

Supplementary Information for

# CdSe QD Biosynthesis in Yeast Using Tryptone-Enriched Media and Their Conjugation with a Peptide Hecate for Bacterial Detection and Killing

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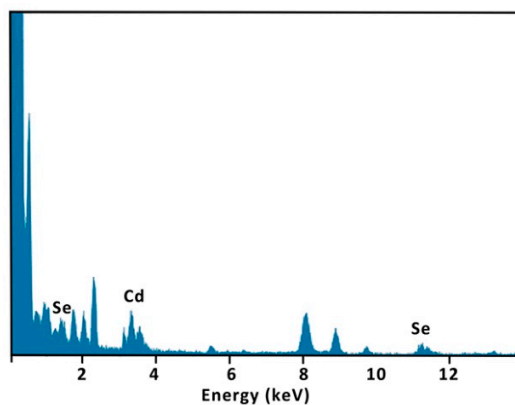


Figure S1: Energy –dispersive X-ray spectroscopy (EDX) spectrum of the extracted CdSe QDs

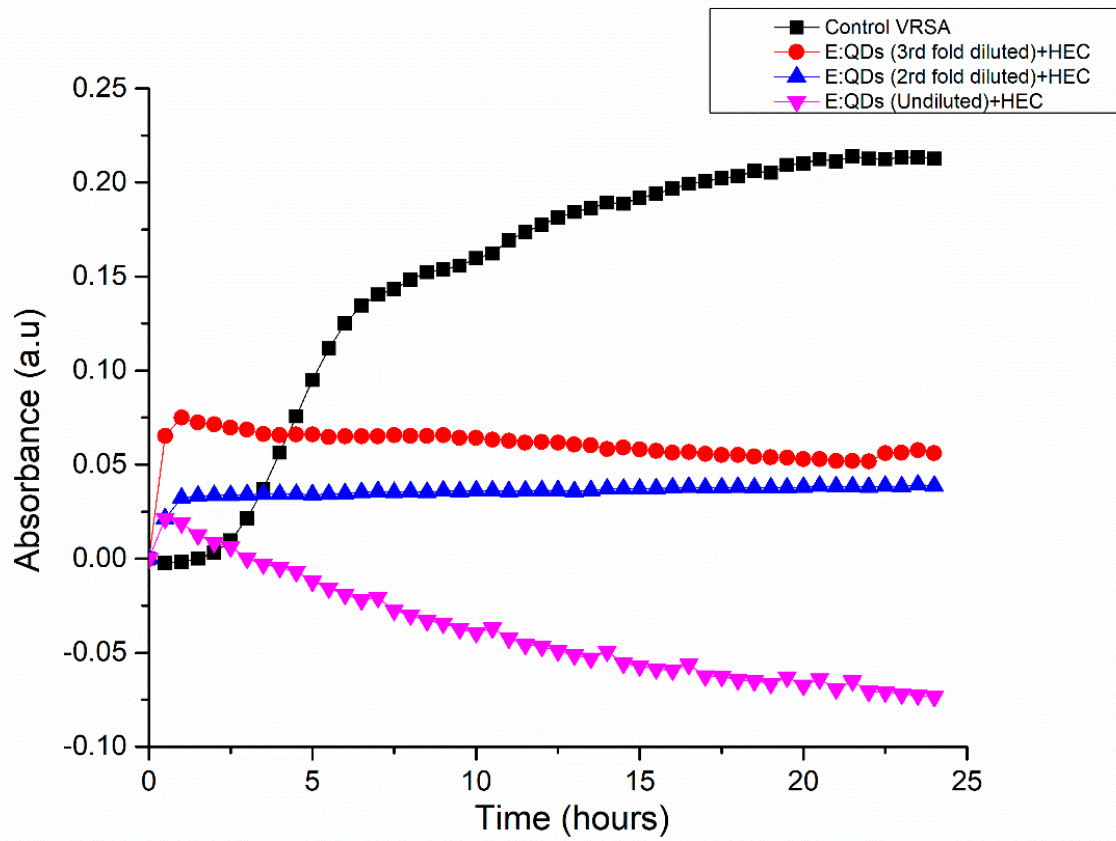


Figure S2: Bacterial growth curve analysis. VRSA Growth curve against E:QDs (3rd fold diluted) + HEC, E:QDs (2rd fold diluted) + HEC, E:QDs (Undiluted) + HEC. Data represent the mean  $\pm$ SD,  $n = 5$ .

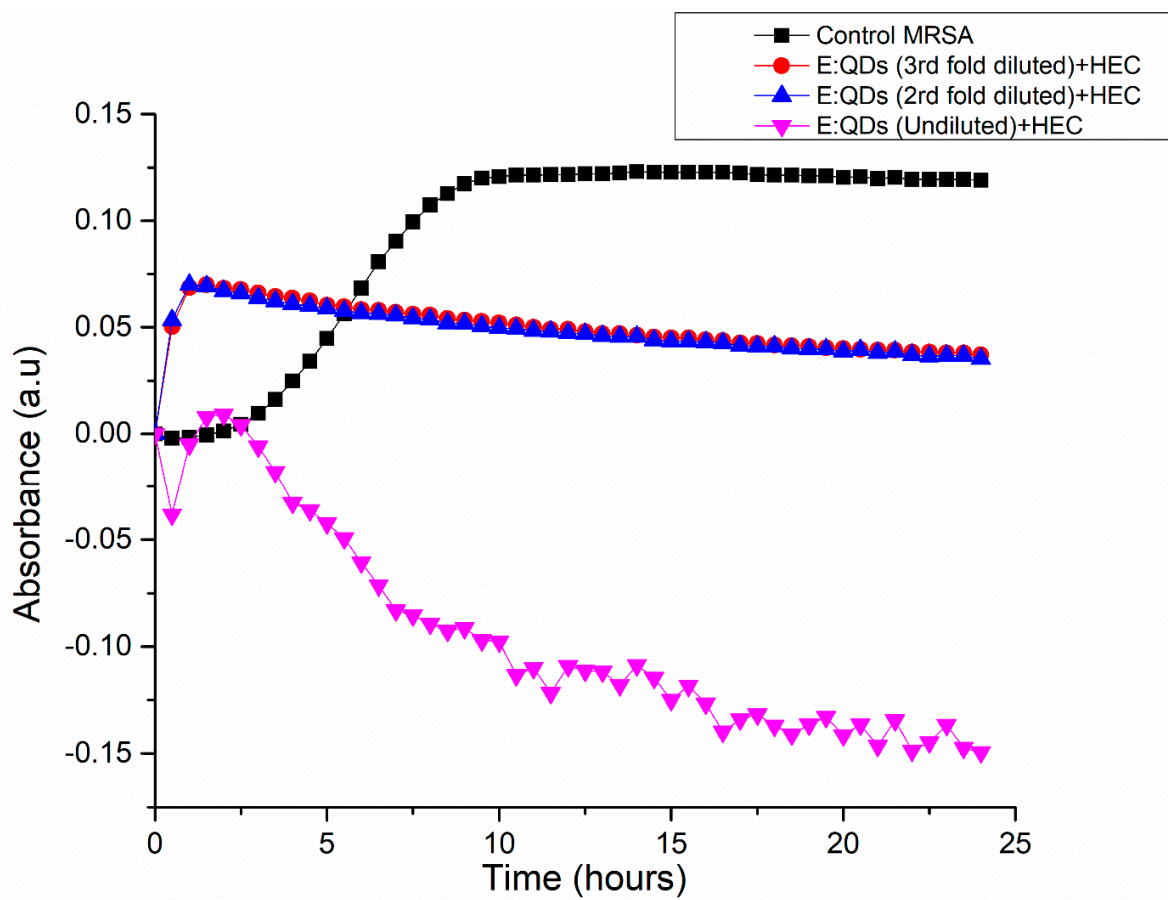


Figure S3: Bacterial growth curve analysis. MRSA Growth curve against E:QDs (3rd fold diluted) + HEC, E:QDs (2nd fold diluted) + HEC, E:QDs (Undiluted) + HEC. Data represent the mean  $\pm$ SD,  $n = 5$ .

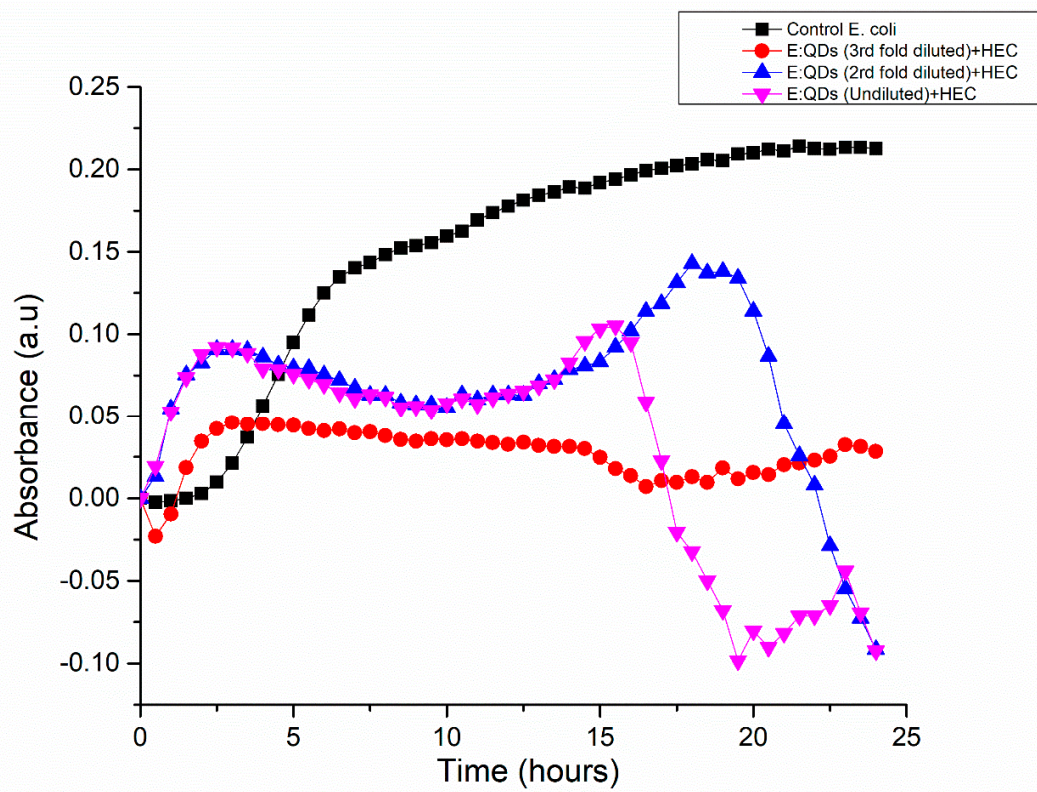


Figure S4: Bacterial growth curve analysis. *E. coli* Growth curve against E:QDs (3rd fold diluted) + HEC, E:QDs (2nd fold diluted) + HEC, E:QDs (Undiluted) + HEC. Data represent the mean  $\pm$ SD, n = 5.

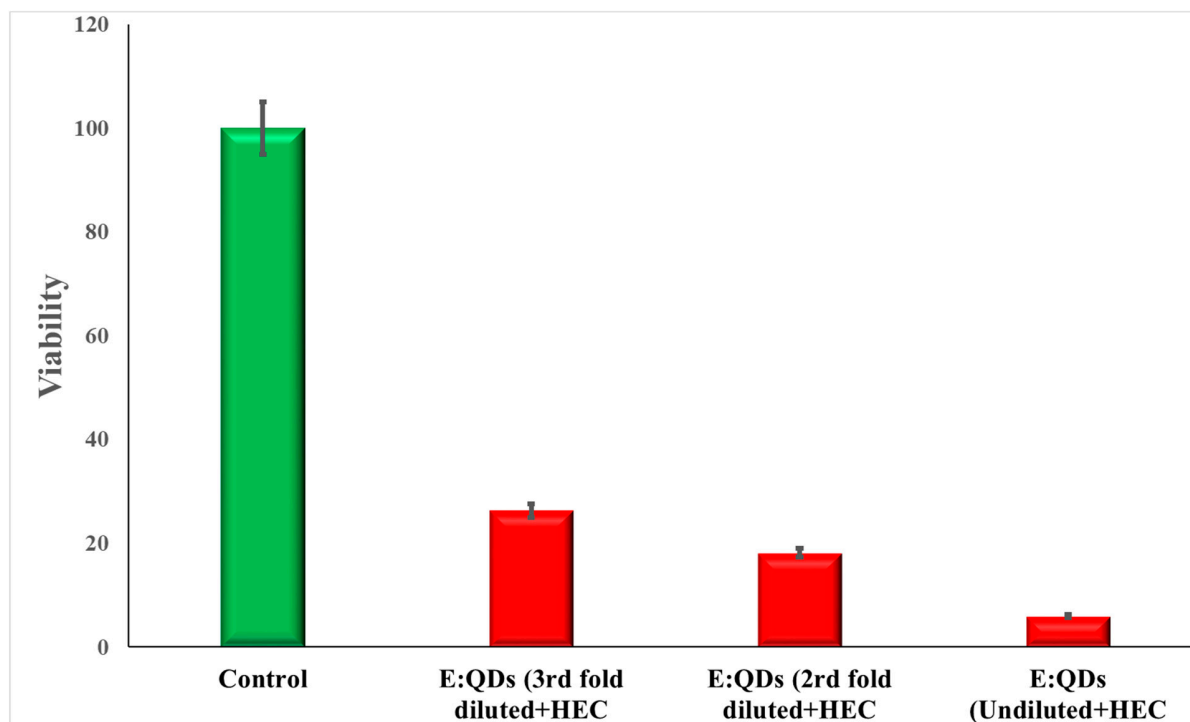


Figure S5: Viability count of VRSA: The representative viability count of VRSA against E:QDs (3rd fold diluted) + HEC, E:QDs (2rd fold diluted) + HEC, E:QDs (Undiluted)+ HEC. Data represent the mean  $\pm$ SD,  $n = 5$ .

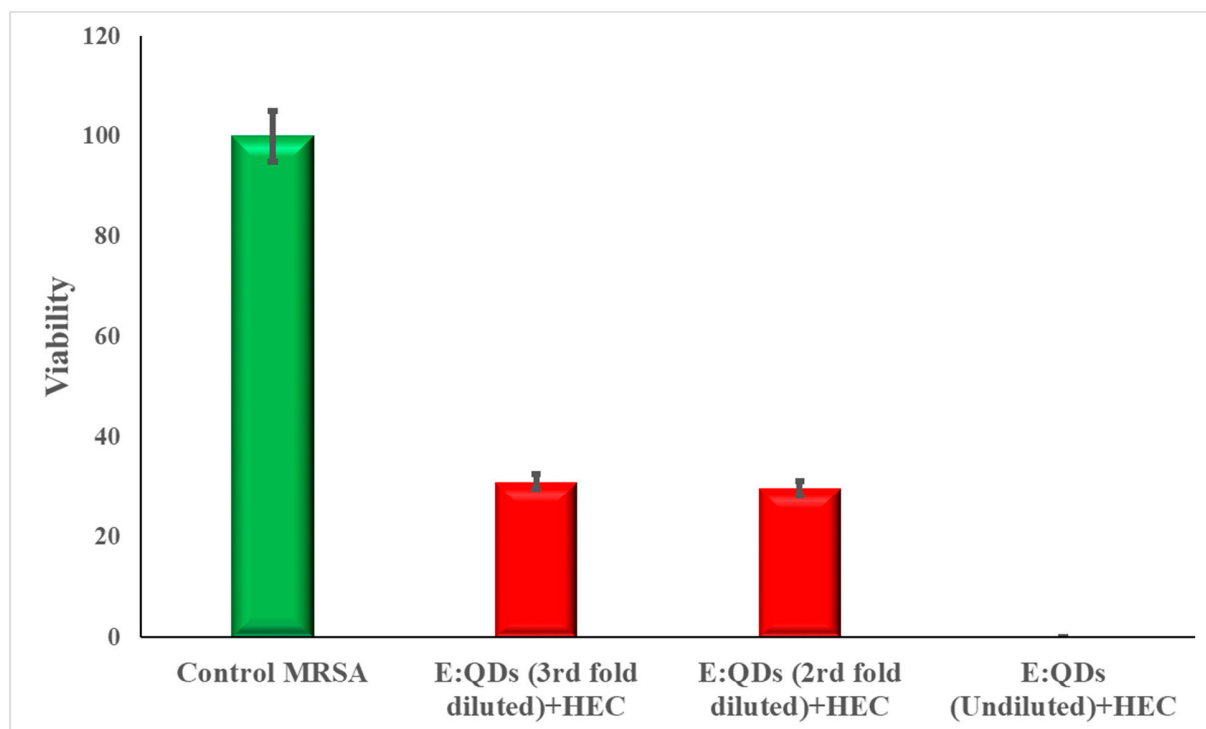


Figure S6: Viability count of MRSA: The representative viability count of MRSA against E:QDs (3rd fold diluted) + HEC, E:QDs (2rd fold diluted) + HEC, E:QDs (Undiluted) + HEC. Data represent the mean  $\pm$  SD,  $n = 5$ .

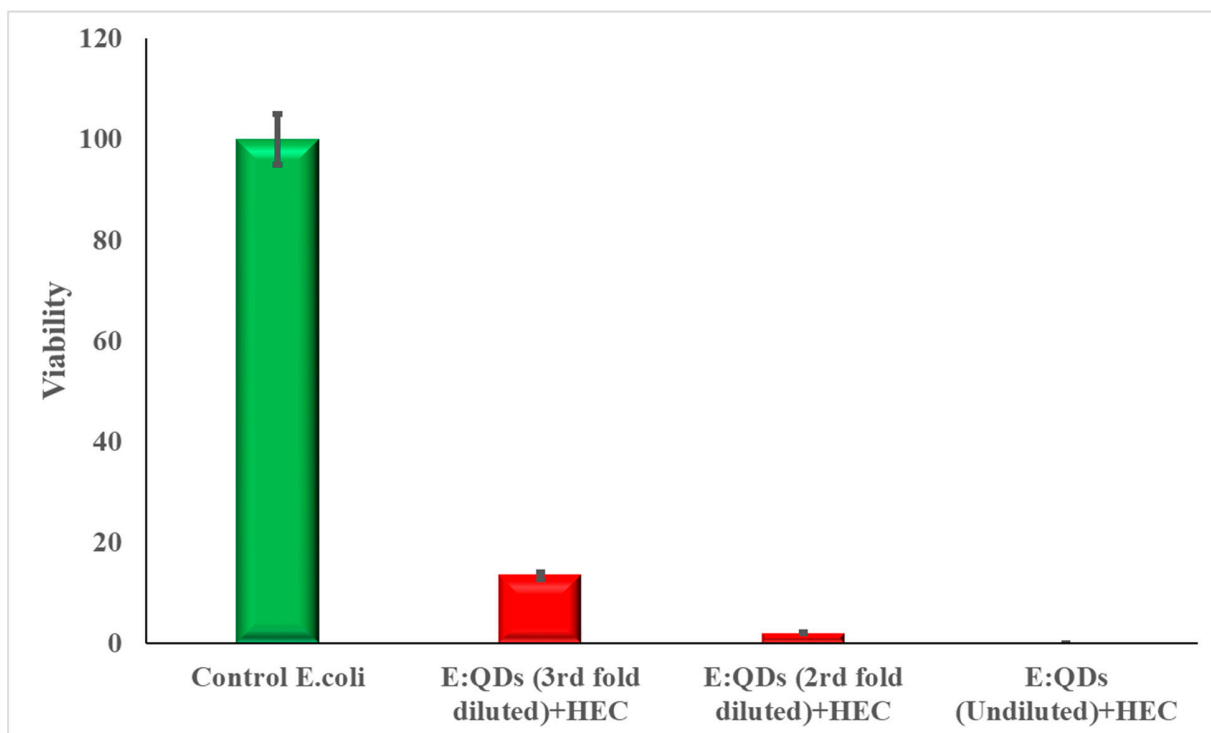


Figure S7: Viability count of E. coli: The representative viability count of E. coli against E:QDs (3rd fold diluted) + HEC, E:QDs (2rd fold diluted) + HEC, E:QDs (Undiluted) + HEC. Data represent the mean  $\pm$  SD,  $n = 5$ .

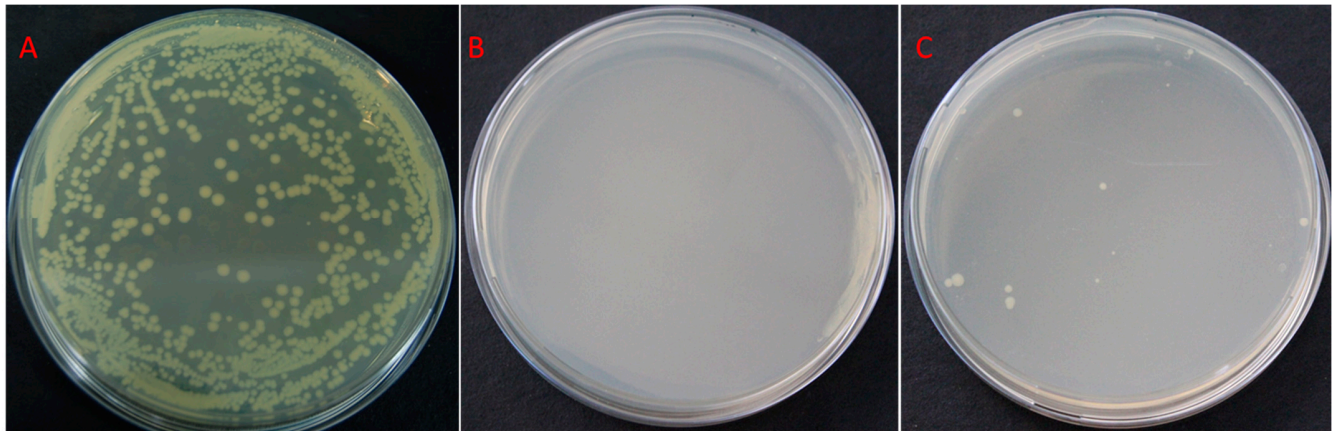


Figure S8: Colony forming units of VRSA. Where (A) positive control plate, (B) negative control plate and (C) treated with E:QD-peptide conjugate.

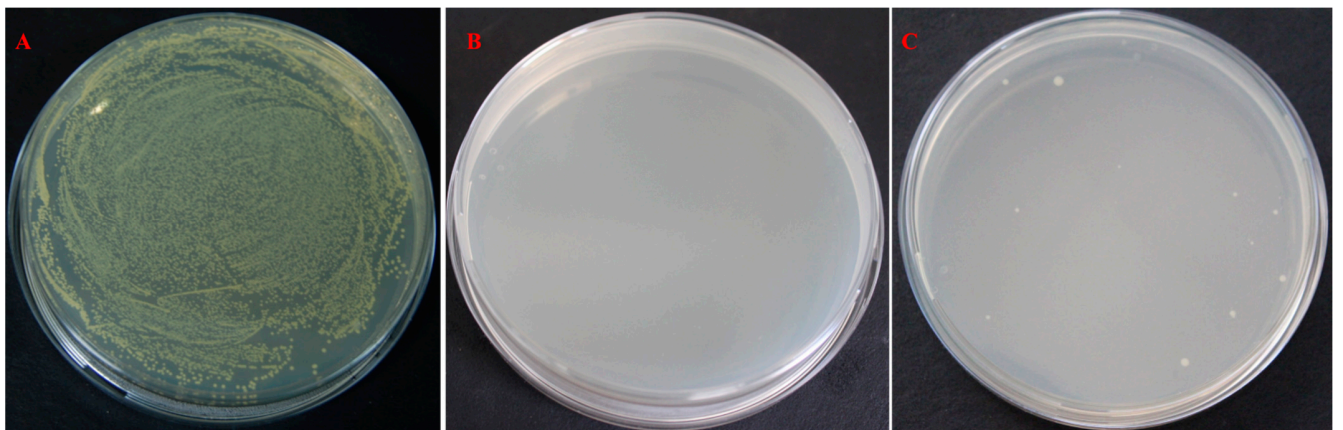


Figure S9: Colony forming units of *E. coli*. Where (A) positive control plate, (B) negative control plate and (C) treated with E:QD-peptide conjugate.