Development and application of a chemical ionization focusing integrated ionization source TOFMS for on-line detection of OVOCs in the atmosphere

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Supplementary material

Figure S1 is the chemical ionization focusing integrated (CIFI) ionization source model constructed by SIMION 2020, showing the ions trajectory with or without radio frequency electric field. The red box in the figure represents the region where ions are randomly generated.

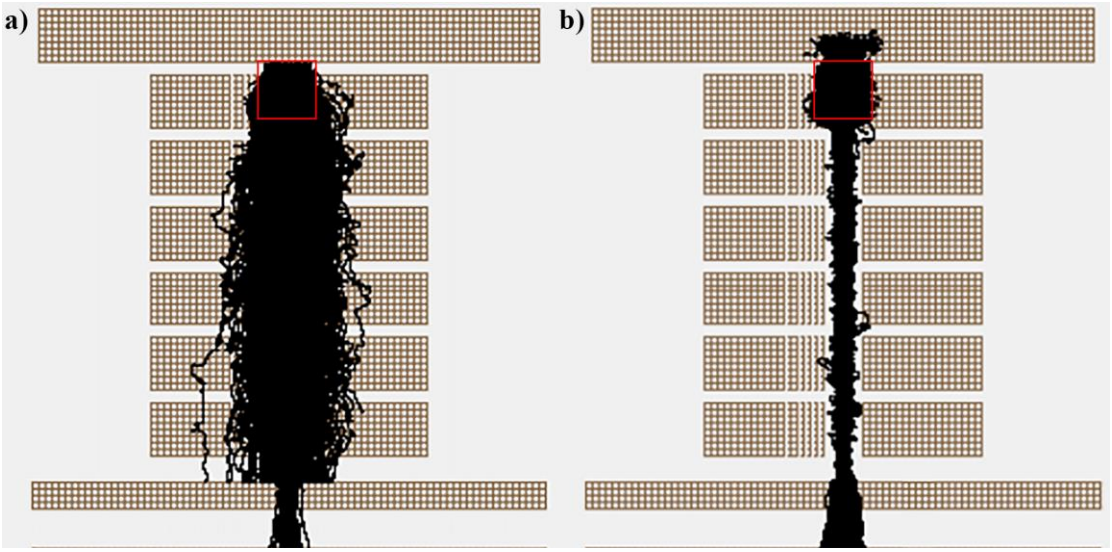

Figure S1 - Ion trajectories of 100 Th ions a) applying RF and b) closing RF.

Figure S2 shows the main components of the home-made time-of-flight mass spectrometer equipped with CIFI ionization source (CIFI-TOFMS). The instrument mainly consists of a CIFI ionization source, a quadrupole, a lens, a time of flight mass analyzer, and a vacuum system. A dry pump and a multi-inlet molecular pump maintain

four differentially pumped stages of the instrument, with pressure of 550, 1.5, 10^{-3}, and 10^{-5} Pa, respectively.

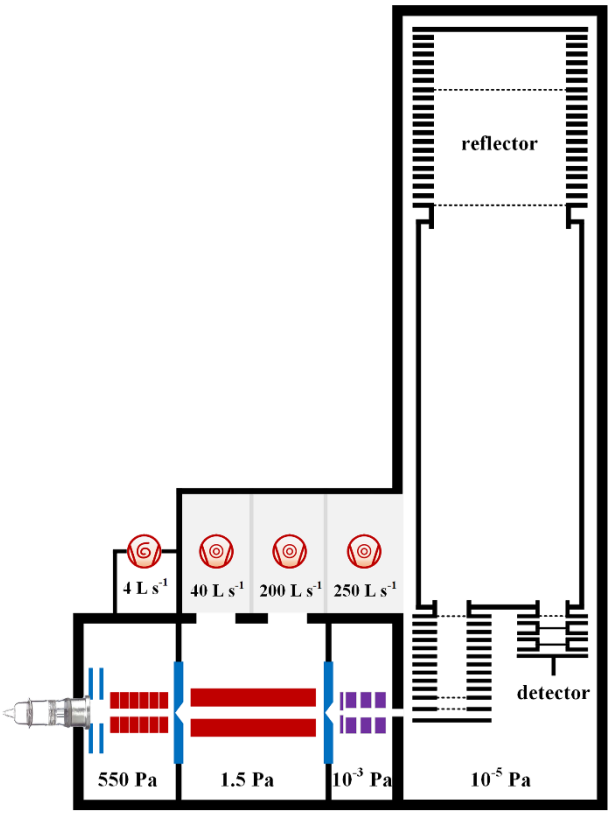

Figure S2 - Schematic diagram of the main components of CIFI-TOFMS.