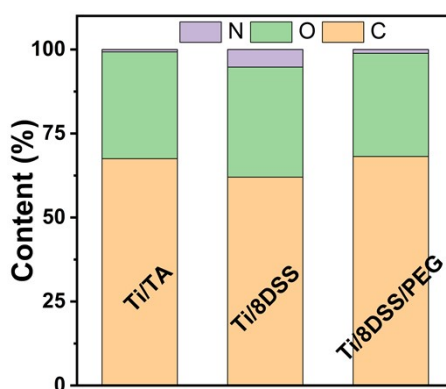
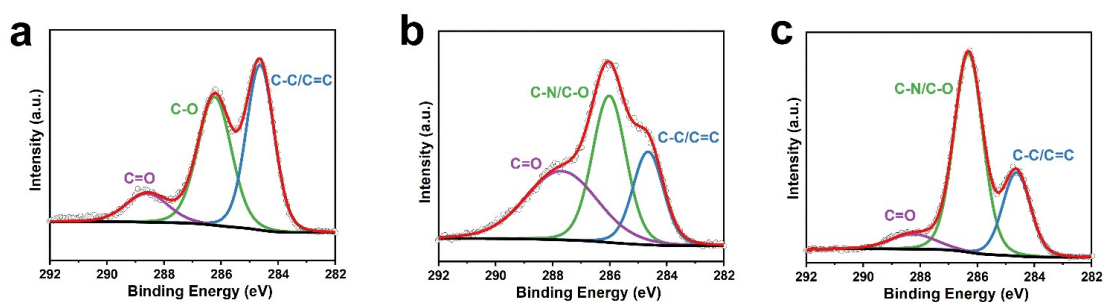


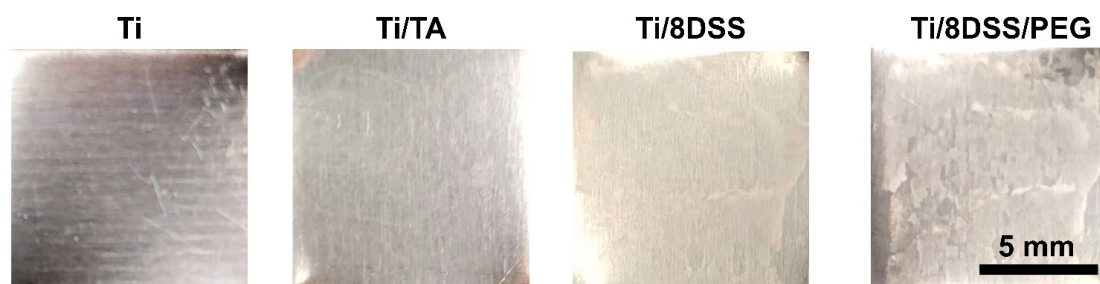
**Fig. S1** The structural formula of TA, 8DSS and PEG.



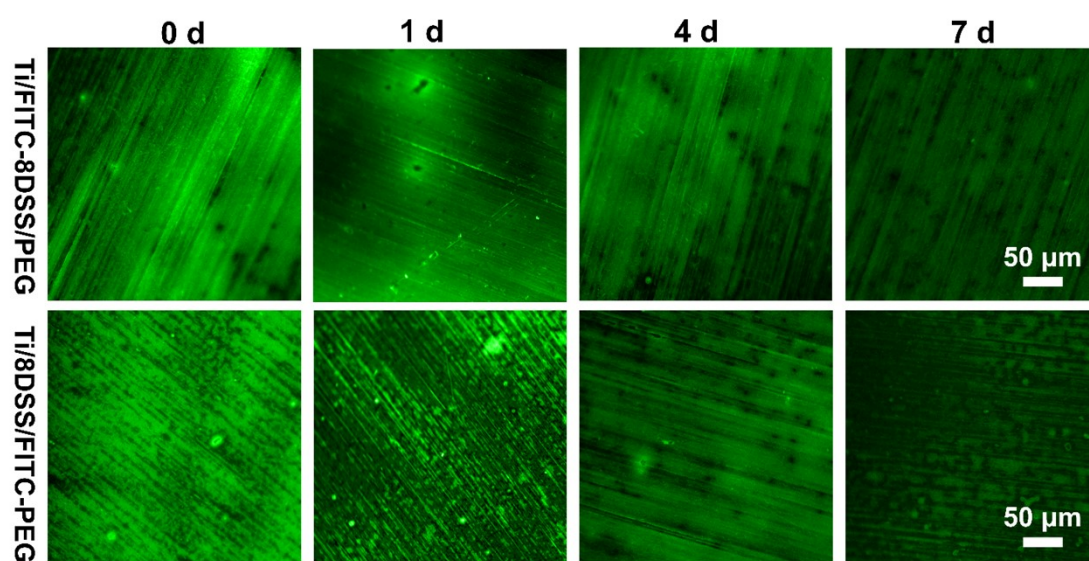
**Fig. S2** Surface element composition of Ti/TA, Ti/8DSS and Ti/8DSS/PEG obtained from XPS spectra.



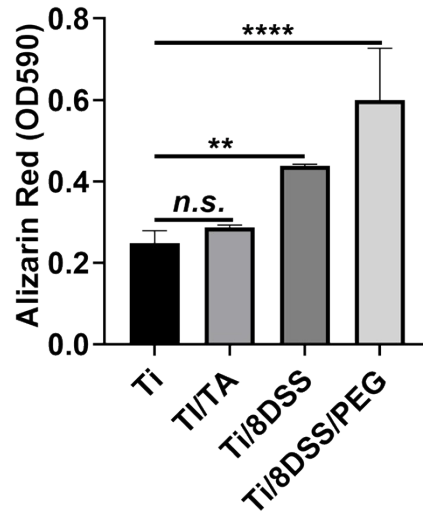
**Fig. S3** High-resolution C 1s spectra of Ti/TA (a), Ti/8DSS (b), and Ti/8DSS/PEG (c).



**Fig. S4** Digital photos of prepared samples.



**Fig. S5** Fluorescence staining images of Ti/FITC-8DSS/PEG and Ti/8DSS/FITC-PEG after immersed in PBS for 0, 1, 4 and 7 days.



**Fig. S6** Semiquantification of mineralized nodules of Ti, Ti/TA, Ti/8DSS and Ti/8DSS/PEG via alizarin red staining. >> and >>>> represents  $p < 0.01$  and  $p < 0.0001$ , respectively.