Following the Pathway of Organocatalysis from Marseille to Strasbourg: Enantioselective Synthesis of Atropisomers and Development of New Halogen-Bond Donors

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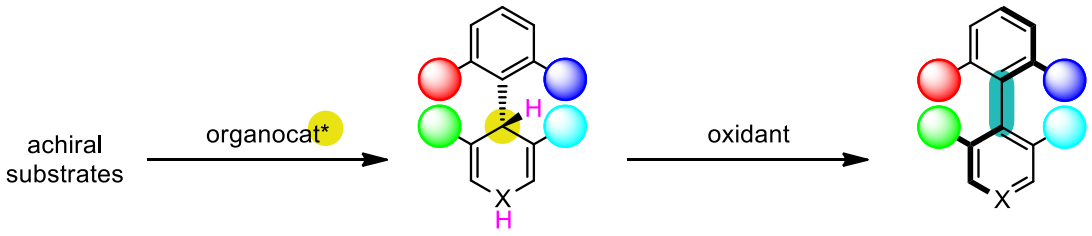
Organocatalysis consists in the use of purely organic molecules of low to moderate molecular weights, which are able to accelerate chemical transformations. Despite scattered applications during the 20th century, organocatalysis has only started to reveal its possibilities since the beginning of the 21st century and its deep impact on organic synthesis has been recently recognized by the Nobel Prize awarded to Benjamin List and David MacMillan.

In this context, we have started to investigate this research field ten years ago. During this lecture, we will present a full picture of the research directions we have initiated in Marseille, with a special focus on the ones that will be continued within the newly created CatOrg research group at the Laboratoire d'Innovation Moléculaire et Applications in Strasbourg:

(i) the combination of enantioselective organocatalysis with central-to-axial conversion of chirality to develop original synthetic routes towards enantioenriched atropisomers;



(ii) The design of original halogen-bond donors incorporating halogen bonding as secondary interaction or cationic heteroatomic moieties.