3-(Dichloroacetyl)chromone; A New Building Block for the Synthesis of Formylated Purine Isosteres.

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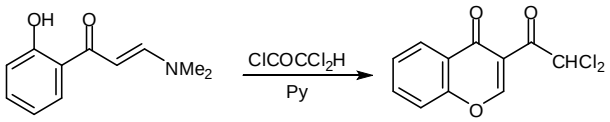
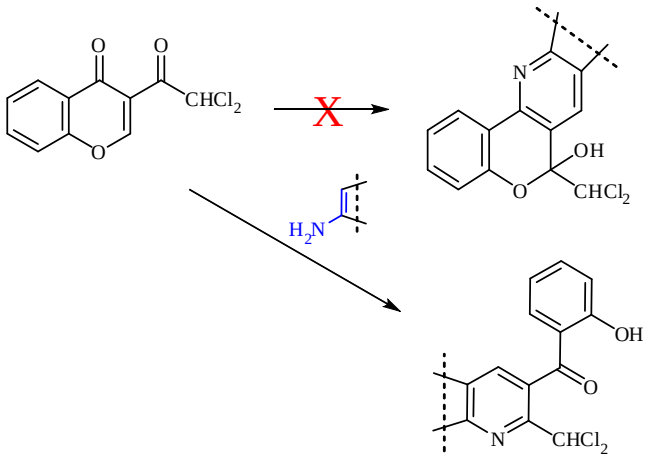
The first synthesis of 3-(dichloroacetyl)chromone from 3-(dimethylamino)-1-(2-hydroxyphenyl)propen-1-one and dichloroacetyl chloride is described.



The synthetic utility of this compound with dichloroacetyl group located at the 3-position primarily derives from the reactivity of the three electrondeficient centers, i.e. carbon atoms C2 and C4 of the chromone moiety and the substituent attached to carbon C3. Reactions of 3-substituted chromones with nucleophiles, which possess several reactive centers, can lead to several products and are, therefore, of interest from the point of view of their chemo- and regioselectivity. The reaction of electron-rich aminoheterocycles with 3-(dichloroacetyl)chromone, which can be considered as a masked 1,3-C,C-dielectrophile provides a set of diverse fused pyridines bearing the $CHCl_2$-substituent at the α-position of the pyridine core.



Subsequent hydrolysis (MeOH, KOH) leads to the formation of annulated α-(formyl)pyridines. As a result, the one-pot cyclocondensation reaction of this new building block with electron-rich aminoheterocycles afforded a variety of fused α-(formyl)pyridines.

1. Mkrtchyan, S.; Iaroshenko, V. O.; Dudkin, S.; Langer, P. *Org. Biomol. Chem.*, **2010**, *8*, 5280.
2.Iaroshenko, V. O.; Mkrtchyan, S.; Ghazaryan, G.; Hakobyan, A.; Ghochikyan, T.V., Langer, P. *Synthesis* **2011**, 3, 0469–0479.