



SDI Review Form 1.6

PART 1:

Journal Name:	Ophthalmology Research: An international Journal
Manuscript Number:	MS: 2012/ ORAIJ/ 2442
Title of the Manuscript:	Formulation and physical characterization of a novel sustained-release ophthalmic delivery system for sparfloxacin: the effect of the biological environment

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.The author cannot predict the type of phase solubility diagram. He needs more points to get the best fitting. Only one point showed a significant increase in solubility (0.01 mM). 2.From the apparent $K_{1:1}$, it is clear that the binding is weak and the efficiency of CD to solubilize the drug is very low (1:20 CD/Drug molar ratio). Also one cannot predict the stoichiometry from the slope. Non linear regression may be needed to fit the data for such prediction. 3.The phase solubility diagram needs to be done in buffered water (pH 7) to compare with the findings in the dissolution and formulation works. 4.The author cannot have strong evidence that the prepared complex is real complex and improve the drug solubility unless he prepared the physical mixture of the drug and CD, off course after treating each component separately with the same procedure (e.g. lyophilizing with the same solvent) before mixing together. 5.The decrease in the intensity of peak by DSC as explained by the author (due to partial formation of complex) needs to be checked by preparing the physical mixture by simple mixing without mortar and pestle. If the phenomena remains most probable the decrease in the DSC peak is due to formation of complex during running the DSC (e.g. due to heating in the presence of high content of water in the components).	



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	6.Using the IR to prove complexation, the author needs to compare the spectra of the complex with the physical mixture not with that for the drug. 7.Also SEM scan for the freeze dried drug and CD alone to be run to prove change in morphology. Use the two components without treatment may lead to inadequate conclusions. 8.In case of dissolution, it is most probable if the author used the freeze dried drug and CD to prepare the physical mixture the difference in the %release will dimensioned between the complex and the physical mixture. 9.From the process point of view, using physical mixture rather than using freeze drying technique to prepare the complex is better. So I recommend to prepare the same formulas (FM1, FM2, FM3 and FM4) using just the physical mixture not the complex. Most probable this will lead to the gels. 10. The data of LVR in the text and table different. Needs correction. 11. The difference in LVR values between FP2 and FM2 needs explanation. 12. Need more discussion on LVR, Breakdown stress and phase transition time. 13. The difference in the Hardness between FP3 and FM3 is insignificant, both are very small compare with the others, so no need for more explanation. Comparison of FP3 and FM3 with the others is worthy. 14. Conclusion needs to be summarised and focused on the suitable formulation. The detail discussion can be moved to "Result and Discussion" section.	
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Minor REVISION comments	1. Table (9) changed to table (3) and Table (1)) to Table (4) in the text. 2. Reference 1, change Omaria to Omari, Daraghmeha to Darghmeh, Zughulc to Zughul, Chowdhryd to Chowdhry, Leharded to Leharne, and Badwana to Badwan. 3. Table (3), uniform the range by (-) or by (to) 4. Page 17, line 597, add "on" before $T_{sol/gel}$. 5. Page 17, line 605, ca^{+2} to Ca^{+2}. 6. Present the $K_{1:1}$ by 105 no need to be 105.0228 M^{-1}.	
Optional/General comments	The manuscript needs more discussion and data elaboration. Strong evidence for complex formation is not presented Use of physical mixture instead of inclusion complex might lead to the same formulations.	

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