Sustainable organic chemistry

for the synthesis of bioactive molecules

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A major concern for the development of a sustainable chemical synthesis is the use of organic solvents. These solvents are very often toxic and volatile, the halogenated ones creating major damages to the environment. One of the solutions so far has been to treat and recycle the solvents or to use them as fuel after employing them in a chemical process. A major research effort is now being made to find alternatives to the use of these organic solvents. The challenging approach that we have chosen is to develop reactions in alternative solvent such as PEG or in the absence of solvent by mechanochemistry.

Synthesis of heterocyclic structures making use of metal-catalyzed reactions in PEG[1-2] will be presented. In the area of mechanochemical activation, synthesis of amino acids[3] and peptides[4] will be reported.

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