Electronic Supplementary Material (ESI) for New Journal of Chemistry. This journal is © The Royal Society of Chemistry and the Centre National de la Recherche Scientifique 2021

Supporting information

Multifunction Gelatin/Chitosan Composite Microspheres with ROS-scavenging and Antibacterial Activities for Improving the Microenvironment of Chronic Wound Healing

Yu Chen^{a,b,c}, Weipeng Lu^{a,c*}, Yanchuan Guo^{a,b,c*}, Yuntao, Xie^c, Yi Zhu^c and

Yeping Song^c

^a Key Laboratory of Photochemical Conversion and Optoelectronic Material, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing 100190, China

^b University of Chinese Academy of Sciences, Beijing 100049, China

^c Hangzhou Research Institute of Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Hangzhou 310018, China



Fig. S1. (A) Size distribution of MnO_2 nanosheets measured by TEM images. (B) Size distribution of GCPM measured by SEM images. (C) EDX mapping of GCPM.



Fig S2. Degradation process diagram of GCPM in phosphate buffer saline (PBS) at 37



Fig. S3. Percent cell viability of L929 (A) MRC–5 (B) cells following treatment with GC and GCPM for 5 days.



Fig. S4. L929 (A) and MRC–5 (B) cells morphology ncubated with GC and GCPM for 5 days. Scale bar: 200 mm.



Fig. S5. L929 cells morphology following treatment with H_2O_2 (A) and $\cdot O_2^-$ (B) catalyzed by GCPM for 5 days. Scale bar: 200 mm.

Table S1. The standard of cytotoxicity determined from RGR

Cytotoxicity level	0	1	2	3	4	5
GRG (%)	>100	75-99	50-74	25-49	1-24	0



Fig. S6. The photographs showing the antibacterials activity of GC, MnO_2 nanosheets,

PHMG and GCPM against S. aureus and E. coli and MRSA.