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Synthesis of Novel Schiff Bases by Microwave Irradiation and Their in vitro Antibacterial Activity

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Abstract

A series of thiophene-3-carbonitrile containing schiff bases were synthesized, characterized by the reaction of 2-amino-4,5,6,7-tetrahydro-benzo[b] thiophene-3-carbonitrile and corresponding active aldehyde under microwave irradiation and screened for their antibacterial activities. The structure of synthesized compounds were established by spectroscopic (FT-IR, H-1 NMR, C-13 NMR, Mass) and elemental analyses. The antibacterial activity of these compounds were first tested in vitro by the disk diffusion assay against two Gram-positive and two Gram-negative bacteria and then the minimum inhibitory concentration was determined with the reference of standard drug chloramphenicol. The results showed that compound 6 is better at inhibiting the growth as compared to chloramphenicol against both types of the bacteria (gram-positive and gram-negative).

Keywords

Author Keywords: Schiff bases; Microwave; Chloramphenicol; Antibacterial activity

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