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## (57) Abstract :

The present invention relates to the preparation of synthetic derivatives of Benzimidazole and evaluation for their anti-inflammatory activity. The main objective of this research work was to combine 2-mercaptobenzimidazole & aryl group to prepare more potent anti-inflammatory & analgesic derivatives. Benzimidazole derivatives were prepared by condensation of o-phenylenediamine with substituted acids in presence of acetic acid at 1000 C. After synthesis of the compounds, further studies were conducted. Study includes solubility, Rf value and melting point. The structures of the synthesized compounds were confirmed by IR, <sup>1</sup>H NMR spectral analysis. The prepared derivatives were evaluated for anti-inflammatory activity using Carrageenan-induced paw oedema model. Results revealed that the compound 2a, 2b showed significant anti-inflammatory activity and analgesic activity.

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