ISSN 2063-5346 *Section A-Research paper*

Synthesis some of mannich base compounds derivative from oxazole compounds and study Anticancer

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Abstract:

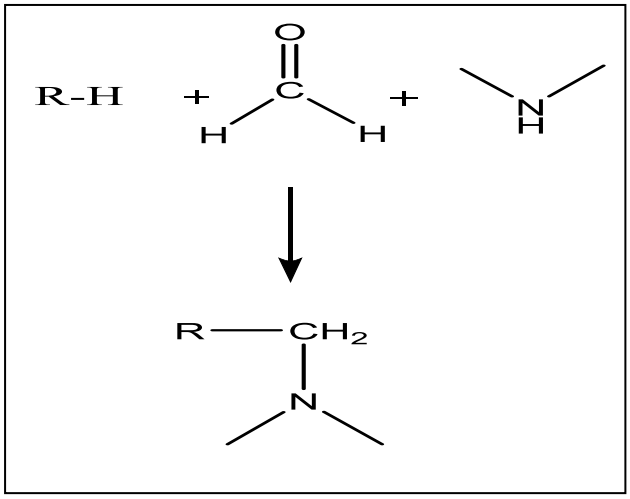
This paper involves synthesized of new some mannich bases derivative from ethers acetylene oxazoles, 2-[p-propyny-oxy] Benzyl -4,5-p-dimethyl phenyl oxazole, 2-[p-propyny-oxy] Benzyl-4,5-p-di chloro phenyl oxazole, 2-[p-propyny-oxy] Benzyl -4,5-p-diBromo phenyl oxazole , 2-[p-propyny-oxy] Benzyl -4-p-dimethyl amino phenyl -5-p-phenyl oxazole, 2-[p-propyny-oxy] Benzyl -4-p-methyl phenyl -5-p-phenyl oxazole, with diethyl amine and dimethyl amine yielded series of new mannich base the prepared compounds were characterized by FT-IR, ^{1}HNMR, ^{13}CNMR and anlysis elemental analysis and were tested for their antibacterial activity and study anti cauce.

Keywords: propyne bromide, benzoin, dimethyl amine, diethyl amine.

INTRODUCTION

The mannich reaction is one of the most broadly used organic reaction constructing (C-N) and (C-C) bounds is very biological active [(1,2,3,4,5)] such as anticancer, antimicrobial, antimalarial, antifungal, anti-inflammatory and malaria, anticonvulsant [(6)] , mannich reaction is very basic and very useful plat form for the development of several such nitrogen moleculare recent advance in Zn- catalyzed and can be readily convented that prosses useful applications in paint [(7,8,9)] , dyes and polymer

chemistry mannich amino methylation consists of the condensation [10,11] one active hydroxyl alkyl ketone, phenol, NH-hetero cycles with formaldehyde and primary or seconrary amine:



In this study prepared new mannich bases from ethers acetylene oxazole.

EXPERIMENTAL

The producte were characterized by melting point and uncorrected the purity of the compounds was checked using percolate (T.L.C) plates using benzene, methanol (9:1) solvent system FT-IR, ^{1}HNMR, ^{13}CNMR and C.H.N. analyzer.

1. Synthesis of the acetylene compound [12] dissolve (0.01 mole) oxazole in (50 ml) ethanol, added (2 gm) (NaOH) dissolved (10 ml) water and stirred (15 min), added drop-wise (0.01 mole) propargyl bromide to well stirred reaction mixture the which was refluxed to (75-80) for (3 h), the reaction was stopped and mixture an ice water added to the reaction mixture and crud product was extracted (3 * 15) by ethyl chloride.

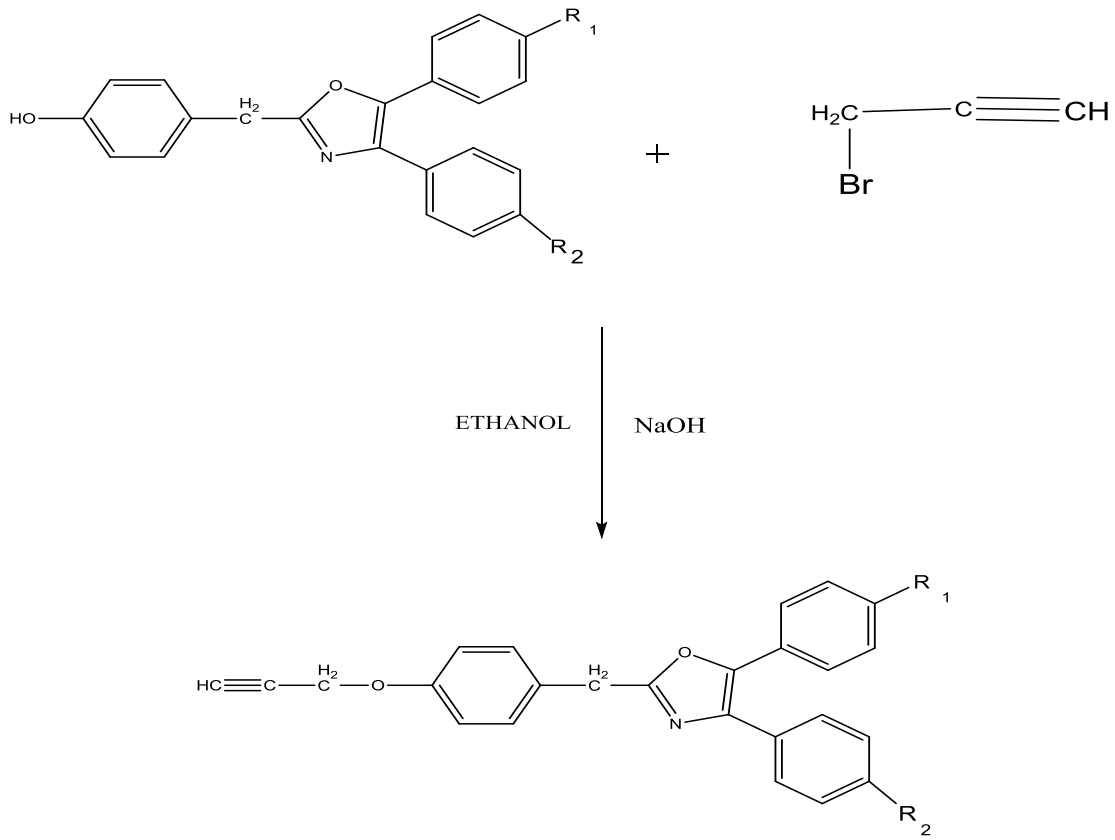
2. Preapation of mannich reaction from ether acetylene [13]

A mixture of (3-propynl-oxy-oxazole) (0.01 mole) with (0.01 mole) formaldehyde and (0.01 mole) dimethyl amine or diethyl amine in presence of (0.2 gm) (CuCl) as catalysis in (50 ml) pure dioxane to well stirred reaction with refluxed (90 min) the reaction was then filtration to get riced and pour

the filter cold water (50 ml) and the crude organic produce was the extracted by chloroform was collected and recrysta from ethanol .

RESULT AND DISCUSSION

The precursor required for our five new mannich bases compound was reacted ether acetylene oxazole compound with dimethyl amine or diethyl amine. The new ether acetylene oxazole characterized melting point spectral. FT-IR disappearance of 1431 cm^{-1} for R-OR, 2371 cm^{-1} for ($C\equiv C$) strech and 3436 cm^{-1} hydrogen of alkyl. The reaction was concluded to account via SN^2 mechanism

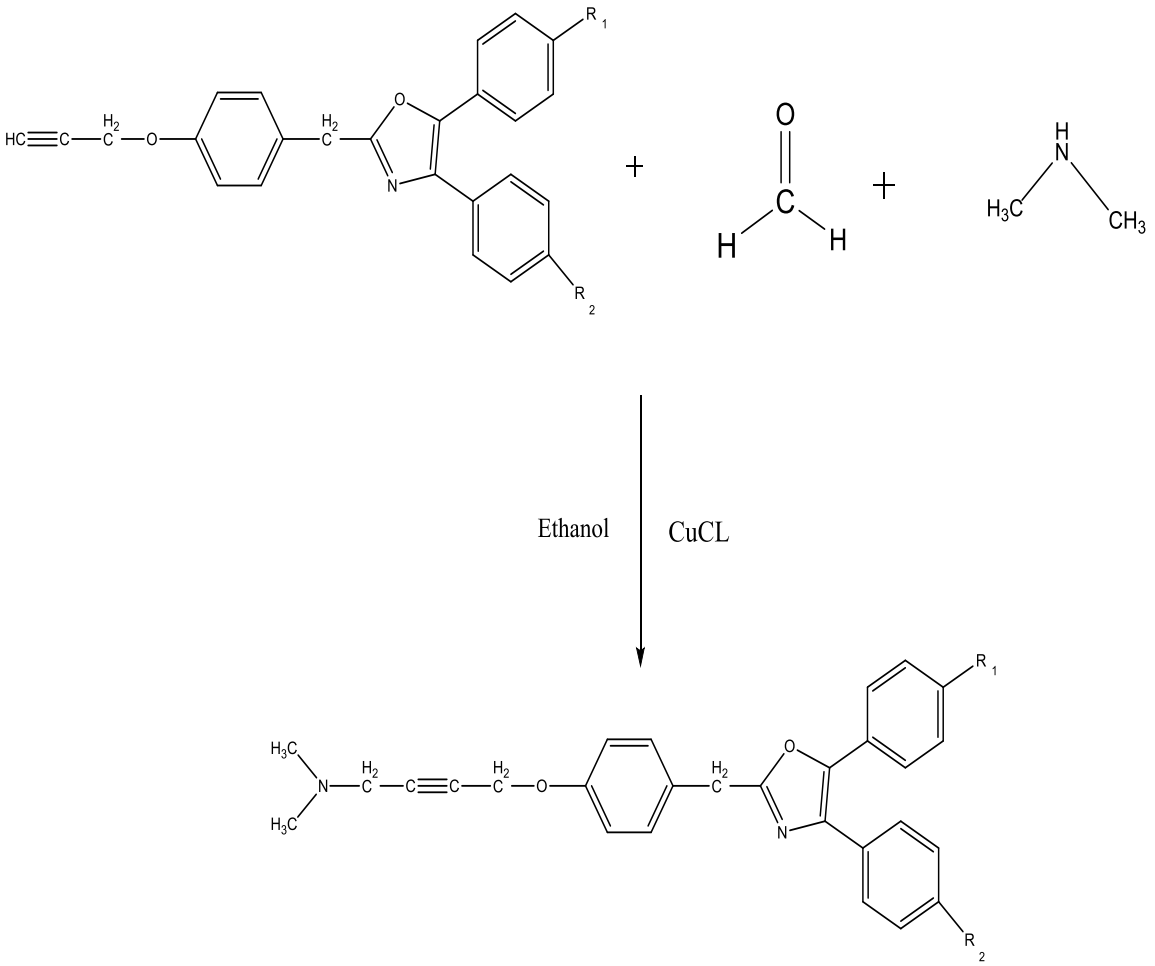


R1 = CH3 , CL , Br , $N(CH3)_2$

R2 = CH3 , CL , Br , H

Scheme (1)

The mannich base compound were characterized using M.P, C.H.N, FT-IR, ^{1}HNMR, ^{13}CNMR and anticancer study



Scheme (2)

Table 1: FT-IR Spectrum (cm^{-1})

Com No.	C≡C	C=N	C—X
1	2180	1580	……
2	2140	1570	……
3	2200	1590	(C-Cl) 660
4	2110	1590	(C-Br) 740
5	2160	1580	……

Compound (2-[p-(N,N-dimethyl amino)–But-2-ynyl-oxy] Benzyl-4,5-p-dimethyl Phenyl oxazole), ^{1}HNMR, DMSO

δ 1.7 ppm (6H) of CH_3 , δ 2.3 ppm (2H) of CH_2, δ 3.3 ppm (1H) of CH, δ 7.3 ppm Aromatic. ^{13}CNMR 30, 45, 60, 110, 125, 132

Compound (2-[4-(N,N-dimethyl amino)-but-2-ynyl-oxy] benzyl-4-p-phenyl -5-p-dimethyl amino phenyl oxazole), ^{1}HNMR, DMSO

δ 1.7 ppm (3H) of CH_3, 2.3 ppm (2H) of CH_2, δ 2.8 ppm of $[N(CH_3)_2]$, δ 3.4 of $O(CH_2)$, δ 6.8-7.3 ppm Aromatic. ^{13}CNMR 30, 45, 60, 110, 125, 142

Compound (2-[4-(N,N-dimethyl amino)-but-2-ynyl-oxy] benzyl-4,5-dichloro phenyl oxazole), ^{1}HNMR, DMSO

δ 2.3-2.4 ppm (6H) of $[N(CH_3)]$, δ 2.7 ppm of $[N(CH_2)]$, δ 3.3 ppm of (OCH_2), δ 6.7 ppm Aromatic. ^{13}CNMR, 25, 60, 70, 116

Compound (2-[4-(N,N-dimethyl amino)-but-2-ynyl-oxy] benzyl-4,5-dibromo phenyl oxazole), ^{1}HNMR, DMSO

δ 1.9 ppm of CH_3, δ 3.2 ppm of CH_2, δ 6.4-6.8 ppm Aromatic. ^{13}CNMR, 25, 60, 112, 159

Compound (2-[4-(N,N-dimethyl amino)-but-2-yny-oxy] benzyl-4-p-phenyl -5-p-methyl

Phenyl oxazole), ^{1}HNMR, DMSO

δ 2.4 ppm (6H) of $[N(CH_3)]$, δ 2.8 ppm of $[N(CH_2)]$, δ 3.3 ppm of $(6CH_2)$, δ 6.7 ppm Aromatic. ^{13}CNMR, 25, 62, 130, 157

The compounds Mannich bases tested for their anticancer activities against protect cell lines PC_3 [ATCC, CRL-1435], and DU145 [ATCC, HTB-81].

The results revealed that the compounds exhibited moderate cytotoxic activity against cancer cell tested.

CONCLUSION

In conclusion synthesis of new compounds mannich bases the reaction between ether acetylene oxazole with propargyl bromide reaction with secondary amine and formaldehyde in presence of CuCl synthesis good yield mannich bases the products may be used as a medical compounds in future.

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