



SDI Review Form 1.6

PART 1:

Journal Name:	International Journal of Biochemistry Research & Review
Manuscript Number:	MS: 2012/ IJBCRR/2431.
Title of the Manuscript:	Structural aspects of native and engineered metal clusters on bacterial surface layers

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	1) Title: Misleading as the review deals NOT with structural aspects of metal clusters on S-layers! In most cases interaction of SLP with ions is described! 2) Abstract: Two third deals with SPL in general but no words concerning structural aspects of metal clusters on S-layers! 3) The authors should clearly declare which organisms have a metal uptake and which perform biomineralization, fabricate nanoclusters (and what is this) or precipitate or immobilize ions. This is not clear throughout the whole manuscript. 4) p. 5, line 135: What kind of binding occurred passively on the surface and how is its structure? 5) p. 6, line 156: What is the nature of this selective and reversible binding of uranium. How can it be removed and what is the structure of the bioceramic? 6) p. 8, line 194: Please write in more detail what you mean with "opens the possibilities to design templates for the synthesis of ordered metal arrays": Give some examples! 7) p. 8, line 205: Please tell us what are "supramolecular hosts and building blocks for bioelectronics devices" Give examples! 8) p. 9, line 234 to 237: The meaning of this paragraph is not clear! First the stability of the SLP is mentioned and later on that of "these nanoarrays"... 9) p. 9, section 4: Several described methods are not able to elucidate the interaction of metals with SLP. At p. 14, 4.5 no data on ions or metals are given at all.	



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<u>Minor</u> REVISION comments	1) p. 3, line 57: what are “crystalline units”? Do the authors mean “unit cell”? 2) p. 3, line 61: Please give an example for a post-translational modification of an SLP by lipids! 3) Figure 1: The quality of Figure 1 is very poor! 4) Figure 2: What are S-layer tubes. SLP recrystallized on a tube-like substrate?? 5) p. 9, line 242: which metal nanoclusters and nanomaterials can be constructed? How do they look like? 6) Figure 4: What can be seen here? On the top a stripe-like structure, but what is it? The repeating of the stripes does not fit to the lattice parameter of SbsB ... What is than the grey structure without structure? And to corrsponds the dark grey areas at the lower edges? This is not a geed image, I know much better ones even simply by looking at negative stained preparations! 7) Figure 7: Why is there a preferred binding at the boundary and not on the surface of the bacterium? Why is the control bacterium dark and the other bacterium lighter? 8) p. 19, line 539: pores are not distributed down to the subnanometer scale.	
<u>Optional/General</u> comments	The review reports more on the structure of SLP alone and on its interaction with metal ions without going into much detail. Structural aspects of native and engineered metal clusters on bacterial surface layers, however, got only marginal space within this review!	

Note: Anonymous Reviewer