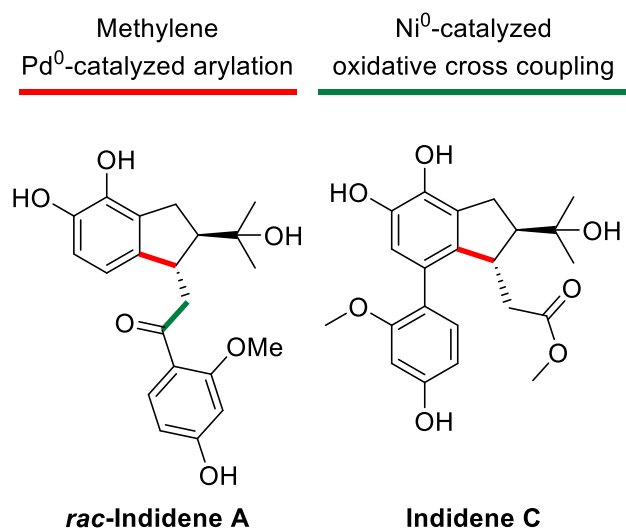


## Methylene C(sp<sup>3</sup>)–H activation enables stereoselective synthesis of Indidene natural products

Anton Kudashev, Stefania Vergura, Olivier Baudoin\*

Department of Chemistry, University of Basel, St. Johannis-Ring 19, CH-4056, Basel  
anton.kudashev@unibas.ch

Recently developed C–H activation methodologies have enabled concise and efficient total syntheses of various bioactive natural products [1]. In this context, Pd<sup>0</sup>-catalyzed C–H activation has emerged as a method of choice for construction of cyclopentane rings of various complexity [2]. We report our investigations towards synthesis of indidene A, polyketide isolated from bark of *S. indicus*, as well as other indidene congeners. The construction of the indane scaffold is enabled by implementation of a Pd<sup>0</sup>-catalyzed methylene C–H activation [3], which sets the first stereocenter. The installation of the side chain is achieved by a Ni<sup>0</sup>-catalyzed oxidative cross-coupling [4].



[1] O. Baudoin, *Angew. Chem. Int. Ed.*, **2020**, *59*, 17798-17809; C. Tsukano, Y. Takemoto, *Handbook of CH-Functionalization*, Wiley-VCH, **2022**.

[2] Example of such synthesis: P. Thesmar, O. Baudoin, *J. Am. Chem. Soc.*, **2019**, *141*, 15779-15783.

[3] R. Melot, M. Zuccarello, D. Cavalli, N. Niggli, M. Devereux, T. Bürgi, O. Baudoin, *Angew. Chem. Int. Ed.*, **2021**, *60*, 7245-7250.

[4] T. Verheyen, L. von Turnhout, J. K. Vandavasi, E. S. Isbrandt, W. M. De Borggraeve, S. G. Newman, *J. Am. Chem. Soc.*, **2019**, *141*, 6869-6874.