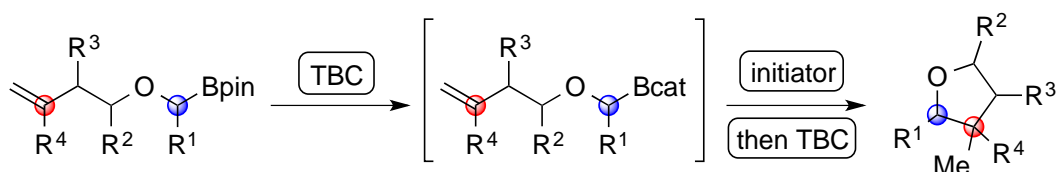


## RADICAL CYCLIZATIONS OF $\alpha$ -OXY CARBON CENTERED RADICALS

Emy André-Joyaux, Philippe Renaud\*

Department für Chemie und Biochemie, Universität Bern, Bern  
emy.andre-joyaux@dcb.unibe.ch

Oxolanes are ubiquitous in natural products and have long been an important class of bioactive heterocycles.<sup>[1]</sup> These oxacycles are readily accessible via radical cyclization reactions. Despite their importance, only a few papers have reported the cyclization of  $\alpha$ -oxy carbon centered radicals, with a majority involving tin reagents.<sup>[2,3]</sup> Herein, we report a tin-free procedure to generate these radicals that uses air-stable organoboranes as precursors for the rapid construction of decorated oxolane derivatives.



This strategy involves the *in-situ* formation of  $\alpha$ -oxy catecholboronic ester intermediates to side-step tricky isolations.<sup>[4,5]</sup> Full details of the method will be disclosed, such as the application to the synthesis of di-, tri- and tetrasubstituted oxolane derivatives, in good to high yields and diastereoselectivities.

[1] A. Lorente, J. Lamariano-Merketegi, F. Albericio, M. Álvarez, *Chem. Rev.* **2013**, *113*, 4567–4610

[2] V. H. Rawal, S. P. Singh, C. Dufour, C. Michoud, *J. Org. Chem.* **1991**, *56*, 5245-5241

[3] H. Zhu, J. C. T. Leung, G. M. Sammis, *J. Org. Chem.* **2015**, *80*, 965-979

[4] J. A. Baban, N. J. Goodchild, B. P. Roberts, *J. Chem. Soc., Perkin Trans. II* **1986**, 157-161

[5] M. Lüthy, V. Darmency, P. Renaud, *Eur. J. Org. Chem.* **2011**, 547–552