



सौरभभांडारा
CSIR
भारत का नवाचार इंजन
The Innovation Engine of India

Indian Journal of Chemistry
Vol. 64, August 2025, pp. 787-798
DOI: 10.56042/ijc.v64i8.14374

National Institute of Science Communication and Policy Research
NISCP
सीएसआईआर-निसिप्र

Synthesis, *in vitro* antibacterial, antifungal biological activities along with *in silico* molecular docking studies of substituted 2-[4-(3-oxo-[1,2,4] triazolo [4,3-a]pyridin-2-ylmethyl)-[1,2,3]triazol-1-yl]-N-(4-phenyl-thiazol-2-yl)-acetamide

K Joshi^a, S Maheta^a, A Mahida^a & G G Dubal^{*b}

^a Department of Chemistry, D K V Arts and Science College, Jamnagar 361 008, Gujarat, India

^b Department of Chemistry, School of Science, R K University, Rajkot 360 020, Gujarat, India

E-mail: dr.gaurangdubal@gmail.com

Received 14 October 2024; accepted (revised) 31 July 2025

A new series of substituted 2-[4-(3-oxo-[1,2,4]-triazolo-[4,3-a]pyridin-2-ylmethyl)-[1,2,3]triazol-1-yl]-N-(4-phenyl-thiazol-2-yl)-acetamide compounds have been synthesized and evaluated for antimicrobial activity. Antibacterial activity has been performed against *S. aureus* and *S. pyogenus* (Gram-positive) and, *E. coli* and *P. aeruginosa* (Gram-negative) bacteria. Antifungal activity was performed against *C. albicans*, *A. niger* and *A. clavatus*. In the results, selected compounds exhibit significant antibacterial activity in comparison to others. MIC has been compared to currently marketed drugs also.

Keywords: 1,2,4-Triazole, Antimicrobial, Antifungal, MIC, Molecular docking