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### Microwave assisted synthesis and antimicrobial activity of 3-chloro-4-methyl-1-(substituted phenyl)-4-(10H-phenothiazin-8-yl) azetidin-2-one

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**Abstract :** A new synthesis of 3-chloro-4-methyl-1-(substituted phenyl)-4-(10h-phenothiazin-8-yl) azetidin-2-one (**III a-h**) were synthesized by reacting different phenothiazine Schiff's bases (**IIa-h**) with 2-Chloroacetylchloride under microwave irradiation. The newly synthesized compounds were characterized by IR, <sup>1</sup>H NMR, mass spectroscopy, elemental analysis and tested for their antibacterial and antifungal activity. Some compounds showed promising activities.

**Key word :** Synthesis, 2-Azetidinone; Phenothiazine; Chalcones; Antimicrobial activity.

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