

Supplementary Material (ESI) for Analytical Methods
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**Determination of benzene polycarboxylic acids in atmospheric aerosols
and vehicular emissions by liquid chromatography-mass spectrometry**

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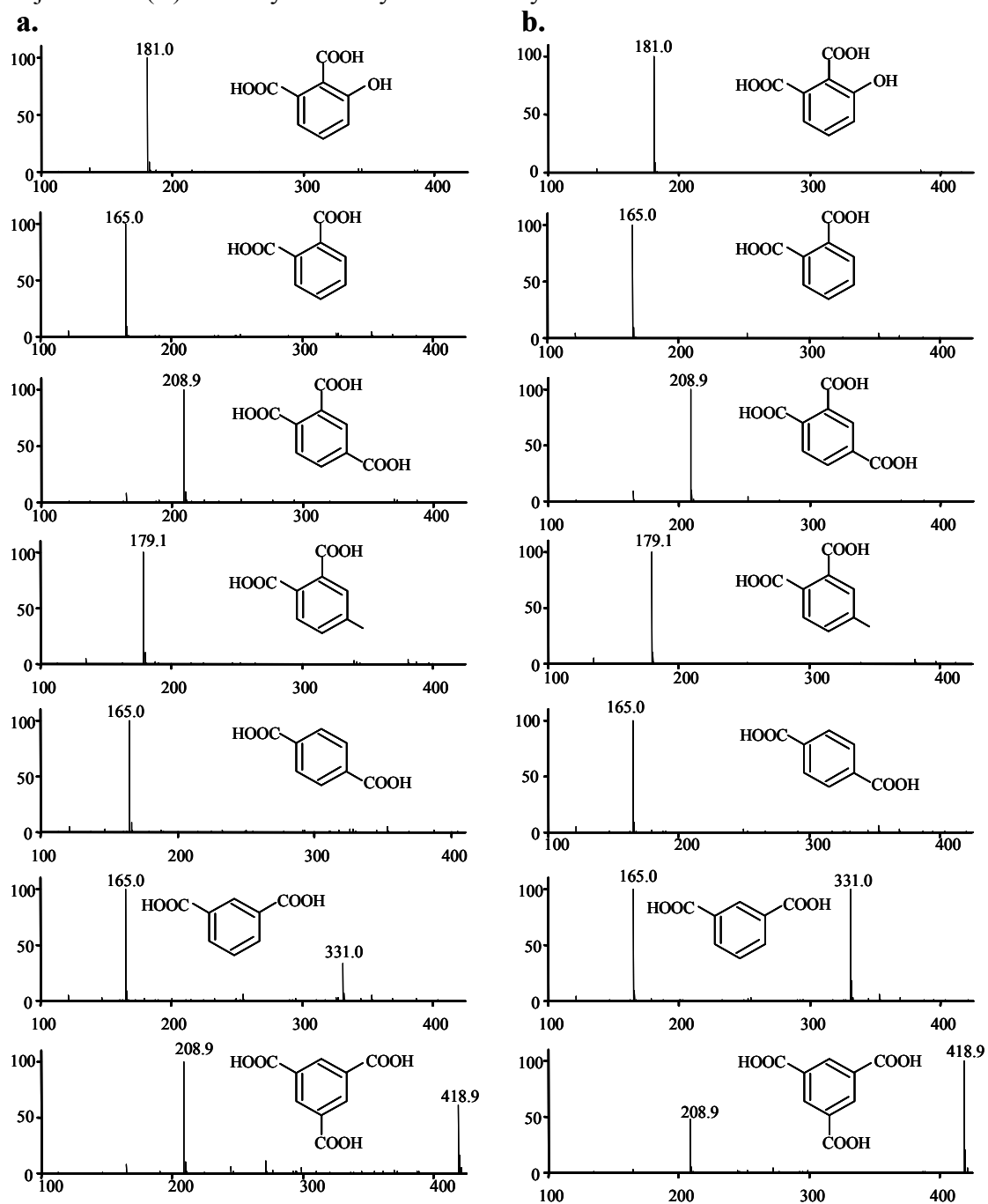


Figure S-1:

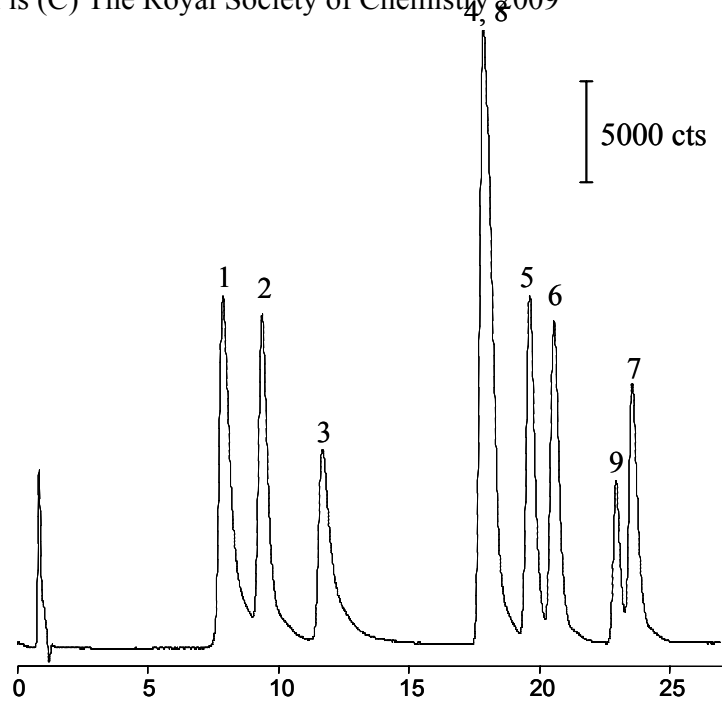


Figure S-2:

Figure S-1: ESI-MS spectra of the standard analytes at concentration of (a) 5000 $\mu\text{g/L}$ and (b) 10000 $\mu\text{g/L}$. **LC conditions:** Column: Zorbax SB-Aq, 150×2.1 mm i.d., 3.5 μm particle size; mobile phase: aqueous 0.1% (v/v) formic acid (eluent A) and methanol (eluent B) delivered at flow rate of 0.4 mL/min; elution profile: isocratic step at 2.5% eluent B for 1 min followed by linear gradient step at a slope of 1.63% eluent B per min for 26 min; injection volume: 40 μL . **MS conditions:** Drying gas: 12 L/min at 350°C; Nebulization pressure: 35 psi; Capillary voltage: -2000 V (negative mode); Fragmentor voltage: 50 V; Scan mode (m/z between 100-300).

Figure S-2: Separation of a model solution of seven benzene polycarboxylic acids and two monoterpene oxidation products at a concentration of 50 $\mu\text{g/L}$ using LC-ESI(-)/MS in SIM mode programmed to monitor masses: 165, 179, 181, 183, 185, and 209; **Peaks:** (1) 3-hydroxyphthalic acid; (2) phthalic acid; (3) trimellitic acid; (4) 4-methylphthalic acid; (5) *p*-phthalic acid; (6) *m*-phthalic acid; (7) trimesic acid; (8) pinic acid; and (9) pinonic acid. Other conditions are the same as in Figure S-1.