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Title:	Bis(phosphinimino)amide supported borondihydride and heteroleptic dihalo compounds of group 13
Authors:	Jaiswal, K. (/jspui/browse?type=author&value=Jaiswal%2C+K.) Prashanth, B. (/jspui/browse?type=author&value=Prashanth%2C+B.) Bawari, D. (/jspui/browse?type=author&value=Bawari%2C+D.) Singh, Sanjay (/jspui/browse?type=author&value=Singh%2C+Sanjay)
Keywords:	tetraphenyldiphosphazane (Ph ₂ P) ₂ NH mesityl azide 2,4,6-Me ₃ C ₆ H ₂ -N ₃ Bis(phosphinimino)amide
Issue Date:	2015
Publisher:	Wiley-VCH Verlag
Citation:	European Journal of Inorganic Chemistry, 2015 (15) pp. 2565-2573
Abstract:	<p>Abstract The reaction of tetraphenyldiphosphazane (Ph₂P)₂NH with mesityl azide 2,4,6-Me₃C₆H₂-N₃ affords a new [N,N'] chelating ligand, [HN(Ph₂PN(2,4,6-Me₃C₆H₂))₂] (LH). The ligand can be easily deprotonated by using nBuLi or Li[N(SiMe₃)₂] in Et₂O to yield [{N(Ph₂PN(2,4,6-Me₃C₆H₂))₂Li·OEt₂] (1). The reaction of LH with AlMe₃ and BH₃·SMe₂, respectively, gives the corresponding mononuclear complexes [{N(Ph₂PN(2,4,6-Me₃C₆H₂))₂AlMe₂] (2) and a rare borondihydride [{N(Ph₂PN(2,4,6-Me₃C₆H₂))₂BH₂] (3). Similarly, reaction of 1 with the trihalides, MX₃, of group 13 elements afford the corresponding dihalo complexes, [{N(Ph₂PN(2,4,6-Me₃C₆H₂))₂MX₂] [M = B, X = F (4); M = Al, X = Cl (5); M = Ga, X = Cl (6); M = In, X = Br (7)]. All the complexes reported in this work have been isolated in good yields and are expected to serve as useful synthons in a number of reactions. The solid-state structure of LH and 1-7 have been investigated by single-crystal X-ray structural analysis. Synthesis of a rare borondihydride complex has been made possible through the use of a relatively strong donor monoanionic bis(phosphinimino)amide ligand. Crucially, the ligand backbone is void of any reactive acidic hydrogen. The same ligand has also made feasible the synthesis of some heteroleptic dihalo derivatives of group 13 elements</p>
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