

Reactions of nickelocene with lithium and magnesium alkyls containing β -hydrogen atoms.

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The reaction of nickelocene with BrMgR , where $\text{R} = \text{CH}_2\text{CH}(\text{CH}_3)\text{C}_6\text{H}_5$, C_2H_5 , $(\text{CH}_2)_7\text{CH}_3$ and $\text{CH}_2\text{CH}_2\text{CH}_3$, have been studied. It was found that the presence of β -hydrogen in R did not cause the total splitting of the carbon-nickel bond but alkylidynetrinickel clusters were formed. It is the first example of the synthesis of alkylidynetrinickel clusters $(\text{NiCp})_3\text{CR}$ from the organonickel species possessing β -hydrogen. Besides trinickel clusters, the following compounds were always formed in all the studied reactions: $(\text{NiCp})_4\text{H}_2$, $(\text{NiCp})_6$, $\text{CpNi}(\eta^3\text{-C}_5\text{H}_7)$ and $(\text{NiCp})_2(\mu\text{-C}_5\text{H}_6)$. The structure of $(\text{NiCp})_3\text{CCH}(\text{CH}_3)\text{Ph}$ has been determined by a single-crystal X-ray diffraction study.

Słowa kluczowe

Cyclopentadienylnickel clusters, Nickel, β -H elimination

Adres publiczny

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