

Supplementary material

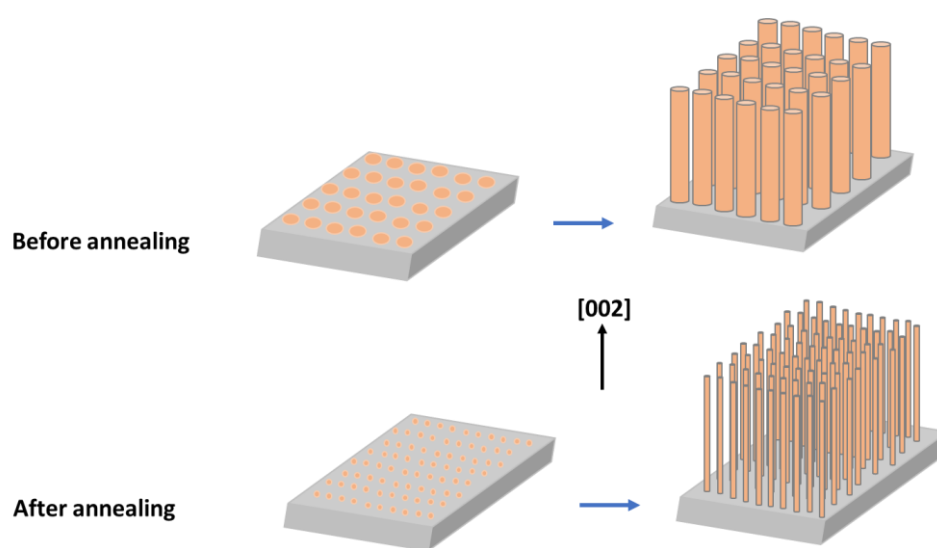


Figure S1. Schematic for the growth mechanism of nanorods before and after seed layer annealing temperature.

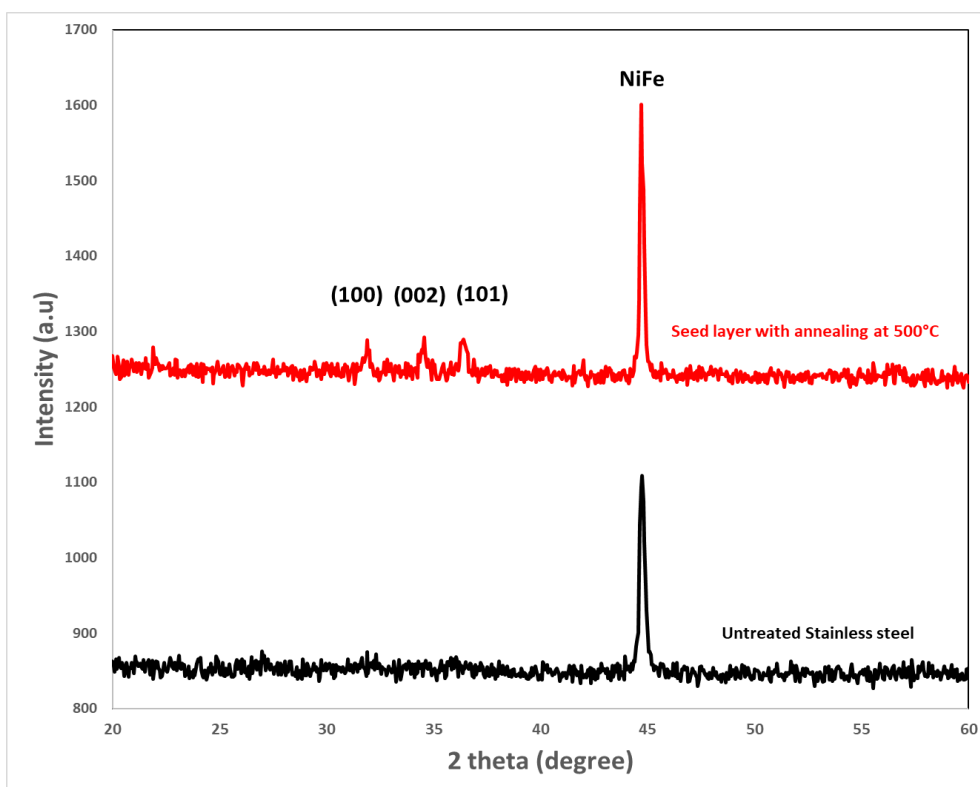


Figure S2. X-ray diffraction (XRD) patterns of untreated stainless steel and annealed ZnO Seeds at 500°C.



Figure S3. Contact angles of ZnO Seeds deposited on stainless steel then annealed at 500 °C for 1h.

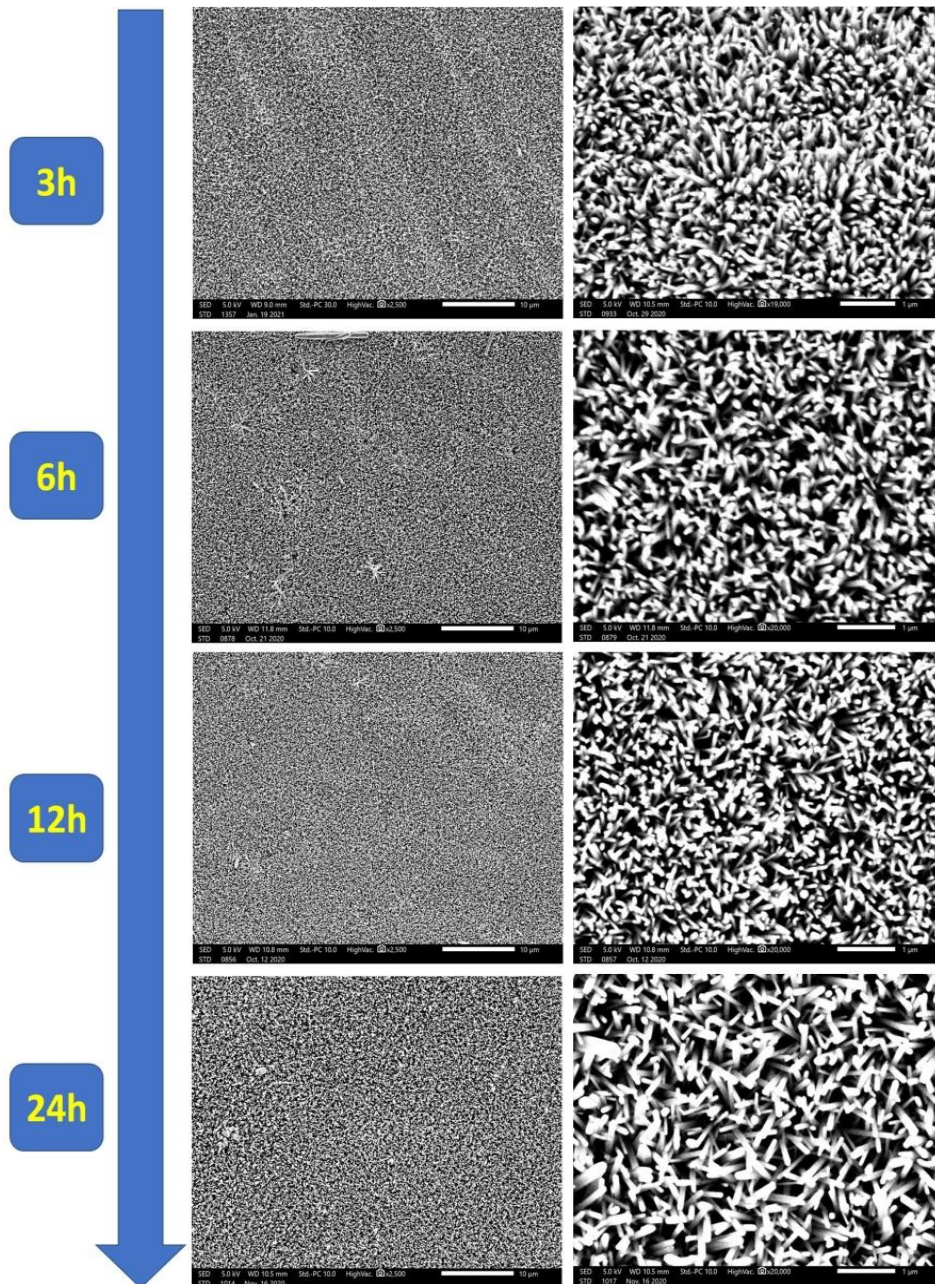


Figure S4. Top-view of the samples after different growth durations 3h, 6h, 12h and 24h

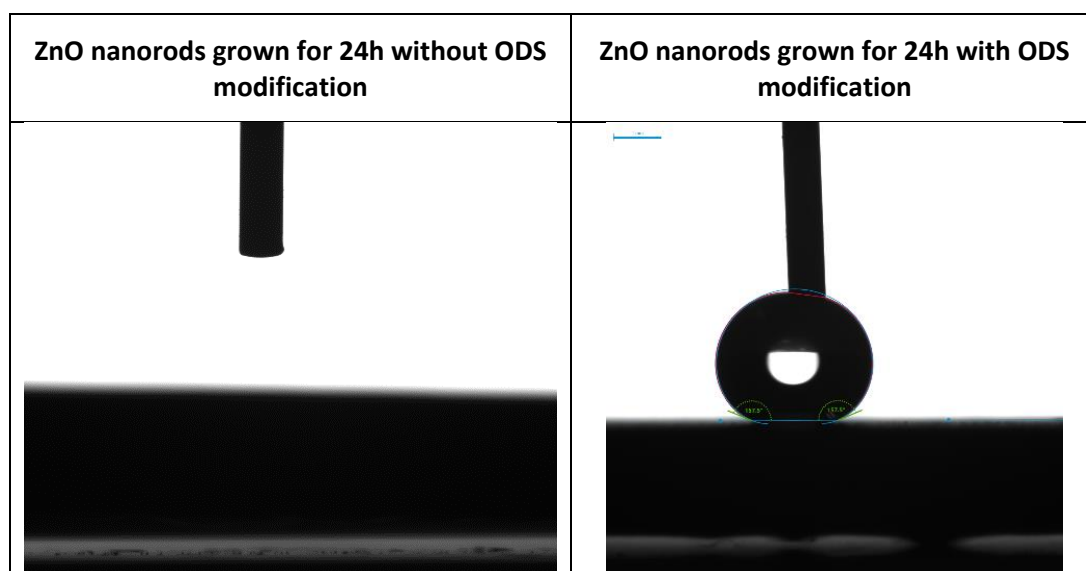


Figure S5. Water contact angle of ZnO nanorods grown for 24h without and with modification ODS.

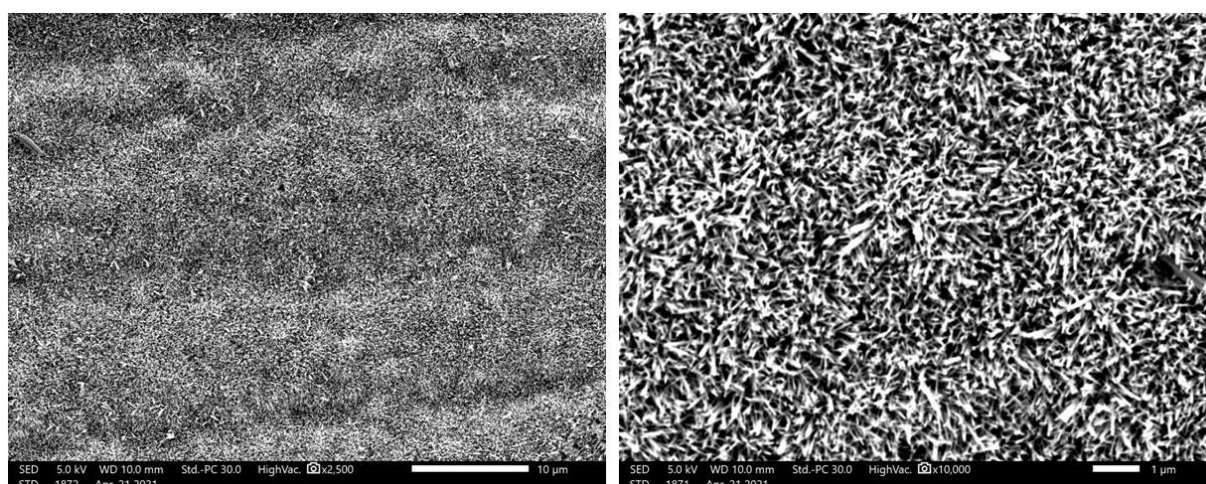


Figure S6. SEM images of the ZnO NRs deposited on seeded stainless steel after 1 month of immersion in sea water.

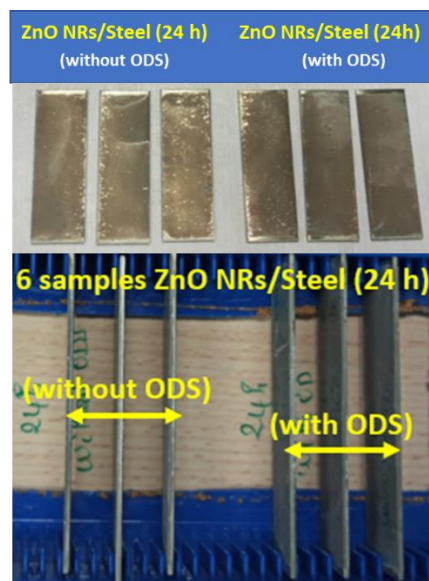


Figure S7: Samples and box used for the biofouling test.

Table S1: The results of immersion for 60 and 90 days.

15 days							
Treatment	Spirorbid Tubeworms	Serpulid Tubeworms	Barnacles	Oysters	Encrusting Bryozoans	Sponges	Arborescent bryozoans
Bare stainless steel (1)	36	14	0	1	1	4	0
Bare stainless steel (2)	130	16	0	0	1	7	0
Bare stainless steel (3)	44	12	1	1	0	6	1
ZnO NRs 24h with ODS (1)	61	15	0	2	2	7	0
ZnO NRs 24h with ODS (2)	71	19	0	1	0	8	1
ZnO NRs 24h with ODS (3)	40	12	0	0	0	8	1
30 days							
Treatment	Spirorbid Tubeworms	Spirorbid Tubeworms	Spirorbid Tubeworms	Spirorbid Tubeworms	Spirorbid Tubeworms	Spirorbid Tubeworms	Spirorbid Tubeworms
Bare stainless steel (1)	5	5	5	5	5	5	5
Bare stainless steel (2)	21	21	21	21	21	21	21
Bare stainless steel (3)	19	19	19	19	19	19	19
ZnO NRs 24h with ODS (1)	2	2	2	2	2	2	2
ZnO NRs 24h with ODS (2)	6	6	6	6	6	6	6
ZnO NRs 24h with ODS (3)	2	2	2	2	2	2	2