28th EUROPEAN COLLOQUIUM ON HETEROCYCLIC CHEMISTRY

BOOK OF ABSTRACTS

September 2-5, 2018, Lecce (Italy)

Design, synthesis and preliminary antioxidant evaluation of new hydroxy-chromone and xanthone derivatives

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Chromone and xanthone derivatives are well-known for their outstanding antioxidant properties. In an effort to develop new antioxidants with improved efficacy, here we developed a new synthetic strategy to prepare hydroxylated chromones **3** and xanthones **4** with extended conjugated π-systems. The synthetic strategy involved the aldol-condensation of 2-methylchromones **1** with cinnamaldehyde **2** to give chromones **3**. Subsequent electrocyclization and oxidation of chromones **3** afforded xanthones **4** (Fig. 1). The scavenging activities of both derivatives **3** and **4** were addressed against both reactive oxygen species (ROS) and reactive nitrogen species (RNS). All tested compounds exhibited scavenger effects dependent on the concentration, with IC_{50} values found in the micromolar range [1].

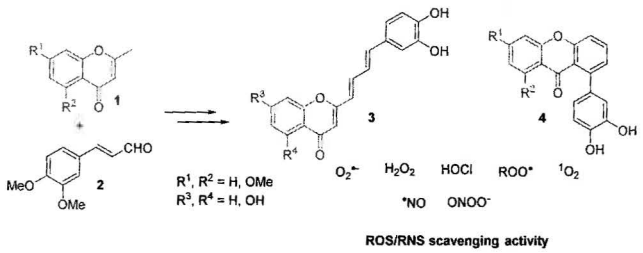

Figure 1: Synthesis of chromones **1** and xanthones **2.**

References

[1] C. Proença, H. M. T. Albuquerque, D. Ribeiro, M. Freitas, C. M. M. Santos, A. M. S. Silva, E. Fernandes; *Eur, J. Med. Chem.* **2016**, 115, 381.

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