**Reply to Reviewer #2**

We thank the reviewer for his/her comments. We took them into account and we have changed our manuscript accordingly.

***Manuscript Summary:***

**I would like to congratulate the authors for this step-by-step guide to the extraction of pesticides adsorbed to plastic pellets. The video that complements the protocol is self-explanatory and provides valuable information in some of the steps, regarding either health and safety regulations or ways to protect the sample from airborne contamination.**

***Major Concerns:***

**None to be noted.**

***Minor Concerns:***

**Probably figure 7 could somehow be improved with a composite of all figures.**

The figures 7A, 7B, 7C and 7D have been merged as one figure as suggested by the reviewer.

***Additional Comments to Authors:***

**I understand the concern reflected on lines 511-512, on finding alternative separation techniques that preserve the chemicals, as these techniques might influence the results of adsorbed pollutants. What kind of alternative would you suggest?**

This issue is quite challenging and up to now the safest method in this regard remains the visual sorting of microplastics from other material, directly or under stereomicroscope. However, the limitation lies in the fact that visual inspection and identification is only possible for large pieces (>0.5-1 mm). Below this size, other types of organic or inorganic fragments can be easily mistaken for plastic particles therefore the analysis of the sorted sample is required to assess its chemical nature (e.g. by FT-IR). The purification of plastic sample is obligatory prior to this analysis to avoid artifacts due to the presence of impurities (e.g. biofilms). This purification step, which usually involves the use of strong oxidants/acids and/or organic solvents eventually under heat and sonication, will lead to the desorption and/or degradation of the adsorbed contaminants. Other purification methods, which might be less aggressive towards the adsorbed pollutants, have been tested with success such as the use of sequential enzymatic digestion (Cole and al., 2014).

Thus, for larger pieces, the visual inspection should be applied when the aim is the determination of adsorbed pollutants, as well as microorganism. For smaller pieces, for the determination of which the chemical analysis is required, the use of an analytical technique that is not strongly affected by the presence of impurities should be selected since all type of purification steps will impact the results of adsorbed contaminants to some extent. Some recent studies have investigated the possibility of using pyrolysis-GC in combination with mass spectrometry to identify the plastic type (Fries et al., 2013). This technique might be less sensitive to impurities since the analysis is based on the thermal degradation products and their separation. Finally, if a purification step is required the enzymatic digestion method might be the most appropriate.

Cole, M.; Webb, H.; Lindeque, P. K.; Fileman, E. S.; Halsband, C.; Galloway, T. S. Isolation of microplastics in biota-rich seawater samples and marine organisms. Scientific Reports, 4, 4528, (2014).

Fries, E.; Dekiff, J.H.; Willmeyer, J.; Nuelle, M.T.; Ebertc., M.; Remy., D. Identification of polymer types and additives in marine microplastic particles using pyrolysis-GC/MS and scanning electron microscopy. Environ. Sci.: Processes Impacts, 15, 1949-1956, (2013).