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Fabrication of bioactive 3D printed porous titanium implants with Sr ionsincorporated zeolite coatings for bone ingrowth

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Fig. S1 (a) diagram of porous titanium scaffold cut into three parts; (b), (c), and (d) SEM images of cross section after the 3D printed porous TC4 scaffold coated with

ZCs.



Fig. S2 Scratch test of ZCs@TC4 and SZCs@TC4. The red line indicates the critical load.



Fig. S3 Contact angles of water droplets (3 μ L) on the TC4, ZCs@TC4, and SZCs@TC4.



Fig. S4 EDS patterns of SZCs@TC4



Fig. S5 Cumulative release of Sr ions from SZCs@TC4 at various immersion times in SBF.



Fig. S6 EDS patterns of SZCs@TC4 after immersed in SBF for 7 days



Fig. S7 Tafel potentiodynamic polarization curves of TC4, ZCs@TC4, and SZCs@TC4 in SBF.



Fig. S8 EDS patterns of TC4, ZCs@TC4, and SZCs@TC4 after immersed in SBF for 4, 7, and 14 days.



Fig. S9 SEM images of r-BMSCs cultured on TC4, ZCs@TC4, and SZCs@TC4 samples for 2 days.



Fig. S10 Implantation of 3D printing porous TC4 scaffolds with press-fit into the

defects.