Corrigendum

Corrigendum to "Corrosion inhibition performance of new Schiff base cyclohexanamine derivatives on C-steel in 1 M HCl solution: Electrochemical, chemical, surface and computational explorations" [Inorg. Chem. Commun. 163 (2024) 112339]

Ahmed A. Farag [a,*], AbdulAziz A. Alayyafi [b], Hanan Alhussain [c], Ahmed Fawzy [d], Emad M. Masoud [e,*], Arafat Toghan [c,f,*]

[a] Egyptian Petroleum Research Institute (EPRI), Nasr City, 11727 Cairo, Egypt
[b] Department of Chemistry, University College in Al-Qunfudhah 21912, Umm Al-Qura University, Saudi Arabia
[c] Chemistry Department, College of Science, Imam Mohammad Ibn Saud Islamic University (IMSIU), Riyadh 11623, Saudi Arabia
[d] Chemistry Department, Faculty of Science, Assiut University, Assiut 71516, Egypt
[e] Department of Chemistry, Faculty of Science, Islamic University of Madinah 42351 Madinah, Saudi Arabia
[f] Chemistry Department, Faculty of Science, South Valley University, Qena 83523, Egypt

The authors regret,

3.7 Atomic force microscopy (AFM)

AFM analysis is a valuable approach for assessing the effect of inhibitor chemicals on shielding metals from aggressive acid solutions by measuring the average surface roughness (R_a) of the metal surfaces. The polished C-steel samples were submerged in corrosive liquid alone and with 1×10^{-3} M of CSB-2 at 298 K for 6 hours to test their corrosion inhibition capacities. Fig. 8(a-c) depicts the AFM study of surface morphology in three dimensions. Fig. 8b for the blank solution sample

C-steel sample (Fig. 8a) was 302 nm, compared to 304 nm in the acidic solution alone (Fig. 8b). Nevertheless, the inclusion of CSB-2 (Fig. 8c) lowered the R_a to 108 nm. The inclusion of the CSB-2 inhibitor significantly reduces the R_a values for C-steel in 1 M HCl. It can be explained by the creation of defensive layers of inhibitor molecules. These findings are consistent with those obtained using electrochemical and weight loss approaches.
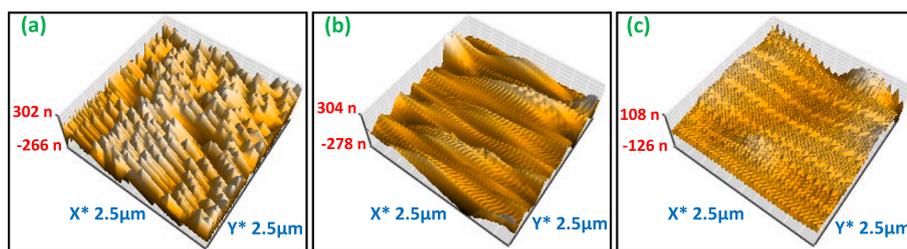
shows that the surface is badly deteriorated, with obvious corroded pits compared to polished and inhibited metal samples, which may be caused by C-steel corrosion. However, the inclusion of CSB-2 resulted in a smoother, more uniform, and adherent surface. The R_a of the polished

Fig. 8. 3D-images of C-steel surface: (a) polished sample; (b) sample in 1 M HCl; (c) sample in 1 M HCl + 1×10^{-3} M of CSB-2 at 298 K.

The authors would like to apologise for any inconvenience caused.