

Interactive comment on “Bioavailability of sinking organic matter in the Blanes canyon and the adjacent open slope (NW Mediterranean Sea)” by P. Lopez-Fernandez et al.

Anonymous Referee #2

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Major comments:

The two sampling site have a significantly different distance from the coast, I was wondering how much that influences the vertical flux and quality of organic matter to the deep sediment traps. This could be answered by comparing shallow sediment traps to the deep traps. Some sediment trap work was already published in 2012 by the first author, may be this information could be included in this manuscript to gauge the importance of surface fluxes to the deep sediment trap.

The analytical methods used in this study are somewhat dated and it would be essential for the manuscript to include some sort of comparison of their methods to the more

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current methods of characterizing organic matter in the ocean (GC-MS, LC, NMR) otherwise the significance of this study is hard to judge. I bring this up because looking at the literature it seems that recent NMR work suggests a very different relative contribution of lipids, carbohydrates, and amino acids in deep ocean POM. The authors even reference that work (by Hedges et al. 2001) but don't comment on the differences. Another important paper in this respect is the paper by Wakeham et al. 1997. This one includes organic matter composition data for sediment traps and surface sediments. Without offering a plausible reason for the differences in organic matter composition of deep sea environments it is hard to put the findings of this study in context.

Minor comments:

18309 13-15: Lignin phenols are not carbohydrates, and carbohydrates are not the most refractory fraction of organic matter in the ocean based on most peer reviewed literature

There are numerous editorial issues throughout the paper, below are the once I picked up on

18300- 15: avoid organic matter explosion – is that what the authors wanted to say?
20: delete 116 25: should be “Inductively coupled Plasma Emission Spectrometer”

18304 13: decreased to 1.54 g. . .

18307 24: important

18308 10: thence? 24: profit from

18311 4: lability 8: a heterotrophic

18312 6: replace behavior with pattern

Interactive comment on Biogeosciences Discuss., 9, 18295, 2012.

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