

Facing sustainable challenges in the FLAME lab: an overview on main synthetic tactics using flow technology to access new chemical space

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Microreactor technology and flow chemistry could play an important role in the development of green and sustainable synthetic processes.¹ In this presentation, some recent relevant examples in the field of flash chemistry, catalysis, hazardous chemistry and continuous flow processing of metallated species are described.² Selected examples highlight the role that flow chemistry could play in the near future for a sustainable development. In addition, this overview focusses on new synthetic tactics for the straightforward preparation of hardly accessible structural motifs and functional groups of sulfur (IV) and (VI) as sulfilimines, sulfinimides, sulfinamidines and sulfinamide esters, by using simple metal-free protocols in bench and flow conditions.³ In situ FT-IR investigations and quantum mechanical/nuclear magnetic resonance (NMR) approaches are widely used for the mechanistic hypothesis of studied reactions as well as for structural and configurational assignment of isolated organic compounds generally supported also by crystallographic analysis.

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