

**XXII INTERNATIONAL SYMPOSIUM  
„ADVANCES IN THE CHEMISTRY OF  
HETEROORGANIC COMPOUNDS”**



**Centre of Molecular  
and Macromolecular Studies  
Polish Academy of Sciences**

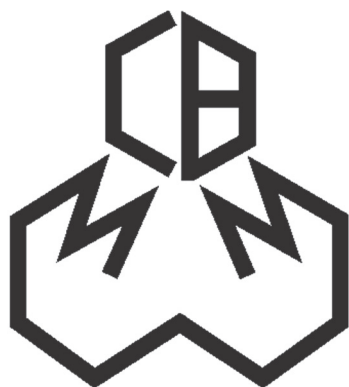


**Section  
of Heteroorganic Chemistry  
Polish Chemical Society**

**ŁÓDŹ  
November 22, 2019**

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ORGANIZED BY



Section of Heteroorganic Chemistry  
Polish Chemical Society

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Polish Academy of Sciences



in cooperation with

Faculty of Chemistry  
University of Łódź

Faculty of Mathematics  
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Jan Długosz University  
in Czestochowa

Łódź Branch  
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## Trifluoroacetylation of 2-Methyl- and 2-Ethylchromones: A Convenient Access to 2-Trifluoroacetyl Chromones

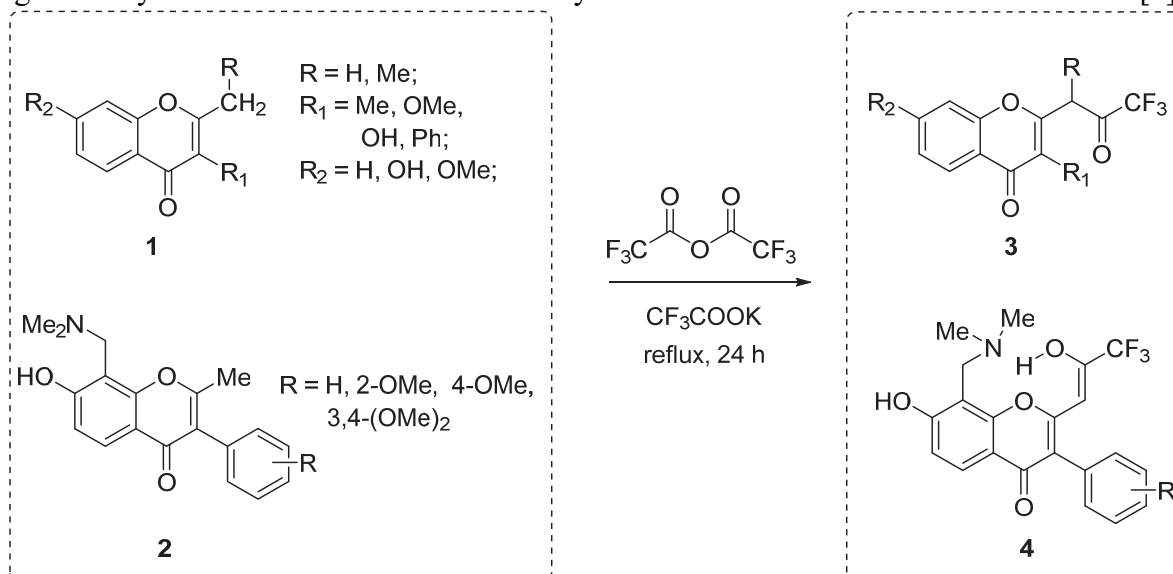
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Chromones are recognized as an important and valuable scaffold for medicinal chemistry [1], and the development of new and simple methods for the synthesis of their fluorinated analogs is a great interest for the development of new therapeutic agents. For example, the recently reported introduction of 2-trifluoromethyl group to the chromone ring significantly increased antileishmanial activity of the isoflavone derivative SJ000551674 [2].



We elaborated simple and efficient method for the synthesis of 2-(3,3,3-trifluoroacetyl) chromones and isoflavones **3**, **4**. This method involves an initial *in situ* generation of the vinyl ethers from 2-methyl- or 2-ethylchromones/isoflavones **1**, **2** and their subsequent acylation with trifluoroacetic anhydride in the presence of  $\text{CF}_3\text{COOK}$ . This pathway provides convenient access to novel fluorinated analogs of naturally occurring chromones with good yield [3]. It should be mentioned, that compounds **3** and **4** could exist as keto-enol tautomers as well as *gem*-diol form, which explain by strong electron-withdrawing effect of  $\text{CF}_3$  group.

### References

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- [3] G. P. Mrug, I. M. Biletska, S. P. Bondarenko, V. M. Sviripa, M. S. Frasinuk, *ChemistrySelect*, **2019**, *4*, 11506-11510..