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Tracking of the formation of binuclear nickel complexes of $[\text{Ni}_2(\mu\text{-O}_2\text{PR}^1\text{R}^2)_2(\text{bpy})_4]\text{Br}_2$ type by ESI and MALDI mass spectrometry

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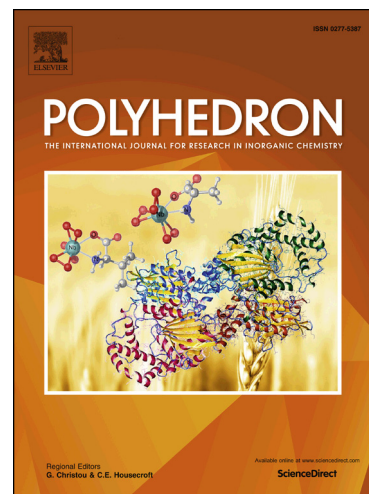
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Abstract

The formation of binuclear nickel complexes of type $[\text{Ni}_2(\mu\text{-O}_2\text{PR}^1\text{R}^2)_2(\text{bpy})_4]\text{Br}_2$, where $\text{R}^1 = \text{H}$, $\text{R}^2 = \text{phenyl (Ph)}$, 2,4,6-trimethylphenyl (Mes), 2,4,6-triisopropylphenyl (Tipp) or $\text{R}^1\text{R}^2 = \text{-OCH}_2\text{CH(Et)NHCH(Ph)-}$; bpy = 2,2'-bipyridine, in solution and their fragmentation behaviour have been investigated by ESI and MALDI mass spectrometry. It was found that binuclear cationic fragments $[\text{Ni}_2(\mu\text{-O}_2\text{PR}^1\text{R}^2)_2(\text{bpy})_2\text{Br}]^+$ are characteristic ions displaying the formation of binuclear nickel (II) complexes in solution.

Keywords: binuclear nickel complexes, 2,2'-bipyridine, bridging ligands, organic phosphinic acids, ESI and MALDI mass spectrometry.

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