Supplementary Materials for

Protein-Resistant Surface Based on Zwitterion-Functionalized Nanoparticles for Marine Antifouling Applications

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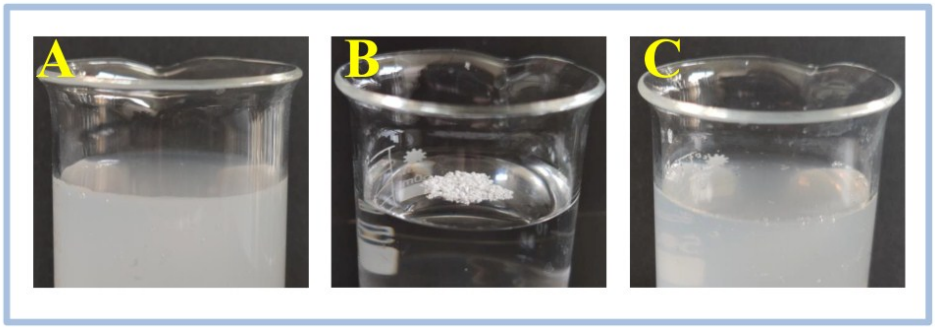


Fig. S1 Photographic images of surface wettability of silica (A), VTMO@silica (B), and PSBMA@VTMO@silica hybrid nanoparticles (C).

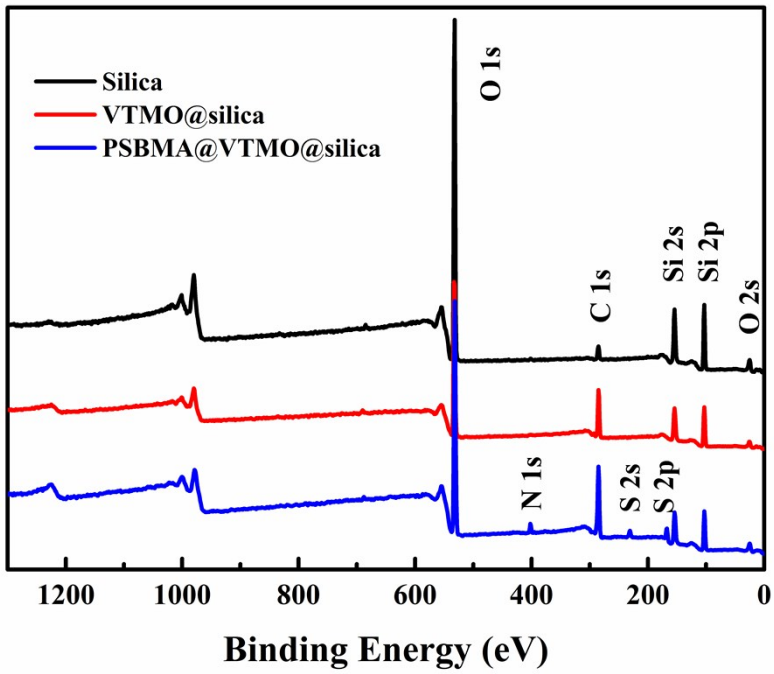


Fig. S2 XPS spectra of silica, VTMO@silica and PSBMA@VTMO@silica.

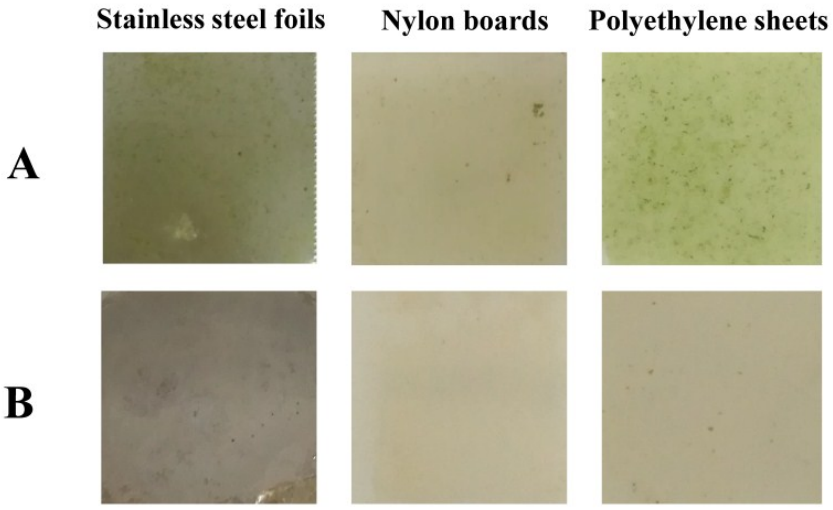


Fig. S3 Representative digital images of Chlorella attached on various surfaces before (A) and after (B) PSBMA@VTMO@silica/TA-PEG nanocomposite coating formation.

Table S1 Classification of adhesion test results.

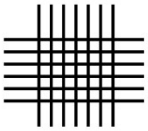
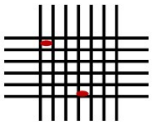
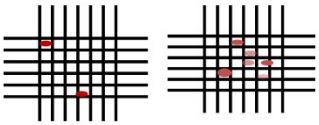
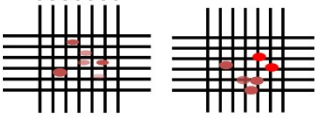
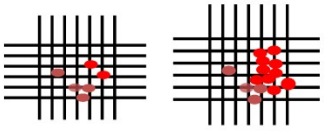
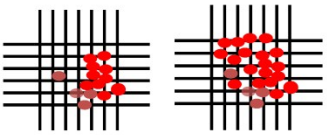
Classification	Percent area removed	Surface of cross-cut area from which flaking has occurred for six parallel cuts and adhension range by percent
5B	0% None	
4B	Less than 5%	
3B	5%-15%	
2B	15%-35%	
1B	35%-65%	
0B	Greater than 65%	

Table S2 Water contact angle (WCA) evolution of the PSBMA/TA-PEG coating after different abrasion cycles.

Sample	Sandpaper abrasion test	
	Cycles	WCA(°)
PSBMA/TA-PEG coating	0	39.2
	4	45.1
	8	52.8
	12	61.4