

Supporting Information:

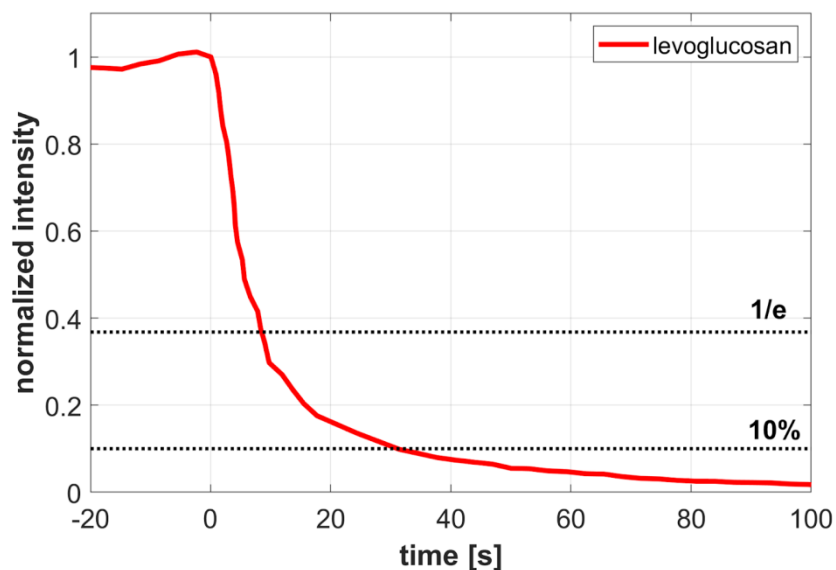
Direct detection of condensed particulate polycyclic aromatic hydrocarbons on a molecular composition level at low $\mu\text{g m}^{-3}$ mass concentrations via proton-transfer-reaction mass-spectrometry

5 Tobias Reinecke¹, Markus Leiminger¹, Andreas Klinger¹, Markus Müller¹

¹IONICON Analytik GmbH, Innsbruck, 6020, Austria

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

Supporting Figures



10 **Figure S1: 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 34 s.**

15

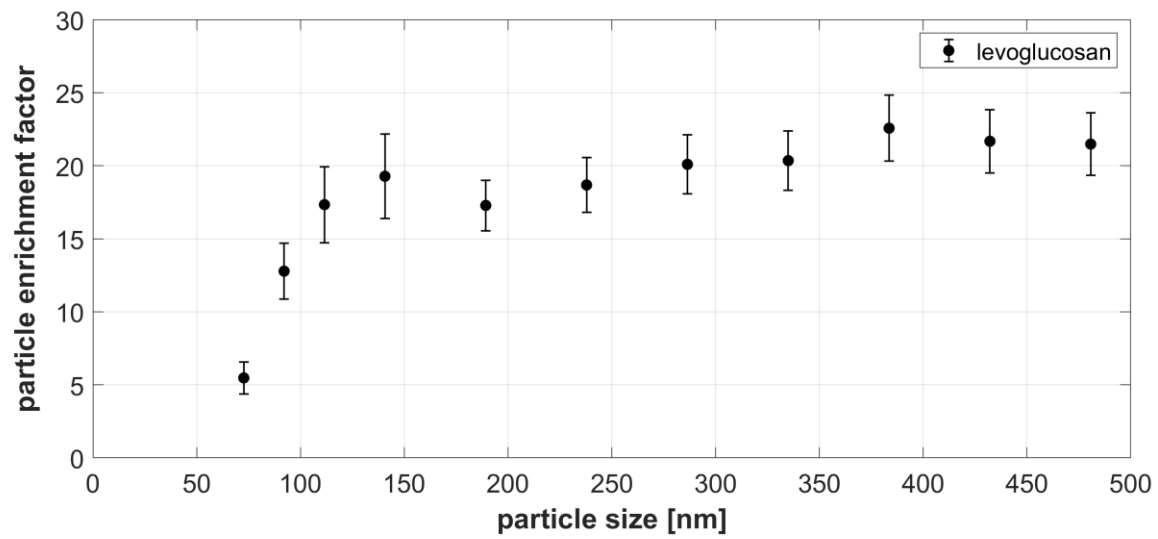
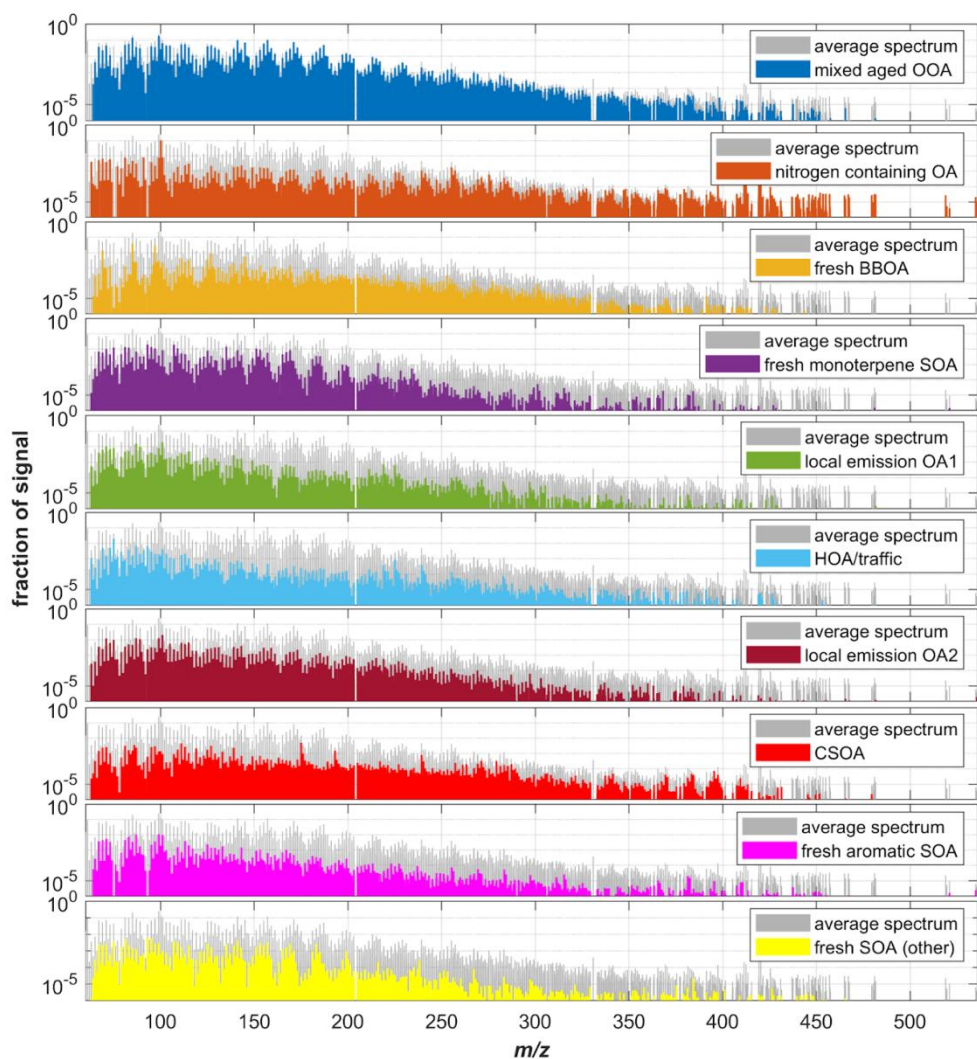
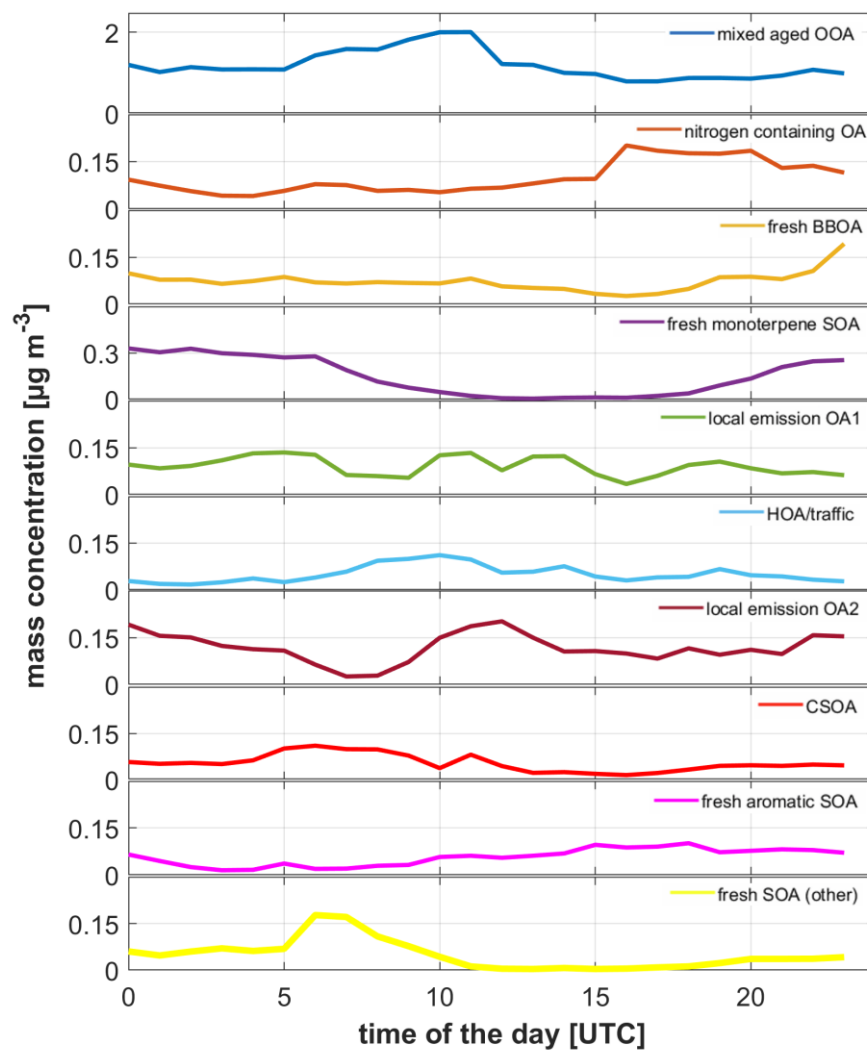


Figure S2: Particle size dependent enrichment factor of the CHARON particle inlet as measured for levoglucosan particles.



20 **Figures S3: Mass spectra of all identified factors (in respective colors). Grey bars illustrate the average mass spectrum as recorded during the entire measurement period.**



Figures S4: Diurnal variations of all identified factors.