

SCANDIUM HALIDE AND ALKYL COMPLEXES BEARING ANIONIC-TETHERED Pincer NHC LIGANDS

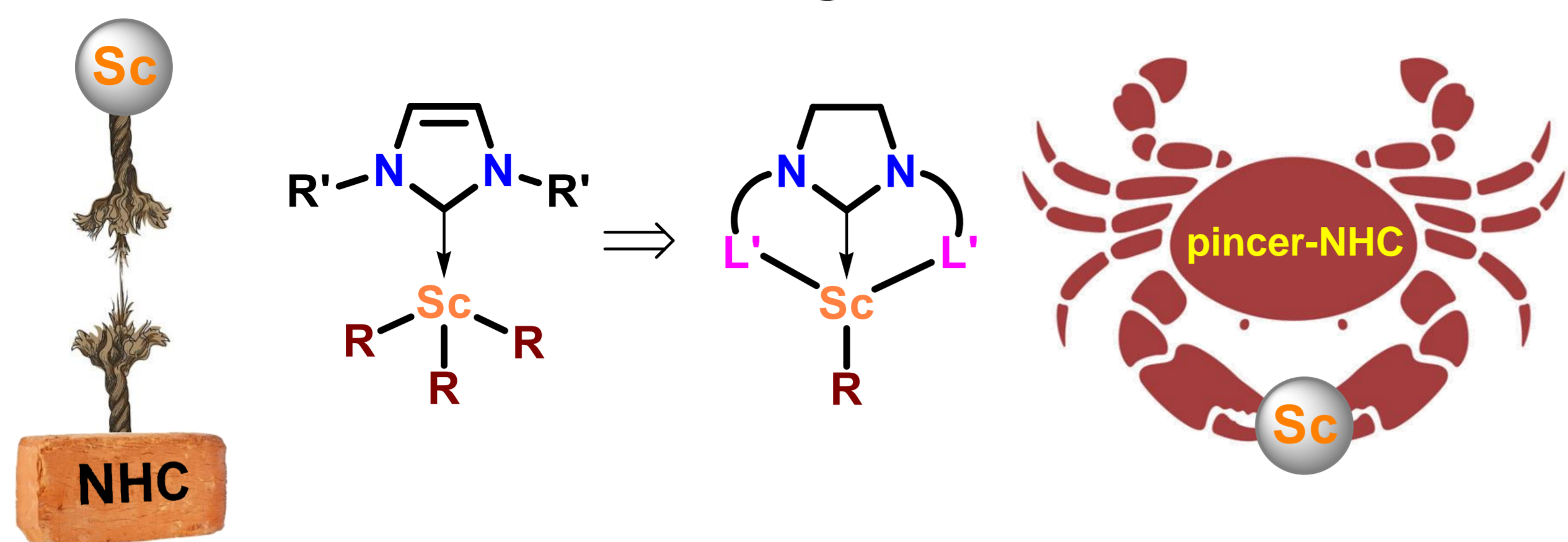


G.A. Gurina^{a,b}, A.V. Markin^a, A.A. Trifonov^{b,c}

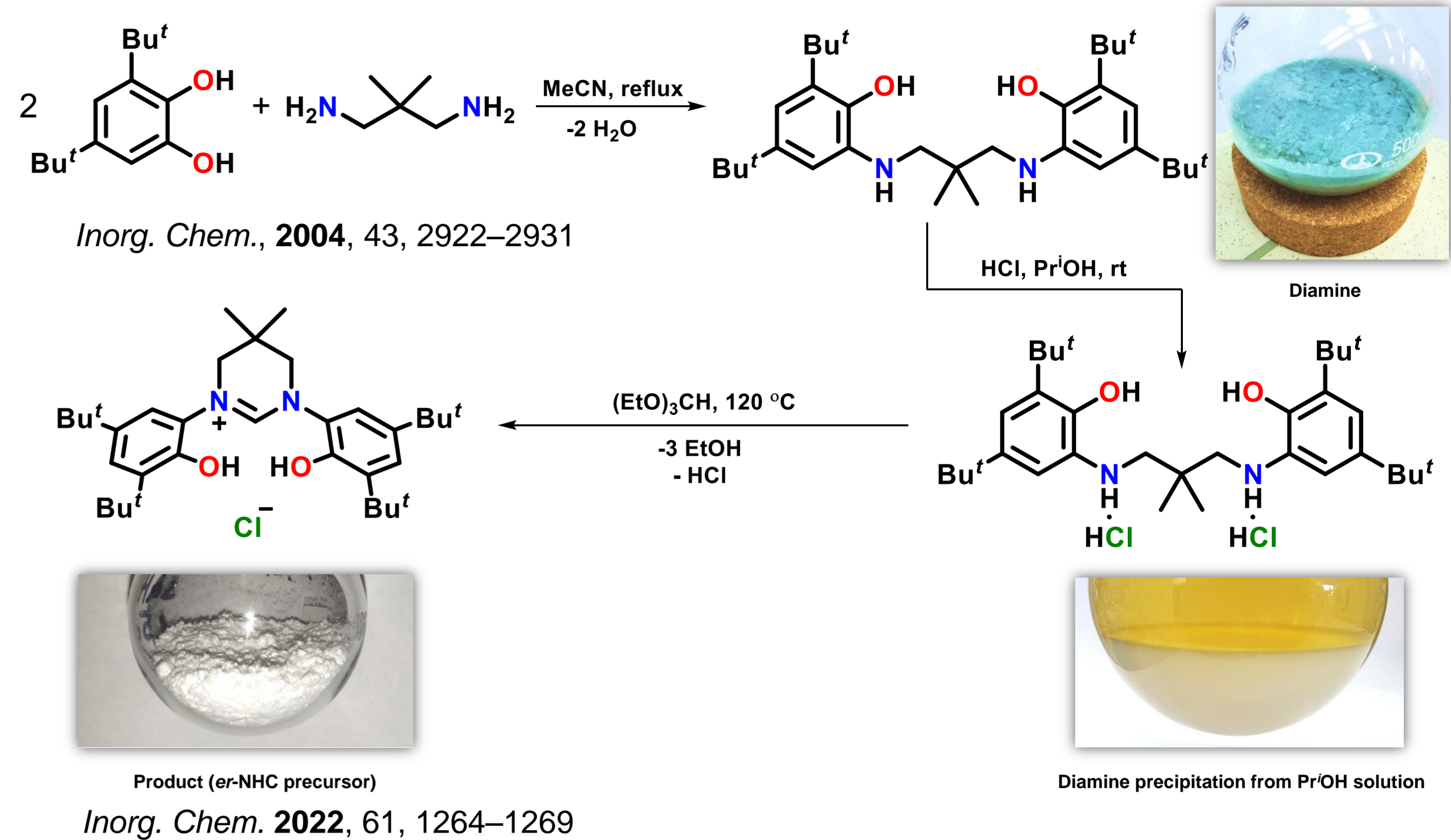
^a National Research Lobachevsky State University, Nizhny Novgorod, Russia
^b G.A. Razuvaev Institute of Organometallic Chemistry, Nizhny Novgorod, Russia
^c A.N. Nesmeyanov Institute of Organoelement Compounds, Moscow, Russia
live_love_peace@mail.ru

A novel expanded-ring anionic-tethered NHC pro-ligand was developed. According to ¹H NMR spectroscopy, for the geminal protons of the CH₂-groups of the 1,3-bis(3,5-di-tert-butyl-2-hydroxyphenyl)-5,5'-dimethyl-3,4,5,6-tetrahydropyrimidinium chloride a two-site exchange process is observed in CDCl₃ solution. Scandium complexes with both known and newly prepared pincer NHC ligands were structurally characterized.

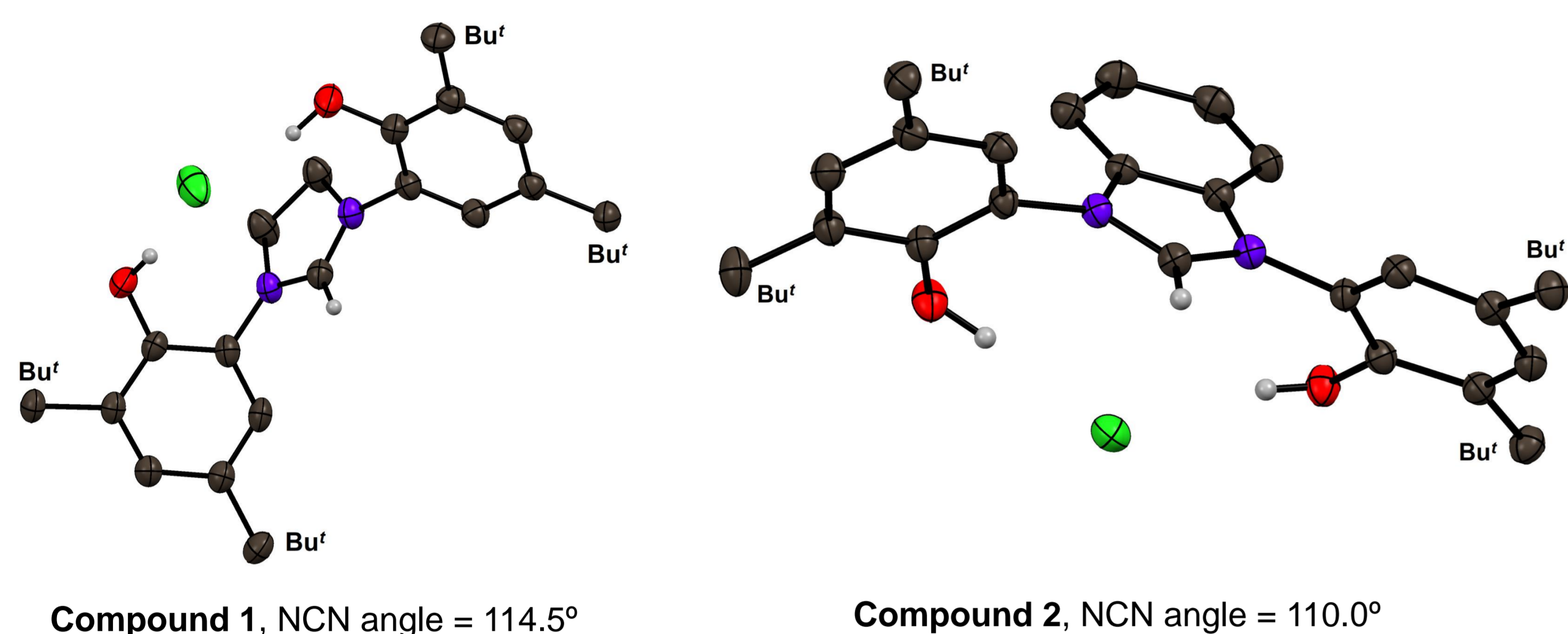
Pincer NHC ligands



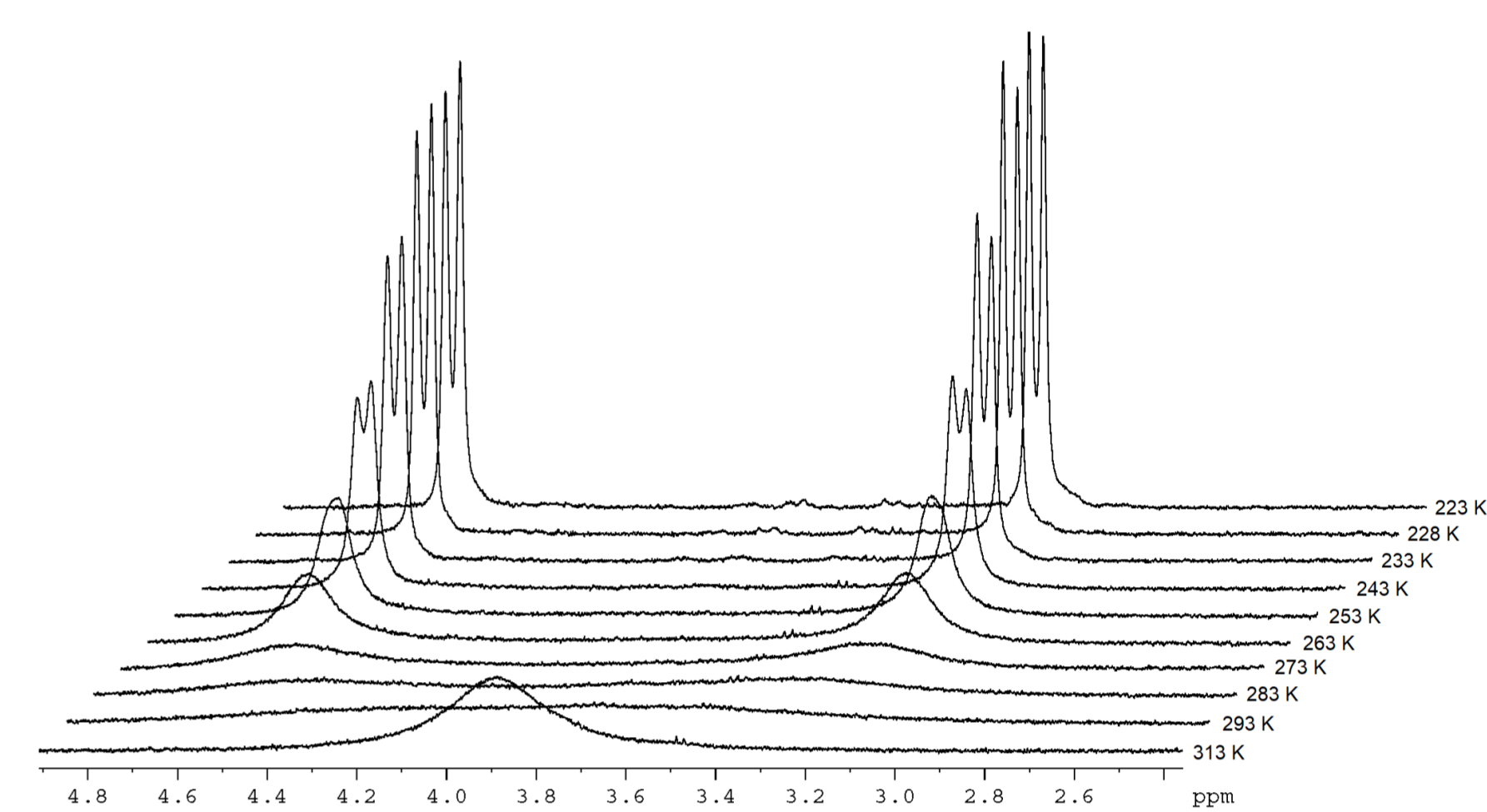
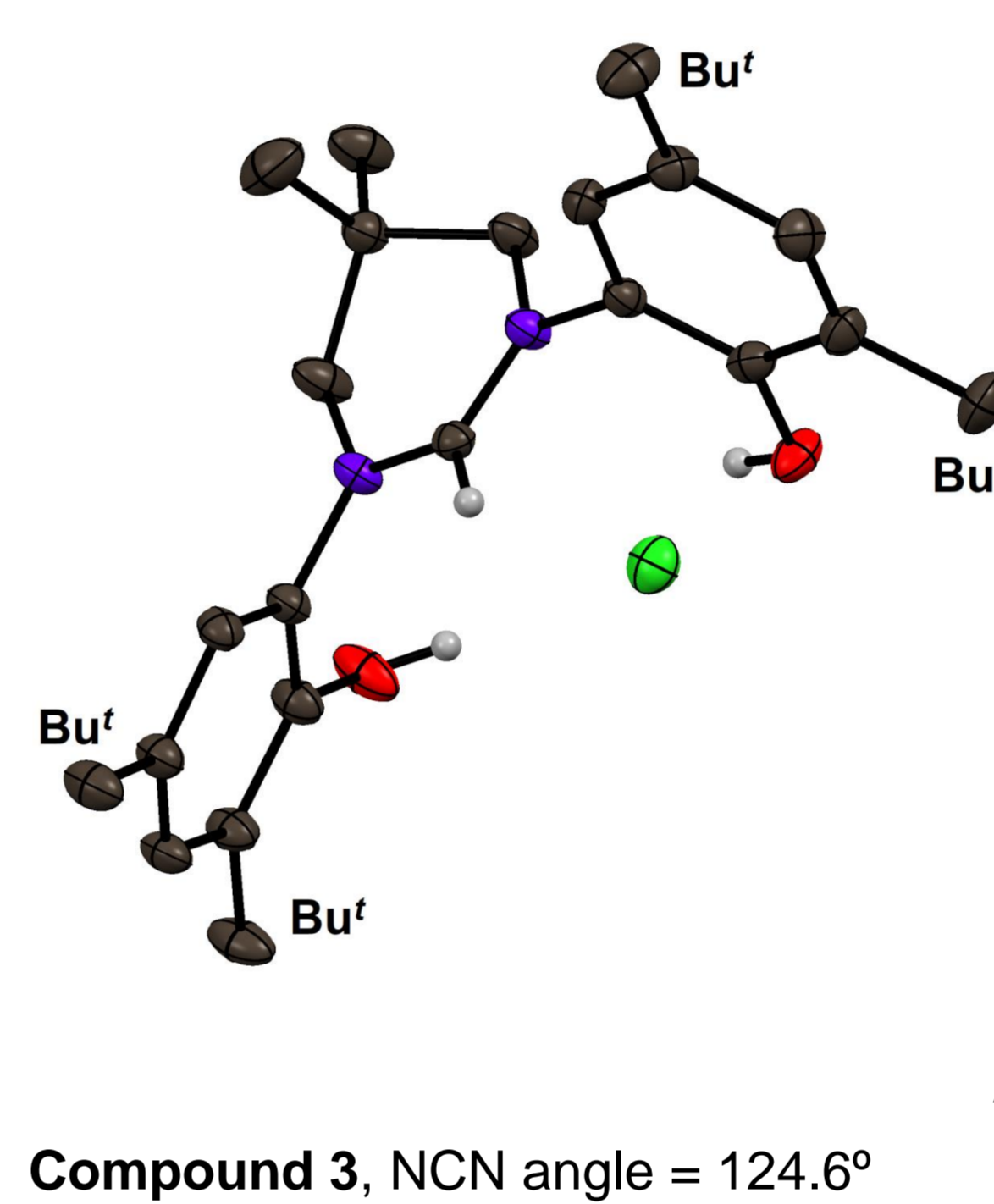
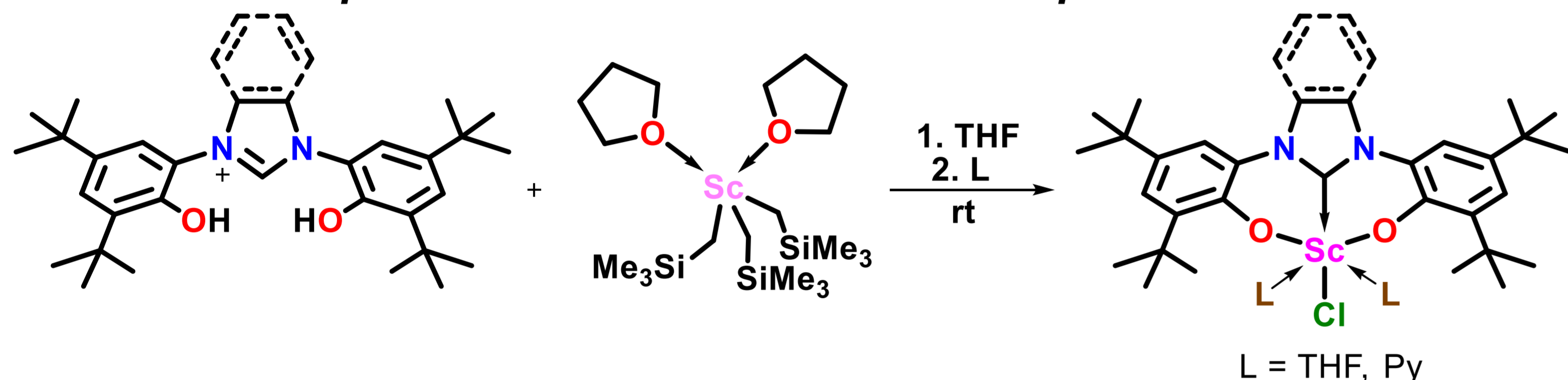
Synthesis of novel *er*-NHC precursor 3



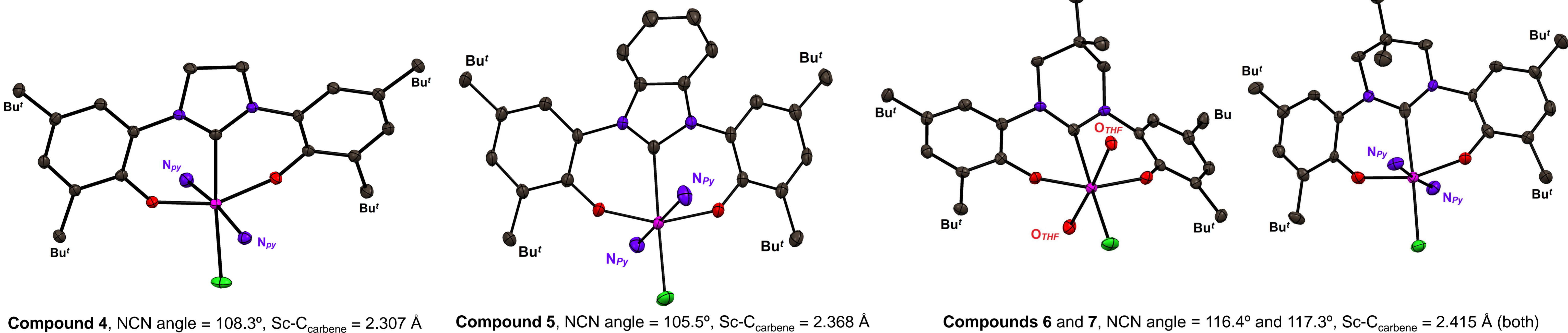
Phenolic-tethered pro-carbenes 1-3



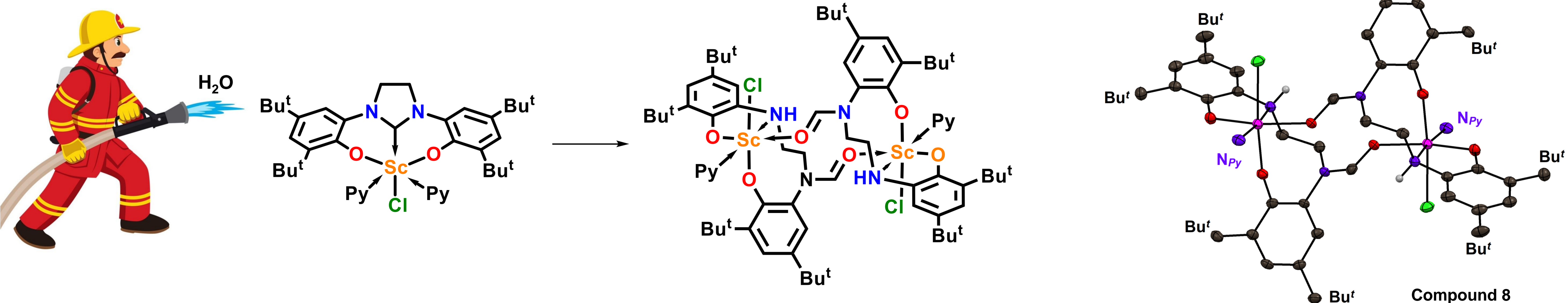
Preparation of scandium chloride complexes



Dynamic behavior of methylene protons of **3** in CDCl₃ solution,
 $\Delta H^\ddagger = -48.1 \pm 0.5$ kJ/mol, $\Delta S^\ddagger = -14 \pm 3$ J/(mol*K)



Hydrolytic formation of scandium-coordinated formamide



Preparation of scandium alkyl complex

