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Synthesisand Anti-inflammatory Activities of some Pyrimidine Analogs derived from 1,3-diarylpropenones (Chalcones)

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Abstract: Claisen–Schmidt condensation of substituted aryl ketones (**1**) and benzaldehydes(**2**) in ethanol produced several 1,3-diarylpropenones (**3a-j**; 70–90%) which on further treatment with urea/thiourea in presence of ethanolic sodium hydroxide solution producedheterocyclic analogs of pyrimidine(**4a-j** and **5a-j**).All the synthesized compounds were screened for*in vivo* anti-inflammatory activity by using the carageenan-induced paw edema method in rats. The substituted pyrimidine derivatives **4e**, **4d** and **4b** showed remarkable reduction in inflammation. In addition, the structures of all the newly synthesized compounds were elucidated using ^{1}H NMR and ^{13}C NMR.

Keywords: Anti-inflammatory activity, 1,3-diarylpropenones, Pyrimidine, Claisen–Schmidt condensation

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