



SUPPLEMENTARY MATERIAL TO
**Ambient air particles: The use of ion chromatography and
multivariate techniques in the analysis of water-soluble
substances**

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J. Serb. Chem. Soc. 86 (7–8) (2021) 753–766

The site. A total of 94 daily samples of ambient air particles were collected between 9th of September 2013 and 25th of June 2014 at Mirijevo, the outskirts of Belgrade, Serbia (44°47'36.7"N 20°32'09.3"E). Located to the south–east of the city, the sampling site is characterized by the following environment: (1) a suburban residential and commercial area (near the commercial area, retail stores, houses, and restaurants), (2) a heating plant located about 0.6 km from the sampling site; (3) the city landfill Vinča, located 4.7 km from the sampling site; (4) a petrochemical industry and oil refinery located in the industrial area of Pančevo at a distance of 11.5 km from the sampling site (Fig. S-1).

Sample handling. Ambient air particles were collected on quartz filters with a TCR Tecora (Echo Hi-Vol) sampler. All filters had a diameter of 102 mm, and the sampling was performed continuously for 24 h at a flow rate of 225 dm³ min⁻¹. After the sampling, the filters were stored in a freezer until extraction. A portion of each loaded filter (1.0 cm² punch) was transferred to a clean 15 cm³ polystyrene tube and extracted with 10 ml of deionized water (Millipore, 18.2 MΩ). All extracted filters were mechanically shaken on a Fisher Scientific model 361 orbital shaker for 20 min, and the resulting extracts were analyzed immediately by ion chromatography using the full-loop injection mode. A recovery experiment was performed by spiking a blank filter with an appropriate standard solution, while the extraction efficiency was checked by triple extraction of the same part of the filter. In both experiments, the yield was in the range 80–100 % and the RSD was less than 10 % for all ions.

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Fig. S-1. Map of the sampling site and potential air pollution sources: (2) the heating plant in the vicinity; (3) the city landfill Vinča; (4) the petrochemical industry in Pančevo.

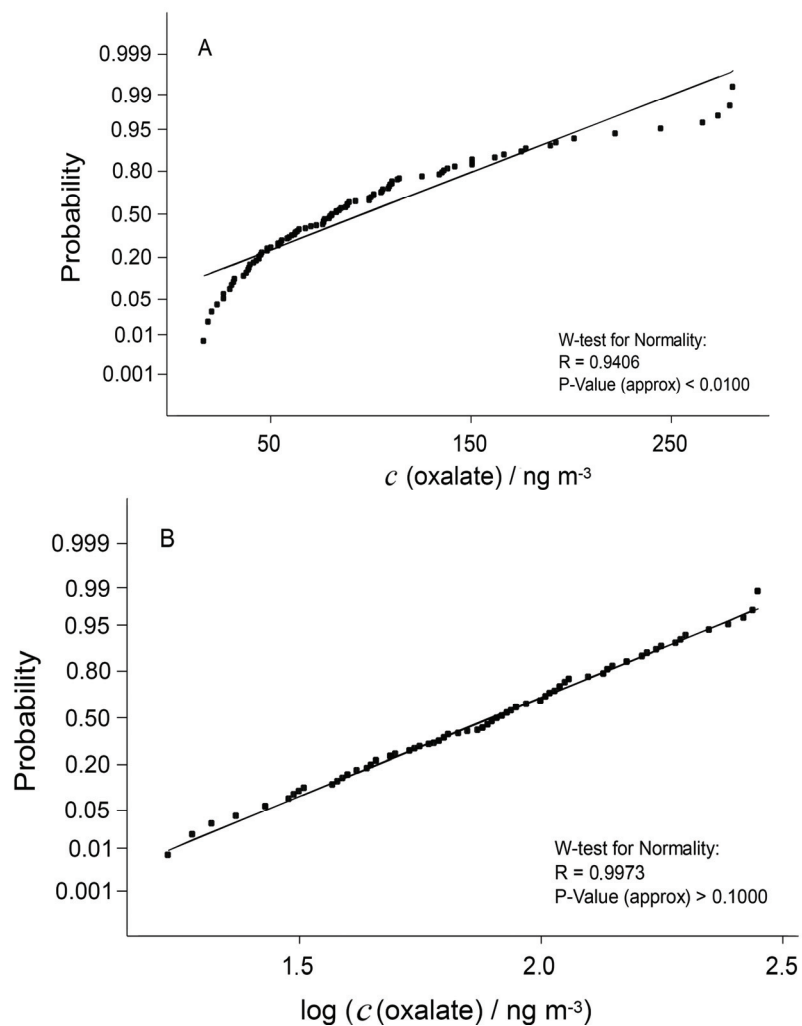


Fig. S-2. Normal (A) and lognormal (B) probability plots for the distribution of oxalate in atmospheric ambient air particles.

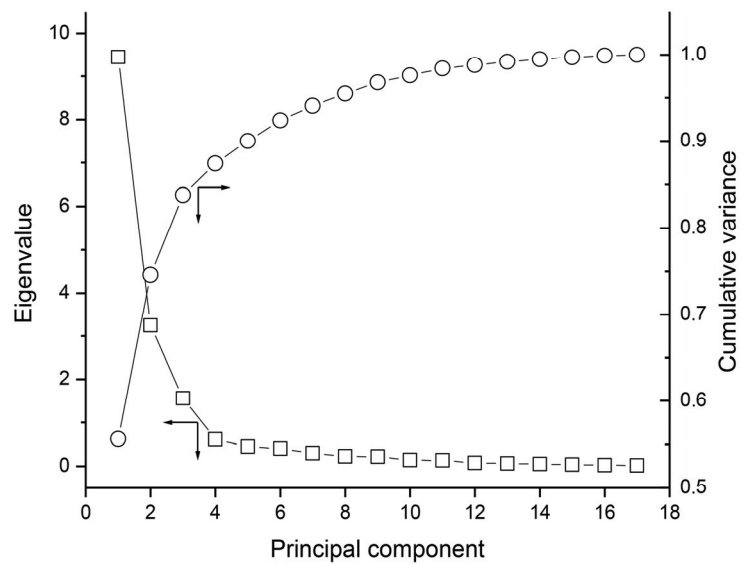


Fig. S-3. Eigenanalysis of the correlation matrix.