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Adsorption of some aromatic compounds at the mercury electrode|ethylene glycol solution interface

J.I. Japaridze, Sh.S. Japaridze, I.A. Gurgenidze

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Abstract

The adsorption of a series of aromatic compounds from ethylene glycol—in particular naphthalene, naphthonitrile, naphthylamine, anthracene and phenanthrene-solutions is studied by measuring the differential capacity of the stationary drop Hg electrode. Analysis of the experimental data in terms of the Frumkin–Damaskin theory shows that the adsorption of these compounds conforms well to the Frumkin isotherm with particle–particle interaction corresponding to attraction. The results obtained are compared with those for the adsorption of the same compounds from other non-aqueous solvents. The role of a non-aqueous solvent in determining the mode of adsorption is discussed.

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Keywords

Frumkin isotherm; Differential capacity; Adsorption; Aromatic compounds; Ethylene glycol

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