Supporting Information for

Chemolytic depolymerisation of PET: a review

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Table S1. Summary of main results found in literature for basic hydrolysis of PET

Ref	Solvent/PET mass ratio	catalyst/PET mass ratio	Other reagents/ PET ratio	Yield TPA	Environmental factor (a.u)	T (°C)	Reaction time (min)	Energy economy (°C*-1min-1)	Environmental energy impact (°C*min)	Solvent	Catalyst
[49]	117	0,002	13,02	0,32	88,85	80	180	2,22E-05	4,00E+06	NaOH (aq)	TOMAB
[49]	117	0,002	13,02	0,32	88,85	120	180	1,48E-05	6,00E+06	NaOH (aq)	TOMAB
[49]	117	0,047	13,02	0,80	35,60	80	180	5,56E-05	6,41E+05	NaOH (aq)	TOMAB
[49]	117	0,047	13,02	1,00	28,48	120	180	4,63E-05	6,15E+05	NaOH (aq)	TOMAB
[49]	117	0,002	13,02	0,05	568,61	80	300	2,08E-06	2,73E+08	NaOH (aq)	TOMAB
[49]	117	0,002	13,02	0,22	129,23	120	300	6,11E-06	2,11E+07	NaOH (aq)	TOMAB
[49]	117	0,047	13,02	0,92	30,96	80	300	3,83E-05	8,08E+05	NaOH (aq)	TOMAB
[49]	117	0,047	13,02	1,00	28,48	120	300	2,78E-05	1,03E+06	NaOH (aq)	TOMAB
[52]	16,6	0,030	1,67	0,99	3,90	90	45	2,44E-04	1,60E+04	NaOH (aq)	TBAI
[52]	16,6	0,030	1,67	0,99	3,90	90	65	1,69E-04	2,31E+04	NaOH (aq)	TBAI
[52]	16,6	0,030	0,84	0,51	5,70	90	45	1,26E-04	4,53E+04	NaOH (aq)	TBAI
[52]	16,6	0,030	3,34	0,90	6,43	90	60	1,67E-04	3,86E+04	NaOH (aq)	TBAI
[53]	9	0,000	1,00	0,98	2,22	220	5	8,95E-04	2,48E+03	NaOH (aq)	Microwave
[53]	9,5	0,000	0,50	0,98	1,70	220	5	8,90E-04	1,91E+03	NaOH (aq)	Microwave
[53]	9,5	0,000	0,50	0,98	1,70	220	10	4,47E-04	3,80E+03	NaOH (aq)	Microwave
[53]	9,5	0,000	0,50	0,97	1,72	220	2	2,20E-03	7,80E+02	NaOH (aq)	Microwave
[54]	45	0,000	5,00	0,89	12,28	110	30	2,70E-04	4,55E+04	NaOH (aq)	EtOH:H_2O 80:20

Table S2 Summary of main results found in literature for acidic hydrolysis of PET

Ref	Solvent/PET mass ratio	catalyst/PET mass ratio	Other reagents/ PET ratio	Yield TPA	Environmental factor (a.u)	T (°C)	Reaction time (min)	Energy economy (°C*-1min-1)	Environmental energy impact (°C*min)	Solvent	Catalyst
45	5,1	0,000	6,43	0,90	8,87	135	300	2,22E-05	3,99E+05	H_2SO_4 (aq)	
45	5,1	0,000	6,43	0,80	9,98	100	5760	1,39E-06	7,18E+06	H_2SO_4 (aq)	
47	3,4	1,000	0,67	0,17	13,28	98	140	1,27E-05	1,05E+06	HNO_3	DMSO Na_2SO_4
47	2,696	1,000	1,30	0,35	8,46	98	140	2,55E-05	3,31E+05	HNO_3	DMSO Na_2SO_4
47	1,624	1,000	2,38	0,70	5,86	98	140	5,07E-05	1,16E+05	HNO_3	DMSO Na_2SO_4
47	1,624	1,000	2,38	0,77	5,33	110	140	4,97E-05	1,07E+05	HNO_3	DMSO Na_2SO_4
47	1,624	1,000	2,38	0,87	4,68	120	140	5,19E-05	9,01E+04	HNO_3	DMSO Na_2SO_4
46	3,015	1,050	1,99	0,34	11,34	98	160	2,16E-05	5,24E+05	HNO_3	DMSO Na_2SO_4 H_3PO_4
46	1,624	1,050	2,38	0,54	7,73	98	160	3,41E-05	2,27E+05	HNO_3	DMSO Na_2SO_4 H_3PO_4
46	1,426	1,050	3,57	0,68	8,06	98	160	4,34E-05	1,86E+05	HNO_3	DMSO Na_2SO_4 H_3PO_4
46	1,426	1,050	3,57	0,77	7,15	110	160	4,36E-05	1,64E+05	HNO_3	DMSO Na_2SO_4 H_3PO_4
46	1,426	1,050	3,57	0,87	6,27	120	160	4,55E-05	1,38E+05	HNO_3	DMSO Na_2SO_4 H_3PO_4
46	1,426	1,050	3,57	0,98	5,60	140	160	4,37E-05	1,28E+05	HNO_3	DMSO Na_2SO_4 H_3PO_4

Table S3 Summary of main results found in literature for neutral and enzymatic hydrolysis of PET

Ref	Solvent/PET mass ratio	catalyst/PET mass ratio	Other reagents/ PET ratio	Yield TPA	Environmental factor (a.u)	T (°C)	Reaction time (min)	Energy economy (°C*-1min-1)	Environmental energy impact (°C*min)	Solvent/Buffer	Catalyst/Enzyme
44	1000	0,05	0	0,12	958,81	200	30	2,00E-05	4,79E+07	H_2O	No catalyst
44	1000	0,05	0	0,79	145,64	200	30	1,32E-04	1,11E+06	H_2O	ZSM-5-200
44	1000	0,05	0	0,87	132,25	200	30	1,45E-04	9,12E+05	H_2O	ZSM-5-25
44	1000	0,05	0	0,66	174,33	170	30	1,29E-04	1,35E+06	H_2O	ZSM-5-200
44	1000	0,05	0	0,78	147,51	170	30	1,53E-04	9,64E+05	H_2O	ZSM-5-25
21	250	0,025	0	0,43	66,93	55	30240	2,59E-07	2,59E+08	1 M K_2PO_3	T.Fusca
21	250	0,025	0	0,54	53,29	55	30240	3,25E-07	1,64E+08	1 M K_2PO_3	T.Fusca
25	500	0,0005	0	0,82	70,12	65	1200	1,05E-05	6,67E+06	0.2 M K_2PO_3	LCC
25	500	0,0005	0	0,85	67,65	65	900	1,45E-05	4,66E+06	0.2 M K_2PO_3	ICCG
25	500	0,0005	0	0,53	108,49	65	1200	6,79E-06	1,60E+07	0.2 M K_2PO_3	WCCG
26	1,5	0,006	0	0,19	0,94	55	10080	3,43E-07	2,76E+06	0,1 M Na_2PO_3	HiC

Table S4 Summary of main results found in literature for alcoholysis of PET

Ref	Solvent/PET mass ratio	catalyst/PET mass ratio	Other reagents/ PET ratio	Yield TPA	Environmental factor (a.u)	T (°C)	Reaction time (min)	Energy economy (°C*-1min-1)	Environmental energy impact (°C*min)	Solvent/Buffer	Catalyst/Enzyme
[27]	10	0,000	0	0,97	1,19	300	70	4,62E-05	2,57E+04	Methanol	Supercritical fluid
[27]	10	0,000	0	0,98	1,18	310	70	4,50E-05	2,61E+04	Methanol	Supercritical fluid
[57]	8	0,000	2	0,03	111,03	200	120	1,21E-06	9,19E+07	Methanol	Toluene
[57]	8	0,100	2	0,89	3,77	200	120	3,69E-05	1,02E+05	Methanol	AlTIP
[57]	6	0,100	4	0,87	6,23	200	120	3,62E-05	1,72E+05	Methanol	AlTIP
[57]	5	0,100	5	0,82	7,85	200	120	3,42E-05	2,30E+05	Methanol	AlTIP
[57]	2	0,100	8	0,38	25,12	200	120	1,58E-05	1,59E+06	Methanol	AlTIP
[62]	3,4	0,025	0,025	0,84	0,53	185	160	2,84E-05	1,87E+04	2-ethylhexanol	$Zn(OAc)_2$ ChCl
[62]	3,4	0,025	0,025	0,81	0,56	185	160	2,72E-05	2,04E+04	2-ethylhexanol	$Mn(OAc)_2$ ChCl
[62]	3,4	0,025	0,025	0,74	0,61	185	160	2,50E-05	2,42E+04	2-ethylhexanol	$Co(OAc)_2$ ChCl
[62]	3,4	0,025	0,025	0,78	0,57	185	160	2,65E-05	2,17E+04	2-ethylhexanol	$FeCl_3$ ChCl
[62]	3,4	0,025	0	0,41	1,03	185	160	1,37E-05	7,54E+04	2-ethylhexanol	$Zn(OAc)_2$
[62]	3,4	0,025	0	0,37	1,15	185	160	1,24E-05	9,28E+04	2-ethylhexanol	$Mn(OAc)_2$
[62]	3,4	0,025	0	0,27	1,55	185	160	9,16E-06	1,69E+05	2-ethylhexanol	$Co(OAc)_2$
[62]	3,4	0,025	0	0,36	1,18	185	160	1,21E-05	9,75E+04	2-ethylhexanol	$FeCl_3$
[61]	1	0,000	0,5	0,43	1,60	195	240	9,23E-06	1,73E+05	2-ethylhexanol	$Zn(OAc)_2$ [Bmim]Cl
[61]	1	0,006	0,5	0,86	0,81	195	240	1,84E-05	4,42E+04	2-ethylhexanol	$Zn(OAc)_2$ [Bmim]Cl
[61]	1	0,006	0,5	0,87	0,80	195	240	1,85E-05	4,34E+04	2-ethylhexanol	$Ti(OC_4H_9)_4$ [Bmim]Cl
[64]	6	0,007	0	0,95	0,73	170	15	3,73E-04	1,97E+03	Methanol	Modified ZnO
[63]	3	0,005	0	0,59	0,59	210	300	9,37E-06	6,35E+04	2,2′-oxydiethanol	ZnAc
[63]	3	0,050	0	0,64	0,63	210	300	1,02E-05	6,19E+04	2,2′-oxydiethanol	NaMeSi

Table S5. Summary of main results found in literature for glycolysis of PET assisted by homogeneous catalysts

Ref	Solvent/PET mass ratio	Catalyst/PET mass ratio	Yield BHET (%)	Environmental factor (a.u)	T (°C)	Reaction time (min)	Energy economy (°C*-1min-1)	Environmental energy impact (°C*min)	Catalyst
83	1.3	0.005	77.3	0.1310	190	480	8.476E-06	15454	Manganese acetate
83	1.3	0.005	79.2	0.1278	190	480	8.684E-06	14721	Zinc acetate
84	5	0.01	85.6	0.4468	196	180	2.426E-05	18417	Zinc acetate
85	3	0.0033	82.6	0.3662	196	120	3.512E-05	10427	Zinc acetate
86	5	0.02	78	0.5000	196	35	1.137E-04	4397	Zinc acetate (Microwave)
89	2.5	0.01	68	0.2868	196	60	5.782E-05	4959	Zinc acetate
89	2.5	0.006	68	0.2824	196	60	5.782E-05	4883	Sodium Carbonate
90	5	0.007	78	0.4875	190	210	1.955E-05	24938	TBD
93	6.5	0.01	91	0.5440	180	120	4.213E-05	12911	TBD: MSA
94	4	0.02	84.1	0.3746	185	30	1.515E-04	2472	POM $SiW_{11}Zn$
94	4	0.02	77.9	0.4044	185	30	1.404E-04	2881	POM $SiW_{11}Mn$
95	4	0.005	84,5	0.3595	190	40	1.112E-04	3233	POM WZn_3
95	4	0.005	84.5	0.3612	190	44	1.006E-04	3590	POM $WZnMn_2$
95	4	0.005	84	0.3616	190	50	8.842E-05	4090	POM $WZnCo_2$
99	4	0.1	79.5	0.4717	175	75	6.057E-05	7787	[Amim][$CoCl_3$]
99	4	0.1	80.1	0.4682	175	75	6.103E-05	7671	[Amim][$ZnCl_3$]
100	4	0.2	89.7	0.5017	170	240	2.199E-05	22819	$[Bmim]_2$[$CoCl_4$]
100	4	0.2	89.5	0.5028	170	240	2.194E-05	22921	$[Bmim]_2$[$ZnCl_4$]
101	7	0.2	99	0.6818	170	120	4.853E-05	14050	[Dimim][$FeCl_4$]
102	4	0.05	84.5	0.3994	180	180	2.608E-05	15315	[Ch][For]
102	4	0.05	85.2	0.3961	180	240	1.972E-05	20085	[Ch][OAc]
104	4	0.05	83	0.4066	170	30	1.627E-04	2499	Urea/$ZnCl_2$ DES
105	15	0.06	88	1.330	180	120	4.074E-05	32634	K_2CO_3/EG DES
106	4	0.05	82	0.4116	190	20	2.158E-04	1907	1,3-Dimethylurea/$(ZnOAc)_2$ DES

POM = polyoxometalate, DES = Deep eutectic solvent

Table S6. Summary of main results found in literature for glycolysis of PET assisted by heterogeneous catalysts

Ref	Solvent/PET mass ratio	Catalyst/PET mass ratio	Yield BHET (%)	Environmental factor (a.u)	T (°C)	Reaction time (min)	Pressure (bar)	Energy economy (°C*$^{-1}$min^{-1})	Environmental energy impact (°C*min)	Catalyst
[108]	6.5	0.05	0.801	0.6554	190	180	1	2.342E-05	27985	CaO/MCF
[108]	6.5	0.05	0.719	0.7302	190	180	1	2.102E-05	34732	CaO/SBA-15
[109]	15	0.01	0.76	1.4901	192	120	1	3.299E-05	45175	CaO (calcined ostrich eggshells)
[109]	15	0.01	0.72	1.5729	192	120	1	3.125E-05	50333	CaO (calcined chicken eggshells)
[110]	8	0.01	0.5	1.2150	196	120	1	2.126E-05	57154	RZnO
[110]	8	0.01	0.8	0.7594	196	120	1	3.401E-05	22326	Co/RZnO
[112]	3.7	0.01	0.9	0.3167	300	80	11	3.750E-05	8444	Mn_3O_4/SNPs
[112]	3.7	0.01	0.85	0.3353	300	80	11	3.542E-05	9467	ZnO/SNPs
[112]	3.7	0.01	0.75	0.3800	300	80	11	3.125E-05	12160	Mn_3O_4/SMPs
[112]	3.7	0.01	0.65	0.4385	300	80	11	2.708E-05	16189	ZnO/SMPs
[113]	3.7	0.01	0.907	0.3142	270	80	1	4.199E-05	7483	ZnO/60-nm silica
[113]	3.7	0.01	0.853	0.3341	270	80	1	3.949E-05	8461	ZnO/750-nm silica
[113]	3.7	0.01	0.827	0.3446	270	80	1	3.829E-05	9001	CeO_2/60-nm silica
[113]	3.7	0.01	0.786	0.3626	270	80	1	3.639E-05	9964	CeO_2/750-nm silica
[114]	5.6	0.01	0.74	0.5777	260	80	5	3.558E-05	16238	Mn_3O_4 spinel (tetragonal)
[114]	5.6	0.01	0.81	0.5278	260	80	5	3.894E-05	13553	$ZnCo_2O_4$ spinel (cubic)
[114]	5.6	0.01	0.89	0.4803	260	80	5	4.279E-05	11226	$CoMn_2O_4$ spinel (tetragonal)
[114]	5.6	0.01	0.922	0.4637	260	60	5	5.910E-05	7845	$ZnMn_2O_4$ spinel (tetragonal)
[114]	1.8	0.01	0.84	0.1696	260	60	5	5.385E-05	3151	$ZnMn_2O_4$ spinel (tetragonal)
[115]	3.7	0.05	0.9	0.3500	300	60	11	5.000E-05	7000	γ-Fe_2O_3 nanoparticles
[115]	3.7	0.1	0.8	0.4406	255	80	11	3.922E-05	11236	γ-Fe_2O_3 nanoparticles
[118]	10	0.05	1	0.7875	190	120	1	4.386E-05	17955	Fe_3O_4-boosted MWCNT
[119]	13.3	0.1	1	1.073	195	180	1	2.849E-05	37645	γ-Fe_2O_3/N-doped graphene
[120]	11	0.15	1	0.9375	190	1440	1	3.655E-06	256500	Fe_3O_4@SiO_2@(mim)[$FeCl_4$]
[116]	3.7	0.01	0.964	0.2956	300	180	11	1.785E-05	16561	GO–Mn_3O_4 nanocomposite
[116]	3.7	0.01	0.827	0.3446	300	180	11	1.531E-05	22502	Mn_3O_4

[117]	18.5	0.0001	1	1.3876	200	10	1	5.000E-04	2775	MnO_2/holey GO nanosheets
[85]	4	0.003	0.767	0.3941	196	120	1	3.261E-05	12084	TNT (Titanate Nanotubes)
[121]	5	0.01	0.82	0.4665	196	50	1	8.367E-05	5575	Mg-Al hydrotalcites
[107]	5.5	0.003	0.73	0.5682	180	180	1	2.253E-05	25217	SO_4^{2-}/ZnO-TiO_2
[122]	5	0.004	0.832	0.4543	196	25	1	1.698E-04	2676	Acetaminde/$ZnCl_2$ DES@Zif-8
[111]	5.2	0.1	0.79	0.5886	190	90	1	4.620E-05	12741	Orange Peel Ash

MCF=Mesocellular siliceous foam, SBA=mesoporous silica materials, SNP=silica nanoparticles, SMP=silica microparticles

Table S7 Summary of main results found in literature for aminolysis of PET assisted by homogeneous single catalysts

Ref	Solvent/PET mass ratio	catalyst/PET mass ratio	Yield TPA	Environmental factor (u.a)	T (°C)	Reaction time (min)	Energy economy (°C*-1min-1)	Environmental energy impact (°C*min)	Solvent/Buffer	Catalyst/Enzyme
126	10	0,01	0,31	3,225	40	4320	1,79E-06	1,80E+06	Methylamine	CAMBr
126	10	0,01	0,45	2,222	40	10080	1,12E-06	1,99E+06	Methylamine	CAMBr
126	10	0,01	0,56	1,786	40	21600	6,48E-07	2,75E+06	Methylamine	CAMBr
126	10	0,01	0,63	1,587	40	30240	5,21E-07	3,05E+06	Methylamine	CAMBr
126	10	0,01	0,7	1,428	40	36000	4,86E-07	2,94E+06	Methylamine	CAMBr
126	10	0,01	0,79	1,266	40	43200	4,57E-07	2,77E+06	Methylamine	CAMBr
126	10	0,01	0,94	1,064	40	64800	3,05E-07	3,49E+06	Methylamine	CAMBr
126	10	0	0,15	6,600	40	4320	5,44E-06	1,21E+06	Methylamine	CAMBr
126	10	0	0,26	3,808	40	10080	3,72E-07	1,02E+07	Methylamine	CAMBr
126	10	0	0,42	2,357	40	21600	3,01E-07	7,83E+06	Methylamine	CAMBr
126	10	0	0,57	1,737	40	30240	3,47E-07	5,00E+06	Methylamine	CAMBr
126	10	0	0,62	1,597	40	36000	3,96E-07	4,03E+06	Methylamine	CAMBr
126	10	0	0,68	1,456	40	43200	3,59E-07	4,06E+06	Methylamine	CAMBr
126	10	0	0,84	1,179	40	64800	2,62E-07	4,49E+06	Methylamine	CAMBr
127	6	0,007	0,782	0,585	180	480	9,72E-06	6,02E+04	Ethanolamine	NaOAc
127	6	0,01	0,832	0,553	180	480	9,05E-06	6,11E+04	Ethanolamine	NaOAc
127	6	0,015	0,71	0,653	180	480	9,63E-06	6,78E+04	Ethanolamine	NaOAc
127	6	0,007	0,612	0,748	180	480	8,22E-06	9,10E+04	Ethanolamine	AcAcid
127	6	0,01	0,682	0,674	180	480	7,08E-06	9,52E+04	Ethanolamine	AcAcid
127	6	0,015	0,603	0,769	180	480	7,89E-06	9,74E+04	Ethanolamine	AcAcid
127	6	0,007	0,64	0,715	180	480	6,98E-06	1,02E+05	Ethanolamine	KSO_3
127	6	0,01	0,741	0,621	180	480	7,41E-06	8,38E+04	Ethanolamine	KSO_3
127	6	0,015	0,68	0,682	180	480	8,58E-06	7,95E+04	Ethanolamine	KSO_3
133	2,08	0,0325	1	0,181	190	3	1,19E-03	1,52E+02	Ethanolamine	M4HPP
133	3,125	0,0325	1	0,262	120	10	8,33E-04	3,15E+02	Ethylenediamine	M4HPP

131	1,68	0,0017	0,72	0,132	190	432	1,22E-05	1,09E+04	Phenylenediamine	TBD
131	1,7	0,0017	0,72	0,137	190	432	8,77E-06	1,57E+04	Pyridine diamine	TBD
131	1,03	0,0017	0,93	0,085	120	120	5,00E-05	1,70E+03	Ethanolamine	TBD
131	1,01	0,0017	0,89	0,088	110	60	1,41E-04	6,22E+02	Ethylenediamine	TBD
132	2	0,1	0,9	0,136	200	4	1,11E-03	1,23E+02	Isophorenediamine	$Zn(OAc)_2$

Table S8 Summary of main results found in literature for aminolysis of PET assisted by heterogeneous catalysts and complex homogeneous catalyst systems

Ref	Solvent/PET mass ratio	catalyst/PET mass ratio	Yield TPA	Environmental factor (u.a)	T (°C)	Reaction time (min)	Energy economy (°C*-1min-1)	Environmental energy impact (°C*min)	Solvent/Buffer	Catalyst/Enzyme
134	6	0,005	0,49	0,931	190	240	1,07E-05	8,66E+04	Ethanolamine	DBTO
134	6	0,01	0,52	1,349	190	240	1,14E-05	1,18E+05	Ethanolamine	DBTO
134	6	0,005	0,54	1,288	190	120	2,37E-05	5,44E+04	Ethanolamine	DBTO
134	6	0,01	0,56	1,253	190	120	2,46E-05	5,10E+04	Ethanolamine	DBTO
134	6	0,005	0,6	1,160	190	60	5,26E-05	2,20E+04	Ethanolamine	DBTO
134	6	0,01	0,62	1,131	190	60	5,44E-05	2,08E+04	Ethanolamine	DBTO
135	6	0,002	0,39	1,775	190	240	8,55E-06	2,08E+05	Ethanolamine	Beta Zeolite
135	6	0,005	0,64	1,087	190	240	1,40E-05	7,75E+04	Ethanolamine	Beta zeolite
135	6	0,01	0,85	0,825	190	240	1,86E-05	4,43E+04	Ethanolamine	Beta zeolite
135	6	0,012	0,85	0,828	190	240	1,86E-05	4,44E+04	Ethanolamine	Beta zeolite
135	6	0,002	0,62	1,117	190	240	1,36E-05	8,21E+04	Ethanolamine	Mmt KSF
135	6	0,004	0,73	0,952	190	240	1,60E-05	5,94E+04	Ethanolamine	Mmt KSF
135	6	0,005	0,86	0,809	190	240	1,89E-05	4,29E+04	Ethanolamine	Mmt KSF
135	6	0,006	0,86	0,810	190	240	1,89E-05	4,30E+04	Ethanolamine	Mmt KSF
136	1	0,01	0,28	0,381	65	180	2,39E-05	1,59E+04	hydrazine	NaCO3
136	2	0,01	0,66	0,309	65	180	5,64E-05	5,47E+03	hydrazine	NaCO3
136	3	0,01	0,84	0,358	65	180	7,18E-05	4,99E+03	hydrazine	NaCO3

[136]	4	0,01	0,85	0,468	65	180	7,26E-05	6,44E+03	hydrazine	$NaCO_3$
[137]	6	0,05	0,72	0,504	270	30	8,89E-05	5,67E+03	diethanolamine	$ZnCl_2$
[137]	6	0,05	0,66	0,550	270	30	8,15E-05	6,74E+03	diethanolamine	urea
[137]	6	0,05	0,77	0,471	270	30	9,51E-05	4,96E+03	diethanolamine	$[ChCl][ZnCl_2]$
[137]	6	0,05	0,95	0,382	270	30	1,17E-04	3,26E+03	diethanolamine	$[ChCl][ZnCl_2]_2$
[137]	6	0,05	0,83	0,437	270	30	1,02E-04	4,26E+03	diethanolamine	$[ChCl][ZnCl_2]_3$
[137]	6	0,05	0,8	0,453	270	30	9,88E-05	4,59E+03	diethanolamine	$[ChCl][urea]_2$

Table S9. List of organisations focussing in chemical depolymerization technologies of PET waste

Company	Plastic Stream	Method	Catalyst	Industrial Maturity
PerPETual Global Technologies	▪ PET Bottles	Glycolysis	No information available	Commercial plant operational, retrofitted with technology, processes 2 million PET bottles/day into filament yarns
Ioniqa Technologies	▪ PET Bottles ▪ Mult-layerd trays ▪ Polyester textiles	Glycolysis	Ionic capture complex	Pilot plant operational (10,000 kilotons/year), plan to scale up to 50,000+ kilotons.
Garbo (ChemPET Technology)	▪ Opaque PET bottles ▪ Multi-layer thermoforming scraps/trays ▪ Multi-layer film ▪ Coloured PET powders and fines ▪ Black PET trays ▪ Polyester/cotton textile blends ▪ PET/PP strapping	Glycolysis	No information available	Pilot plant in operation (1000 tons/year), plans for commercial scale plant underway.
Jeplan (BRING Technology)	▪ Coloured /clear PET bottles ▪ Polyester textiles	Glycolysis	Sodium methylate	Two plants in operation; commercial PET bottles recycling plant (22 kilotons/year) and demonstration plant for textile to textile recycling (2 kilotons/year).
IBM (VolCat technology)	▪ Coloured or clear PET bottles ▪ Containers ▪ Dirty or clean plastic waste stream	Glycolysis	Volatile organocatalyst	VolCat Technology is still at laboratory scale and has not yet been commercialized, currently seeking industry partners.
Gr3n (DEMETO technology)	▪ PET Bottles ▪ Food containers ▪ Polyester textiles	Hydrolysis	*Microwave assisted technology	Industrial-scale demonstration plant (capacity not known) under construction, pilot plant running since 2015 (capacity not known).
Carbios	▪ PET Bottles ▪ Polyester textiles	Hydrolysis	Enzyme	Process optimisation complete at laboratory level. Industrial-scale demonstration plant in construction, scheduled to launch in 2021 (estimated capacity 50 – 100 kilotons /year).
Eastman (Polyester Renewal Technology)	▪ PET Waste, type unknown	Glycolyis or methanolysis	No information available	Methanolysis process at pilot stage, commercial facility planned for the end of 2022. Maturity not known.