



SDI Review Form 1.6

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| Journal Name: | Chemical Science International Journal |
| Manuscript Number: | Ms_CSIJ_44596 |
| Title of the Manuscript: | POLAROGRAPHIC AND VOLTAMMETRIC INVESTIGATION OF SUDAN I |
| Type of the Article | |

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

| | Reviewer's comment | Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here) |
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| Compulsory REVISION comments | <p>1. It is expedient to present references, which include other methods of Sudan I determination (HPLC, GC-MS, capillary electrophoresis), as mentioned in the manuscript (Introduction, paragraph 2). Particularly detailed information must be included about electrochemical methods published earlier (what techniques were used, electrodes, analytical characteristics etc.).</p> <p>2. The investigated mechanism by manuscript's Authors does not present anything new. Why did not Authors cite the primary source [Latimer G.W. Talanta 1968; 15:1 // Florence T.M. Australian Journal of Chemistry 1965;18(5):609–18.]? These authors were the first who proposed this mechanism of azo dye reduction. In the text it was presented that 2 protons and 2 electrons take part in the reaction (Page 5). But then Authors claim that there are two stages of reduction with participation of 4 protons and 4 electrons. This is not in agreement with the shape of voltammograms. No voltammograms have the shape with two stages of reduction. I cannot understand why Authors inserted such large Scheme 2, if the mechanism in acidic and basic media is the same and it was known long ago.</p> <p>3. Why did not Authors present any analytical characteristics of Sudan I determination, particularly LOD and LOQ? Is such approach available to quantitation of this azo dye in foodstuff, for example to detect falsification? This must be added, in other case this work does not have any worth.</p> | <p>1. We added to abstract as below paragraph. To continue improving, the electrochemical characteristics of the reagents have been studied. Electrochemical behaviour of important arylazo compounds were based on the dependence of the characteristic potential ie half-wave potential on electron density and other factors which in turn are simply co-related to physical and chemical property and activity. As a simple relationship has been found to exist between structure. Half-wave potential and reactivity, a better understanding of the effect of structure on the redox behaviour of these compounds can be obtained [17,29,30]. In given literatures, four different electrochemical technique have not been studied with all together. Also we added as below explanation. processes in rate determining step. In second step the azo group is reduced to aniline derivatives The peak potentials of the two stage are approximately equal.(Scheme 2) [26-30].</p> <p>3. The aim of the work is to explain the electrochemical properties (not detection) of the azo compound by using DCP, DPP, SWV and CV techniques.</p> |
| Minor REVISION comments | <p>1. Abstract does not contain any clear and concise information. Authors only describe what kinds of research they have done. The clear results must be presented in the Abstract as the work is a Research Paper.</p> <p>2. Previously, a significant effect of ethanol on the reduction of azo-dye was reported [Talanta 2001;54:221–31.]. Does 50% of ethanol content affect the recovery mechanism?</p> | <p>Abstract of the manuscript is revised.</p> <p>1. We have also studied in our previous research "17. Karaman Y, Menek N. Investigation of electrochemical behaviour of 2-(5-Bromo-2-Pyridylazo)-5-[N-Propyl-N-(3-Sulfopropyl)Amino]Phenol disodium salt dihydrate. J Electrochem Soc. 2012;159(10):H805-H10."</p> <p>2. There is solubility problem of the compound in water media. 50% ethanol–water media in all solution was preferred due to solubility problem of the azo compound in water.</p> |
| Optional/General comments | | The authors thanks to Referee for their contrubites |

PART 2:

| | Reviewer's comment | Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here) |
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| Are there ethical issues in this manuscript? | (If yes, Kindly please write down the ethical issues here in details) | |