



26th Annual Meeting Tours, France

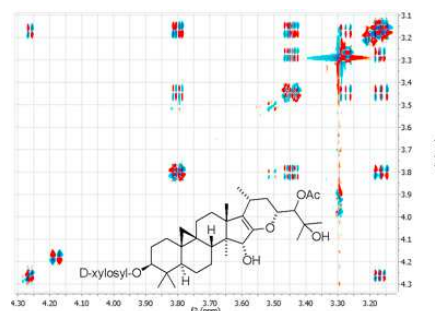


July 31st - August 4th, 2010

Workshop: Identification of chemical signals: comparative metabolomics via NMR and MS

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Time: Saturday, July 31st, 16:00-18:00 h



Abstract: Differential Analyses of 2D NMR Spectra (DANS) constitutes a new approach to linking naturally occurring small molecules with their biological function. If combined with mass spectrometric analyses, comparative analyses via DANS offer considerable advantages for the detection of synergism as well as for the characterization of chemically labile signaling molecules. The approach is based on overlays of NMR-spectra of crude or largely unfractionated biological extracts, which can provide a comprehensive overview of a metabolome, often including detailed structural information for many of its components. The workshop will give a brief history of the development of this method and introduce several examples for early applications, including the discovery of sulfated nucleosides in spider venom and the identification of bacillaene, the long-sought product of the mixed non-ribosomal peptide/polyketide synthase complex *pksX* in *Bacillus subtilis*. Recent examples include characterization of exocrine signals in the model organism *Caenorhabditis elegans* by linking genetic information to changes in the metabolite profiles of specific *C. elegans* mutants. Scope and utility of this approach as well as practical aspects will be discussed, focusing on future applications in chemical ecology. Some familiarity with NMR spectroscopy and mass spectrometry will be useful, but is not required.

Registration: Pre-registration is encouraged. Please contact Dr. Schroeder at schroeder@cornell.edu if you would like to attend, and include “NMR workshop” in the subject line of your email. In your email, please also include a brief (one or two sentence) description of your scientific background and interests. Walk-ins are welcome, room capacity permitting.