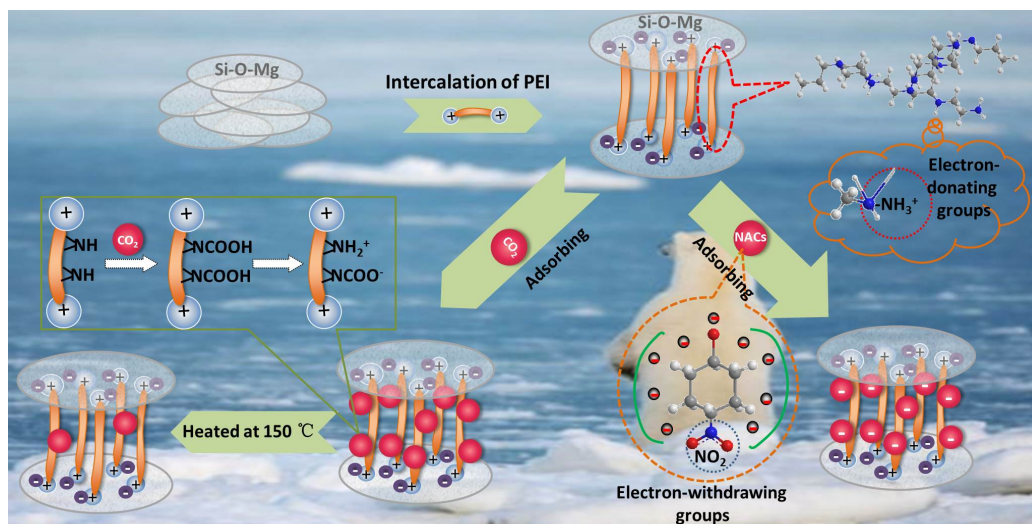


Electronic Supplementary Information (ESI)

PEI@Mg₂SiO₄: an efficient carbon dioxide and nitrophenol compounds adsorbing material

A table of contents entry



PEI@Mg₂SiO₄: an efficient carbon dioxide and nitrophenol compounds adsorbing material

Figures S1 – S3 and Table S1

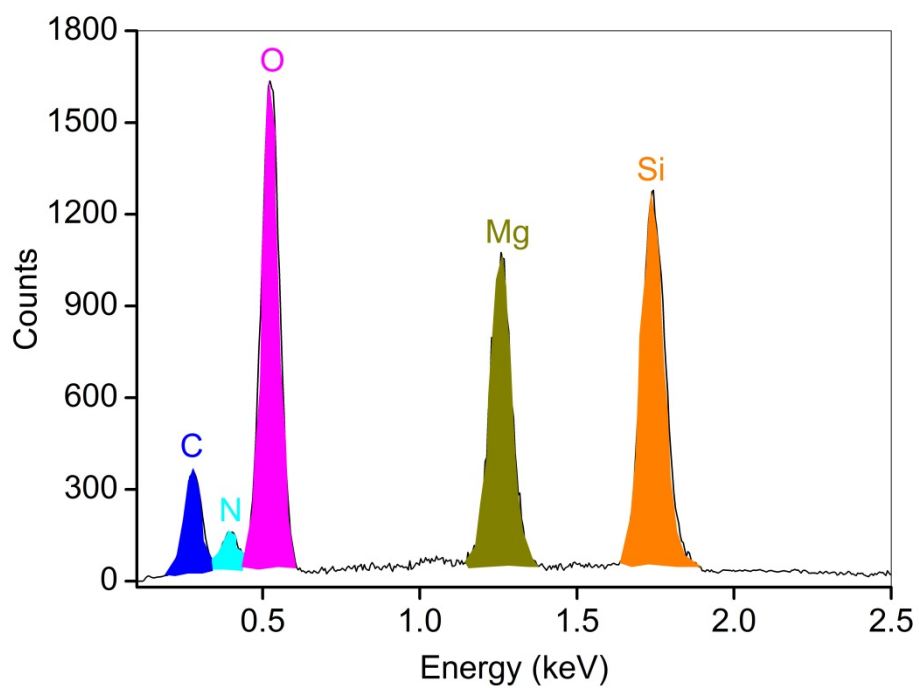


Fig. S1 EDX of the PEI@Mg₂SiO₄.

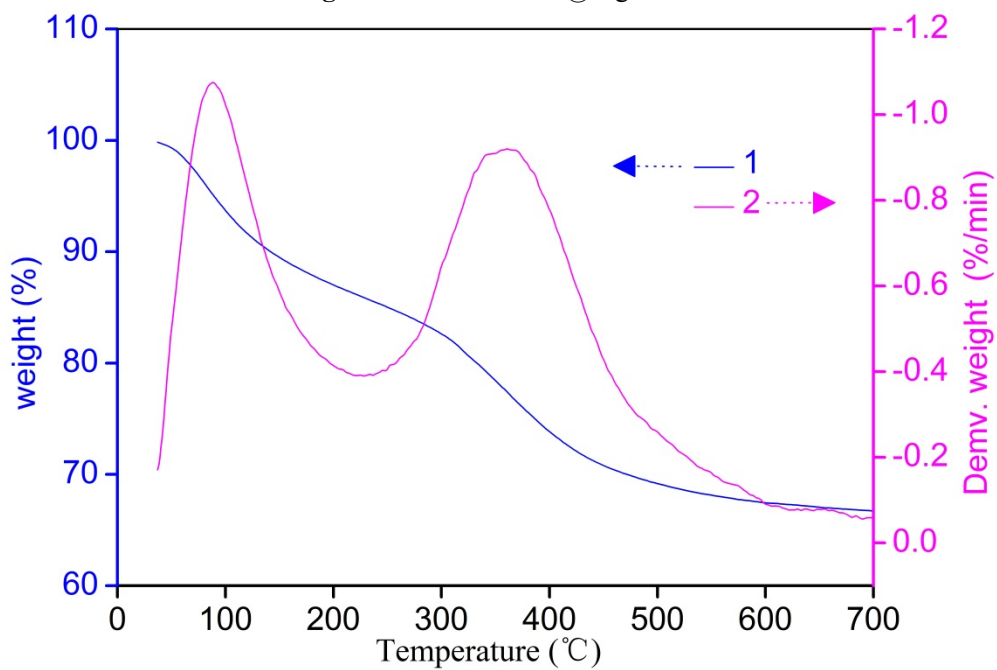


Fig. S2 TGA (1) and DTA (2) of the PEI@Mg₂SiO₄.

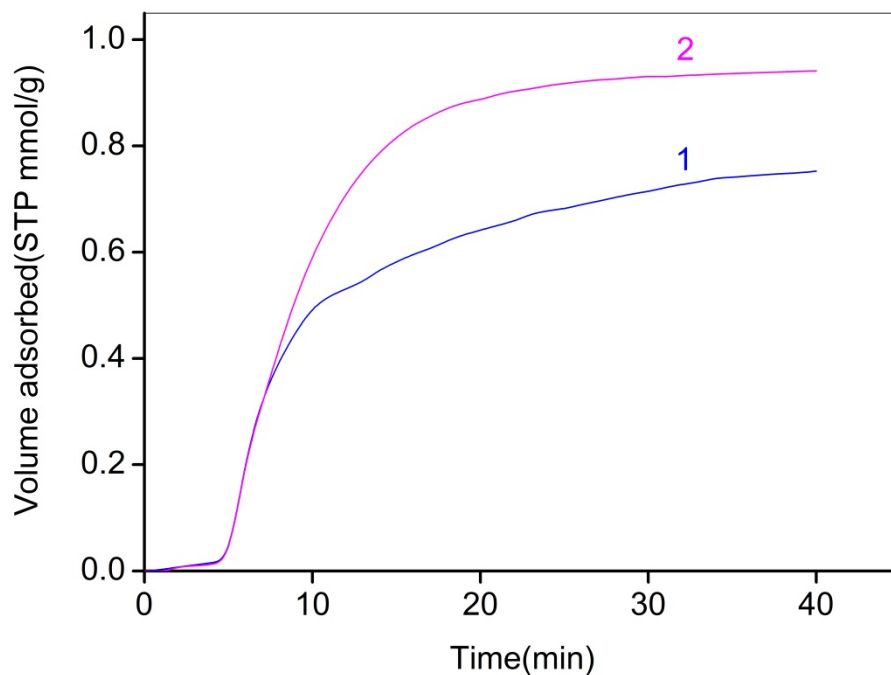


Fig. S3 Effect of time on the adsorption of CO₂ for Mg₂SiO₄ (1) and the PEI@Mg₂SiO₄ (2) at 50 °C.

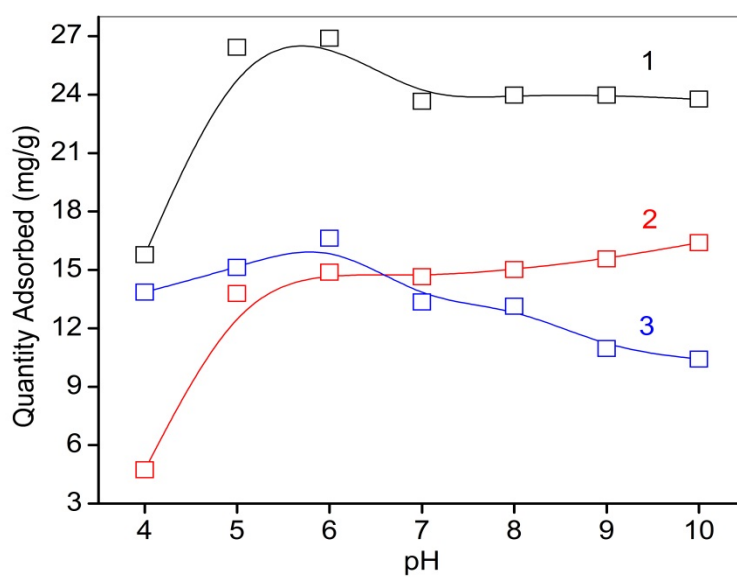


Fig. S4 The sorption curve of NACs (1-NP, 2-DNP and 3-TNP) to the PEI@Mg₂SiO₄ material at different pH.

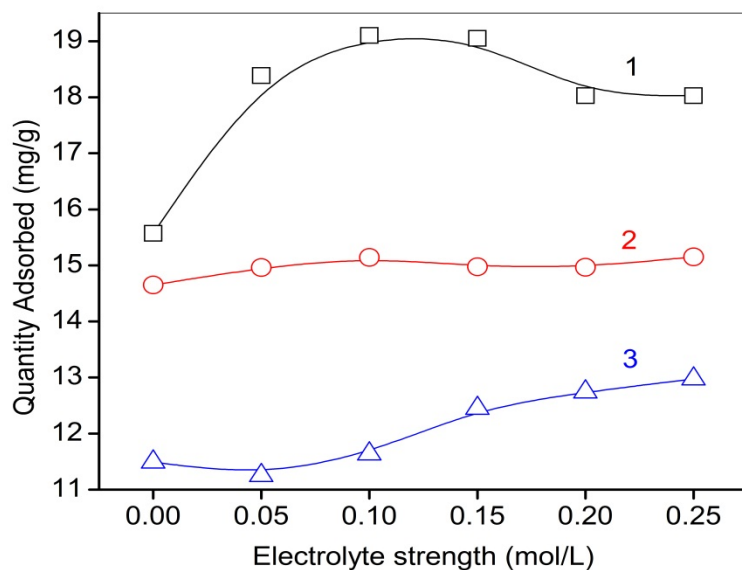


Fig. S5 Effect of ionic strength on the adsorption of NACs (1-NP, 2-DNP and 3-TNP) to the PEI@Mg₂SiO₄ material

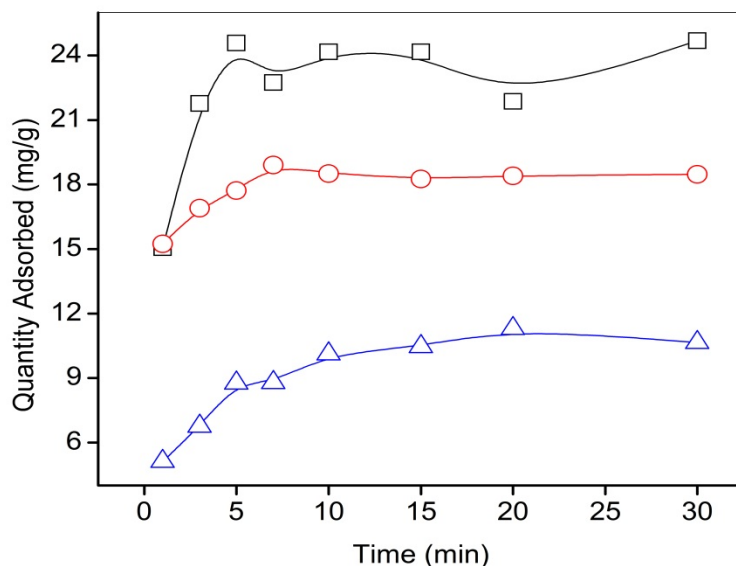


Fig. S6 The sorption curve of NACs (1-NP, 2-DNP and 3-TNP) to the PEI@Mg₂SiO₄ material at different times

Table. S1 Parameters of the DEM Kinetic Model obtained for CO₂ adsorption on the PEI@Mg₂SiO₄

Temperature (°C)	q_e (mg/g)	Fast adsorption		Slow adsorption		R ²
		D_1 (mg/g)	K_1 (min ⁻¹)	D_2 (mg/g)	K_2 (min ⁻¹)	
25	35.6	18.4	0.32	17.5	0.06	0.99
50	42.3	24.1	0.15	24.1	0.15	0.98
75	29.3	15.5	0.89	12.5	1.71	0.97
100	15.2	0.58	0.57	7.2	1.72	0.95