

Supplementary Material

**Tannic acid reinforced polyvinyl alcohol zwitterion hydrogel
antifouling coatings for deep sea probe surfaces: high
hydration and mechanical strength**

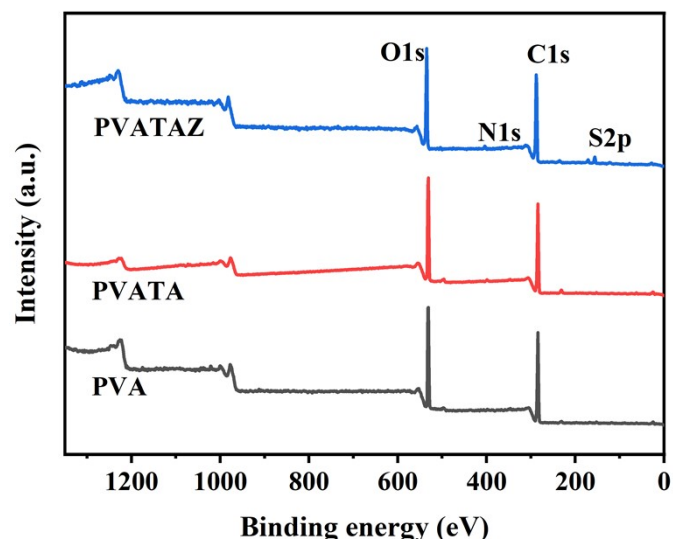


Fig S1. XPS survey spectra of PVA, PVATA and PVATAZ

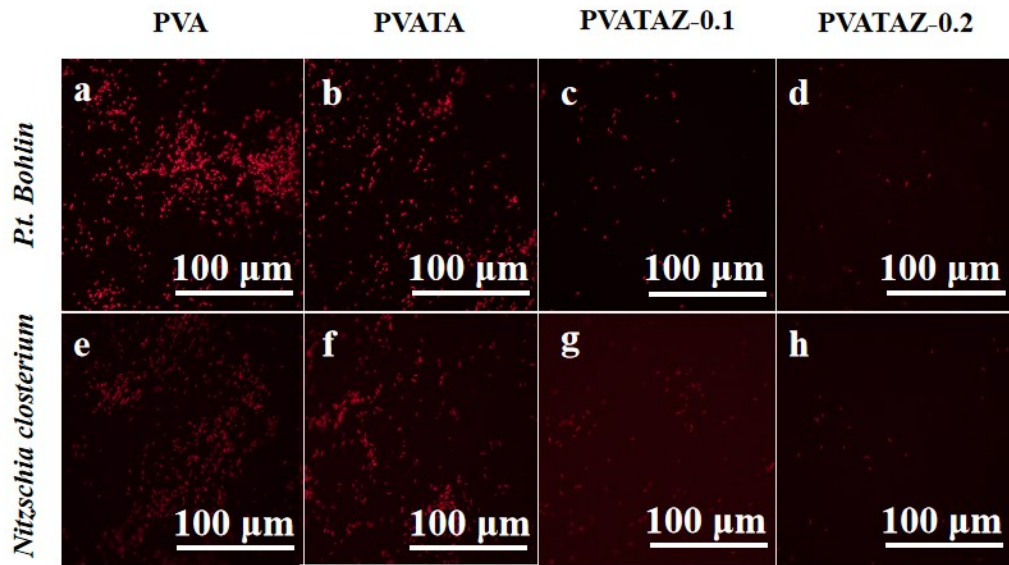


Fig S2. Fluorescence microscope images of PVA(a, e), PVATA(b, f), PVATAZ-0.1(c, g) and PVATAZ-0.2(d, h) hydrogels immersed in the solution of *Pt* and *Nc* for 14 days respectively

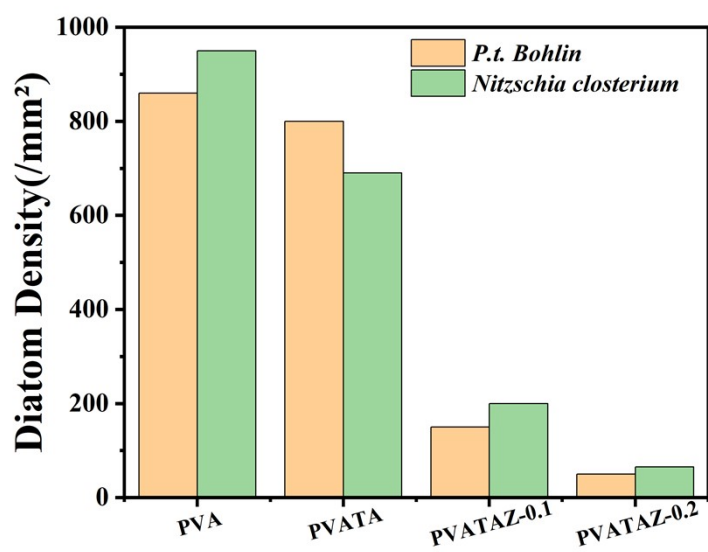


Fig S3. Diatom density of PVA, PVATA, PVATAZ-0.1 and PVATAZ-0.2

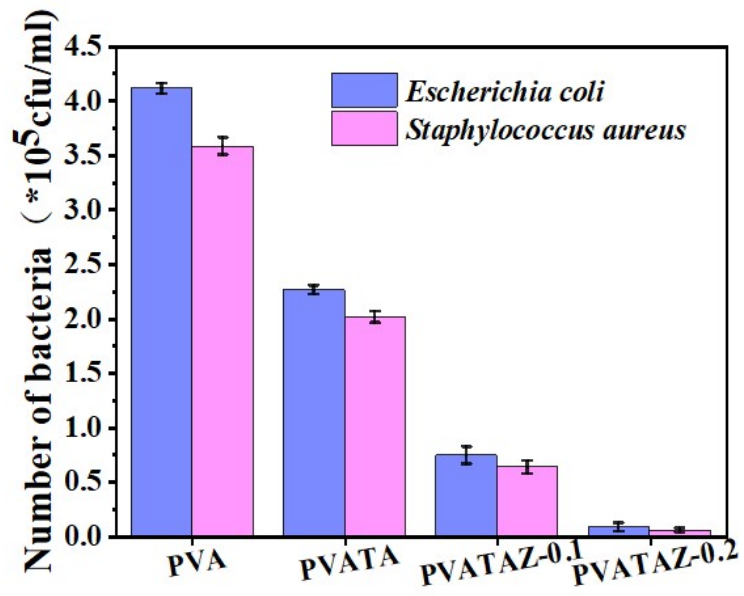


Fig S4. Number of bacteria images of PVA, PVATA, PVATAZ-0.1 and PVATAZ-0.2.

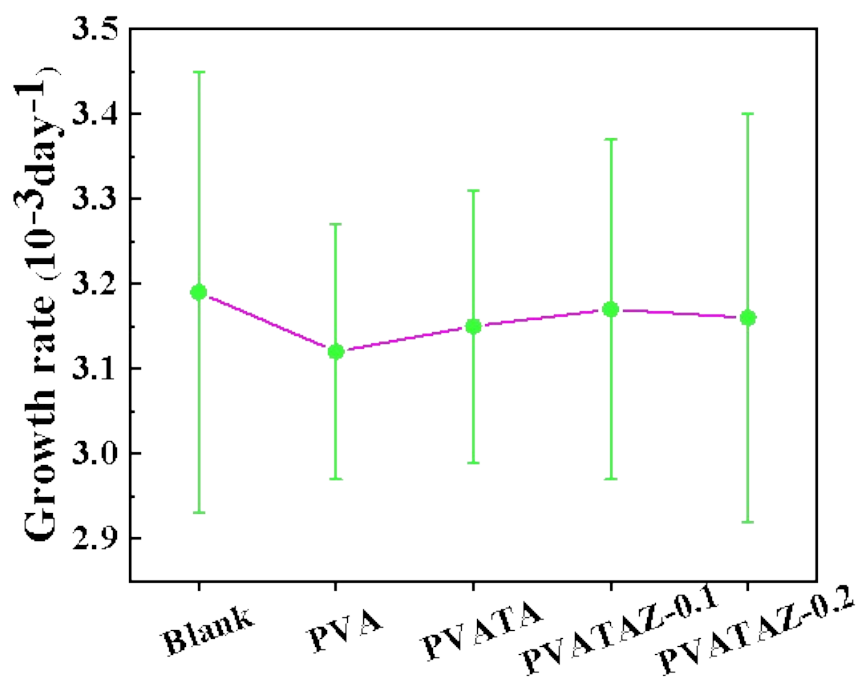


Fig S5. The algae's growth rate of PVA, PVATA, PVATAZ-0.1 and PVATAZ-0.2.

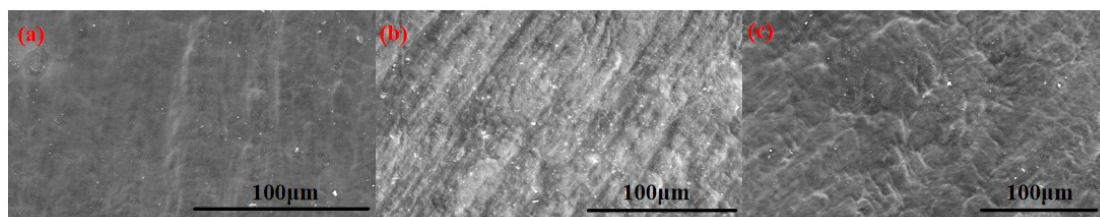


Fig S6. SEM image of PVATAZ (a)5wt% (b)10wt% (c)15wt%

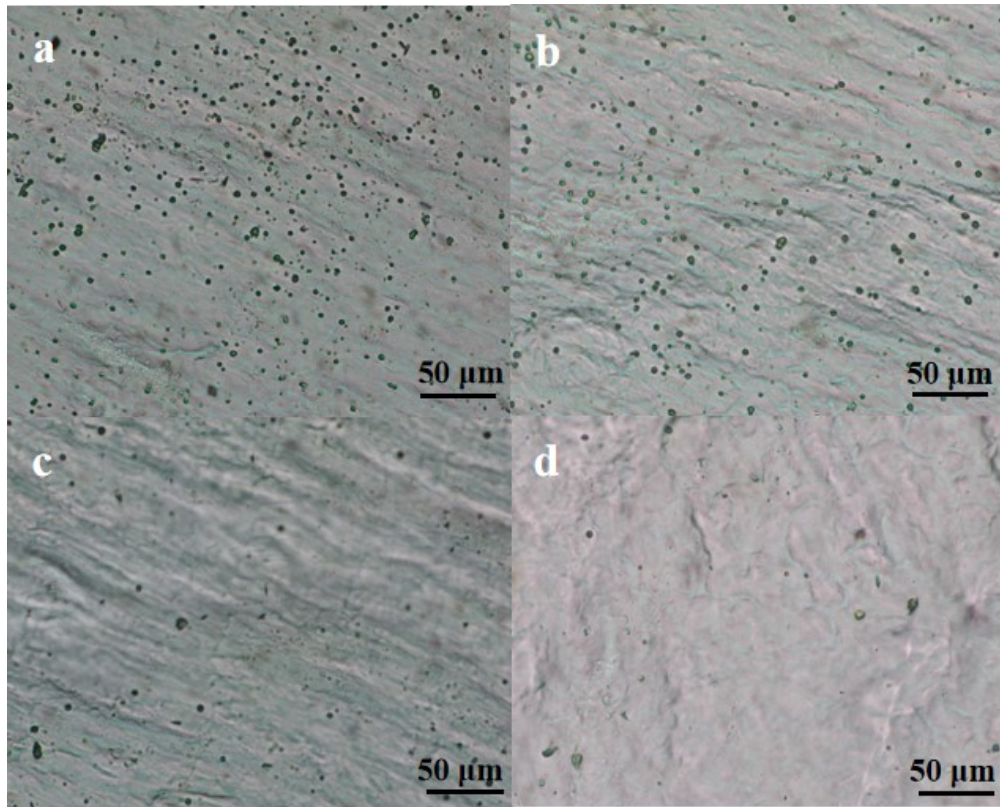


Fig S7. Diatom attachment diagrams of PVA, PVATA, PVATAZ-1, PVATAZ-2 after 12h immersion in *D.zhan-jiangensis* solution