Efficient Synthesis of pyrazolo-enaminone derivatives and evaluation of their biological

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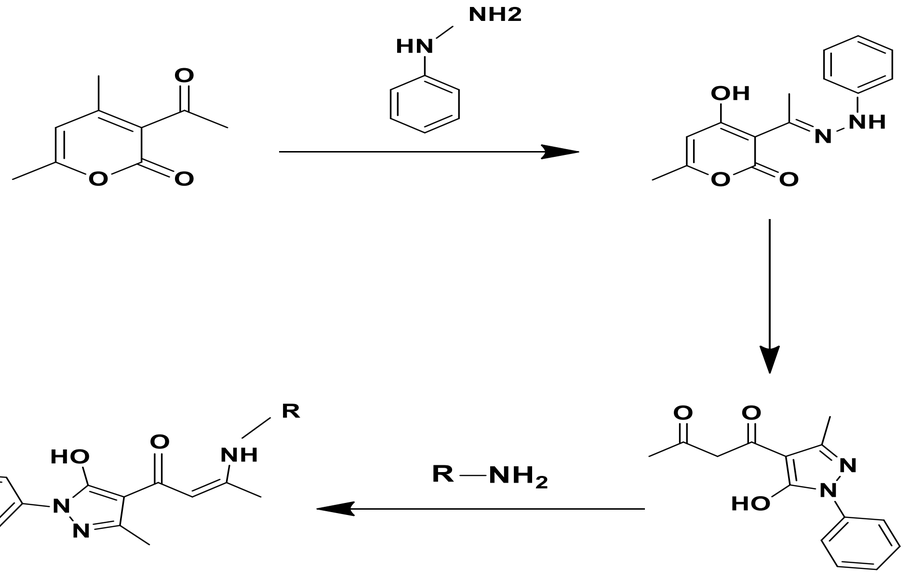
INTRODUCTION

The chemistry of heterocycles has experienced a boom in recent decades. which has resulted in an impressive number of compounds containing in their structure at least one heterocycle. In fact, of the 65 million chemical compounds, more than two thirds contain a heterocyclic system (2009 statistics). Heterocycles are important, not only because of their abundance and extraordinary diversity, but above all because of their usefulness in the biological, medicinal and (vitamins, hormones, antibiotics, etc.), that in the industrial sector, and technological (corrosion inhibitors, dyes, stabilizers, pesticides, herbicides, etc)..

Among the different classes of heterocyclic compounds, mainly nitrogenous structures are present in many natural compounds of plant, animal or synthetic origin. Among these are the pyrazolo-enaminones.

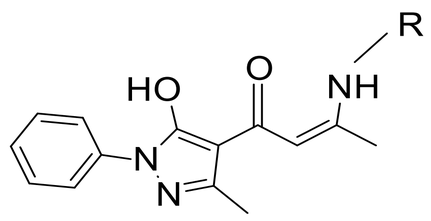
Synthesis of pyrazolo-enaminones



(1)

Synthesis of of pyrazolo-enaminones by catalyst Fe_2O_3_Mg/Al-LDH

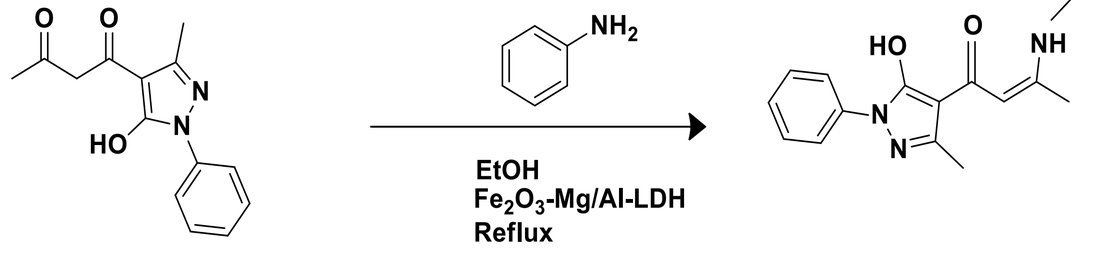
After optimization of the reaction conditions, we prepared a series of pyrazolo-enaminones by condensation of diketo-N-phenylpyrazole with different amines using Fe_2O_3_Mg/Al-LDH as catalyst.



Compounds	Rdt %	Compounds	Rdt %
R(3-Br-C_6H_5)	89	R(**4-OH-2-CH_3-C_6H_5**)	68
R(C_6H_5)	82	R(**4-F- C_6H_5**)	83
R(4-OCH_3-2NO_2-C_6H_5)	79	R(**4-OH- C_6H_5**)	81
R(2-CH_3-3NO_2-C_6H_5)	89	R(**2-NH_2- C_6H_5**)	72
R(4-Cl- C_6H_5)	85	R(**C_3H_3NS**)	84
R 3-OH- C_6H_5 ()	78	R(**$C_4H_4N_2$**)	80
R(4-NH_2SO_2- C_6H_5)	69	R(**4-OCH_3- C_6H_5**)	78

Attempts synthesis of some pyrazolo-enaminones structures

- *Development of a general strategy for obtaining pyrazolo-enaminones.*



R	R
3-Br-C_6H_5	4-OH-2-CH_3- C_6H_5
C_6H_5	4-F- C_6H_5
4-OCH_3-2NO_2- C_6H_5	4-OH- C_6H_5
2-CH_3-3NO_2- C_6H_5	2-NH_2- C_6H_5
4-Cl- C_6H_5	C_3H_3NS
3-OH- C_6H_5	$C_4H_4N_2$
4-NH_2SO_2- C_6H_5	4-OCH_3- C_6H_5

(2), (3)

conclusion

A series of enaminones was synthesized with good yields under simple conditions.

We expect that these substrates will become useful building blocks for the preparation of other heterocycles.

References

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