

## **Sulfadiazine-potentiometric sensors for flow and batch determinations of sulfadiazine in drugs and biological fluids.**

Anal Sci

New PVC membrane electrodes for the determination of sulfadiazine (SDZ) are presented. The electrodes are fabricated with conventional and tubular configurations with a graphite-based electrical contact, and no internal reference solution. The selective membranes consist of bis(triphenylphosphoranilidene)ammonium.SDZ (electrode A), tetraoctylammonium bromide (electrode B), or iron(II)-phthalocyanine (FePC) (electrode C) electroactive materials dispersed in a PVC matrix of o-nitrophenyl octyl ether (o-NPOE) plasticizer. The sensors A, B, and C displayed linear responses over the concentration ranges  $1.0 \times 10^{-2}$  -  $1.0 \times 10^{-5}$ ,  $1.0 \times 10^{-2}$  -  $7.5 \times 10^{-6}$ , and  $3.2 \times 10^{-2}$  -  $7.0 \times 10^{-6}$  mol l<sup>-1</sup> (detection limits of 1.09, 2.04 and 0.87 microg ml<sup>-1</sup>) with anionic slopes of -57.3 +/- 0.1, -46.7 +/- 0.5, and -65.1 +/- 0.2 mV decade<sup>-1</sup>, respectively. No effect from pH was observed within 4.0 - 5.5, 4.8 - 10, and 4.5 - 8, respectively, and good selectivity was found. The sensors were applied to the analysis of pharmaceuticals and biological fluids in steady state and in flow conditions.

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