

Article

Tetracycline Water Soluble Formulations with Enhanced Antimicrobial Activity

A. Meretoudi ¹, C. N. Banti ^{1,*}, P. Siafarika ², A. G. Kalampounias ^{2,3,*} and S. K. Hadjikakou ^{1,3,*}

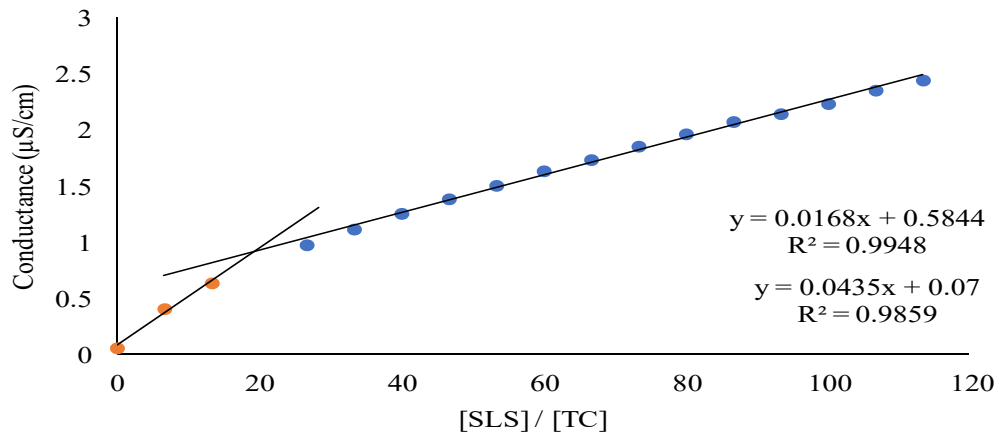
¹ Inorganic Chemistry laboratory, Department of Chemistry, University of Ioannina, 45110 Ioannina, Greece; ameretoudi1996@gmail.com

² Physical Chemistry Laboratory, Department of Chemistry, University of Ioannina, 45110 Ioannina, Greece; pch1246@uoi.gr

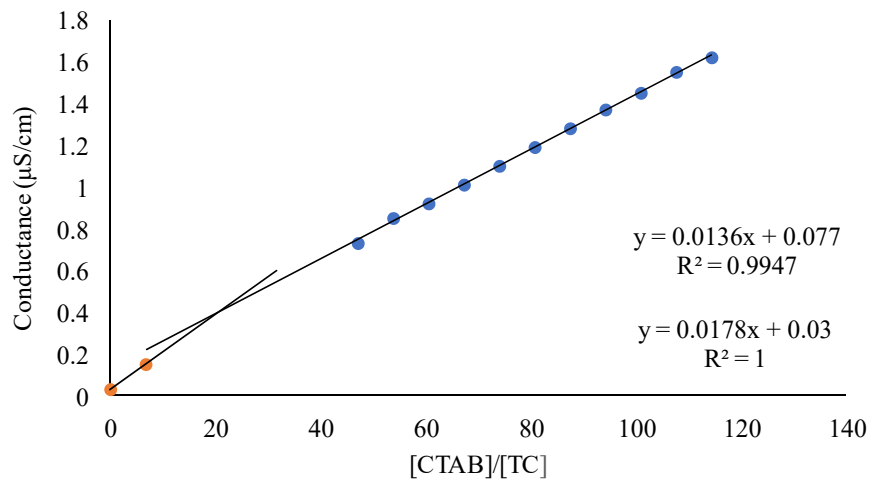
³ University Research Center of Ioannina (URCI), Institute of Materials Science and Computing, 45110 Ioannina, Greece

* Correspondence: cbanti@uoi.gr (C.N.B.); akalamp@uoi.gr (A.G.K.); shadjika@uoi.gr (S.K.H.); Tel.: +30-26510-08374 (S.K.H.)

Received: 19 October 2020; Accepted: 23 November 2020; Published: 26 November 2020

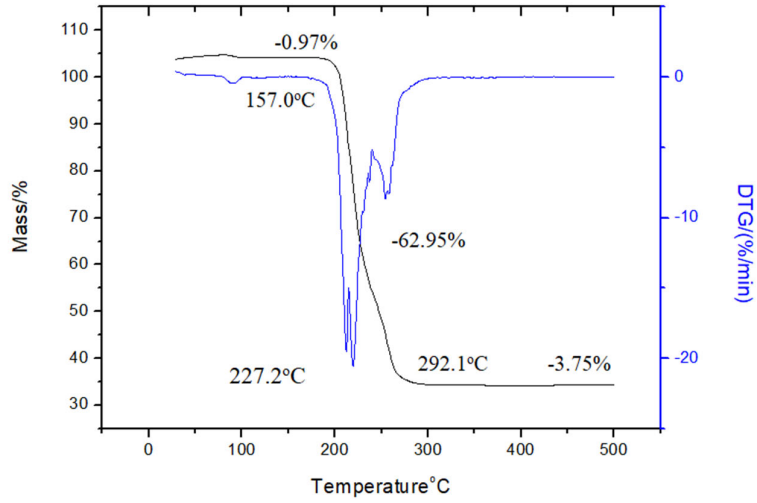


(A)

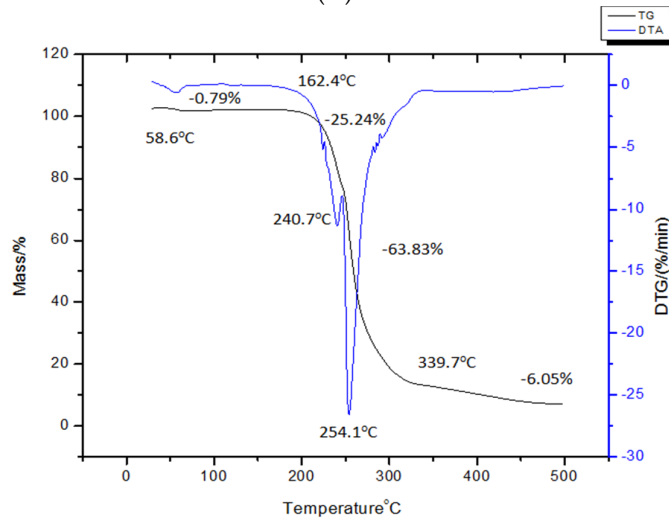


(B)

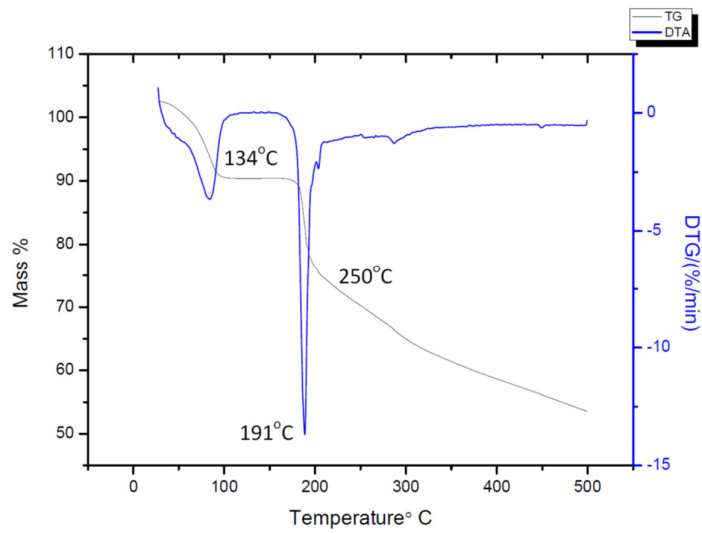
Figure S1. Conductance vs $[\text{SLS}]/[\text{TC}]$ (A) and $[\text{CTAB}]/[\text{TC}]$ (B) diagrams for CMC determination.



(A)



(B)



(C)

Figure S2. TD/DTA graph of SLS@TC (A), CTAB@TC (B) and TC (C).

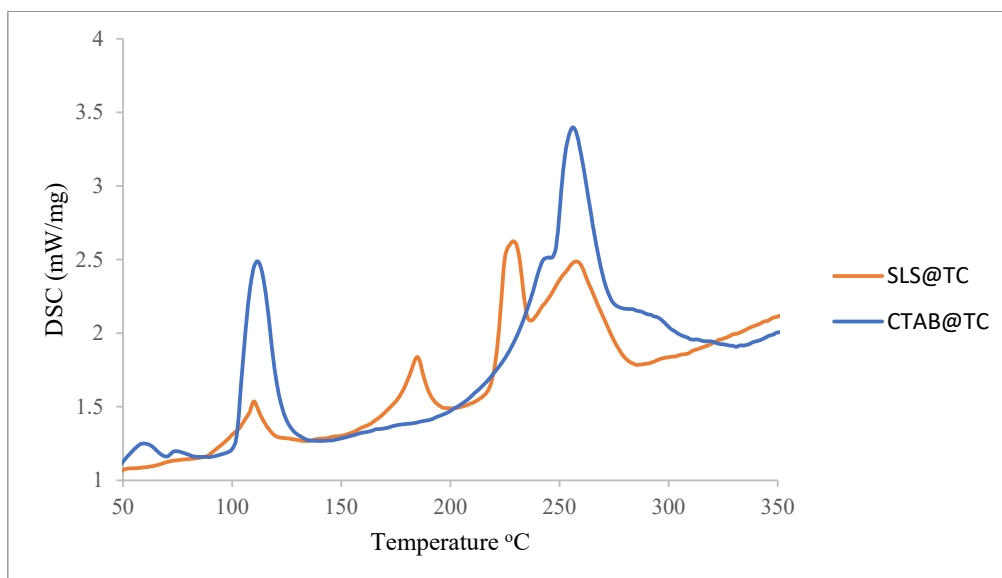
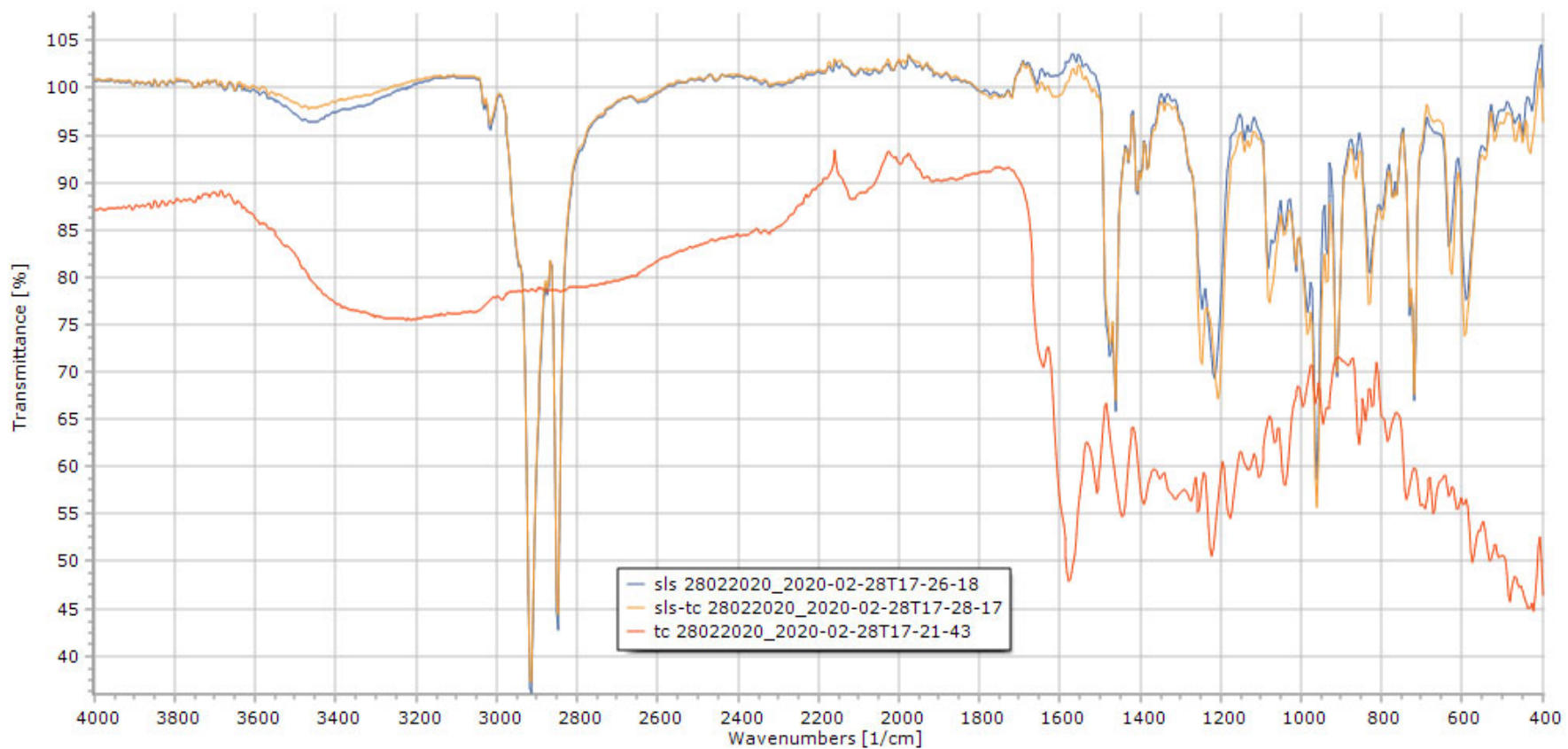


Figure S3. Diagram of DSC SLS@TC and CTAB@TC.



1
2
3

Figure S4. IR spectra of TC, SLS, SLS@TC.

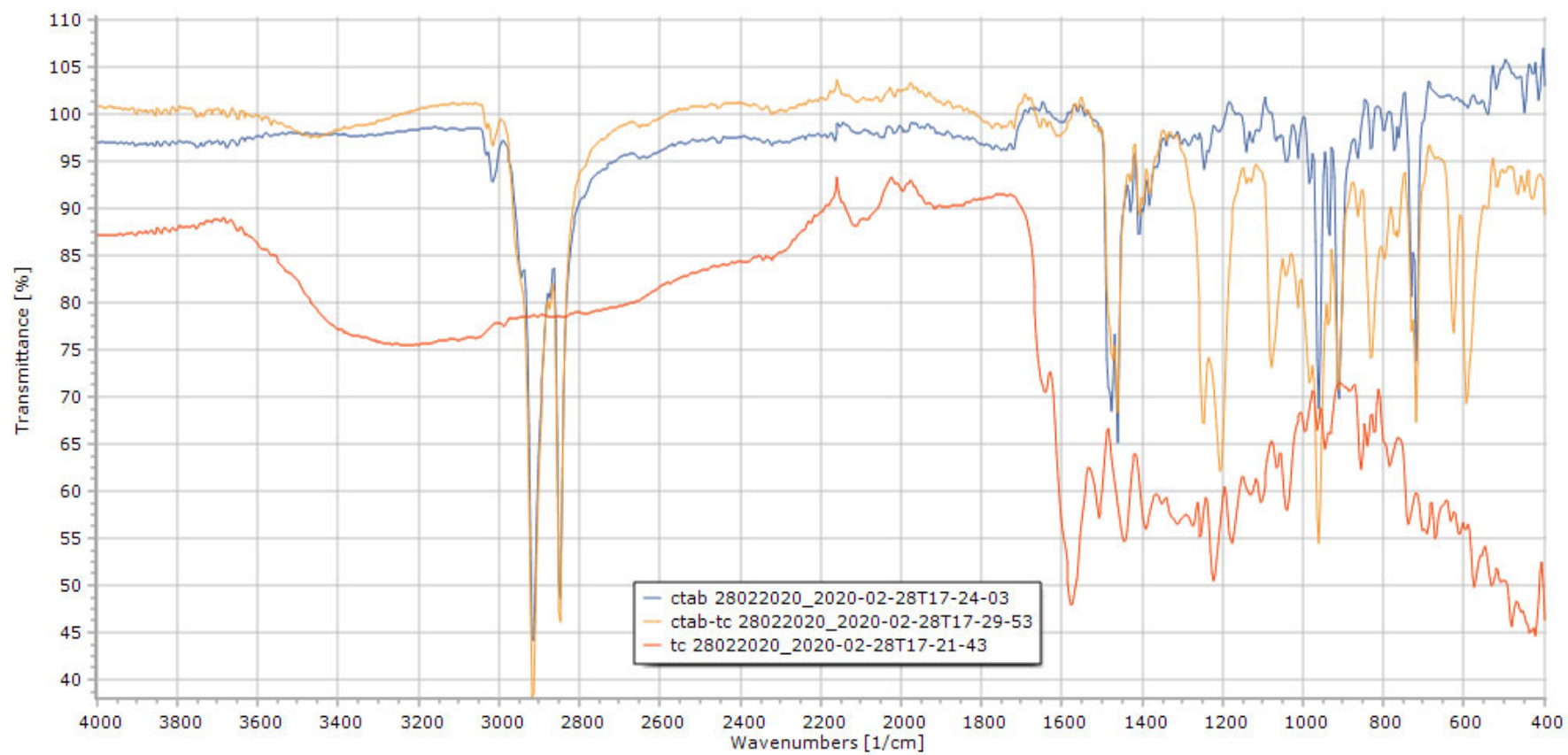
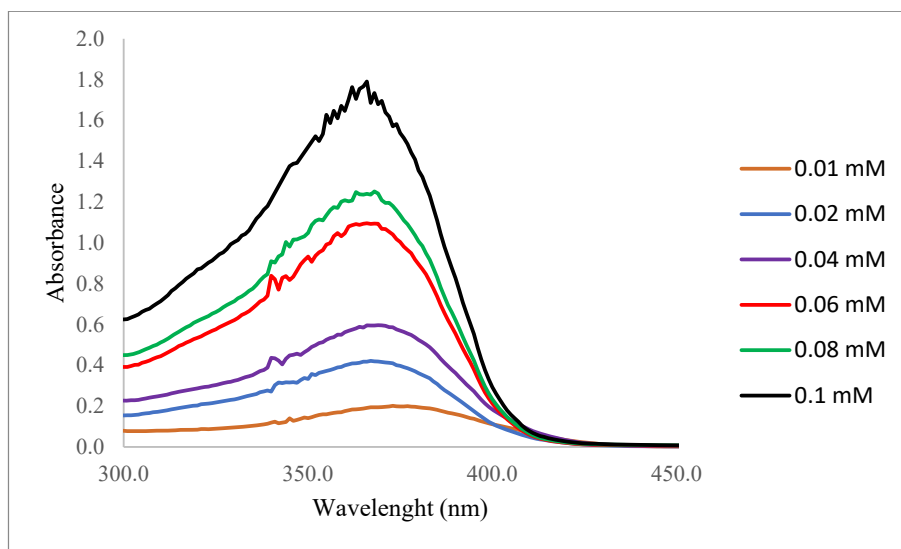
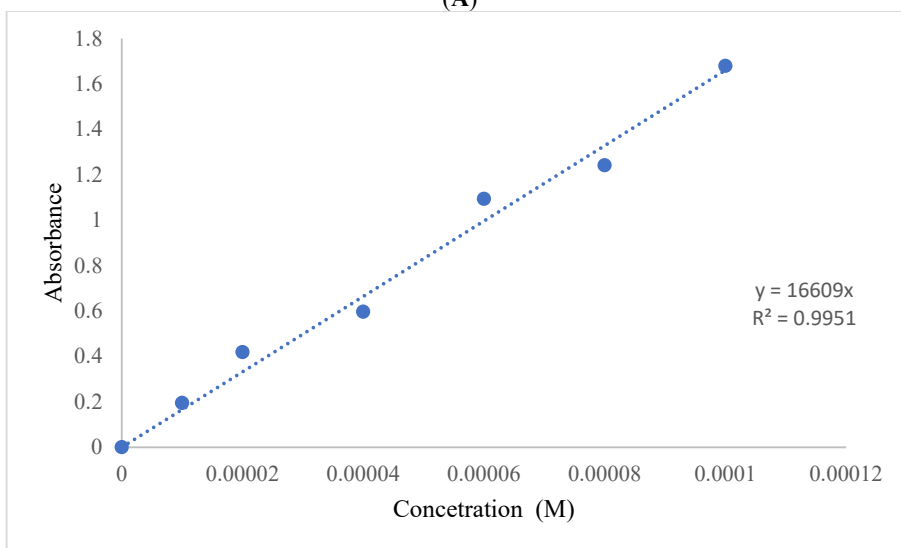


Figure S5. IR spectra of TC, CTAB, CTAB@TC.

4
5
6



(A)



(B)

Figure S6. (A) UV spectra of TC in DMSO at 1×10^{-4} , 8×10^{-5} , 6×10^{-5} , 4×10^{-5} , 2×10^{-5} , and 1×10^{-5} M respectively (B) Absorbance of TC solution in DMSO at $\lambda_{\max} = 269$ nm vs Concentration linear graph.

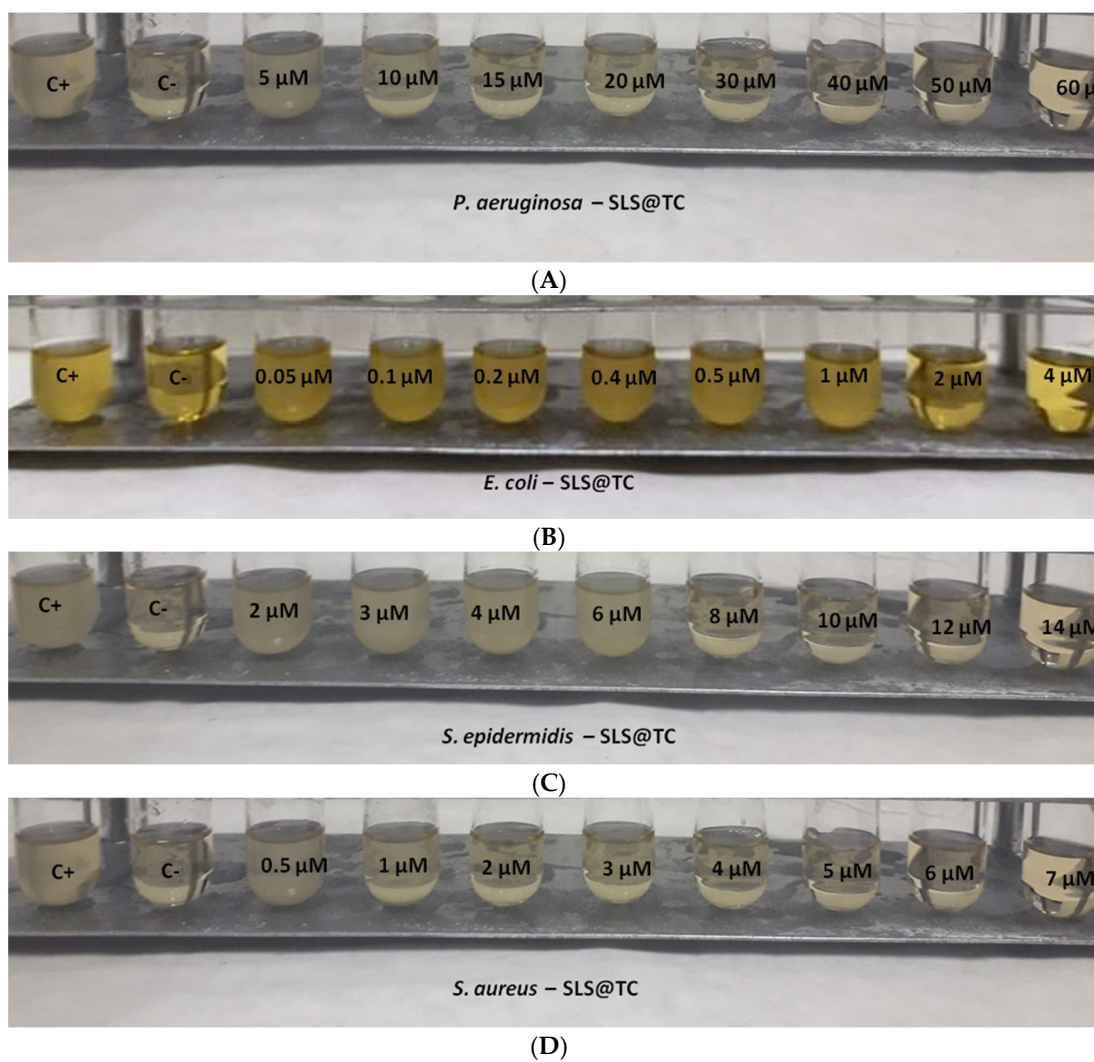


Figure S7. Minimum Inhibitory Concentration of SLS@TC against *P. aeruginosa* (A), against *E. coli* (B), against *S. epidermidis* (C), and *S. aureus* (D).

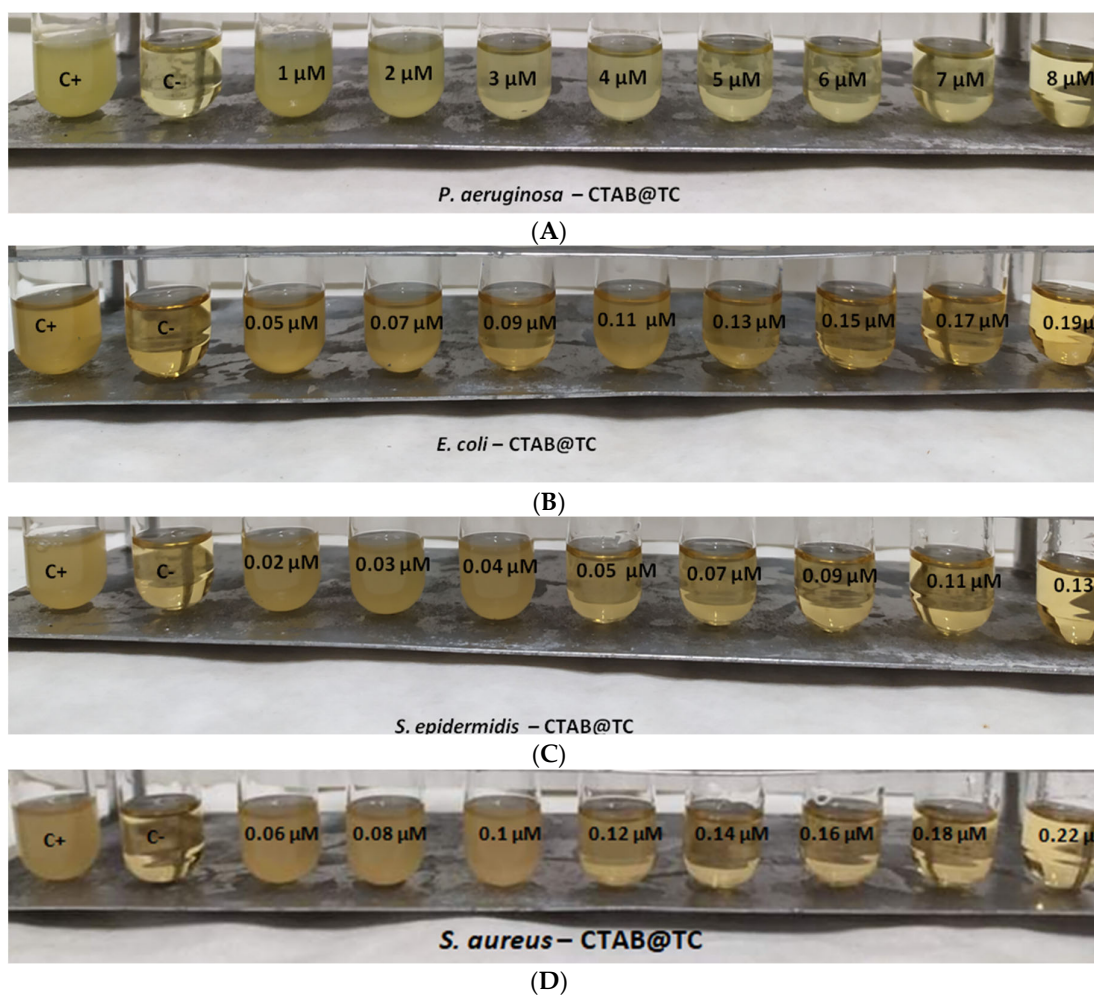


Figure S8. Minimum Inhibitory Concentration of CTAB@TC against *P. aeruginosa* (A), against *E. coli* (B), against *S. epidermidis* (C), and *S. aureus* (D).

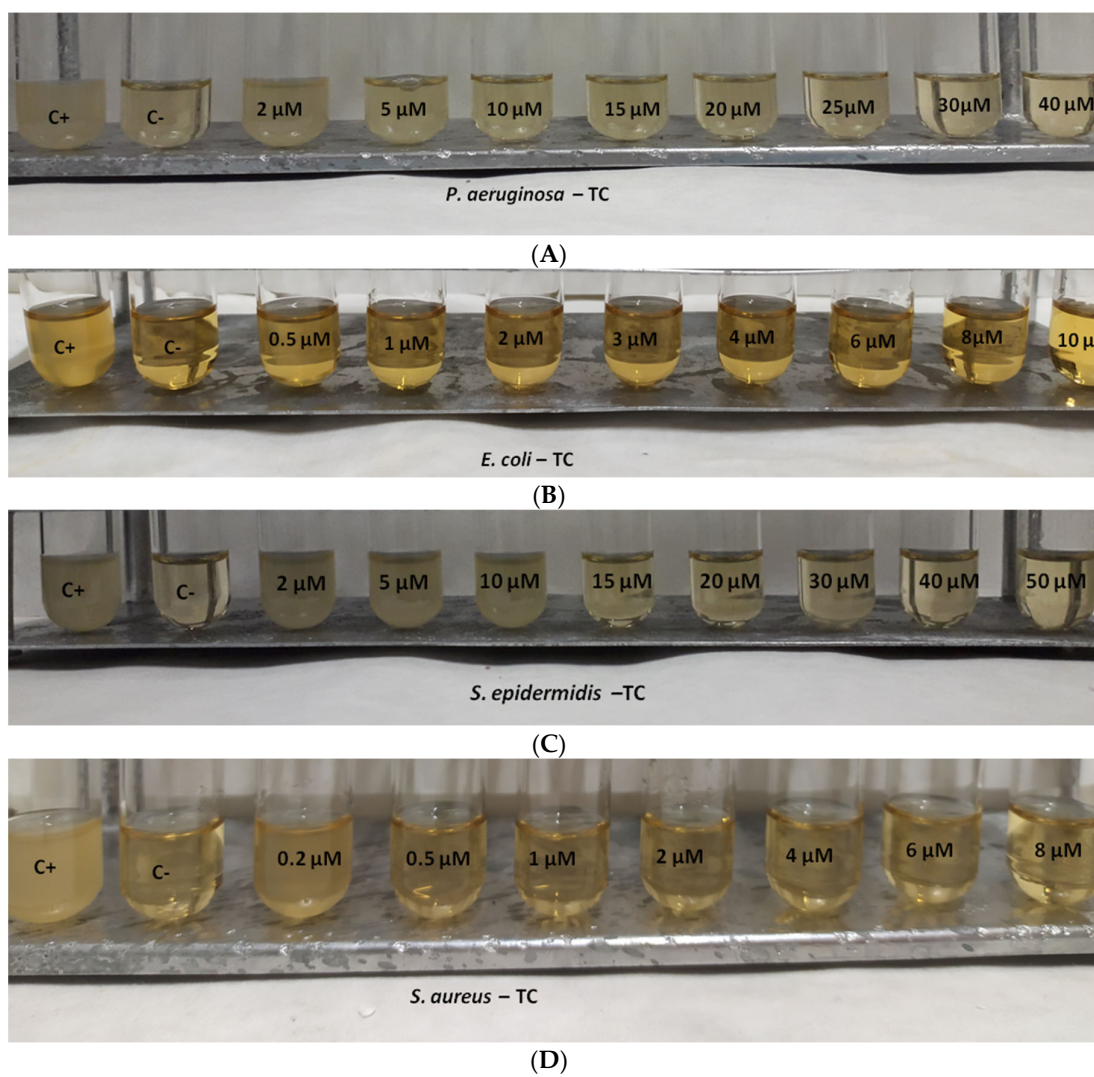


Figure S9. Minimum Inhibitory Concentration of TC against *P. aeruginosa* (A), against *E. coli* (B), against *S. epidermidis* (C), and *S. aureus* (D).

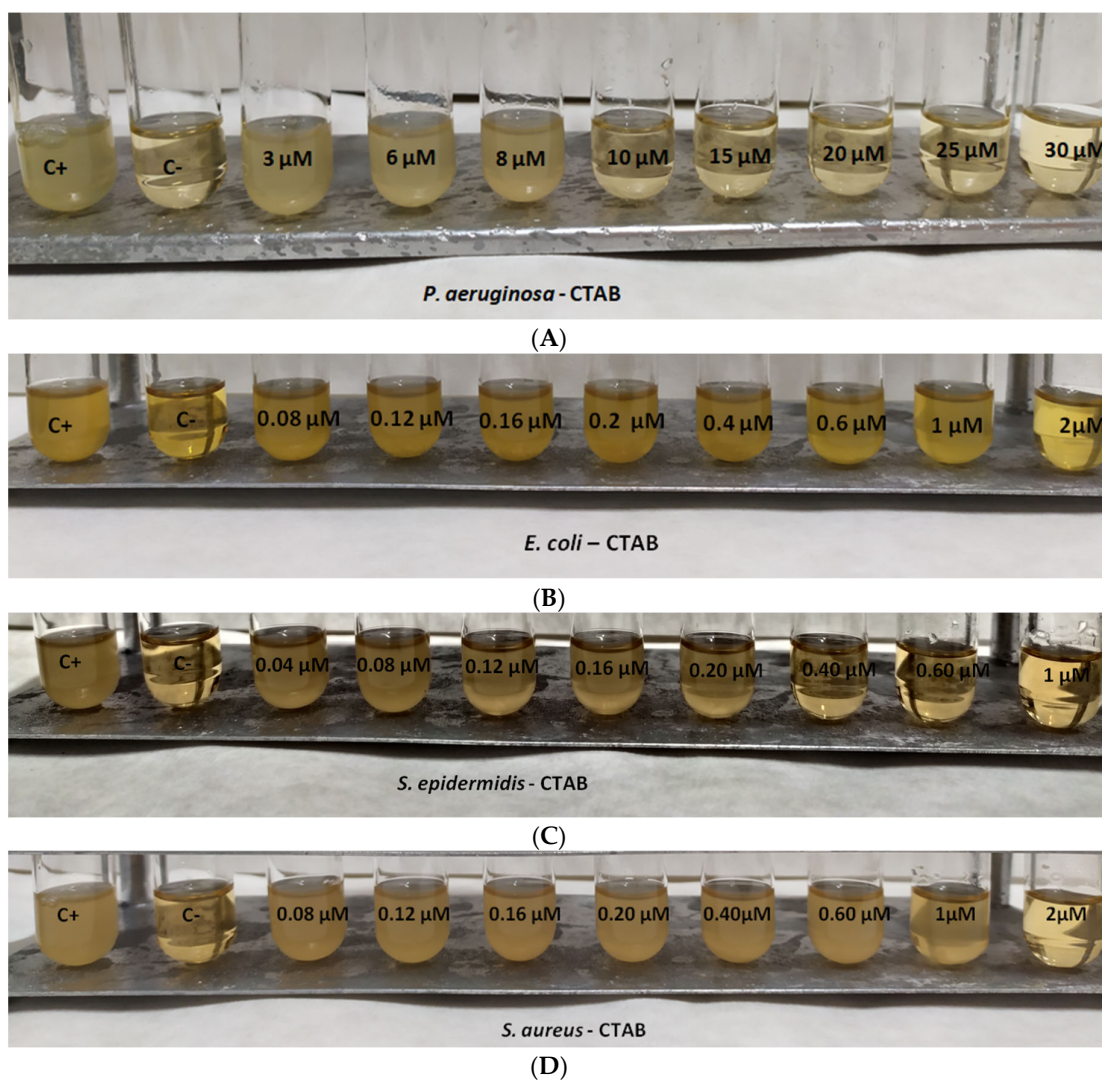


Figure S10. Minimum Inhibitory Concentration of CTAB towards *P. aeruginosa* (A), against *E. coli* (B), against *S. epidermidis* (C), and *S. aureus* (D).

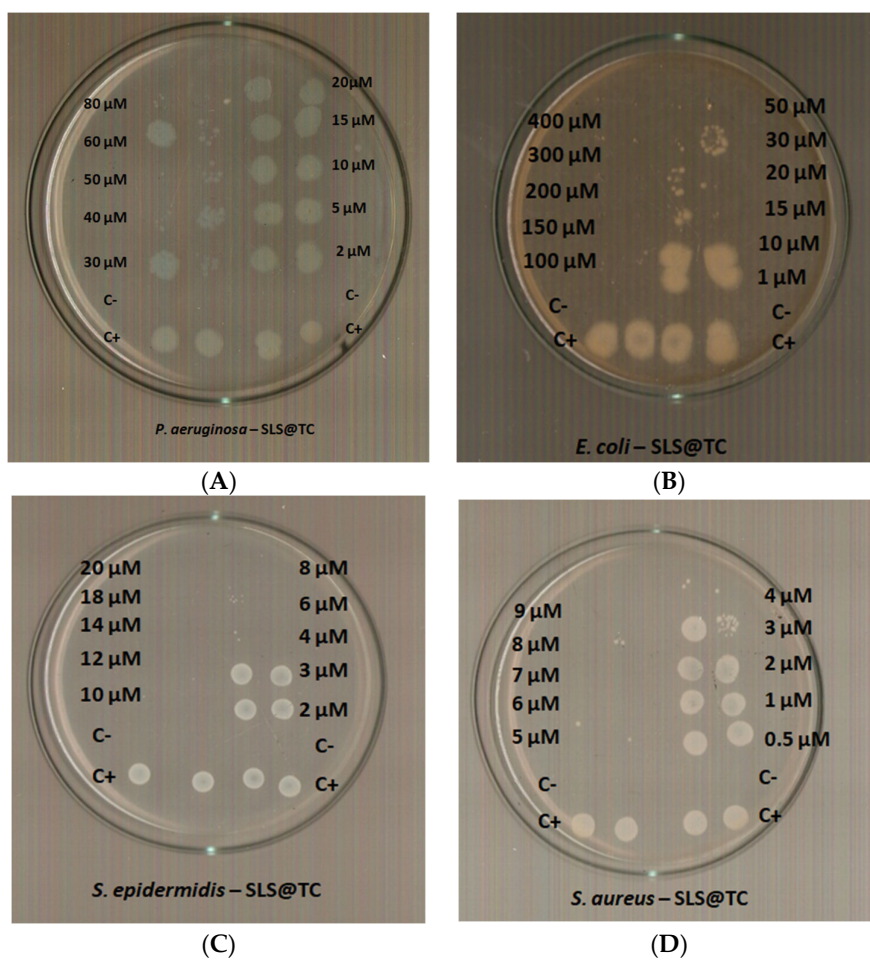


Figure S11. Minimum bactericidal concentration of SLS@TC towards *P. aeruginosa* (A), *E. coli* (B), *S. epidermidis* (C) and *S. aureus*. (D).

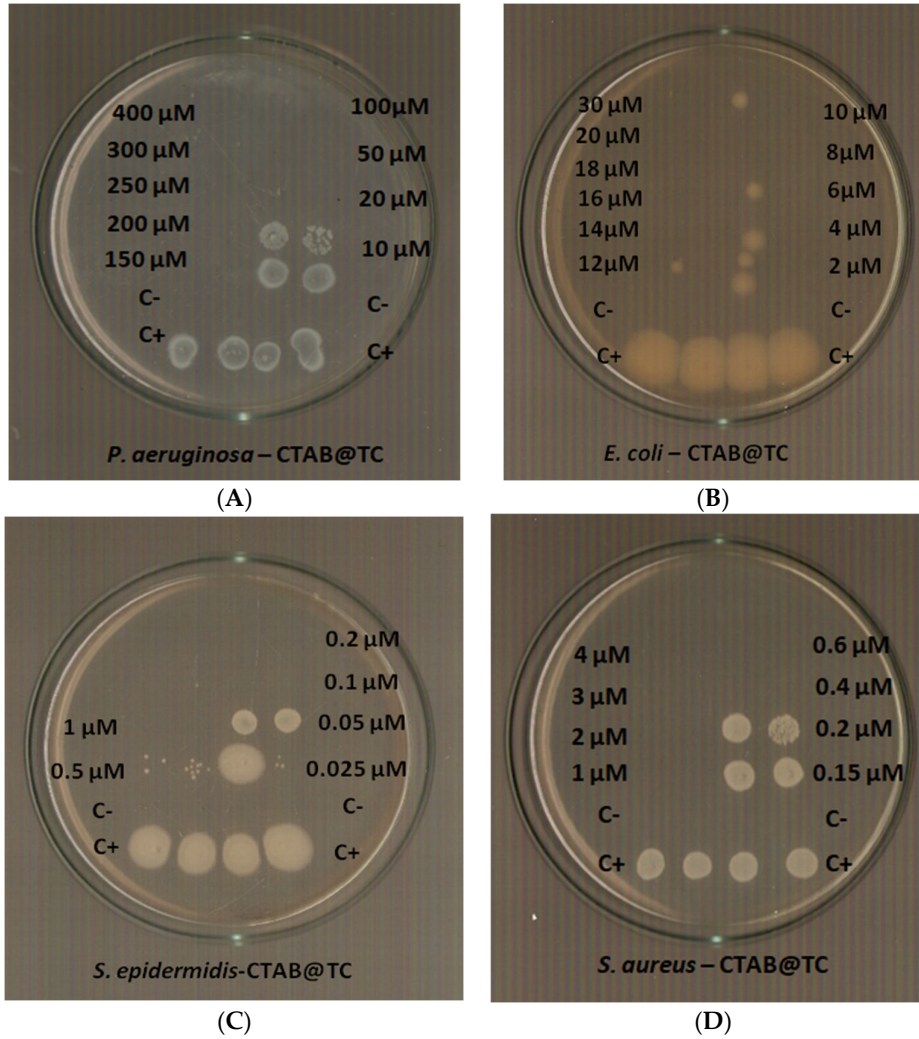


Figure S12. Minimum bactericidal concentration of CTAB@TC towards *P. aeruginosa* (A), *E. coli* (B), *S. epidermidis* (C) and *S. aureus*. (D).

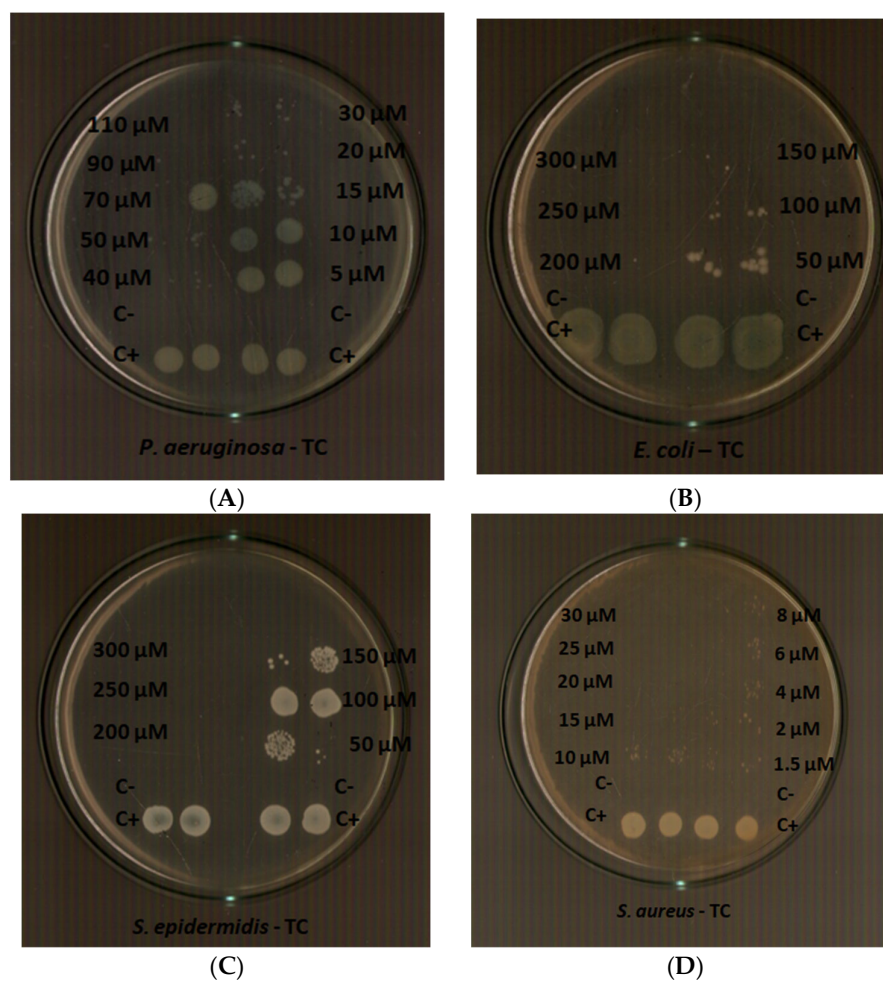


Figure S13. Minimum bactericidal concentration of TC towards *P. aeruginosa* (A), *E. coli* (B), *S. epidermidis* (C) and *S. aureus*. (D).

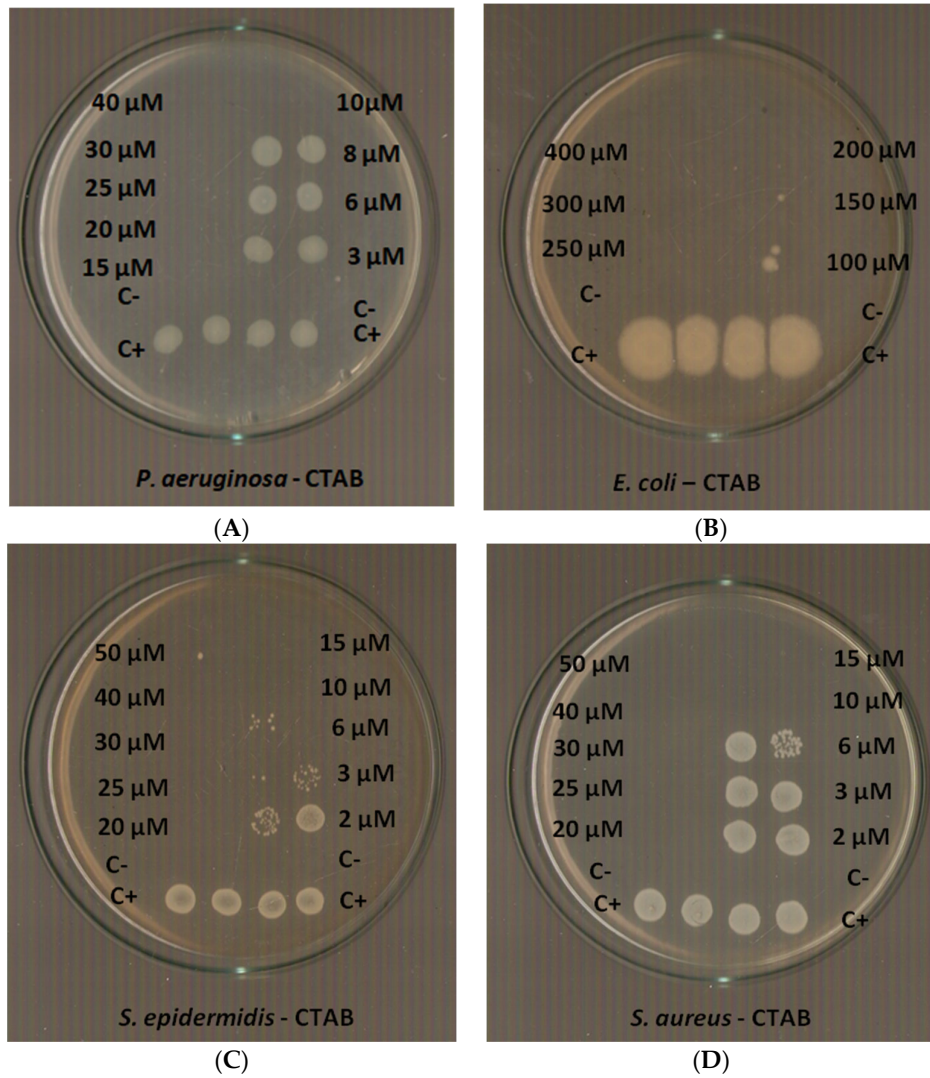


Figure F14. Minimum bactericidal concentration of CTAB towards *P. aeruginosa* (A), *E. coli* (B), *S. epidermidis* (C) and *S. aureus*. (D).

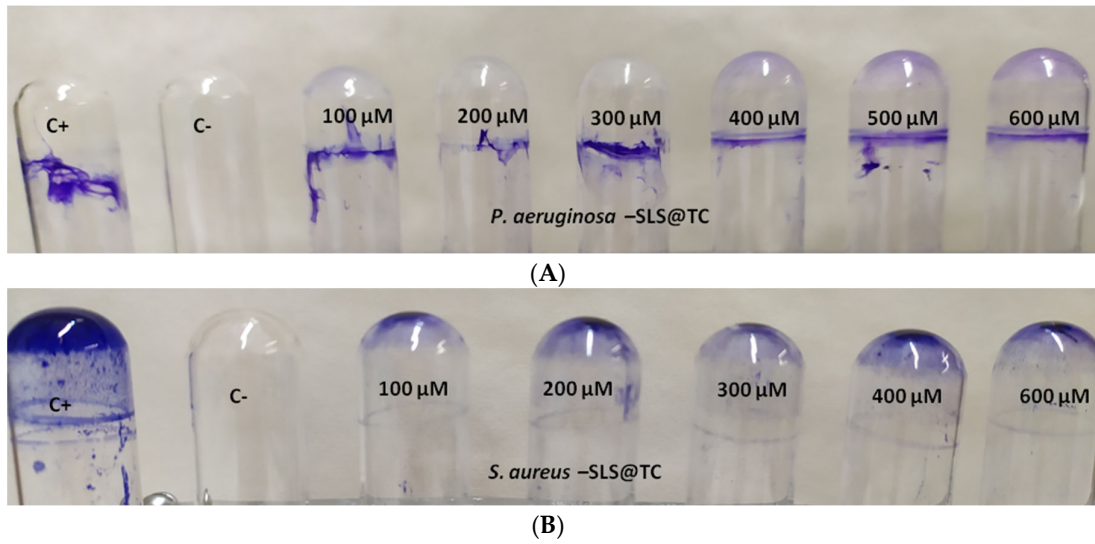


Figure S15. Biofilms of SLS@TC towards *P. aeruginosa* (A), and *S. aureus*. (B).

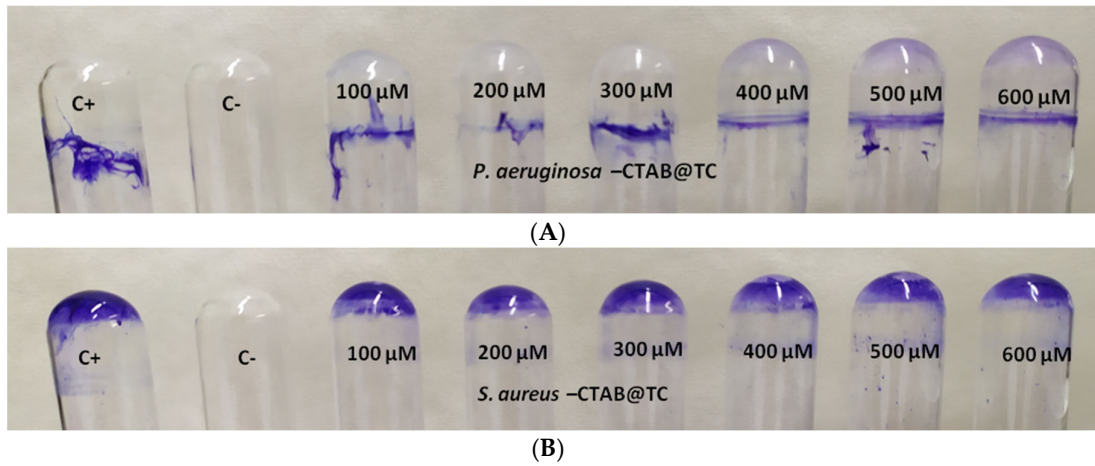


Figure S16. Biofilms of CTAB@TC towards *P. aeruginosa* (A), and *S. aureus*. (B).

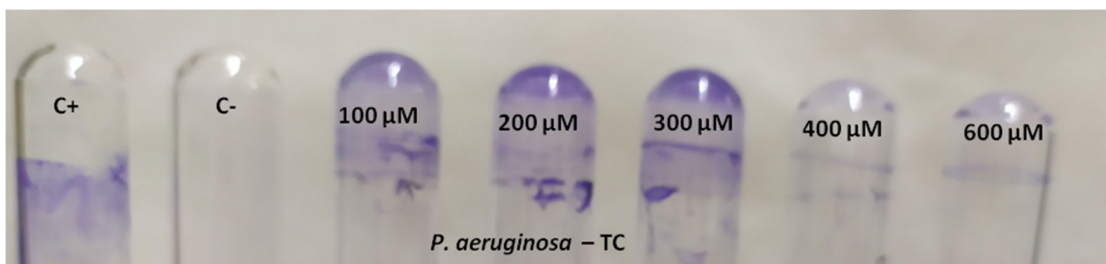


Figure S17. Biofilms of TC towards *P. aeruginosa*.