



SDI Review Form 1.6

PART 1:

Journal Name:	International Research Journal of Pure and Applied Chemistry
Manuscript Number:	MS: 2012/IRJPAC/2489
Title of the Manuscript:	COMPARATIVE STUDY OF BENZYL AND PHENYL COMPOUNDS EFFECTS ON THE INHIBITION OF METHANE GAS BIOSYNTHESIS

General guideline for Peer Review process is available in this link:

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

- This form has total 9 parts. Kindly note that you should use all the parts of this review form.



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PART 2: 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)
Compulsory REVISION comments	This manuscript did not reveal much new information on the inhibitory effects of target compounds. The authors should have a thorough review of published articles on this subject and elaborate the innovative aspect of their work. The anaerobic toxicity assay (ATA) used in their study is a well established procedure for testing methanogenic activity in the presence of a toxicant. The methanogens are strict anaerobes and cannot tolerate even trace amount of oxygen . The authors need to address how the potential presence of oxygen was indicated in the preparation of culture and spiking of test compounds. An indicator compound should be used as in the standard testing protocol. A representative of methane production vs. time curve should be presented with standard derivations. The data in Fig. 2 should have standard derivation for each point. It is highly unusual that all the data points fit exactly on the smooth curve as shown in Fig. 2. Ultimately, the authors need to address the quality assurance and quality control used in their data collection.	The manuscript is investigating the effect of aromatic compounds, known as xenobiotics and their structural chemistry on methanogenic bacteria is of great interest, not only to access their environmental impact but special for the implementation of an efficient biodegradation process. Those organic compounds are widely used in industry and, therefore, the concern on their degradation dictates the development of efficient processes for their removal. Besides, it is also studying the structure-toxicity relationships. The ultimate goals is the modelling of the effect of aromatic structure on the inhibition of methane biosynthesis. Resazurin was used as indicator of potential presence of oxygen. The solution was transparent and the quantity of inoculum used was 1.5 g VSS /L (now indicated in the manuscript). The standard derivations were added in the figure 2.



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<u>Minor</u> REVISION comments	What is the unit of the X axis in the 3-D plot of Fig. 3? Is Fig.4 3-D? Why is the cl group plotted from different level?	CI ₅₀ is IC ₅₀ in French, It is now corrected in the Fig. 3. Fig. 4 is now in 2-D
<u>Optional/General</u> comments	The authors also submitted a similar manuscript to the American Chemical Science Journal for review. The only difference between these two manuscripts are the target compounds selected in the ATA test.	The aromatic compounds studied are different and the chemical structures of these aromatic compounds are totally different. We are studying the effect of aromatic structure on inhibition of methane biosynthesis.