

Bio-inspiration and cascade reactions

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Part of our research in the field of natural product chemistry aims at understanding how astonishing levels of diversity and – sometimes – molecular complexity may emerge from biosynthetic pathways. Bio-inspired cascade reactions have been particularly useful to us to better understand intimate mechanisms leading to complex molecular architectures. From simple biosynthetic precursors and following known or postulated biosynthetic pathways, several total syntheses have been accomplished in the past years. In all cases, questions have arisen concerning the level of enzymic control in the producing living organisms leading to evolutionary considerations. A selection of examples including recent unpublished results will be presented.