C- RESULTS

The curves of Figs. (2-5) represent the variation of the potential of iron and steel samples I, II and III, respectively, with time in oxygen saturated solutions of H_2SO_4 of concentrations ranging between 10^{-6} and 1 M.

The plot of the steady-state potentials of the different samples studied as a function of the logarithm of the molar concentration of H_2SO_4 is shown in Fig. (6).

Fig. (7) illustrates the influence of carbon content on the final steady-state potentials attained by iron and the three different steel samples.

The curves of Figs. (8-10) represent the effect of the addition of increasing concentrations (10^{-6} - 10^{-3}M) of aniline, p-nitroaniline and p-methoxyaniline on the open-circuit potential of Fe in oxygenated solutions of 10^{-3}M H_2SO_4. In Figs. (11-18) the effect of addition of increasing concentrations of aniline, p-nitroaniline, p-chloroaniline, p-aminobenzoic acid, p-methoxyaniline, p-phenylene diamine, p-toluidine and p-hydroxyaniline, respectively, on the open-circuit potential of steel I is depicted. The same effect is shown, successively, in Figs. (19-26) for steel sample II, and in Figs. (27-34) for steel sample III.

Variation of the steady-state potentials of Fe and steel samples I, II and III electrodes in 10^{-3}M H_2SO_4 solution with the logarithm of the molar concentration of the different organic additives is represented by the curves of Figs. (35-38), respectively.

Fig. 39 (A, B, C) shows the effect of carbon content on the inhibiting efficiency of aniline, p-nitroaniline and p-methoxyaniline, respectively.