

CHIRAL BUILDING BLOCKS IN THE TOTAL SYNTHESIS OF MONOTERPENE INDOLE ALKALOIDS

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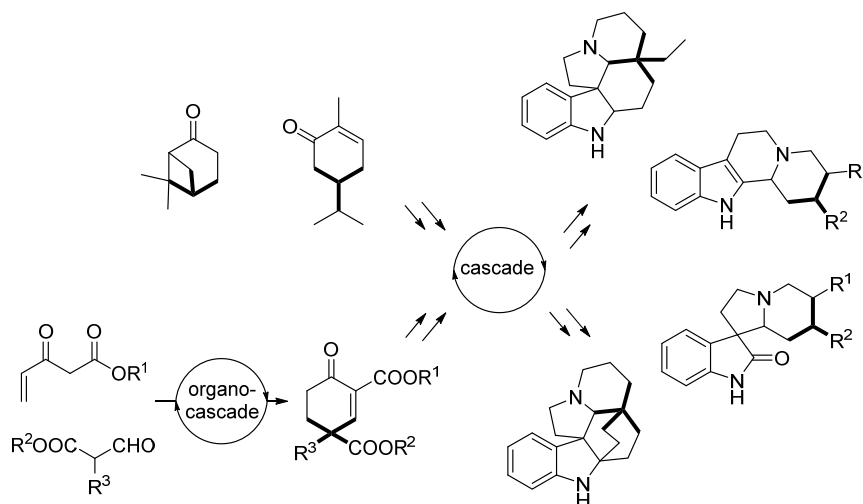
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An important direction of modern total synthesis is to find a more efficient, economic and concise route to natural products and their analogues. One of the most promising answers to this problem is the application of cascade reactions. This approach gives a powerful tool to rapidly increase the molecular complexity, as a process involving several bond-forming transformations that take place under the same conditions in one-pot. Furthermore, an important part of the synthetic planning is the divergent strategy, which allows the collective synthesis of natural product families. [1,2]

We have developed and used bifunctional catalysts [3] in organocascade reactions to assemble densely substituted cyclohexane derivatives and chiral building block with quaternary stereocenters. [4,5] Another common approach, we used, was to synthesise the key chiral intermediates utilizing simple chiral natural sources.



As part of our synthetic program, we used our intermediates in the efficient synthesis of monoterpenoid indole alkaloids. [6] Our results in the divergent asymmetric synthesis of the indole alkaloid skeletons will be disclosed as a concise route.

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