

Synthesis, Characterization of New Azetidinone Derivatives and Evaluation of Their Antimicrobial Activity

Abstract

In the present study new azetidinone derivatives containing sulfa drug moiety have been prepared by cyclocondensation of the Schiff bases derived from sulfa drugs with chloroacetyl chloride in the presence of triethylamine. The Schiff bases are prepared by the condensation reaction of the sulfa drug (sulfadiazine and sulfanilamide) with the 5-nitro-2-furancarboxyaldehyde. The structure of the azetidinons were confirmed by elemental analysis (C. H. N.) and FT-IR, ¹H-NMR spectroscopy. The compounds were screened for their antimicrobial activity against *Staphylococcus aureus*, *Escherichia coli*, *Aspergillus niger* and *Aspergillus flavus*. The compounds exhibited good antimicrobial activity in comparison with standard drugs.