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Journal Name:	American Chemical Science Journal
Manuscript Number:	2014_ACSj_11703
Title of the Manuscript:	The Electron Transfer Reaction of 3,7-Bis(dimethylamino)phenazothionium Chloride with Benzenethiol in Aqueous Nitric Acid: A Mechanistic Approach
Type of the Article	Original Research 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:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



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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)
<u>Compulsory</u> REVISION comments	The present manuscript Number: 2014_ACSj_11703, The Electron Transfer Reaction of 3,7-Bis(dimethylamino)phenazothionium Chloride with Benzenethiol in Aqueous Nitric Acid: A Mechanistic Approach is accepted with minor Revisions. The Author's must fulfil the following clarification.	
<u>Minor</u> REVISION comments	In the present work "The Electron Transfer Reaction of 3,7-Bis(dimethylamino)phenazothionium Chloride with Benzenethiol in Aqueous Nitric acid", the author experimentally proven that the reaction rate increases with increase in ionic strength and decrease in dielectric constant and the added anions HCOO^- and Cl^- enhances the reaction rate since it acts as catalyst for the reaction. The development of electron transfer reaction including the Electron Transfer Reaction of 3,7-	While it is true that effect of temperature (where entropy and enthalpy change can be deduced) on reaction rates can be studied, it is not compulsory to have such data in proposing reaction mechanisms, deduction from it is not a conclusive evidence for mechanistic pathway. Such data only compliment kinetic data (which are already in our results). The conclusion that could be drawn from changes in entropy and enthalpy is whether a bond is formed or not during the electron transfer process. Evidence of this which has been obtained from kinetic data is more conclusive.



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	Bis(dimethylamino)phenazothionium chloride with Benzenethiol in aqueous nitric acid are one of the important topics in the field of reaction kinetics. Therefore, I think that this kind of work is one of the possible topics in American Chemical Science Journal. However, I expect that the authors should consider the following comments. 1. The author should mention the thermodynamic parameters like Enthalpy change, Entropy change, Change in free energy for the given electron transfer reaction in this manuscript. 2. In the (line 220 of the manuscript) Mechanism of electron transfer reaction (equation 6) one of the formed product $C_6H_5S^*$ is free radical or not. If it is free radical further clarification is needed for the mechanical step. 3. The author must say the effect of this electron transfer reaction in other inorganic acids. This improves the novelty of this reaction. The other	$C_6H_5S^*$ is a free radical because there was formation of polyacrylamide during the course of the reaction, an indication of free radicals participation. We don't agree as this is unnecessary. This has nothing to do with the novelty of the work, rather it could be a separate study on its own.
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	inorganic acid effect also include in this manuscript.	
<u>Optional/General</u> comments		