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Synthesis, characterization and antimicrobial activity of novel 3-ferrocenyl-2-pyrazolyl-1,3-thiazolidin-4-ones

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Abstract: A new series of ferrocene-containing thiazolylpyrazoles – 3-ferrocenyl-2-pyrazolyl-1,3-thiazolidin-4-ones have been synthesized using convenient one-pot three component condensation. Twelve newly synthesized compounds were fully characterized by spectroscopic (IR and NMR) and electrochemical methods (cyclic voltammetry). Single crystal X-ray structure analysis were undertaken on two compounds. The twelve novel ferrocene derivatives were also evaluated for antimicrobial activity. The results showed moderate antimicrobial activity of synthesized compounds with better effect on *Candida albicans* and Gram-negative bacteria than Gram-positive bacterial strains.

Keywords: Ferrocene, 1,3-Thiazolidin-4-one, Pyrazole, Crystal structure, Electrochemistry, Antimicrobial activity

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