



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: The title is misunderstanding and should be changed, because most of the paper is dealing with structural aspects on the S-layer itself (native an engineered) and interactions with metals, not with the design of metal clusters	Following the reviewer's suggestion, the title was changed to: <i>Biophysical methods in the elucidation of the S-layer proteins /metal interaction</i>
Minor REVISION comments	2) Legend of Fig 3: the immobilization of metals is already biosorption 3) Literature: ll. 206 ff.: References 58-60 are not really S-layer related; further, S-layers itself usually do not have an enzymatic function; instead I suggest citing Mark, Sonny. S et al (see below) 4) There are some applications using the metal binding properties of S-layers that should be cited (see below) 5) The following references should be included: Applications: Title: Biosensing for the Environment and Defence: Aqueous Uranyl Detection Using	2) The reviewer is right and the legend of this figure has been corrected as follows: Fig. 3. Interaction of metals and cells wearing S-layers. The metal can be passively immobilized by S-layers on the surface of the cell (biosorption) [42,44]. This interaction may also be used as.... 3) The reviewer is right and former references 58 and 59 have been replaced by the suggested reference (reference 64 in the revised version of the manuscript). 4 and 5) The suggested references were added and highlighted in yellow in the text and in the Reference's Section (references 49,58-60,64,100,107,119).



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	Bacterial Surface Layer Proteins Author(s): Conroy, David J. R.; Millner, Paul A.; Stewart, Douglas I.; et al. Source: SENSORS Volume: 10 Issue: 5 Pages: 4739-4755 DOI: 10.3390/s100504739 Published: MAY 2010 Times Cited: 0 (from Web of Science) Title: Biosorption of heavy metals by sol-gel immobilized Bacillus sphaericus cells, spores and S-layers Title: Biosorption of uranium and copper by biocers Author(s): Raff, J; Soltmann, U; Matys, S; et al. Source: CHEMISTRY OF MATERIALS Volume: 15 Issue: 1 Pages: 240-244 DOI: 10.1021/cm021213l Published: JAN 14 2003 Title: Novel supported Pd hydrogenation bionanocatalyst for hybrid homogeneous/heterogeneous catalysis Author(s): Creamer, N. J.; Mikheenko, I. P.; Yong, P.; et al. Source: CATALYSIS TODAY Volume: 128 Issue: 1-2 Pages: 80-87 DOI: 10.1016/j.cattod.2007.04.014 Published: OCT 15 2007 Biohybrids:	
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	Title: Self-assembly of dendrimer-encapsulated nanoparticle arrays using 2-D microbial S-layer protein biotemplates Author(s): Mark, Sonny. S.; Bergkvist, Magnus; Yang, Xin; et al. Source: BIOMACROMOLECULES Volume: 7 Issue: 6 Pages: 1884-1897 DOI: 10.1021/bm0603185 Published: JUN 2006 Spectroscopy: Title: Spectroscopic studies of the electronic properties of regularly arrayed two-dimensional protein layers Author(s): Vyalikh, D. V.; Kirchner, A.; Kade, A.; et al. Conference: International Workshop on Self-Organized Nanostructures Location: Cargese, FRANCE Date: JUL 17-23, 2005 Source: JOURNAL OF PHYSICS-CONDENSED MATTER Volume: 18 Issue: 13 Pages: S131-S144 DOI: 10.1088/0953-8984/18/13/S09 Published: APR 5 2006 Title: Small-angle scattering of S-layer metallization Author(s): Aichmayer, B; Mertig, M; Kirchner, A; et al. Source: ADVANCED MATERIALS Volume: 18 Issue: 7 Pages: 915-+ DOI: 10.1002/adma.200501646 Published: APR 4	
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	2006 S-layers as template for the formation of nanoparticles: Title: Electron-beam induced formation of highly ordered palladium and platinum nanoparticle arrays on the S layer of Bacillus sphaericus NCTC 9602 Author(s): Wahl, R; Mertig, M; Raff, J; et al. Source: ADVANCED MATERIALS Volume: 13 Issue: 10 Pages: 736-740 DOI: 10.1002/1521-4095(200105)13:10<736::AID-ADMA736>3.0.CO;2-N Published: MAY 17 2001 S-Layer protein from Lysinibacillus sphaericus JG-A12 as matrix for Au-III sorption and Au-nanoparticle formation Jankowski, U.; Merroun, M.; Selenska-Pobell, S.; Fahmy, K. Spectroscopy 24(2010)1-2, 177-181	
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<u>Optional/General</u> comments	The manuscript gives a comprehensive overview on structural studies on S-layer proteins, their interactions with metals and formation of nanoclusters and includes most of the relevant literature in this field. Most references have been well cited. I have some minor comments that should be considered.	
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