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Interactive comment on "Hyposalinity tolerance inthecoccolithophorid *Emiliania huxleyi* under the influence of ocean acidification involves enhanced photosynthetic performance" *by* Jiekai Xu et al.

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Dear professor: Thank you for your comments concerning our manuscript entitled "Hyposalinity tolerance in the coccolithophorid Emiliania huxleyi under the influence of ocean acidification involves enhanced photosynthetic performance". We have studied reviewer's comments carefully and here is our response as follow: First of all, our study aims to study the physiological response of Emiliania huxleyi under a possible future scenario in the high latitude with both ocean acidification and desalination. EssentiallyïijÑit's the effect of the changed carbonate system on E. huxleyi and that's our main focus. As salinity could also influence carbonate system markedly while few paper of

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Discussion paper

ocean acidification have studied yet, we add this factor in our study. Therefore, what we discuss in the last part is mainly about the influence of changed carbonate parameters on cells and the reasons behind. It seems you don't understand our intentions. Also, it's impossible to give mature consideration to all aspects of a question in a paper like what you have mentioned such as the effects of osmolality, ion concentrations and electrochemical gradients. Secondly, there are quite a lot of your opinions I can't agree. For example, the way to culture and measure the specific growth rate of cells in our study has been reported in many other studies, all of which start from a very low cell concentration, and we have given related references. Besides, we have described details of our 14C incorporation experiment. For example, the quantities of added 14C is 5 μCi (please go back to see the main text line 216) and we didn't exchange the medium for the 14C incorporation experiment. Instead, we collected portion of the medium (line 215). As the total volume is only 20ml with far less quantities of 14C added , the change of carbonate chemistry could be neglected. The method used to measure photosynthesis and calcification rate in our study is classic and we have given related references so there should be no problem. In all, it's a pity that you don't appreciate our manuscript. We hope you can read it again carefully and estimate the value of our study again.

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