SUMMARY

In the present investigation, 2-benzoyl-benzoyl isothiocyanate **(1)** [generated by the reaction of the corresponding acid chloride with ammonium thiocyanate in acetone] reacted with Schiff's bases, a variety of electron-poor olefins and phenyl isocyanate in refluxing xylene providing oxadiazinethiones **(2a-e),** oxazinethiones **(3a-c),** and oxadiazinone (8), respectively via [4+2] cycloaddition reaction.

The behaviour of oxazinethione derivatives **(3a,b)** toward some nucleophiles [urea, thiourea and hydrazine hydrate] was examined with the aim of synthesis of some condensed heterocyclic compounds [e.g. pyrimidoxazines **(4a,b** and 6a,b) and pyrazoloxazines (5 and 7)].

On the other hand, the reaction of anthranilic acid with isothiocyanate **(1)** gave thiourea derivative **(9),** which has been converted into quinazolinone derivative (10) upon treatment with boiling acetic anhydride.

The reaction of isothiocyanate **(1)** with glycine afforded imidazolidinone derivative **(11).** However, the reaction of isothiocyanate **(1)** with benzoyl glycine gave thiourea derivative **(12),** which was cyclized by heating with acetic anhydride to obtain imidazolidinone derivative (13).

The antimicrobial activities of most of synthesized compounds were studied against gram positive bacteria *(Bacillus subtilise, Bacillus cereus* and *micrococcus leteus),* gram negative bacteria *(Pseudomanas aerginosa, Pseudomanas florescence, Echerichia coli, Salmonella typhi* and *Staphylococcus auras)* and yeast *(Candida albicans* and *Saccharomycs cerevisiae)* and it was found that compounds 8, 10 and 13 have observed biological effect .

The structures of the synthesized compounds were confirmed by infra red spectra and elemental analyses. Mass spectra and 'H-NMR of some synthesized compounds were also investigated.