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Stripping voltammetry of biologically active organic compounds as host-guest complexes at electrodes modified with crown ether

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Abstract

Procedures for determining the biologically active organic compounds Ioxynil, Prefix, Sayfos, Cythioate, and Karbation by stripping voltammetry using carbon-paste electrodes modified with dibenzo-18-crown-6 (DB18C6) or dibromo-DB18C6 crown ether were developed. The selectivity and sensitivity were improved by using a preconcentration of organic molecules as host-guest complexes at the electrode. The pesticide content was monitored by the oxidation peaks of Karbation and Ioxynil and by the peak current corresponding to the formation of mercury mercaptide for the S-containing compounds. The determination limits of the procedures suggested are 4.0×10^{-9} , 4.6×10^{-7} , 3.8×10^{-8} , 8.0×10^{-8} , and 9.0×10^{-8} M for the pesticides Karbation, Prefix, Ioxynil, Sayfos, and Cythioate, respectively. © 1998 MAEe Cyrillic signK Hayka/Interperiodica Publishing.
