عنوان مقاله:

New pyrazolone derivatives synthesis: comparison of the catalytic effect of three typically different Brønsted acid catalysts on the reaction progression

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خلاصه مقاله:

Via the one-pot condensation reaction of ethyl acetoacetate, aromatic aldehydes, 2,4-dinitrophenylhydrazine, and β-naphthol; new pyrazolone derivatives were synthesized in the presence of three Brønsted acid catalysts. These Brønsted acid catalysts are Silica sulfuric acid (SSA), tetra-n-butyl ammonium hydrogen sulfate (TBAHSO4) and [2,2′-Bipyridine]-1,1′-diium tricyanomethanide {[2,2′-BPyH][C(CN)3]2}. Each of these combinations has its own characteristics. SSA is a heterogeneous catalyst. TBAHSO4 is a phase transfer catalyst and {[2,2′-BPyH][C(CN)3]2} is an ionic liquid. We compared the obtained results of these catalysts. In most cases, the results were comparable. But, sometimes TBAHSO4 and {[2,2′-BPyH][C(CN)3]2} give the better results to the SSA in term of reaction time and yields. Even though, isolation of SSA from products was easier than the separation of two other catalysts.

کلمات کلیدی:

Pyrazolone, silica sulfuric acid, tetra-n-butyl ammonium hydrogen sulfate, [2, 2′-bipyridine]-1, 1′-diium tri-cyanomethanide