Electronic Supplementary Material (ESI) for RSC Advances.

Electronic Supplementary Information

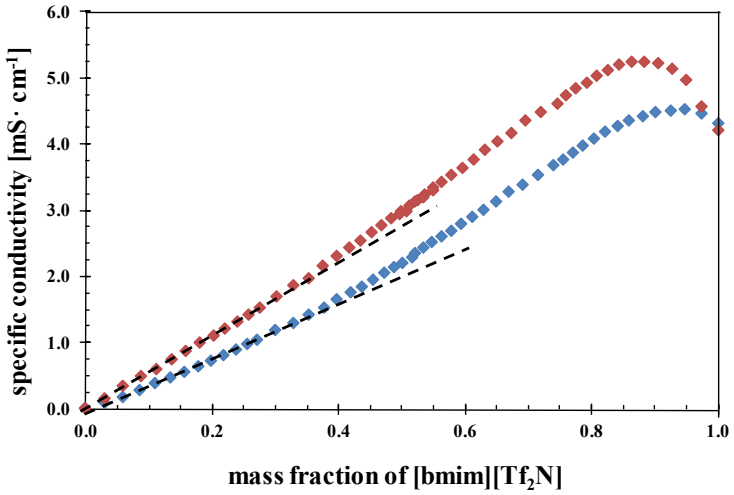

Figure S1. Specific conductivity of [BMIM][Tf_2N]/(TX-100:BuOH)/H_2O system in a function of IL content for (◆) 0.15:0.85 and (◆) 0.05:0.95 water-to-mixed surfactant mass ratio.

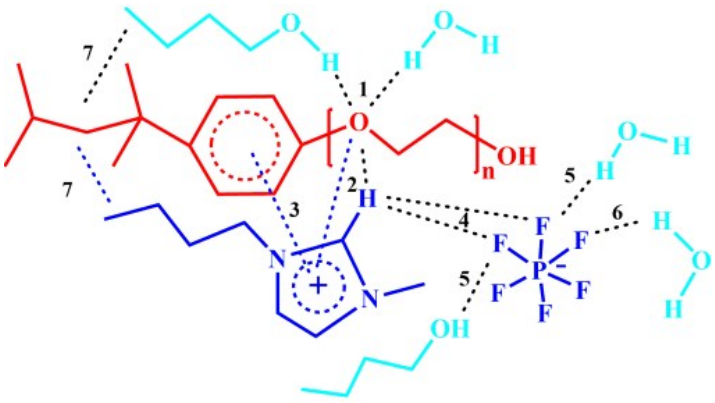

Figure S2. Selected interactions between components of [BMIM][PF_6]/(TX-100:BuOH)/H_2O microemulsion

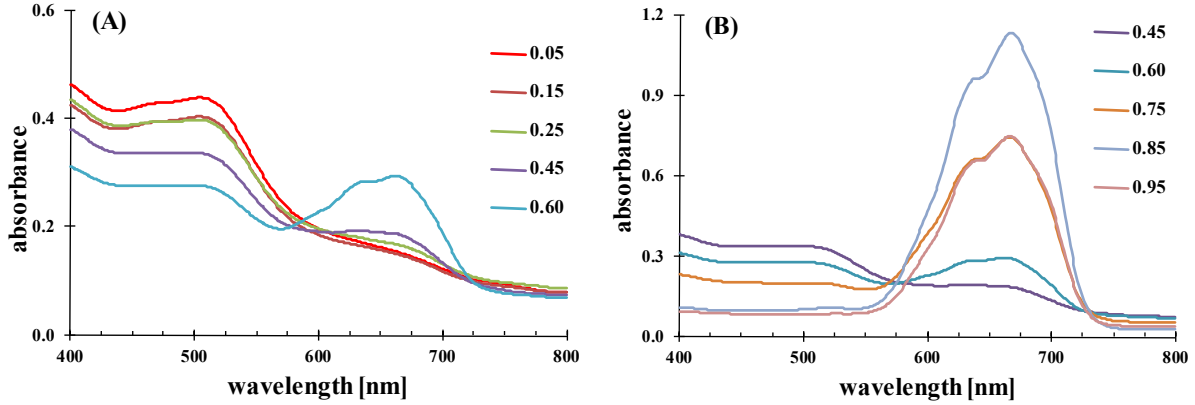

Figure S3. Dependences of absorbance of $CoCl_2$ in the H_2O/(TX-100:BuOH)/[BMIM][PF_6] microemulsion on the IL mass fraction at the lower (A) and higher (B) IL contents determined for L85 line (TX-100/H_2O = 0.85/0.15).

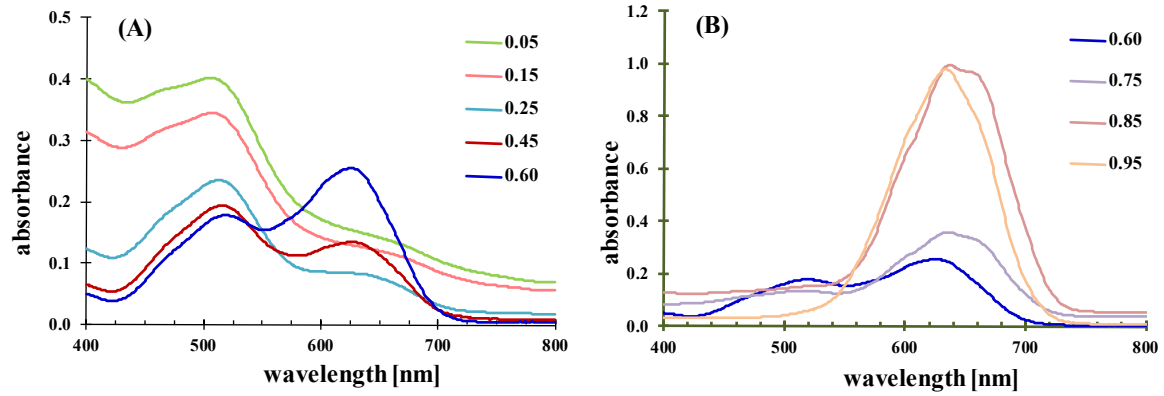

Figure S4. Dependences of absorbance of $CoCl_2$ in the H_2O/TX-100:BuOH)/[BMIM][Tf_2N] microemulsion on the IL mass fraction at the lower (A) and higher (B) IL contents determined for L85 line (TX-100/H_2O = 0.85/0.15).

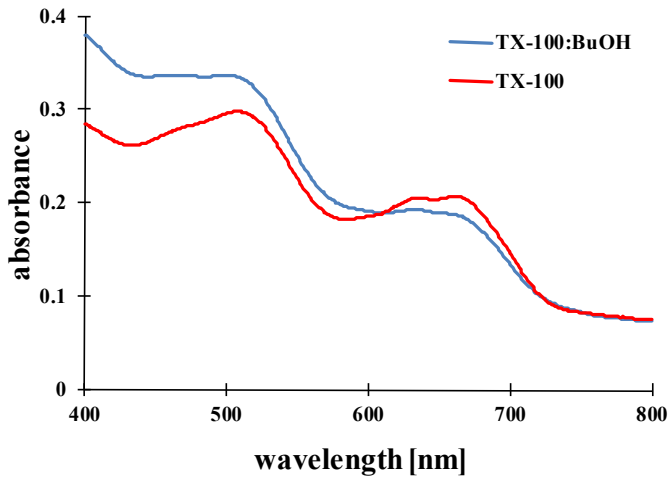

Figure S5. Comparison of the absorption spectra of systems with [BMIM][Tf_2N] with or without surfactant. In both cases, the ionic liquid mass fraction equals to 0.45.

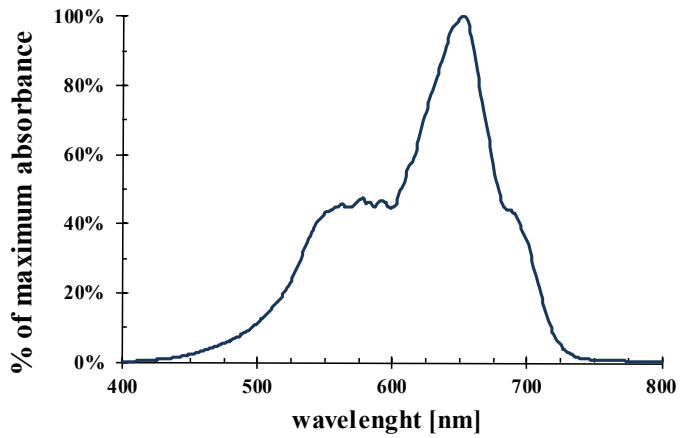

Figure S6. Normalized absorption spectrum of $CoCl_2$ in butanol.

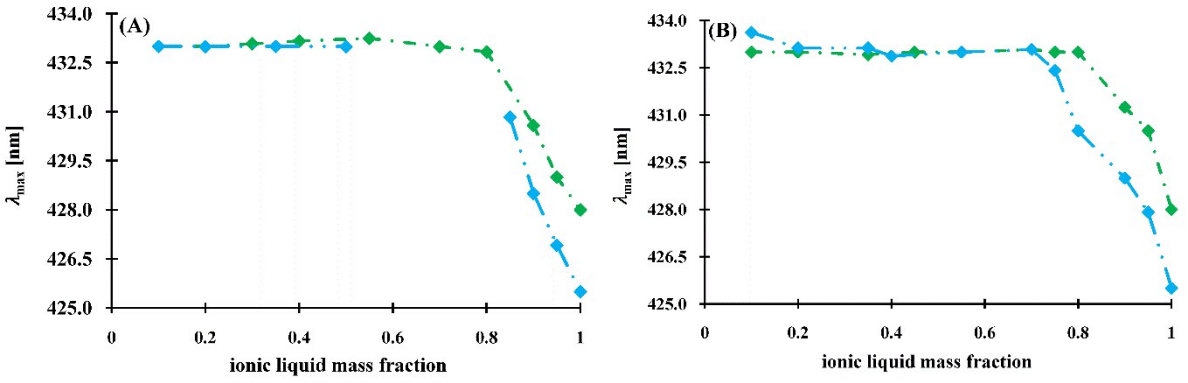

Figure S7. The dependences of maximum absorption wavelength of methyl orange dissolved in the microemulsions on ionic liquid content determined for L85 dilution lines, (A) represents [BMIM][PF_6]

(◆) *and [BMIM][Tf₂N]* (◆), *(B) represents [BMIM][PF₆]-based ME with cosurfactant* (◆) *and [BMIM][Tf₂N]-based ME with cosurfactant* (◆)

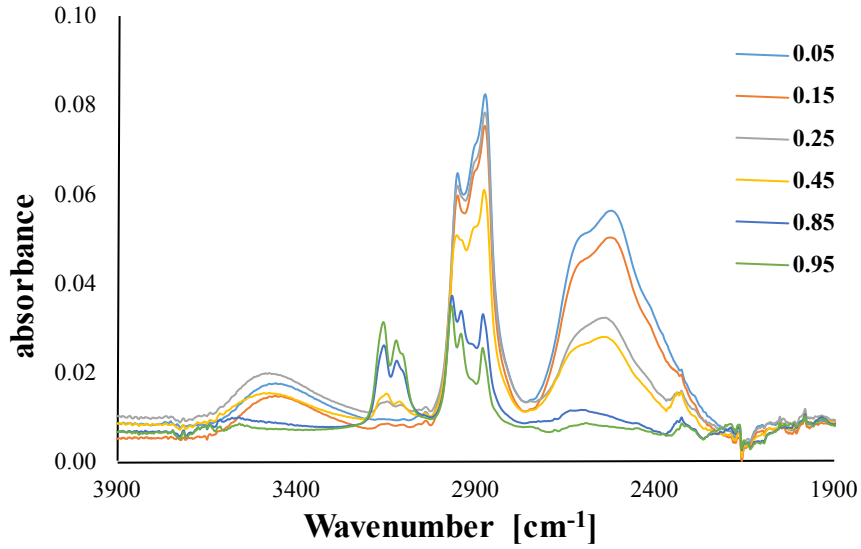

Figure S8. FTIR spectra of H_2O/TX-100/[BMIM][Tf_2N] microemulsion at ionic liquid content 0.05; 0.15; 0.25; 0.45; 0.85; 0.95

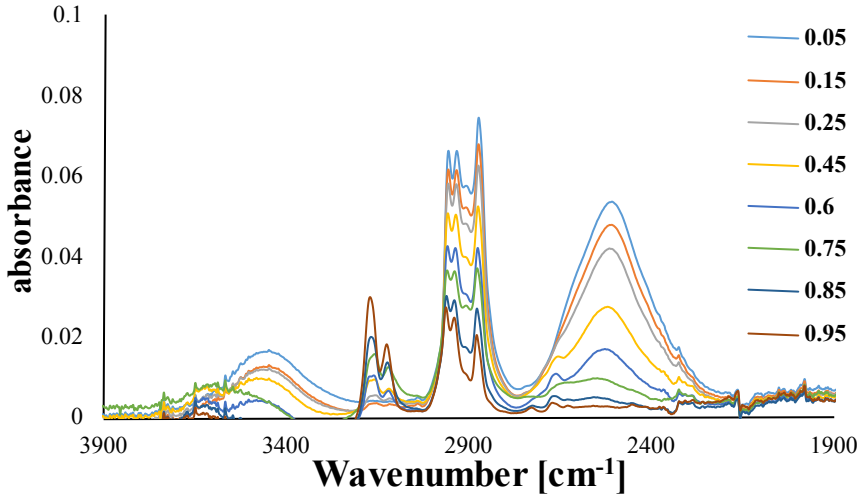

Figure S9. FTIR spectra of H_2O/(TX-100:BuOH)/[BMIM][PF_6] microemulsion at ionic liquid content 0.05; 0.15; 0.25; 0.45; 0.85; 0.95

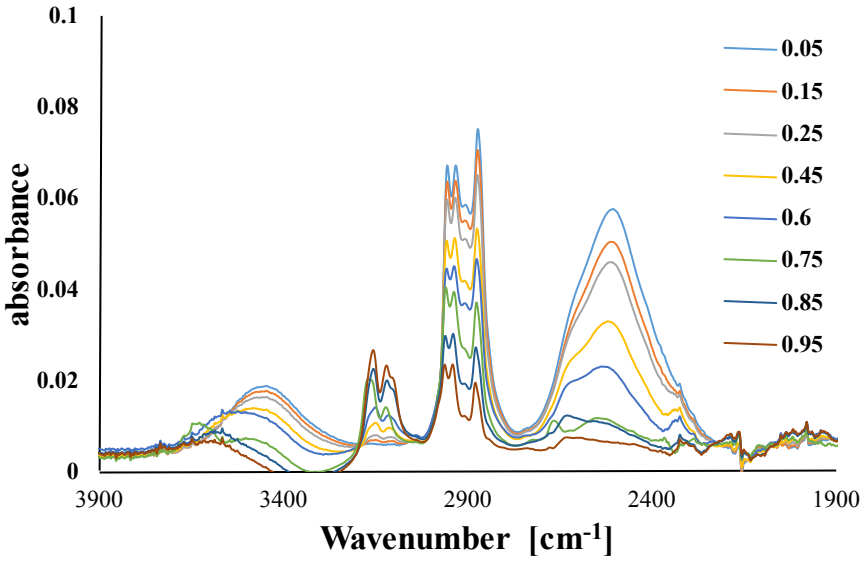

Figure S10. FTIR spectra of H_2O/(TX-100:BuOH)/[BMIM][Tf_2N] microemulsion at ionic liquid content 0.05; 0.15; 0.25; 0.45; 0.85; 0.95