



Assembly Line Synthesis

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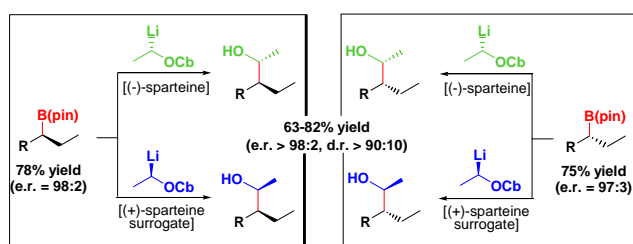
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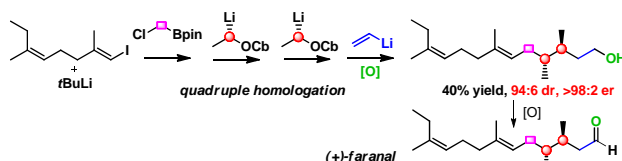
Boronic esters, homologation, cross-coupling

Abstract Speech

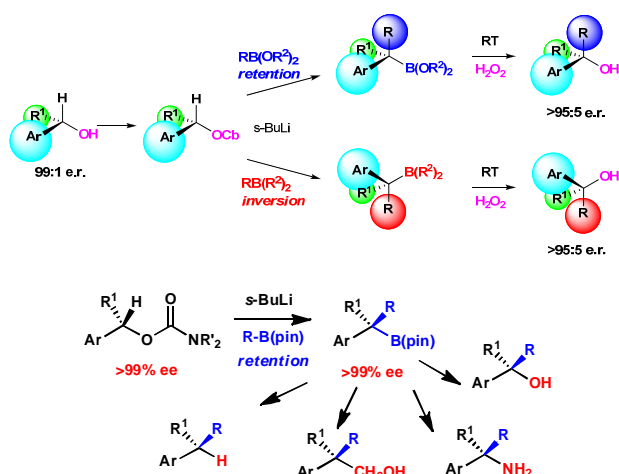
In this lecture I will present our work on the reactions of primary and secondary lithiated carbamates with boranes and boronic esters.¹ These reactions furnish homologated boronic esters with high levels of stereocontrol.



I will show how we use this chemistry to make complex natural and unnatural products in a single operation.²



I will also discuss our recent methodology for the synthesis of tertiary boronic esters and how such intermediates can be used in further stereospecific transformations.³



Finally, I will also describe a new method for the stereospecific cross-coupling of secondary and tertiary chiral boronic esters with electron rich aryl halides.⁴

REFERENCES

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- ² G. Dutheuil, M. P. Webster, V. K. Aggarwal, *Angew. Chem. Int. Ed.*, **2009**, 48, 6317-6319.
- ³ J. L. Stymiest, V. Bagutski, R. M. French, V. K. Aggarwal, *Nature*, **2008**, 456, 778-782; R. Larouche-Gauthier, T. G. Elford, V. K. Aggarwal, *J. Am. Chem. Soc.*, **2011**, 133, 16794-16797; T. G. Elford, S. Nave, R. P. Sonawane, V. K. Aggarwal, *J. Am. Chem. Soc.*, **2011**, 133, 16798-16801; R. P. Sonawane, V. Jheengut, C. Rabalakos, R. Larouche-Gauthier, H. K. Scott, V. K. Aggarwal, *Angew. Chem. Int. Ed.*, **2011**, 50, 3760-3763.
- ⁴ A. Bonet, M. Odachowski, S. Essafi, D. Leonori, J. Harvey, V. K. Aggarwal, *manuscript submitted*.