SEMINÁRIO DIA 01/10/2021

Sala de Web Conferência – 10 horas

"Expanding the Scope of Catalytic Asymmetic 1,3-Dipolar Cycloaddition of Azomethine Ylides."

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Enfoque:

1,3-Dipolar cycloadditions are one the most powerful methodologies for the preparation of five membered heterocycles owing to their ability to generate complex molecules in a stereocontrolled way, largely meeting sustainability requirements. In this area, azomethine ylides have become especially relevant because of the prevalence of the pyrrolidine ring in natural products and catalysts. Furthermore, the diverse biological properties of pyrrolidine derivatives, such as antibiotic, antibacterial, antifungal, and cytotoxic effects, offer an excellent opportunity for the discovery of new pharmaceuticals agents. Since 2002 a great effort has been focused on the development of a variety of chiral catalysts for 1,3-dipolar cycloadditions of azomethine ylides, which have facilitated the diastereoselective and enantioselective preparation of polisubstituted pyrrolidine derivatives. Nevertheless, these procedures are mostly limited to the reaction of glycinate iminoesters as azomethine ylide precursors in combination with alkenes activated with electron withdrawing substituents as dipolarophiles. In this context, in the last years our research group has focused its efforts on solving some of the scope restrictions of the 1,3-dipolar cycloaddition of azomethine ylides developing the utilization of new dipolarophiles (such as activated dienes or vinyl arenes) and azomethine ylide precursors (α-silylimines, imiopyridines or trifluoromethyl-substituted iminoesters).