Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supporting Information

Structural properties of supercooled deep eutectic solvents: choline chloride–thiourea compared to reline

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Synthesis and purification of choline chloride

Trimethylamine obtained by treating trimethylamine hydrochloride (13.3 g, 0.14 mole) with 14M solution of sodium hydroxide (150 mL) was distilled into 2-chloroethanol (50 mL) at 60 °C for 5 h. Then acetone (500 mL) was added, the precipitate was filtered, washed with dry acetone (200 mL), and residues solvent were removed under vacuum (4 mm Hg) for 1 h. Yield: 14.1 g (72%).

Characterization

^{1}H NMR spectra were recorded with a Bruker AV-500 spectrometer – see Figure S1.

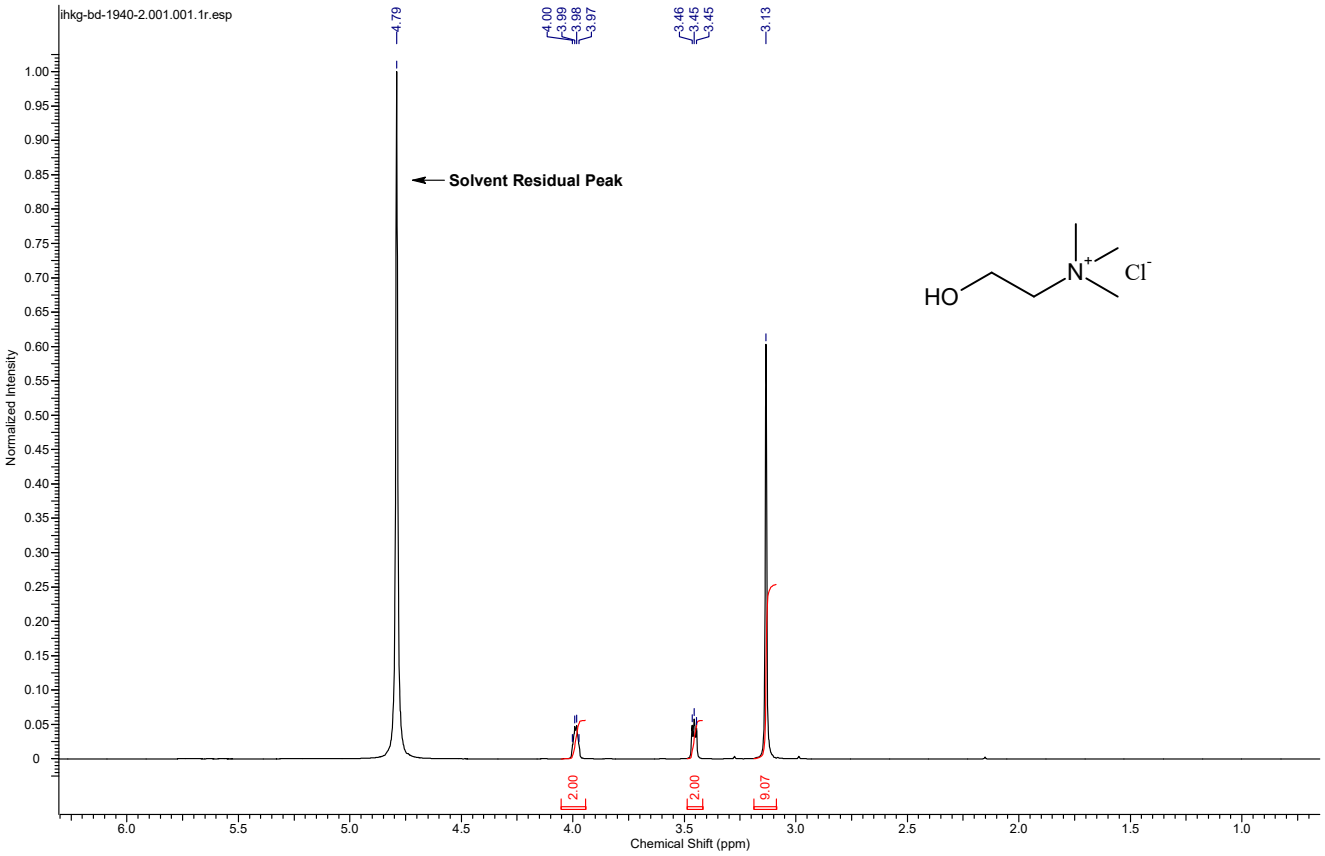

Figure S1. ^{1}H NMR (D_2O, 500 MHz) spectrum of synthesized choline chloride.

Interpretation: δ 3.99 (m, 2H), 3.45 (m, 2H), 3.13 (s, 9H) ppm.

The water content determined by Karl Fischer titration with Titrator TitroLine KF (platinum electrode, solvent: methanol) was less than 150 ppm.