

TOTAL SYNTHESIS OF POLYCYCLIC NATURAL PRODUCTS

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Natural products constitute a vast and largely unexplored library of complex molecular architectures, and are a fundamental source for novel bioactive agents. However, the complex architecture of these molecules often prevent their application in medicinal chemistry. For us, this is an inspiration to think about innovative retrosynthetic bond disconnections which enable rapid access to the target compounds. We want to discover, design and develop powerful transformations such as cationic cyclizations and ring-expansions and apply them to the synthesis of biologically relevant complex natural products and simplified analogs thereof. The goal of these projects is to shed light on proposed biosynthetic processes, to identify new molecular targets and ultimately provide new lead compounds for the treatment of human diseases.

