

ELECTRONIC SUPPLEMENTARY INFORMATION

An Accelerated Route of Glycerol Carbonate Formation from Glycerol using Waste Boiler Ash as Catalyst

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Table S1: Turn Over Frequency (TOF) (mmol/g.cat.h⁻¹) of other selected catalysts reported in literature.

References	Catalyst	Reactants molar ratio	Temp. (°C)	Pressure (MPa)	Reac. Time (hr)	GC Yield (%)	TOF mmol/g.cat.h ⁻¹
Jagadeeswaraiiah and co-researchers, 2014. ¹	Tin-Tungsten mixed oxide	2:1 (glycerol-urea)	140	-	4	>49	14.3
Turney and co-researchers, 2013. ²	Metal Monoglycerolates	1:1.5 (Glycerol: Urea)	150	4.0×10^{-3}	7	75	28.1
Wang and co-researchers, 2011. ³	La ₂ O ₃ calcined at 600 °C	1:3 (urea-glycerol)	140	3.0×10^{-3}	1	91	1506.0
Hammond and co-researchers, 2011. ⁴	Gold, gallium, and zinc supported on oxides and zeolite ZSM-5	1.5:1 (urea-glycerol)	150	0.1	4	55	120.0
Kim and co-researchers, 2011. ⁵	Ionic liquids immobilized onto a structurally modified Merrifield peptide resin	1:1 (urea-glycerol)	140	1.4×10^{-2}	6	46	23.0
Climent and co-researchers, 2010. ⁶	Calcined Zn hydroxalcite	1:1 (urea-glycerol)	145	3.9×10^{-3}	5	72	35.4
Rubio- Marcos and co-researchers, 2010. ⁷	Co ₃ O ₄ /ZnO nanodispersion	1:1 (urea-glycerol)	145	0.1	4	69	31.1
Aresta and co-researchers, 2009. ⁸	γ-Zirconium phosphate	1:1 (urea-glycerol)	145	2.0×10^{-5}	3	80	485.7

TOF: calculated based on the mmol of glycerol converted per gram catalyst per total reaction time (h).

References

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