

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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Received and published: 13 November 2015

This is a short comment on the reported absence of isorenieratene and ladderane fatty acids in sediment trap material in the tropical North Atlantic. GC-MS analysis is reported as the method of choice for the analysis of these biomarker lipids. However, this method will likely fail in the detection of these compounds. Isorenieratene with its conjugated double bonds will not be readily eluting over a GC-MS column and the method of choice for this is generally HPLC combined with UV-PDA detectors, in combination with APCI-MS if needed. Furthermore, for pigment analysis, acetone is the recommended extraction solvent. For ladderane fatty acid analysis, HPLC-APCI MS

C7678

(Hopmans et al., 2006) is used because of its much greater sensitivity than GC-MS as these compounds give poor performance over a GC column because of thermal instability (Sinninghe Damste et al., 2005). Therefore, it seems premature to report an absence (i.e., below detection limit) of these biomarkers as not the most sensitive and optimal detection techniques were used.

Sinninghe Damste et al., 2005. FEBS J. 272, 4270-4283.

Hopmans et al., 2006, Rap. Comm. Mass. Spectr. 20, 2099-2103.

Interactive comment on Biogeosciences Discuss., 12, 18253, 2015.

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