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Title: Synthesis, physicochemical properties, antimicrobial and antioxidant studies of pyrazoline derivatives bearing a pyridyl moiety

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Abstract

A series of new pyrazoline compounds bearing a pyridyl moiety (4a–i) were synthesized by condensing appropriate chalcones with hydrazine hydrate and tested for antimicrobial and antioxidant activities. According to in vitro antimicrobial activity against Bacillus subtilis, Staphylococcus epidermidis, Proteus vulgaris, Pseudomonas aeruginosa, Aspergillus niger and Penicillium chrysogenum and antioxidant activity by DPPH method, the compounds 4a, 4d, 4i and 4e, 4f, 4h showed maximum antimicrobial and antioxidant activities, respectively. Physicochemical properties and Lipinski's 'Rule of Five' analysis predicted higher intrinsic quality of the synthesized compounds and revealed that these compounds have good bioavailability and druglikeness properties.

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