Supplementary Material (ESI) for Chemical Communications

Supplementary Information

One-step aqueous synthesis of blue-emitting glutathione-capped $ZnSe_{1-x}Te_x$ alloyed nanocrystals

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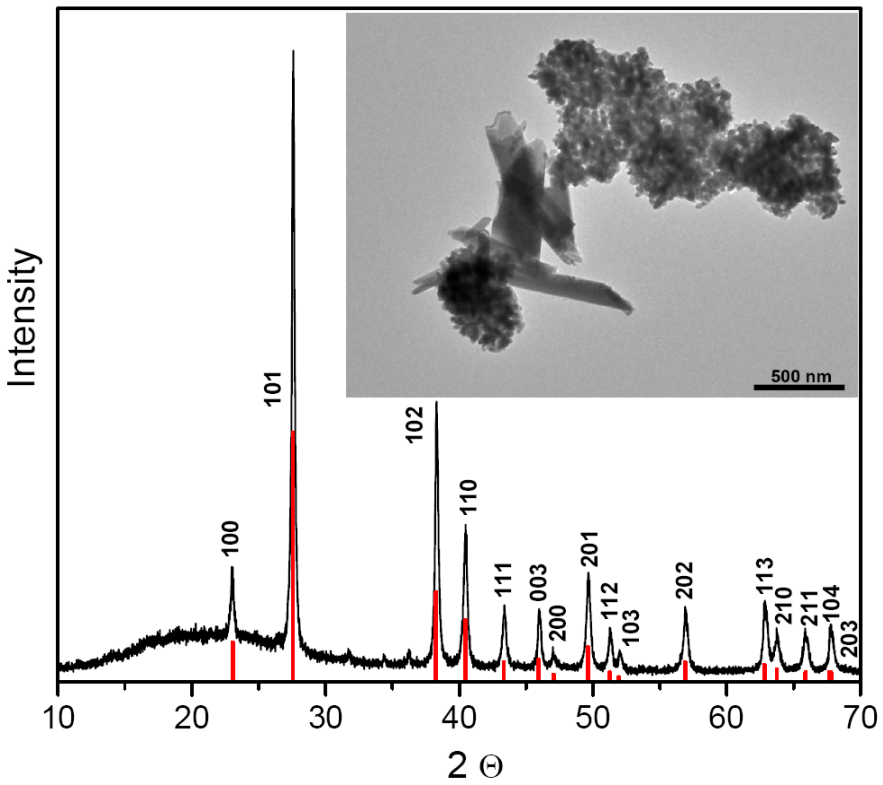

Figure SI1. XRD pattern of Te NCs. The line diffraction pattern shows the bulk hexagonal Te reflexes. The inset is a TEM image of the Te NCs. The mean size of the Te nanoparticles calculated using the Scherrer equation is about 350 nm.

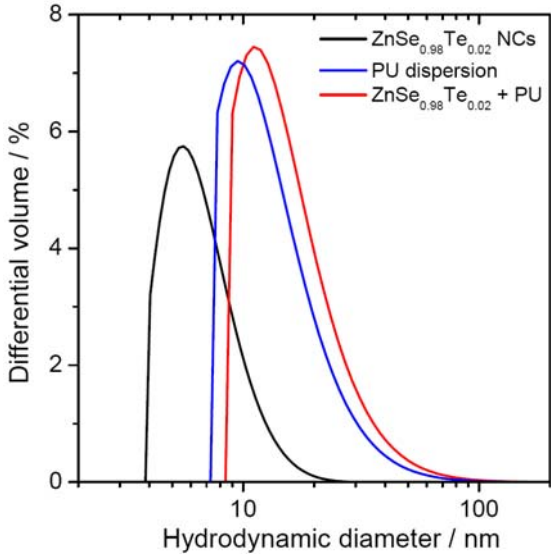

Figure SI2. Results of dynamic light scattering (DLS) measurements of the $ZnSe_{0.98}Te_{0.02}$/GSH colloid, an aqueous dispersion of the polymer and the NC-PU composite.

DLS measurements were carried out at room temperature on a Beckman Coulter Delsa Nano C particle analyzer. The $ZnSe_{0.98}Te_{0.02}$/GSH colloid was concentrated using a reprecipitation procedure in order to reach optimal optical density. Briefly, a portion of approx. 25 ml of the as prepared colloid was concentrated by water evaporation and precipitated by addition of 2-propanol. The precipitate obtained was dried in vacuum and then dissolved in 3 ml of water. Before analysis, the reprecipitated $ZnSe_{0.98}Te_{0.02}$/GSH colloid, the aqueous polymer dispersion and the NC-PU dispersion were sonicated for 10 min and centrifuged at 14500 rpm for 2 min to remove large aggregates. The hydrodynamic size was averaged over five measurements. Figure SI2 shows typical DLS results. According to the measurements an average hydrodynamic diameter of bare $ZnSe_{0.98}Te_{0.02}$/GSH NCs is 10 nm, particles of the polyurethane dispersion and the NC-PU dispersion have mean sizes of 34 nm and 44 nm, respectively.