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(57) Abstract :

The present invention relates to the synthesis of novel isatin derivatives with enhanced anti-inflammatory activity. A series of isatin derivatives were synthesized through a multi-step process involving the reaction of isatin with substituted anilines, followed by chloroacetylation and condensation with phenylaminoacetate derivatives. The synthesized compounds were characterized by physicochemical techniques such as melting point determination, thin-layer chromatography (TLC), infrared (IR) spectroscopy, and proton nuclear magnetic resonance (<sup>1</sup>H NMR) spectroscopy. The compounds showed promising anti-inflammatory activity, with some derivatives exhibiting comparable potency to the standard drug indomethacin in Carrageenan-induced rat paw edema models. This invention offers a simple, cost-effective method for producing isatin-based derivatives with potential therapeutic applications in the treatment of inflammatory conditions

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