Our investigations on the ligand properties of stanna-closo-dodecaborate [SnB11H11]2- [1] established a novel coordination mode. [1] was previously reported to serve as monodentated ligand by use of the electron lonepair at the Sn-atom, whereas the second electron remains located in the closo-sphere. From the reaction of [1][Bu3NMe] with RuCl2(PPh3)n (n = 3 or 4) the binuclear complex [Ru(PPh3)2(SnB11H11)]2 was isolated in crystalline form. The crystal structure confirms the coordination of one [SnB11H11]2- ligand to the Ru(II)-center. In addition three B-H-Ru-bonds are formed. Its formation illustrates for the first time that the stannaborate-cluster may stabilize coordinative unsaturated metal complex fragments as fourdentated ligand. From the reaction of RuCl3-hydrate, PPh3 and [1][Bu3NH] single crystals of the monoanionic Ru(III)-complex [Ru(PPh3)2(SnB11H11)2]- were obtained in low yields. In this compound the stannaborate ligand serves as fourdentated ligand. In addition a Sn-B-bond to a second ligand is formed. On the basis of the Ru(II)nitrosyl complex K2[Ru(NO)Cl5] it was demonstrated, that a successive substitution of the chloro-ligands through [1] is possible. IR-spectroscopic studies of Ru(NO)Cl4(SnB11H11)]3- and [Ru(NO)Cl3(SnB11H11)2]4- confirm that [1] behaves in Ru(II) complexes as a stonger sigma-donor ligand than Cl- and SnCl3-. The reaction of [(hapto-C5H5)Ru(PPh3)2Cl] with [1][Bu3NH] proceeds under substitution of the halide and subsequent formation of [(hapto-C5H5)Ru(PPh3)2(SnB11H11)]-. The reactivity of RhCl(PPh3)3 with [SnB11H11]2- was studied in different solvents and stochiometric amounts. Unfortunately only mixture of several complexes are formed, whose isolation remained unsuccessfully. A one pot reaction of RhCl(PPh3)3, [1][Bu3NMe] and 2,5-norbornadiene yields [(hapto-C7H8)Rh(PPh3)2(SnB11H11)]-, wich was characterized by single crystals X-ray diffraction. The reaction of [(hapto-C8H12)RhCl]2 or [(hapto-C7H8)RhCl]2 with 6 [1] leads to the formation of [(hapto-C8H12)Rh(SnB11H11)3]5- and [(hapto-C7H8)Rh(SnB11H11)3]5-, respectively.