

Table S1 Reagents used in the study

Apparatus and reagents	
Standard solutions	Naphthalene-d ₈ , Benzo(a)anthracene-d ₁₂ 1000 µg/mL (Supelco, Bellefonte, Pennsylvania, USA); Standard mixtures of 16 PAHs (naphthalene (Naph), acenaphthylene (Acy), acenaphthene (Ace), fluorene (Flu), phenanthrene (Ph), anthracene (An), fluoranthene (Flt), pyrene (Py), chrysene (Chry), benzo(b)fluoranthene (BbF), benzo(k)fluoranthene (BkF), benzo(a)pyrene (BaP), benzo(a)anthracene (BaA), indeno(1,2,3-cd)pyrene (InPy), dibenz(a,h)anthracene (DBahA), benzo(g,h,i)perylene (BghiP) 2,000 µg/mL (Restek Corporation, Bellefonte, PA, USA);
Solvents	Dichloromethane, Methanol (Merck, Darmstadt, Germany);
Other	• SPME fibre: PDMS 100 µm (Supelco, Bellefonte, Pennsylvania, USA) • Glass syringes with a capacity of 5 µL, 100 µL (Hamilton, USA); • Automatic pipettes 10 µL, 100 µL, 1000 µL, 10 mL (Brand, Niemcy); • Liquid nitrogen (Linde, Poland) • Helium (purity N6.0, Oxygen, Poland) • Air (purity N5.5, Linde, Poland) • Gaseous nitrogen (purity N5.0, Linde, Poland) • Deionized water Milli-Q (Millipore Corporation, USA)

Table S2 Operating conditions for the GC × GC-TOF-MS analysis of extracted PAHs.

Element of the measuring system/Parameter	Specification/Analysis conditions
Gas chromatograph	Agilent 7890A (Agilent Technologies, Palo Alto, CA, USA)
Detector	Pegasus 4D GC × GC (LECO Corporation, St. Joseph, MI, USA) equipped with a non-moving quad jet dual-stage cryomodulator;
Autosampler	MPS (Gerstel, Germany); included fully automated SPME
Detector working mode	mass range 33-500 m/z
Ionization source temperature	250 °C
Electron energy	70eV
Detector voltage	-1650 V
Chromatographic column I	ZB-5MS (Phenomenex, Torrance, USA; 30 m x 0.25 mm; 0.25 µm film)
Stationary phase of column I	5/95 phenyl/polydimethylsiloxane
Pressure of carrier gas	1x10 ⁻⁷ bar
Flow rate of carrier gas	1 mL/min
Chromatographic column of column II	BPX50 (SGE Analytical Science, Crownhill, UK; 2 m x 0.1 mm; 0.1 µm film)
Stationary phase of column II	50% Phenyl Polysilphenylene-siloxane
Injection port temperature	270 °C
Table 2 (Continued)	
Transfer line temperature	250 °C

Injection mode	splitless
Data acquisition rate	200 Hz
Modulator temperature offset	30 °C
Analysis time	46 min
Number of analytes	16

Table S3 Molecular weight of compounds and diagnostic ions used for detecting PAHs in airport runoff water

Compound name	Molecular weight (Da)	Diagnostic ions (m/z)	
Naphthalene	128	128	127
Acenaphthylene	152	152	151
Acenaphthene	154	154	153
Fluorene	166	166	165
Phenanthrene	178	178	176
Anthracene	178	178	176
Fluoranthene	202	203	202
Pyrene	202	203	202
Benz[a]anthracene	228	228	226
Chrysene	228	228	226
Benzo[b]fluoranthene	252	252	250
Benzo[k]fluoranthene	252	252	250
Benzo[a]pyrene	252	252	250
Indeno[1,2,3-c,d]pyrene	276	277	276
Dibenz[a,h]anthracene	278	279	278
Benzo[g,h,i]perylene	276	277	276