Electronic Supplementary Material (ESI) for RSC Advances.

Preparation of UV-Curable Functionalized Phosphazene-containing Nanotubes/Polyurethane Acrylate Nanocomposite Coatings with Enhanced Thermal and Mechanical Properties

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Thermal properties of PUA and f-PZS/PUA nanocomposites

DSC is performed to investigate the glass transfer process of f-PZS/PUA nanocomposites. Figure S4 plots the DSC curves and provides the glass transition temperature (T_g). It can be seen obviously that the T_g values of the cured films decrease with increasing content of f-PZS nanotubes. When the f-PZS nanotubes content increases from 0.1 wt% to 3 wt%, the T_g value of PUA nanocomposite film decreases from 12.80 ˚C to -3.03 ˚C, which has a similar trend to the T_g results from the DMA test in the new manuscript (The temperature at the peak of loss factor tan δ curve is defined as the glass transition temperature (T_g)).

Figure S1. TGA curves of PUA and f-PZS/PUA nanocomposites under nitrogen atmosphere. (containing f-PZS/PUA-5.0 sample)

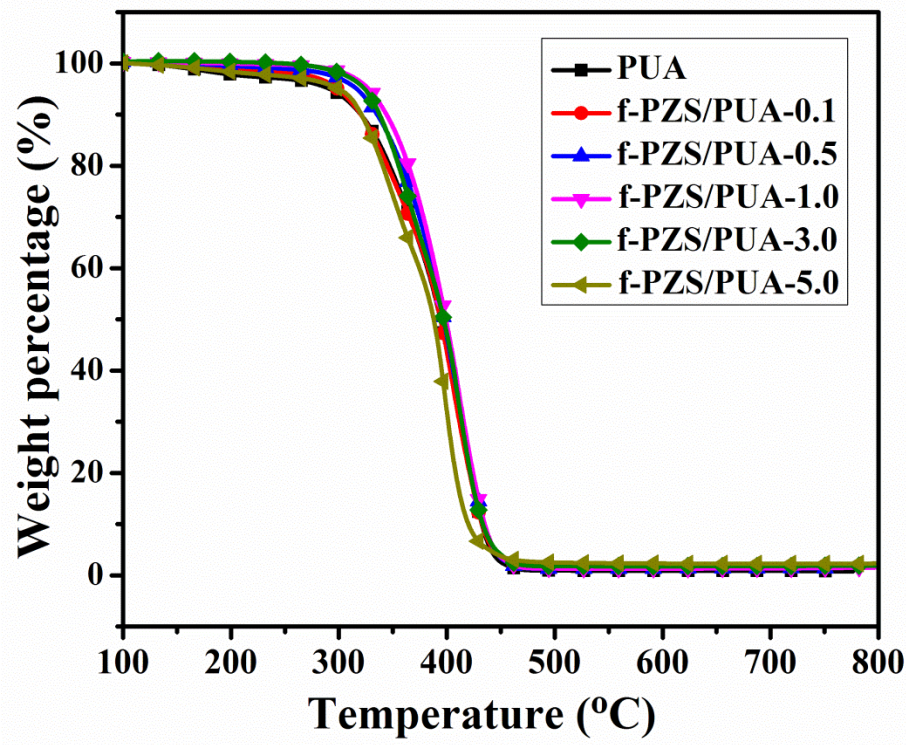

Figure S2. Storage modulus (E') curves of PUA and f-PZS/PUA nanocomposites as a function of temperature. (containing f-PZS/PUA-5.0 sample)

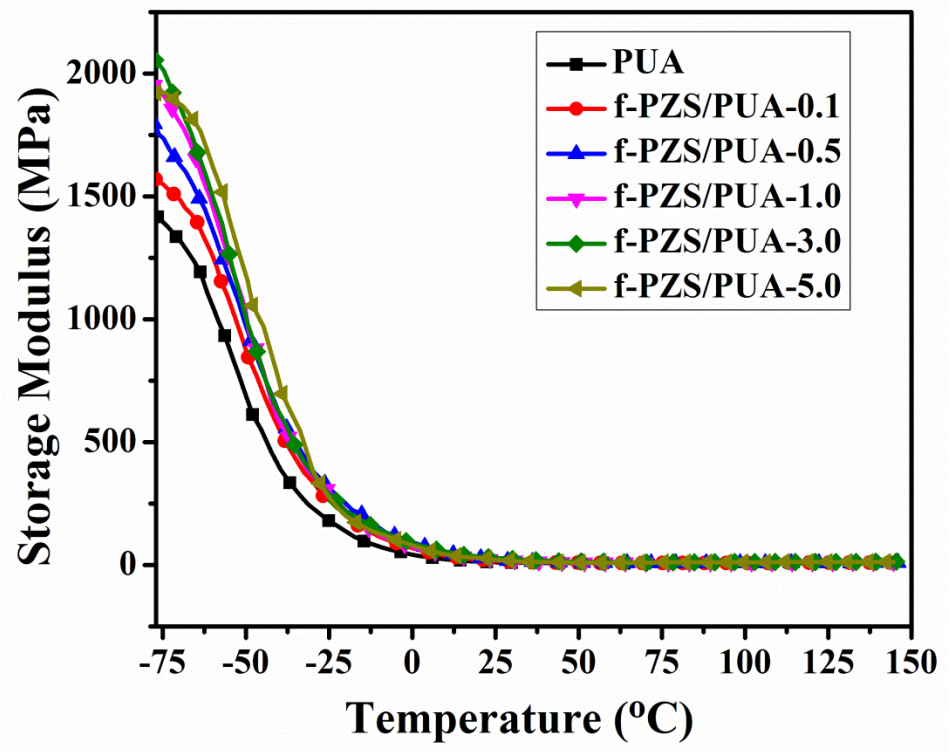

Figure S3. UV–Vis spectra of PUA and f-PZS/PUA nanocomposites. (containing f-PZS/PUA-5.0 sample)

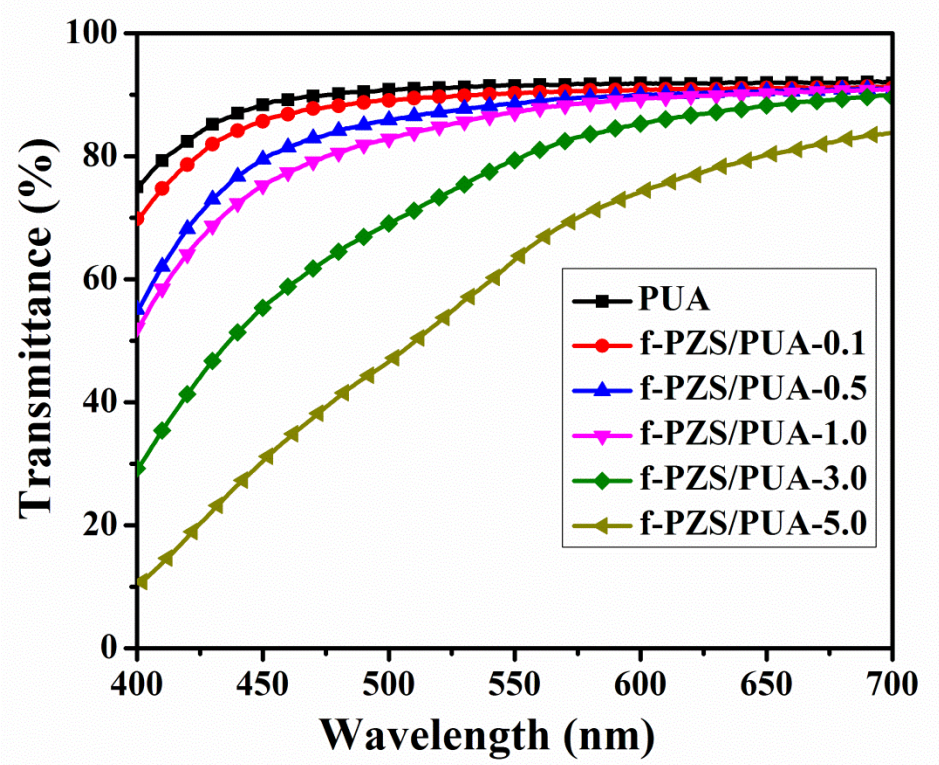

Figure S4. DSC curves of PUA and f-PZS/PUA nanocomposites.