

**Supplemental Information for “An Automated Baseline Correction Protocol
for Infrared Spectra of Atmospheric Aerosols Collected on
Polytetrafluoroethylene (Teflon) Filters”
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S1:

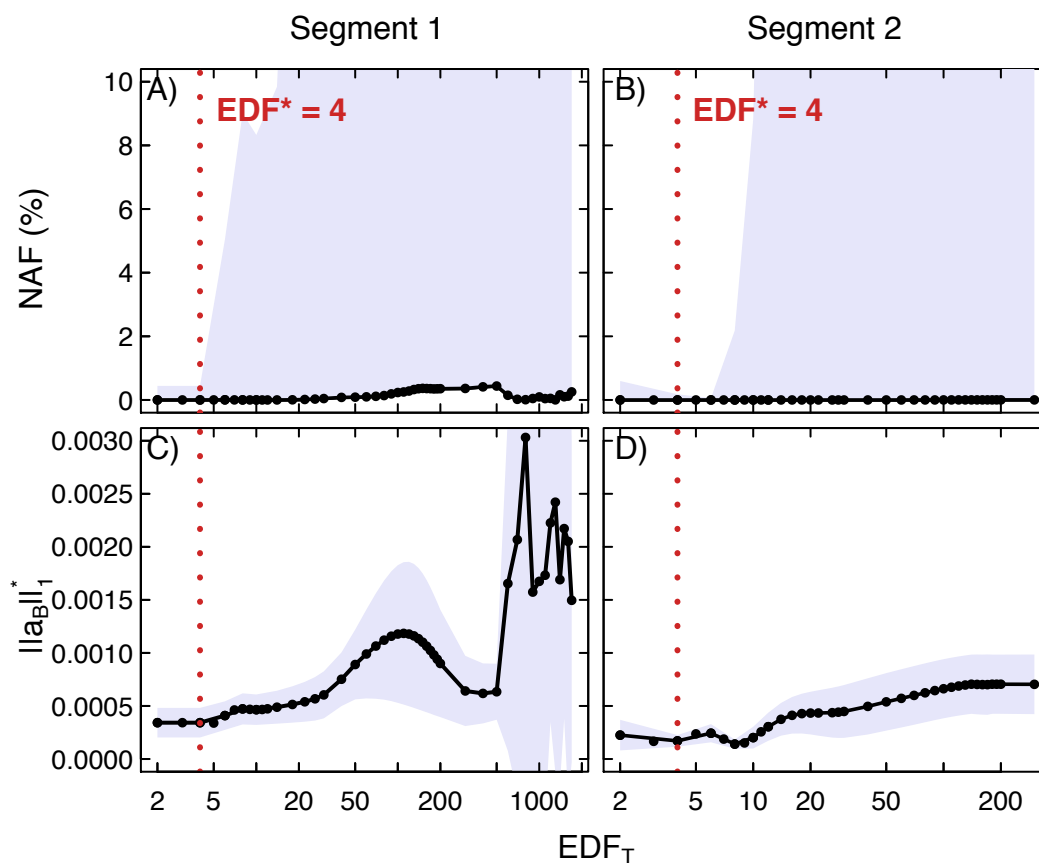


Figure S1: Mean normalized total absolute blank absorbance for $2 \leq \text{EDF}_T \leq n$ where $n = 1695$ in segment 1 (A) and $n = 389$ in segment 2 (B), calculated from 54 IMPROVE 2011 laboratory blank samples (black points). Shaded areas denote two standard deviations from the mean. Median NAF 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 95th percentiles. All plots use logarithmic-scale x-axis to highlight the behavior in the EDF range we are studying ($2 \leq \text{EDF}_T \leq 12$). Black line is drawn to capture the overall trend.

S2:

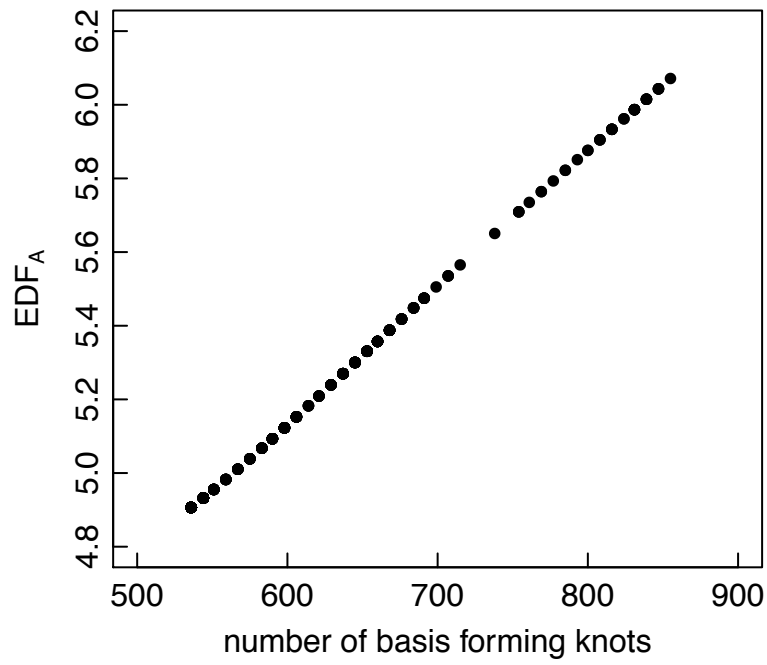


Figure S2: Number of basis forming knots ($w_j = 1$) vs EDF_A in segment 1 calculated from 794 ambient samples when EDF_T = 4.

S3:

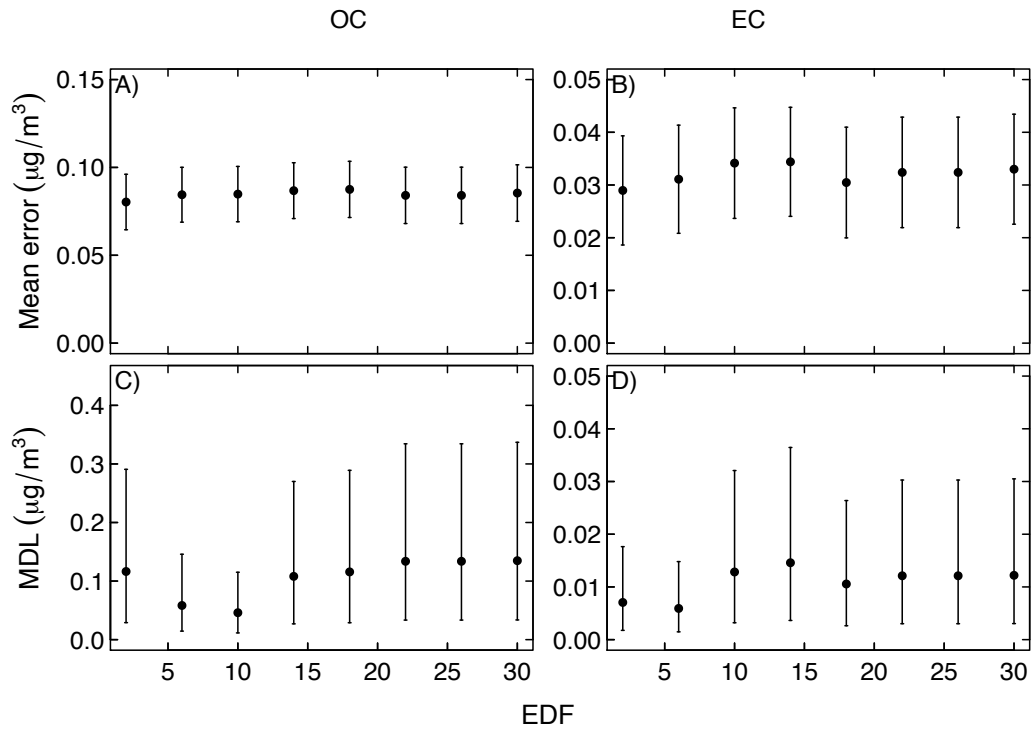


Figure S3: Mean error and MDL metrics for OC predictions (A and C) and EC predictions (B and D) from Test 2011 consisting of spectra corrected by the indicated EDF parameter. The error bars denote the 95% confidence interval on the estimates.