

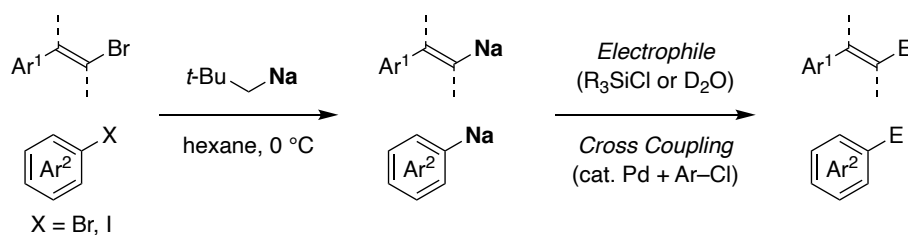
Organic Synthesis Using Sodium Dispersion

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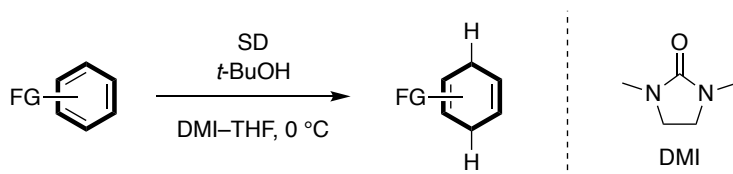
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During the last century, organolithium chemistry has played a dominant role in organic synthesis, both for laboratory and industry. However, lithium is an unevenly distributed resource that is gradually depleting and its cost is increasing. With the aim of finding sustainable alternatives to lithium, we have been reexploring organosodium chemistry using sodium dispersion (SD),^{1,2} and we report herein the development of halogen–sodium exchange³ and ammonia-free Birch reduction.

Scheme 1. Halogen–Sodium Exchange with Neopentylsodium³



Scheme 2. Birch Reduction using DMI solvent



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2) Asako, S.; Kodera, M.; Nakajima, H.; Takai, K. *Adv. Synth. Catal.* **2019**, 361, 3120.

3) Asako, S.; Takahashi, I.; Nakajima, H.; Ilies, L.; Takai, K. *ChemRxiv* **2020**, 10.26434/chemrxiv.12378104.v1