

**Synthesis of some new amide derivatives containing heterocyclic moieties such as
Thiazolidinone and Azetidinone and study some of their expected antimicrobial
activity**

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ABSTRACT

In this study, fifteen compounds were synthesized: twelve hydrazones with %yield range from 50-80%, one β -lactam N-(3-chloro-2-oxo-4-phenylazetidin-1-yl) isonicotinamide with good yield 89%, and two metal complexes N'-benzylideneisonicotinohydrazide copper complex with low yield of 28.2%, N'-benzylideneisonicotinohydrazide zinc complex with 10%. The compounds were characterized by IR and NMR. The antibacterial activity of these compounds was evaluated on gram positive cocci, and gram positive and negative bacilli using agar disk diffusion method. Two of these products (β -lactam, and copper complex) showed moderate antibacterial activity against *staphylococcus aureus* but not against other types of bacteria tested.