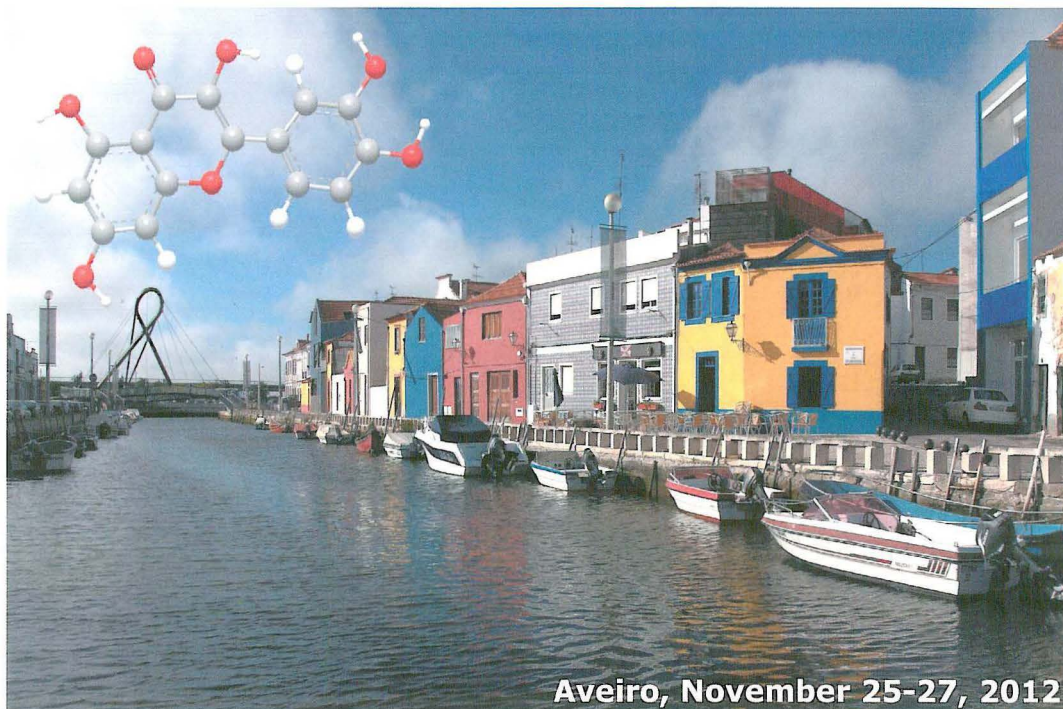


## Natural Products and related Redox Catalysts: Basic Research and Applications in Medicine and Agriculture



## **Natural Products and related Redox Catalysts: Basic Research and Applications in Medicine and Agriculture**

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## Polyhydroxylated 2-styrylchromones and -xanthenes as potent antioxidant agents

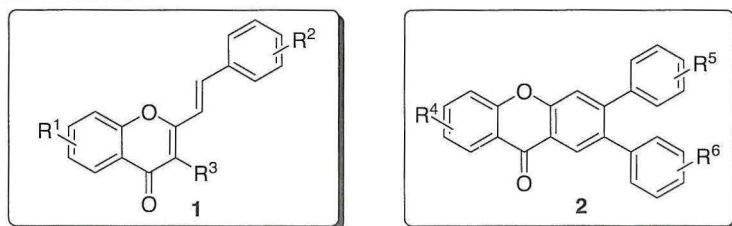
Clementina M. M. Santos,<sup>a,b</sup> Artur M. S. Silva,<sup>b</sup> Diana C. G. A. Pinto,<sup>b</sup> José A. S. Cavaleiro<sup>b</sup>

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Chromones and xanthenes are two classes of oxygenated heterocyclic compounds widely distributed in nature.<sup>[1]</sup> Both natural and synthetic derivatives have been reported to exhibit biological, pharmacological and biocidal properties.<sup>[1,2]</sup> The antioxidant capacity deserves a special mention and the structure-activity studies indicate that a substitution pattern that includes the presence of phenolic and/or catecholic moieties is highly important.<sup>[3]</sup>

Inspired by the chemical structures of natural products we developed new routes for the synthesis of the quite rare family of 2-styrylchromones **1** and challenged us to design novel bioactive derivatives.<sup>[4]</sup> The reactivity of 3-bromo-2-styrylchromones was explored for the synthesis of unique examples of 2,3-diarylxanthenes **2**.<sup>[5]</sup> Moreover, we focus our attention in the potential value of the hydroxylated 2-styrylchromones and -xanthenes in order to establish structure-antioxidant activity relationships.<sup>[6]</sup>

Highlights of our efforts towards the synthesis, spectroscopic characterization and antioxidant profile of chromones **1** and xanthenes **2** and of all the intermediates will be presented and discussed.



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*Has participated at the 2<sup>nd</sup> RedCat meeting “Natural Products and related Redox Catalysts: Basic Research and Applications in Medicine and Agriculture” and presented a plenary lecture entitled “Polyhydroxylated 2-styrylchromones and -xanthenes as potent antioxidant agents”*

*Portugal, Aveiro, 25<sup>th</sup> to 27<sup>th</sup> November 2012*

*Artur Silva*

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