

Supplementary Data: Table S3. O-PAC concentrations and limit of detection (LOD) in the 29 soils.

	Soil 1	Soil 2	Soil 3	Soil 4	Soil 5	Soil 6	Soil 7	Soil 8	Soil 9	Soil 10	Soil 11	Soil 12	Soil 13	Soil 14	Soil 15
O-PAC	mg kg ⁻¹ (dw)														
1-Idanone	0.08	0.03	0.02	0.02	n.d.	0.01	0.04	0.02	0.02	0.03	0.03	0.01	0.01	0.04	0.05
1-Napthol	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
1-Naphthaldehyde	0.06	n.d.	n.d.	0.03	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	0.01	n.d.	n.d.
2-Phenylphenol	0.01	n.d.	n.d.	0.01	0.02	n.d.	0.00	n.d.	0.00	0.00	0.01	0.00	0.01	0.00	0.06
9-Fluorenone	0.54	0.23	0.06	0.14	0.06	0.01	0.04	n.d.	0.02	0.01	0.01	0.05	0.05	0.27	0.09
1,2-Acenaphthenequinone	0.13	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	0.01	n.d.	n.d.	n.d.	n.d.	n.d.
9,10-Anthraquinone	1.59	0.47	0.08	0.24	0.09	0.01	0.06	n.d.	0.09	0.01	0.02	0.13	0.09	0.70	0.16
4h-Cyclopental[def]phenanthrenone	1.80	0.47	0.07	0.15	0.03	n.d.	0.08	n.d.	0.08	0.00	0.01	0.13	0.14	0.45	0.11
Benzo[a]fluorenone	1.90	0.50	0.09	0.26	0.04	0.00	0.15	n.d.	0.07	0.00	0.02	0.21	0.13	0.48	0.11
7h-Benz[de]anthracen-7-one	3.58	0.79	0.12	0.31	0.23	n.d.	0.30	n.d.	0.27	n.d.	0.03	0.40	0.11	0.75	0.66
Benz[a]anthracene-7,12-dione	0.85	0.29	0.04	0.12	n.d.	n.d.	0.04	n.d.	0.04	0.01	0.01	0.10	0.05	0.34	0.06
Naphthacene-5,12-dione	1.02	0.32	0.07	0.14	n.d.	n.d.	0.12	n.d.	0.05	n.d.	n.d.	0.15	n.d.	0.32	0.14
6H-Benzo[cd]pyrenone	3.97	0.61	0.14	0.31	0.36	n.d.	0.22	n.d.	0.14	n.d.	0.03	0.50	0.12	0.52	0.68
ΣO-PAC	14.5	2.88	0.50	1.71	1.71	0.00	0.84	0.02	0.54	0.03	0.09	1.63	0.69	2.86	2.13

	Soil 16	Soil 17	Soil 18	Soil 19	Soil 20	Soil 21	Soil 22	Soil 23	Soil 24	Soil 25	Soil 26	Soil 27	Soil 28	Soil 29	LODs ^a
O-PAC	mg kg ⁻¹ (dw)														
1-Idanone	0.02	0.04	0.01	n.d.	0.02	0.02	0.01	0.01	0.02	n.d.	n.d.	0.02	0.16	n.d.	0.02-0.15
1-Naphthol	n.d.	n.d.	n.d.	n.d.	n.d.	0.43	n.d.	n.d.	n.d.	0.09	n.d.	n.d.	n.d.	n.d.	0.01-0.15
1-Naphthaldehyde	n.d.	n.d.	n.d.	n.d.	n.d.	0.01	0.02	n.d.	n.d.	0.10	0.04	n.d.	0.17	n.d.	0.01-0.17
2-Phenylphenol	0.01	0.01	0.00	0.05	0.01	0.04	0.01	n.d.	0.02	0.08	n.d.	0.01	n.d.	n.d.	0.01-0.19
9-Fluorenone	0.88	0.05	0.06	n.d.	0.03	0.08	0.15	0.08	0.03	1.03	0.59	0.20	0.26	0.01	0.02-0.17
1,2-Acenaphthenequinone	n.d.	n.d.	n.d.	n.d.	n.d.	0.03	0.04	n.d.	n.d.	2.45	0.66	n.d.	2.16	n.d.	0.01-0.12
9,10-Anthraquinone	4.01	0.13	0.17	n.d.	0.08	2.23	0.15	0.11	0.10	1.70	0.67	0.47	0.25	n.d.	0.02-0.65
4h-Cyclopental[<i>def</i>]phenanthrenone	0.89	0.26	0.10	n.d.	0.07	n.d.	0.05	0.15	0.21	1.66	0.62	0.40	0.21	n.d.	0.02-0.03
Benzo[<i>a</i>]fluorenone	1.01	0.26	0.16	n.d.	0.06	0.22	0.20	0.12	0.07	1.30	0.63	0.37	0.09	n.d.	0.02-0.08
7h-Benz[<i>de</i>]anthracen-7-one	1.53	0.29	0.29	n.d.	0.10	0.34	0.25	0.37	0.11	7.31	1.80	0.34	1.21	n.d.	0.03-0.23
Benz[<i>a</i>]anthracene-7,12-dione	0.81	1.20	0.06	n.d.	0.04	140	0.04	0.16	0.09	0.56	0.29	0.24	0.05	n.d.	0.01-0.05
Naphthacene-5,12-dione	0.51	0.28	0.14	n.d.	0.03	6.80	0.14	0.16	0.10	2.26	0.47	0.29	0.04	n.d.	0.01-2.01
6H-Benzo[<i>cd</i>]pyrenone	1.03	0.24	0.28	n.d.	0.11	0.10	0.27	0.48	0.03	4.90	2.11	0.30	0.62	0.04	0.03-.025
Sum O-PACs	10.2	2.33	1.22	0.05	0.18	151	1.26	1.64	0.21	23.4	7.88	2.60	5.18	0.00	

^aLimit of detection (LOD) was calculated as follows: LOD = Average blank ($n=2$) + 3 * STD ($n=4$). LOD was calculated for each of the four batches (each batch included 9 samples, 2 blank samples, 4 replicate samples, and a 12 point standard curve) resulting in varying LODs; the range of LODs is reported for each compound.