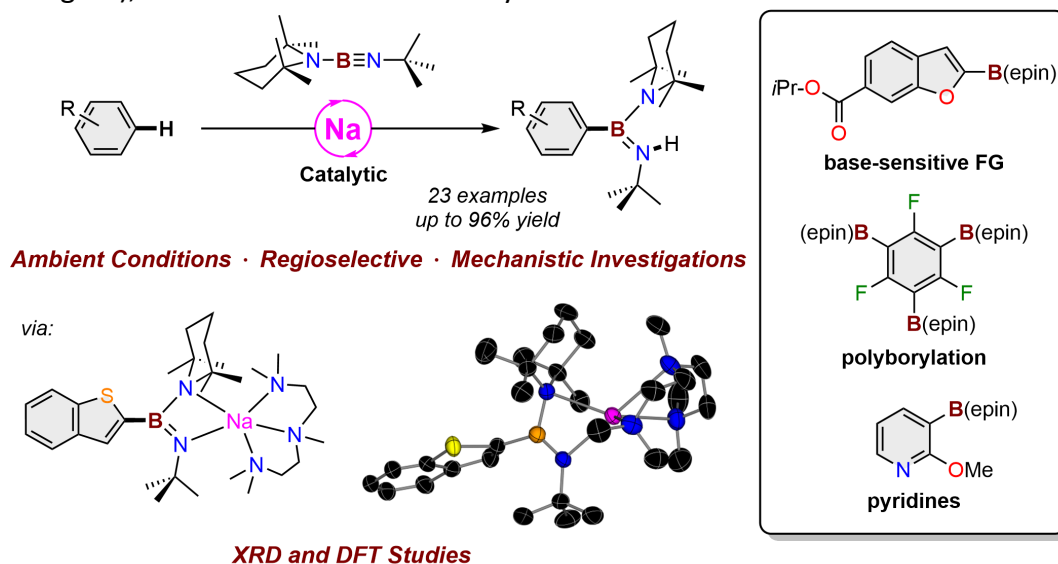


# Unleashing the Power of Sodium for Arene Functionalisation and Catalysis

Eva Hevia

Department of Chemistry, Biochemistry and Pharmaceutical Sciences, University of Bern. Freiestrasse 3,  
3012 Bern (Switzerland)  
eva.hevia@unibe.ch

Organolithium and lithium amides such as LDA or LiTMP are commodity reagents in organic synthesis, finding widespread applications in industry and academia.<sup>[1]</sup> Their versatile reactivity and widespread applications has inevitably led to the commercialisation of both organolithium compounds as well as related commodity lithium amides. In recent years however, whilst addressing the need to promote sustainability issues in chemistry, research into the more richly abundant sodium analogues has been reinvigorated.<sup>[2]</sup> This talk will discuss recent developments from our group on the use of sustainable organosodium reagents for the functionalisation of organic molecules, demonstrating that not only are they a more sustainable alternative to organolithium reagents but that they can also display superior reactivities. This includes their use on selective C-H metalation of synthetically attractive arenes, providing access to the selective functionalization of these scaffolds, including the borylation (using sodium amide catalysis, see Figure),<sup>[3]</sup> and transition-metal catalysed reactions.<sup>[4]</sup>



- [1] Lithium Compounds in Organic Synthesis – From Fundamentals to Applications, (Eds.: R. Luisi, and V. Capriati, Wiley-VCH, Weinheim 2014).
- [2] (a) P. B. De, S. Asako, L. Ilies, *Synthesis* **2021**, 53, 3180–3192. (b) S. Asako, H. Nakajima, K. Takai, *Nat Catal* **2019**, 2, 297–303.
- [3] a) L. J. Bole, A. Tortajada, E. Hevia, *Angew. Chem. Int. Ed.* **2022**, 61, e202204262. b) C. Tan, A. Tortajada, A. McGinley, M. Mu, M. Garcia-Melchor, E. Hevia, *J. Am. Chem. Soc.* **2025**, 147, 42076.
- [4] I. Takahashi, A. Tortajada, D. E. Anderson, L. Ilies, E. Hevia, S. Asako, *Nat. Synth.* **2025**, 4, 816.