

SUPPLEMENTARY INFORMATION:

**Physicochemical Properties Determined by ΔpK_a for Protic Ionic Liquids
Based on an Organic Super-strong base with Various Brønsted Acids**

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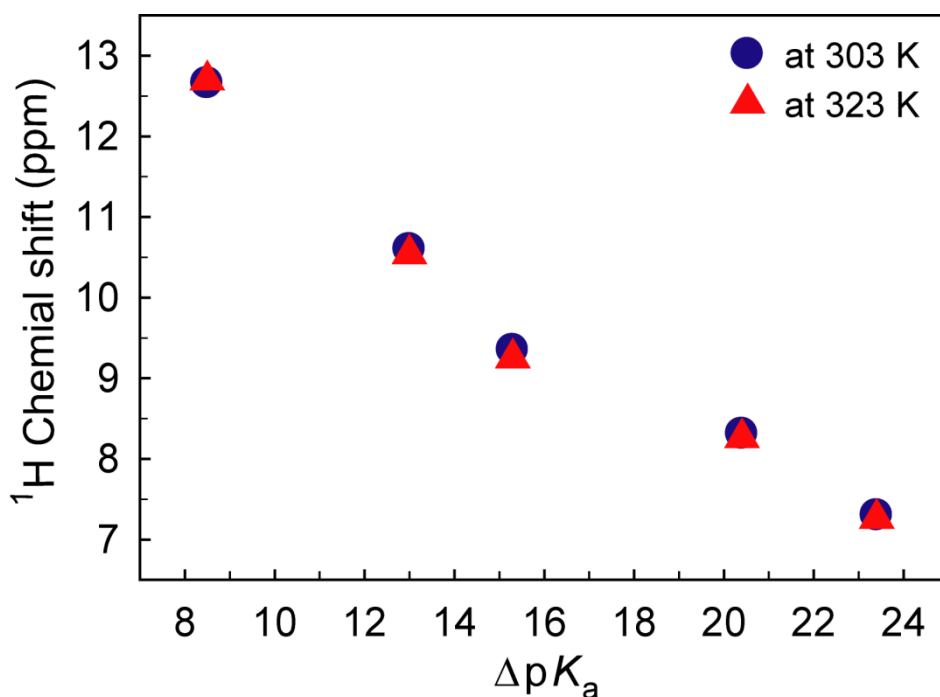


Figure S1. ¹H Chemical shift of N-H proton in the [DBU]-based PILs as a function of ΔpK_a of the constituents at two different temperatures. NMR spectra were recorded by using double tube (inner: PIL, outer: DMSO as solvent). Sample was taken inside an Ar atmosphere glove box.

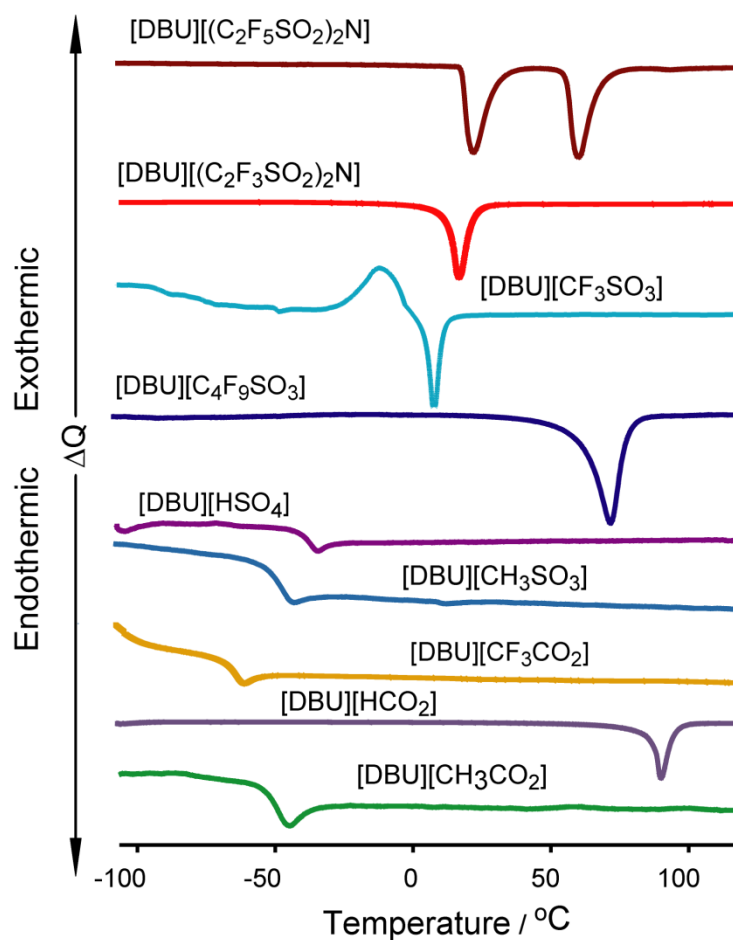


Figure S2. DSC curves of [DBU]-based PILs. DSC thermograms were recorded during reheating steps. Sample was sealed inside an Al pan under an Ar atmosphere in the glove box.

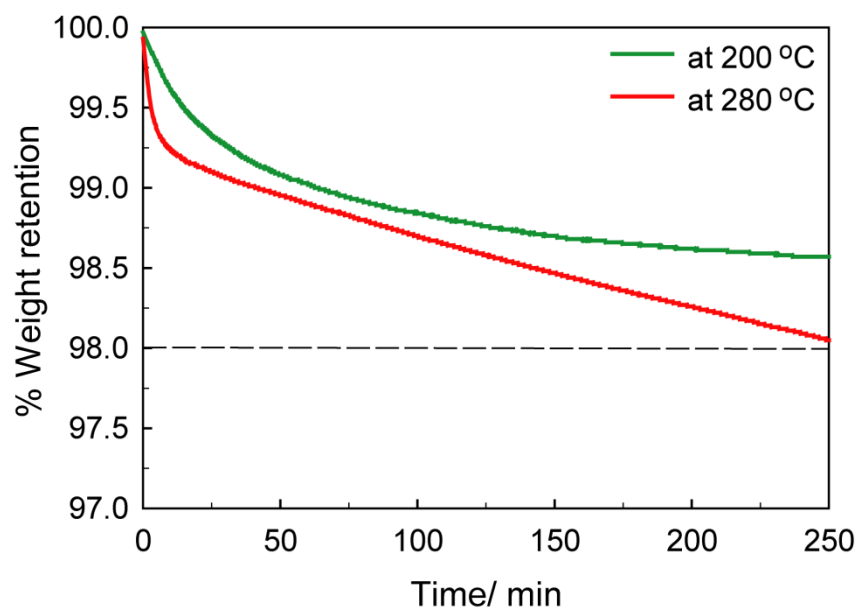


Figure S3. Time-dependent isothermal TG for [DBU][(CF₃SO₂)₂N] at two different temperatures for 5 h under an N₂ atmosphere. Dash line in the plots is a guide for eyes.