Electronic Supporting Information

Catalytic etherification of glycerol with short chain alkyl alcohols in the presence of Lewis acids

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List of tested metal triflimidates that were found inefficient in the acid-catalyzed etherification of glycerol with n-butanol:

Li(TFSI), K(TFSI), Ca(TFSI)₂, Cu(TFSI)₂, Zn(TFSI)₂, Y(TFSI)₃, La(TFSI)₃, Ce(TFSI)₃, Ti(TFSI)₄

Catalysis in the presence of basic catalysts:

Conditions: glycerol/n-butanol molar ratio = 4, 150°C, 6.5 mol% of catalyst, 24h

Result: Although glycerol was converted with 50%, 12% and 1% in the presence of NaOH, K₂CO₃ and 1,5,7-Triazabicyclo[4.4.0]dec-5-ene, respectively, n-butanol was not converted and only formation glycerol-derived unidentified product was observed.
Mono ethers obtained from 1,2-propylene glycol (mixture of regioisomer)
Mono ethers obtained from 1,3-propanediol:
Mono ethers obtained from tris(hydroxymethyl)ethane:
Mono ethers obtained from isosorbide