Supporting Information

Boosting the Photodynamic Degradation of Islet Amyloid Polypeptide Aggregates via a "Bait-Hook-Devastate" Strategy

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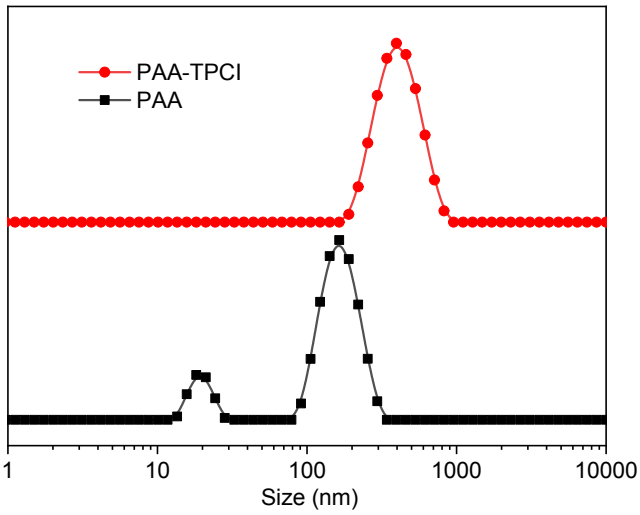

Figure S1. Particle size distributions of PAA and PAA-TPCI measured by DLS. The concentrations of PAA and TPCI were 1.28 μM and 8 μM respectively.

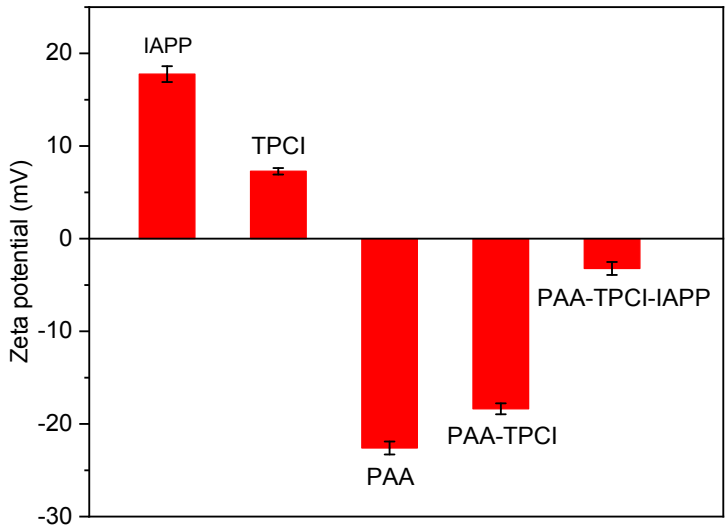

Figure S2. Zeta potential of IAPP aggregates (IAPP), TPCI, PAA, and complexes. The concentrations of IAPP aggregates, PAA, TPCI were 32 μM, 1.28 μM and 8 μM, respectively when measured separately. The concentrations of PAA and TPCI in PAA-TPCI were 0.018 μM and 0.11 μM respectively. The concentrations of PAA, TPCI and IAPP aggregates in PAA-TPCI-IAPP were 0.018 μM, 0.11 μM, 32 μM respectively.

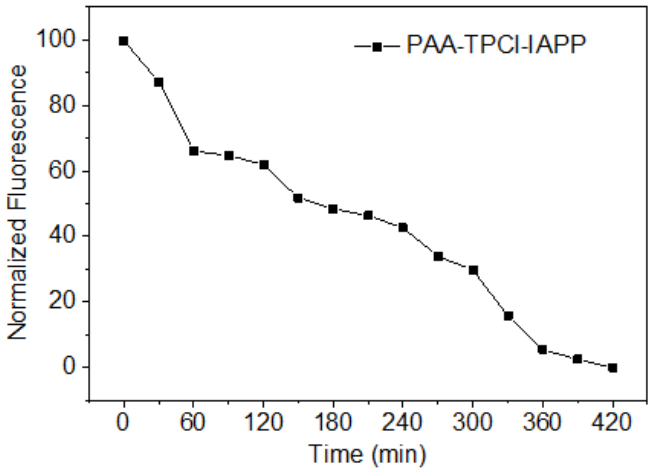

Figure S3. ThT fluorescence kinetics of IAPP aggregates in the presence of PAA and TPCI (PAA-TPCI-IAPP) upon LED light illumination in water instead of tris-HCl buffer. The concentrations of IAPP aggregates and TPCI were 32 μM and 8 μM respectively.

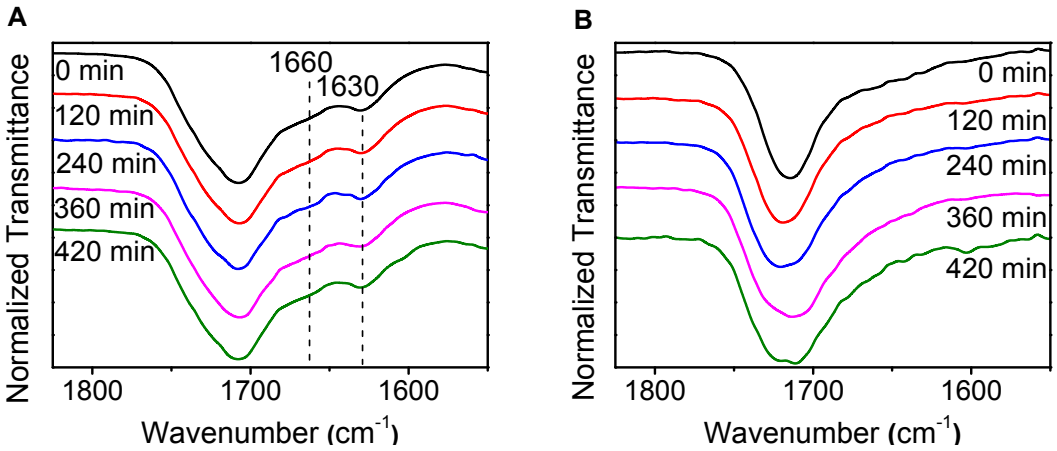

Figure S4. FTIR spectra of PAA-IAPP (A), PAA-TPCI (B) under different illumination time points. The concentrations of IAPP aggregates and TPCI were 32 μM and 8 μM respectively.

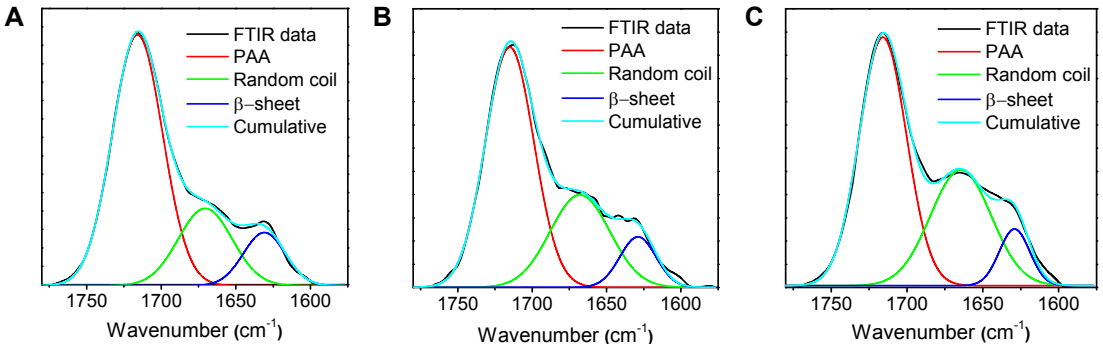

Figure S5. FTIR multiple-peak fit spectra of the PAA-TPCI-IAPP sample after being irradiated for 120 min (A), 240 min (B) and 360 min (C). The concentrations of IAPP aggregates and TPCI were 32 μM and 8 μM respectively.

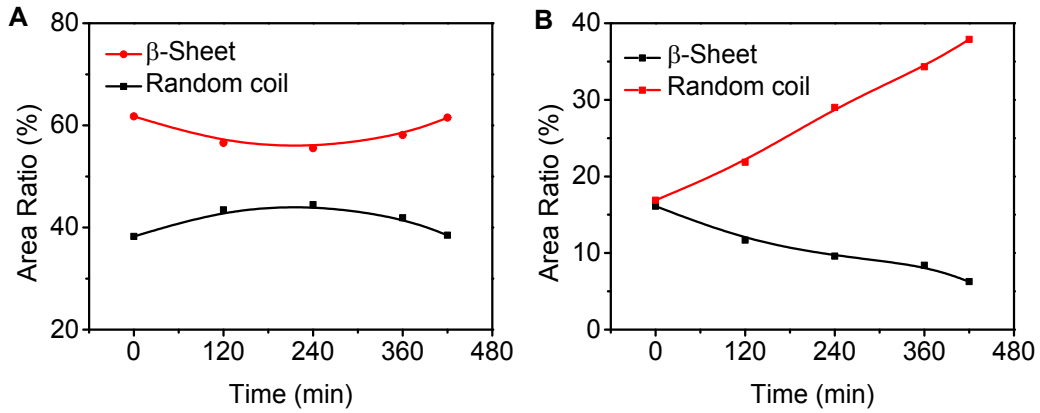

Figure S6. The changes of random coil and β-sheet peak area ratio of TPCI-IAPP (A) and PAA-TPCI-IAPP (B) samples in FTIR multi-peak fitting spectrum at different illumination time points. The concentrations of IAPP aggregates and TPCI were 32 μM and 8 μM respectively.

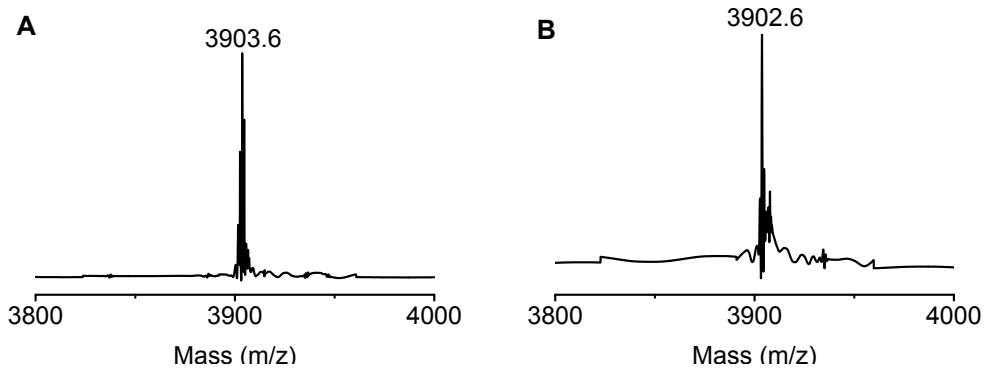

Figure S7. MALDI-TOF MS spectra of the PAA-IAPP sample before irradiation (A) and after 90 min of irradiation (B). The concentrations of IAPP aggregates and PAA were 8 μM and 0.32 μM respectively.

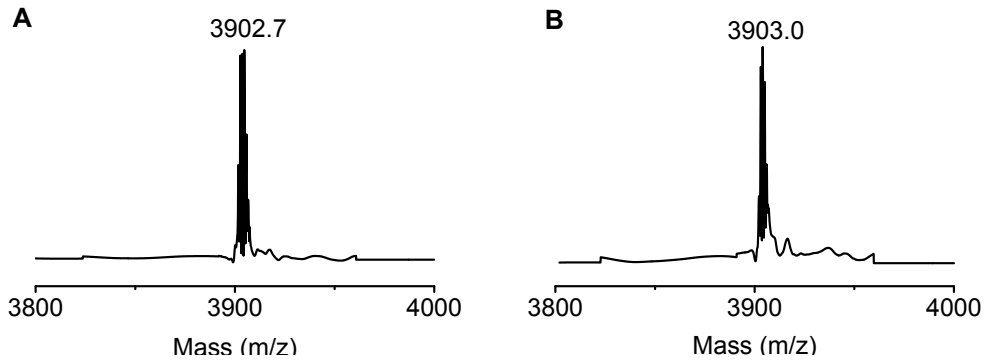

Figure S8. MALDI-TOF MS spectra of the TPCI-IAPP sample before irradiation (A) and after 90 min of irradiation (B). The concentrations of IAPP aggregates and TPCI were 8 μM and 2 μM respectively.

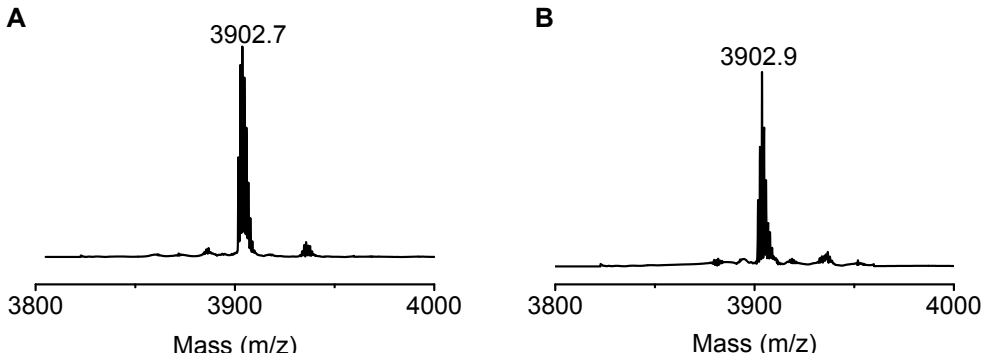

Figure S9. MALDI-TOF MS spectra of the IAPP sample before irradiation (A) and after 90 min of irradiation (B). The concentration of IAPP aggregates was 8 μM.

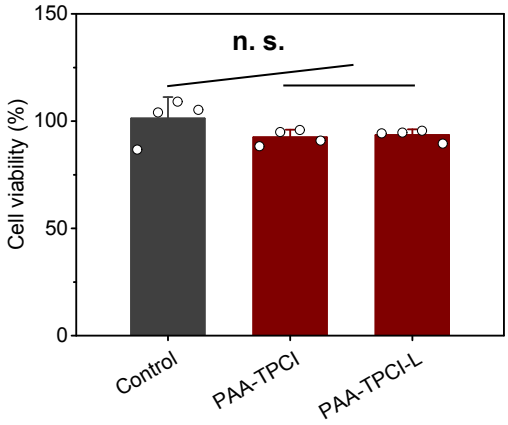

Figure S10. Cell viability of PAA-TPCI without and with light irradiation (16 mW cm^{-2}, 90 min).