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Supplement of

Measuring acetic and formic acid by proton-transfer-reaction mass spectrometry: sensitivity, humidity dependence, and quantifying interferences

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Supporting information

Here we provide a list of sensitivity values toward commonly measured species including acetone, isoprene and benzene. The values at E/N of 125 Td are the average calibration factors obtained in East St. Louis, where RH changed between 18 and 100% ($I_{(H_2O)-H_3O^+} : I_{H_3O^+} = 0.01$ and 0.13). Those at E/N of 132 Td are obtained using calibration data from laboratory tests and few from previous measurements [Hu et al. 2013]. Because of weaker dependence of PTR-MS sensitivities toward these species on humidity, we report the average values here.

SI Table 1: PTR-MS sensitivities toward acetone, isoprene, and benzene at m/z 59, m/z 69, and m/z 79.

Compound	E/N , Td	Sensitivity ¹ , ncps ppb ⁻¹
Acetone (m/z 59)	125	19.07±1.30
	132	18.95±0.80
Isoprene (m/z 69)	125	8.45±0.80
	132	7.28±0.60
Benzene (m/z 79)	125	12.40±1.10
	132	10.10±0.80

¹Uncertainty is at 2σ level of all calibration data.

Reference

[Hu, L., Millet, D. B., Kim, S. Y., Wells, K. C., Griffis, T. J., Fischer, E. V., Helmig, D., Hueber, J., and Curtis, A. J.: North American acetone sources determined from tall tower measurements and inverse modeling, Atmos. Chem. Phys., 13, 3379-3392, 2013.](#)