Supporting Information

An acidity-triggered aggregation nanoplatform based on degradable mesoporous organosilica nanoparticles for precise drug delivery and phototherapy of focal bacterial infection

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Fig. S1 Raman Spectrogram of MON NPs.



Fig. S2 (a) BET N_2 adsorption/ desorption isotherms and (b) BJH pore size distributions of various MON NPs.



Fig. S3 Hydrodynamic diameter distributions of MON NPs, MP NPs, and MPG NPs.



Fig. S4 The Zeta potential of MPG NPs in PBS at different pH values.



Fig. S5 Infrared spectra of various stages of MPG NPs synthesis.



Fig. S6 Fluorescence spectra of MCMPG NPs after irradiated 635 nm laser (100

mW/cm²) by SOSG.



Fig. S7 The ESR spectra of TEMP- $^{1}O_{2}$ of MCMPG NPs with or without the laser irradiation.

| MIC | S. aureus | E. coli |
|-----------|-----------|----------|
| MCMPG NPs | 40 μg/mL | 20 µg/mL |

Table. S1 MIC values of the as-prepared nanoparticles against *S. aureus* and *E. coli*.