Supplementary Data

This supplementary data is a part of paper entitled "Fabrication of Alginate-Based Electrospun Nanofibers for Carbon Dioxide Removal".

Table S1. Chemical structure assignments of FTIR analysis

Wavenumber (cm^{-1})	Characteristic bands	Wavenumber (cm^{-1})	Characteristic bands
Alginate		Natural Zeolites	
1033	–C–O–C	462	O–Si–O
1419	O=C–O– (symmetric)	794	Si–O (allotrophic)
1635	O=C–O– (asymmetric)	1049	Al–O
3448	–O–H	1635	Si–O
		3448	–O–H
PVA		Activated Zeolites	
848	–C–H isotactic	462	O–Si–O
1095	–C–O	794	Si–O (allotrophic)
1342	–C–H	1072	Al–O
1442	O=C–O– (symmetric)	1635	Si–O
1635	–C=O	3448	–O–H
2939	–C–H		
3448	–O–H		
Alg/PVA NFs		Alg/PVA/Z NFs	
848	–C–H isotactic	617	Si–O–Si(Al)
1095	–C–O	848	–C–H isotactic
1327	–C–H	1095	–C–O
1427	O=C–O– (symmetric)	1327	–C–H
1604	–C=O	1427	O=C–O– (symmetric)
2908	–C–H	1620	Si–O
3286	–O–H	2939	–C–H
		3317	–O–H

Table S2. Five isotherm models adopted in this study

Models	Isotherm equation	Linearized equation	Curve plot
Langmuir	$q_e = \frac{q_m K_L C_e}{1 + K_L C_e}$	$\frac{C_e}{q_e} = \frac{1}{q_m} C_e + \frac{1}{K_L q_m}$	C_e vs. C_e/q_e
Freundlich	$q_e = K_F C_e^{1/n}$	$\log q_e = \log K_F + \frac{1}{n} \log C_e$	$\log C_e$ vs. $\log q_e$
Dubinin-Radushkevich (DR)	$q_e = q_s e^{(-K_{DR}\varepsilon^2)}$, where $\varepsilon = RT \ln (1 + \frac{1}{C_e})$	$\ln q_e = \ln q_s - (K_{DR}\varepsilon^2)$, $E = \frac{1}{\sqrt{2K_{DR}}}$	ε^2 vs. $\ln q_e$
Temkin	$q_e = B \ln (K_T C_e)$, where $B = \frac{RT}{b_T}$	$q_e = B \ln K_T + B \ln C_e$	$\ln C_e$ vs. q_e
Elovich	$\frac{q_e}{q_m} = K_E C_e e^{-\frac{q_e}{q_m}}$	$\ln \frac{q_e}{C_e} = \ln K_E q_m - \frac{1}{q_m} q_e$	q_e vs. $\ln \frac{q_e}{C_e}$