

Design and synthesis of some new β -lactam and thiazolidinone derivatives

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ABSTRACT Microbial infections and antimicrobial resistance pose significant global health challenges. This study systematically designed and synthesized new β -lactam and thiazolidinone derivatives targeting potential therapeutic applications. Utilizing a common precursor intermediate (**18a-j**), we successfully synthesized two series of compounds: β -lactams (**16a-j**) and thiazolidinones (**17a-j**) through strategic cyclization reactions of intermediates (**18a-j**) with 2-acetyl chloride and thioglycolic acid, respectively. This synthetic research work may contribute to expanding molecular strategies for addressing antimicrobial resistance by exploring innovative pharmacophore designs.

KEYWORDS Antimicrobials, Azetidinone, β -lactam, Synthesis, Thiazolidinone.

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