Electronic Supplementary Material (ESI) for Journal of Materials Chemistry

Supporting Information

Solvent-Free Nanoparticle Fluids with Highly Collective Functionalities for Layer-by-Layer Assembly

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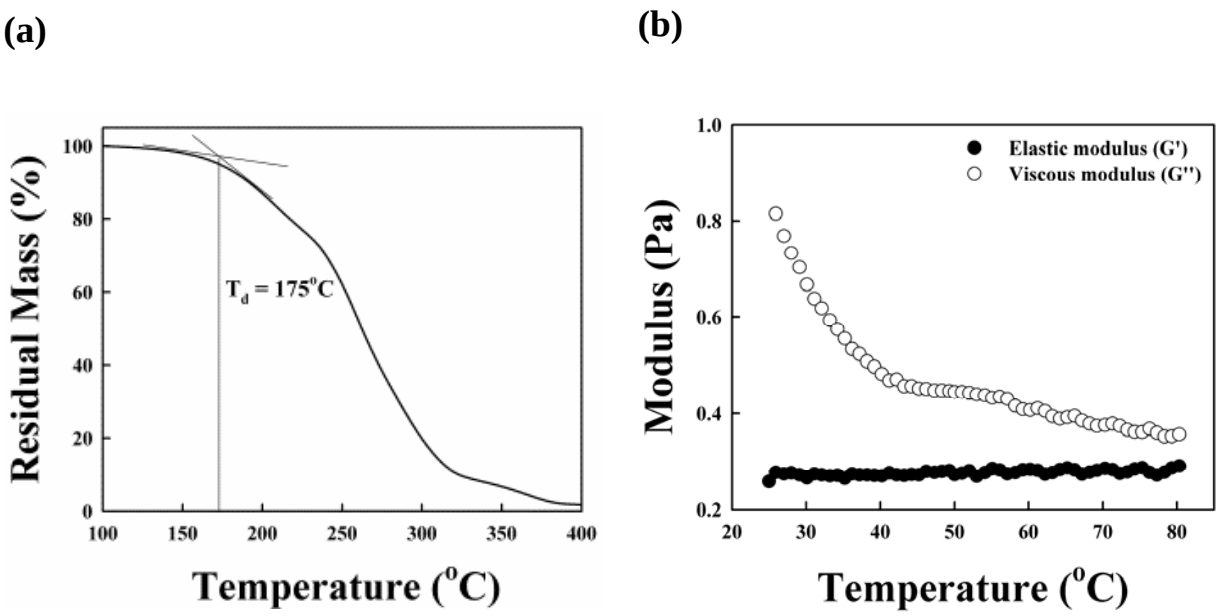

Figure S1. (a) Thermogravimetric Analysis (TGA) data of TFI-IL. (b) Temperature-dependent modulus data of TFI-IL.

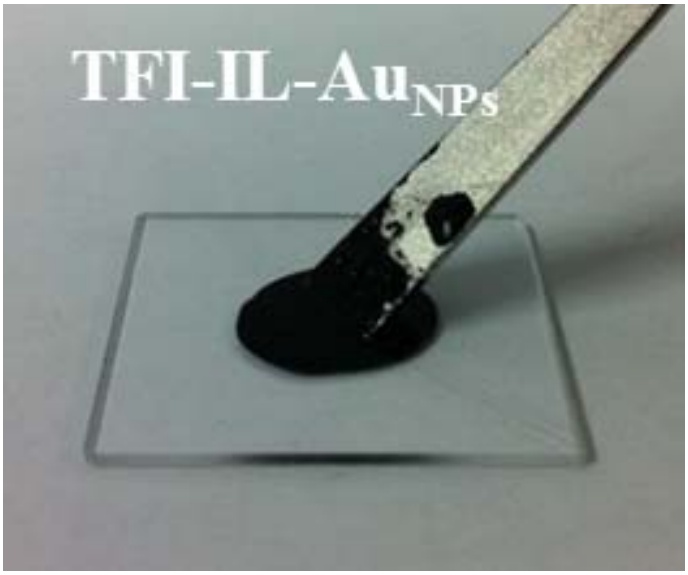

Figure S2. Photographic image of the highly concentrated TFI-IL-Au_{NP} (60 wt%) fluid. The Au_{NP} fluid was phase-transferred to TOABr-Au_{NPs} dispersed in toluene.

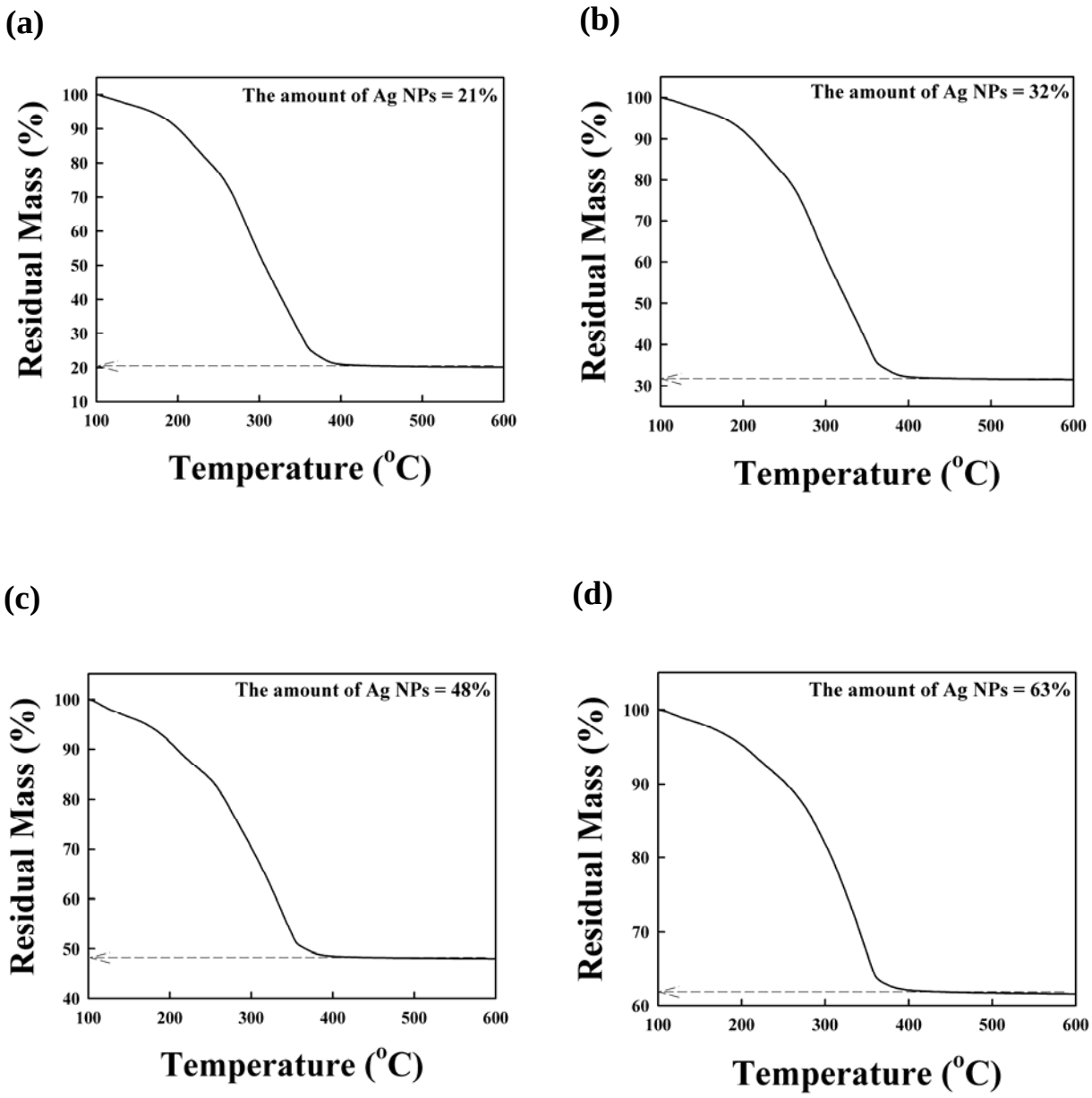

Figure S3. TGA data of each TFI-IL-Ag_{NP} according to different ratio of TFI-IL: Ag_{NPs} = (a) 1: 0.25, (b) 1: 0.5, (c) 1:1 and (d) 1: 2, respectively.

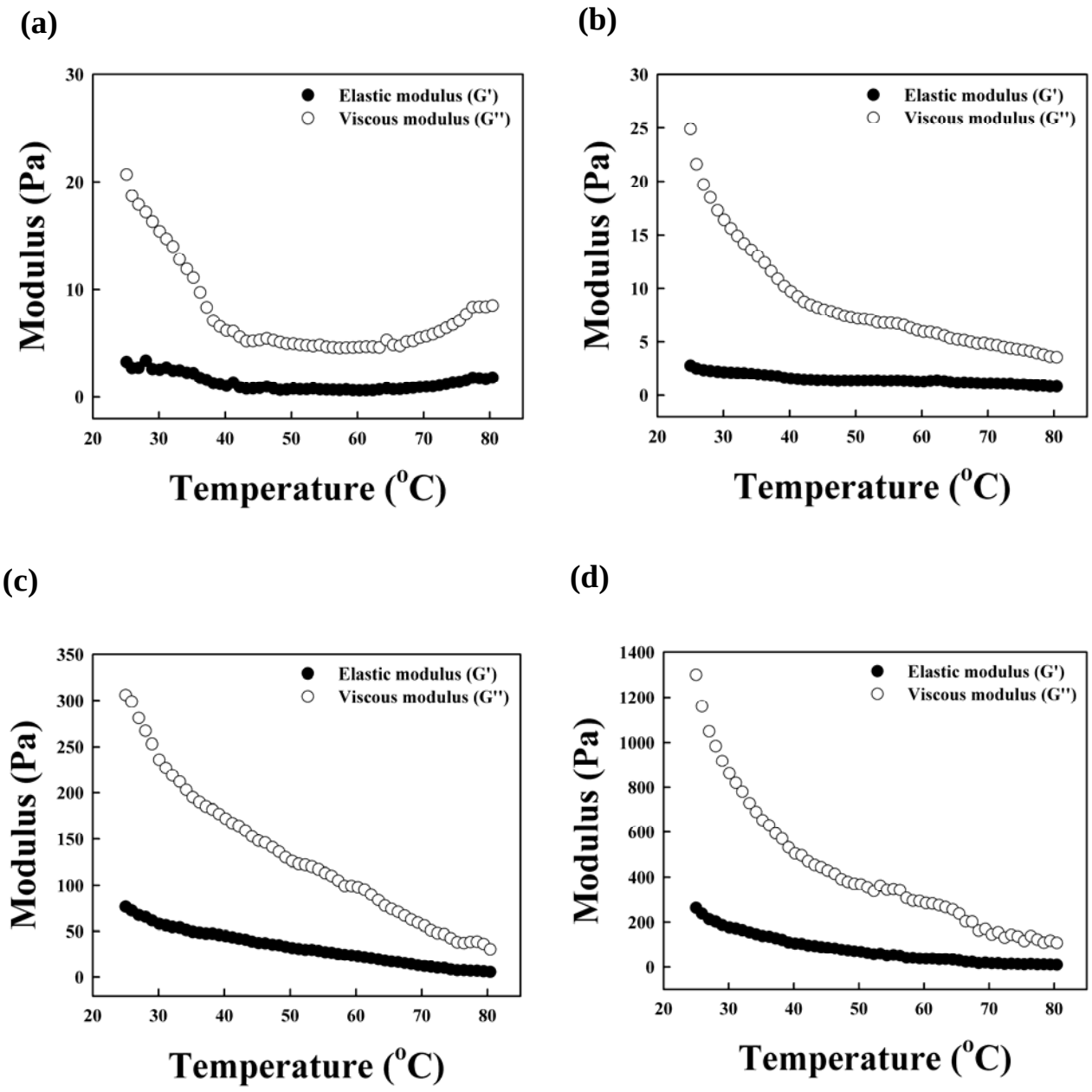

Figure S4. Effect of elastic (G`) and viscous (G``) moduli of each TFI-IL-Ag with the different contents of Ag_{NPs} on the temperature at fixed angular frequency ($\omega = 1\ s^{-1}$) and strain amplitude (γ = 10%); (a) 21 wt%, (b) 32 wt%, (c) 48 wt% and (d) 63 wt%, respectively.

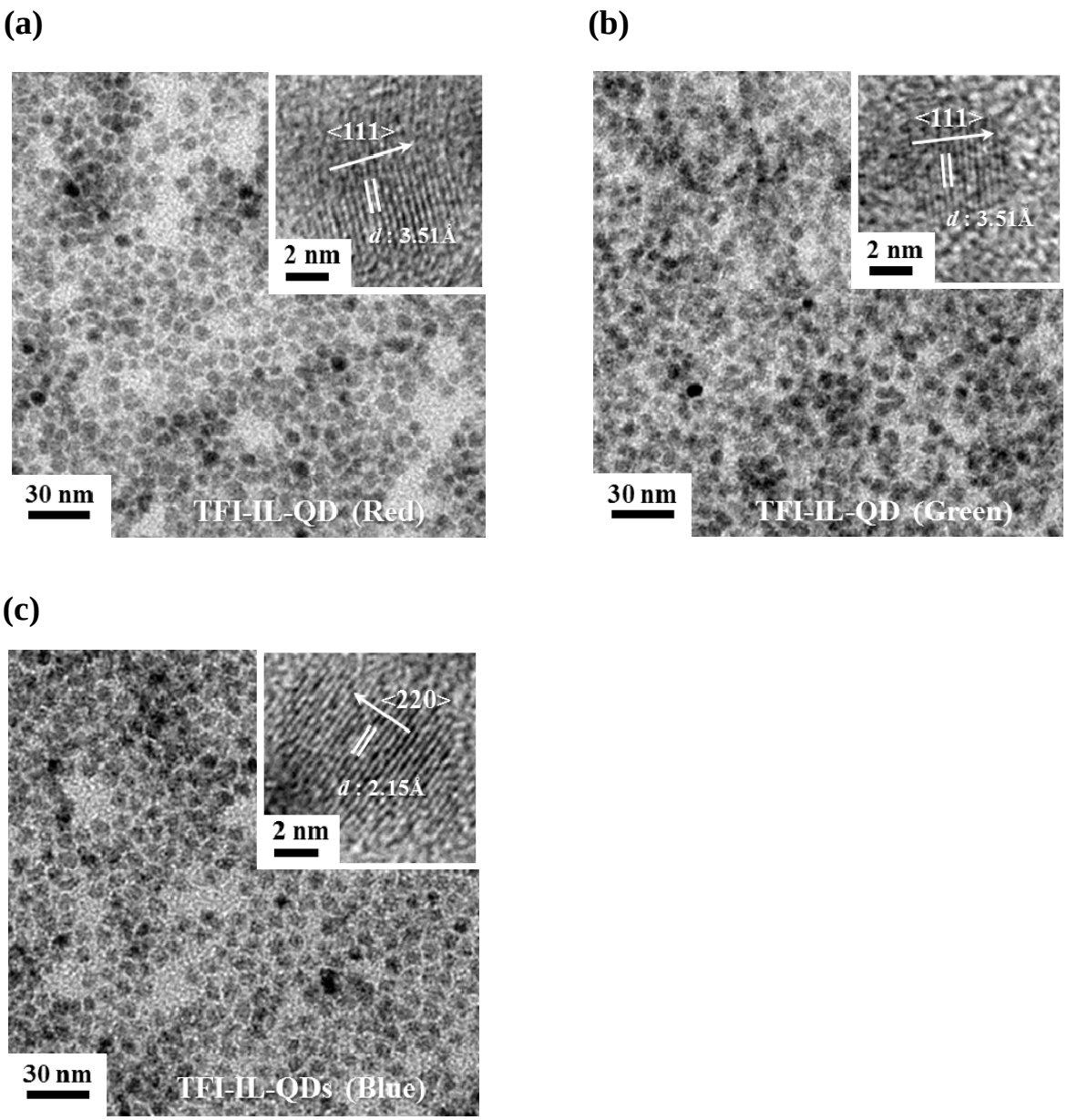

Figure S5. HR-TEM images of TFI-IL-CdSe@ZnS with (a) red, (b) green and (c) blue emission, respectively.

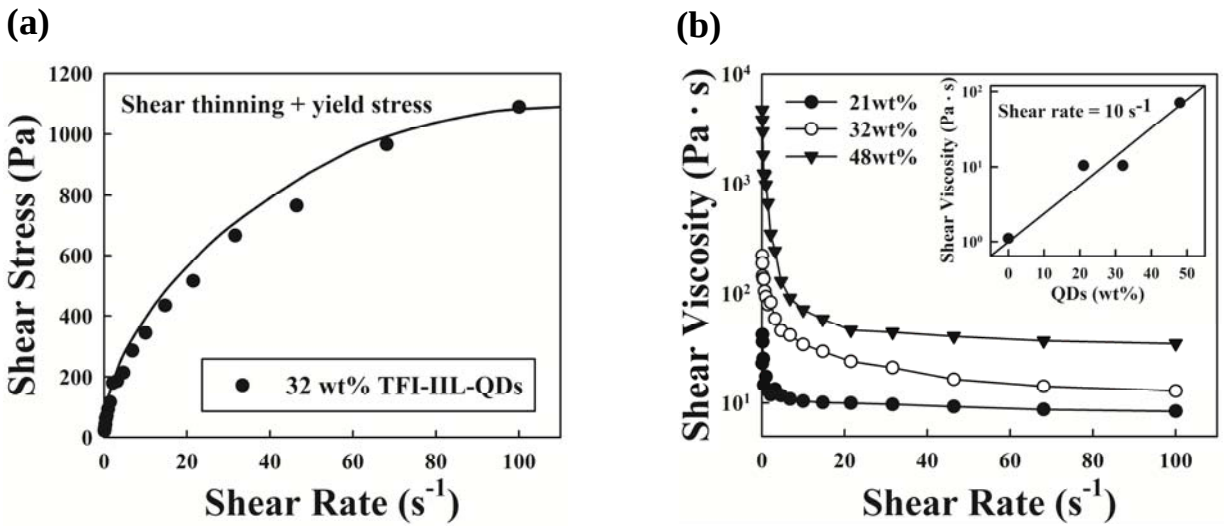

Figure S6. (a) Shear stress curve of 32 wt% TFI-IL-QD as a function of shear rate. (b) Shear viscosity data of TFI-IL-QDs as a function of shear rate. Inset image of (b) shows the shear viscosity of TFI-IL-QDs measured at shear rate of 10 s^{-1}.

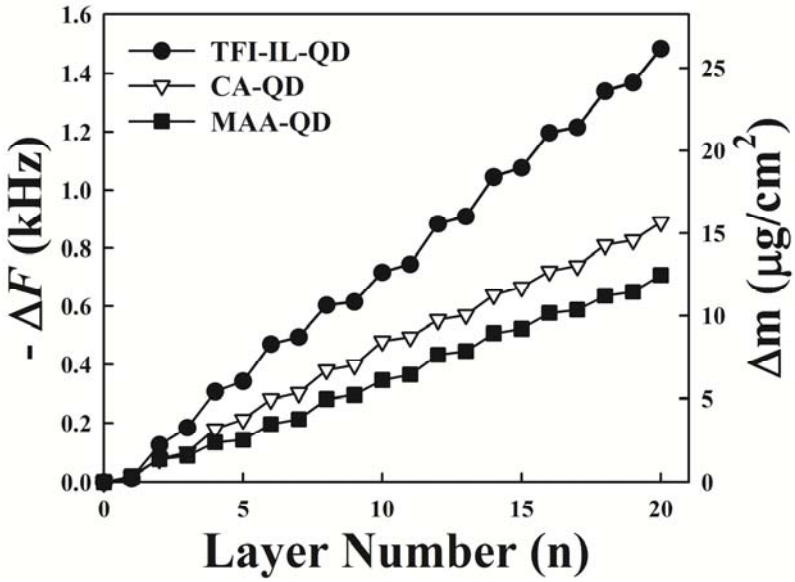

Figure S7. The data of QCM measurement for TFI-IL-QD/PSS, CA-QD/PSS and poly(allylamine hydrochloride/MAA-QD multilayer films.

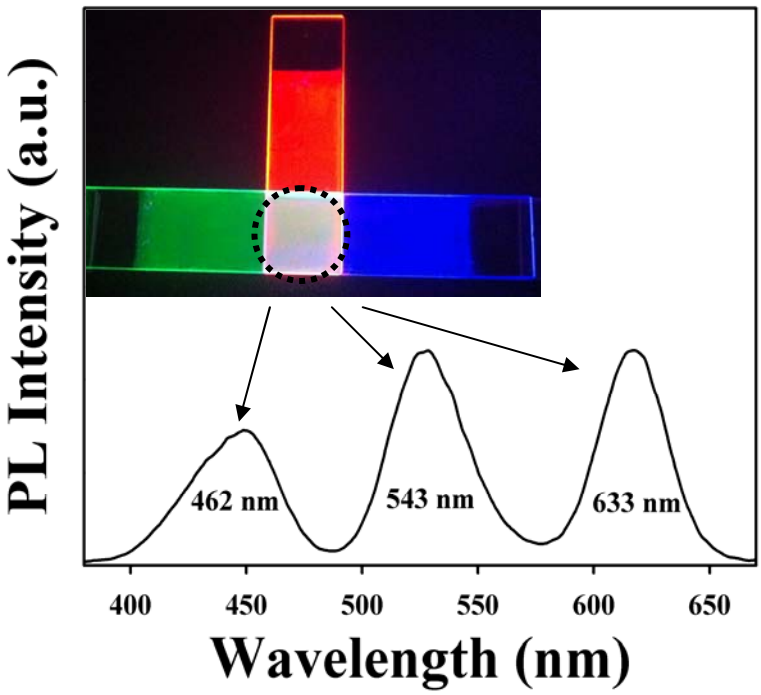

Figure S8. PL spectrum and photographic image for TFI-IL-QD multilayer films. Blue, green, and red emissive multilayer-coated glasses were overlapped for white color emission.