Abstract

Gemini surfactants are newer class of surface-active compounds, which consist of two hydrophobic chains connected by a spacer. In this work, we will report the synthesis, micellization and corrosion inhibition property of Gemini surfactants of sodium dodecylsulphate (SDS) and cetyltrimethylammonium bromide (CTAB) by using spacers, glucose and bi-sodium salt of ethylene diamine tetraacetic acid (EDTA) at temperature 323.15 K. The synthesized Gemini surfactants will be characterized by employing $^1$H-NMR and FTIR spectroscopic techniques. Surface tension measurements will also be carried out to determine the micellization behaviour of synthesized Gemini surfactants by calculating critical micelle concentration (CMC) and other adsorption parameters. These surfactants will be investigated for corrosion inhibition properties by taking two metal strips of tin of equal weights in 2 mol·kg$^{-1}$ aqueous solution of HCl.

Keywords Cetyltrimethylammonium bromide, Corrosion inhibition, Critical micelle concentration, Gemini surfactant, Sodium dodecylsulphate