

## ***Interactive comment on “Fast-freezing with liquid nitrogen preserves bulk dissolved organic matter concentrations, but not its composition” by Lisa Thieme et al.***

### **Anonymous Referee #1**

Received and published: 30 March 2016

This paper has dealt with effects of freezing types on DOM concentrations and properties. The manuscript is well-written and organized. The topic is useful for researchers related to DOM dynamics in terrestrial and aquatic ecosystems.

It is well-known that freezing can decrease DOC concentration due to aggregation and irreversible particle formation, but this paper reported that liquid nitrogen can reduce concentration changes. This will be useful for the readers. On the other hand, composition changes were detected even for samples frozen by liquid nitrogen. Freezing can cause selective removal of non-aromatic DOM during freezing and thawing. This will be inevitable using freezing of samples.

In the present version of manuscript, several mistakes need to be revised.

C1

P4L5 Revise “500 ml” to “500 mL”. P4L26, 28 Revise “ml” to “mL”. P6L25 Revise “mg L-1” to “mg C L-1”. P7L5 Revise “Fellman et al., (2010)” to “Fellman et al. (2010)”  
P8L24 Revise “formerr” to “former”

Interactive comment on Biogeosciences Discuss., doi:10.5194/bg-2016-88, 2016.

C2