SUMMARY

This work aims to synthesize some new quinazoline derivatives and to study their biological activity. It involves synthesis and reactions of 4-(2-methyl-4-oxo-4H-quinazolin-3-yl)-benzoic acid **1**,Via the reaction of benzoxazinone with p-amino benzoic acid afforded **1**. Ethyl ester of the latter, 4-(2-methyl-4-oxo-4H-quinazolin-3-yl)benzoic acid ethyl ester **2** was reacted with hydrazine hydrate to give the corresponding 4-(2-methyl-4-oxo-4H-quinazolin-3-yl)benzoic acid hydrazide **3** which in turn reacted with active methylene compounds namely acetyl acetone and ethyl acetoacetate to give pyrazole derivative, 3-[4-(3,5-dimethyl-pyrazole-1-carbonyl)phenyl]-2-methyl-3H-quinazolin-4-one **4** and 2-methyl-3-[4-(3-methyl-5-oxo-4,5-dihydro-pyrazole-1-carbonyl)-phenyl]-3H-quinazolin-4-one **5** respectively.

Also, hydrazide **3** was reacted with 3-nitrobenzaldehyde to give Schiff base, **6** and with ammonium thiocyanate to give 3-methyl-3-[4-(5-thioxo-4,5-dihydro-1H-[1,2,4]triazol-3-yl)-phenyl]-3H-quinazolin-4-one **7**.

On the other hand, introduction of isothiocyanate to acid **1** evabled us to establish heterocyclic systems of remarkable biological activity.

Thus, acid chloride of acid **1** was reacted with ammonium thiocyanate and gave a isothiocyanate derivative 4-(2-methyl-4-oxo-4H-quinazolin-3-yl)-benzoyl isothiocyanate **8**, which was reacted with nitrogen nucleophiles such as phenyl hydrazine, glycine, anthranilic acid and o-aminophenol to give the corresponding triazolenucleus , 1,3-oxazole, quinazoline and benzoxazole.

Thus 2-methyl-3-[4-(2-phenyl-5-thioxo-[1,2,4]triazolidin-3-yl)-phenyl]-3H-quinazolin-4-one **10**, N-(2-mercapto-5-oxo-oxazolidin-2-yl)-4-(2-methyl-4-oxo-4H-quinazolin-3-yl)benzamide **11**, 2-methylphenyl]-3H-quinazolin-4-one **13**, N-benzo-oxazol-2-yl-4-(2-methyl-4-oxo-4H-quinazolin-3-yl)-benzamide **15** respectively.

However, reaction of **8** with sulfur nucleophile as thioglycolic acid gave [4-(2-methyl-4-oxo-4H-quinazolin-3-yl)-benzoylthio-carbamoyl-sulfanyl]acetic acid **16**, which in turn was cyclized by acetic anhydride to give 1,3-thiazolothione, 2-methyl-3-[4-(oxo-2-thioxo-thiazolidine-3-carbonyl)-phenyl]-3H-quinazolin-4-one **17**.

Reaction of anthranilic acid with maleic anhydride gave 2-(3-carboxy-acryloylamino)benzoic acid **18**. Which was cyclized by acetic anhydride and gave benzoxazinone **19**. Benzoxazinone **19** was reacted with *p*-toluidine to give 3-(4-oxo-3-p-tolyl-3,4-dihydro-quinaziolin-2-yl)-acrylic acid **20**.

Reaction of this acid chloride of compound **20** with ammonium thiocyanate afforded isothiocyanate derivative 3-(4-oxo-3-p-tolyl-3,4-dihdyro-quinazolin-2-yl)acryloyl isothiocyanate **21**. This isothiocyanate was reacted with phenyl hydrazine to give 4-(3-(4-oxo-3-p-tolyl-3,4-dihydroquinazolin-2-yl-acryloyl)-1-phenyl-thiosemicarbazide **22** derivative which was cyclized with acetic anhydride to give 2-[2-(2-phenyl-5-thioxo-2,5-dihydro-1H-[1,2,4]triazol-3-yl)-vinyl]-3-p-tolyl-3H-quinazolin-4-one **23**.

Structure of all synthesized derivatives was established by:

1- Elemental analysis
2- I.R spectra
3- ^{1}H NMR
4- Mass spectra

Biological activities of some synthesized compounds have been investigated in comparison with drug from the marked sulfadiazine and it was found that some of them have observed biological effect against tested micro-organisms.