

Supplement. Determining TEX concentrations using NTS and calibration method

From Eq. 4 (Lord, *et al.*, 2010), the total amount of analyte extracted (n) is proportional to the time interval (t) and the concentration of VOC (C) for fixed coefficients D_m , Z and A . Six concentrations (0, 2, 5, 10, 15 and 20 ppm) of toluene, ethylbenzene and *p*-xylene (TEX) were prepared in a Pyrex glass bulb of 500 mL. The NTS were inserted in series into the bulbs to perform extraction tests for 1 hr. The extracted masses of TEX and the corresponding integrated areas of the peaks that were obtained by GC-FID are used to yield calibration equations, which are shown in Table S1 (Cheng, *et al.*, 2017).

The concentrations of TEX in the air samples are determined using Eqs. (s1)–(s3) and the areas analyzed by GC-FID. The practical sampling time is 15 min by with NTS on the drone, then the measured concentrations of BTEXs must be multiplied by four (1 hr/15 min = 4) because the multiplying factor (f) for time weighting is calculated as $f = 1 \text{ hr}/(\text{practical sampling time})$.

Table 1S. The calibration equations of extracted mass of TEX and the corresponding integral analysis area by GC-FID

VOCs	Calibration equations ^a
Toluene	$y = 2.1322x + 2.4053, R^2 = 0.995$ (s1)
Ethylbenzene	$y = 6.766x - 11.317, R^2 = 0.998$ (s2)
<i>p</i> -xylene	$y = 2.6007x - 3.3366, R^2 = 1.000$ (s3)

Note:

- a. y = the TEX concentration in ppm; x = the integral area analyzed by GC-FID; and R^2 = the linear coefficient of regression.