

Supplementary Information

Direct Analysis and Quantification of Metaldehyde in Water using Reactive Paper Spray Mass Spectrometry

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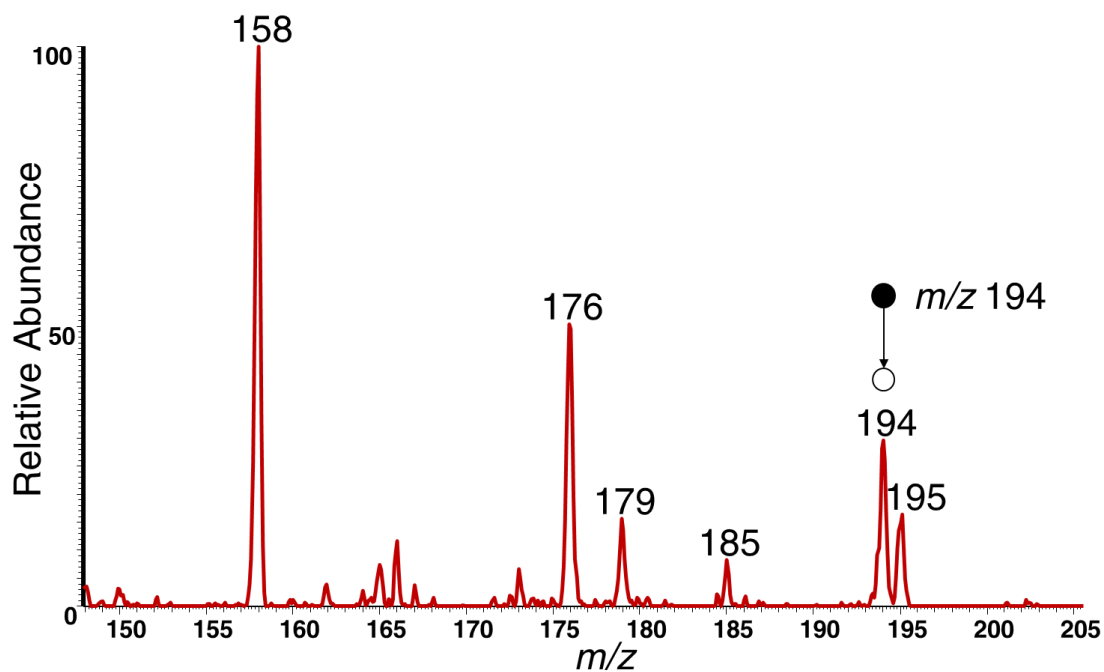
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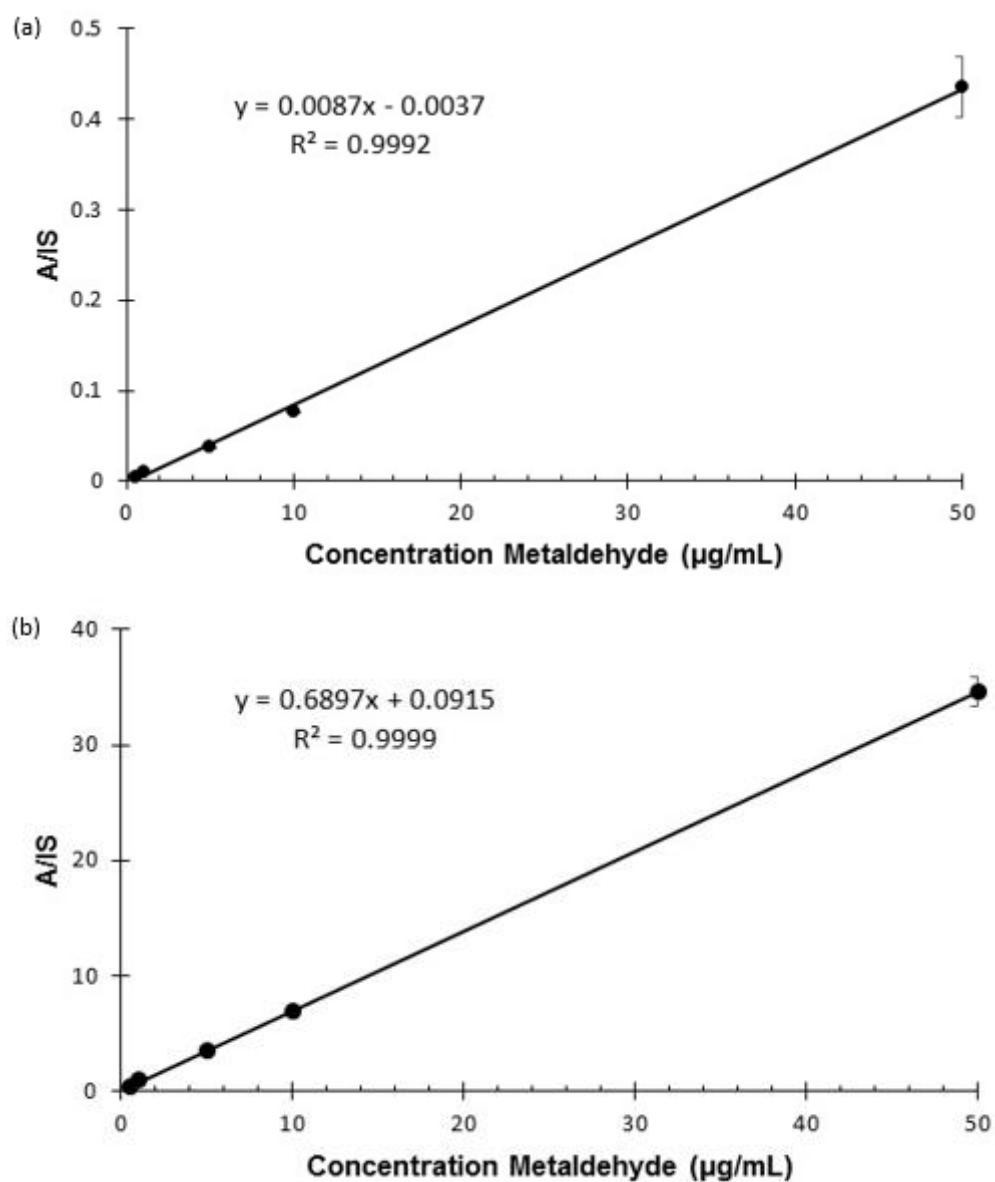
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1. Characterization of Metaldehyde Detection using PS-MS



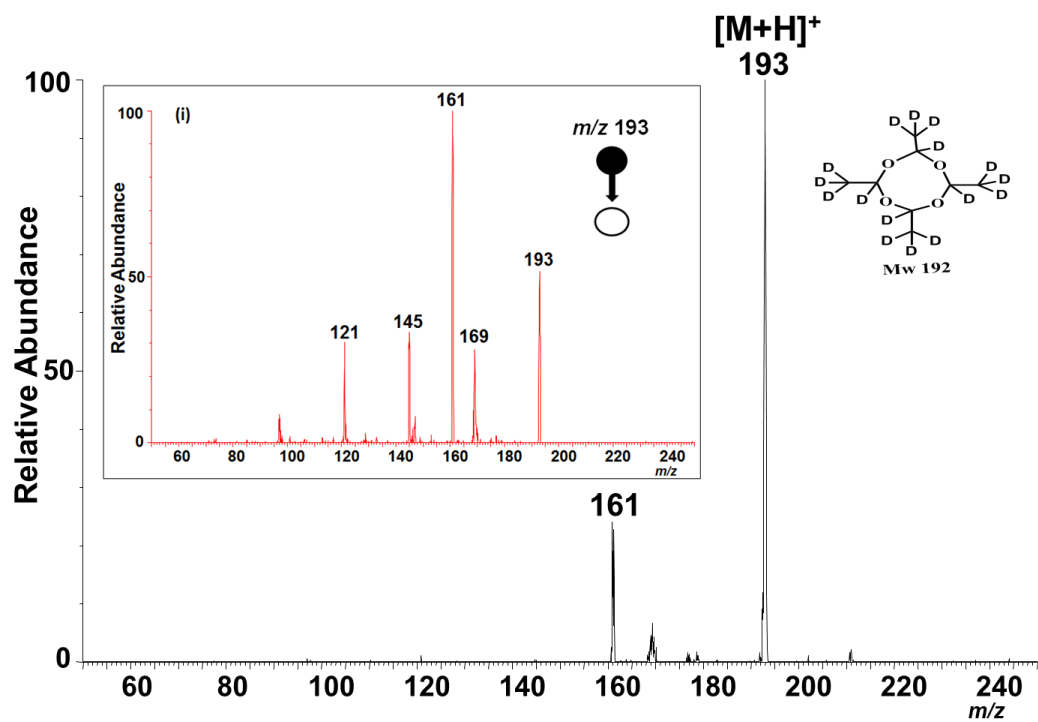
Supplementary Figure S1: Positive ion mode paper spray mass spectrum of metaldehyde recorded using a bench-top ion trap mass spectrometer. 5 μg of the analyte in 1 μL deionized water was spotted onto filter paper and ionized in air by application of a positive electric potential (3.5 kV) using methanol as the paper spray solvent. The figure shows the CID data for the precursor ion at m/z 194.

2. Neutral PS-MS calibration curves



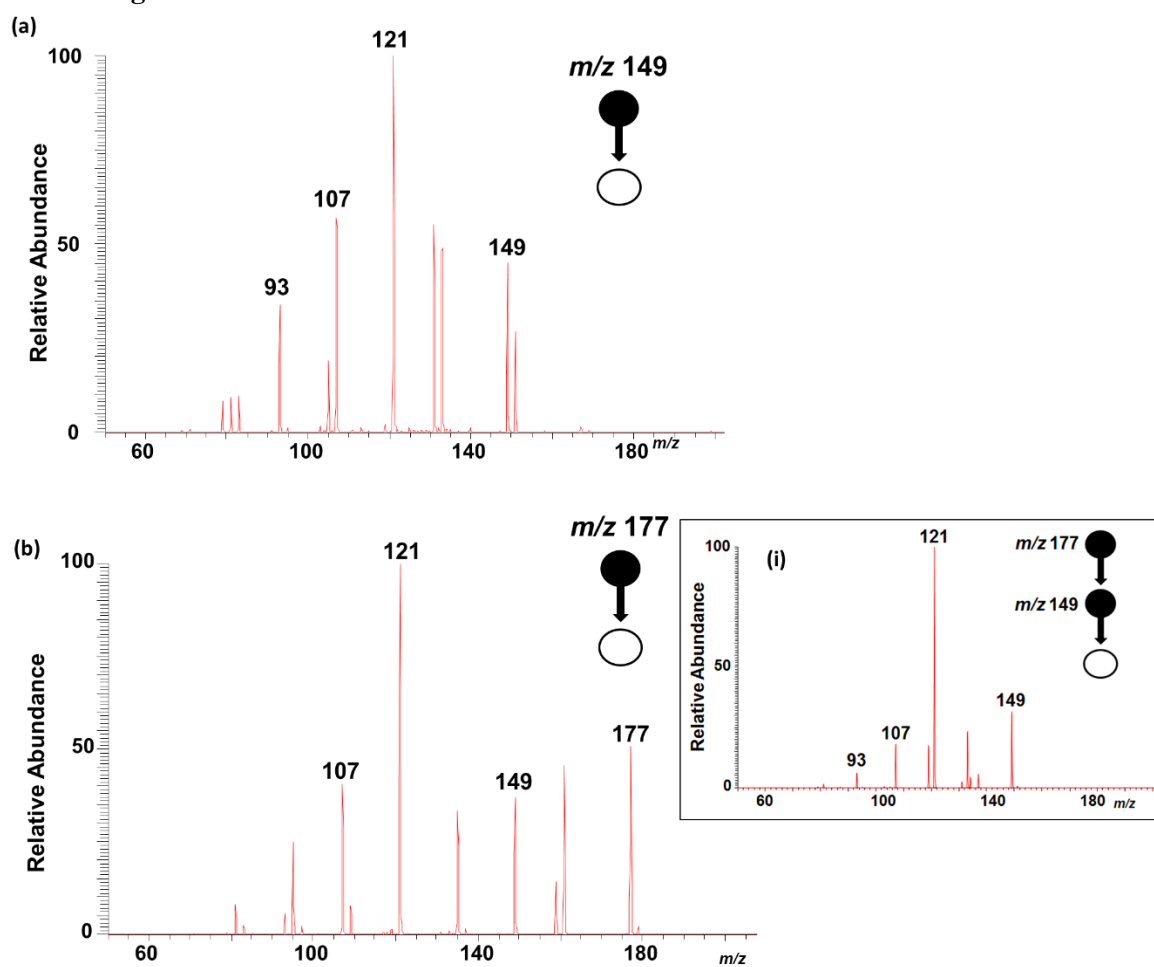
Supplementary Figure S2: Calibration curve for quantification of metaldehyde in water using PS-MS/MS when analysing (a) sodiated ion types and (b) ammoniated ion types produced in neutral MeOH spray solvent. Error bars indicate standard deviation from three replicates.

3. Characterization of acidified Metaldehyde-d₁₆



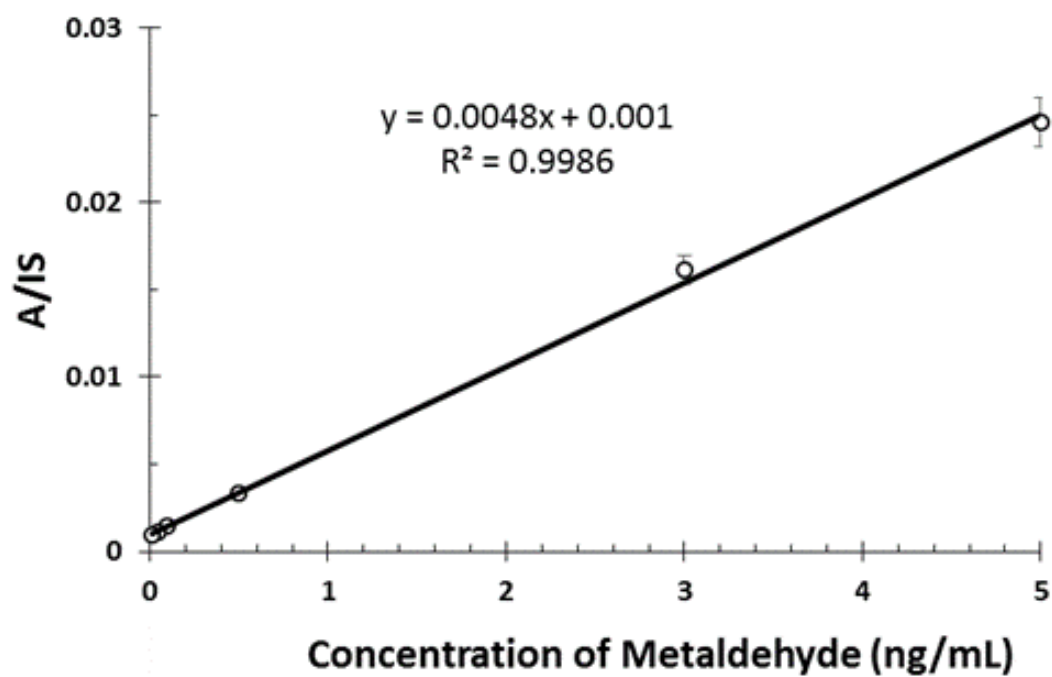
Supplementary Figure S3: Positive ion mode paper spray mass spectrum of metaldehyde-d₁₆ using acidified spray solvent. Inset (i) shows CID data for the precursor ion at *m/z* 193.

4. Comparison of m/z 149 from solution and generated from gas phase fragmentation



Supplementary Figure S4: Comparison of CID of m/z 149 formed (a) directly from the solution with (b) the fragmentation of gas-phase m/z 149 formed from the MS2 of m/z 177 (insert (i)).

5. Reactive PS-MS calibration curve



Supplementary Figure S5: Calibration curve for quantification of metaldehyde in water using PS-MS/MS when analyzing protonated ion types produced in acidified spray solvent. Error bars indicate standard deviation from three replicates.