Supplementary information

Multifunctional MXene-doped photothermal microneedle for drug-resistant bacteria-infected wound healing

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Figure S1. Elemental mapping images of 2MHMN. Scar bar: 100 μ m.



Figure S2. (a) Temperature changes of the 2MHMN under irradiation of a laser at different power (0.1, 0.15 and 0.2W). (b) Photothermal heating/cooling curves of 2MHMN after three cycles of 808 nm laser irradiation (0.15W).



Figure S3. (a) *In vivo* thermal image of Ctr, HAMN, 2MHMN and 4MMN patches under the irradiation of 808nm laser (0.15W). (b) Temperature increase curves of Ctr, HAMN, 2MHMN and 4MHMN under irradiation at 808nm (0.15W).



Figure S4. Digital photographs and representative H&E-stained sections of major organs (heart, liver, spleen, kidney, and lung) from mice after various treatments. Scar bar: $100 \mu m$.