Supplementary information

Black carbon emissions of light-duty passenger vehicles using ethanol blended gasoline fuels

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Summary of Supplementary Tables:

2 supplementary tables (pages S1 to S2) and 2 supplementary figures (page S3 to S4)

5 pages including the cover sheet.

Table S1. The detailed BC emissions by vehicle and test cycle, unit in mg km^{-1}

Manufacturer and model	Driving conditions	Fuel types		
		E0	ELA	ELO
V1	NEDC_1	0.25	0.22	0.18
	NEDC_2	0.37	0.21	0.19
	WLTC_1	0.49	0.51	0.22
	WLTC_2	0.86	0.30	0.44
V2	NEDC_1	0.13	0.23	0.15
	NEDC_2	0.19	0.26	
	WLTC_1	0.73	0.79	0.51
	WLTC_2	0.77	0.72	0.69
V3	NEDC_1	0.34	0.26	0.14
	NEDC_2	0.32		
	WLTC_1	0.53	0.54	0.28
	WLTC_2	0.57	0.34	0.24

Table S2. The detailed BC emissions by vehicle and each phase, unit in mg km^{-1}

ID	Fuel type	NEDC			WLTC			
		1st ECE	2nd to 4th ECE	EUDC	Low speed	Medium speed	High speed	Extra-high speed
V1	E0	2.28	0.04	0.04	1.94	0.17	0.29	0.30
		3.37	0.16	0.03	2.66	0.42	0.24	0.97
	ELA	2.24	0.00	0.04	2.61	0.15	0.11	0.26
		2.42	0.13	0.06	1.43	0.26	0.03	0.12
	ELO	1.67	0.01	0.04	1.24	0.04	0.02	0.11
		1.47	0.08	0.05	1.17	0.08	0.10	0.67
V2	E0	0.36	0.05	0.13	1.00	0.15	0.22	1.41
		0.93	0.02	0.17	0.67	0.19	0.14	1.70
	ELA	1.72	0.00	0.12	0.58	0.15	0.09	1.85
		1.49	0.04	0.18	0.45	0.14	0.09	1.66
	ELO	0.41	0.02	0.17	0.98	0.06	0.11	0.95
					0.53	0.09	0.10	0.58
V3	E0	1.23	0.00	0.36	1.00	0.14	0.04	1.01
		0.78	0.00	0.40	0.93	0.14	0.07	1.11
	ELA	0.52	0.00	0.33	1.08	0.05	0.06	1.02
					0.77	0.07	0.04	0.58
	ELO	0.34	0.00	0.17	0.50	0.08	0.05	0.52
					0.62	0.06	0.03	0.39

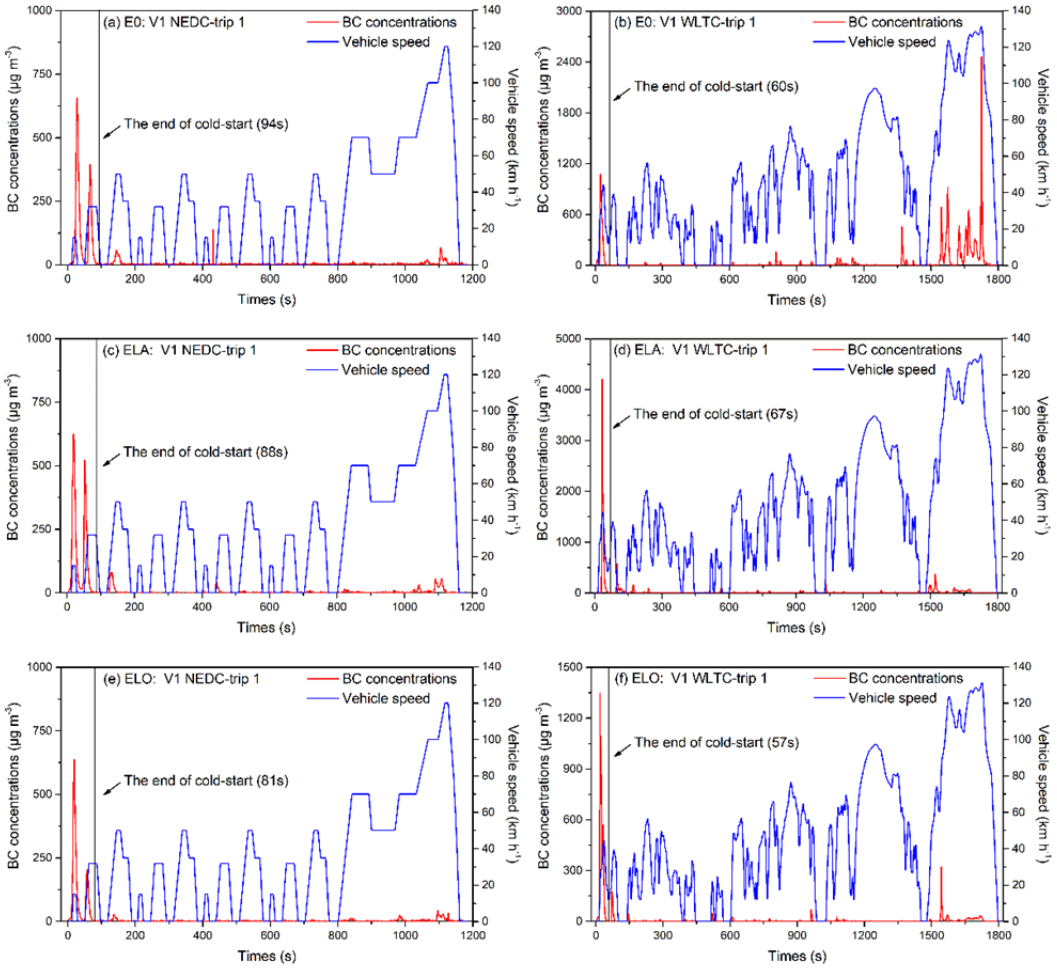

Fig. S1. Real-time BC concentrations and vehicle speed profiles for the V1 using three fuels, one NEDC trip and one WLTC trip for example

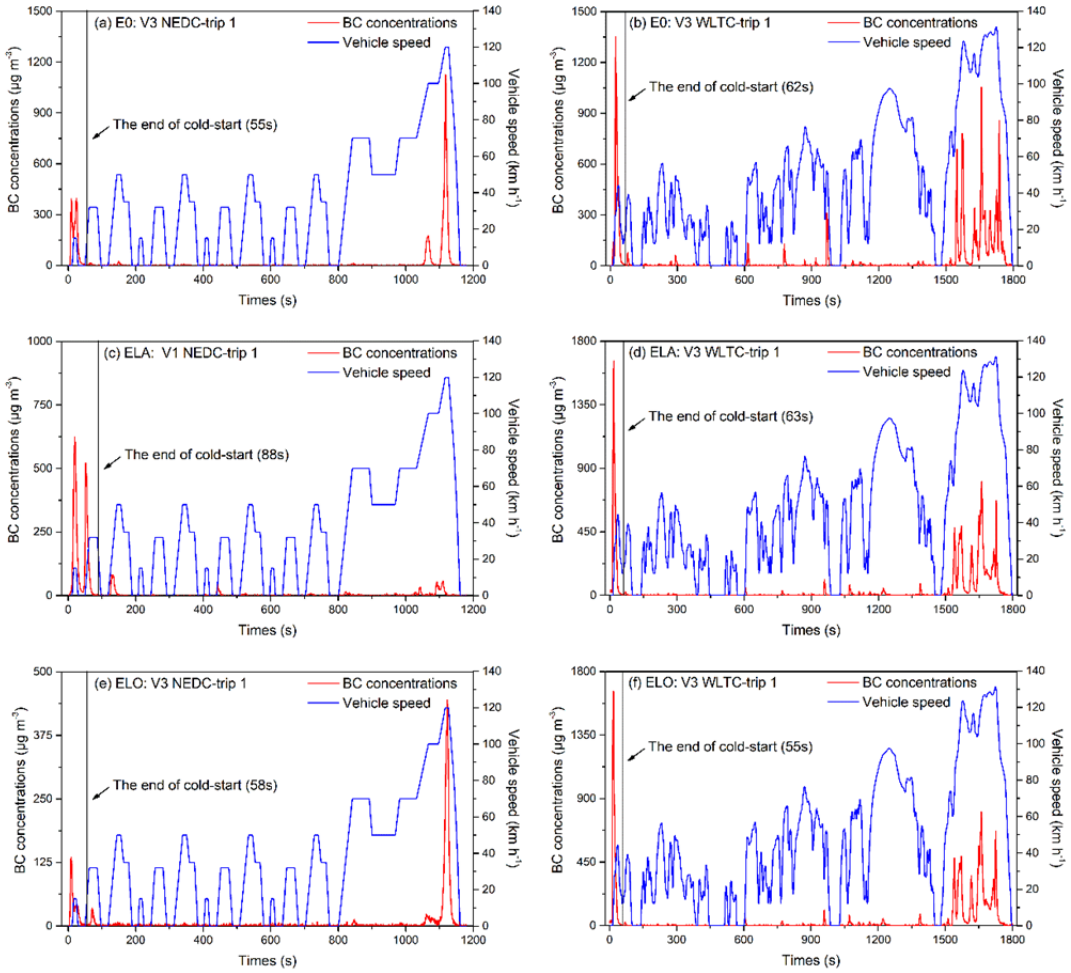

Fig. S2. Real-time BC concentrations and vehicle speed profiles for the V2 using three fuels, one NEDC trip and one WLTC trip for example.