

Michael Corr

Nationality: British

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I am an organic/bioorganic chemist with research interests in the synthesis and biosynthesis of natural products. My previous work has included the synthesis and isolation of highly reactive superelectrophile compounds and the synthesis of fluorinated derivatives of natural products. My current research focuses on marrying biosynthesis and synthetic chemistry to generate new natural product analogues.

Employment Record

Postdoctoral Research Associate in Biomolecular/Organic Chemistry, University of St Andrews

Supervisor: Dr. Rebecca J. M. Goss, August 2014 – present

Postdoctoral Research Associate in Organofluorine Chemistry, University of St Andrews

Supervisor: Prof. David O'Hagan, June 2010 – July 2014.

Education

PhD, University of Strathclyde, Professor John A. Murphy

October 2006-April 2010 (Awarded August 2010)

Superelectrophiles and their Chemistry

M. Sci. Forensic and Analytical Chemistry, University of Strathclyde

September 2001-July 2006.

Skills and Knowledge

During my research career I have been trained in a wide variety of synthetic techniques in the laboratory. During my PhD I was responsible for the synthesis and handling of air and moisture-sensitive compounds utilising either glove-box or Schlenk line equipment. The synthesis of sensitive di- and poly-cationic substrates required competence in MS analysis techniques, for which I received training at the EPSRC Mass Spectrometry Centre in Swansea.

During my postdoctoral studies I became versed in a range of standard synthetic techniques as well as obtaining training in protocols for the fluorination of organic substrates.

My most recent training has added to my existing synthetic skillset with training in the growth of biosynthetic manipulations, including the growth and isolation of proteins from *E. coli* cells and the performing of biotransformations of halogenated indoles to generate new halogenated natural products.

I also completed courses on basic first aid and first aid for cyanide poisoning, as well as a course on correct handling of gas cylinders and cryogenics. I have also been active as the postdoctoral representative on School of Chemistry safety committee.

Teaching Experience

During my PhD, I supervised students in the first year undergraduate laboratories and in the second and third year undergraduate organic chemistry laboratories.

Throughout my PhD and postdoctoral work, I have been responsible for the training and supervision of undergraduate project students.

I have also been involved in first year undergraduate tutorial groups. Through this work, I have had the opportunity to help teach the next generation of scientists.

Outreach Work

My passion for chemistry is also shown when communicating my work. I have had the opportunity to present posters at international conferences, as well as meetings in the UK. I have also participated in the RSC ChemBus, an initiative that demonstrates practical chemistry experiments to high school students, helping to nurture an interest in studying chemistry to future generations. I have also received training in communicating my research through the Bright Club, an organisation that helps to further academic interest through comedy, and have performed several shows in Scotland to communicate my research and show my passion for chemistry.

PUBLICATIONS

“Fluorosugars: An improved synthesis of the 2,3,4-trideoxy-2,3,4-trifluoro hexose analogue of D-glucose” M. J. Corr, D. O’Hagan, *J. Fluorine Chem.* **2013**, *155*, 72-77.

“Superlectrophilic Amidine Dications: Dealkylation by Triflate Anion” L. S. Kovacevic, C. Idziak, A. Markevicius, C. Scullion, M. J. Corr, A. R. Kennedy, T. Tuttle and J. A. Murphy, *Angew. Chem. Int. Ed.* **2012**, *124*, 8516-8519.

“Evolution in the understanding of [Fe]-hydrogenase” M. J. Corr and J. A. Murphy, *Chem. Soc. Rev.* **2011**, *40*, 2279-2292.

“Amidine Dications and Trication: Superelectrophile methylating reagents” M. J. Corr, K. F. Gibson, A. R. Kennedy, M. Roydhouse, S.Z. Zhou and J. A. Murphy, *J. Am. Chem. Soc.* **2009**, *131*, 17980-17985.

“Amidine Dications: Isolation and [Fe]-Hydrogenase-Related Hydrogenation,” M. J. Corr, K. F. Gibson, Alan R. Kennedy and J. A. Murphy, *J. Am. Chem. Soc.* **2009**, *131*, 9174-9175.

“First organophosphorus radical-mediated cyclisations to afford medium-sized rings: eight-membered lactones and seven- and eight-membered lactams,” S. Lang, M. Corr, N. Muir, T. A. Khan, F. Schönebeck, J. A. Murphy, A. H. Payne and A. C. Williams. *Tetrahedron Lett.* **2005**, *46*, 4027-4030.