Supplementary Information:

An electrochemical and surface characterization study on the corrosion inhibition of mild steel 1030 by the cationic surfactant cetrimonium trans-4-hydroxy-cinnamate

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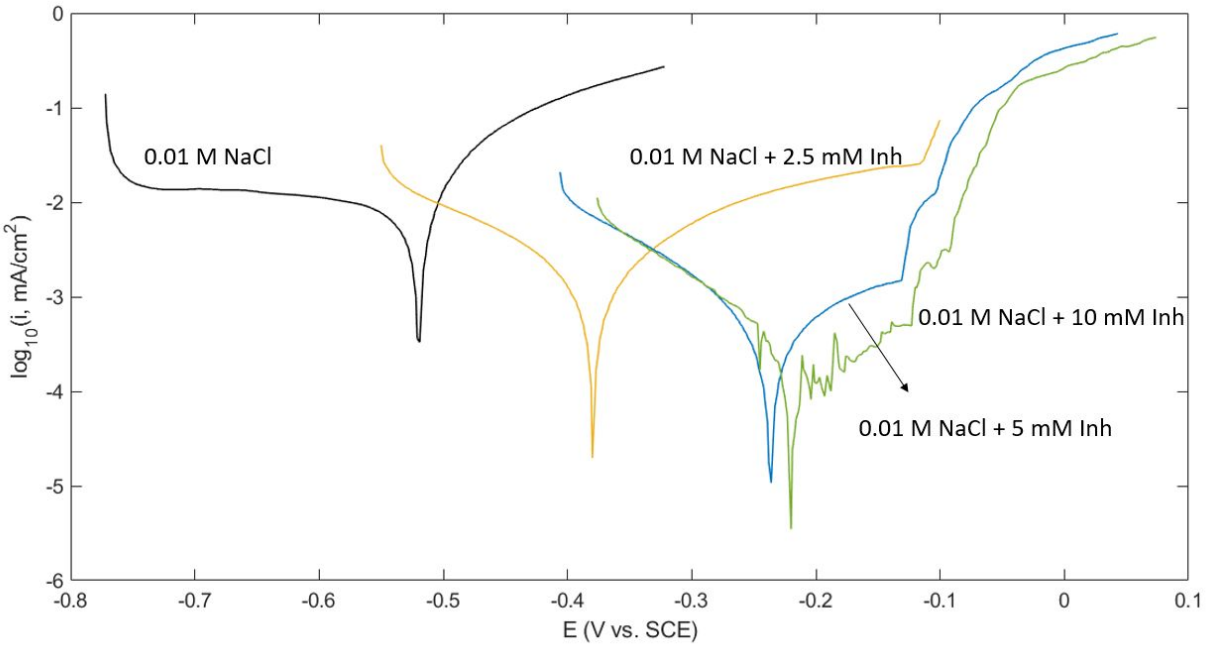

Figure S1. Replica for potentiodynamic polarization of mild steel immersed 24 hours in 0.01 M NaCl control (black line) and various concentrations of CTA-4OHcinn with their respective images.

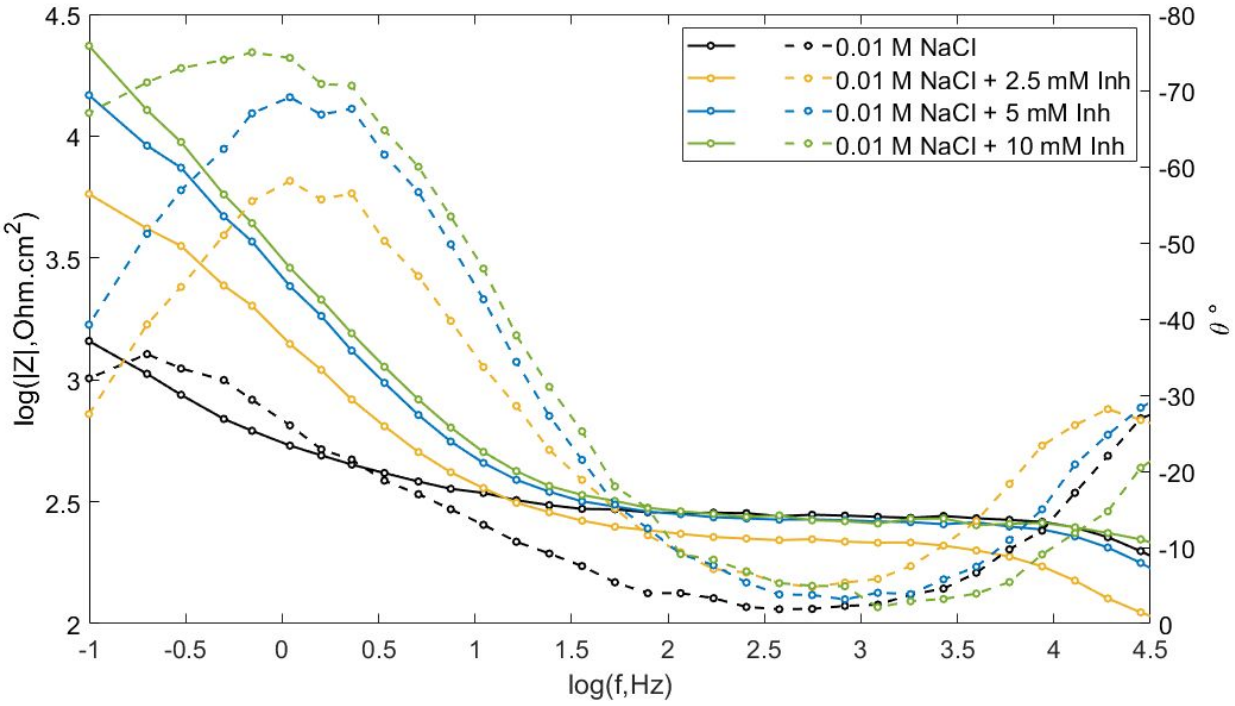
0.01 M NaCl
0.01 M NaCl + 2.5 mM Inh
0.01 M NaCl + 5 mM Inh
0.01 M NaCl + 10 mM Inh
log(|Z|,Ohm.cm^2)
log(f,Hz)
θ °
4.5
4
3.5
3
2.5
2
-1
-0.5
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
-80
-70
-60
-50
-40
-30
-20
-10
0

Figure S2. Impedance (solid lines) and phase angle (dashed lines) Bode plots for mild steel immersed 2 hours in different concentrations of inhibitor solution.

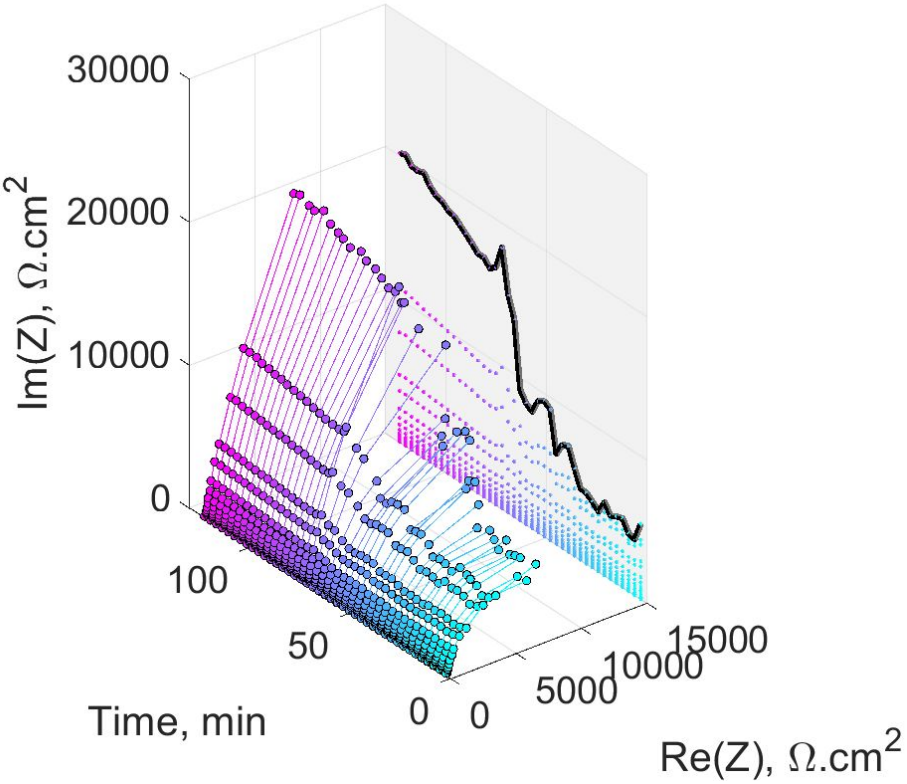

Figure S3. Time evolution of Nyquist plot for mild steel over the first 2 hours of immersion in 0.01 M NaCl + 10 mM CTA-4OHcinn.

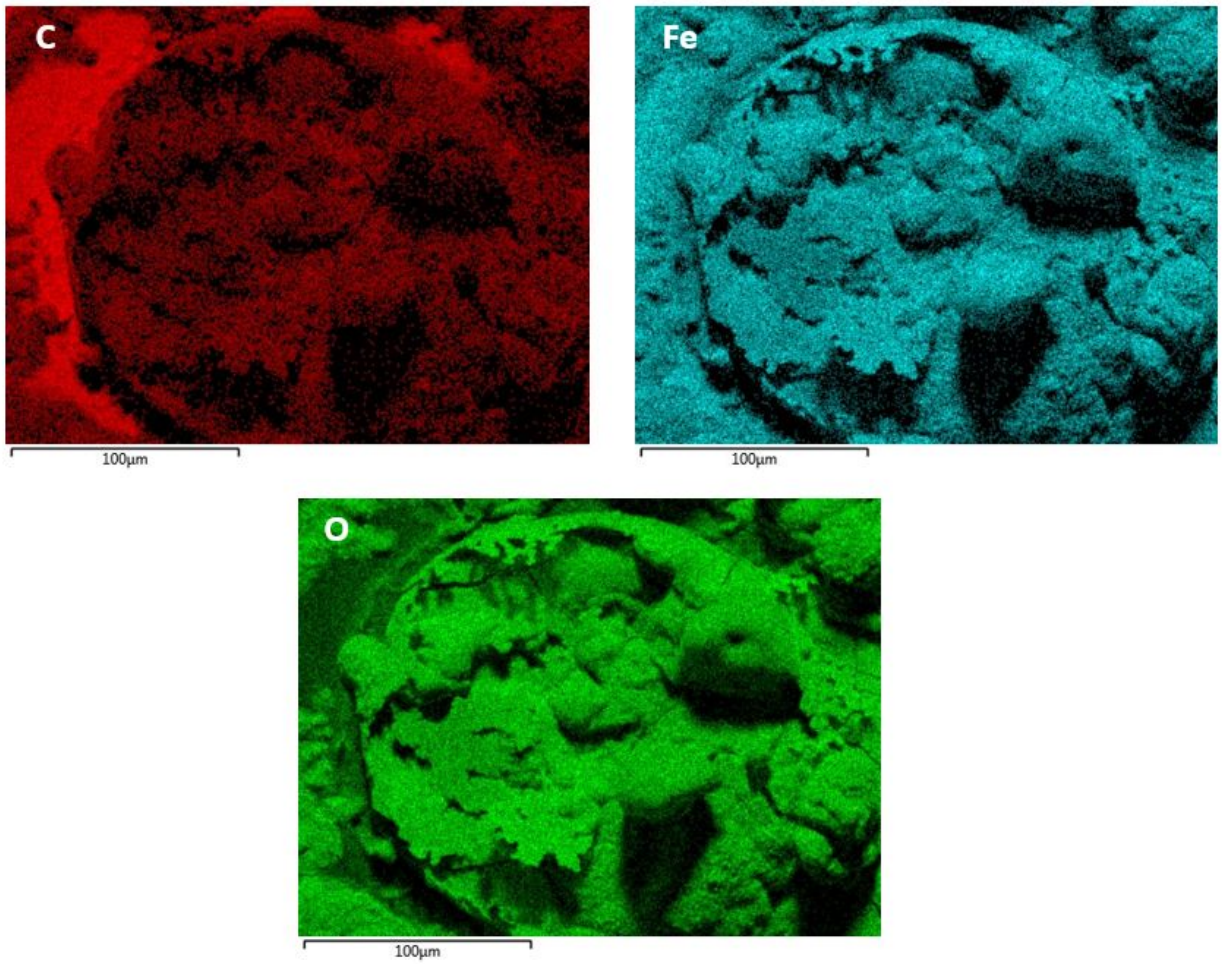

Figure S4. EDS map of the porous matrix formed on the metal surface after inhibitor interaction.