

Darstellung und ^{51}V -NMR-spektroskopische Untersuchungen von η^5 -Cyclopentadienyl-*tert*-butylimidovanadium(III)-Komplexen mit σ -Donator, π -Akzeptor-Liganden

Synthesis and ^{51}V NMR Spectroscopic Studies of η^5 -Cyclopentadienyl-*tert*-butyl-imidovanadium(III) Complexes with σ -Donor, π -Acceptor Ligands

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Z. Naturforsch. **58b**, 975 – 989 (2003); eingegangen am 17. Juni 2003

The imidovanadium(III) complexes [$^t\text{BuN=VCp}(\text{PR}_3)_2$], [$^t\text{BuN=VCp}\{\text{P}(\text{OR})_3\}_2$] and [$^t\text{BuN=VCp}(\text{CO})_2$] have been prepared starting from $^t\text{BuN=VCpCl}_2$ by reductive dehalogenation with magnesium. The reaction of [$^t\text{BuN=VCp}(\text{PMe}_3)_2$] (**2a**) with carbon monoxide, alkynes, alkenes, *tert*-butylphosphaalkyne, nitriles, ketones and carbon disulfide furnished the complexes [$^t\text{BuN=VCp}(\text{PMe}_3)$ (L)], while the vanadium(V) compound $^t\text{BuN=VCp(O}_2\text{C}_2\text{Ph}_2)$ is formed with benzil. All vanadium(III) complexes obtained are diamagnetic (d^2 , low-spin configuration) and have been characterized by spectroscopic methods (MS; ^1H , ^{13}C , ^{31}P , ^{51}V NMR).

Key words: Diamagnetic Vanadium(III) Complexes, σ -Donor, π -Acceptor Ligand,
 ^{51}V NMR Spectra