Robust pyrazole–based thiourea Scaffolds as Carbon steel corrosion inhibitors in 1 M HCl, complemented by electrochemical and theoretical approaches

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Additional file

General experimental:

Melting points (uncorrected) were measured using a Gallenkamp melting-point apparatus and were uncorrected. The reaction mixture was monitored by using thin-layer chromatography (TLC) which was made on silica gel 60 F_{254} precoated aluminum sheets and visualized under ultraviolet (UV) light. A JEOL 500 *MHz* spectrometer were used for recording ^{1}H- NMR and ^{13}C-NMR spectra and chemical shifts (δ) were measured in parts per million (ppm) relative to the used DMSO-d_6 as solvent and self-internal standards. Whereby, elemental analyses (C, H and N) were carried out in micro-analytical center, Faculty of Science, Cairo University. All chemicals and solvents were used as received from Sigma Aldrich and BLD Pharm companies**.**

Fig. S1: ^{1}H-NMR spectrum of Compound MPPC
Fig. S2: ^{13}C-NMR spectrum of Compound MPPC
Fig. S3: ^{1}H-NMR spectrum of compound NAPC
Fig. S4: ^{13}C-NMR spectrum of Compound NAPC

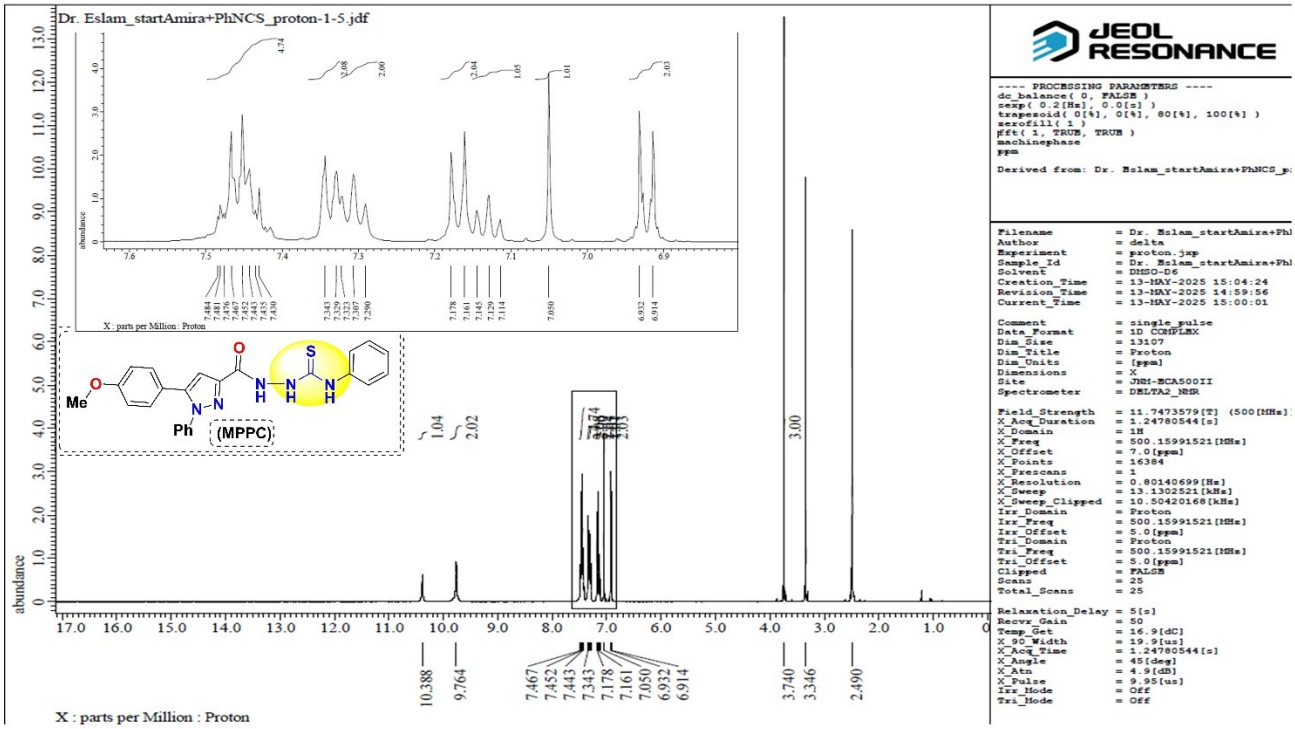

Fig. S1: ^{1}H-NMR spectrum of compound MPPC.

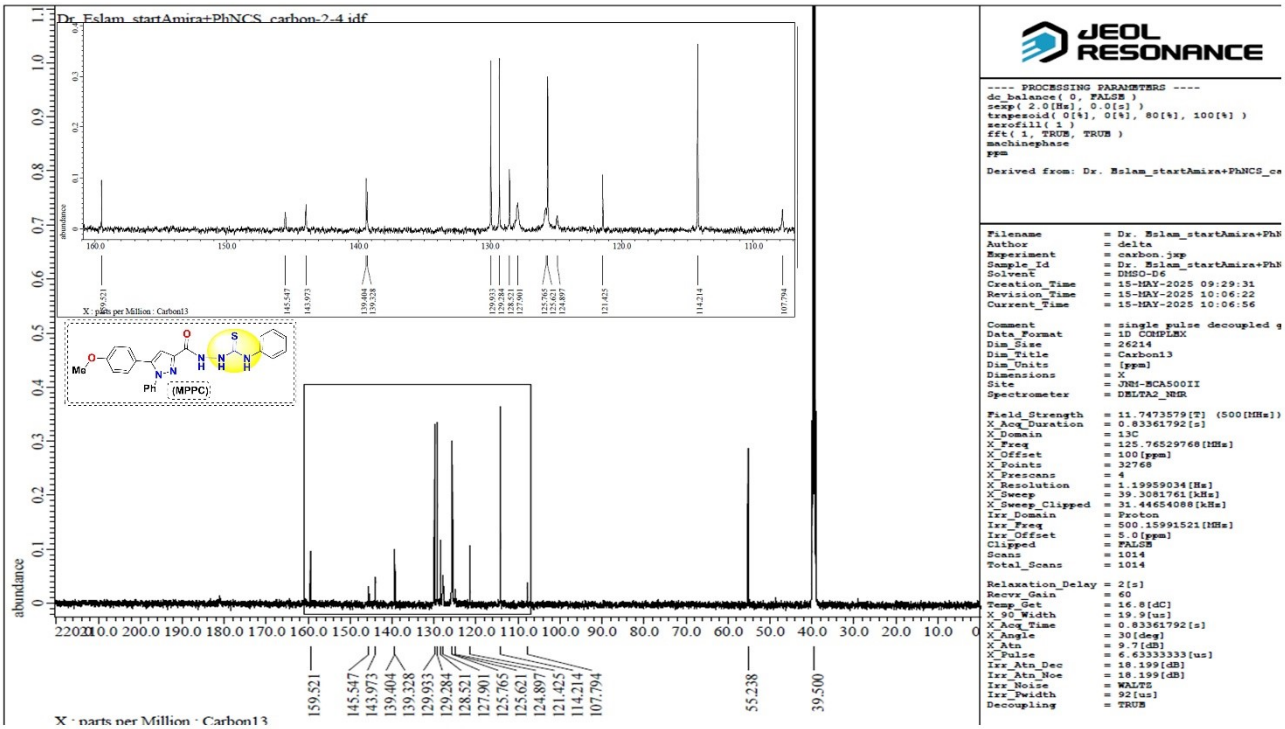

Fig. S2: ^{13}C-NMR spectrum of compound MPPC.

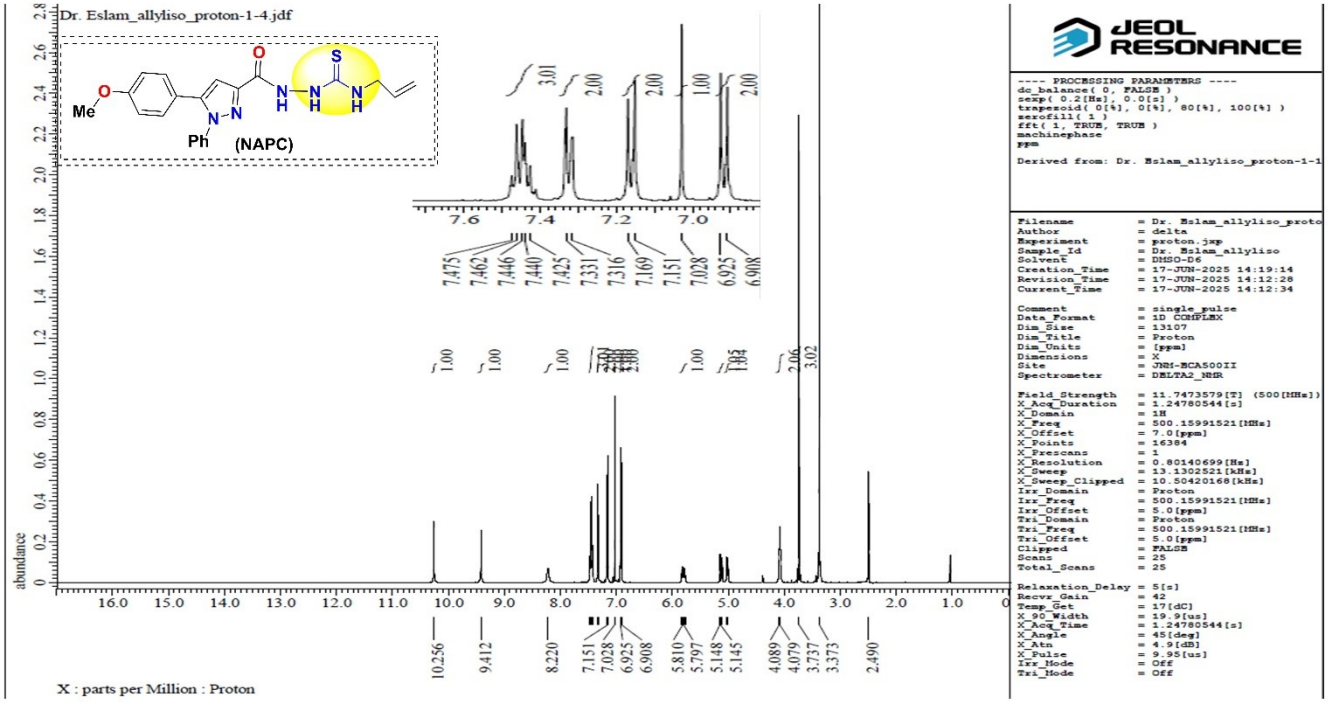

Fig. S3: ^{1}H-NMR spectrum of compound NAPC.

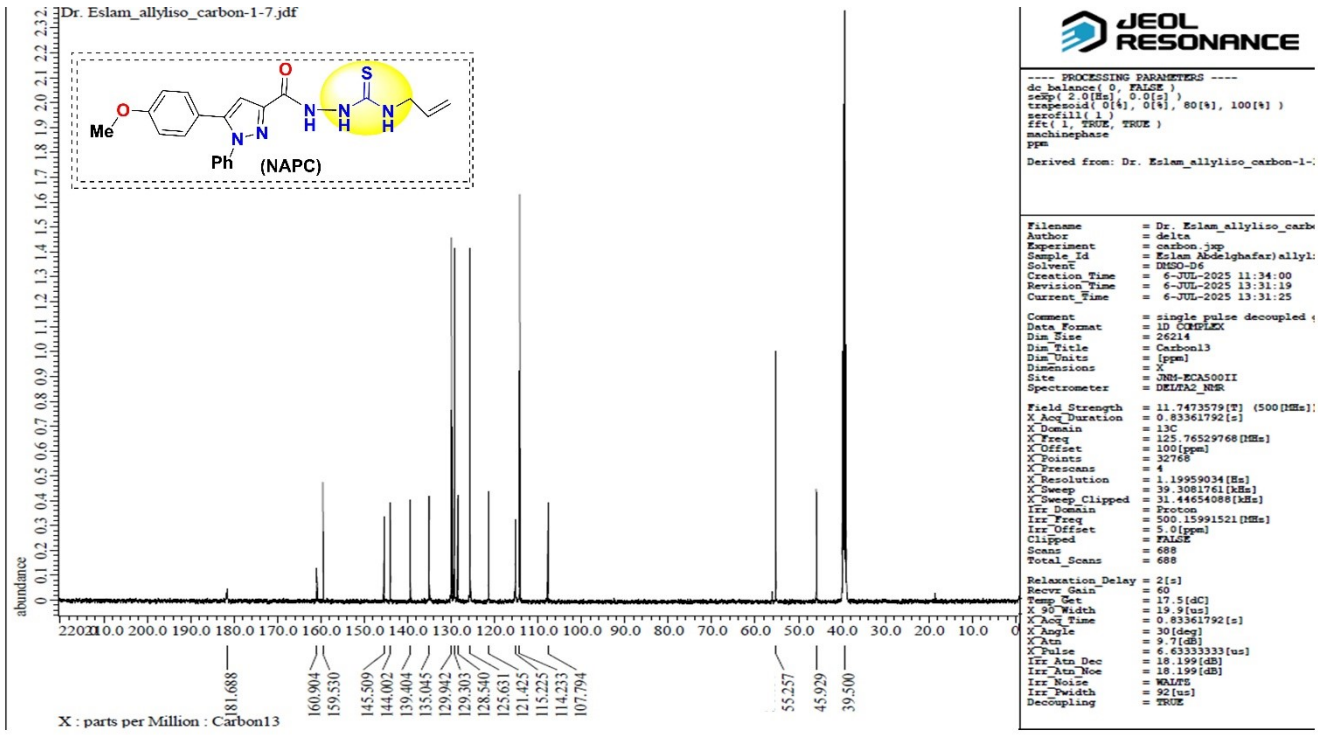

Fig. S4: ^{13}C-NMR spectrum of compound NAPC.