



SDI Review Form 1.6

Journal Name:	British Microbiology Research Journal
Manuscript Number:	2013_BMRJ_8004
Title of the Manuscript:	Physical and chemical aspects of Yarrowia lipolytica lipase immobilization by adsorption
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)
Compulsory REVISION comments	Manuscript has several major deficiencies. Content does not support title of manuscript. Title is too general (comprises "chemical and physical aspects" of adsorption), while only electrostatic effects of adsorption process were analysed. Experimental methodology was not adequate for research in field of enzyme immobilization. Authors based their analysis of immobilization efficiency only on activity of lipase after and before immobilization. If they want to analyse factors that affect adsorption they MUST also perform protein assay (Bradford, Lowry or BCA) to determine protein loading on support and adsorption isotherm. Then their discussion of results (lines 130-133) will be more substantiated. They have just hypothesised that enzyme had become inactive, but maybe it was not adsorbed on silica gel but maybe it was not even adsorbed in equal amount as with Celite? Also, water content is very important factor in lipase-catalyzed reactions and authors ascribed key role to water in their explanation of lower adsorption on silica gel. But could it just be because lipase is less active due to too high water concentration? Protein assay could help in resolving this. Also, the selection of immobilization supports is very unclear. Why authors choose two silica-based supports and one cellulose-based support? And why they thought that electrostatic effects are of key influence when adsorption on these supports is	Immobilized lipase activity was determined by titrimetric method. All the research has been done at the bioindustry laboratory of Belgium. Actually I works in the University of Nandgui abrogoua (Ivory cost) so it is difficult to measure the protein content. we used titrimetric method to measure lipase residual activity because this method is published in our works (20) We are chosen those supports because of their no toxicity characteristic and their accessibility



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	based on hydrogen bonds and other weak forces?	
<u>Minor</u> REVISION comments	Authors defined (line 89) that activity of immobilized enzyme was expressed in IU/g. Gram of immobilized enzyme, gram of free lipase introduced in immobilization or gram of support? If gram of immobilized enzyme, dry or wet? This also affects the meaning of immobilization yields and result analysis. What was the initial water concentration in interesterification? Water significantly affects this process and even humidity introduced with enzymes can be more important than their biocatalytic activities. There are several errors in English. For example: Line 130: "may become inactivity" should be replace with "may become inactive". Line 131: "In according this author..." Line 140: "almost around" Line 148: "...lipase dissolute..." replace with "...lipase dissolved..." Line 163: "...lower values..." instead of "...low values..."	IU/g gram of free lipase 0.2% All correction has replaced
<u>Optional/General</u> comments		