

## ASYMMETRIC DIFUNCTIONALIZATION OF ENAMIDES VIA HYDROGEN BOND CATALYSIS

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**Abstract:** Nitrogen-activated carbon-carbon double bonds, as demonstrated by successful existing works on enamines, have a high potential for the construction of various nitrogen-containing products.<sup>[1]</sup> In order to expand the application of this class of substrates, we have focused on studying the reactivity of the promising enamide derivatives.<sup>[2]</sup> Starting from the well-known aza-Diels-Alder reaction, we have gradually been drawn to develop other cycloaddition reactions and more generally an extended range of  $\alpha,\beta$ -difunctionalization methods.<sup>[3]</sup> Our most recent works involved radical processes, which contributed to significantly increase the diversity of scaffolds accessible from these nitrogenous substrates.<sup>[4]</sup> This lecture will detail our contribution towards the the development of general approaches toward the synthesis of highly functionalized  $\alpha,\beta$ -substituted amines in the context of an ongoing study towards the synthesis of various biologically active natural and non-natural products.<sup>[3,4]</sup>

### References and Notes:

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### **Bio-Sketch of Speaker**

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Géraldine Masson is CNRS Research Director at ICSN-CNRS/Paris-Saclay University. She received her Ph. D. in 2003 from the Joseph Fourier University, (France) under the supervision of Dr. Sandrine Py and Pr. Yannick Vallée. From 2003 to 2005, she was a Marie Curie postdoctoral research fellow in Pr. Jan van Maarseveen and Pr. Henk Hiemstra team at the University of Amsterdam (Netherlands). At the end of 2005, she was appointed “Chargée de Recherche” by the CNRS at ICSN-CNRS/Paris-Saclay University. She was promoted to CNRS Research Director DR2 in 2014 and Research Director DR1 in 2020. Her group is well recognized in the field of enantioselective organocatalysis and synthetic methodologies using photoredox catalysis.

Her contributions to the field of Organic Chemistry have been recognized with numerous awards including the Diverchim Prize in Synthetic Organic Chemistry from French Organic Chemistry Division (2011), CNRS Bronze Medal (2013), Liebig Lectureship of the German Chemical Society (2016), Novacap Prize of the French Académie des Sciences Award (2017) and J.-M. Lehn prize from French Organic Chemistry Division (2019).