

Electronic Supplementary Information

Ionic Liquids Tailored and Confined by One-Step Assembly with Mesoporous Silica for Boosting Catalytic Conversion of CO₂ into Cyclic Carbonates

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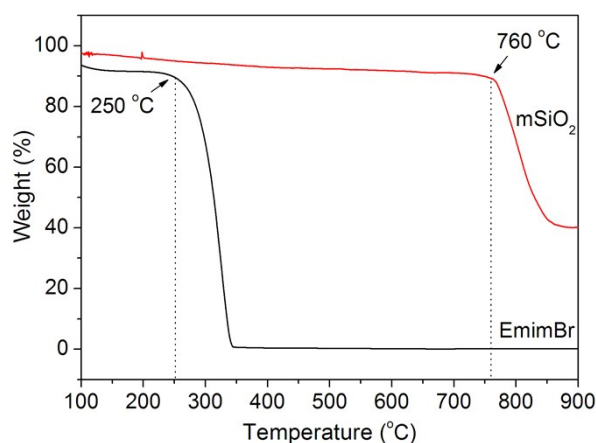


Figure S1 TGA curves of pure mSiO₂ and EmimBr

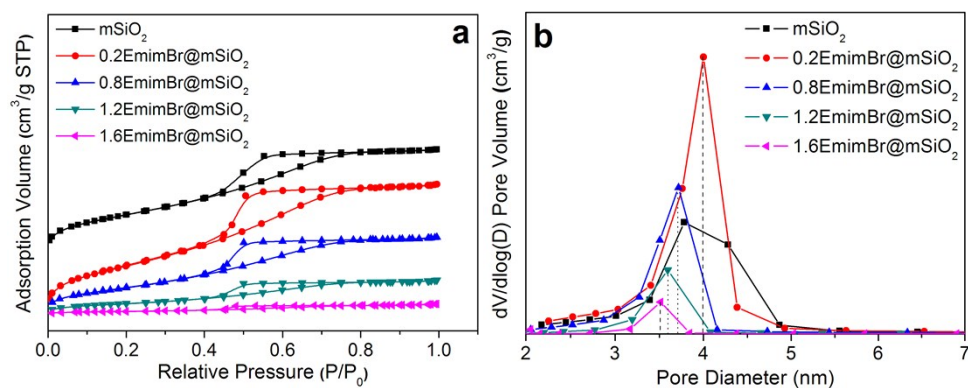


Figure S2 Nitrogen adsorption and desorption isotherms (a) and pore distribution curves (b) of all the EmimBr@mSiO₂ materials.

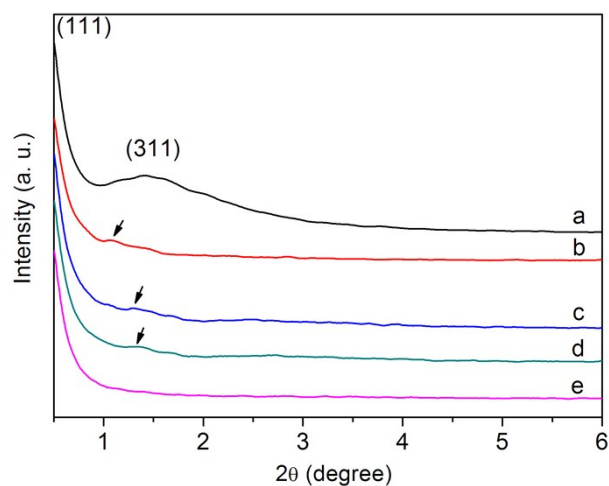


Figure S3 SAXD patterns of different EmimBr@mSiO₂ materials. (a) mSiO₂, (b) 0.2EmimBr@mSiO₂, (c) 0.8EmimBr@mSiO₂, (d) 1.2EmimBr@mSiO₂, (e) 1.6EmimBr@mSiO₂

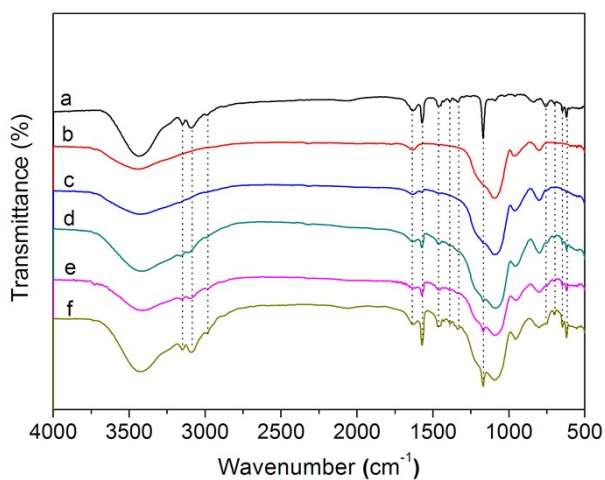


Figure S4 FT-IR spectra of different EmimBr@mSiO₂ materials. (a) EmimBr; (b) mSiO₂, (c) 0.2EmimBr@mSiO₂, (d) 0.8EmimBr@mSiO₂, (e) 1.2EmimBr@mSiO₂, (f) 1.6EmimBr@mSiO₂

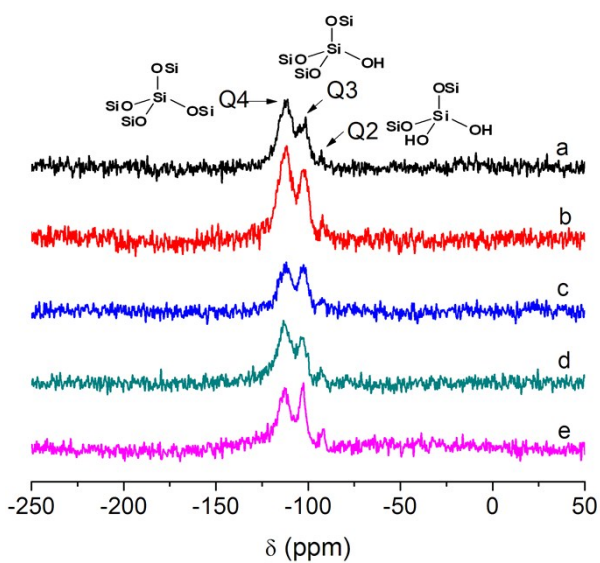


Figure S5 ²⁹Si NMR spectra for different EmimBr@mSiO₂ materials. (a) mSiO₂, (b) 0.2EmimBr@mSiO₂, (c) 0.8EmimBr@mSiO₂, (d) 1.2EmimBr@mSiO₂, (e) 1.6EmimBr@mSiO₂

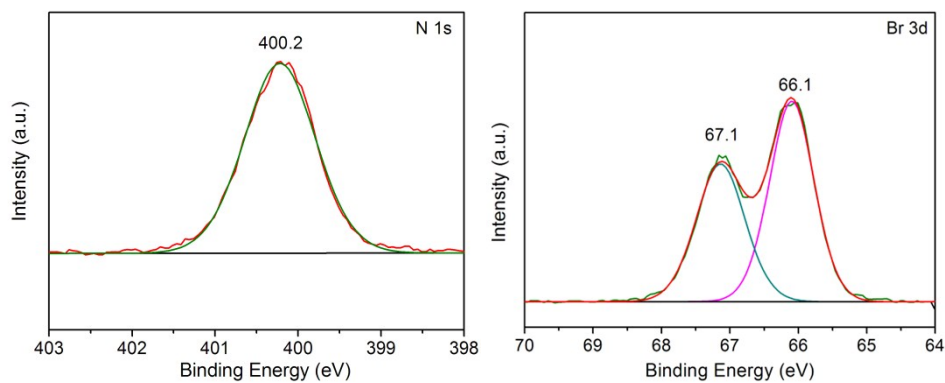


Figure S6 N 1s and Br 3d XPS spectra of EmimBr

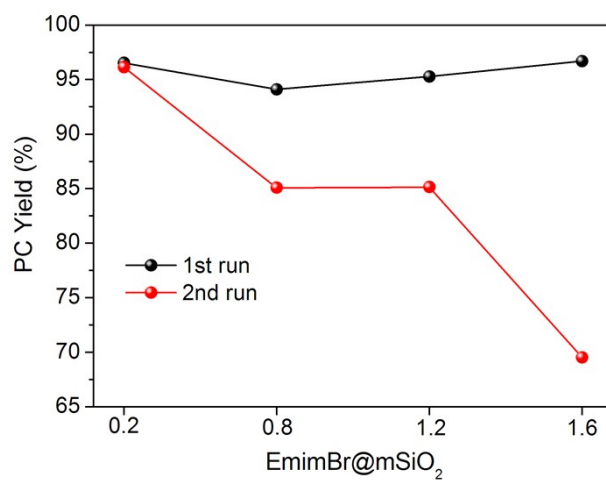


Figure S7 Catalyst recycle tests for different EmimBr@mSiO₂ materials

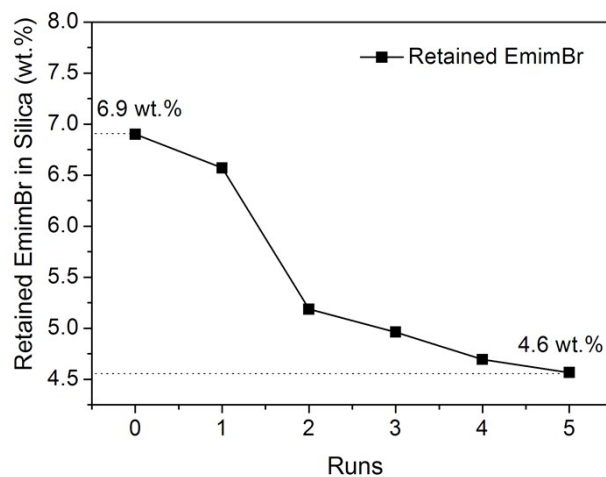


Figure S8 The retained content of EmimBr in silica after each run calculated from elemental analysis based on nitrogen mass fraction