# Small Molecule Activation at Multimetallic Uranium Nitrides

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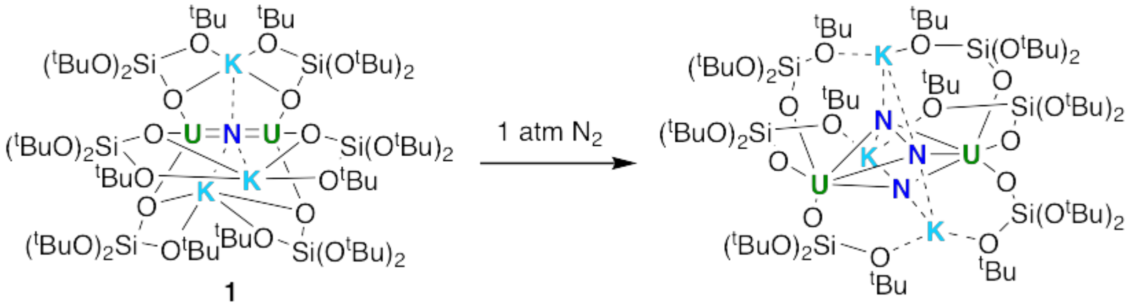
Uranium nitrides are attractive candidates for stoichiometric and catalytic N-transfer reactions, small molecule transformation, [1] and for advanced nuclear fuels. The N-C bond formation reactions are key steps in the construction of value-added chemical compounds. Recently we reported remarkable reactivity studies in f-element chemistry. Particularly desirable are the synthetic methods using cheap and available $C_1$ feedstock such as carbon dioxide or carbon monoxide.[2] *Tert*-butoxysiloxides were shown to be very effective ligands in supporting the reactivity of low valent *f* elements with small molecules.[3],[4] In particular, it was recently reported the remarkable reactivity of the previously described nitride bridged diuranium(IV) complex $[Cs\{[U(OSi(O^tBu)_3)_3]_2(\mu\text{-}N)\}]$ with $CO_2$, $CS_2$, and CO, yielding to diverse N-functionalized products [5,6]. Moreover, very recent results show that increasing the electron density by reducing the metal centers leads to a multimetallic $K_3UNU$ nitride bridged diuranium(III) complex, **1** (Figure 1) which shows extraordinary reactivity towards the dinitrogen molecule. We will present the reduction and further functionalization of dinitrogen in ambient condition by a uranium nitride [7].



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