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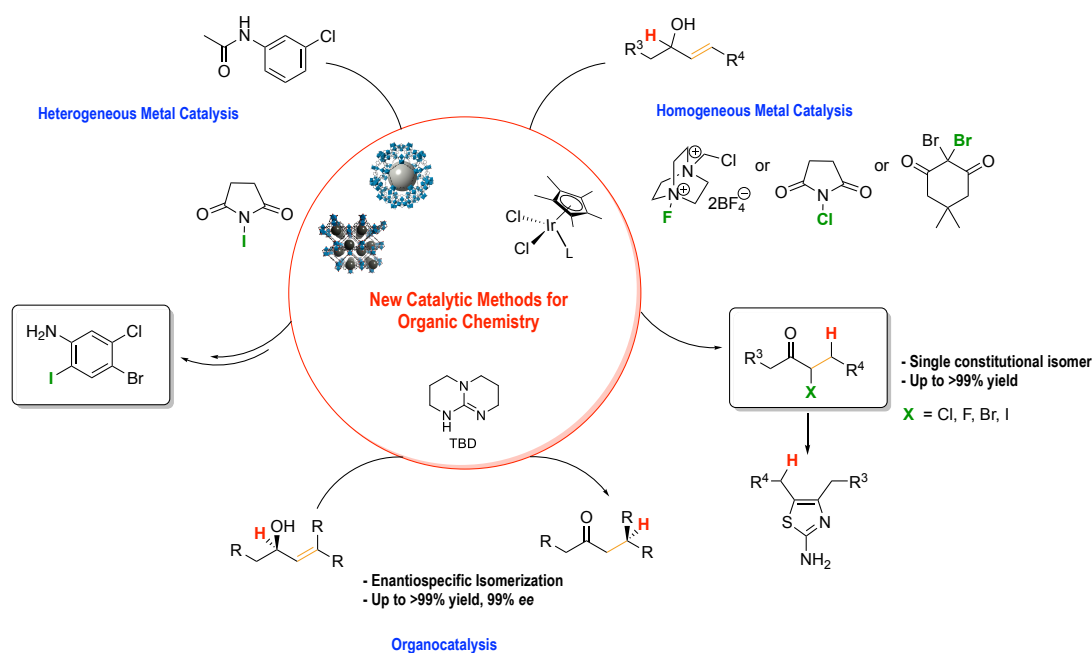
Selective Synthesis of Halogenated Organic Compounds Mediated by Homogeneous and Heterogeneous Catalysts

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Our latest investigations on the development of new, efficient, robust and practical methods for synthesizing halogenated building blocks using transition metal- or organocatalysts will be presented. The former type of catalysts consists of simple and accessible iridium(III) complexes, and also of heterogeneous catalysts based on metal-nanoparticles immobilized on metal-organic frameworks (MOFs). The scope and limitations, synthetic applications, scalability, and mechanistic aspects of these catalytic processes will be discussed.



Selected Group References

1. Homogeneous metal catalysis: *Chem. Commun.* **2011**, 47, 8331-8333; *Angew. Chem. Int. Ed.* **2013**, 52, 6273; *Chem. Eur. J.* **2014**, 20, 10703; *ACS Catalysis*, **2015**, 5, 708; *ACS Catalysis* **2015**, 5, 3704; *Chem. Commun.* **2017**, 53, 9842; *ACS Catal.*, **2018**, 8, 920;
2. Heterogeneous metal catalysis: *ACS Catalysis*, **2015**, 5, 472; *ChemSusChem*, **2015**, 8, 123; *Chem. Eur. J.* **2015**, 21, 10896; *Chem. Commun.* **2015**, 51, 10864; *Chem. Eur. J.* **2015**, 21, 861; *Chem. Eur. J.* **2016**, 22, 3729. *Chem. Commun.* **2017**, 53, 3257; *Inorg. Chem.* **2017**, 56, 4576
3. Organocatalysis: *J. Am. Chem. Soc.* **2016**, 138, 13408.