SYNTHESIS OF A NEW TETRA-HYDROXY-2-STYRYLCHROMONE

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Chromones are one of the most abundant classes of naturally occurring oxygen heterocycles [1]. The significance of these compounds is due not only to the important biological functions they play in nature, but also because certain derivatives have shown considerable pharmacological, biocidal and antioxidant activities, some of them are marketed as drugs [2]. 2-Phenylchromones, also known as flavones, are the major constituents of this class of compounds and have a wide range of biological activities. 2-Styrylchromones, a small group of naturally occurring chromones (only two natural derivatives have been found), have shown potent in vitro cytotoxicity against human leukaemia cells [3]. Certain synthetic 2-styrylchromone derivatives possess potent antitumor, anti-allergic and antioxidant activities. Recently we found that hydroxylated derivatives of 2-styrylchromone show potent antiradical activity and act as xanthine oxidase inhibitors [4].

Following our work on the synthesis of compounds with antioxidant activity, we are synthesizing some new 3',4'-dihydroxy-2-styrylchromones. In this communication we report the synthesis of the new tetra-hydroxylated 2-styrylchromone II, using 2'-hydroxy-3',4'-dimethoxyacetophenone and 3,4-dibenzylxoycinnamic acid as starting materials. This synthesis has been carried out by the Baker-Venkataraman method. The last step of the synthesis was the removal of the protecting groups of I leading to the expected 2-(3',4'-dihydroxy styryl)-7,8-dihydroxychromone (II).

Experimental details and structural characterisation of the new compounds will be presented and discussed.

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