

Porous ZnO Modified Silk Suture with Dual Light Defined Antibacterial, Healing Promotion and Controlled Self-degradation Capabilities

Fei Cao^a, Bin Zeng^a, Yanglong Zhu^c, Fen Yu^b, Manyu Wang^a, Xiangwei Song^b, Xinyan Cheng^b, Liming Chen^b, Xiaolei Wang^{a,b,*}

a. Institute of Translational Medicine, Nanchang University, Nanchang, 330088, China.

b. College of Chemistry, NanChang University, Hong Gu Tan New District, 1299 XueFu Road, NanChang 330038, China.

c. Department of Orthopedic Surgery, The Second Affiliated Hospital of Nanchang University, Nanchang, 330006, China.

Corresponding Author

* E-mail: wangxiaolei@ncu.edu.cn Tel: 0791-83827416.

Figure S1. The energy generation gap of normal ZnO and PZ (low carbon and high carbon)

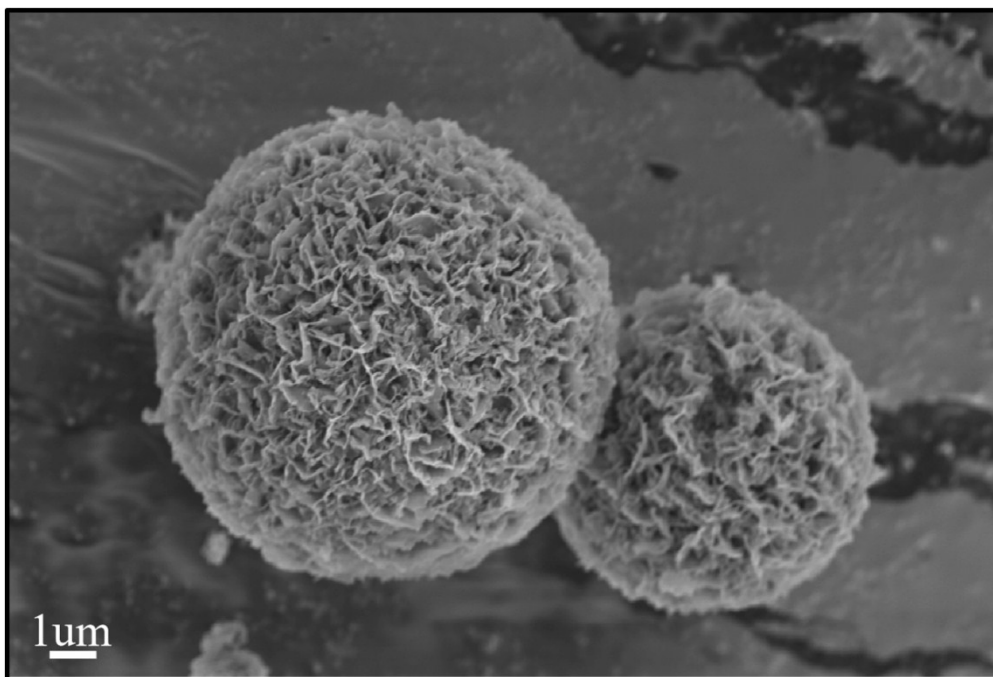


Figure S2. SEM image of Porous ZnO.

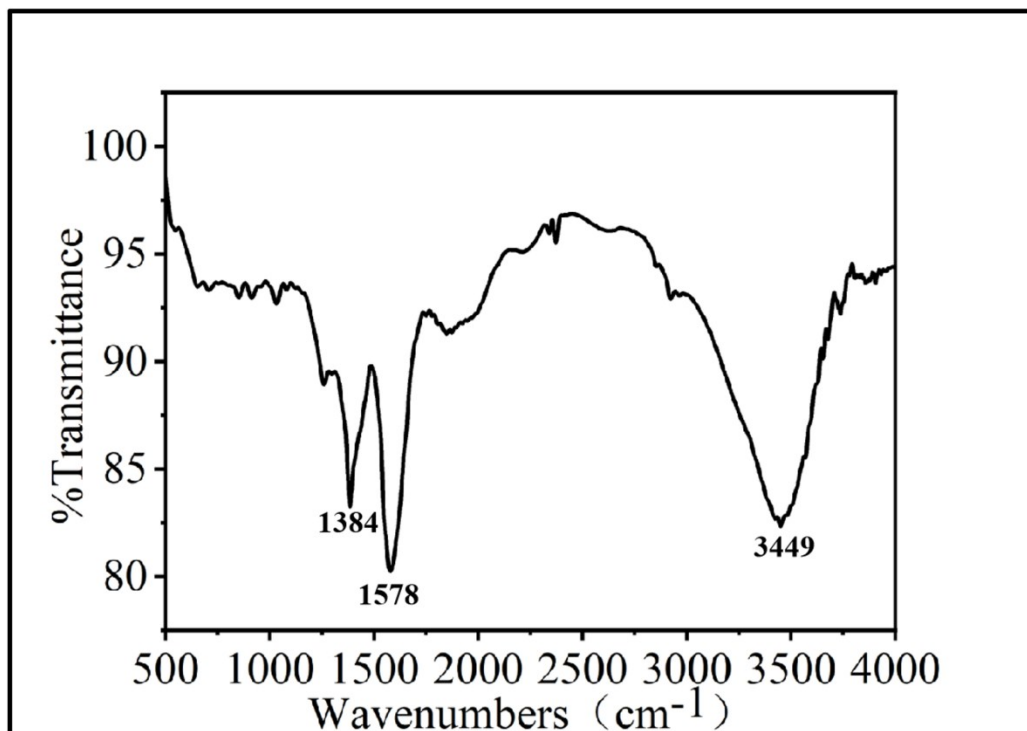
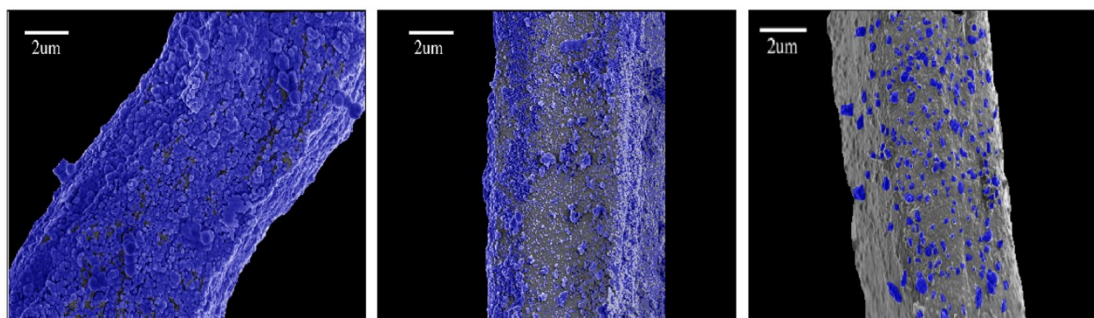


Figure S3. The fourier infrared curve of Porous ZnO.



D1

D3

D7

Figure S4. The SEM of ZnO on the silk surface at durability assay in vitro.

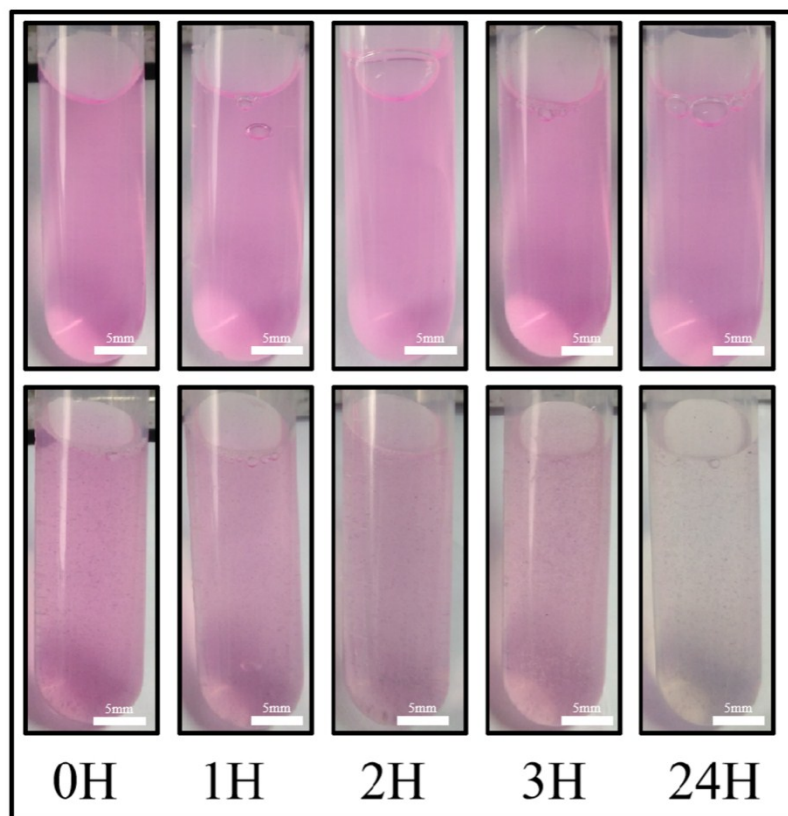


Figure S5. Optical photographs of Rhodamine B solution. Control group and Porous ZnO group. (from top to bottom)

Figure S6. Optical photographs of colony number on agar plate at antibacterial test in vitro.

Figure S7. Optical photographs of colony number on agar plate at animal test.

Figure S8. The presence of carbon dots (red dotted outline) was observed under HRTEM.