Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Osteogenic and angiogenic activities of silicon-incorporated TiO_2 nanotube arrays

Long Bai[a], Ruifeng Wu[c], Yueyue Wang[a], Xin Wang[a], Xiangyu Zhang[a], Xiaobo Huang[a], Lin Qin[a], Ruiqiang Hang[a,*], Lingzhou Zhao[b,*], Bin Tang[a]

[a] *Research Institute of Surface Engineering, Taiyuan University of Technology, Taiyuan, China*

[b] *State Key Laboratory of Military Stomatology & National Clinical Research Center for Oral Diseases & Shaanxi Key Laboratory of Oral Diseases, Department of Periodontology, School of Stomatology, The Fourth Military Medical University, Xi'an, China*

c Department of Orthopedics, Central Hospital of Tongchuan Mining Bureau, Tongchuan, China

* Corresponding authors.

E-mail addresses: hangruiqiang@tyut.edu.cn (R.Q. Hang)

zhaolingzhou1983@hotmail.com (L.Z. Zhao)

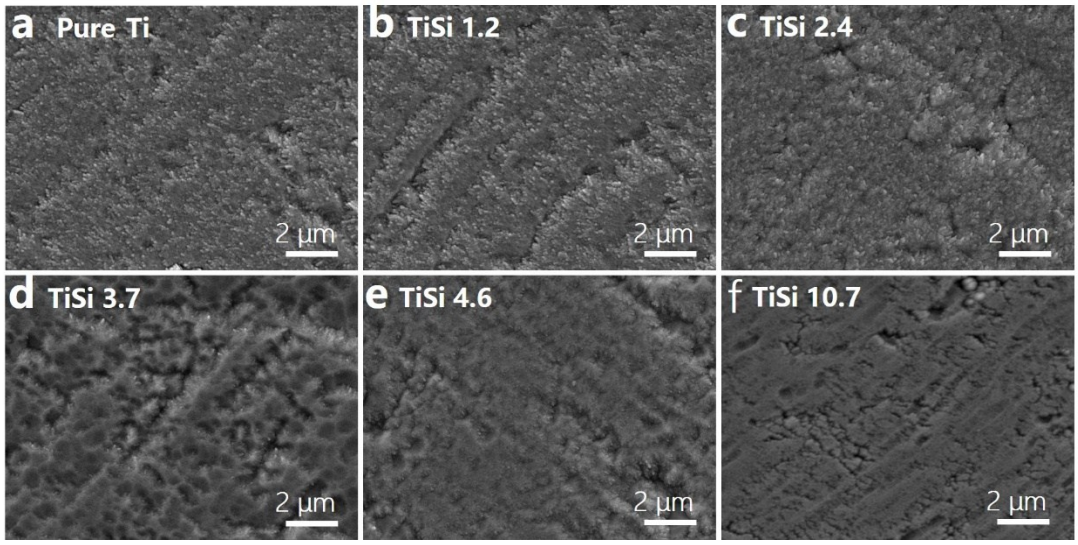

Fig. S1 SEM images of pure Ti coating (a) and TiSi coatings with different Si contents: (b) 1.2at%, (c) 2.4at%, (d) 3.7at%, (e) 4.6at% and (f) 10.7at%.

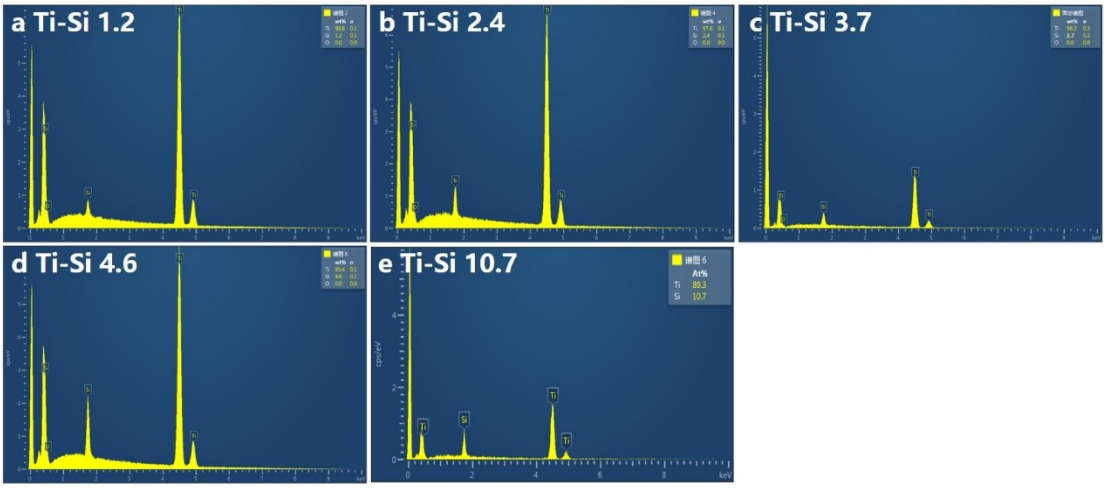

Fig. S2 EDS data of the TiSi coatings.

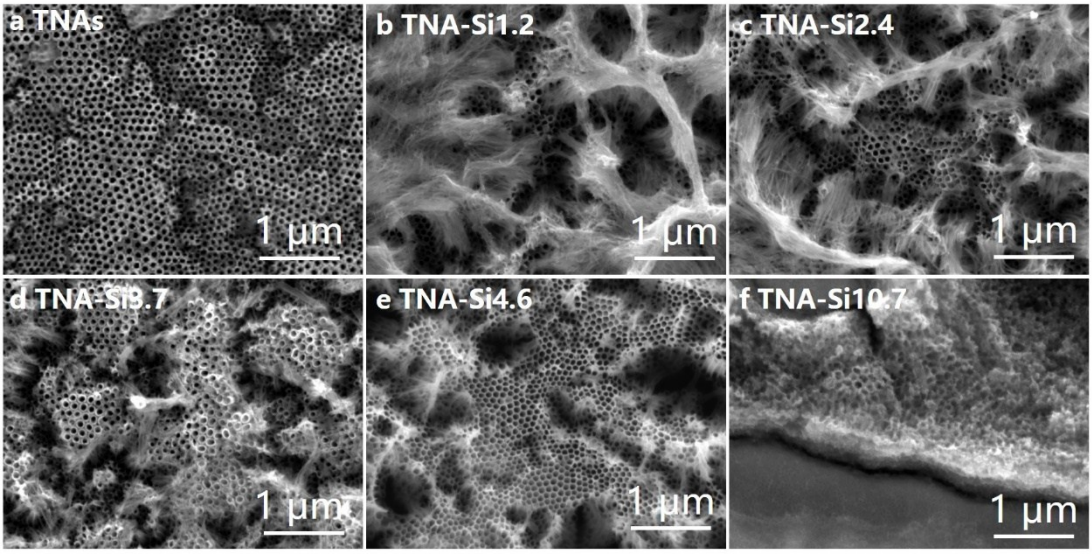

Fig. S3 Surface morphologies of TNAs (a) and TNA-Sis (b-f) anodized in ethylene glycol electrolyte supplemented with 0.3 wt% NH_4F and 2.0 vol% H_2O at 30 V and room temperature for 4 h.

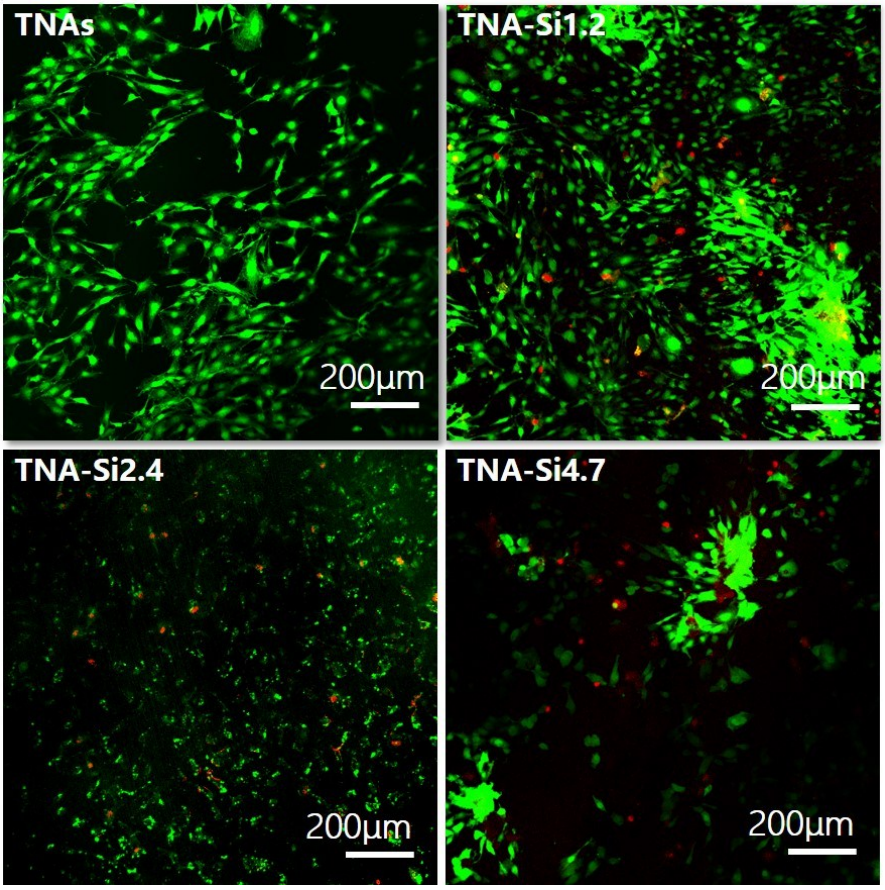

Fig. S4 Fluorescence images of live/dead staining of osteoblasts after culturing for 3 days on TNAs and TNA-Sis prepared in ethylene glycol electrolyte.

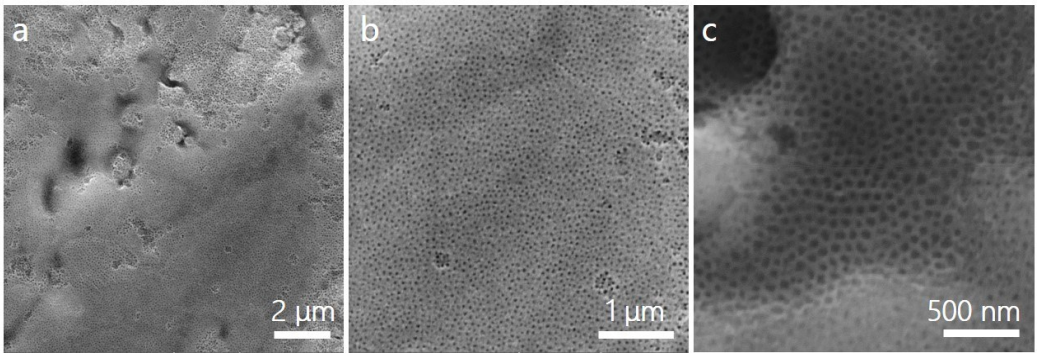

Fig. S5 Surface morphologies of different magnification of the anodized samples from the TiSi coating of 10.7wt.% Si content.