

Supporting Information

Zwitterionic peptide-functionalized highly dispersed carbon nanotubes for efficient wastewater treatment

*Jie Huang, †^a Xiaojie Sui, †^a Haishan Qi, *^a Xiang Lan,^a Simin Liu,^a and Lei Zhang *^a*

^a. Department of Biochemical Engineering, School of Chemical Engineering and Technology, Tianjin University, Tianjin 300350, PR China.

† These authors contributed equally to this work.

* Corresponding authors.

E-mail: hsqi@tju.edu.cn; lei_zhang@tju.edu.cn.

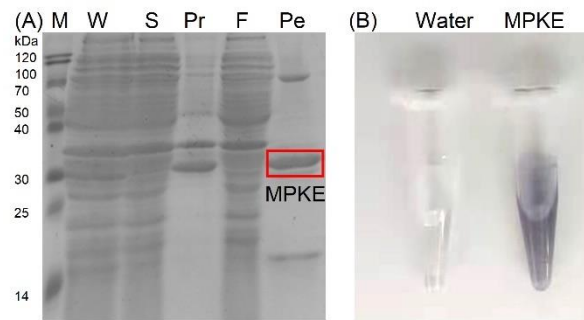


Figure S1. The validation of production of the MPKE protein. (A) SDS-PAGE analysis of expressed and purified MPKE. M: Marker, W: Whole Cell, S: Supernatant, Pr: Precipitate, F: Flow, Pe: Peak (B) NBT staining results of the protein solution.

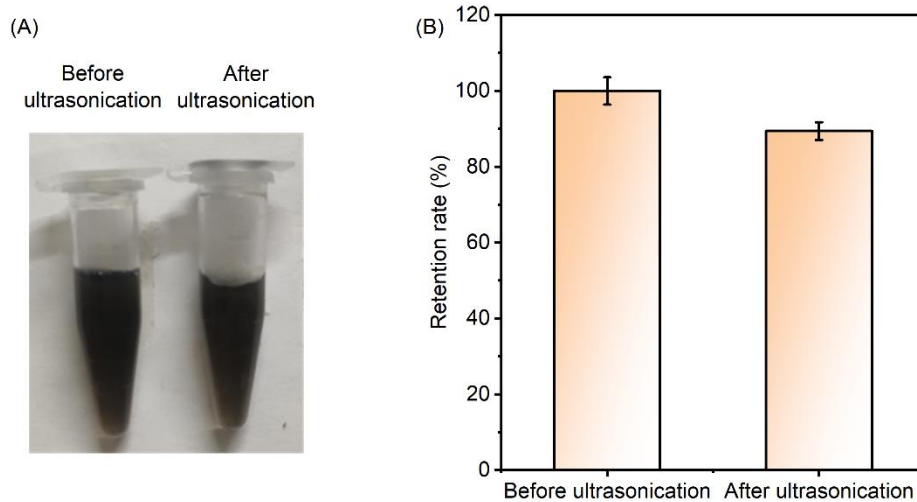


Figure S2. (A) Images and (B) retention rate of MPKE-MWCNTs before or after ultrasonication for 30 min.

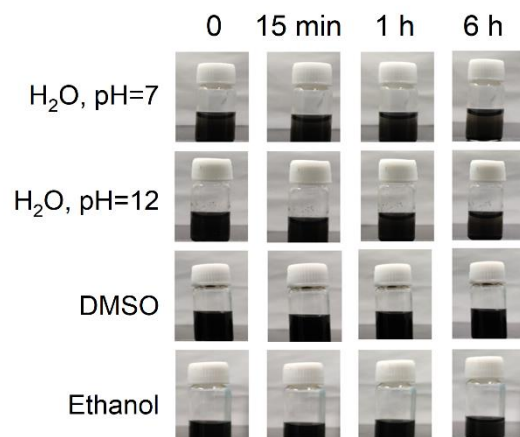


Figure S3. Dispersion stability at room temperature for different time of MPKE-MWCNTs in the water solutions with pH=7 or pH=12, DMSO and Ethanol, respectively.

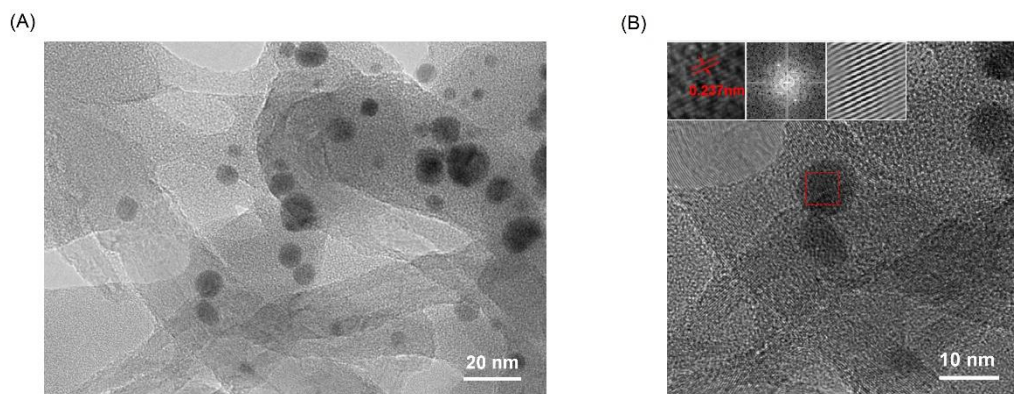


Figure S4. (A and B) TEM images of the AgNPs@MPKE-MWCNTs. The red arrow was a lattice fringe with a 0.237 nm interplanar distance.

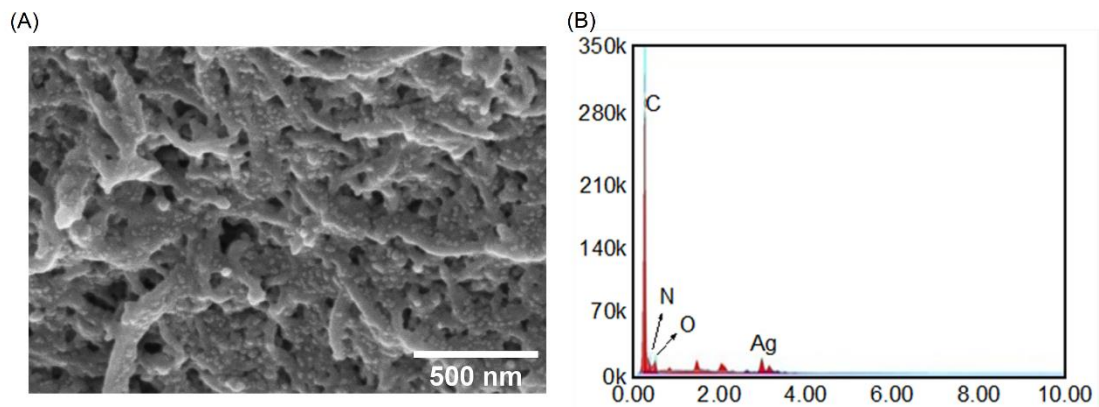


Figure S5. Characterization of AgNPs@MPKE-MWCNTs. (A) The SEM image of AgNPs@MPKE-MWCNTs. (B) The EDS result of AgNPs@MPKE-MWCNTs.

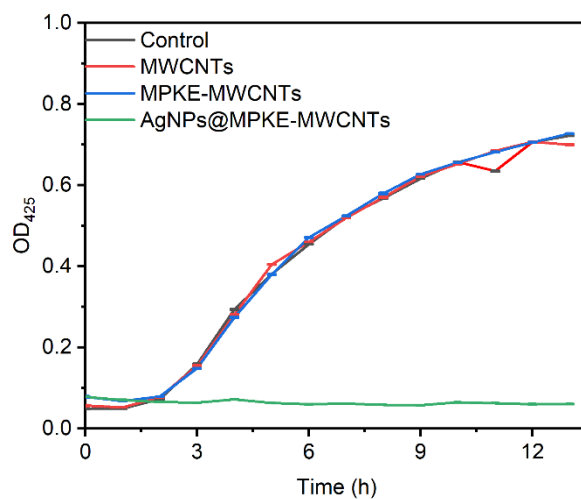


Figure S6. The growth curves of *E. coli* incubated with medium (Control), MWCNTs, MPKE-MWCNTs, AgNPs@MPKE-MWCNTs that stored in water for two months, respectively.