Electronic Supplementary Material (ESI) for RSC Advances

SUPPLEMENTARY INFORMATION

Electrochemical Properties of Protic Ionic Liquids: Correlation between Open Circuit Potential of H_2/O_2 Cells under Non-humidified Conditions and ΔpK_a

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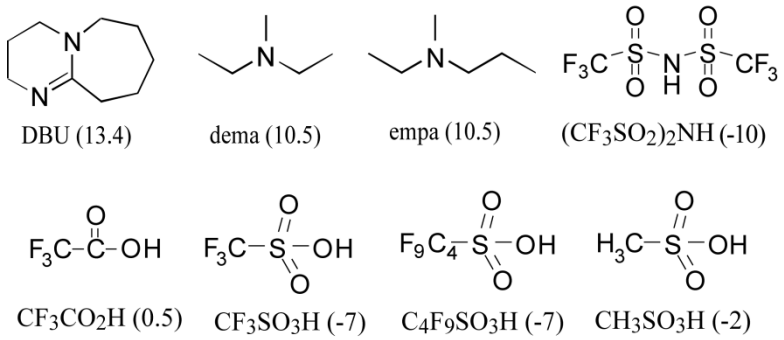

Figure S1. Chemical structures of all acids and bases used in this study. Data in parenthesis indicate pK_a values in aqueous system taken from ref. 6.

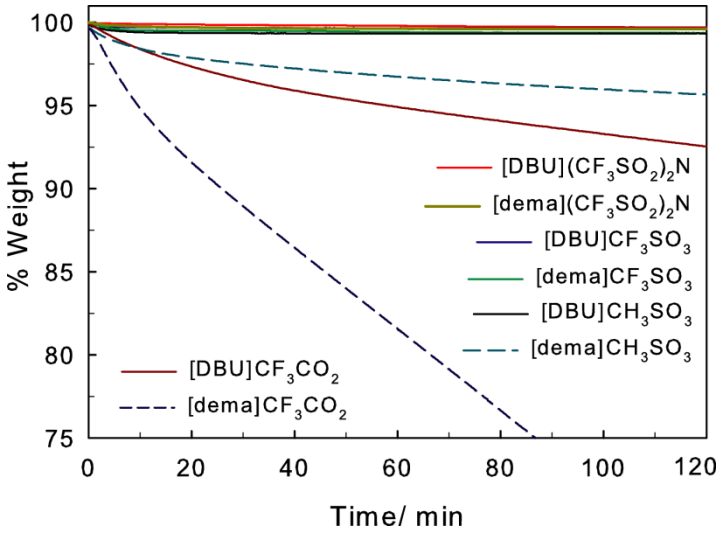

Figure S2. Time-dependent isothermal TG curves for [DBU]- and [dema]-based PILs at 130 ^{o}C for 2 h under nitrogen atmosphere using aluminum pan.

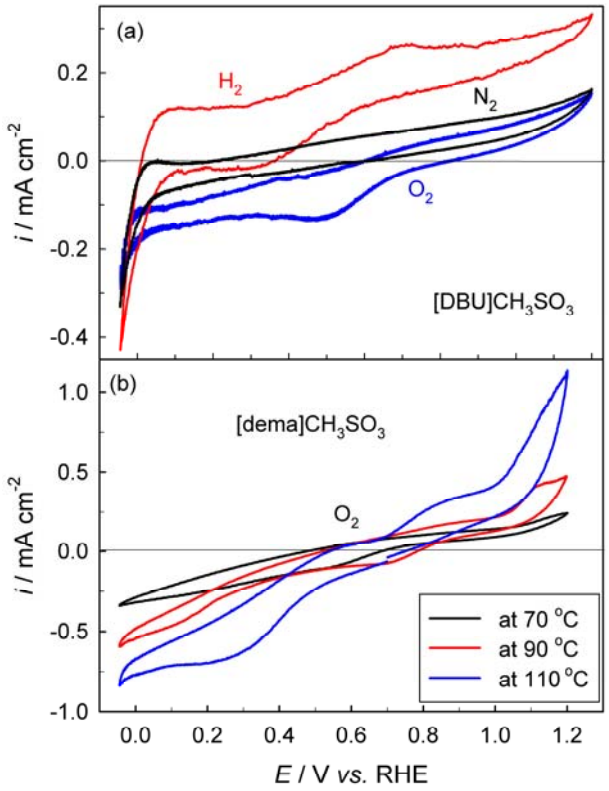

Figure S3. Cyclic voltammograms using a Pt wire as working electrode for (a) [DBU]CH_3SO_3 under O_2, N_2 and H_2 gas bubbling atmospheres at 110 ^{o}C and (b) [dema]CH_3SO_3 under O_2 gas bubbling atmosphere at different temperatures. Scan rate is 10 mVs^{-1}.

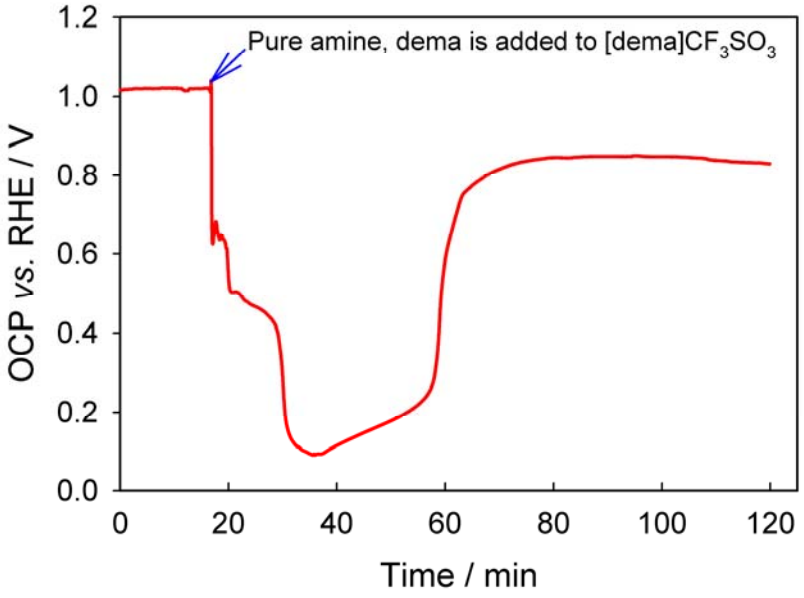

Figure S4. Change in OCP at 30 ^{o}C as a function of time with the addition of pure amine (dema) to [dema]CF_3SO_3.