



Supplement of

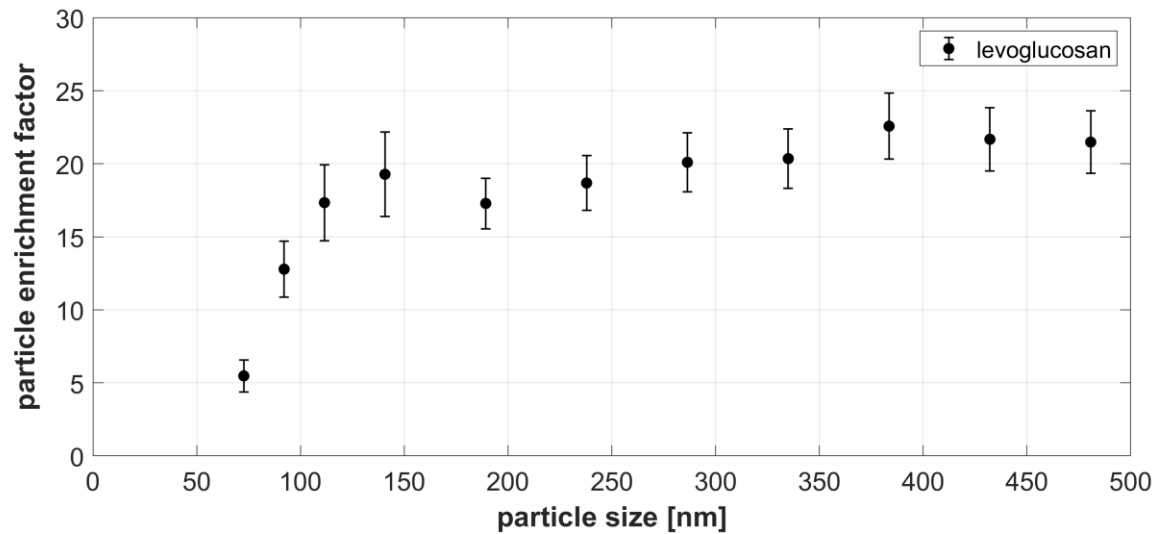
Direct detection of polycyclic aromatic hydrocarbons on a molecular composition level in summertime ambient aerosol via proton transfer reaction mass spectrometry

Tobias Reinecke et al.

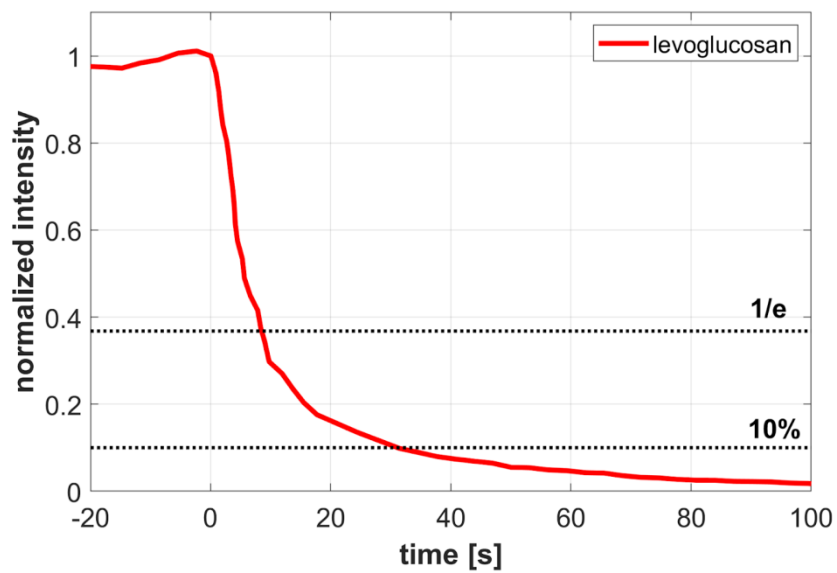
Correspondence to: Markus Müller (markus.mueller@ionicon.com)

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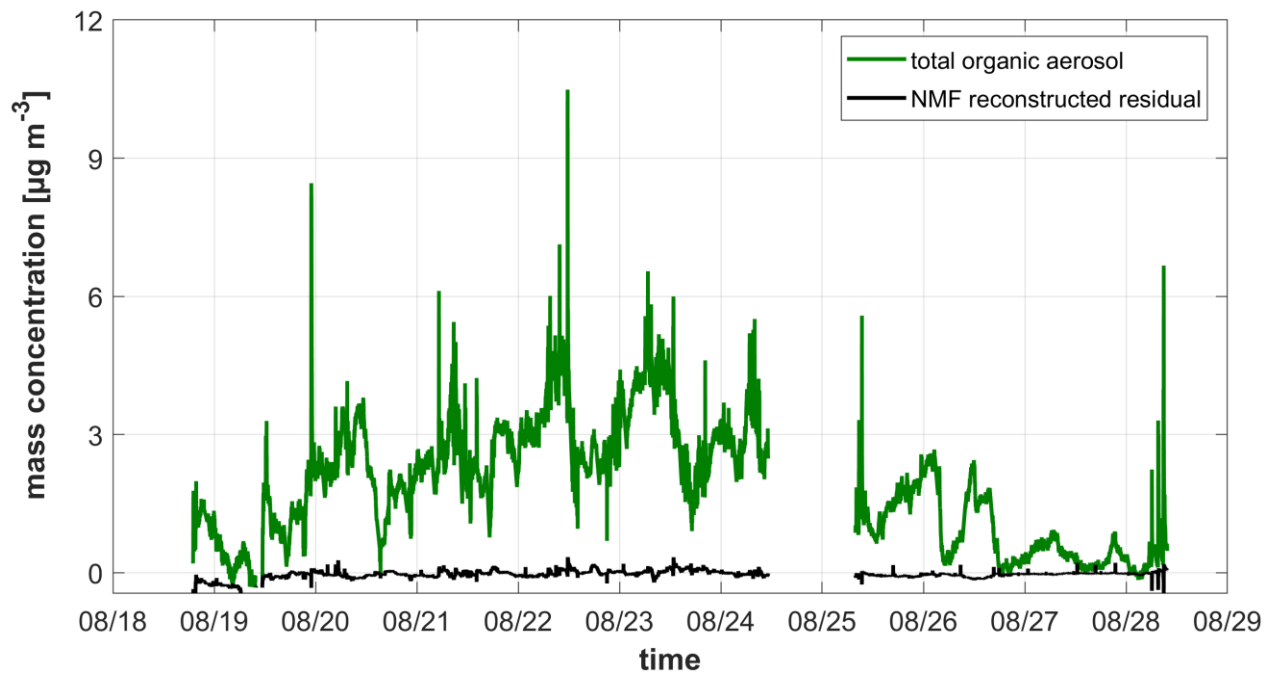
Supporting Figures



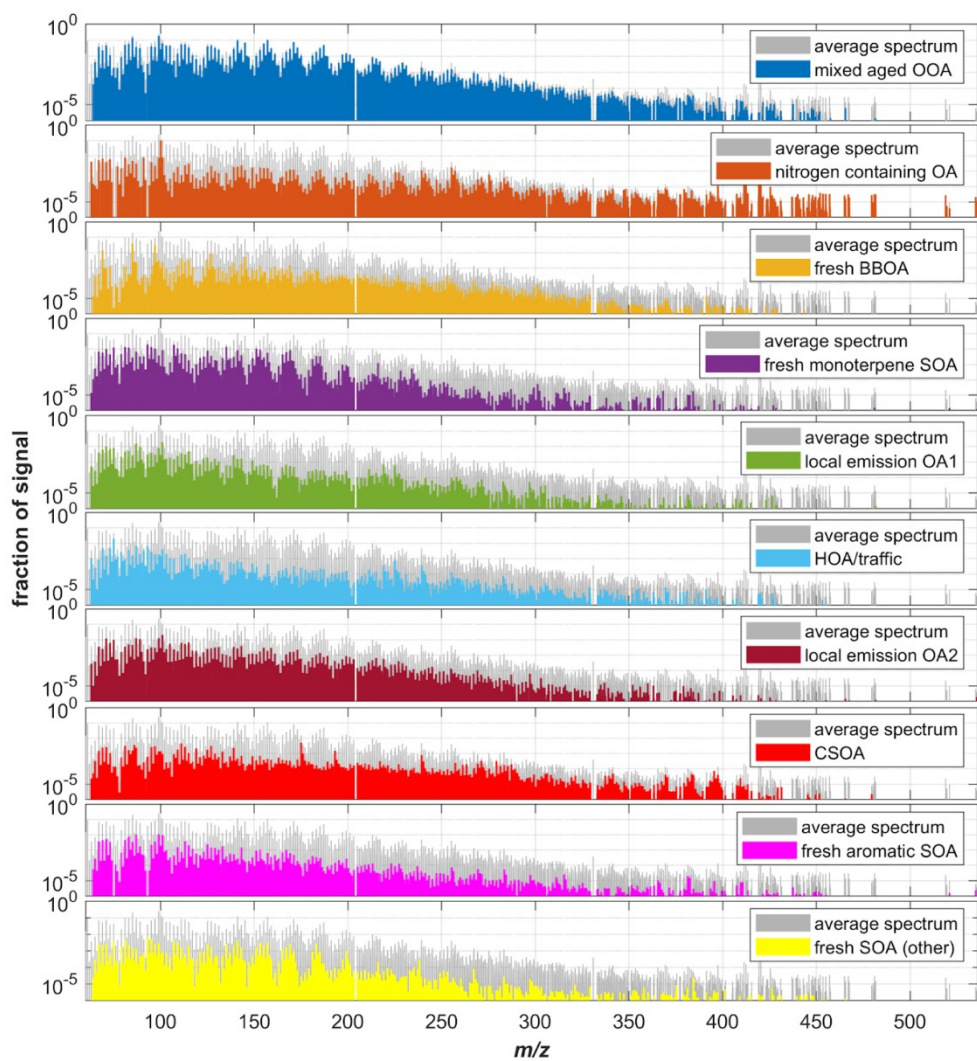
5 **Figure S1: Particle size dependent enrichment factor of the CHARON particle inlet as measured for atomized and size-selected levoglucosan particles.**



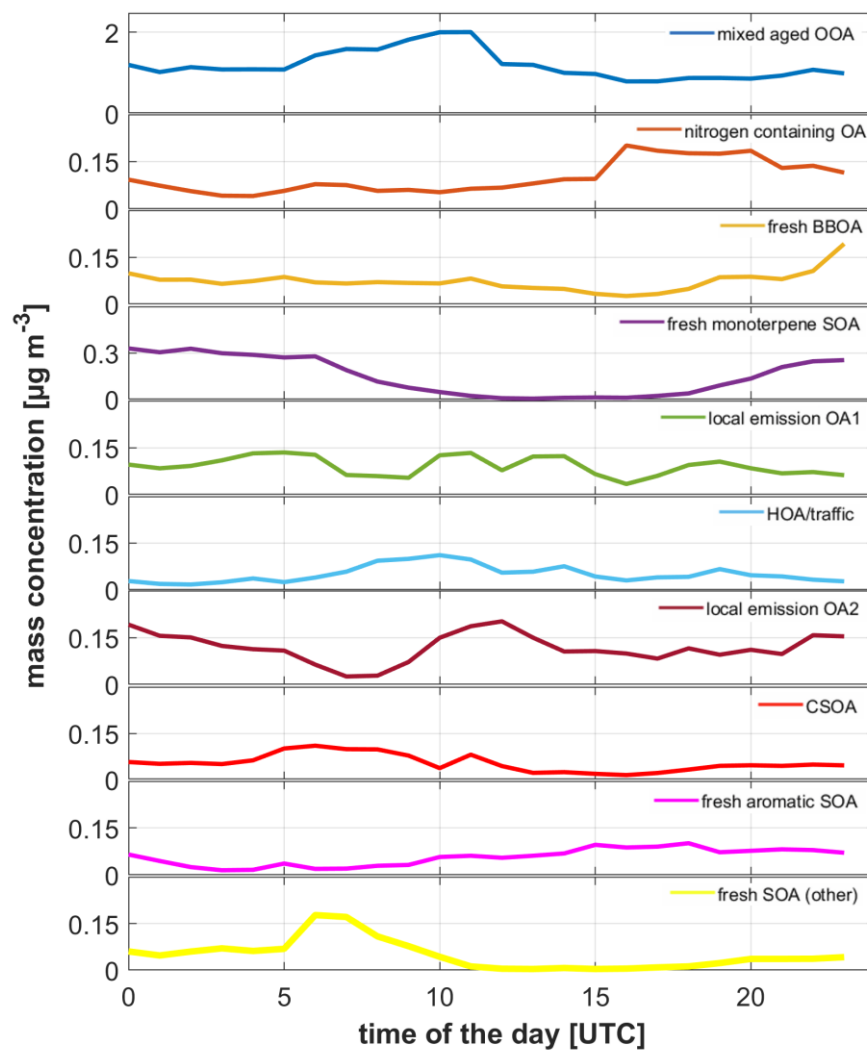
10 Figure S2: Response of the CHARON FUSION PTR-TOF 10k for atomized polydisperse levoglucosan particles. Levoglucosan mass concentrations were in the range of $0.5 \mu\text{g m}^{-3}$. A constant concentration of levoglucosan particles was supplied for a few minutes prior to switching to CHARON HEPA mode to follow the signal decay. $1/e$ decay times equal to 8 s, a decay down to 10% equals to 31 s.



15 Figures S3: Visualization of the total measured organic aerosol and the respective NMF reconstructed residual (i.e. the total measured organic aerosol minus the sum of all ten identified NMF factors).



20 **Figures S4: Mass spectra of all identified factors (in respective colors). Grey bars illustrate the average mass spectrum as recorded during the entire measurement period.**



Figures S5: Diurnal variations of all identified factors.