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Design and Synthesis of Novel Benzamides as Non-Ulcerogenic Anti-Inflammatory Agents

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Abstract : In an endeavor to find a new class of anti-inflammatory agents, a series of novel benzamides (ab1-ab16) were synthesized by utilizing some arylideneoxazolones (az1-az4) having 2-acetyloxyphenyl substitution on their second position. Structures of these synthesized compounds were confirmed by IR, 1H-NMR, 13C NMR, and HRMS. Among the tested benzamide compounds 3ab1, 3ab2, 3ab11, and 3ab16 showed promising anti-inflammatory activity with lessened propensity to cause gastro-intestinal hypermotility and ulceration when compared with standard Indomethacin. Virtual screening was performed by docking the designed compounds into the ATP binding site of COX-2 receptor to predict if these compounds have analogous binding mode to the COX-2 inhibitor.

Keywords : benzamides, anti-inflammatory, gastro-intestinal hypermotility, ulcerogenic activity, docking
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