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FLUOROHALOMETHYLSULFONIUM SALTS AS A NOVEL FLUOROHALOCARBENE SOURCE

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Synthesis of fluorine containing molecules is of great interest due to its unique properties and vast application in pharmaceuticals, agrochemicals and materials [1].

Previously in our group we have developed fluoromethylene transfer from fluomethylsulfonium salts [2, 3]. Herein we wish to report preliminary results on synthesis of reagents 1 and its initial application in carbene transfer reaction (Scheme 1).

Scheme 1. Alkene cyclopropanation with fluorohalomethylsulfonium salts.

We have found that functionalized sulfonium salts – fluorohalomethylsulfonium reagents 1 are efficient source of fluorohalocarbene under basic conditions and they undergo unactivated alkene 2 cyclopropanation to deliver fluorohalocyclopropanes 3.

References:

- [1] Zhou, Y., et al. Chem. Rev. 2016, 116, 422–518.
- [2] Melngaile, R., Veliks, J. Synthesis 2021, 53, 4549-4558.
- [3] Sperga, A., Zacs, D., Veliks J. Org. Lett. 2022, 24, 4474–4478.

Primary author: SPERGA, Artūrs (Latvian Institute of Organic Synthesis)

Co-author: VELIKS, Jānis

Presenter: SPERGA, Artūrs (Latvian Institute of Organic Synthesis)

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