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Multiple Pd-Catalyzed Transformations in Natural Product Synthesis

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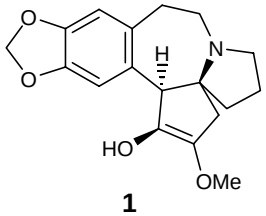
Catalytic processes are generally used in industry for the synthesis of bulk and fine chemicals. The advantage of catalytic processes lies in their usually high efficiency, low toxicity, preservation of the resources and the reduction of waste. The efficiency can be even improved by combining two or more catalytic processes either in a sequence or in a domino type fashion.



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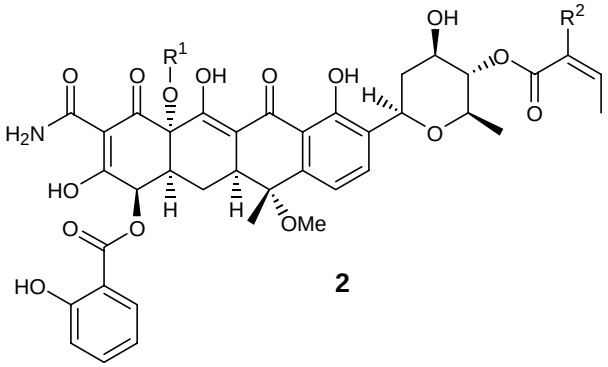

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In the lecture I shall present some multiple Pd-catalyzed transformations for the total enantioselective synthesis of the biologically interesting alkaloid cephalotaxin **1** and other compounds as well as a new entry to tetracycline antibiotics such as **2**. Palladium has the great advantage that it is non-toxic and tolerates several functional groups.

[1] L. F. Tietze, *Chem. Rev.* **1996**, 96, 115–136. [2] L. F. Tietze, F. Haunert in *„Stimulating Concepts in Chemistry“* (Eds.: M. Shibasaki, J. F. Stoddart and F. Vögtle) Wiley VCH, Weinheim **2000**, 39-64. [3] L. F. Tietze, A. Modi, *Medicinal Research Reviews* **2000**, *20*, 303-322. [4] L. F. Tietze, H. Ila, H. P. Bell, *Chem. Rev.*, **2004**, in press.