

# 2<sup>nd</sup> Main Group Metal Chemistry Symposium

Nancy, 25-26 octobre 2023

Université de Lorraine  
Faculté des Sciences et Technologies

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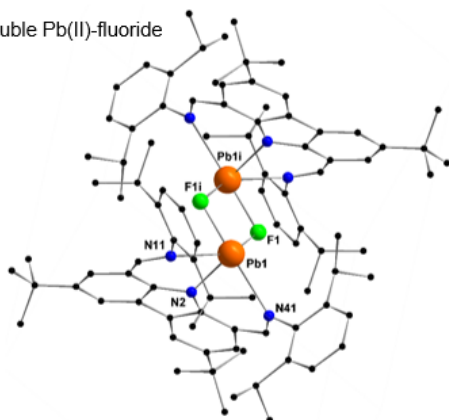
## Main group organometallic chemistry in Rennes

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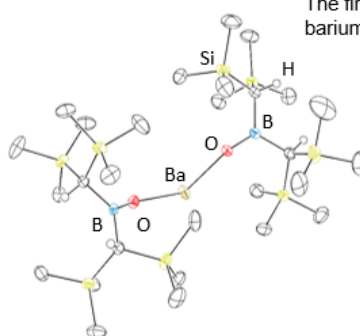
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Our group in Rennes has been investigating the chemistry and reactivity of main group metals for nearly 15 years. We have particularly focused our attention on the larger alkaline earths Ca, Sr and Ba, going from the design of complexes with a controlled coordination sphere to their implementation as molecular (pre)catalysts in a range of organic transformations, e.g. hydrofunctionalisations and heterodehydrocouplings. Beyond group 2 metals,<sup>[1-4]</sup> we also have an interest in the coordination chemistry of the heavy *p*-block metals, more specifically the tetrels (Sn, Pb)<sup>[5]</sup> and the pnicogens (Sb, Bi)<sup>[6]</sup> in their low oxidation states. A brief overview of our activities will be highlighted by recent examples of our contributions to the field.

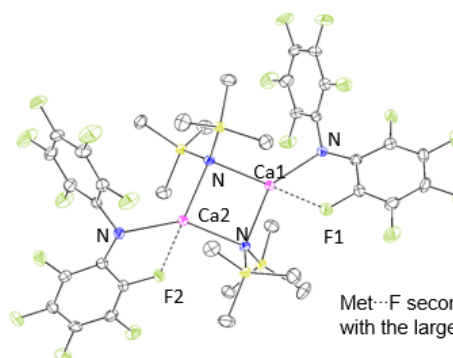
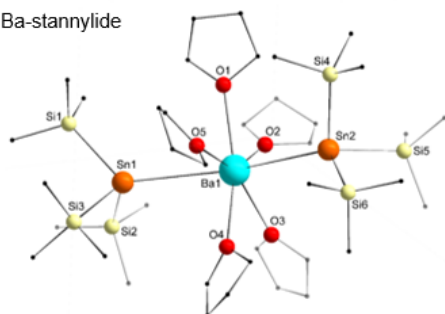
The first soluble Pb(II)-fluoride



The first 2-coordinate barium complex



The first Ba-stannylide



Met...F secondary interactions with the large alkaline-earths

### References :

[1] Erwan Le Coz et al. *Chem. Eur. J.* **2021**, 27, 11966-11982, [10.1002/chem.202101687]. [2] Peter M. Chapple et al. *Chem. Sci.* **2021**, 12, 7098-7114, [10.1039/D1SC00436K]. [3] Peter M. Chapple et al. *Angew. Chem. Int. Ed.* **2020**, 59, 9120-9126, [10.1002/anie.202001439]. [4] Erwann Le Coz et al. *Angew. Chem. Int. Ed.* **2018**, 57, 11747-11751, [10.1002/anie.201807297]. [5] Peter M. Chapple et al. *Dalton Trans.* **2021**, 50, 9021-9025, [10.1039/D1DT01615]. [6] Gabriel Duneș et al., manuscript in preparation.

