**COVER LETTER**

# Dear editor of Journal of the Serbian Chemical Society,

Please find in this submission a manuscript entitled: “Effects of thiourea on the kinetics and electrochemical nucleation of tin electrodeposition from chloride bath” for your consideration for publication in Journal of the Serbian Chemical Society.

Literature indicated that the effects of thiourea on the morphology and microstructure of tin and tin alloys have been studied. Only very few reports discussed the effect of thiourea on the tin nucleation from a sulphate bath. However, and as far as we know, no investigation has been made on nucleation and growth mechanism of tin in the presence of thiourea from a chloride bath.

In this work we are interested to study the role of thiourea on the kinetics, nucleation and hydrogen evolution during eletrodeposition of tin from acidic chloride bath. This investigation has been carried out using cyclic voltammetry, electrochemical impedance spectroscopy and chronoamperometry.

The findings of our study showed that thiourea inhibited the reduction reaction of tin ions at high concentration. Electrochemical impedance spectroscopy analysis indicates that the electrode reaction was kinetics controlled process without thiourea. However with thiourea, the deposition process is mixed regime. Sharifker-Hills and Palomar-Pardavé models applied for tin chronoamperogramms revealed that the tin nucleation follows 3D progressive mechanism and the proton reduction reaction was inhibited at 0.01 M and 0.1 M thiourea concentrations. The addition of thiourea modifies the diffusion coefficient *D* of tin species as well as the number of active sites *N*0.

This paper was not submitted elsewhere.

For peer review process, we suggest the following reviewers:

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We will kindly appreciate your comments and suggestions, and we thank you in advance for your time and attention.

Yours sincerely,

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