

Development and characterization of amine functionalized hyper-cross-linked resin for CO₂ capture

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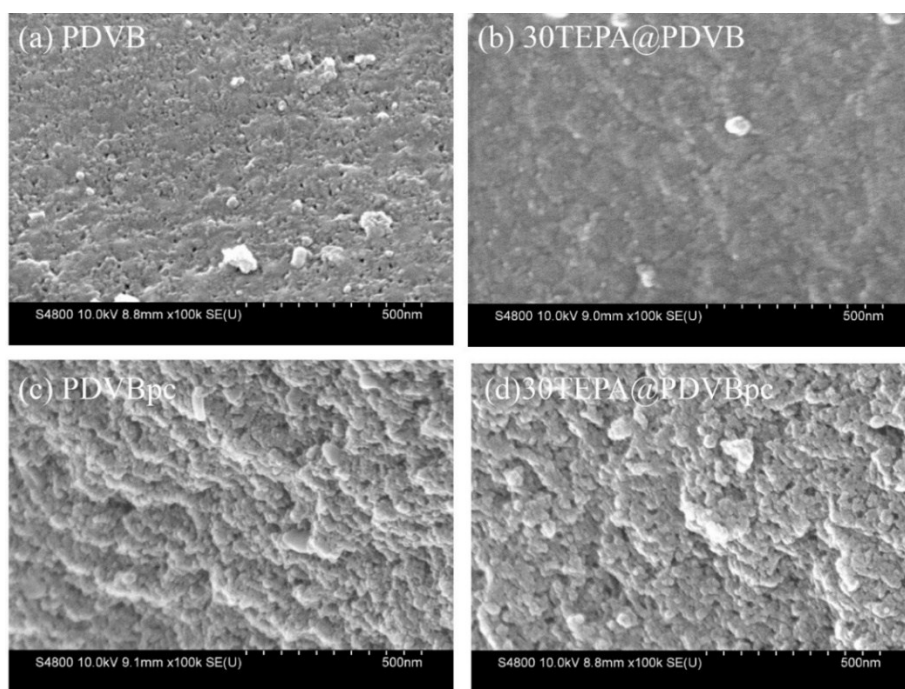


Fig. S1 the SEM images of (a) PDVB, (b) 30TEPA@PDVBpc, (c) PDVBpc and (d) 30TEPA@PDVBpc

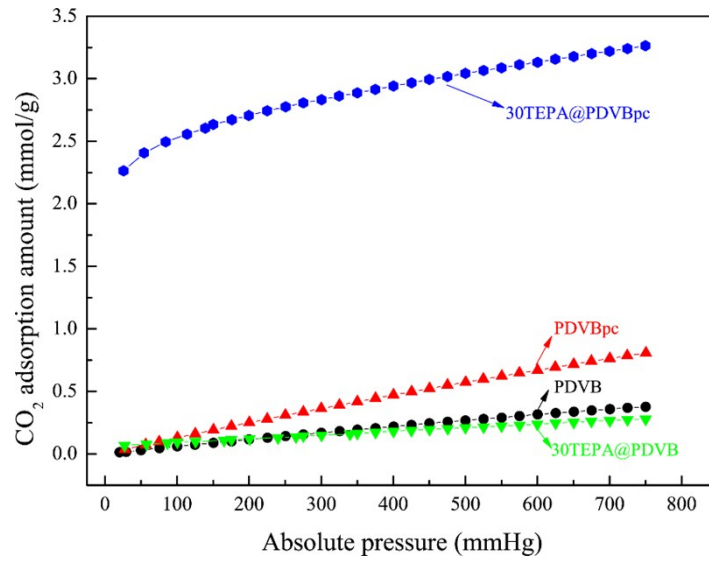


Fig. S2 The CO₂ adsorption isotherms for PDVB, PDVBpc, 30TEPA@PDVB and 30TEPA@PDVBpc at ambient temperature.

Table S1 Summary of amine efficient of different adsorbents under dry conditions

Adsorbent	Q _e (mmol)	N content (mmol)	Amine efficiency (mmol CO ₂ /mmol N)
30DETA@PDVBp c	1.14	4.19	27.2%
30TETA@PDVBpc	2.24	5.23	42.8%
30TEPA@PDVBpc	3.11	6.80	45.7%

$$\text{Amine efficiency (mmol CO}_2\text{ /mmol N)} = \frac{Q_e \text{ (mmol)}}{N \text{ (mmol)}}$$

Q_e : equilibrium adsorption amount