

Theoretical insights into homogeneous catalysis impact on ion transfer-electron transfer coupled processes at thick-film modified electrodes

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Abstract

The ion transfer-electron transfer coupled reactions that occur in thick-film modified electrodes is analysed in this work, including a homogeneous catalytic reaction in one of the phases. The model of two polarized interfaces composed in series presented investigates the similarities and differences that arise when compared with the classical electrochemical chemical catalytic mechanism (EC') in a single electrode|solution interface. Special attention is paid to the charge balance of the diffusive flux at each of these two interfaces and to the distribution of the total applied potential at each one. The aim is to find how the applied potential is distributed between the S|L interface and the L|L interface and its dependence on simple external parameters. This will allow us to fully understand the system for its future application in the interfacial electrosynthesis of new materials.

A partir de la versión final el artículo este estará embargado por el término de 24 meses.

- En el enlace anterior Ud. puede leer: Introduction, Section snippets, References (55).