materials

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Article

Synthesis and Properties of Magnetic Aryl-Imidazolium Ionic Liquids with Dual Brønsted/Lewis Acidity

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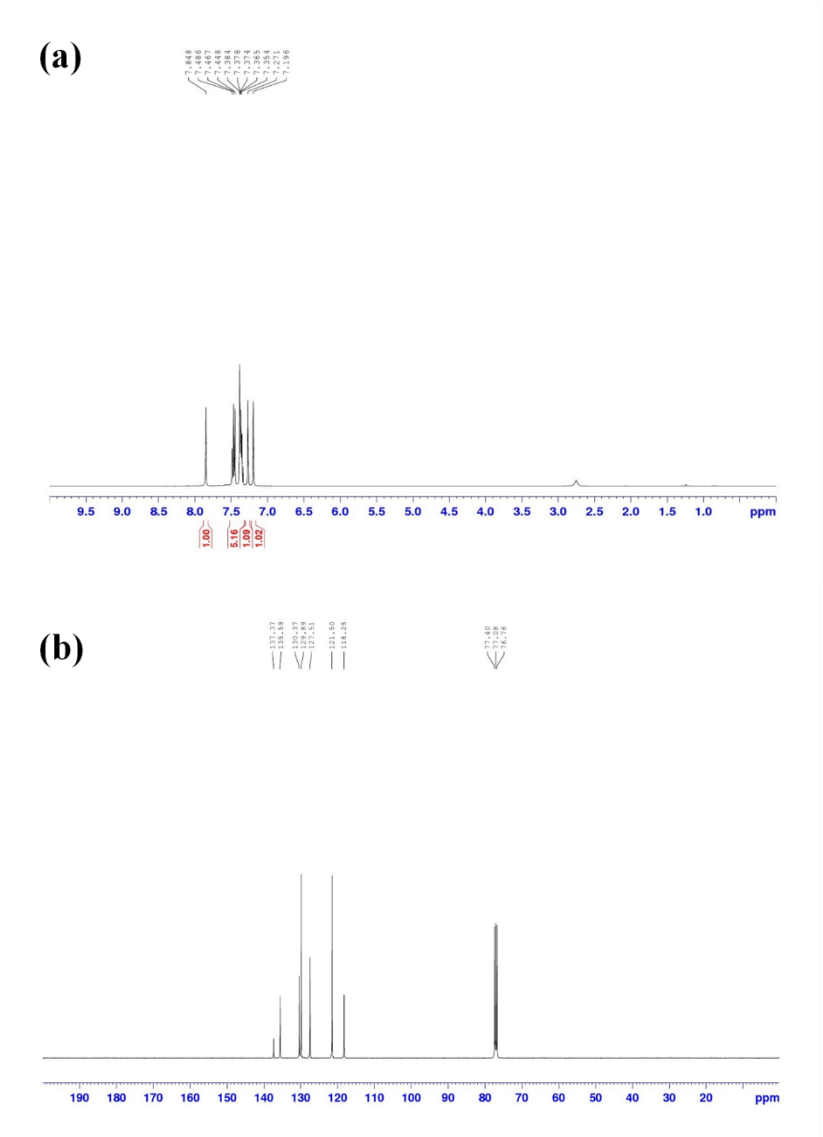

Figure S1a. (**a**) ^{1}H and (**b**) ^{13}C NMR spectra of 3a.

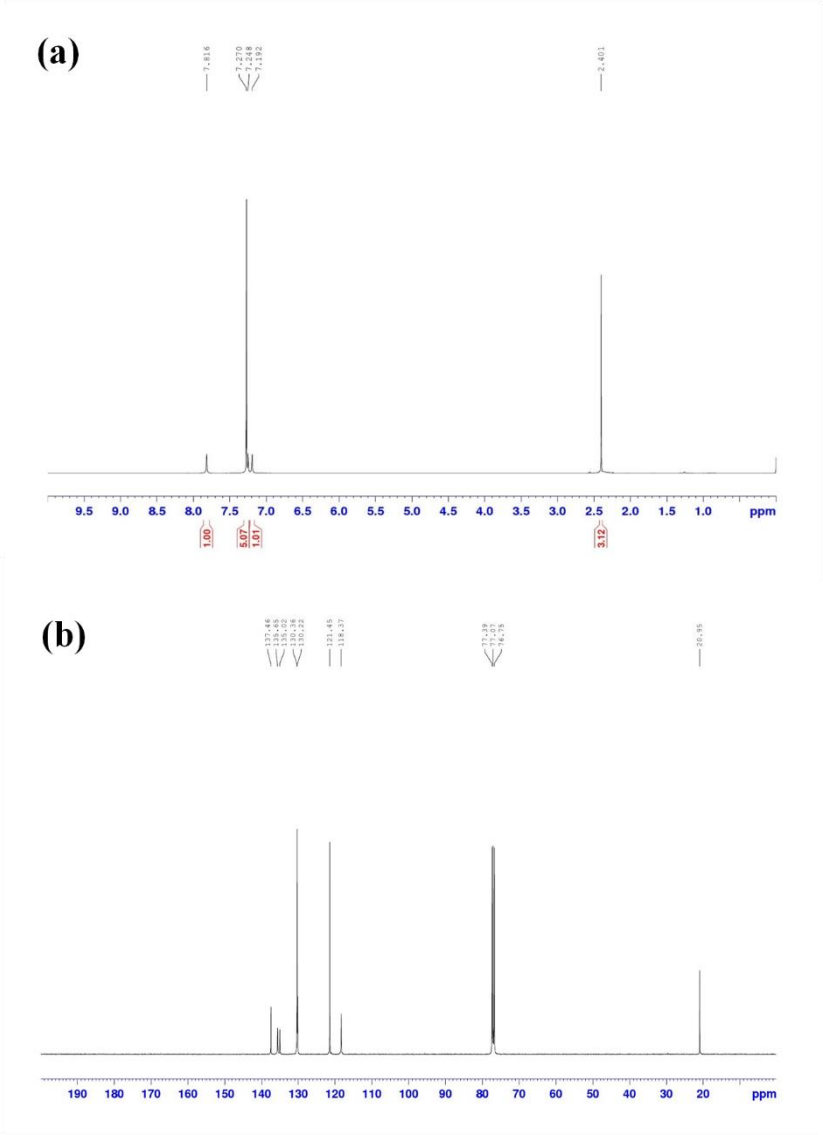

Figure S1b. (**a**) ^{1}H and (**b**) ^{13}C NMR spectra of 3b.

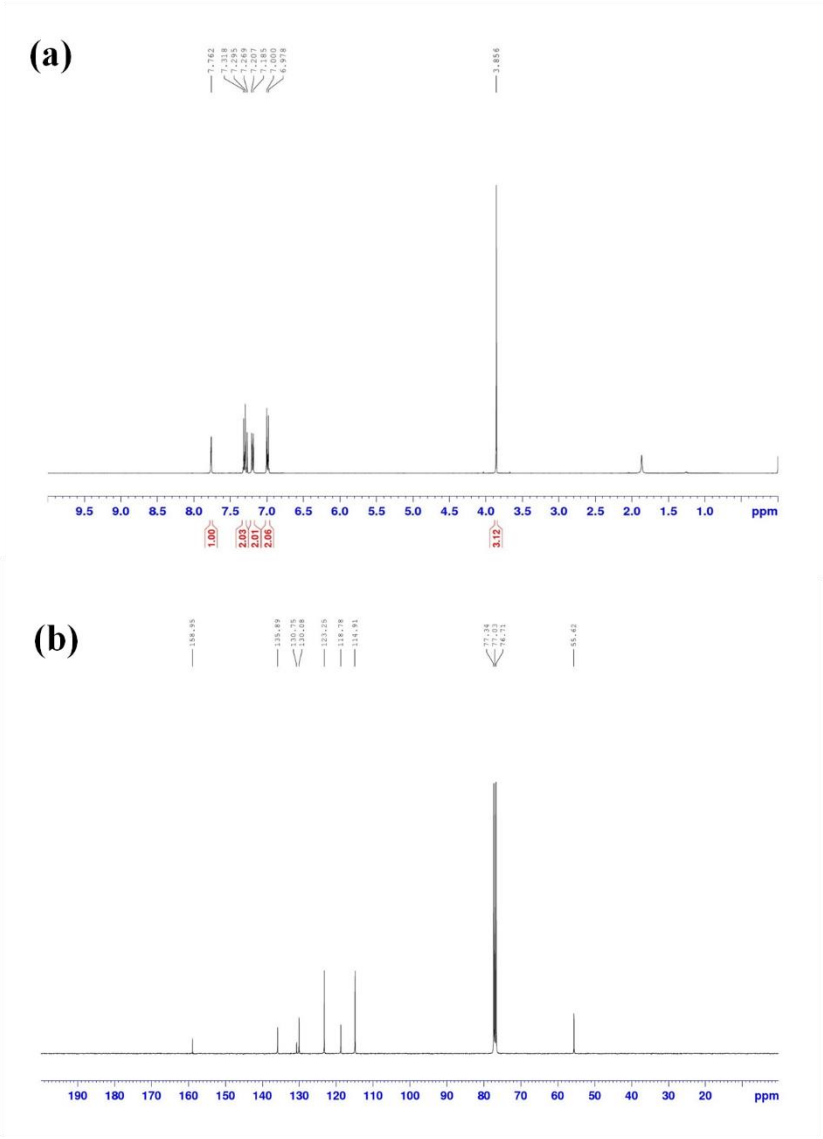

Figure S1c. (**a**) ^{1}H and (**b**) ^{13}C NMR spectra of 3c.

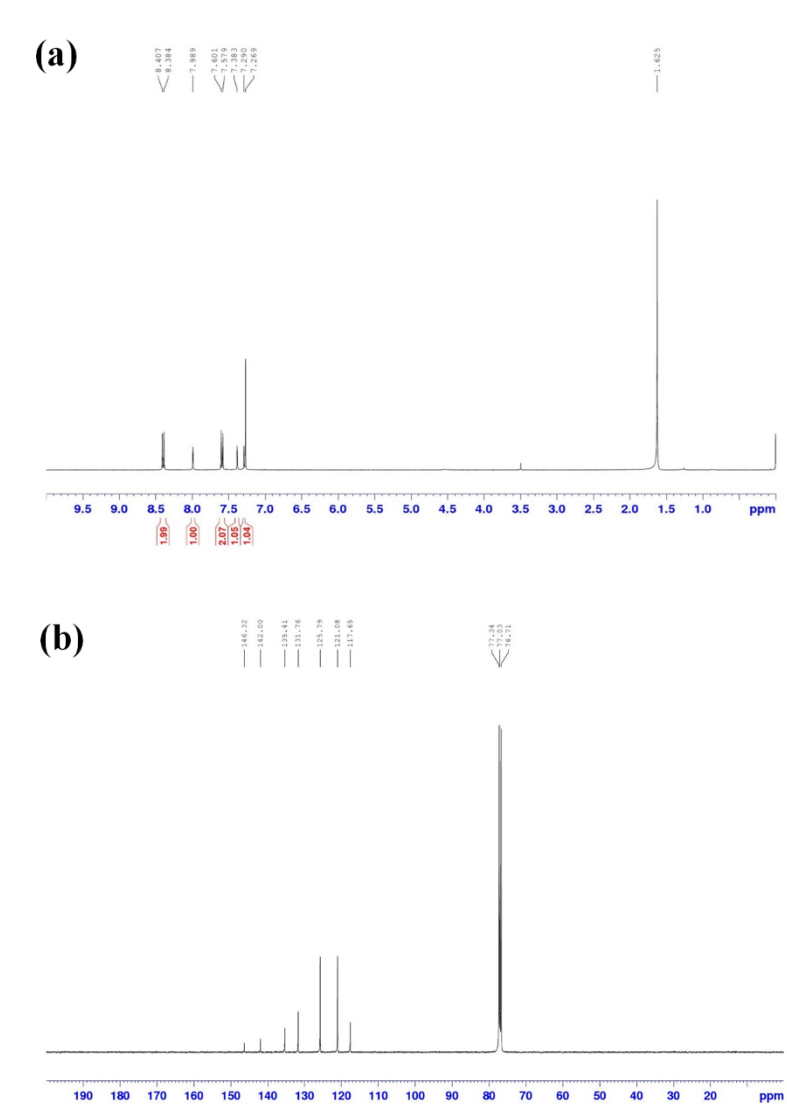

Figure S1d. (**a**) ^{1}H and (**b**) ^{13}C NMR spectra of 3d.

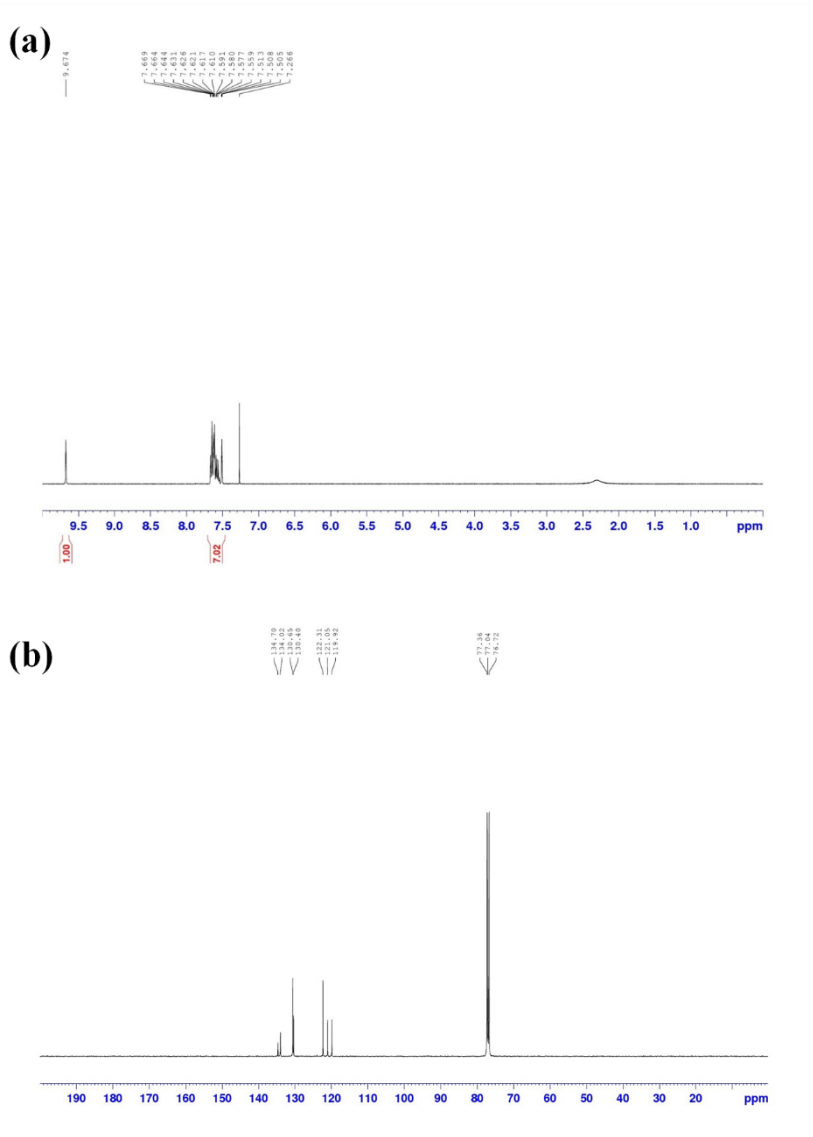

Figure S1e. (**a**) ^{1}H and (**b**) ^{13}C NMR spectra of 4a.

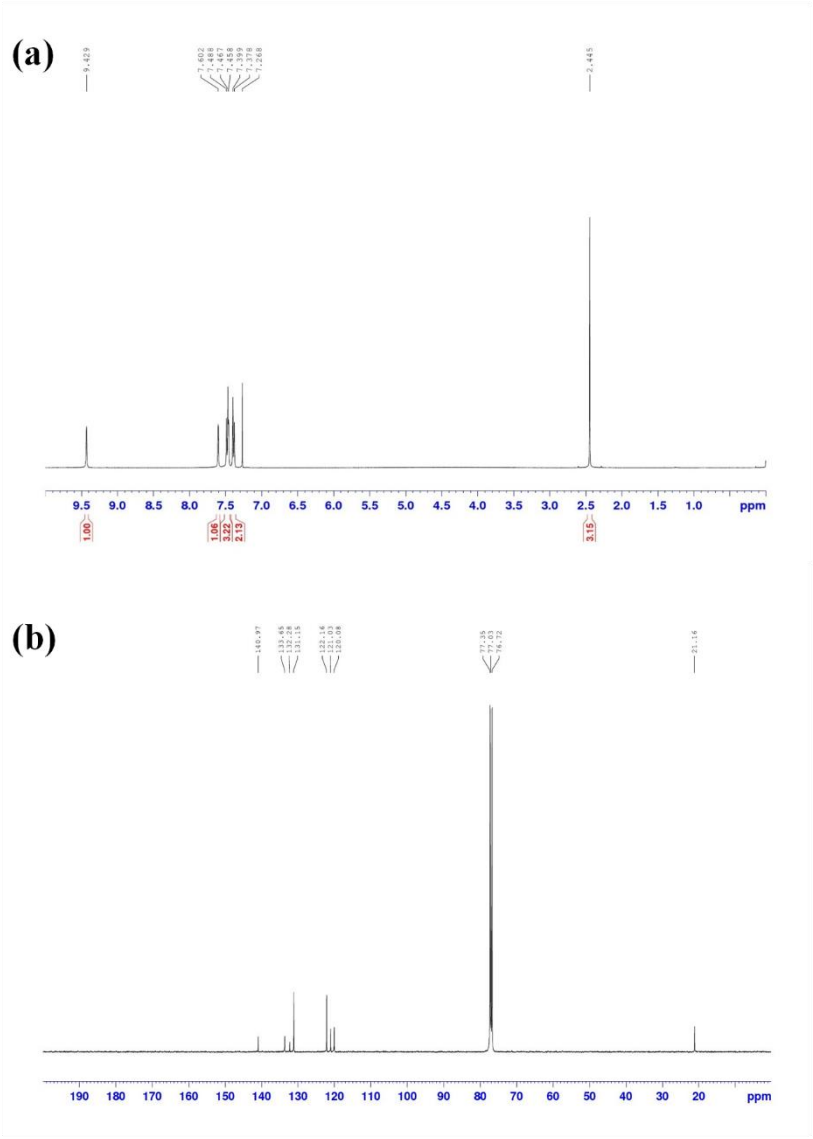

Figure S1f. (**a**) ^{1}H and (**b**) ^{13}C NMR spectra of 4b.

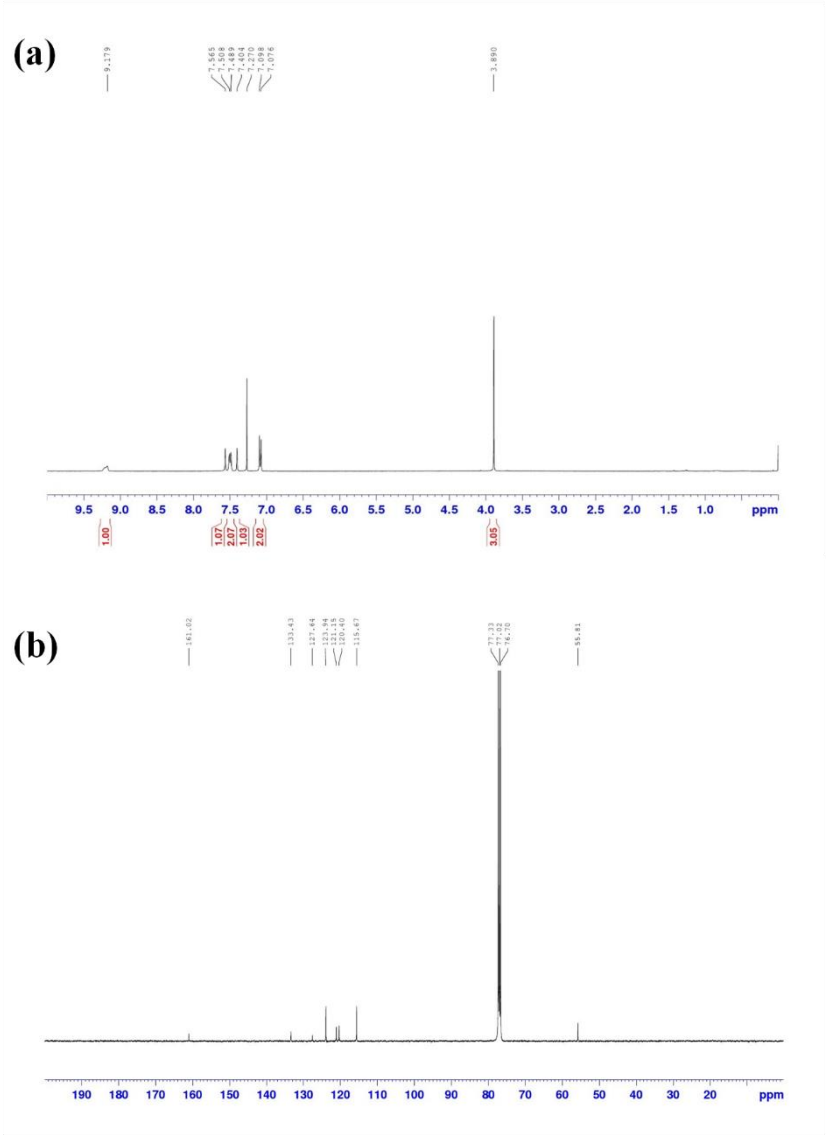

Figure S1g. (**a**) ^{1}H and (**b**) ^{13}C NMR spectra of 4c.

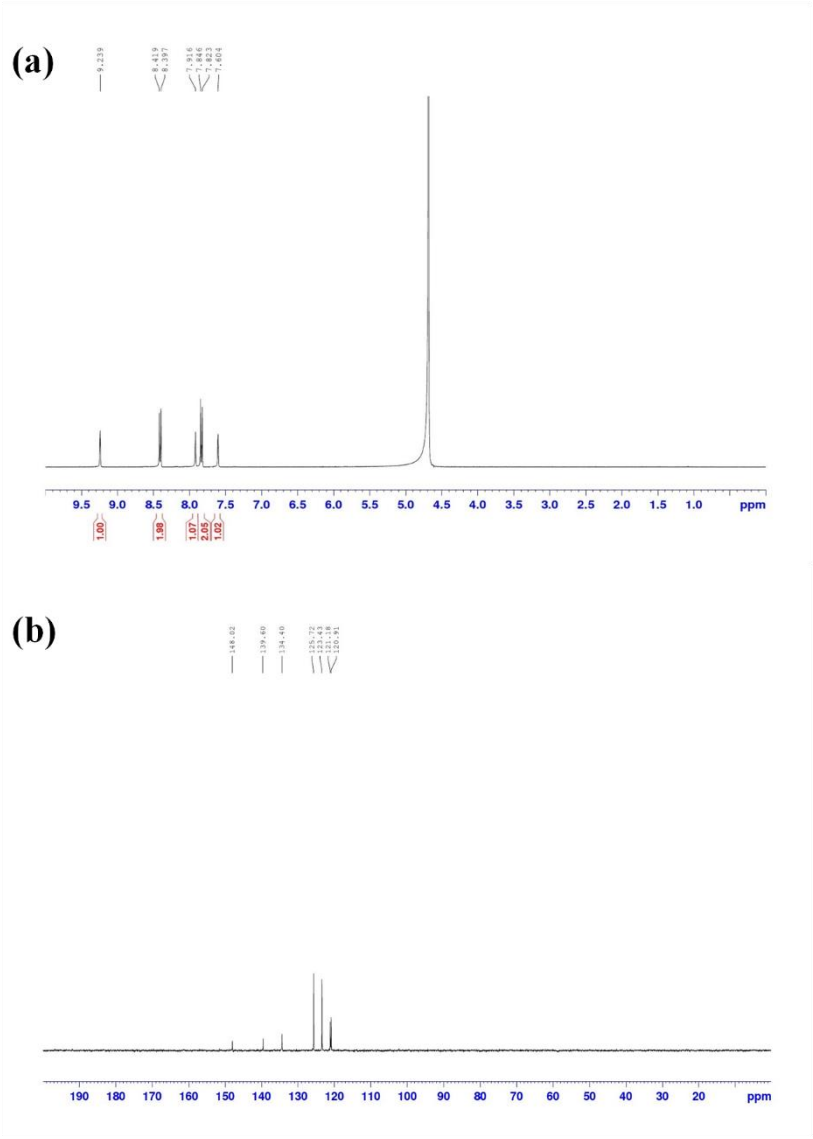

Figure S1h. (**a**) ^{1}H and (**b**) ^{13}C NMR spectra of 4d.

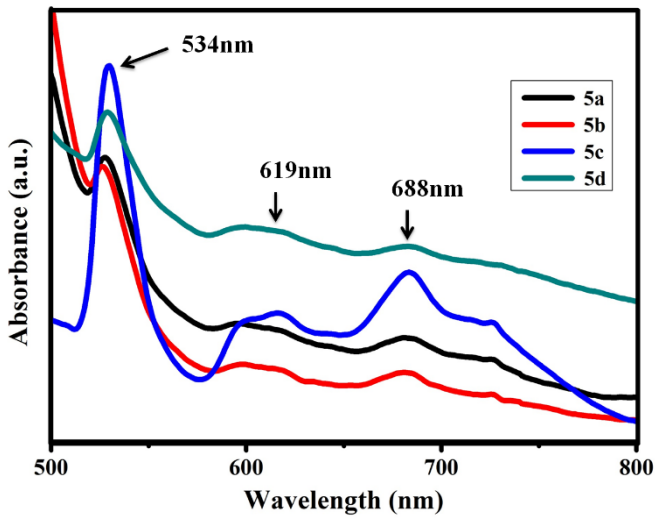

Figure S2. UV-Vis absorption spectra of B-L MILs 5a–5d (solvent: CH_3CN).

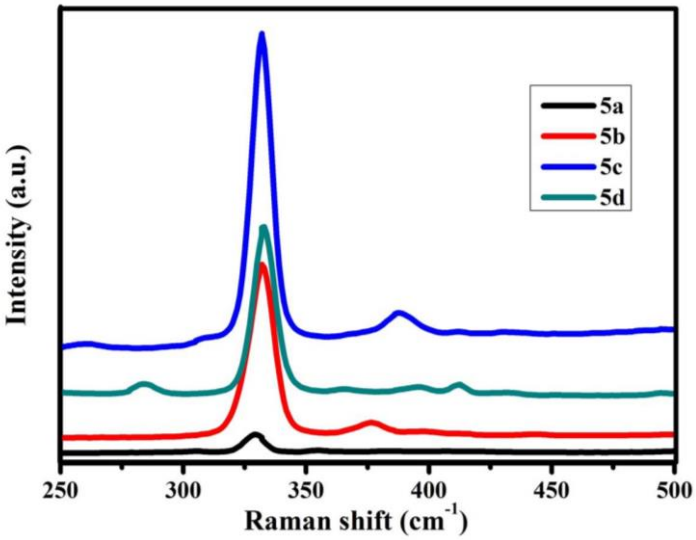

Figure S3. Raman spectra of B-L MILs 5a–5d.

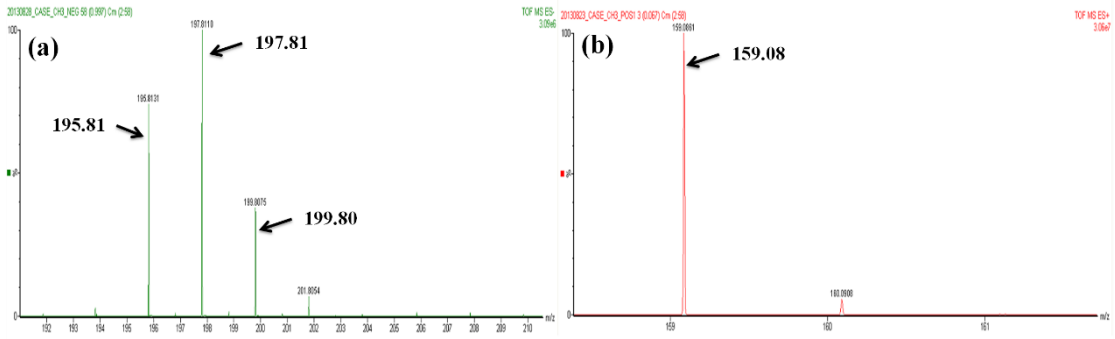

Figure S4a. Mass spectra (ionization source: electrospray ionization) of B-L MIL 5b. (**a**) Anion and (**b**) cation fragments.

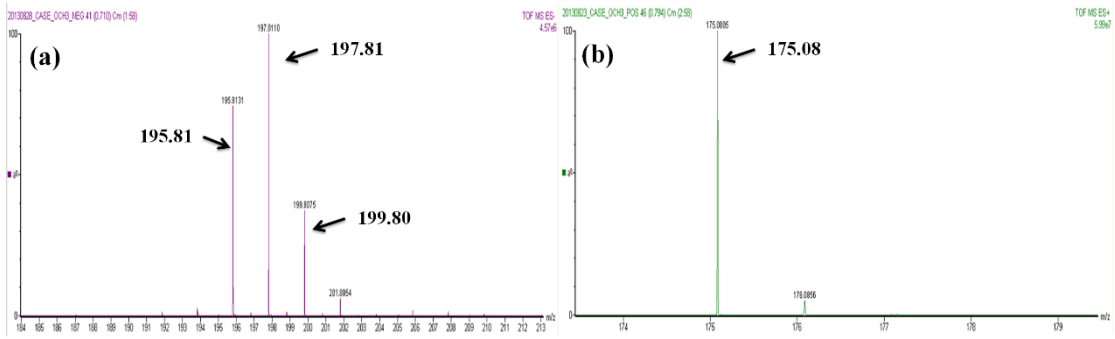

Figure S4b. Mass spectra (ionization source: electrospray ionization) of B-L MIL 5c. (**a**) Anion and (**b**) cation fragments.

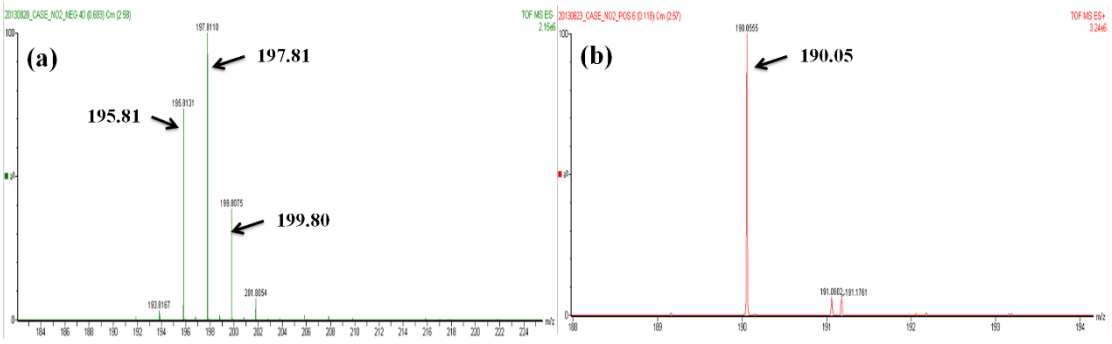

Figure S4c. Mass spectra (ionization source: electrospray ionization) of B-L MIL 5d. (**a**) Anion and (**b**) cation fragments.

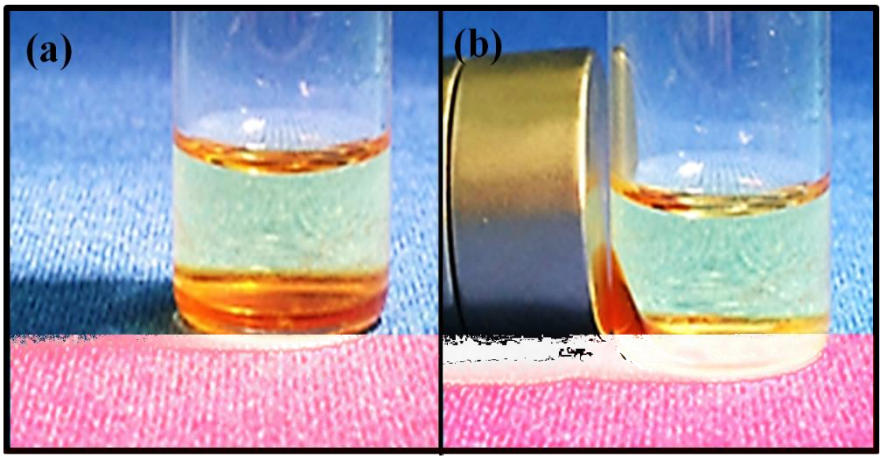

Figure S5. Photographs showing response of B-L MIL 5a to NdFeB (0.55-T) magnet. To show the displacement and distortion of 5a more clearly, ethyl ether was added to sample liquid. (**a**) Two layers of liquid, with ethyl ether at top and 5a at bottom, without magnet. (**b**) 5a attracted to magnet, becoming distorted.

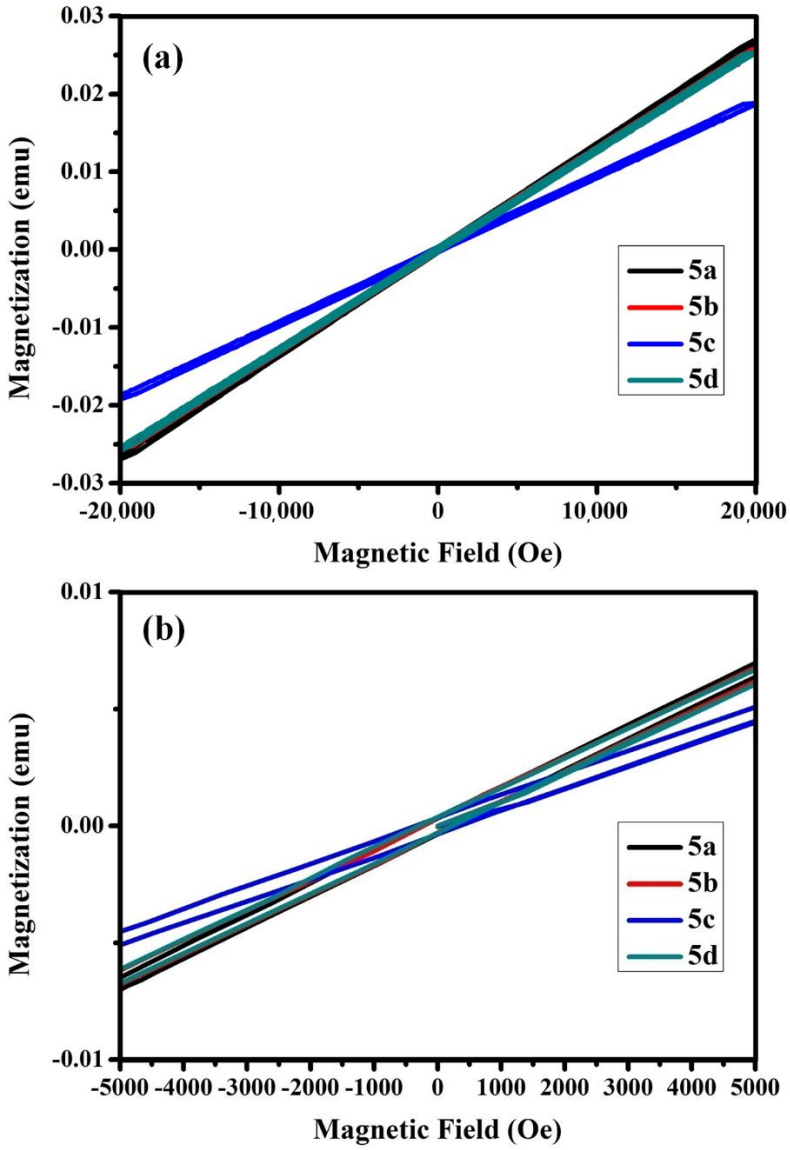

Figure S6. (**a**) Isothermal magnetization of all B-L MILs at 300 K. (**b**) enlarged view for magnetic fields of -5000 to 5000 Oe.