

Wednesday, 27 March 2019 Amphi B 10:30-11:30	Plenary lecture 4 Green chemistry in organic synthesis. Development of new sustainable chemical processes.
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Prof. Malika Berredjem

Team manager (Synthesis of Biomolecules and molecular modeling)

Chemistry Department, Badji-Mokhtar University, Annaba, (Algeria).

Abstract. The aim of green chemistry is to develop chemical products and processes that reduce or eliminate the use and synthesis of hazardous substances. Green chemistry searches for alternative, environmentally friendly reaction media and at the same time strives to increase reaction rates and lower reaction temperatures. Today, in many countries, research programs are funded to incorporate one or more of the 12 principles of green chemistry during the implementation a synthesis or a chemical process. They are sometimes developed in the framework of institutes specially dedicated to green chemistry whose primary objective is its development, diffusion of these processes and their incorporation in fundamental and industrial research. The chemical industry must develop new, rapid, efficient and environmentally friendly synthesis methods to form a range of compounds with a high therapeutic potential, among these processes one can cite; multicomponent reactions, the use of ultrasound and microwaves. Multicomponent reactions thus became the major tool in the industry, allowing the production of various libraries of molecules having related structures. On the other hand, the use of microwave and ultrasound in organic synthesis to accelerate reactions has proven to be a particularly important tool for meeting the Green Chemistry goals of minimization of waste and reduction of energy requirement. In this context, our research is based on the synthesis of biomolecules by multicomponent reaction, under solvent-and catalyst-free conditions using micro-wave or ultrasound irradiation.

Keywords: Green Chemistry, multicomponent reactions, ultrasound, microwave, organic synthesis.