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## Research Details:

| Research Title | : A versatile bulky bidentate ligand for both main group and |
| :---: | :---: |
|  | transition metals. Derivatives of lithium, potassium, magnesium, |
|  | chromium, manganese, and cobalt containing the $\mathrm{C}(\mathrm{SiMe})(2)$ |
|  | (SiMe2C5H4N-2) group |
|  | A versatile bulky bidentate ligand for both main group and |
|  | transition metals. Derivatives of lithium, potassium, magnesium, |
|  | chromium, manganese, and cobalt containing the $\mathrm{C}(\mathrm{SiMe} 3)(2)$ |
|  | (SiMe2C5H4N-2) group |

## Descriptipn

: The compound $\mathrm{HC}(\mathrm{Si} \mathrm{Me} 3)(2)(\mathrm{Si} \mathrm{Me} 2 \mathrm{C} 5 \mathrm{H} 4 \mathrm{~N}-2)$, 1, reacts with methyllithium in THF to give a good yield of the lithium derivative $\mathrm{Li}\{\mathrm{C}(\mathrm{SiMe} 3)(2)(\mathrm{SiMe} 2 \mathrm{C} 5 \mathrm{H} 4 \mathrm{~N}-2)\}$, which has been isolated as a molecular THF adduct 2. This reacts (a) with (KOBu)-Bu-t to give K \{C(SiMe3)(2)(Si Me2C5H4N-2)\}, 3, which crystallizes in a solventfree ionic lattice, (b) with MgBr2 to give the Grignard reagent Mg (THF) $\mathrm{Br}\{\mathrm{C}(\mathrm{SiMe} 3)(2)(\mathrm{SiMe} 2 \mathrm{C} 5 \mathrm{H} 4 \mathrm{~N}-2)\}, 4$, and (c) with CrCl 2 to give $\mathrm{Cr}\{\mathrm{C}(\mathrm{SiMe} 3)(2)(\mathrm{SiMe} 2 \mathrm{C} 5 \mathrm{H} 4 \mathrm{~N}-2)\}(2), 5$, along with the halidebridged Grignard reagent analogue $[\mathrm{Cr}(\mathrm{mu}-\mathrm{Cl})-\{\mathrm{C}(\mathrm{SiMe} 3)(2)$ (SiMe2C5H4N-2) \}](2).THF, 6, which crystallizes in a lattice containing alternate THF-free molecules (6a) and molecules (6b) with coordinated THF. The reactions of 2 with MnCl 2 and CoBr 2 give the halide-bridged ate complexes [Li(THF)(3)(mu-Cl)MnCl \{C (SiMe3)(2)-(SiMe2C5H4N-2)\}], 7, and [Li(THF)(2)(mu-Br)(2)Co\{C (SiMe3)(2)(SiMe2C5H4N-2) \}], 8, respectively.

## Research Type : Article

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## Researchers:

| Researcher Name (Arabic) | Researcher Name (English) | Researcher Type | Degree | Email |
| :---: | :---: | :---: | :---: | :---: |
|  | Al-Juaid SS | Researcher | أستاذ مشارك | saljuaid@kau.edu.sa |
|  | Eaborn C | Researcher | . |  |
| . | Hitchcock PB | Researcher | . |  |
| . | Hill MS | Researcher | . |  |
| . | Smith J D | Researcher | . |  |

