Synthesis of Pyrano-Pyrrazole and Pyrano-Pyrimidine Structure

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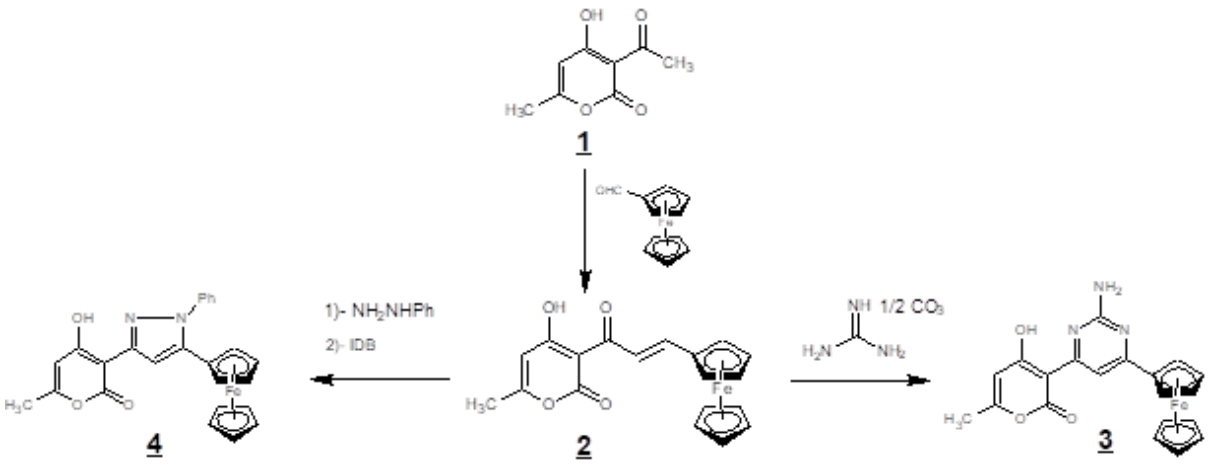
Abstract:

Pyrazoles and pyrimidines represent an important class of nitrogen heterocycle in organic chemistry, given their large biological potential. [1,2,3].

Pyrone is present in a large number of bioactive molecules having diverse biological activities such as anti-viral broad-spectrum anti-bacterial and anti-fungal activities. *2-pyrones* are reported to be effective against Alzheimer's amyloid toxicity. Many chlorinated *2-pyrone* based derivatives were discovered as potent anti-cancer agents[4].

We present in this work the synthesis of a pyrimidine derivative **3** and a pyrazole derivative **4**from the intermediate **2**(obtained by condensation of ferrocene carboxaldehyde and dehydroacetic acid **1**).

Compound **3** is obtained by the action of guanidine carbonate on chalcone **2**. Compound **4**was obtained by the action of phenyl hydrazine on compound **2**, the intermediate obtained is oxidized with iodobenzene acetate.



Scheme 1: Synthesis of derivatives 3 and 4

In solution some products of these compoundsare weakly luminescent, in the solid state a strong increase of the luminescence is observed.

Keywords:

Pyrrazole; Pyrimidine; Dehydroacetic acid; Pyrone, Electrochemical and luminescent properties.