

Figure S1 Size distribution of NM-WPCBs.

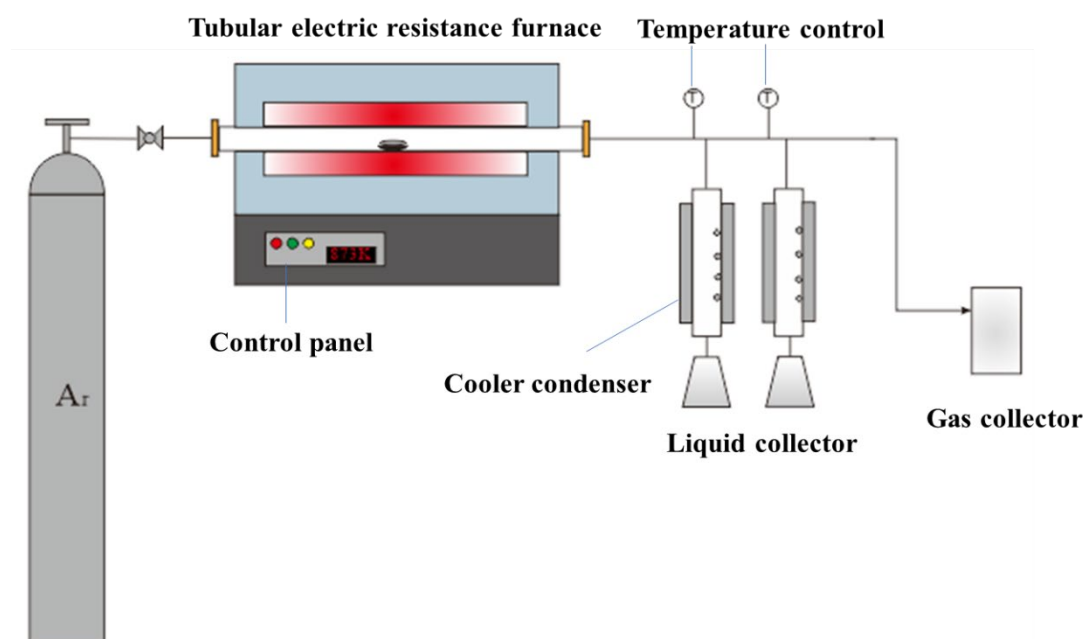


Figure S2 Schematic illustration of co-pyrolysis apparatus.

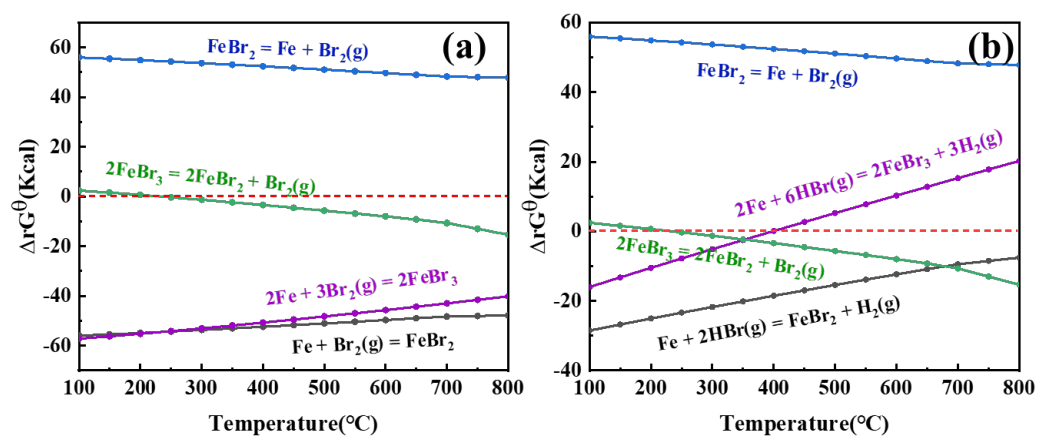


Figure S3 The relationship between ΔG and temperature for the reaction of catalysts.

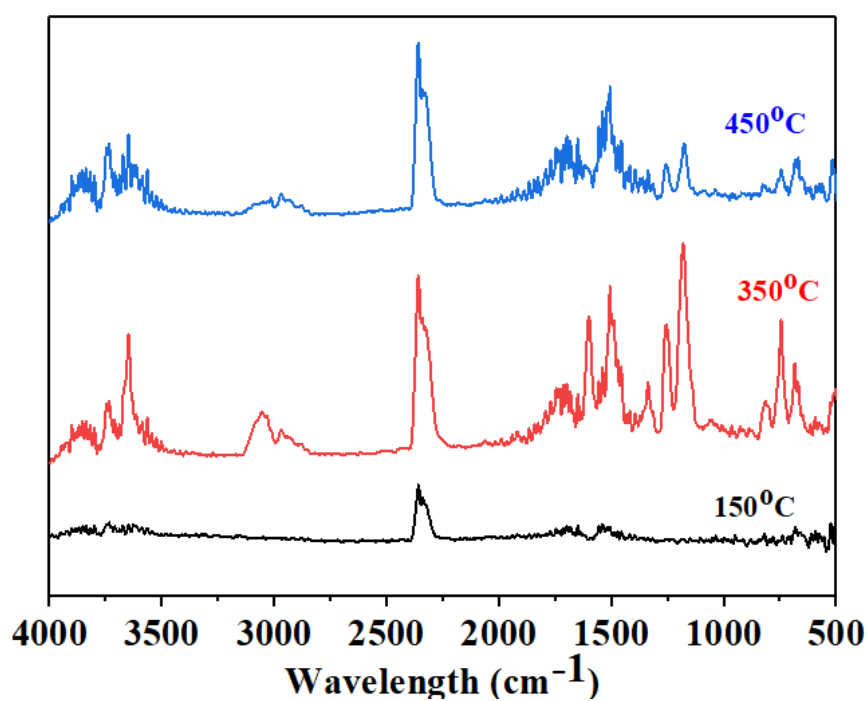


Figure S4 The spectrum of TG-FIIR at 150, 350 and 450 $^\circ\text{C}$.

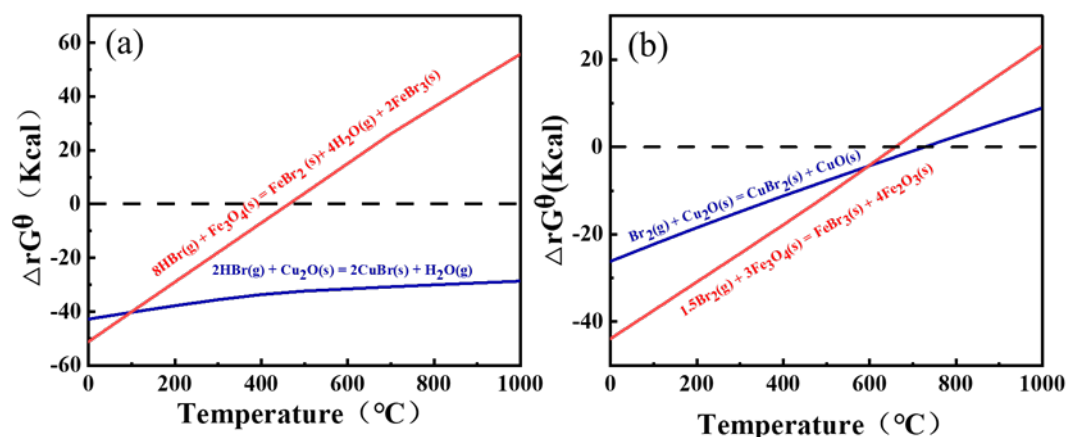


Figure S5 The relationship between ΔG and temperature for the debromination of catalysts.

Table S1 Main compositions of pyrolysis liquid for co-pyrolysis of NM-WPCBs and Cu/Fe-0.20.

Number	Ret. Time (min)	Aera (%)	Components
1	8.096	47.16	Phenol
2	9.881	2.86	Phenol, 3-methyl-
3	10.2	0.33	Phenol, 4-bromo-
4	10.47	0.94	p-Cresol
5	11.153	1.19	Benzofuran, 2,3-dihydro-2-methyl-
6	12.002	0.25	Phenol, 2-ethyl-
7	12.269	0.95	Phenol, 2,5-dimethyl-
8	12.751	1	Phenol, 4-ethyl-
9	13.1	0.22	2H-1-Benzopyran, 3,4-dihydro-
10	13.637	0.28	Phenol, 2,3,6-trimethyl-
11	13.975	0.09	1H-Benzimidazole, 5,6-dimethyl-
12	14.057	0.1	Phenol, 2-propyl-
13	14.212	21.5	Phenol, 3-(1-methylethyl)-
14	15.774	0.38	Phenol, 2-methyl-5-(1-methylethyl)-
15	15.926	0.25	Cyclohexasiloxane, dodecamethyl-
16	16.624	0.83	Benzenamine, -2,6-dimethyl-
17	17.258	0.39	Benzene, 1,2,3,4-tetramethyl-5-(1-methylethyl)-
18	17.533	0.16	Phenol, 2,4-dimethyl
19	26.338	0.36	Phenol, 4,4'-(1-methylethylidene)bis-
20	26.436	0.34	4-Cyclohepta-2,4,6-trienyl-phenol
21	29.28	0.2	Hexadecanoic acid, ethyl ester
22	29.737	1.72	Benzaldehyde, 4,4'-[1,2-ethanediylbis(oxy)]bis-
23	29.933	0.14	Octanedinitrile
24	30.015	3.25	2-Propanol, 1,3-diphenoxy-
25	31.195	0.34	phenol, 4,4'-[(1,4,5,6,7,7-hexachlorobicyclo [2.2.1]hept-5-en-2-yl)methylene]bis-
26	31.287	0.39	Phenol, 2,2'-methylenebis [4-methyl-
27	32.18	10.94	Phenol, 4,4'-(1-methylethylidene)bis-
28	32.392	0.23	Heptadecanoic acid, ethyl ester
29	34.632	1.02	4H-1-Benzopyran, 3-bromo-4,4,5,8-tetramethyl-
30	34.829	0.39	Phenol, 4-(1,1-dimethylpropyl)-

Table S2 Main compositions of pyrolysis gas for co-pyrolysis of NM-WPCBs and Cu/Fe-0.20.

Number	Ret. Time (min)	Aera (%)	Components
1	2.161	25.75	Carbon dioxide
2	7.412	11.63	Water
3	12.938	32.58	Acetaldehyde
4	13.889	0.42	Methane, bromo-
5	18.937	6.43	Furan
6	19.495	7.96	Propanal
7	19.918	15.24	Acetone