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Effect of Sr-Fe Layered double hydroxides coating based on microenvironment response on implant osseointegration in osteoporotic rats

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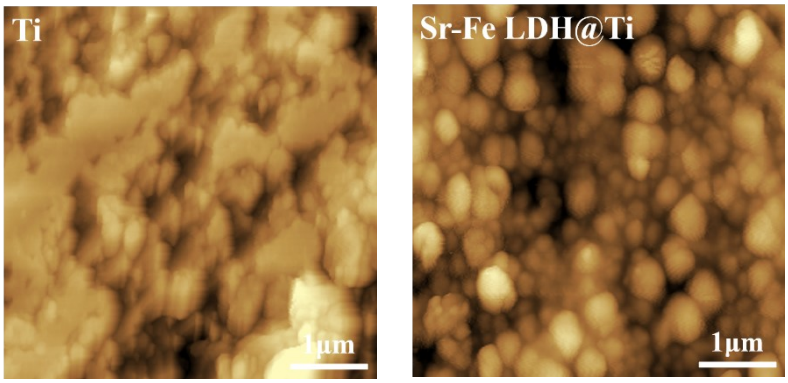


Fig. S1A: AFM images and quantitative analysis of Ti and Sr-Fe LDH@Ti

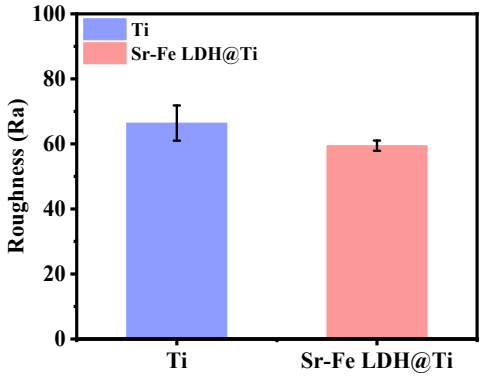
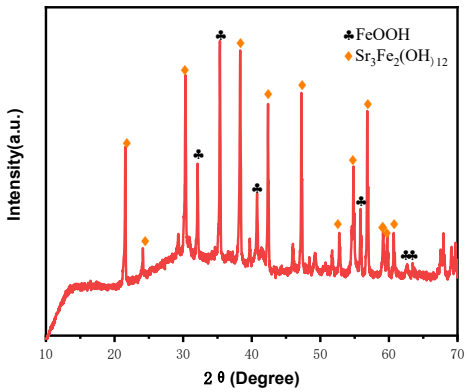


Fig. S1B: Roughness of the Ti and Sr-Fe LDH@Ti; n=3



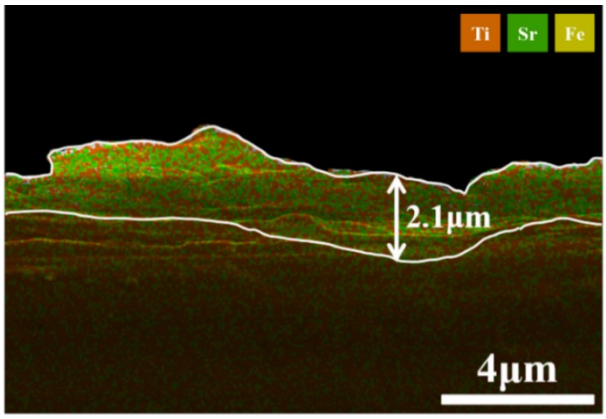
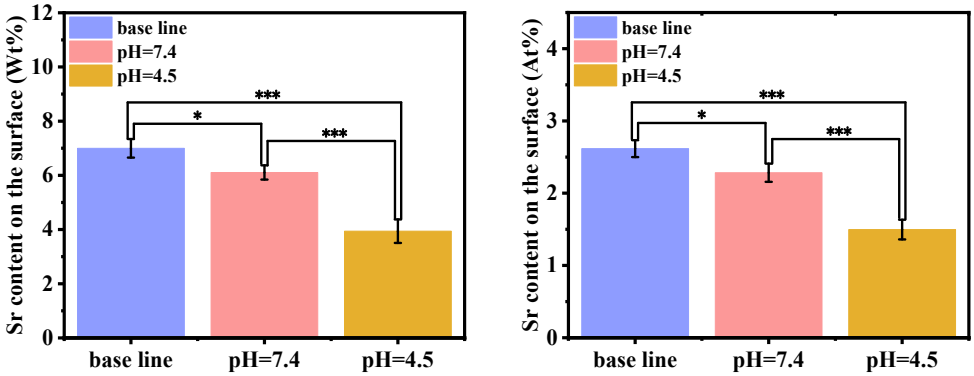


Fig.S2: XRD patterns of Sr-Fe LDH powders

Fig S3: EDS spectrograms showing the thickness of the Sr-Fe LDH coating on pure titanium surfaces of the

Fig. S4: EDS energy spectroscopy of Sr-Fe LDH@Ti after 7 days immersion in PBS solutions of different pH values; n=3



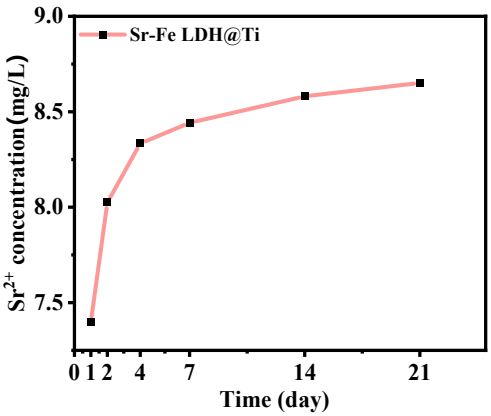


Fig. S5: The release curves of Sr^{2+} ions from the Sr-Fe LDH@Ti in PBS solution at pH=7.4.

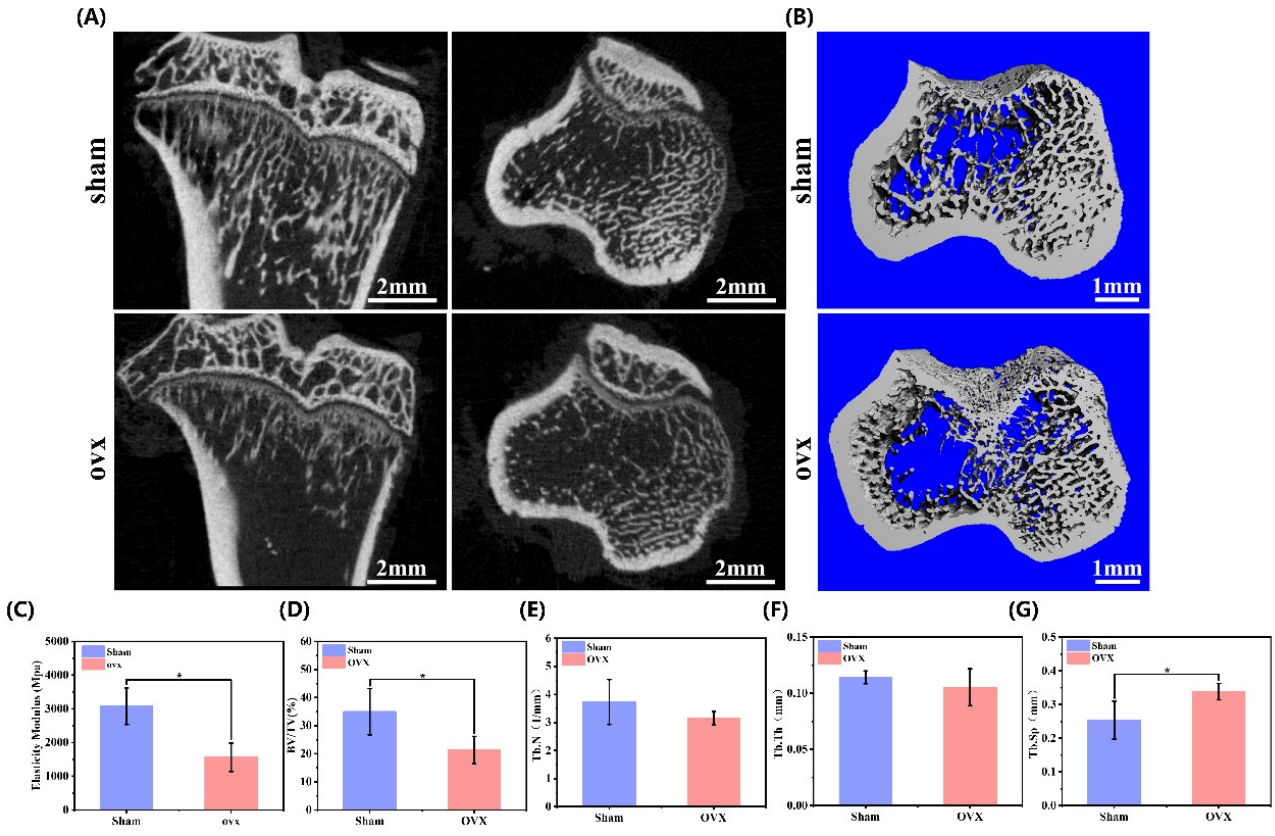


Fig. S6: (A)X-ray images of rat tibia 12w after sham and ovariectomy surgery. (B)Micro-CT images of rat tibia 12w after sham and ovariectomy surgery. (C)Elastic modulus analysis of rat tibia 12w after sham and ovariectomy surgery. (D-G) BV/TV(%), TB.N(1/mm), Tb.Th(mm), Tb.Sp(mm) analysis for rat tibia 12w after sham and ovariectomy surgery. All values are presented as mean ± s.d. *$P < 0.05$, **$P < 0.01$, and ***$P < 0.001$; n=4.