

From homogeneous to heterogeneous catalysis – towards the total synthesis of complex molecules in one operation

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We have recently been working on the development of heterogeneously catalysed reactions and their combination in multicatalytic one-pot processes in batch or in continuous flow.

In this lecture, we will present some examples of synthesis achieved in relatively simple conditions proceeding with atom- and step-economy involving the use of gold nanoparticles to afford a clean and selective oxidation process under O_2 , further combined with other catalytic reactions in a quest for the synthesis of complex molecules in one single operation.

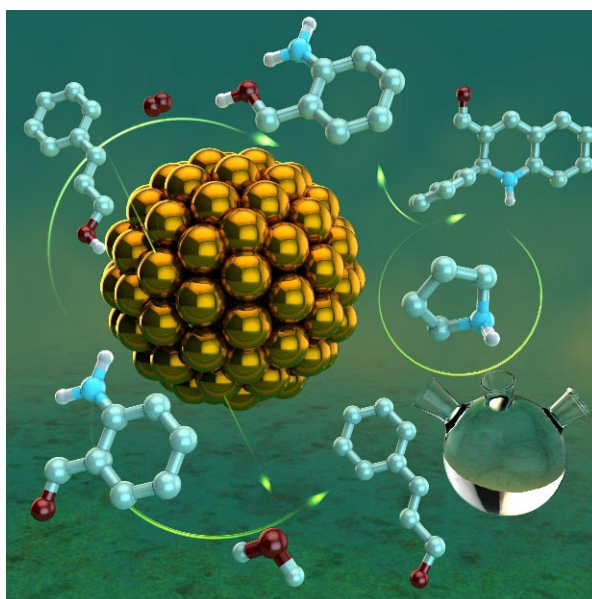


Figure 1. Illustration of a bicatalytic one-pot reaction of allylic alcohols with salicylaldehyde derivatives to yield chromenes.

References

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2. P.D. Giorgi, N. Elizarov, S. Antoniotti, *ChemCatChem* **2017**, *9(10)*, 1830–1836.