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Efficient exfoliation and dispersion of hBN nanoplatelets: advanced application on waterborne anticorrosion coatings

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Table S1. Elemental Composition (wt %) of the Q235 steel based on the tests of EDS.

B	C	O	Si	Cr	Mn	Fe
0.55	5.43	0.54	0.81	0.03	0.42	Bal.

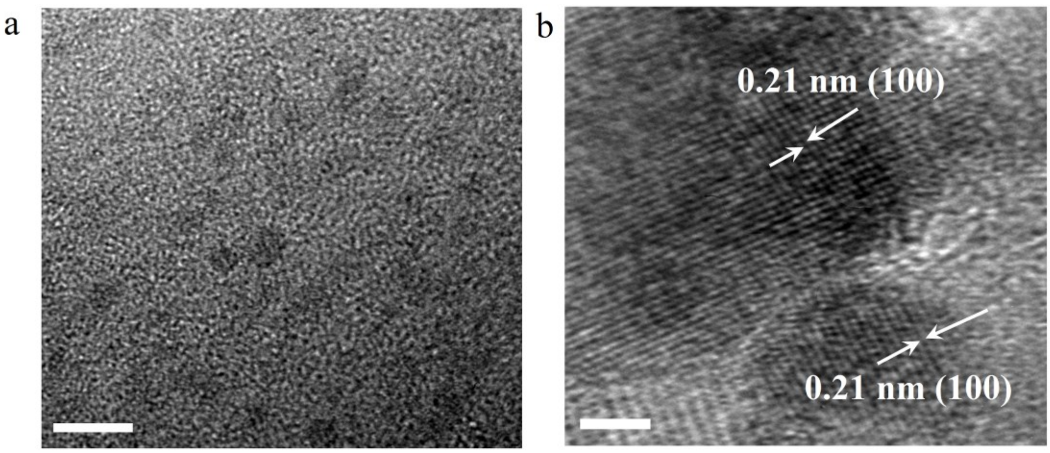

Figure S1.The TEM (a) and HRTEM (b) images of BNQDs. Scale bar: a, 10 nm; b, 2 nm.

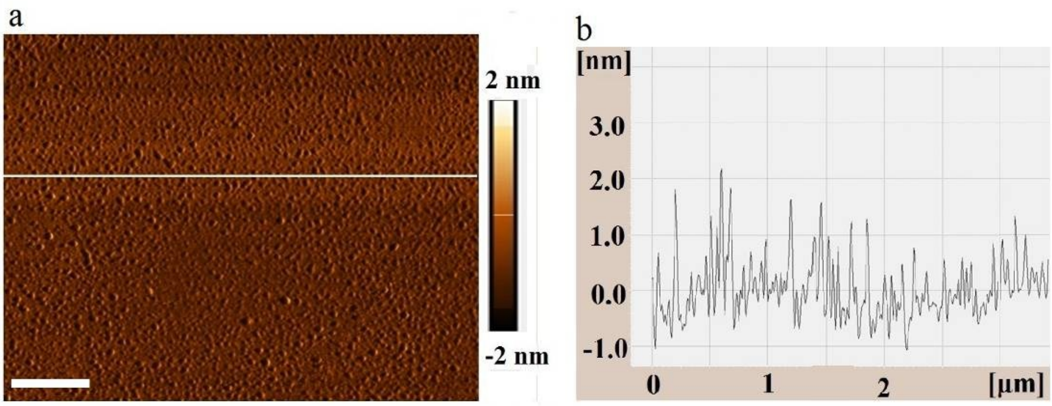

Figure S2. The AFM (a) and corresponding high distributions (b) of BNQDs. Scale bar: 2 µm.

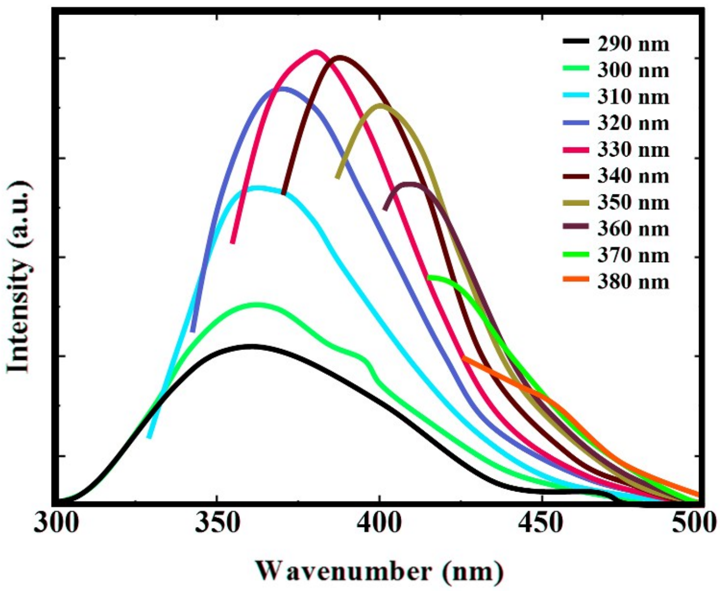

Figure S3. The excitation-dependent PL emission behavior of BNQDs, excited at wavelengths from 290 to 380 nm.

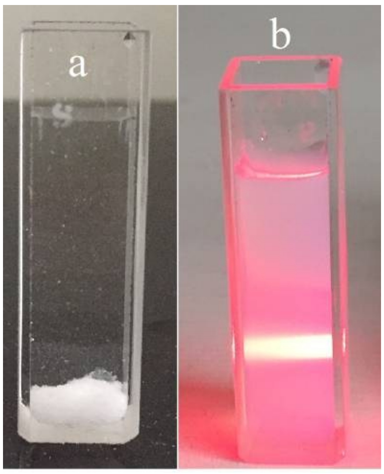

Figure S4. Digital images of hBN (a) and BNQDs/hBN (b) water dispersions (3 mg/mL).

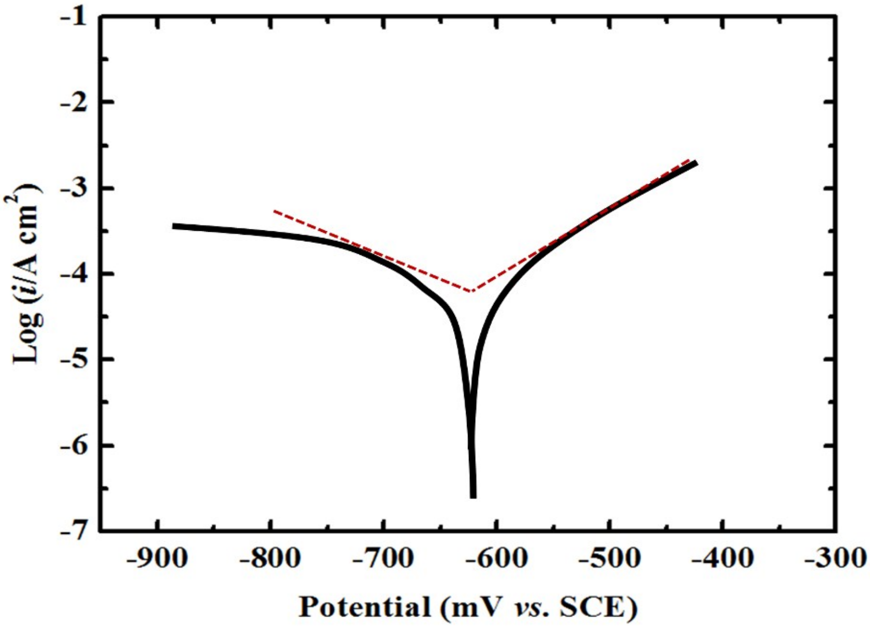

Figure S5. The Potentiodynamic polarization curves and corrosion parameters of bare Q235.

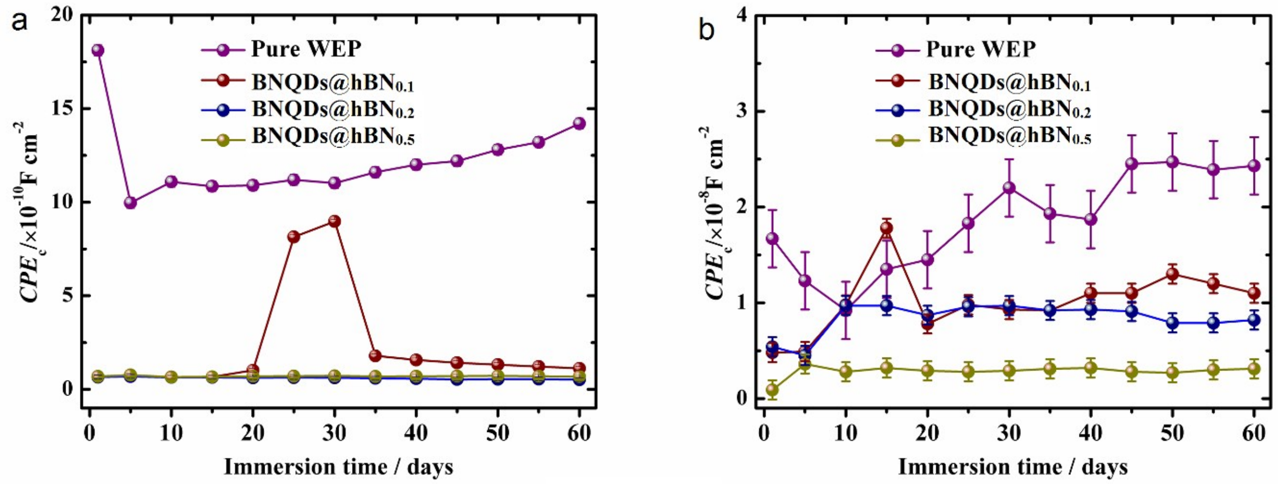

Figure S 6. The CPE_c (a) and CPE_{dl} (b) of different coatings, respectively.

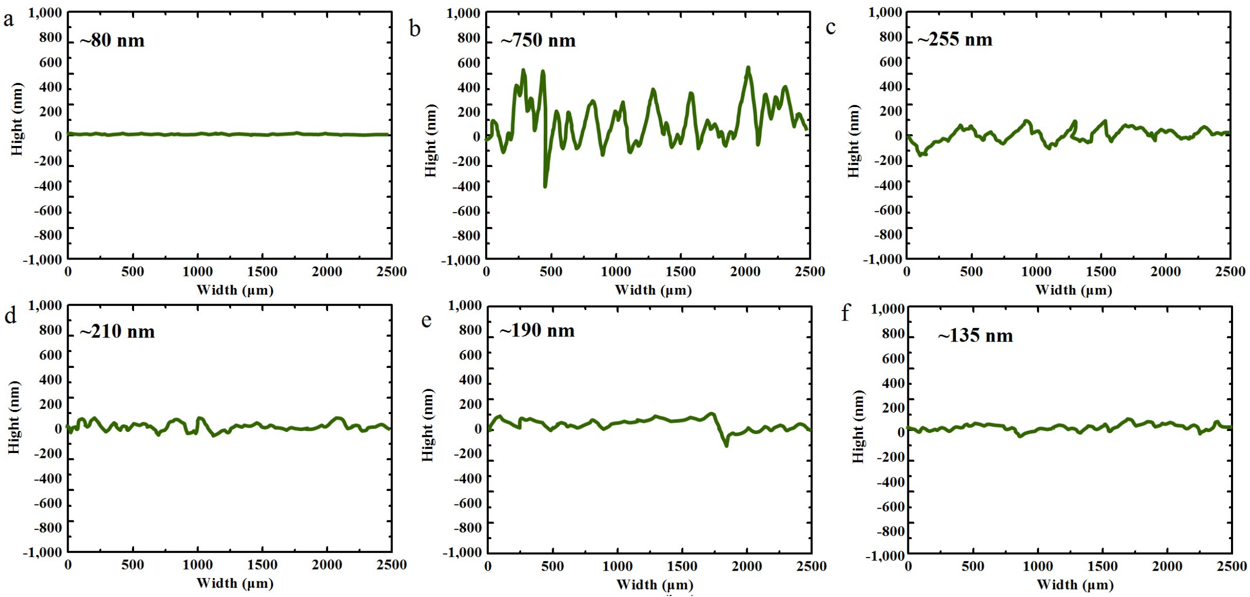

Figure S 7. The surface roughness for the Q235 carbon steel after 60 days of immersion in 3.5 wt.% $NaCl_{(aq)}$: bare steel before (a) and after (b) immersion, (c) pure WEP, (d) BNQDs@$hBN_{0.1}$, (e) BNQDs@$hBN_{0.2}$, and (f) BNQDs@$hBN_{0.5}$, respectively.