

Supporting Information

Novel urea derivative based ionic liquids with dual-functions: CO₂ capture and conversion under metal- and solvent-free conditions

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Typical TGA curves of urea derivative based ionic liquids

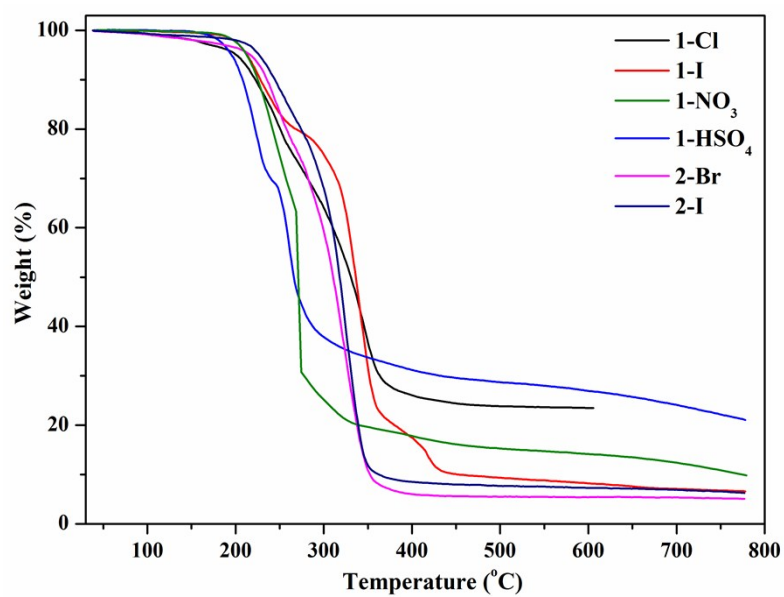


Fig. S1 Typical TGA curves of UDIL catalysts.

Typical FT-IR curves of urea derivative based ionic liquids

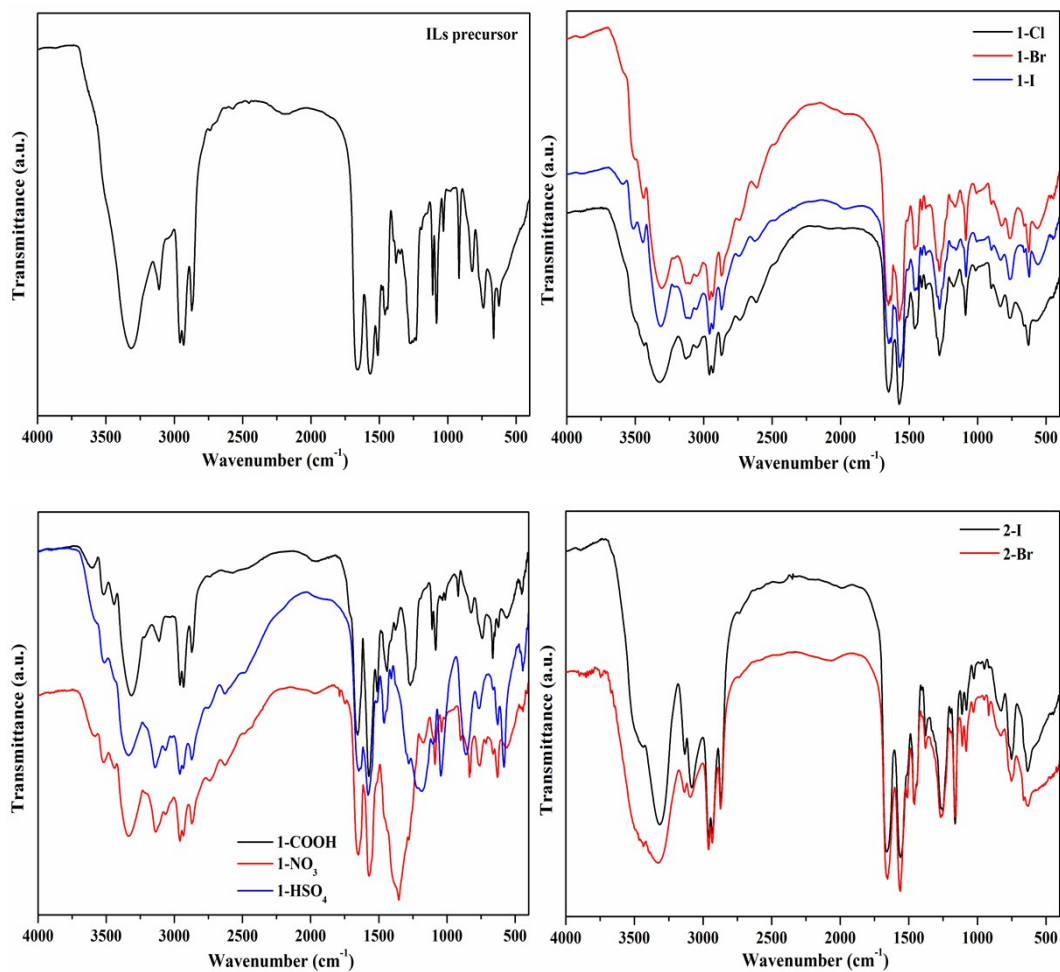


Fig. S2 Typical FT-IR curves of precursor and UDIL catalysts.

150418-LMS-1 1H

The figure displays a ¹H NMR spectrum of 1-(1H-imidazol-2-yl)propan-1-one. The chemical structure is shown in the top left corner. The spectrum is plotted on a grid with the x-axis representing the chemical shift in ppm (f1) from 16 to -4, and the y-axis representing intensity from 0 to 5500. The spectrum shows several peaks: a small peak at ~7.7 ppm (1H), a doublet at ~7.2 ppm (2H), a singlet at ~4.8 ppm (1H), a doublet at ~4.1 ppm (2H), a singlet at ~3.1 ppm (3H), a multiplet at ~2.1 ppm (2H), and a multiplet at ~1.1 ppm (2H). Integration values are provided for each peak group.

Chemical structure: CCC(=O)N1C=CN=C1

Integration values (from left to right): 0.05, 0.99, 0.99, 0.99, 0.99, 0.99, 0.99.

[illegible]

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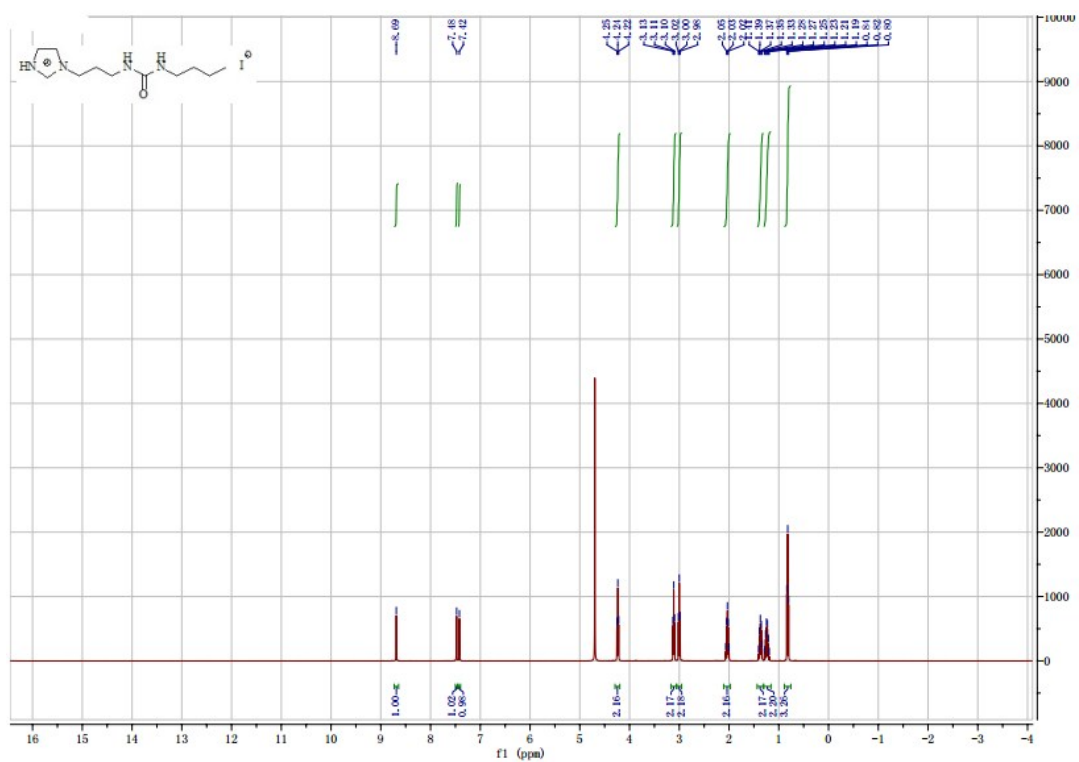


Fig. S5 ^1H NMR spectra of UDIL-1-I.

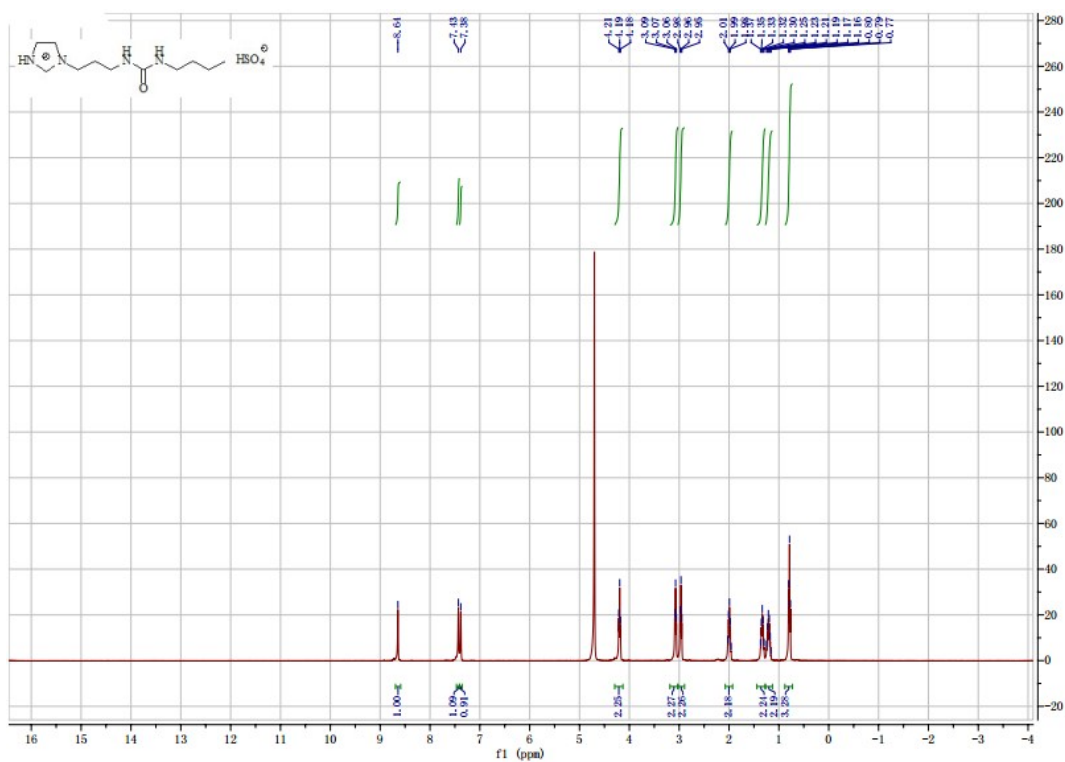


Fig. S6 ^1H NMR spectra of UDIL-1-HSO₄.

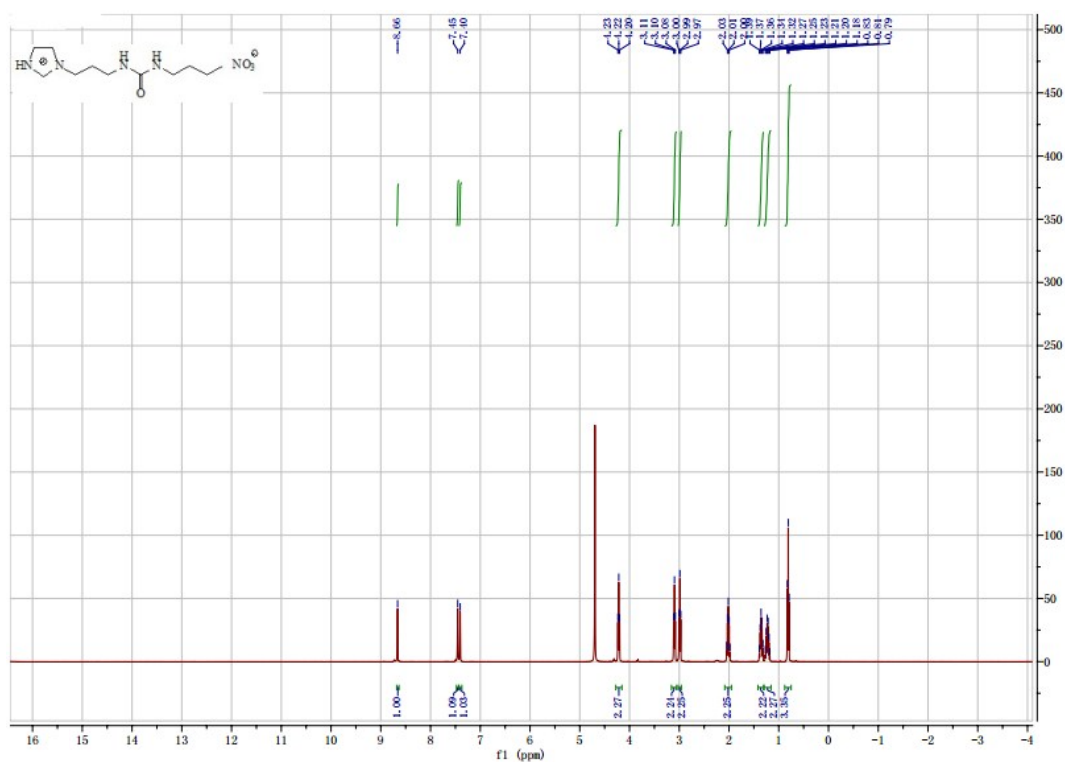


Fig. S7 ¹H NMR spectra of UDIL-1-NO₃.

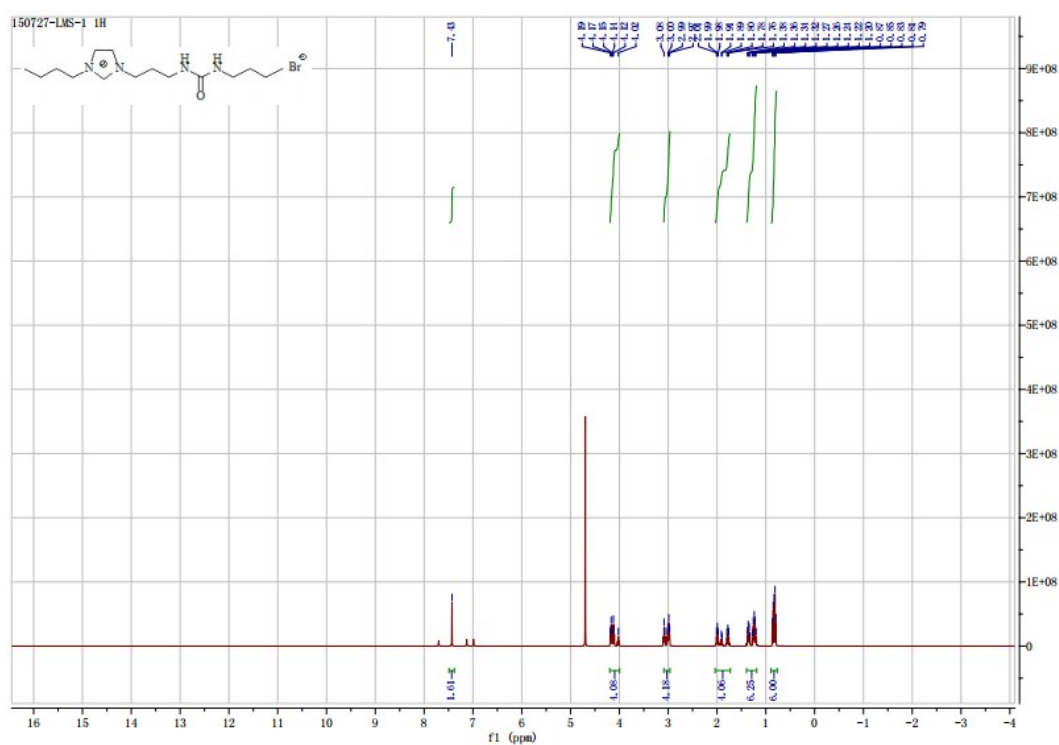


Fig. S8 ¹H NMR spectra of UDIL-2-Br.

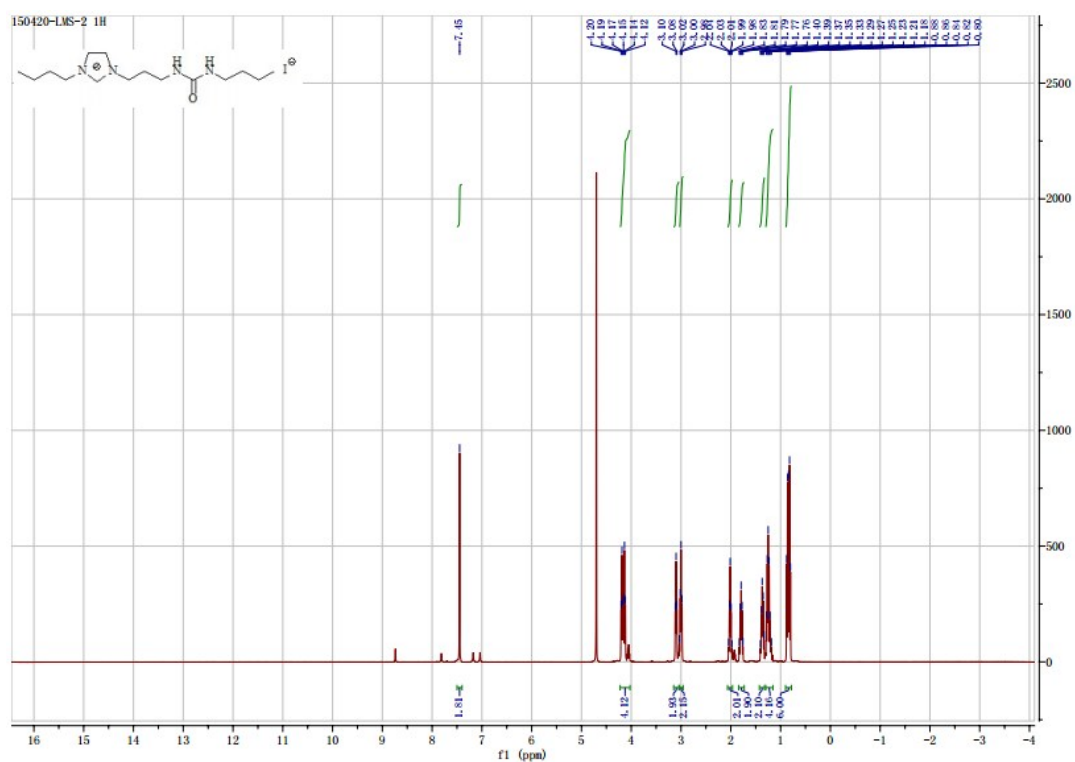


Fig. S9 ^1H NMR spectra of UDIL-2-I.

