

“Synthesis of natural products and analogues: From cytotoxicity to fluorescence”  
Dr Xavier Franck (CNRS, University Rouen, France)

Caribenolide I is the most potent member of the amphidinolide family of antitumour compounds. The synthesis of this complex marine natural product has been achieved using three key steps; diastereoselective addition of *N*-acetyloxazolidin-2-thione to cyclic hemiketal (formation of 2,5-disubstituted tetrahydrofuran); Baylis-Hillman reaction; and diastereoselective aldolisations.

Analogues of non-ribosomal, cyclic peptide toxins (microcystins) have also been prepared for the development of a toxin detection kit using fluorescent monoclonal antibodies.

The synthesis of latent fluorophores based on a fungal natural product skeleton, with applications in proteomics and biotechnology, has been achieved with diastereoselective oxidative dearomatisation as a key step.

## CV

### EDUCATION :

*PhD.* (Univ. Paris-Sud), Faculty of Pharmacy 1996  
“Synthesis of Polyoxygenated Natural Products”  
Postdoctoral Fellow : Strathclyde University, Glasgow, U.K. 1997  
Postdoctoral Fellow : Institut Chimie Substances Naturelles (ICSN) Gif/Yvette 1998

### PROFESSIONAL EXPERIENCE :

Researcher at the CNRS, University Paris-Sud Orsay, Faculty of Pharmacy 1998-2005  
Researcher at the CNRS, University of Rouen 2006-present

Appointed “Research Director” in 2008

52 accepted articles  
5 book chapters

### Key papers:

Straightforward access to syn -amino- -hydroxy amino acids derivatives  
J. Patel, G. Clavé, P.-Y. Renard, X. Franck.  
*Angewandte Chem. Int. Ed.* **2008**, 47, 4224-4227.

Highly diastereoselective aldol reaction with -CF<sub>3</sub>-substituted enolates  
Xavier Franck, Blandine Seon-Meniél, Bruno Figadère  
*Angewandte Chem. Int. Ed.*, **2006**, 45, 5174-5176

Contribution to the total synthesis of caribenolide I  
G. Jalce, X. Franck, B. Seon-Meniél, R. Hocquemiller, B. Figadère.  
*Tetrahedron Lett.*, **2006**, 47 5905-5908.

Highly Diastereoselective Synthesis of *trans*-2,5-Disubstituted Tetrahydrofurans  
G. Jalce, M. Seck, X. Franck, R. Hocquemiller, B. Figadère  
*J. Org. Chem.*, **2004**, 69, 3240-3241.