

Electronic Supporting Information:

Polybenzoxazine-based monodisperse carbon spheres with low-thermal shrinkage and their CO₂ adsorption property

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Table S1 Cumulative volume of CBD-800 and CBDC-900 at different pore sizes.

Sample	pore volume /cm ³ ·g ⁻¹				
	<1.5·D _k ^a (~0.5nm)	<2·D _k (~0.68nm)	<3·D _k (~1nm)	<4·D _k (~1.36nm)	<5·D _k (~1.7nm)
CBD-800	0.042	0.042	0.18	0.19	0.19
CBDC-900	0.059	0.20	0.31	0.38	0.41

^a D_k: kinetic diameter of CO₂ (0.33 nm)

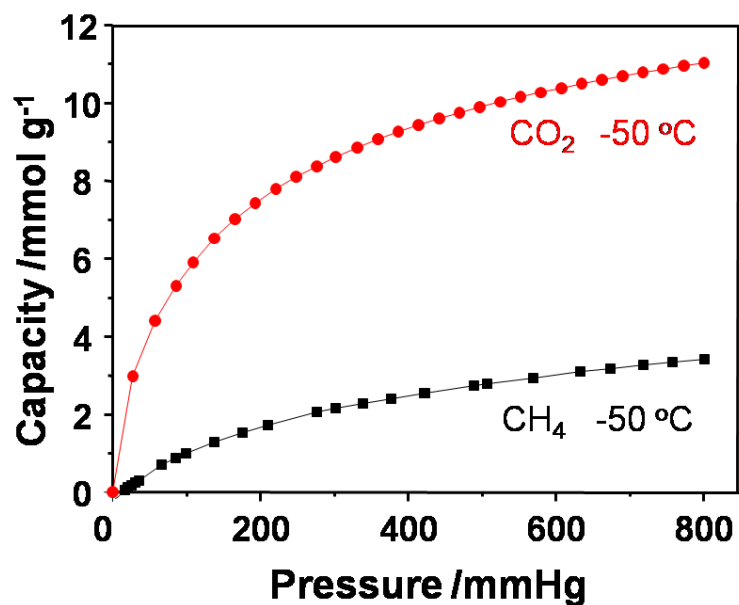


Fig. S1 CO₂ adsorption isotherm and CH₄ adsorption isotherm for CBDC-900 measured at -50 °C

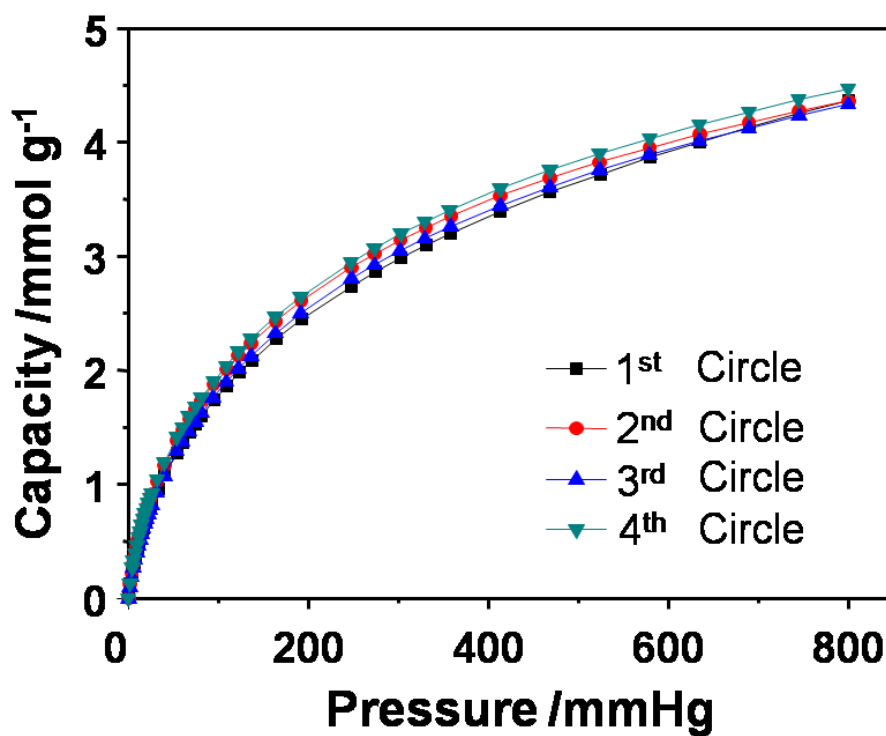


Fig. S2 CO₂ adsorption isotherms of CBD-800 measured at 0 °C for four repeat runs

Table S2 Comparison of the prepared carbon spheres and recently reported microporous carbon adsorbents for CO₂ capture at ~1 bar and 25 °C, 0 °C and -50 °C.

Sample	V _{micro} cm ³ g ⁻¹	N wt %	CO ₂ adsorption capacity					
			CO ₂ mmol·g ⁻¹			CO ₂ mmol·cm ⁻³		
			25 °C	0 °C	-50 °C	25 °C	0 °C	-50 °C
CEM750 [1]	1.24	4.70	4.38	6.92	-	3.53	5.58	
CP-2-600 [2]	0.74	10.14	3.90	6.20	-	5.27	8.38	
PAN-PK [3]	0.76	8.13	4.40	-	-	5.79	-	
AS-2-600 [4]	1.23	-	4.80	6.10	-	3.90	4.96	
MFB-600 [5]	0.42	24.40	2.25	-	-	5.36	-	
CBDC-900 This work	0.46	1.66	3.39	5.16	11.03	7.37	11.22	23.98
CBD-800 This work	0.27	1.52	3.21	4.36	7.84	11.89	16.15	29.04

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(3) Shen, W.; Zhang, S.; He, Y.; Li, J.; Fan, W. *J. Mater. Chem.* **2011**, 21, 14036-14040.

(4) Sevilla, M.; Fuertes, A. B. *Energy Environ. Sci.* **2011**, 4, 1765-1771.

(5) Pevida, C.; Drage, T. C.; Snape, C. E. *Carbon* **2008**, 46, 1464-1474.