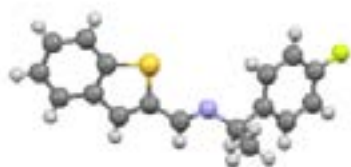


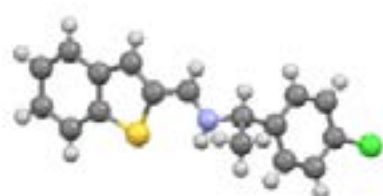
Green synthesis of new chiral halogenated imines derived from Benzo[b]thiophene-2-carboxaldehyde

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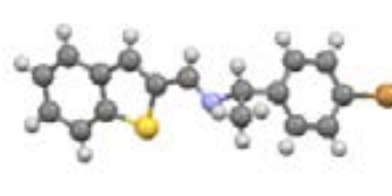
Pollution must be taken seriously, because it reduced large reserves of water in the world, and acid rain deteriorated the health of forests, etc. Some chemicals were suspected of causing these problems. Consequently, there have been different proposals on the design, development and implementation of chemicals. These proposals benefit the economy; protect the population and the planet, thus achieving a reduction of waste, conserving energy. In addition, it is important to consider the life cycle of the reagents from the time they are obtained to the final disposal of the reagents. Solvent-free organic synthesis has expansive prospects as well as many advantages such as high efficiency, easy separation and purification and environmental acceptability. All these merits are in accord with the Green Chemistry's requests of energy-saving, high efficiency and environmentally benign. Compounds containing an imine group are known to play an important role in living organisms, and some reports have established that the presence of imine or azomethine subunits in various natural, natural-derived, and non-natural compounds was critical to their biological activities. We are currently engaged in a program dedicated to the synthesis of small Schiff bases using a single-step solvent-free approach. We performed the preparation of three chiral imines 1, 2 and 3 derived from benzo[b]thiophene-2-carboxaldehyde and the optically active halogenated amines (S)-(-)-1-(4-fluorophenyl)ethylamine, (S)-(-)-1-(4-chlorophenyl)ethylamine and (S)-(-)-1-(4-bromophenyl)ethylamine, respectively in excellent yields.



Crystal structure of imine 1



Crystal structure of imine 2



Crystal structure of imine 3

Biography

Andrea Moreno pursued her Postgraduate studies with Master's in Organic Chemistry at the Faculty of Chemistry, Benemérita Universidad Autónoma de Puebla. She is passionate about the Green Chemistry, the development of environmentally improved routes, synthetic methods and processes to important products and the chemical aspects of renewable energy. Also, she is interested in the structural elucidation, green synthesis, X-ray crystallography, structure-NMR spectra relationship and mass spectrometry.

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