

Electronic Supplementary Information

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Wet scrubbing online preconcentration for monitoring of diurnal variations of nitrophenol isomers in the atmosphere

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Table S1. Instrumental parameters used for APCI-MS/MS for NPs and phenol

Compound	MW*	Precursor ion (<i>m/z</i>)	Product ion (<i>m/z</i>)	Q1 pre bias (V)	CE* (eV)	Q3 pre bias (V)
2NP	139.11	138.1	108.1	25.0	17.0	20.0
2NoC	153.14	152.0	122.1	16.0	18.0	24.0
2NmC	153.14	152.0	122.1	16.0	18.0	24.0
2NpC	153.14	152.0	122.1	16.0	18.0	24.0
4NP	139.11	138.1	108.1	25.0	17.0	20.0
4NoC	153.14	152.0	122.1	16.0	18.0	24.0
4NmC	153.14	152.0	122.1	16.0	18.0	24.0
2,4DNP	184.11	183.0	109.0	12.0	24.0	19.0
2,4DNPt	212.16	183.0	109.0	12.0	24.0	19.0
2,6DNpC	198.13	197.0	167.0	10.0	17.0	14.0
3NP	139.11	138.1	108.1	25.0	17.0	20.0
Phenol	94.11	93.2	65.0	15.0	23.0	11.0
ISTD						
2NP ring- <i>d4</i>	143.13	142.1	112.0	27.0	18.0	21.0
4NP ring- <i>d4</i>	143.13	142.1	112.0	27.0	18.0	21.0
Phenol ring- <i>d5</i>	99.14	98.1	70.0	18.0	23.0	27.0

* MW: molecular weight; CE: collision energy

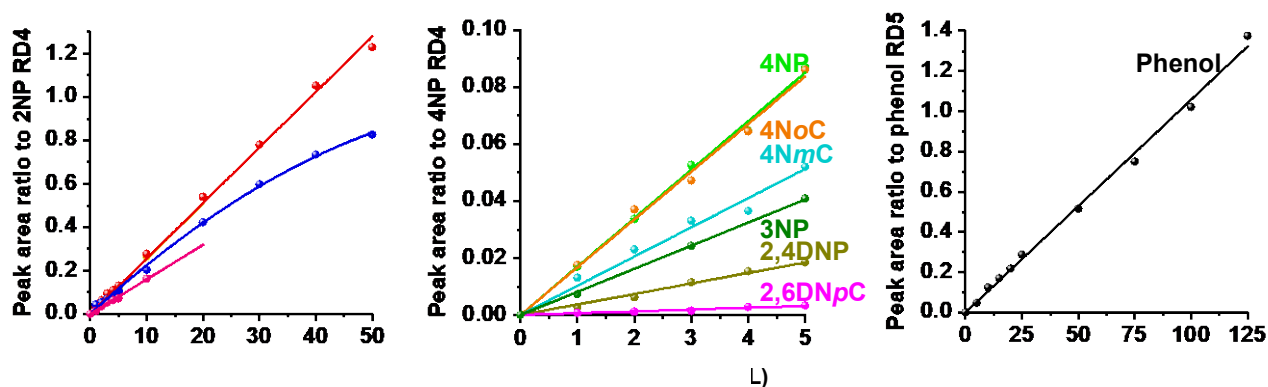


Figure S1. Calibration curves for (a) 2NPs and 2,4DNPt, (b) 4NPs, 3NP and DNPs and (c) phenol. Internal standard concentrations were 2NP ring-*d*4 45 $\mu\text{g/L}$, 4NP ring-*d*4 45 $\mu\text{g/L}$ and phenol ring-*d*5 90 $\mu\text{g/L}$.

Table S2. Ranges and linearities of calibration curves and limits of detection for liquid sample and converted air concentration.

Compound	Calibration curve		Limit of detection		
	Range ($\mu\text{g/L}$)	R^2	Extract ($\mu\text{g/L}$)	Air (ng/m^3)	Particle (ng/m^3)
2NP	1-50	0.9986	0.24	0.66	0.33
2NoC	1-10	0.9972	0.17	0.48	0.24
2NmC*	-	-	0.24	0.66	0.33
2NpC	1-50	0.9993	0.21	0.59	0.25
4NP	1-5	0.9989	0.078	0.22	0.11
4NoC	1-5	0.9978	0.043	0.12	0.06
4NmC	1-5	0.9931	0.089	0.25	0.12
2,4DNP	1-5	0.9966	0.13	0.35	0.17
2,4DNPt	1-10	0.9962	0.11	0.30	0.15
2,6DNpC	1-5	0.9885	0.22	0.62	0.31
3NP	1-5	0.9997	0.13	0.37	0.18
Phenol	5-125	0.9981	1.3	3.7	1.8

* 2NmC peak overlapped with 2NpC

Limit of detections were obtained from three times signal-to-noise ratios of chromatograms.