

Supplementary Information

Cross-linked chitosan with dicationic ionic liquid as a recyclable biopolymer-supported catalyst for cycloaddition of carbon dioxide with epoxides into cyclic carbonates

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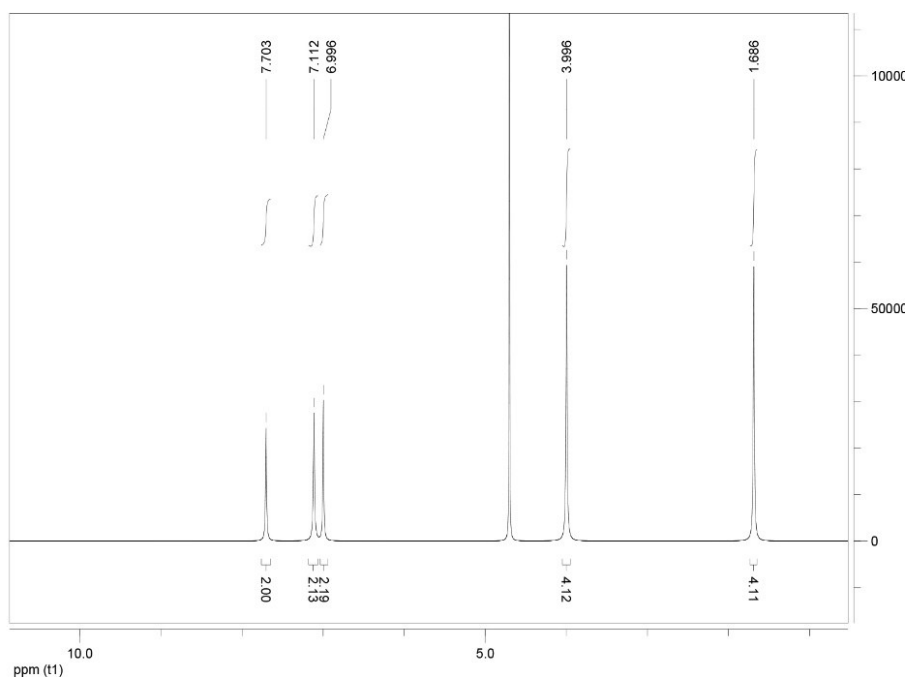


Fig. S1. ¹H NMR of 1,4-di(1H-imidazol-1-yl)butane

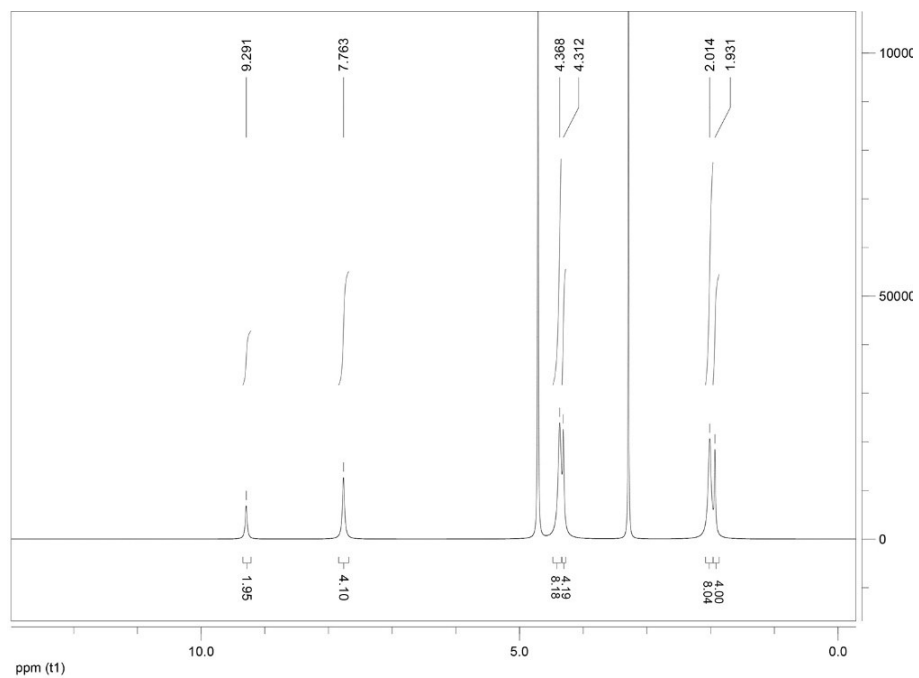


Fig. S2. Fig. 1. ¹H NMR of 1,1'-(butane-1,4-diyl) bis(3-(4-bromobutyl)-1H-imidazol-3-ium) bromide.

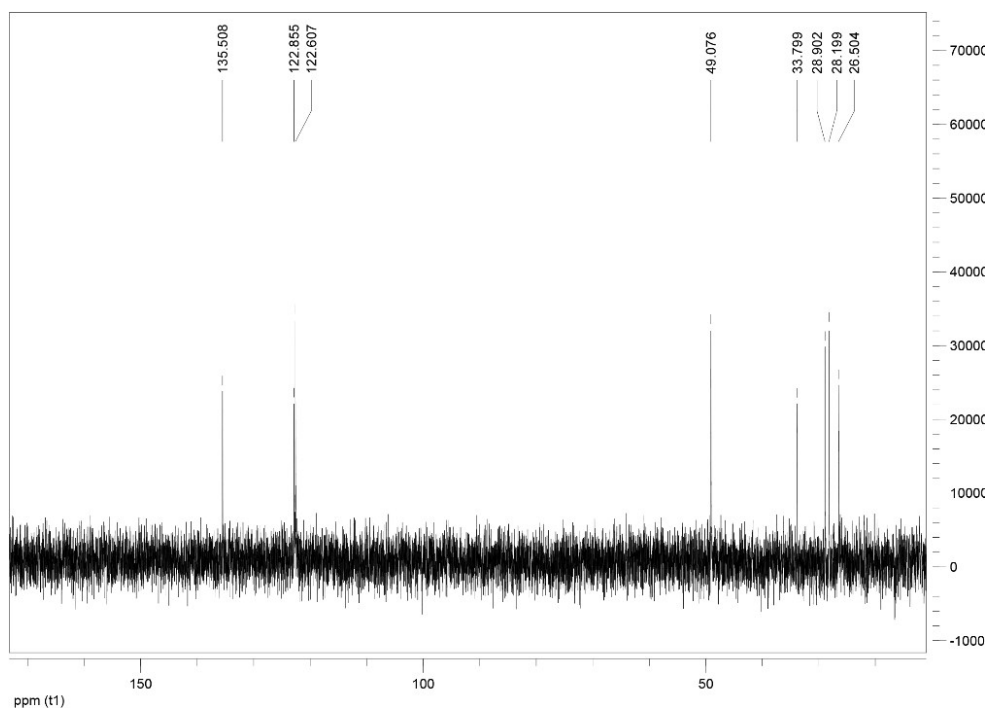


Fig. S3. ¹³C NMR of 1,1'-(butane-1,4-diyl) bis(3-(4-bromobutyl)-1H-imidazol-3-ium) bromide.

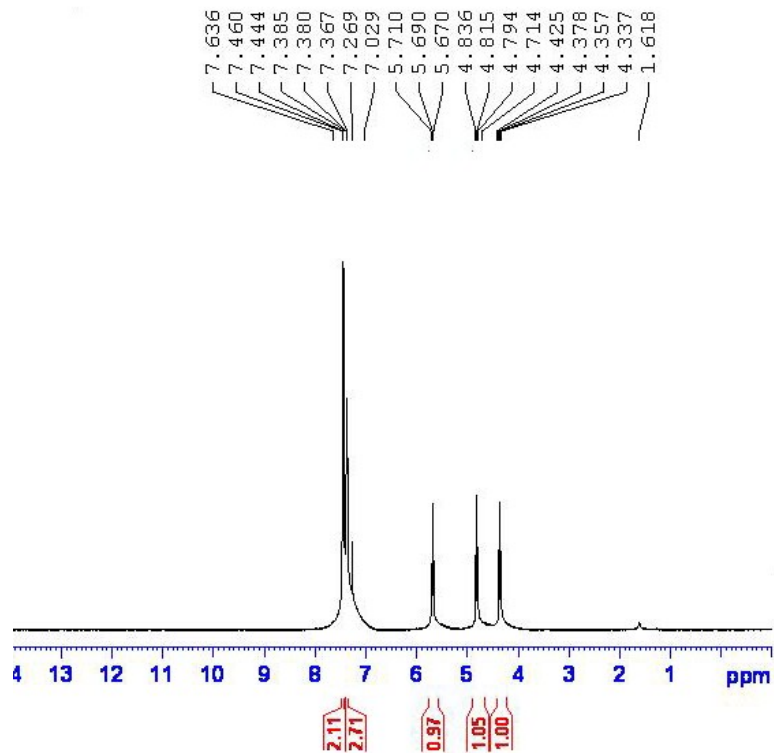


Fig. S4. ^1H NMR of styrene carbonate.

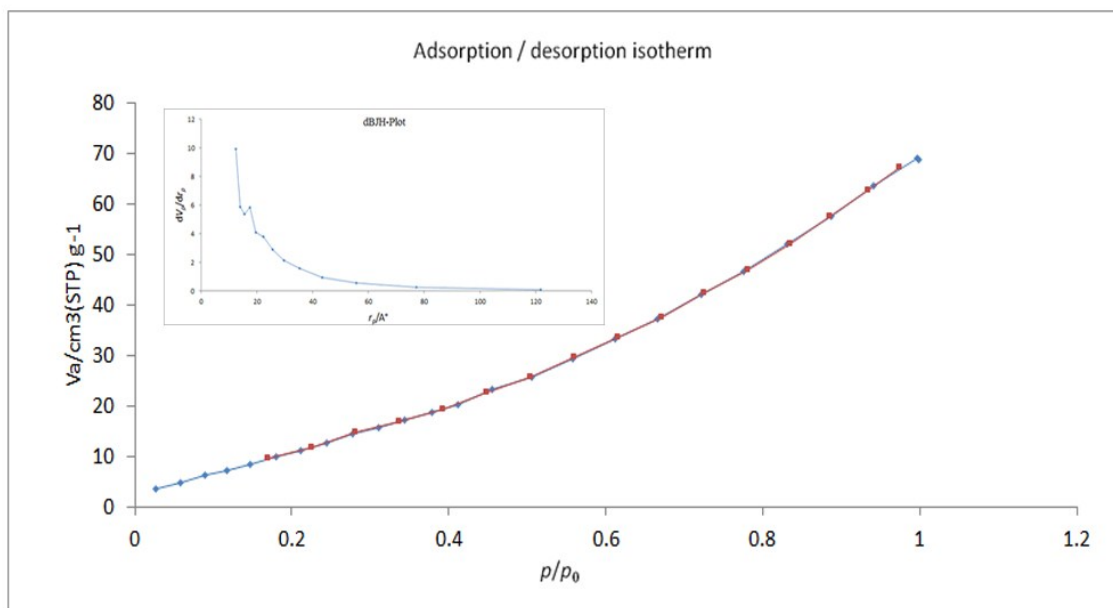


Fig. S5. Isotherms of nitrogen adsorption-desorption and distribution of pore size BJH (dBJH).