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## Direct detection of lead in RTIL using DPASV on BDD film microcells and determination of concentration factor after extraction from aqueous samples

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European Water Framework Directive predicted non effect concentrations for water organisms require determination of lead at very low concentrations: 1.2 µg/L. These low concentrations, generally in complex sample matrixes, have influence on the sensitivity and accuracy of the analytical method. Hence, prior to determination, a clean-up and/or enrichment step is highly necessary. In this work, for the first time, the determination of Pb was performed using Differential Pulse Anodic Stripping Voltammetry (DPASV) on a boron-doped diamond microcell directly in the room temperature ionic liquid (RTIL) extracting phase: Butyl-1-methylpyrrolidinium bis(trifluoromethanesulfonyl)imide which contained the complexing agent Trioctylphosphineoxide (TOPO). The calibration curves with and without TOPO are linear in the concentration range 0-4 µg/L of Pb, with a detection limit (DL) of 0.3 µg/L. The optimum conditions for higher concentration factor were determined: the aqueous phase should be a 0.1 M citrate buffer with pH2. The obtained concentration factor was 5.0 ±0.2 for lead in RTIL without chelating agent TOPO, and 9.0 ± 0.10 in IL with chelating agent TOPO.

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