IN SILICO, ANTIMICROBIAL AND CYTOTOXIC STUDIES OF CARBOXAMIDE DERIVATIVES AND THEIR GREEN SYNTHESIS

Swathi Thumula[a,b], Venkatesan Srinivasadesikan[b]*, Ravi K. Kottalanka[b] and Ramu Saminen[ic]

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ABSTRACT

5-Chloro-*N*-((2-oxo-3-(4-(3-oxomorpholino) phenyl) oxazolidin-5-yl) methyl) thiophene-2-carboxamide derivatives were synthesized in a simple and efficient approach using 2-(oxiran-2-ylmethyl) isoindoline-1, 3-dione, 4-(4-aminophenyl) morpholin-3-one, and 5-chlorothiophene-2-carbonyl chloride by stepwise synthesis. Three compounds **3**, **4** and **7** were designed, prepared, and screened for anticancer activity against HeLa, MCF- 7, A-549 and K-562 and antibacterial activities against Gram +ve and Gram -ve strains. The carboxamide moieties proved to be capable for the development of new anticancer and anti-bacterial agents. Docking studies carried out on target receptors caspase-3 HeLa cell line and *Staphylococcus aureus* DNA-Gyrase also supported the anticancer and antimicrobial activity of compounds **3**, **4** and **7**.