

Supplementary Materials: Facile In situ Growth of Zif-8 Nanosheets with Enhanced Anti-Corrosion Performance for Carbon Steel in Seawater

Zhishu Zhang ¹, Qingjian Liu ^{2,3,*} and Gaocan Qi ⁴

¹ China National Offshore Oil Corporation (CNOOC) China Ltd. Zhanjiang, Zhanjiang 524057, China; zhangzhsh@cnooc.com.cn

² Tianjin Key Laboratory for Advanced Mechatronic System Design and Intelligent Control, School of Mechanical Engineering, Tianjin University of Technology, Tianjin 300384, China

³ National Demonstration Center for Experimental Mechanical and Electrical Engineering Education, Tianjin University of Technology, Tianjin 300384, China

⁴ Tianjin Key Lab for Photoelectric Materials & Devices, School of Materials Science and Engineering, Tianjin University of Technology, Tianjin 300384, China; gaocanqi@tjut.edu.cn

* Correspondence: qingjian_liu_19840@163.com

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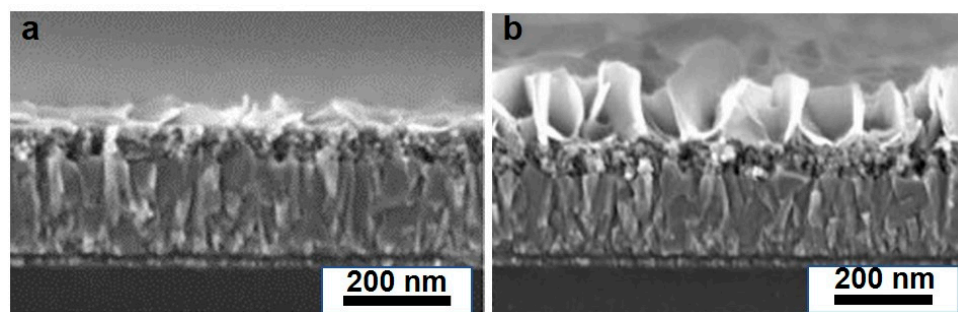


Figure S1. Cross sectional SEM images of the uncoated carbon steel (a) and Zif-8 coating sample (b) before immersed in seawater.

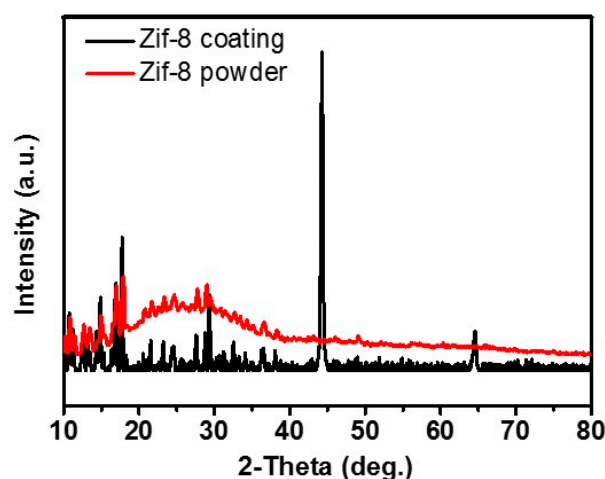


Figure S2. XRD patterns of the Zif-8 powder (red curve) and Zif-8 coating sample (black curve). As seen, the peaks from 10° to 40° can be ascribed to the Zif-8 phase (JPCDS #062-1030).

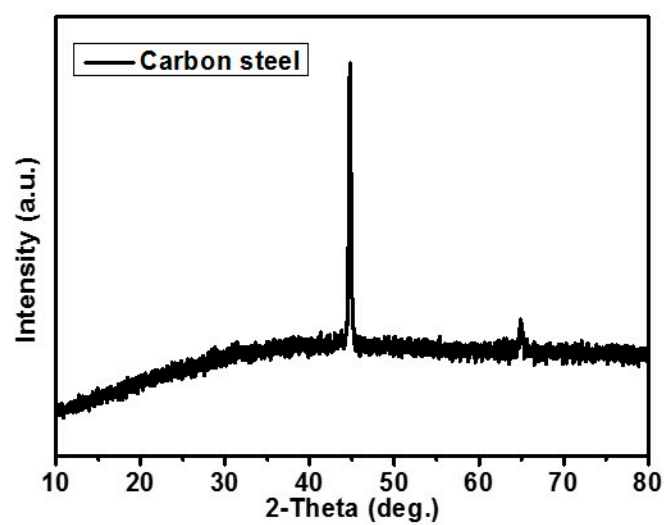


Figure S3. XRD pattern of the carbon steel support.

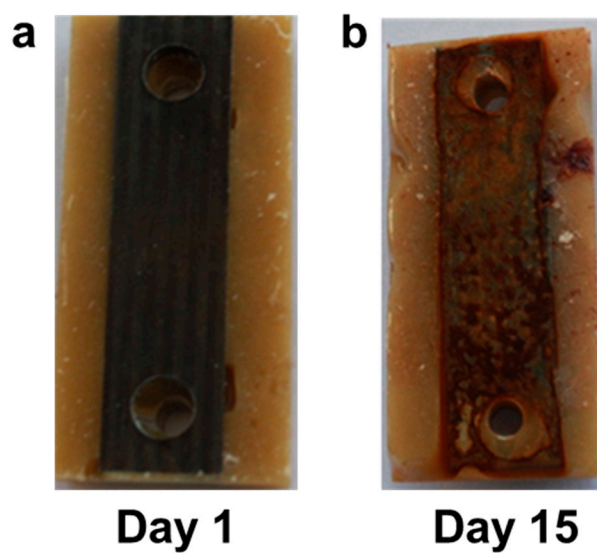


Figure S4. Photographs of the blank sample in seawater with different days.

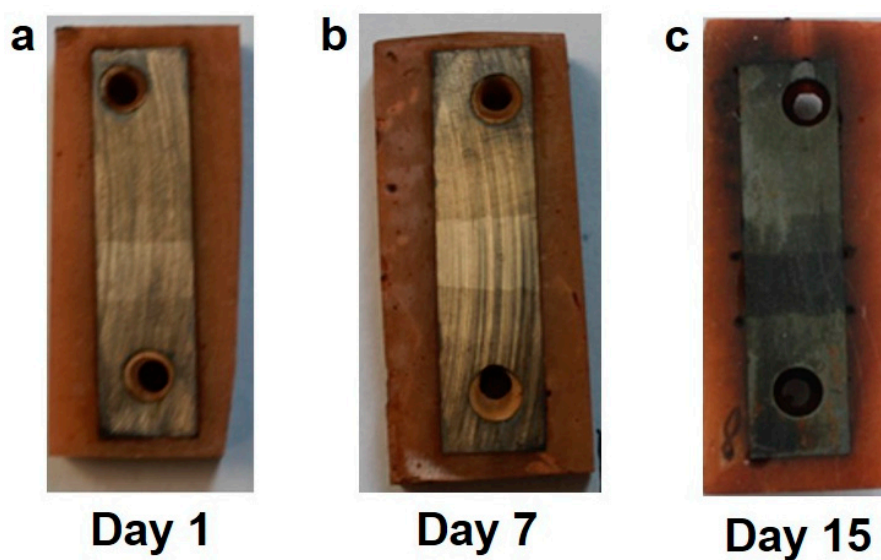


Figure S5. Photographs of the Zif-8 coating sample in seawater with different days.

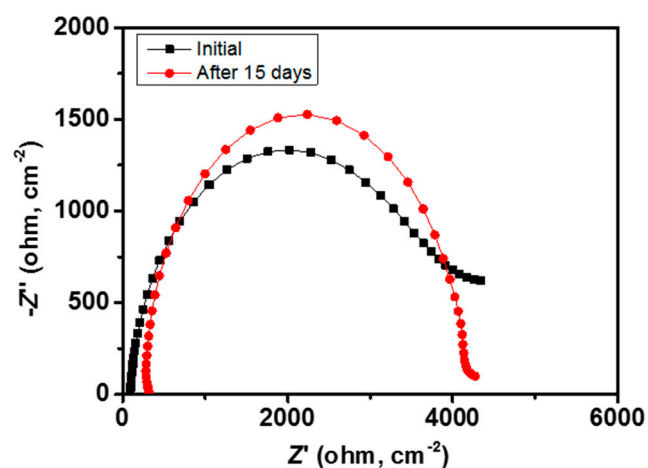


Figure S6. EIS spectra before and after long-term immersion in seawater.

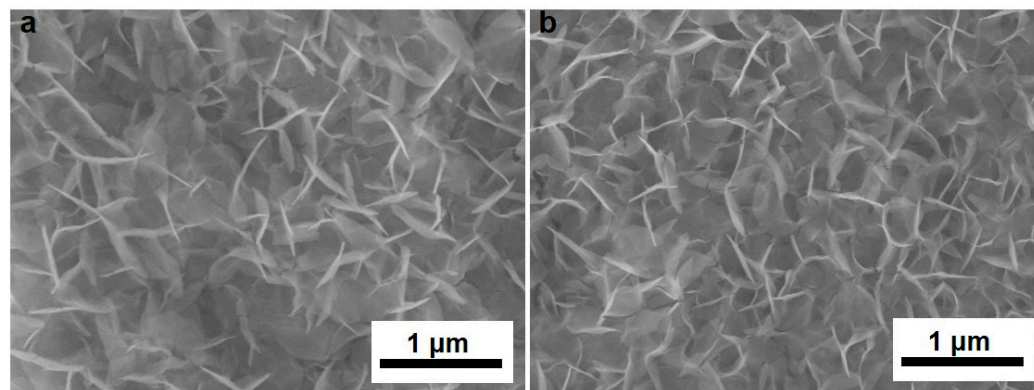


Figure S7. SEM images of the Zif-8 coating sample immersed in seawater with 7 days (a) and 15 days (b).

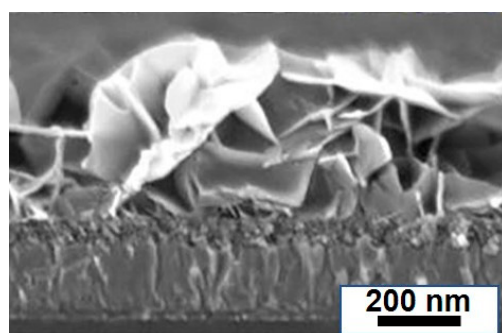


Figure S8. Cross sectional SEM image of the Zif-8 coating sample after immersed in seawater for 15 days. we speculate that some Zif-8 nanosheets seemed to fall away from the carbon steel during the long-term immersion test and then covered on the surface of Zif-8 coating film.

Table S1. The value of equivalent circuits for curve fitting of uncoated and Zif-8 coating samples.

-	$R_s (\Omega \cdot \text{cm}^{-2})$	$R_p (\Omega \cdot \text{cm}^{-2})$	$L (\Omega \cdot \text{cm}^{-2})$
Blank	30	2235	50
Zif-8 coating	70	4010	12