



## **Green corrosion inhibitor: inhibitive action of aqueous extract of *Anacyclus pyrethrum* L. for the corrosion of mild steel in 0.5 M H<sub>2</sub>SO<sub>4</sub>**

**Chaouki SELLES<sup>a</sup>, Omar BENALI<sup>b,\*</sup>, Boufeldja TABTI<sup>a</sup>,  
Lahcen LARABI<sup>c</sup>, Yahia HAREK<sup>c</sup>**

<sup>a</sup>*Laboratoire des substances naturelles et bioactives (LASNABIO),  
Université Abou Bekr Belkaid - Tlemcen*

<sup>b</sup>*Département de Biologie, Faculté des sciences et de la technologie, Université Dr. Tahar Moulay - Saïda*

<sup>c</sup>*Laboratoire d'électrochimie et de chimie analytique (LECA),  
Université Abou Bekr Belkaid - Tlemcen*

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Email: [benaliomar@hotmail.com](mailto:benaliomar@hotmail.com) (corresponding author); Telephone / Fax: +213(0) 48 47 48 50

### **Abstract**

The efficacy of an aqueous extract of the leaves and stems of *Anacyclus pyrethrum* L (LS-AP) as corrosion inhibitor for mild steel in 0.5 M sulphuric acid medium was carried out using the electrochemical methods. Experiments are performed by concentration of the inhibitor, temperature, synergism effect and varying immersion period. The results showed variation in inhibition performance of the inhibitor with varying concentration, temperature, iodide concentration and immersion time. Langmuir model was tested to describe the adsorption behaviour of inhibitor on the mild steel surface for all temperatures. Some thermodynamic functions of dissolution and adsorption processes were also determined.

*Keywords:* alloys, corrosion test, electrochemical techniques, adsorption.

### **1. Introduction**

Use of inhibitors is one of the most practical methods for protection against corrosion especially in acid solutions to prevent unexpected metal dissolution and acid consumption [1-3].

Different organic and inorganic compounds have been studied as inhibitors to protect metals from corrosion attack. Usually, organic compounds exert a significant influence on the extent of adsorption on the metal