

## CBC SEMINAR ANNOUNCEMENT

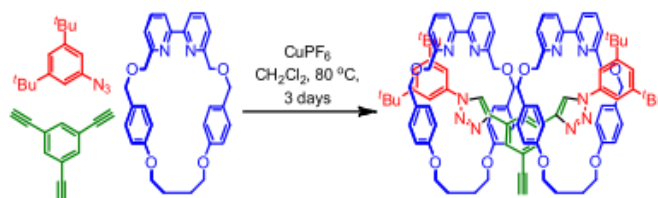


**Dr Stephen Goldup**  
**Queen Mary College, University of London**

### Size Matters: [2]Rotaxanes, [3]Rotaxanes and “Small” Functionalised Rotaxanes Using the CuAAC Active Template Reaction

The synthesis of mechanically interlocked molecules such as rotaxanes has fascinated chemists for over a century but it is only in the last three decades that methods for their synthesis in high yield have been established through the use of “passive” templates based on supramolecular interactions.<sup>[1]</sup> The active template approach, where a metal ion serves to both gather the covalent components *and* catalyse the formation the new mechanical bond is an even more recent development with huge synthetic potential.<sup>[2]</sup>

We have recently extended this novel active template methodology to the synthesis of rotaxanes with “small” macrocycles and demonstrated the power of this approach through the realisation of rotaxanes with fully conjugated insulated threads, reactive functional groups for post-synthetic functionalization, molecules based on chiral-pool derived stoppers and systems with multiple mechanical bonds (shown).<sup>[3]</sup>



- [1] J. F. Stoddart, Chem. Soc. Rev. 2009, 38, 1802-1820.  
 [2] J. D. Crowley, S. M. Goldup, A.-L. Lee, D. A. Leigh, R. T. McBurney, Chem. Soc. Rev. 2009, 1530-1541.  
 [3] H. Lahlali, K. Jobe, M. Watkinson, S. M. Goldup, Angew. Chem. Int. Ed. 2011, 50, 4151-4155.

**Date:** 10<sup>th</sup> February 2012 (Friday)  
**Time:** 11am – 12.30pm  
**Venue:** NTU SPMS CBC Building Level 2,  
 Conference Room  
**Host:** Assoc Professor Roderick Bates