

Synthesis of 3-[(4-{3-[(2-oxo-1,2-dihydro-3H-indol-3-yliden)amino]phenoxy}phenyl)imino]-1H-indol-2-one as a novel Schiff base

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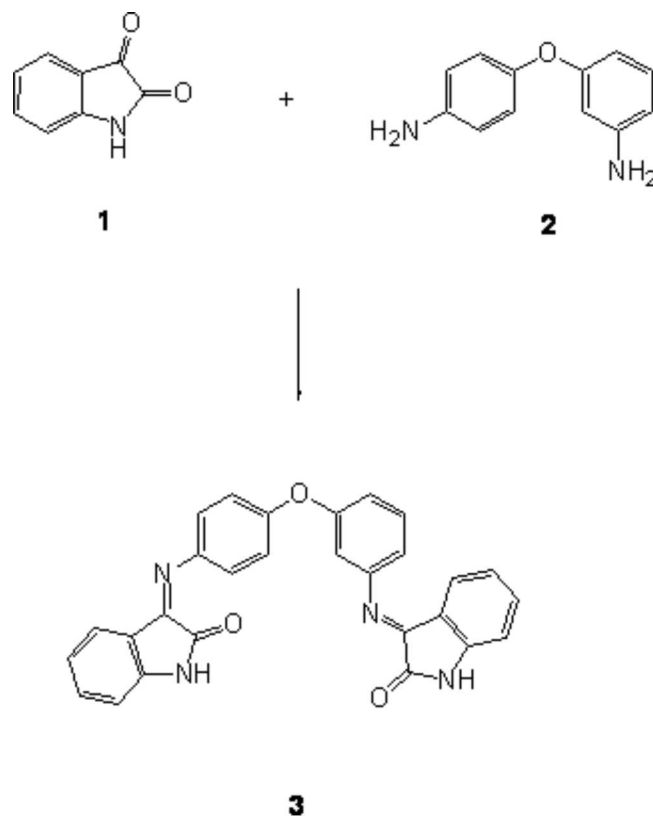
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Isatin is an endogenous compound isolated in 1988 [1] and reported to possess a wide range of central nervous system activities [2, 3]. Isatin is the biologically active chemical produced by an *alteromonas* sp. strain inhabiting the surface of embryos of the cardian shrimp *palaemon macrodactylus*, which protects them from the pathogenic fungus *lagenidium callinectes* [4]. Also isatin is the major MAO B (endogenous monoamine oxidase) inhibitory component of tribulin [5]. In some tissues and body fluids, isatin does account for the MAO B-inhibitory component, e.g. in cerebrospinal fluid. Schiff bases and Mannich bases of isatin were reported to possess antibacterial [6-8], antifungal [9-11], antiviral [12-14], anti HIV [15-17], antiprotozoal [18,19]. Another area of application of these Schiff bases is analytical chemistry where some of these compounds are used as ligand in complexometry topic [20]. In view of these facts we decided to synthesize a new Schiff base from isatin as potential biological and complexometric agent. It's biological activities and analytical works are under study.



Isatin **1** (2.00 g, 13.6 mmol) and 3,4'-diaminodiphenyl ether **2** (1.36 g, 6.8 mmol) were dissolved in 35 mL of warm ethanol containing 0.45 mL of acetic acid. The reaction mixture was refluxed for 18 h and set aside. The resultant solid was filtered and washed with ethanol. The pure Schiff base **3** was obtained upon

recrystallization from ethanol (1.93 g, 91.5%).

Melting point: >260 °C

IR (KBr, cm^{-1}): 1620.0 (C=N); 1733.9 (C=O); 3028.0-3581.6 (N-H).

^1H -NMR (250MHz, DMSO): δ = 6.16-7.77 (Ar-H, m, 16H); 10.94; 11.04 (N-H, s, 1H).

^{13}C -NMR (62.9 MHz, DMSO): δ = 111.28; 111.98; 112.93; 115.97; 117.36; 118.60; 122.30; 122.76; 123.46; 124.29; 124.47; 125.98; 130.10; 131.26; 132.76; 132.88; 135.11; 135.60; 147.51; 153.49; 154.00; 155.42; 163.67; 192.86.

MS (m/z): 458,331, 330, 329, 302, 301, 286, 200, 194, 151, 150, 139, 133, 132, 128, 65, 54, 53, 52, 50, 44.

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