APPLICATION OF [2+2+2] CYCLOADDITION IN THE TOTAL SYNTHESIS OF SELAGINPULVILINES

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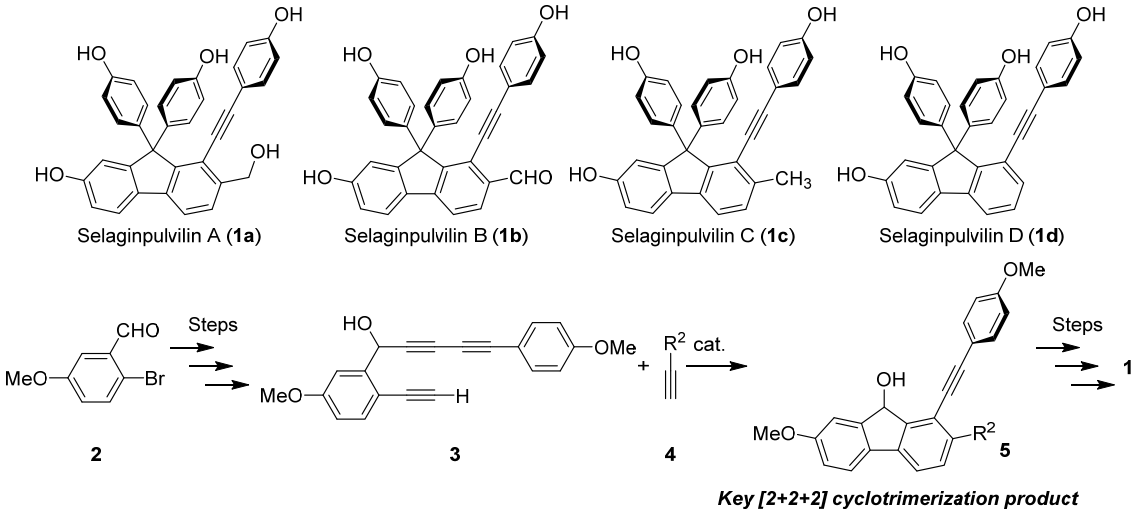
Selaginpulvilins (**1**) are natural products which were for the first time isolated from *Selaginella pulvinata*, a plant widely used in the traditional Chinese medicine [1].

In their structure, selaginpulvilins contain the fluorene motif, which is found in the naturally occurring compounds rather rarely. Within our longstanding interest in catalytic [2+2+2] cyclotrimerizations, we have demonstrated that the cyclotrimerization can be applied in syntheses of various fluorene containing systems [2, 3]. In this contribution, we would like to report a synthetic approach to the fluorene core of selaginpulvilins based on catalytic [2+2+2] cyclotrimerization of triynes **3** with alkynes **4** as the key step. The respective triyne **3** was prepared from benzaldehyde **2**. We studied the course of the cyclotrimerization with various alkynes using catalytic systems based on Rh, Ru or Ir complexes. Of particular interest was selectivity for formation of fluorenols **5**. In the last part, conversion of the cyclotrimerization products **5** towards selaginpulvilins will be described.



[1] Liu, X.; Luo, H.-B.; Huang, Y.-Y.; Bao, J.-M.; Tang, G.-H.; Chen, Y.-Y.; Wang, J.; Yin, S. *Org. Lett.* **2014**, *16*, 282.

[2] Kaiser, R. P.; Hessler, F.; Mosinger, J.; Císařová, I.; Kotora, M. *Chem. Eur. J.* **2015**, *21*, 13577.

[3] Kaiser, R. P.; Mosinger, J.; Císařová, I.; Kotora, M. *Org. Biomol. Chem.* **2017**, *15*, 6913.