SYNTHESIS OF NEW DERIVATIVES OF PYRROLES

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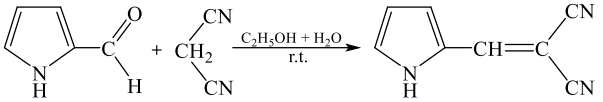
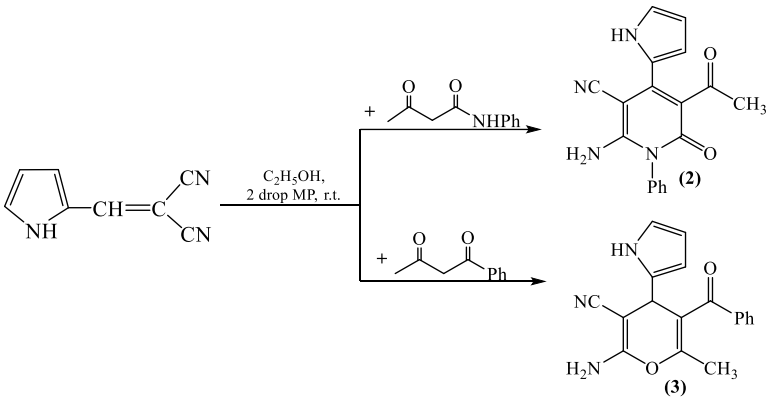
Nowadays, dihydropyridine (DHP) derivatives act as a scaffold and are the backbone of medicinal chemistry. Compounds that contain DHP ring is one of the most important heterocyclic rings that possess prominent therapeutic effects in a very versatile manner and plays an important role in synthetic, medicinal, and bioorganic chemistry. Addition of different groups to DHP ring can yield a better drug for its other activities such as anti-convulsant, anti-oxidant, anti-mutagenic, and anti-microbial.

Presented research work is devoted to obtaining of new derivatives of dihydropyridines that, synthesized by the reaction of 2-((1*H*–pyrrol-2-yl)methylene)malononitrile(1) with various dicarbonyl compounds. 2-((1*H*–pyrrol-2-yl)methylene)malononitrile(1) was synthesized based on the reaction of pyrrole-2-carboxaldehyde and malononitrile in water and ethanol media at room temperature.



Scheme 1: Reaction scheme of synthesis of 2-((1*H*–pyrrol-2-yl)methylene)malononitrile

In the continuation of the experiment acetoacetanilide and benzoylacetone added to the (1) compound and new derivatives of dihydropyridine synthesized in the presence of methyl piperazine in ethanol media at room temperature.



Scheme 2: Reaction scheme of synthesis of 5-acetyl-2-amino-6-oxo-1-phenyl-4-(1H-pyrrol-2-yl)-1,6-dihydropyridine-3-carbonitrile (**2**) and 2-amino-5-benzoyl-6-methyl-4-(1H-pyrrol-2-yl)-4H-pyran-3-carbonitrile (**3**)

The structure of synthesized molecules were explored by ^{1}H and ^{13}C NMR spectroscopy and the purity of products were analyzed by UB light (λ = 254 nm) on a thin layer chromatography.