

The Chemist's Interactions

Seminars @ the Chemistry Department

Friday, 22nd January 2021

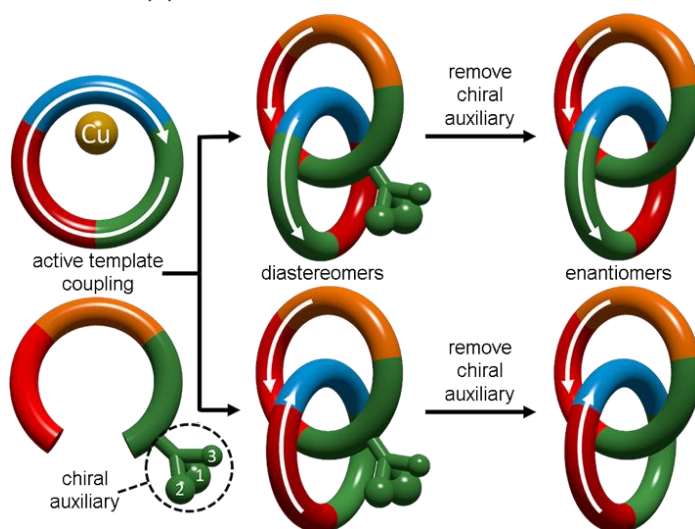


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LIVE
STREAM
h 14:30

Mechanically Chiral Molecules: Synthesis and Applications

Interlocked molecules can display forms of stereochemistry that do not rely on classical covalent stereogenic units, including many examples that have yet to be realized in chemical form.^[1] We have pioneered the use of a "small" macrocycle^[2,3] mediated active template^[4] reaction in combination with covalent chiral auxiliaries in order to allow the synthesis of mechanically planar chiral rotaxanes^[5,6] and topologically chiral catenanes (Figure).^[7] In this lecture I will describe our recent efforts to improve access to these intriguing molecules, and their applications in enantioselective sensing and catalysis.^[8]



[1] Jamieson, E. M. G. et al. *Chem. Soc. Rev.* **2018**, *47*, 5266; [2] H. Lahlali, H. et al. *Angew. Chem. Int. Ed.* **2011**, *50*, 4151; [3] Lewis, J. E. M.; et al. *Chem. Sci.* **2016**, *7*, 3154; [4] Denis, M.; Goldup, S. M. *Nat. Rev. Chem.* **2017**, *1*, 0061; [5] Bordoli, R. J.; Goldup, S. M. *J. Am. Chem. Soc.* **2014**, *136*, 4817; [6] Jinks, M. A.; de Juan, A.; et al. *Angew. Chem. Int. Ed.* **2018**, *57*, 14806; [7] Denis, M.; et al. *Chem* **2019**, *5*, 1512; [8] Heard, A. W.; Goldup, S. M. *Chem* **2020**, DOI: 10.1016/j.chempr.2020.02.006.



The Virtual Seminar Series will be broadcast with the Zoom software.

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