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## Research Details :

**Research Title :** Attachment to manganese or cobalt of a bulky tri(organosilyl) methyl ligand containing an NMe<sub>2</sub> or an OMe donor group  
Attachment to manganese or cobalt of a bulky tri(organosilyl) methyl ligand containing an NMe<sub>2</sub> or an OMe donor group

**Descriptipn :** The organolithium compound Li(THF)<sub>2</sub>{C(SiMe<sub>3</sub>)<sub>2</sub>(SiMe<sub>2</sub>NMe<sub>2</sub>)<sub>2</sub>} reacted with one equivalent of MnCl<sub>2</sub> to give [Mn(μ-Cl){C(SiMe<sub>3</sub>)<sub>2</sub>(SiMe<sub>2</sub>NMe<sub>2</sub>)<sub>2</sub>}]<sub>2</sub> (4) and with 0.5 equivalent of MnCl<sub>2</sub> to give Mn{C(SiMe<sub>3</sub>)<sub>2</sub>(SiMe<sub>2</sub>NMe<sub>2</sub>)<sub>2</sub>}<sub>2</sub> together with a small amount of the Mn-III compound [Mn(μ-O){C(SiMe<sub>3</sub>)<sub>2</sub>(SiMe<sub>2</sub>NMe<sub>2</sub>)<sub>2</sub>}]<sub>2</sub> (6) formed by adventitious admission of air. With CoBr<sub>2</sub>, the compound [Co(μ-Br){C(SiMe<sub>3</sub>)<sub>2</sub>(SiMe<sub>2</sub>NMe<sub>2</sub>)<sub>2</sub>}]<sub>2</sub> (7) was obtained. The reaction between the lithium compound Li(THF)<sub>2</sub>{C(SiMe<sub>3</sub>)<sub>2</sub>(SiMe<sub>2</sub>OMe)} and MnCl<sub>2</sub> in THF gave [Mn(THF)(μ-Cl){C(SiMe<sub>3</sub>)<sub>2</sub>(SiMe<sub>2</sub>OMe)}] (5). The crystal structures of compounds 4, 5, 6 and 7 were determined. Compounds 4 and 5 are the first manganese analogues of Grignard reagents containing Mn-C sigma-bonds to be characterised in the solid state. (C) 2002 Elsevier Science B.V. All rights reserved.

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