

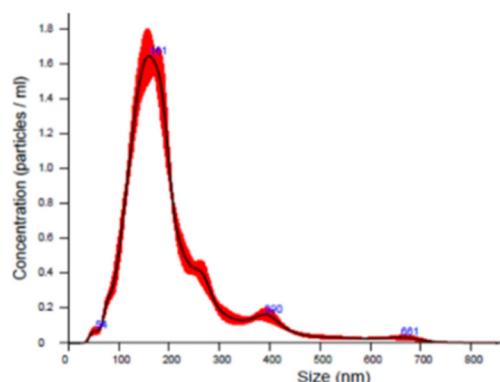


# Nano-formulation endows quorum quenching enzyme-antibiotic hybrids with improved antibacterial and antibiofilm activities against *Pseudomonas aeruginosa*

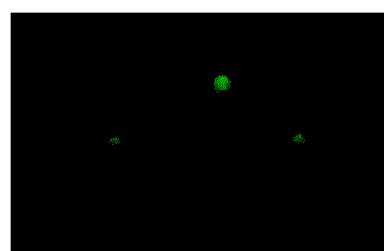
Kristina Ivanova<sup>1</sup>, Aleksandra Ivanova<sup>1</sup>, Javier Hoyo<sup>1</sup>, Silvia Pérez-Rafael<sup>1</sup> and Tzanko Tzanov<sup>1,\*</sup>

<sup>1</sup> Grup de Biotecnologia Molecular i Industrial, Department of Chemical Engineering, Universitat Politècnica de Catalunya, Rambla Sant Nebridi 22, 08222, Terrassa, Spain; [kristina.ivanova@upc.edu](mailto:kristina.ivanova@upc.edu) (K.I.); [aleksandra.asenova@upc.edu](mailto:aleksandra.asenova@upc.edu) (A.I.); [javier.hoyo@upc.edu](mailto:javier.hoyo@upc.edu) (J.H.); [silvia.perez.rafael@upc.edu](mailto:silvia.perez.rafael@upc.edu) (S.P.-R.)

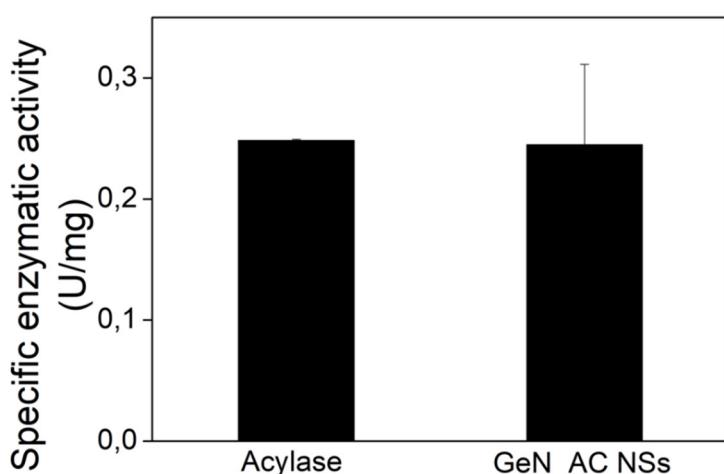
\* Correspondence: tzanko.tzanov@upc.edu;



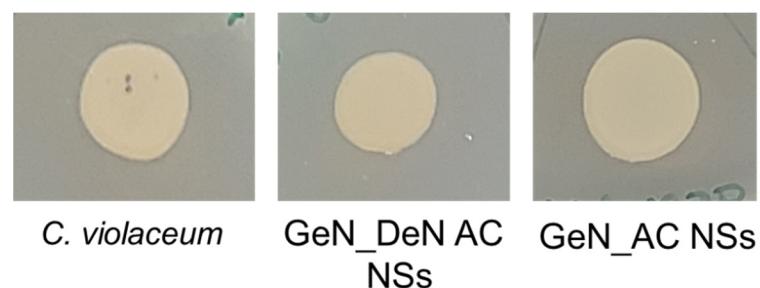
**Figure S1.** NTA analysis of GeN\_AC NSs size distribution.



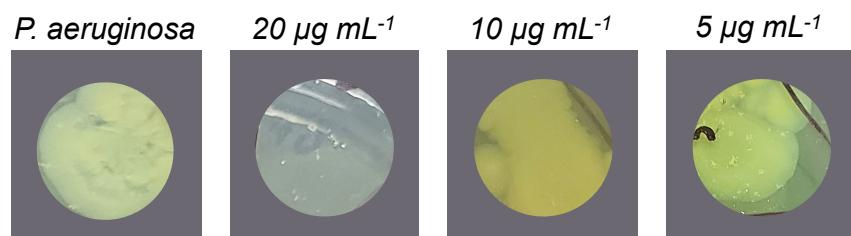
**Figure S2.** Fluorescence microscopy images of FITC-labelled acylase NSs.



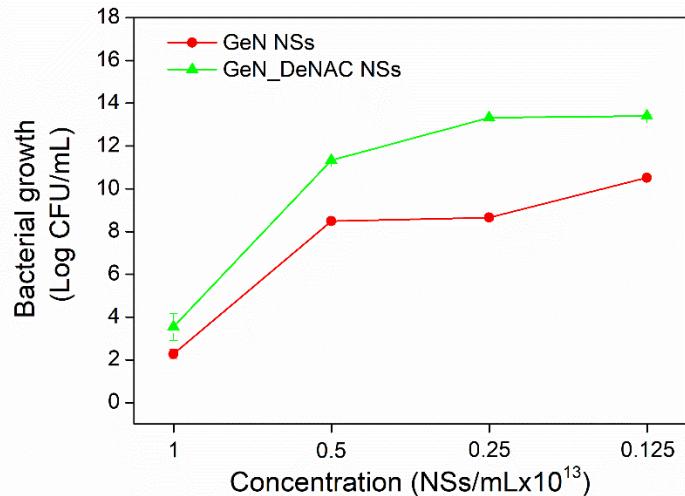
**Figure S3.** Acylase activity assessed by ninhydrin assay.



**Figure S4.** *C. violaceum* growth without and in presence of GeN\_AC NSs and GeN\_DeNAC NSs.



**Figure S5.** *P. aeruginosa* viability in presence of varying concentration of bulk gentamicin solution (5 – 20  $\mu\text{g mL}^{-1}$ ).



**Figure S6.** Antibacterial activity of GeN\_AC NSs and GeN\_DeNAC NSs against *P. aeruginosa*.