SYNTHESIS AND PROPERTIES OF SOME NEW SULFUR DERIVATIVES OF CHROMONE AND 4-QUINOLONE

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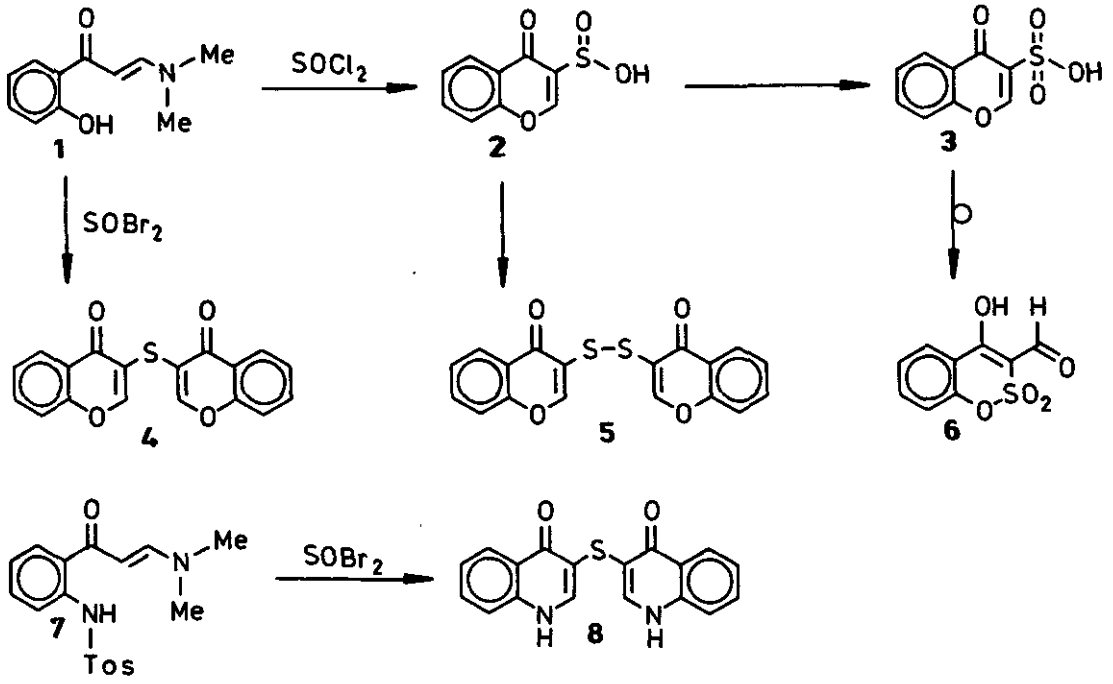
The enamino ketone **1** and thionyl chloride react smoothly, without the addition of base, to give the crystalline chromone-3-sulfinic acid **2**. Oxidation of **2** with m-chloroperoxybenzoic acid in dioxane leads to the sulfonic acid **3**. The latter undergoes a hitherto unknown rearrangement via the sulfonyl chloride to give the isomeric 1,2-benzoxathiin aldehyde **6**.



The disulfide **5** is conveniently obtained by treatment of compound **2** with acetic acid/acetic anhydride, followed by hydrolysis of the resulting thiosulfonate with DMSO/water. The reaction of thionyl bromide with **1** or **7** produces a quite different result. Here no sulfinic acid can be observed. The formation of the thioethers **4** and **8** can best be explained by C acylation of two molecules enamino ketone, followed by ring closure. In addition some more reactions with **2**, **4** and **5** are reported.