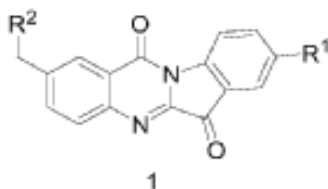


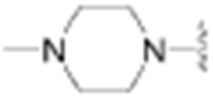
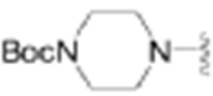
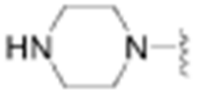
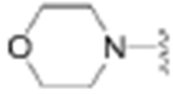
Claims

1. A compound, which is characterized in that said compound has the general structure as shown in Formula 1 below:



wherein

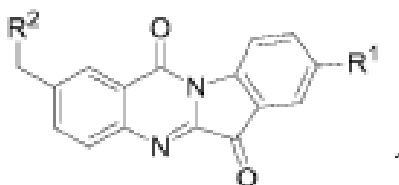
R¹ corresponds to hydrogen or fluorine;

R² corresponds to , , , , or dialkyl substituted amine;

wherein, substitution refers to cases in which one or more hydrogen atoms present on a given group (preferably hydrogen atoms present on a nitrogen atom) are substituted by a substituent selected from the following set: C1 - C4 alkyl groups, C1 - C4 haloalkyl groups, amino-protecting groups (preferably t-butoxycarbonyl) and halogens.

2. The compound as claimed in claim 1, characterized in that R¹ is F.

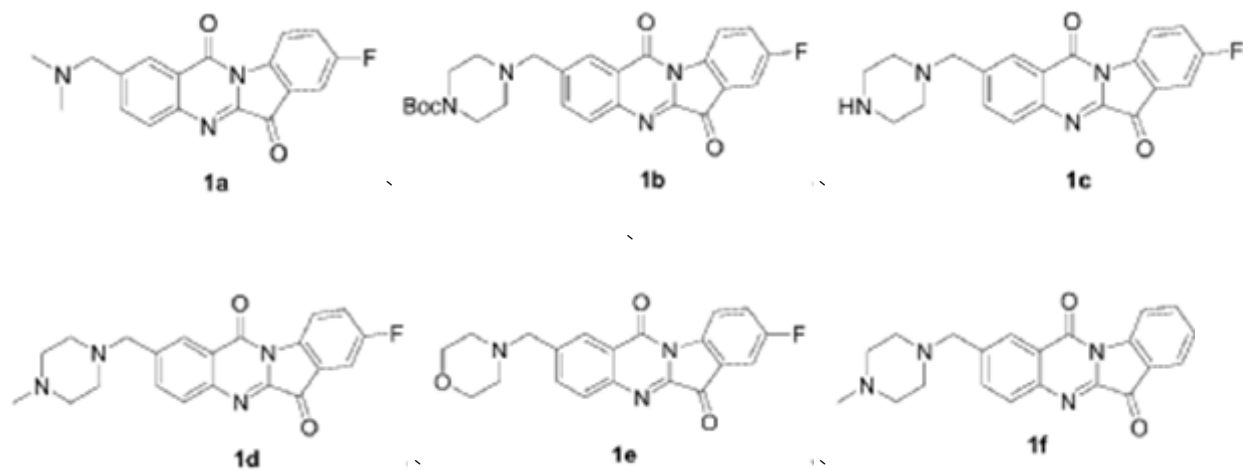
3. A compound, characterized in that the general structure of said compound is as given below:



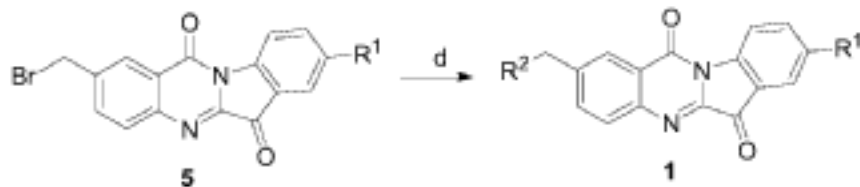
R¹ = H or F



4. The compound as claimed in claim 1 or 3, characterized in that said compound is a compound selected from the following set:

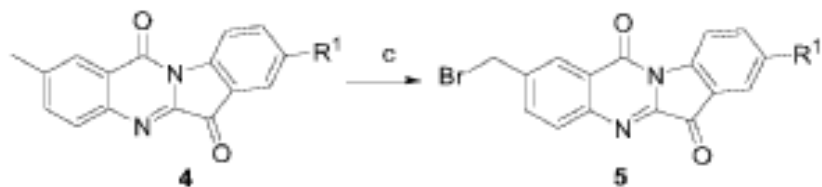


5. A method for the preparation of the compound as claimed in claim 1 or 3, characterized in that it includes the following steps:



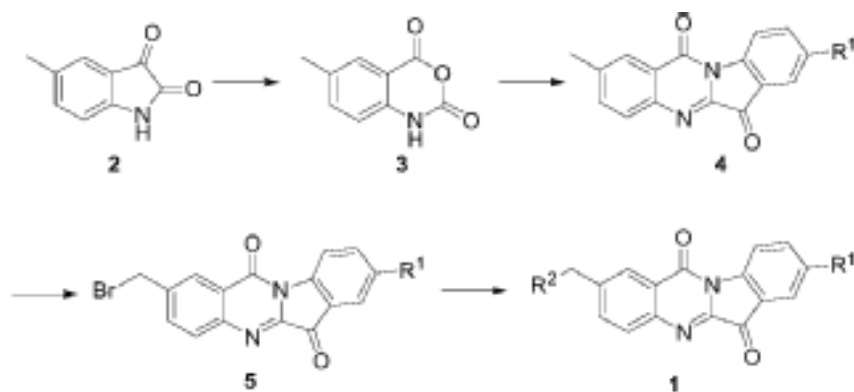
(d) reacting the compound given in Formula 5 (2-bromomethyl-tryptanthrin) with R^2H in DMF in the presence of triethylamine to obtain the compound shown in Formula 1, where R^1 and R^2 are as defined above.

6. The method as claimed in claim 5, characterized in that said method further includes a Step (c) prior to Step (d):



(c) reacting the compound given in Formula 4 with a bromination agent in dichloromethane to obtain the compound given in Formula 5; where the bromination agent used is preferably NBS.

7. The method for the preparation of a compound as claimed in claim 3, characterized in that the synthesis route is as follows:



$R^1 = \text{H or F};$

R^2 is selected from the following set:



The specific steps are as follows:

(1) Synthesis of Methylisatoic Anhydride (3)

Suspending 5-methylisatin in dry dichloromethane and adding meta-chloroperoxybenzoic acid batchwise at 0 °C; then stirring for 1.5 - 2.5 hours at room temperature; confirming the reaction is complete via TLC; filtering off the white solid produced in the reaction and washing three times with ethyl acetate to

obtain 5-methylisatoic anhydride; wherein the molar ratio of 5-methylisatin and meta-chloroperoxybenzoic acid is (0.5 - 1) : 1;

(2) Synthesis of 2-Methyltryptanthrin (4)

suspending a mixture of methylisatoic anhydride, 5-fluoroisatin and triethylamine in dry toluene; then heating for 3.5 - 4.5 hours at a temperature of 100 - 120 °C and distilling off the solvent under reduced pressure; dissolving the resulting yellow solid in dichloromethane and adding ethyl acetate, then filtering the resulting yellow solid and washing with ethyl acetate three times to obtain 2-methyltryptanthrin; wherein the molar ratio of methylisatoic anhydride, 5-fluoroisatin and triethylamine is (0.2 - 0.5) : (0.2 - 0.5) : 1;

(3) Synthesis of 2-bromomethyl-tryptanthrin (5)

dissolving the 2-methyltryptanthrin obtained in Step (2) in dry dichloromethane at 75 - 85 °C under the protection of nitrogen gas, then adding in a mixture of N-bromosuccinimide (NBS) and azobisisobutyronitrile (AIBN) batchwise; heating the reaction solution at 75 °C for 15 - 17 hours and confirming that the reaction is completed via TLC; cooling the reaction solution to room temperature, washing the reaction solution with a salt solution and drying over anhydrous sodium sulfate; concentrating the organic phase to obtain a yellow product wherein the molar ratio of 2-methyltryptanthrin, NBS and AIBN is 1 : 1 : (0.005 - 0.02); and

(4) Synthesis of the compound (1)

Stirring together 2-bromomethyl-tryptanthrin, an aliphatic amine and triethylamine at room temperature in dry dimethylformamide (DMF) for 1.5 - 2.5 hours, confirming the reaction is complete via TLC, adding 50 ml of water and performing three sequential extractions using 10 ml of dichloromethane; followed by

subjecting the entire volume of dichloromethane obtained to three washes with water and then drying over anhydrous sodium sulfate; separating the concentrated yellow solid obtained using silica gel to obtain a yellow-colored compound (1); wherein the molar ratio of 2-bromomethyl-tryptanthrin, the aliphatic amine and triethylamine is 1 : (1 - 2) : (2 - 5).

8. A pharmaceutical composition, characterized in that it includes: (i) the compound given in Formula 1 as claimed in claim 1 or 3 or a pharmaceutically acceptable salt thereof; as well as (ii) a pharmaceutically acceptable carrier.