

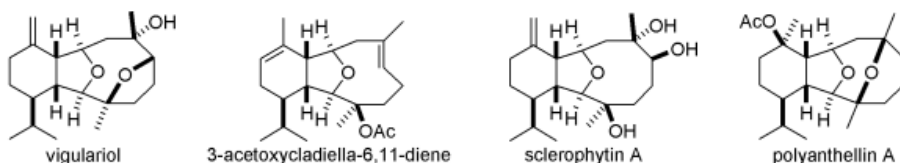
## CBC SEMINAR ANNOUNCEMENT



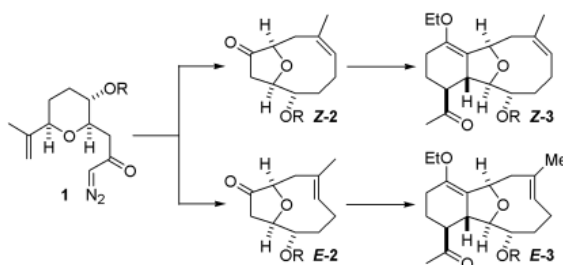
**Professor Stephen Clark**  
University of Glasgow

### Total Synthesis of Bioactive Marine Diterpene Natural Products

The cladiellins (e.g. vigulariol, 3-acetoxycladiella-6,11-diene, sclerophytin A and polyanthellin A) are a large group of ether-bridged diterpene natural products of marine origin that possess a wide range of biological activities including cytotoxic activity against tumour cells. The structural complexity of these marine natural products coupled with their biological activities makes them highly attractive targets for total synthesis.



We have developed a general strategy that is applicable to the synthesis of the entire cladiellin family of natural products. The key step for assembly of the tricyclic core of the cladiellins involves reaction of the diazo ketone **1** with a suitable transition metal complex to give a free or metal-bound oxonium ylide that undergoes stereoselective rearrangement to produce the bridged ethers **Z-2** and **E-2** in excellent yield. Remarkably, the reaction can be tuned to give either isomer as the major product simply by selecting the appropriate catalyst and reaction conditions. Subsequent elaboration of these O-bridged bicyclic ethers gives the tricyclic ketones **Z-3** and **E-3** which can be elaborated to give a wide variety of cladiellin natural products.



<b>Date:</b>	<b>2<sup>nd</sup> November 2012 (Friday)</b>
<b>Time:</b>	<b>11:00am – 12:30pm</b>
<b>Venue:</b>	<b>NTU SPMS CBC Building Level 2, Conference Room</b>
<b>Host:</b>	<b>Assoc Professor Roderick Bates</b>