

عنوان مقاله:

DFT-Quantum Chemical and Experimental Studies of Eco-Friendly Approach to Corrosion Inhibition of Stainless Steel 316L in Body Fluid Solution by Dexamethasone Drug

محل انتشار:

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خلاصه مقاله:

The inhibition corrosion of stainless steel 316L in the body fluid solution was studied by dexamethasone drug (DMD) as eco-friendly inhibitor. In this study, electrochemical polarization technique used to illustrate the inhibition process. The corrosion rate of stainless steel 316L was affected by adding different concentration of DMD inhibitor at 37 °C. The connection between corrosion inhibitory effectiveness and molecule electronic structure is investigated using theoretical method of density functional theory (DFT) at the B3LYP/6-311++G (p, d) basis set for the dexamethasone drug. The surface of stainless steel 316L was examined in inhibited and uninhibited solution by atomic force microscope (AFM).

کلمات کلیدی:

body fluid solution, Corrosion Inhibition, dexamethasone drug, Eco-friendly inhibitor, Stainless steel 316L

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