Electronic Supplementary Material (ESI) for Nanoscale

An efficient one-step condensation and activation strategy to synthesize porous carbons with optimal micropore sizes for highly selective CO_2 adsorption

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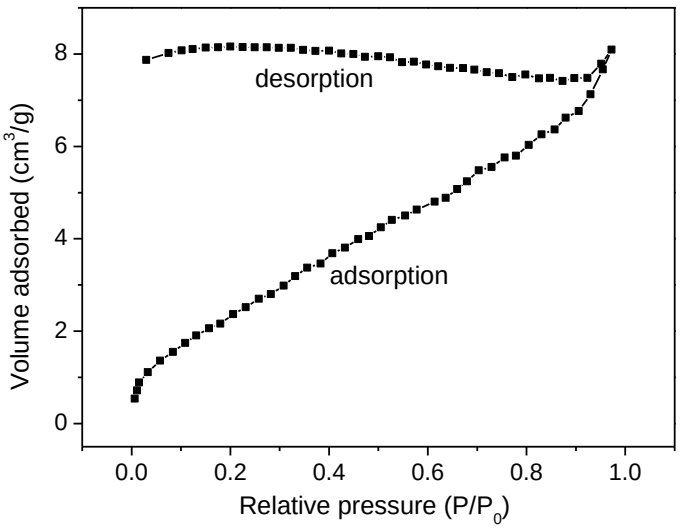

Fig. S1 Nitrogen adsorption-desorption isotherms of the resulting carbon prepared by direct carbonization of the ground *m*-phenylenediamine and terephthalaldehyde mixture. The specific surface area determined by the BET method is ~7 m^2/g.

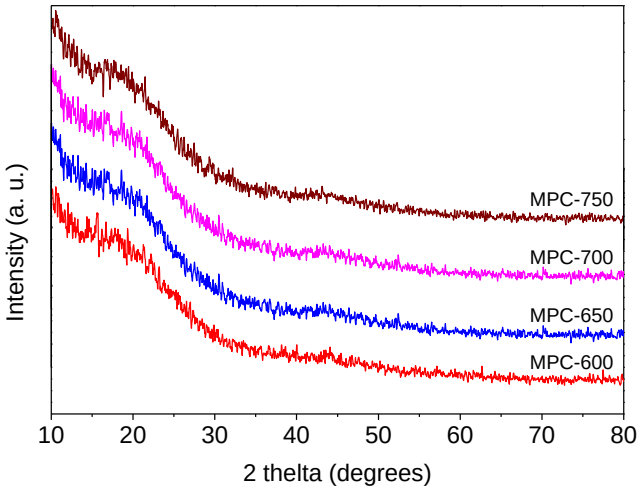

Fig. S2 Powder XRD patterns of various MPCs prepared at different temperatures.

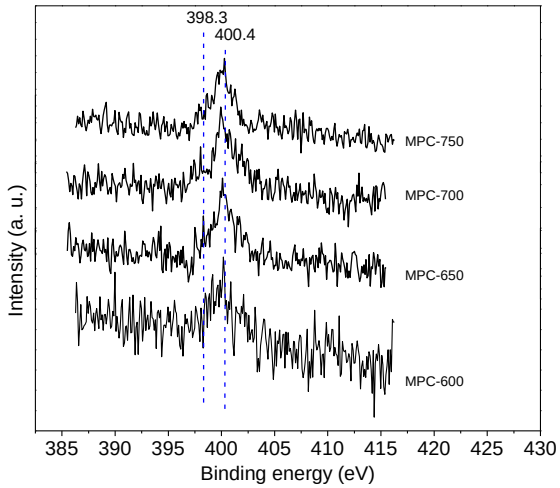

Fig. S3 N1s XPS spectra of various MPCs prepared at different temperatures.

Table S1. Elemental analysis of various MPCs determined by XPS analysis.

Sample	N [wt%]	C [wt%]
MPC-600	0.66	93.3
MPC-650	0.81	91.1
MPC-700	0.78	92.7
MPC-750	0.33	96.3

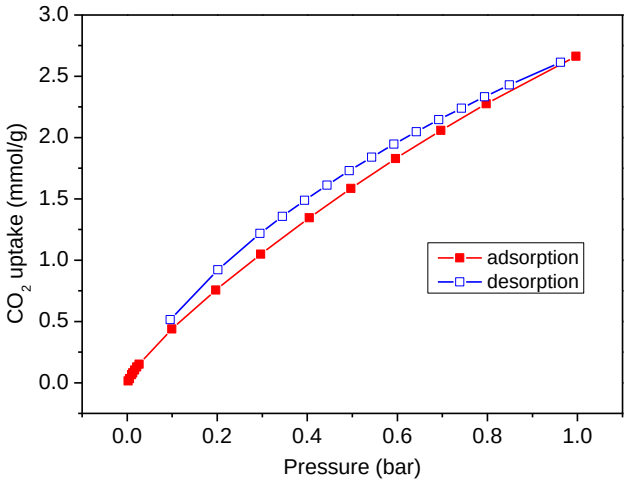

Fig. S4 CO_2 sorption isotherms of MPC-600 at 25 °C.

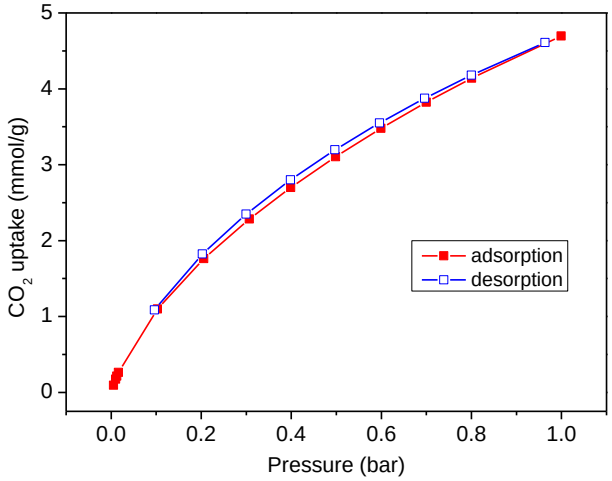

Fig. S5 CO_2 sorption isotherms of MPC-600 at 0 °C.

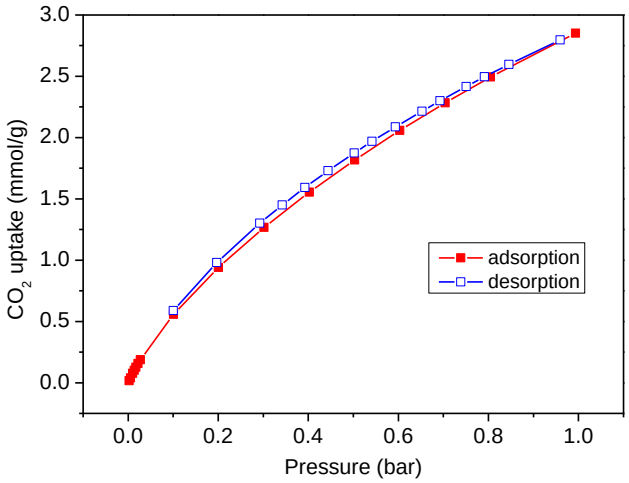

Fig. S6 CO_2 sorption isotherms of MPC-650 at 25 °C.

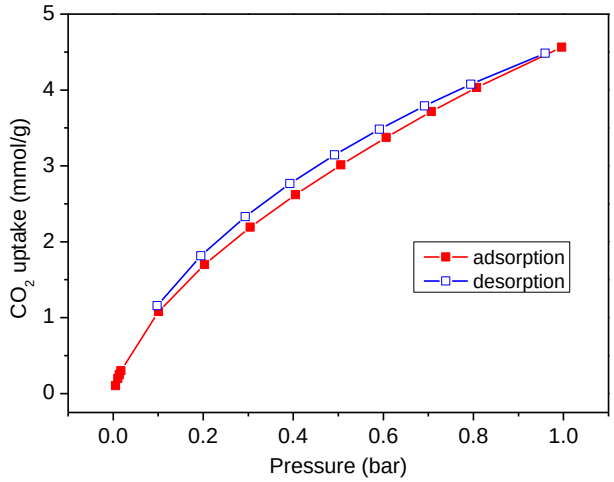

Fig. S7 CO_2 sorption isotherms of MPC-650 at 0 °C.

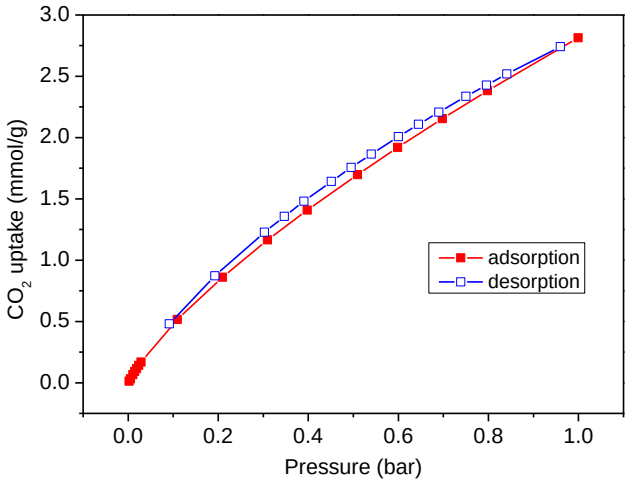

Fig. S8 CO_2 sorption isotherms of MPC-700 at 25 °C.

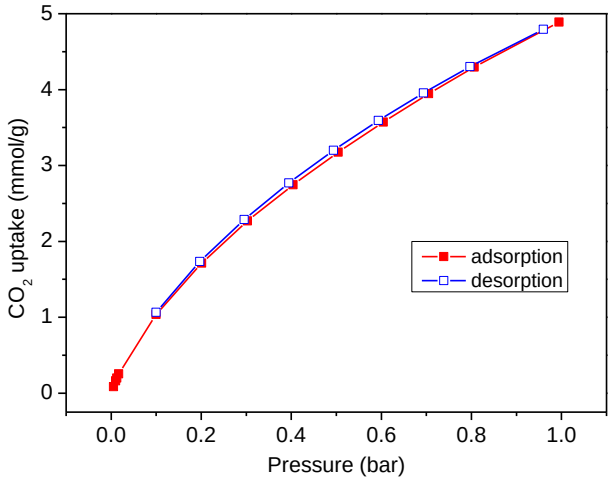

Fig. S9 CO_2 sorption isotherms of MPC-700 at 0 °C.

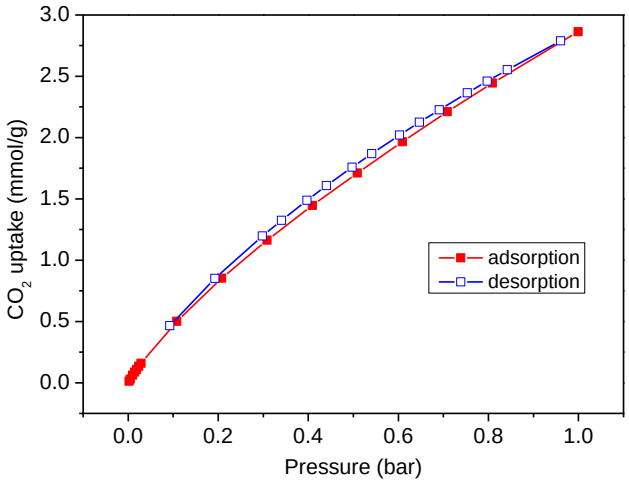

Fig. S10 CO_2 sorption isotherms of MPC-750 at 25 °C.

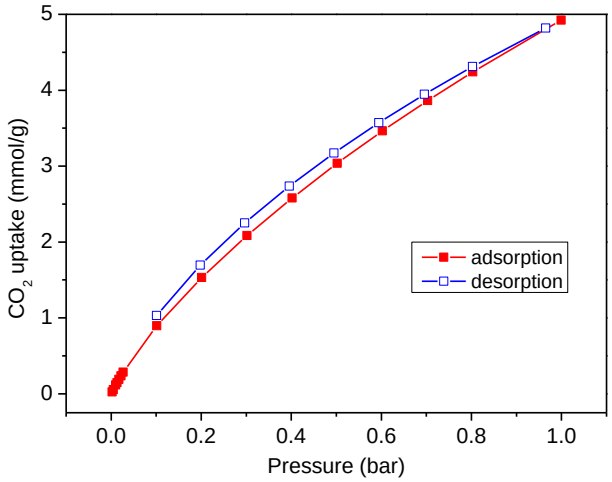

Fig. S11 CO_2 sorption isotherms of MPC-750 at 0 °C.

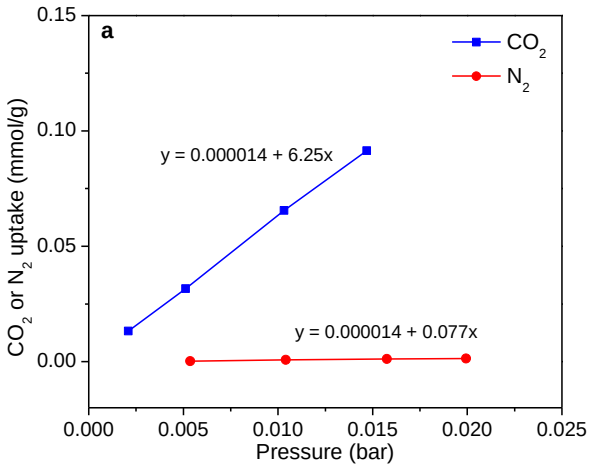

Fig. S12 Initial slopes from CO_2 and N_2 adsorption isotherms at 25 °C for MPC-700.

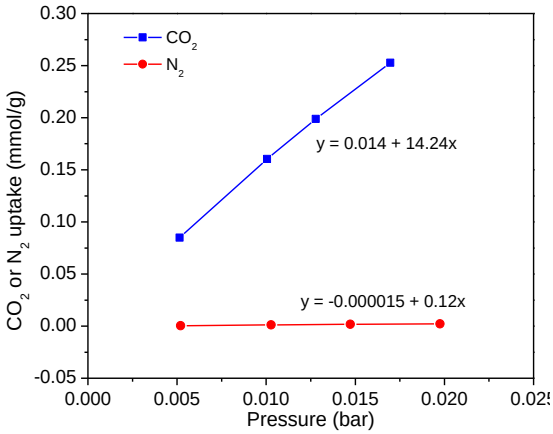

Fig. S13 Initial slopes from CO_2 and N_2 adsorption isotherms at 0 °C for MPC-700.