Supporting information:

Polymer-Mediated Growth of Fluorescent Semiconductor Nanoparticles in Preformed Nanocomposites

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Figure S1 The relationship of OR growth and dynamic coalescence occurred as NPs grew in aqueous solutions and in polymer films. NP concentrations were calculated from the corresponding UV-vis peak intensity. The polymer used here was PS.

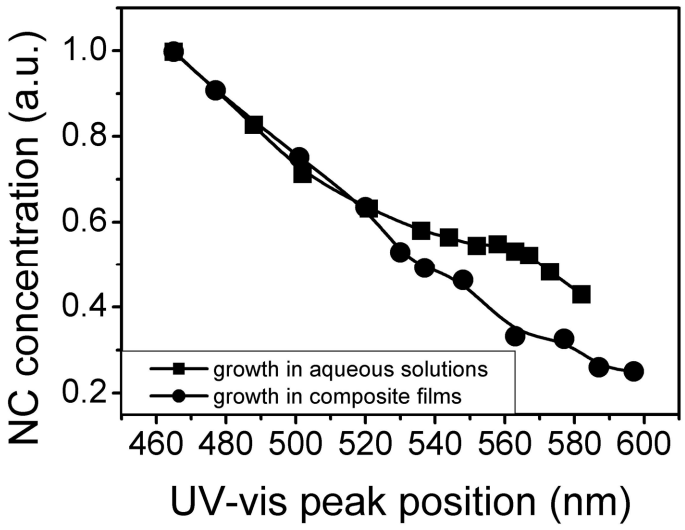

Figure S2 Temporal evolution profiles of the UV-vis peak positions (a) and corresponding NP diameters (b) of CdTe-PVP (M_n=1,300,000) composite films obtained under different annealing temperatures. The concentration of NPs was fixed at 20 mM.

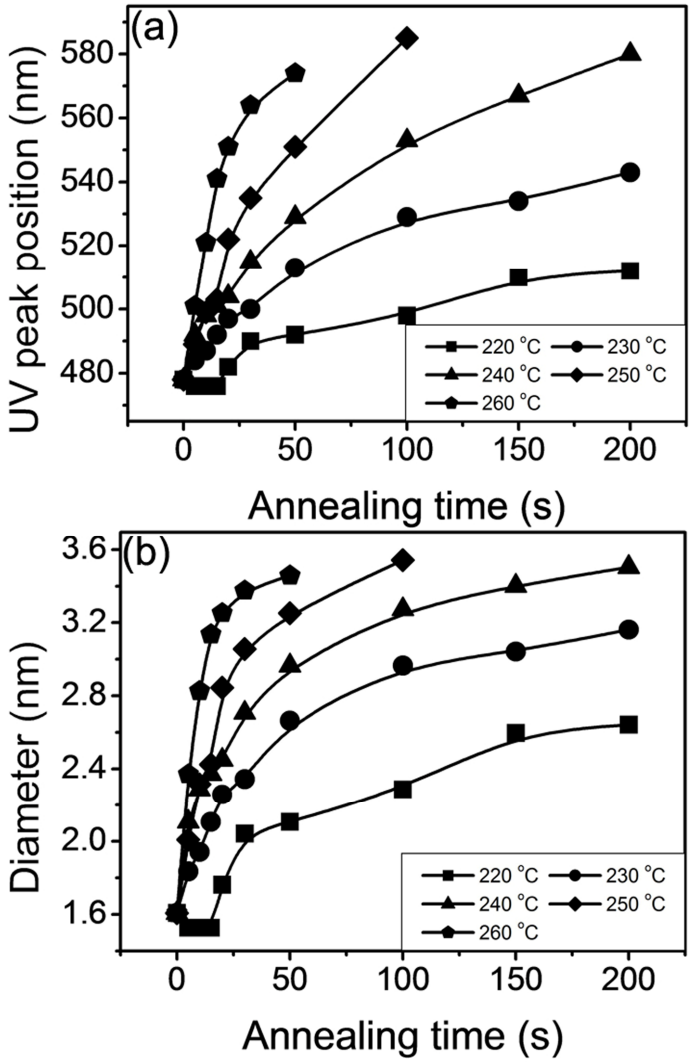

Figure S3 Temporal evolution profiles of the diameters of CdTe NPs during annealing at 140 °C in PS and PMS. The concentration of NPs was fixed at 2 mM. Corresponding evolution of the UV-vis peak position was indicated in Figure 5.

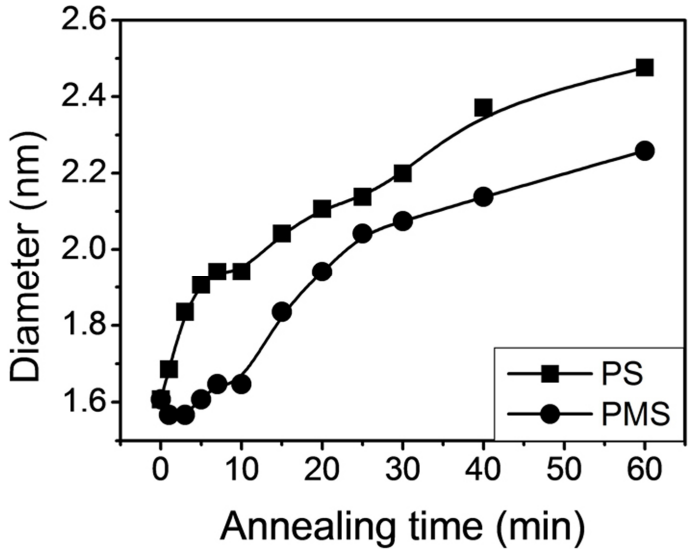

Figure S4 Temporal evolution profiles of the diameters of CdTe NPs during annealing at 180 °C in PS and PC. The concentration of NPs was fixed at 20 mM. Corresponding evolution of the UV-vis peak position was indicated in Figure 6a.

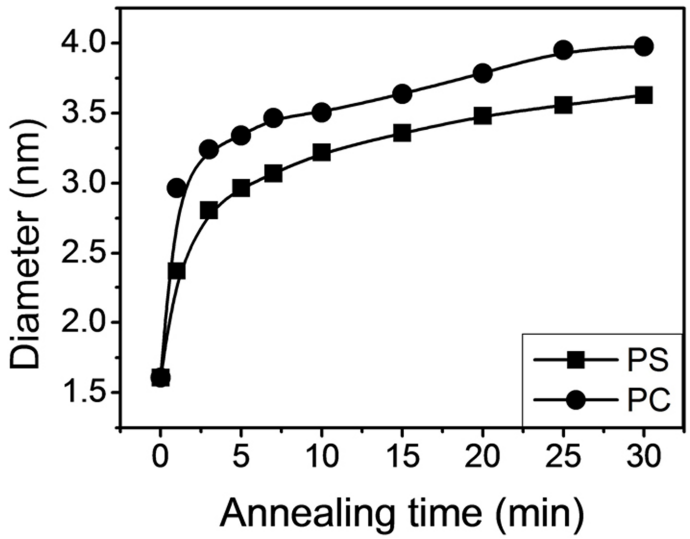

Figure S5 Temporal evolution profiles of the diameters of CdTe NPs during annealing at 180 °C in PMMA and PVA (a), and PS and AFPS (b). The concentration of NPs was fixed at 20 mM. Corresponding evolution of the UV-vis peak position was indicated in Figure 7.

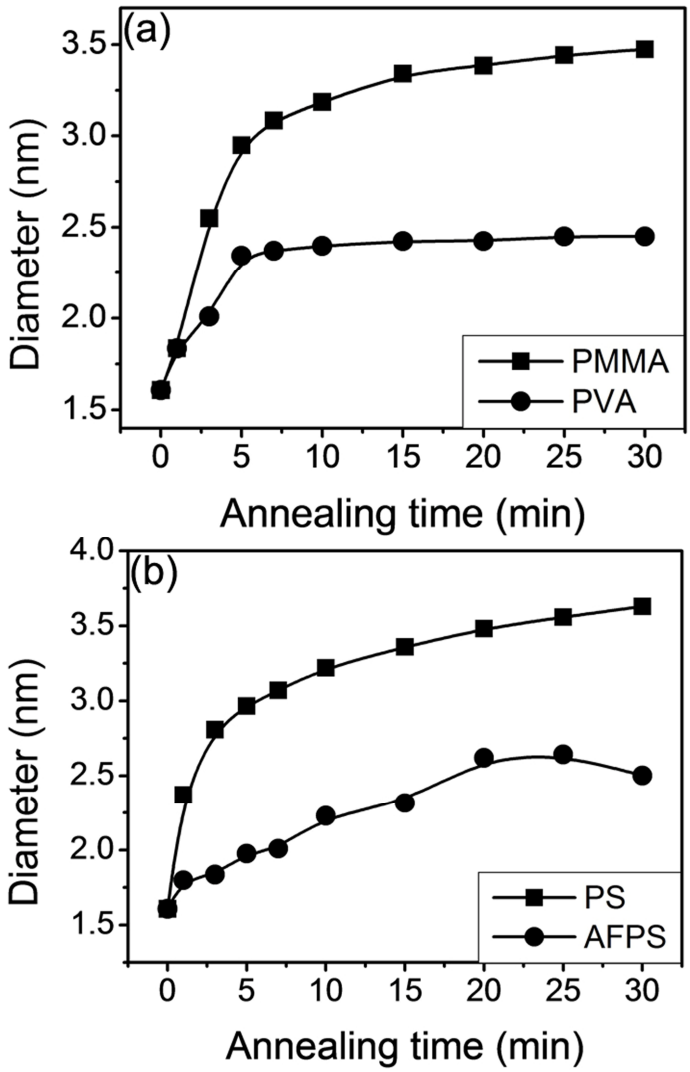

Figure S6 DSC curves of AFPS and CdTe NP-AFPS composites.

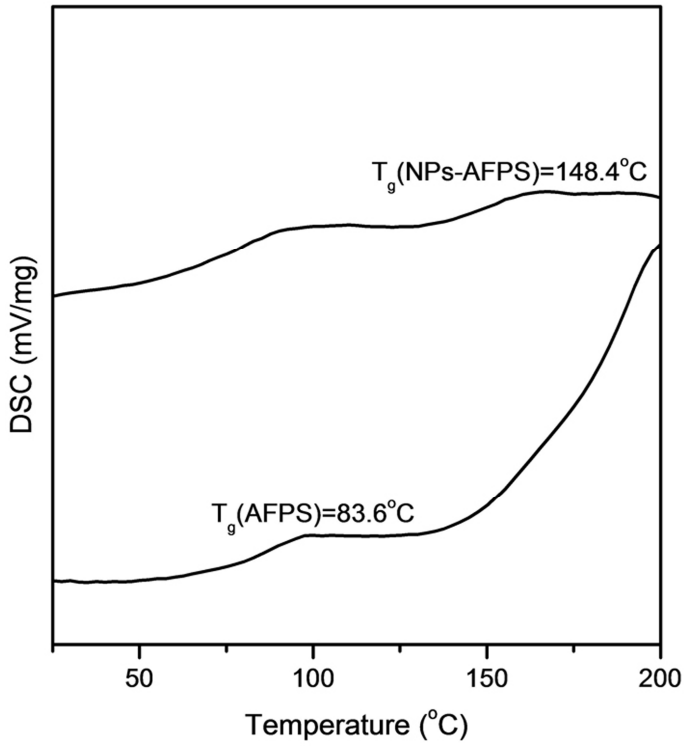

Figure S7 Temporal evolution profiles of the diameters of CdTe NPs during annealing at 180 °C in PS with different M_n. The concentration of NPs was fixed at 2 mM. Corresponding evolution of the UV-vis peak position was indicated in Figure 8.

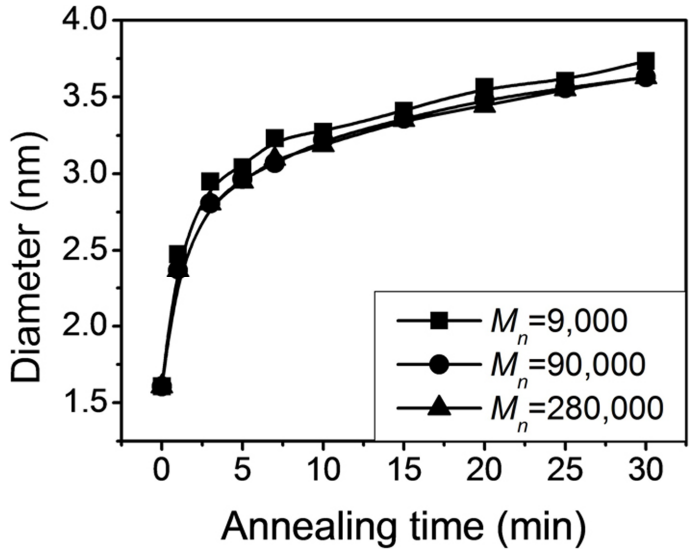

Figure S8 DSC curves of PS with the molar mass of 9,000, 90,000 and 280,000.

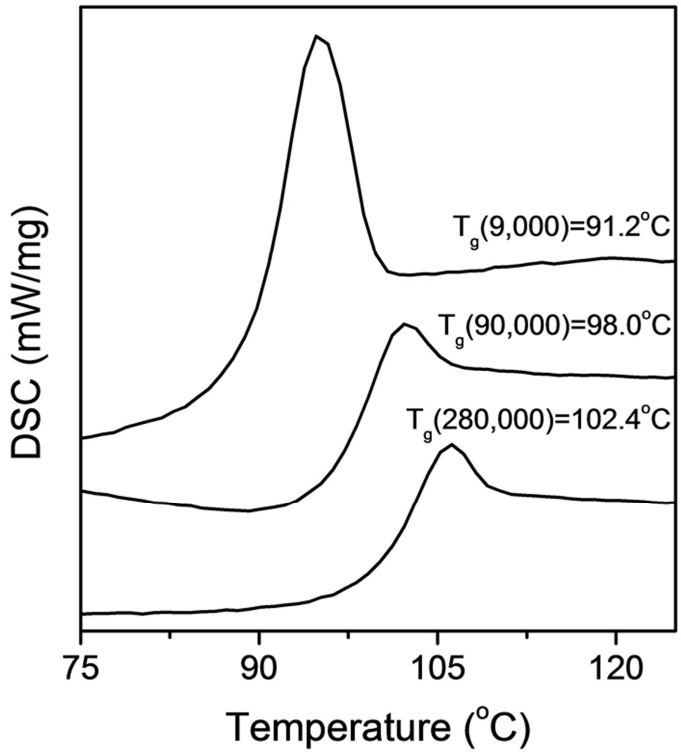

Table S1 Data and error bars of the temporal evolution of the UV-vis peak position of CdTe-PS and CdTe-PMS composites. Corresponding figure was indicated in Figure 5.

Time (min)	PS (M_n of 90,000) (nm)	PMS (nm)
0	478	478
1	480±4	477±3
3	484±4	477±3
5	486±4	478±3
7	487±4	479±3
10	487±4	479±3
15	490±5	484±3
20	492±4	487±3
25	493±4	490±3
30	495±5	491±3
40	501±4	493±3
60	505±4	497±2

Table S2 Data and error bars of the temporal evolution of the UV-vis peak position of CdTe-PS composites with different M_n, 9,000, 90,000 and 280,000. Corresponding figure was indicated in Figure 8.

Time(min)	PS (M_n of 9,000) (nm)	PS (M_n of 90,000)	PS (M_n of 280,000) (nm)
0	478	478	478
1	505±5	501±9	501±4
3	528±2	520±6	520±4
5	534±7	529±3	528±4
7	549±0	536±5	538±4
10	553±5	548±3	545±4
15	568±4	562±2	561±4
20	588±1	577±1	572±4
25	593±6	587±0	586±4
30	608±2	596±2	596±5

Table S3 DSC measurement of the T_g of PS (M_n of 90,000), PMMA, PVP, AFPS, and the corresponding NP-polymer composites. On the analysis of the data below, we could convincingly claim that the T_g of non-crosslinking polymers such as PS, PMMA and PVP were varied slightly after commingled with NPs.

Polymers	**Theoretical T_g (°C)**	**Measured T_g (°C)**	**Measured T_g of NP-Polymer Composites**
PS (M_n of 90,000)	98	98.0	111.2
PMMA	125	124.6	121.5
PVP	175	177.4	175.5
AFPS		83.6	148.4