Synthesis of some nitrogen compounds of expected biological activity

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In the present investigation we synthesized some quinazoline derivatives having some heterocyclic compounds to study their biologicical activity.Thus, we have synthesized 2-(2-methyl- 4-oxo-4H-quinazolin-3-yl)-3-phenylpropionyl isothiocyanate (3) as starting material for this synthesis.The reaction of 3 with some nitrogen nucleophiles as phenyl hydrazine, benzoyl hydrazine and glycine afforded 2-methyl-3-[2-phenyl-1-(2-phenyl-5-thioxo-2, 5-dihydro-1H-[1,2,4] triazol-3-yl)-ethyl]-3H-quinazolin-4-one (4), N-(N'-benzoylhydrazinocarbothioyl)-2-(2-methyl-4-oxo-4H-quinazolin-3-yl)-3-phenylpropionamide (5) , 3-[1-benzyl-2-oxo-2-(3-phenyl-5-thioxo-1,5-dihydro-[1,2,4]triazol-4-yl)-ethyl]-2-methyl-3H-quinazolin-4-one -(6), N-(2-mercapto-5-oxo-oxazolidin-2-yl)-2-(2-methyl-4-oxo-4H -quinazolin-3-yl)-3-phenylpropionamide (7).Also, the reaction of 3 with o -aminophenol gave thiocarbamic acid [2-(2-methyl-4-oxo-4H quinazolin-3-yl)-3-phenylpropionyl]-thiocarbamic acid o-(2-aminophenyl) ester (8), -which cyclized by fusion above its melting point to give benzooxazole derivative N benzooxazol-2-yl-2-(2-methyl-4-oxo-4H-quinazolin-3-yl)-3-phenylpropionamide (9).Moreover, the reaction of 3 with antheranilic acid afforded thiourea derivative 2-{3-[2-(2-methyl-4-oxo-4H-quinazolin-3-yl)-3-phenylpropionyl]-thioureido}-benzoic acid (10) which cyclized by boiling in acetic anhydride to give quinazoline derivative -3-[1-benz yl-2-oxo-2-(4-oxo-2-thioxo-1, 4-dihydro-2H quinazolin-3-yl)-ethyl]-2-methyl -3H-quinazolin-4-one (11).Also, compound 3 on reaction with ethylcyanoacetate gives 2-[1-(2-methyl-4-oxo-4H-quinazolin-3-yl)-2-ph enylethyl]-6-oxo-4-thioxo-5,6-dihydro-4H-[1,3]oxazine-5-carbonitrile (12).The reaction of 3 with aryl isothiocyanate, benzylidene arylamine and cinnamic acid -derivatives afforded oxdiazine derivatives 13a,b, 14a-c, and oxazine derivatives 16a c respectively.The structure of all synthesized derivatives was established by:1-Elemental analysis 2- I.R spectra3- HNMR spectra 4- Mass spectraBiological activities of some synthesized compounds have been investigated in comparison with drug from the marked quinazoline and it was found that some of them have observed biological effect against tested micro-organisms.