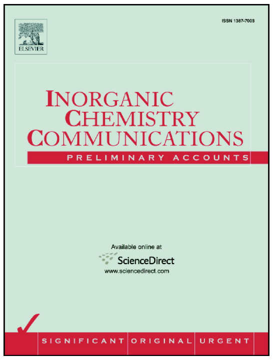

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Titanium(IV) Complexes Supported by a Dianionic Acenaphthenediimine Ligand: X-Ray and Spectroscopic Studies of the Metal Coordination Sphere

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Abstract

The new titanium(IV) coordinative compound (dpp-bian)$TiCl_2$ (**2**) was obtained by metathesis of the disodium salt (dpp-bian)Na_2 (**1**) (dpp-bian = 1,2-bis[(2,6-diisopropylphenyl)imino]acenaphthene) with $TiCl_4$. It was shown that the chlorido ligands can be exchanged for chelating dpp-bian ligands, or *tert*-butoxy groups, with the formation of (dpp-bian)$_2$Ti (**3**) and (dpp-bian)Ti(O^{t}Bu)$_2$ (**4**), respectively. Complexes **2**–**4** were isolated and fully characterized. It was demonstrated that dpp-bian is in the reduced dianionic form and acts as a $\sigma^2\pi$-donor ligand.

Keywords: coordination compounds; early-transition metals; non-innocent ligands; acenaphthene-1,2-diimines; X-ray diffraction; NMR spectroscopy.

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