September 19-20, 2019
Riga, Latvia

11th Paul Walden Symposium on Organic Chemistry

Latvian Institute of Organic Synthesis
NATIONAL DEVELOPMENT PLAN 2020
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M-24

Alyphatic chains containing arylmethyl Meldrum`s acid antioxidants with heterocyclic linker

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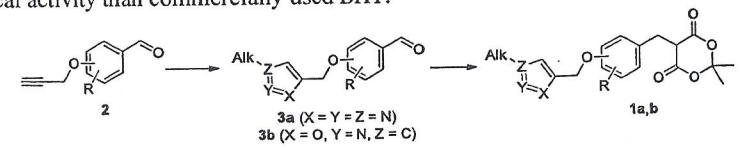
Arylmethyl Meldrum`s acids are found as excellent antioxidants both in lipophilic and hydrophilic media.[1] Although, the solubility for most of them is acceptable, some of the most active representatives are not soluble enough. The addition of long saturated or unsaturated lipophilic chains would improve their solubility in fats, thus extending their applicability in various oil-based products. Herein, we present our results on compounds **1**, where the aliphatic fragment is added through 1,2,3-triazole or isoxazole linker. A linear synthetic route was established for synthesis of target compounds **1**: the aldehyde **3** was obtained from alkyne **2** and alkyl azide or nitroalkane *via* 1,3-bipolar cycloaddition. Further, Knoevenagel condensation between aldehydes **3** and Meldrum`s acid lead to arylidene derivatives, which were converted to target compounds **1**. The antiradical activity of the target compounds **1** was determined by DPPH and GO tests. The antioxidants **1** showed more than twice higher antiradical activity than commercially used BHT.



Scheme 1. Synthesis of target compounds **1**

Supervisor: Dr. chem. I. Mierina

Acknowledgements
This work has been supported by the European Regional Development Fund within the Activity 1.1.1.2 "Post-doctoral Research Aid" of the Specific Aid Objective 1.1.1 "To increase the research and innovative capacity of scientific institutions of Latvia and the ability to attract external financing, investing in human resources and infrastructure" of the Operational Programme "Growth and Employment" (No. 1.1.1.2/VIAA/1/16/039).

References

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