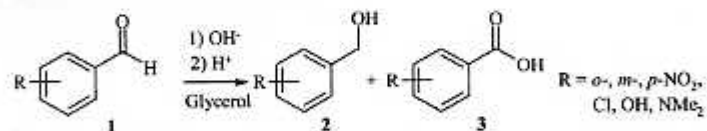


GLYCEROL AS SOLVENT FOR ORGANIC SYNTHESIS

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Rapidly growing biodiesel production market generates large quantities of crude glycerol (bioglycerol); despite of intensive investigations utilization of bioglycerol still remains an unsolved problem. Use of glycerol and bioglycerol as solvents in organic synthesis could be one of the most effective application methods [1, 2]. Glycerol already has been used as both hydrogen source and solvent for transfer hydrogenation of nitro- and carbonyl groups, alkenes [3], as solvent for reduction [4], Michael addition, aldol and Knoevenagel condensations, Diels-Alder reaction [1], multicomponent domino reaction [5], ring-closing metathesis [6], Mizoroki-Heck reaction [7], Mannich reaction, dehydration-dimerization reactions, Suzuki reaction, addition of alkyl- and alkenyl- sulphides, selenides and tellurides to double and triple bonds, polymerization reactions. Bioglycerol found suitable application in aldol condensation and Mizoroki-Heck reaction [8].

We have successfully applied glycerol and bioglycerol as solvents for condensation of trifluorobenzoylacetone with cyanoacetamide leading to corresponding 2(1H)-pyridone. Cannizzaro reaction of aromatic aldehydes **1** providing disproportionation products **2** and **3**, as well as benzoic acid rearrangement were carried out in above mentioned solvents. Yields of products in glycerol and bioglycerol were similar to yields in traditional solvents. Presence of sodium salts of fatty acids in bioglycerol improves its ability to dissolve polar and nonpolar substances.



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