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About

- **Group Web Pages (http://chemweb.bham.ac.uk/~snaithjs/index.htm)**
- **Teaching material (http://chemweb.bham.ac.uk/~snaithjs/CHM185/index.html)**

Qualifications

- 1993 MA (University of Oxford)
- 1993 DPhil (University of Oxford)
- 1990 BA (University of Oxford)

Research

Research Interests

Dr Snaith's research interests are based around the development of new methodology for synthetic organic chemistry and its use to solve challenging problems in medicine and biology. The development of new methodology is focused on stereocontrolled ring forming reactions, using either free radical or pericyclic chemistry and starting with readily available amino acids, to generate functionalised nitrogen and oxygen heterocycles with potent biological activity. Current targets include key building blocks in drugs used to treat stroke and HIV.

Understanding small molecule-receptor interactions is of fundamental importance in medicinal chemistry. We have designed a number of pseudopeptide ligands for key receptors in the immune system implicated in autoimmune disease (such as arthritis and multiple sclerosis), and in conjunction with researchers in Chemistry, Biochemistry, and the Medical School at Birmingham we plan to investigate the binding of these ligands to their receptor (by high field nmr and X-ray crystallography) and their capacity to interfere with antigen presentation and immune signalling in a therapeutically useful way.

Publications

Recent Publications

- Claire A. M. Cariou and John S. Snaith. Stereoselective synthesis of 2,4,5-trisubstituted piperidines by carbonyl ene and Prins cyclisations, Org. Biomol. Chem., 2006, 4, 51 - 53.
- Rebecca J. Aarons, Jatinder K. Notta, Marco M. Meloni, Jianghua Feng, Rishma Vidyasagar, Johanna Narvainen, Stuart Allan, Neil Spencer, Risto A. Kauppinen, John S. Snaith and Stephen Faulkner. A luminescent probe containing a tuftsin targeting vector coupled to a terbium complex, Chem. Comm., 2006, 909-911.
- Jodi T. Williams, Perdip S. Bahia, Benson Kariuki, Neil Spencer, Douglas Philp and John S. Snaith. Synthesis of 3,4-Disubstituted Piperidines by Carbonyl Ene and Prins Cyclizations: Switching Between Kinetic and Thermodynamic Control with Brønsted and Lewis Acid Catalysts, J. Org. Chem., 2006, 71, 2460-2471.
- Lucile A. Gandon, Alexander G. Russell, Tatyana Güveli, Angela E. Brodwolf,
- Benson M. Kariuki, Neil Spencer, and John S. Snaith. Synthesis of 2,4-Disubstituted Piperidines via Radical Cyclization: Unexpected Enhancement in Diastereoselectivity with Tris(trimethylsilyl)silane, J. Org. Chem., 2006, 71, 5198-5207.
- Matthew A. Jones, Andrew D. Hislop, and John S. Snaith. Synthesis and Biological Evaluation of Two Chemically Modified Peptide Epitopes for the Class I MHC Protein HLA-B*2705, Org. Biomol. Chem., 2006, 4, 3769-3777.
- M. Arfan Ashraf, Alexander G. Russell, Christopher W. Wharton and John S. Snaith. 2-Hydroxy-1,2,2-triphenylethanone as an efficient photolabile protecting group for carboxylic acids, Tetrahedron, 2007, 63, 586-593.
- Tina Bhakta, Simon J. Whitehead, John S. Snaith, Tim R. Dafforn, John Wilkie, Sundaresan Rajesh, Scott A. White and J. Baz Jackson. Structures of the dI(2)dIII(1) complex of proton-translocating transhydrogenase with bound, inactive analogues of NADH and NADPH reveal active site geometries, Biochemistry, 2007, 46, 3304-3318.
- Stephen M. Walker, Jodi T. Williams, Alexander G. Russell, Benson M. Kariuki and John S. Snaith. Stereoselective synthesis of 3,4-disubstituted and 3,4,5-trisubstituted piperidines by Lewis acid-catalysed ene cyclisation of 4-aza-1,7-dienes, Org. Biomol. Chem., 2007, 5, 2925 – 2931.
- Veemal Bhowruth, Alistair K. Brown, Suzanne J. Senior, John S. Snaith and Gurdyal S. Besra. Synthesis and Biological Evaluation of a C5- Biphenyl Thiolactomycin Library, Bioorg. Med. Chem. Lett., 2007, 17, 5643-5646.
- Matthew A Jones, Jatinder K Notta, Mark Cobbold, Mainthan Palendira, Andrew D Hislop, John Wilkie and John S Snaith. Synthesis and Ex-Vivo Profiling of Chemically Modified Cytomegalovirus CMVpp65 Epitopes, J. Pept. Sci., 2008, 14, 313-320.

- Claire A. M. Cariou, Benson M. Kariuki, and John S. Snaith. Stereoselective Synthesis of 2,4,5-Trisubstituted Piperidines by Carbonyl Ene and Prins Cyclisations, Org. Biomol. Chem., 2008, 6, 3337-3348.
- Marcus Main, John S. Snaith, Marco M. Meloni, Maite Jauregui, Daniel Sykes, Stephen Faulkner and Alan M. Kenwright. Using the Ugi multicomponent condensation reaction to prepare families of chromophore appended azamacrocycles and their complexes, Chem. Commun., 2008, 5212-5214.
- Alexander G. Russell, Tatyana Guveli, Benson M. Kariuki and John S. Snaith. Synthesis and characterisation of two new binaphthyl trisilanes, J. Organomet. Chem., 2009, 694, 137-141.