

Bis(trimethylphosphan)- η^5 -cyclopentadienyl- *tert*- butylimido-vanadium(III): Reaktionen mit Schwefel, Selen, Tellur und Iod

Bis(trimethylphosphane)- η^5 -cyclopentadienyl-*tert*-butylimidovanadium(III):
Reactions with Sulfur, Selenium, Tellurium, and Iodine

Martin Billen, Gabriele Hornung, Gotthelf Wolmershäuser und Fritz Preuss

Fachbereich Chemie der Universität Kaiserslautern,
Erwin-Schrödinger-Straße, D-67663 Kaiserslautern

Sonderdruckanforderungen an Prof. Dr. F. Preuss. E-mail: fpreuss@rhrk.uni-kl.de

Z. Naturforsch. **58**, 237 – 245 (2003); eingegangen am 28. November 2002

The reaction of [t BuN=VCp(PMe₃)₂] (**1**) with S₈, Se, Te or I₂ have been studied. *Via* this pathway dinuclear diamagnetic *tert*-butylimidovanadium(IV) complexes are formed: [(\mathbf{\mu}-E)(\mathbf{\mu}-N^tBu)₂V₂Cp₂] (E=S, Se, Te), [(\mathbf{\mu}-\eta¹-E₂)(\mathbf{\mu}-N^tBu)₂V₂Cp₂] {E=Se (**3**), Te}, [(\mathbf{\mu}-N^tBu)₂V₂Cp₂I₂]. In addition the vanadium(V) complexes [t BuN=VCp (S₅)] (**9a**) and t BuN=VCpI₂ could be isolated. The synthesis of t BuN=VCpF₂ is also described. All compounds obtained have been characterized by spectroscopic methods (MS; ¹H, ¹³C, ⁵¹V NMR), **3** and **9b** by single crystal X-ray diffraction analysis.

Key words: Sulfido, Selenido, Tellurido, Iodo Complexes of Vanadium(IV), ⁵¹V NMR Spectra