Secteur des Sciences et Technologies

Invitation à la soutenance publique de thèse de

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Master en sciences chimiques, à finalité approfondie

Pour l'obtention du grade de Docteur en sciences

« Amphidinolide K : A Methodology Application »

qui se déroulera
le vendredi 10 décembre 2021 à 16h
Auditoire SUD08
Place Croix du Sud
1348 Louvain-la-Neuve

The symbiont dinoflagellate Amphidinium is an incredible biological manufacturing unit. According to our knowledge, 35 interesting molecules, termed Amphidinolides, have been isolated from Amphidinium sp. In 1989, Kobayashi discovered at least 10 Amphidinolides (A-J) that show cytotoxic activities against murine leukemia P388, L1210 cells and human epidermoid carcinoma KB cells. Four years later, Kobayashi isolated a new molecule, Amphidinolide K. Three total syntheses of Amphidinolide K have been reported by Williams, Lee and Vilarrasa. One of the big challenges is the *exo*-methylene THF pattern. We became interested in the synthesis of this molecule after discovery of a fortuitous ring contraction by the Marko group that allows ready access to *exo*-methylene THF moieties. Combined with the ene-IMSC sequence, this methodology represents a powerful tool to synthesize the THF ring of Amphidinolide K. Based on this idea, our approach towards this target involved a 3-fragment disconnection. The coupling of these units, based on *in-situ* hydroboration for Miyaura-Suzuki cross coupling and Julia-Kociensky olefination was investigated.

Jury members :

Prof. Olivier Riant (UCLouvain), supervisor
Prof. Michael Singleton (UCLouvain), supervisor
Prof. Sophie Demoustier (UCLouvain), chairperson
Prof. Raphael Robiette (UCLouvain), secretary
Prof. Benjamin Elias (UCLouvain)
Prof. Gwilherm Evano (ULB)
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