



An Interview with Prof. Jonathan Clayden

Conducted by Robin Padilla (04.07.2013)



Prof. Jonathan Clayden
University of Manchester
Science of Synthesis Author^[1] and Volume Editor

RP: What are some of your current research interests?

JC: We've always had an interest in the way the conformation of molecules affects their reactivity and selectivity. We're currently working on using controlled conformation to build artificial analogues of biological receptors. We are also developing some unusual transformations in which the conformation of ureas forces them to react in unexpected ways.

RP: What are the biggest chemistry challenges of today? Of tomorrow?

JC: For me, the biggest question today lies at the boundary of chemistry and biology: how does chemistry become life? In the future the question will be: how can chemistry save life? We need synthetic chemistry urgently to replace our depleted stock of effective antibiotics.

RP: What's your favorite scientific discovery (or discoveries) and why?

JC: Setting a series of world records for remote asymmetric induction (Phil Magnus set a record of 1,16 in 1997; we took that to 1,23 in 2004, and then to 1,46 and 1,61 this summer) has been an entertaining challenge in my group.

RP: What is your dream reaction?

JC: Reliable, stereoselective C—C bond formation between carbon atoms of any hybridisation state and electronic character...

RP: How did you become involved with Science of Synthesis?

JC: Knowing that I had just finished work on the first edition of my textbook,^[2] Jim Thomas some time ago invited me to join the editorial team for *Science of Synthesis* Volume 36 (Alcohols).

RP: What kind of hobbies/interests do you have outside of the lab?

JC: Cycling from the edge of the English Peak District into central Manchester every day keeps me in touch with the world outside the lab and outside of the city. Growing things, cooking them and eating them (with something good to drink); music and reading.

Some of Prof. Clayden's own favorite, recent publications:

Tetlow, D. J.; Vincent, M. A.; Hillier, I. H.; Clayden, J. Reversible aryl migrations in metallated ureas: controlled inversion of configuration at a quaternary carbon atom. *Chem. Comm.*, (2013) **49**, 1548.

Lefranc, J.; Fournier, A. M.; Mingat, G.; Herbert, S.; Marcelli, T.; Clayden, J. Intramolecular vinylation of secondary and tertiary organolithiums. *J. Am. Chem. Soc.*, (2012) **134**, 7286.

Brown, R. A.; Marcelli, T.; De Poli, M.; Solà, J.; Clayden, J. Induction of unexpected left-handed helicity by an N-terminal L-amino acid in an otherwise achiral peptide chain. *Angew. Chem. Int. Ed.*, (2012) **51**, 1395.

Solà, J.; Morris, G. A.; Clayden, J. Measuring screw-sense preference in a helical oligomer by comparison of ¹³C NMR signal separation at slow and fast exchange. *J. Am. Chem. Soc.*, (2011) **133**, 3712.

Solà, J.; Fletcher, S. P.; Castellanos, A.; Clayden, J. Nanometre-range communication of stereochemical information by reversible switching of molecular helicity. *Angew. Chemie Int. Ed.*, (2010) **49**, 6836.

[1] Lemièrre, G.; Clayden, J., *Science of Synthesis Knowledge Updates*, (2011) **4**, 139.

[2] Clayden, J.; Greeves, N.; Warren, S., *Organic Chemistry 2nd Ed*, Oxford University Press: Oxford (2012).