Bulky Carbazolyl Ligands in Complexes of Group 14 and Group 2 Elements

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Kinetic stabilisation by bulky substituents enabled the synthesis of molecules with unusual structural motifs and low coordination numbers. These discoveries range from heavy alkene analogues (A) to alkyne analogues (B) and acyclic silylenes (C).\textsuperscript{[1–3]} In many instances new types of reactivity could be discovered, allowing the stoichiometric transformation of small molecules.\textsuperscript{[4]}

To contribute to this field of chemistry, our group developed a carbazole-based bulky substituent with properties that were designed to combine desirable features of established terphenyl and aryl(silyl)amido substituents. This approach allowed the preparation of the first dicoordinated halosilylenes D, which were subjected to halide abstraction reactions to afford the mono-coordinated Si(II) cation E.\textsuperscript{[5]}

In this contribution recent developments of carbazolyl complexes of group 2 and group 14 elements will be discussed.

References: