Supplementary Information

Table S1. Activation energies (E_a) and correlation factors (R^2) for the three waste samples at different conversions using Friedman and KAS methods.

Material	MSW				DMSW				SWD			
Method	Friedman method		KAS method		Friedman method		KAS method		Friedman method		KAS method	
Parameter/ Conversion	$E_a^{\#}$	R^2	$E_a^{\#}$	R^2	$E_a^{\#}$	R^2	$E_a^{\#}$	R^2	$E_a^{\#}$	R^2	$E_a^{\#}$	R^2
0.1	144.07	0.9939	148.55	0.9947	174.41	0.997	168.92	0.998	191.43	0.9981	194.15	0.9991
0.15	147.72	0.9813	151.78	0.9959	196.88	0.9934	197.47	0.998	219.88	0.9969	218.38	0.9947
0.2	159.89	0.9915	164.92	0.9978	168.08	0.993	167.29	0.9997	210.04	0.999	215.12	1
0.25	175.48	0.9961	177.77	0.9992	192.05	0.9997	191.84	0.9952	211.96	0.9979	218.35	0.9994
0.3	191.11	0.9998	186.18	0.9991	202.44	0.9877	203.39	0.9999	217.79	0.9998	213.4	0.9995
0.35	166.95	0.9914	174.39	0.996	214.17	0.9835	212.91	0.9883	219.91	0.9933	214.27	0.9997
0.4	184.9	0.9985	181.77	0.9991	239.9	0.9993	236.38	0.9824	220.48	0.9906	216.11	0.9997
0.45	171.13	0.9743	171.04	0.984	235.61	0.9981	233.25	0.9981	218.05	0.9945	214.62	0.9996
0.5	186.21	0.9972	179.47	0.9983	232.28	0.9962	231.87	0.9997	227.11	0.9977	224.18	1
0.55	189.35	0.9996	193.62	0.9917	216.32	0.991	219.91	0.9908	246.59	0.9971	241.62	0.9999

0.6	194.54	0.9998	195.7	0.9954	207.61	0.9888	204.93	0.9907	230.21	0.9939	223.22	0.9951
0.65	181.57	0.9953	180.39	0.9994	190.47	0.9947	190.86	0.9852	211.86	0.9991	215.87	0.9987
0.7	168.25	0.9999	167.5	0.9907	185.04	0.9994	184.33	0.995	211.57	0.998	210.12	0.9996
0.75	165.04	0.9907	165.12	0.9906	187.43	0.9966	191.11	0.9925	207.22	0.9949	200.73	0.9969
0.8	158.35	0.9983	157.08	0.999	195.64	0.9864	198.65	0.9941	184.16	0.9909	187.43	0.9936
Average	172.3		173.02		202.55		202.21	0.9934	215.22		213.84	

in (kJ mol^{-1})

Table S2. Pre-exponential factor and other thermodynamic parameters obtained by using E_α from Friedman method at 15 °C min^{-1}.

Sample	MSW				DMSW				SWD			
Parameter/ Conversion	A (s^{-1})	°ΔH (kJ mol^{-1})	°ΔG (kJ mol^{-1})	°ΔS (J mol^{-1})	A (s^{-1})	°ΔH (kJ mol^{-1})	°ΔG (kJ mol^{-1})	°ΔS (J mol^{-1})	A (s^{-1})	°ΔH (kJ mol^{-1})	°ΔG (kJ mol^{-1})	°ΔS (J mol^{-1})
0.1	1.81×10^{10}	139.67	166.73	-61.80	9.70×10^{12}	169.89	173.52	-10.69	1.80×10^{15}	187.03	176.08	32.96
0.15	3.95×10^{10}	143.18	167.55	-55.63	1.11×10^{15}	192.23	182.63	28.32	9.18×10^{17}	215.35	187.32	84.42
0.2	5.28×10^{11}	155.24	170.26	-34.31	2.55×10^{12}	163.34	170.95	-22.45	1.06×10^{17}	205.41	183.44	66.20
0.25	1.47×10^{13}	170.74	173.75	-6.86	4×10^{14}	187.23	180.68	19.32	1.62×10^{17}	207.24	184.19	69.44

0.3	4.13×10^{14}	186.28	177.24	20.65	3.57×10^{15}	197.54	184.89	37.30	5.81×10^{17}	213.01	186.50	79.86
0.35	2.38×10^{12}	162.03	171.84	-22.41	4.23×10^{16}	209.19	189.65	57.64	9.23×10^{17}	215.06	187.33	83.52
0.4	1.10×10^{14}	179.88	175.85	9.21	9.60×10^{18}	234.86	200.10	102.53	1.05×10^{18}	215.57	187.56	84.38
0.45	5.81×10^{12}	166.00	172.77	-15.47	3.89×10^{18}	230.50	198.36	94.81	6.15×10^{17}	213.09	186.60	79.79
0.5	1.45×10^{14}	180.94	176.14	10.96	1.93×10^{18}	227.10	197.01	88.77	4.48×10^{18}	222.09	190.18	96.14
0.55	2.83×10^{14}	183.96	176.84	16.24	6.67×10^{16}	211.04	190.53	60.51	3.21×10^{20}	241.52	197.87	131.46
0.6	8.57×10^{14}	189.03	178.00	25.17	1.06×10^{16}	202.18	186.99	44.81	8.85×10^{18}	225.07	191.40	101.41
0.65	5.39×10^{13}	175.91	175.10	1.84	2.86×10^{14}	184.87	180.03	14.28	1.58×10^{17}	206.63	184.15	67.69
0.7	3.14×10^{12}	162.44	172.13	-22.11	9.11×10^{13}	179.30	177.83	4.34	1.48×10^{17}	206.21	184.04	66.79
0.75	1.59×10^{12}	159.15	171.41	-28.00	1.51×10^{14}	181.60	178.80	8.26	5.72×10^{16}	201.70	182.32	58.37
0.8	3.80×10^{11}	152.39	169.92	-40.03	8.51×10^{14}	189.73	182.13	22.42	3.65×10^{14}	178.45	173.21	15.77
Average	1.81×10^{10}	167.12	173.04	-13.50	1.04×10^{18}	197.37	184.94	36.68	2.26×10^{19}	210.23	185.48	74.55