



Curtin University

DEPARTMENT OF CHEMISTRY SEMINAR SERIES

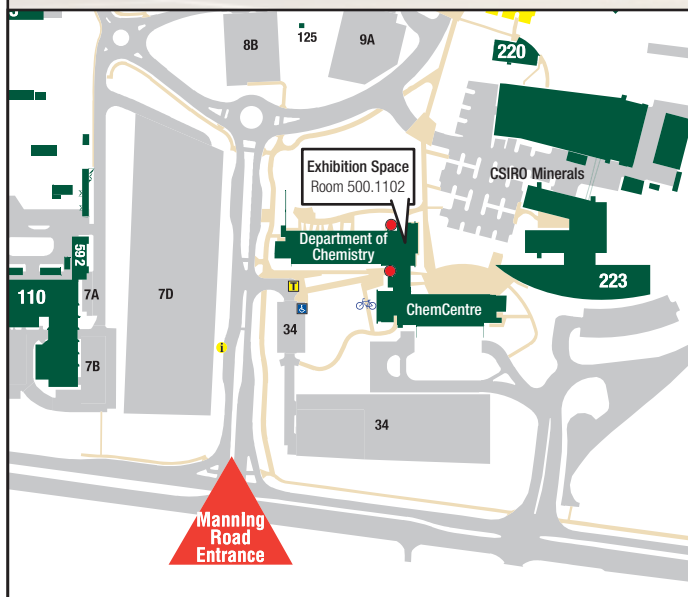
Radiochemistry @ ANSTO: PET Imaging Agents and New Radiolabelling Methods

Dr Ben Fraser

Organic Chemistry Task Leader, ANSTO Lifesciences

Positron emission tomography (PET) is a molecular imaging technique that gives detailed three-dimensional information on functional processes in the body. PET has established diagnostic applications in oncology, neurology and cardiology but is also proving extremely useful in drug discovery and for understanding disease pathology. [18F]Sulfonyl fluorides are a relatively unknown functional group for [18F]radiolabelling. We have systematically explored the effects of temperature, precursor amount, reaction time, precursor sterics, precursor electronics, presence of water and other nucleophiles upon the radiochemical yield and subsequent stability of various substituted [18F]arylsulfonyl fluorides. The findings from this study increases the very limited fundamental knowledge of [18F]sulfonyl fluoride radiochemistry and provides insight for the future design of [18F]sulfonyl fluoride based radiotracers.

Ben Fraser leads the organic chemistry research program and in ANSTO Lifesciences and holds an adjunct lecturer position at Monash University. Ben supervises a team of seven organic chemists and manages the synthesis of radiolabelling precursors for ANSTO LifeSciences. Ben completed his Honours and PhD in organic chemistry at Monash University in 2005 after which he completed a two year post-doc on medical imaging agents. He then moved to the Melbourne based drug discovery company Biota Holdings to work on anti-viral therapeutics. During this time he established a collaborative research project with Prof. K. Barry Sharpless on 'click chemistry' drug discovery and then worked for Prof. Sharpless for 18 months at The Scripps Research Institute as an American Australian Association Fellow (2008). Ben returned to Australia in 2010 to take up his current role in ANSTO LifeSciences. Ben's main research interests are the development of new PET radiopharmaceuticals and the new methods for incorporation of radio-halogens (fluorine-18 and iodine-124) and radio-metals (gallium-68 and zirconium-89).



Thursday, 28th November 2013 at 4:00 PM
Exhibition Space, Building 500, Room 1102

For more details about the
Chemistry Seminar Series, please contact:

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