

Supporting Information

3D Printing of MXene Composite Hydrogel Scaffolds for Photothermal Antibacterial Activity and Bone Regeneration in Infected Bone Defect Models

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Table S1 Primer sequences used for Real-time PCR.

Gene	Forward sequence	Reverse sequence
IL-1 β	CCCTGAACTCAACTGTGAAATAGCA	CCCAAGTCAAGGGCTTGGAA
TNF- α	GGCGTGTTTCATCCGTTCTC	CTTCAGCGTCTCGTGTGTTTCT
IL-10	CAGACCCACATGCTCCGAGA	CAAGGCTTGGCAACCCAAGTA
RUNX2	CATGGCCGGAATGATGAG	TGTGAAGACCGTTATGGTCAAAGTG
ALP	CATCGCCTATCAGCTAATGCACA	ATGAGGTCCAGGCCATCCAG
OCN	AAGCAGGAGGGCAATAAGGT	CCGTAGATGCGTTTGTAGGC
β -actin	GGAGATTACTGCCCTGGCTCCTA	GACTCATCGTACTCCTGCTTGCTG



Fig. S1 Image of the dispersion in aqueous solution of Ti_3C_2 nanosheets with the Tyndall effect.

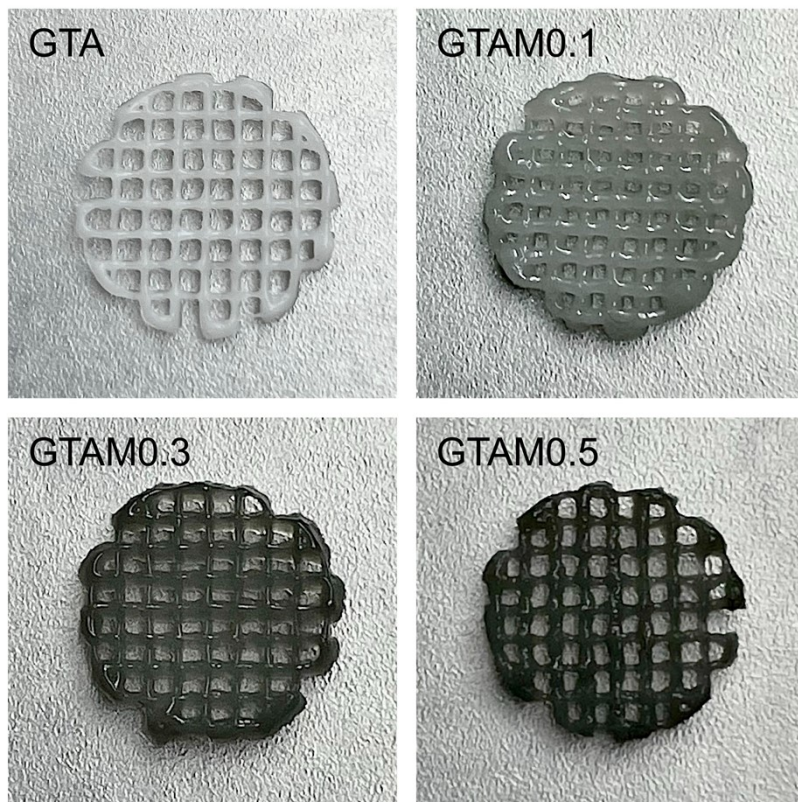


Fig. S2 Photographs of the 3D printed hydrogel scaffolds.

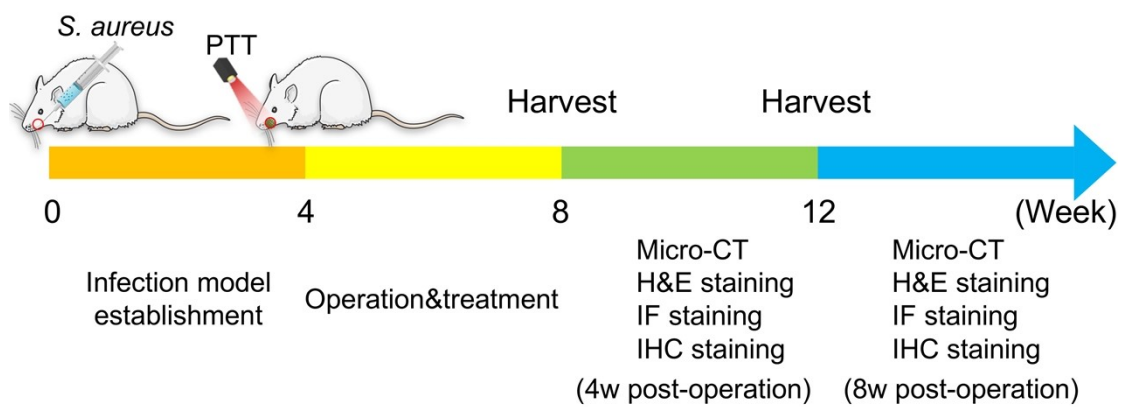


Fig. S3 Schematic illustration of animal experiment procedures from infected mandibular defect model establishment to harvest of specimen.

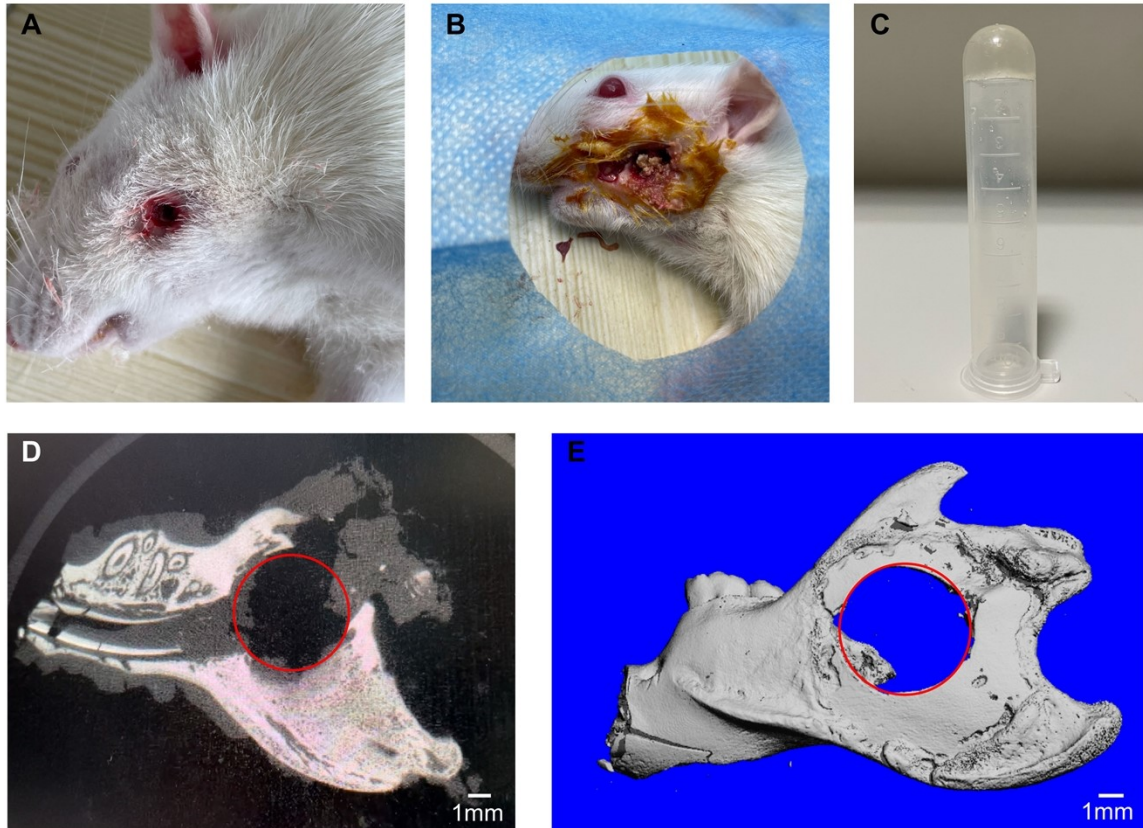


Fig. S4 Assessments of mandibular osteomyelitis infection models of rats after 4 w of inoculation of *S. aureus*. (A-B) Gross observation of the rat. (C) Plasma coagulase assay of infection tissues in the rat mandible. (D) Micro-CT image of the rat mandible. (E) Micro-CT 3D reconstruction image of the rat mandible.



Fig. S5 Gross observation of rats after 4 w of 3D printed scaffolds implantation.

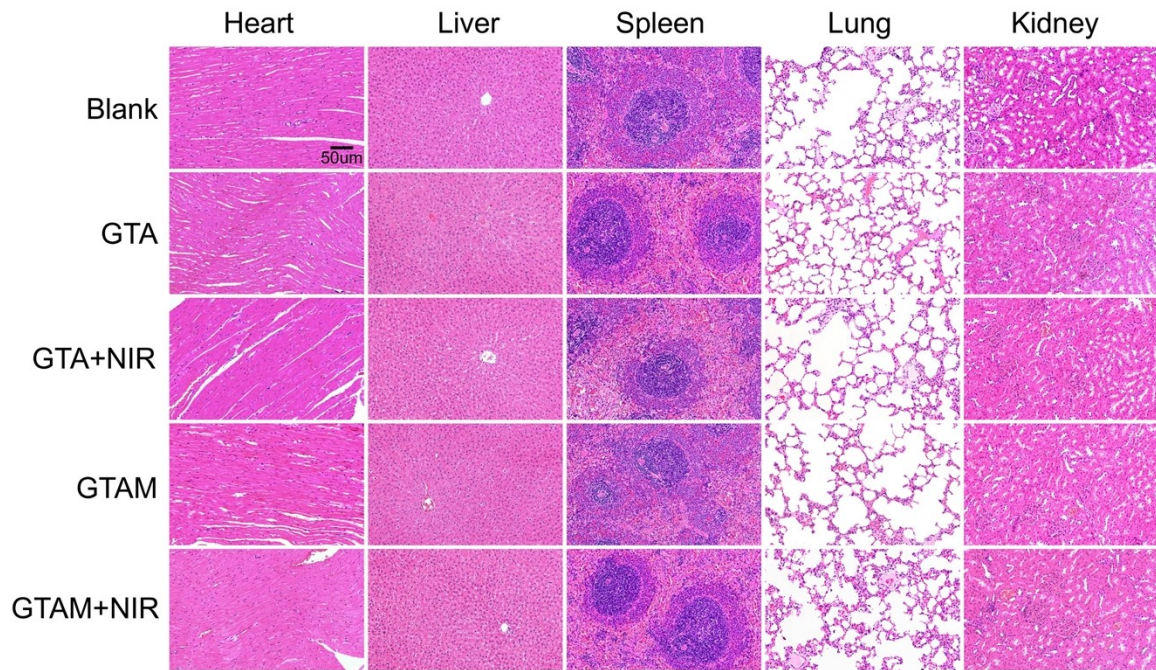


Fig. S6 H&E staining of the main organs (heart, liver, spleen, lung and kidney tissues) after 4 w of 3D printed scaffolds implantation.