Radical Reaction of Sulfonyl Chloride in Access to Vinyl Sulfones

I. Kovalova¹, C. S. Gloor¹, F. Denes², P. Renaud¹*

¹University of Bern, ²University of Nantes

Vinyl sulfones are extensively used as a building blocks for total synthesis of natural products^[1]. They can be prepared by olefination reactions^[2], elimination from α - or β -substituted sulfones^[3], oxidation of vinyl sulfides^[4] or others.

Their preparation from terminal alkynes is highly attractive. However, such transformations have only been reported *via* hydrometallation process^[5].

Herein we describe selective introduction of vinyl sulfones. We generate the sulfonyl radical from *p*-toluenesulfonyl chloride and add it onto alkyne.

- [1] Riccardo Piccardi, Philippe Renaud, P. Eur. J. Org. Chem. 2007, 4752-4757
- [2] Vijay Nair, Anu Augustine, T. D. Suja, Synthesis 2002, 2259-2265
- [3] Hao Qian, Xian Huang, Synlett 2001, 1913-1916
- [4] Xian Huang, De-Hui Duan, Weixin Zheng, J. Org. Chem. 2003, 68, 1958-1963
- [5] De-Hui Duan, Xian Huang, Synlett, 1999, 3, 317-318