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Design, synthesis and evaluation of anti-inflammatory, analgesic and antibacterial activity of 2, 4, 6-trisubstituted quinazoline derivatives

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Abstract. We described here the synthesis and biological evaluation of a series of 2, 4, 6-trisubstituted quinazoline derivatives as potential anti-inflammatory, analgesic and antibacterial agents. The synthesized compounds were characterized by FTIR, ^{1}H NMR and mass spectroscopy analysis. We found that the compounds 6b, 6e, 6g, 6h and 6j showed better anti-inflammatory activity than indomethacin. Compounds 6b, 6e, 6h, 6j and 6l were found to exhibit appreciable analgesic activity, and 6b, 6g and 6k showed good antibacterial activity against Gram (+) bacteria: *B. subtilis*, *S. aureus*, *S. epidermis*, and Gram (-) bacteria: *E. coli*, *P. aeruginosa* and *K. pneumoniae*. Compound 6b showed overall better anti-inflammatory, analgesic and antibacterial activity among the synthesized compounds. The results of the present study could be helpful for the designing of effective anti-inflammatory, analgesic and antibacterial agents.

Keywords: 2, 4, 6-trisubstituted quinazolines; anti-inflammatory; analgesic; antibacterial.

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