

Coordination chemistry of Hybrid Disila-Crown Ethers

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Compared to crown ethers cyclosiloxanes barely interact with Lewis acids like BCl₃ and BF₃ [1], which has been explained by structural and electronic differences between the two types of ligands. [2] Higher structural equivalence would be provided through adjustment of the number of atoms linking the oxygen in the cyclosiloxane framework from monosilane to disilane fragments. Recently, we synthesized hybrid crown ethers, containing both Si₂- and C₂-units. [3] Unexpectedly, the Li⁺ complexes of these ligands show similar or even higher stabilities compared to their organic analogues, as has been determined *via* DFT calculations and dynamic proton NMR studies.

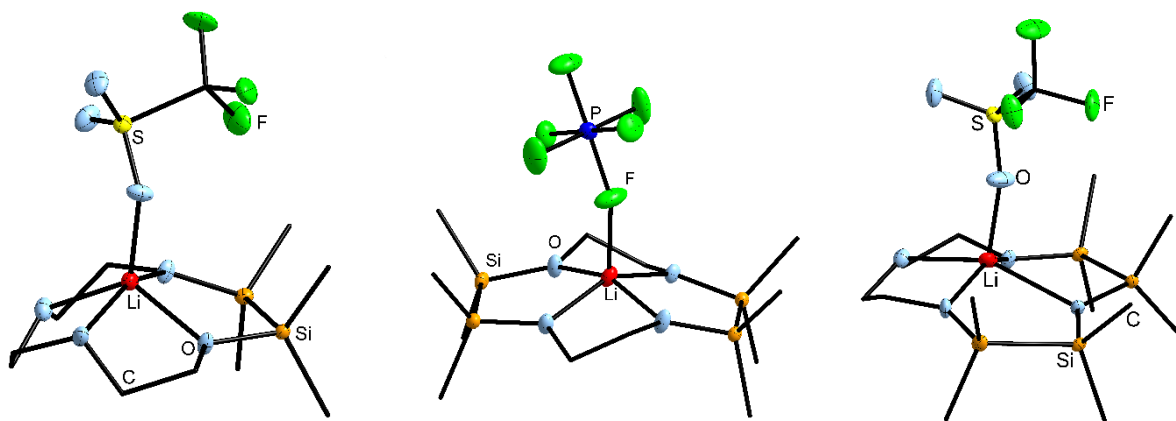


Figure 1. Molecular structures of [Li(1,2-disila[12]crown-4)OTf] (I), [Li(1,2,7,8-tetrasilasila[12]crown-4)PF₆] (II) and [Li(1,2,4,5-tetrasilasila[12]crown-4)OTf] (III) in the crystal. Thermal ellipsoids represent the 50% probability level. Hydrogen atoms are omitted for clarity.

The talk presents, the syntheses and of different Si₂ containing ligand as well as their coordination ability with differ cations.

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