SYNTHESIS OF CYCLOHEXENONE DERIVATIVES BASED ON VARIOUS SUBSTITUTED UNSATURATED KETONES

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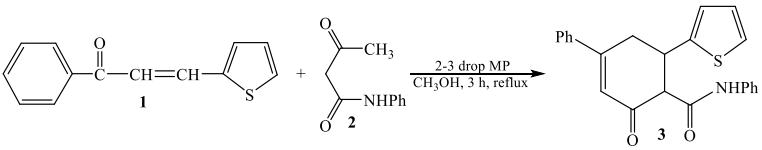
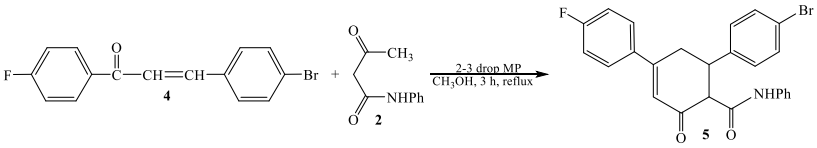
Cyclohexenone derivatives are of wide interest because of their diverse biological activity and clinical applications, it may also display antimycobacterial, antimicrobial, anticonvulsant, analgesic, anti-inflammatory, antiprotozoal, antipsychotic, antioxidant and antitumoral properties. It is known from the literature that chalcone derivatives have biological activity and are characterized by a wide range of applications. Cyclohexenone derivatives are widely used in the synthesis of antibacterial and antifungal drugs in medicine.

Michael coupling reaction of 1-phenyl-3-(thiophen-2-yl)prop-2-en-1-one (1) with acetoacetanilide (2) was carried out in methanol medium, in the presence of 2-3 drops of methylpiperazine, and compound 5-oxo-N-phenyl-3-(thiophen-2-yl)-2,3,4,5-tetrahydro-[1,1'-biphenyl]-4-carboxamide (3) has been obtained.



Scheme 1: Reaction scheme of synthesis of5-oxo-N-phenyl-3-(thiophen-2-yl)-2,3,4,5-tetrahydro-[1,1'-biphenyl]-4-carboxamide (**3**)

4"-bromo-4-fluoro-5'-oxo-N-phenyl-2',3',4',5'-tetrahydro-[1,1':3',1"-terphenyl]-4'-carboxamide (5) compound was synthesized under the same reaction conditions.



Scheme 2: Reaction scheme of synthesis of 4"-bromo-4-fluoro-5'-oxo-N-phenyl-2',3',4',5'-tetrahydro-[1,1':3',1"-terphenyl]-4'-carboxamide (**5**)

The reactions were monitored by *thin*-layer chromatography method. Structures of synthesized compound were confirmed by ^{1}H and ^{13}C NMR spectroscopy.