

Electronic Supplementary Material

Investigation of the roles of lignin in biomass-based hydrogel for efficient desalination

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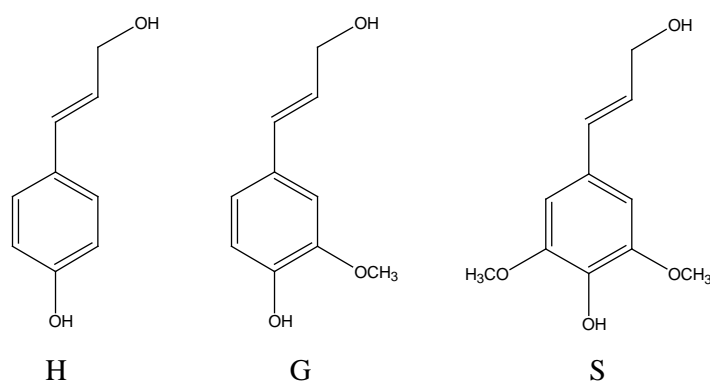


Fig. S1 The three structural units of lignin

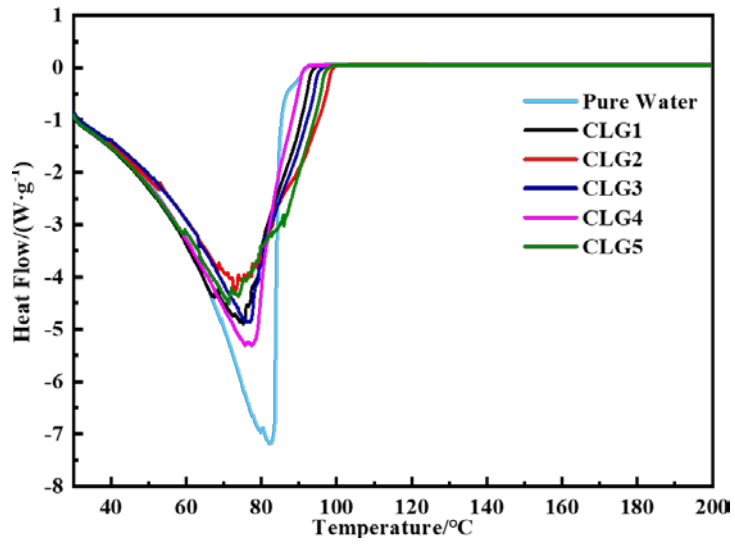


Fig. S2 DSC curves of wet CLGs and pure water



Fig. S3 Photograph of the evaporator device

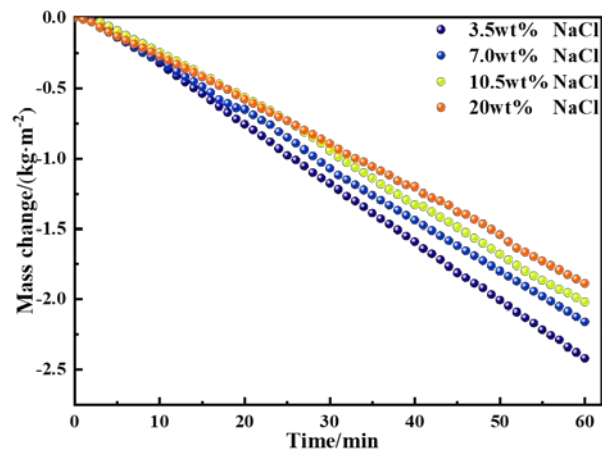


Fig. S4 The evaporation rate of CLG4 in the NaCl solution of different concentrations under 1 sun

Table S1 Synthetic formulations of CLGs

Samples	Materials			Content of AL/wt%	Economic cost/\$
	HEC/g	AL/g	GO/g		
CGL1	0.2	0.1	0.02	31	1.616
CGL2	0.2	0.2	0.02	48	1.616
CGL3	0.2	0.3	0.02	58	1.616
CGL4	0.2	0.4	0.02	64	1.616
CGL5	0.2	0.5	0.02	69	1.616

Table S2 Apparent density and swelling ratio of the CLGs

Samples	CLG1	CLG2	CLG3	CLG4	CLG5
Apparent density/(g·cm ⁻³)	0.0375	0.0497	0.0553	0.0652	0.0686
Swelling ratio/(g·g ⁻¹)	33.1	29.9	27.8	25.2	20.3

Table S3 Comparison of evaporation enthalpy results from DSC measurement and dark experiment

Samples	Pure water	CLG1	CLG2	CLG3	CLG4	CLG5
Enthalpy of evaporation measured by DSC/(J·g ⁻¹)	2337	1748	1715	1718	1803	1836
Enthalpy of evaporation measured by dark field experiments/(J·g ⁻¹)	2436	1697	1712	1555	1453	1406

Table S4 Concentrations of ions in the artificial seawater via solar evaporation using the CLG4

Ions	Initial seawater concentration/(mg·L ⁻¹)	Distilled water concentration/(mg·L ⁻¹)
Na ⁺	10484	15
K ⁺	1263	0.6
Ca ²⁺	469	4.8
Mg ²⁺	109	4.0