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Dimerization of perfluoropropyl vinyl ether during the pyrolysis of hexafluoropropylene oxide dimer

Jiangkun Hou, Shuanggen Wu, Weifeng Chen, Jianting Yang, Xunqiu Wang

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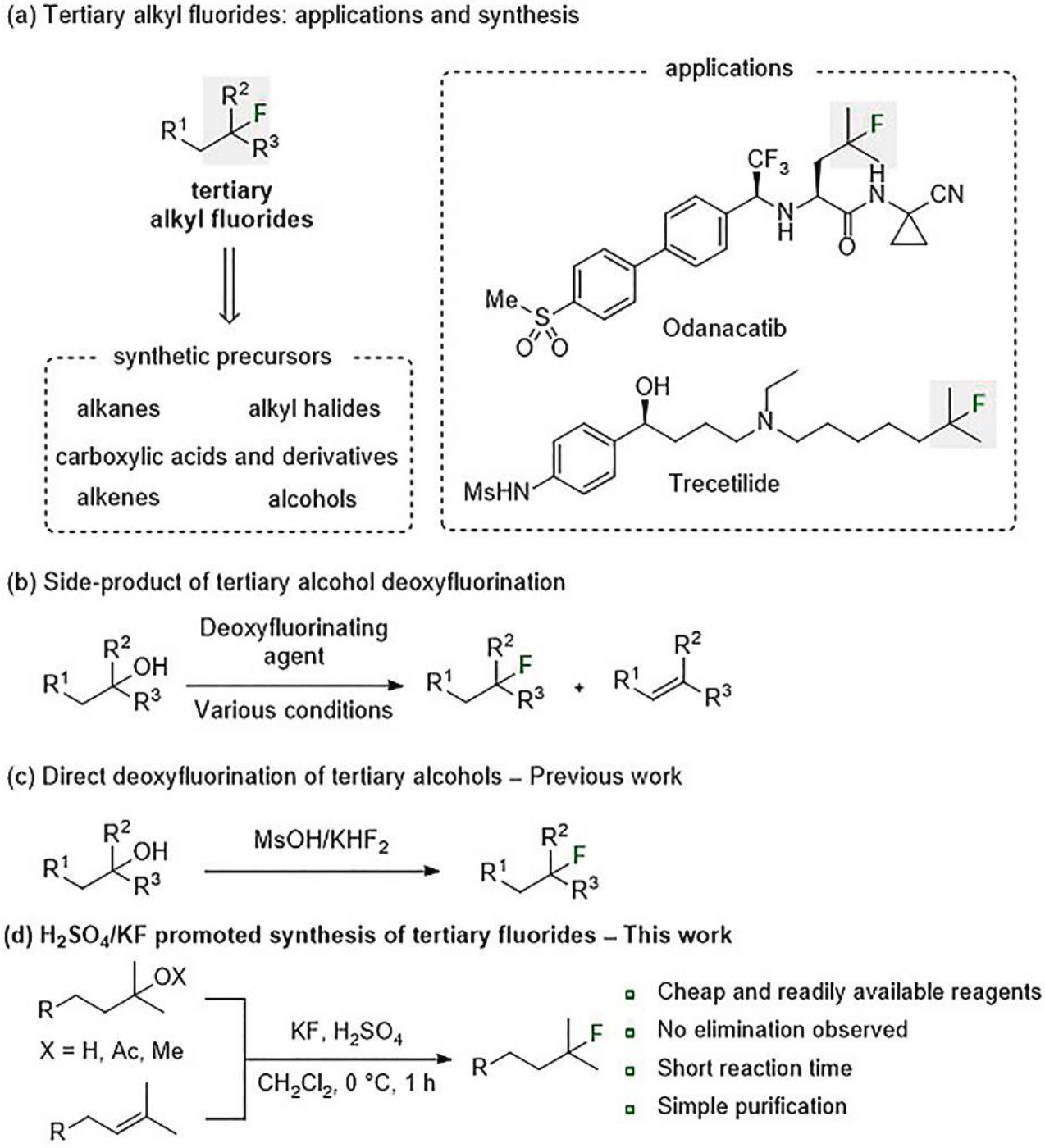

Recent advances in fluorine chemistry using flow technology

Kensuke Muta, Hiroki Soutome, Aiichiro Nagaki

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Abstract: Organofluorine compounds have proven to play an important role in pharmaceutical, agrochemical, and functional materials owing to their unique properties. However, the synthesis of these compounds is often challenging due to the difficulties in handling fluorinating agents and controlling their reactivity precisely. Recently, flow microreactor systems have attracted significant attention from chemists as a highly efficient synthetic methodology. In this review, we summarize recent advances in fluorine chemistry facilitated by continuous flow technology, highlighting its advantages and potential applications in streamlined synthesis of organofluorine compounds.

Conclusion: In this paper, we reported recent reactions in fluorine chemistry using flow reactors, including organometallic reactions, electrochemistry, photochemistry, gas-liquid reactions, heterogeneous reactions, ^{18}F-fluorination, and so on. A flow reaction system can be designed to adapt to a wide range of applications. Therefore, the safe handling of hazardous reagents has revolutionized key fluorination reactions. Furthermore, these flow processes emphasize the environmental benefits. Reduced consumption of reagent and solvent, as well as increased reaction and energy efficiency enhance the sustainability of fluorine chemistry. This aligns with the growing focus on green chemistry practices. We look forward to further breakthroughs combining these technologies in the future.

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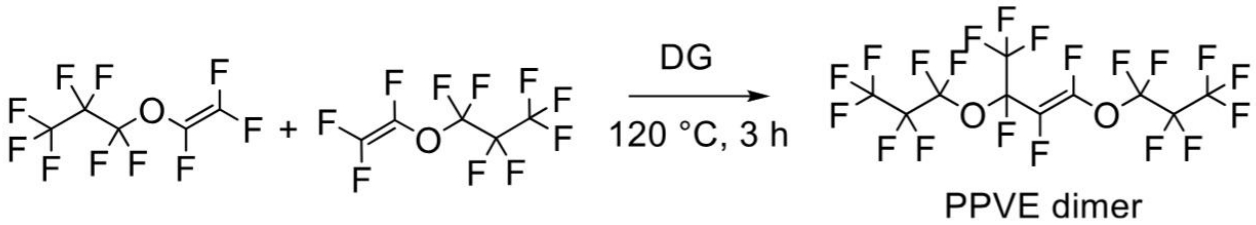

The perfluoroalkylthiolation reaction of thiols with perfluoroalkanesulfenic acids

Ye-lin Liu, Xiao-Yu Geng, Min Jiang, Jin-Tao Liu

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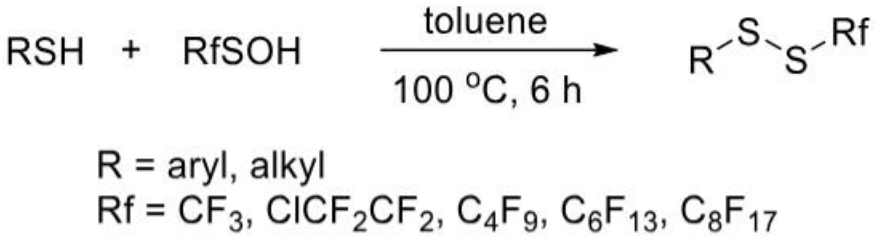

21 examples
yield up to 96%

Visible-light-induced radical difluoromethylation/cyclization of biarylvinyl azides: Facile access to CF_2H-labelled phenanthridines

Guojie Yin, Jingjing Huang, Pengfei Hu, Weijun Fu

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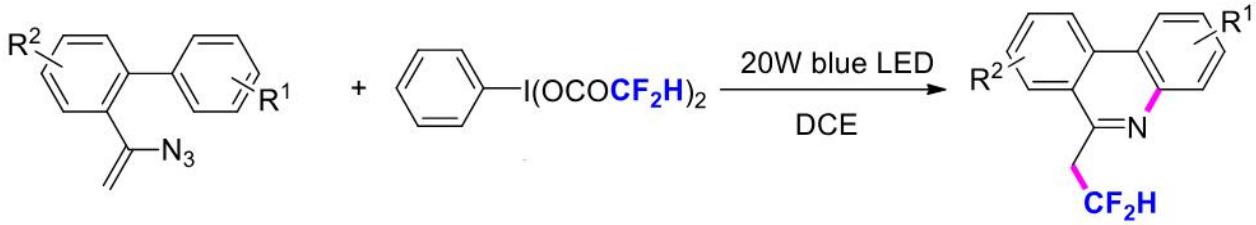

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