Assessment of the Antifouling Effect of Exopolysaccharides Incorporated into Copper Oxide-Based Organic Paint

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The anticorrosive and antifouling performance of copper oxide-based organic coatings incorporated with microbial exopolysaccharides (EPS) was studied using electrochemical impedance spectroscopy (EIS) and scanning electron microscopy (SEM) after immersion in water produced by oil wells and in natura seawater. EPS incorporation in the paint did not influence the coating’s final anticorrosive behavior. Moreover, no bacterial adhesion occurred during the immersion period in the presence of EPS, indicating the biopolymer as a promising biocide for the antifouling paint sector.

Keywords: EIS, microbiological corrosion, paint coatings, copper.

FULL TEXT

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