

Electronic Supplementary Information

Experimental and theoretical Studies on Corrosion Inhibition of 4-Amidinophenyl-2, 2'-bifuran and its analogues in acidic solutions

A. S. Fouda, M. A. Ismail, G. Y. Elewady, A. S. Abousalem*

Chemistry Department, Faculty of Science, Mansoura University, Mansoura-35516, Egypt, email: *ashraf.abousalem@gmail.com

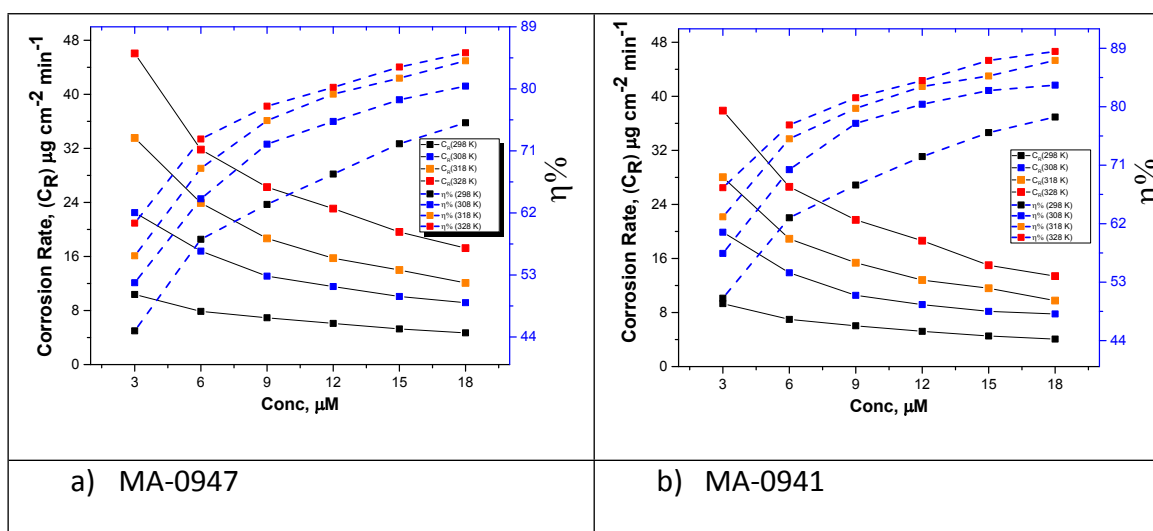


Fig. S1. a) Variation of corrosion rate (CR) and % η inhibition efficiency with concentration of MA-0947 and MA-0941.

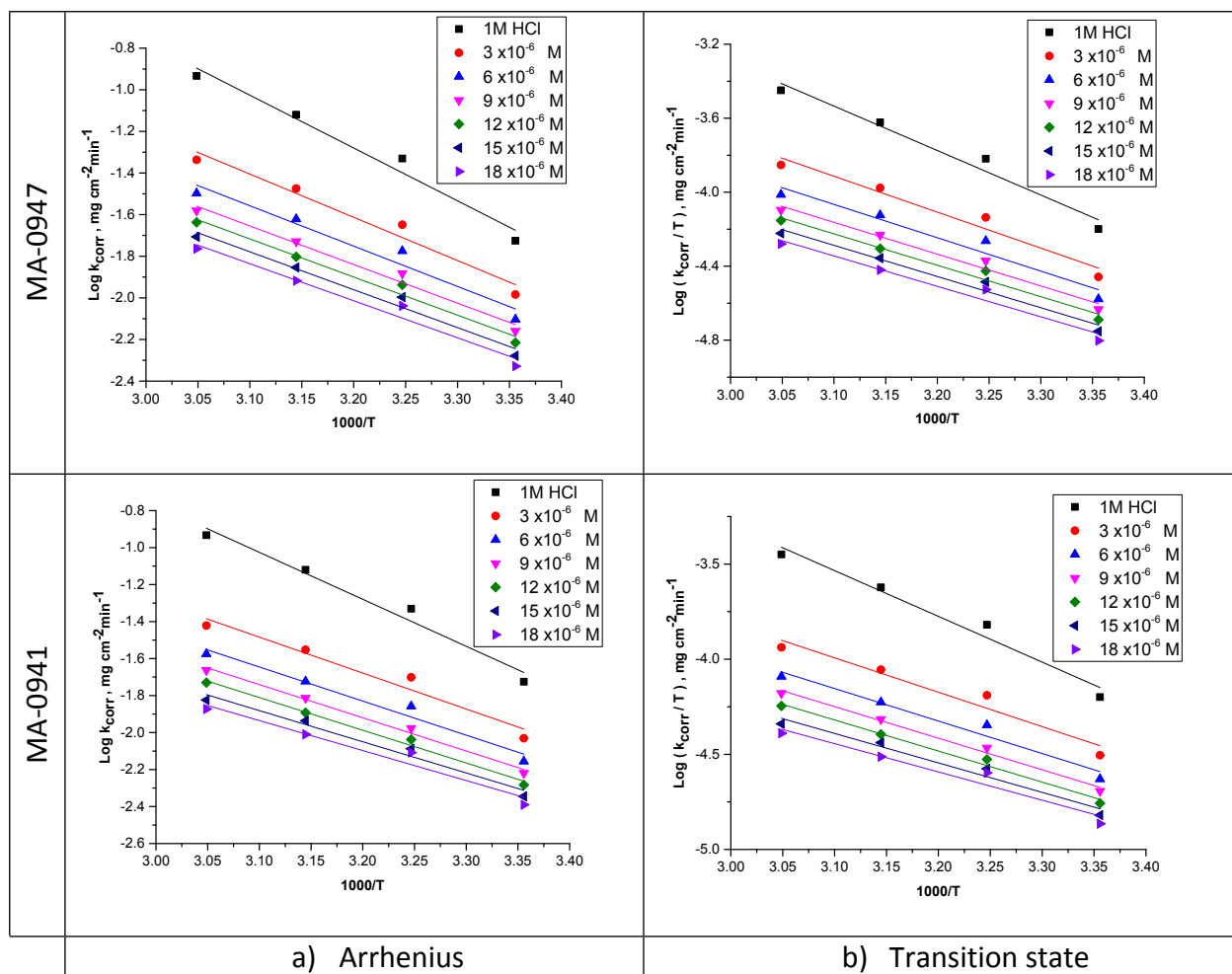


Fig. S2. a) Arrhenius and b) transition state plots for C-steel corrosion in 1 M HCl in the absence and presence of MA-0947, MA-0941 and MA-0940.

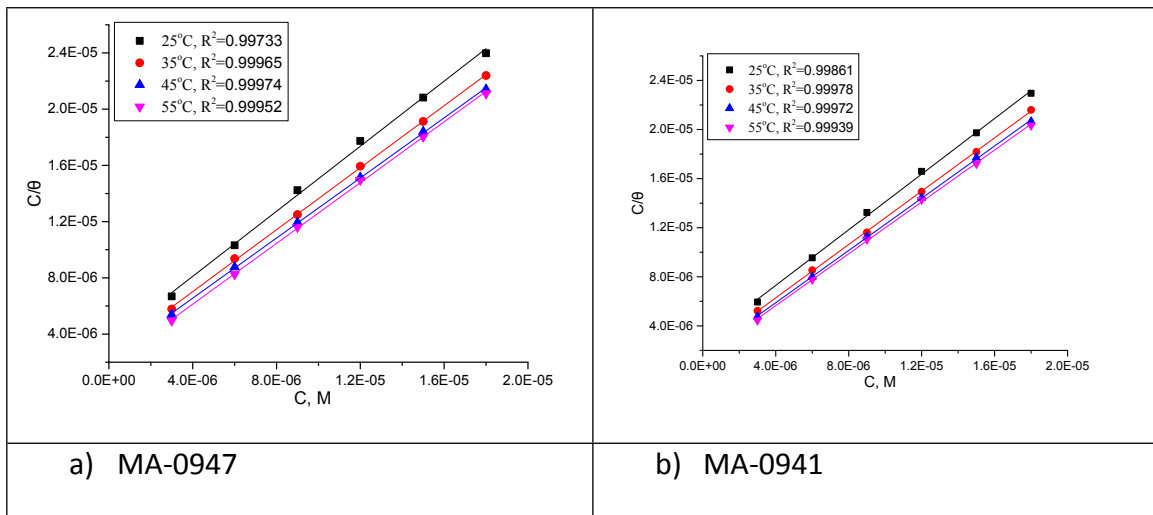


Fig. S3. Langmuir's isotherm plots for adsorption of MA-0941 and MA-0947 on the C-steel surface in 1 M HCl.

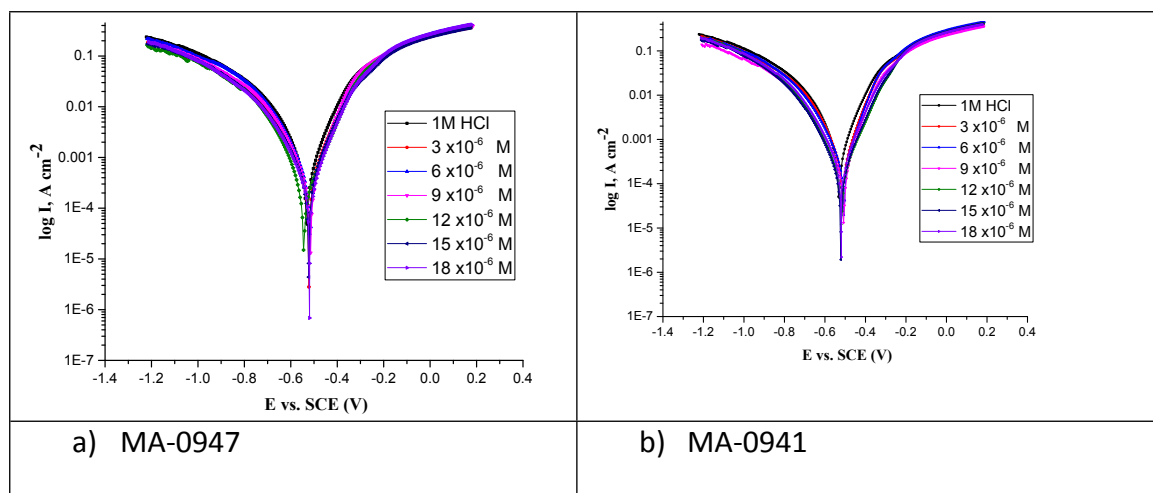


Fig. S4. a) Tafel curves of C-steel in 1 M HCl without and with various concentration of corrosion inhibitor MA-0947, and MA-0941

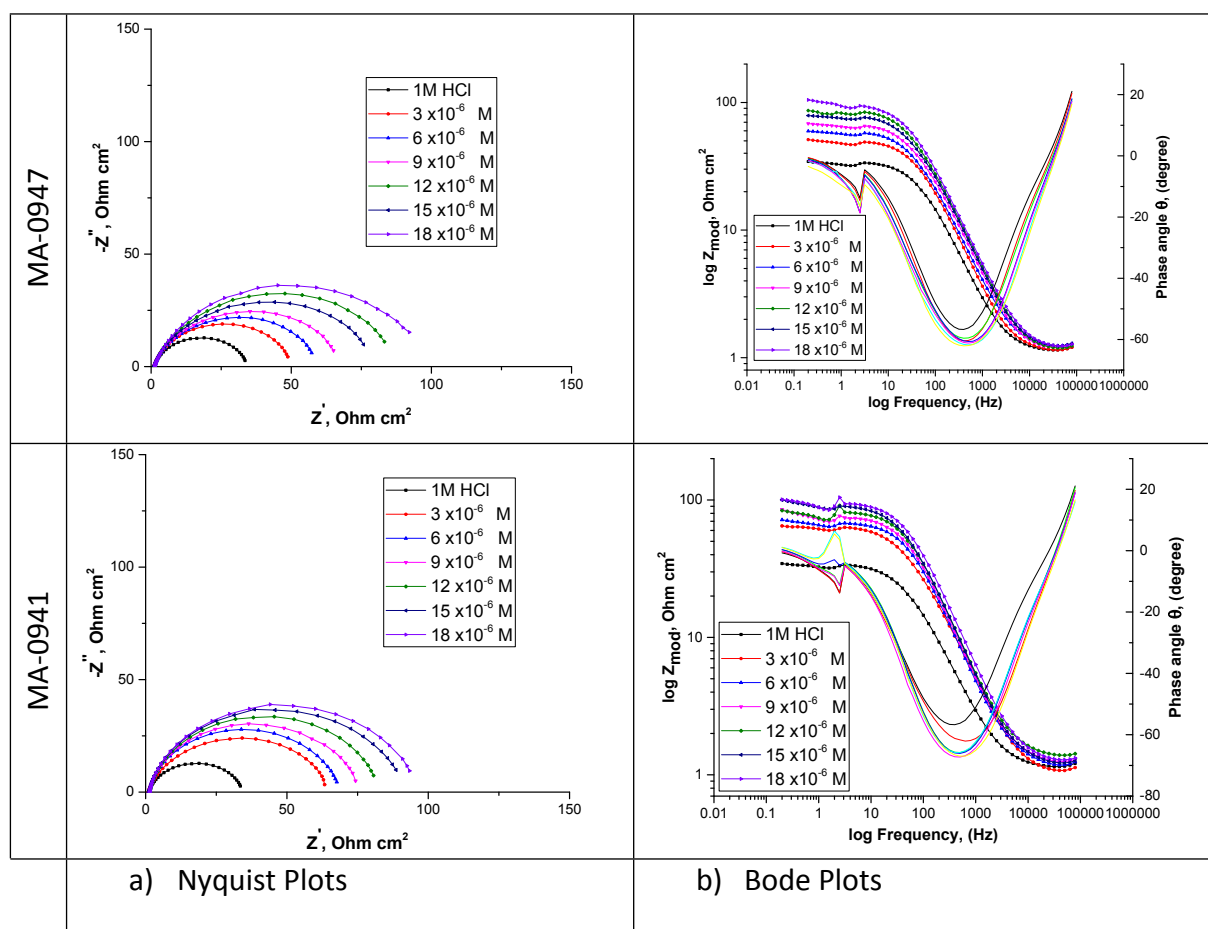


Fig. S5. a) Nyquist and b) Bode diagrams for mild steel in 1 M HCl containing different concentrations of MA-0947, MA-0941, and MA-0940.

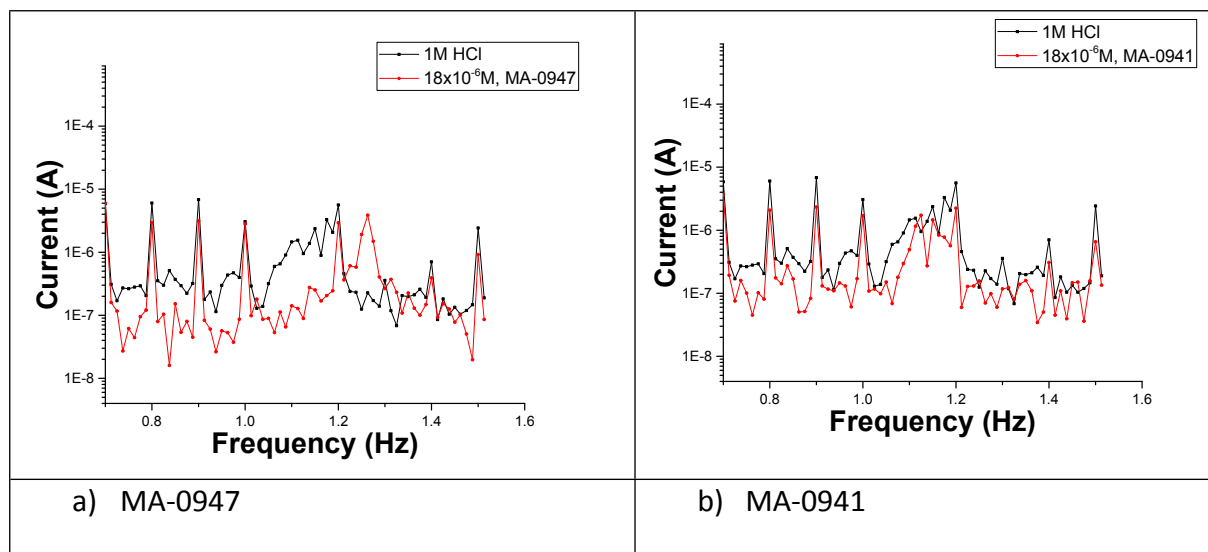
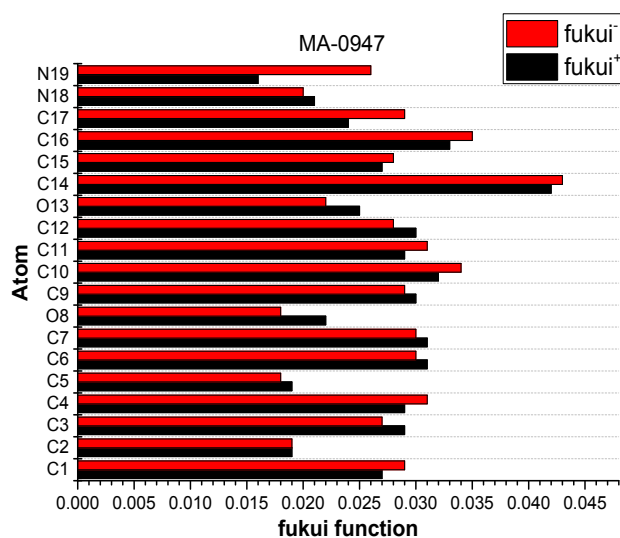


Fig. S6. EFM spectra of (blank and test solution contains 18 x 10⁻⁶ M) at 298 K.



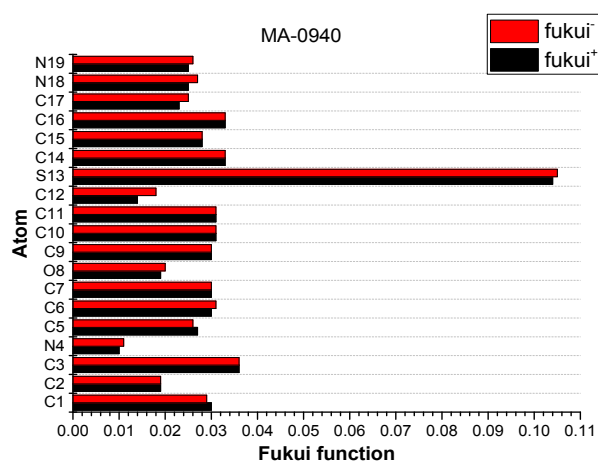
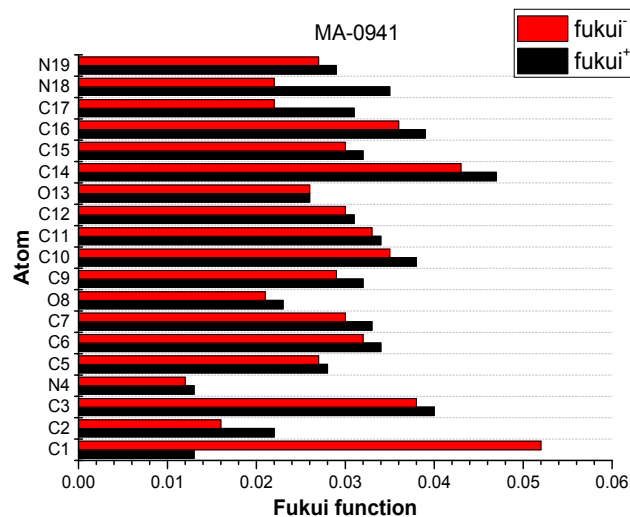


Fig. S7. Graphical representation of FUKI functions indices (DFT)