Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Supporting Information

Br-doped Ga_2O_3/MCM-41 catalyzed synthesis of propylene carbonate from carbon dioxide and propylene oxide

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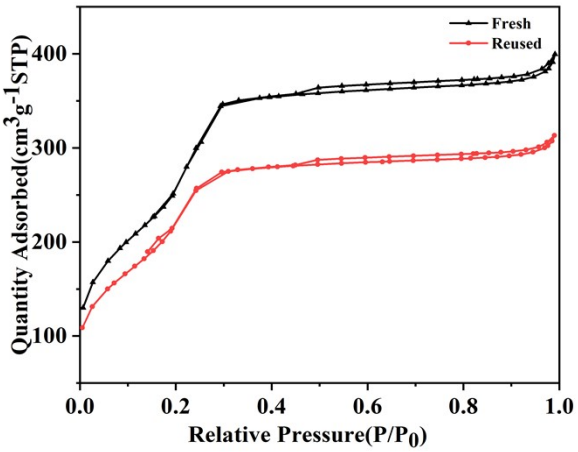

Fig. S1 N_2 adsorption-desorption isotherms of fresh and reused Ga_2O_3/MCM-41-0.5

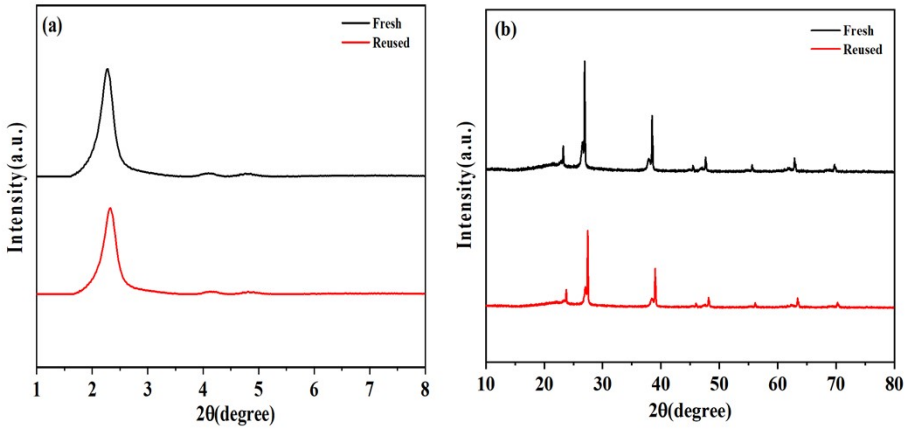

Fig. S2 (a) Low angle XRD pattern; (b) Wide angle XRD pattern of fresh and reused Ga_2O_3/MCM-41-0.5

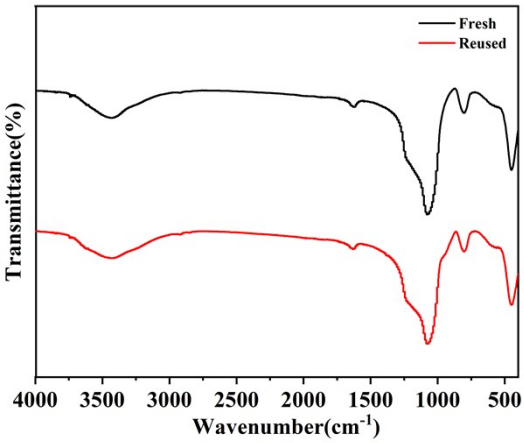

Fig. S3 FT-IR pattern of fresh and reused Ga_2O_3/MCM-41-0.5

Table S1 Reaction conditions with different catalysts

Catalysts	Co-catalyst	Temperature (°C)	CO_2 pressure (MPa)	Time (h)
Ga-Silicate-1	TBAB	75	0.55	5
ZSM-5	DMF	150	2	8
Fe-HMS	-	120	1.6	3
Ti-mSiO_2	-	120	1.6	6
Zn/SBA-15	KI	80	1	9
I@/Mg-Beta	-	130	1	3
MgO/5Al_SBA-15	-	125	2.5	3
Ga_2O_3/MCM-41	-	120	3.5	10

Table S2 Reusability of different catalysts

Catalysts	Number of cycles	Conversion (%)	Selectivity (%)
Fe-HMS	3	97.4	92.9
Ti-mSiO_2	4	90	95
Zn/SBA-15	1	82.5	99
I@/Mg-Beta	5	85.1	100
MgO/5Al_SBA-15	4	43	95
Ga_2O_3/MCM-41	5	70.2	81.5