CYCLE DE CONFÉRENCES DE CHIMIE

Avec le concours de : Manufacture Française des Pneumatiques MICHELIN
Ecole Nationale Supérieure de Chimie de Clermont-Ferrand
Institut de Chimie de Clermont-Ferrand (ICCF UMR 6296)
U.F.R.S.T. / Master de Chimie / Département de Chimie

Jeudi 21 juin 2012 à 16 h

Amphi de Chimie Paul REMI - (Site des Cézeaux)

Pr. Ian Paterson

University of Cambridge, UK

Progress, Problems and Serendipity in Polyketide Synthesis.

The polyketides represent a diverse array of structurally complex natural products having a wide range of biological activity, with many members having important therapeutic utility in human medicine such as antibiotics, antifungals, anticancer agents or immunosuppressants. Our research is largely focused on the chemical synthesis of novel polyketides that have promising anticancer activity but are in scarce supply from their natural source. This draws on and extends contemporary methods of organic synthesis to efficiently set up the required stereochemistry and oxygenation pattern, with particular emphasis on the application of new asymmetric carbon-carbon bond forming methodology developed in the group. The approach aims to incorporate maximum flexibility in terms of fragment coupling, enabling the synthesis of unnatural analogues and hybrids including other stereoisomers for structure-activity relationship studies, and relies on a versatile combination of reagent and substrate-based stereocontrol. In this lecture, recent work directed towards the total synthesis and configurational assignment of several complex anticancer polyketides will be presented, including spirastrellolide A, leiodermatolide and chivosazole F.

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