

## ***Interactive comment on “Seagrass as major source of transparent exopolymer particles in the oligotrophic Mediterranean coast” by Francesca Iuculano et al.***

### **Anonymous Referee #2**

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### **Seagrass as major source of transparent exopolymer particles in the oligotrophic Mediterranean coast**

This paper by Iuculano et al. evaluates the seagrass *Posidonia oceanica* as a source of TEP to Mediterranean coastal waters by comparing two sites, an oligotrophic rocky shore (Faro Cap Ses Salines) and a sandy beach with seagrass detrital accumulation (Es Caragol). Additionally, the authors experimentally quantified release of TEP by *P. oceanica* leaf litter in the laboratory over the course of 11 days. The study is interesting and seems to clearly implicate *P. oceanica* as a source of TEP locally based on the significantly higher amounts of TEP at Es Caragol compared to Faro

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Cap Ses Salines, and the production of TEP from the leaf litter in the lab experiment is evident. Expanding these results out to the whole of the Mediterranean needs to be done with a bit more caution, however. It should be more clearly indicated that these estimates would likely be maximum values of TEP contribution by *P. oceanica*, as the value used for the calculations came from the lab experiments conducted at 26.3°C which is near the maximum annual temperature at Es Caragol. The fate of this TEP is also not addressed within the scope of the study, so again its persistence or overall contribution to the entire Med Sea is not clear as these hyper-local source sites may be incredibly patchy and behave very differently in different locations. Yet these results are still an useful starting point for quantifying TEP from seagrasses, and so I recommend publication if the limitations of the concluding estimates are addressed in the text.

**Minor comments:**

- line 19: it appears there's a typo here, should 'deoxyc' be 'deoxy sugars'?
- line 41: 'studying' should be 'study'
- line 51: 'for three years since 2006' is confusing here, especially since the data in figure 2 start in January 2012? please clarify
- line 55: 'in the shore' should be changed to 'on the shore'
- line 56: 'on 2 L Nalgene bottles' should be changed to 'in 2 L Nalgene bottles'
- line 91: 12 hours is listed twice here, please correct
- line 140: 'a role that may play seagrasses' is confusing and appears out of order, please clarify
- line 143: 'assess' should be 'assessed' here
- line 145: the wording of the end of this final sentence is awkward and should be revised
- Bar Zeev et al., 2011, Duarte and Cebrian, 1996, and Mykkestad, 1977 are not listed in the references.
- Mykkestad, 1995 and Parsons et al., 1984 are listed in the references but not referenced in the text.

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