

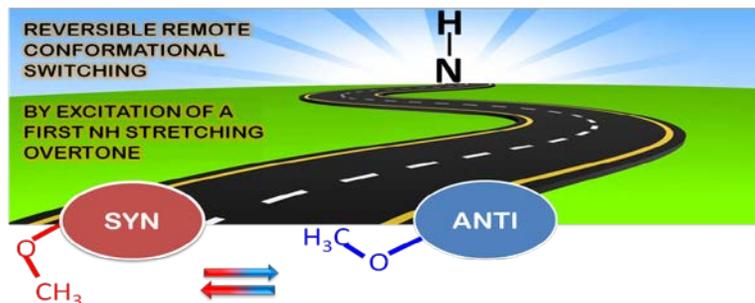
Photogeneration of Rare Molecules in Cryogenic Matrices

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The “molecular world” is plenty of elusive molecules not easy to observe and exhibiting less usual properties. Experimental approaches are required to efficiently generate and trap such uncommon molecules, making them accessible to investigation. Use of narrowband light sources to selectively produce these species, together with the matrix isolation method (to achieve their stabilization) and infrared spectroscopic probing, offers us, nowadays, the possibility to explore successfully the wonderful world of the rare, most of times high-energy, molecules.¹ Computational chemistry appears also as a fundamental tool to help interpreting the experimental results and providing mechanistic insights for the observed chemical processes.



In this talk, recent results obtained in our laboratory in search for elusive reaction intermediates and rare conformers will be presented. Both UV- and IR-induced processes, starting from a stable precursor molecule isolated in cryogenic matrices and giving rise to these species will be considered.

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[1] R. Fausto L. Khriachtchev and P. Hamm, Conformational Changes in Cryogenic Matrices. in “Physics and Chemistry at Low Temperatures”, (Ed. L. Khriachtchev), World Scientific. Singapore, 2010. Chap. 3, pp. 51-84.