

Supplemental Information

Anti-Biofilm Activity of Graphene Quantum Dots via Self-Assembly with Bacterial Amyloid Proteins

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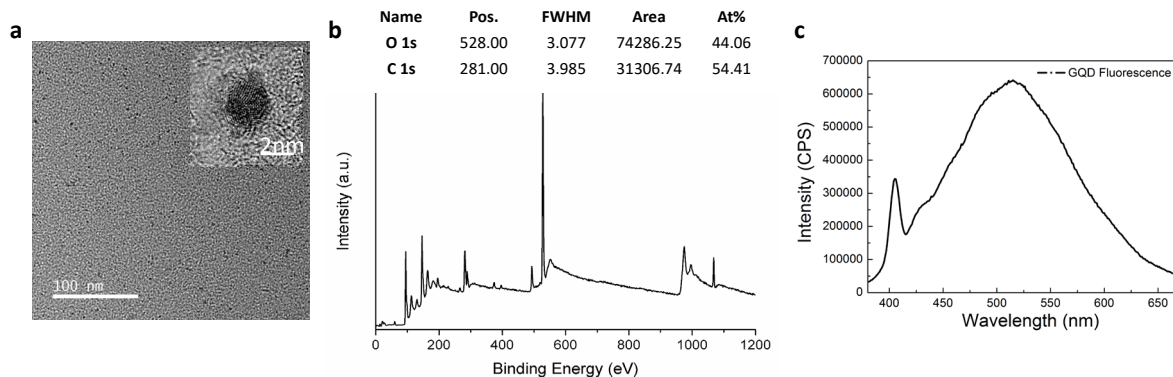


Figure S1 Characterization of as synthesized GQDs. (a) TEM images of GQDs as synthesized **(b)** X-ray photoelectron spectroscopy (XPS) of GQDs **(c)** Fluorescence of GQD excited by 350 nm photons.

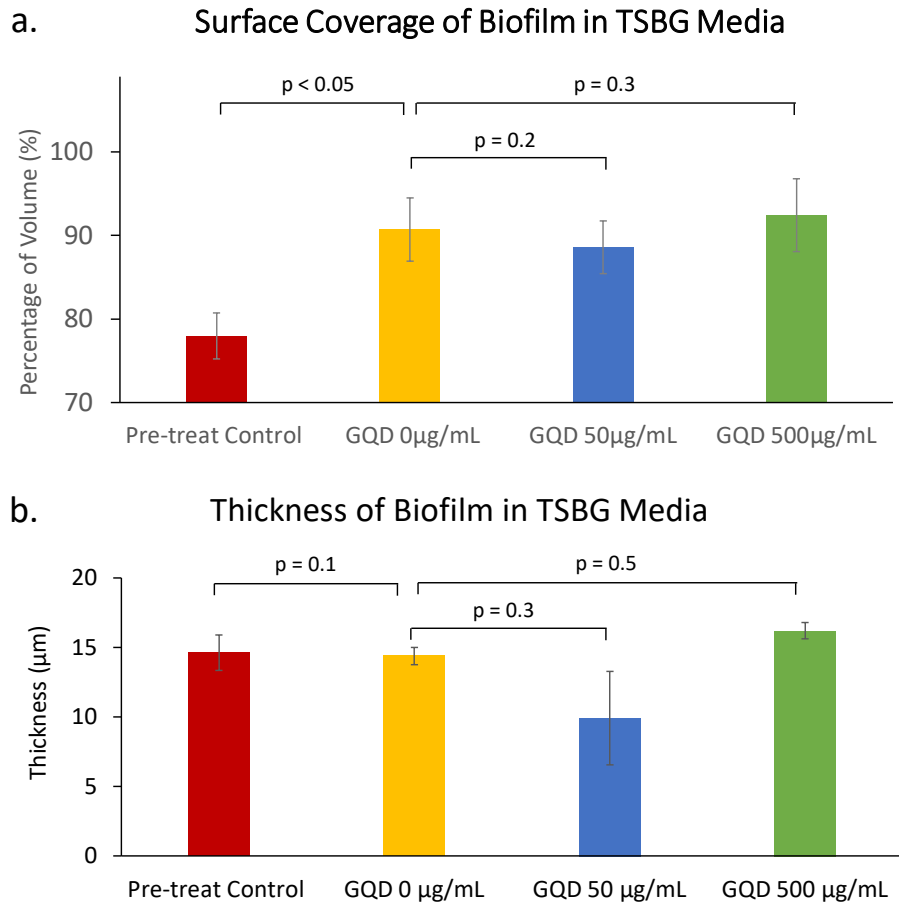


Figure S2 Quantitative image analysis derived from confocal microscopy of TSBG grown *S. aureus* biofilms. (a) Surface coverage of biofilm grown in TSBG medium as control as well as treated with 0 µg/mL, 50 µg/mL, and 500 µg/mL GQDs. (b) Thickness of TSBG grown biofilm as control as well as treated with 0 µg/mL, 50 µg/mL, and 500 µg/mL GQDs. Pre-treat control group represent the biofilm at the time before adding GQDs.

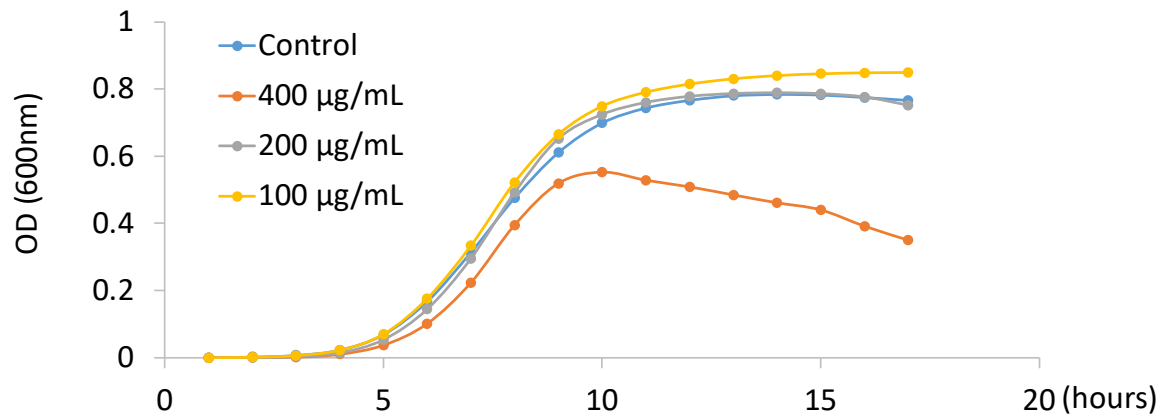


Figure S3 Planktonic growth curve for *S. aureus* in the presence of increasing concentrations of GQDs.

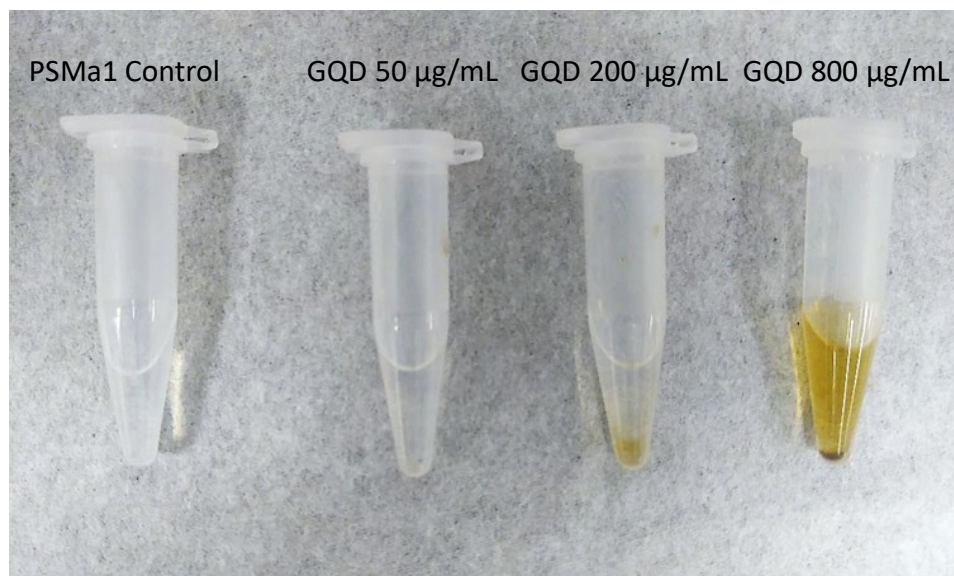


Figure S4 The photo of PSMα1 with/without addition of 50, 200, 800 µg/mL GQDs for 9 days.

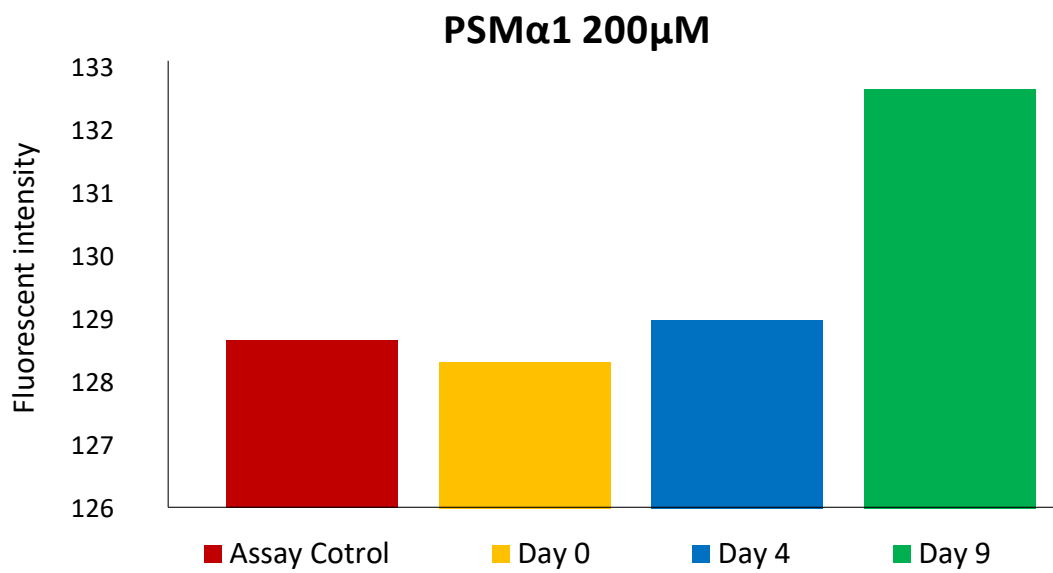


Figure S5 ThT staining of PSM α 1 after incubation for 0, 4 and 9 days.

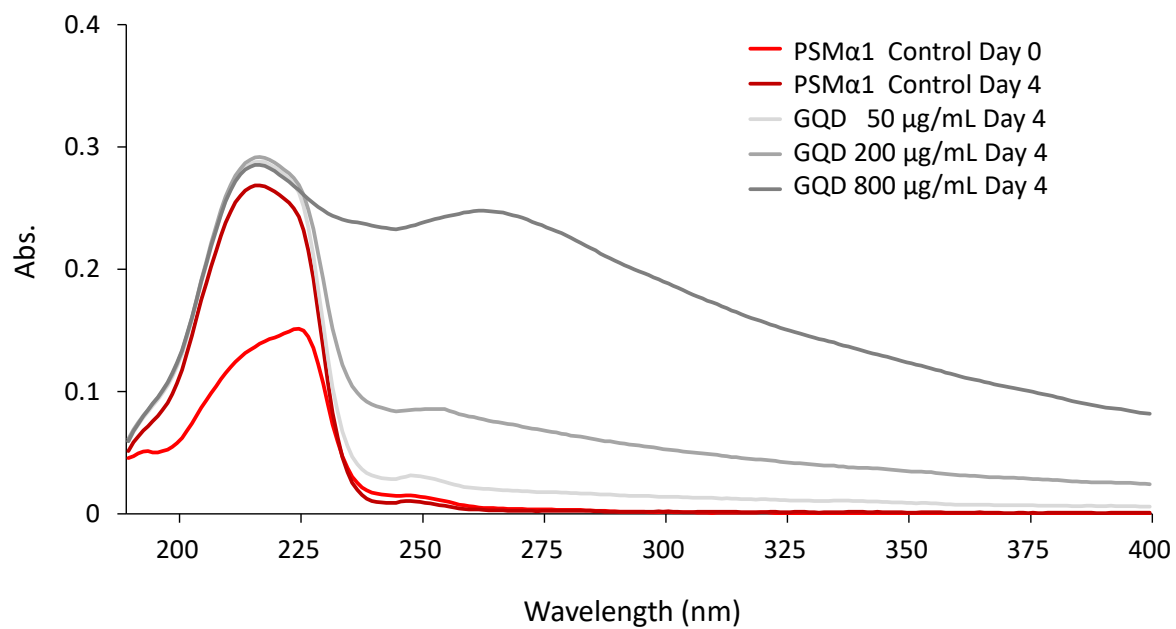


Figure S6 Absorption spectra of 200 μM PSMα1 with or without GQDs (50, 200, 800 μg/mL) for 0 and 4 days. The measured solution was diluted by 10 times of original incubated solution.

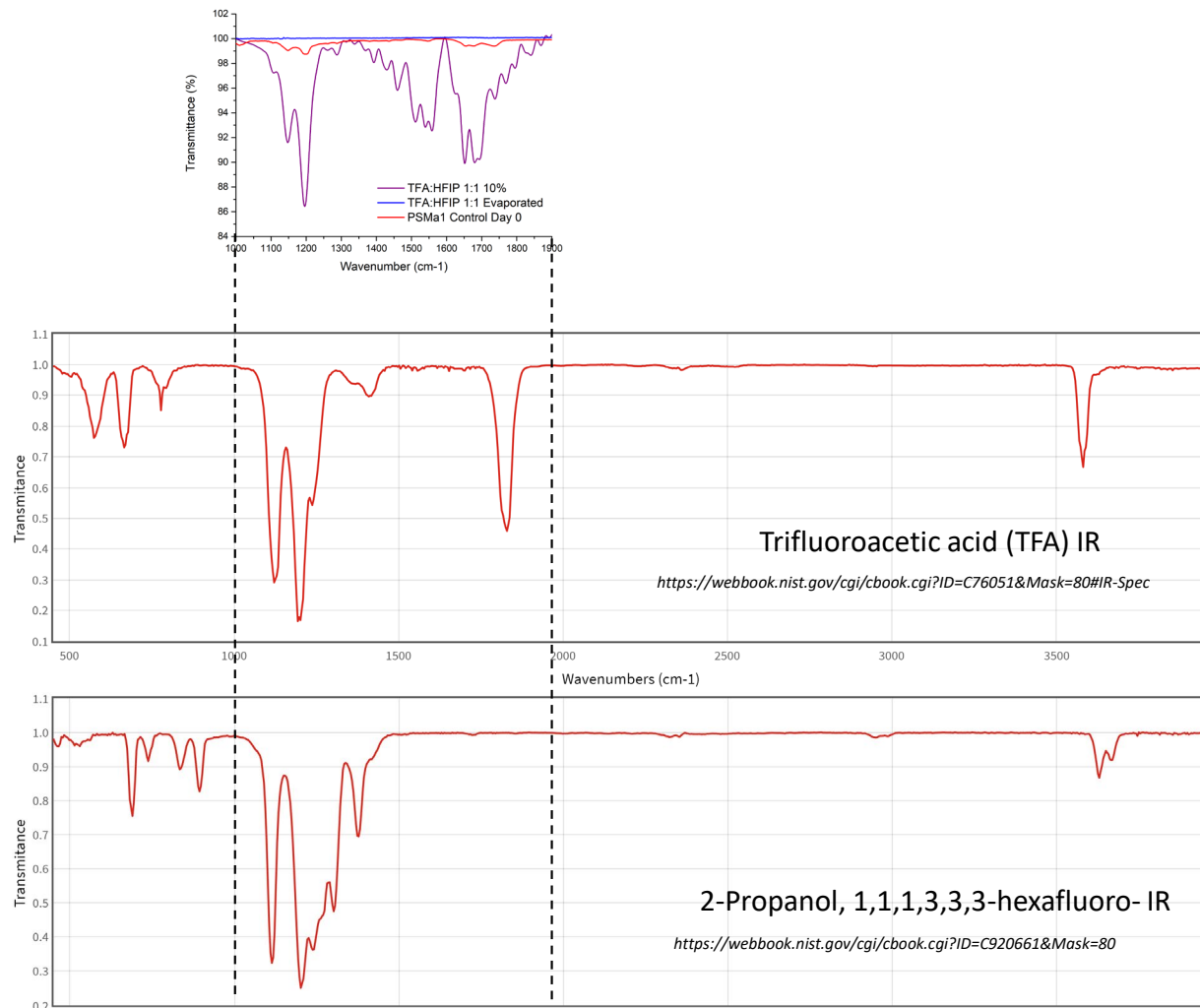


Figure S7 FTIR of TFA and HFIP control solution comparing to their reference spectra and the spectrum of PSMα1 control sample on Day 0.