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Evaluation of polar organic chemical integrative and hollow fibre samplers for the determination of a wide variety of organic polar compounds in seawater

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ABSTRACT

The calibration of two passive samplers for the determination of 20 emerging organic compounds in seawater is described in this work: *i) a new version of polar organic chemical integrative sampler (POCIS) containing 100 mg of mixed-mode anion exchanger (Strata X-AW) and 100 mg of polymeric HLB (Plexa) sorbent materials and using a highly porous Nylon membrane (30-µm pore size) and ii) polyethersulfone (PES) hollow fibre. Among the studied contaminants, herbicides, hormones, life style products (stimulants and artificial sweeteners), industrial chemicals (corrosion inhibitor and fluorinated compounds), personal care products and several pharmaceuticals were included. In the case of POCIS, both the sorbents and the Nylon membranes were extracted and analysed independently. The calibration set up consisted on a continuous-flow tank that was fed with a continuous flow of seawater (2 L/h) and a stock mixture of*

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