

## Preparation of Magnetic Ionic Liquids Composed of Hybrid Type Anion

<sup>a</sup>Department of Chemistry, Graduate School of Education, Kagawa University, 1-1 Saiwai-cho, Takamatsu, Kagawa, 760-8522. <sup>b</sup>Graduate School of Science, Kyoto University, Sakyo-ku, Kyoto 606-8502, <sup>c</sup>Faculty of Agriculture, Meijo University, Shiogamaguchi, 1-501 Tempaku-ku, Nagoya, 468-8502, Japan, <sup>d</sup>Faculty of Pharmaceutical Sciences at Kagawa Campus, Tokushima Bunri University, 1314-1 Shido, Sanuki, Kagawa, 769-2193 <sup>e</sup>Department of Applied Chemistry, Graduate School of Natural Science and Engineering, Okayama University, Tsushima-naka, Kita-ku Okayama, 700-8530, Japan.

E-mail: [ytakagi@ed.kagawa-u.ac.jp](mailto:ytakagi@ed.kagawa-u.ac.jp)

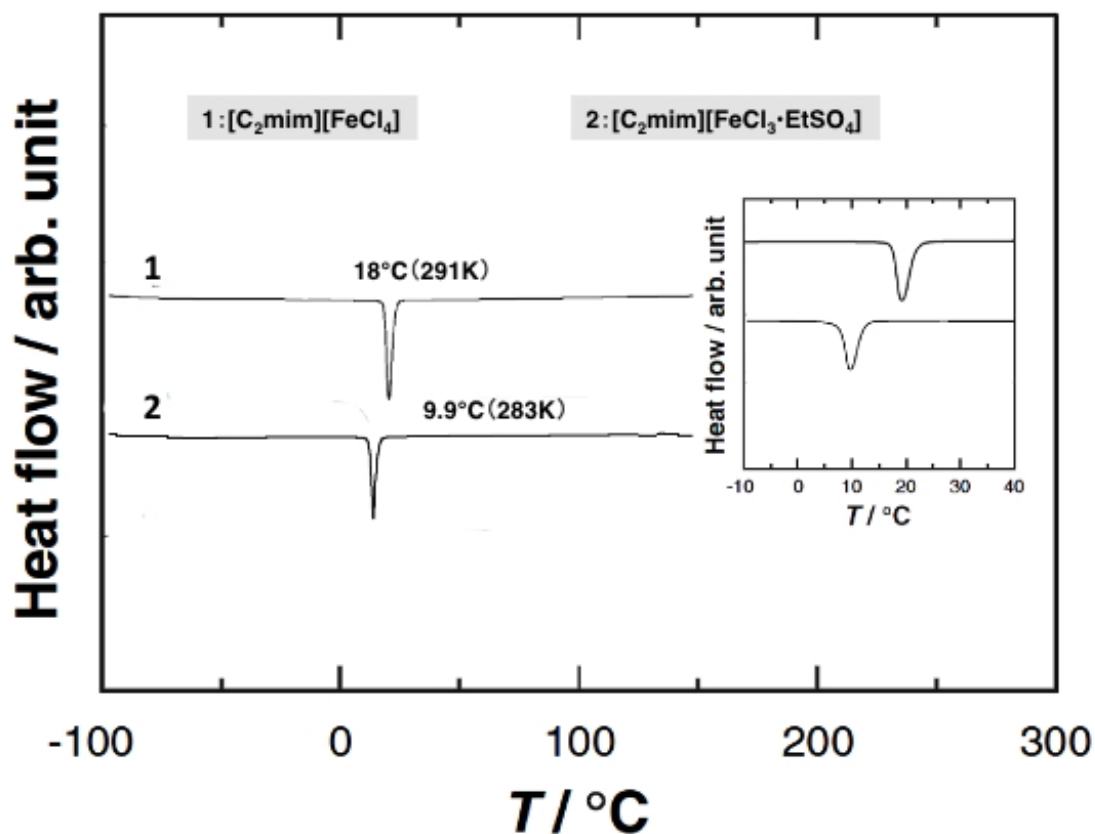


Figure S-1. DSC thermograms of [C<sub>2</sub>mim][FeCl<sub>4</sub>] (1) and [C<sub>2</sub>mim][FeCl<sub>3</sub>·EtSO<sub>4</sub>] (2).

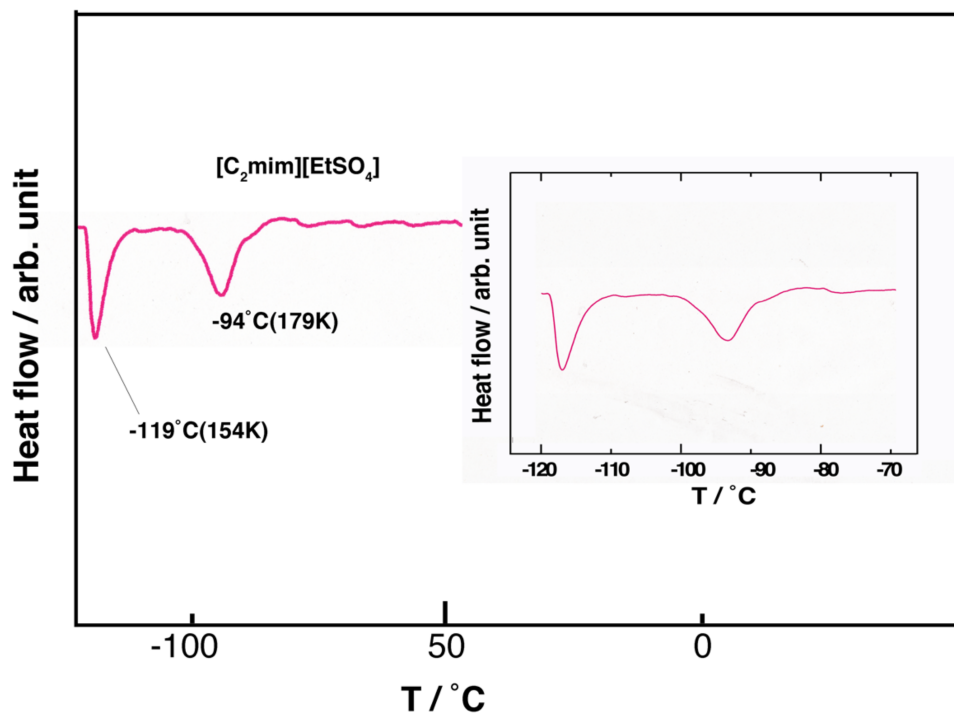
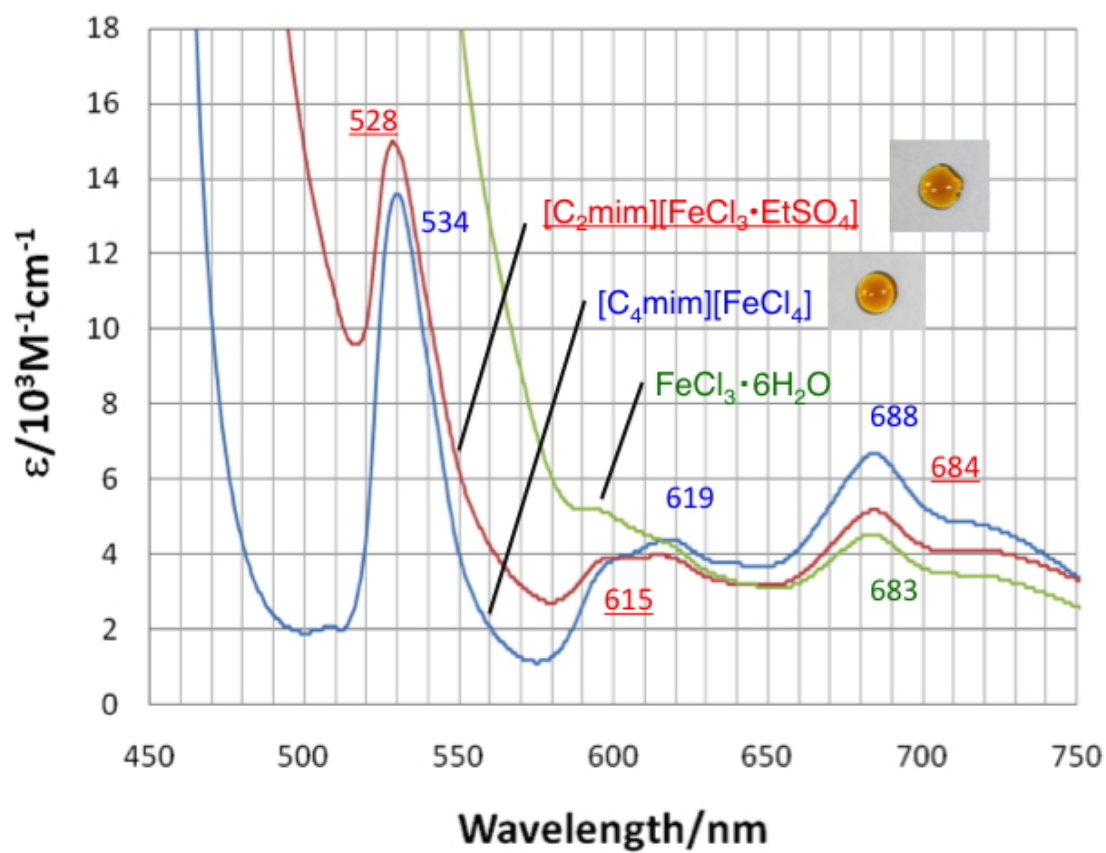


Figure S-2. DSC thermograms of  $[C_2mim][EtSO_4]$ .



**Figure S-3.** VIS-UV spectra of  $[\text{C}_2\text{mim}][\text{FeCl}_3 \cdot \text{EtSO}_4]$ ,  $[\text{C}_4\text{mim}][\text{FeCl}_4]$ , and  $\text{FeCl}_3$  in acetonitrile.