**Catalyst-Free Synthesis of Novel 6-phenyl-6*H*-chromeno [4, 3-*b*] quinoline derivatives at RT: Their further structure evaluation leads to potential anti-cancer agents.**

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**Abstract:** A variety of novel quinoline derivatives (6-phenyl-6*H*-chromeno [4,3-*b*] quinoline) have been prepared by using 4-chloro-2-phenyl-2*H*-chromene-3-carbaldehyde and various substituted of aromatic anilines as starting materials. This is the first example on the preparation of quinolines through this novel method. And the resulting quinoline derivatives further structure evolution is leads to an anti cancer agents. Our preliminary data of model compound (7i) on three cancer cell lines (B16F10, MCF7 and A549) suggested decent anticancer activity on two cell lines (B16F10 and MCF7) with IC50 values of 14.8 and 21.32 µM, respectively. This method is operationally simple and works with a diverse range of substrates.

**Keywords:** Quinolines, Chromene-3-carbaldehyde, Aromatic Anilines, Catalyst-Free.



Synthesis of6-phenyl-6*H*-chromeno [4,3-*b*] quinolone.



**Figure 1:** (**A**) Combination structure of Flavanone & Quinoline, (**B**) as potential anticancer agents.