



N-heterocyclic carbene complexes of cyclopentadienylnickel(II): synthesis, structure and catalytic activity in styrene polymerization.

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Streszczenie

Cyclopentadienylnickel(II) complexes with *N*-heterocyclic carbenes [NiCp(X)(NHC)] (X = Cl, Br or CH₃), combined with MAO have been used as catalysts for the polymerization of styrene. The catalytic activity of the systems depended mainly on the ease of the abstraction of X substituent by MAO and the stabilization of cationic species [NiCp(NHC)]⁺. The molecular structures of three title complexes have been determined by single-crystal X-ray diffraction. All three compounds crystallize in monoclinic crystal system with four molecules in the unit cell. Their structural parameters have been compared with data reported for similar complexes. Two of these complexes [NiCp(CH₃)(IMes)] and [NiCp(CH₃)(SIMes)] are the first examples of structurally characterized (unsubstituted)-cyclopentadienylnickel methyl compounds.

Słowa kluczowe

Nickel, Styrene, Polymerization, N-Heterocyclic carbene, Crystal structure

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