Research project and supervisor team

Supervisory Team	Supervisor Name Dr. Bencan Tang Dr. Hainam Do Professor Jonathan Hirst
Short introduction & description of research project	This project focuses on the biomimetic synthesis of polycyclic marine natural products using a combined approach of both computational and experimental studies. The biogenetic relationship of the metabolites plumarellide, mandapamate, isomandapamate and rameswaralide with the respective 14-membered furanocembranoid macrocycles will be studied by density functional theory (DFT). This is to understand the control factors of the intramolecular cycloaddition reactions in the formation of these polycyclic marine natural products, including the reaction pathways and the stereochemistry involved. The theoretical chemistry is expected to suggest the most favourable furanocembranoid precursor towards the targeting polycyclic natural products. Subsequently, the identified precursors will be synthesized in laboratory and their transformation to individual polycyclic marine natural products will be experimentally studied.
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