

**Research field:**

Biological chemistry / Life Sciences

Chemistry / Solid state physics, chemistry and nanosciences

**Title:**

Biocatalytic oxidation of unactivated C-H bond for the synthesis of beta hydroxylamine derivatives: application to the synthesis of non proteinogenic aminoacids

**Abstract:**

Functionalization of unactivated C-H bond is a challenging task for the organic chemist, the importance of the biocatalytic oxidation lies in some enzymes ability, the oxygenases, to introduce one or more OH groups at unactivated positions and therefore obtaining compounds that are not accessible by usual chemical routes. We will focus on one enzyme family, the alpha keto glutarate dependant dioxygenases (alphaKAO), non heme fe(II) enzymes, exhibiting various reactivities. Many of these enzymes are involved in biosynthetic pathways of compounds of therapeutic, phytosanitary or agricultural significance.

Among these enzymes, we will direct our attention on enzymes responsible of the stereoselective aliphatic hydroxylation of unactivated substrates, targeting amino and alpha aminoacid derivatives. The synthesis in enantiopure form of beta hydroxyl alpha aminoacids, chiral building blocks in the synthesis of biological active compounds e.g. non ribosomal peptides, will be considered.

**Location:**

Institut de Génomique

Genoscope - Centre national de séquençage

Laboratoire de chimie

Starting date: 01/10/2010

Centre : Fontenay-aux-roses

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**More about:**

<http://www.cns.fr/spip/Laboratoire-de-Chimie-Organique-et.html>

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**University/Graduate School:** Evry Val d'Essonne  
Des Génomes aux Organismes - Evry -

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