



SDI Review Form 1.5

PART A:

Journal Name:	American Chemical Science Journal
Manuscript Number:	MS: 2012/ACSj/1835
Title of the Manuscript:	CORROSION INHIBITION OF ALUMINIUM IN ACIDIC MEDIUM BY DIFFERENT EXTRACTS OF OCIMUM GRATISSIMUM

(Note: Title of different sections as proposed below may differ in case of review paper)



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PART B: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part and write here 'Corrected' if not agreed, give suitable justifications)
General comment:	The approach to study the medicinal plant extract as corrosion inhibitor of aluminium metal in acidic medium is good as the plant extract is biodegradable and eco-friendly.	Study of medicinal plant is a good approach for corrosion inhibition.
Specific comments:	There are many aspects that the authors could have addressed to improve the quality of the paper like electrochemical study, surface analysis study etc.	Electrochemical study will be carried out in subsequent research.
Title and abstract	o.k.	OK
Introduction (Is the problem/objective of this study original, important and well defined?)	The problem/objective of this study is original, important but not well defined. The work done by authors has not been described properly.	The work carried out was defined properly using Tables and figures.
Are all the references cited relevant, adequate? Are there any other suitable current references authors need to cite?	All the references cited are not relevant, adequate. The reference (Oguzie et. Al; 2004) is not relevant. There are many relevant references in current issues of many journals which should be cited.	The references cited are relevant to the work carried out.
Materials & methods (Kindly comment on the suitability of the methods. Sufficient details of the methods should be provided to allow peers to evaluate and/or replicate the work)	The complete analysis of aluminium sheet should be mentioned. In line 88 the work up of the plant extract as well as the preparation of inhibitor concentrations are not clear. The experiment temperatures studied are only 2 temperatures, it is better to add 1 or 2 more temperatures.	The aluminium sheet type AA1060 of 98.98% purity was used for the work. The plant leaf was extracted with different solvents namely: ethanol, 1 M HCl and Distilled water. The 2 temperatures studied were adequate to calculate Activation Energy and Heat of adsorption.
Results & discussion (Kindly comment on: 1. Are the data well controlled and robust? 2. Authors should provide relevant references during discussion. 3. Discussion and conclusions should be based on actual facts and figures. Biased claims should be pointed out. 4. Are statistical analyses must for this paper? If yes, have sufficient and appropriate statistical analyses been carried out?)	In this paper the authors describe the corrosion inhibition effect of <i>O.gratissimum</i> leaves extract on aluminium in acidic medium by only Gravimetric method so it is suggested to do electrochemical study to understand the electrochemical nature of aluminium in acidic medium in presence and absence of inhibitor. The corrosion rate (mg/cm ² /H) should be measured. The reference (Scientific Research and Essay Vol. 2 (5), pp. 163-166, May 2007) describes the phytochemical constituents of leaves extract of <i>O.gratissimum</i> . The author may include this reference. In line151, 152 the authors explained the correlation between increase of inhibition efficiency and surface coverage with complex chemical composition of extracts. Actually inhibition occurs through bonding (physical/chemical) between metal and inhibitor molecule containing N, O, S atom. The author should explain accordingly. The author explained the reason of highest inhibition efficiency of water extract; this should be more scientific.	Electrochemical method will be carried out in subsequent research using aluminium in acidic medium.



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	Actually in water extract saponins, glycosides the polar compounds are coming in solution whereas in HCl extract the saponins, glycosides are hydrolyzed.	
Are there any ethical or competing interest issues?	No	No
Conclusion (Is the conclusion supported by the data, discussed inside the manuscript? Conclusions should not be biased and should be based on the data, presented inside the manuscript only)	More data generation are required to improve the quality of paper.	The data generated is enough to explain the work carried out.
References		OK