Supporting Information

A comprehensive assessment of sample preparation methods for the determination of UV filters in water by gas chromatography: greenness, blueness, and whiteness quantification using the AGREEprep, BAGI and RGB 12 tools

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Table S1. A brief description of the analytical methods assessed.

Method	Sample preparation procedure	Ref.
SPE - solid phase extraction	The SPE disk was washed with 10 mL of methylene chloride and conditioned with 10 mL of methanol and 10 mL of deionized water. Extraction was carried out using a 10 mL water sample. After extraction, the disk was dried under vacuum for 10 min. Next, analytes were desorbed with 5 mL of methylene chloride. The obtained extract was evaporated under nitrogen to dryness and was dissolved in 0.1 mL of methanol.	[21]
SBSE - stir bar sorptive extraction	The 20 mL of a water sample (containing 10% methanol; pH 2) was placed in the beaker. The twister was added and extraction was performed by stirring (1000 rpm) for 3 h at room temperature. Then, thermal desorption was followed at 250 °C for 15 min.	[22]
USAEME - ultrasound-assisted emulsification microextraction	The 2 g of NaCl and 100 μL of chloroform (extraction solvent) were added to 10 mL of water sample. Extraction was carried out for 5 minutes in an ultrasonic water bath. The emulsion was then broken by centrifugation (3500 rpm) for 10 min. Chloroform was removed using a syringe and transferred to a vial.	[23]
DLLME - dispersive liquid-liquid microextraction	The 1 mL of acetone (dispersant) containing 60 μL of chlorobenzene (extractant) was introduced into 10 mL of water sample. This solution was shaken by hand for 1 min and centrifuged (3200 rpm) for 3 min. A drop of chlorobenzene was transferred to a vial.	[24]
SPME - solid-phase microextraction (with derivatization)	The SPME fiber was exposed directly to 10 mL of water sample (pH 3, room temperature, magnetic stirring) for 30 min. Next, the fiber was placed in the headspace of a vial containing 20 μL of MSTFA (N-methyl-N-(trimethylsilyl)-trifluoroacetamide). On-fiber silylation was performed at 45 °C for 10 min.	[25]
MEPS (automated) – microextraction by packed sorbent	The water sample was processed by a Multi Purpose Sampler. The sorbent bed was conditioned by 2 x 50 μL of methanol and deionized water. The analytes were extracted from sample volumes of 800 μL. The sorbent bed was washed with 50 μL water and elution was 2 x 25 μL of ethyl acetate. After the extraction process, 10 wash cycles, each with 100 μL methanol.	[26]
MEPS – microextraction by packed sorbent	The sorbent bed was conditioned by 250 μL of ethyl acetate-dichloromethane mixture (1:1, v/v) and 250 μL of ultrapure water. Next, 2 mL of the water sample was extracted by taking it from a vial and discarding it to waste (8 x 250 μL). Then, the sorbent was washed with ultrapure water (250 μL). The analytes were eluted with 100 μL of ethyl acetate (2 x 50 μL). Finally, after elution, the cartridge was washed three times with 250 μL of ethyl acetate and three times with 250 μL of ethyl acetate-dichloromethane mixture (1:1, v/v).	[27]
DmSPE - dispersive micro solid-phase extraction	The 1.5 mg of adsorbent was immersed in 10 mL of water sample, shaken for 1 min, and the filtered adsorbent was placed in the GC injection port, where the adsorbent was dried for 3.5 min. 2 μL of BSTFA was added to it and derivatized for 2.5 minutes, heated for 5.7 minutes for thermal desorption.	[28]
LPME - liquid phase microextraction	A drop of 3 μL of toluene was held 5 mm below the surface of the water sample. The extraction was mixed for 15 min (500 rpm). Then, the 2μL of the extract was introduced for GC/MS analysis.	[29]
SPME - solid-phase microextraction	The SPME fiber was introduced into a mixed water sample (5 mL) and extraction was carried out for 45 min at room temperature. Desorption of analytes was performed at 250°C for 2 min.	[30]