

Supplementary Material

A Novel Biocompatible Titanium–Gadolinium Quantum Dot as a Bacterial Detecting Agent with High Antibacterial Activity

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1. FTIR analysis of TGQDs

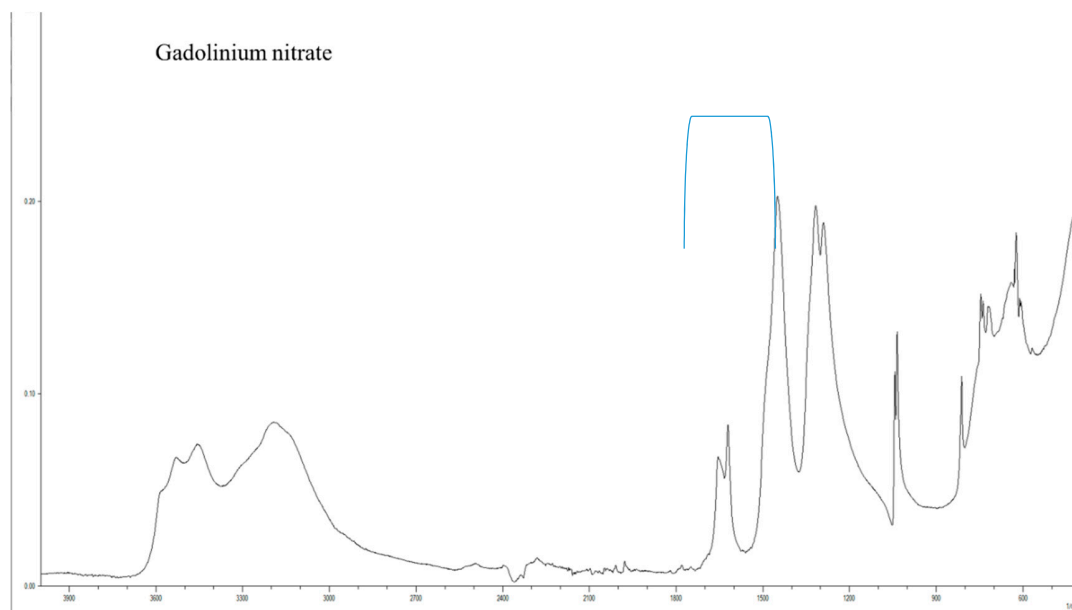
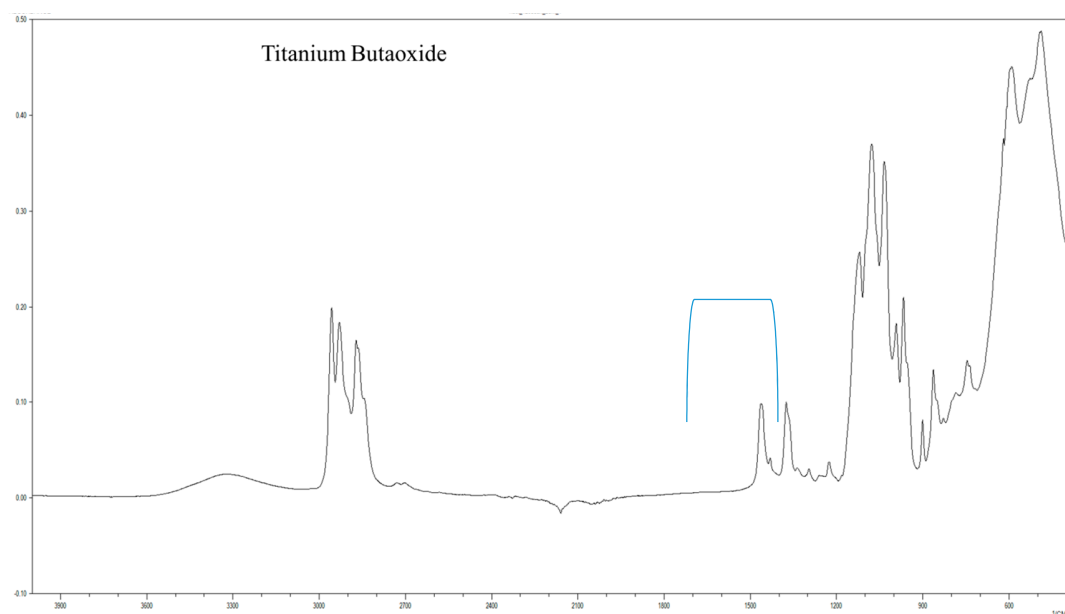


Figure S1. FTIR spectrum for Gadolinium Nitrate.



FigureS2. FTIR spectrum for Titanium Butoxide.

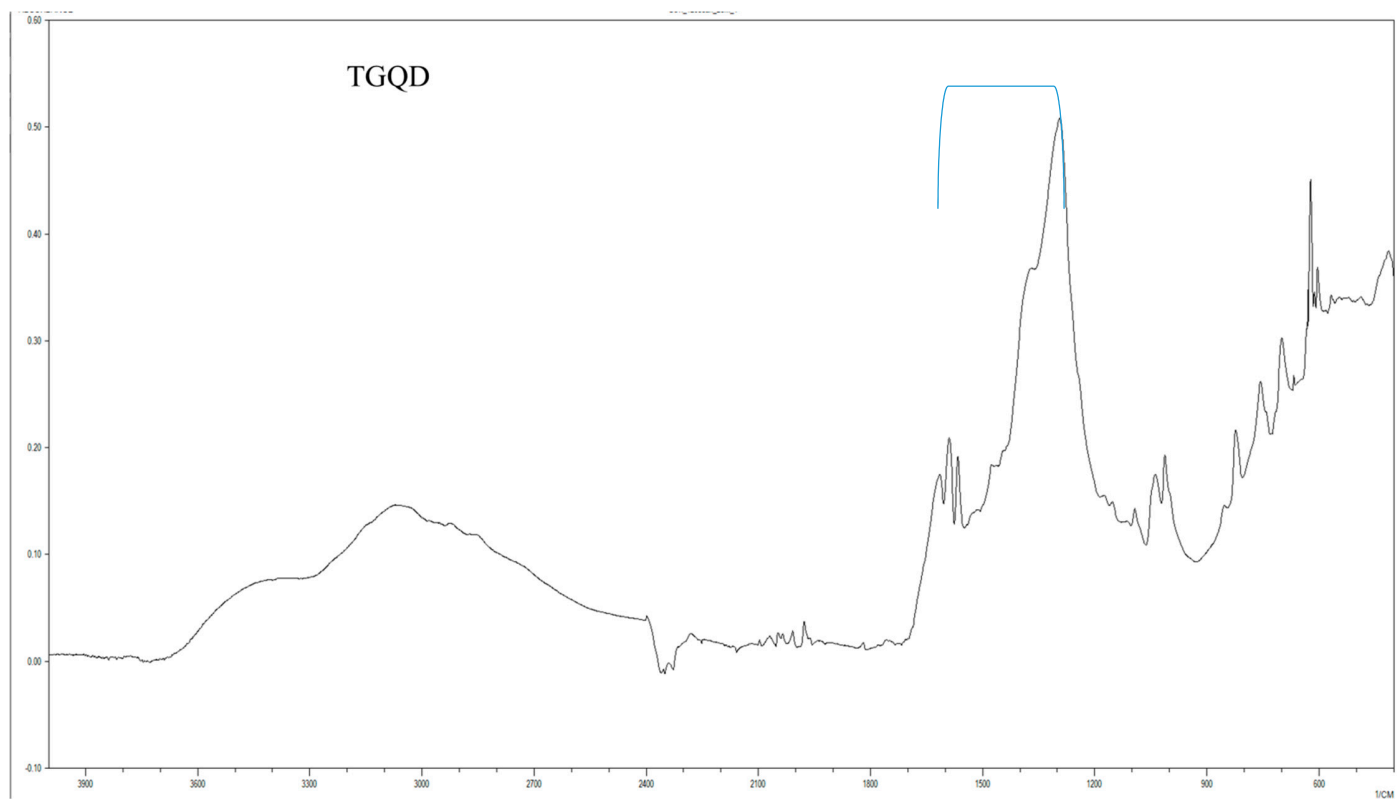
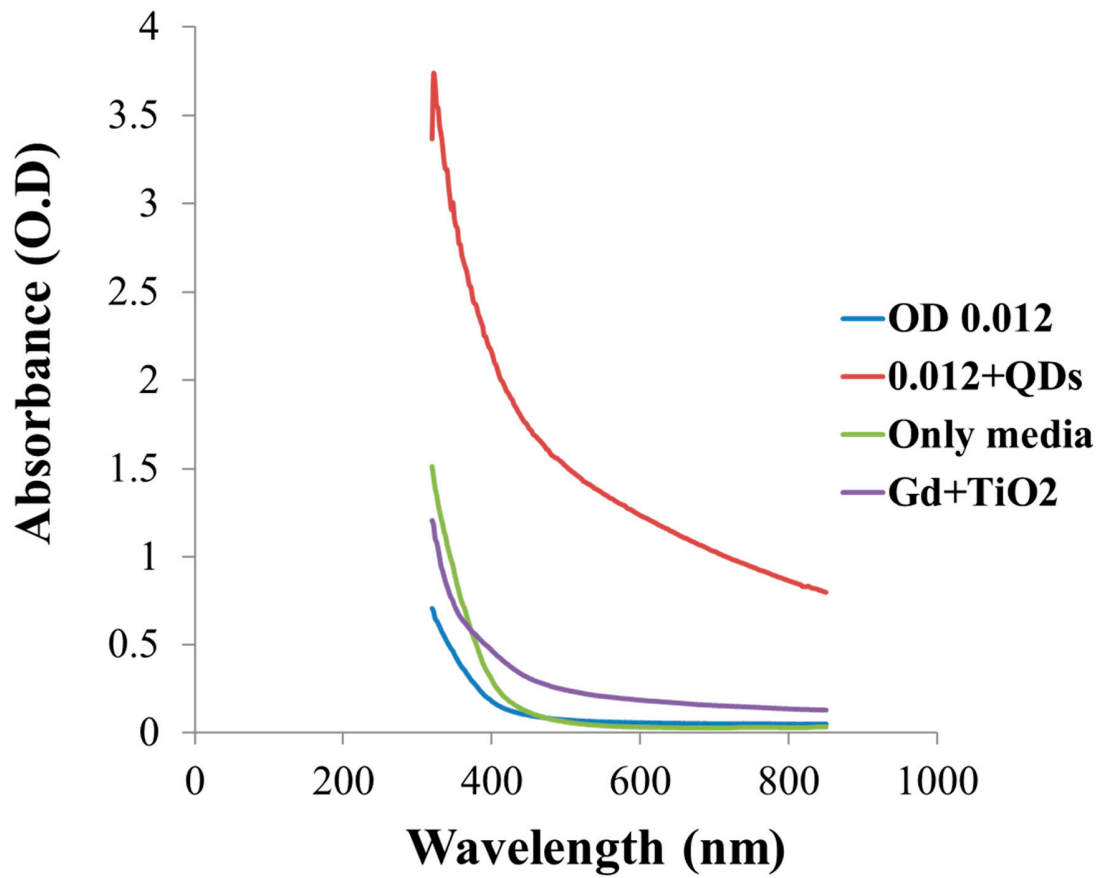


Figure S3. FTIR spectrum for synthesized TGQD.

2. Bacterial detection by absorbance



FigureS4. Bacterial detection by measuring absorbance spectra in presence of TGQD.

3. Bacterial cell and Human cell staining

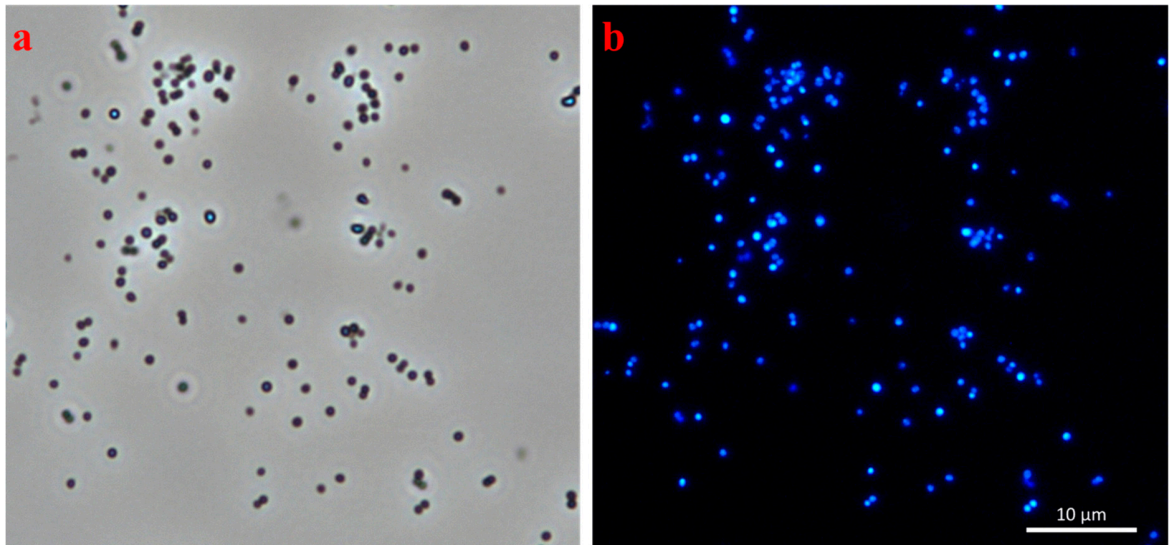


Figure S5. Bacterial cells stained with TGQD. (a) Phase contrast optical microscopic image of VRSA; (b) TGQD stained VRSA under fluorescence microscopic UV filter.

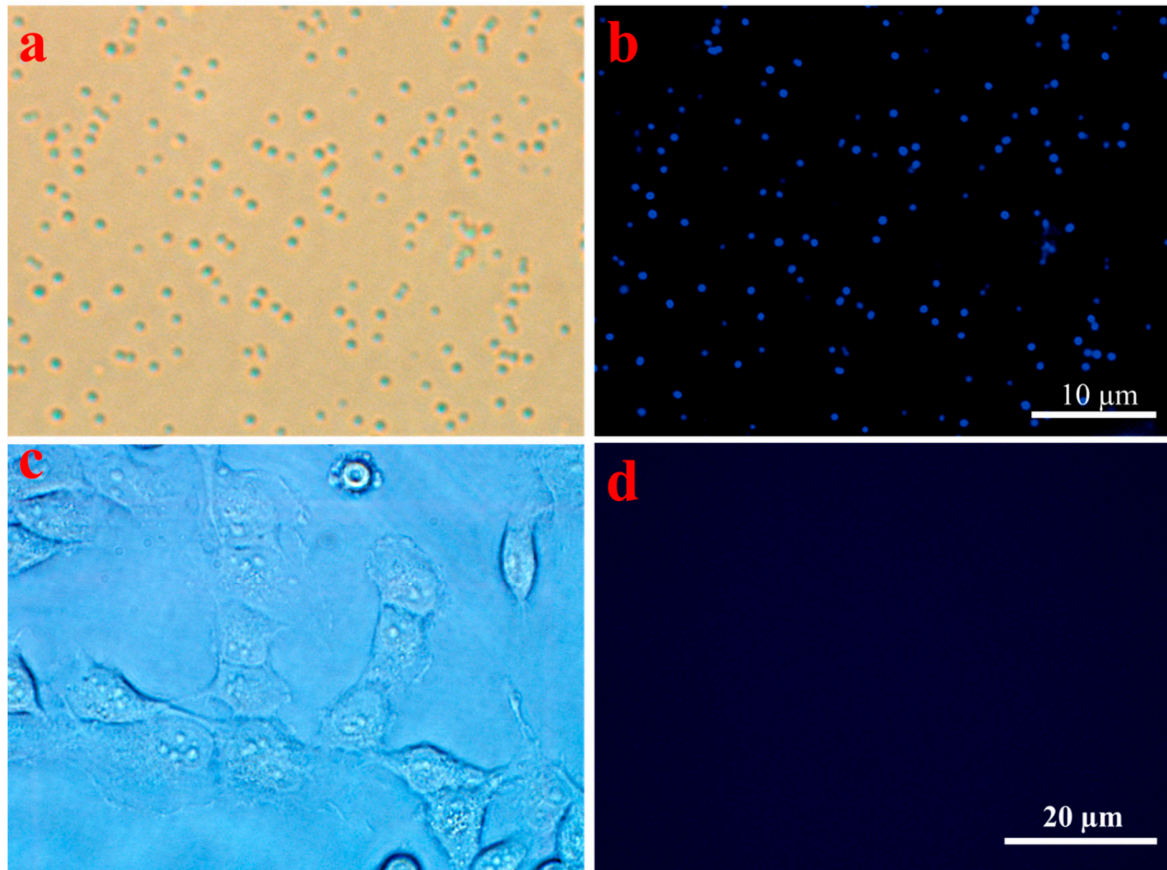


Figure S6. Bacterial cells and Human PNT1A cells were stained with SYTO9 and TGQD. optical microscopy image of bacterial cells (a); same field with TGQD staining (b); optical microscopy image of PNT1A cells (c). (d); PNT1A cells incubated with TGQD however TGQD did not stain the PNT1A cells (d).

4. Cytotoxicity of TGQDs

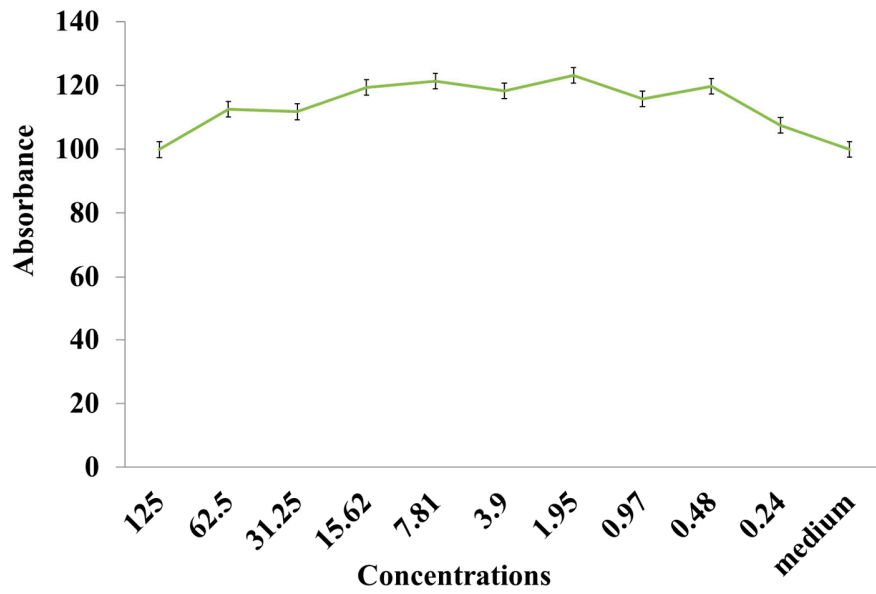


Figure S7. MTT assay against HBL-100 cell line.

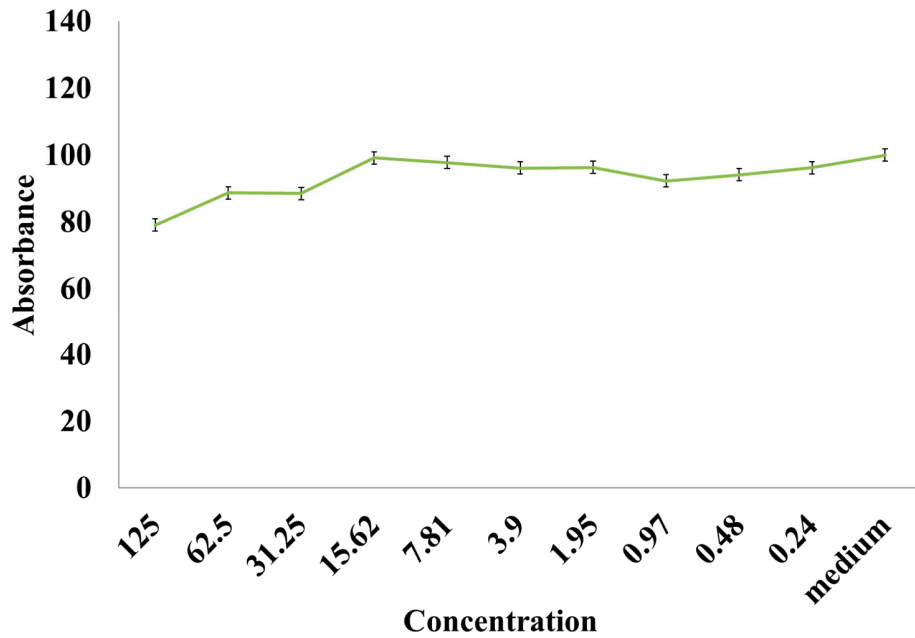


Figure S8. MTT assay against MDA-MB-231 cell line.