



SDI Review Form 1.6

Journal Name:	American Chemical Science Journal
Manuscript Number:	2014_ACSj_15350
Title of the Manuscript:	Relation between injection and transfer of CO ₂ and the pH of the medium
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:

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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)
Compulsory REVISION comments	1) Authors do not indicate the medium used, if it was water it should be stated, but in any case, several considerations are made upon the medium preparation. There are fresh water microalgae and seawater microalgae, the transfer of CO₂ will rest on medium composition and also on the microalga growing there. Then as a first model it is OK to develop the model but it is useless for researchers as it is; applying this is not an option. 2) Authors should consider that a simple methodology was used; several model systems can be consulted on specialized journals. If authors decide to assay an specific medium and microalgae I may suggest for example <i>Chlorella vulgaris</i> and Basal Bold Medium, which are the most common microalgal and medium for fresh water microalgae and offer a model with them, it would be more accurate and useful. It should be considered that dissolved salts in the medium affect the kLa of gases, as well as the agitation velocity, pH, temperature, etc. In microalgal cultures in open race bioreactors (which is the present model) there are several considerations on water flow to avoid, e.g. microalgal rupture. 3) Authors have modelled CO₂ transfer rate, I assume using water, and the initial pH is not stated. 4) There is a lack of information that make impossible to repeat the experiments, even when the methodologies	1) The medium is fresh water. Is already correct in the manuscript. 2) The correlation between pH and CO₂ transfer in this model consider that carbonate system (present in any medium), besides other salts contribution, is the major pH influence factor. This consideration was applied in several models and several medium. 3) The initial pH is shown at Figure 3 and Figure 5 (simulated data). 4) Please, be more specific.



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	are referenced, it is necessary a short description at least. 5) Authors should consider to work hard on projects before send them as research papers, the present work has many issues that must be attended before to be considered for publication.	5) The study was validated and applied in pilot-scale for Spirulina platensis cultures.
<u>Minor</u> REVISION comments		
<u>Optional/General</u> comments		