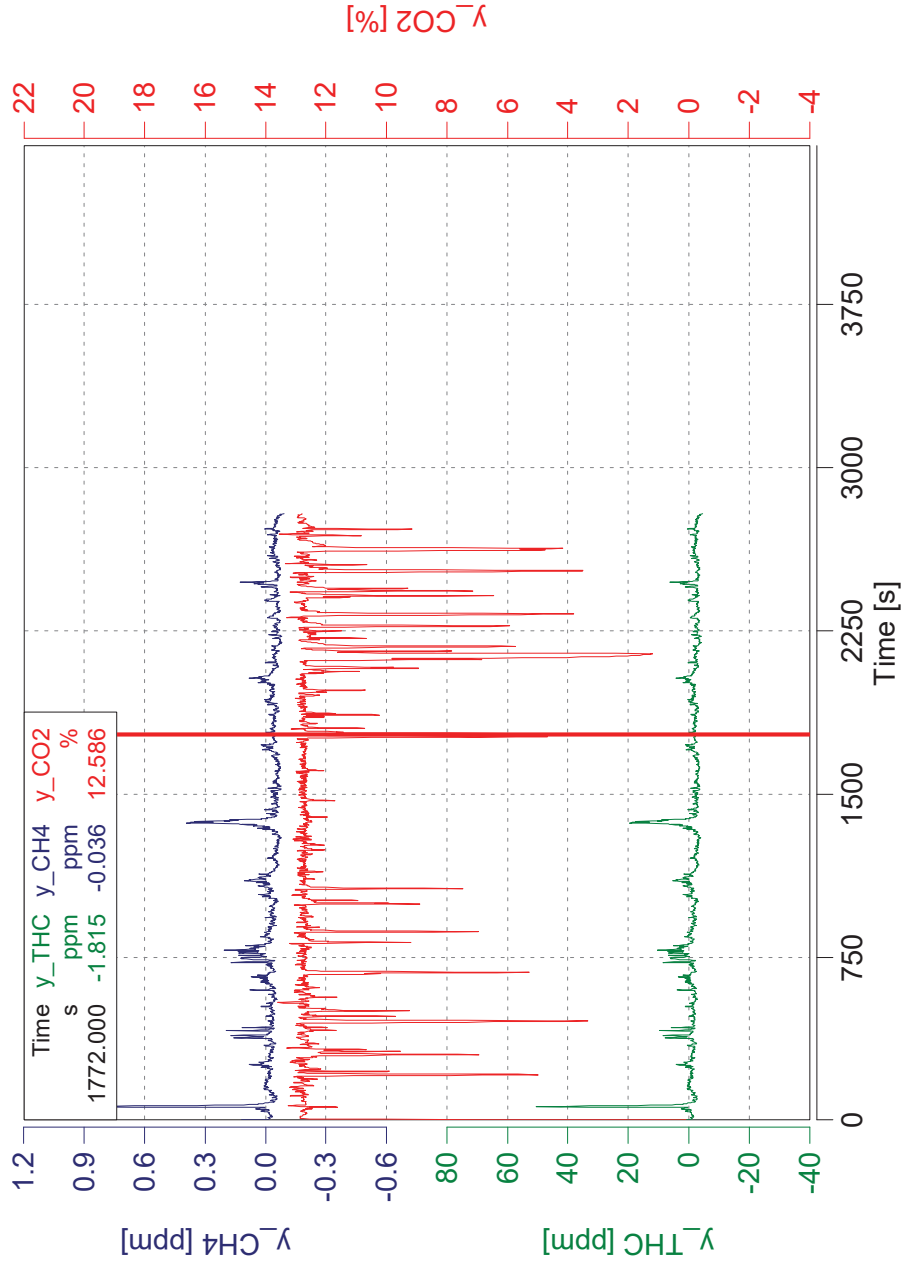
'Highway'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Ambient Conditions

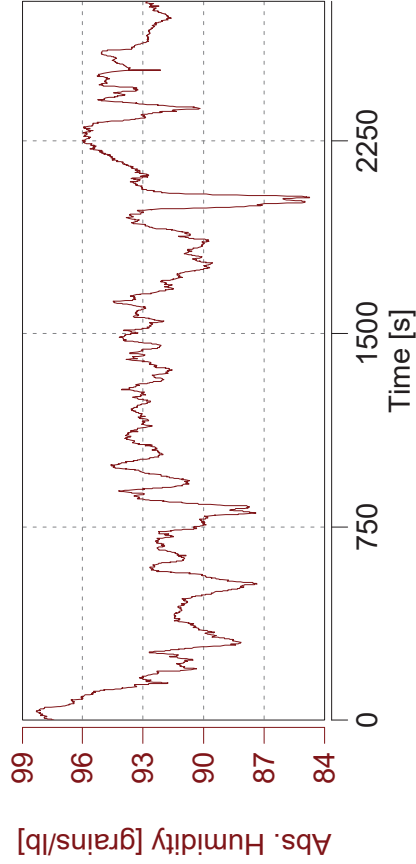
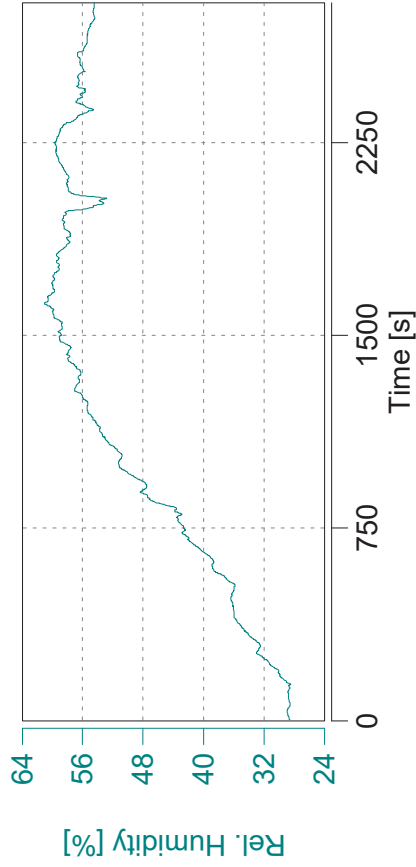
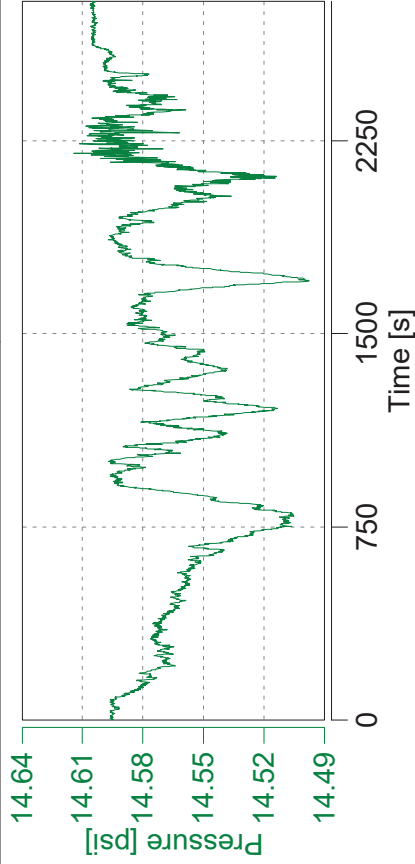
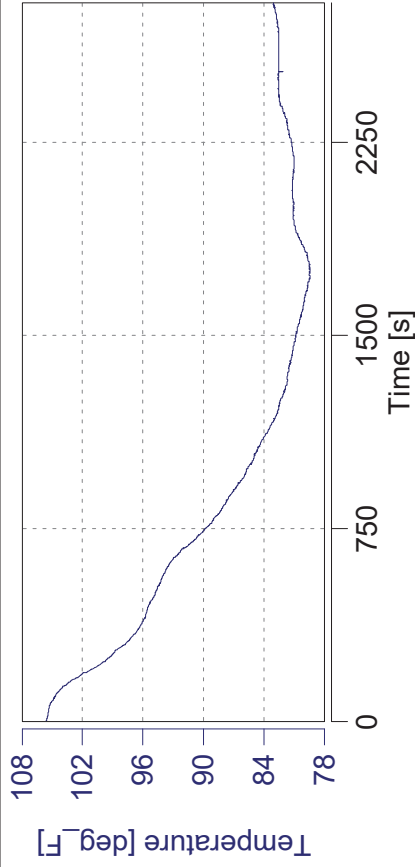
'Highway'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: GPS

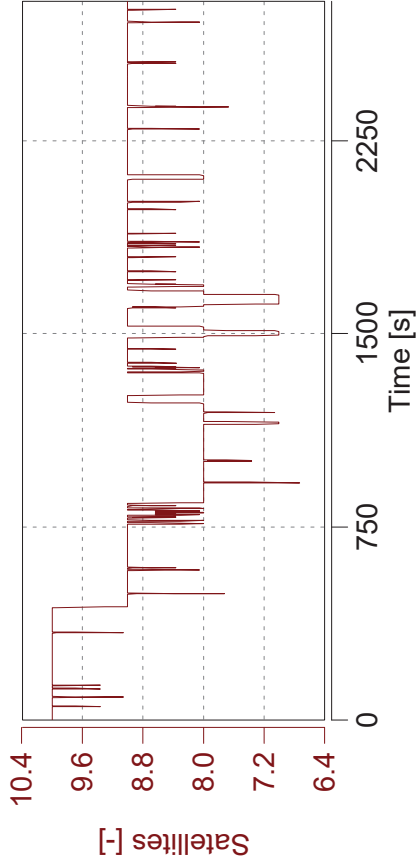
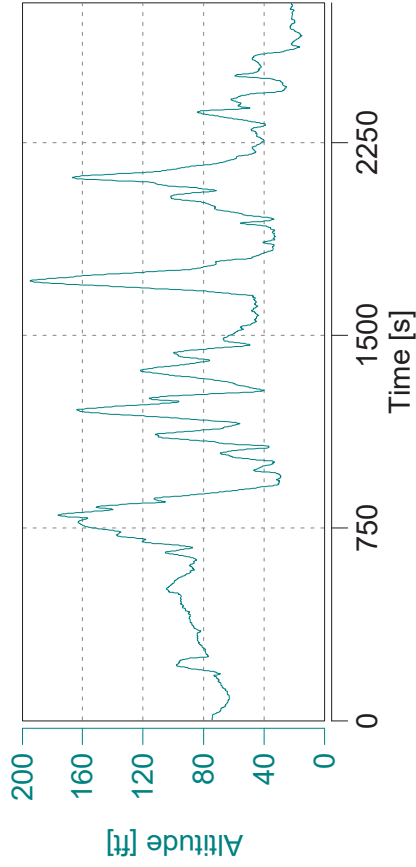
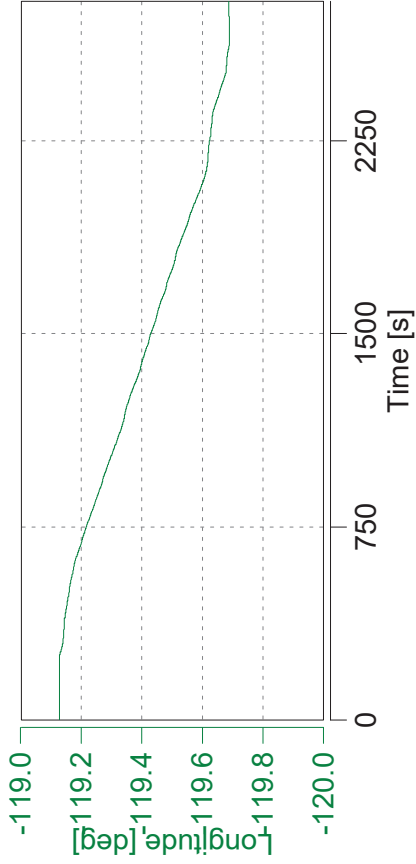
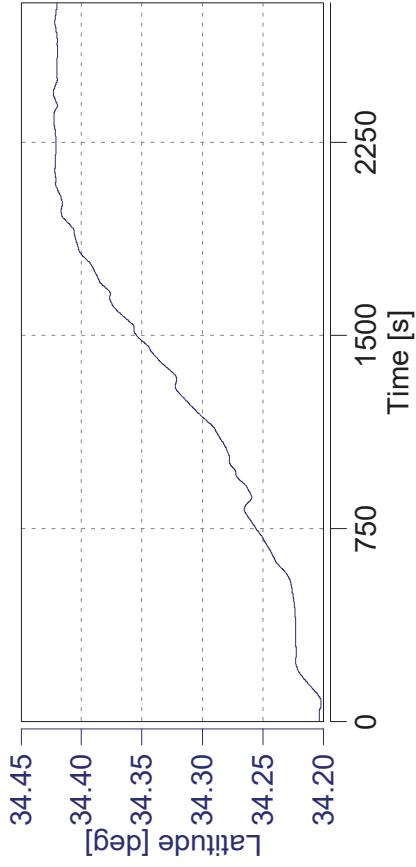
'Highway'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (1)

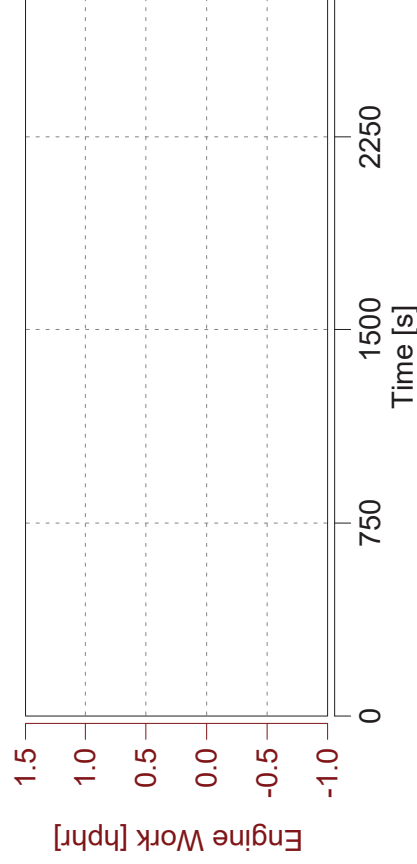
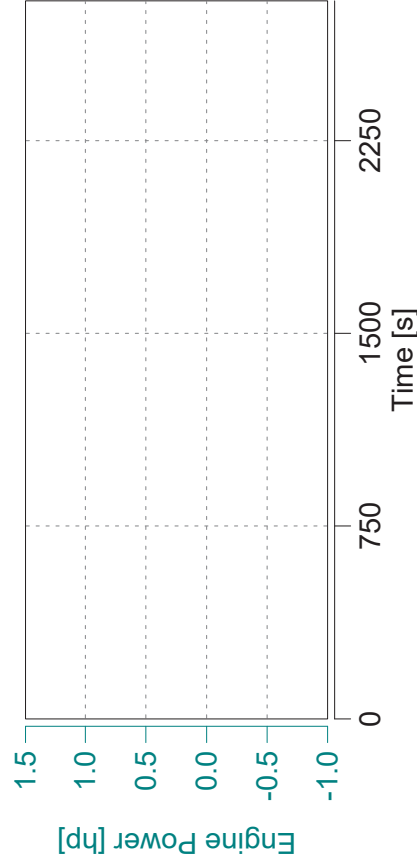
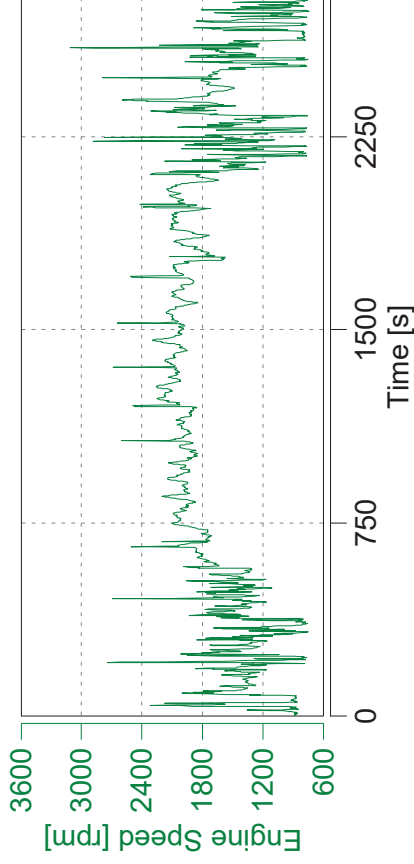
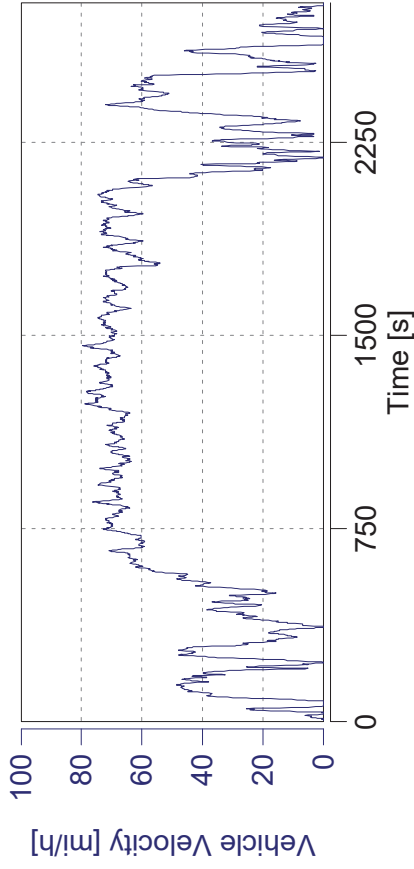
'Highway'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (2)

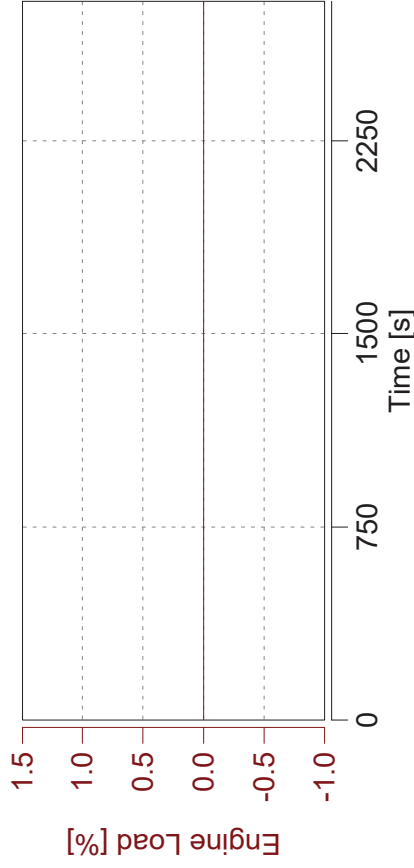
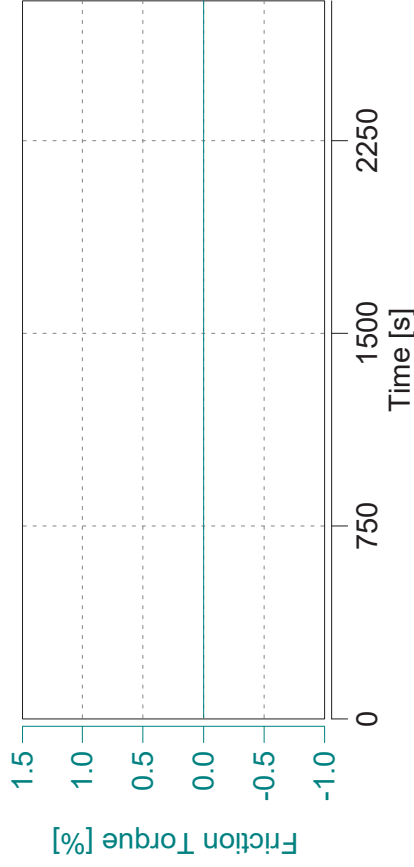
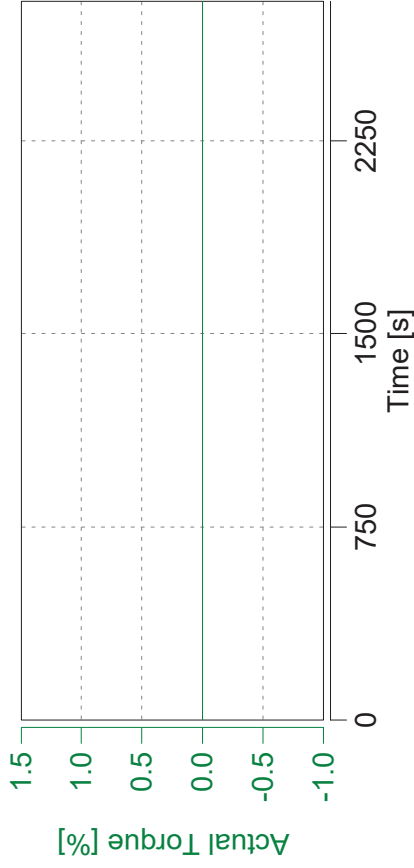
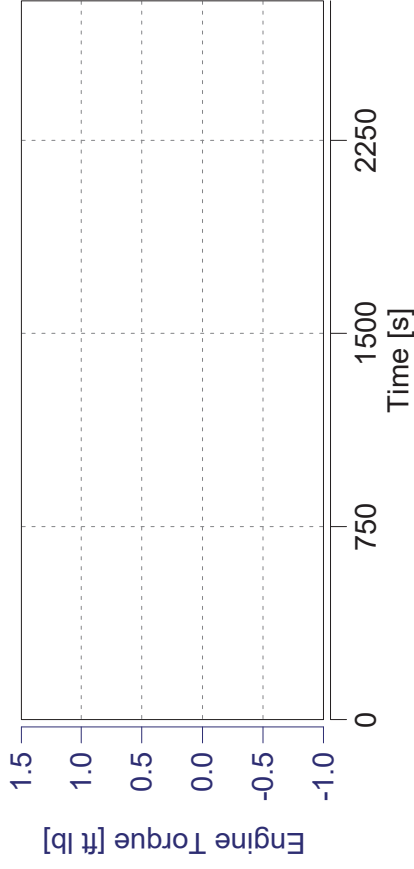
'Highway'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (3)

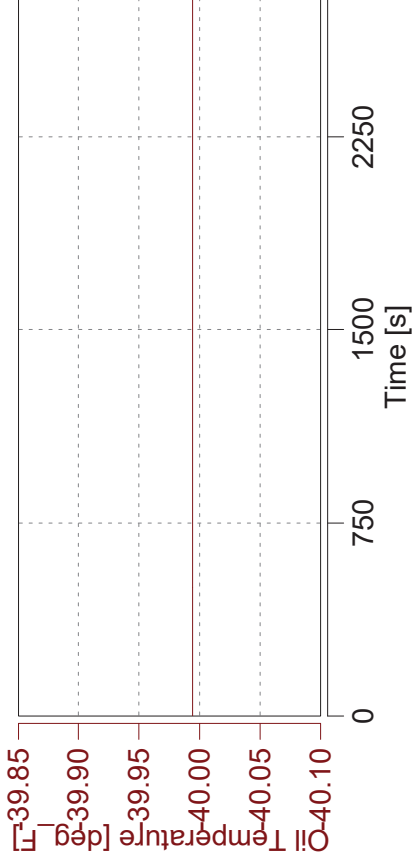
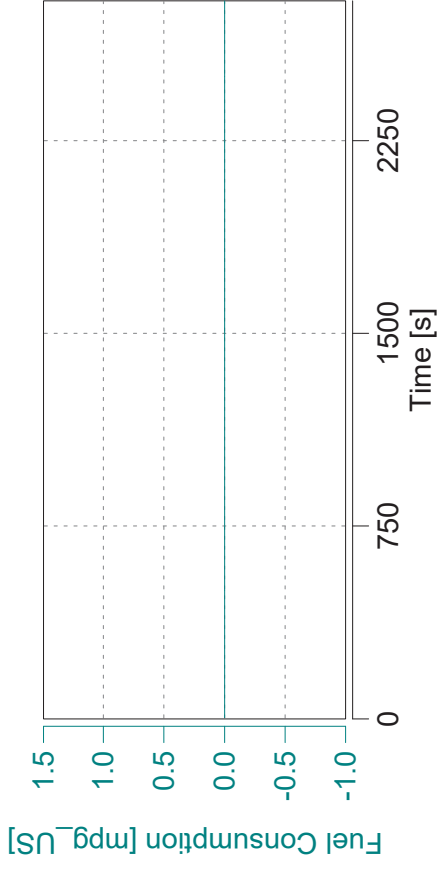
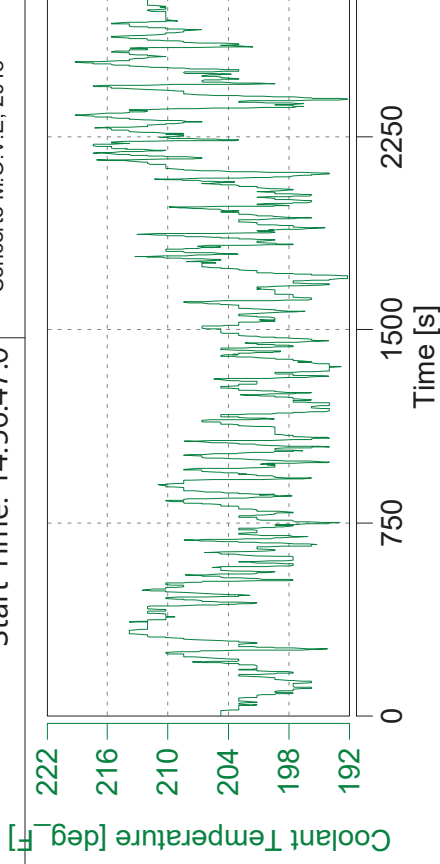
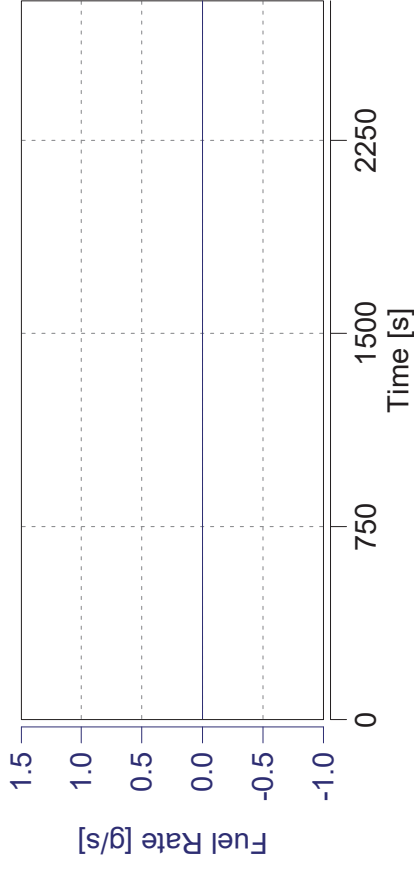
'Highway'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



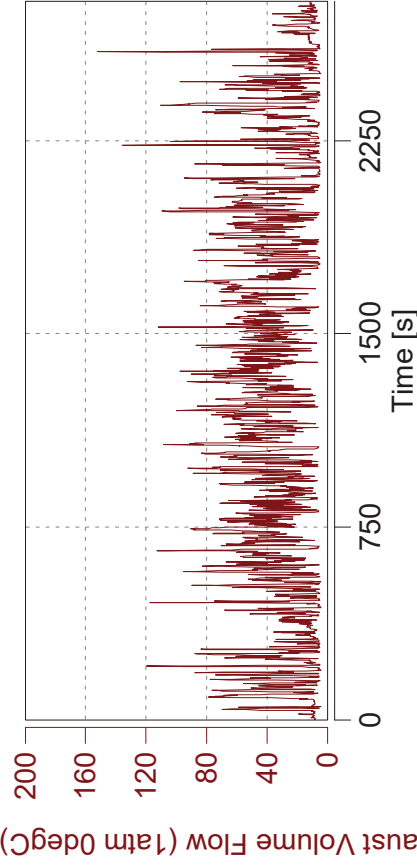
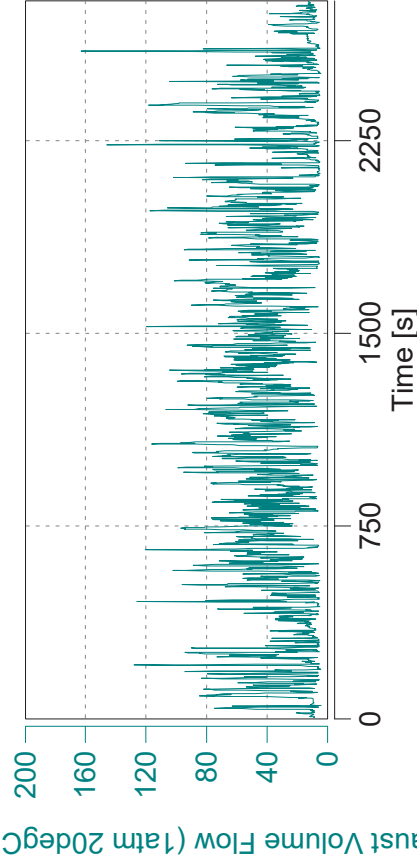
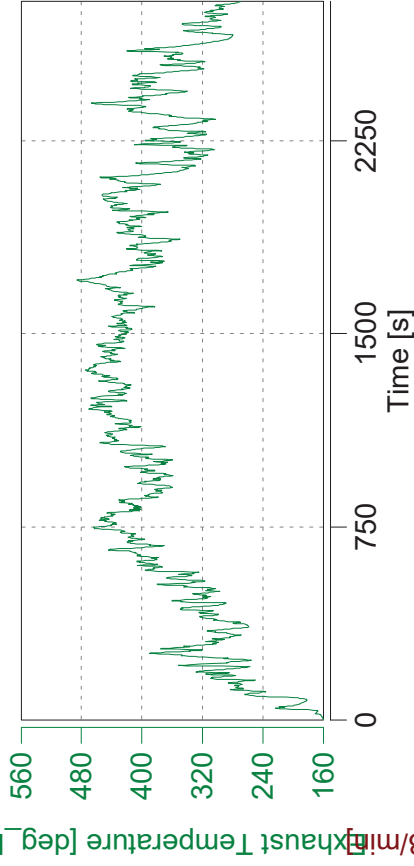
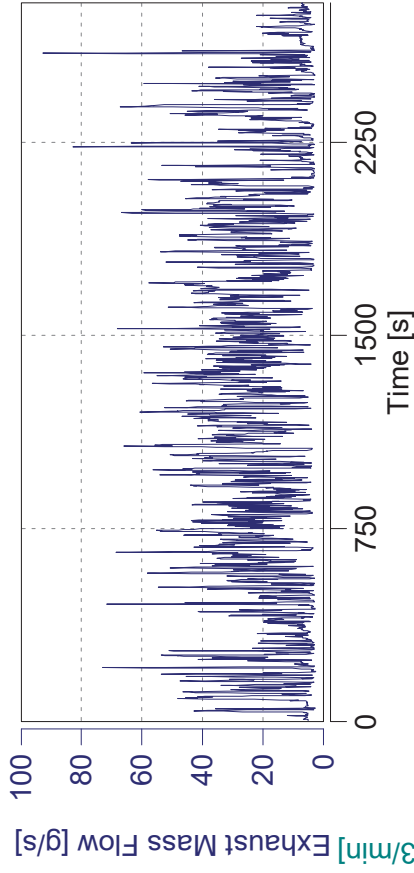
Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat / 2.0L

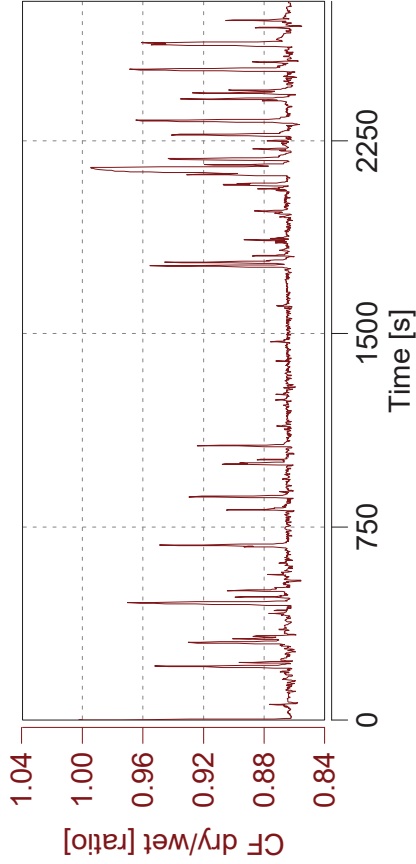
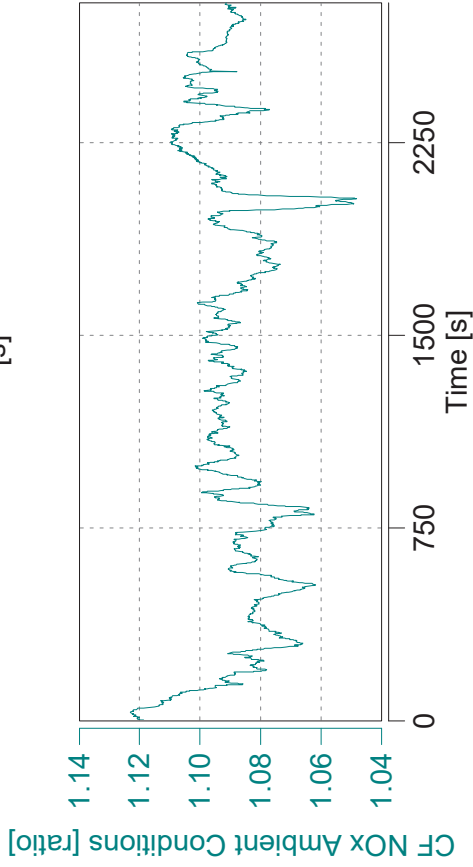
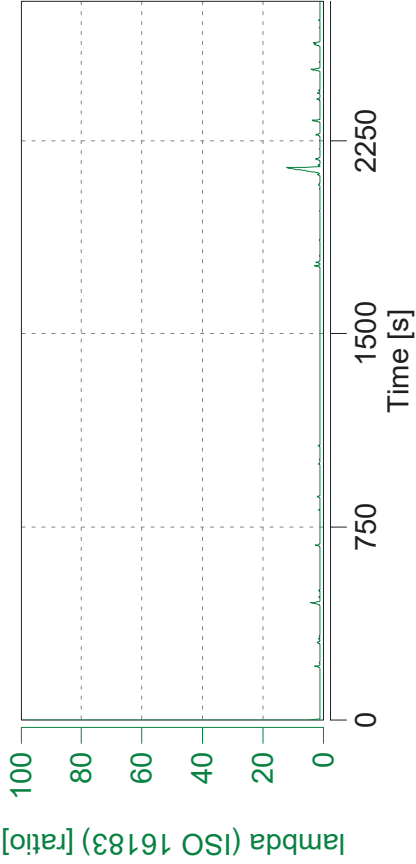
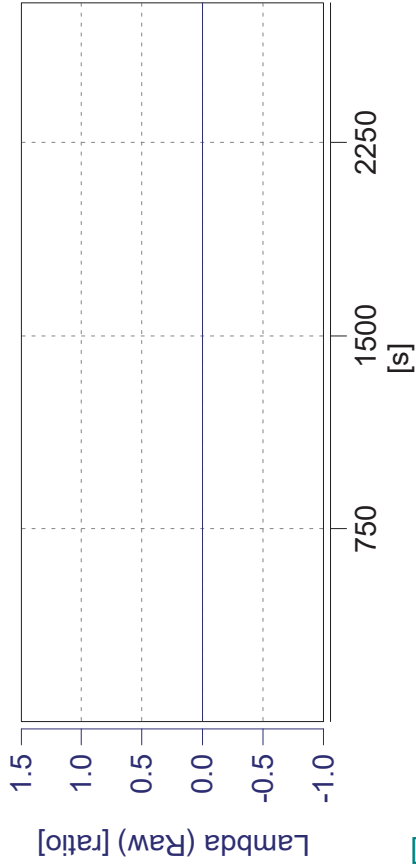
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Case: Highway
 Page: Exhaust Flow (2)

'Highway'
 Start Date: 08/07/2018
 Start Time: 14:56:47.0



Concerto Version: 480 Build 316, Serial Number: 1120
 M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat / 2.0L
 Engine: /
 NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (1)

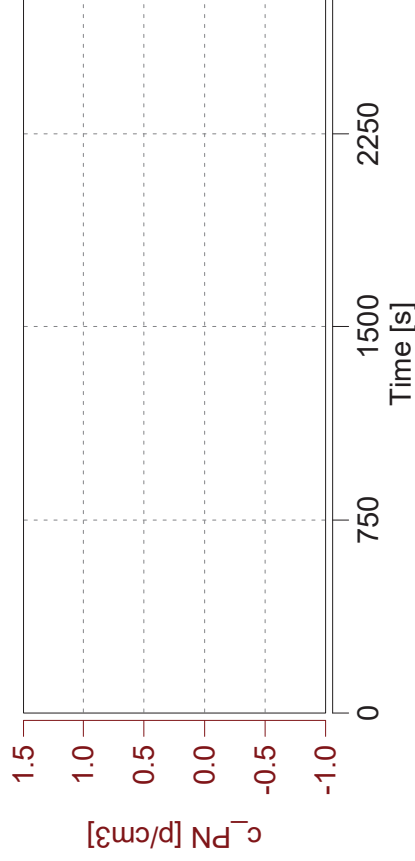
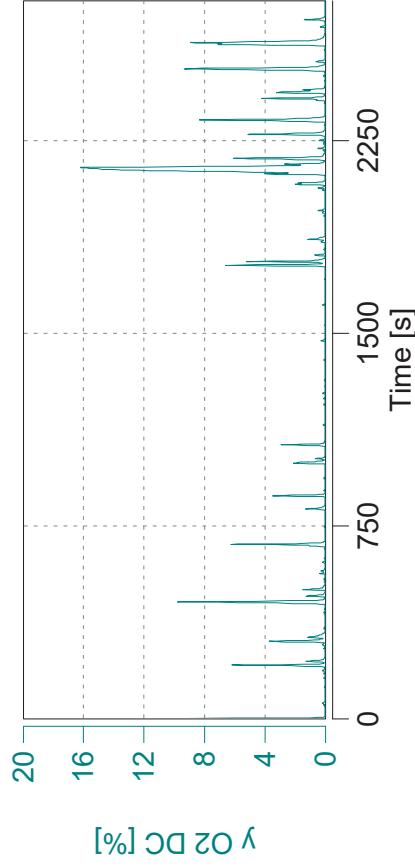
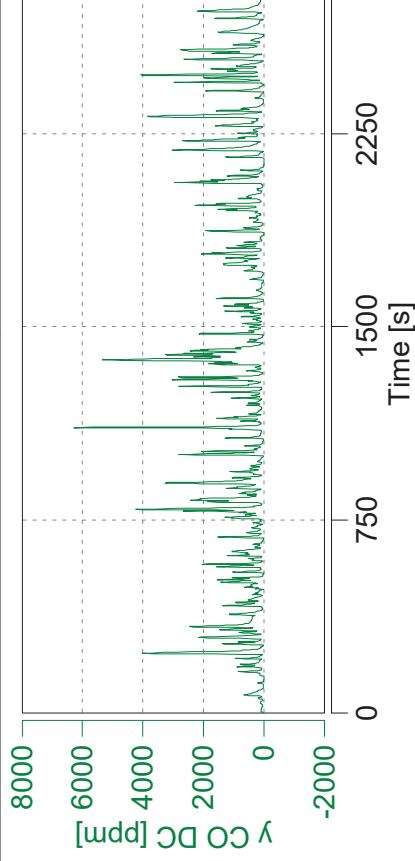
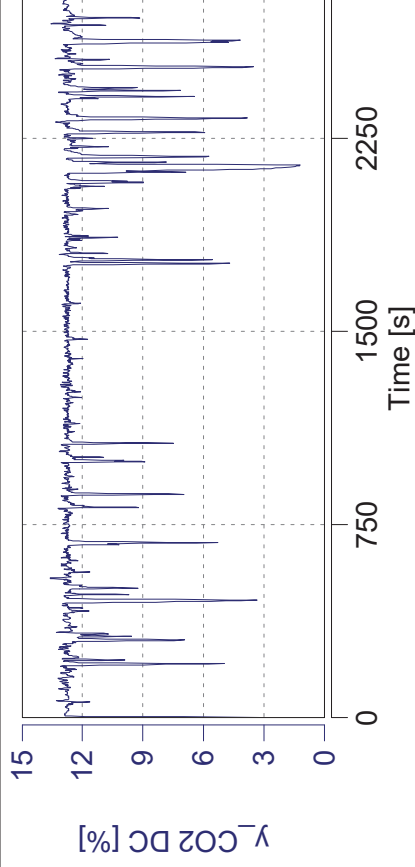
'Highway'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Vehicle: Passat / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (2)

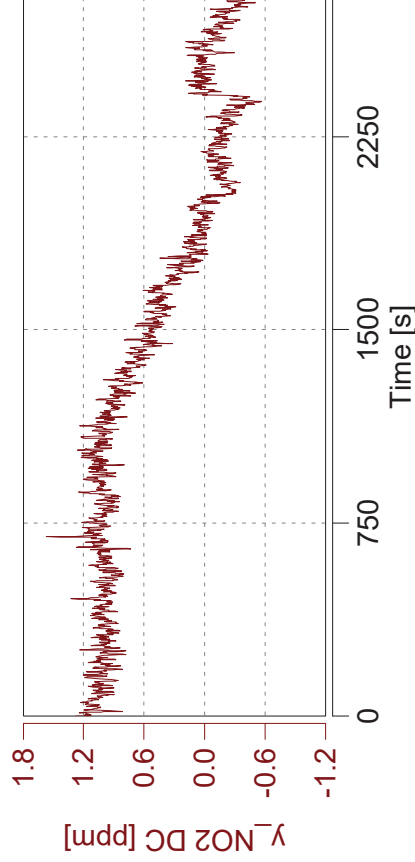
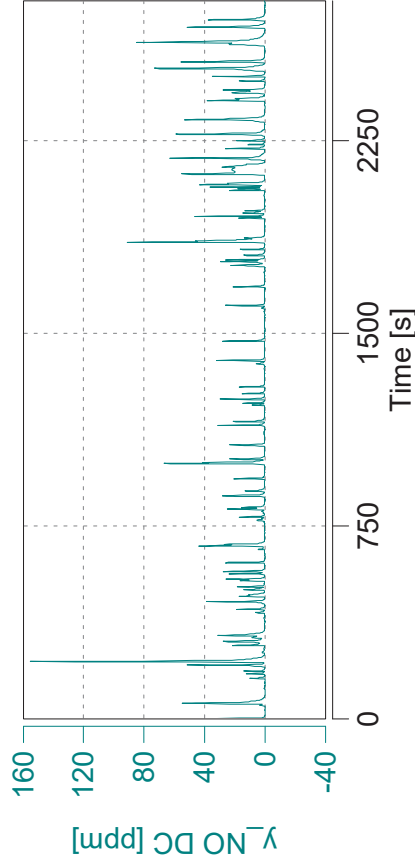
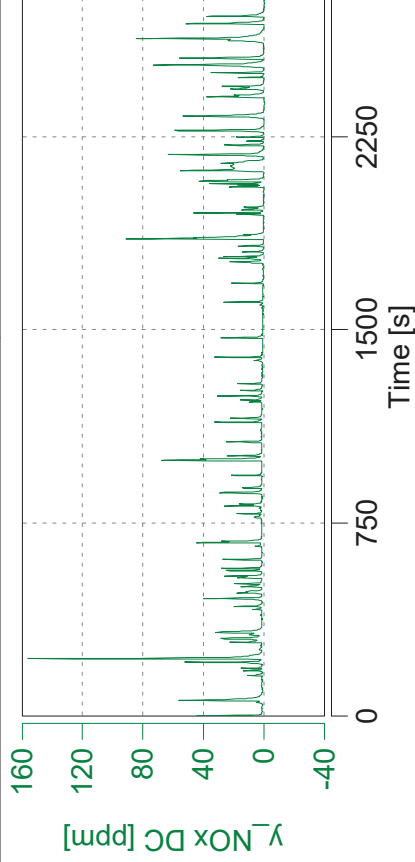
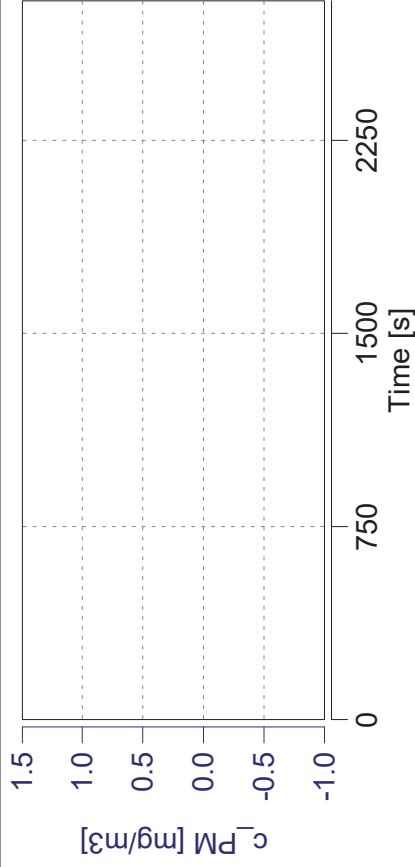
'Highway'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Vehicle: Passat / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI Engine: /
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (3)

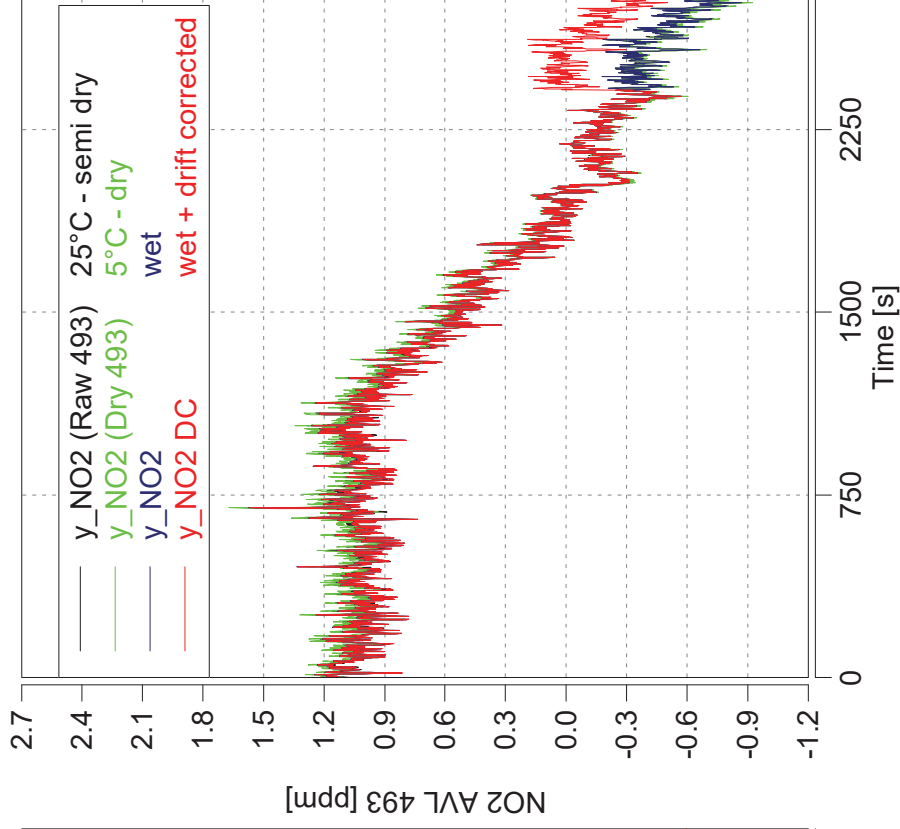
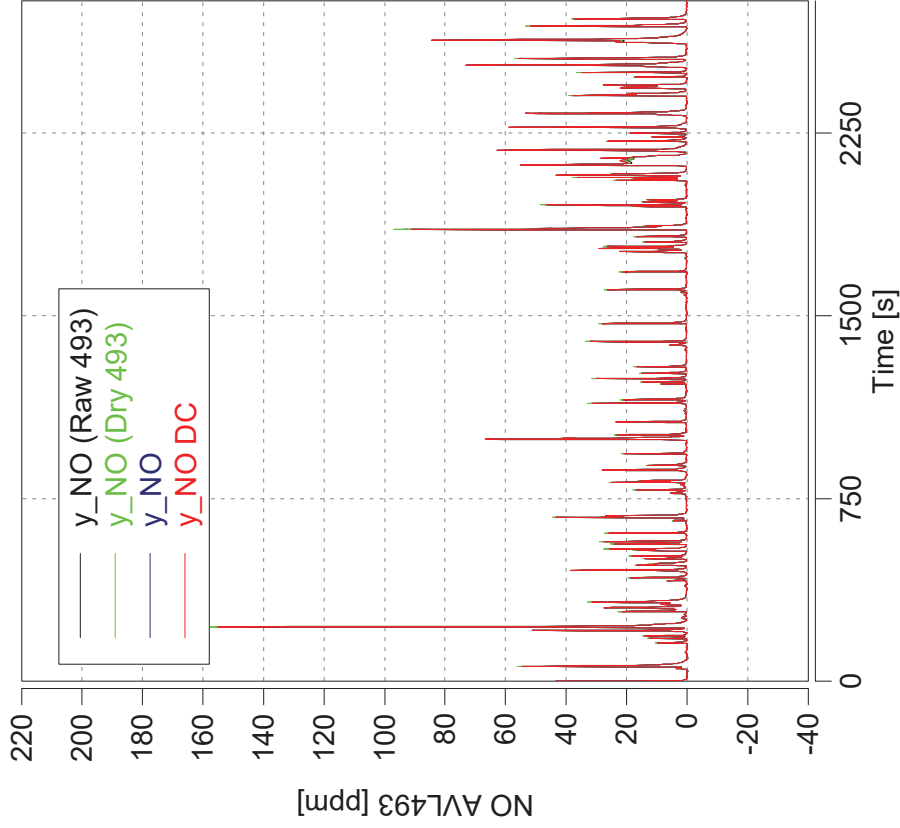
'Highway'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (4) NOx Corrections

'Highway'

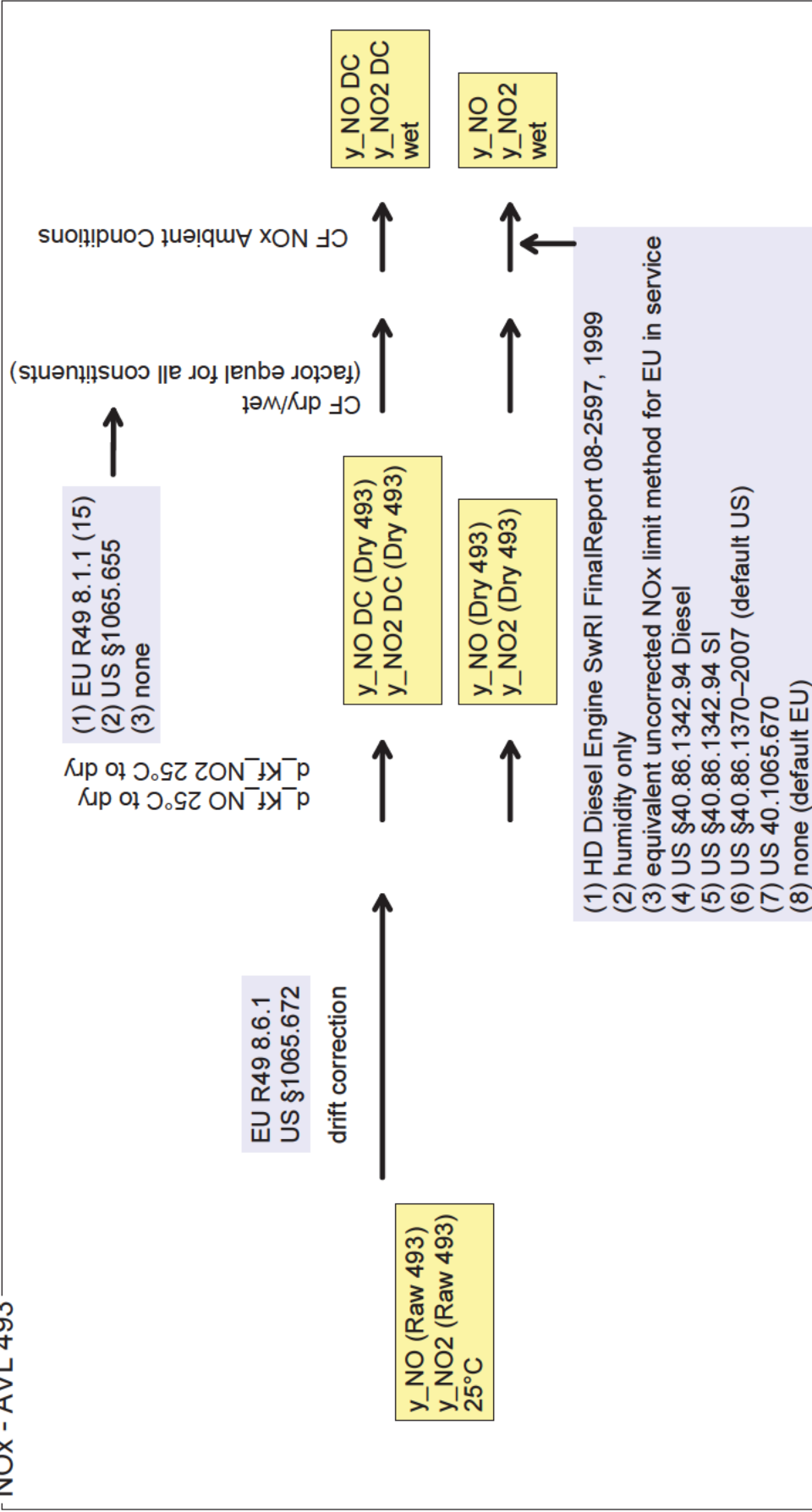
Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018

NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /
Vehicle: Passat / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (5)

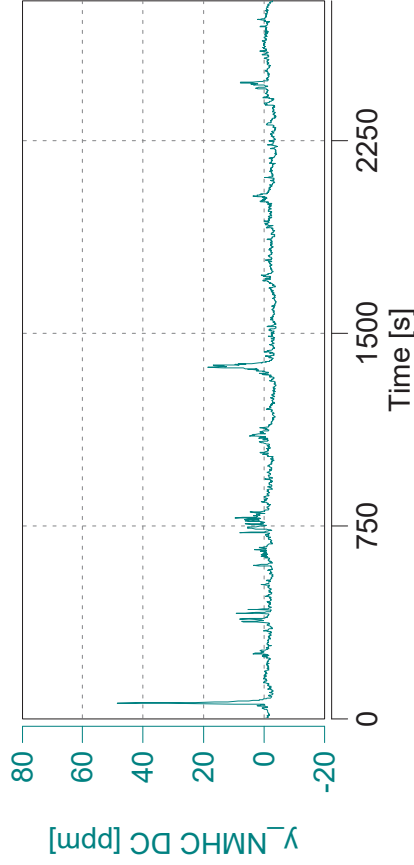
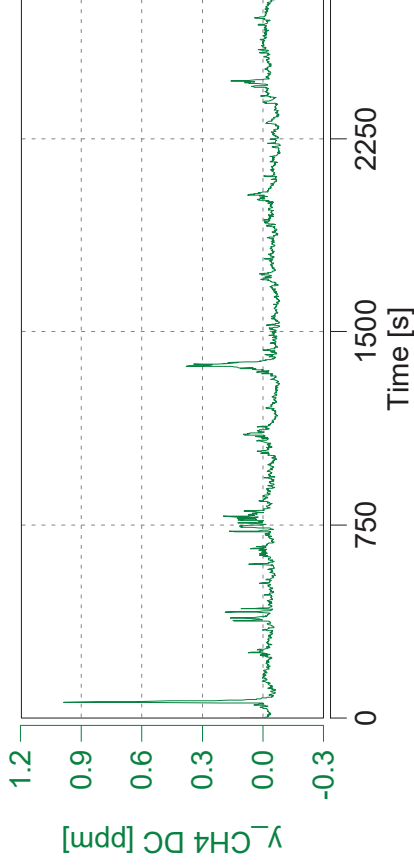
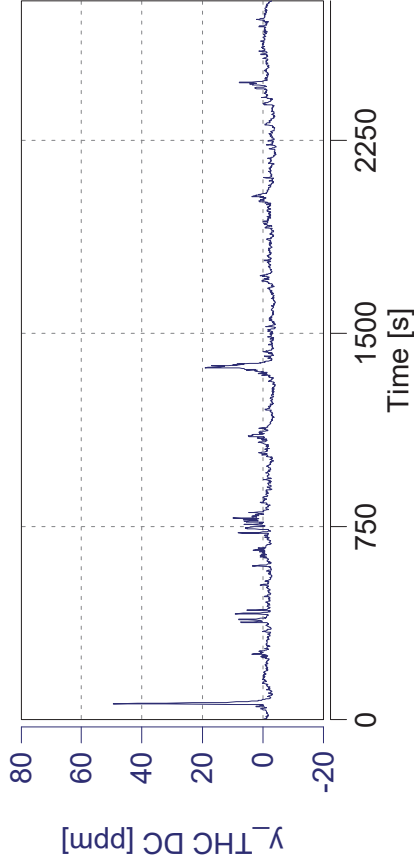
'Highway'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_0
Vehicle: Passat / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: NO/NO2/NOx Zero - Span

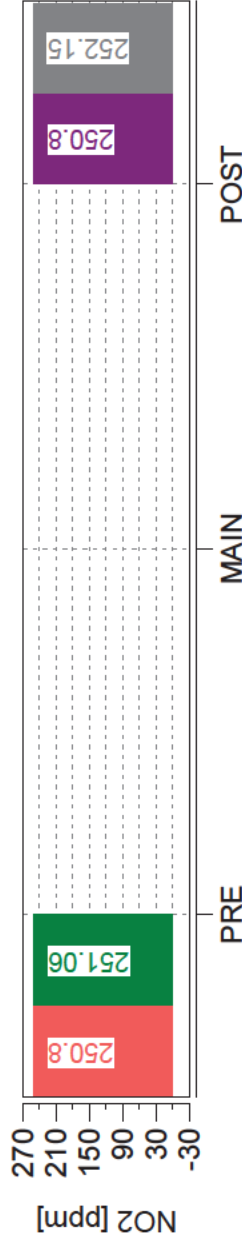
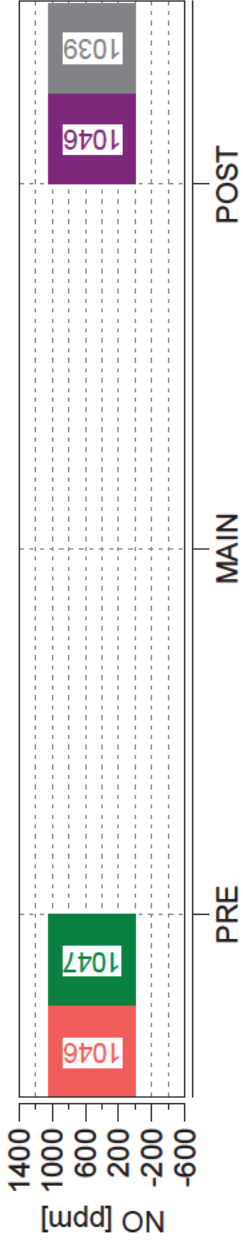
'Highway'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Passat / 2.0L

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: CO/CO2 Zero - Span

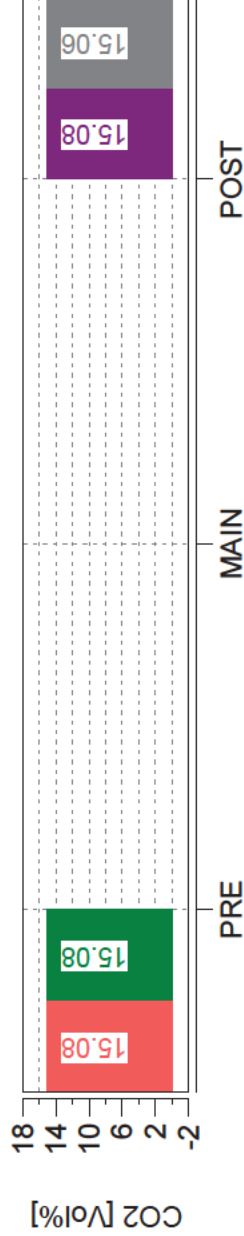
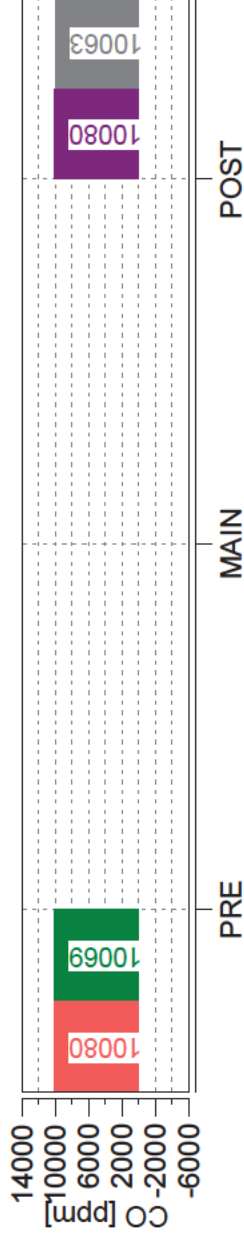
'Highway'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: Highway

Page: THC/CH4 Zero - Span

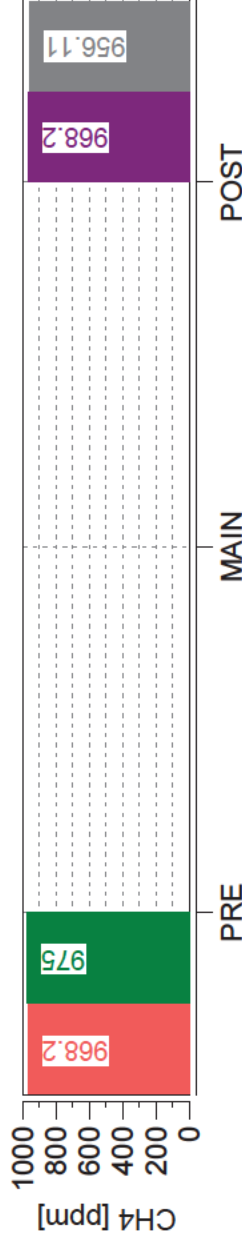
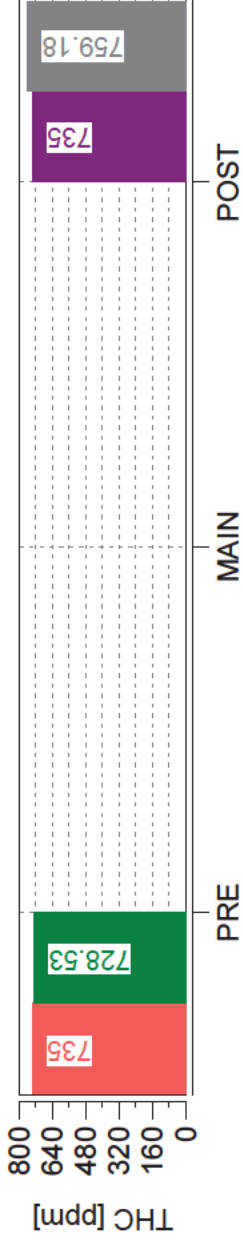
'Highway'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Passat / 2.0L

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Trip Summary

'Mountain'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E. 2018

Trip Duration	3262.00	s	ave THC	2.03699	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	3262.00	s	ave NMHC	1.99626	ppm	BS CO	n/a	g/hphr
Trip Distance	28.46	mi	ave CH4	0.04074	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	28.46	mi	ave CO	488.28967	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	10.82167	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOX	4.65878	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	3.31	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.27	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.17	gall	tot THC	0.09012	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.16	gall	tot NMHC	0.08337	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00200	g	DS CO2	347.83866	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	26.59690	g	DS CO	0.93452	g/mi
Trip Fuel Economy EU (ac)	24.36	mpg_US	tot CO2	9899.66832	g	DS THC	0.00317	g/mi
Trip Fuel Economy US (ac)	24.64	mpg_US	tot NO (d)	0.40544	g	DS NMHC	0.00293	g/mi
Trip Av. Eng. Speed	1628.56	rpm	tot NO2	-0.07690	g	DS CH4	0.00007	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.32854	g	DS NO (d)	0.01425	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	-0.00270	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.01154	g/mi
Trip Exhaust Mass	55.26	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	86.34	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	42.69	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	31.40952	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	11.40405	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Trip Summary Drift Corrected

'Mountain'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018

Trip Duration	3262.00	s	ave THC DC	1.64508	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	3262.00	s	ave NMHC DC	1.61218	ppm	BS CO DC	n/a	g/hphr
Trip Distance	28.46	mi	ave CH4 DC	0.03290	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	28.46	mi	ave CO DC	488.96636	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	10.82885	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	4.67539	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	3.31	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.27	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.17	gall	tot THC DC	0.07893	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.16	gall	tot NMHC DC	0.07301	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.00175	g	DS CO2 DC	348.06947	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	26.63376	g	DS CO DC	0.93581	g/mi
Trip Fuel Economy EU (ac)	24.36	mpg_US	tot CO2 DC	9906.23744	g	DS THC DC	0.00277	g/mi
Trip Fuel Economy US (ac)	24.64	mpg_US	tot NO DC (d)	0.40646	g	DS NMHC DC	0.00257	g/mi
Trip Av. Eng. Speed	1628.56	rpm	tot NO2 DC	-0.07665	g	DS CH4 DC	0.00006	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.32980	g	DS NO DC (d)	0.01428	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	-0.00269	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.01159	g/mi
Trip Exhaust Mass	55.26	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	86.34	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	42.69	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	31.40952	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	11.40405	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Time Alignment Check

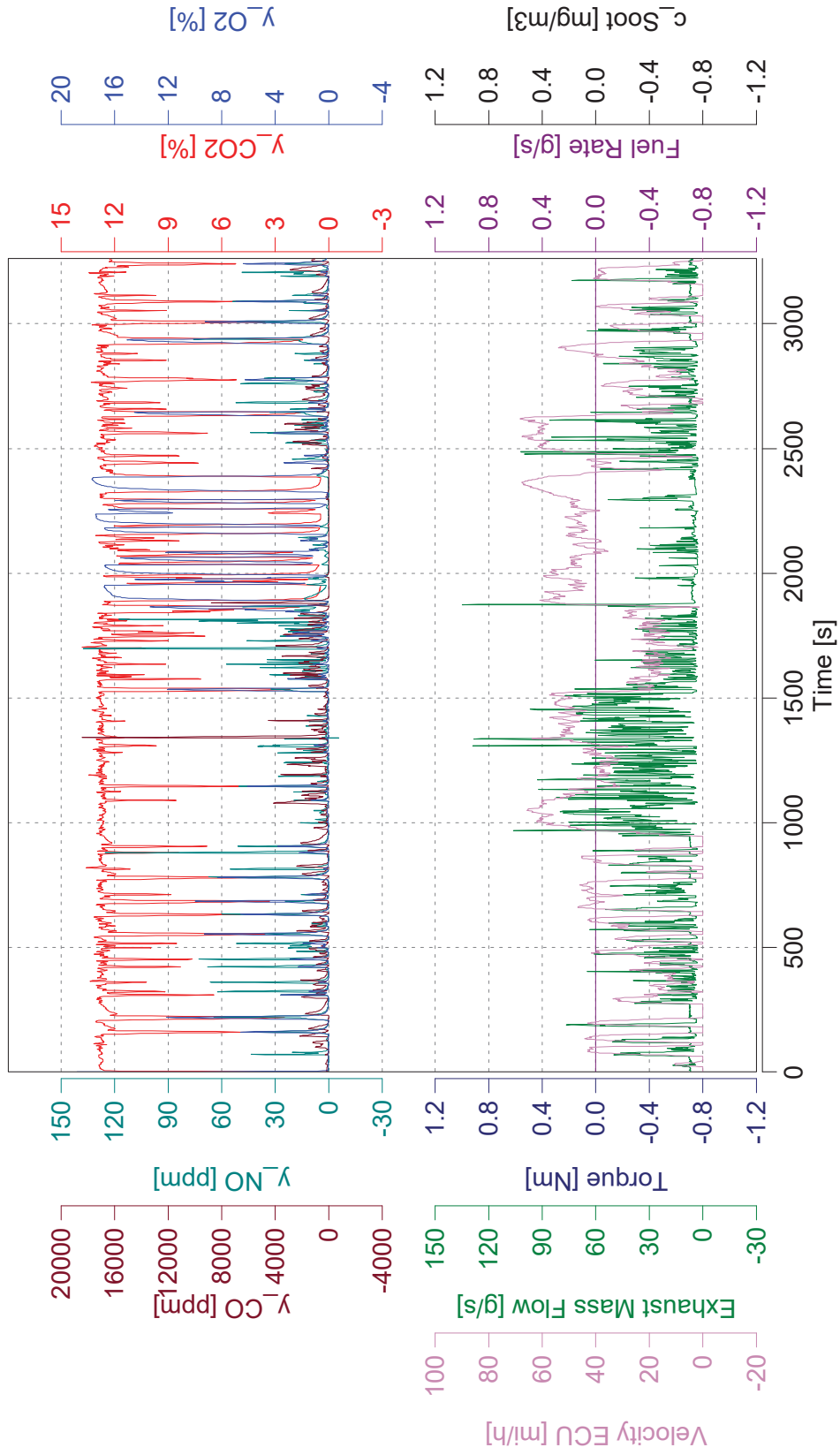
'Mountain'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Time Alignment of Gas Concentrations

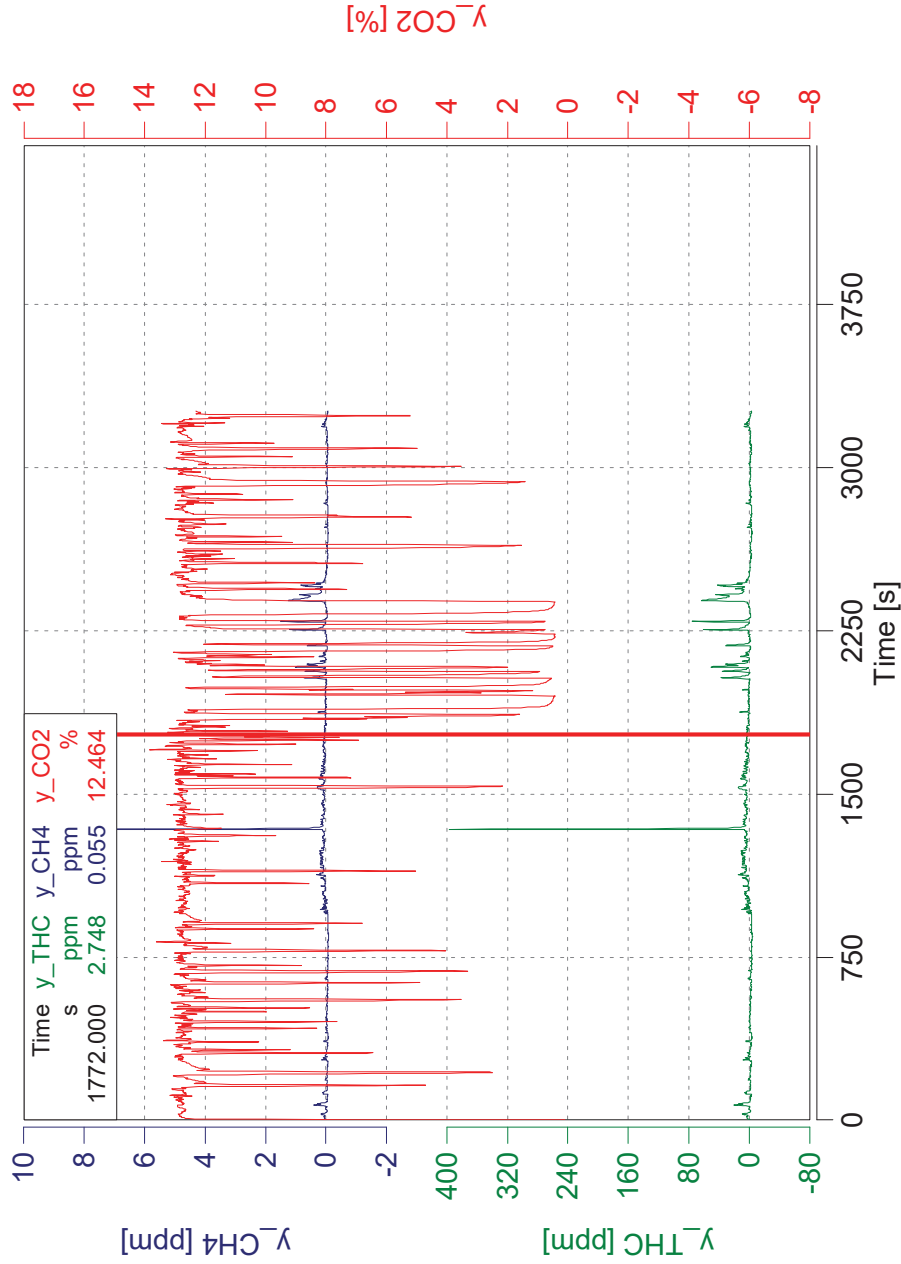
'Mountain'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Ambient Conditions

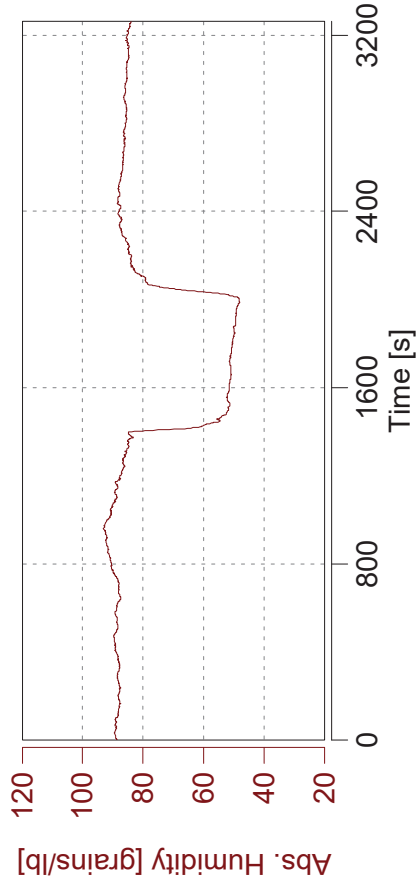
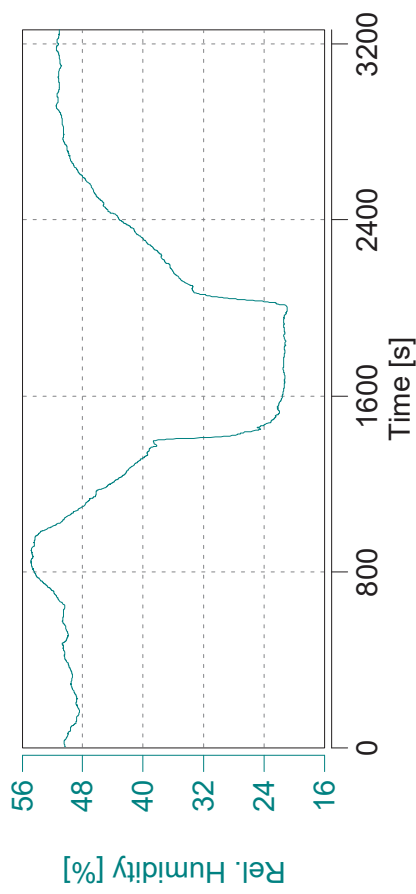
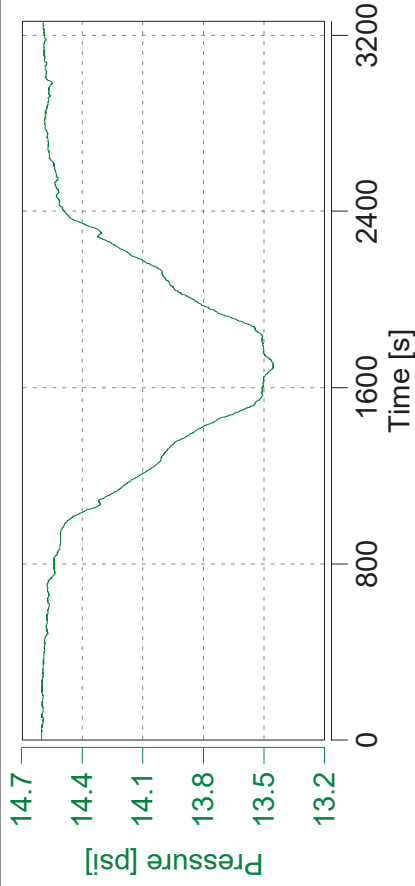
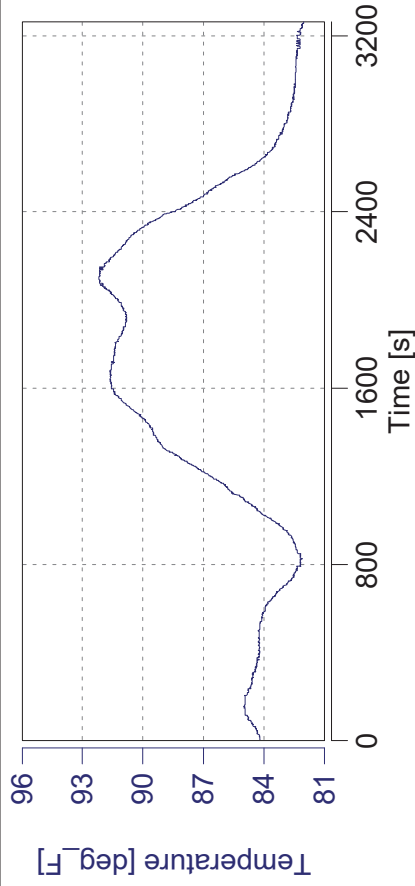
'Mountain'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Engine: /

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

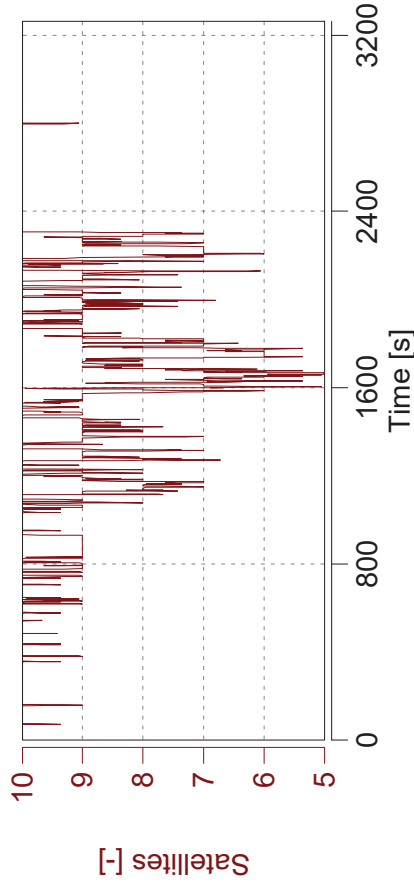
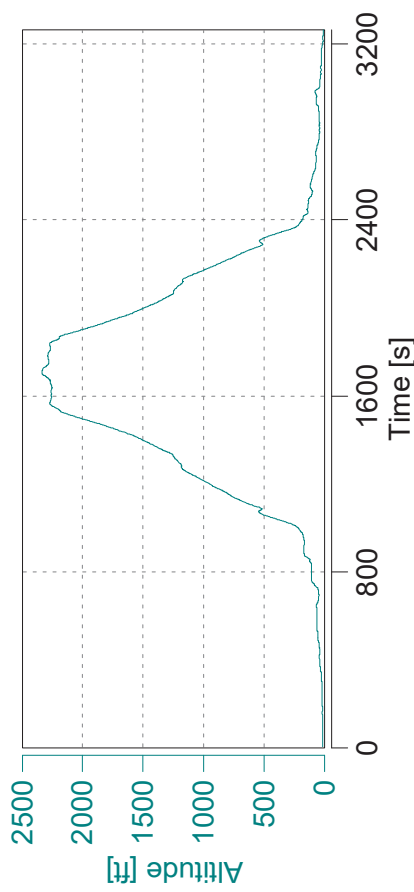
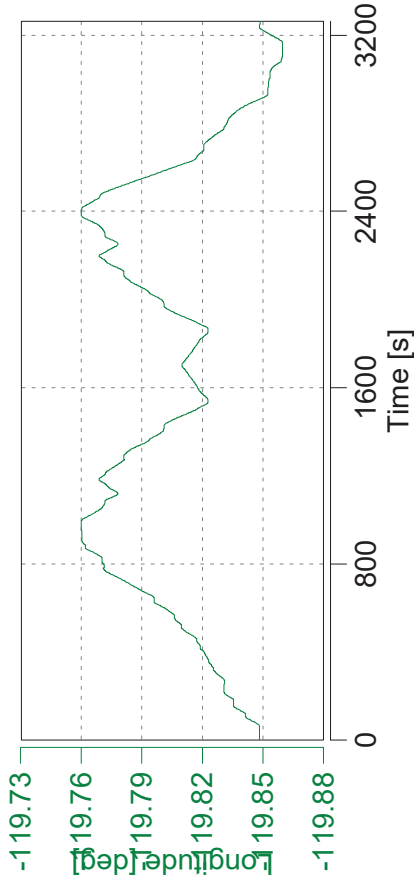
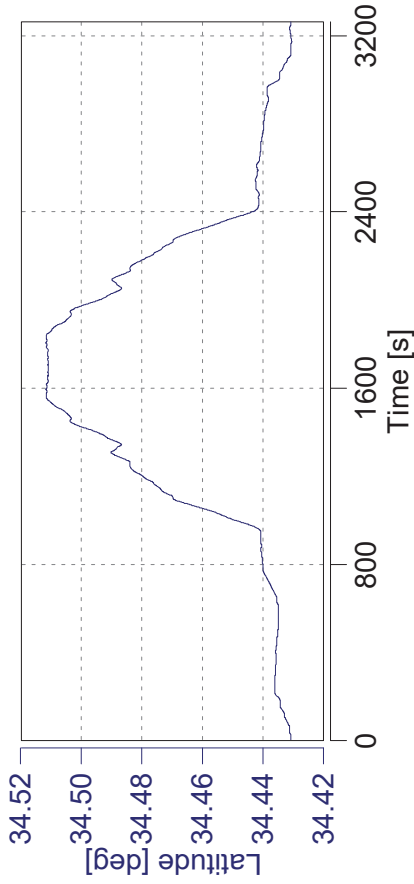
Page: GPS

'Mountain'

Start Date: 08/07/2018

Start Time: 14:56:47.0

Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Engine: /

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (1)

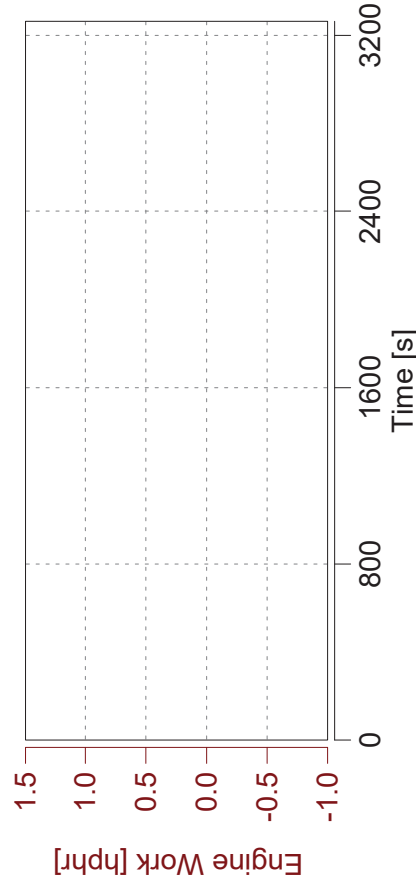
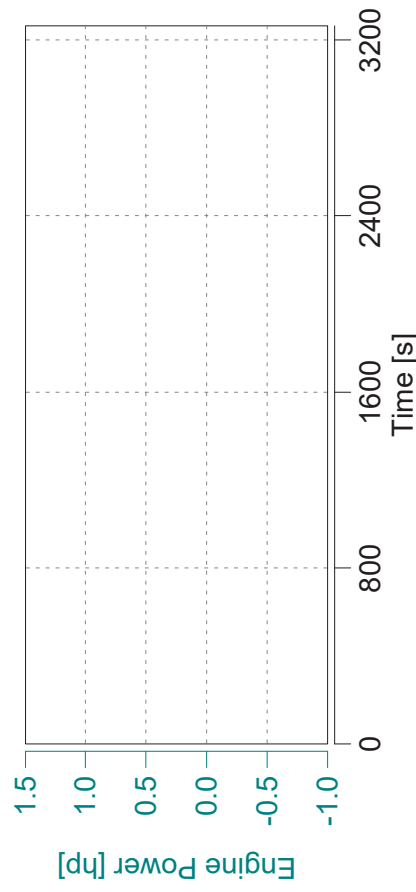
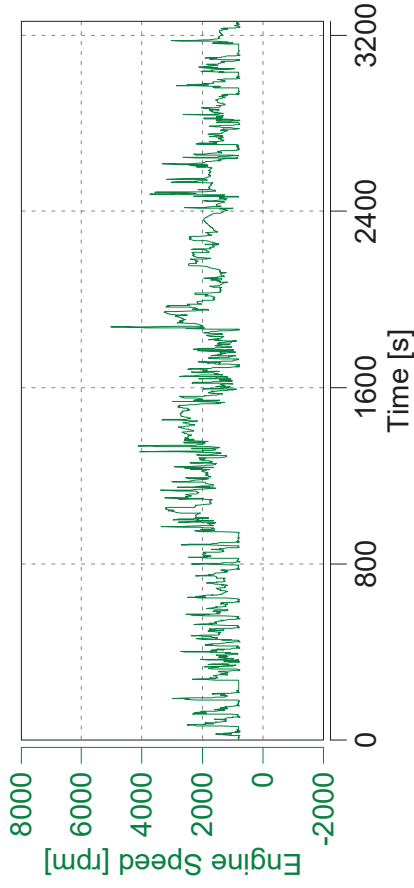
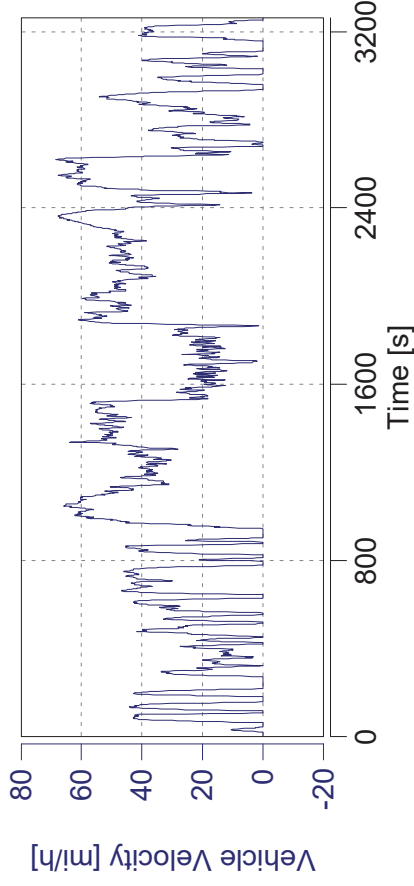
'Mountain'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Engine: /

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (2)

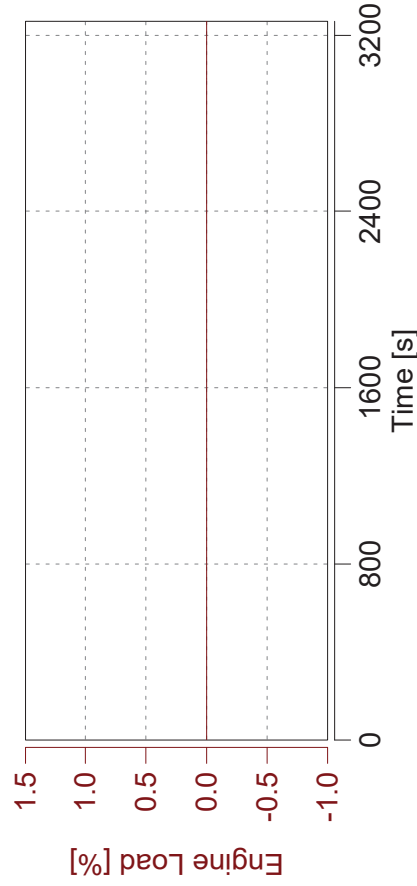
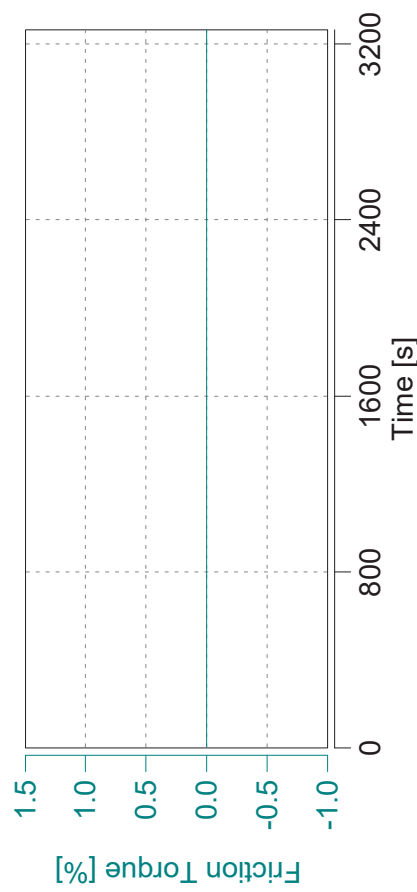
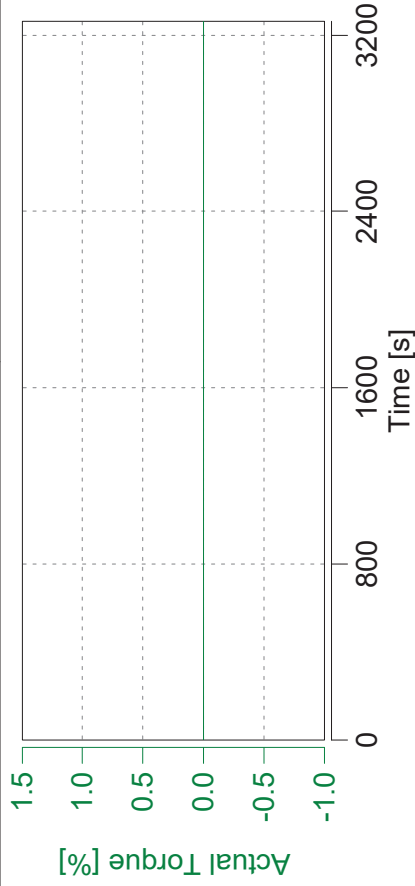
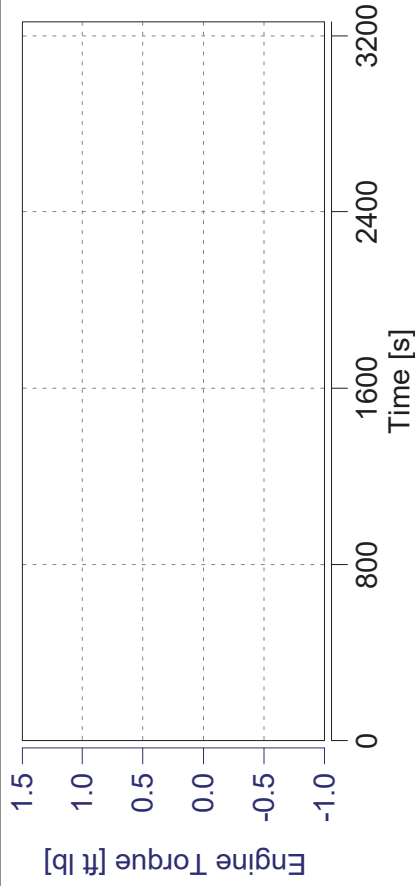
'Mountain'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (3)

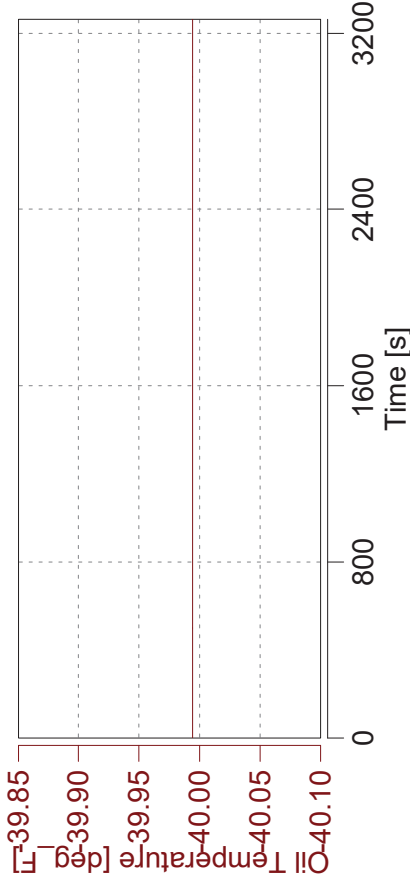
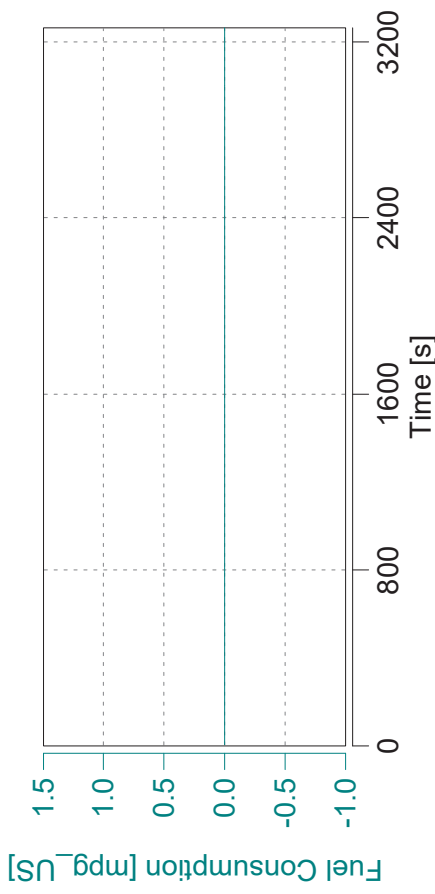
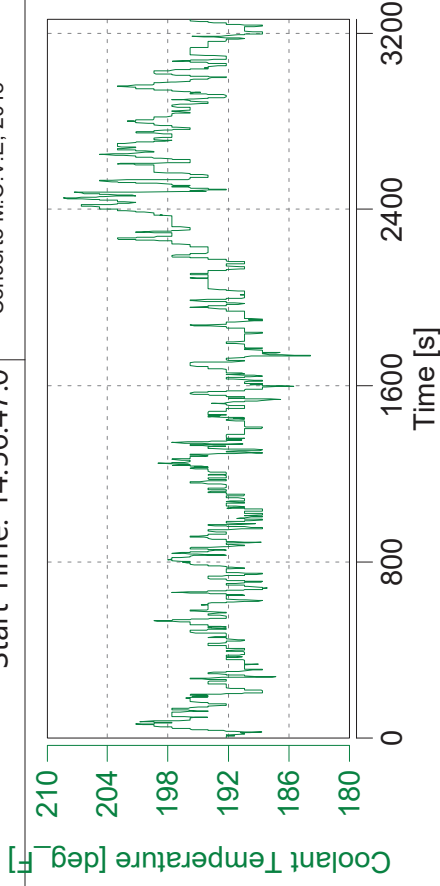
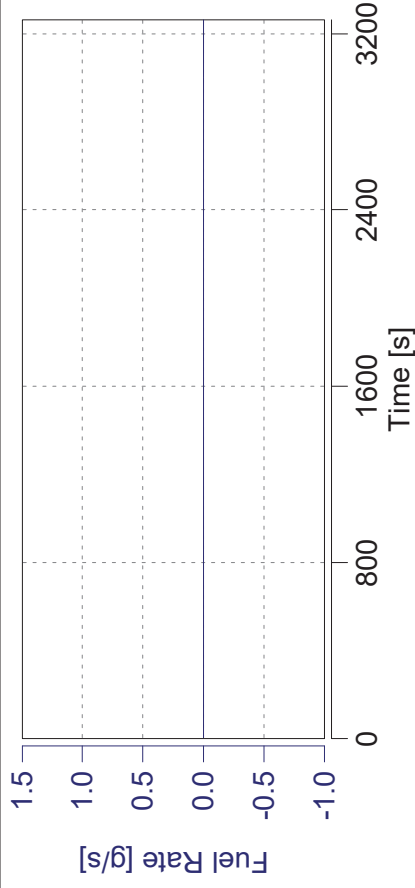
'Mountain'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Exhaust Flow (1)

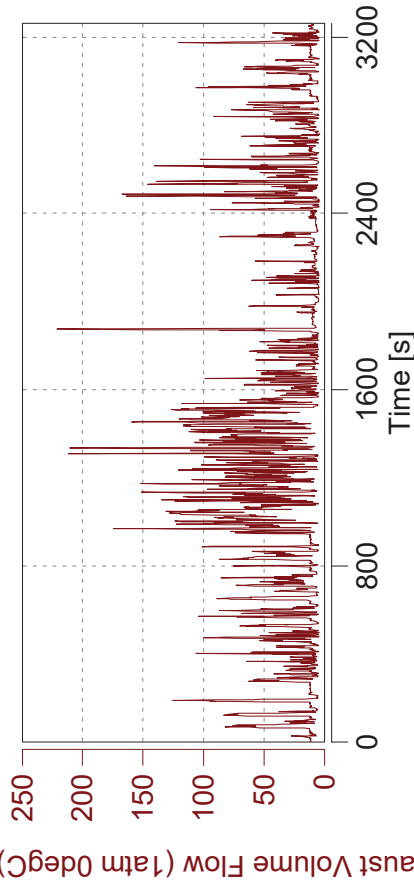
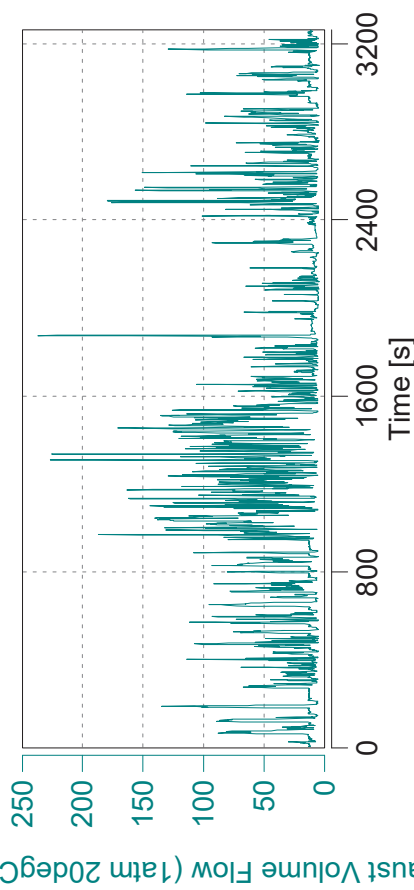
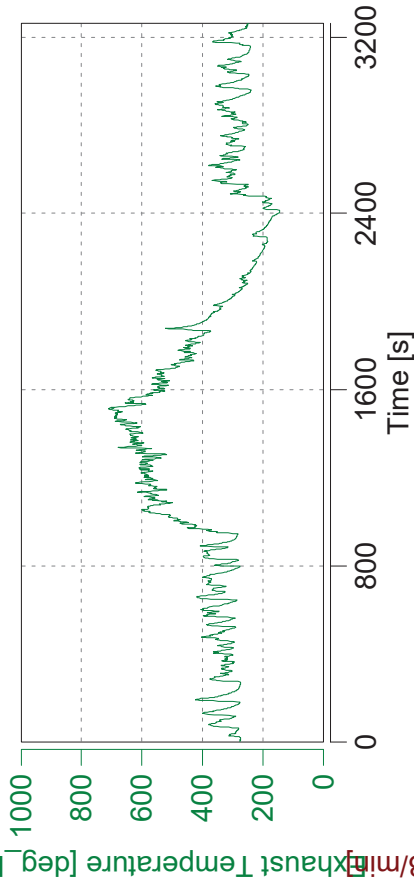
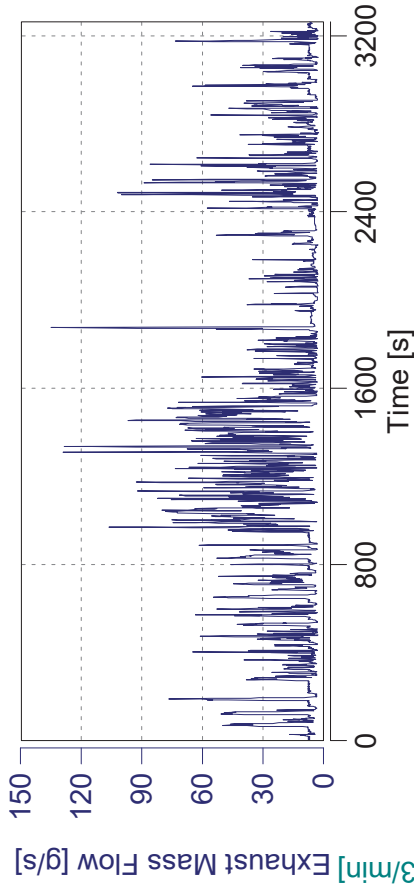
'Mountain'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Exhaust Flow (2)

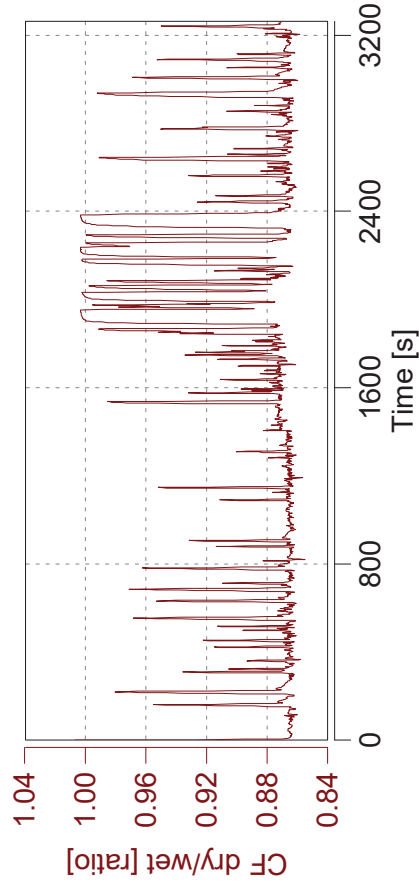
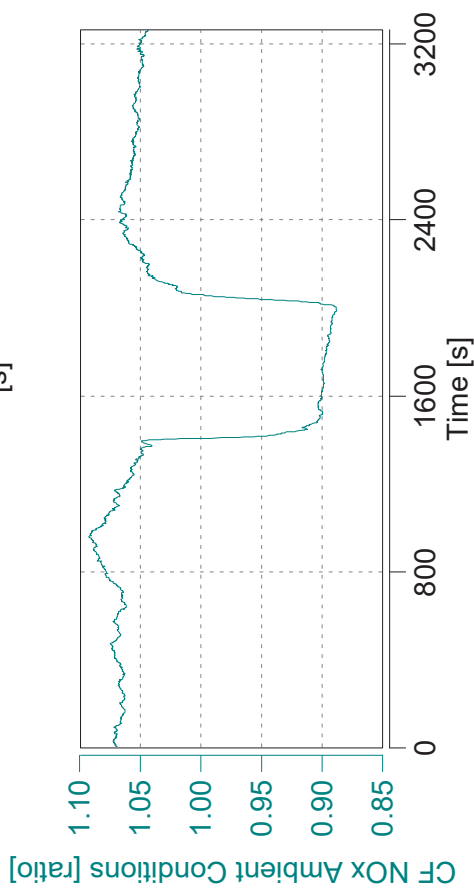
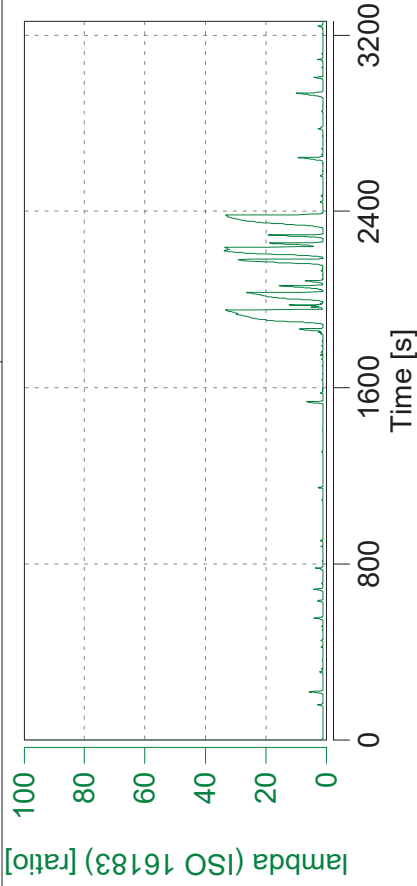
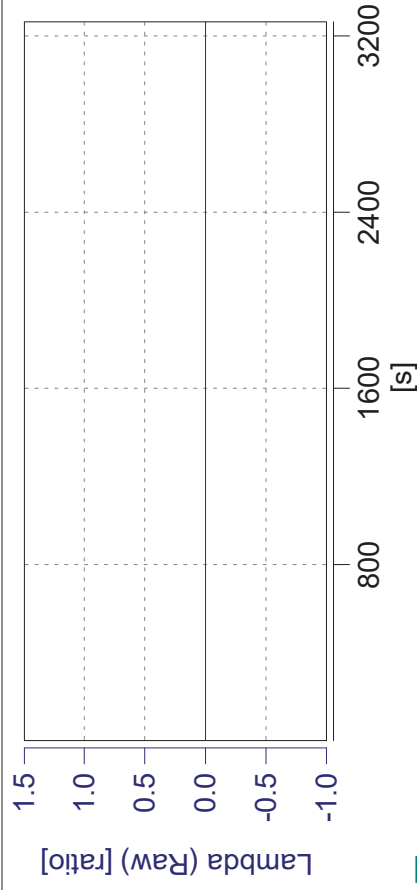
'Mountain'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (1)

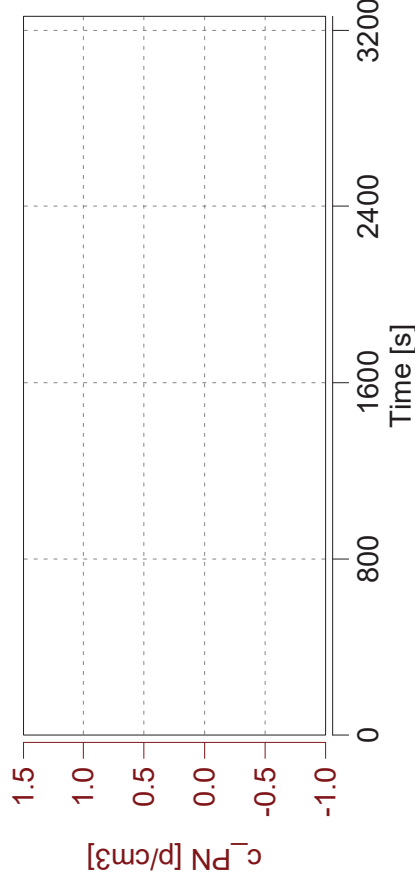
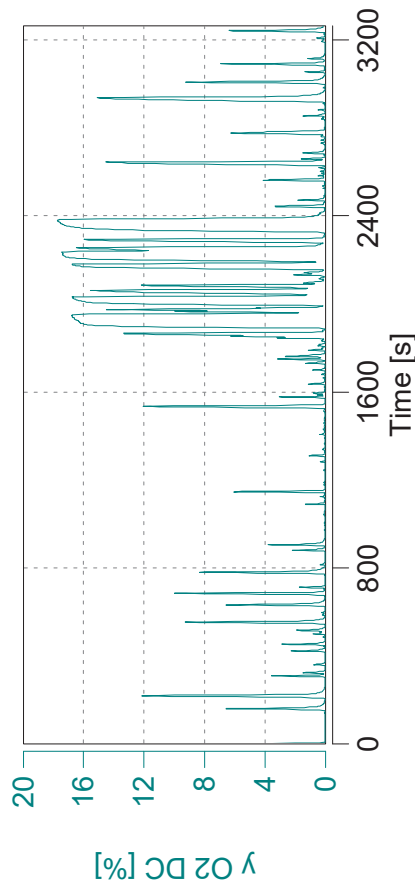
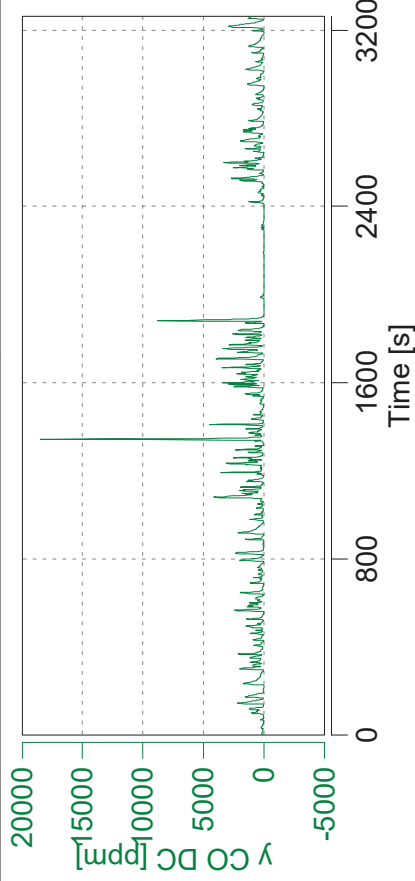
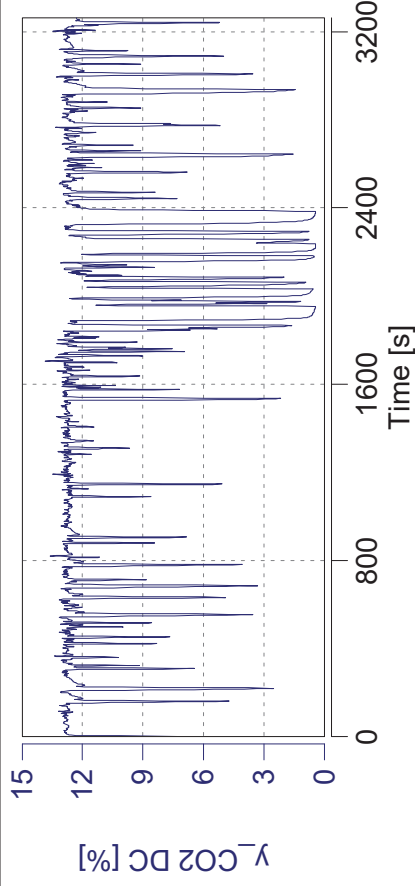
'Mountain'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (2)

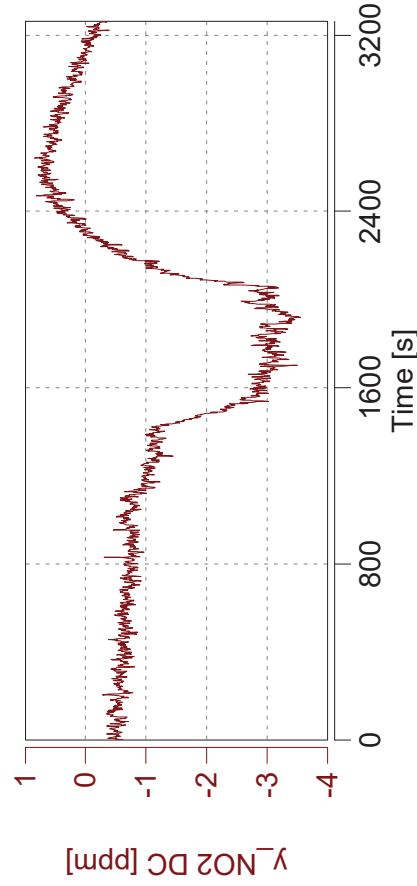
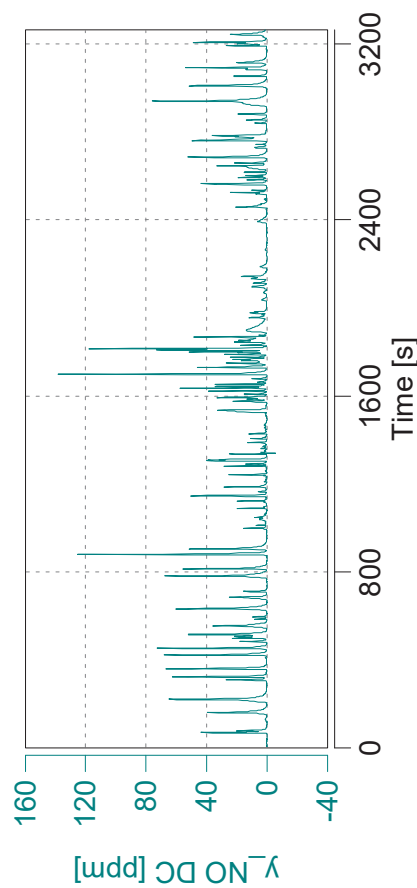
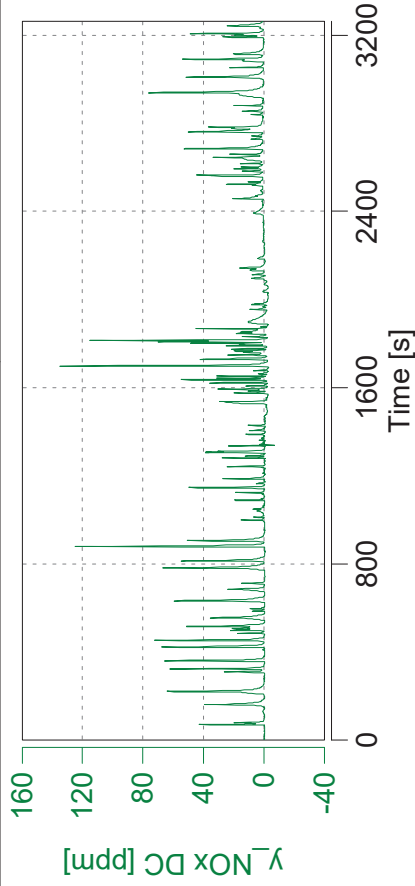
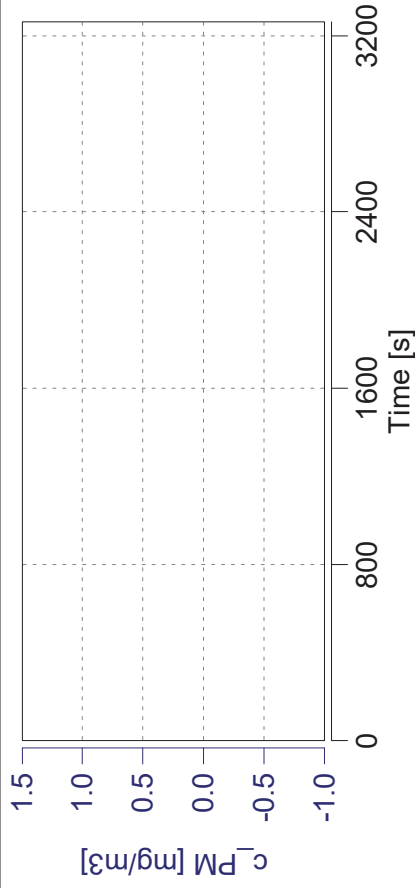
'Mountain'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (3)

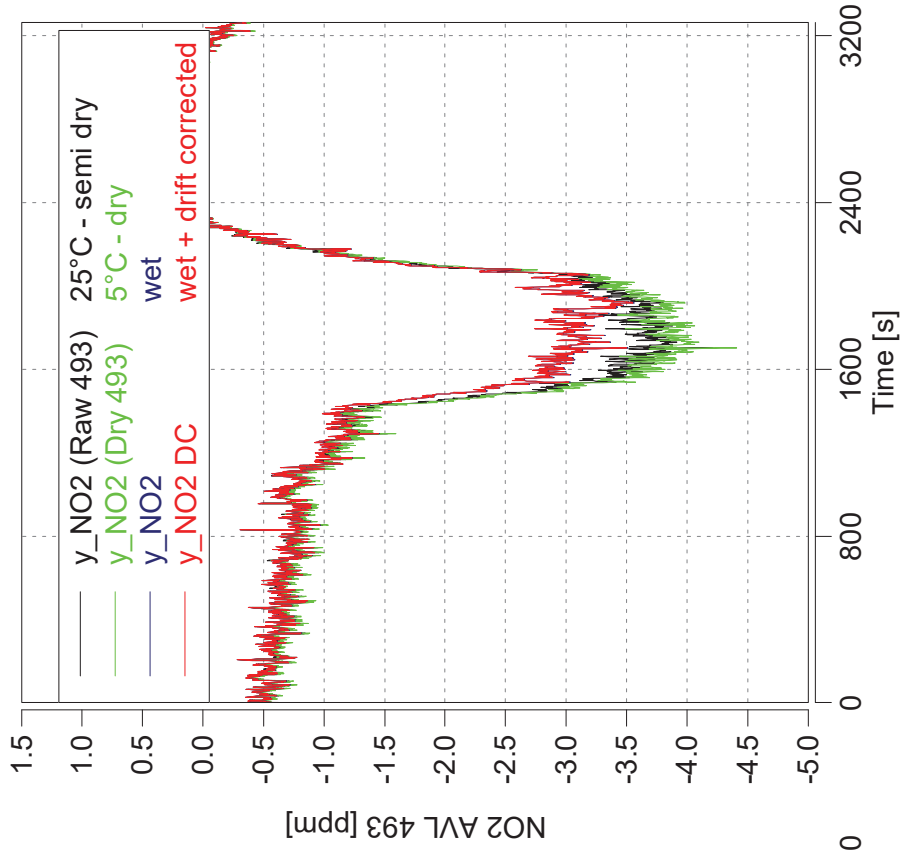
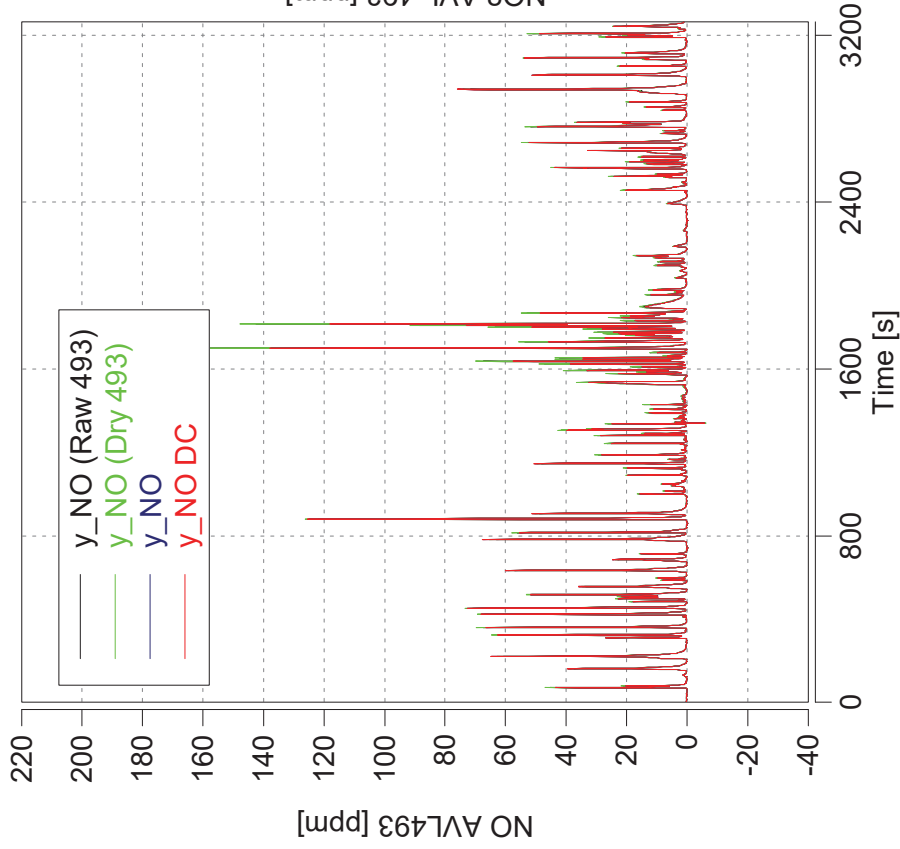
'Mountain'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (4) NOx Corrections

'Mountain'

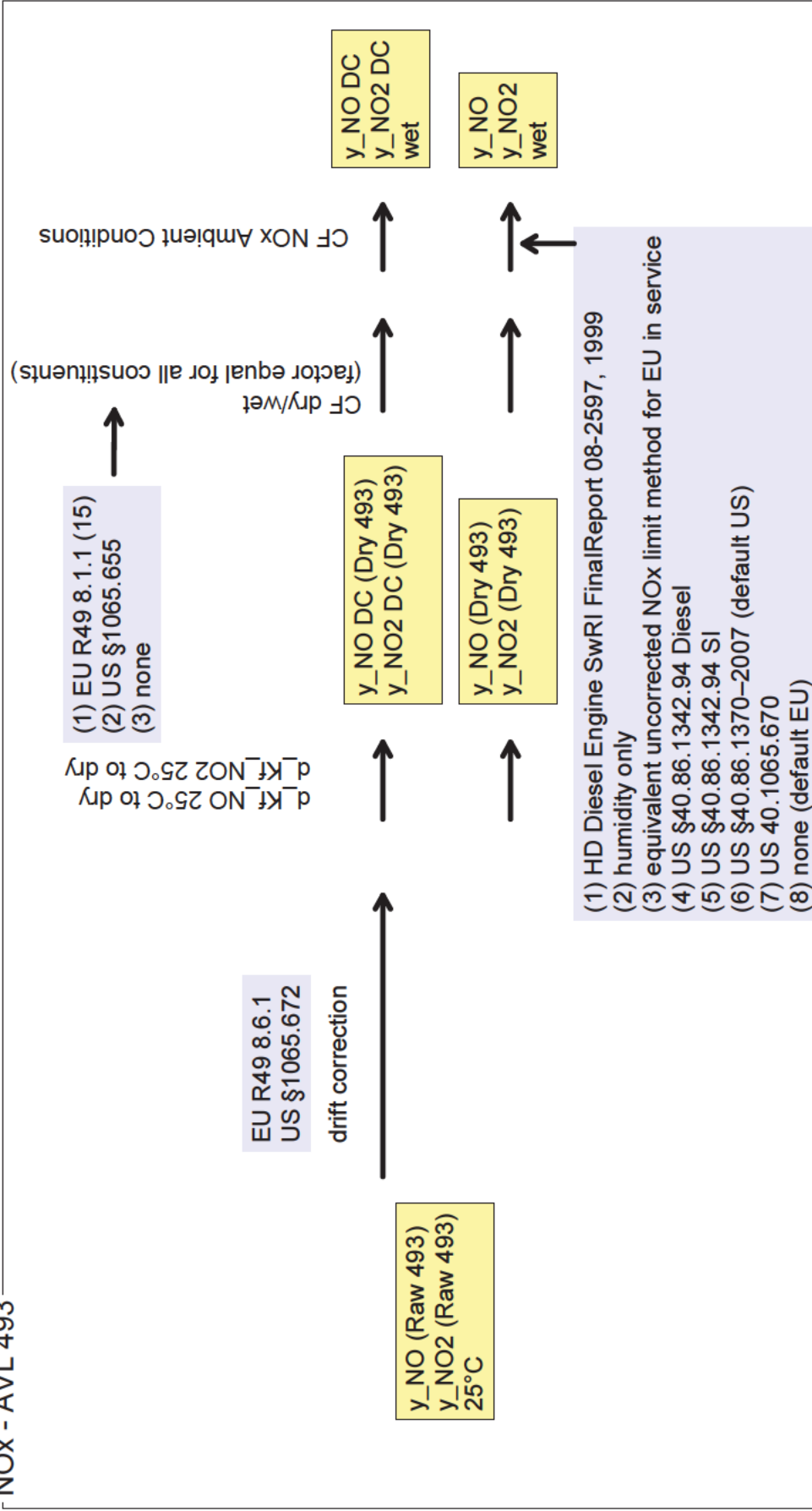
Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018

NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine /

Vehicle: Passat / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (5)

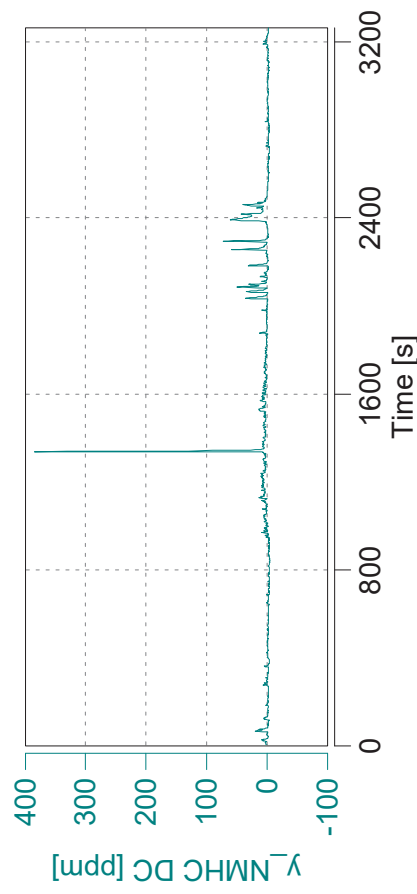
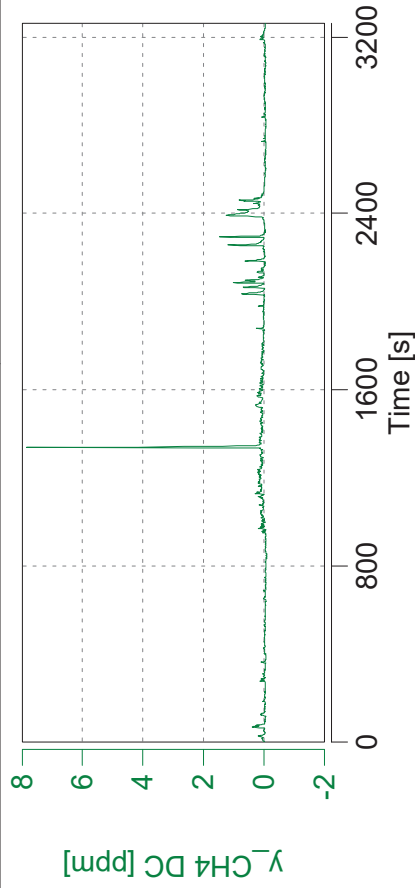
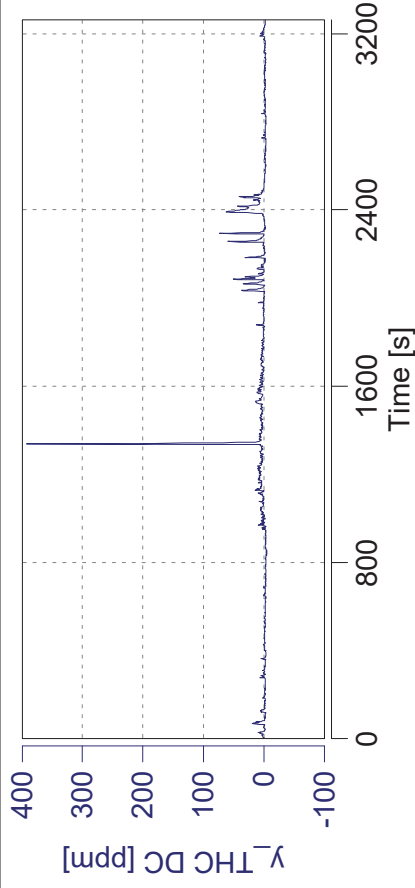
'Mountain'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: NO/NO2/NOx Zero - Span

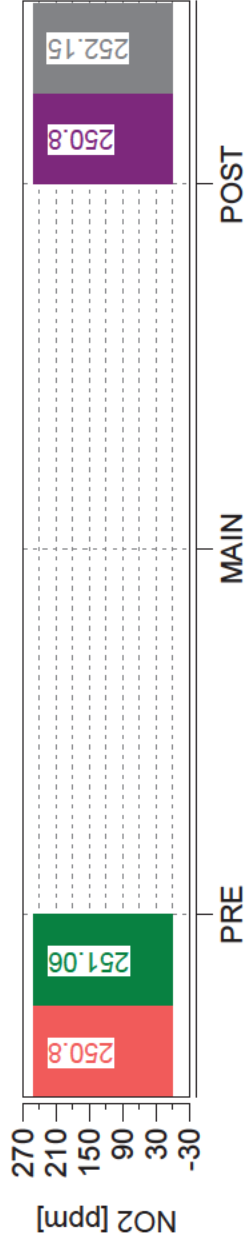
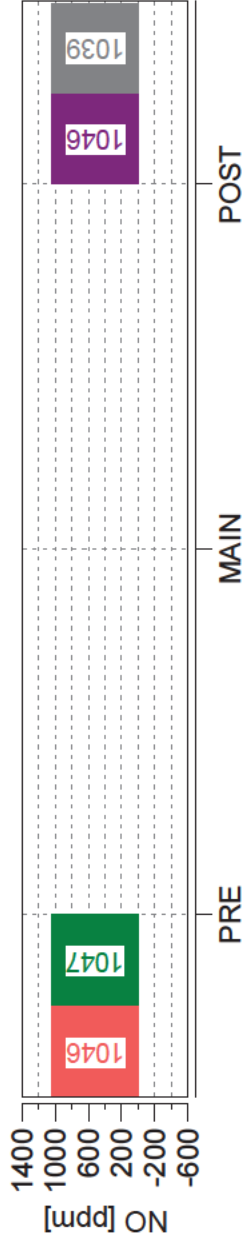
'Mountain'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: CO/CO2 Zero - Span

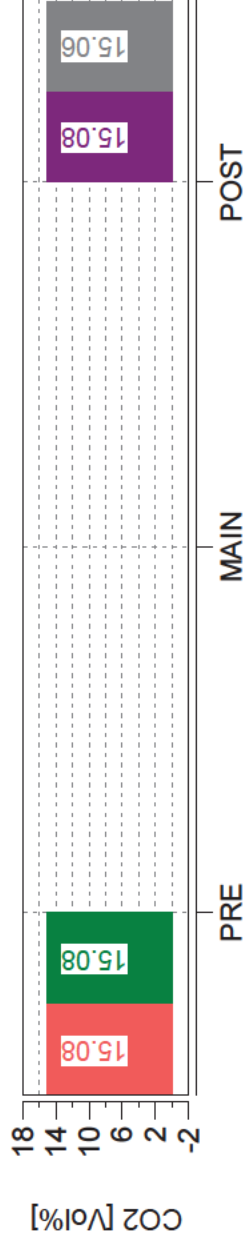
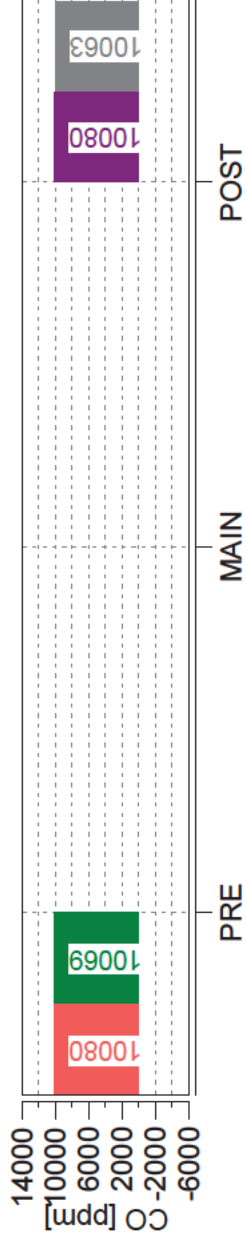
'Mountain'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: THC/CH4 Zero - Span

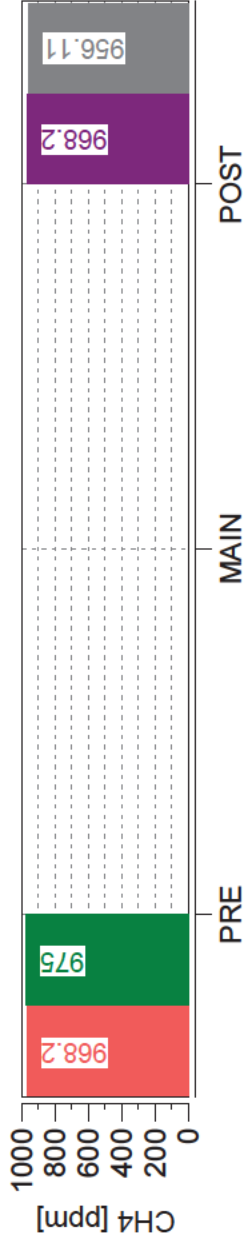
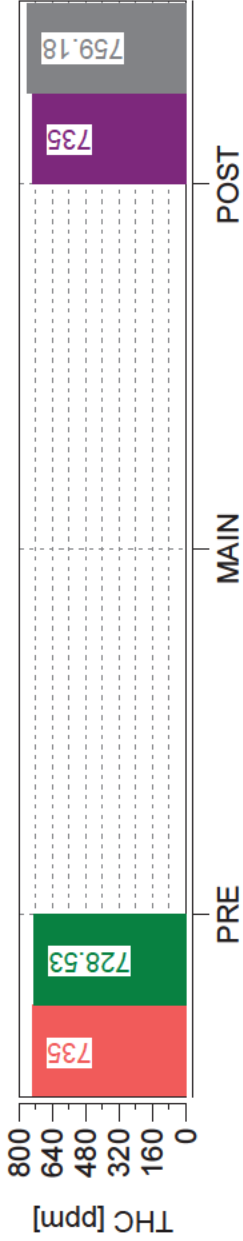
'Mountain'

Start Date: 08/07/2018

Start Time: 14:56:47.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine /

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Trip Summary

'City'

Start Date: 08/07/2018

Start Time: 20:33:39.0



Concerto M.O.V.E. 2018

Trip Duration	3244.00	s	ave THC	2.75503	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	3244.00	s	ave NMHC	2.69993	ppm	BS CO	n/a	g/hphr
Trip Distance	15.94	mi	ave CH4	0.05510	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	15.94	mi	ave CO	296.61859	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	12.11400	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx	6.28460	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	2.07	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	2.04	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	0.73	gall	tot THC	0.04300	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	0.72	gall	tot NMHC	0.03977	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00095	g	DS CO2	389.26981	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	9.57575	g	DS CO	0.60076	g/mi
Trip Fuel Economy EU (ac)	21.78	mpg_US	tot CO2	6204.71717	g	DS THC	0.00270	g/mi
Trip Fuel Economy US (ac)	22.07	mpg_US	tot NO (d)	0.30132	g	DS NMHC	0.00250	g/mi
Trip Av. Eng. Speed	1298.29	rpm	tot NO2	-0.00160	g	DS CH4	0.00006	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.29972	g	DS NO (d)	0.01890	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	-0.00010	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.01880	g/mi
Trip Exhaust Mass	33.64	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	77.91	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	63.84	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	17.68858	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	22.74969	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Trip Summary Drift Corrected

'City'

Start Date: 08/07/2018

Start Time: 20:33:39.0



Concerto M.O.V.E. 2018

Trip Duration	3244.00	s	ave THC DC	2.77031	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	3244.00	s	ave NMHC DC	2.71491	ppm	BS CO DC	n/a	g/hphr
Trip Distance	15.94	mi	ave CH4 DC	0.05541	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	15.94	mi	ave CO DC	296.79317	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	12.11400	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	6.34165	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	2.07	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	2.04	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	0.73	gall	tot THC DC	0.04321	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	0.72	gall	tot NMHC DC	0.03997	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.00096	g	DS CO2 DC	389.26981	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	9.58098	g	DS CO DC	0.60109	g/mi
Trip Fuel Economy EU (ac)	21.78	mpg_US	tot CO2 DC	6204.71717	g	DS THC DC	0.00271	g/mi
Trip Fuel Economy US (ac)	22.07	mpg_US	tot NO DC (d)	0.30222	g	DS NMHC DC	0.00251	g/mi
Trip Av. Eng. Speed	1298.29	rpm	tot NO2 DC	0.00045	g	DS CH4 DC	0.00006	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.30267	g	DS NO DC (d)	0.01896	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	0.00003	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.01899	g/mi
Trip Exhaust Mass	33.64	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	77.91	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	63.84	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	17.68858	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	22.74969	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Time Alignment Check

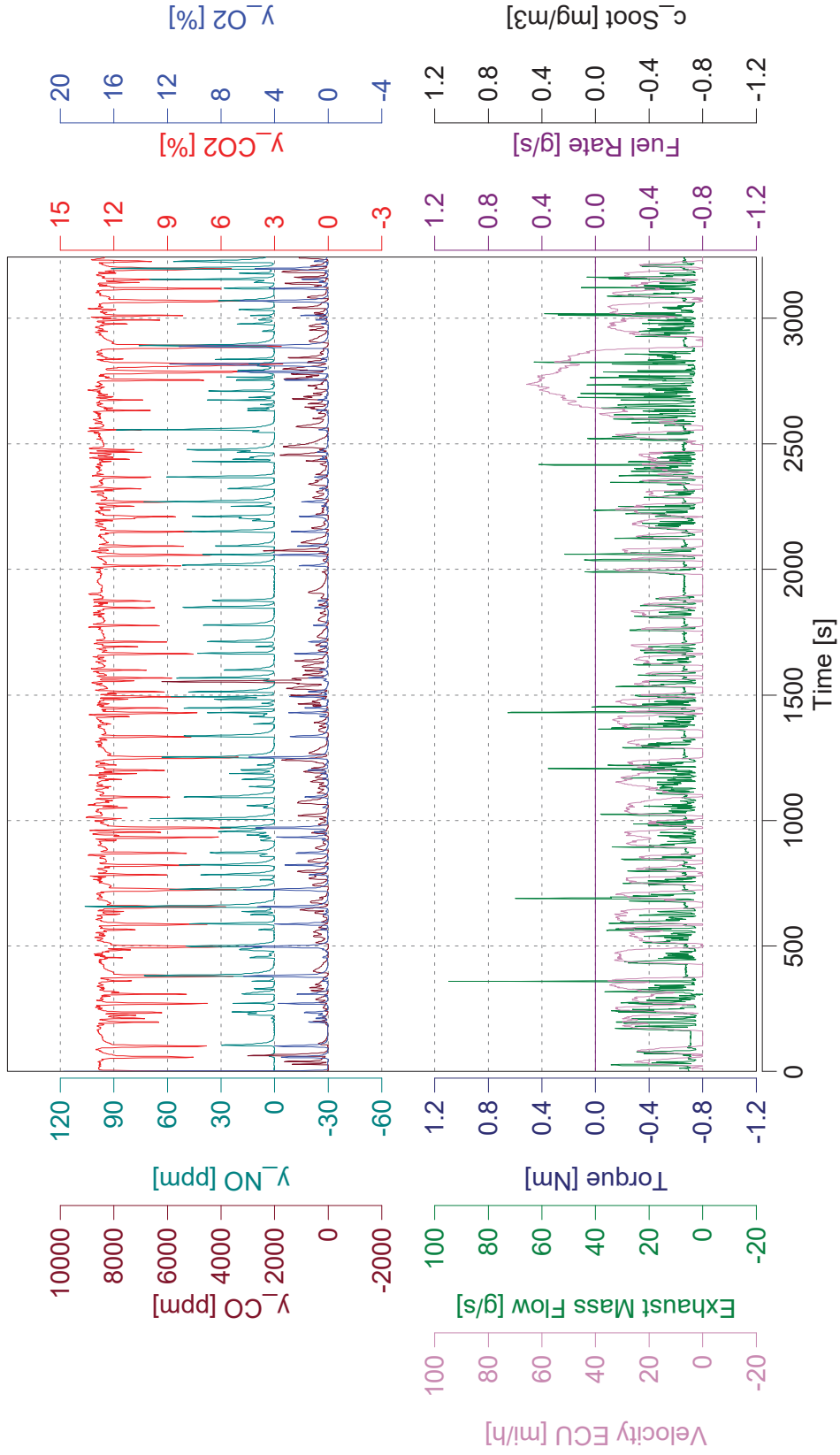
'City'

Start Date: 08/07/2018

Start Time: 20:33:39.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Time Alignment of Gas Concentrations

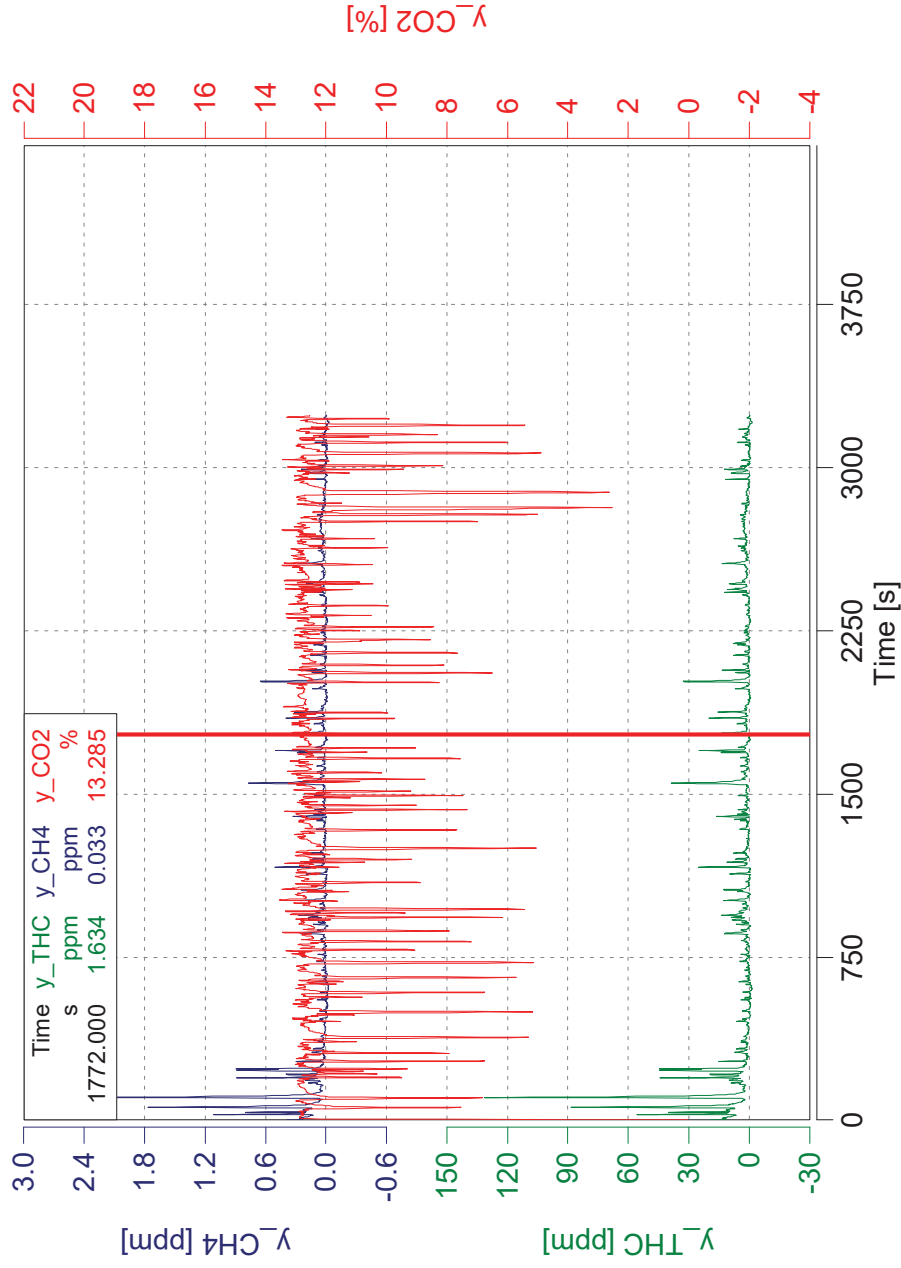
'City'

Start Date: 08/07/2018

Start Time: 20:33:39.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Ambient Conditions

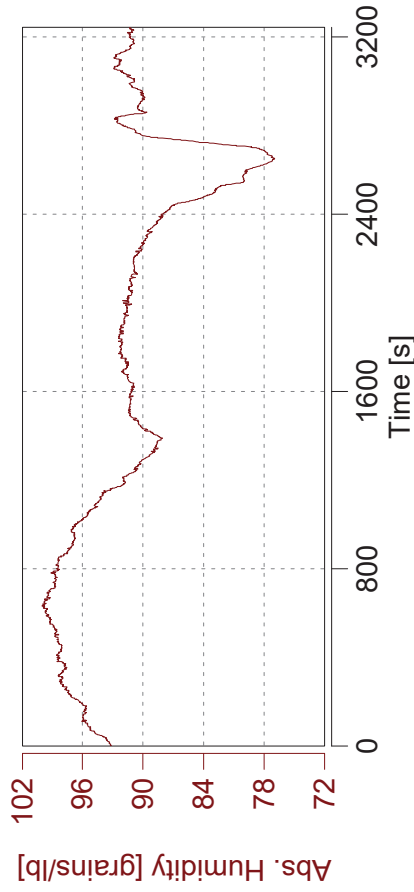
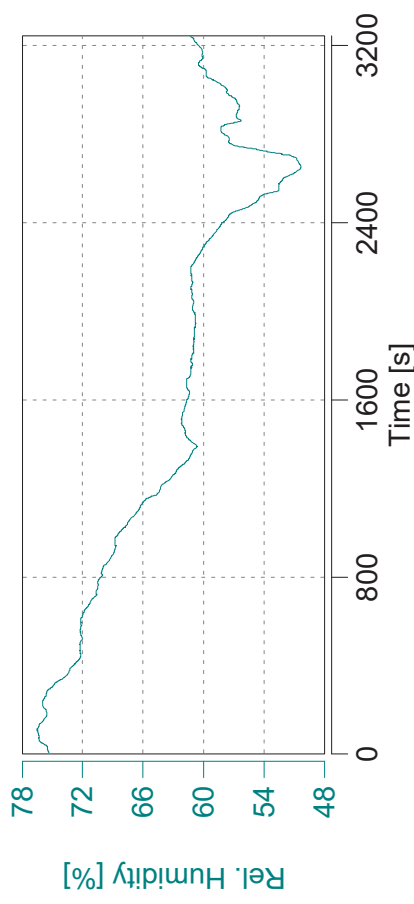
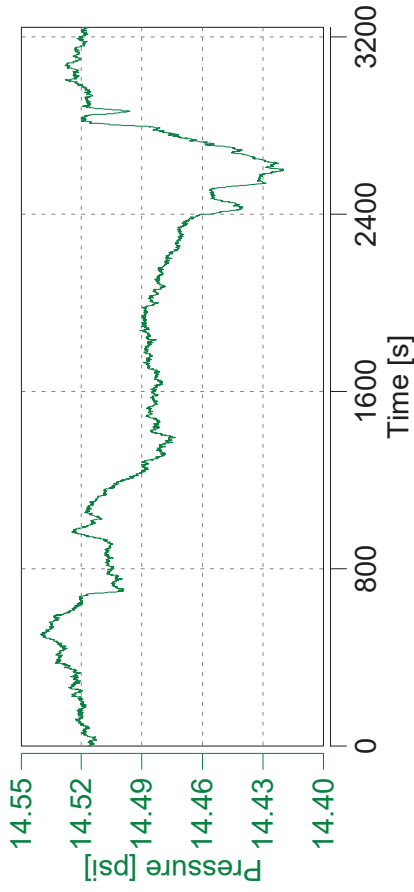
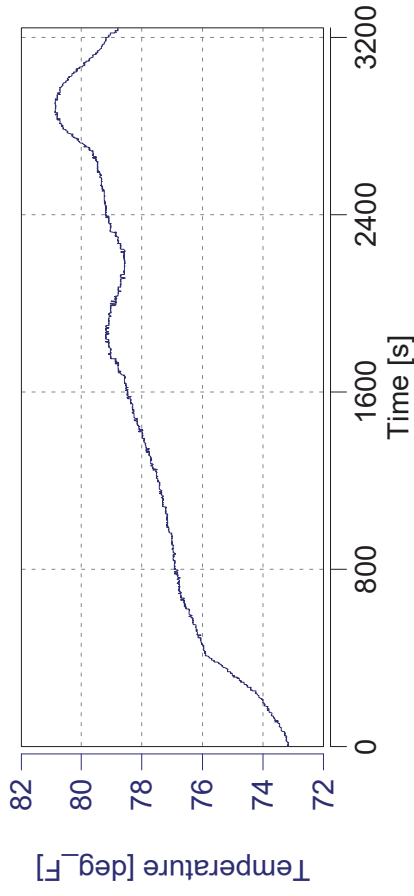
'City'

Start Date: 08/07/2018

Start Time: 20:33:39.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

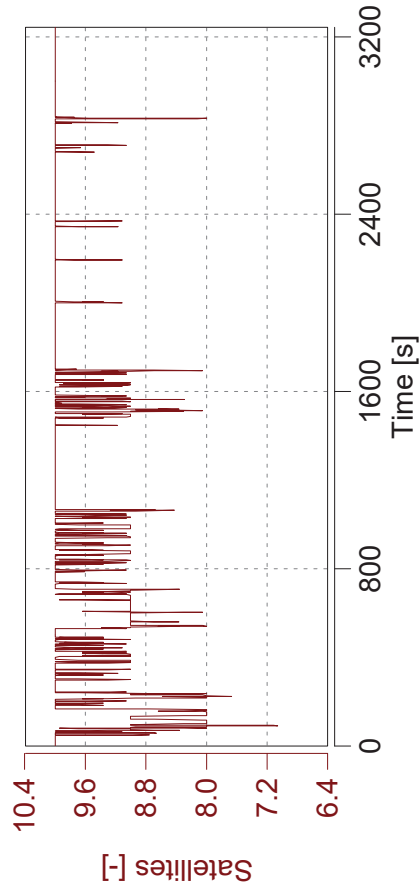
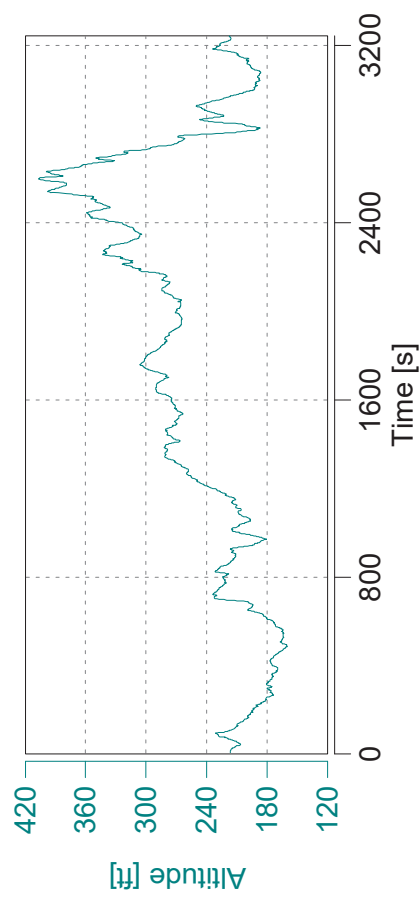
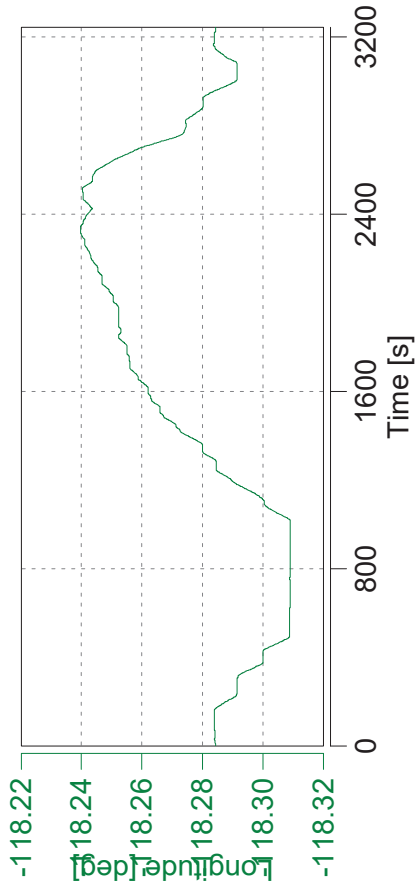
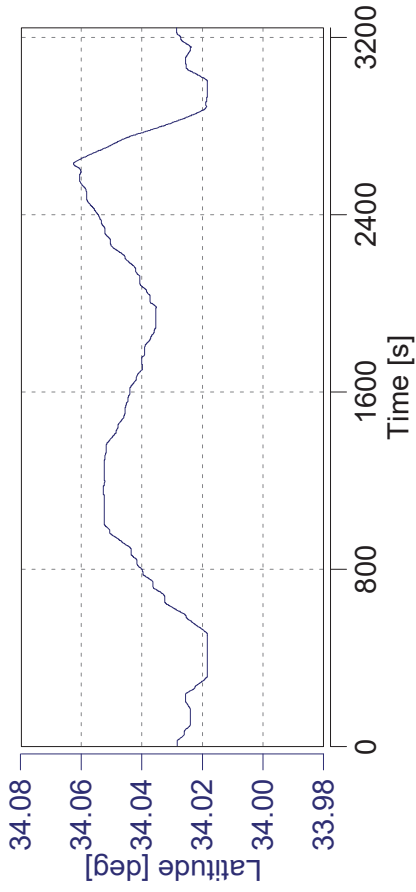
Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City
Page: GPS

'City'
Start Date: 08/07/2018
Start Time: 20:33:39.0



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat / 2.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (1)

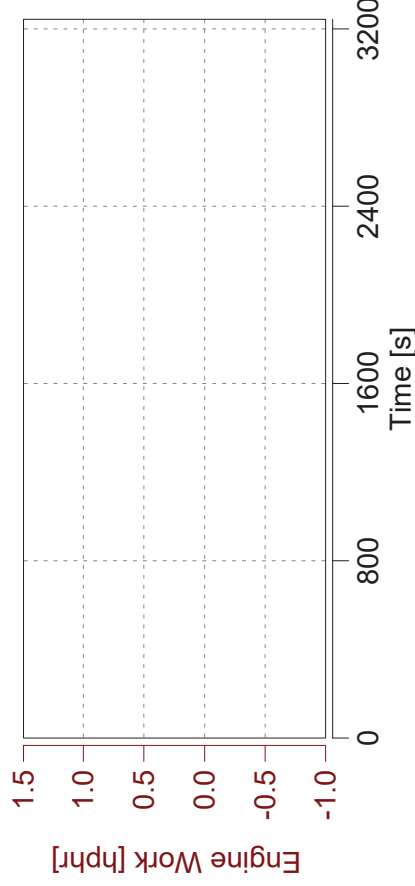
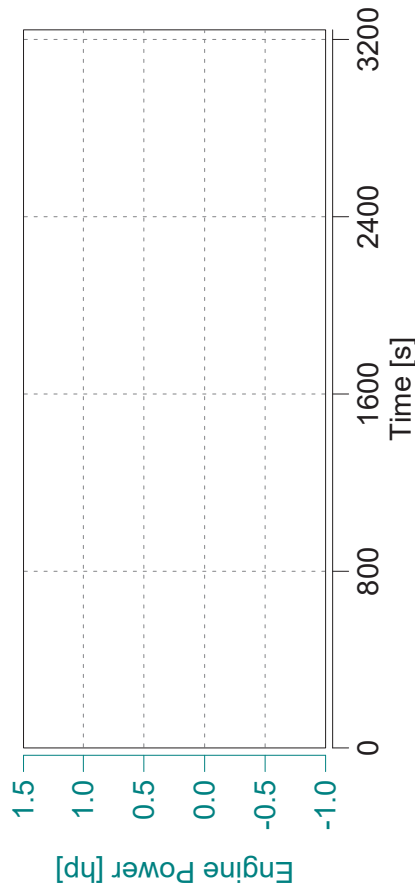
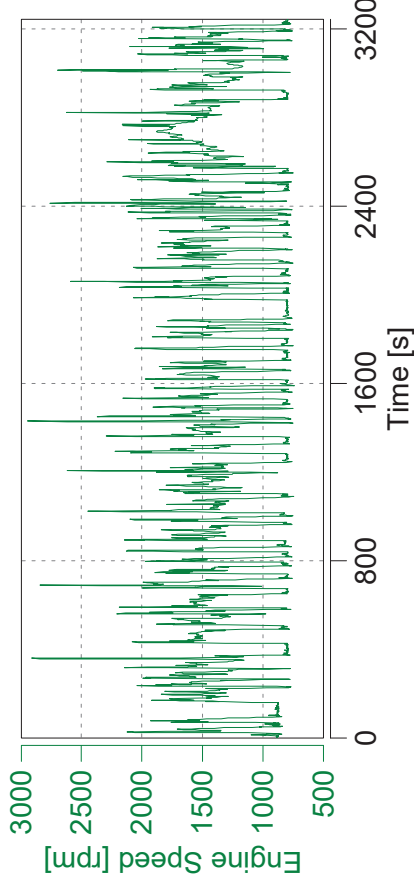
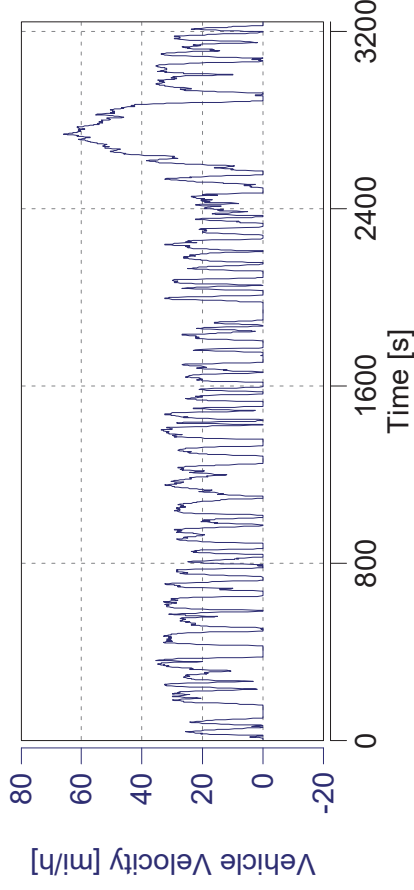
'City'

Start Date: 08/07/2018

Start Time: 20:33:39.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (2)

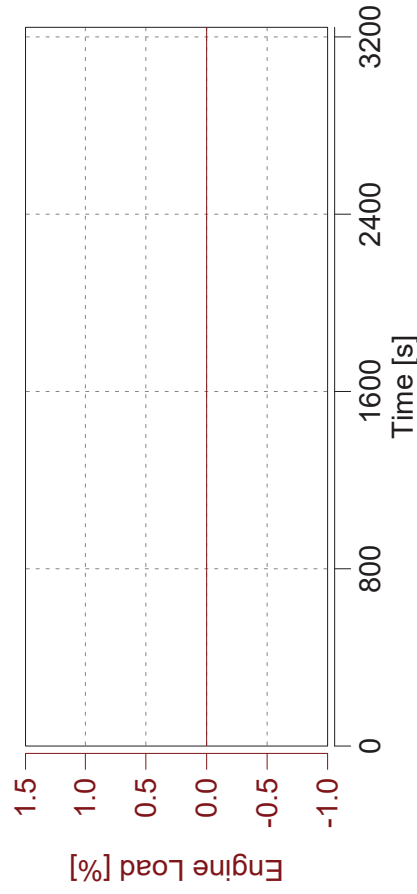
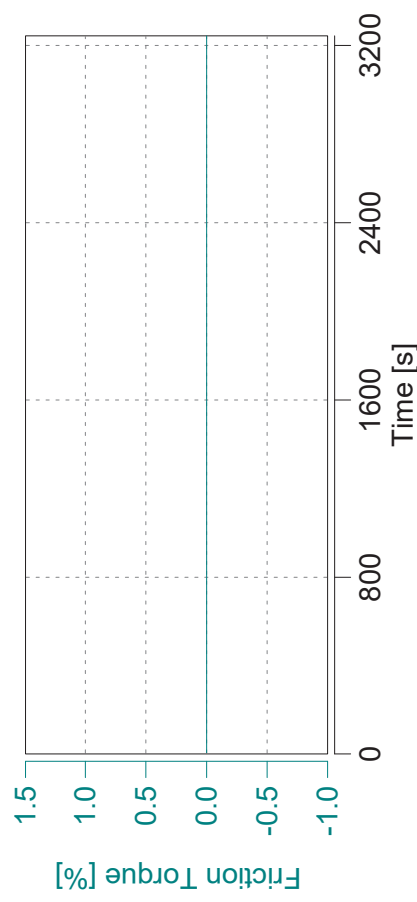
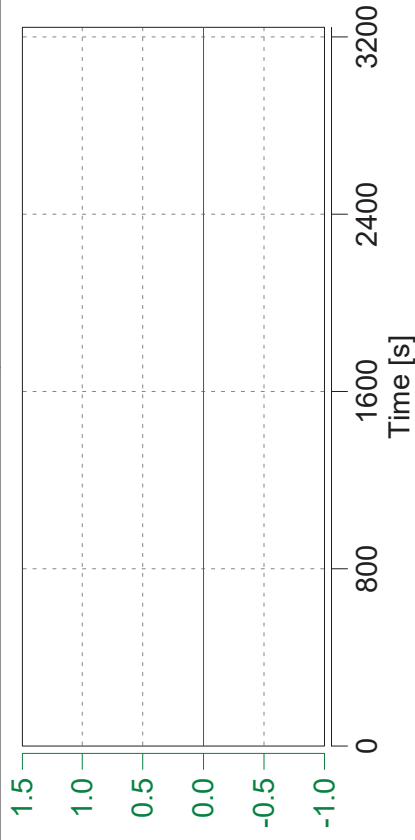
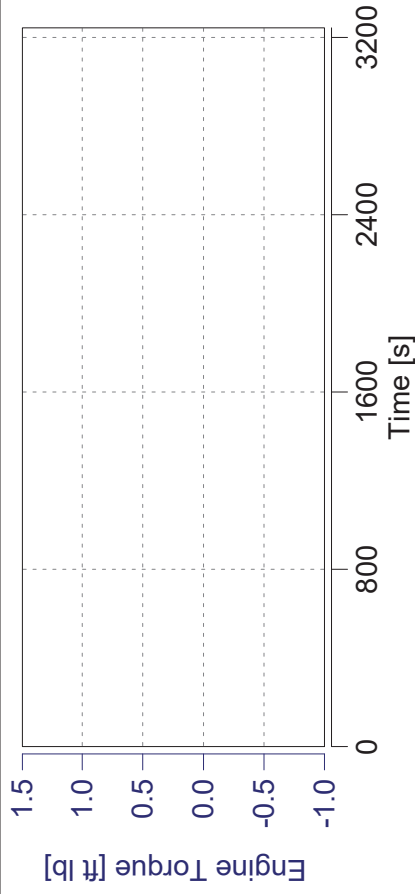
'City'

Start Date: 08/07/2018

Start Time: 20:33:39.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Engine: /
Vehicle: Passat / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (3)

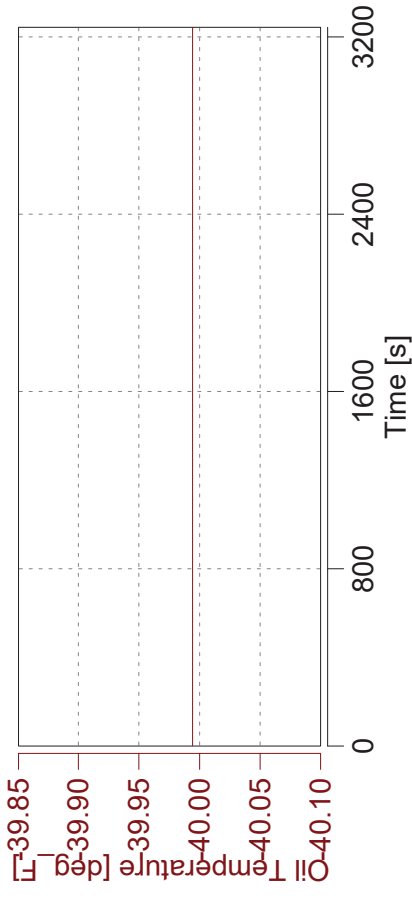
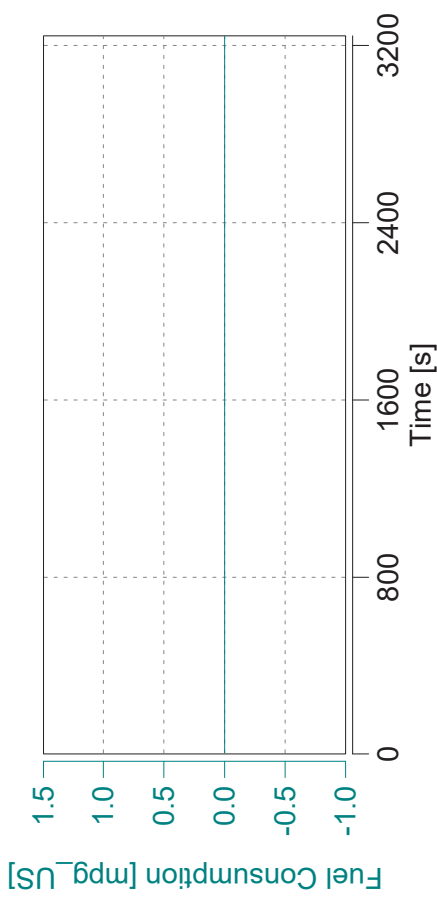
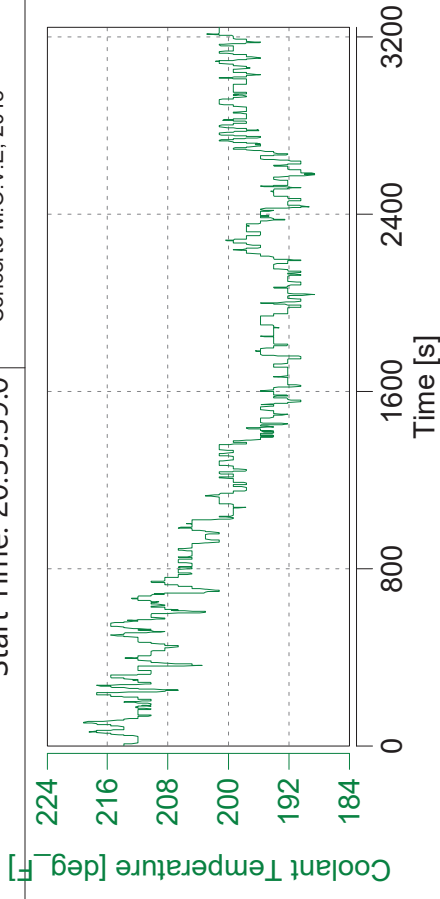
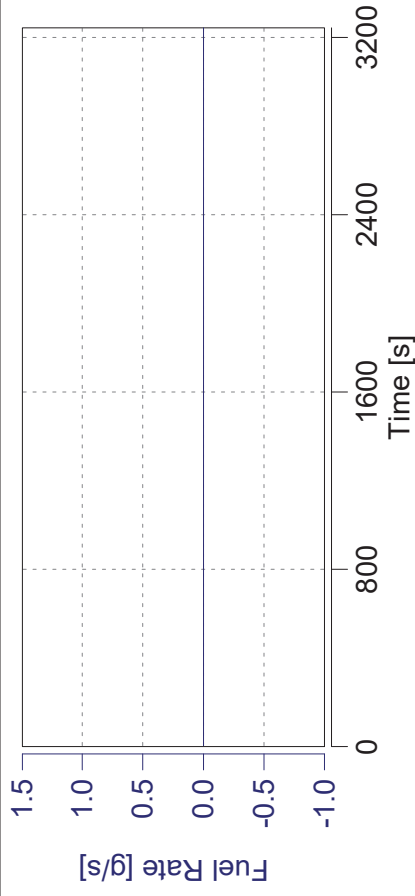
'City'

Start Date: 08/07/2018

Start Time: 20:33:39.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Exhaust Flow (1)

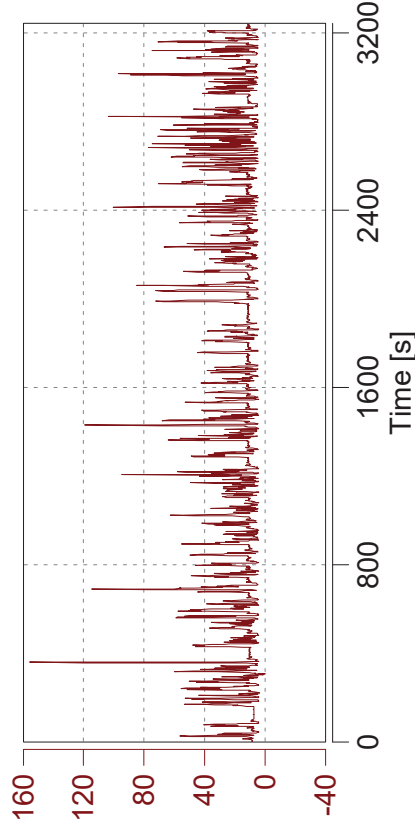
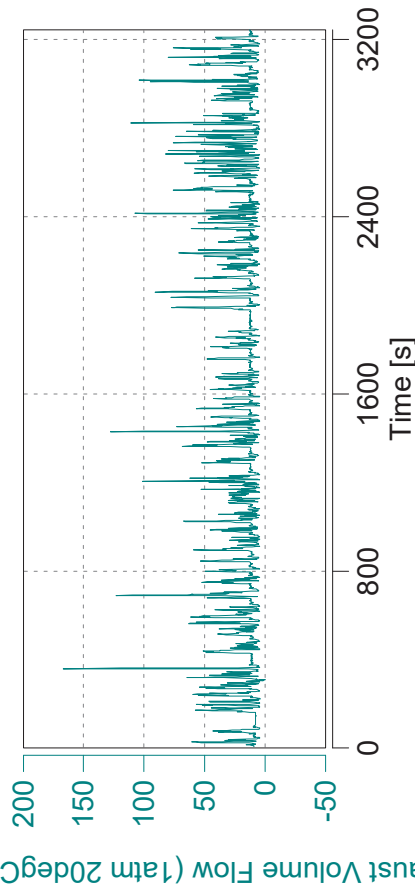
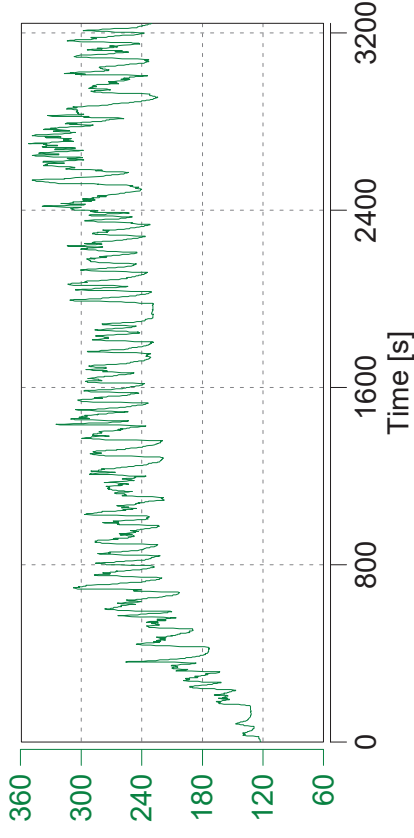
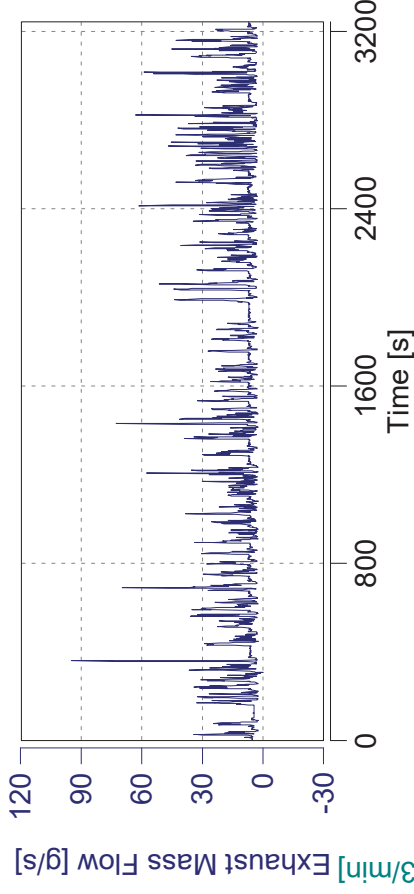
'City'

Start Date: 08/07/2018

Start Time: 20:33:39.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Exhaust Flow (2)

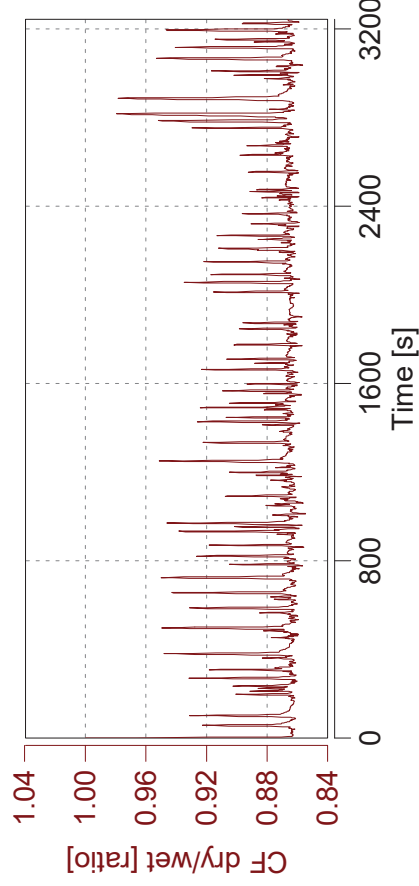
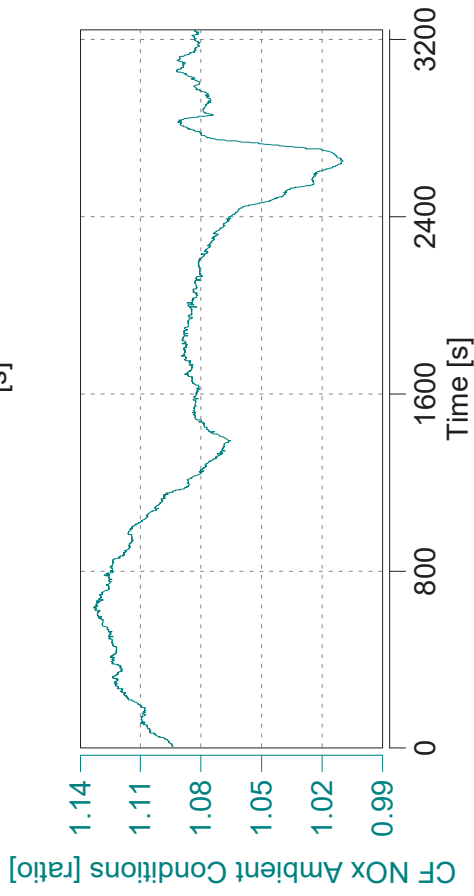
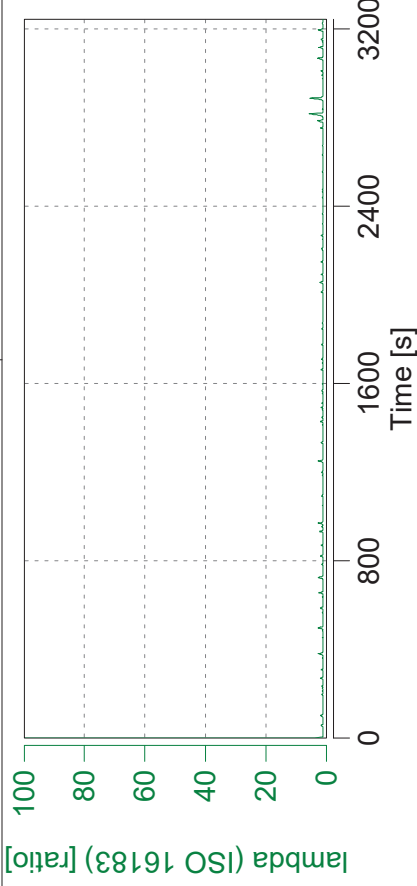
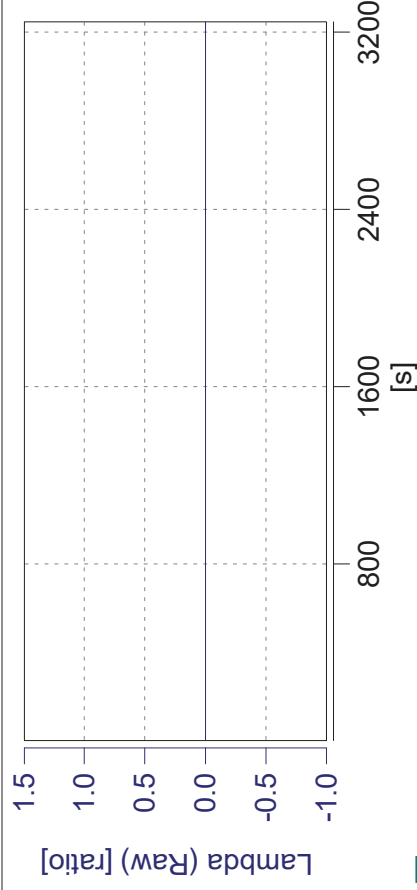
'City'

Start Date: 08/07/2018

Start Time: 20:33:39.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (1)

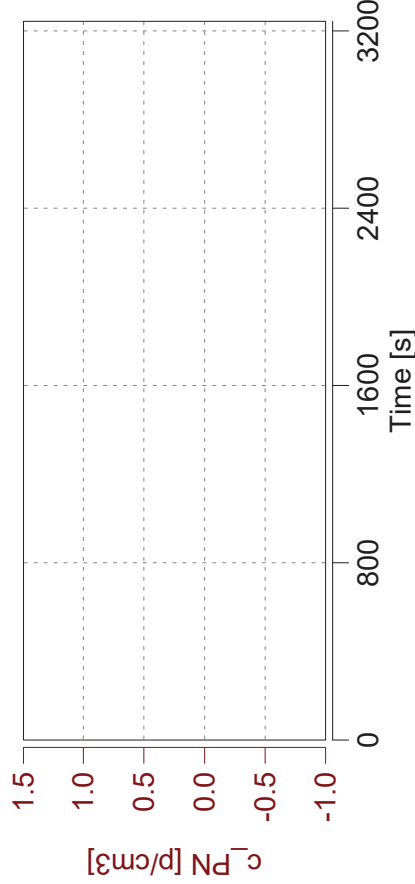
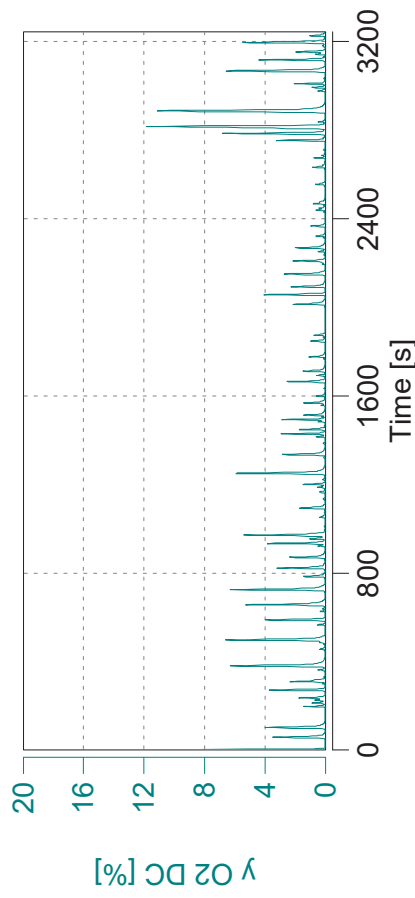
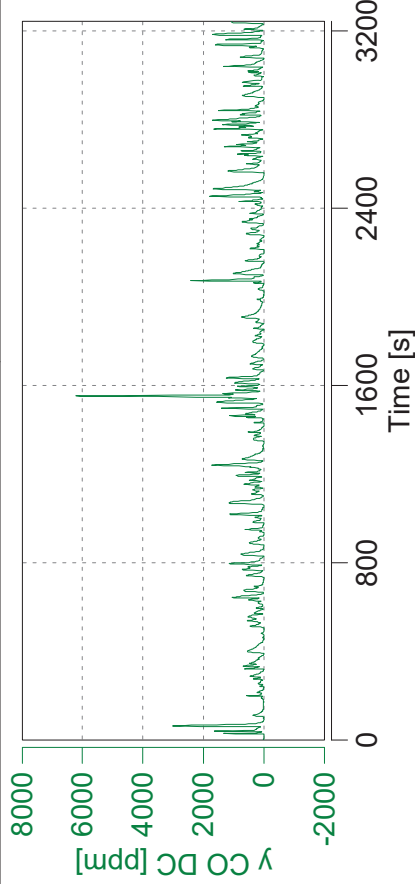
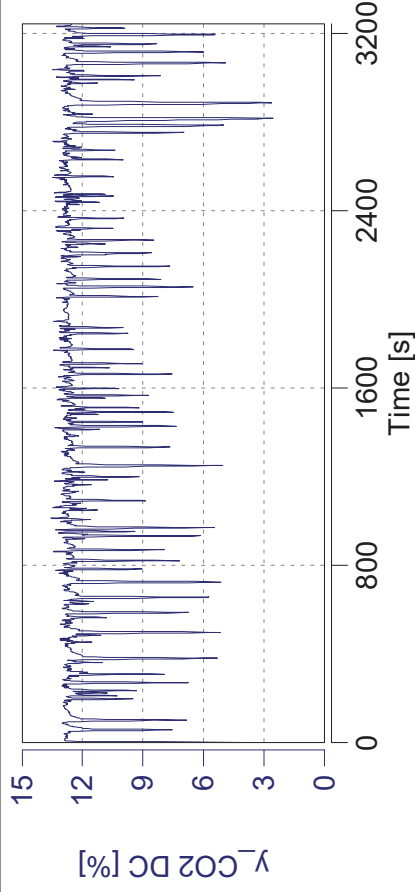
'City'

Start Date: 08/07/2018

Start Time: 20:33:39.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Passat / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (2)

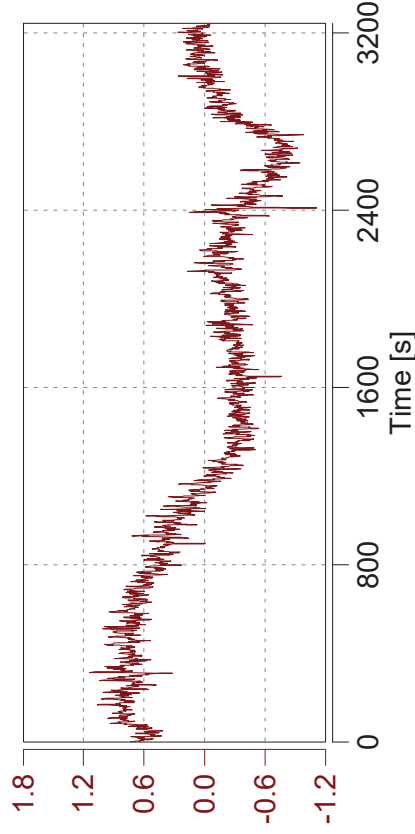
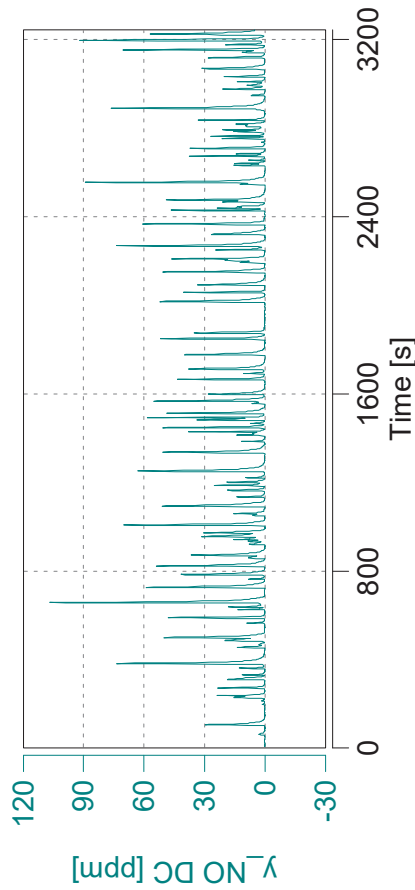
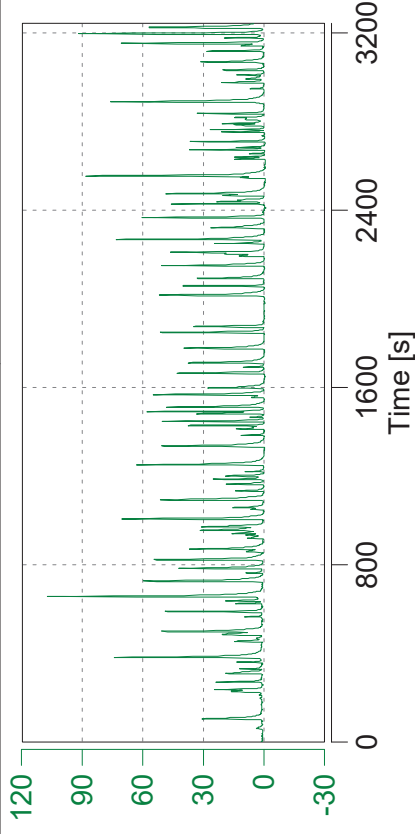
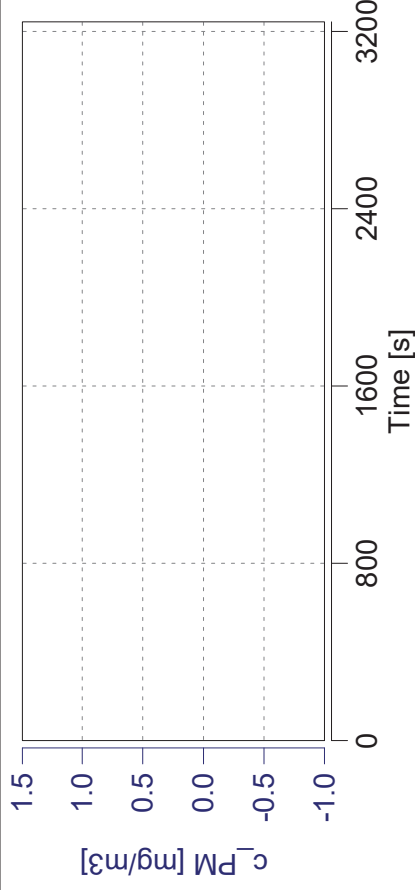
'City'

Start Date: 08/07/2018

Start Time: 20:33:39.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Engine: /
Vehicle: Passat / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (3)

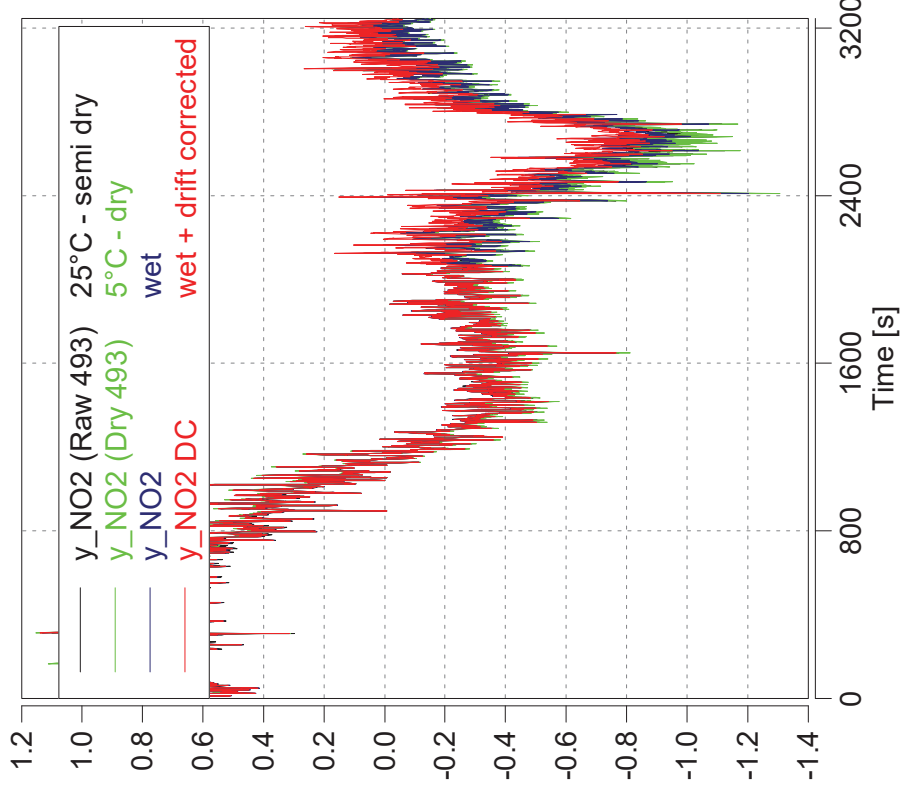
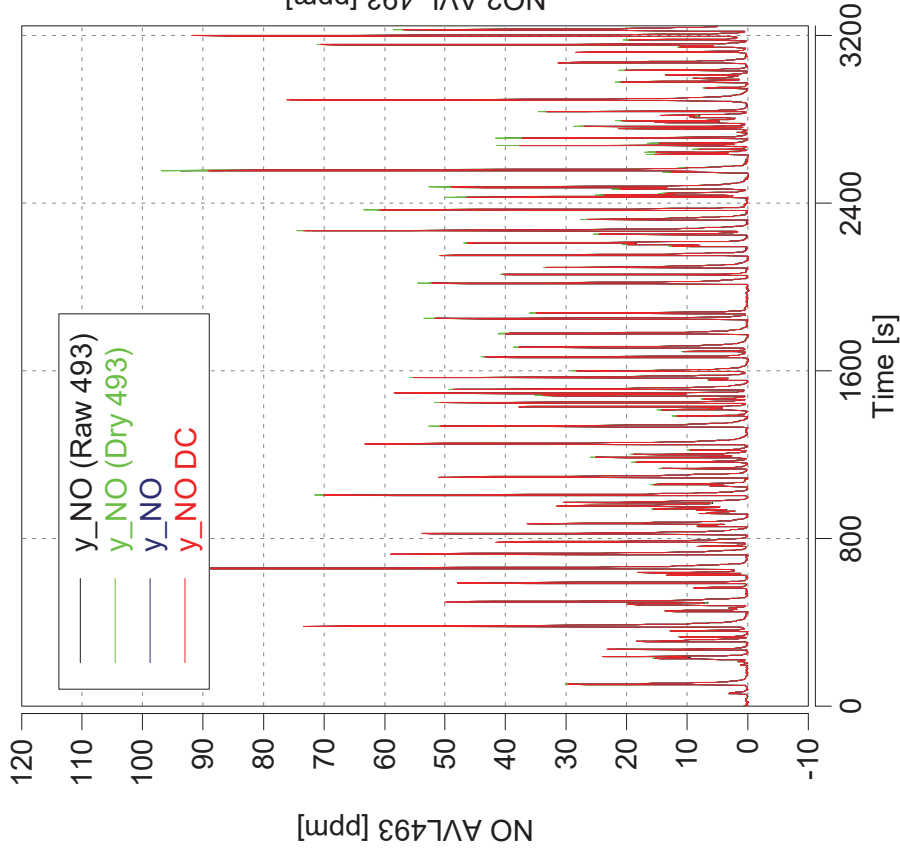
'City'

Start Date: 08/07/2018

Start Time: 20:33:39.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (4) NOx Corrections

NOx - AVL 493

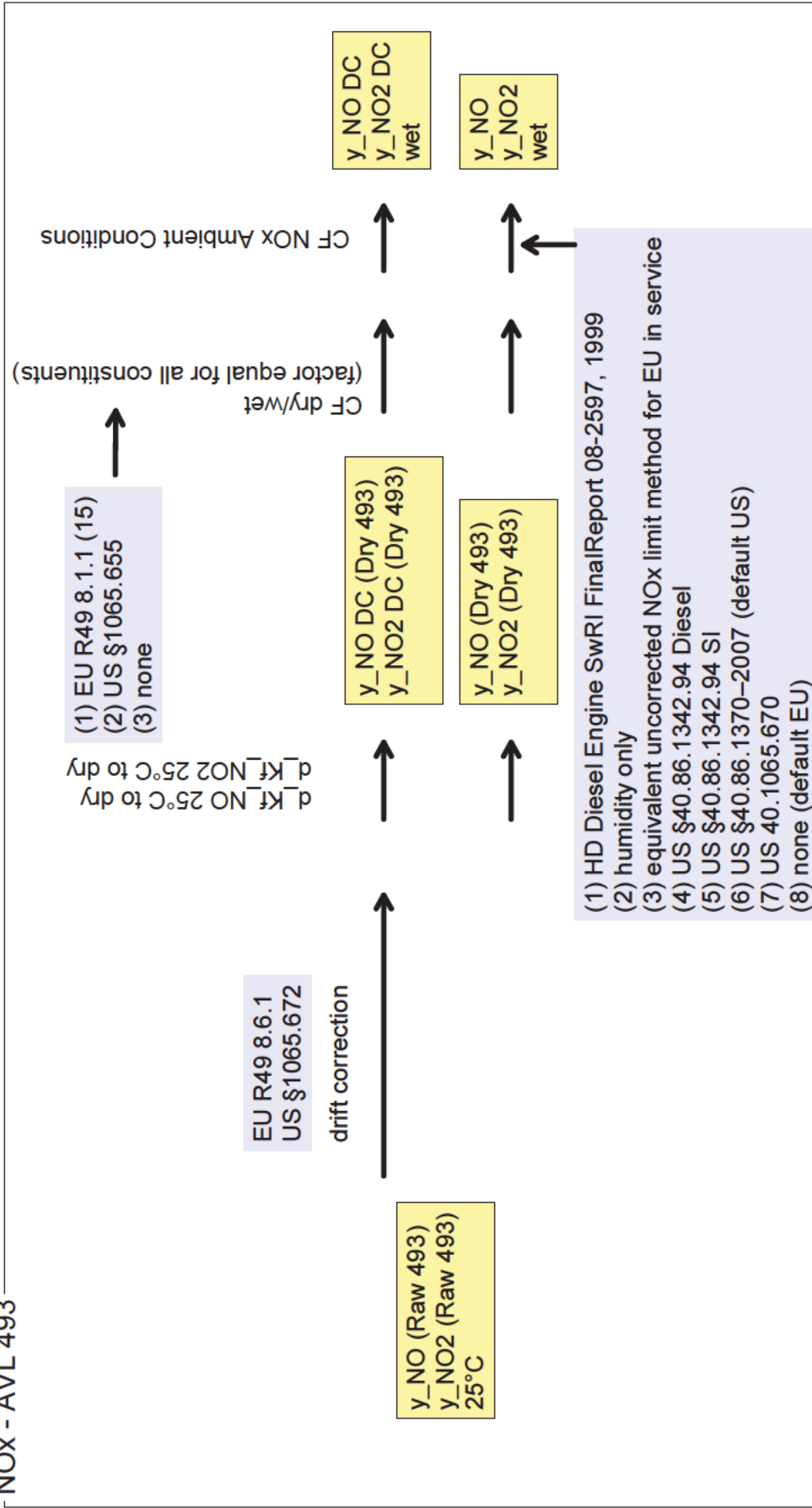
'City'

Start Date: 08/07/2018

Start Time: 20:33:39.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine /

Vehicle: Passat / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (5)

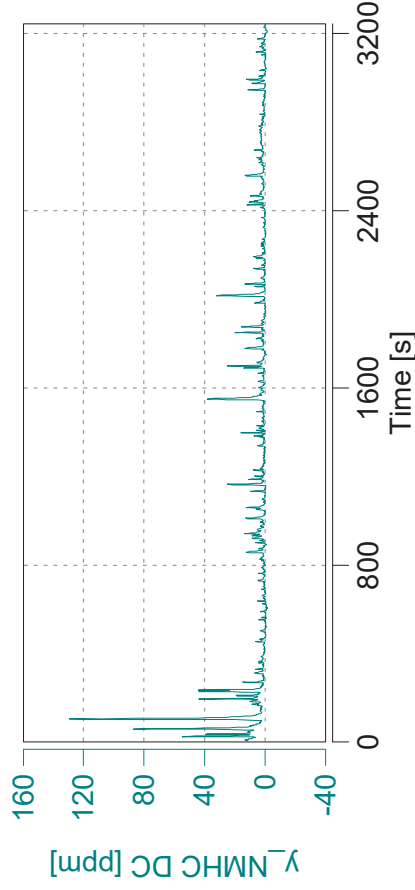
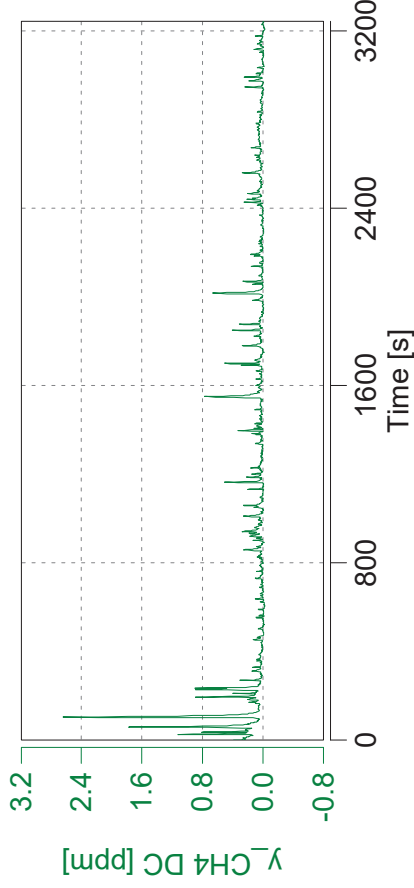
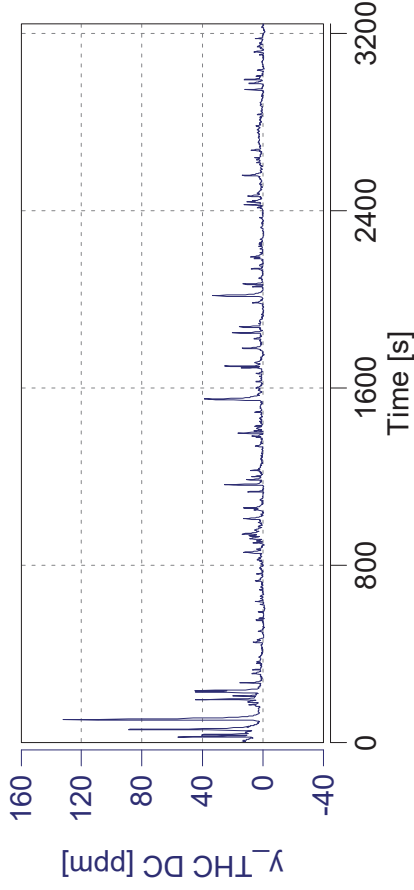
'City'

Start Date: 08/07/2018

Start Time: 20:33:39.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Vehicle: Passat / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI Engine: /
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: NO/NO2/NOx Zero - Span

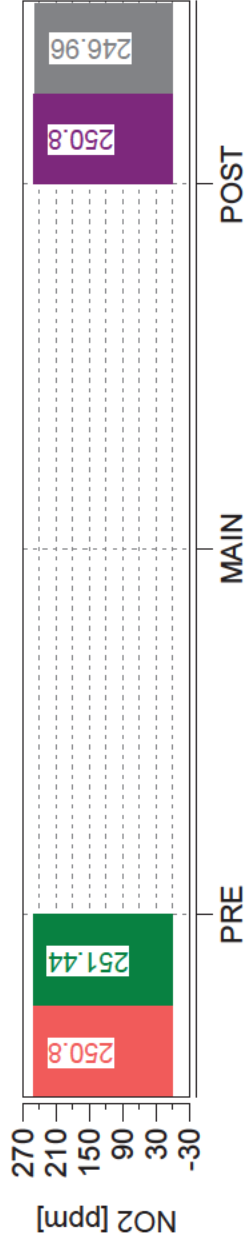
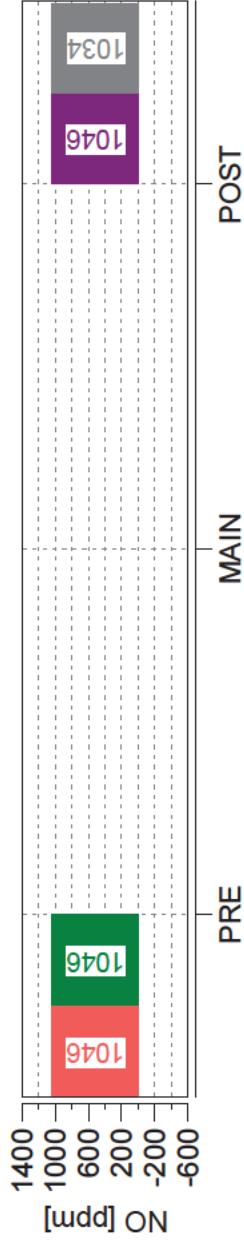
'City'

Start Date: 08/07/2018

Start Time: 20:33:39.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: City

Page: CO/CO2 Zero - Span

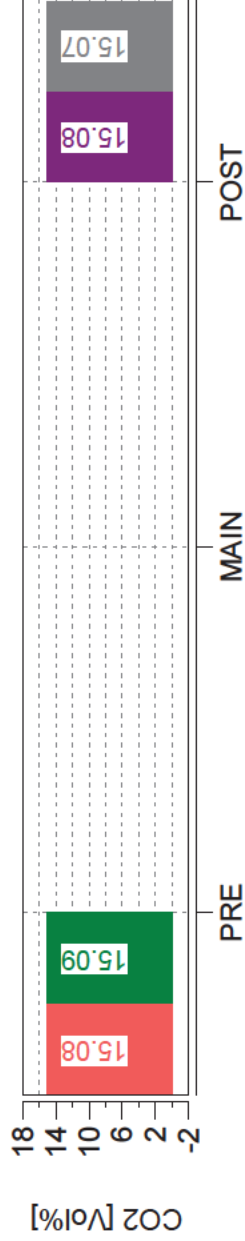
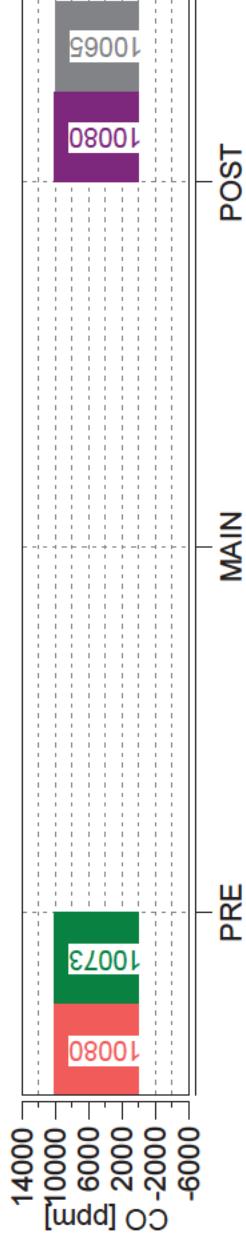
'City'

Start Date: 08/07/2018

Start Time: 20:33:39.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Passat / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: City

Page: THC/CH4 Zero - Span

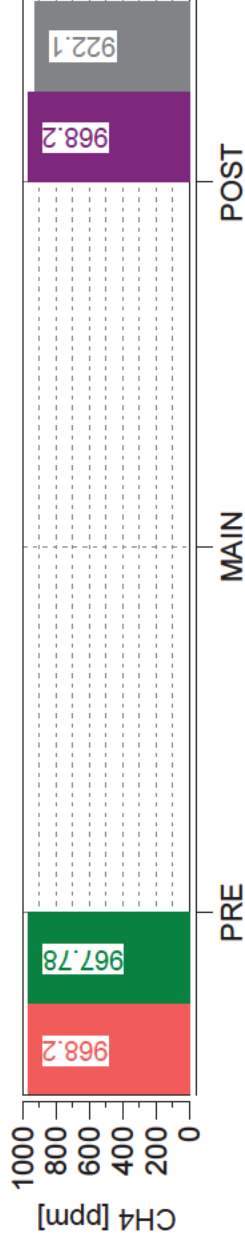
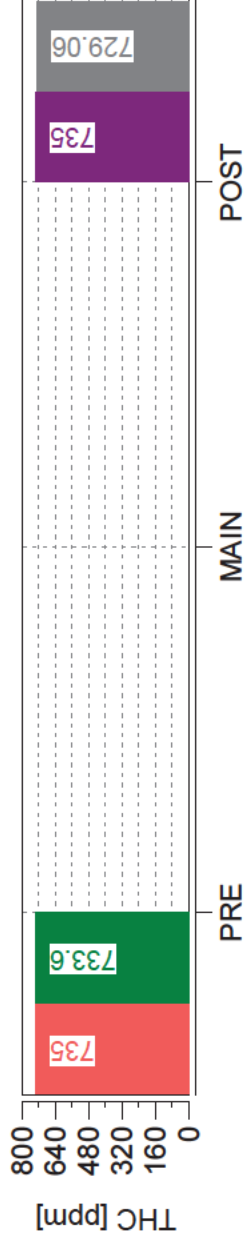
'City'

Start Date: 08/07/2018

Start Time: 20:33:39.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Passat / 2.0L

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Trip Summary

'Highway'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E. 2018

Trip Duration	2547.00	s	ave THC	4.62773	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	2547.00	s	ave NMHC	4.53517	ppm	BS CO	n/a	g/hphr
Trip Distance	38.55	mi	ave CH4	0.09255	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	38.55	mi	ave CO	360.97687	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	12.11401	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx	17.21599	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	4.40	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	4.34	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.55	gall	tot THC	0.40651	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.53	gall	tot NMHC	0.37602	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00901	g	DS CO2	340.41622	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	54.41917	g	DS CO	1.41178	g/mi
Trip Fuel Economy EU (ac)	24.79	mpg_US	tot CO2	13121.88033	g	DS THC	0.01055	g/mi
Trip Fuel Economy US (ac)	25.15	mpg_US	tot NO (d)	1.33950	g	DS NMHC	0.00976	g/mi
Trip Av. Eng. Speed	1833.80	rpm	tot NO2	0.04561	g	DS CH4	0.00023	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	1.38511	g	DS NO (d)	0.03475	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	0.00118	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.03593	g/mi
Trip Exhaust Mass	69.44	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	84.67	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	52.43	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	54.48279	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	3.10169	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
 (d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Trip Summary Drift Corrected

'Highway'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018

Trip Duration	2547.00	s	ave THC DC	4.36876	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	2547.00	s	ave NMHC DC	4.28139	ppm	BS CO DC	n/a	g/hphr
Trip Distance	38.55	mi	ave CH4 DC	0.08738	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	38.55	mi	ave CO DC	361.50766	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	12.10598	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	17.23017	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	4.40	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	4.34	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave Soot meas	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.55	gall	ave PN DC	n/a		BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.53	gall	tot THC DC	0.39371	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot NMHC DC	0.36418	g	DS CO2 DC	340.19063	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CH4 DC	0.00873	g	DS CO DC	1.41385	g/mi
Trip Fuel Economy EU (ac)	24.79	mpg_US	tot CO DC	54.49919	g	DS THC DC	0.01021	g/mi
Trip Fuel Economy US (ac)	25.15	mpg_US	tot CO2 DC	13113.18459	g	DS NMHC DC	0.00945	g/mi
Trip Av. Eng. Speed	1833.80	rpm	tot NO DC (d)	1.34064	g	DS CH4 DC	0.00023	g/mi
Trip Av. Torque	n/a	lbft	tot NO2 DC	0.04559	g	DS NO DC (d)	0.03478	g/mi
Trip Av. Power	n/a	hp	tot NOx DC	1.38623	g	DS NO2 DC	0.00118	g/mi
Trip Work	n/a	hphr	tot Soot	n/a	g	DS NOx DC	0.03596	g/mi
Trip Exhaust Mass	69.44	kg	tot Soot meas	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PM	n/a	g	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	tot PN DC	n/a	#	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	84.67	deg_F	PM measurement type	0.00000	-	DS PN DC	n/a	#/mi
Trip Av. Humidity	52.43	%	PM correction type	1.00000	alpha(HC)	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		tot Soot on PM filter (estim.)	n/a	mg	FS CO DC	n/a	g/kg
			Soot --> PM simple scaling factor	1.00000	-	FS THC DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS NMHC DC	n/a	g/kg
			Trip Av. Veh. Speed	54.48279	mi/hr	FS CH4 DC	n/a	g/kg
			Trip Velocity Zero	3.10169	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NOx DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Time Alignment Check

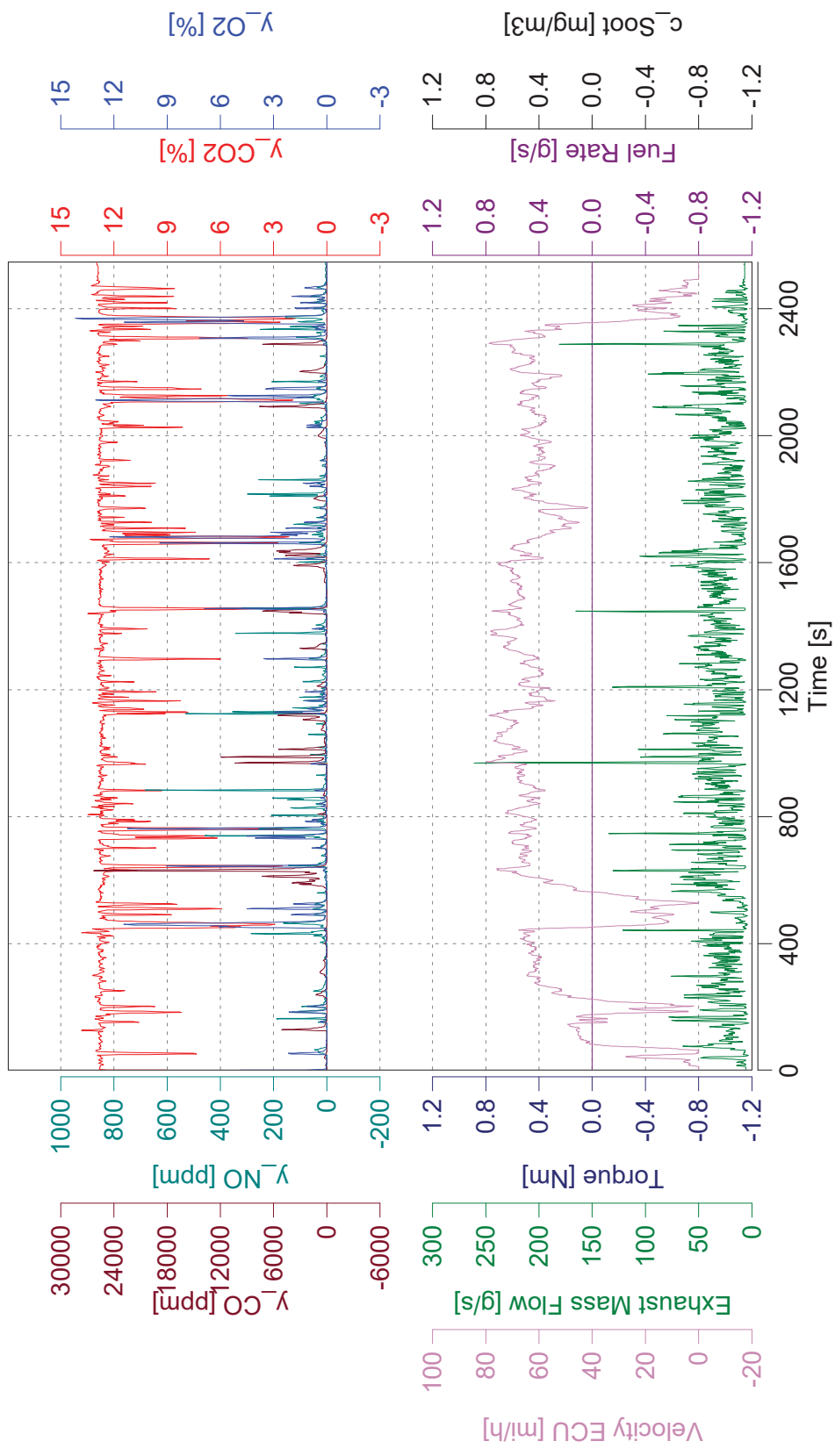
'Highway'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Time Alignment of Gas Concentrations

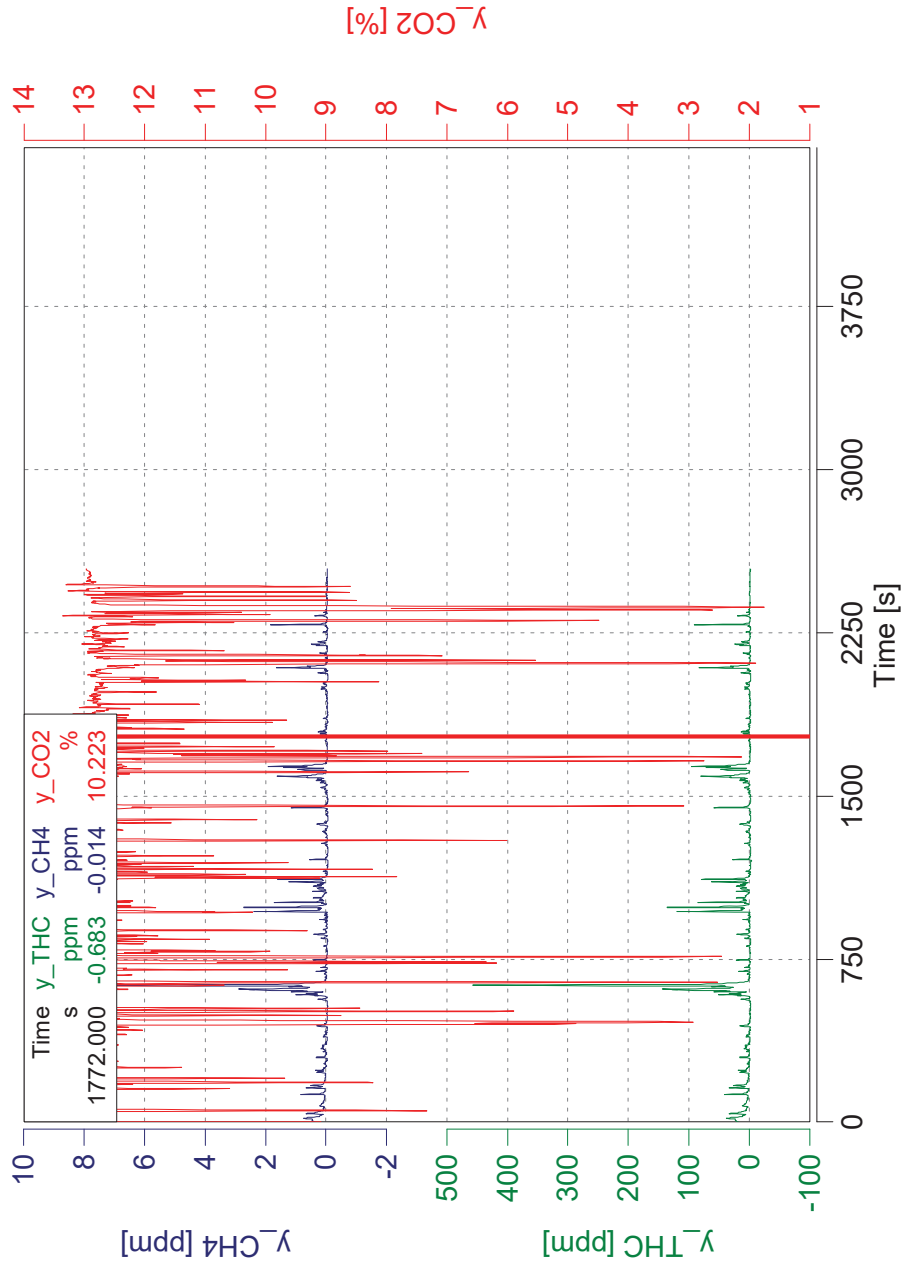
'Highway'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Ambient Conditions

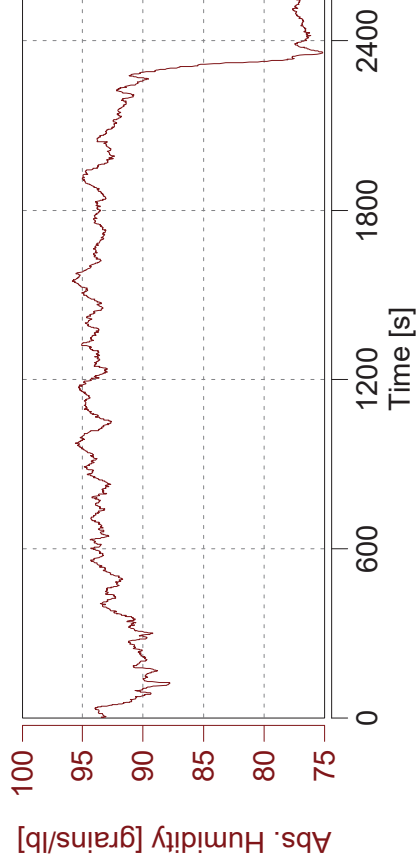
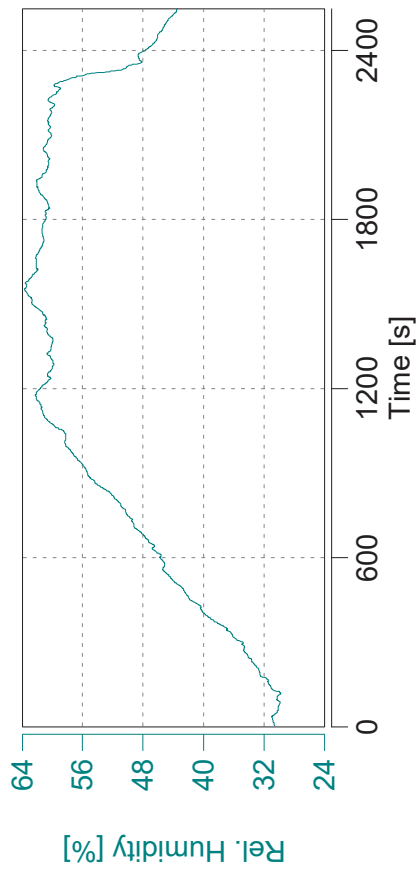
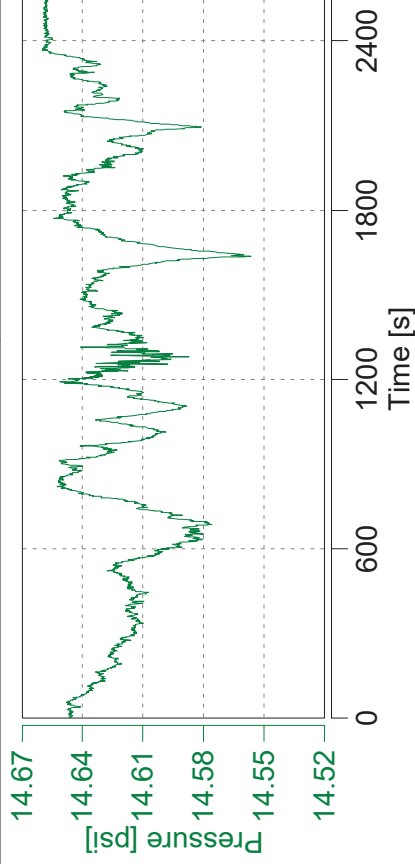
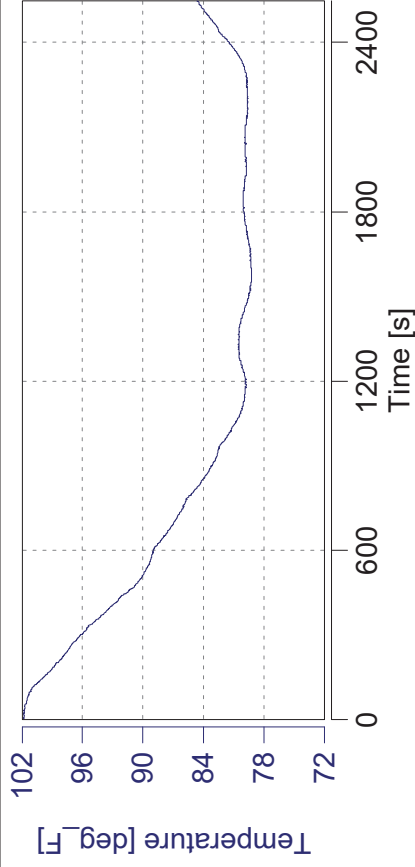
'Highway'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: GPS

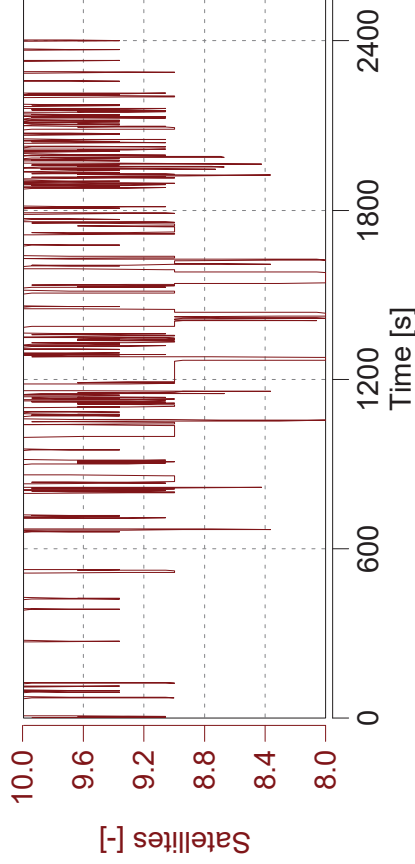
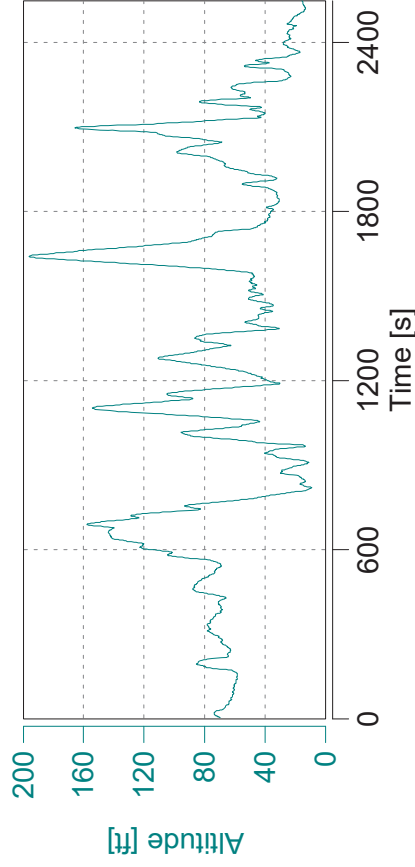
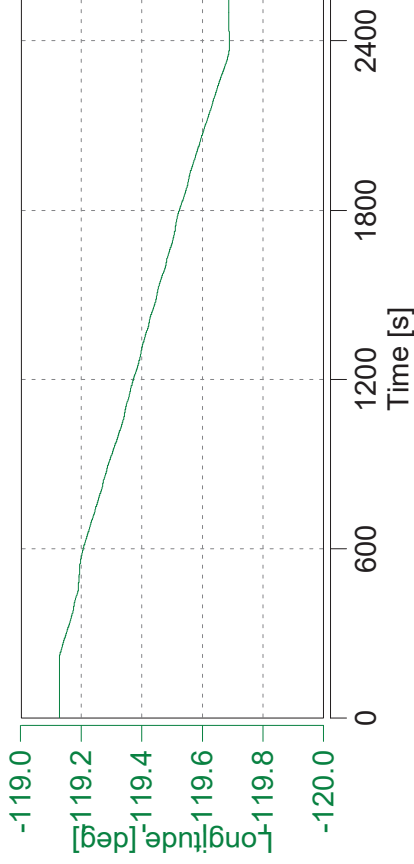
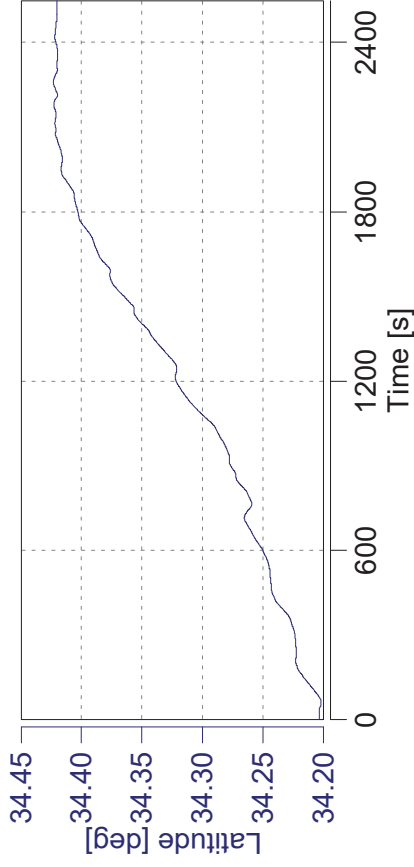
'Highway'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: RS3 / 2.5L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (1)

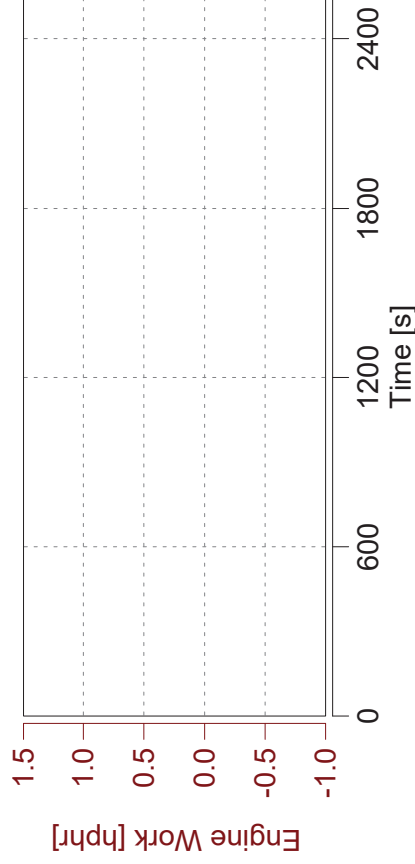
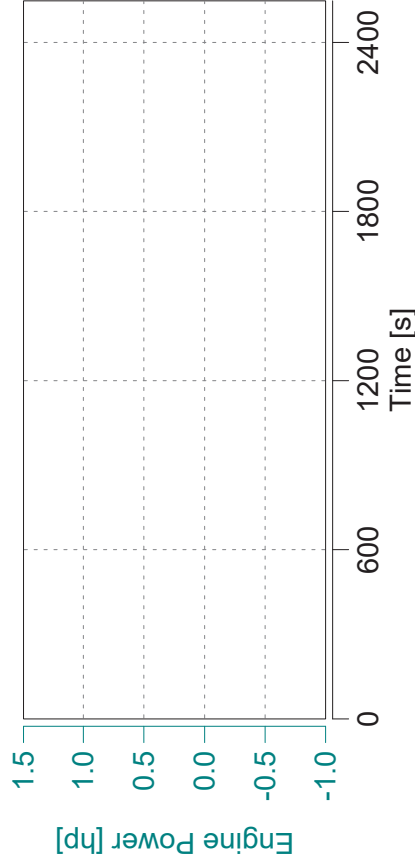
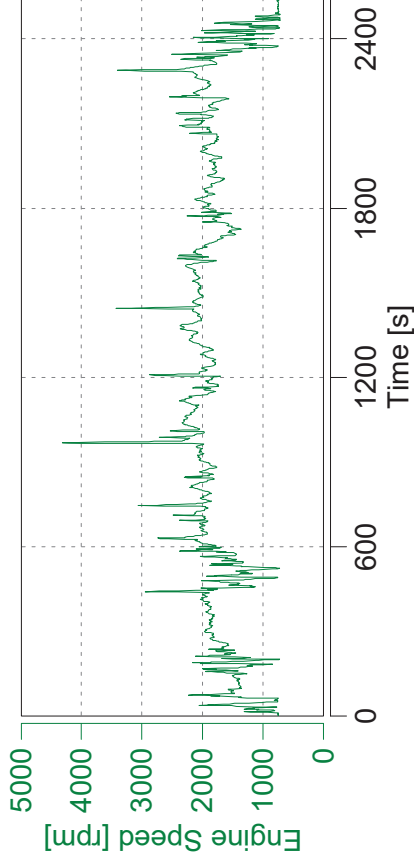
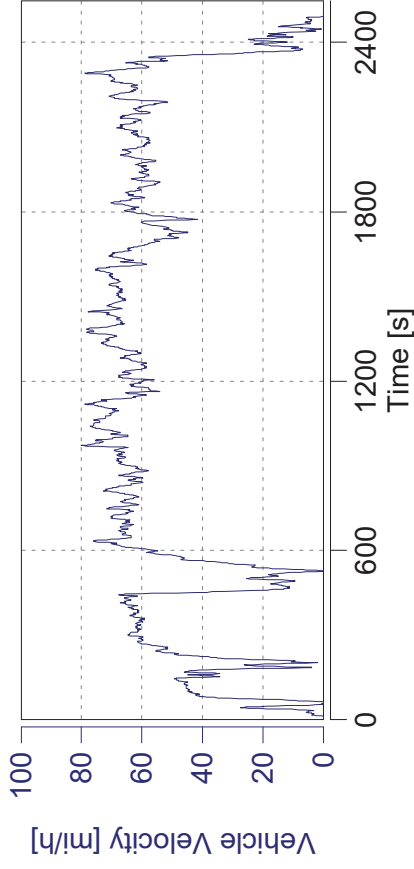
'Highway'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: RS3 / 2.5L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (2)

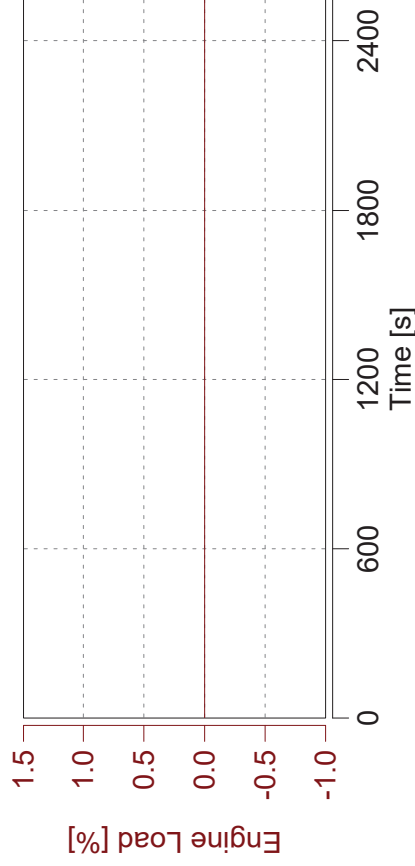
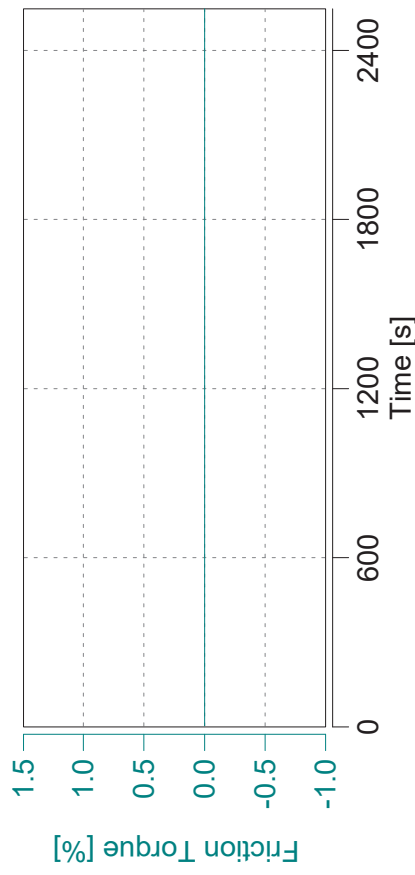
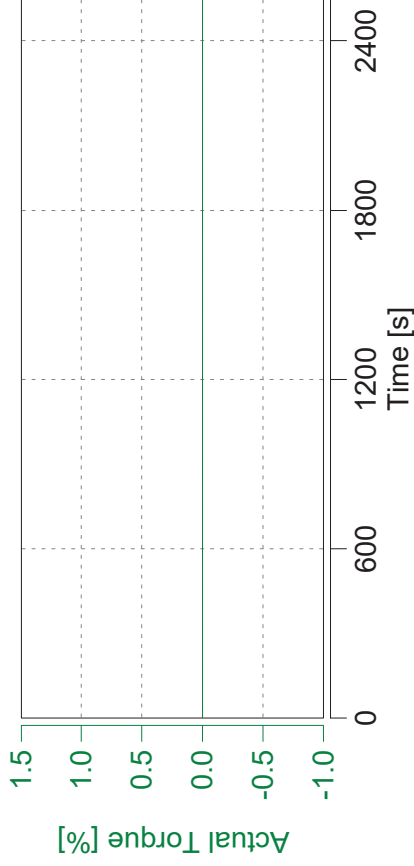
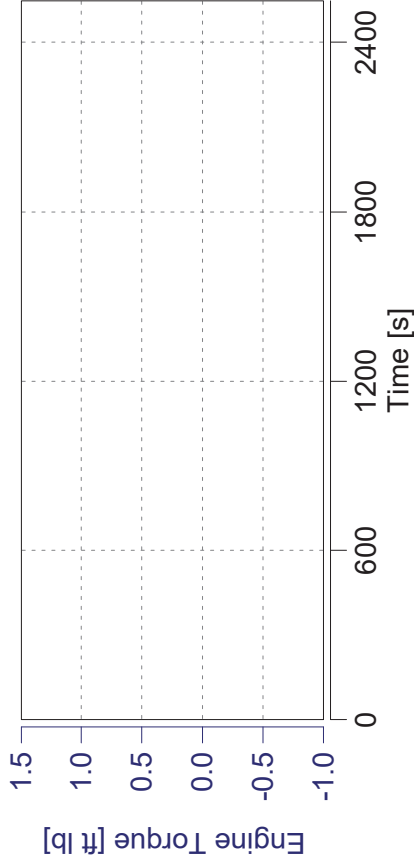
'Highway'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (3)

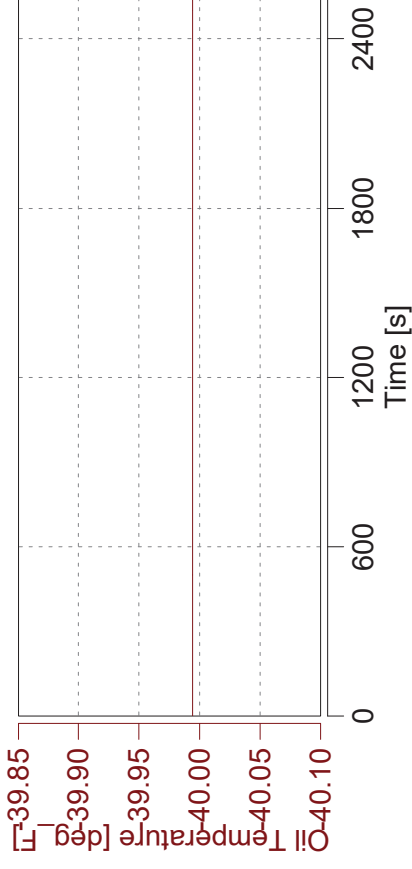
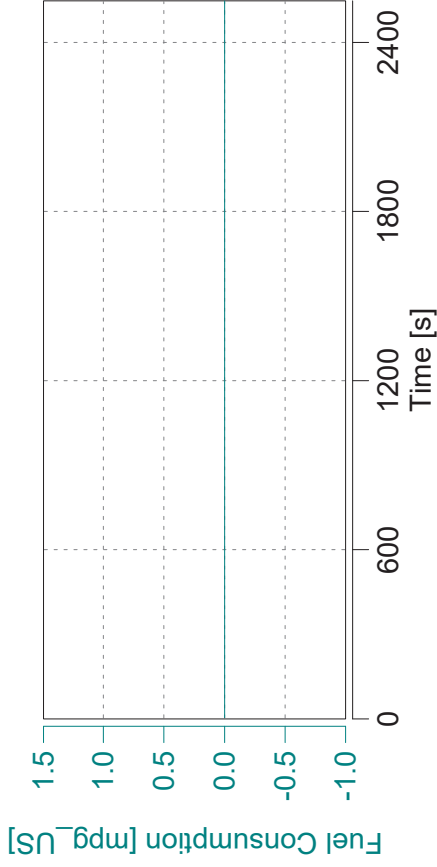
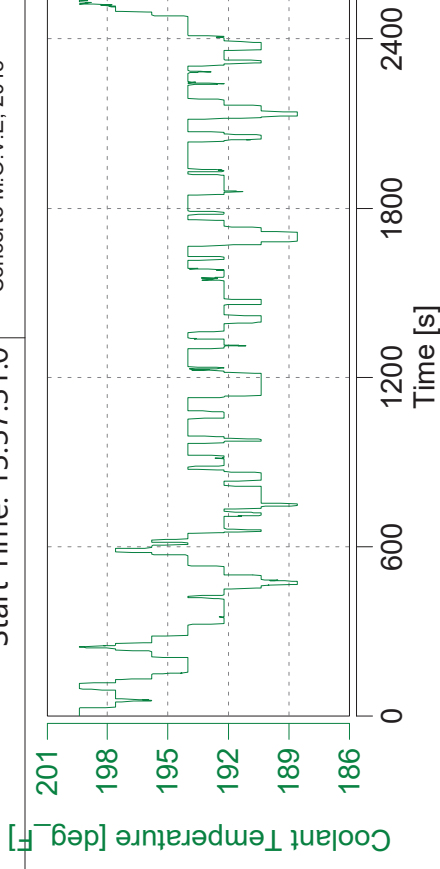
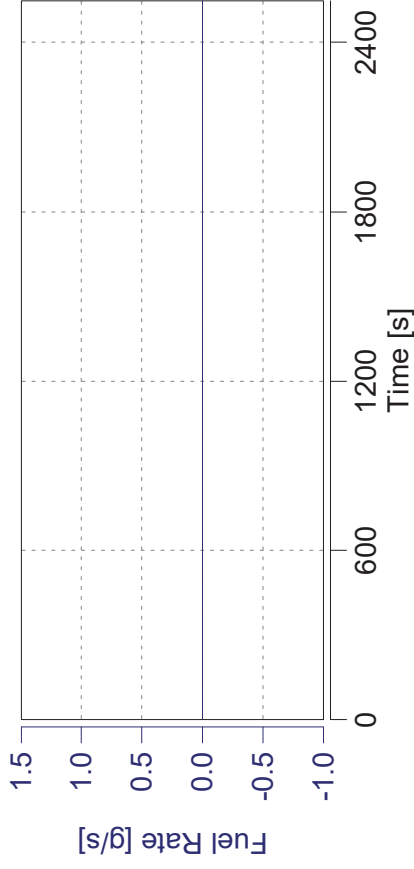
'Highway'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

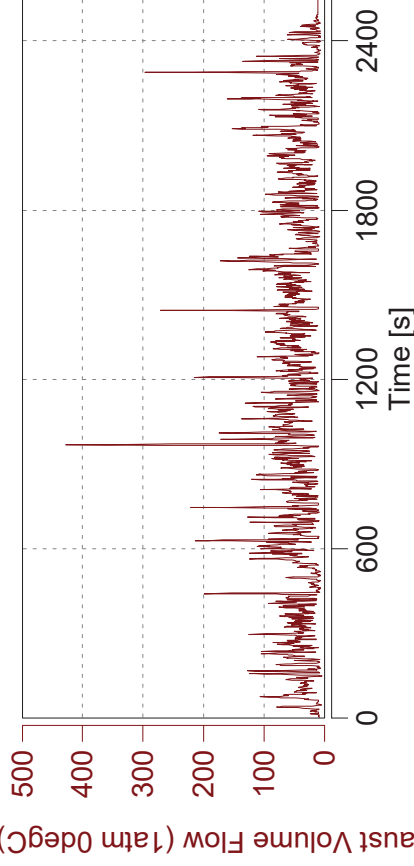
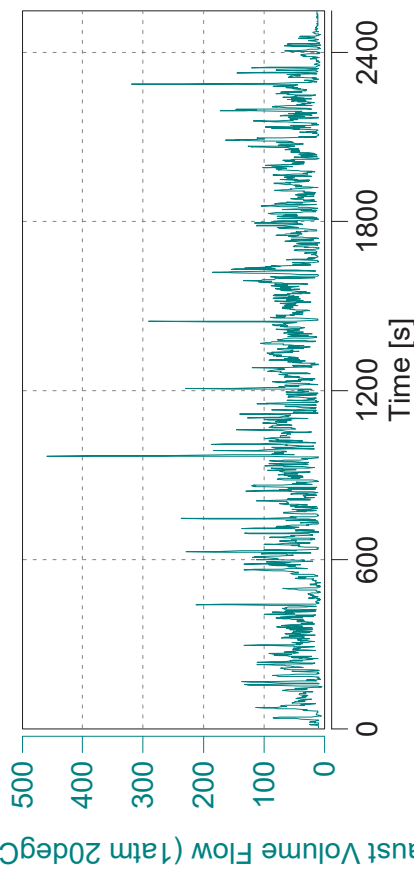
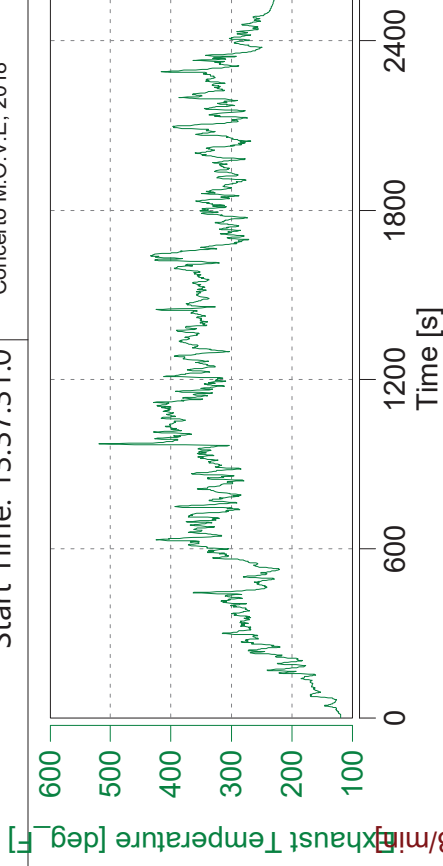
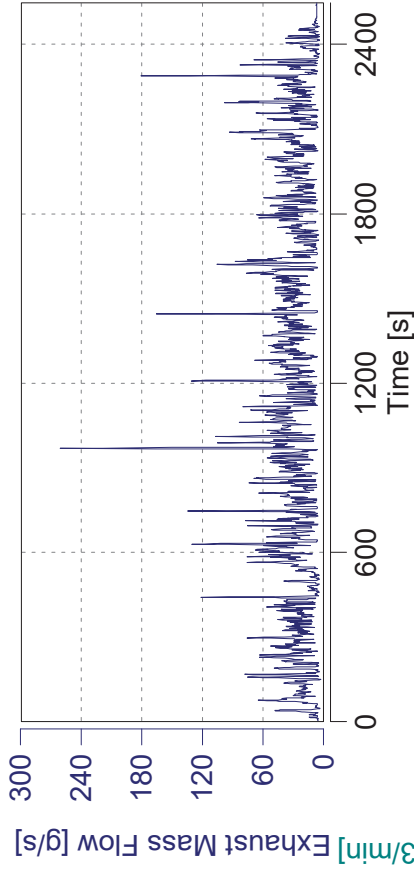
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Engine: /
Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

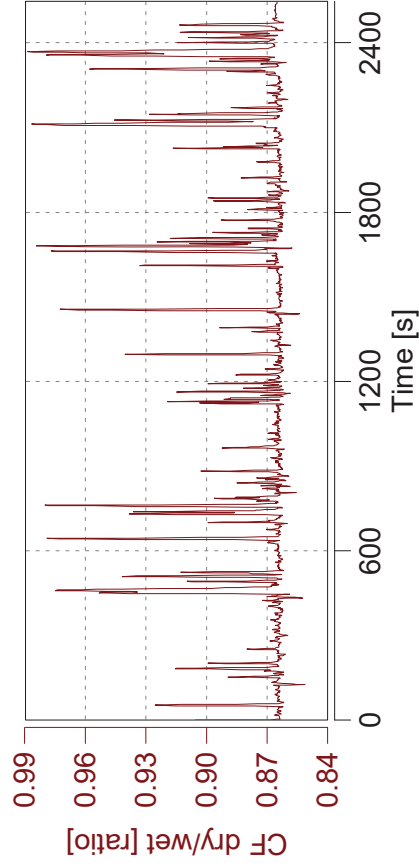
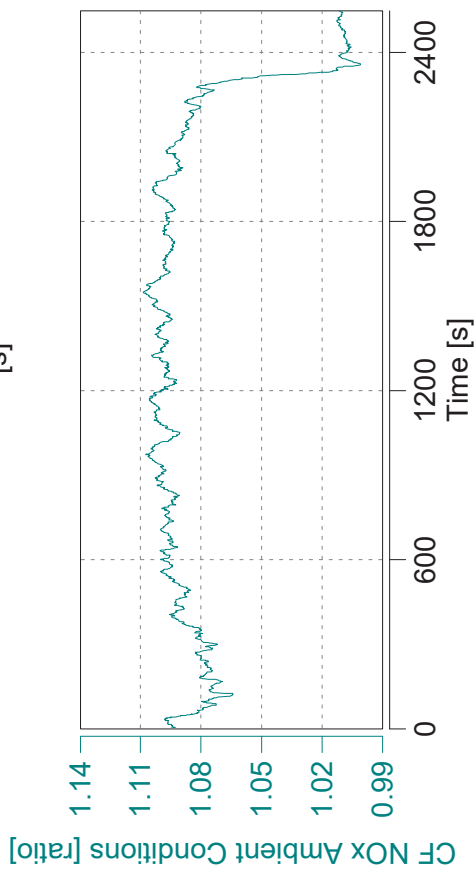
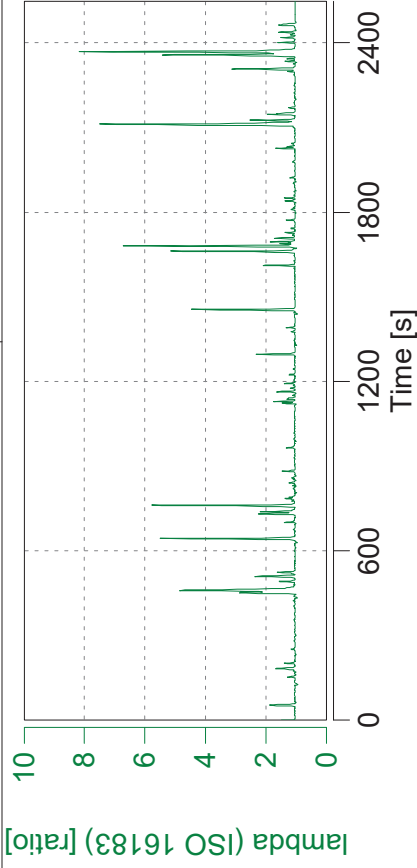
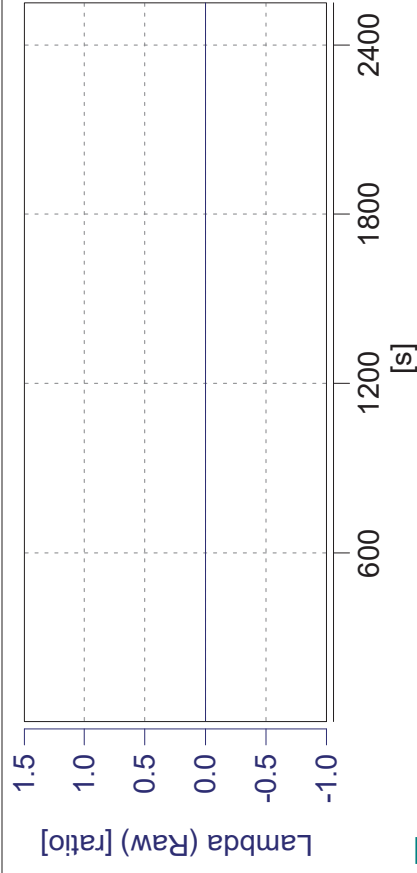


Concerto M.O.V.E., 2018



Case: Highway
 Page: Exhaust Flow (2)

'Highway'
 Start Date: 08/09/2018
 Start Time: 13:37:31.0



Concerto Version: 480 Build 316, Serial Number: 1120
 M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: RS3 / 2.5L
 Engine: /
 NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (1)

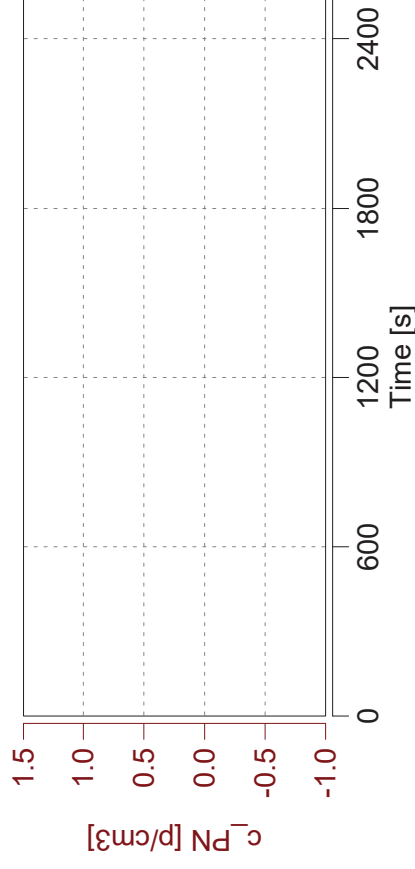
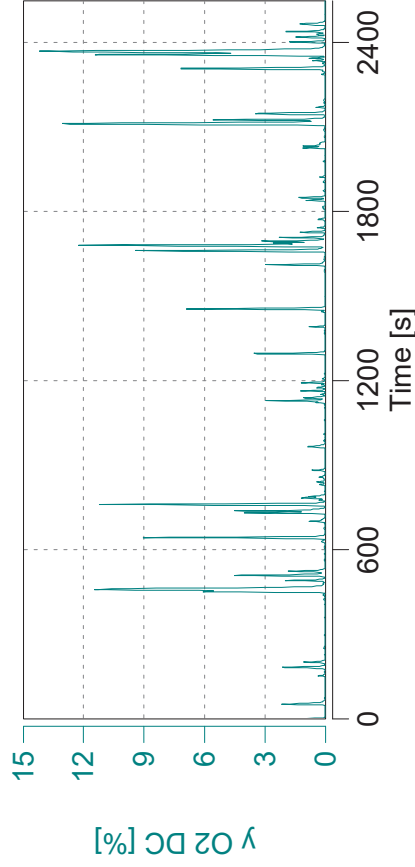
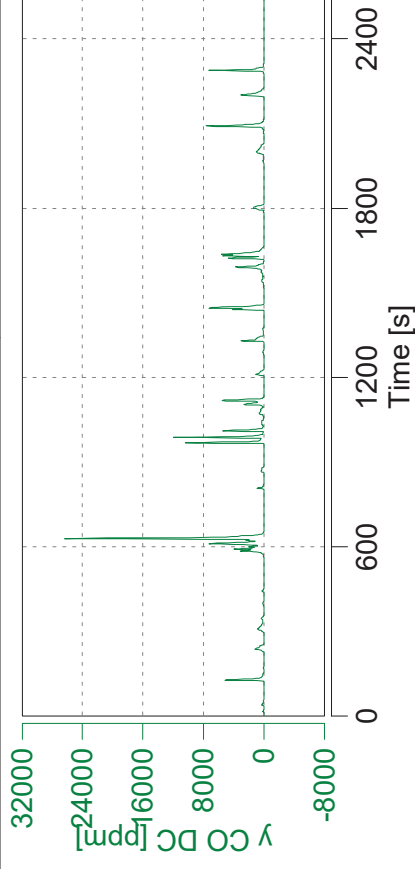
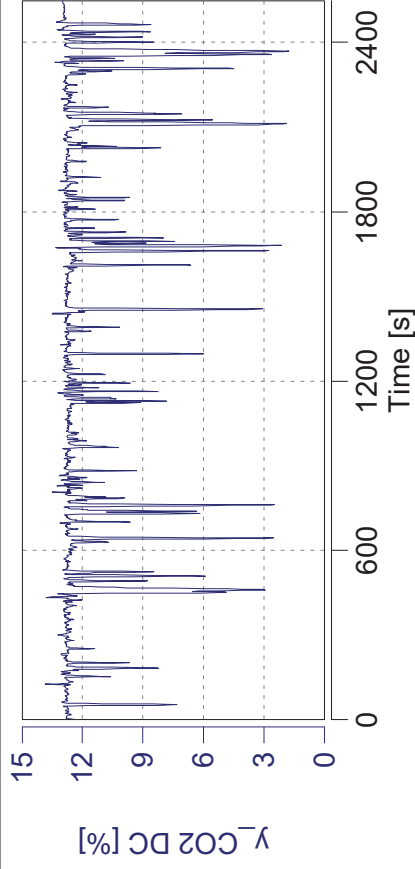
'Highway'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (2)

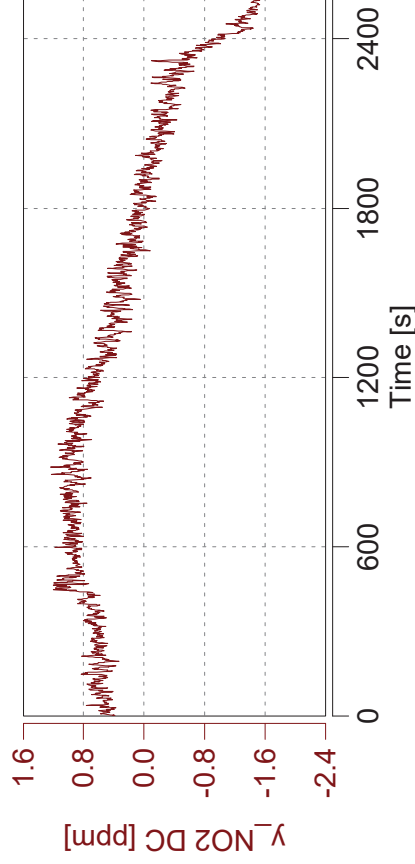
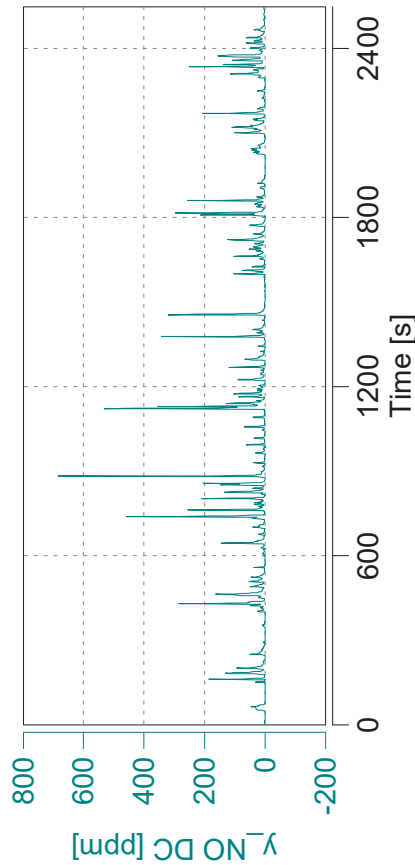
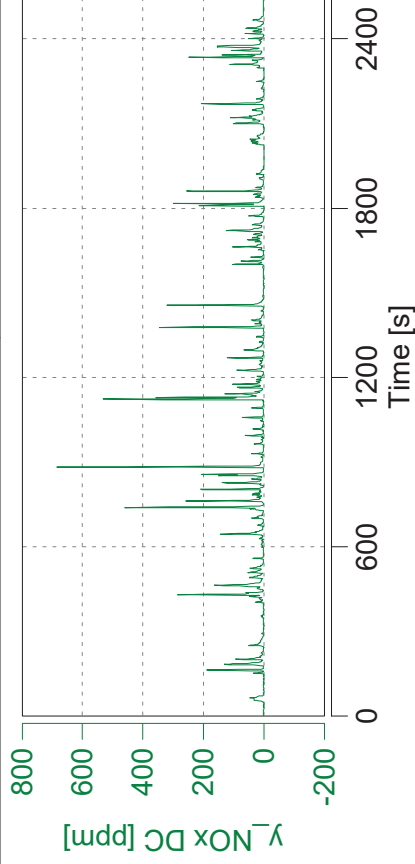
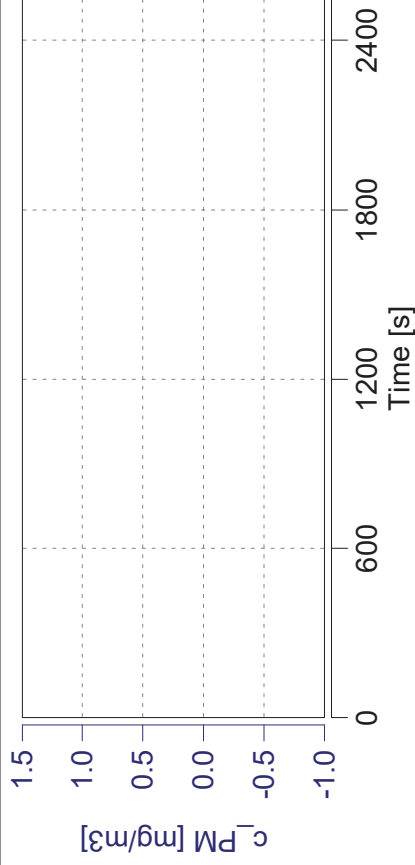
'Highway'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (3)

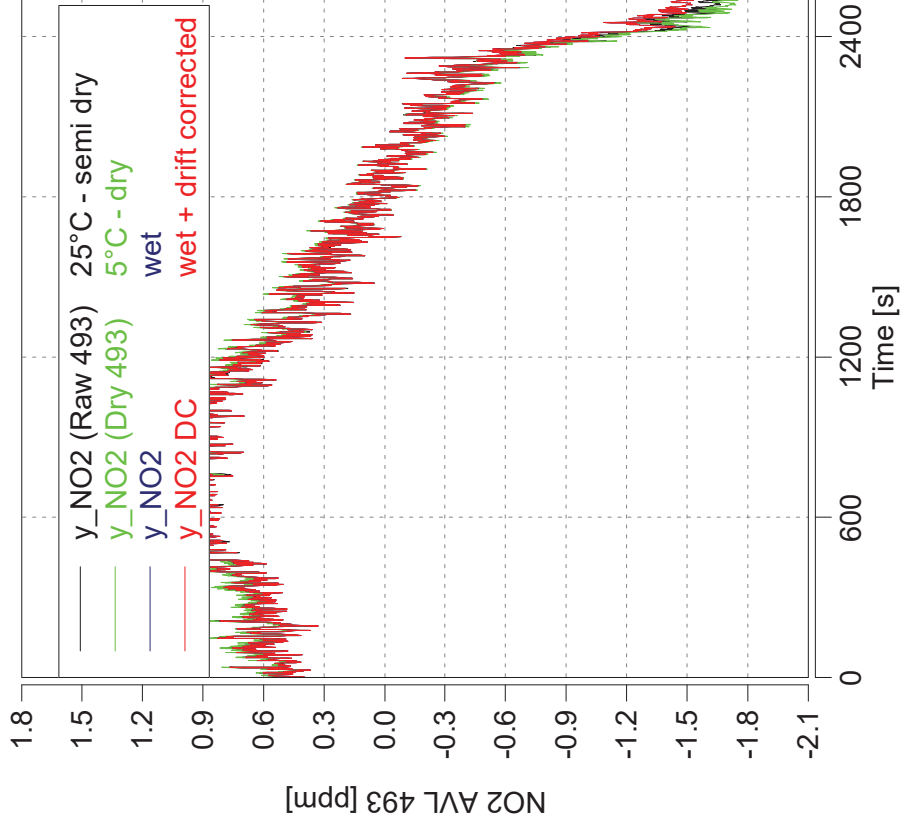
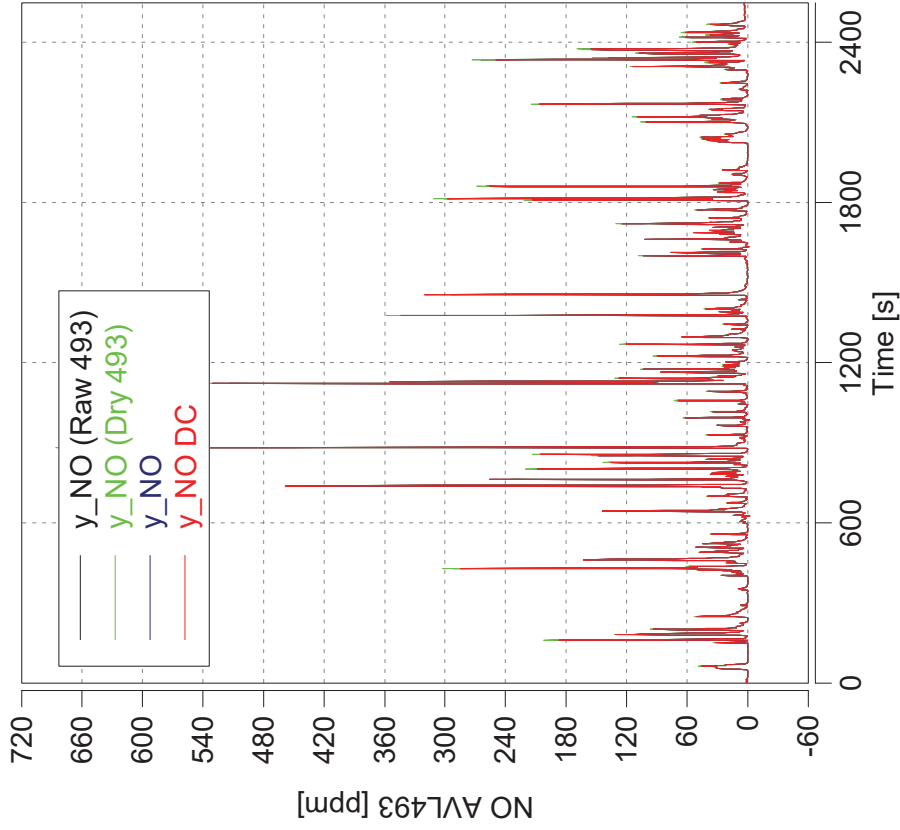
'Highway'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (4) NOx Corrections

'Highway'

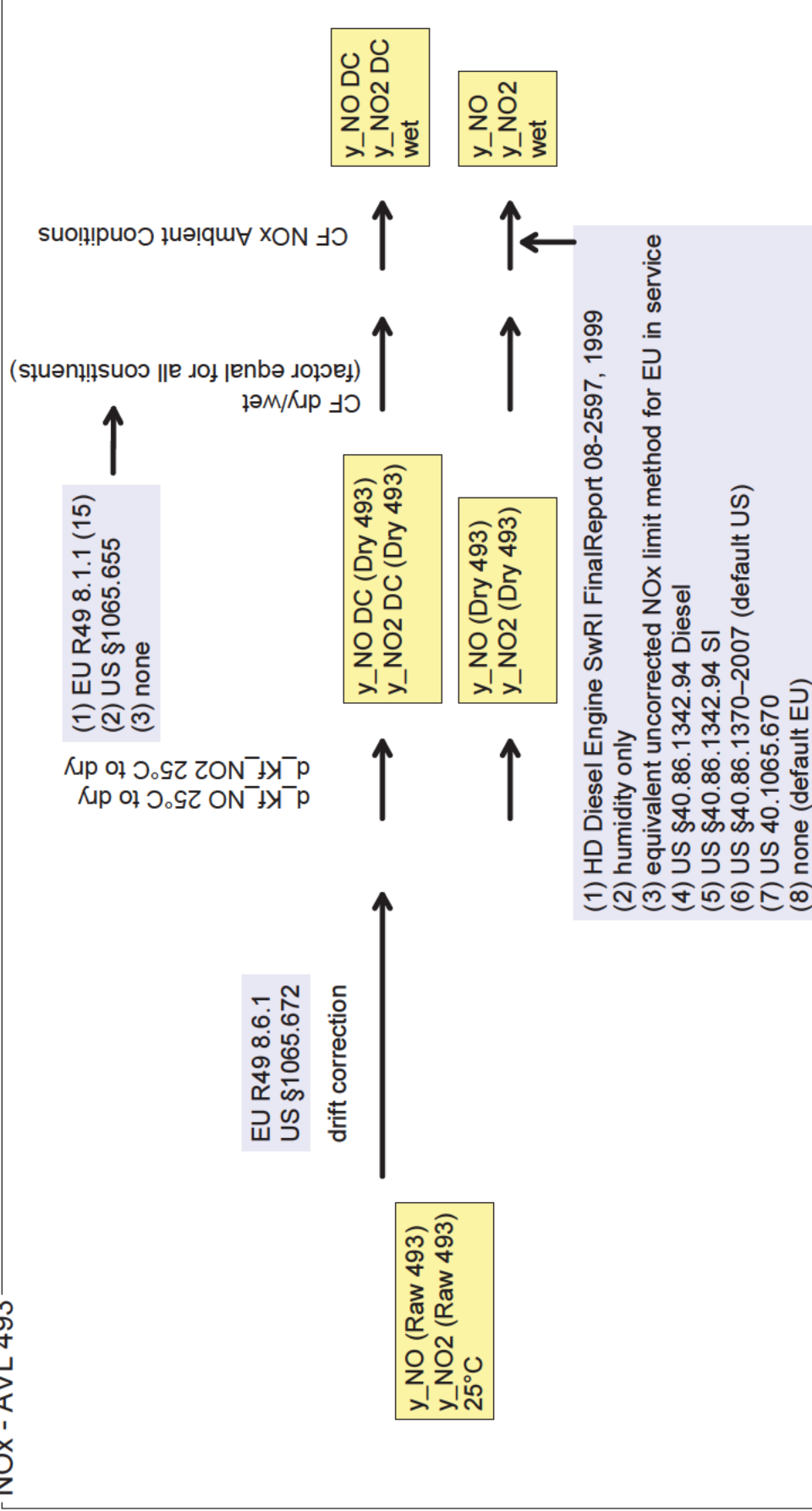
Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018

NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (5)

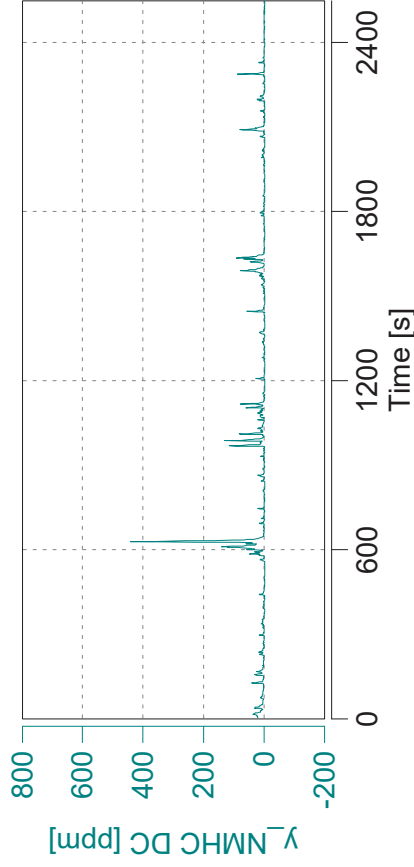
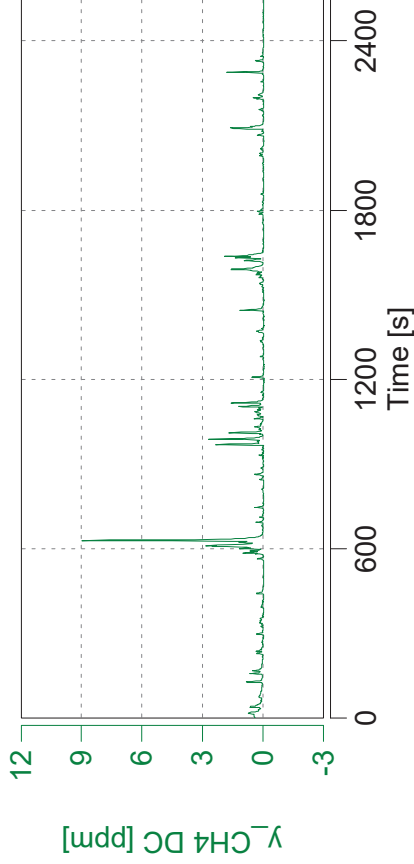
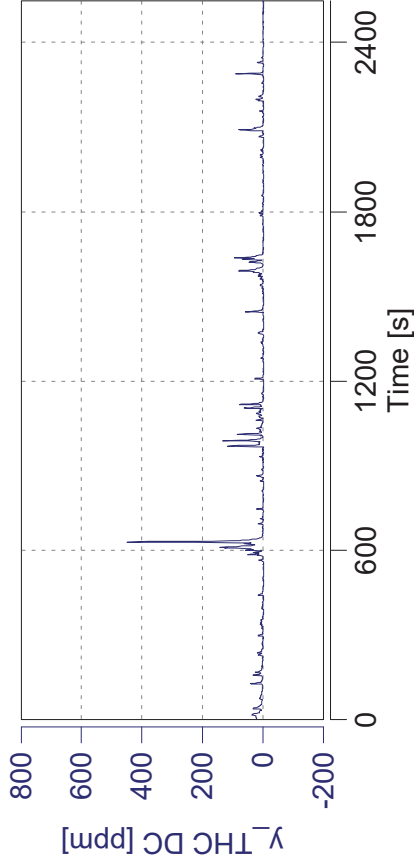
'Highway'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: RS3 / 2.5L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: NO/NO2/NOx Zero - Span

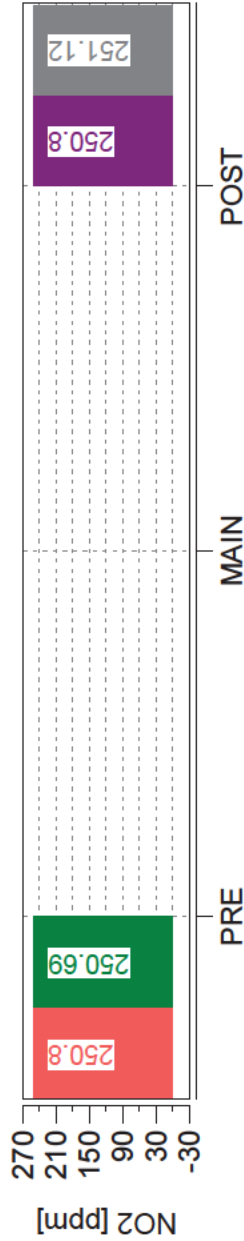
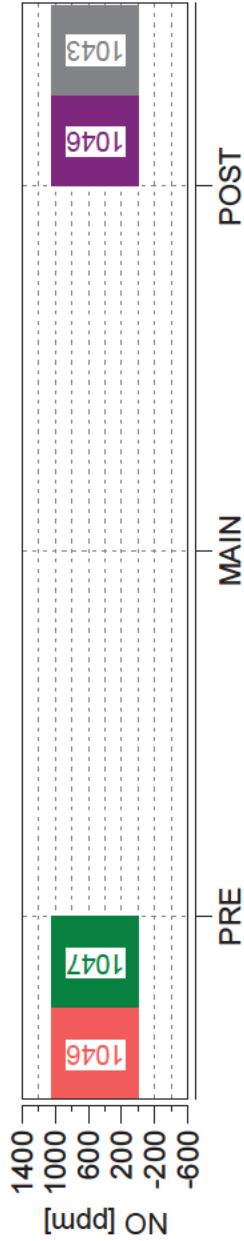
'Highway'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: CO/CO2 Zero - Span

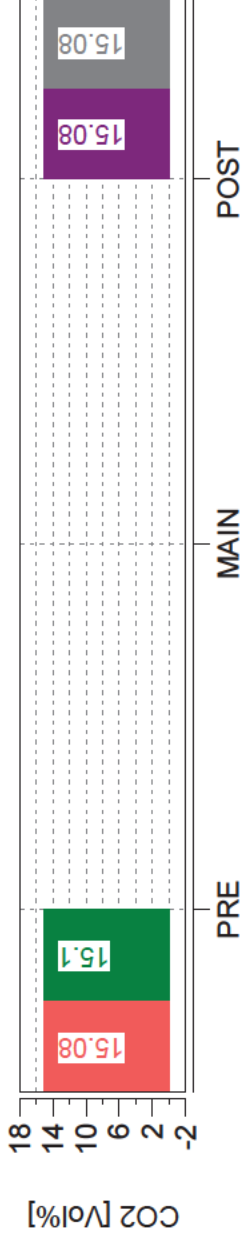
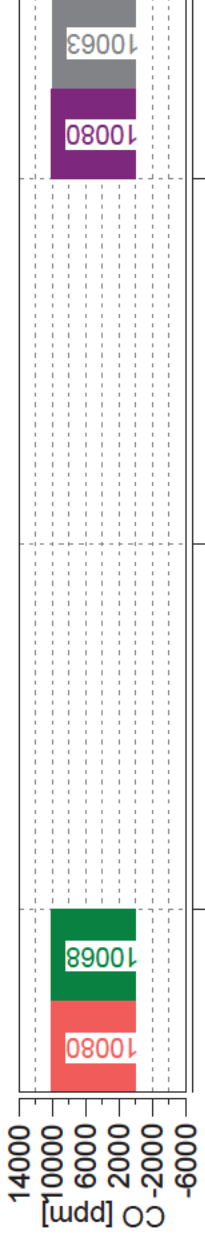
'Highway'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: THC/CH4 Zero - Span

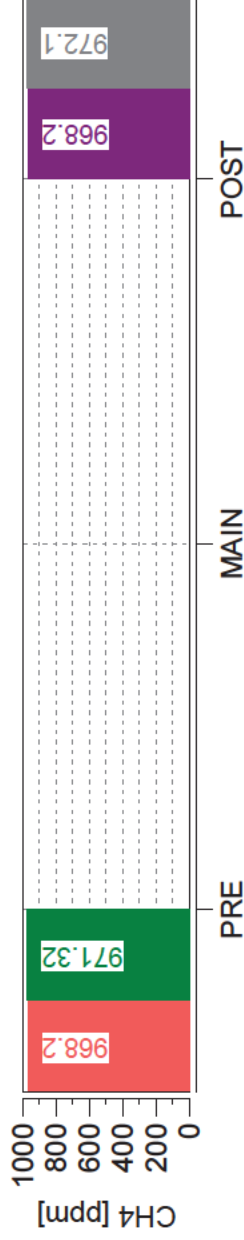
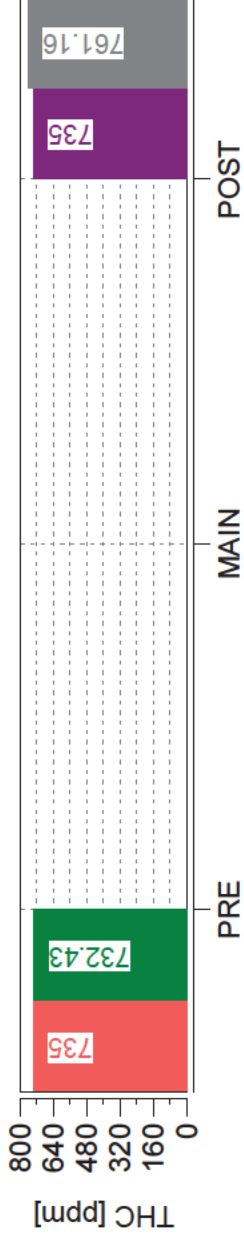
'Highway'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: Mountain

Page: Trip Summary

'Mountain'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E. 2018

Trip Duration	3236.00	s	ave THC	6.16939	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	3236.00	s	ave NMHC	6.04600	ppm	BS CO	n/a	g/hphr
Trip Distance	28.63	mi	ave CH4	0.12339	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	28.63	mi	ave CO	623.11106	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	10.92845	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOX	22.68120	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	4.16	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	4.12	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.47	gall	tot THC	0.77031	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.45	gall	tot NMHC	0.71254	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.01707	g	DS CO2	429.25931	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	153.04752	g	DS CO	5.34528	g/mi
Trip Fuel Economy EU (ac)	19.46	mpg_US	tot CO2	12290.66331	g	DS THC	0.02690	g/mi
Trip Fuel Economy US (ac)	19.68	mpg_US	tot NO (d)	2.09909	g	DS NMHC	0.02489	g/mi
Trip Av. Eng. Speed	1590.98	rpm	tot NO2	-0.03930	g	DS CH4	0.00060	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	2.05978	g	DS NO (d)	0.07331	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	-0.00137	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.07194	g/mi
Trip Exhaust Mass	68.43	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	91.75	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	32.97	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	31.85294	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	12.97899	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Trip Summary Drift Corrected

'Mountain'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018

Parameter	Value	Unit	Parameter	Value	Unit	Parameter	Value	Unit
Trip Duration	3236.00	s	ave THC DC	5.88647	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	3236.00	s	ave NMHC DC	5.76874	ppm	BS CO DC	n/a	g/hphr
Trip Distance	28.63	mi	ave CH4 DC	0.11773	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	28.63	mi	ave CO DC	624.02729	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	10.92121	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	22.70083	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	4.16	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	4.12	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.47	gall	tot THC DC	0.75195	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.45	gall	tot NMHC DC	0.69556	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.01667	g	DS CO2 DC	428.97485	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	153.27256	g	DS CO DC	5.35314	g/mi
Trip Fuel Economy EU (ac)	19.46	mpg_US	tot CO2 DC	12282.51840	g	DS THC DC	0.02626	g/mi
Trip Fuel Economy US (ac)	19.68	mpg_US	tot NO DC (d)	2.10086	g	DS NMHC DC	0.02429	g/mi
Trip Av. Eng. Speed	1590.98	rpm	tot NO2 DC	-0.03929	g	DS CH4 DC	0.00058	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	2.06157	g	DS NO DC (d)	0.07337	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	-0.00137	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.07200	g/mi
Trip Exhaust Mass	68.43	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	91.75	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	32.97	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	31.85294	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	12.97899	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
 (d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Time Alignment Check

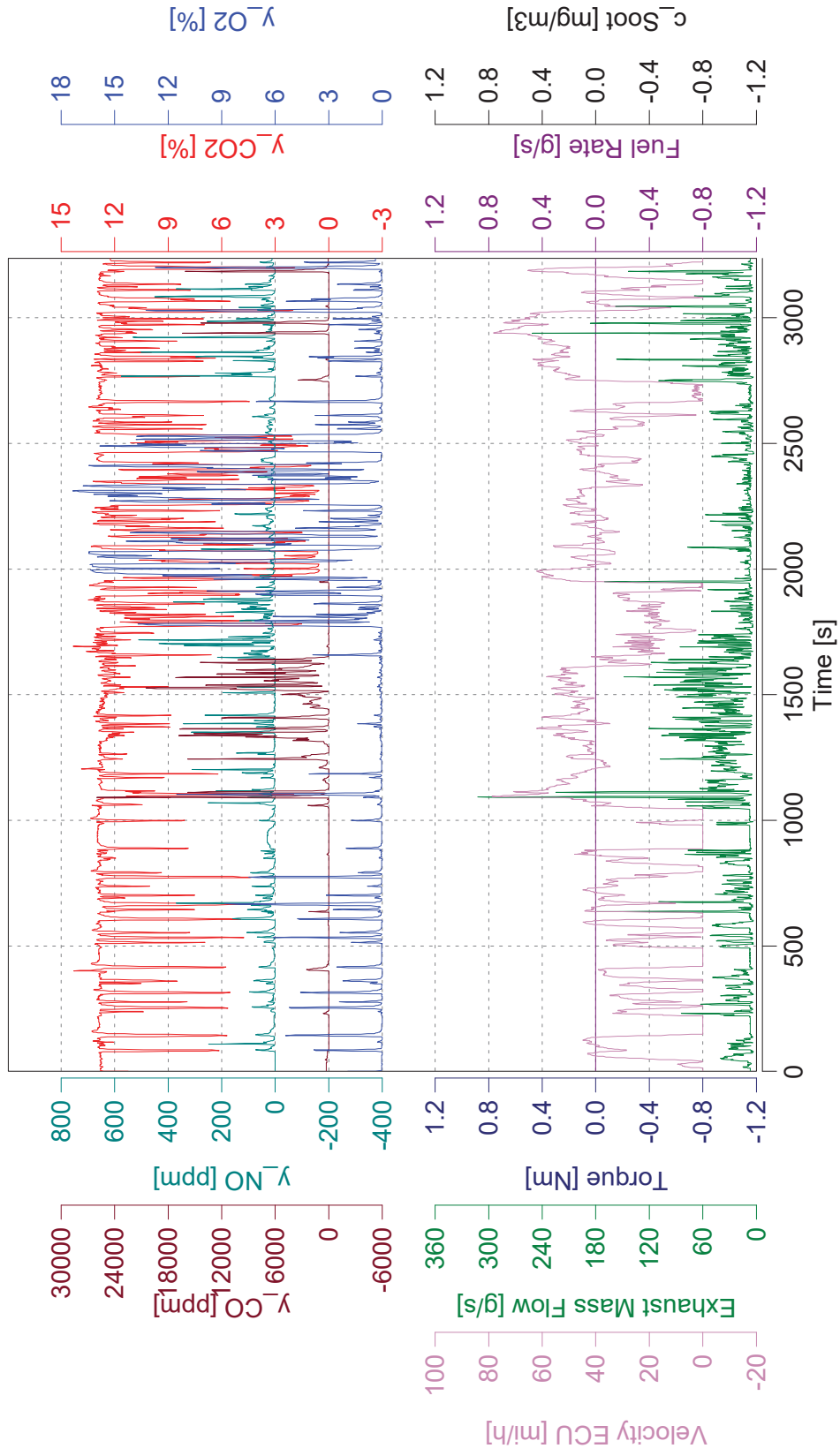
'Mountain'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Time Alignment of Gas Concentrations

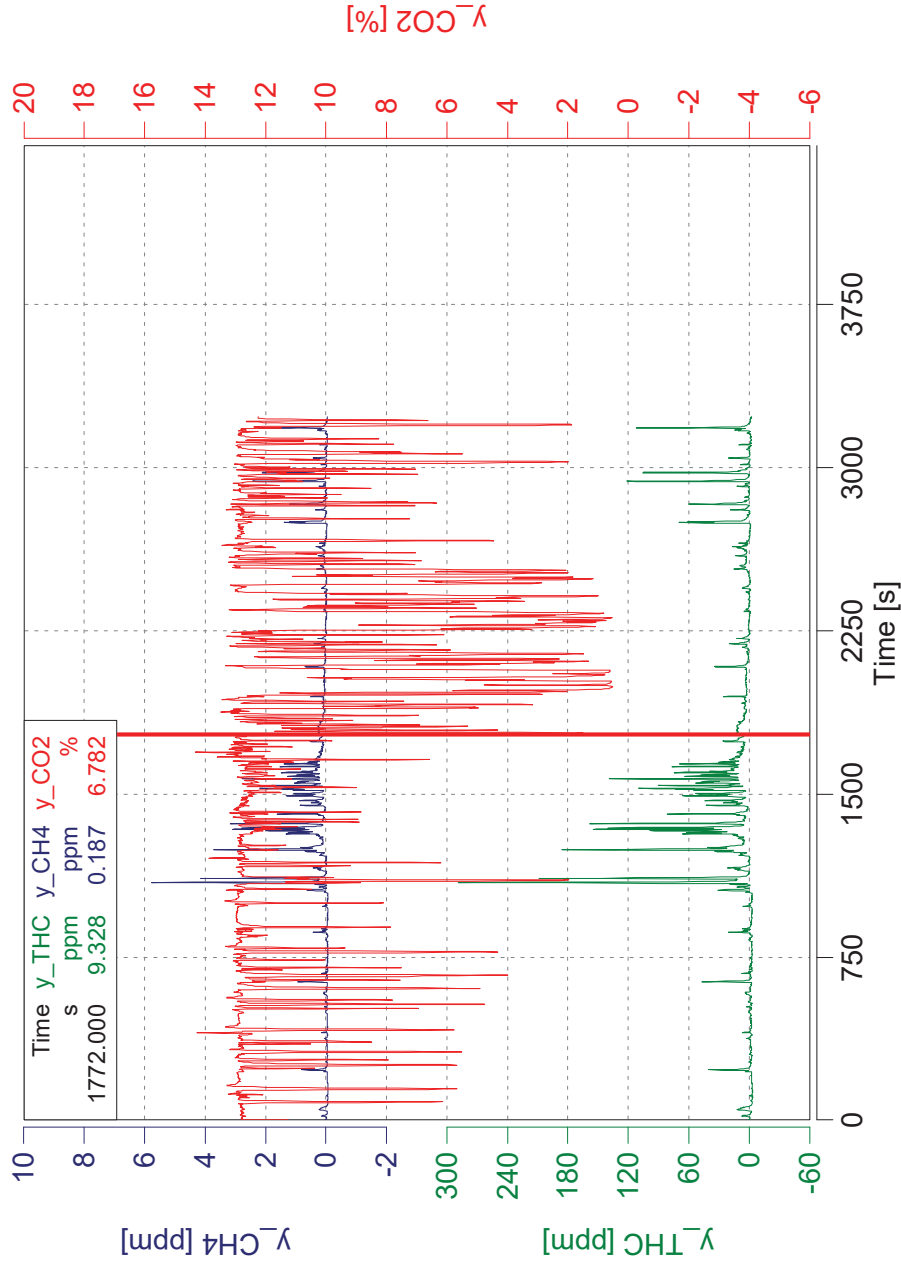
'Mountain'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC	s	-0.9
y_CH4	s	-1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Ambient Conditions

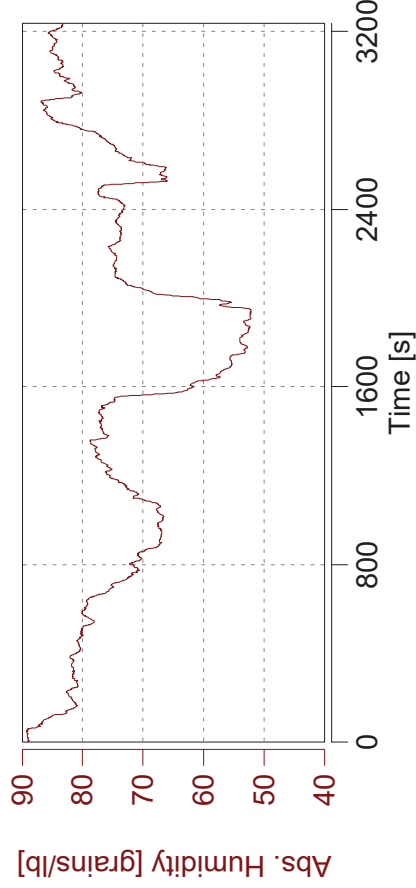
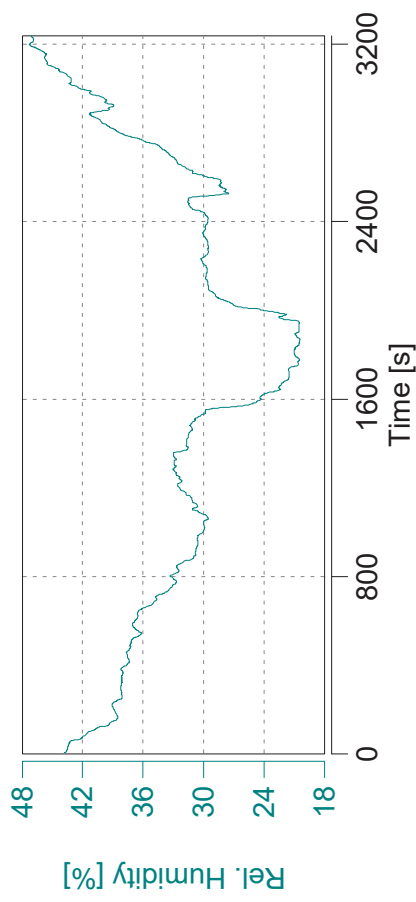
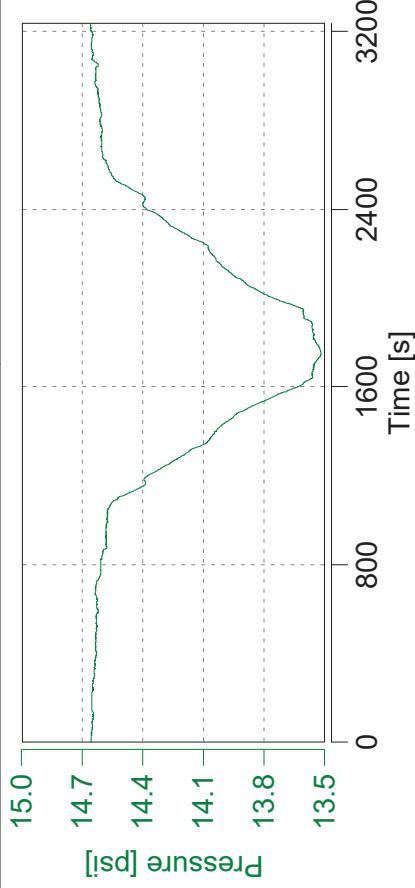
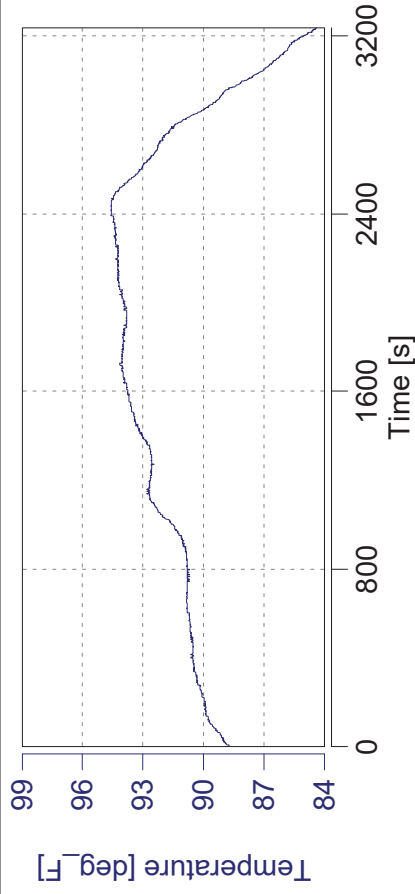
'Mountain'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: GPS

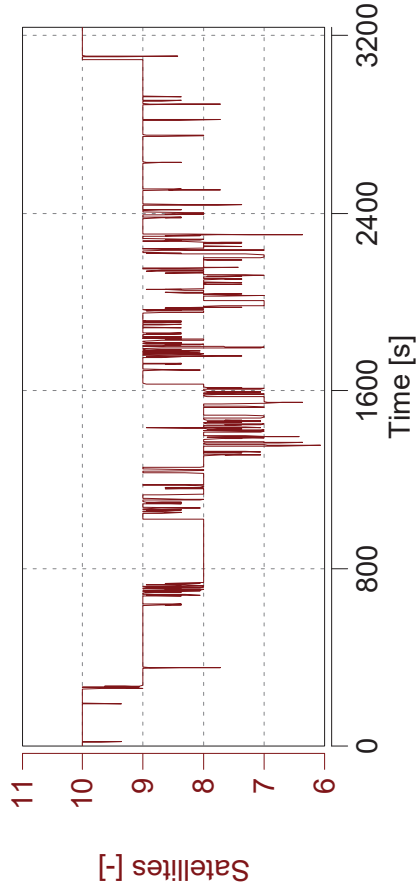
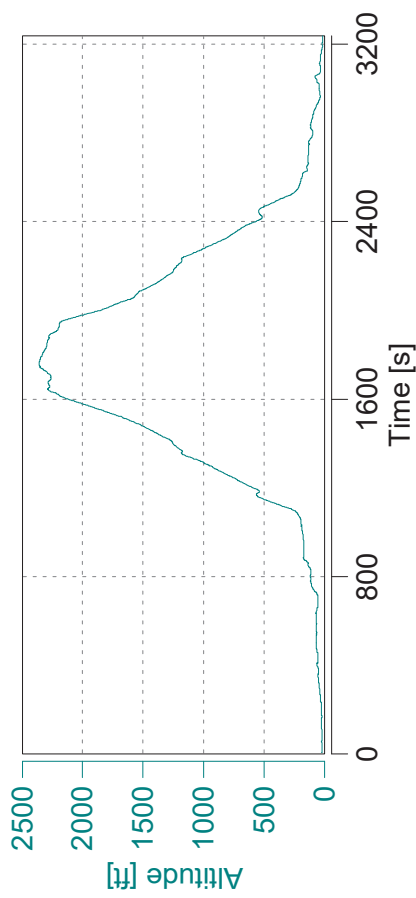
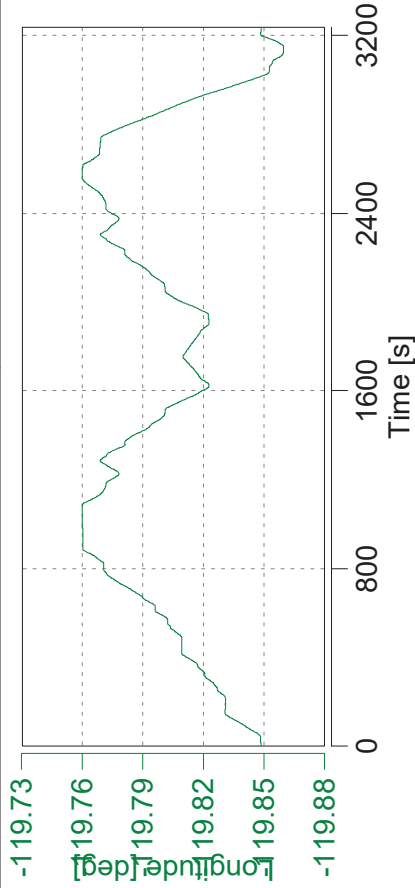
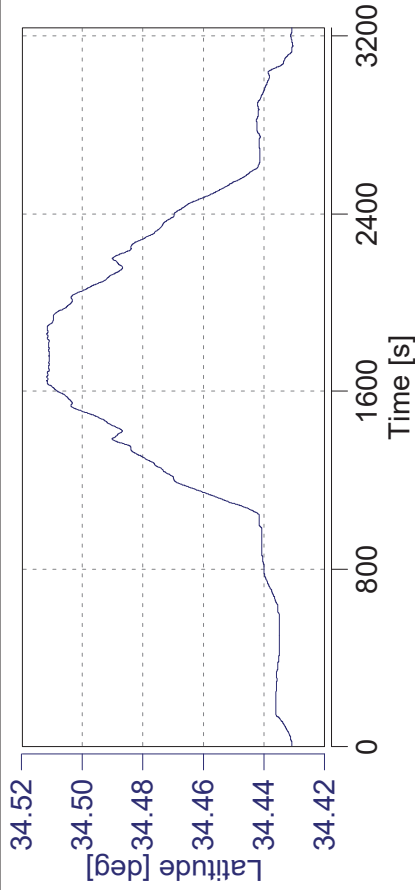
'Mountain'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (1)

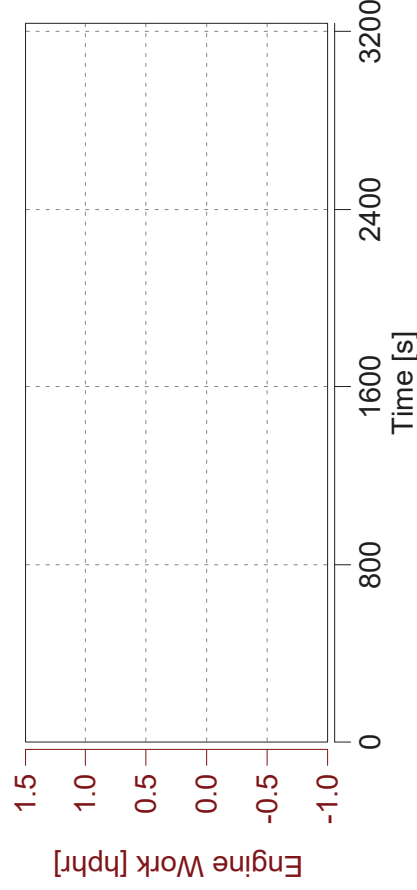
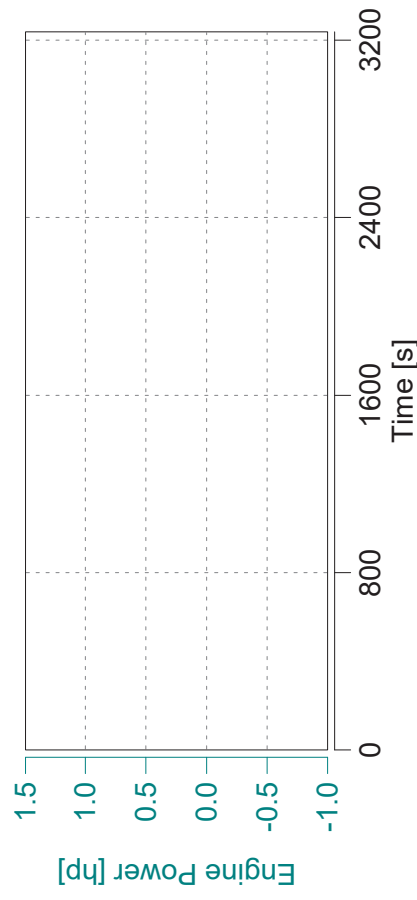
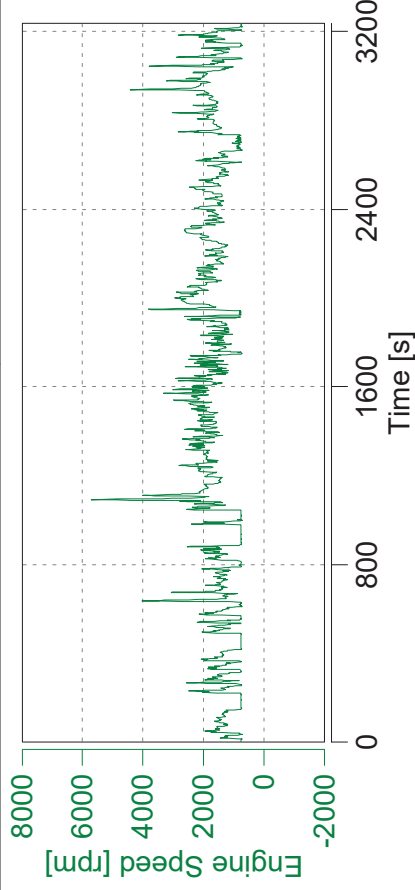
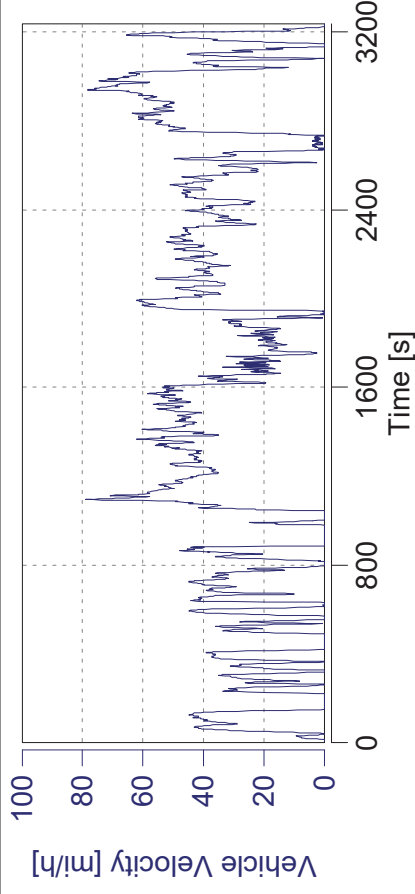
'Mountain'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (2)

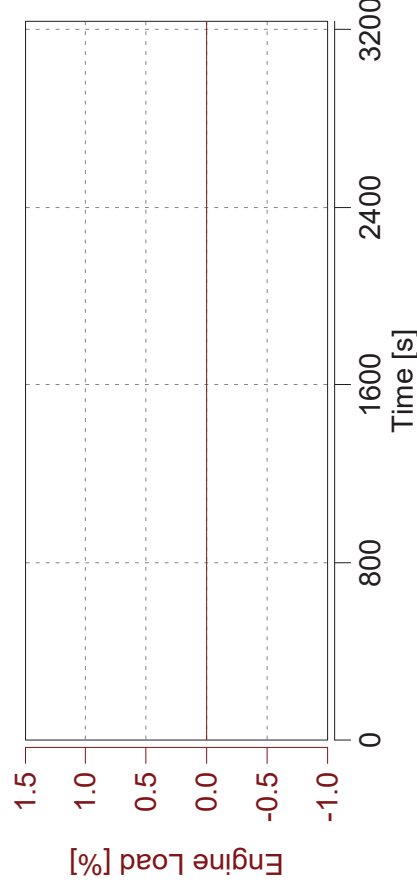
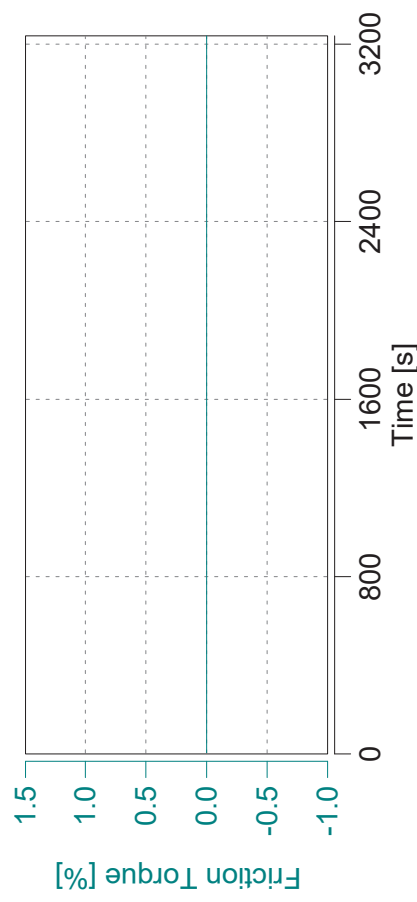
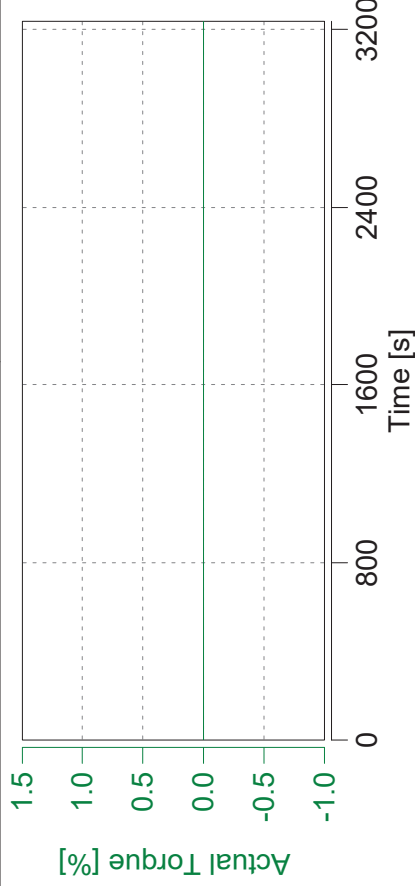
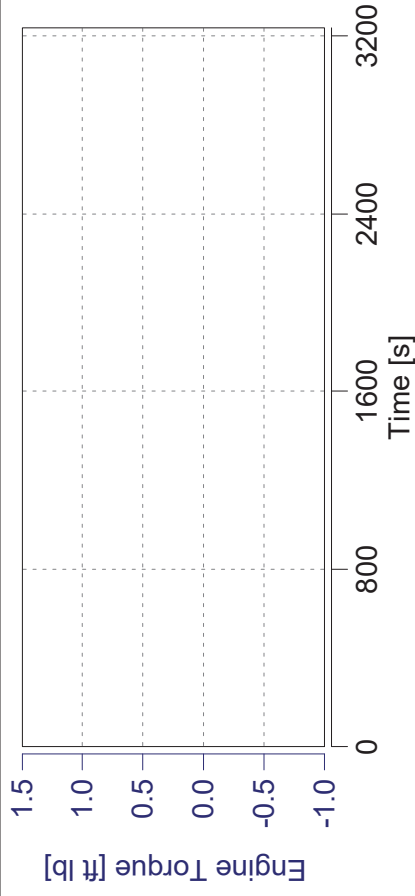
'Mountain'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (3)

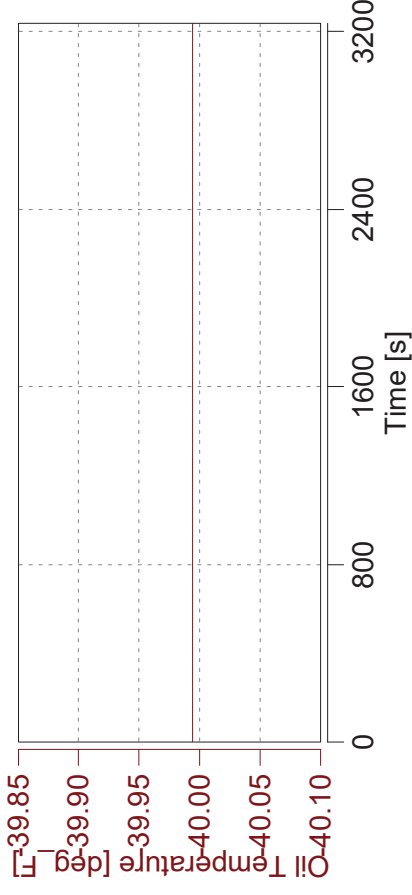
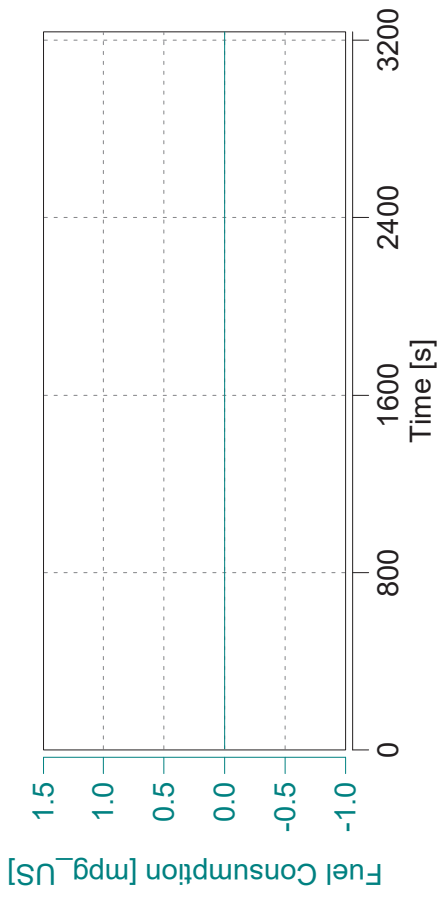
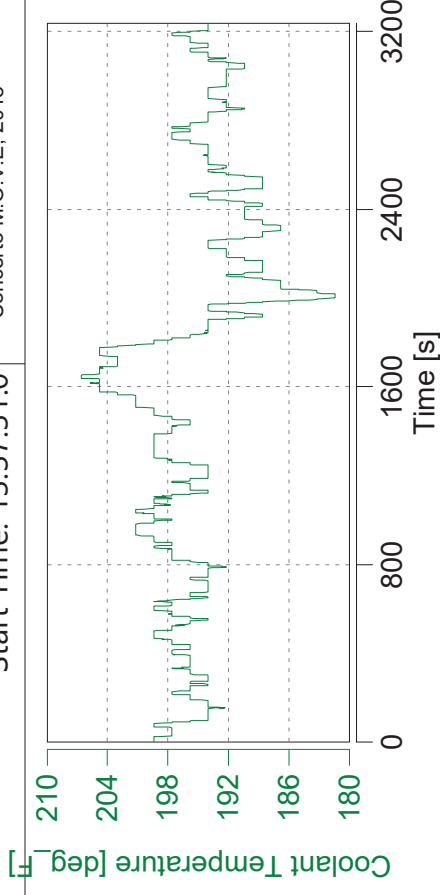
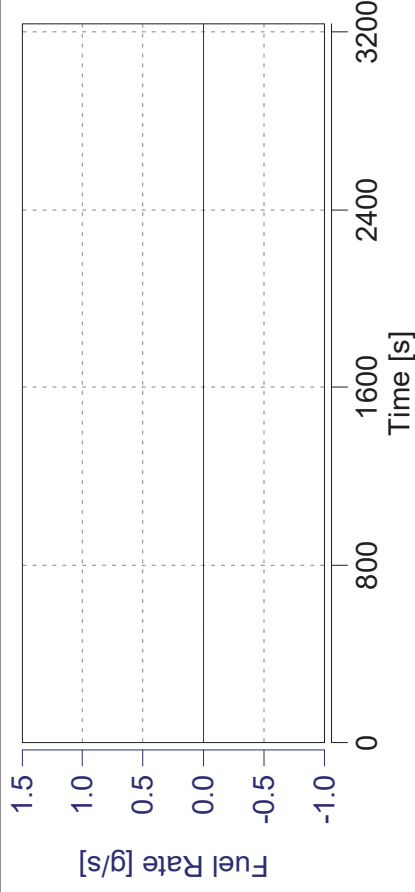
'Mountain'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

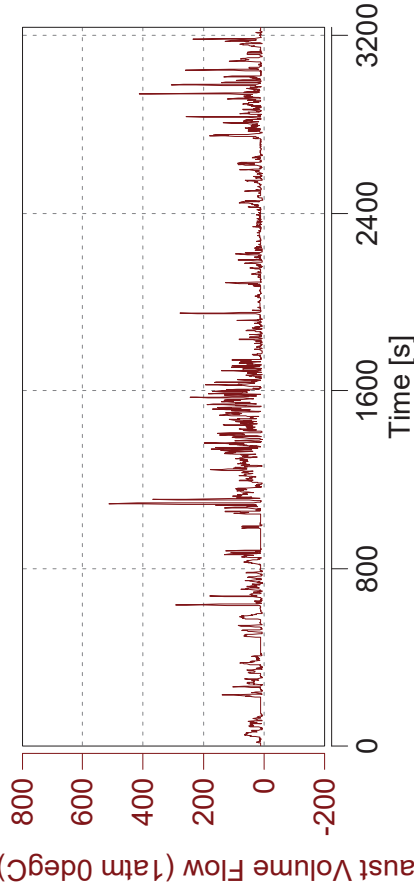
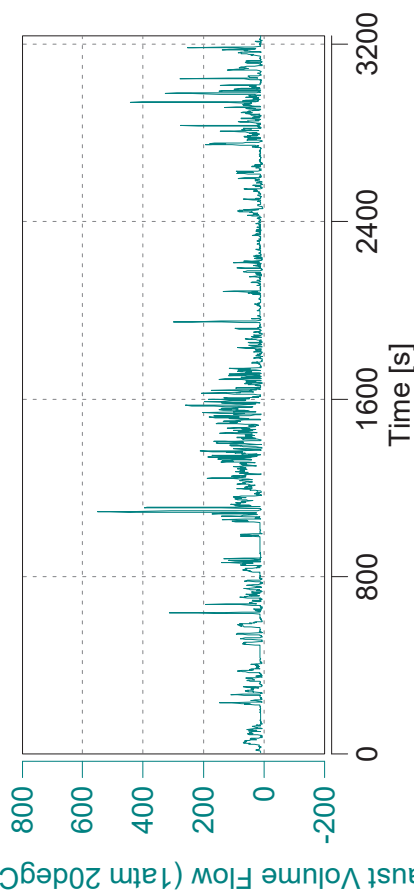
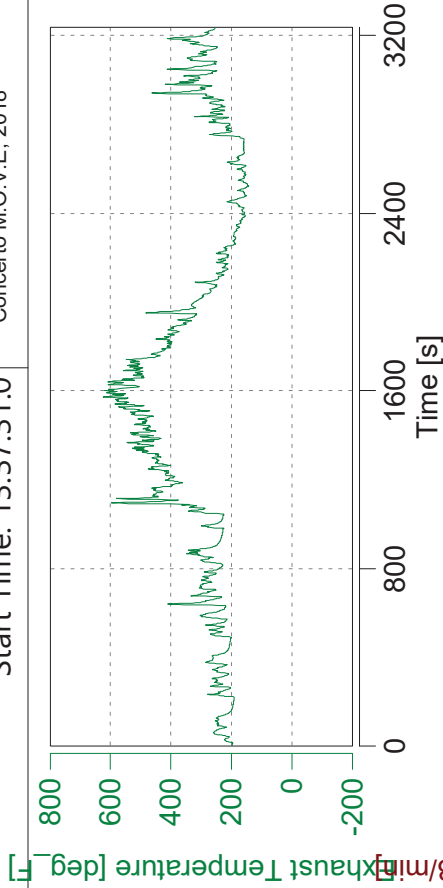
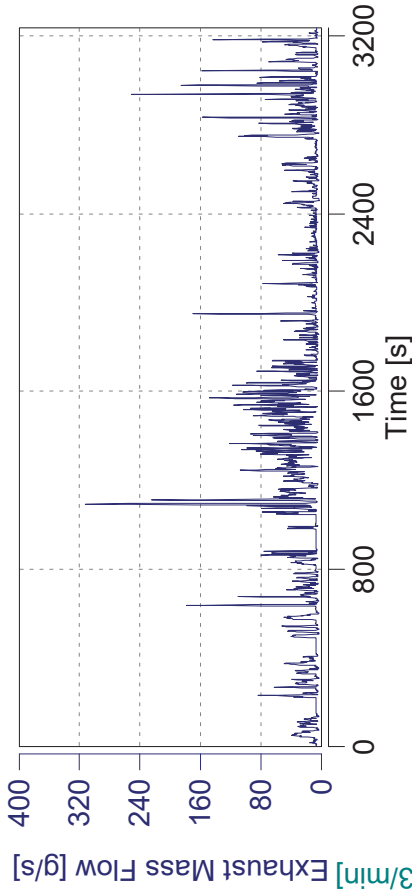
Page: Exhaust Flow (1)

'Mountain'

Start Date: 08/09/2018

Start Time: 13:37:31.0

Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: RS3 / 2.5L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Exhaust Flow (2)

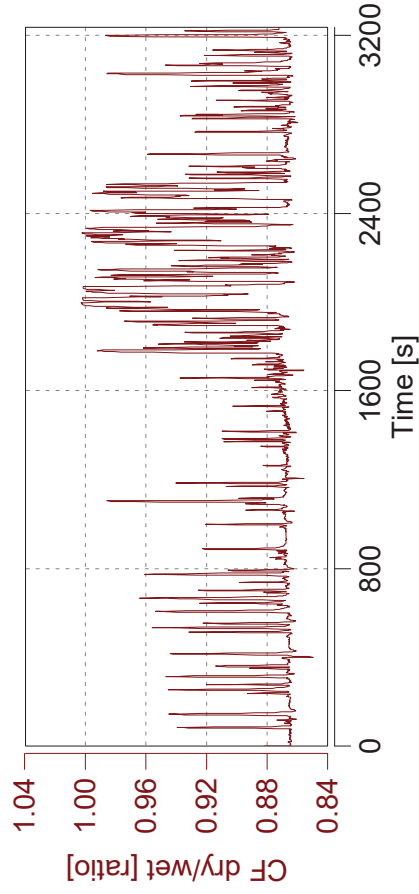
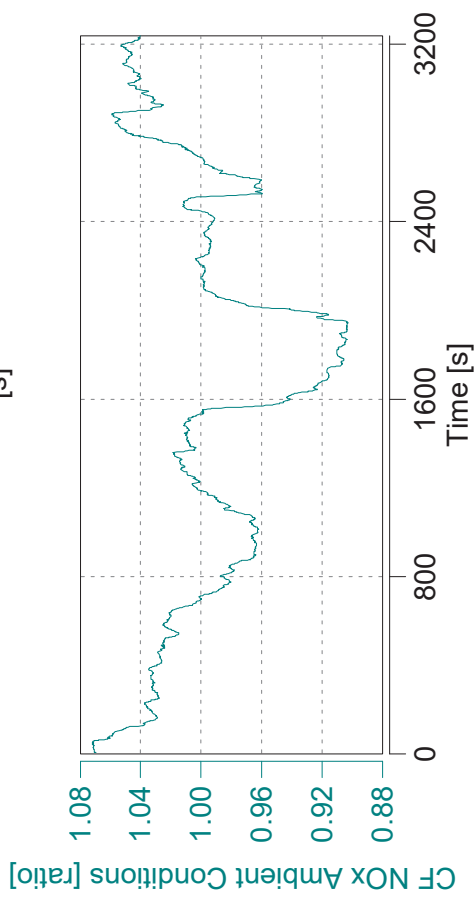
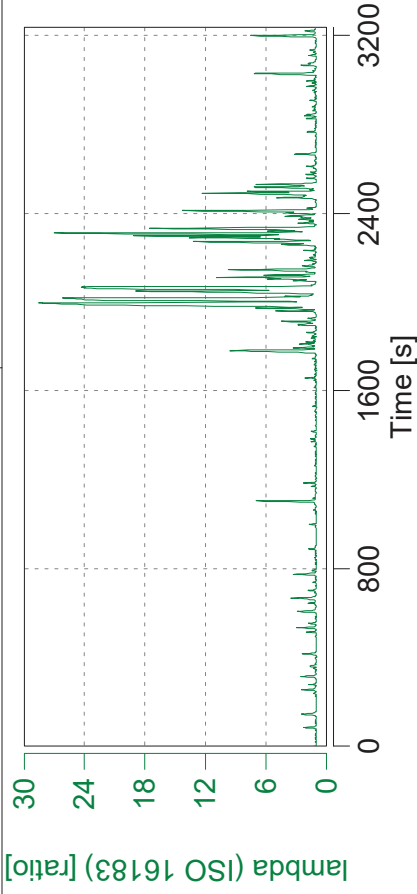
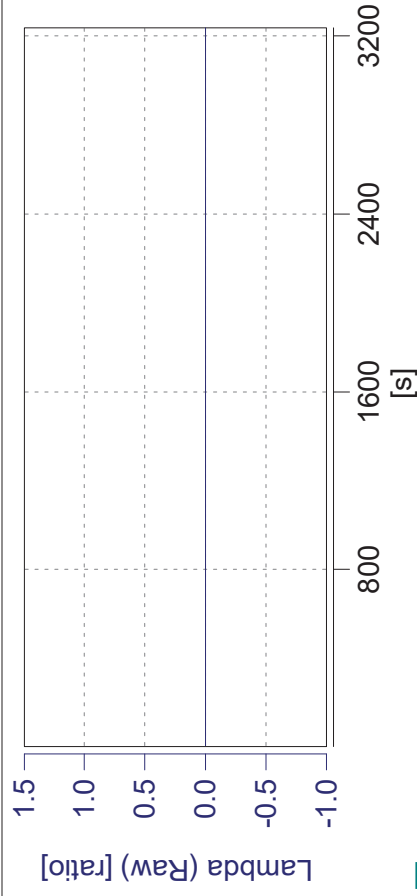
'Mountain'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: RS3 / 2.5L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (1)

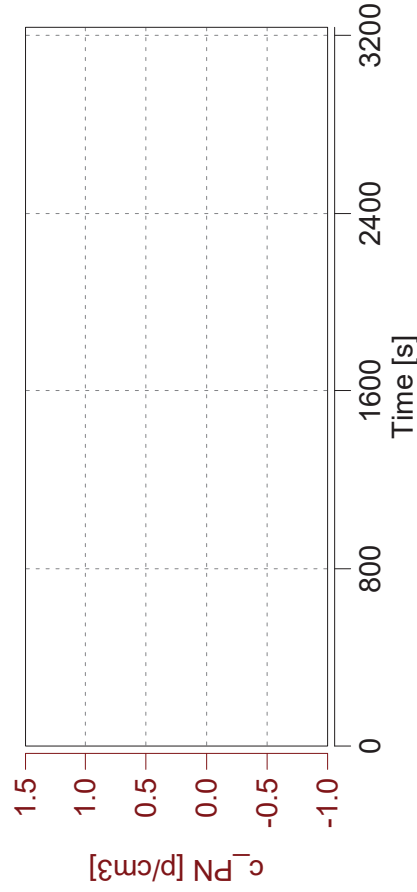
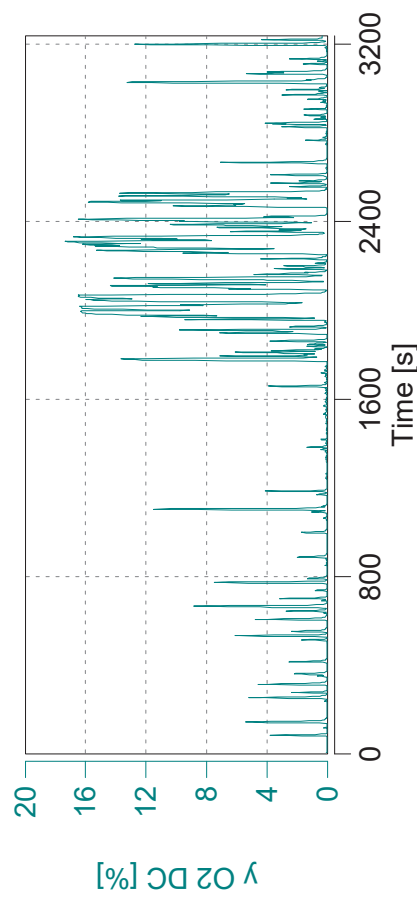
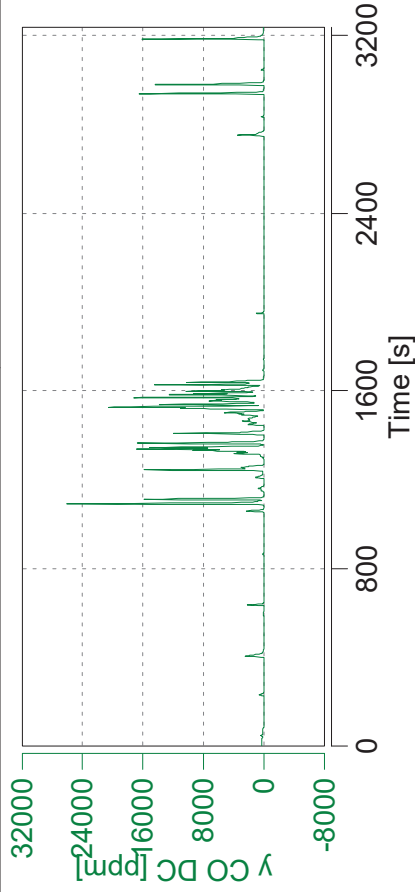
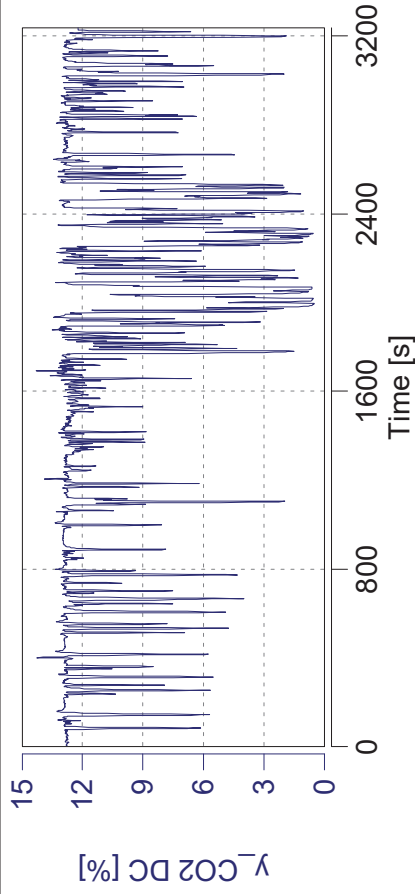
'Mountain'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (2)

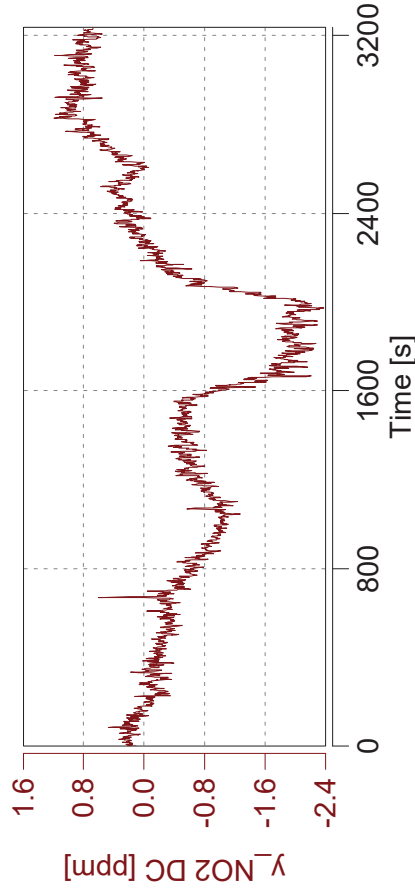
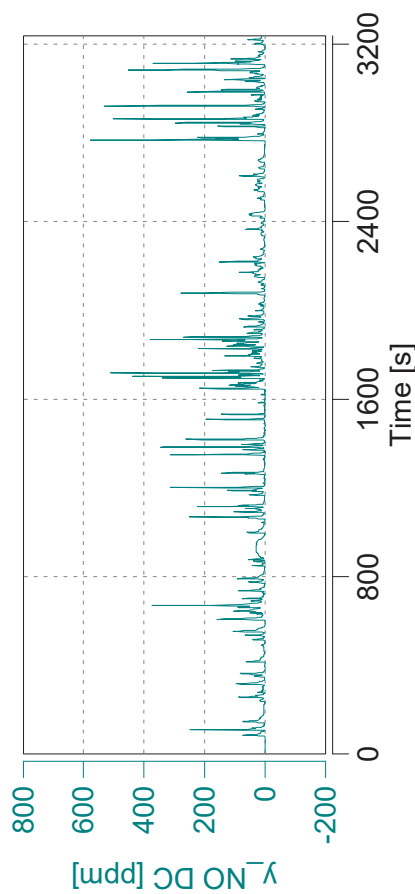
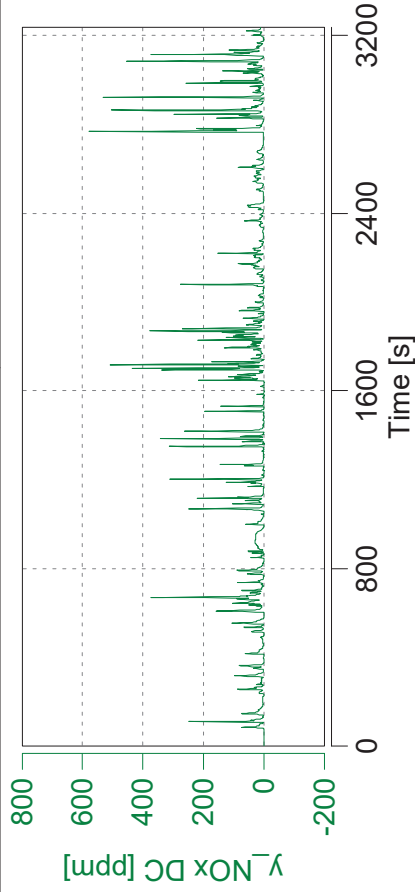
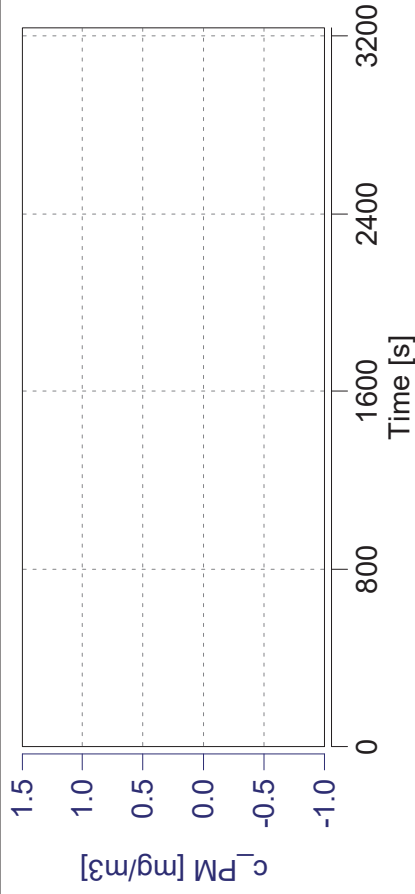
'Mountain'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: RS3 / 2.5L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (3)

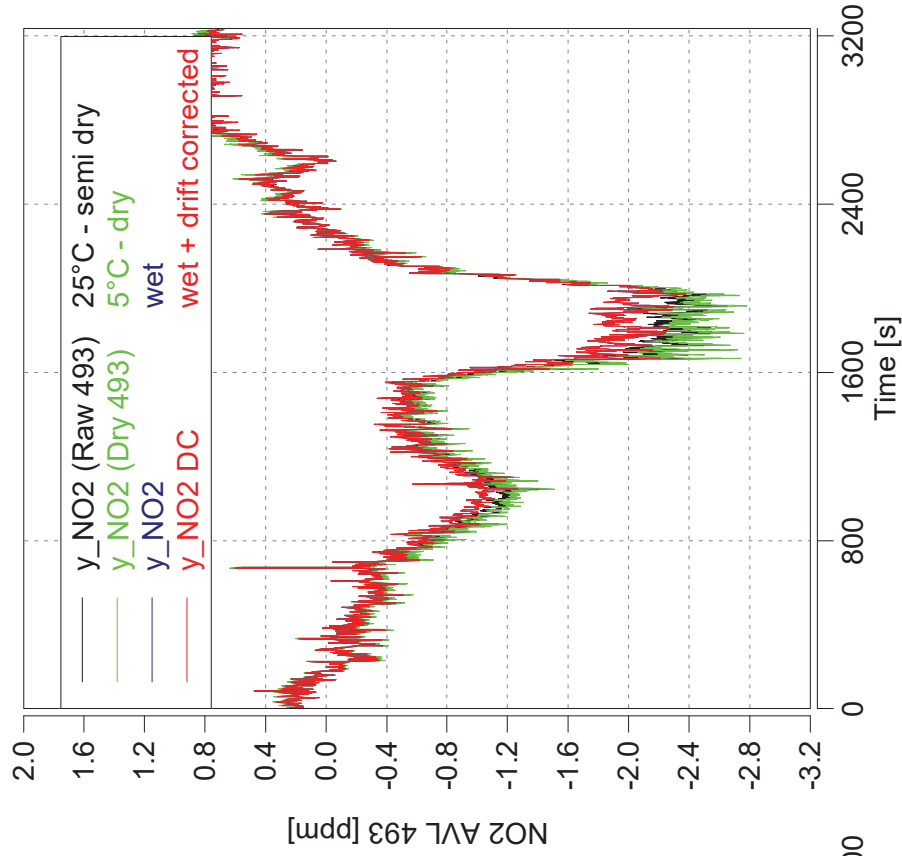
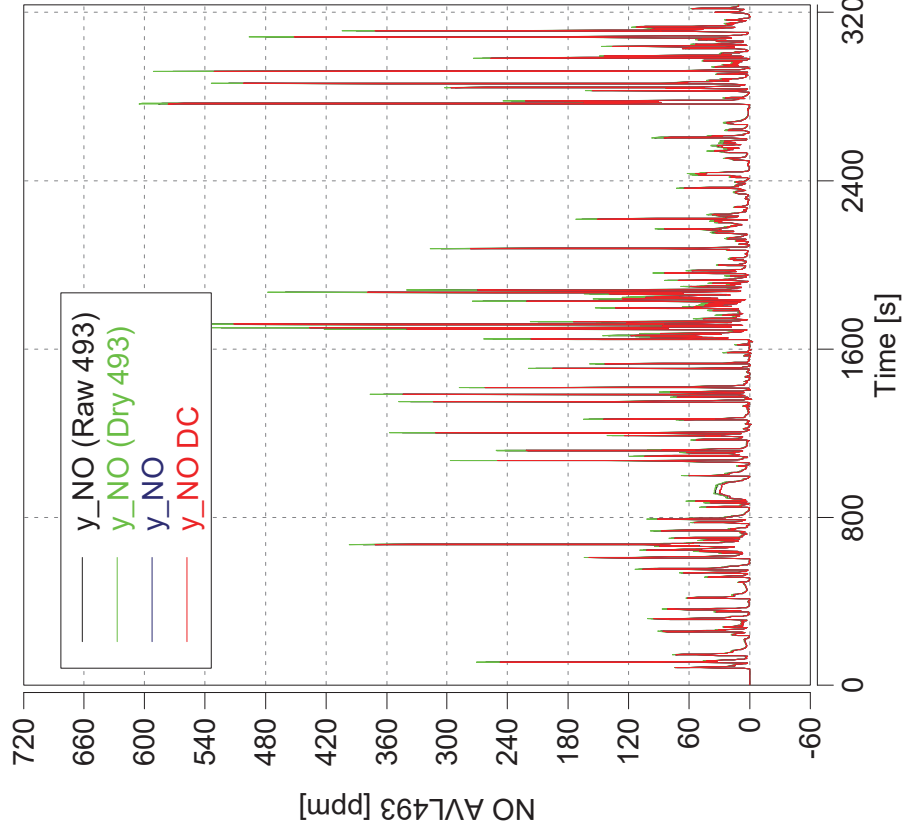
'Mountain'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: RS3 / 2.5L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (4) NOx Corrections

'Mountain'

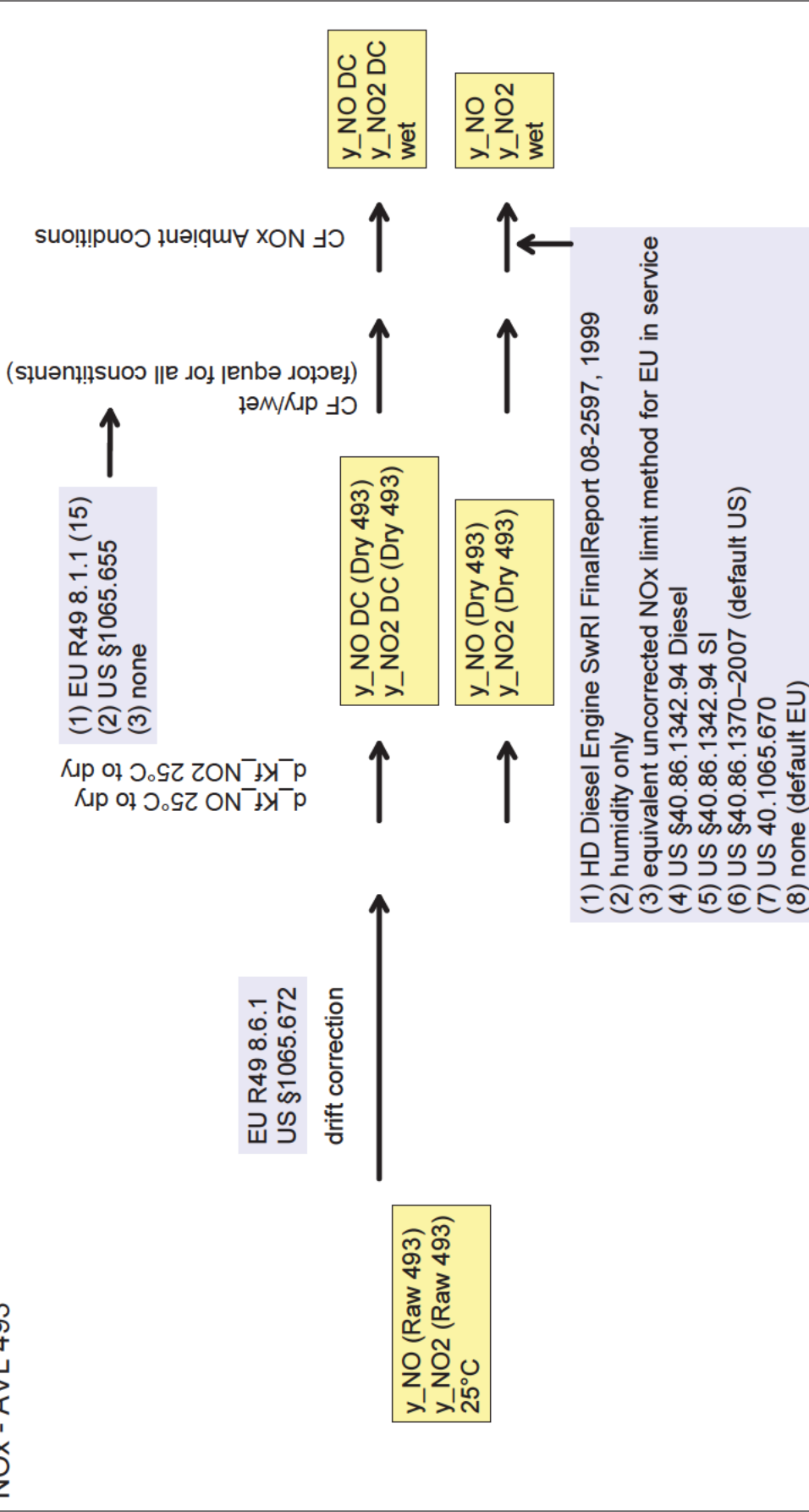
Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018

NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (5)

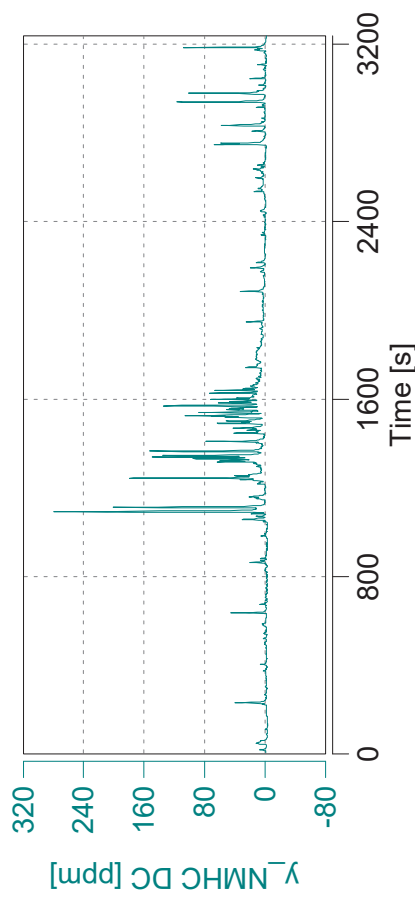
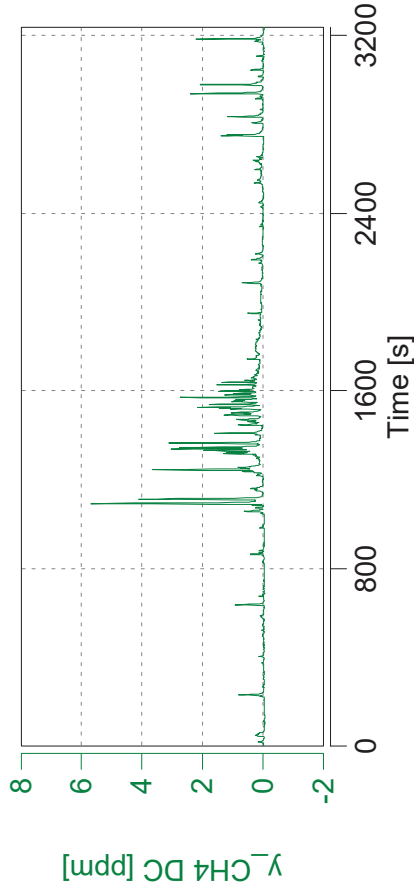
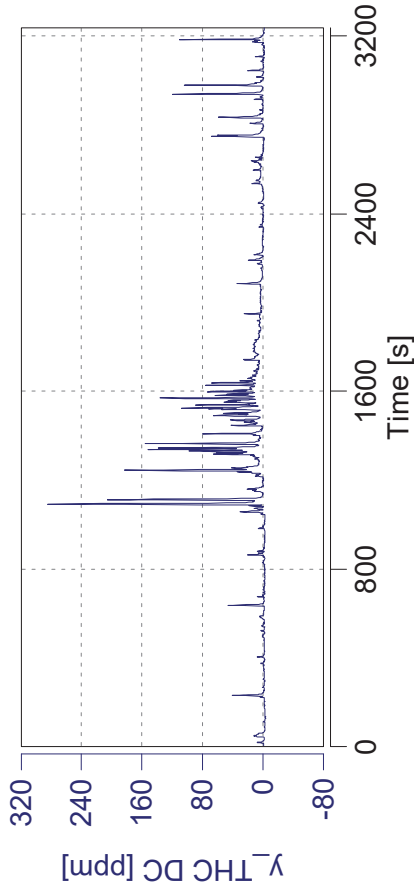
'Mountain'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: RS3 / 2.5L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: NO/NO2/NOx Zero - Span

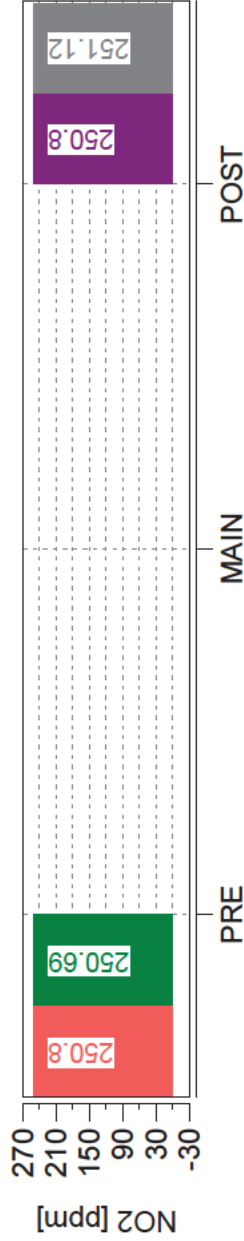
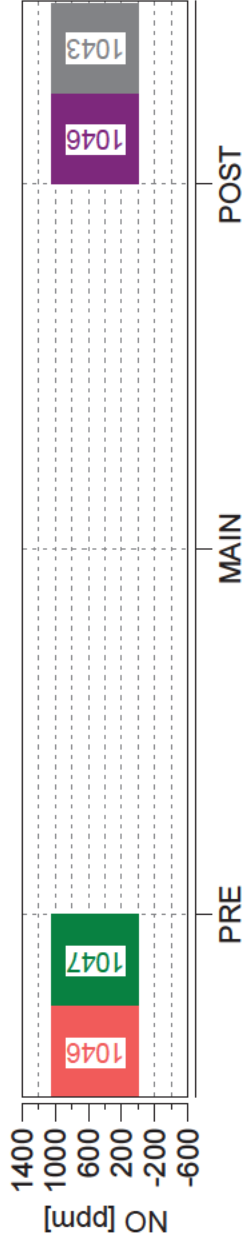
'Mountain'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: RS3 / 2.5L

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: CO/CO2 Zero - Span

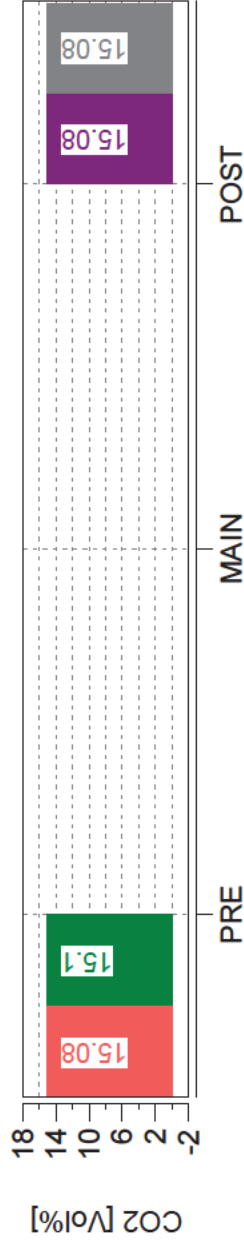
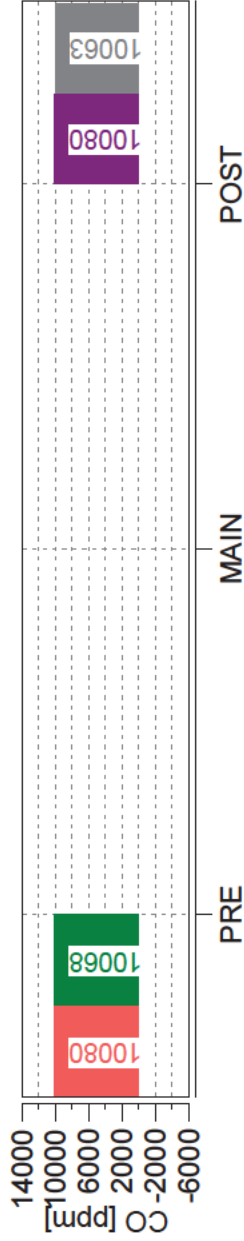
'Mountain'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: THC/CH4 Zero - Span

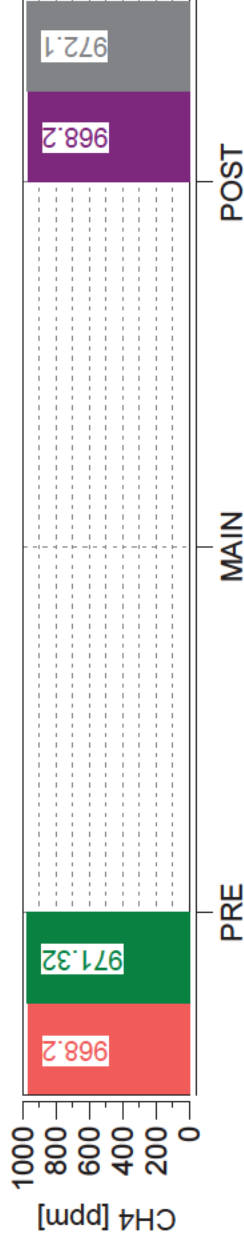
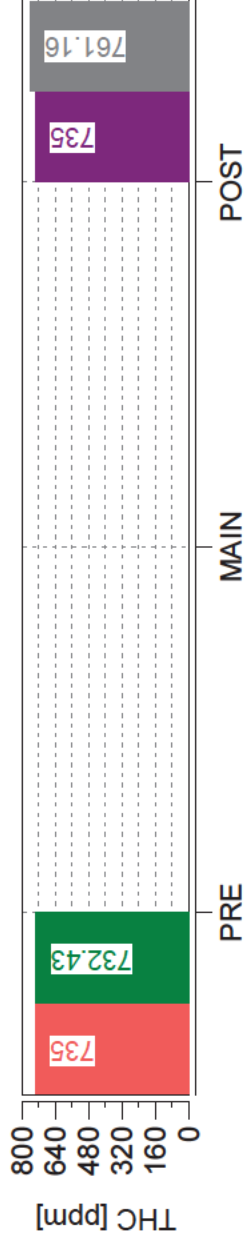
'Mountain'

Start Date: 08/09/2018

Start Time: 13:37:31.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Trip Summary

'City'

Start Date: 08/09/2018

Start Time: 20:52:34.0



Concerto M.O.V.E. 2018

Trip Duration	3248.00	s	ave THC	2.90399	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	3248.00	s	ave NMHC	2.84591	ppm	BS CO	n/a	g/hphr
Trip Distance	16.07	mi	ave CH4	0.05808	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	16.07	mi	ave CO	-9.32987	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	12.06170	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx	15.79956	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	2.51	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	2.49	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	0.89	gall	tot THC	0.07702	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	0.88	gall	tot NMHC	0.07125	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00171	g	DS CO2	471.04389	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	0.06243	g	DS CO	0.00388	g/mi
Trip Fuel Economy EU (ac)	18.09	mpg_US	tot CO2	7570.91127	g	DS THC	0.00479	g/mi
Trip Fuel Economy US (ac)	18.29	mpg_US	tot NO (d)	1.00821	g	DS NMHC	0.00443	g/mi
Trip Av. Eng. Speed	1281.53	rpm	tot NO2	-0.02015	g	DS CH4	0.00011	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.98806	g	DS NO (d)	0.06273	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	-0.00125	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.06147	g/mi
Trip Exhaust Mass	40.42	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	78.74	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	54.40	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	17.81448	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	25.21552	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Trip Summary Drift Corrected

'City'

Start Date: 08/09/2018

Start Time: 20:52:34.0



Concerto M.O.V.E. 2018

Trip Duration	3248.00	s	ave THC DC	3.02428	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	3248.00	s	ave NMHC DC	2.96380	ppm	BS CO DC	n/a	g/hphr
Trip Distance	16.07	mi	ave CH4 DC	0.06049	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	16.07	mi	ave CO DC	-9.46451	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	12.05770	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	15.74796	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	2.51	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	2.49	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	0.89	gall	tot THC DC	0.07978	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	0.88	gall	tot NMHC DC	0.07380	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.00177	g	DS CO2 DC	470.88776	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	0.05669	g	DS CO DC	0.00353	g/mi
Trip Fuel Economy EU (ac)	18.09	mpg_US	tot CO2 DC	7568.40186	g	DS THC DC	0.00496	g/mi
Trip Fuel Economy US (ac)	18.29	mpg_US	tot NO DC (d)	1.00097	g	DS NMHC DC	0.00459	g/mi
Trip Av. Eng. Speed	1281.53	rpm	tot NO2 DC	-0.01577	g	DS CH4 DC	0.00011	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.98520	g	DS NO DC (d)	0.06228	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	-0.00098	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.06130	g/mi
Trip Exhaust Mass	40.42	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	78.74	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	54.40	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	17.81448	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	25.21552	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
 (d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Time Alignment Check

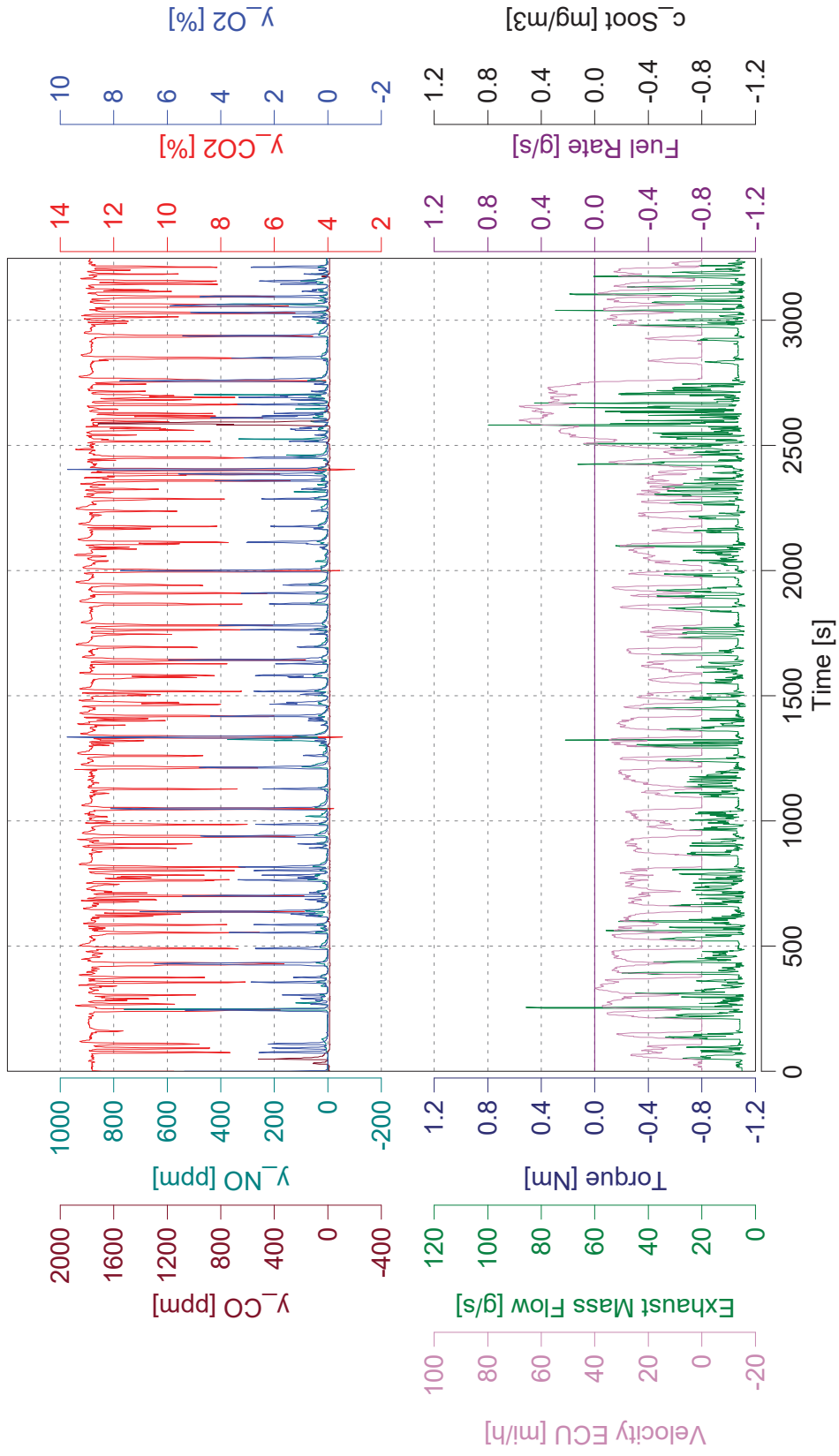
'City'

Start Date: 08/09/2018

Start Time: 20:52:34.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Time Alignment of Gas Concentrations

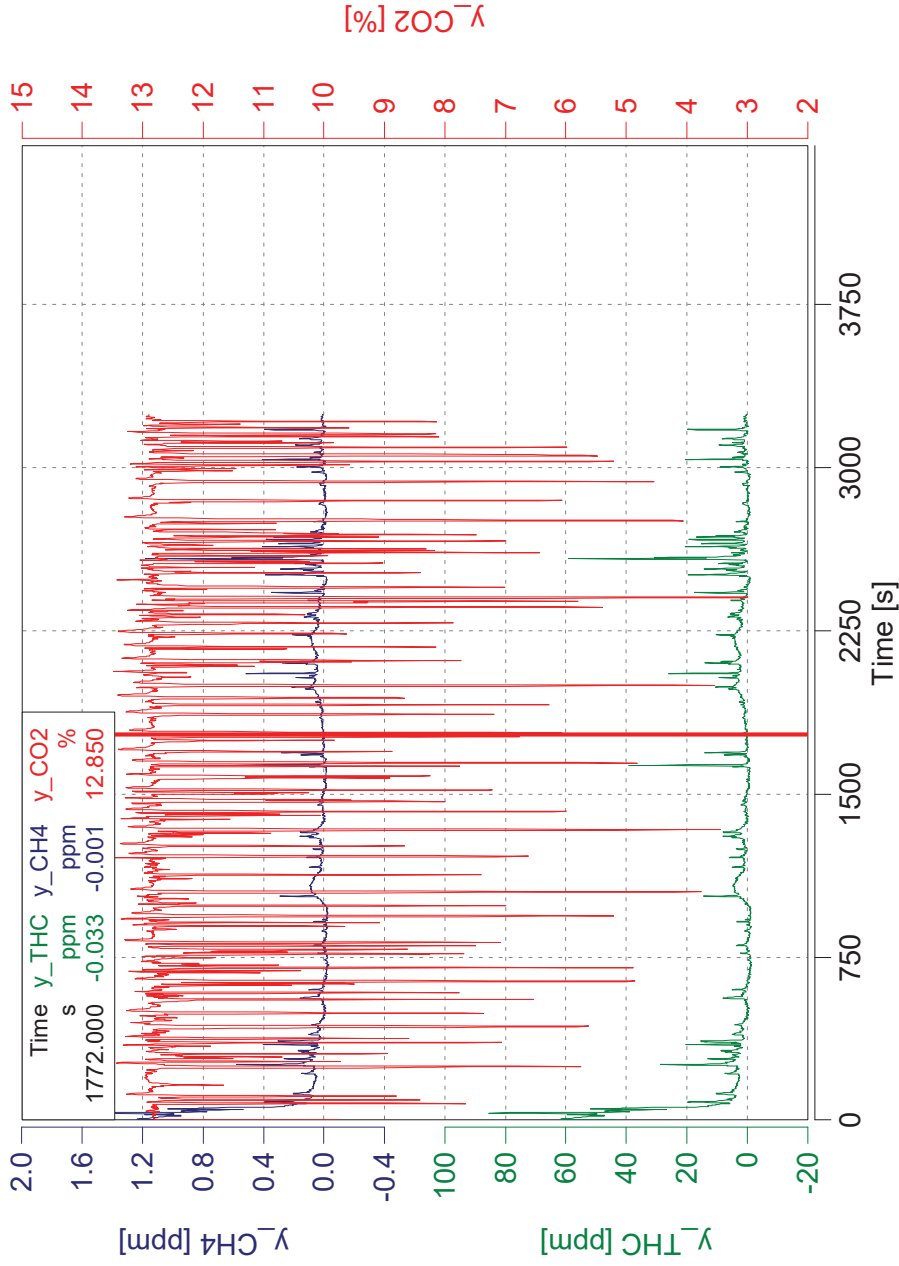
'City'

Start Date: 08/09/2018

Start Time: 20:52:34.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Ambient Conditions

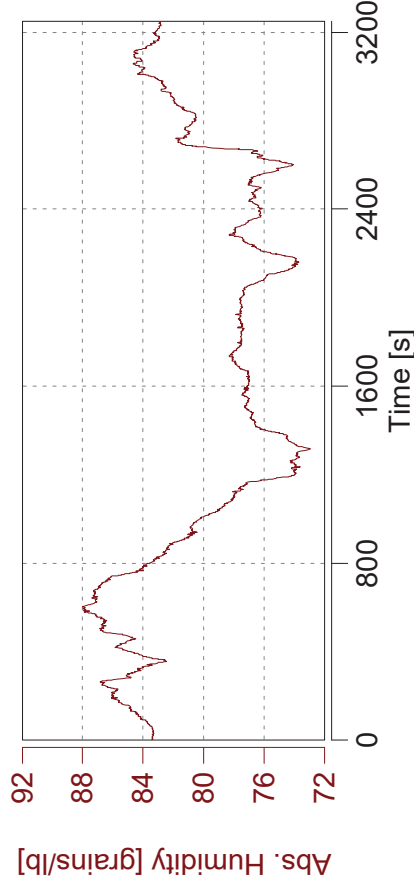
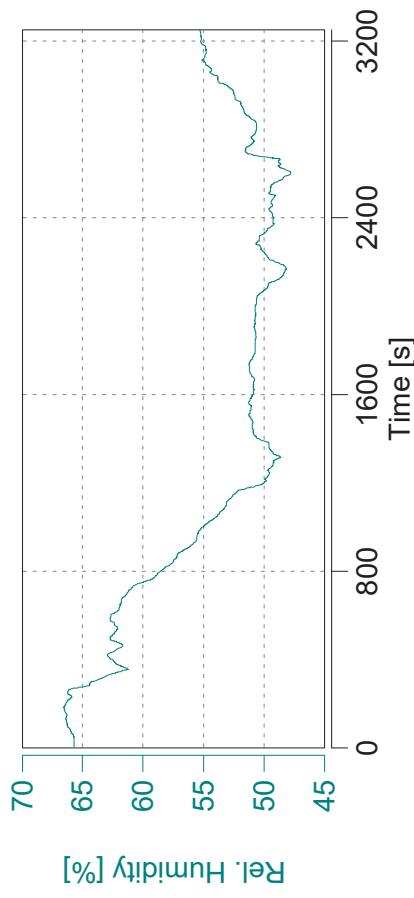
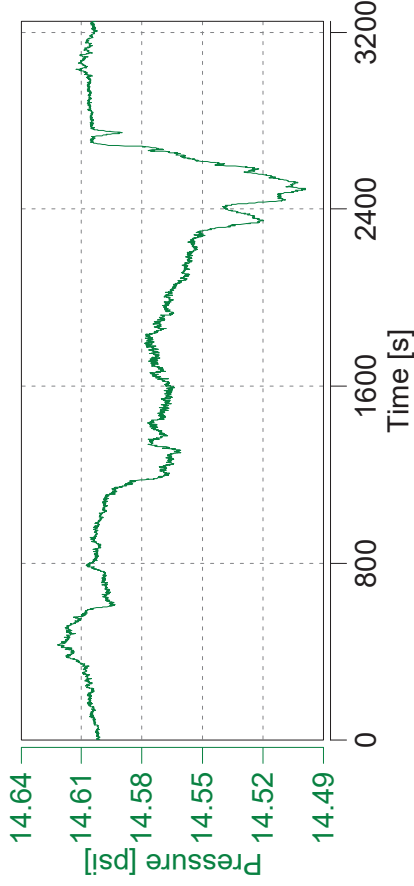
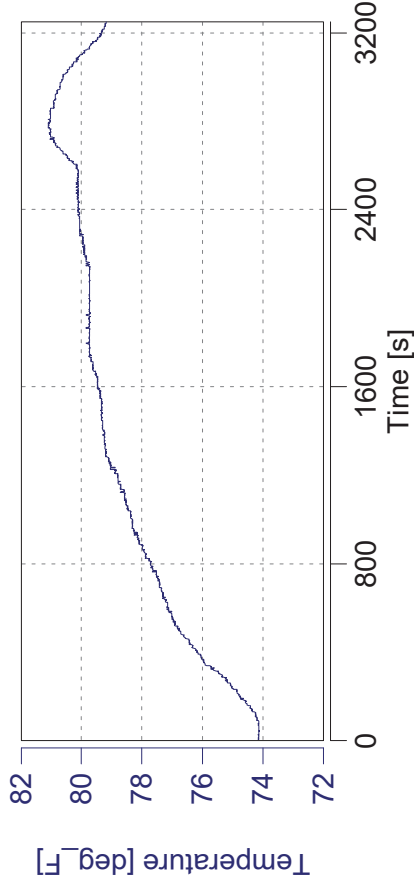
'City'

Start Date: 08/09/2018

Start Time: 20:52:34.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

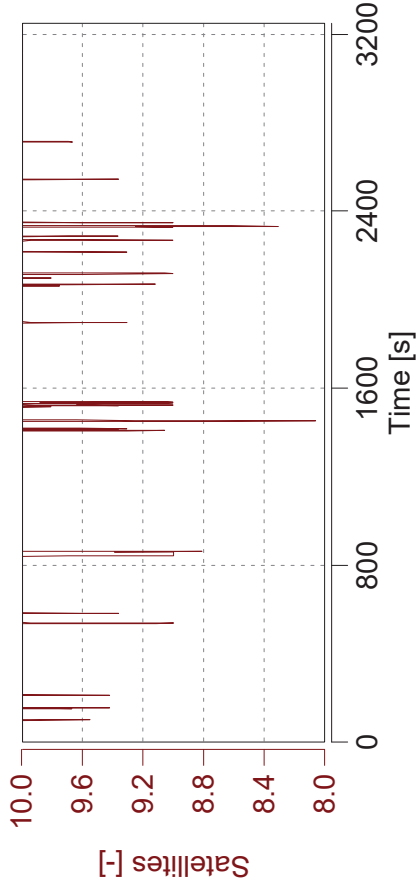
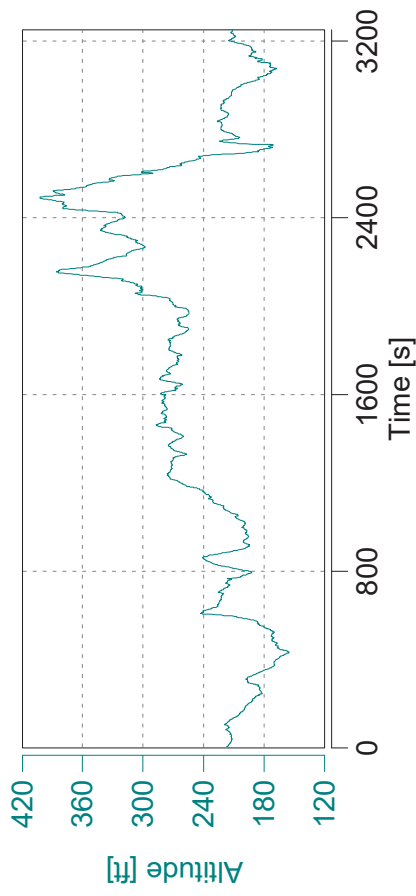
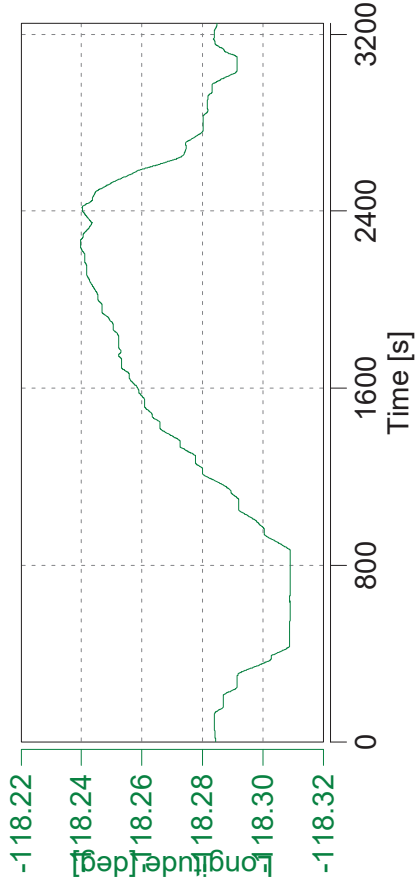
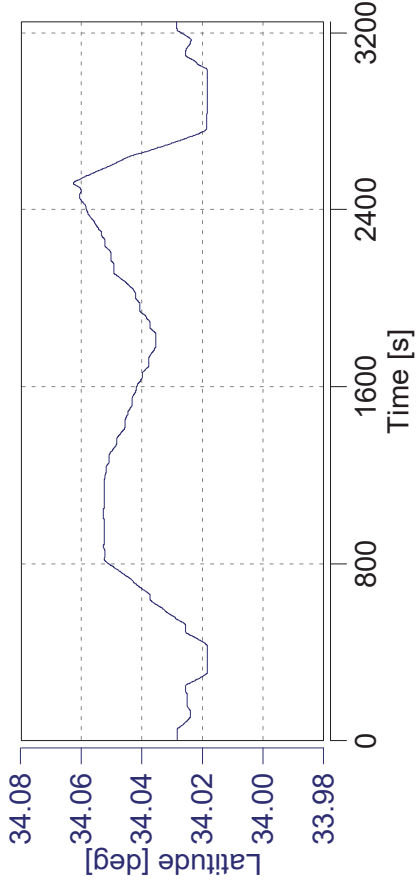
Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City
Page: GPS

'City'
Start Date: 08/09/2018
Start Time: 20:52:34.0



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: RS3 / 2.5L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (1)

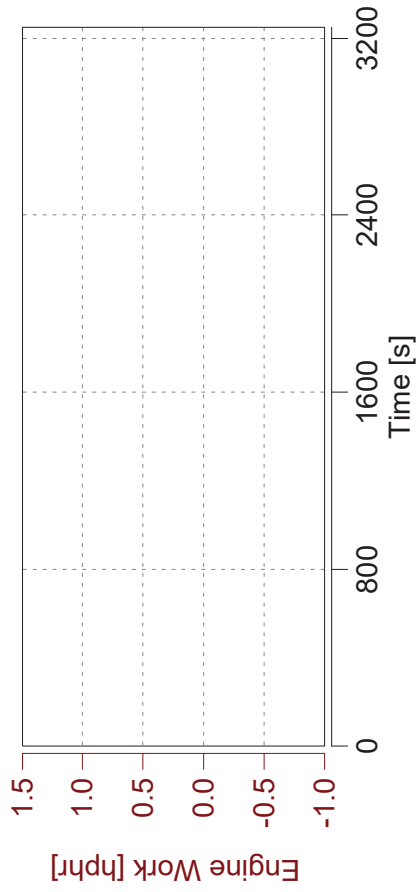
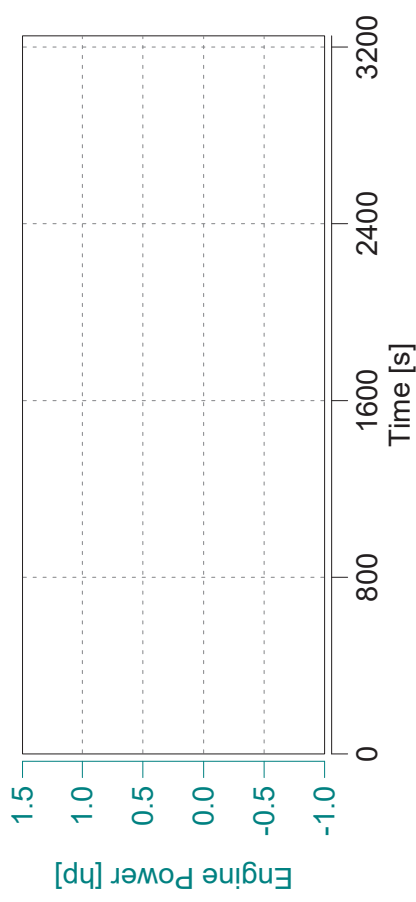
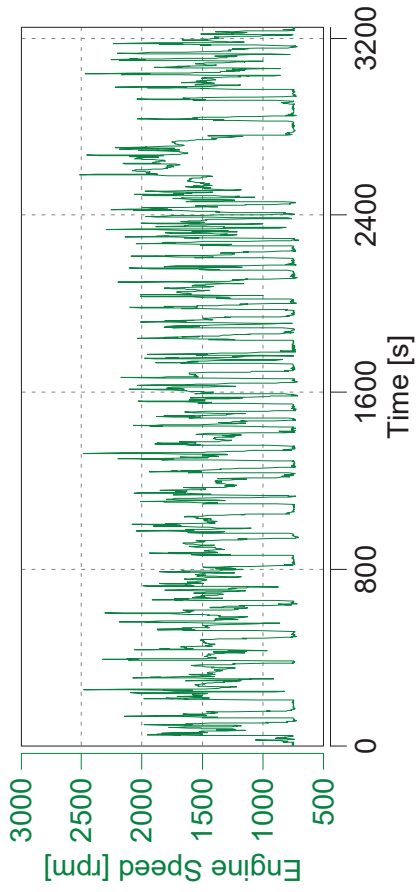
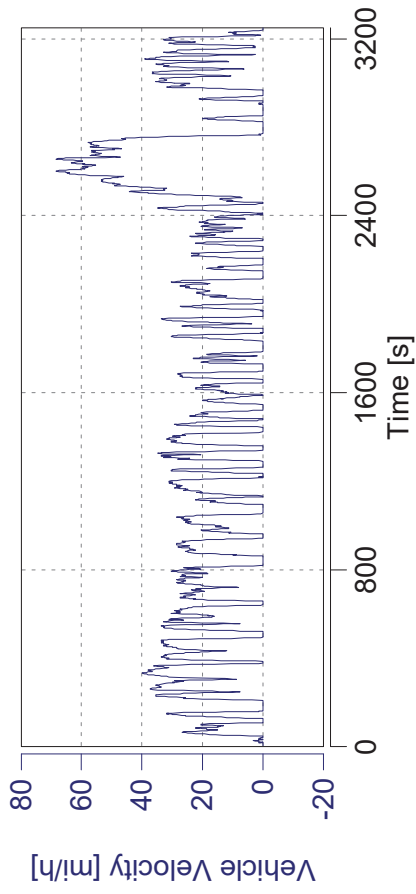
'City'

Start Date: 08/09/2018

Start Time: 20:52:34.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (2)

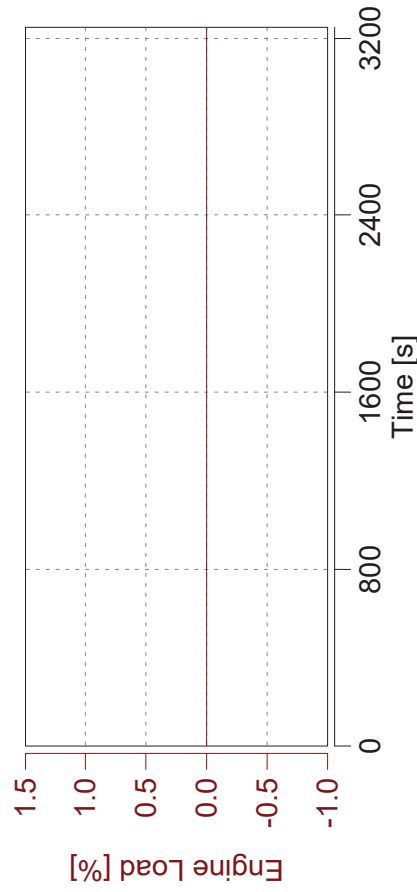
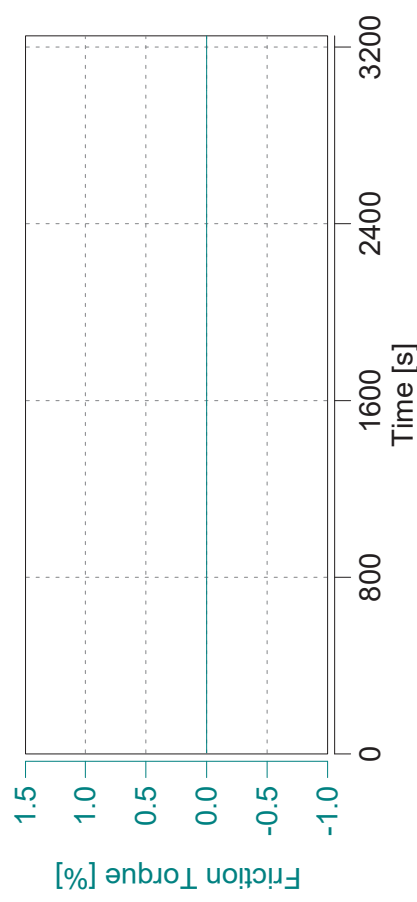
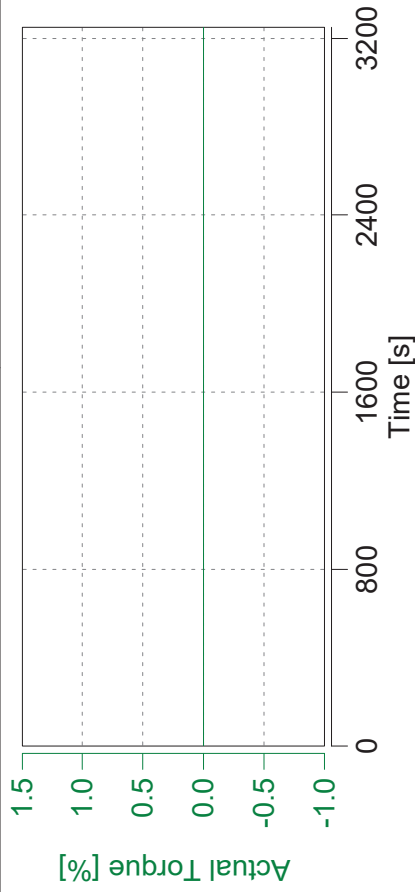
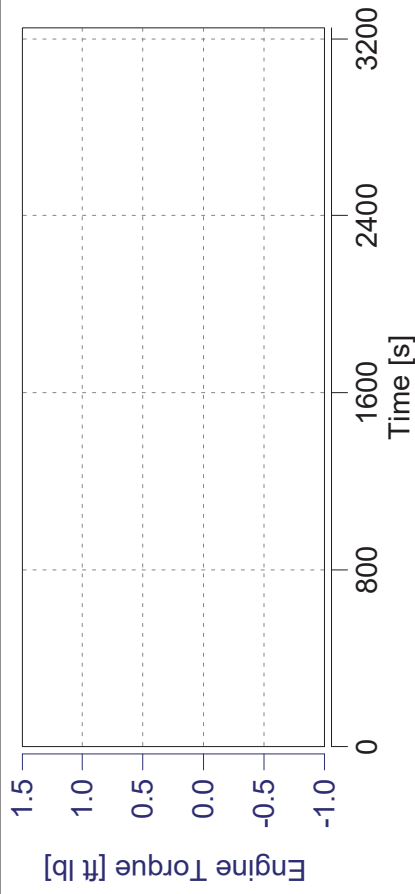
'City'

Start Date: 08/09/2018

Start Time: 20:52:34.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (3)

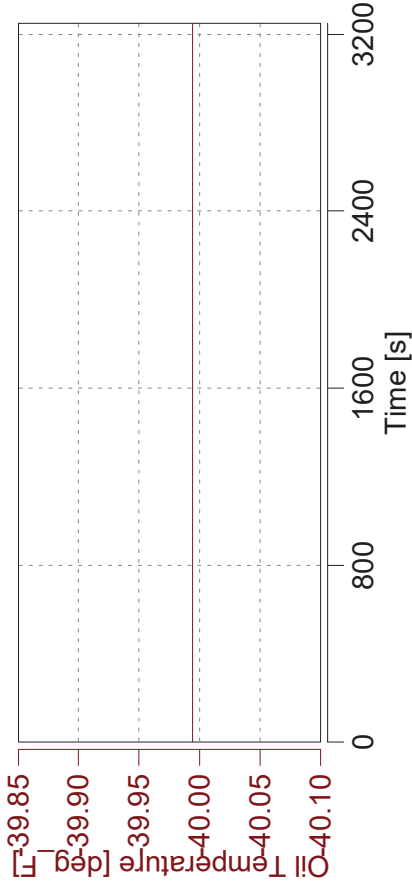
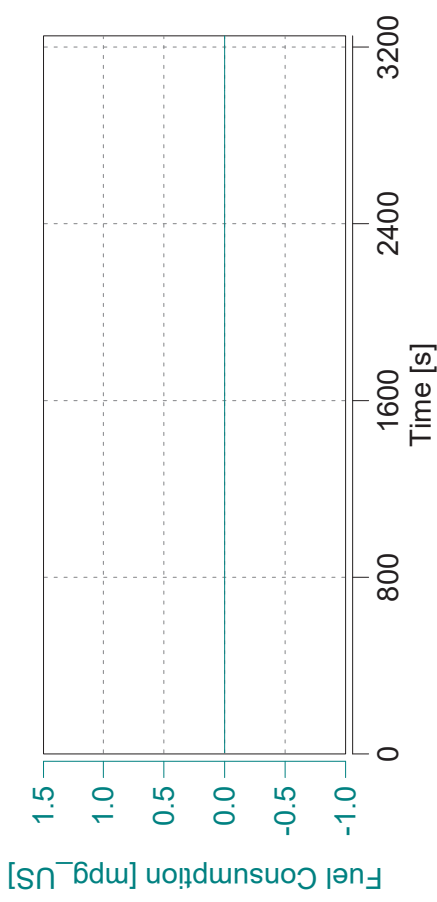
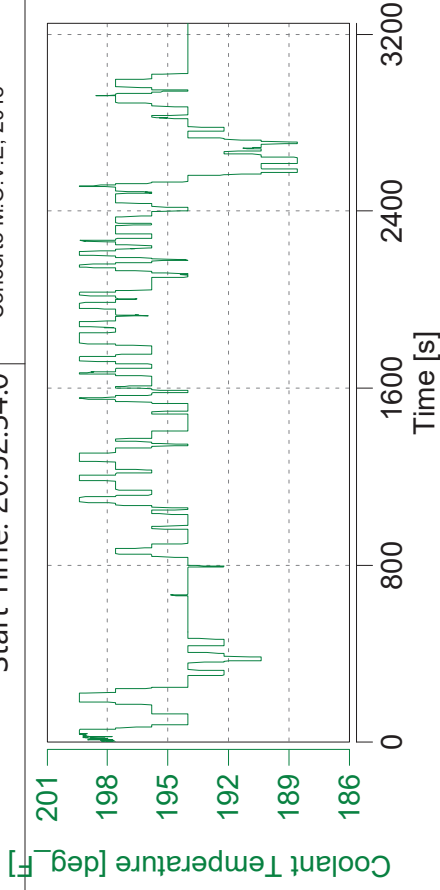
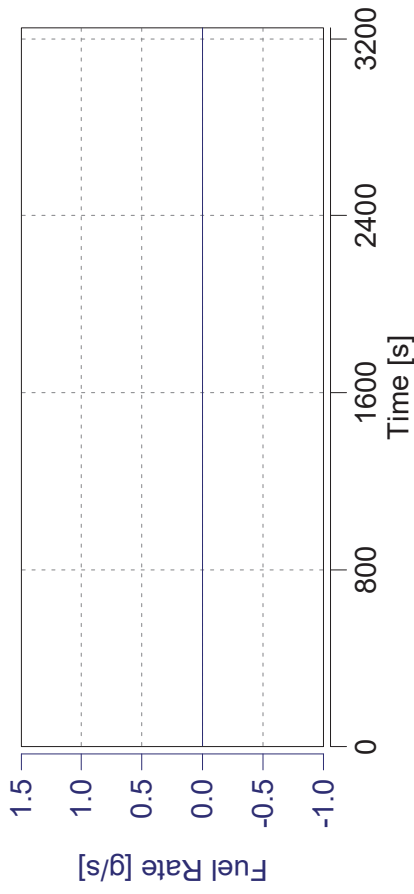
'City'

Start Date: 08/09/2018

Start Time: 20:52:34.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Exhaust Flow (1)

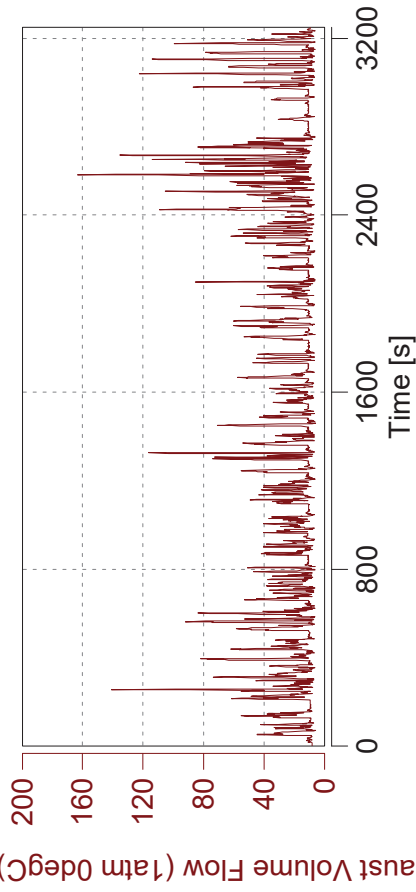
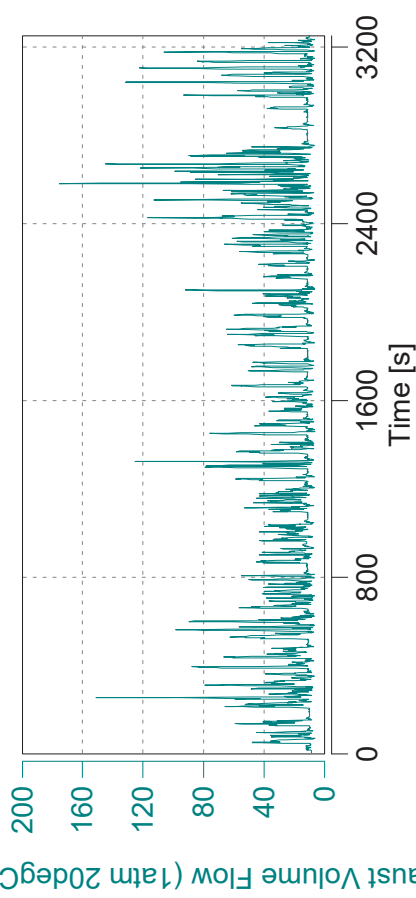
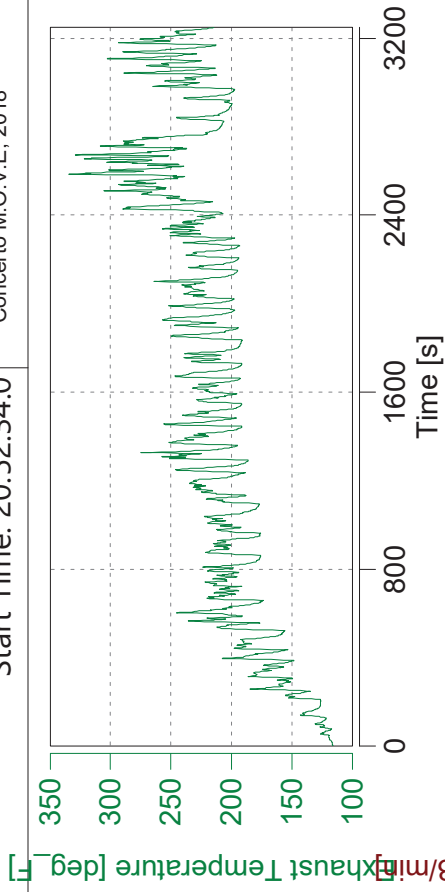
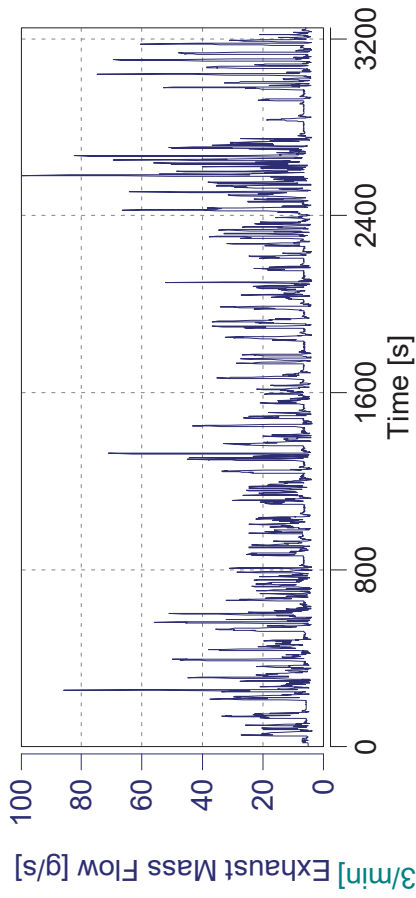
'City'

Start Date: 08/09/2018

Start Time: 20:52:34.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: RS3 / 2.5L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Exhaust Flow (2)

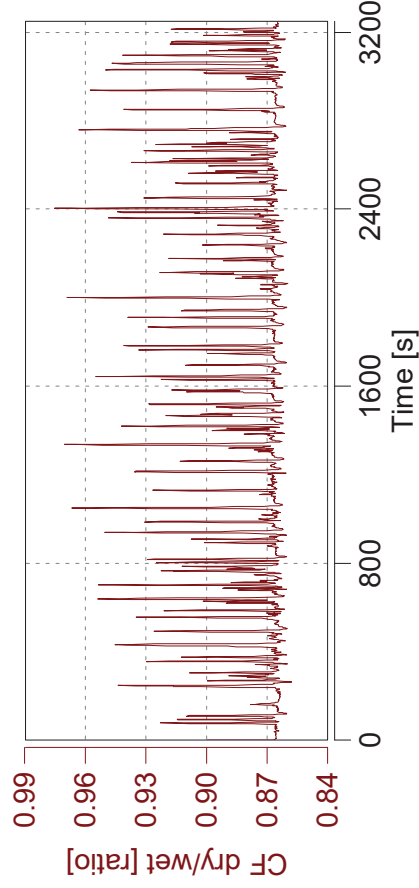
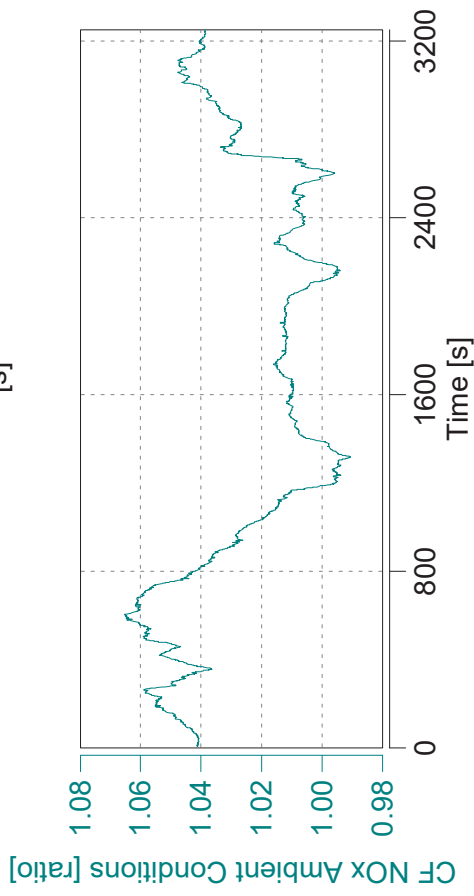
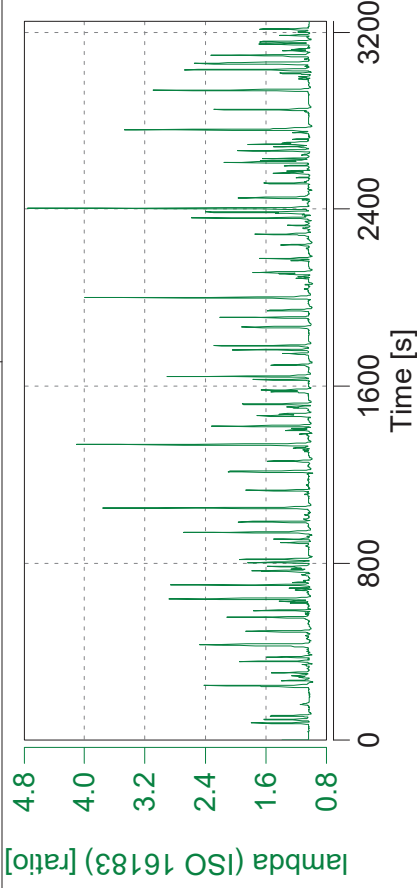
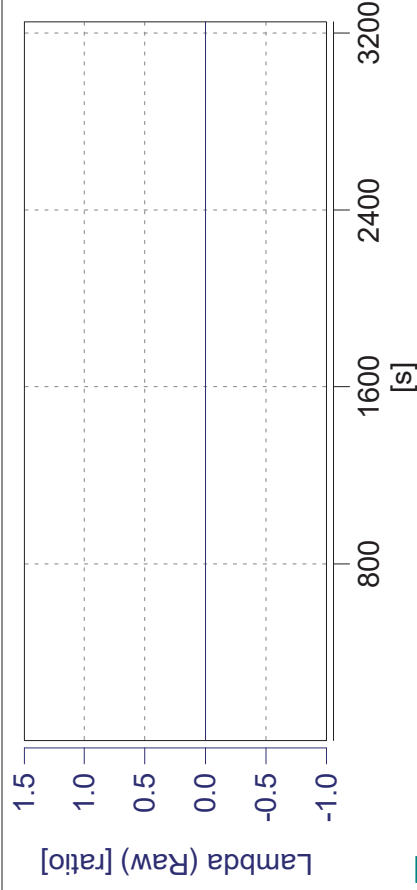
'City'

Start Date: 08/09/2018

Start Time: 20:52:34.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (1)

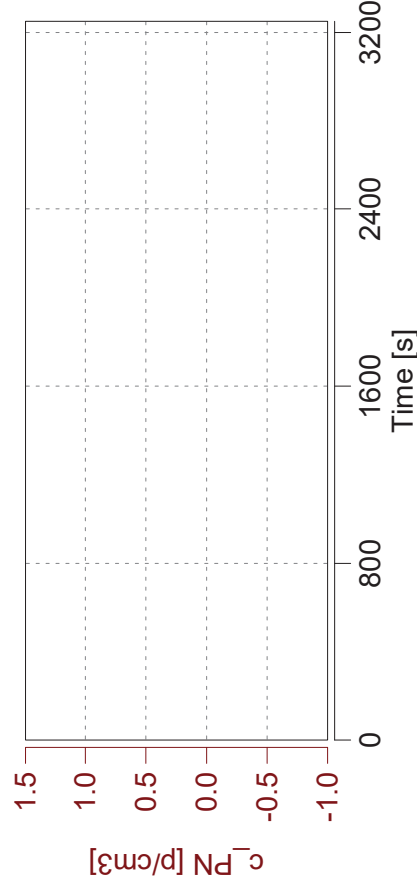
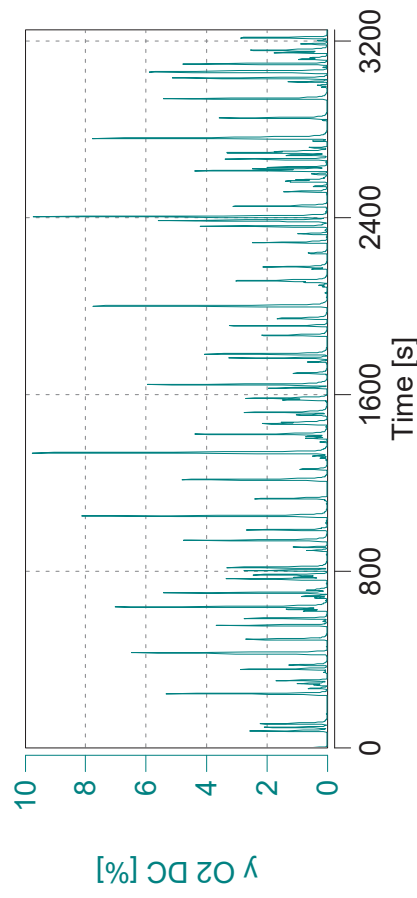
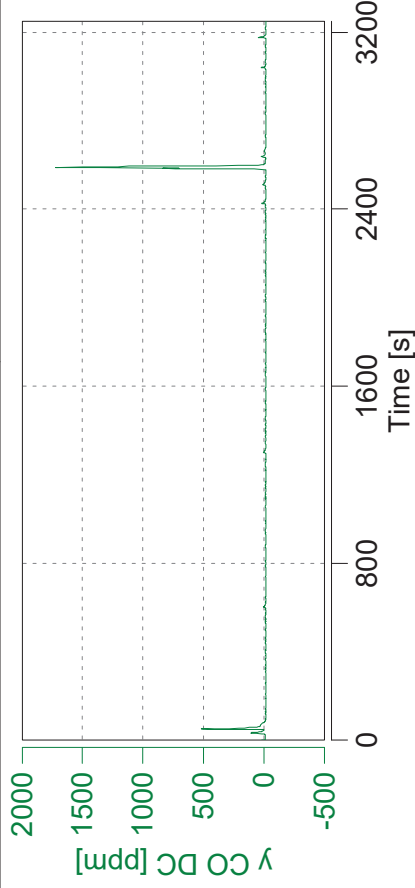
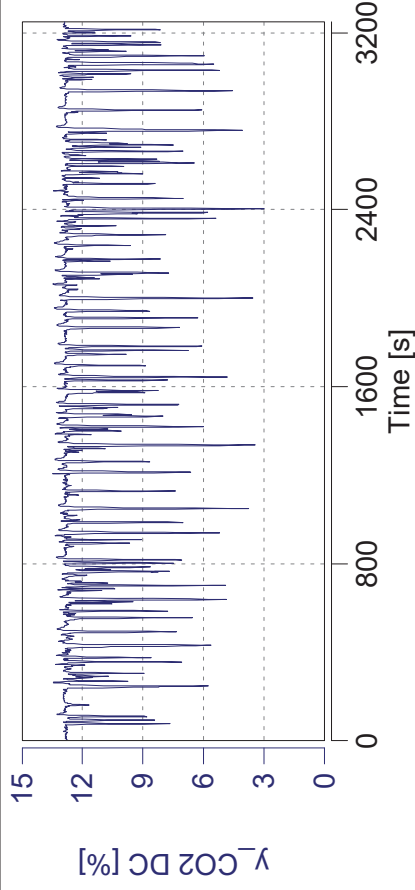
'City'

Start Date: 08/09/2018

Start Time: 20:52:34.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: RS3 / 2.5L
Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (2)

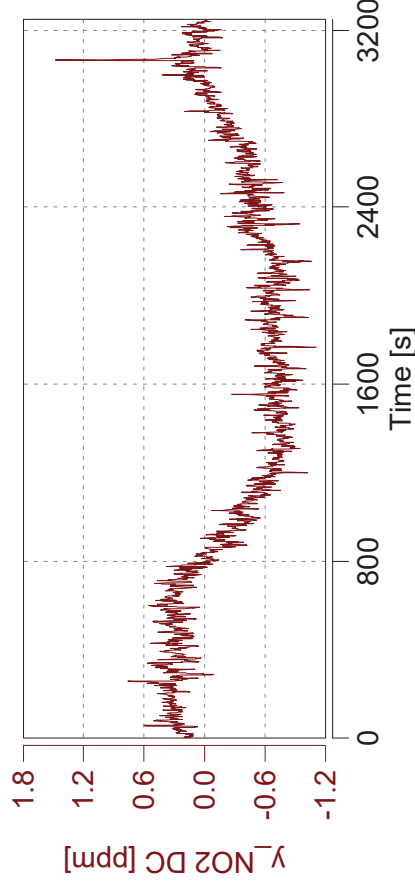
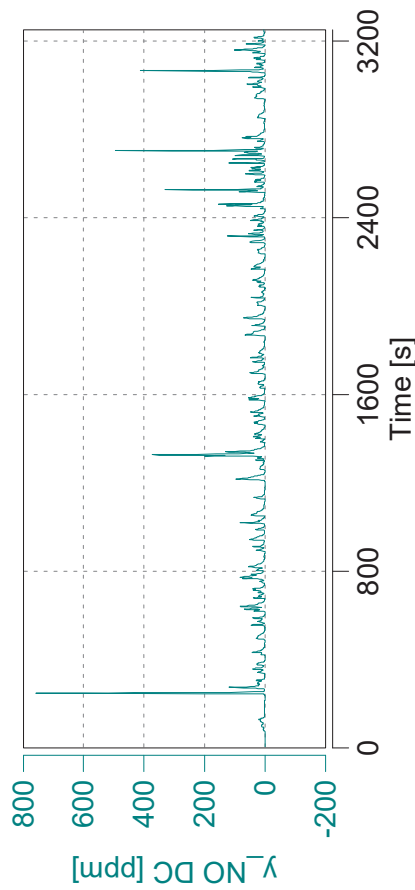
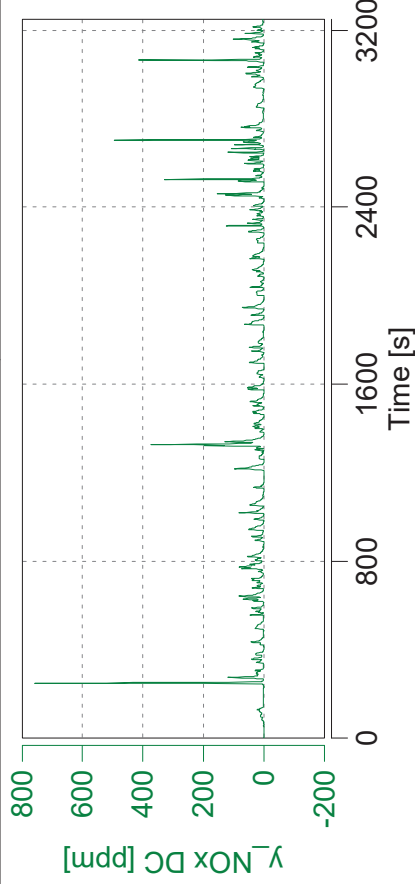
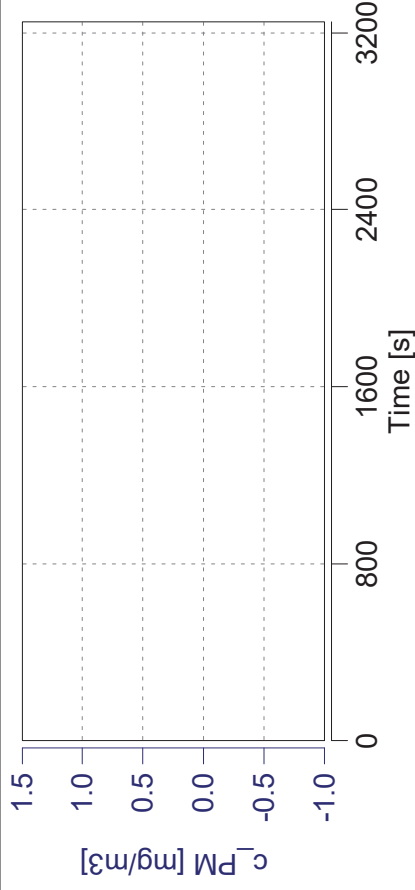
'City'

Start Date: 08/09/2018

Start Time: 20:52:34.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: RS3 / 2.5L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (3)

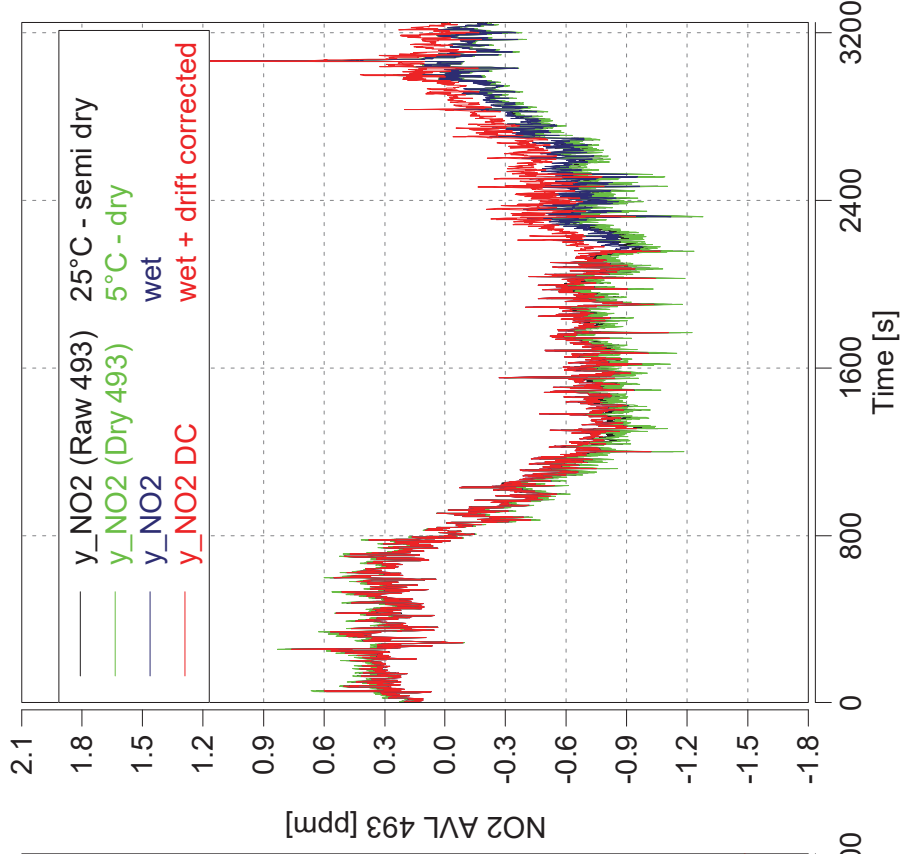
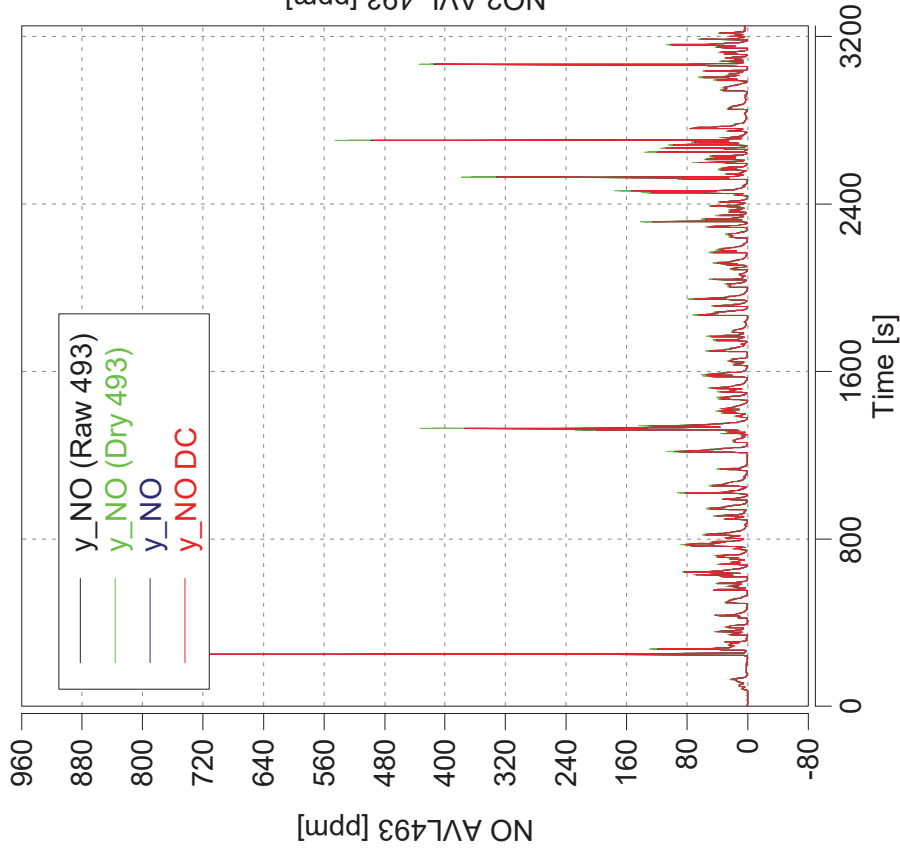
'City'

Start Date: 08/09/2018

Start Time: 20:52:34.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (4) NOx Corrections

NOx - AVL 493

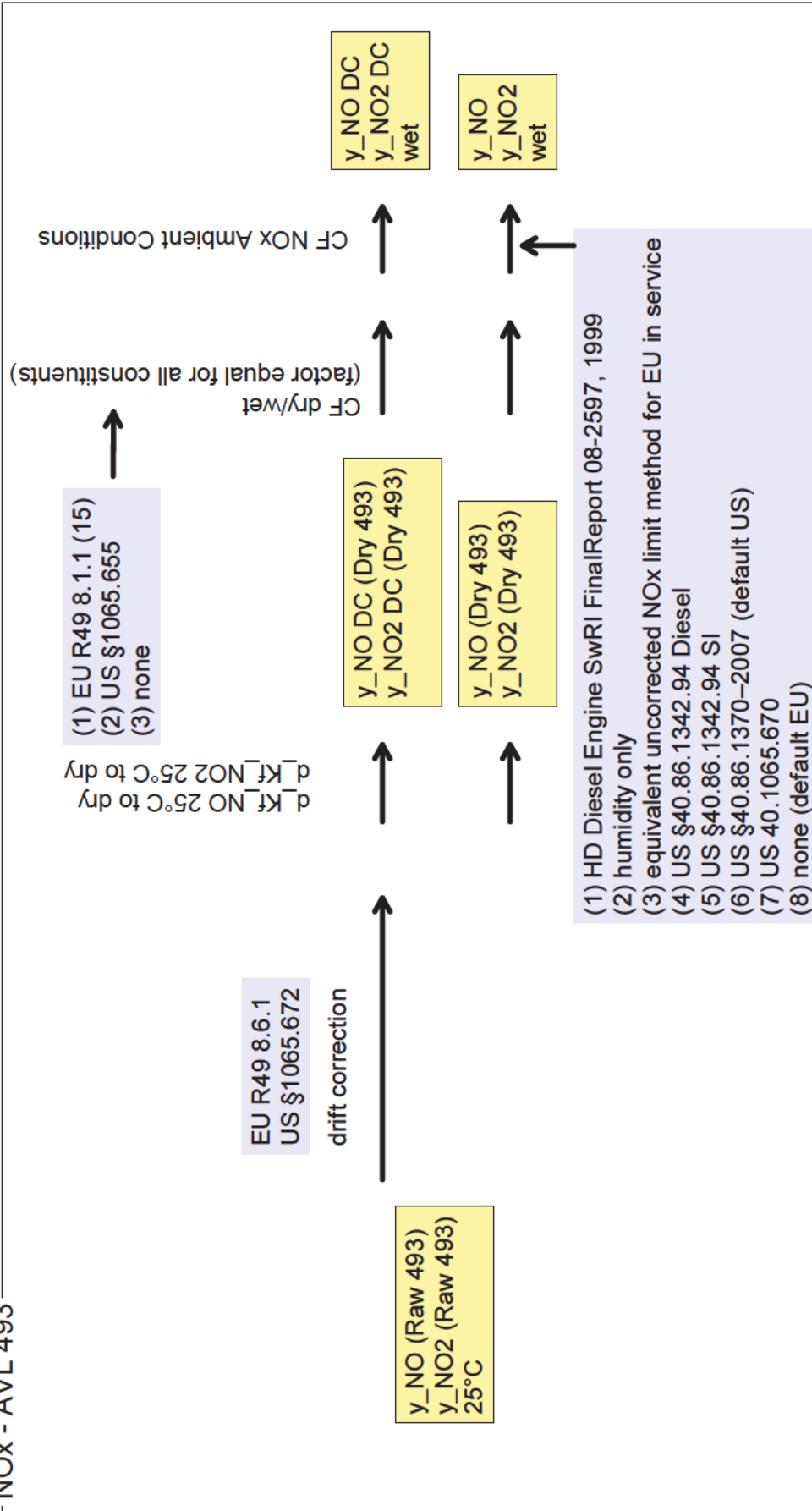
'City'

Start Date: 08/09/2018

Start Time: 20:52:34.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: / Vehicle: RS3 / 2.5L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (5)

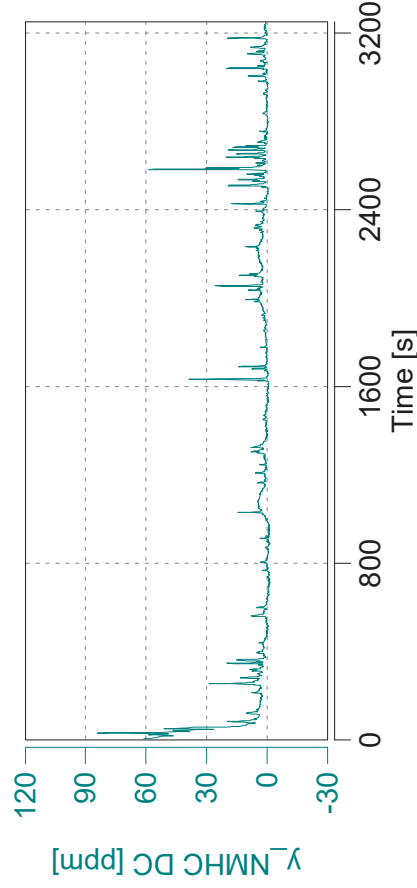
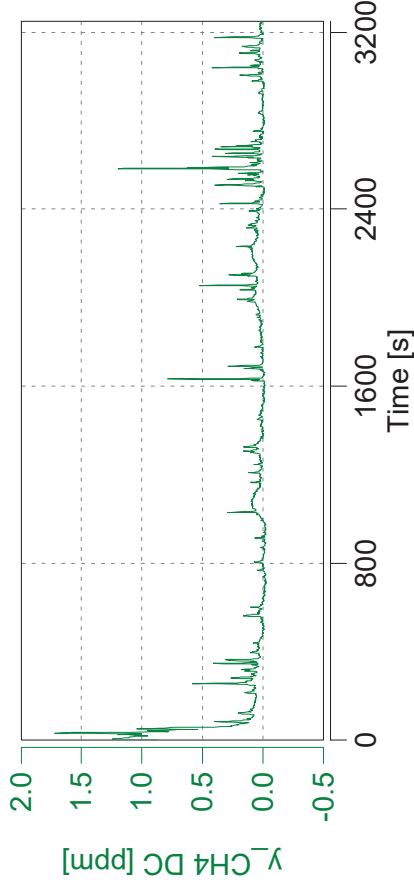
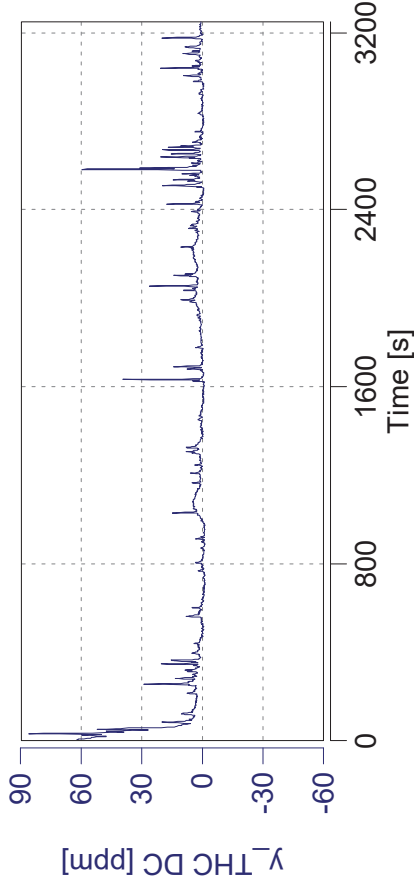
'City'

Start Date: 08/09/2018

Start Time: 20:52:34.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: RS3 / 2.5L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: NO/NO2/NOx Zero - Span

'City'

Start Date: 08/09/2018

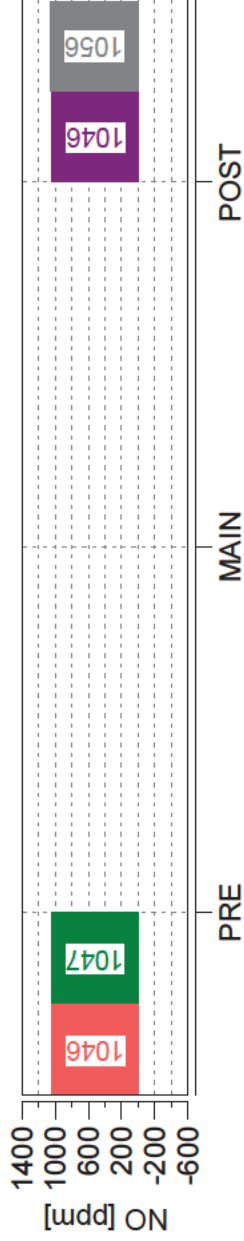
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Concerto M.O.V.E., 2018



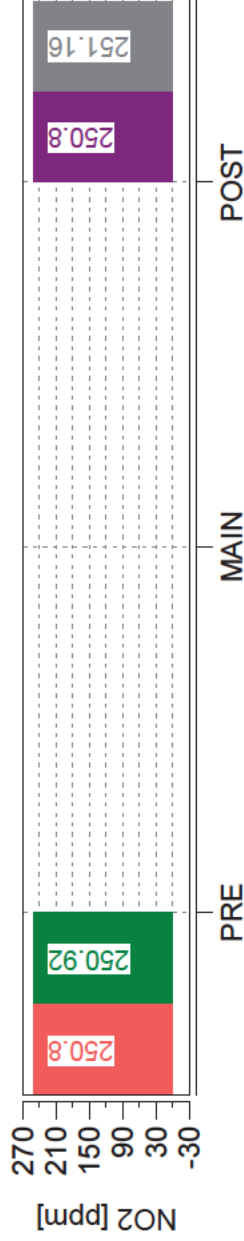
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GP_NO_Cal_gas_value
GP_NO_Adjust_Actual
GP_NO_Reference
GP_NO_Audit_Actual



NO2 ZERO [ppm]



GP_NO2_Cal_gas_value
GP_NO2_Adjust_Actual
GP_NO2_Reference
GP_NO2_Audit_Actual

Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /



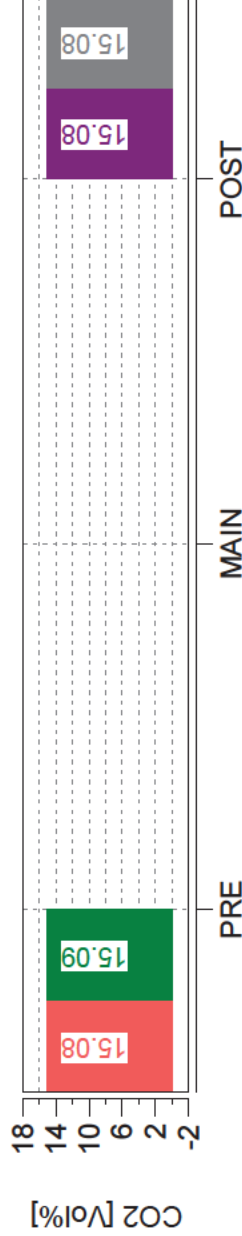
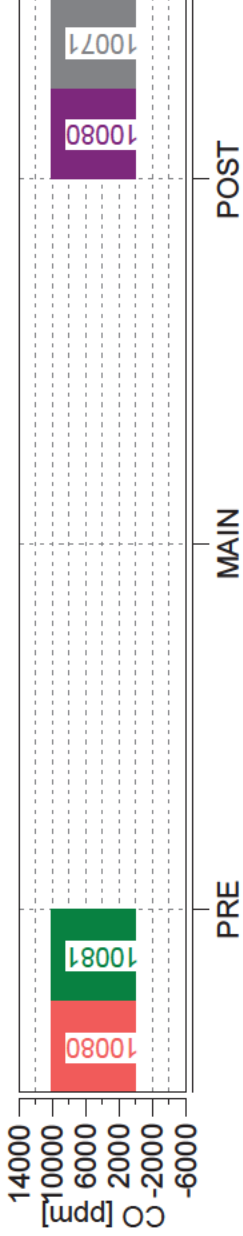
Concerto M.O.V.E., 2018

'City'

Start Date: 08/09/2018

Start Time: 20:52:34.0

Case: City
Page: CO/CO2 Zero - Span



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: City

Page: THC/CH4 Zero - Span

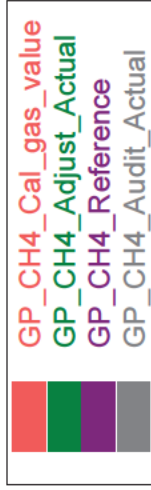
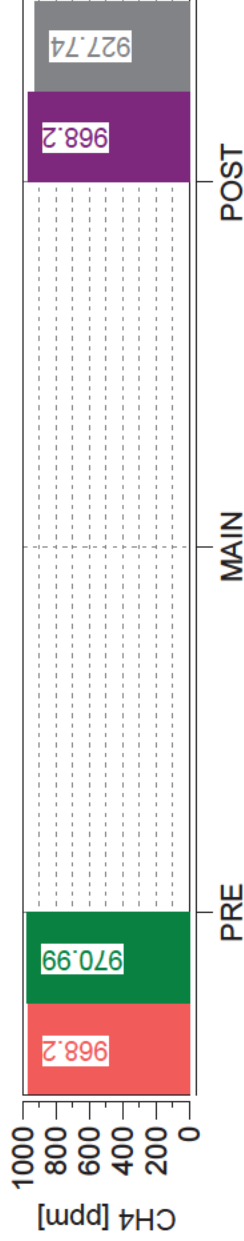
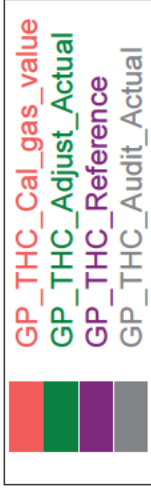
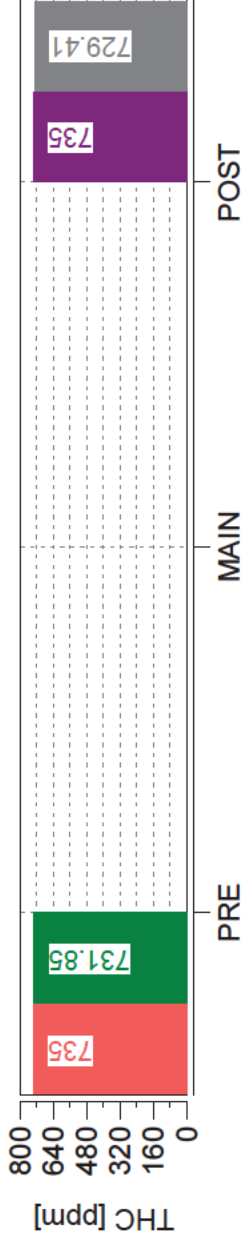
'City'

Start Date: 08/09/2018

Start Time: 20:52:34.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: RS3 / 2.5L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: Highway
Page: Trip Summary

'Highway'
Start Date: 08/12/2018
Start Time: 12:21:32.0



Concerto M.O.V.E., 2018

Trip Duration	3397.00	s	ave THC	6.98137	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	3397.00	s	ave NMHC	6.84175	ppm	BS CO	n/a	g/hphr
Trip Distance	38.78	mi	ave CH4	0.13963	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	38.78	mi	ave CO	84.01206	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	11.97868	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx	11.66461	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	4.32	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	4.26	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.53	gall	tot THC	0.37189	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.51	gall	tot NMHC	0.34401	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00824	g	DS CO2	333.84078	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	7.51414	g	DS CO	0.19374	g/mi
Trip Fuel Economy EU (ac)	25.43	mpg_US	tot CO2	12947.88008	g	DS THC	0.00959	g/mi
Trip Fuel Economy US (ac)	25.77	mpg_US	tot NO (d)	0.68886	g	DS NMHC	0.00887	g/mi
Trip Av. Eng. Speed	1554.90	rpm	tot NO2	0.04918	g	DS CH4	0.00021	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.73803	g	DS NO (d)	0.01776	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	0.00127	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.01903	g/mi
Trip Exhaust Mass	68.62	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	85.64	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	50.20	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	41.10231	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	2.97321	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /
Vehicle: Q5 / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Trip Summary Drift Corrected

'Highway'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018

Trip Duration	3397.00	s	ave THC DC	6.81380	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	3397.00	s	ave NMHC DC	6.67752	ppm	BS CO DC	n/a	g/hphr
Trip Distance	38.78	mi	ave CH4 DC	0.13628	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	38.78	mi	ave CO DC	83.63417	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	11.97868	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	11.82560	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	4.32	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	4.26	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.53	gall	tot THC DC	0.36589	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.51	gall	tot NMHC DC	0.33845	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.00811	g	DS CO2 DC	333.84078	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	7.48532	g	DS CO DC	0.19300	g/mi
Trip Fuel Economy EU (ac)	25.43	mpg_US	tot CO2 DC	12947.88008	g	DS THC DC	0.00943	g/mi
Trip Fuel Economy US (ac)	25.77	mpg_US	tot NO DC (d)	0.70824	g	DS NMHC DC	0.00873	g/mi
Trip Av. Eng. Speed	1554.90	rpm	tot NO2 DC	0.04505	g	DS CH4 DC	0.00021	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.75329	g	DS NO DC (d)	0.01826	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	0.00116	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.01942	g/mi
Trip Exhaust Mass	68.62	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	85.64	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	50.20	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	41.10231	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	2.97321	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Time Alignment Check

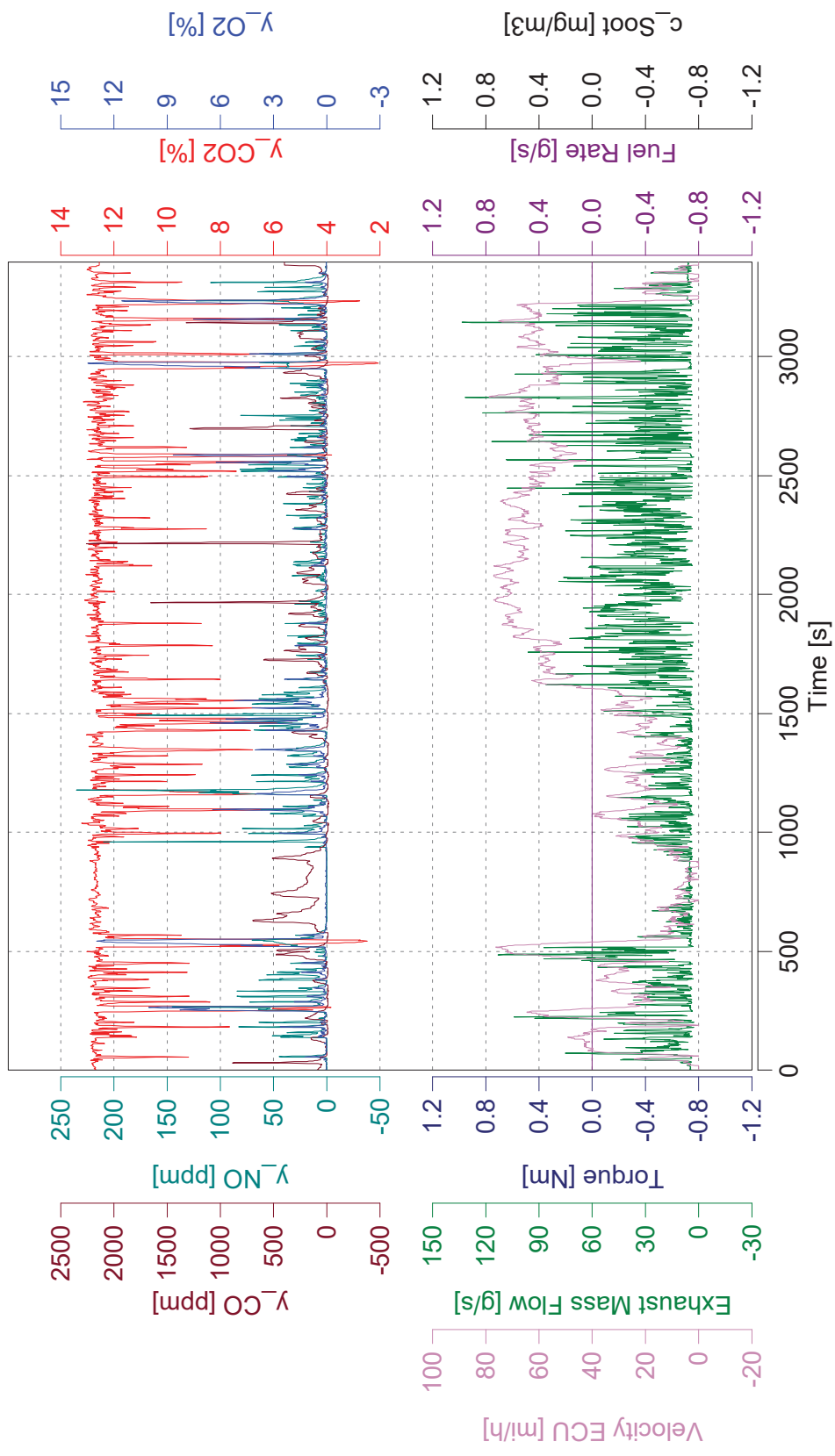
'Highway'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: Highway

Page: Time Alignment of Gas Concentrations

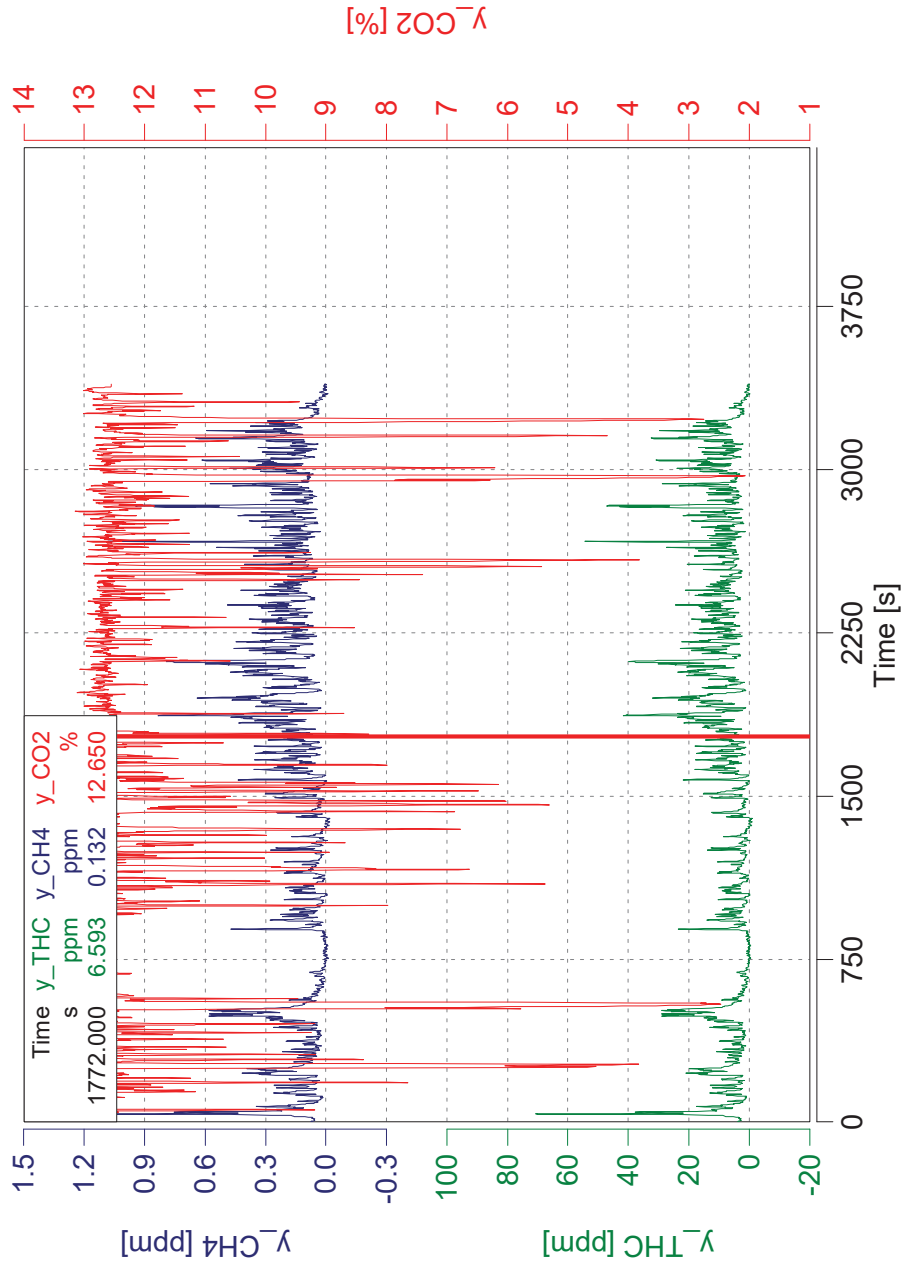
'Highway'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Ambient Conditions

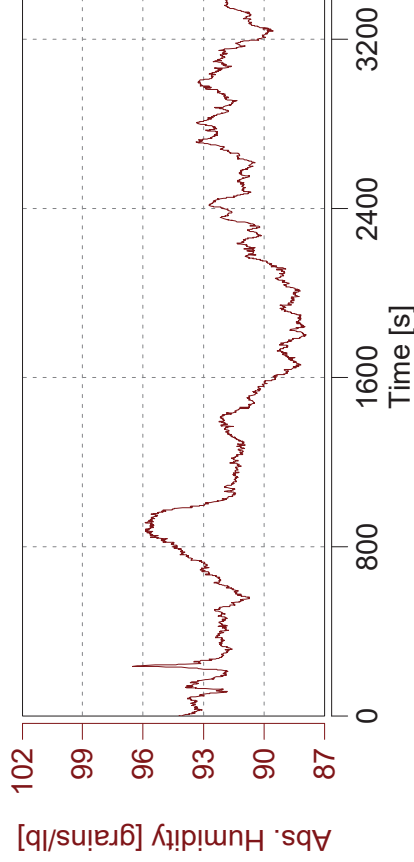
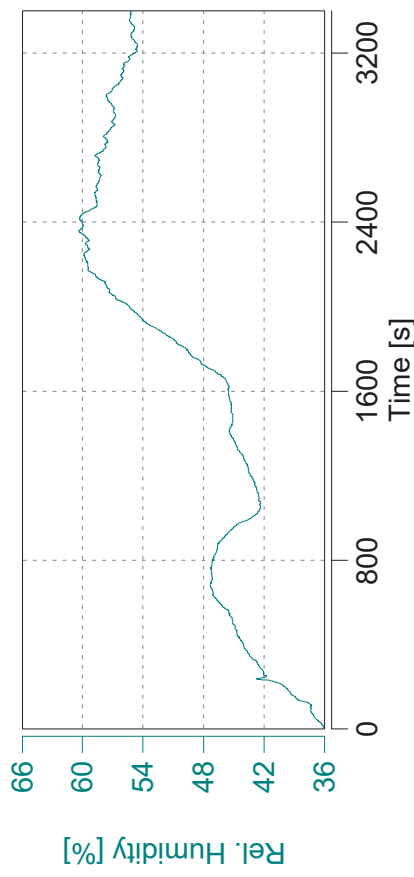
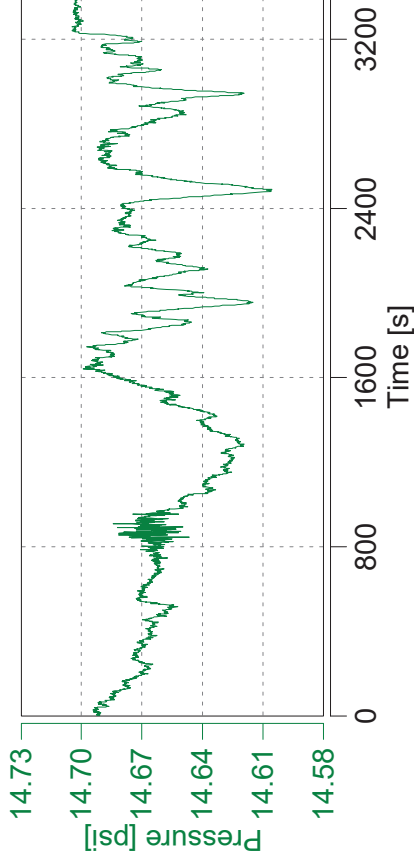
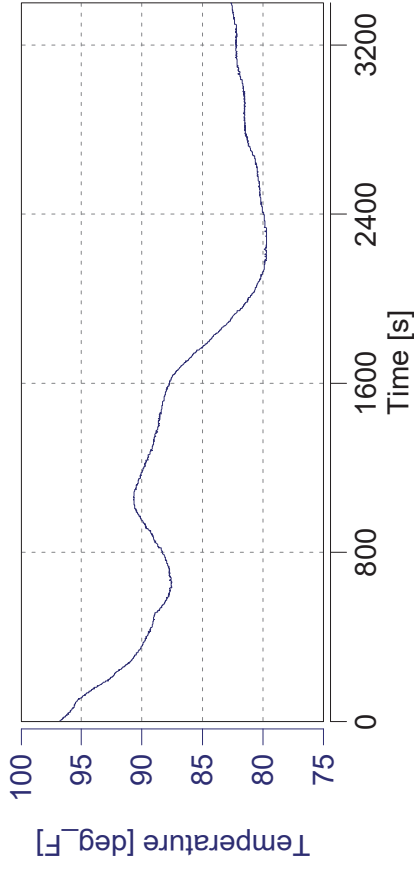
'Highway'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: GPS

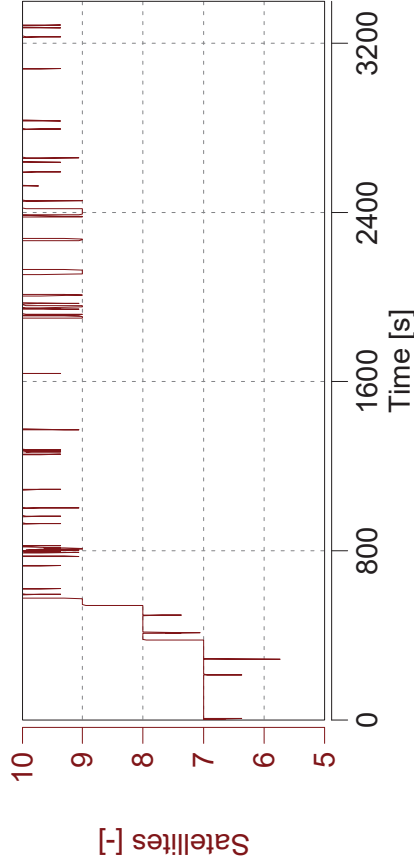
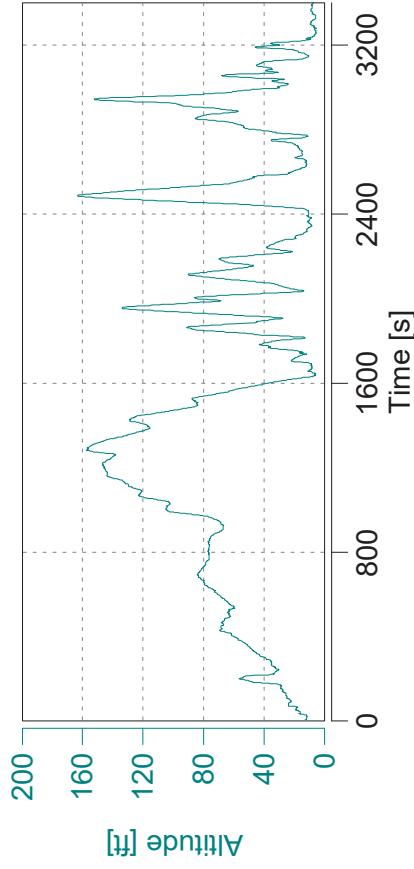
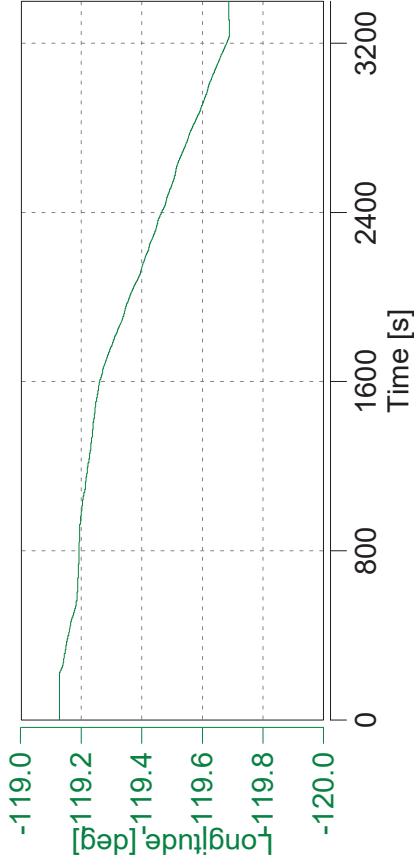
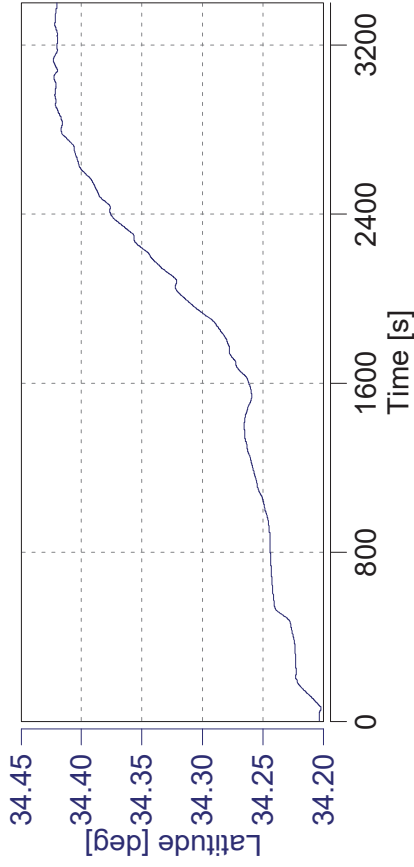
'Highway'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (1)

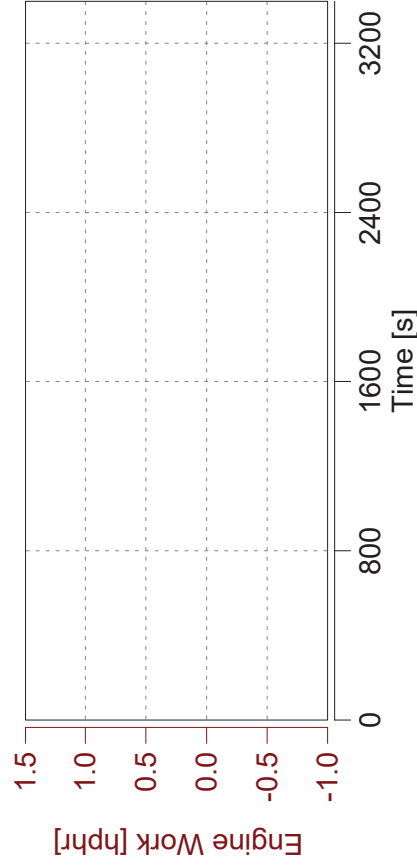
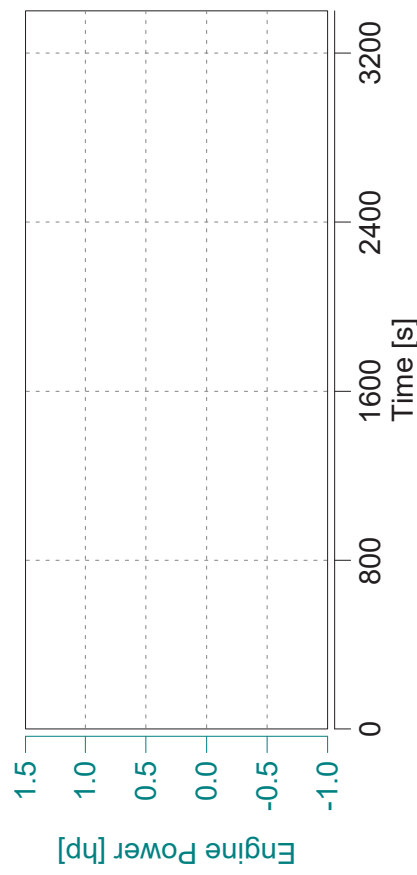
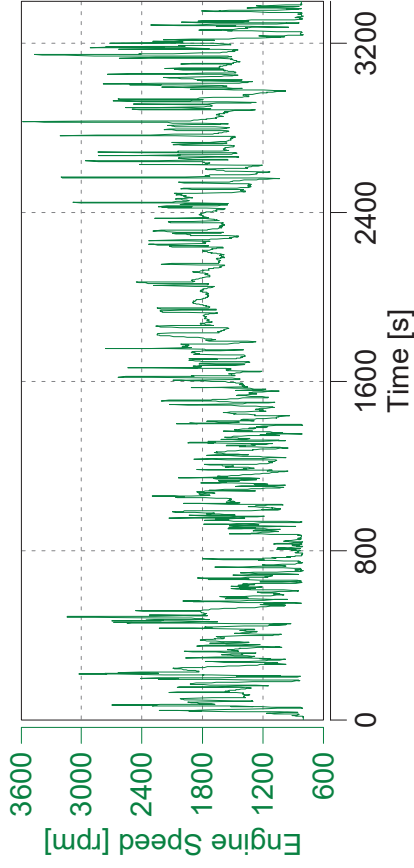
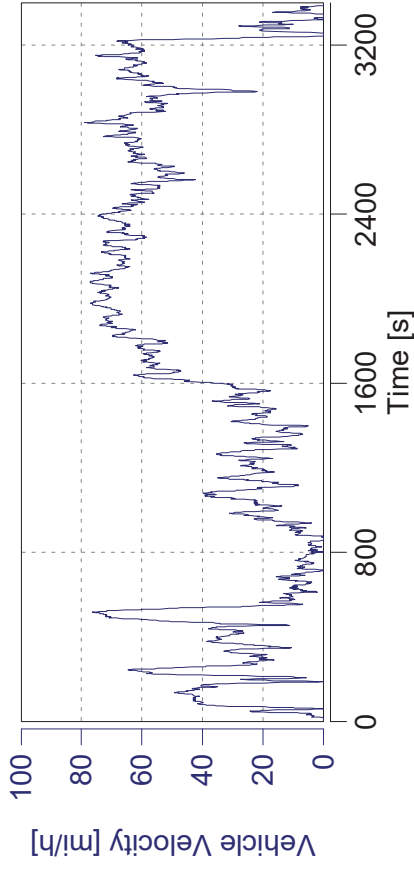
'Highway'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (2)

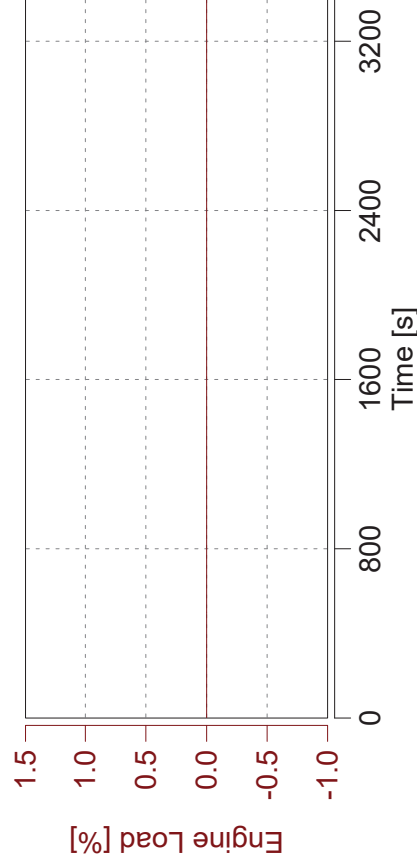
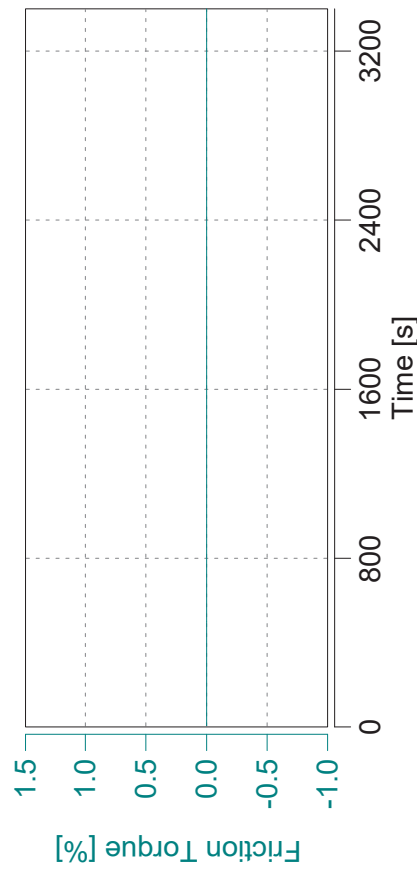
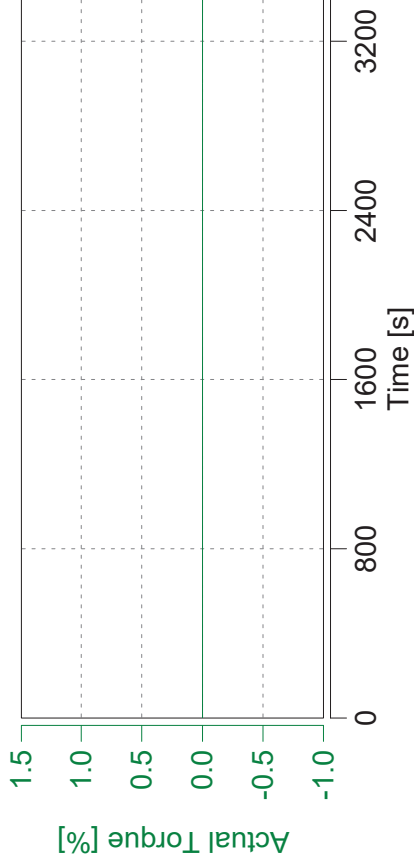
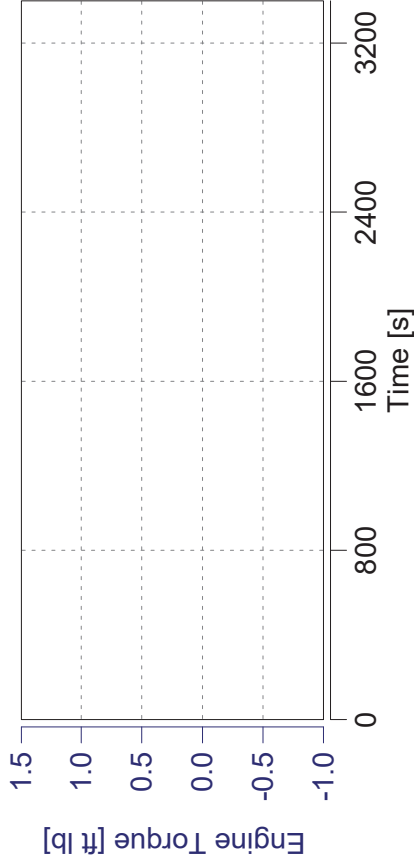
'Highway'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Engine (3)

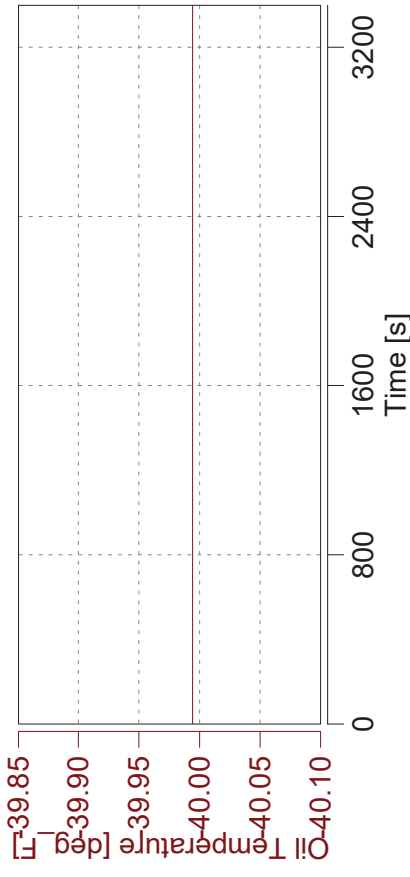
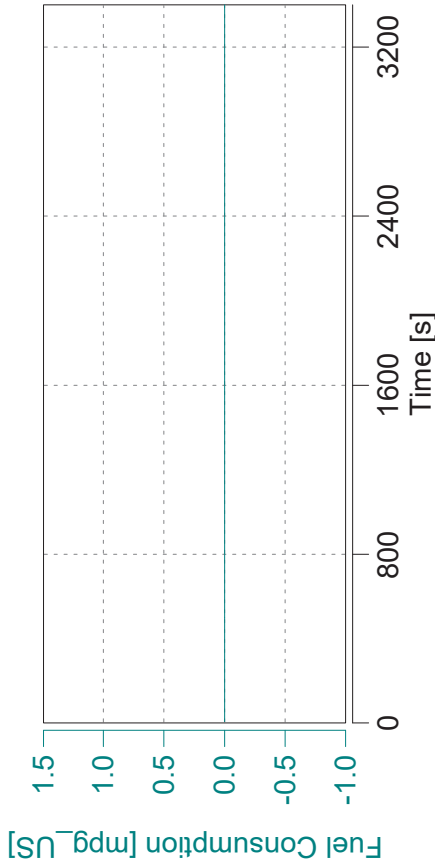
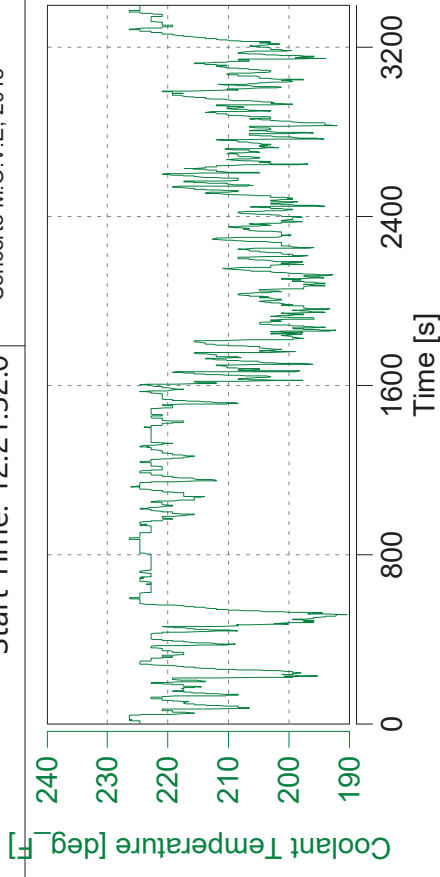
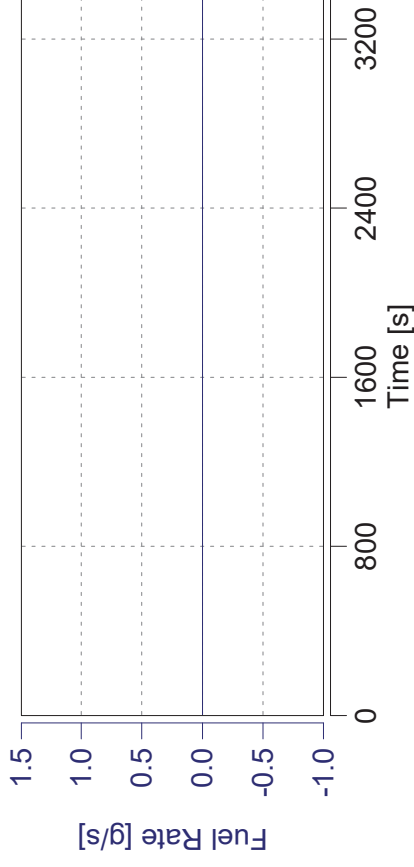
'Highway'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

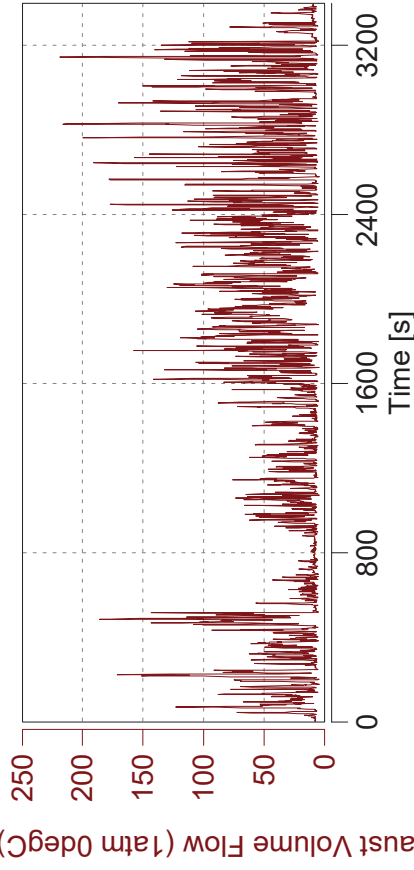
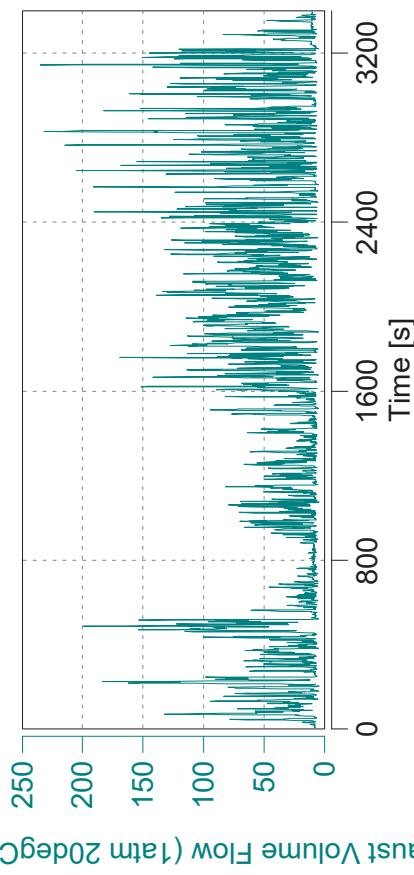
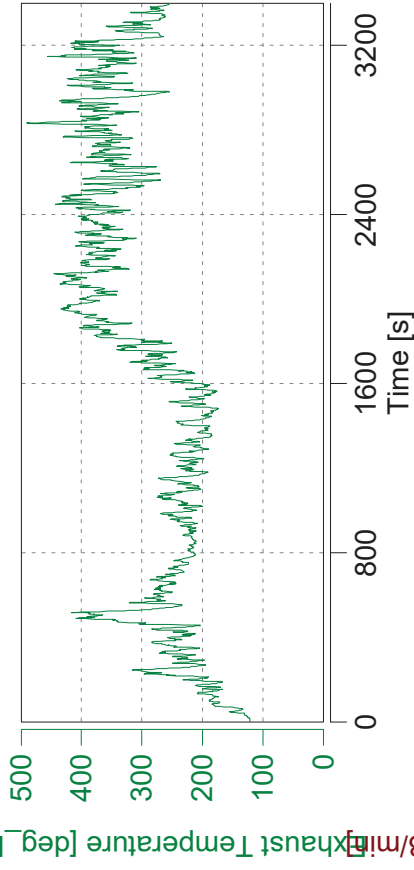
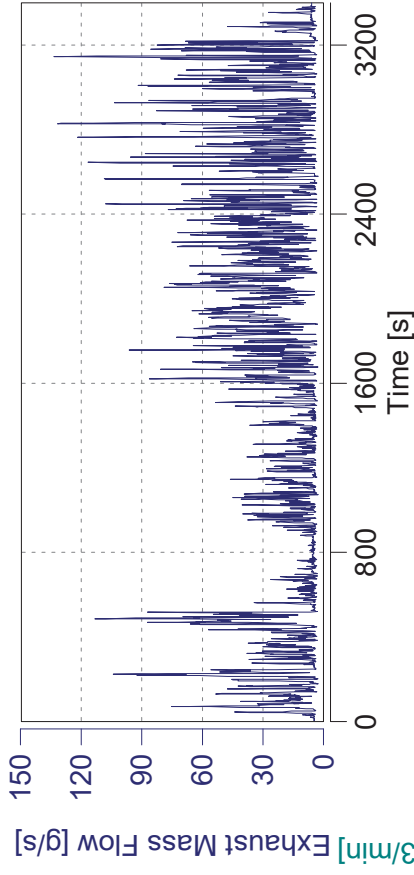
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Q5 / 2.0L

Engine: /

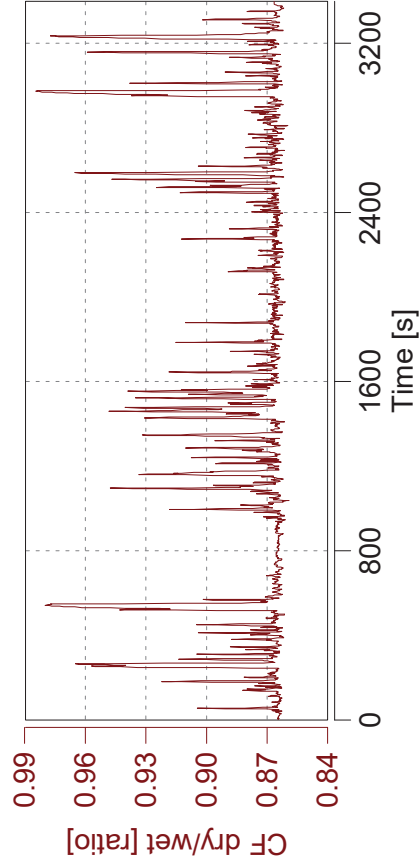
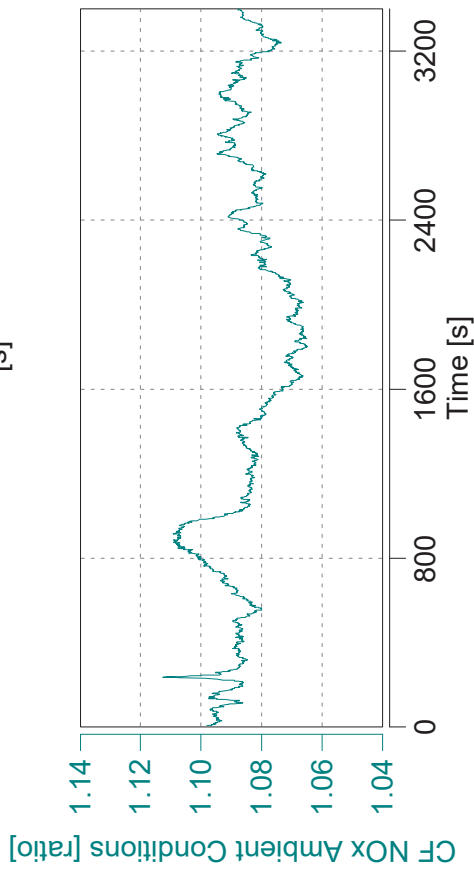
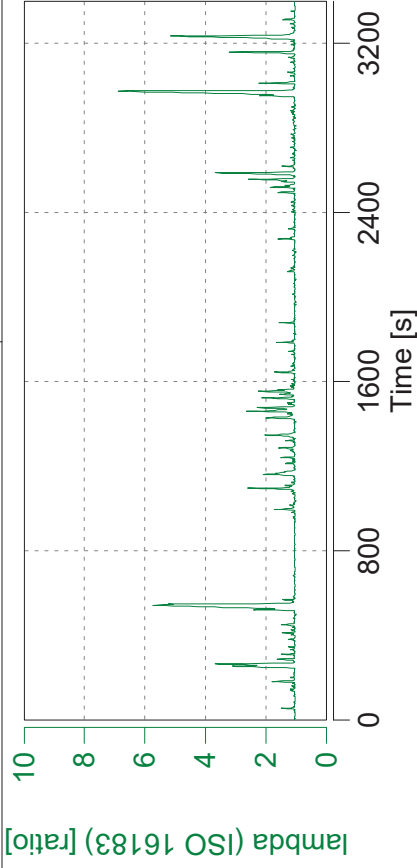
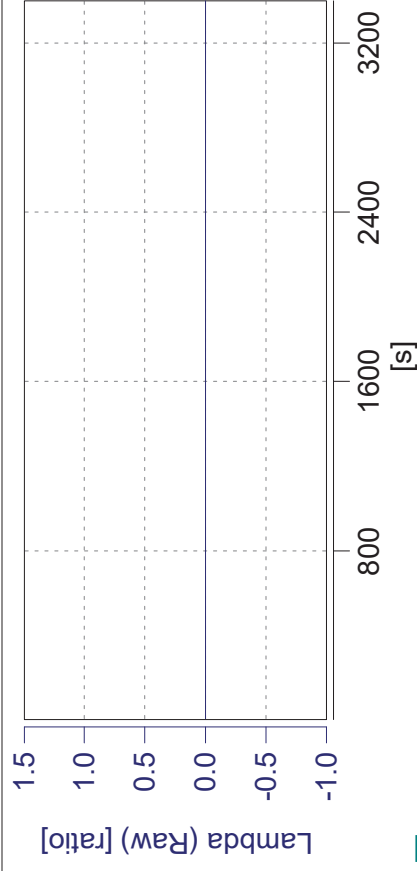
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Case: Highway
 Page: Exhaust Flow (2)

'Highway'
 Start Date: 08/12/2018
 Start Time: 12:21:32.0



Concerto Version: 480 Build 316, Serial Number: 1120
 M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Q5 / 2.0L
 Engine: /
 NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (1)

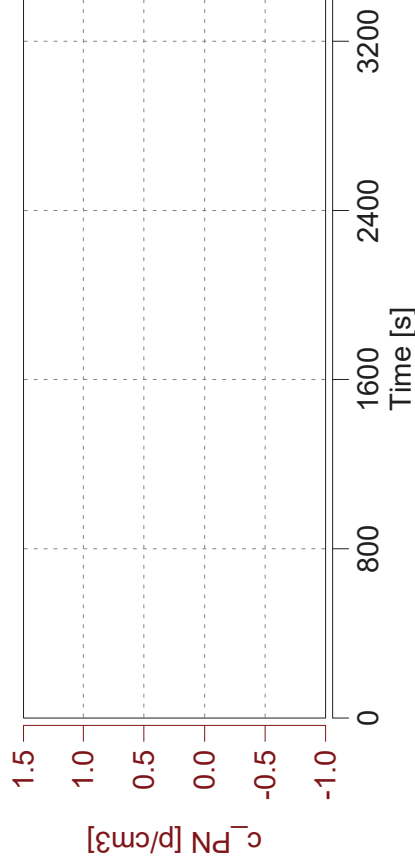
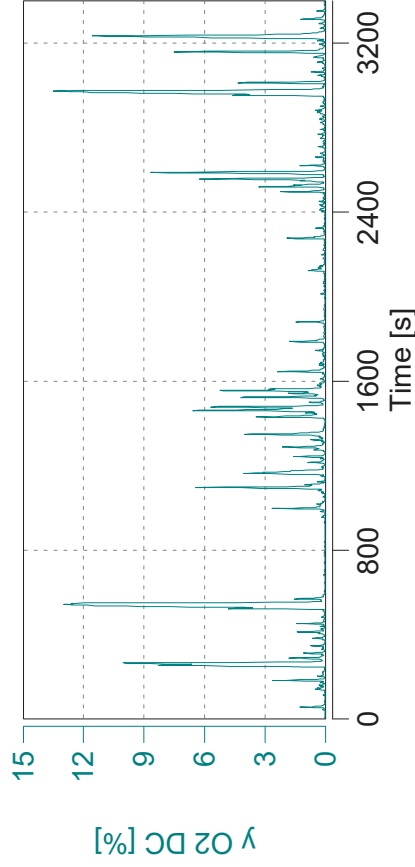
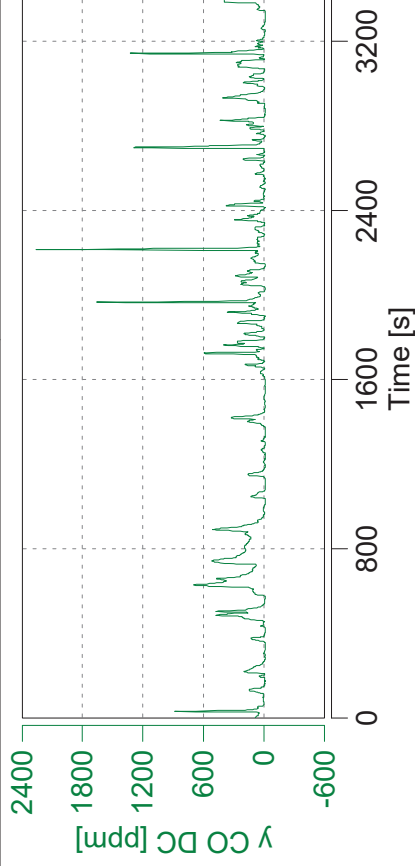
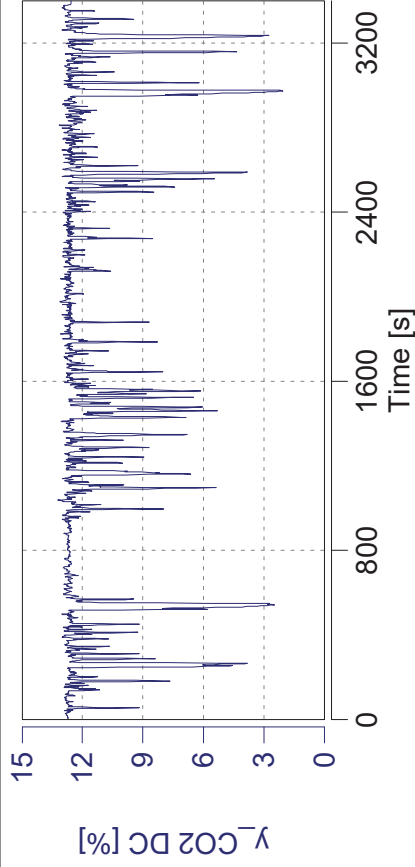
'Highway'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Q5 / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (2)

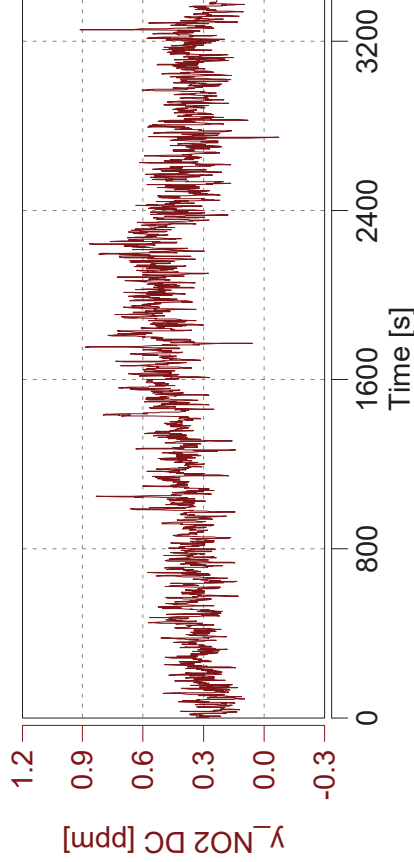
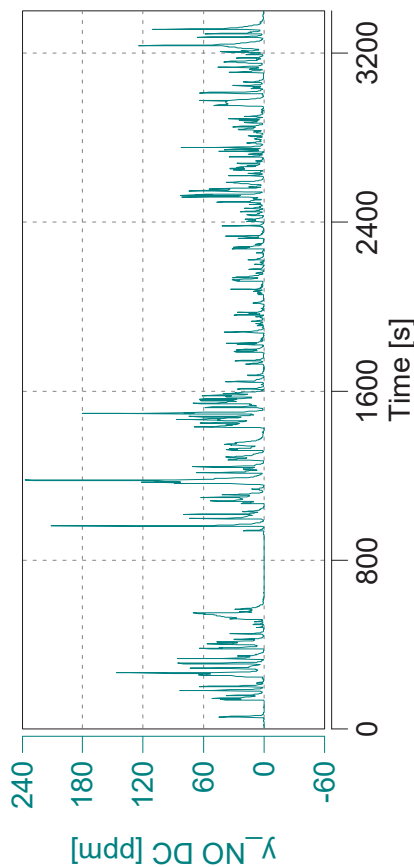
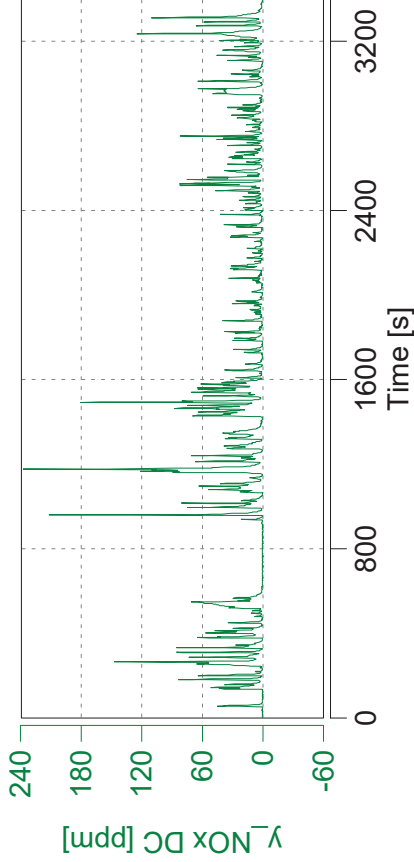
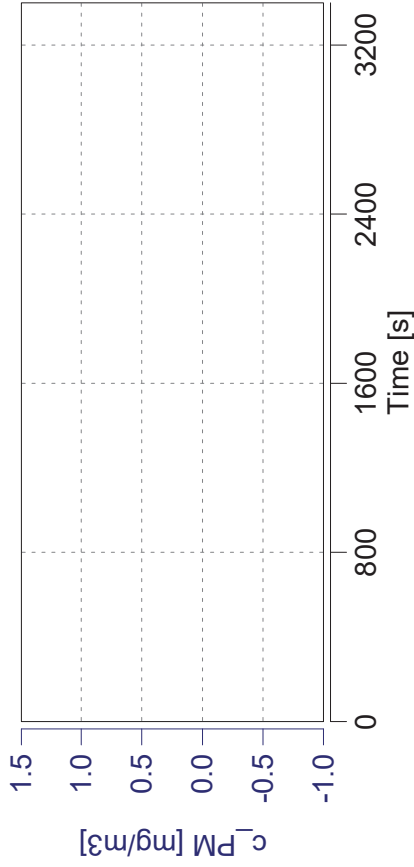
'Highway'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Q5 / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (3)

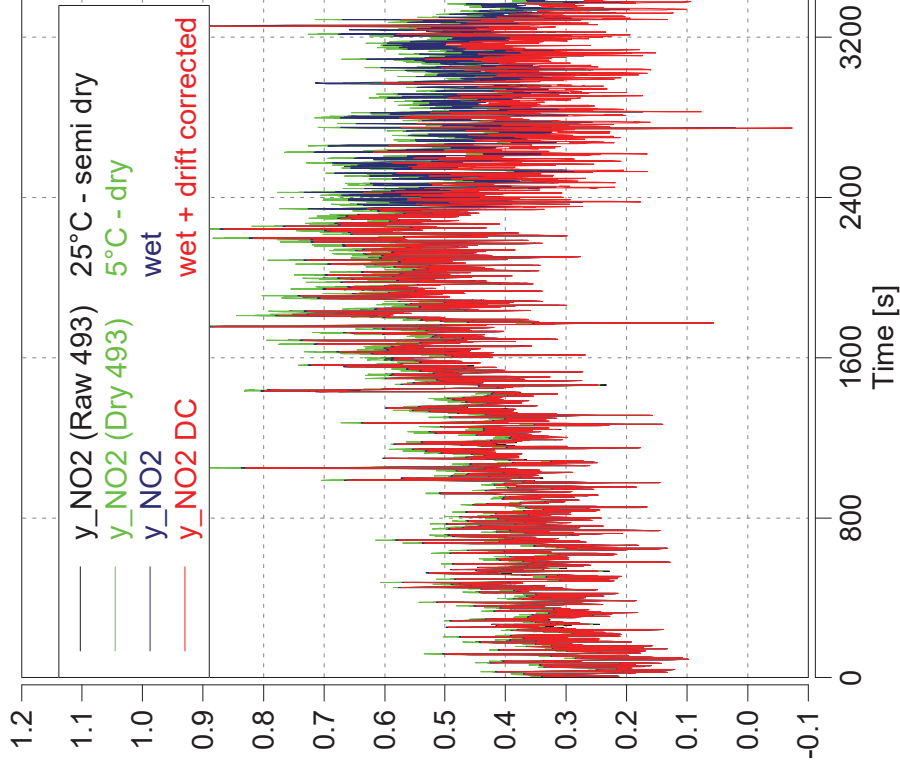
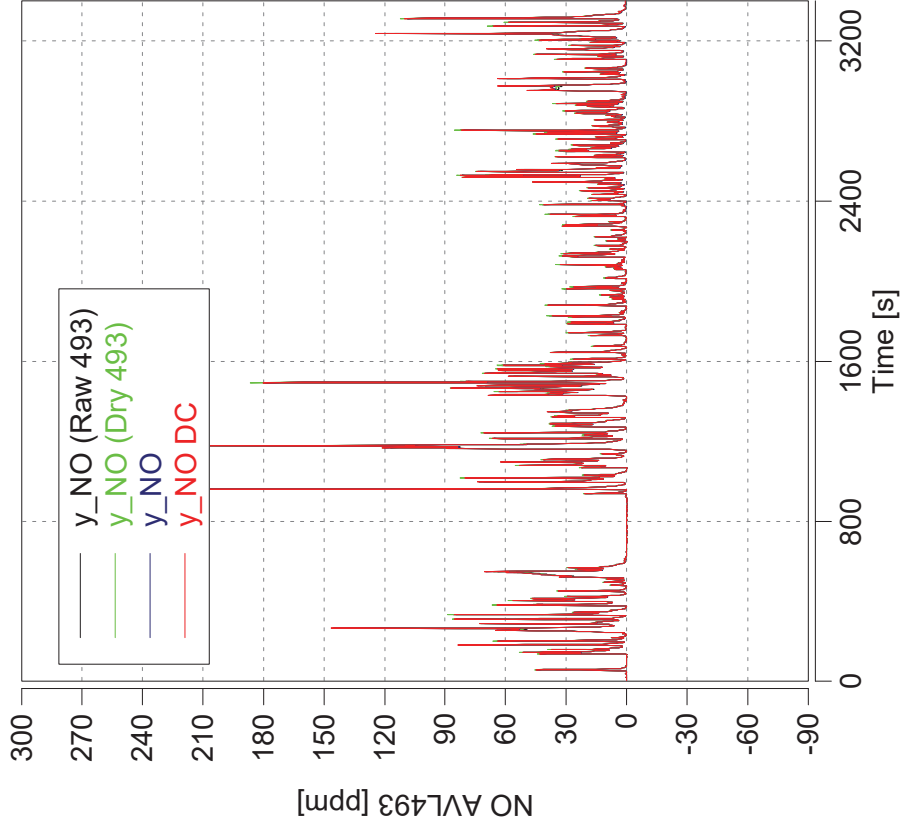
'Highway'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Q5 / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (4) NOx Corrections

'Highway'

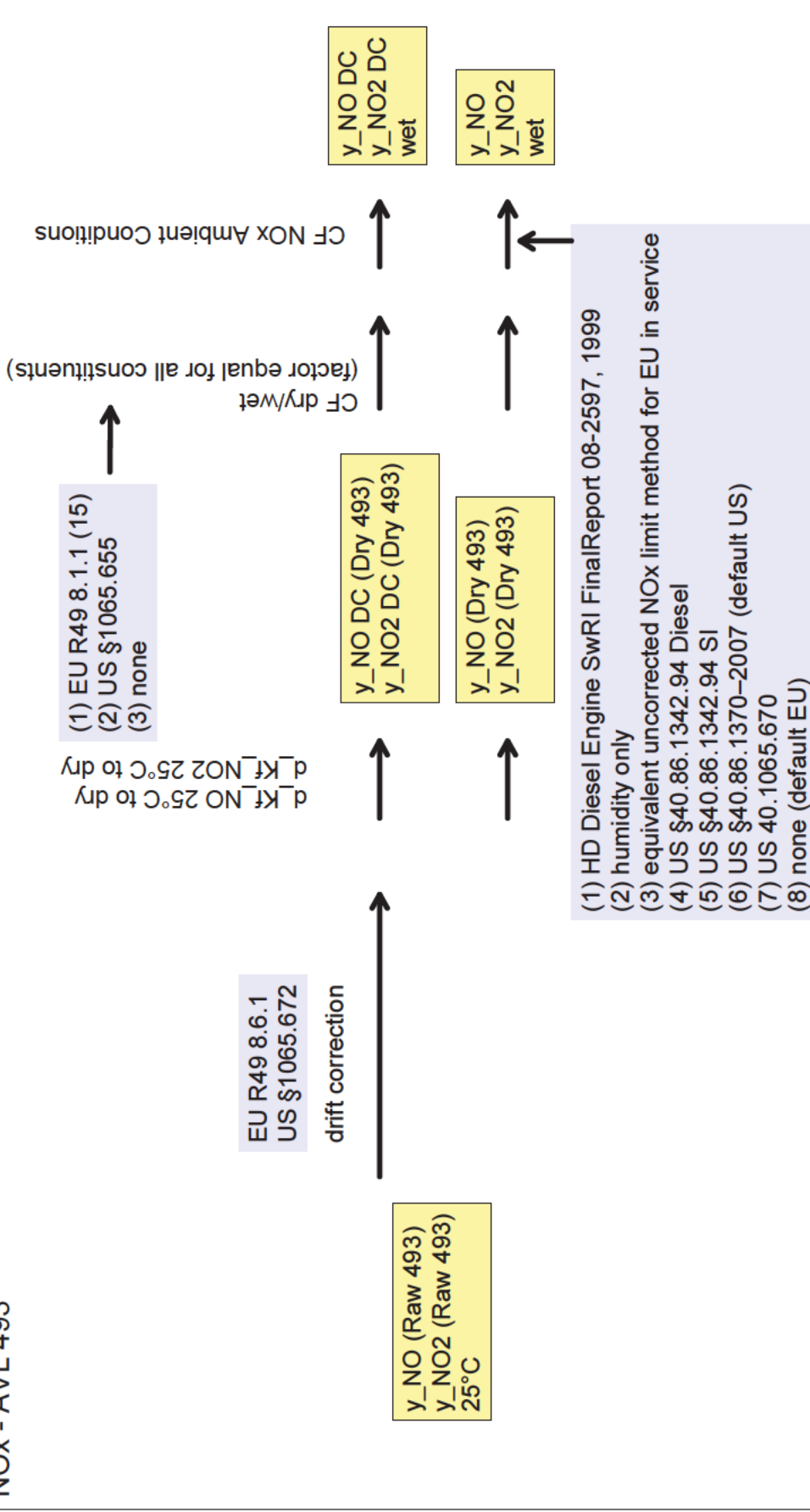
Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018

NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: / Vehicle: Q5 / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: Corrected Emissions (5)

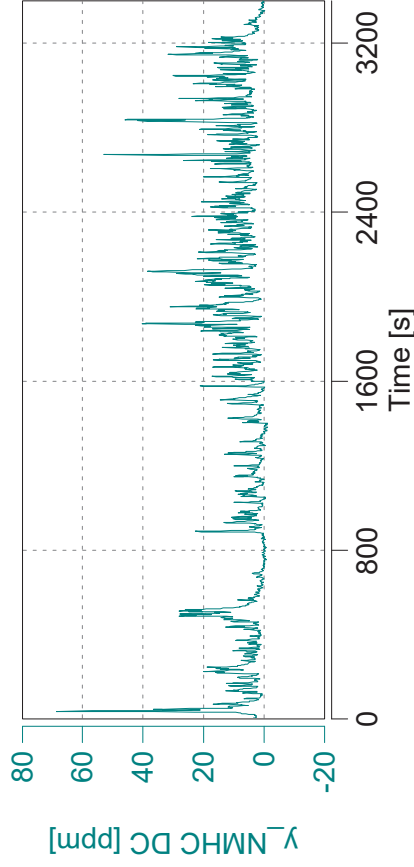
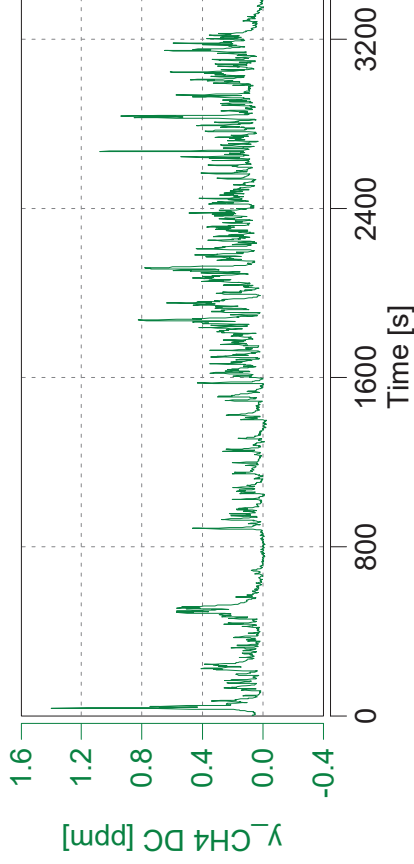
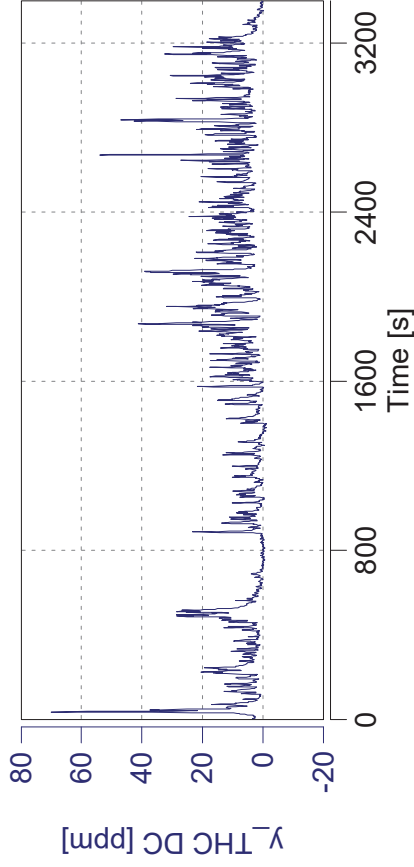
'Highway'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_0
Vehicle: Q5 / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Highway

Page: NO/NO2/NOx Zero - Span

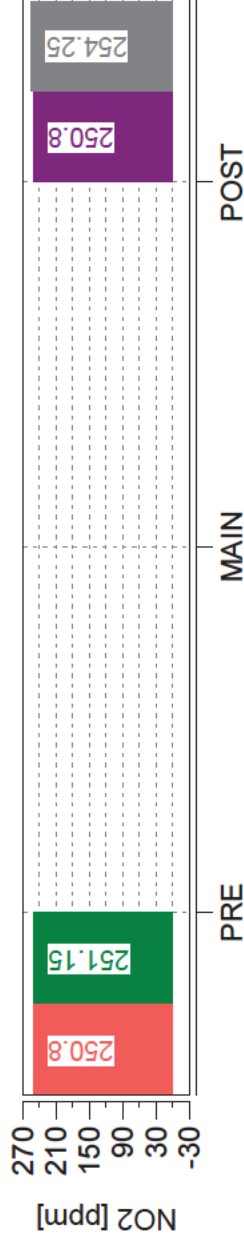
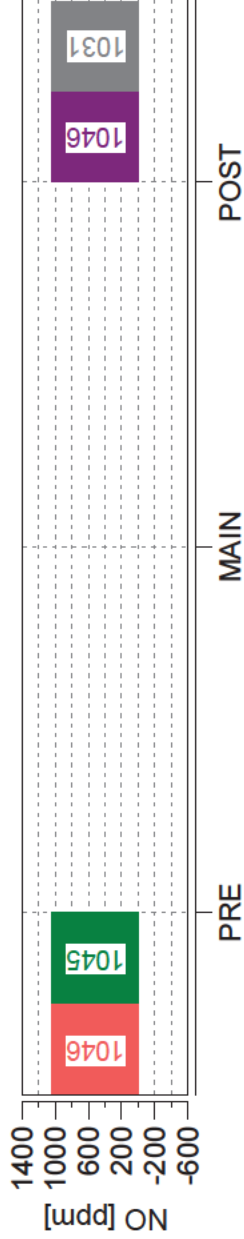
'Highway'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: Highway

Page: CO/CO2 Zero - Span

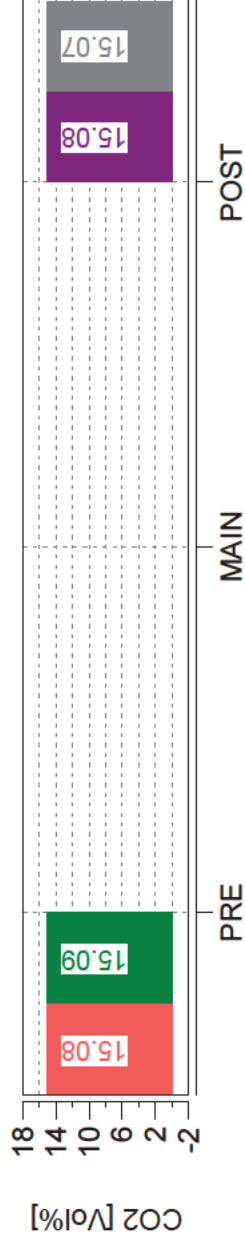
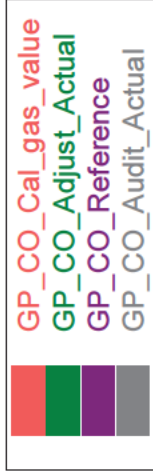
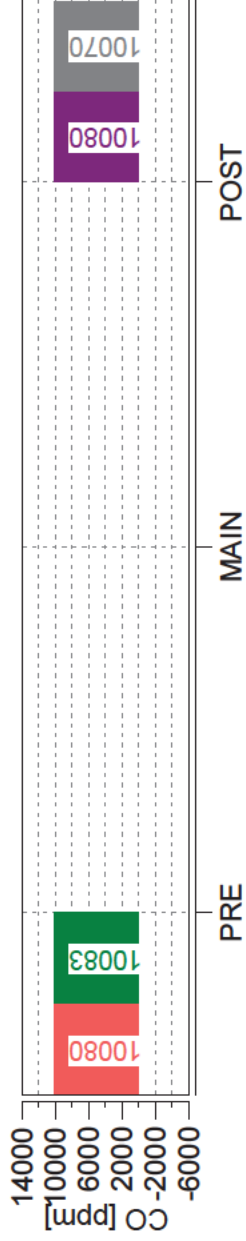
'Highway'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: Highway

Page: THC/CH4 Zero - Span

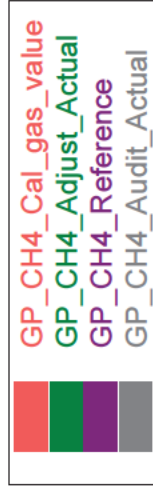
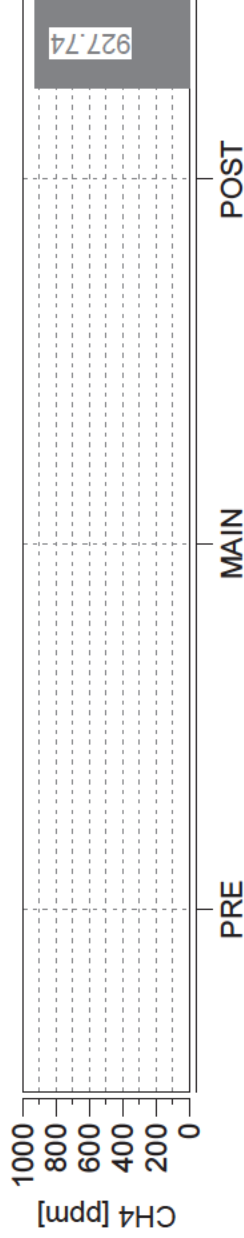
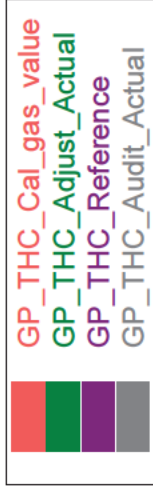
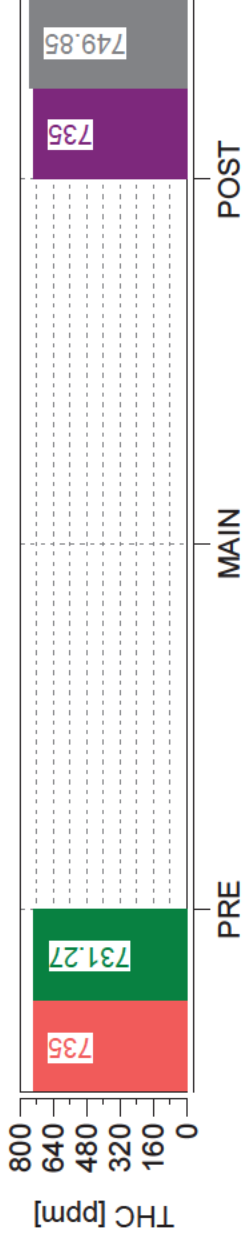
'Highway'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Q5 / 2.0L

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Trip Summary

'Mountain'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018

Trip Duration	2689.00	s	ave THC	8.73085	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	2689.00	s	ave NMHC	8.55623	ppm	BS CO	n/a	g/hphr
Trip Distance	28.93	mi	ave CH4	0.17462	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	28.93	mi	ave CO	82.33831	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	10.62188	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOX	11.62092	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	3.68	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.63	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.30	gall	tot THC	0.36049	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.28	gall	tot NMHC	0.33345	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00799	g	DS CO2	381.52728	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	8.62419	g	DS CO	0.29814	g/mi
Trip Fuel Economy EU (ac)	22.25	mpg_US	tot CO2	11036.46396	g	DS THC	0.01246	g/mi
Trip Fuel Economy US (ac)	22.54	mpg_US	tot NO (d)	0.52590	g	DS NMHC	0.01153	g/mi
Trip Av. Eng. Speed	1822.18	rpm	tot NO2	0.08652	g	DS CH4	0.00028	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.61243	g	DS NO (d)	0.01818	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	0.00299	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.02117	g/mi
Trip Exhaust Mass	60.66	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	85.23	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	48.56	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	38.72720	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	6.58237	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
 (d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Trip Summary Drift Corrected

'Mountain'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018

Parameter	Value	Unit	Parameter	Value	Unit	Parameter	Value	Unit
Trip Duration	2689.00	s	ave THC DC	8.43454	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	2689.00	s	ave NMHC DC	8.26585	ppm	BS CO DC	n/a	g/hphr
Trip Distance	28.93	mi	ave CH4 DC	0.16869	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	28.93	mi	ave CO DC	82.36486	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	10.62188	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	11.69061	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	3.68	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	3.63	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	1.30	gall	tot THC DC	0.35082	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	1.28	gall	tot NMHC DC	0.32452	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.00778	g	DS CO2 DC	381.52728	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	8.62698	g	DS CO DC	0.29823	g/mi
Trip Fuel Economy EU (ac)	22.25	mpg_US	tot CO2 DC	11036.46396	g	DS THC DC	0.01213	g/mi
Trip Fuel Economy US (ac)	22.54	mpg_US	tot NO DC (d)	0.52970	g	DS NMHC DC	0.01122	g/mi
Trip Av. Eng. Speed	1822.18	rpm	tot NO2 DC	0.08587	g	DS CH4 DC	0.00027	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.61558	g	DS NO DC (d)	0.01831	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	0.00297	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.02128	g/mi
Trip Exhaust Mass	60.66	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	85.23	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	48.56	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	38.72720	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	6.58237	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
 (d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Time Alignment Check

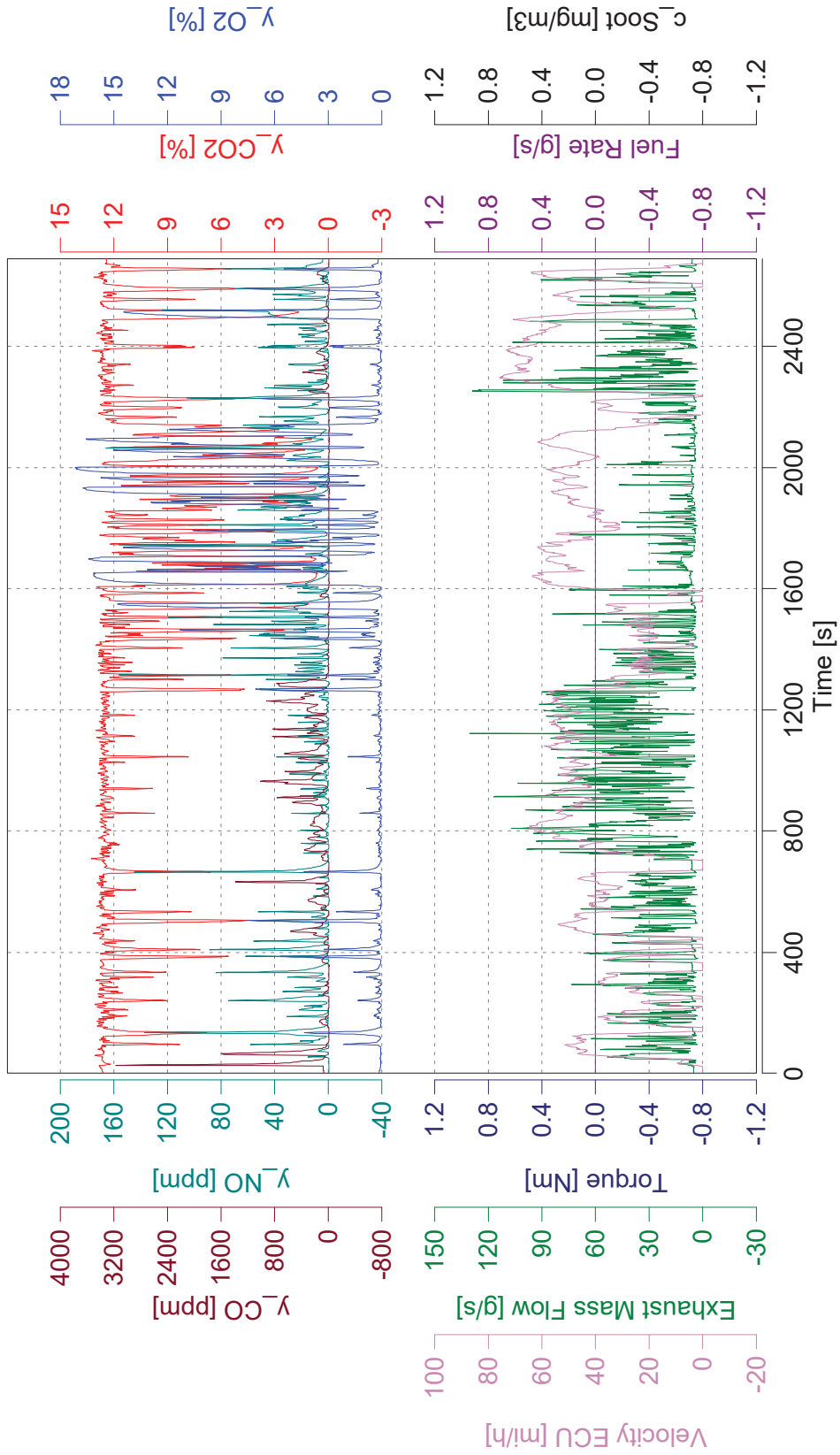
'Mountain'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: Mountain

Page: Time Alignment of Gas Concentrations

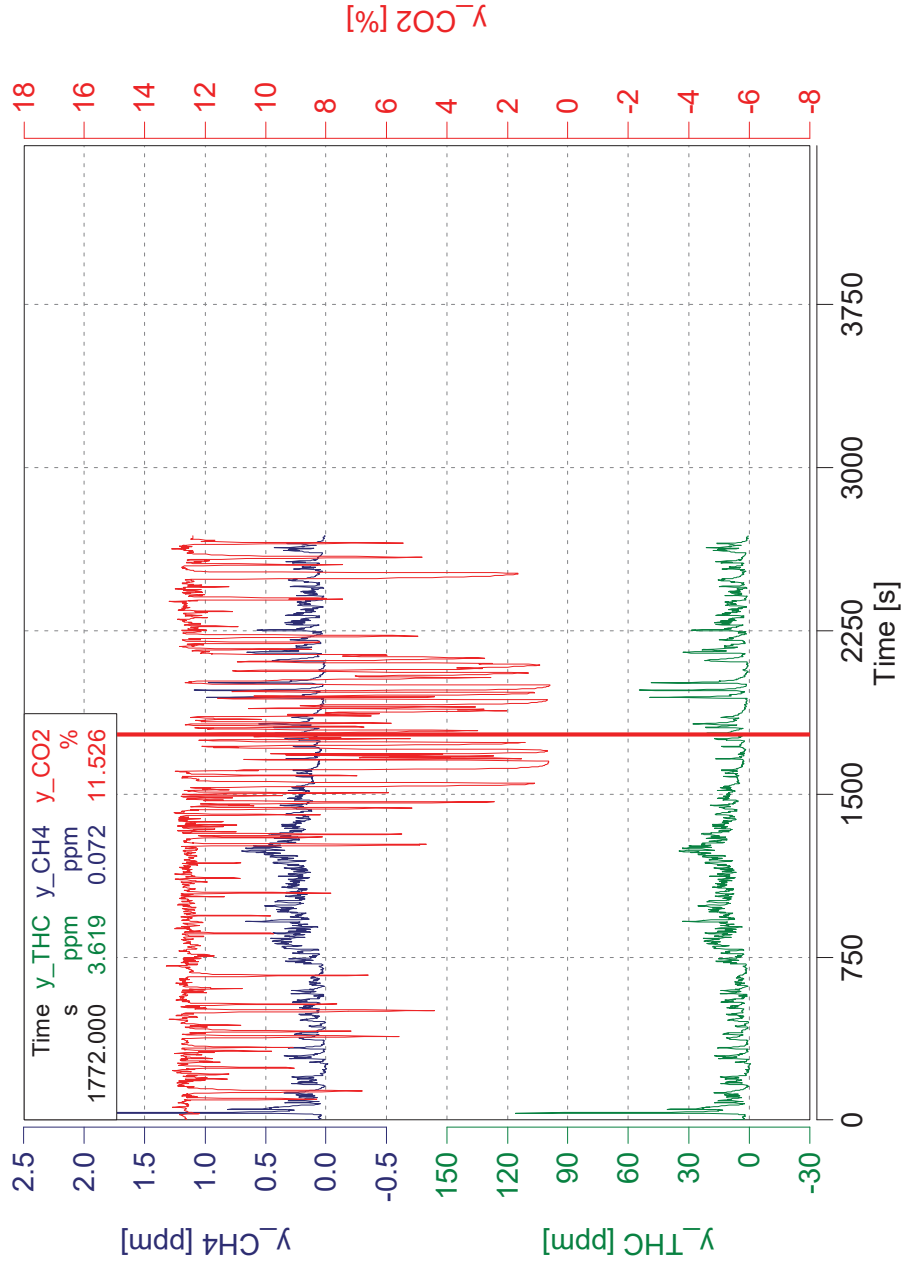
'Mountain'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Ambient Conditions

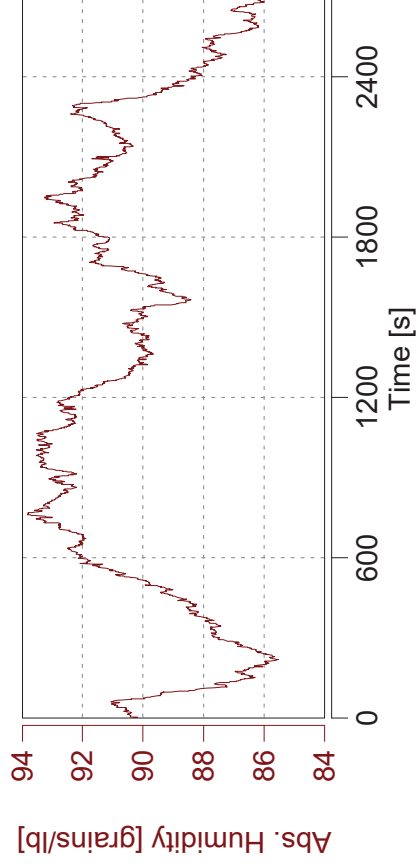
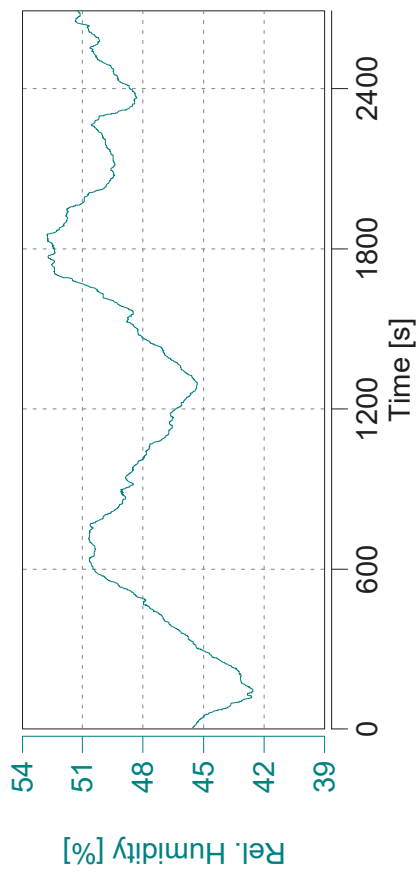
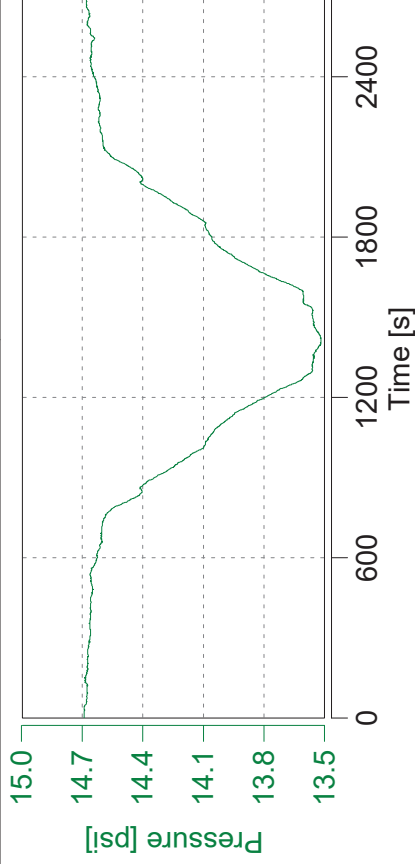
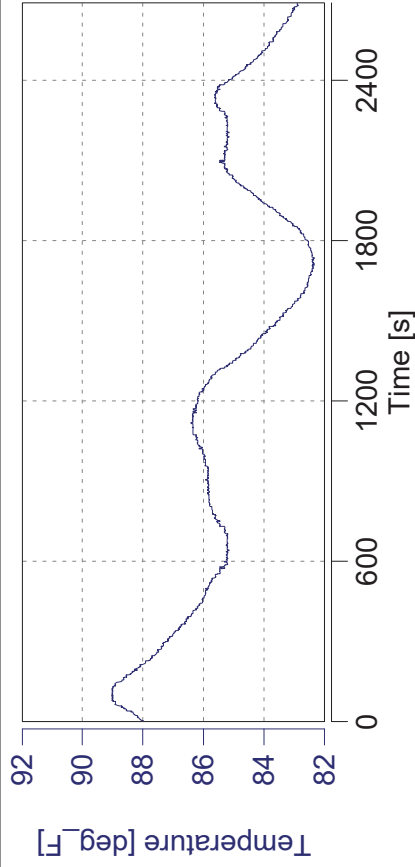
'Mountain'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Engine: /

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: GPS

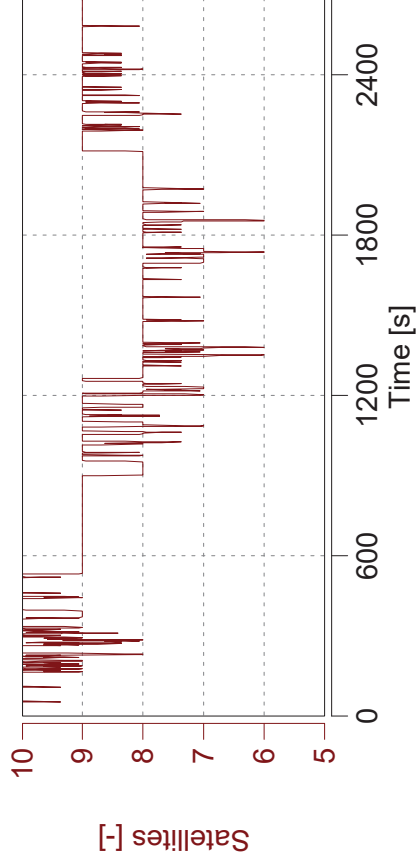
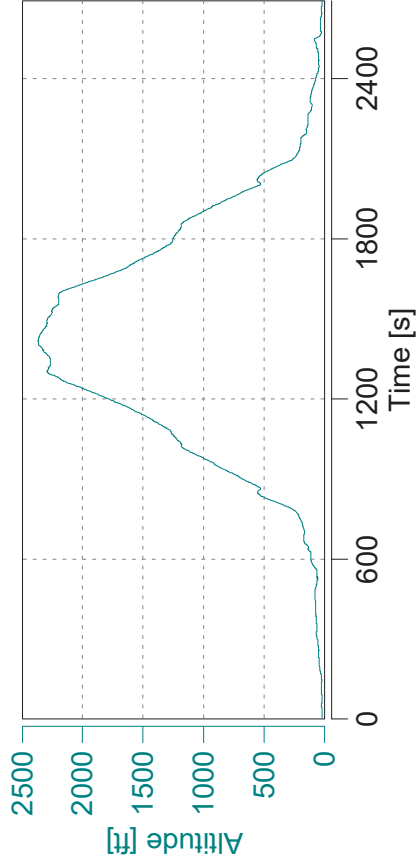
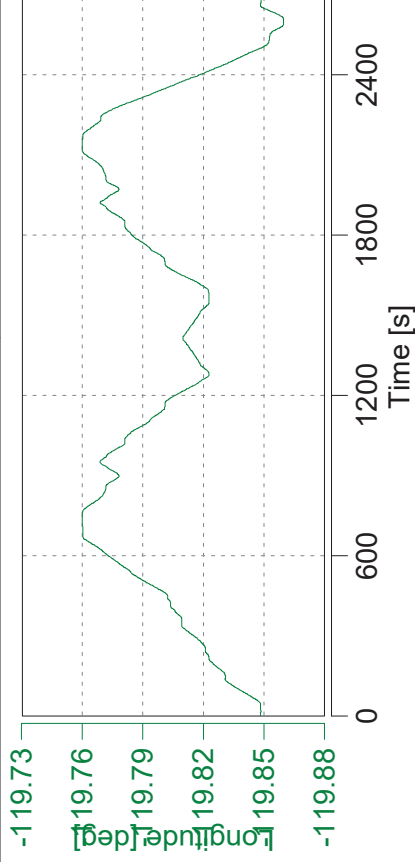
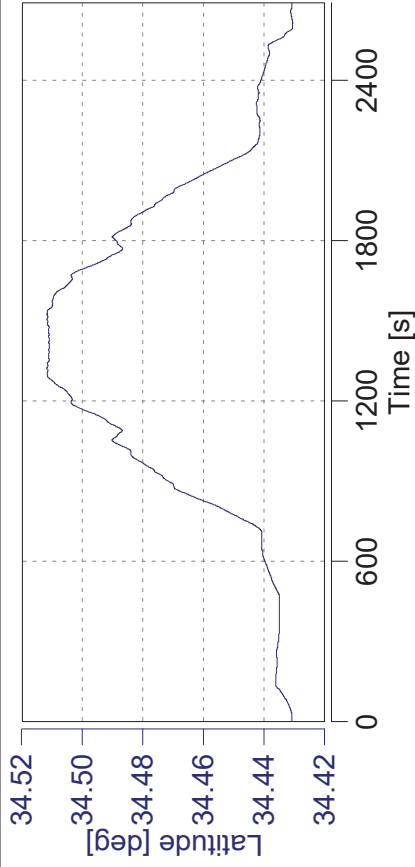
'Mountain'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Q5 / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (1)

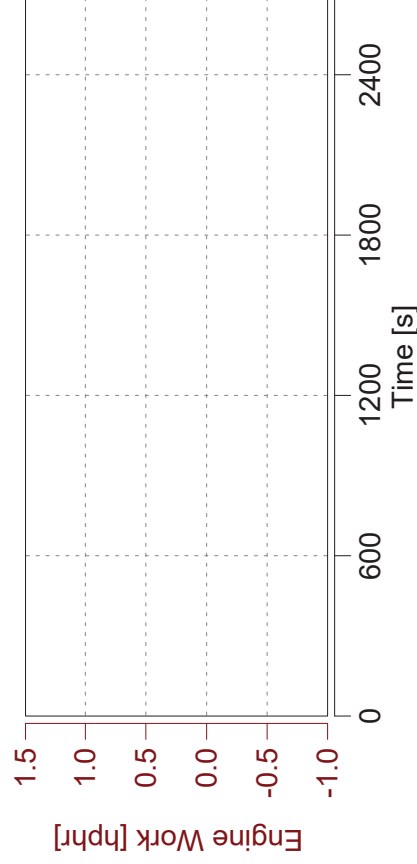
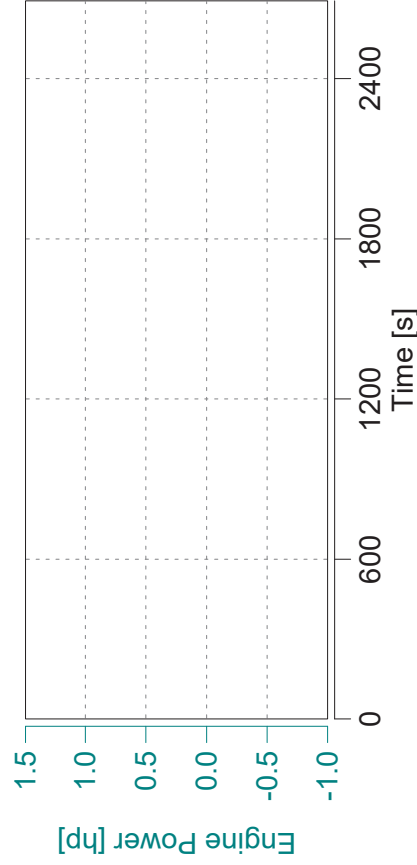
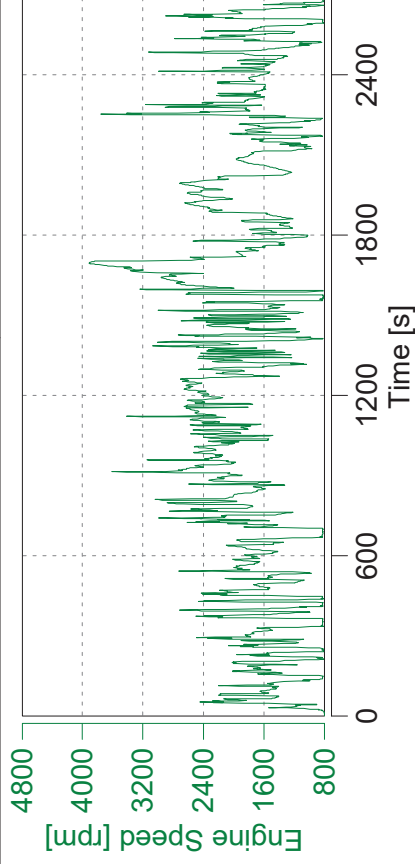
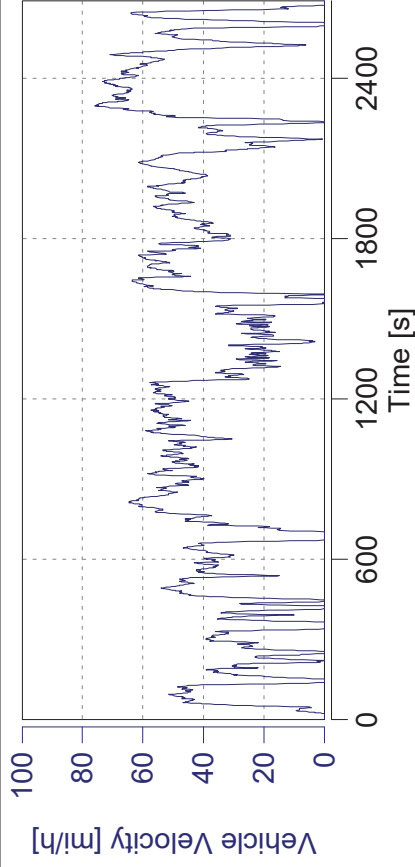
'Mountain'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (2)

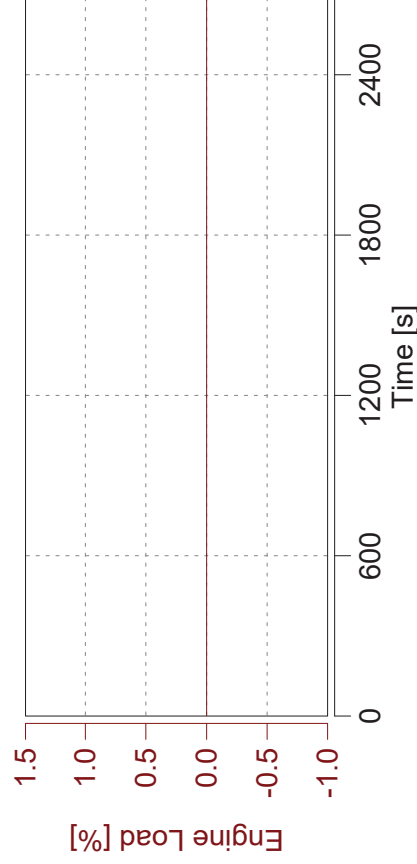
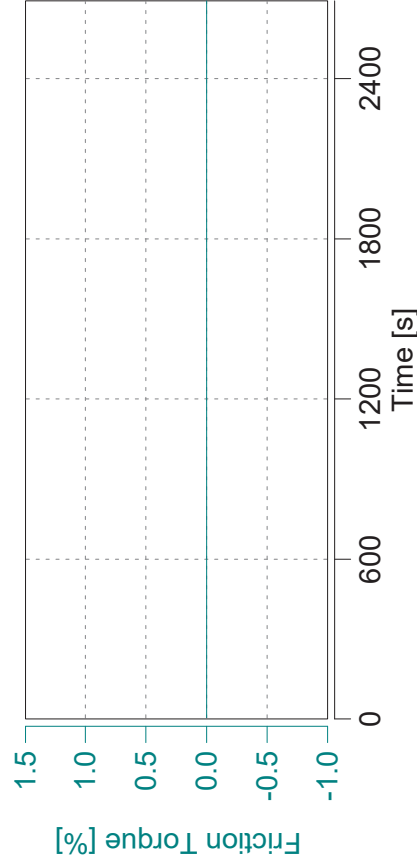
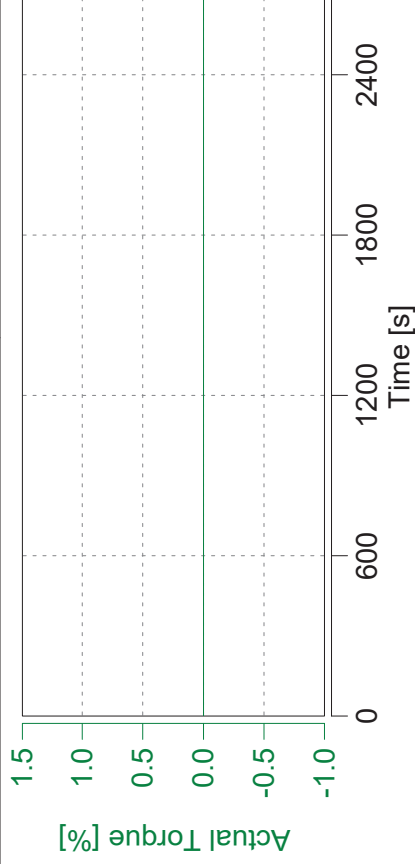
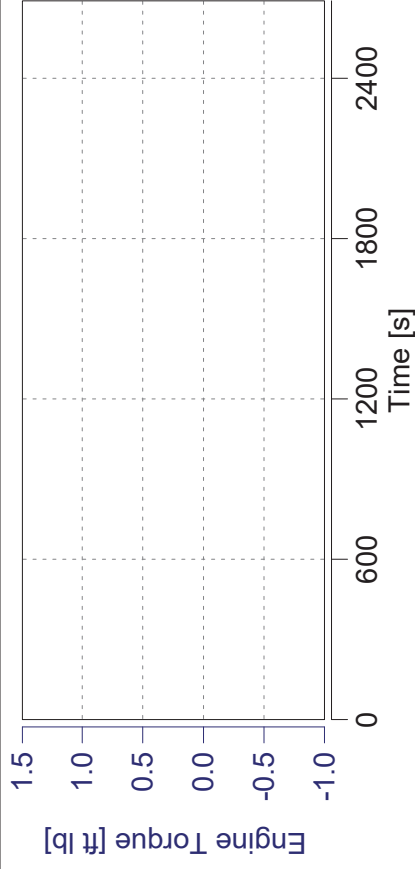
'Mountain'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Engine (3)

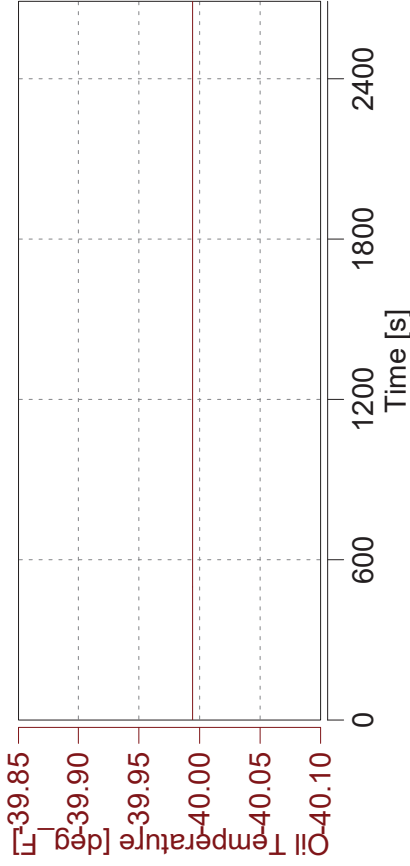
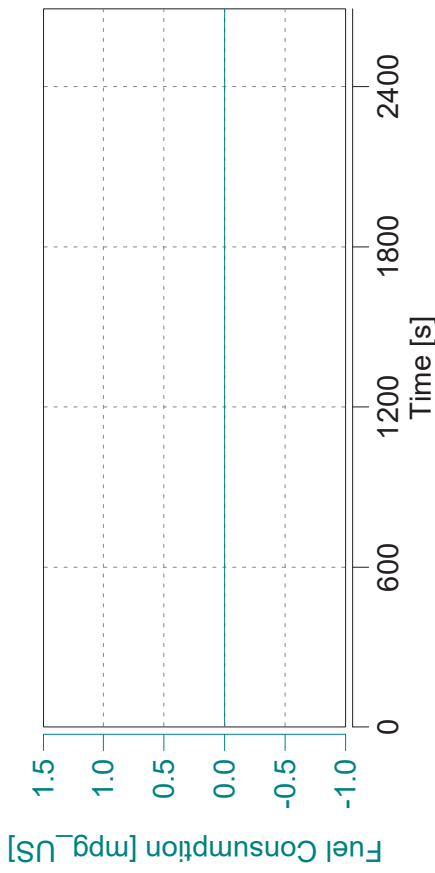
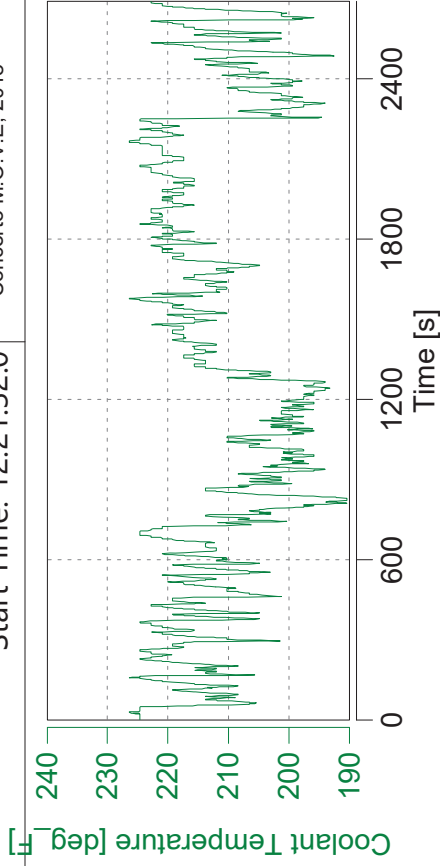
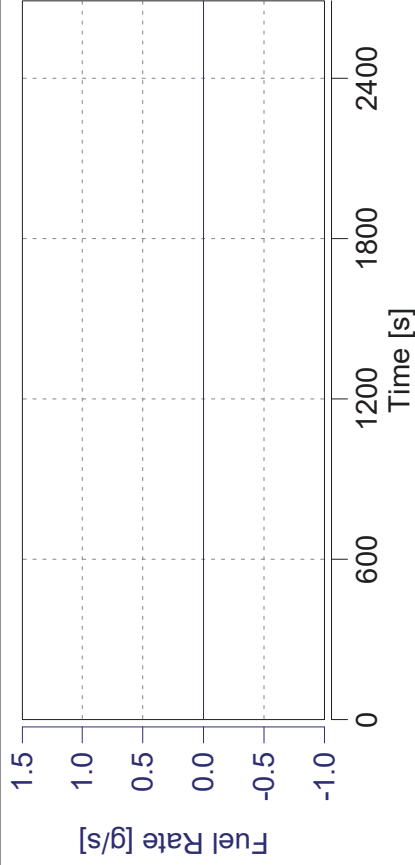
'Mountain'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

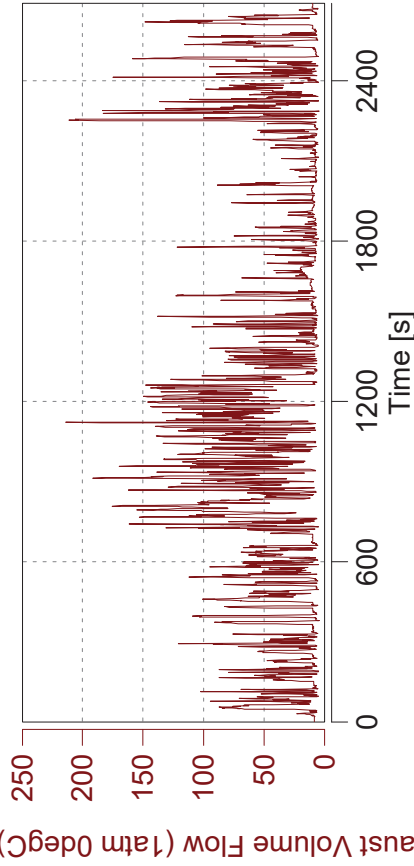
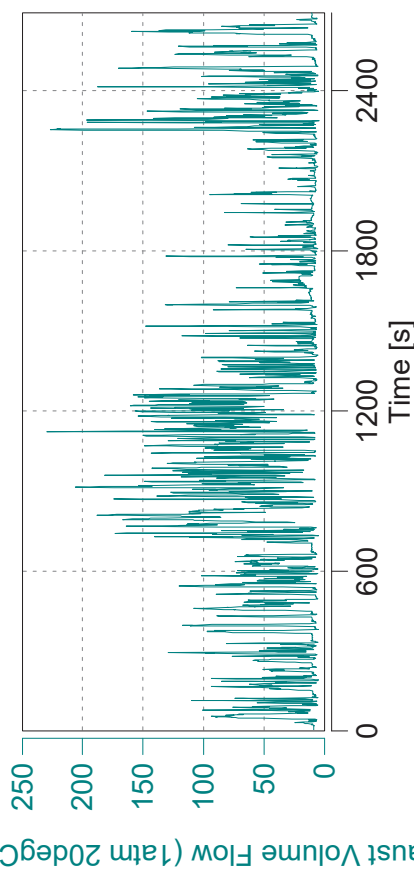
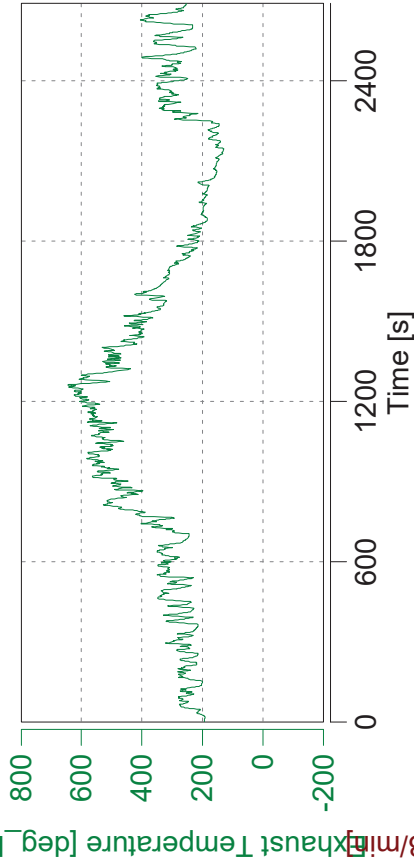
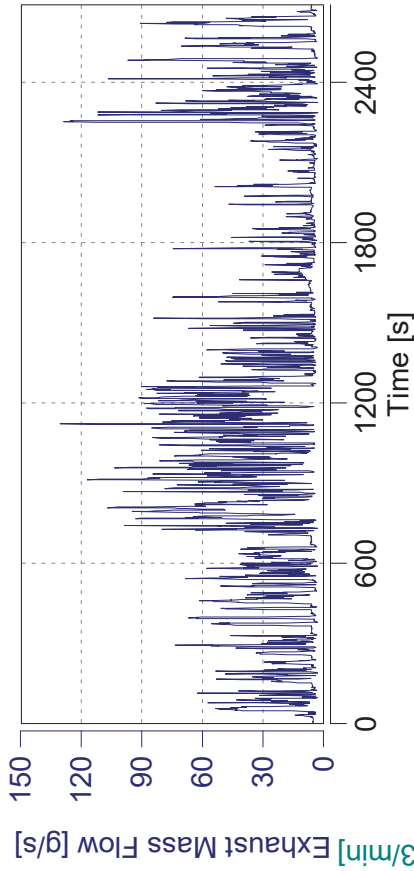
Page: Exhaust Flow (1)

'Mountain'

Start Date: 08/12/2018

Start Time: 12:21:32.0

Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Q5 / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Exhaust Flow (2)

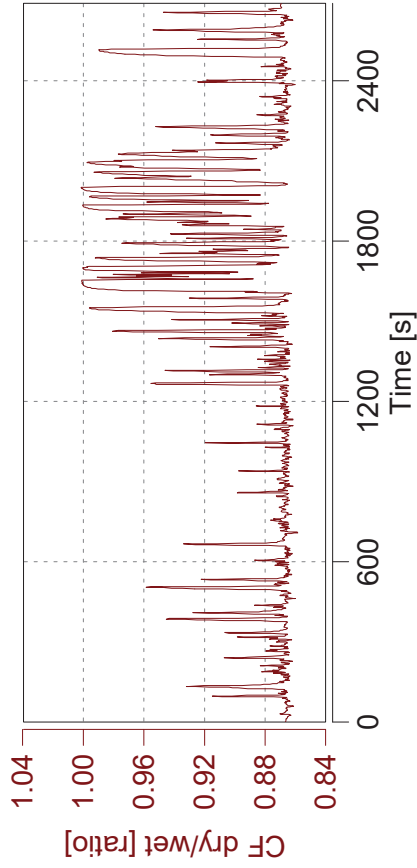
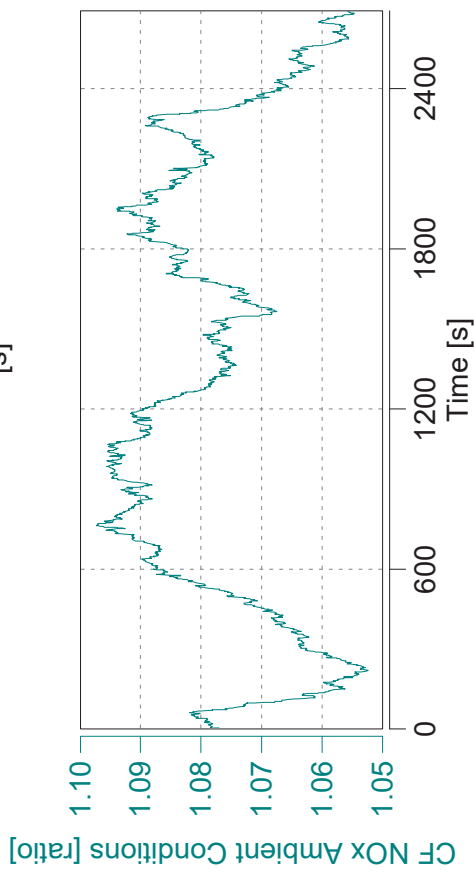
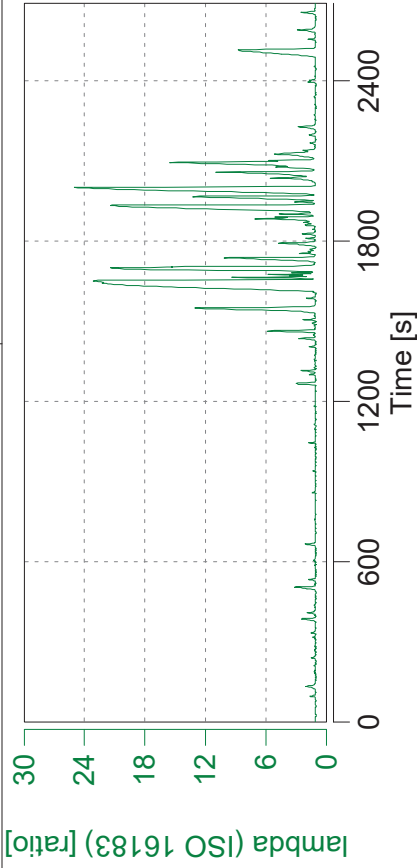
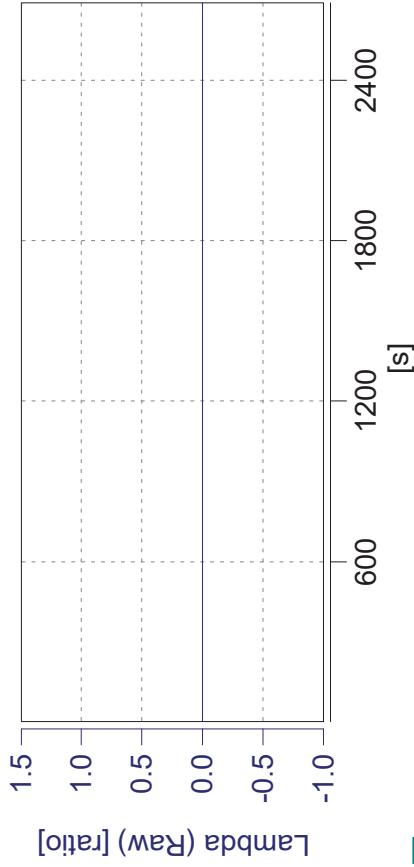
'Mountain'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (1)

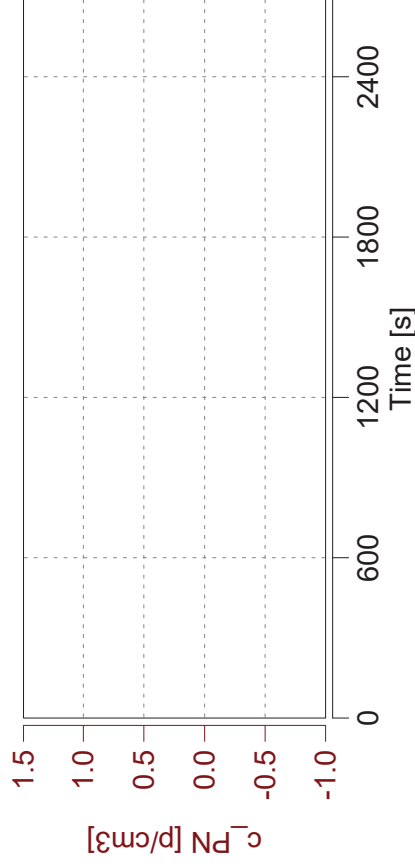
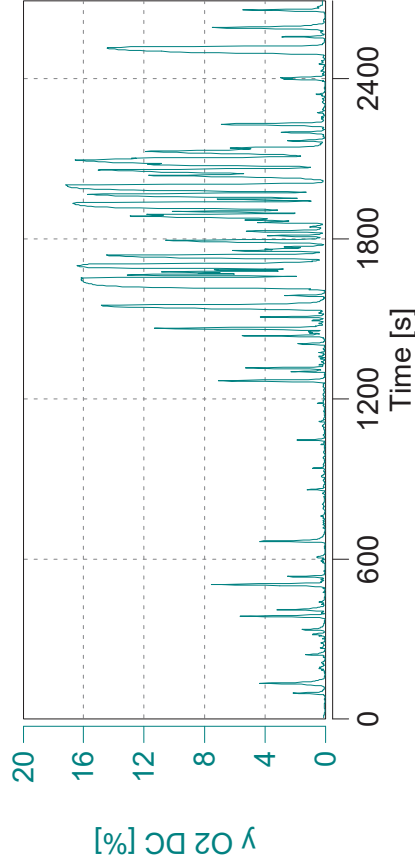
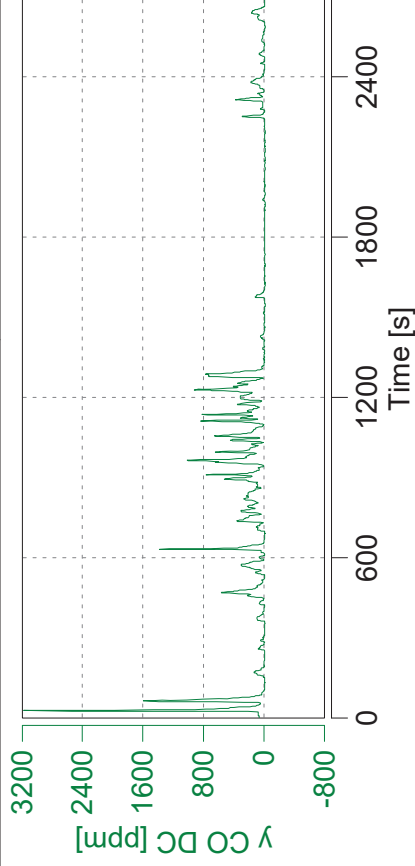
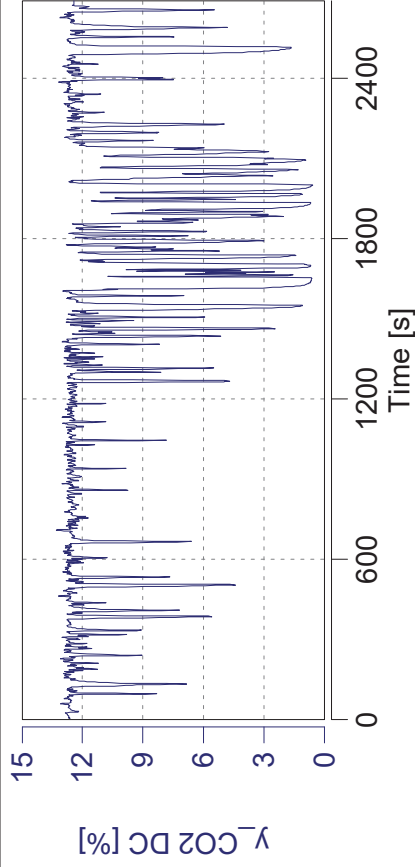
'Mountain'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (2)

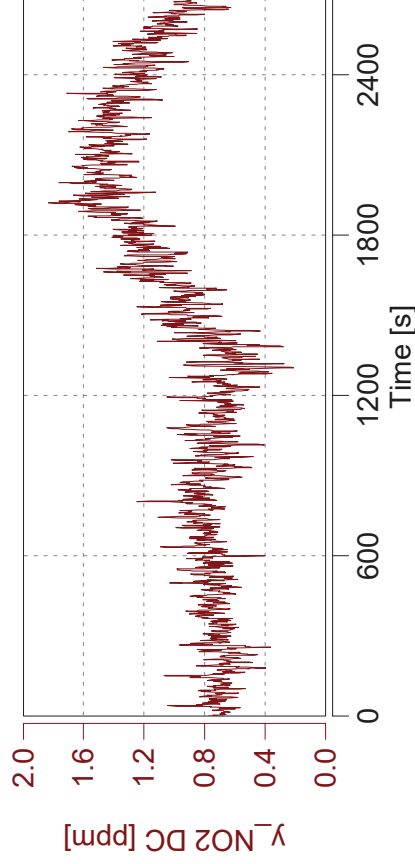
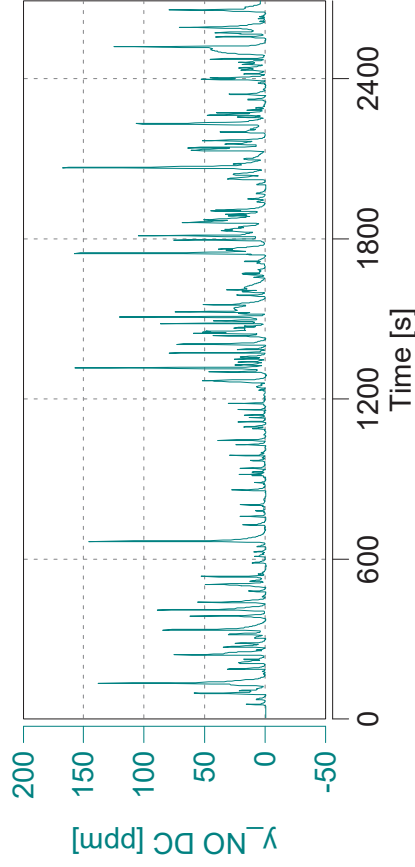
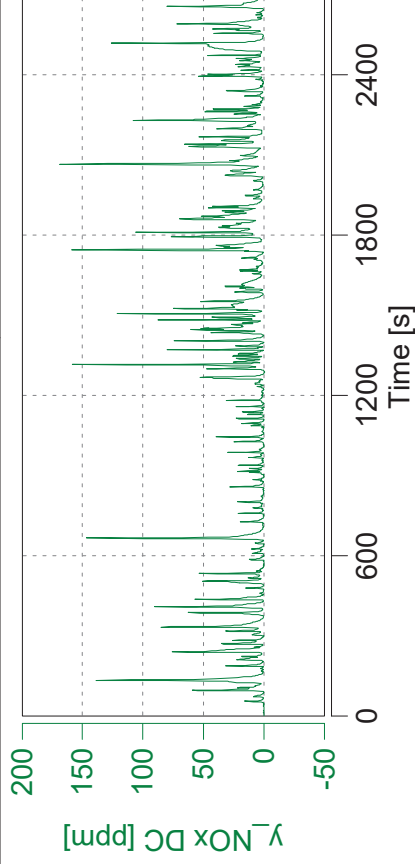
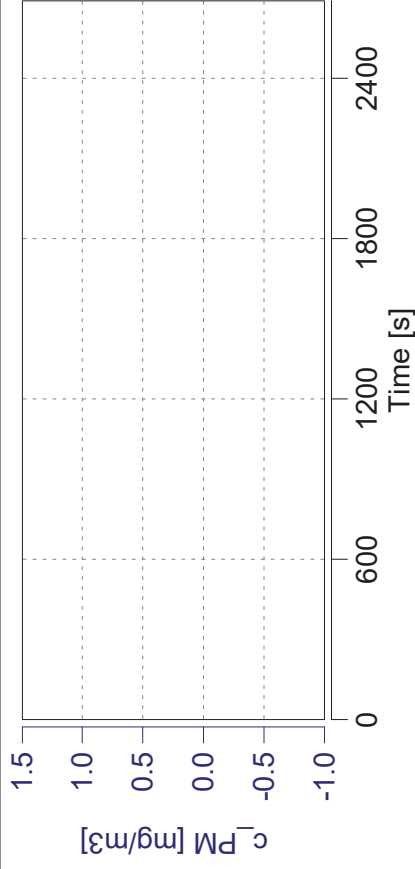
'Mountain'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Q5 / 2.0L

Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (3)

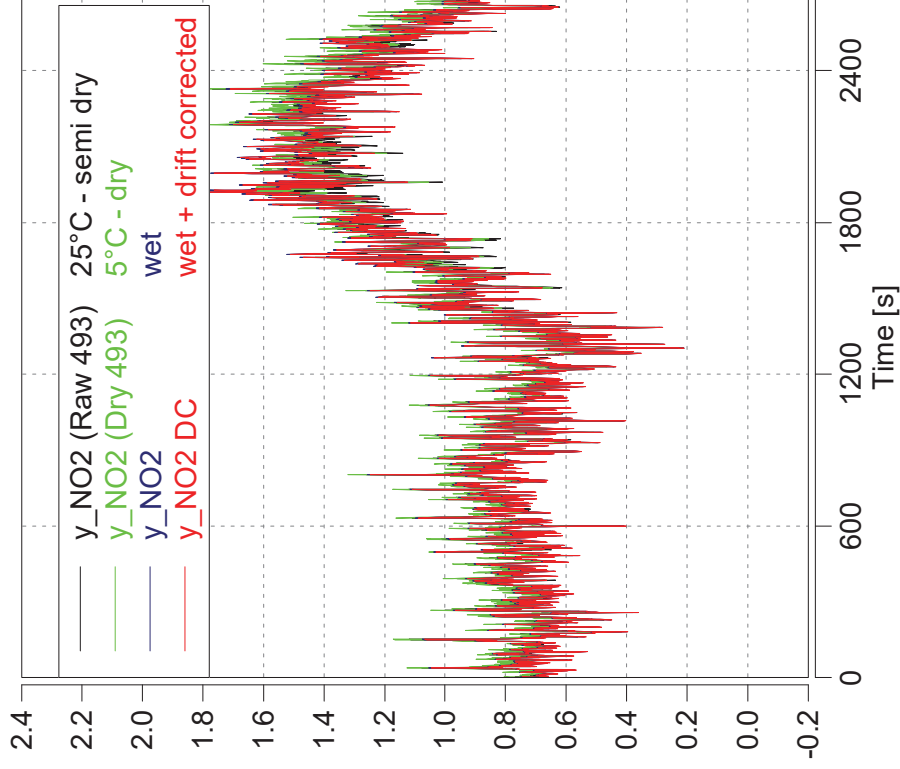
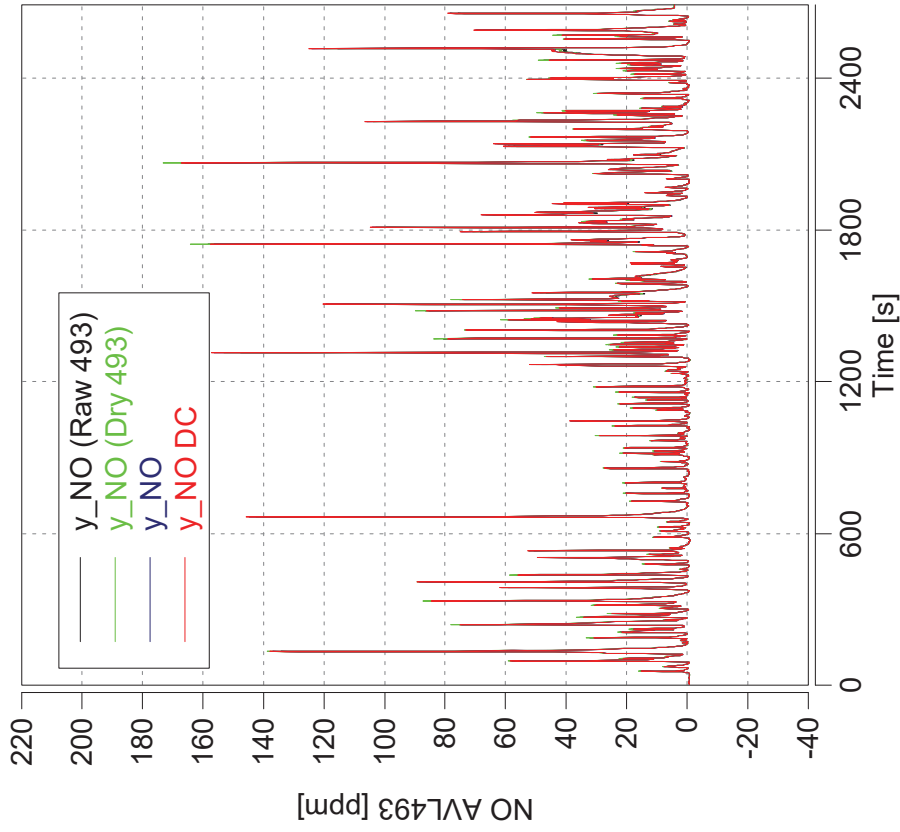
'Mountain'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (4) NOx Corrections

'Mountain'

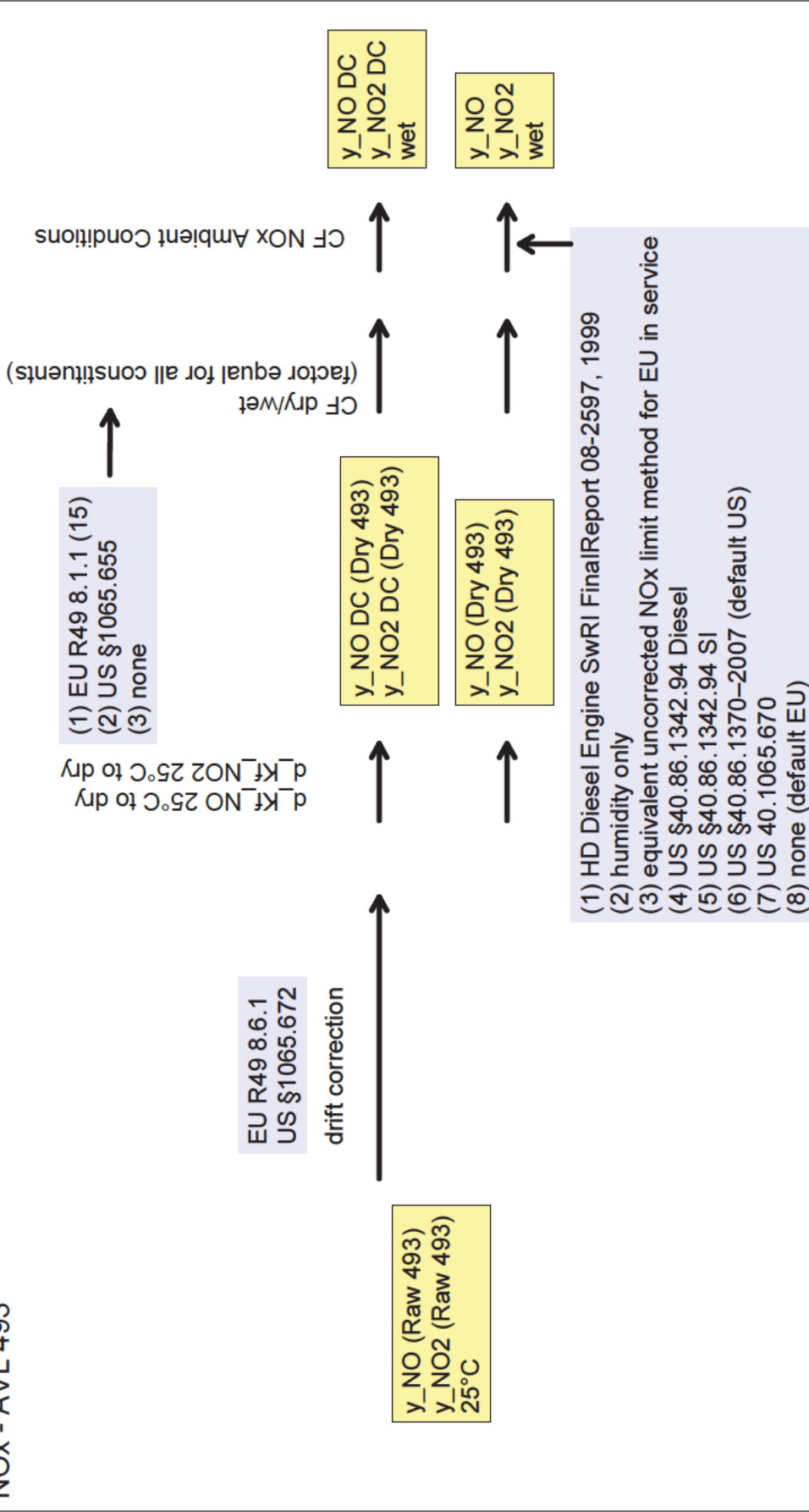
Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018

NOx - AVL 493



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: Corrected Emissions (5)

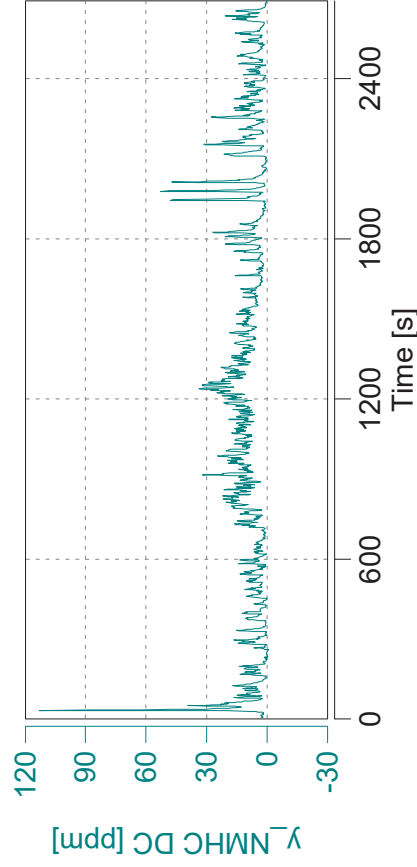
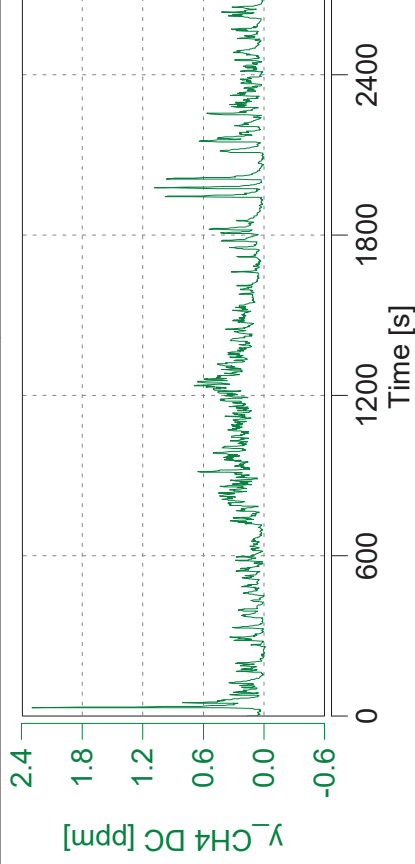
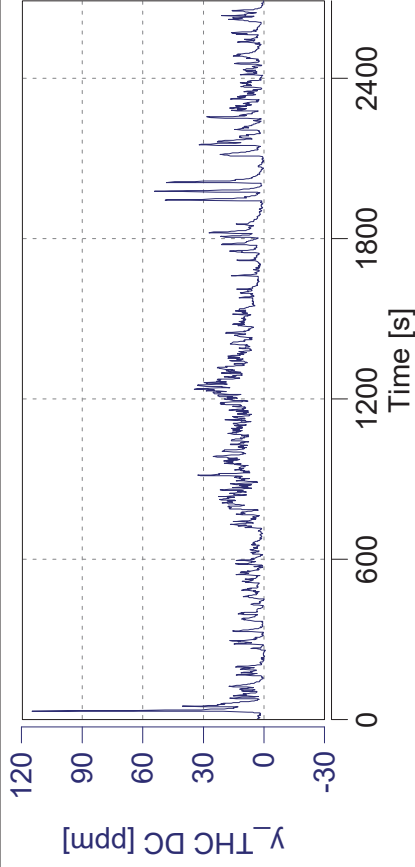
'Mountain'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: NO/NO2/NOx Zero - Span

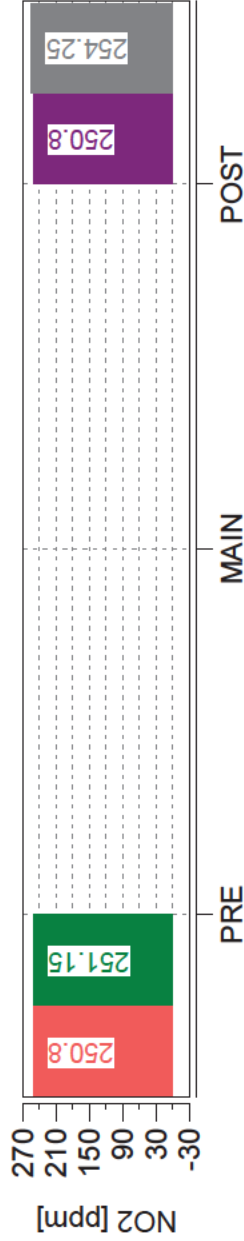
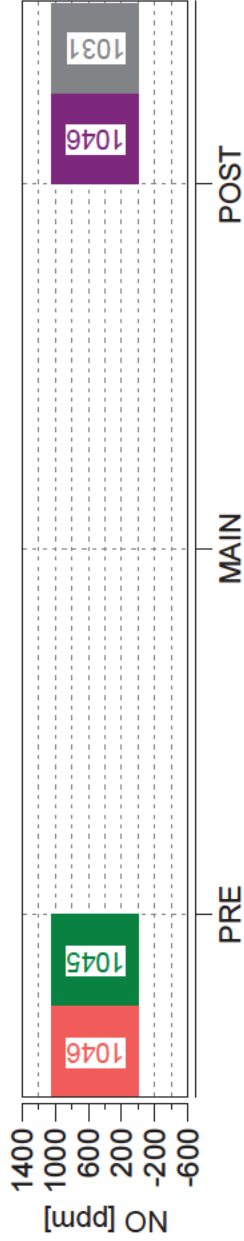
'Mountain'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: Mountain

Page: CO/CO2 Zero - Span

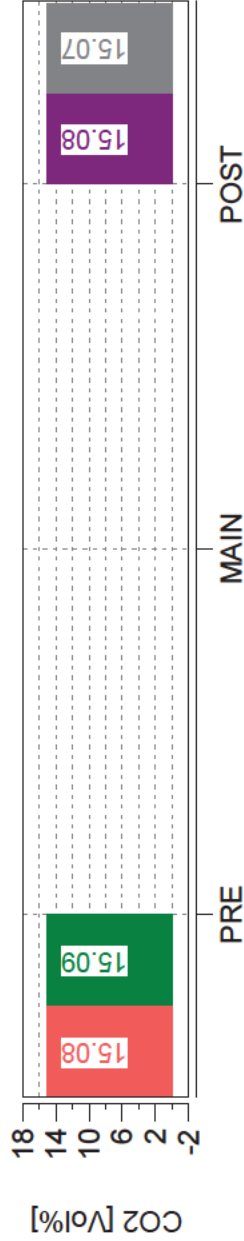
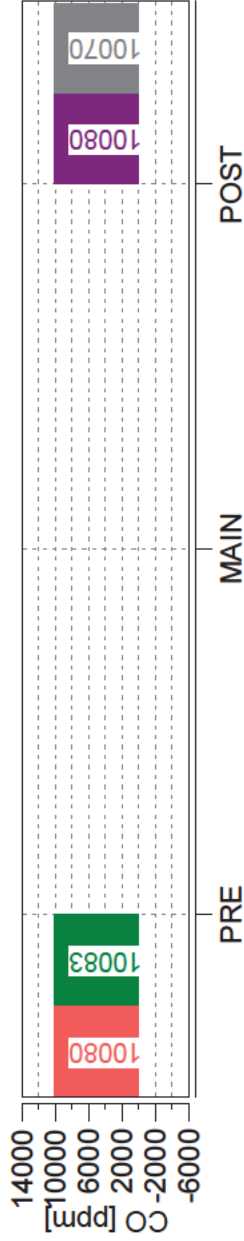
'Mountain'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: Mountain

Page: THC/CH4 Zero - Span

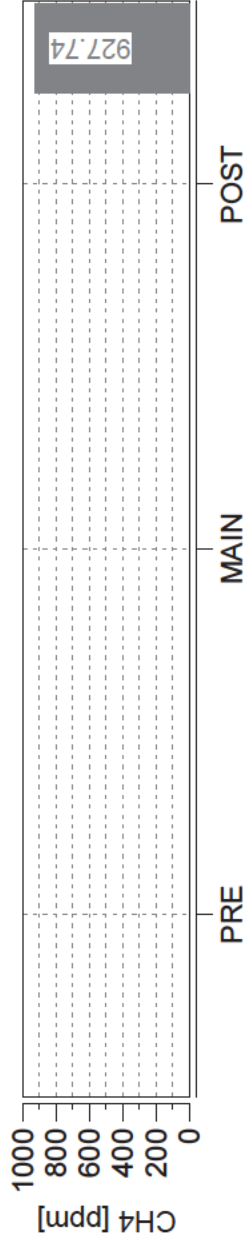
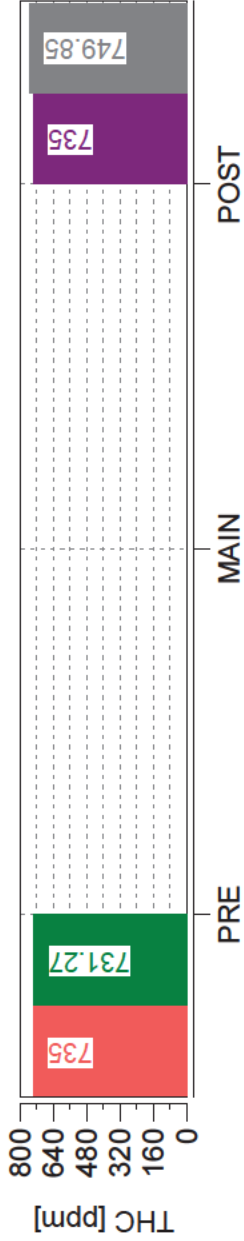
'Mountain'

Start Date: 08/12/2018

Start Time: 12:21:32.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Trip Summary

'City'

Start Date: 08/12/2018

Start Time: 19:25:53.0



Concerto M.O.V.E. 2018

Trip Duration	3193.00	s	ave THC	5.65052	ppm	BS CO2	n/a	g/hphr
Trip Duration (a)	3193.00	s	ave NMHC	5.53751	ppm	BS CO	n/a	g/hphr
Trip Distance	16.24	mi	ave CH4	0.11301	ppm	BS THC	n/a	g/hphr
Trip Distance (a)	16.24	mi	ave CO	55.59285	ppm	BS NMHC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2	11.83239	%	BS CH4	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOX	11.03265	ppm	BS NO (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	2.56	kg	ave PM	n/a	mg/m3	BS NO2	n/a	g/hphr
Trip Fuel Cons. US (ac)	2.53	kg	ave Soot meas	n/a	mg/m3	BS NOx	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	0.90	gall	tot THC	0.15437	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	0.89	gall	tot NMHC	0.14280	g	BS PN	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4	0.00342	g	DS CO2	473.75182	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO	4.06328	g	DS CO	0.25020	g/mi
Trip Fuel Economy EU (ac)	17.95	mpg_US	tot CO2	7693.83455	g	DS THC	0.00951	g/mi
Trip Fuel Economy US (ac)	18.17	mpg_US	tot NO (d)	0.44887	g	DS NMHC	0.00879	g/mi
Trip Av. Eng. Speed	1337.95	rpm	tot NO2	-0.04823	g	DS CH4	0.00021	g/mi
Trip Av. Torque	n/a	lbft	tot NOx	0.40065	g	DS NO (d)	0.02764	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2	-0.00297	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx	0.02467	g/mi
Trip Exhaust Mass	41.40	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	71.97	deg_F	PM correction type	1.00000	alpha(HC)	DS PN	n/a	#/mi
Trip Av. Humidity	72.24	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC	n/a	g/kg
			Trip Av. Veh. Speed	18.31030	mi/hr	FS NMHC	n/a	g/kg
			Trip Velocity Zero	24.89821	%	FS CH4	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Trip Summary Drift Corrected

'City'

Start Date: 08/12/2018

Start Time: 19:25:53.0



Concerto M.O.V.E., 2018

Trip Duration	3193.00	s	ave THC DC	5.70869	ppm	BS CO2 DC	n/a	g/hphr
Trip Duration (a)	3193.00	s	ave NMHC DC	5.59451	ppm	BS CO DC	n/a	g/hphr
Trip Distance	16.24	mi	ave CH4 DC	0.11417	ppm	BS THC DC	n/a	g/hphr
Trip Distance (a)	16.24	mi	ave CO DC	55.34695	ppm	BS NMHC DC	n/a	g/hphr
Trip Fuel Cons. (b)	0.00	kg	ave CO2 DC	11.82888	%	BS CH4 DC	n/a	g/hphr
Trip Fuel Cons. (ab)	0.00	kg	ave NOx DC	11.16543	ppm	BS NO DC (d)	n/a	g/hphr
Trip Fuel Cons. EU (ac)	2.56	kg	ave PM	n/a	mg/m3	BS NO2 DC	n/a	g/hphr
Trip Fuel Cons. US (ac)	2.53	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	n/a	g/hphr
Trip Fuel Cons. Volume (b)	0.00	gall	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Cons. Volume (ab)	0.00	gall	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Cons. Volume EU (ac)	0.90	gall	tot THC DC	0.15548	g	BS PM	n/a	g/hphr
Trip Fuel Cons. Volume US (ac)	0.89	gall	tot NMHC DC	0.14382	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy (b)	n/a	mpg_US	tot CH4 DC	0.00345	g	DS CO2 DC	473.60664	g/mi
Trip Fuel Economy (ab)	n/a	mpg_US	tot CO DC	4.05096	g	DS CO DC	0.24944	g/mi
Trip Fuel Economy EU (ac)	17.95	mpg_US	tot CO2 DC	7691.47681	g	DS THC DC	0.00957	g/mi
Trip Fuel Economy US (ac)	18.17	mpg_US	tot NO DC (d)	0.45301	g	DS NMHC DC	0.00886	g/mi
Trip Av. Eng. Speed	1337.95	rpm	tot NO2 DC	-0.04172	g	DS CH4 DC	0.00021	g/mi
Trip Av. Torque	n/a	lbft	tot NOx DC	0.41129	g	DS NO DC (d)	0.02789	g/mi
Trip Av. Power	n/a	hp	tot Soot	n/a	g	DS NO2 DC	-0.00257	g/mi
Trip Work	n/a	hphr	tot Soot meas	n/a	g	DS NOx DC	0.02533	g/mi
Trip Exhaust Mass	41.40	kg	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass EU (ac)	n/a	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass US (ac)	n/a	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Av. Amb. Temperature	71.97	deg_F	PM correction type	1.00000	alpha(HC)	DS PN DC	n/a	#/mi
Trip Av. Humidity	72.24	%	tot Soot on PM filter (estim.)	n/a	mg	FS CO2 DC	n/a	g/kg
Fuel Type	Petrol (E10)		Soot --> PM simple scaling factor	1.00000	-	FS CO DC	n/a	g/kg
			Soot --> PM alpha scaling factor	0.00000	-	FS THC DC	n/a	g/kg
			Trip Av. Veh. Speed	18.31030	mi/hr	FS NMHC DC	n/a	g/kg
			Trip Velocity Zero	24.89821	%	FS CH4 DC	n/a	g/kg
			Trip Velocity Urban	0.00000	%	FS NO DC (d)	n/a	g/kg
			Trip Velocity Rural	0.00000	%	FS NO2 DC	n/a	g/kg
			Trip Velocity Motorway	100.00000	%	FS NOx DC	n/a	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) calculated from carbon balance
(d) NO calculated using molecular weight of NO2

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Time Alignment Check

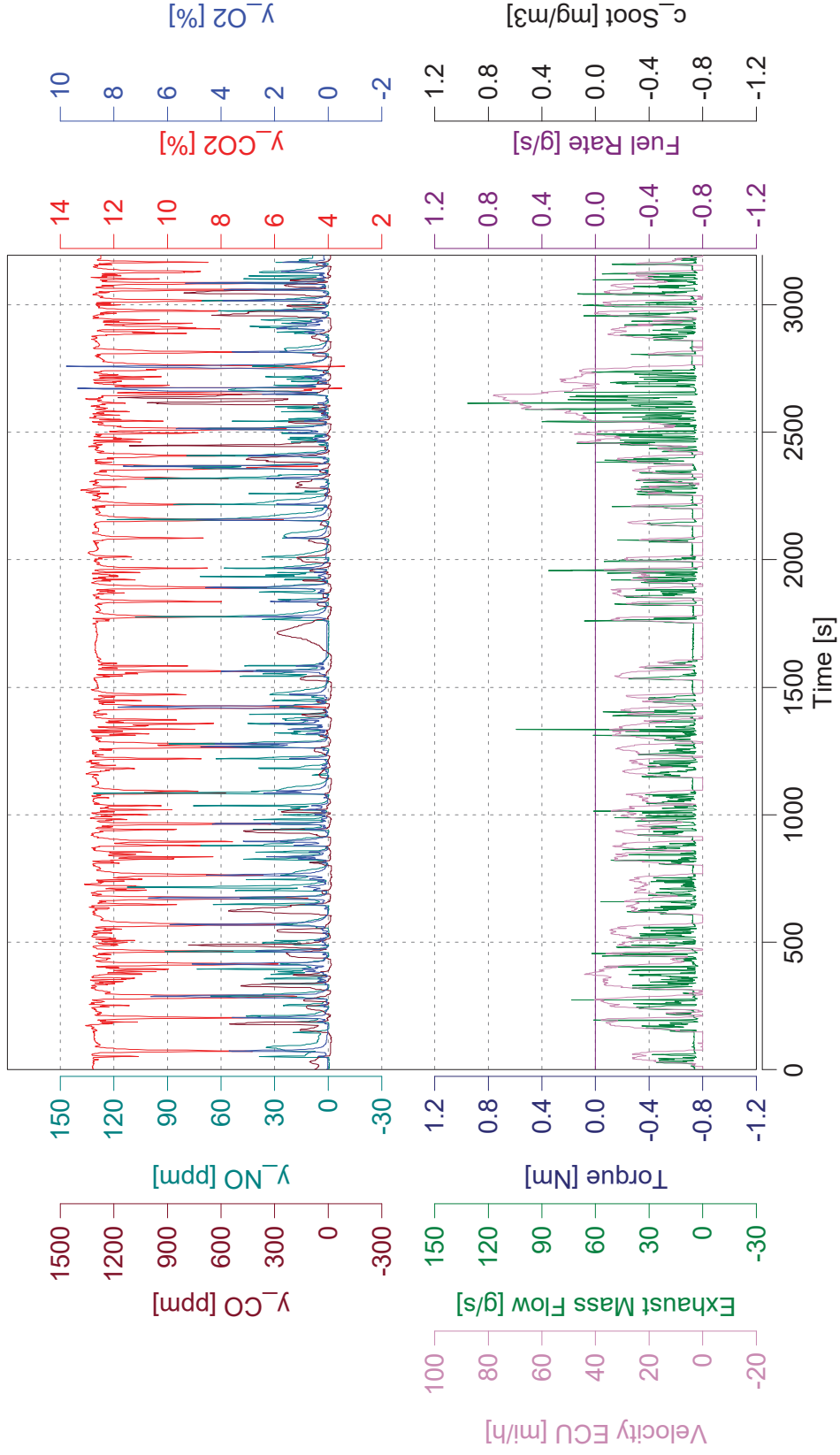
'City'

Start Date: 08/12/2018

Start Time: 19:25:53.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: City

Page: Time Alignment of Gas Concentrations

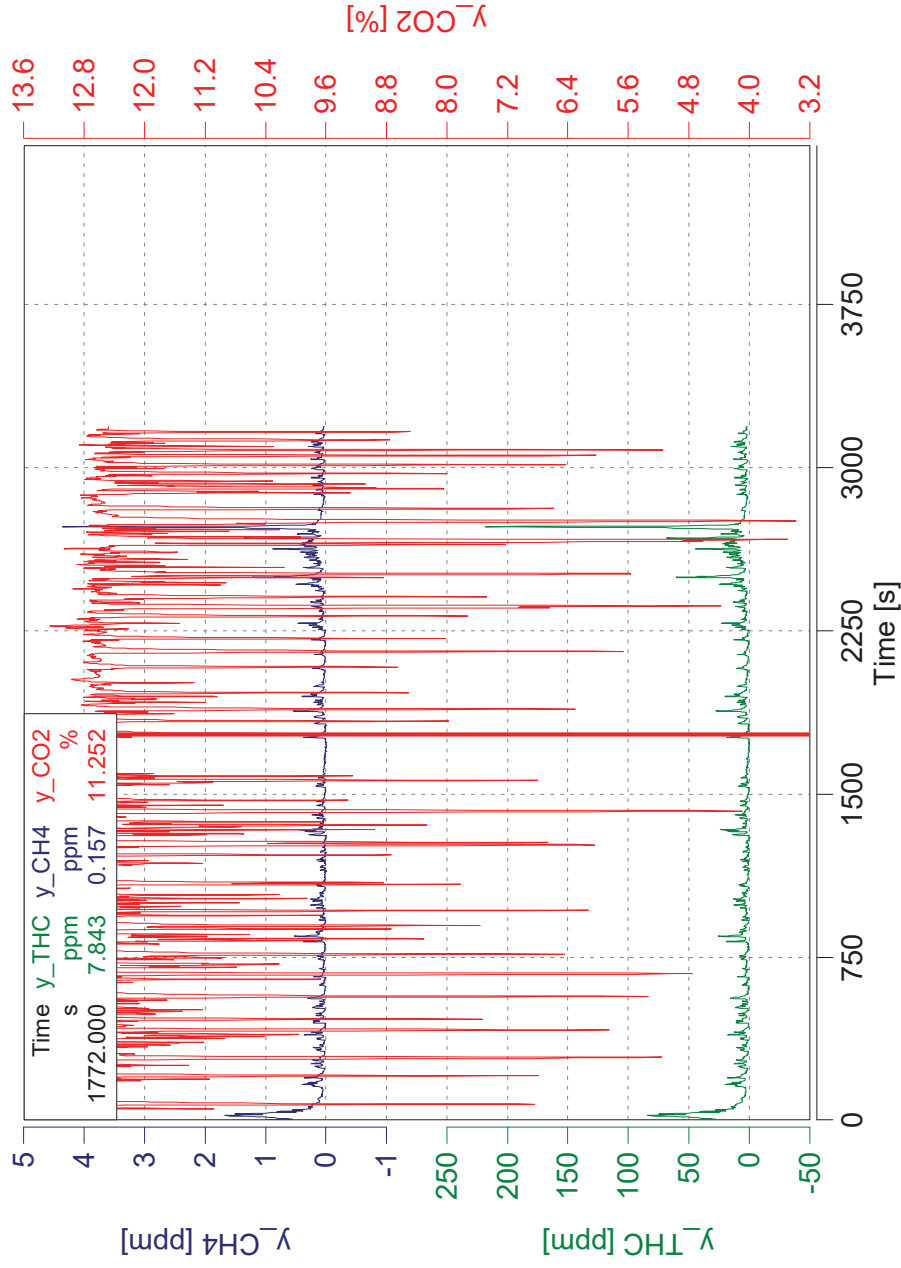
'City'

Start Date: 08/12/2018

Start Time: 19:25:53.0



Concerto M.O.V.E., 2018



Absolute Time Shifts

y_THC s -0.9
y_CH4 s -1.1

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Ambient Conditions

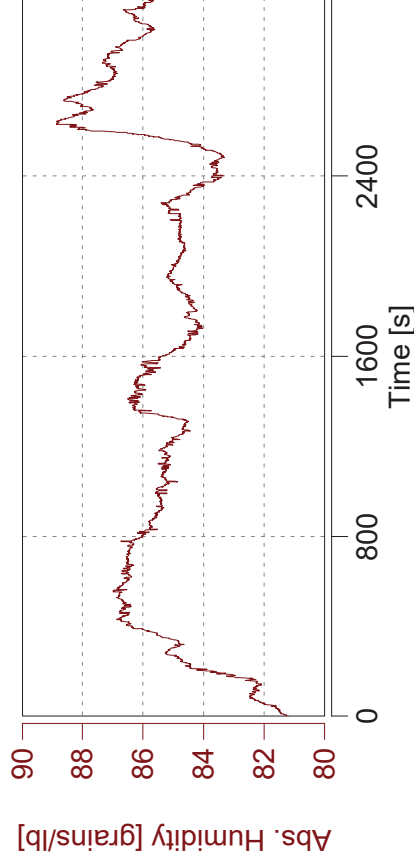
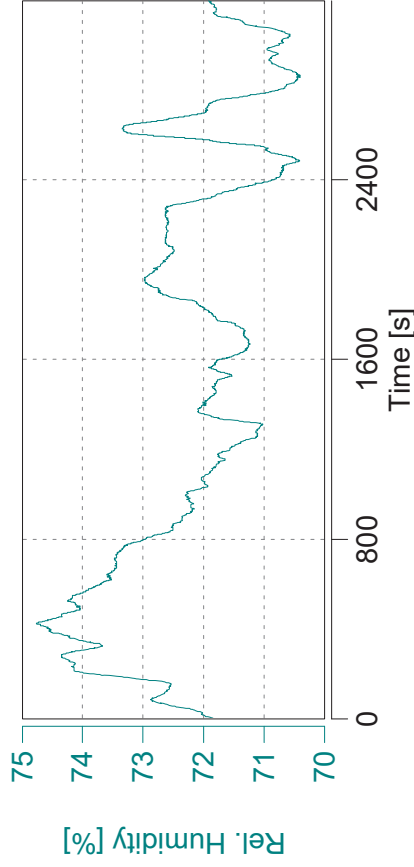
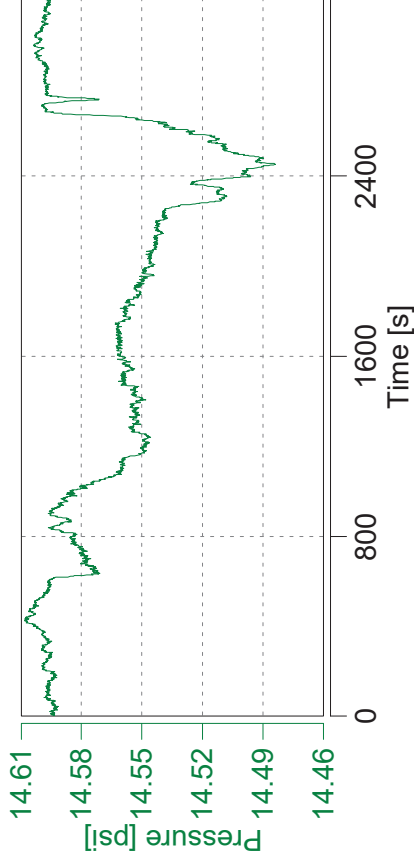
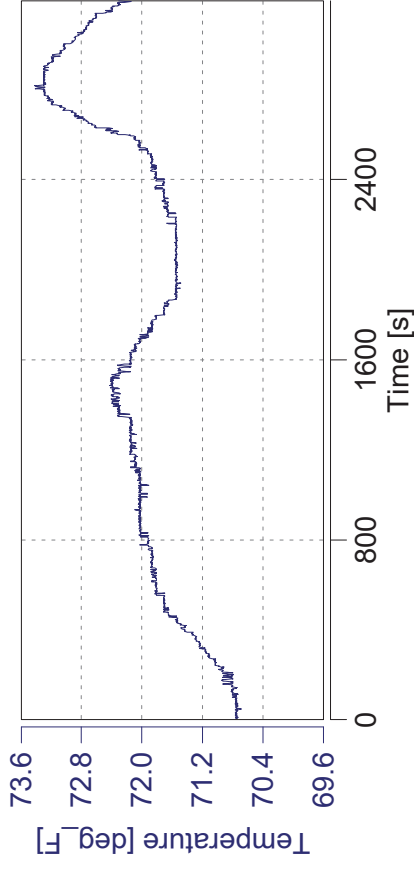
'City'

Start Date: 08/12/2018

Start Time: 19:25:53.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

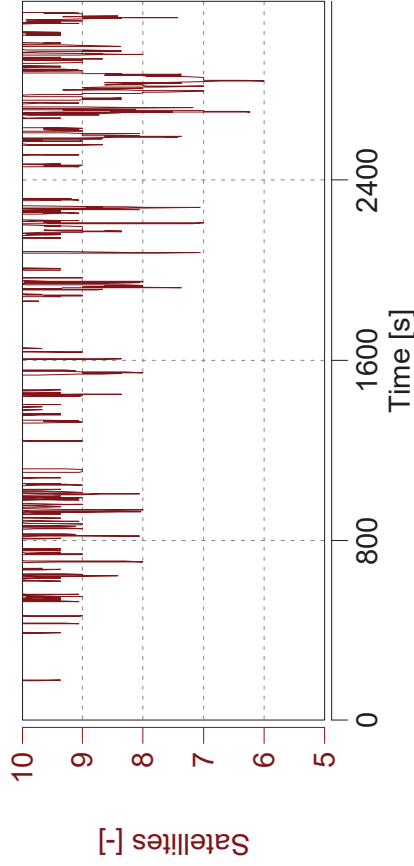
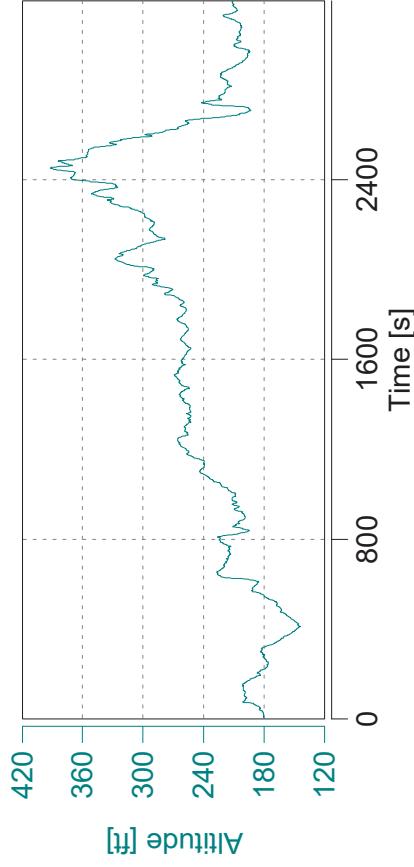
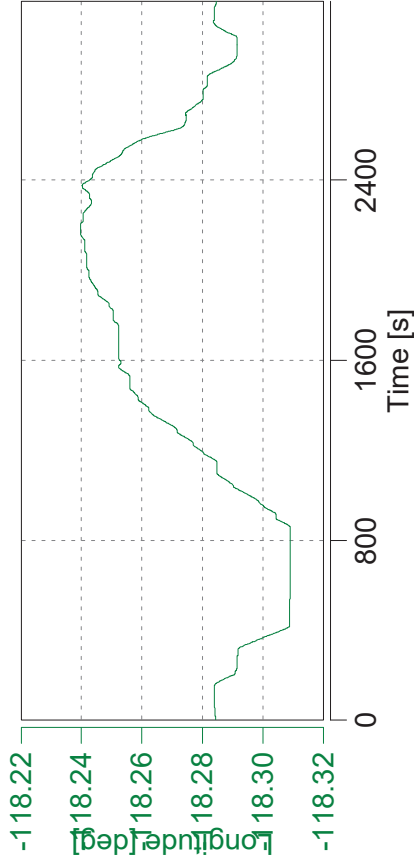
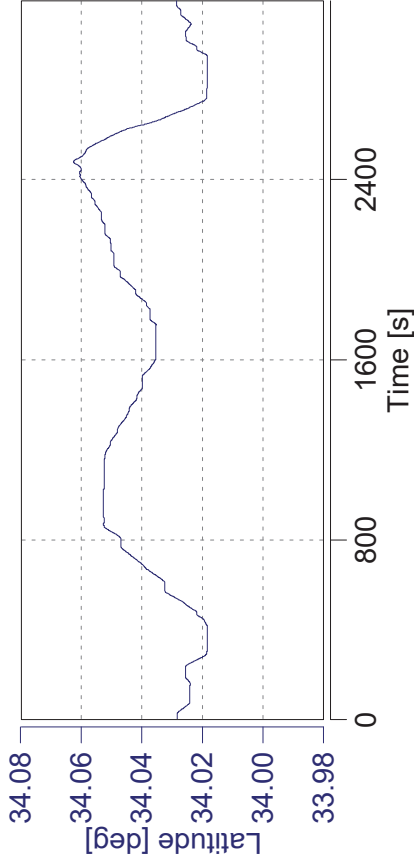
Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City
Page: GPS

'City'
Start Date: 08/12/2018
Start Time: 19:25:53.0



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Q5 / 2.0L
Engine: /
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (1)

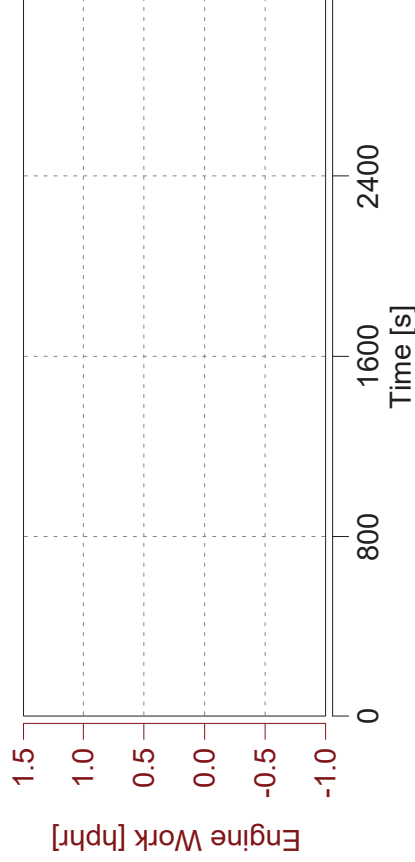
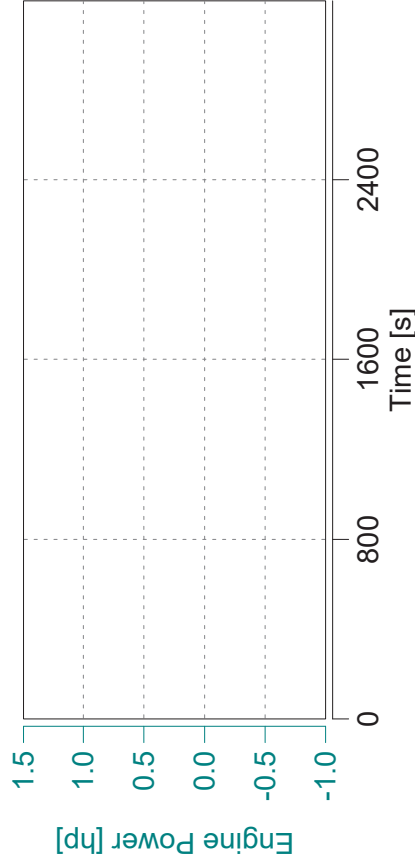
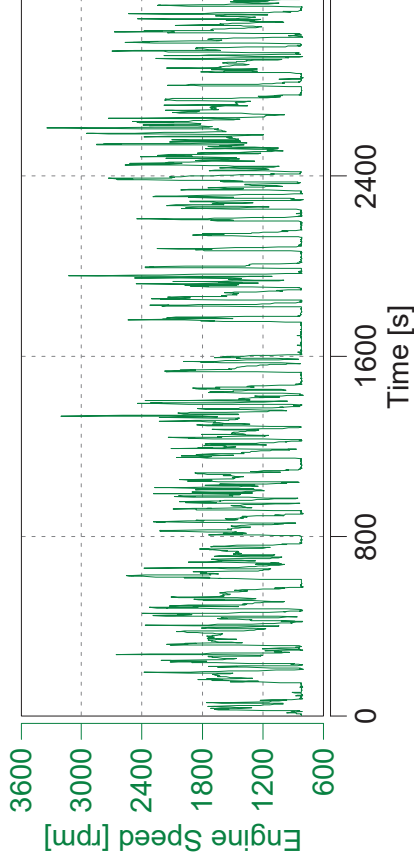
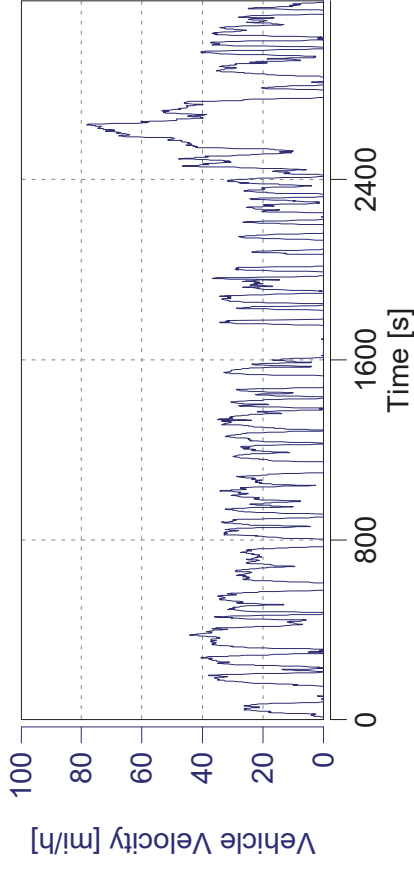
'City'

Start Date: 08/12/2018

Start Time: 19:25:53.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Engine: /

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (2)

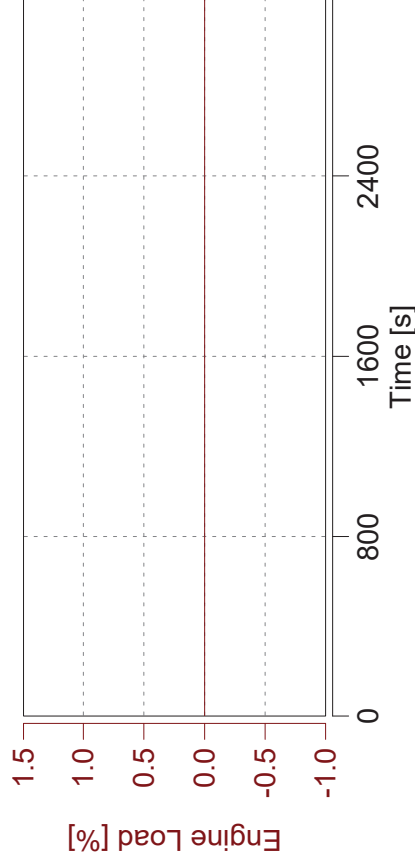
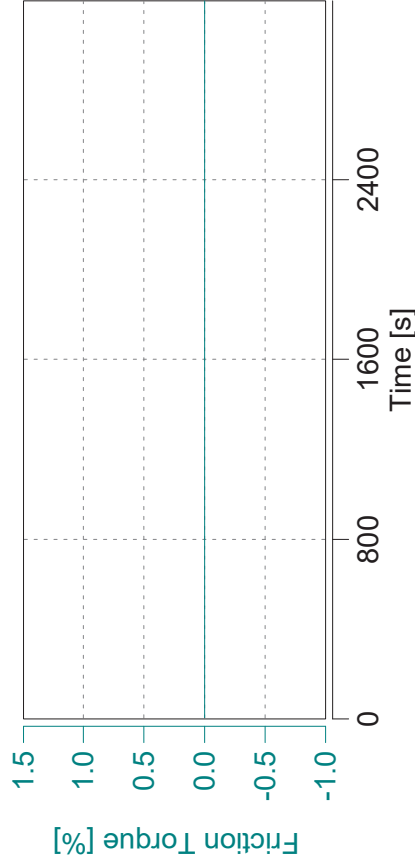
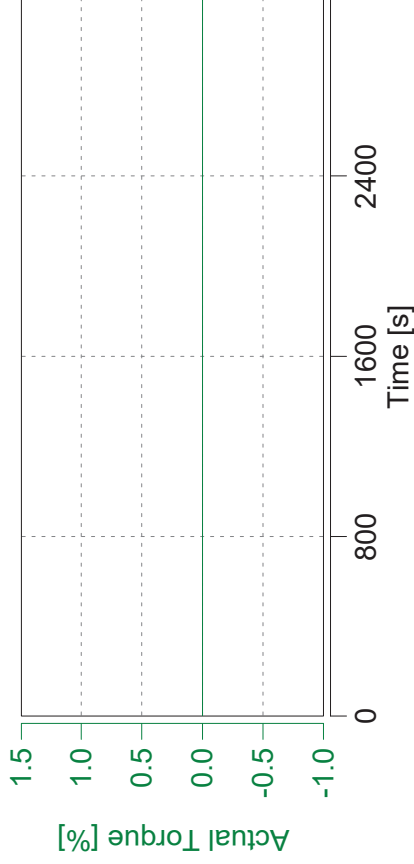
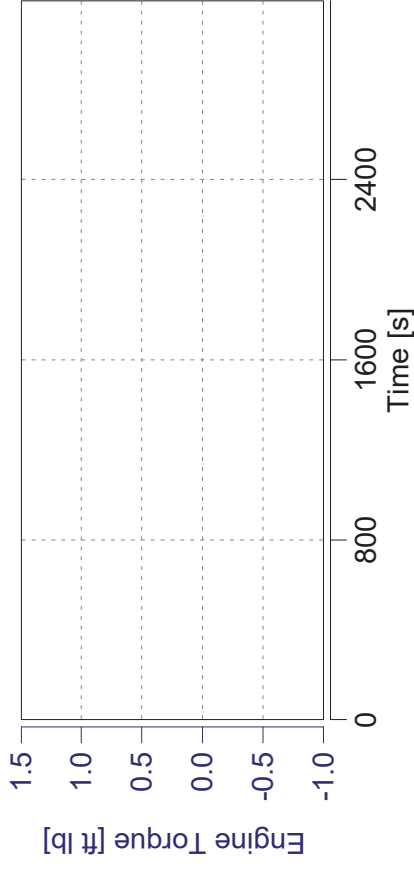
'City'

Start Date: 08/12/2018

Start Time: 19:25:53.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Engine (3)

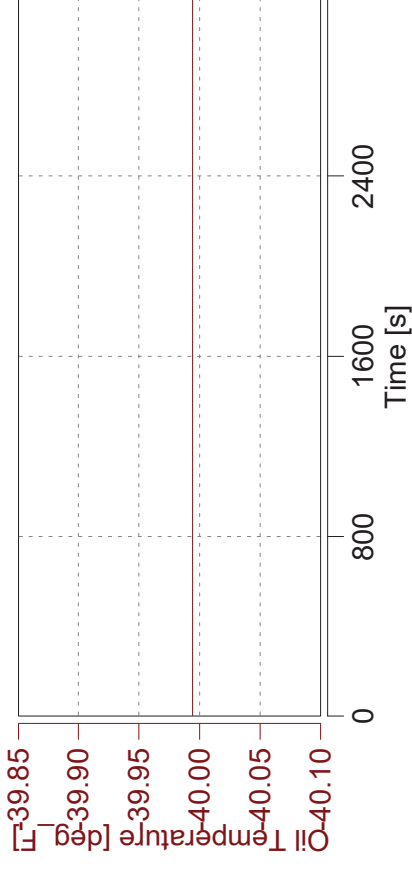
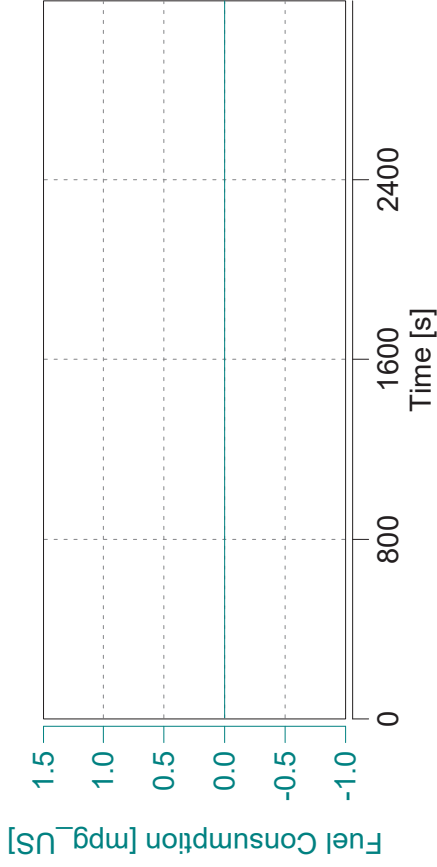
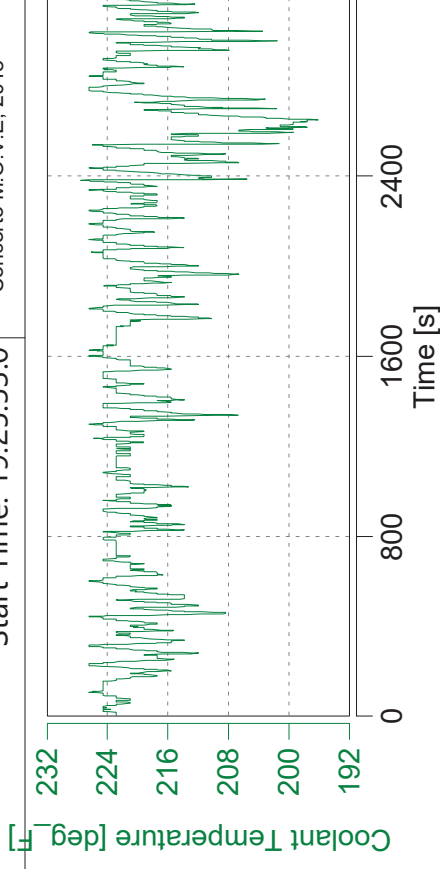
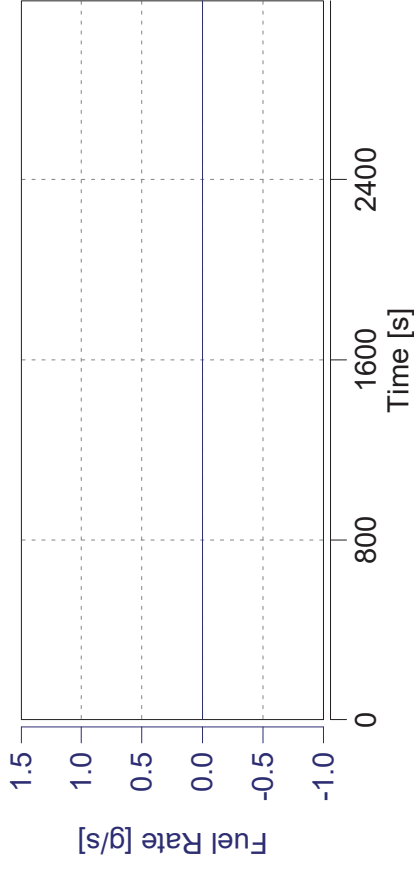
'City'

Start Date: 08/12/2018

Start Time: 19:25:53.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Engine: /
Vehicle: Q5 / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

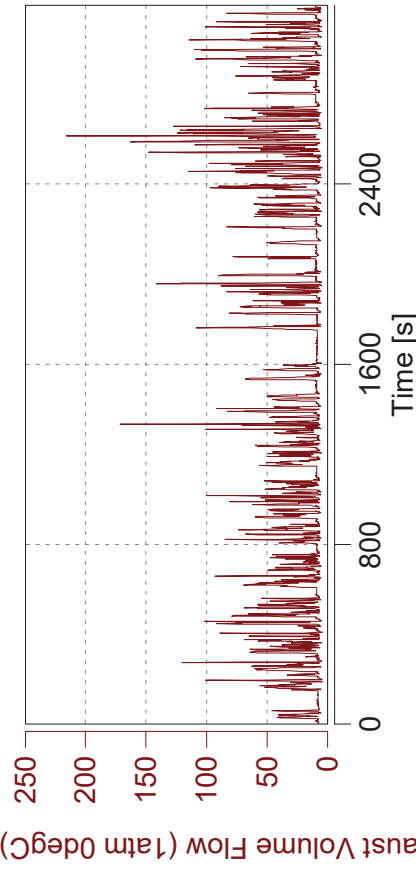
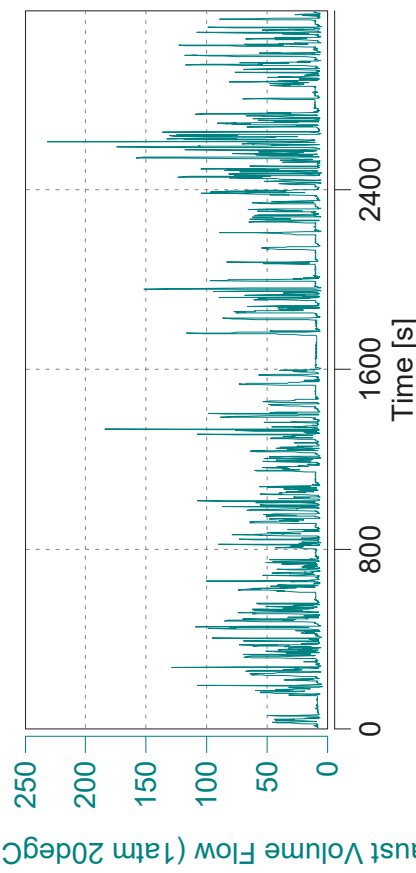
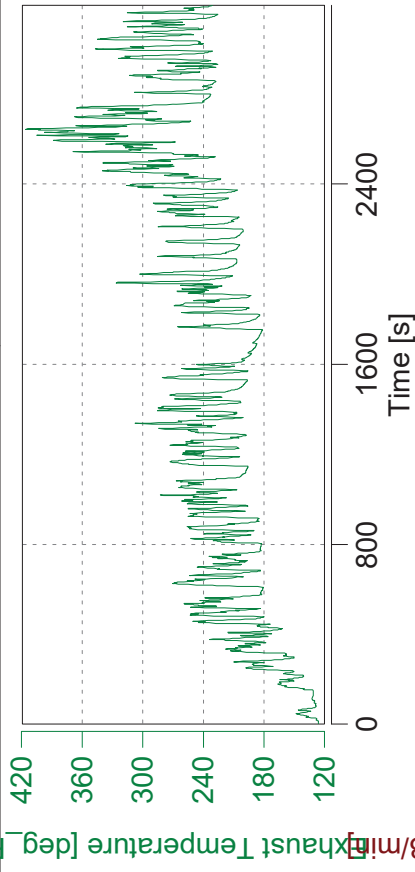
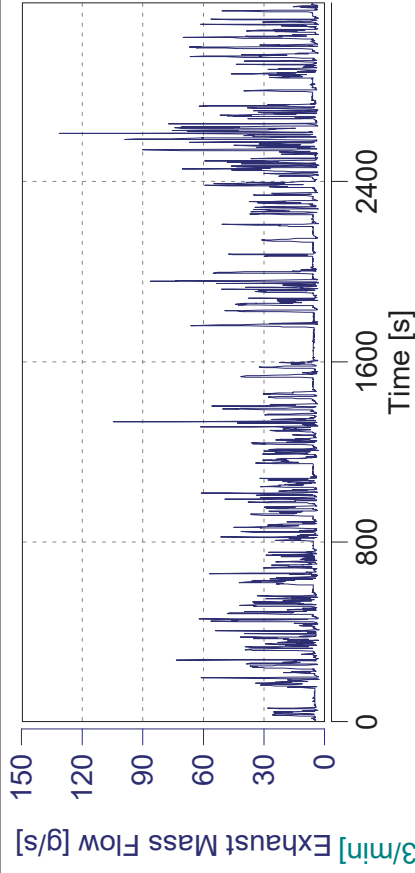
Case: City

Page: Exhaust Flow (1)

'City'
Start Date: 08/12/2018
Start Time: 19:25:53.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Q5 / 2.0L
Engine: /

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Exhaust Flow (2)

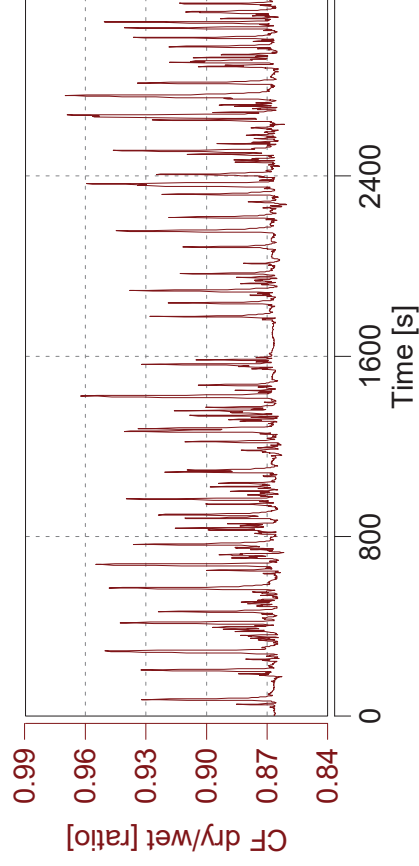
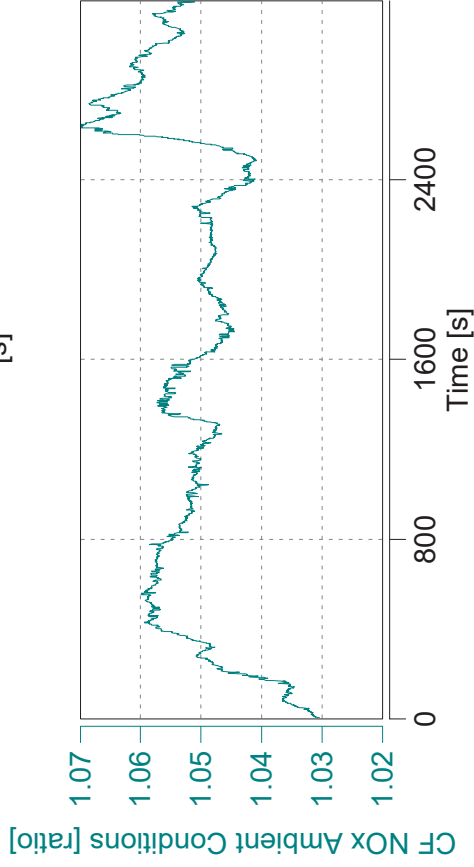
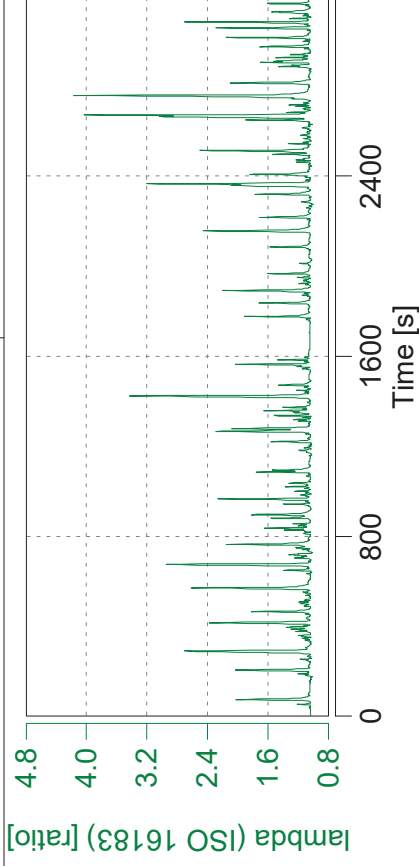
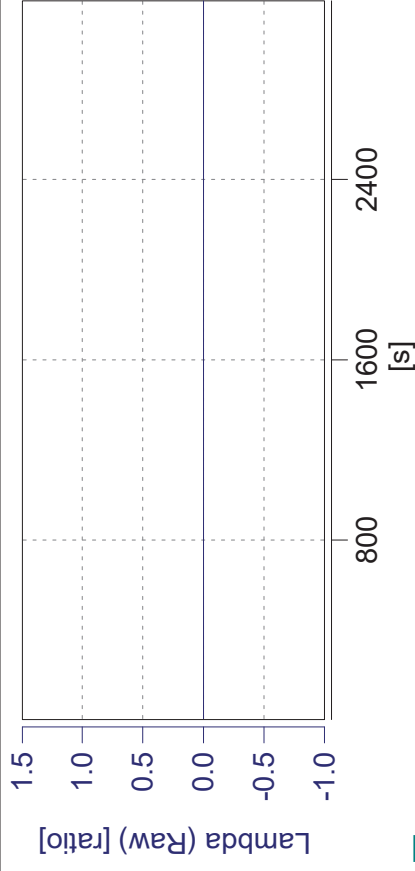
'City'

Start Date: 08/12/2018

Start Time: 19:25:53.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (1)

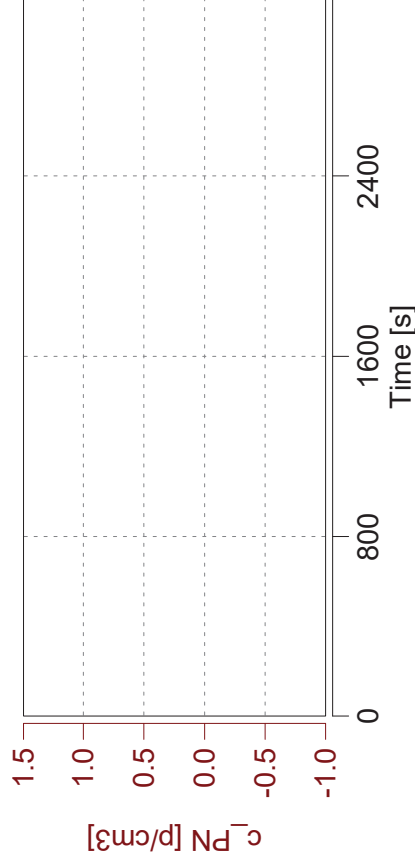
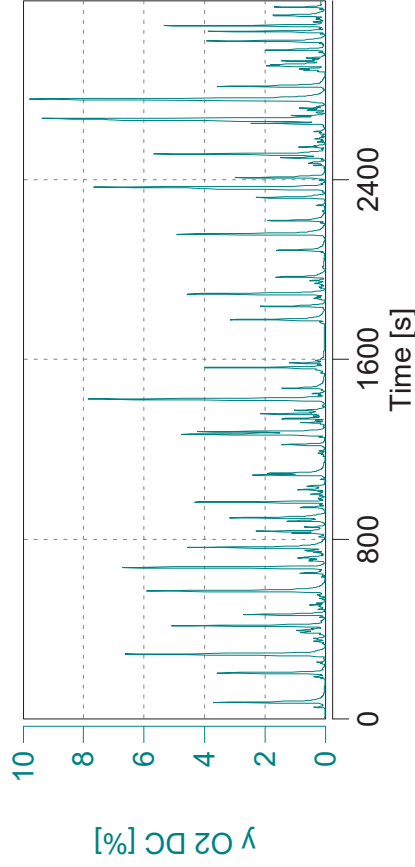
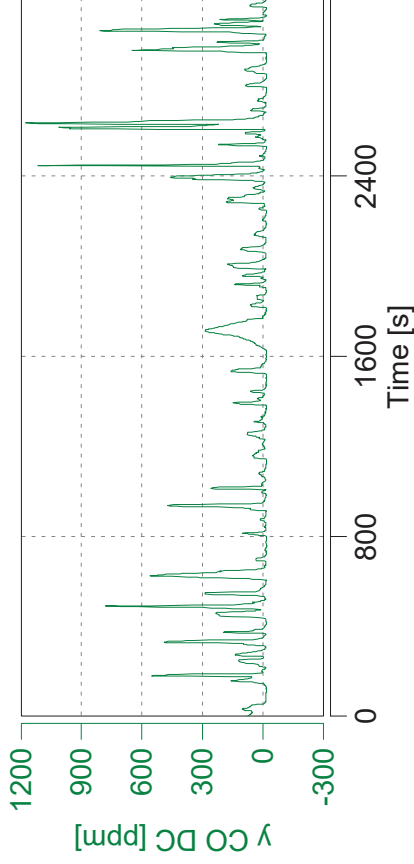
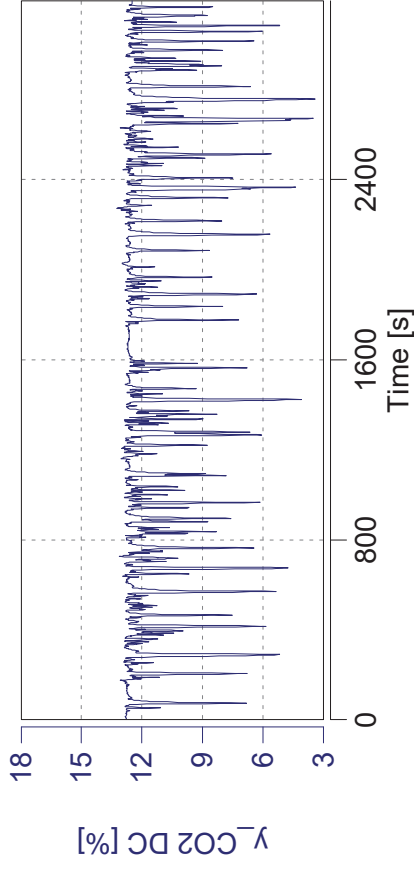
'City'

Start Date: 08/12/2018

Start Time: 19:25:53.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (2)

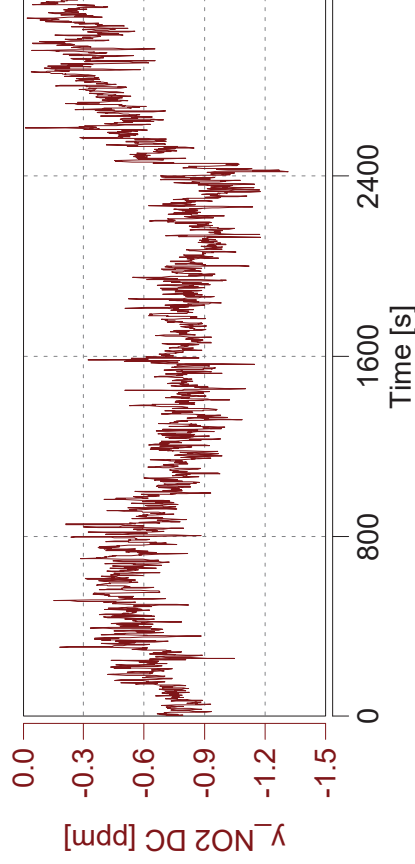
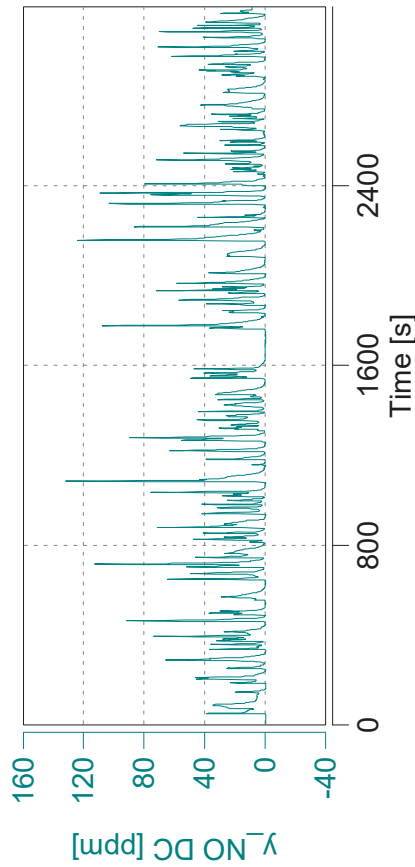
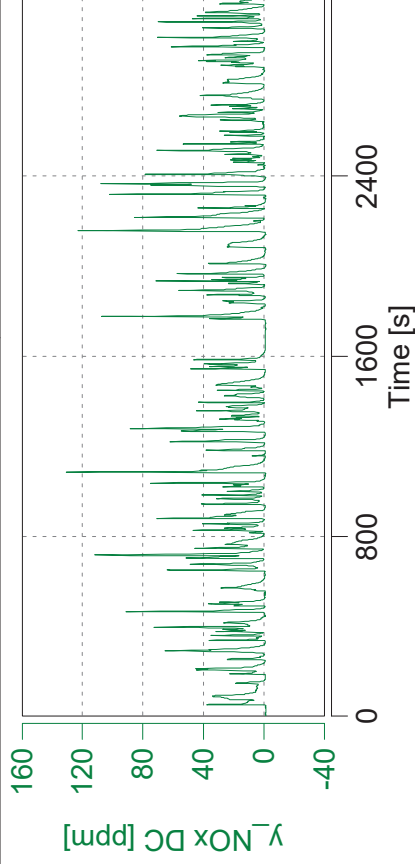
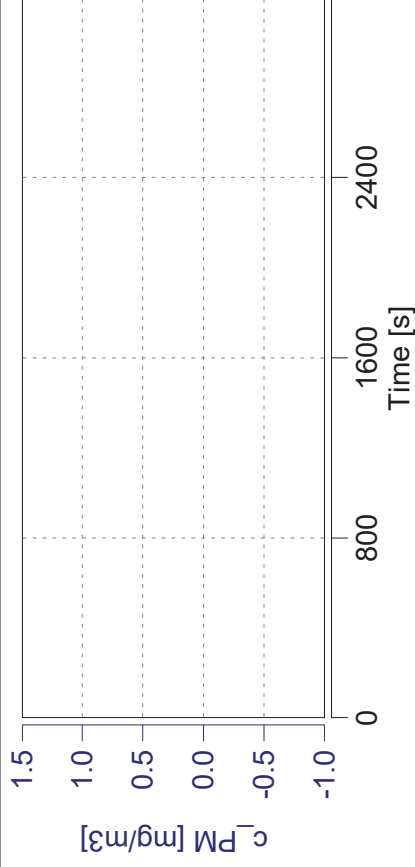
'City'

Start Date: 08/12/2018

Start Time: 19:25:53.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (3)

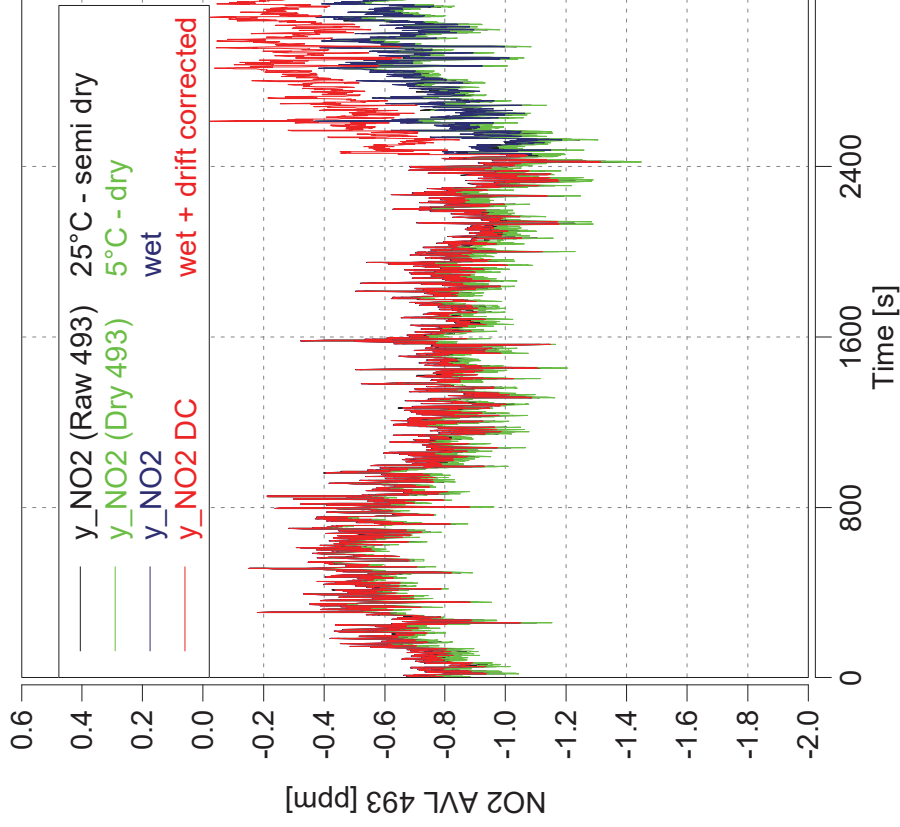
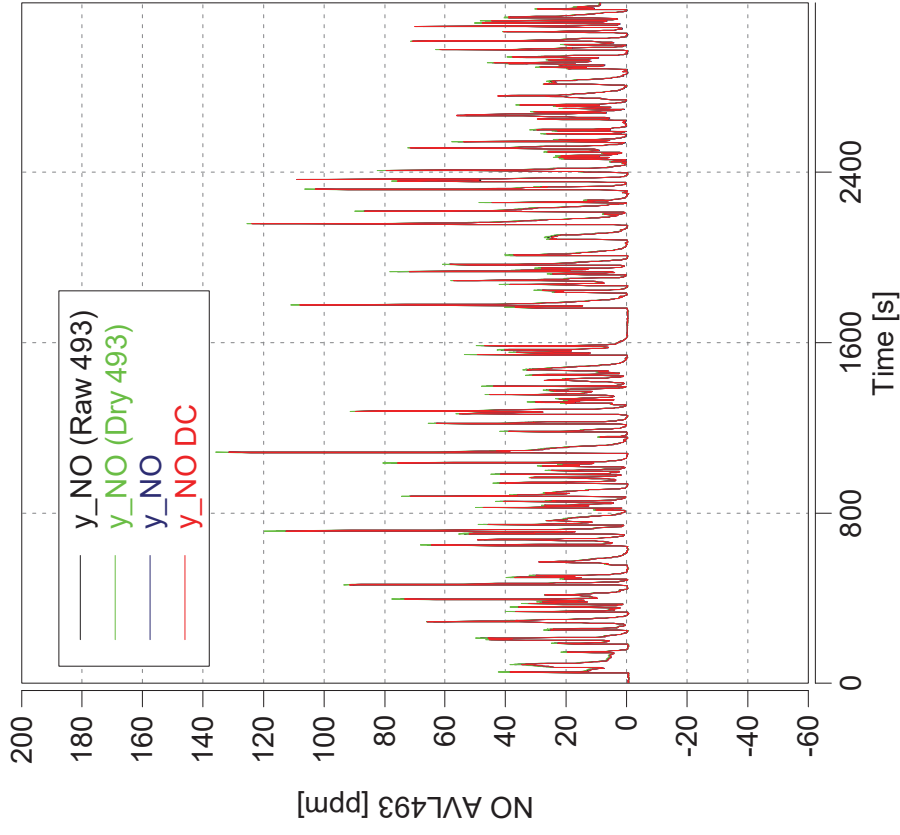
'City'

Start Date: 08/12/2018

Start Time: 19:25:53.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (4) NOx Corrections

NOx - AVL 493

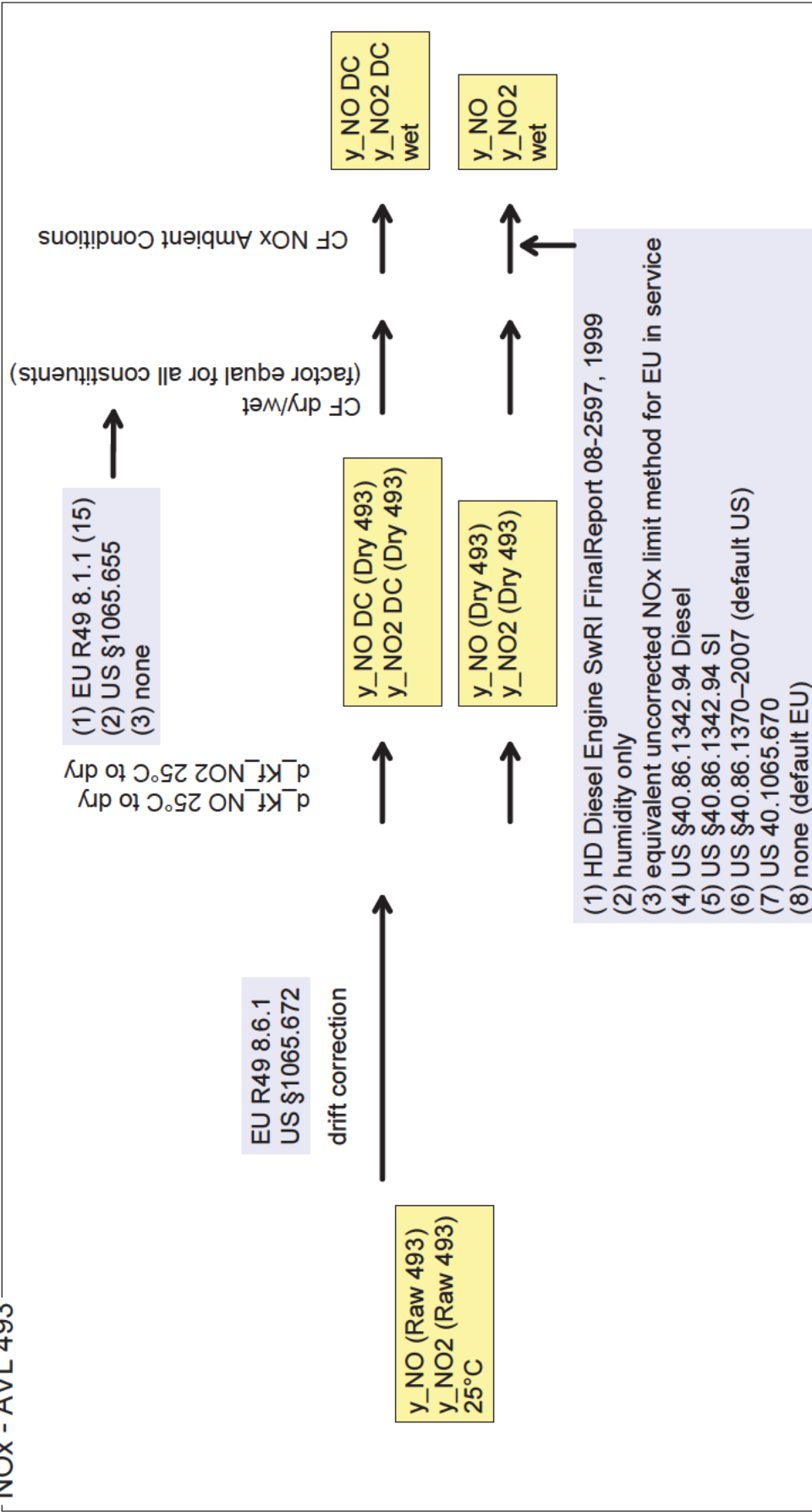
'City'

Start Date: 08/12/2018

Start Time: 19:25:53.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120
M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Vehicle: Q5 / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: Corrected Emissions (5)

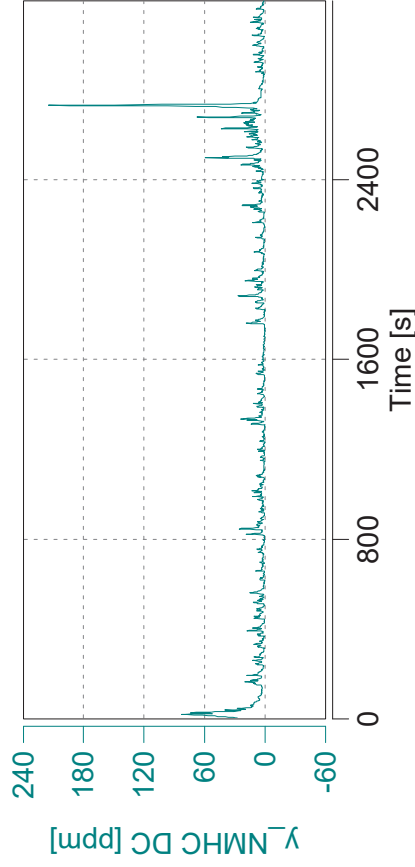
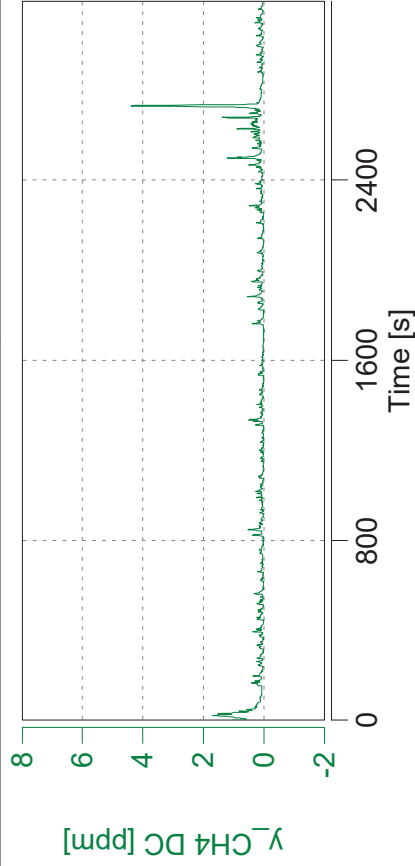
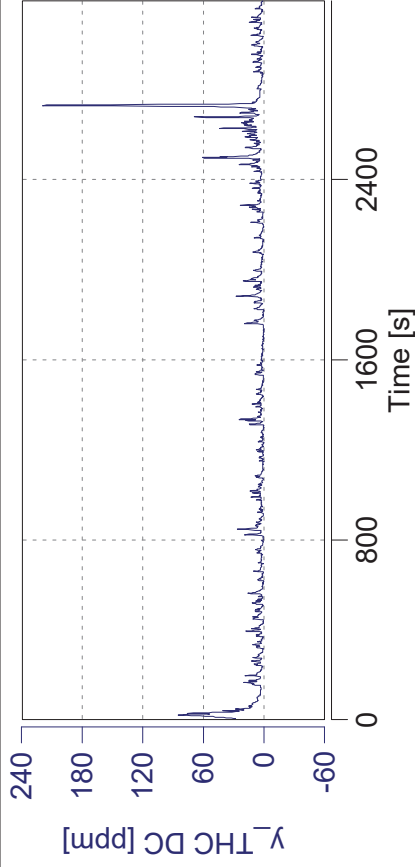
'City'

Start Date: 08/12/2018

Start Time: 19:25:53.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

M.O.V.E Post-Processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_ Engine: /
Vehicle: Q5 / 2.0L
NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: City

Page: NO/NO2/NOx Zero - Span

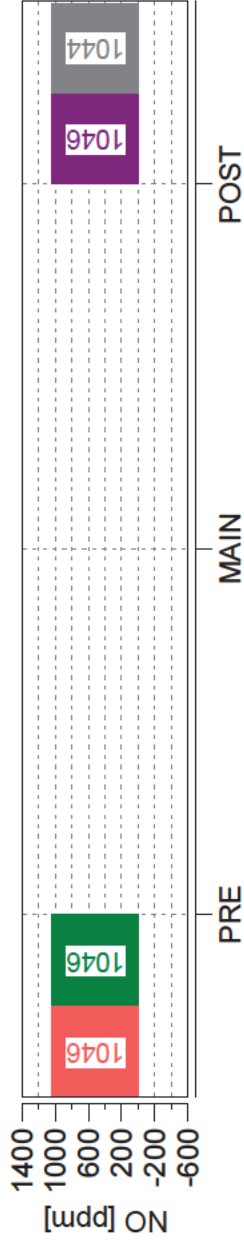
'City'

Start Date: 08/12/2018

Start Time: 19:25:53.0



Concerto M.O.V.E., 2018



Concerto Version: 480 Build 316, Serial Number: 1120

Vehicle: Q5 / 2.0L

NOx Ambient Condition Corr.: 5 - CFR40 §86.1342-94 SI

Dry / Wet Corr.: 2 - CFR40 §86.1342-90

M.O.V.E Post-P processing: 4R8.4.2_Build 316\CONCERTO_4R8.4.2_Build 316\WorkEnvironments\MOVE_DT_1R1_Engine: /

Case: City

Page: CO/CO2 Zero - Span

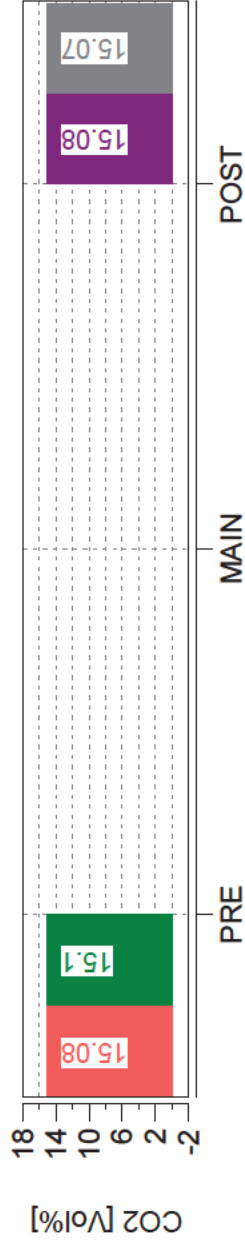
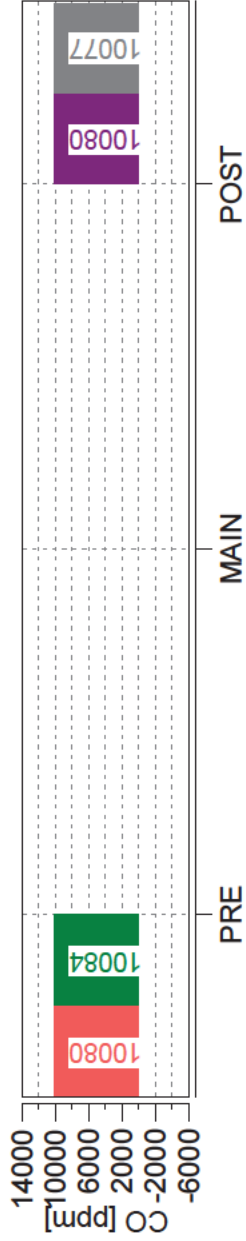
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Page: THC/CH4 Zero - Span

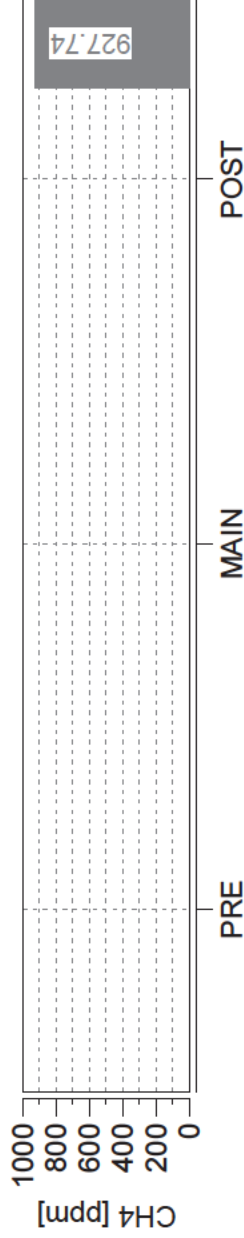
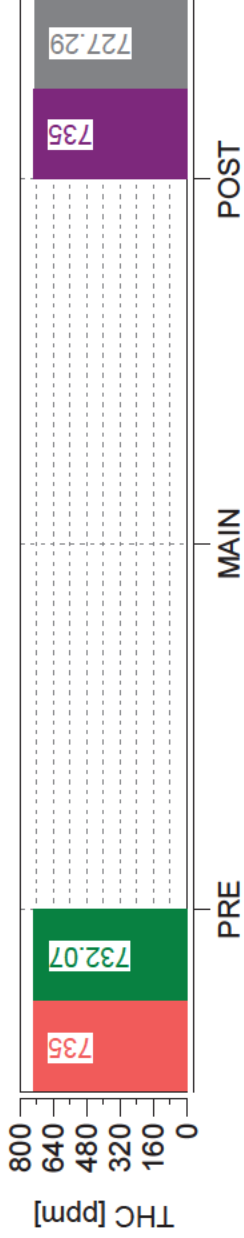
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Appendix C - Experimental

Emissions for each pollutant of interest were compared on a grams/test basis. UCR post-processed the data from the PEMS measurements and obtained the necessary data from the CVS emissions measurements for the comparisons. See Figure 1. The criteria for acceptable correlations for the grams/test emissions depended on the pollutant being measured and how close the measurements were to the detection limits. Typical criteria for these comparisons were developed based on similar testing done in Europe. These criteria are provided below in Table 1. UCR also verified the measured emissions and other data (including any data logging, consistency checks, and plausibility checks) following the completion of the correlation emissions test on each vehicle.

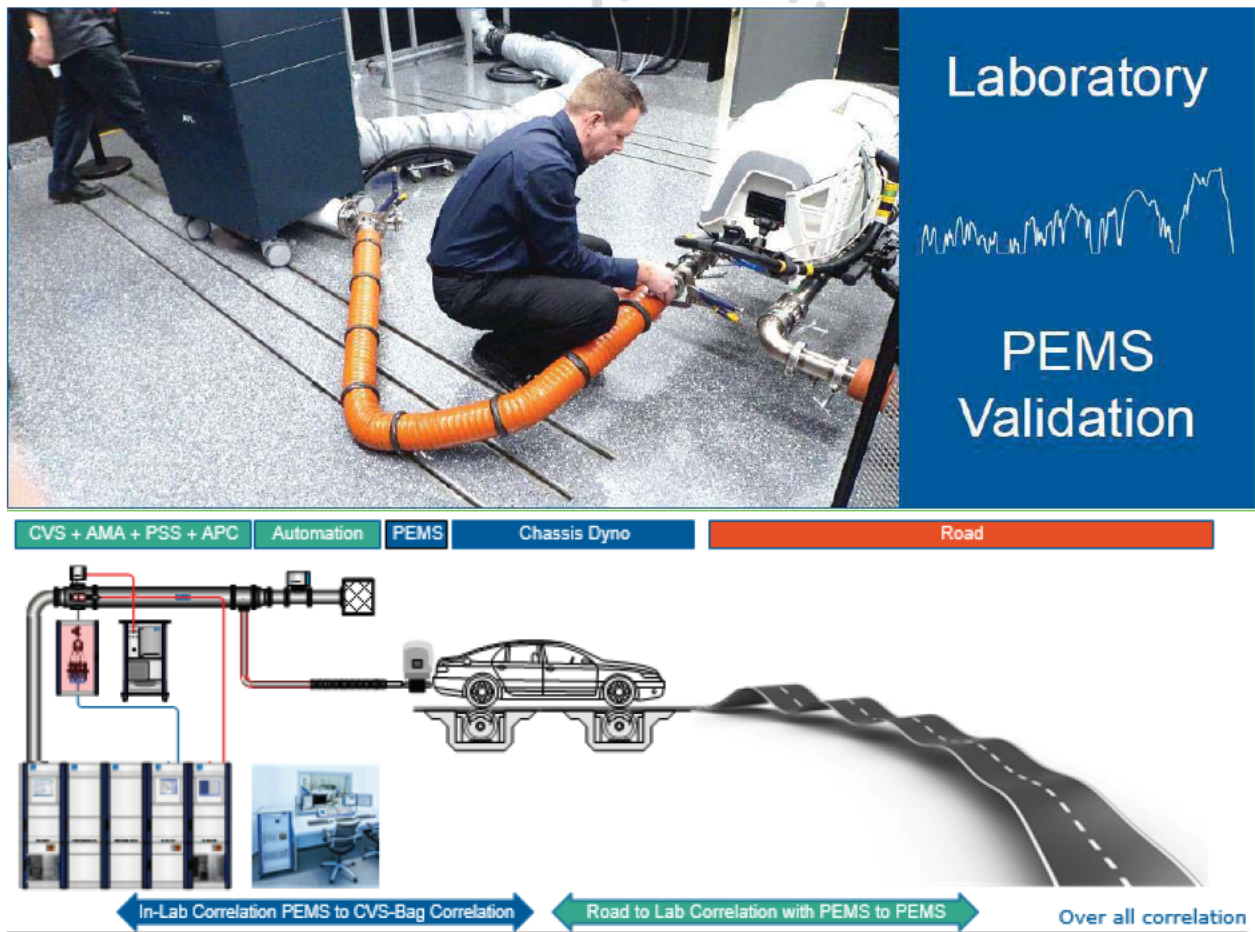


Figure 1. Validation of PEMS with stationary laboratories

Table 1. Typical specifications for PEMS/CVS intercomparisons based on European criteria

Pollutant	Absolute Zero response drift	Absolute Span response drift ⁽¹⁾
CO ₂	≤ 2 000 ppm per test	≤ 2 % of reading or ≤ 2 000 ppm per test, whichever is larger
CO	≤ 75 ppm per test	≤ 2 % of reading or ≤ 75 ppm per test, whichever is larger
NO _x	≤ 5 ppm per test	≤ 2 % of reading or ≤ 5 ppm per test, whichever is larger
CH ₄	≤ 10 ppm C ₁ per test	≤ 2 % of reading or ≤ 10 ppm C ₁ per test, whichever is larger
THC	≤ 10 ppm C ₁ per test	≤ 2 % of reading or ≤ 10 ppm C ₁ per test, whichever is larger

⁽¹⁾ If the zero drift is within the permissible range, it is permissible to zero the analyser prior to verifying the span drift.

The AVL PEMS performs a data consistency check that includes a correlation between the measured fuel flow from the engine control unit (ECU) and the fuel flow calculated using the formula in section 8.4.1.6 of Annex 4B to UN/ECE Regulation No. 49, or by using procedures consistent with U.S. regulations. For this test, a minimum coefficient of determination of 0.90 and a slope between 0.9 and 1.1 was required.

The PEMS system performed alignment for the engine, GPS, concentration, and exhaust flow measurements to a common time basis prior to mass calculations. AVL CONCERTO has an automatic time alignment feature built into its post processor that was utilized. UCR aligned vehicle speed to GPS speed, engine RPM to CO concentration, and engine RPM to exhaust flow. These alignments were performed on the city route data set. The city route was selected because the route is more transient than the others and the CO spikes usually correspond to engine RPM transitions.

Portable Emissions Measurement System (PEMS) Sampling

This subsection describes the PEMS equipment that was used for the testing, the operating procedures for the PEMS, and the data processing.

Portable Emissions Measurement System (PEMS)

UCR worked directly with AVL to obtain the systems used for the PEMS testing. The PEMS used for this work was the AVL M.O.V.E Gas PEMS iS (AVL PEMS). The PEMS units were provided by AVL fully 1065 verified and ready for operation. UCR was provided with two units of each of the PEMS components, so that one PEMS was available for testing while the other served as back-up in the case of technical issues. UCR will maintain possession of both PEMS units throughout the course of the three year test program.

The AVL PEMS is a compact portable device for measuring NO/NO₂, CO/CO₂, and THC concentrations within the exhaust gas of diesel, gas, or gasoline powered vehicles. This system includes AVL's heated FID for total hydrocarbon (THC) measurement borrowed from its heavy-duty

PEMS application. In conjunction with the emissions measurements, the AVL PEMS system provides GPS data (route, vehicle speed, altitude, and acceleration) on a second by second basis from the vehicle's engine control module (ECM) and associated parameters via an OBD connection. The AVL PEMS was developed for the real driving emissions (RDE) and other regulatory compliance applications.

The AVL PEMS uses a UV analyzer for NO/NO₂ measurements. This UV analyzer measures NO and NO₂ simultaneously and directly, without the need of a converter. The analyzer provides good performance in terms of stability, with drift of just a few PPM over several hours. For CO/CO₂ measurements, an NDIR analyzer is used. This NDIR analyzer is optimal for a low drift and a high accuracy of the CO channel, even at very low measurement ranges.

An external Cutter FID module was integrated into AVL's latest version of AVL PEMS to include methane exhaust gas concentrations of diesel, gas, or gasoline engines and vehicles. The module was mounted outside the vehicle on a hitch for this testing. The exhaust gas is passed through it to the PEMS unit via a heated transfer line. The module is fully integrated into the AVL PEMS system. This system has been approved as meeting all DOT requirements relating to the carrying of FID fuel during on-road testing.

The AVL M.O.V.E Exhaust Flow Meter (EFM) measures the exhaust gas flow of vehicles with diesel or gasoline engines, as shown in Figure 2. It is based on the differential pressure measurement principle and consists of two main components: A "pitot" EFM measuring tube and an EFM control box, including the pressure transducers and the calculation unit. The EFM measuring tube is directly mounted at the tailpipe of the vehicle under the enclosure case, as shown below. The exhaust flow is needed to calculate the mass emissions from the measured exhaust gas emission concentrations. Depending on the engine size and type, different sizes of EFM measuring tubes are available. Typically a 2.5" EFM is sufficient to cover the exhaust flow range for a typical passenger vehicle, but 3" EFM tubes are available if necessary for a larger displacement engine-equipped vehicle.

The AVL M.O.V.E EFM control box measures the static and dynamic pressures as well as the exhaust gas temperature and calculates the exhaust flow based on pitot principle. For accurate measurements, even at highly dynamic flow conditions in the exhaust duct, pressure transducers with very high data rates (5 kHz) are used. The internal temperature of the control box is controlled at ~50°C to avoid condensation and to ensure stable flow measurements even at changing ambient temperatures. The EFM control box is fully integrated into the AVL PEMS system and was operated via the AVL M.O.V.E system control. The EFM control box is separated from the EFM tube and was installed outside the vehicle for this testing. This reduces the weight of the EFM tube itself and makes the installation on the tailpipe more convenient. For the connection of the EFM control box to the EFM, a combined pneumatic and electrical hybrid cable is used to minimize the number of cables needed for installation.



Figure 2. Exhaust flow meter utilized with the AVL system

All analyzers are mounted inside temperature controlled enclosures to ensure stable conditions and high accuracy even at changing ambient conditions, see Figure 3. A service door makes the access to consumables convenient. The AVL PEMS can be installed inside the vehicle or outside on a trailer hitch. For the testing in this program, the PEMS was installed on a hitch outside of the vehicle. An internal temperature conditioning system, which was specially designed for the mobile operation, ensures reliable operation over wide ambient operating temperatures ranging from -10°C to $+45^{\circ}\text{C}$ without any additional external heating or cooling devices. The device features internal dampers, so there is no need for additional external damping plates for passenger car applications. The power distribution (eBox), including the batteries, can be mounted on top of the AVL PEMS and is inside of the illustrated protection cover. In the case of dual exhaust pipe configurations, a new Y-type heated line is available to reduce the effort of installation. For the testing performed in this program, a single exhaust sample line was utilized, and this sample line connected to the EFM section.



Figure 3. Typical trailer hitch installations of AVL system with enclosure

The specifications for the AVL PEMS system are provided in the following Table 2.

Table 2. Specifications for AVL PEMS system

Operating temperature (ambient)	-10°C to 45°C
Storage temperature	-40°C to +70°C (Oxygen sensor needs to be removed below 0°C and above 50°C)
Dimensions (w*h*d)	Measuring module: ~ 500 mm *350 mm *374mm with protection cover: ~ 590 mm *480 mm *447mm
Weight	< 30kg (NO _x module)
Warm-up time	Typical 45 min ... depending on ambient temperature conditions
Power demand	22V to 28V DC, appr. 250W at 20°C ambient temperature (with 1.25m sample line and after warm up)
Sample flow rate	< 3.5l/min
Sampling conditions	End of tail pipe, +50 mbar relative pressure
Inputs/outputs electrical	1x heated line connectors 1x ethernet (TCP/IP)
Measurement range	NO/ NO ₂ : 0 - 5,000 ppm (NO) 0 - 2,500 ppm (NO ₂) CO/ CO ₂ : 0 - 5 vol% (CO), 0 - 20 vol% (CO ₂)
Accuracy	CO: 0 – 1,499 ppm: +-30 ppm abs., 1,500 ppm – 49,999 ppm: +-2% rel.; CO ₂ : 0 – 9.99 vol.%: +- 0.1 vol.% abs., 10 - 20 vol.%: +-2% rel. NO: 0 – 5,000 ppm: +-0.2% FS or +-2% rel. NO ₂ : 0 – 2,500 ppm: +-0.2% FS or +-2% rel.
Zero drift	CO: 20 ppm/8h, CO ₂ : 0.1 vol%/8h, NO: 2 ppm/ 8h NO ₂ : 4 ppm/8h
Span drift	CO: ≤ 20 ppm abs./8h or 2% rel./8h CO ₂ : ≤ 0.1 vol% abs./8h or 2% rel./ 8h NO/ NO ₂ : ≤ 1% rel./ week
Linearity	slope : 0,99 ≤ slope ≤ 1,01, intercept ≤ 0,5 %, SEE: ≤ 1% of range and R2: ≥ 0,999

*Device fully warmed up, 24 V supply, laboratory conditions and using dry calibration gases

For on-road testing, a chase vehicle was used in conjunction with the actual test vehicle. The chase vehicle was driven behind the test vehicle to provide protection for the AVL PEMS system. This helped minimize any damage that could have occurred during on-road testing and associated driving. A picture of a typical on-road test from a chase vehicle is provided in Figure 4.



Figure 4. Typical on-road testing as viewed from the chase vehicle

UCR worked directly with AVL for any maintenance or calibration needed on these units. For this, AVL set up a maintenance, calibration, and repair facility for their PEMS system directly at the UCR CE-CERT facility.

Data processing and reporting

The evaluation and processing of testing data was done with the AVL CONCERTO M.O.V.E. software (CONCERTO), which provides a complete data analysis and alignment calculation process. The software has a graphical user interface with the ability to parameterize data via drag and drop operation. The software also includes user guided test sequences (Pre-, Main-, and Post-testing) to make operation as easy as possible and minimize invalid test runs. The software supports all calculations and complete test validation for in-use testing applications. It also offers functions such as Google Maps integration for quick trip evaluations, video integration, and synchronization, as well as many other features. The graphical user interface (GUI) of CONCERTO data post-processing offers the ability to link test data to Google Maps or external video files. Additional information such as GPS data, ambient conditions, engine lug curve, engine performance data, test trip, and fuel consumption can be displayed as well. This is a key feature for evaluating real life test data under varying test conditions. CONCERTO data post-processing provides valuable insight into the data and how real life conditions on the road are linked to them. The program also has features to address hybrid vehicles, where there are periods of time without exhaust flow.

For this program, CONCERTO was customized for the on-road testing. The individual data reports for each vehicle and each test route were formatted to include data reporting and plots for each of the pollutants of interest and information about the QA/QC checks. The format is based on formats that are utilized in reporting for RDE regulatory requirements and includes similar levels of details. Data was exported to a CONCERTO Transport File (CTF File) or to a CSV file.

Quality assurance and quality control (QA/QC)

An important element of this testing is that the instrumentation was maintained at the highest possible level in terms of QA/QC. UCR worked directly with AVL to ensure all QA/QC metrics were met. The two PEMS systems, provided by AVL, came fully calibrated in accordance with the 1065 calibration criteria. This included all annual, bi-annual, and monthly checks per the CFR 1065 subpart J. AVL performed additional calibrations, as required during the course of testing, and will perform annual calibrations in between the testing campaigns for the vehicles tested. QA/QC checks were also performed as part of the daily, monthly, and test-to-test routines. The QA/QC were largely done as part of automated processes within the CONCERTO software. This included a series of pre- and post-test checks, as well as linearity and other checks.

Engine parameters

The engine parameters were requested as listed in the test plan for this testing program. These include MIL information, temperatures, velocity, and other emissions-related PIDs. Some parameters were not available due to equipment not installed on the vehicle (lambda, B3, and torque data).

Vehicle operation

All vehicles were operated by the same university student for the MY 2018 testing. The fuel utilized was based on the recommendations from the vehicle fuel label utilizing standard pump fuel (E10). One vehicle was a plug-in hybrid vehicle (PHEV) and was operated in EV (electric driving) mode, the default driving mode. The vehicle was first charged to full charge (100%), then the vehicle was utilized for testing in EV mode. The battery was at 0% by the time the testing was started.

Equipment and test notes

During the MY2018 testing there were three instrument-related issues 1) methane analyzer overheating, 2) humidity sensor connection, and 3) ECM connection. In addition there were also route-related issues where the road was closed and the route could not be followed. The methane analyzer overheating occurred on multiple tests, the humidity sensor connection issue occurred on one test, the ECM connection issue occurred on two tests, and road closures occurred on two tests. All tests with instrument and route related issues were repeated, and both data sets are available.

The methane analyzer was subjected to higher temperatures during the city route this year compared to MY2017 testing (exceeded the 45 °C max inlet temperature). Given the issues with the methane analyzer, UCR, using good engineering judgment, chose to calculate NMHC from THC as allowed by the applicable regulations. No other measurement systems were compromised by analyzer temperature.

The humidity sensor was working during the pre-test checks, but during driving and testing, the sensor stopped working and reported invalid data to the measurement system. The humidity data is used to calculate humidity-corrected NO_x values. This summary report only includes the correct humidity test runs, but both data sets are available.

The ECM connection was working during all pre-tests and while driving to the test route. The ECM connection stopped working during two tests (one city and one mountain route test). The ECM signals are needed for distance calculation, so these tests were repeated, but all data sets are available.

Two times, on the city route, there was road construction, and the driver was detoured to a different path than what was approved in our test plan. The road closures were removed later in the day, and UCR repeated these routes after the roads re-opened.

