Polymerization of *tert*-butylacetylene by seven-coordinate heterobimetallic tungsten(II) and molybdenum(II) compounds.

Autorzy

Teresa Szymańska-Buzar

Izabela Czeluśniak

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Streszczenie

The reaction oftert-butylacetylenet-BA in the presence of seven-coordinate tungsten II and molybdenum IIwX. . .xX.compounds MCl M ClCONCRMsMo, W; MsSn, Ge; RsMe, Et leads to the catalytic coupling oft-BA33 25.molecules and the formation of high-molecular-weightM)10soluble polymers. The geometric structure of polytert-n..113butylacetyleneP-t-BA was determined by means of H- andC-NMR spectroscopy. The monitoring of the reactionbetweent-BA and the metal complex by means of1H-NMR spectroscopy provided further insight into the initiation step ofthis polymerization process. The reaction of a heterobimetallic compound with a stoichiometric amount oft-BA yields.compounds in which CO andror nitrile ligands have been replaced by at-BA ligand. The alkyne molybdenum II and.tungsten II complexes formed were characterized structurally by means of IR and NMR spectroscopy. The possiblemechanisms for the formation of very reactive intermediate compounds and their role in the catalytic process are discussed.

Słowa kluczowe

Polymerization of alkynes, Tert-butylacetylene, Tungsten II catalyst, Molybdenum II catalyst, Alkyne complexes, Cyclotrimerization

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