

Supporting Information

Progressing Ultragreen, Energy-Efficient Biobased Depolymerization of Poly(Ethylene Terephthalate) via Microwave-Assisted Green Deep Eutectic Solvent and Enzymatic Treatment

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TableS1. Different compositions of DESs used in PET recycling

DES composition			Reaction conditions			Results	Reference
HBA	HBD	Ratio (HBA:HBD)	Reaction time	Depolymerizing agent	Temperature		
Choline chloride	Glycerol	1:2	80-100 s	Glycerol, NaOH	-	38-61% weight loss of PET	[1]
Choline chloride	Zinc chloride	1:1–1:3	30 min	Diethanolamine, ethanolamine	-	THETA, TPA, BHETA (82, 83 and 95 yield%)	[2]
	Urea	1:2					
Potassium carbonate	Ethylene glycol,	1:6	2 h	ethylene glycol	180 °C	BHET (88 yield%)	[3]
Choline chloride	Urea, Dimethyl urea, Ethylene glycol, Glycerol	1:2					
Zinc chloride, zinc acetate, manganese acetate	Urea	1:12 to 1:6	30 min	ethylene glycol	170 °C	bis(hydroxyalkyl) terephthalate (83 yield%)	[4]
1-methyl-3-butylimidazolium chloride	Zinc chloride, Manganese chloride	1:1	5.0 h	ethylene glycol	190 °C	BHET (83.8 yield%)	[5]
Choline chloride	Ethylene glycol	1:2	120 s	ethylene glycol, NaOH	144 °C	45.8% weight loss of PET	[6]
Hydrogen bond donor (HBD); hydrogen bond acceptor (HBA); (2-hydroxyethyl)-terephthalamide (THETA); Terephthalic acid: (TPA); bis (2-hydroxy ethylene) terephthalamide: (BHETA); bis(hydroxyethyl) terephthalate (BHET); sodium hydroxide (NaOH)							

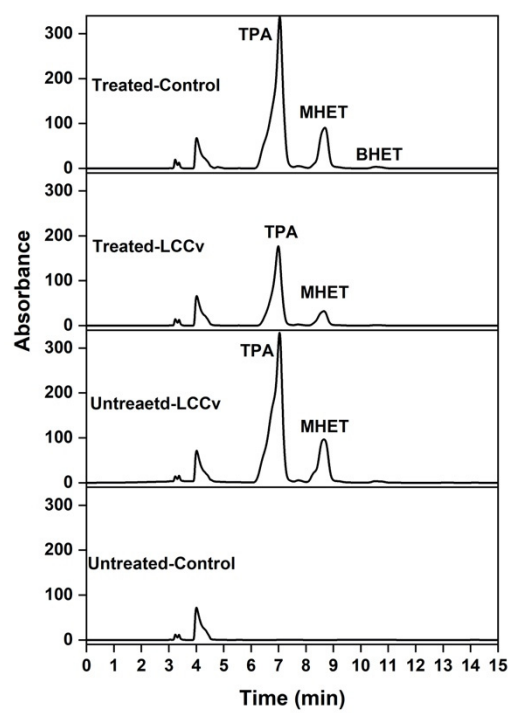


Figure S1. HPLC chromatograms of post-enzymatic hydrolysis products

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