



Subject Proposal for Exchange Students in Organic Chemistry (Master Level)

Visible-light photocatalysis in organic chemistry

In an international context oriented towards the development of eco-friendly processes, organic chemistry has provided some very interesting and new approaches based on green chemistry principles such as atom economy, catalysis. In this context, our group is focused on the development of new organic synthetic processes for the design of biologically interesting molecules, in agreement with the concept of green chemistry. Therefore, our group has devoted its attention to the development of catalytic multicomponent reactions (a process where more than two chemicals are mixed together at once for formation of several bonds leading thus to highly functionalized molecules). More recently, we turned our efforts on photochemistry and particularly visible light photocatalysis for the development of new reactions. On Earth, light is readily the most abundant renewable and available source of energy and thus perfectly fits the concept of green chemistry.

The project for this exchange program is thus centered on the development of new “green organic” reactions (possibly multicomponent) initiated by economic and eco-friendly processes (photocatalysis, microwave activation).

Key Words: Organic chemistry, Photocatalysis, Visible-light, Multi-component reactions.

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