



## Supplementary Materials: In Vitro Corrosion and Bioactivity Performance of Surface-Treated Ti-20Nb-13Zr Alloys for Orthopedic Applications

Madhan Kumar Arumugam <sup>1,\*</sup>, Mohamed A. Hussein <sup>1</sup>, Akeem Yusuf Adesina <sup>1</sup> and Nasser Al-Aqeeli <sup>2,\*</sup>

- <sup>1</sup> Center of Research Excellence in Corrosion, King Fahd University of Petroleum and Minerals, Dhahran 31261, Saudi Arabia; mahussein@kfupm.edu.sa (M.A.H.); adesina@kfupm.edu.sa (A.Y.A.)
- <sup>2</sup> Department of Mechanical Engineering, King Fahd University of Petroleum and Minerals, Dhahran 31261, Saudi Arabia
- \* Correspondence: madhankumar@kfupm.edu.sa (M.K.A.); naqeeli@kfupm.edu.sa (N.A.-A.) Tel.: +96-61-3860-4818 (M.K.A.)

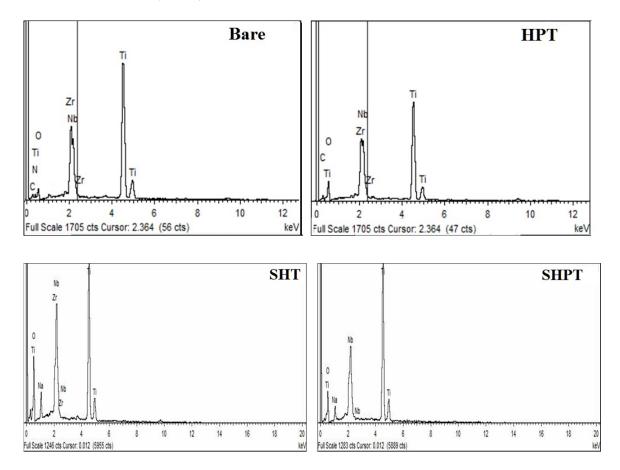


Figure S1. EDS analysis of bare and surface treated TNZ specimens.

Table S1. Surface roughness parameters of bare and treated TNZ specimens.

Substrates	<i>R</i> ₄ (μm)	<i>R</i> <sub>p</sub> (μm)	<i>R</i> <sub>q</sub> (μm)	<i>R</i> <sub>z</sub> (μm)	<i>R</i> <sub>v</sub> (μm)
Bare	0.173	1.224	0.260	12.110	-10.280
SHT	0.221	1.864	0.279	5.129	-3.831
HPT	11.346	41.867	14.657	149.870	-108.012
SHPT	2.854	2.674	4.010	69.460	-42.720

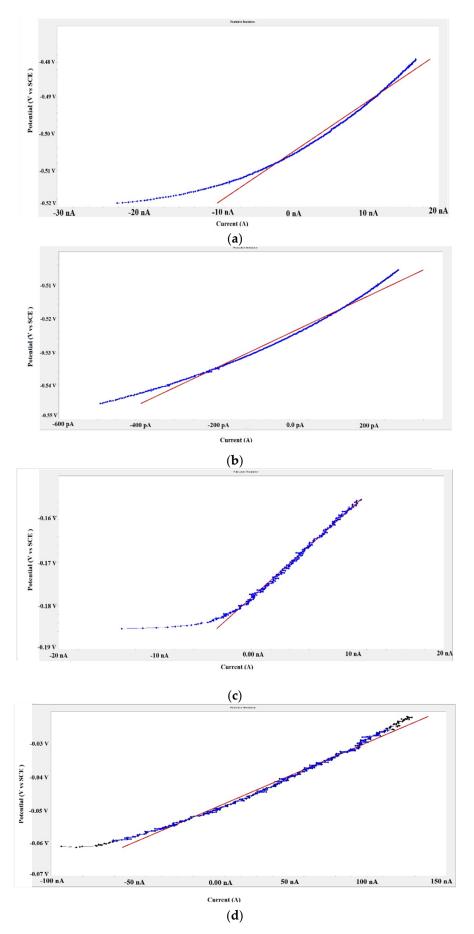


Figure S2. LPR curves of (a) Bare, (b) SHT, (c) HPT and (d) SHPT.

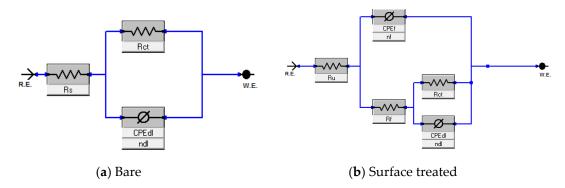


Figure S3. EIS circuit models of (a) Bare and (b) treated TNZ substrates.

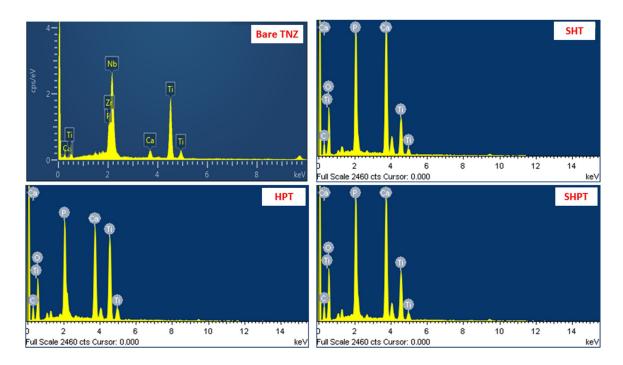


Figure S4. EDS results of bare and surface treated substrates.



 $\odot$  2019 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (http://creativecommons.org/licenses/by/4.0/).