Atmospheric
Measurement
Techniques

Supplement of

An automated baseline correction protocol for infrared spectra of atmospheric aerosols collected on polytetrafluoroethylene (Teflon) filters

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S1:
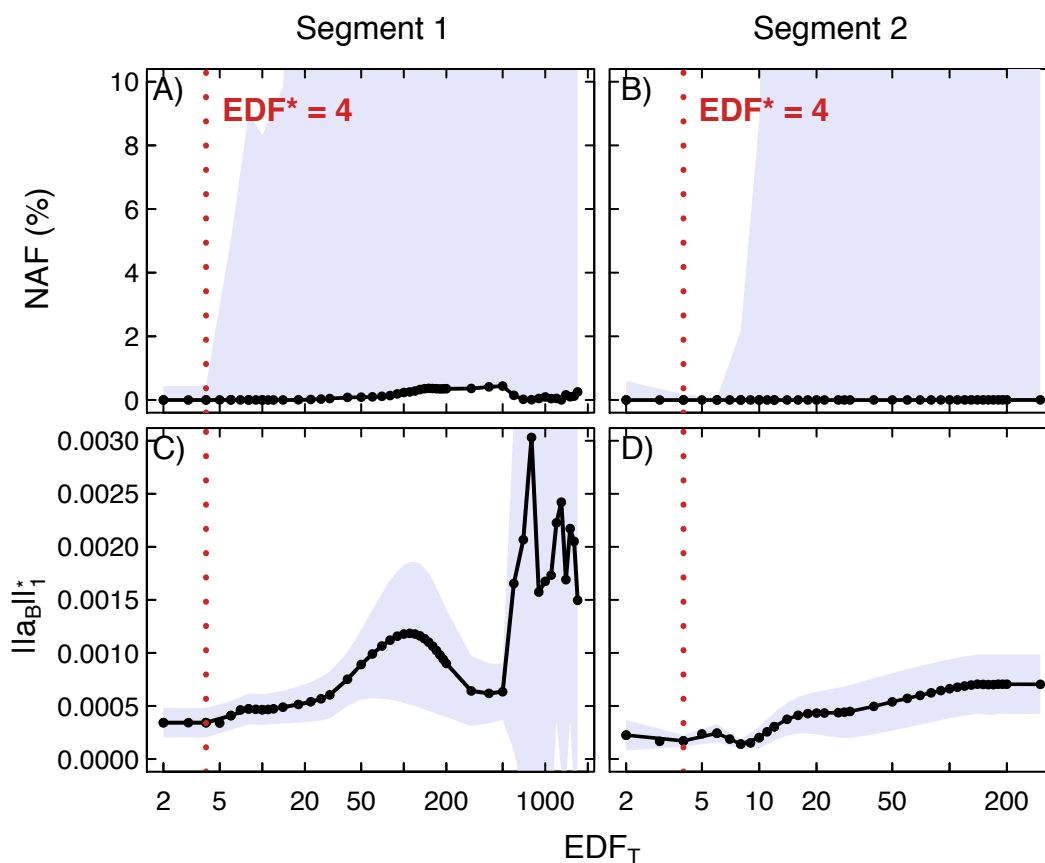

Figure S1: Mean normalized total absolute blank absorbance for 2 <= EDF_T <= n where n = 1695 in segment 1 (A) and n = 389 in segment 2 (B), calculated from 54 IMPROVE 2011 laboratory blank samples (black points). Shaded areas denote two standard deviations from the mean. Median NAF in segment 1 (C) and segment 2 (D) calculated from 794 ambient samples (black points). Lower and upper bounds of shaded areas denote 5th and 65th percentiles. All plots use logarithmic-scale x-axis to highlight the behavior in the EDF range we are studying (2 <= EDF_T <= 12). Black line is drawn to capture the overall trend.
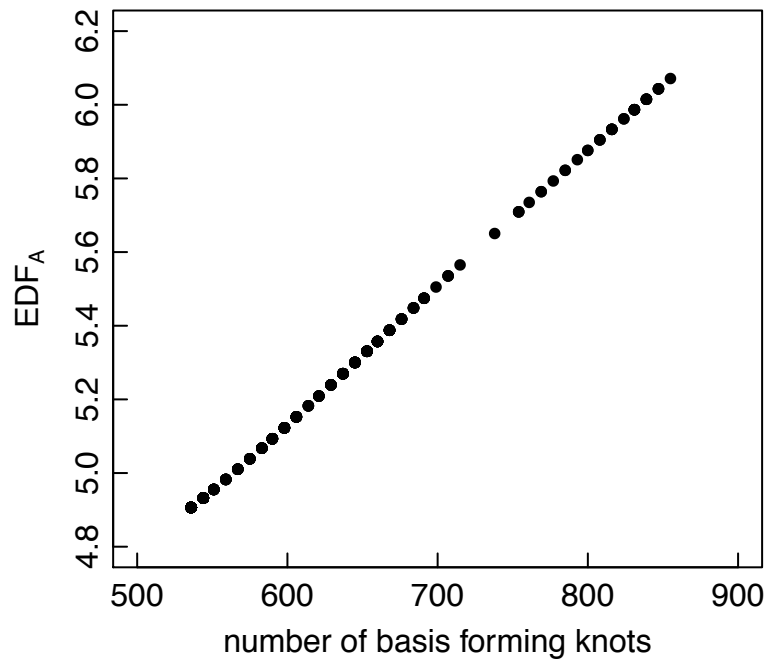
S2:

Figure S2: Number of basis forming knots (w_j = 1) vs EDF_A in segment 1 calculated from 794 ambient samples when EDF_T = 4.
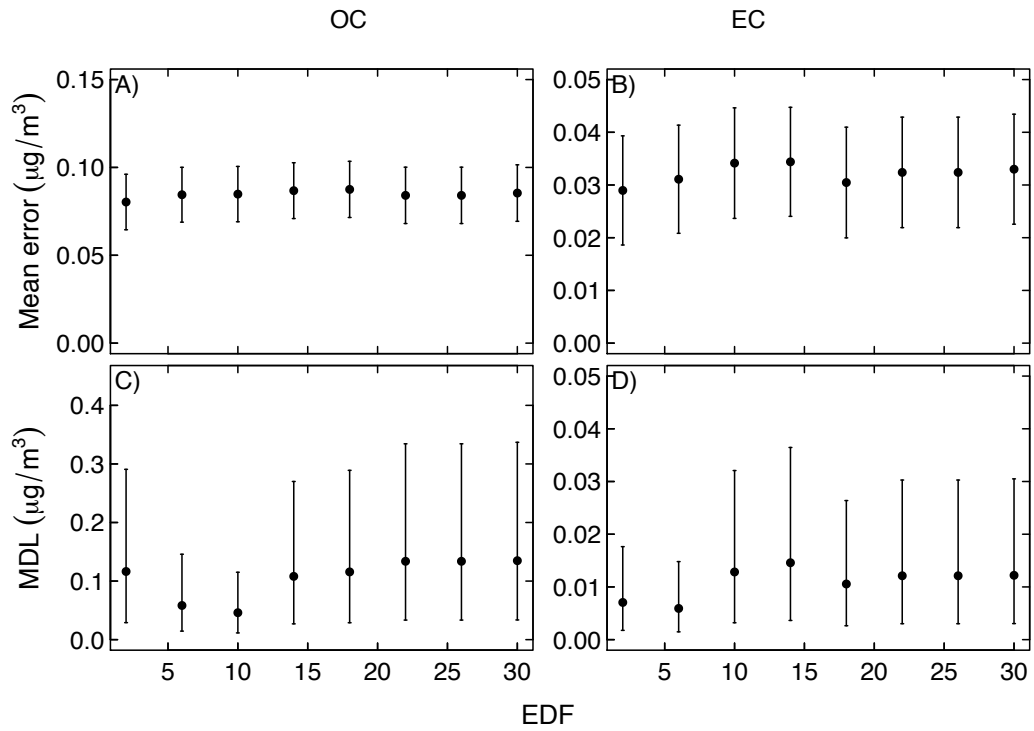
S3:

Figure S3: Mean error and MDL metrics for OC predictions (A and C) and EC predictions (B and D) from Test 2011 consisting of spectra corrected by the indicated EDF parameter. The error bars denote the 95% confidence interval on the estimates.