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Complexation of GdIII with tetra-*p*-tert-butylthiacalix[4]arenoic acid in micellar media

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Abstract

The conditions for the formation of gadolinium(III) complexes possessing high relaxivity with various tetraacid stereoisomers based on *p*-tert-butylthiacalix[4]arene in micellar solutions of nonionic surfactants were established. The acid-base properties of individual isomers of the ligand were studied by pH-metric titration and UV spectroscopy. The composition and stability constants of the solubilized gadolinium(III) complexes with the obtained thiacalixarenes were determined using computer simulation of the NMR relaxation data. © 2009 Springer Science+Business Media, Inc.

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Keywords

Complex formation, Gadolinium(III), Micelles, NMR relaxation, Nonionic surfactants, *P*-tert-butylthiacalix[4]arene, Stability constants