

### Supporting information

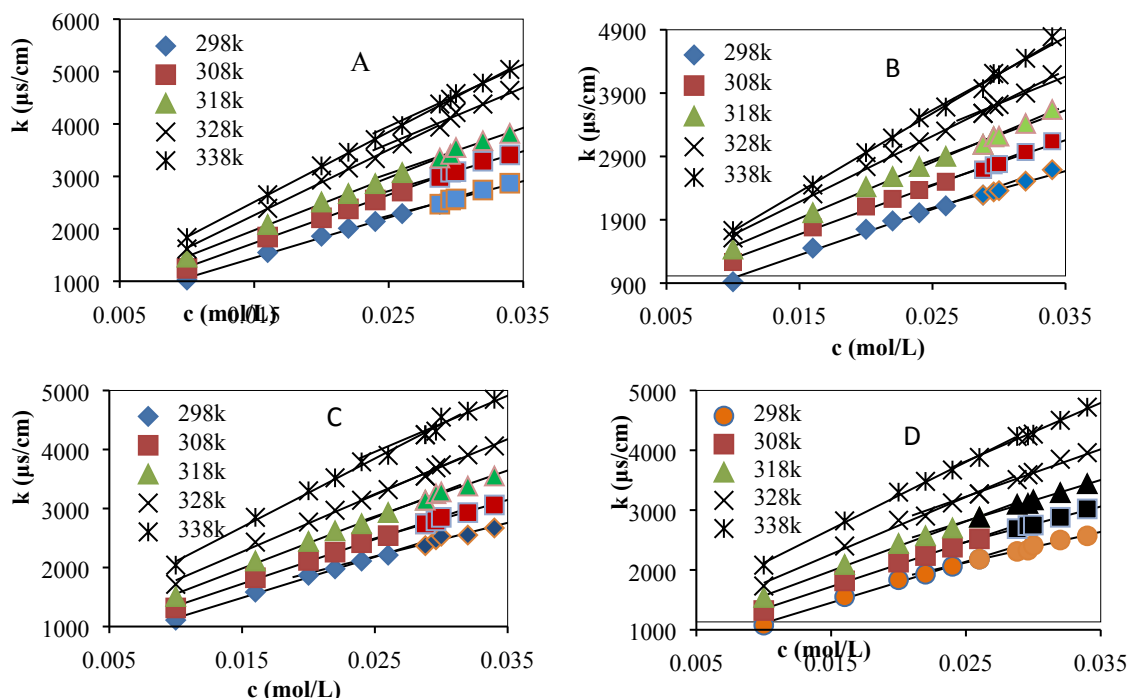


Fig. S1. Conductivity of the mixed system of  $\text{C}_{10}\text{mimBr}/\text{CTAB}$  at different temperatures  
CTAB (A-D): 4, 8, 12 and 16 mM

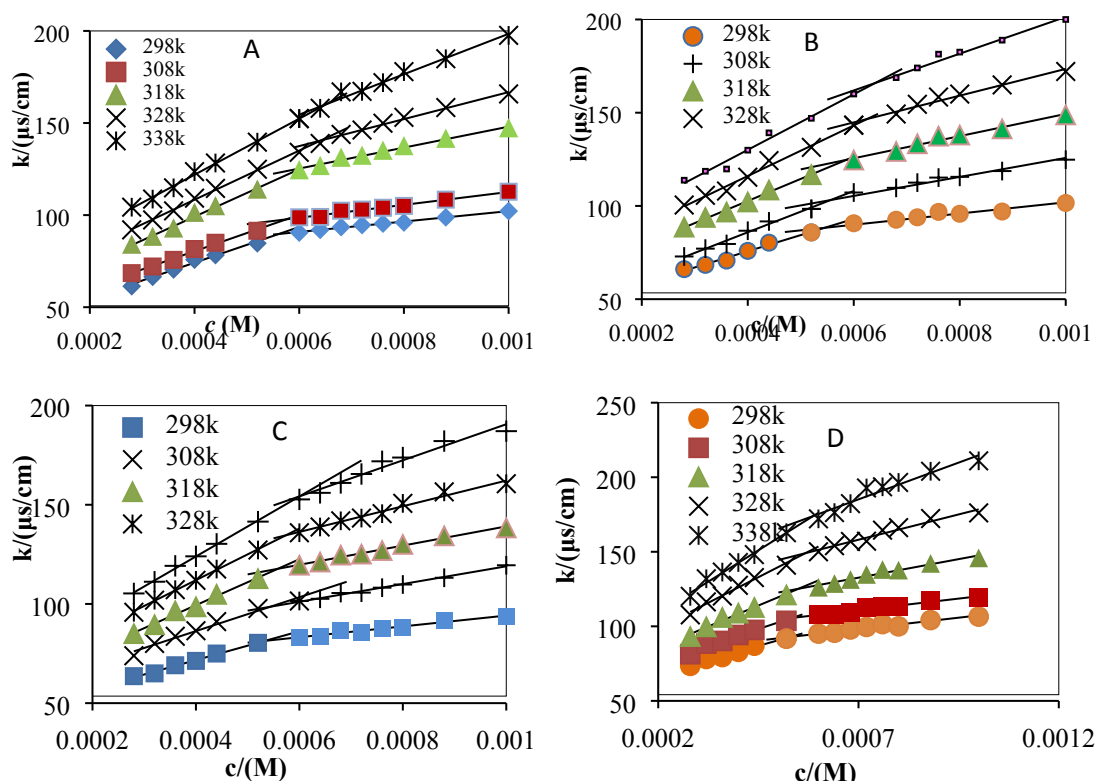
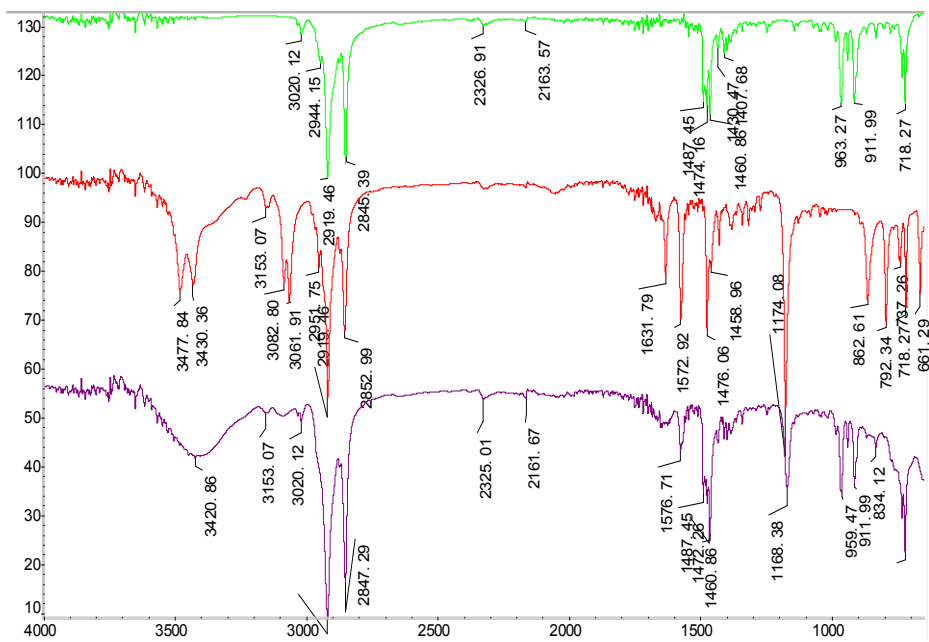


Fig. S2. Conductivity of the mixed system of  $\text{C}_{16}\text{mimBr}/\text{CTAB}$  at different temperatures  
CTAB (A-D): 0.04, 0.08, 0.12 and 0.16 mM



**Fig. S3.** FT-IR spectra of C<sub>10</sub> mimBr/CTAB and their mixed system

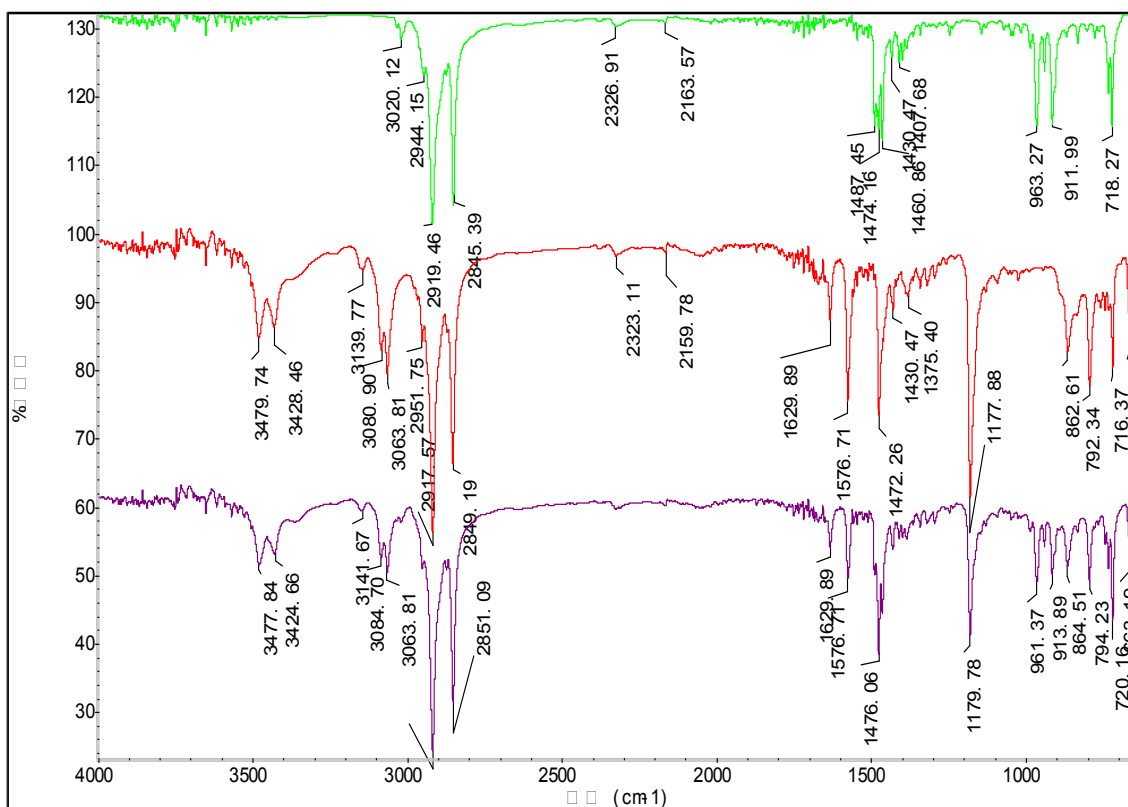


Fig. S4. FT-IR spectra of C<sub>12</sub> mimBr/CTAB and their mixed system

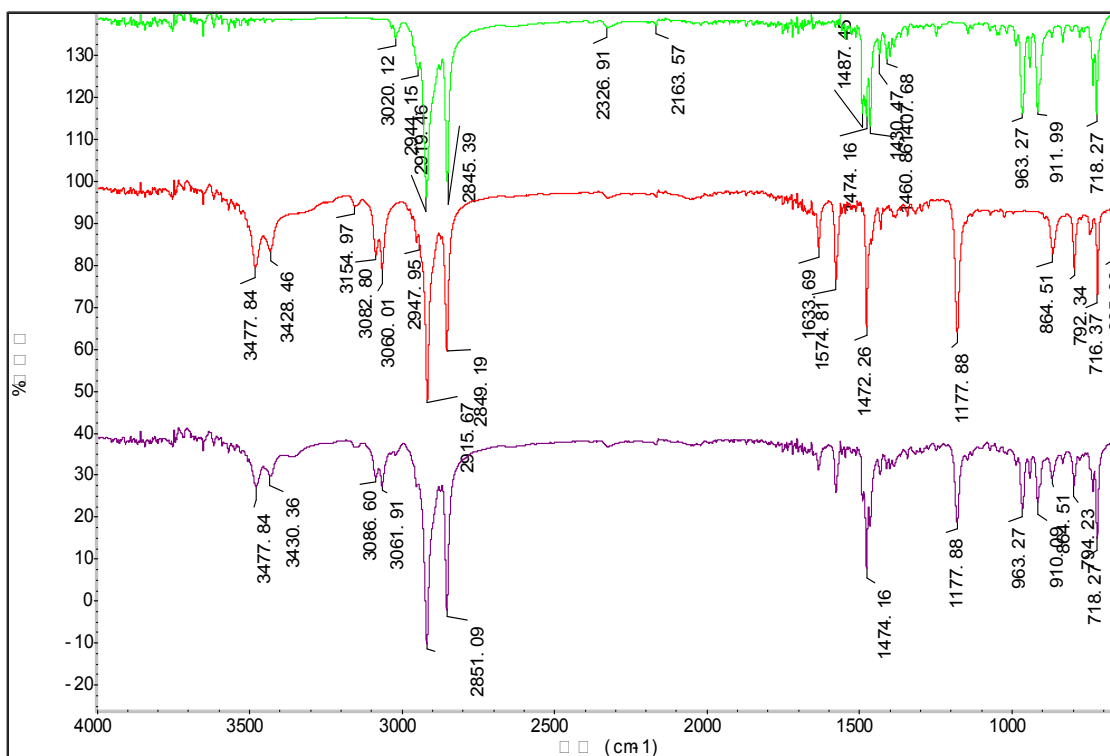


Fig. S5. FT-IR spectra of C<sub>16</sub> mimBr/CTAB and their mixed system