

## عنوان مقاله:

One-pot synthesis of 2-oxo-1,2,3,4-tetrahydropyrimidines using homogeneous catalyst under solvent-free conditions

## محل انتشار:

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## خلاصه مقاله:

The chemistry of 2-oxo-1,2,3,4-tetrahydropyrimidines began to develop toward the end of 1893 year, when the first representatives of this class compounds were reported by P. Biginelli. Despite prior reports of several really effective catalytic and non-catalytic approaches towards Biginelli-type products, an overwhelming number of new catalysts for the Biginelli reaction have been recently published. Most of the catalysts are somewhat exotic, expensive, harmful and even ineffective in the absence of acidic additives. This work reports on the preparation of 2-oxo-1,2,3,4-tetrahydropyrimidines using the NaF as catalyst. One-pot condensation reactions were carried out for various aryl aldehydes, ethyl acetoacetate, acetyl acetone and urea under solvent-free conditions at 100 °C and afforded the target molecules in good to excellent yields. The advantages of this method are high yield of product, short reaction time, and separation of this catalyst is very comfortable. Furthermore, according to the experimental data, we have proposed the suitable mechanism.

## کلمات کلیدی:

Solvent-free NaF, catalyst, Biginelli-type products conditions, Biginelli reaction

## لینک ثابت مقاله در پایگاه سیویلیکا:

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