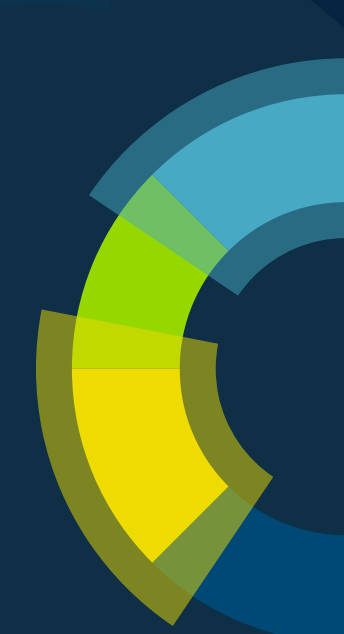


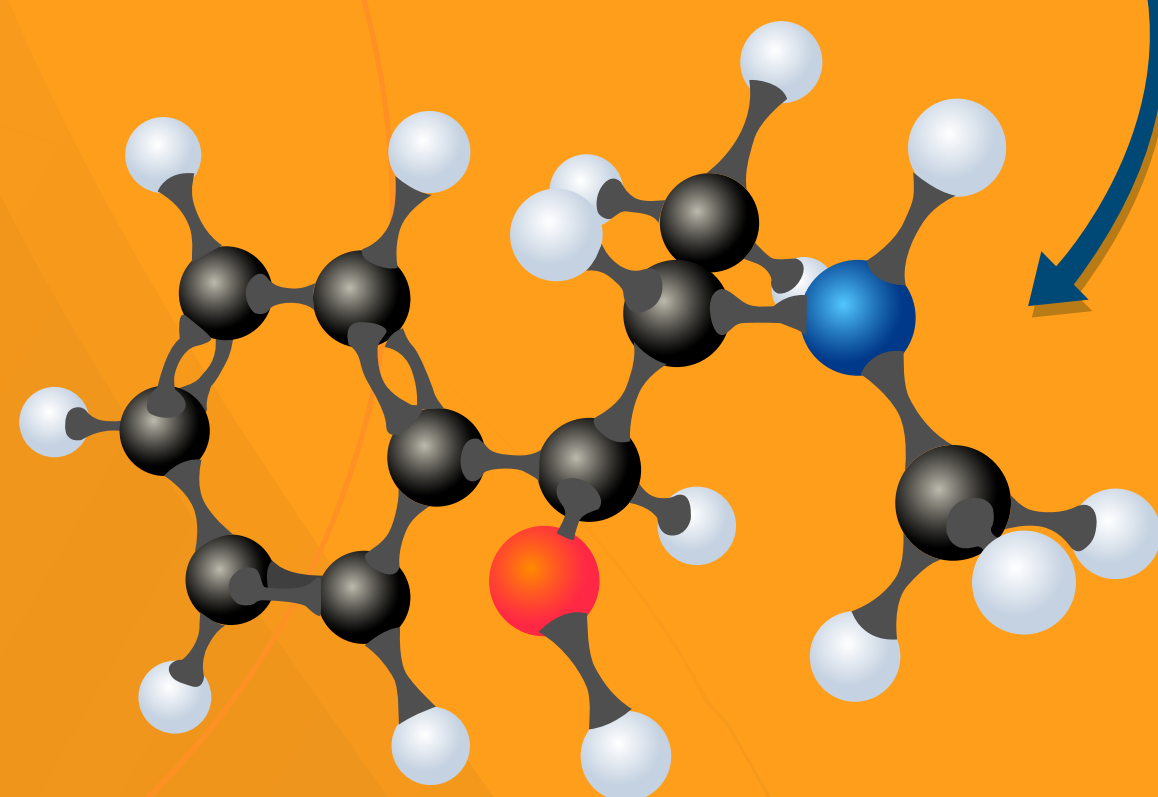
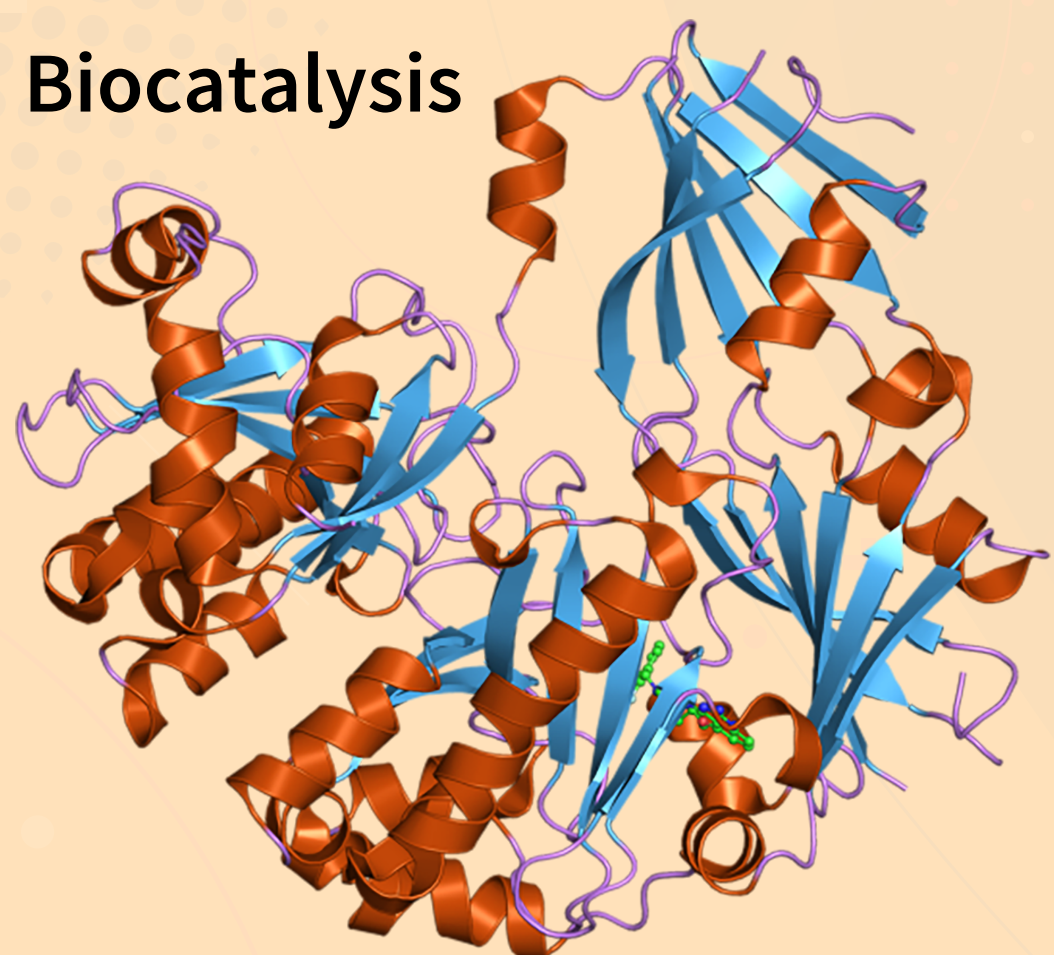
Developments in Chemo-Enzymatic Alkaloid Synthesis via Biocatalytic Transformations

RSC
Advances



Biocatalysts are a valuable tool for alkaloid synthesis

Biocatalysis



Alkaloid synthesis



Medicinal use

Integration of biocatalysts for chemo-enzymatic alkaloid synthesis could solve large-scale production challenges

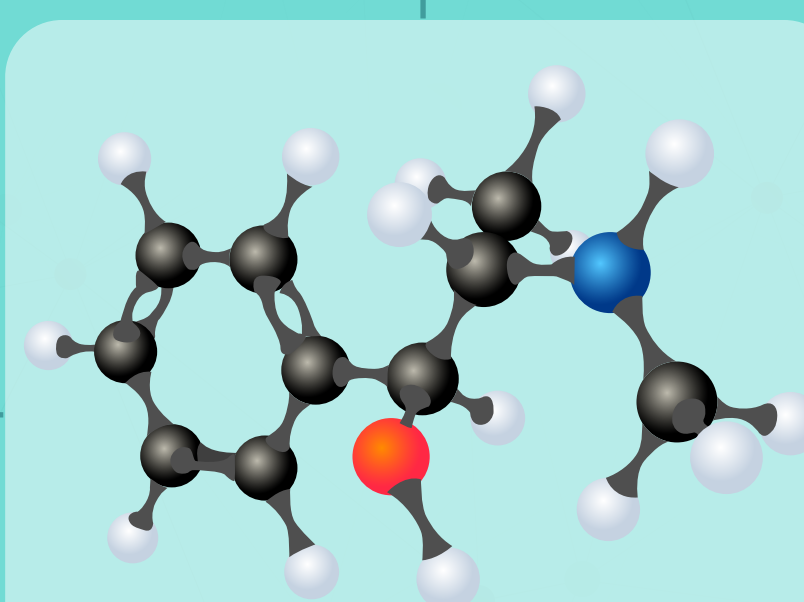
Modern developments in biocatalytic engineering and alkaloid synthesis

**C-C
C-N**

Biocatalytic key C-C and C-N bond formation

C=N

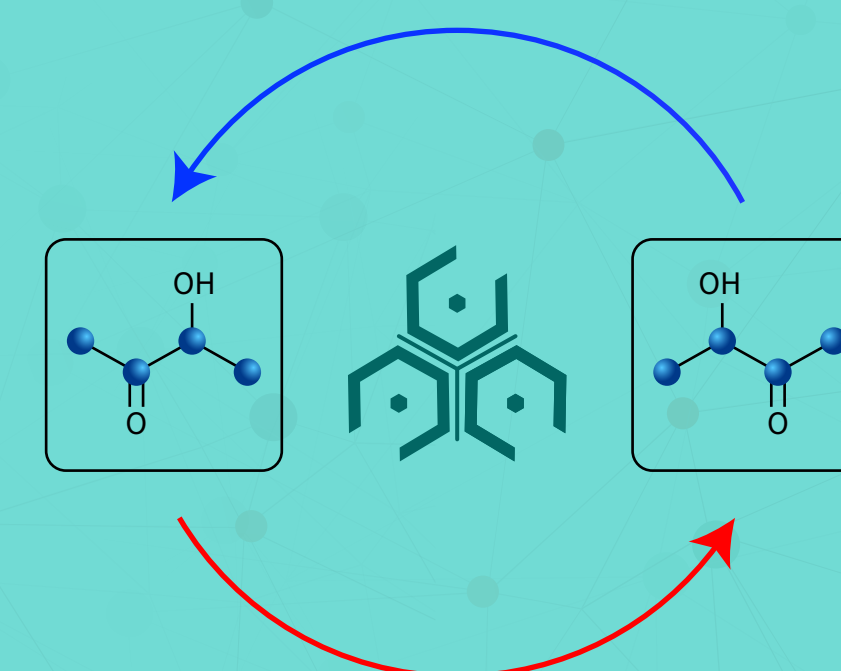
Biocatalytic imine reduction



Alkaloid synthesis



Chiral building block approach



Kinetic resolution, dynamic kinetic resolution, and deracemisation

Shorter chemo-enzymatic syntheses are an economically viable option



Collaborative efforts are essential to exploiting the new chemo-enzymatic approaches to alkaloid synthesis