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Title:	Mononuclear Neutral Boron Hydrides Affordable as [N,N'] Chelates of Iminophosponamides
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Keywords:	Borondihydride Chelate Chloroborane Hydride Ligand
Issue Date:	2016
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Citation:	ChemistrySelect, 1(13), pp. 3601-3606
Abstract:	Reaction of the iminophosponamine ligand, LH with BHCl ₂ ·SMe ₂ afforded the adduct LH·BHCl ₂ (1) at room temperature (LH=[(2,6-iPr ₂ C ₆ H ₃ N)P(Ph) ₂ (NtBu)]H). However, when the lithium iminophosponamide, LLi·2OEt ₂ was reacted with BHCl ₂ ·SMe ₂ , PhBCl ₂ and BH ₂ Cl·SMe ₂ the corresponding mononuclear heteroleptic boron complexes, LBHCl (2), LB(Ph)Cl (3) and LBH ₂ (4) were obtained. A phenylborane complex, LB(Ph)H (5) was prepared in good yields by the substitution of Cl ⁻ in 3 with H ⁻ using AlH ₃ ·NMe ₂ Et. Complexes 2, 4 and 5 represent first examples of boron hydrides incorporated in four-membered chelates. All the complexes (except 3) reported in this work provide different number of reactive hydride groups at central boron atom and could be useful synthon in stepwise functionalization of the B-H bonds. Complexes 1-5 were characterized using multinuclear NMR, IR and HRMS techniques. Solid state structures of complexes 1-5 have also been elucidated using single crystal X-ray diffraction technique.
URI:	https://chemistry-europe.onlinelibrary.wiley.com/doi/abs/10.1002/slct.201600746 (https://chemistry-europe.onlinelibrary.wiley.com/doi/abs/10.1002/slct.201600746) http://hdl.handle.net/123456789/2501 (http://hdl.handle.net/123456789/2501)
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