**Supplementary Files**

**Fabrication of micropit structures on Ti6Al4V using fluoride free anodization for orthopedic applications**



**Fig. S1** SEM images of Ti6Al4V samples anodized using 0.2M NH4Cl electrolyte. Anodization was conducted under (a) 10V for 1 min, (b) 10V for 2 min, (c) 10V for 3min, (d) 20V for 1min, (e) 20V for 2 min, (f) 20V for 3 min, (g) 30V for 1 min, (h) 30V for 2 min and (i) 30V for 3min.



**Fig. S2** SEM images of Ti6Al4V samples anodized using 0.4M NH4Cl electrolyte. Anodization was conducted under (a) 10V for 1 min, (b) 10V for 2 min, (c) 10V for 3min, (d) 20V for 1min, (e) 20V for 2 min, (f) 20V for 3 min, (g) 30V for 1 min, (h) 30V for 2 min and (i) 30V for 3min.



**Fig. S3** SEM images of Ti6Al4V samples anodized using 0.6M NH4Cl electrolyte. Anodization was conducted under (a) 10V for 1 min, (b) 10V for 2 min, (c) 10V for 3min, (d) 20V for 1min, (e) 20V for 2 min, (f) 20V for 3 min, (g) 30V for 1 min, (h) 30V for 2 min and (i) 30V for 3min.



**Fig. S4** Cross sectional image of Anodized samples showing the approximate oxide layer thickness.



**Fig. S5** (a), (b) and (c) SEM images and (d), (e) and (f) EDS spectra of (a) and (d) Ti6Al4V, (b) and (e) Anodized, (c) and (f) Anodized-HT samples immersed in 1x SBF for 15 days. Insets show higher magnification images of samples.