Analysis of mobile monitoring data from the microAeth® MA200 for measuring changes in black carbon on the roadside in Augsburg

Table S1 Comparative measurements of different MA200 in the fixed monitoring station (unit: ng/m^3, N=5040 for each MA200, time resolution,10 s).

	375 nm	470 nm	528 nm	625 nm	880 nm
MA200-0051	818	833	812	810	774
MA200-0053	827	838	814	815	783
MA200-0059	870	866	830	840	814
MA200-0060	872	881	857	857	822
MA200-0155	856	855	842	840	830
MA200-0153	846	850	822	832	795
MA200-0159	825	845	818	832	780
Mean	844.9	852.6	827.9	832.3	799.7
Stand deviation	22.1	16.6	16.5	15.9	22.2

Table S2 The reduction of the peak values number under different post-processing approaches (time resolution,10 s).

Measurement number	CMA (%)	LPR (%)	ONA (%)
1	71.43	57.14	33.33
2	59.60	48.48	36.36
3	55.81	41.86	32.56
4	52.17	43.48	24.64
6	61.54	46.15	53.85
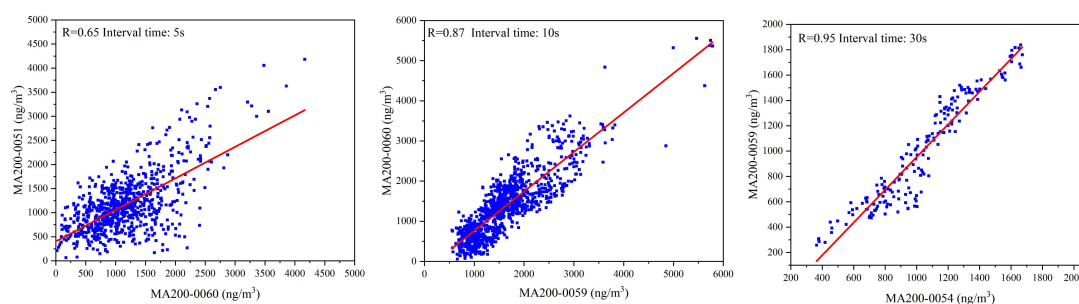
Figure S1 Comparative measurements of two MA200 in mobile monitoring under different time resolution (unit: ng/m^3, 2 h).
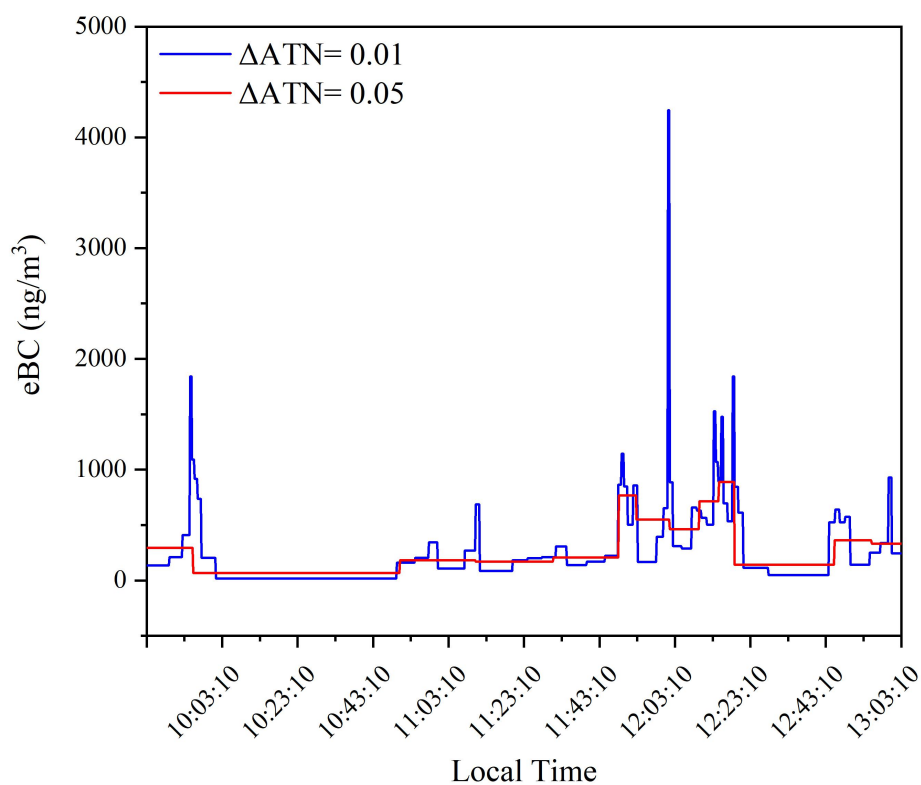
Figure S2 The results of a sensitivity using different ΔATN values for mobile monitoring data (time resolution, 10 s).
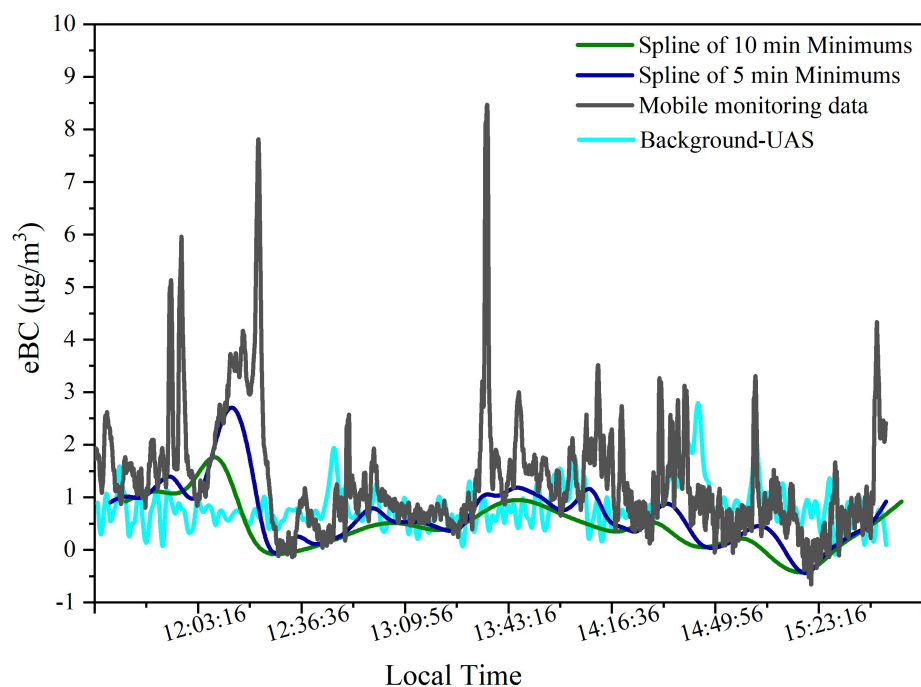
Figure S3 Time series methods: spline of 5 min minimums and spline of 10 min minimums, and the BC concentration in the fixed station (UAS) (the analysis based on measurement 4).
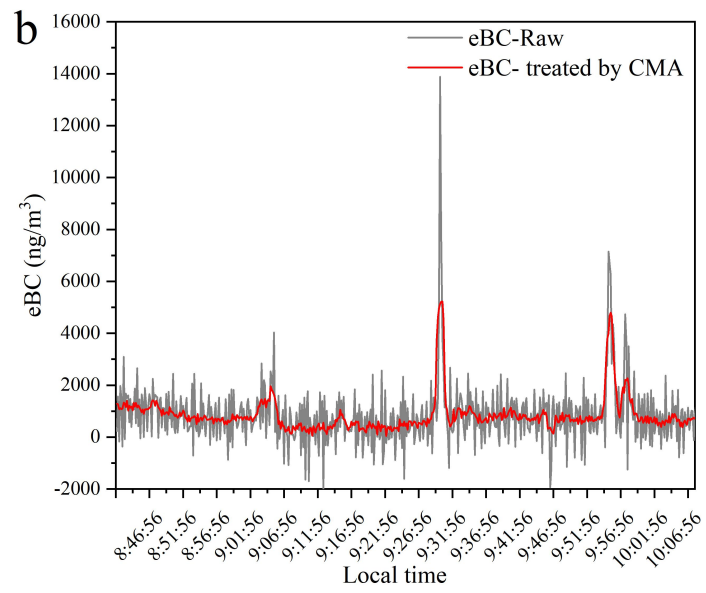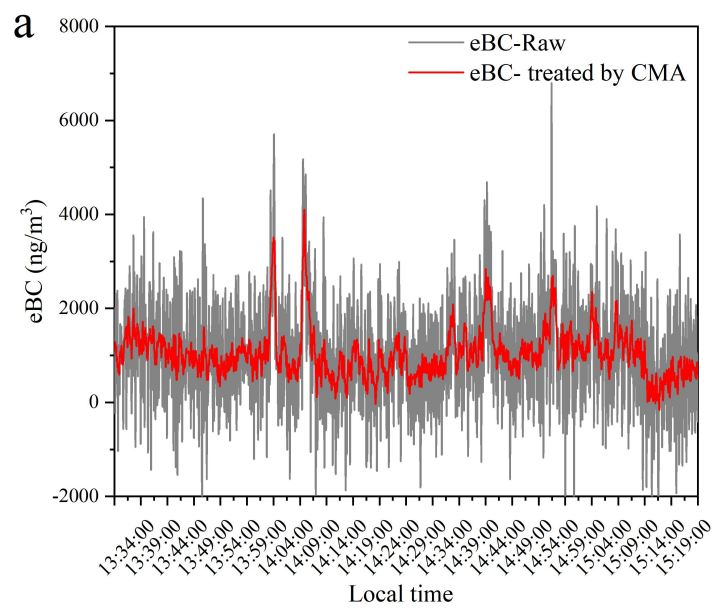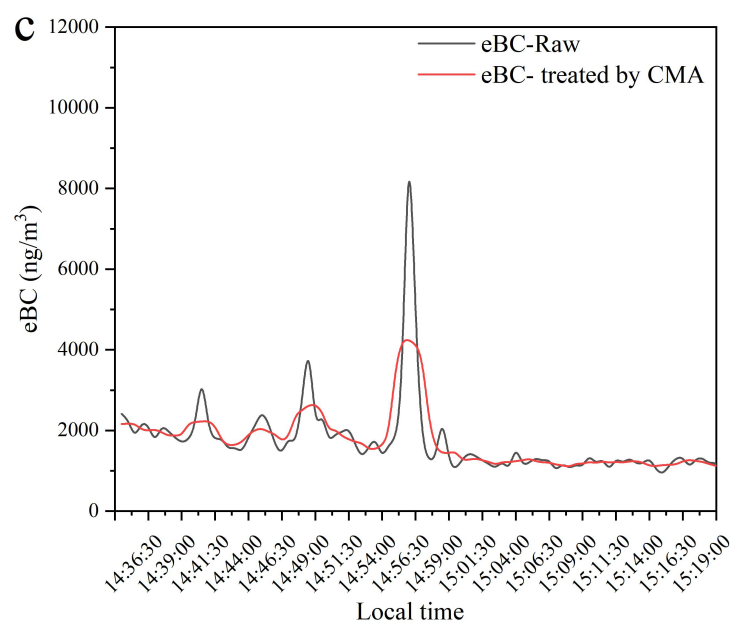
Figure S4 Comparison between original BC measurements and corrections treated by CMA with the MA200 at sampling time bases of 5 s **(a)**, 10 s **(b)** and 30 s **(c)** in Munich (the analysis based on the measurement 8, 9, and 10).