

Synthesis and Structure of 1-Substituted Benzopyrano-[4',3'-c]benzo[3'',4''-f]-2,8-dioxabicyclo[3.3.1]nonane

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The base catalyzed condensation reaction between 4-hydroxycoumarin and 3-acetylcoumarin (3-benzoylcoumarin) in water at reflux led to the formation of 1-methyl (1-phenyl)-benzopyrano[4',3'-c]-benzo[3'',4''-f]-2,8-dioxabicyclo[3.3.1]nonane (**2a, b**) as final products. When 4-hydroxycoumarin and 3-acetylcoumarin reacted in a glacial acetic acid in the presence of potassium acetate the final product was 7-[3-acetyl-2-oxo-3,4-dihydro-2*H*-[1]benzopyran-4-yl]methyl-6*H*,14*H*,14*bH*-bis-([1]benzopyrano)[4,3-*b*:4',3'-*d*]pyran-6,14-dione (**4**). 4-Hydroxycoumarin and 4-(5-bromo-2-hydroxyphenyl)-3-buten-2-one were condensed in water at reflux and 1-methylcoumarino-[4',3'-c]-bromobenzo[3'',4''-f]-2,8-dioxabicyclo[3.3.1]nonane was a final product (**3**).

Key words: 4-Hydroxycoumarin, 3-Acetylcoumarin, Dioxabicyclononanes, Benzopyranopyrandione