

Photophysical and electrochemical properties of the outer-sphere associate of [Ru(bipy)3]2+ with p-sulfonatocalix[4]arene

Mustafina A., Skripacheva V., Burilov V., Gubaidullin A., Nastapova N., Yanilkin V., Solovieva S., Antipin I., Konovalov A.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

¹H NMR titration and X-ray diffraction analysis revealed that [Ru(bipy)3]2+ forms an outer-sphere inclusion complex with p-sulfonatocalix[4]arene in a ratio of 1: 1 in both aqueous solutions and the solid state. According to cyclic voltammograms and fluorimetric data, the outer-sphere association of [Ru(bipy)3]2+ with p-sulfonatocalix[4]arene changes the reversible character of the electrochemical oxidation of [Ru(bipy)3]2+ and lowers its emission intensity. © 2008 Springer Science+Business Media, Inc.

<http://dx.doi.org/10.1007/s11172-008-0256-8>

Keywords

Electrochemistry, Emission, Inclusion complex, P-sulfonatocalix[4]arene