

Interactive comment on “Bathypelagic particle flux signatures from a suboxic eddy in the oligotrophic tropical North Atlantic: production, sedimentation and preservation” by G. Fischer et al.

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We were careful to state that we did not detect these compounds using the methods that were described (Discussion paper page 18270, lines 16-20). This does not mean that they were completely absent; however, they certainly did not contribute substantial quantities to the total lipid pool. This lead us to deduce that the respective bacterial communities were not present in high enough quantities to lead to a detectable signal. The comment illustrates that in order to be clearer, we should explicitly state that the analytical tools applied here did not allow the detection. Therefore, in the revised paper, the respective paragraphs shall be modified to read:

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Unique membrane lipids of anammox bacteria, so-called ladderanes (Sinninghe Damsté et al., 2002) nor biomarkers related to a pigment of the photosynthetic green sulphur bacteria Chlorobiaceae, isorenieratene and its derivatives, all indicative of photic zone anoxia, could not be detected using the analytical tools described above.

Screening of the samples #1–8 of the upper trap for the presence of unique membrane lipids of anammox bacteria, so-called ladderanes (Sinninghe Damsté et al., 2002) did not provide evidence for the presence of such compounds during the ACME passage. Further, using the analytical protocol described above we could not detect biomarkers related to a pigment of the photosynthetic green sulphur bacteria Chlorobiaceae, isorenieratene and its derivatives, all indicative of photic zone anoxia (e.g. Koopmans et al., 1996). Thus, evidence for bacterial communities detected in OMZs including green sulfur bacteria and anammox bacteria (see summary in Löscher et al. (2015a) could not be found with our methods. However, detection of these compounds requires the respective bacterial stocks to be present in concentrations above a certain detection threshold and/or an effective export mechanism for them leading to incorporation into sinking particles.

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