

LIVRO DE RESUMOS

XVII ENCONTRO NACIONAL • LISBOA • 1 A 3 DE MARÇO DE 2000

# A Química

nas Interfaces

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## 2-STYRYLCHROMONES WITH POTENTIAL ANTIOXIDANT ACTIVITY

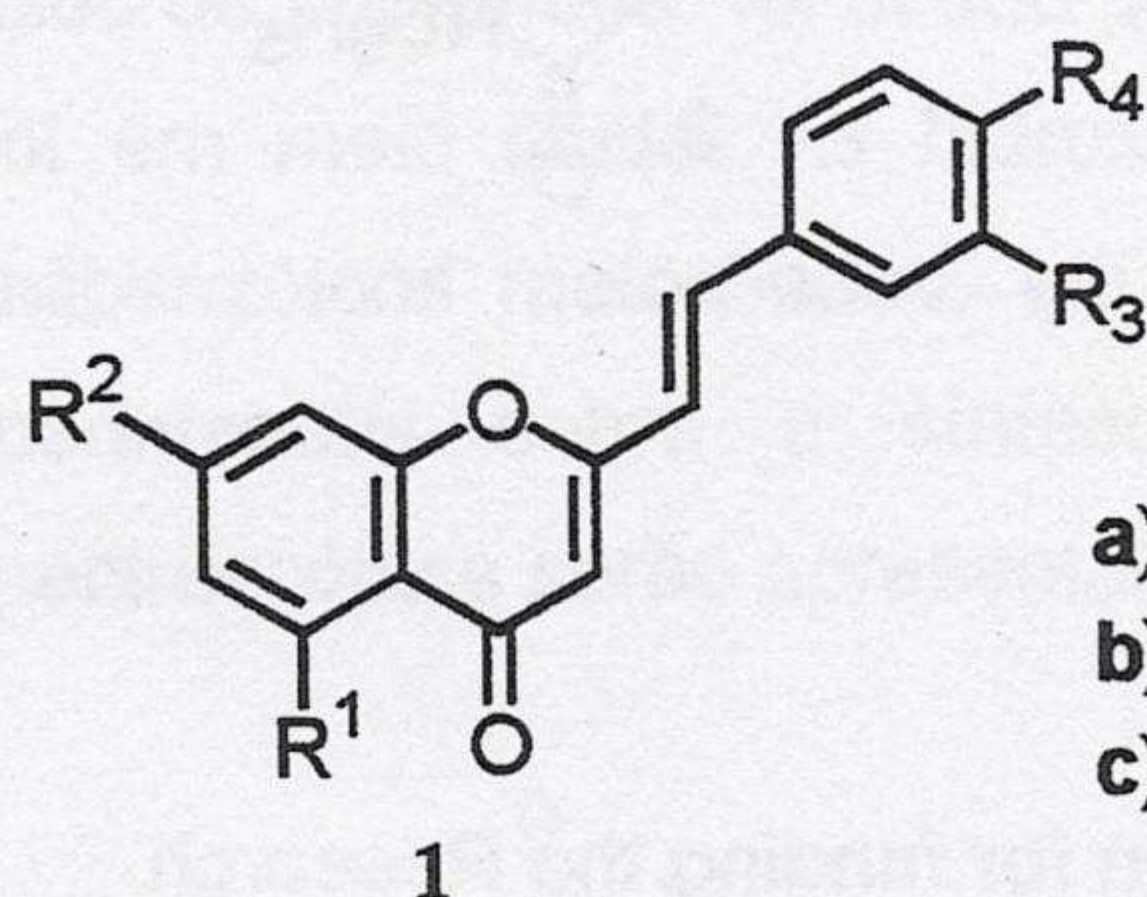
Clementina M. M. Santos, Artur M. S. Silva and José A. S. Cavaleiro

Department of Chemistry, University of Aveiro, 3810-193 Aveiro, Portugal

Currently there is a great interest in the health benefits obtained from dietary phytochemicals. The protective effects of certain diets against cardiovascular and certain cancer disease have been partly attributed to the antioxidants being present. Recent work highlights the potential health-promoting properties of the polyphenolic components of foodstuffs, namely the chromone-type compounds [1]. The chromones could act as antioxidants or by other mechanisms that contribute to the anticarcinogenic or cardioprotective properties.

The antioxidant activity of hydroxychromones can be due to their ability to scavenge radical species and to function as metal ions chelators (e.g., this is especially important in the retarding of rancidity and the extending of foodstuff shelf life).

We report here the synthesis of several new polyhydroxy-2-styrylchromones **1** starting from 2'-hydroxyacetophenones and cinnamic acid derivatives. The diversity of the substitution pattern, which includes the presence of hydroxyl substituents in certain positions of their skeleton (5,7,3' and 4') and a 2,3-double bond, was taken into consideration having in mind that further antioxidant structure/activity studies will be carried out. Experimental procedures and spectroscopic characterisations of 2-styrylchromones **1** and of all the corresponding intermediates will be presented and discussed.



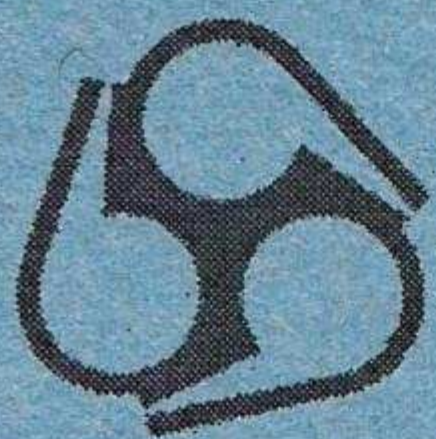
- a)  $R^1 = \text{OH}; R^2, R^3, R^4 = \text{H}$   
 b)  $R^1, R^4 = \text{OH}; R^2, R^3 = \text{H}$   
 c)  $R^1, R^3, R^4 = \text{OH}; R^2 = \text{H}$

- d)  $R^2 = \text{OH}; R^1, R^3, R^4 = \text{H}$   
 e)  $R^2, R^4 = \text{OH}; R^1, R^3 = \text{H}$   
 f)  $R^2, R^3, R^4 = \text{OH}; R^1 = \text{H}$   
 g)  $R^1 = R^2 = \text{OH}; R^3, R^4 = \text{H}$   
 h)  $R^1, R^2, R^4 = \text{OH}; R^3 = \text{H}$   
 i)  $R^1, R^2, R^3, R^4 = \text{OH}$

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- [1] a) W. Bors, W. Heller, C. Michel, K. Stettmaier, in *Handbook of Antioxidants*, Ed. E. Cadenas and L. Packer, Marcel Dekker, New York, 1996, p. 408. b) C. A. Rice-Evans, N. J. Miller, G. Paganga, *Free Radic. Biol. Med.*, 1996, 20, 933. c) C. A. Rice-Evans and L. Packer, in *Flavonoids in Health and Disease*, Marcel Dekker, New York, 1997.

## XVII Encontro Nacional



SOCIEDADE PORTUGUESA DE QUÍMICA

A Organização confere o presente

## Certificado de Participação

a *Clementina Santos*, relativo à participação no XVII Encontro Nacional da SPQ sob o tema "A Química nas Interfaces" realizado nos dias 1, 2 e 3 de Março de 2000, no Instituto Superior Técnico em Lisboa.

Lisboa, 1 de Março de 2000

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