Supporting Information

Topography-dependent Antibacterial, Osteogenic and anti-aging Properties of pure Titanium†

Qiaojie Luo,[a] Ying Huang,[a,b] Guangyu Zha,[a] Yadong Chen,[a] Xuliang Deng[b], Kai Zhang,[a] Weipu Zhu,[c] Shifang Zhao[a] and Xiaodong Li[a,*]

1. Surface topography characterization

Analysis of surface topography was carried out using a field emission scanning electronic microscope (FESEM, SU-70, Hitachi, JP). Scanning electron micrographs were taken at different magnification in the secondary electron mode with a beam voltage of 20 keV after sputter coating with platinum.

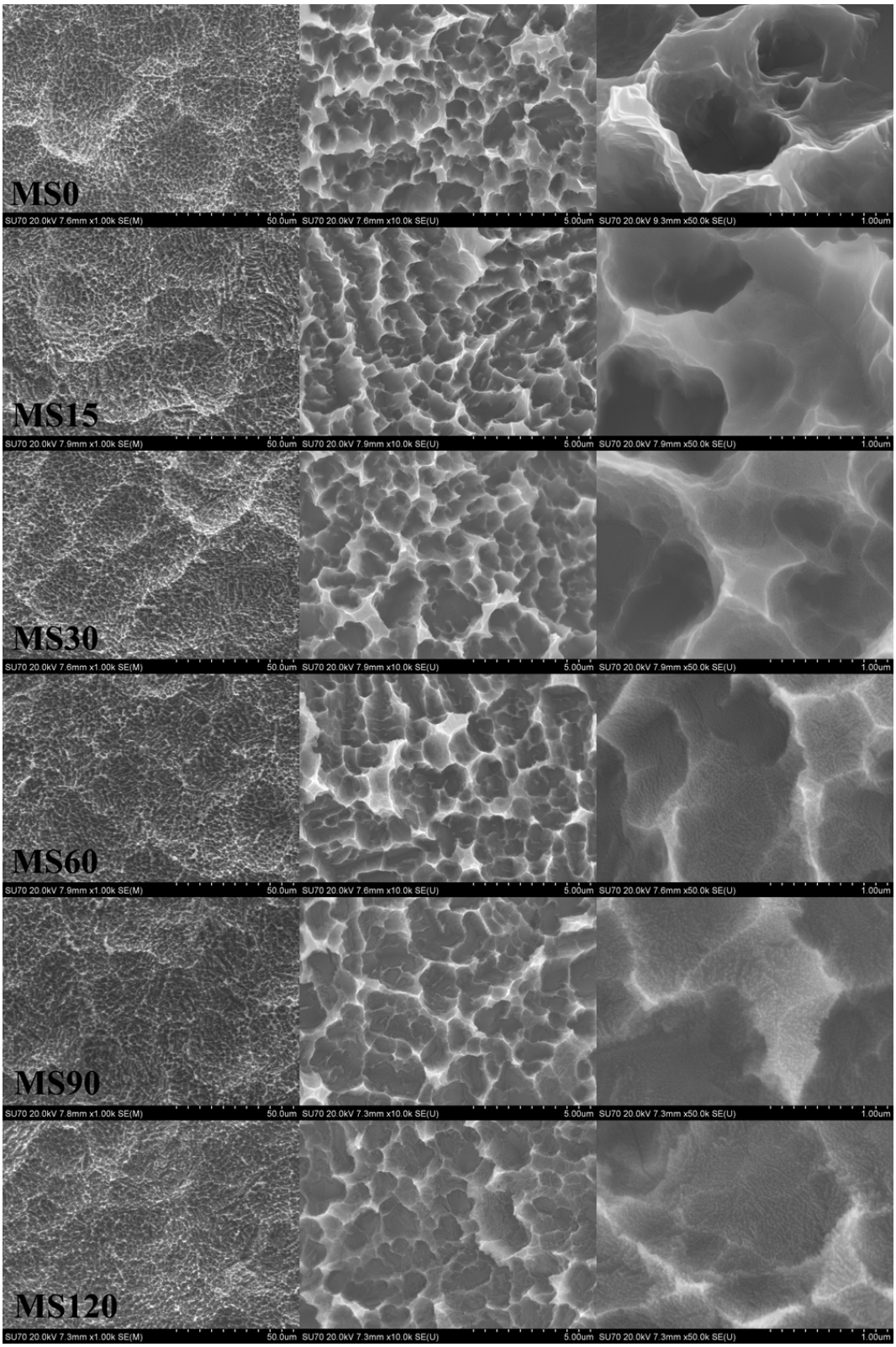

Figure S1. Surface topography characterization of a series of nano-micro-hierarchical surfaces. As the secondary acid-etching time increased, the nanostructure appeared and strengthened while the microstructure weakened.

[a] *The Affiliated Stomatology Hospital, College of Medicine, Zhejiang University, Hangzhou, P. R. China. Fax: +8657187217433; Tel: +8657188208378; E-mail address: cisarli@zju.edu.cn*
[b] *Department of Geriatric Dentistry, Peking University School and Hospital of Stomatology, Beijing, P.R. China*
[c] *MOE Key Laboratory of Macromolecular Synthesis and Functionalization, Department of Polymer Science and Engineering, Zhejiang University, Hangzhou, P.R. China*

2. Surface roughness measurement

Surface roughness was recorded by a hand-held surface profiler (TR200, Beijing TIME group Inc, CN). Ten regions were randomly chosen and measured on the 3 cm-diameter Ti disc, and three samples were in each group. Results are present as average plus or minus standard deviation.

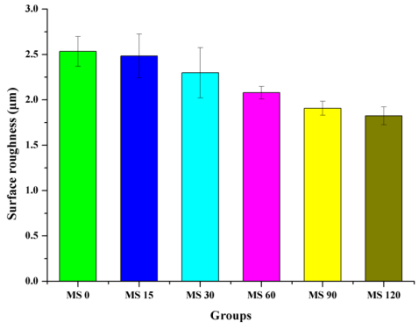

Figure S2. Surface roughness characterization. As the secondary acid-etching time increased, the surface roughness decreased.