

Electronic supplementary information (ESI) available.

Metal distribution into microplastic structures using laser ablation coupled to ICP MS

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Figure S1: Pictures of the MPs collected on the Guadeloupe beaches named MPG-# to A at J

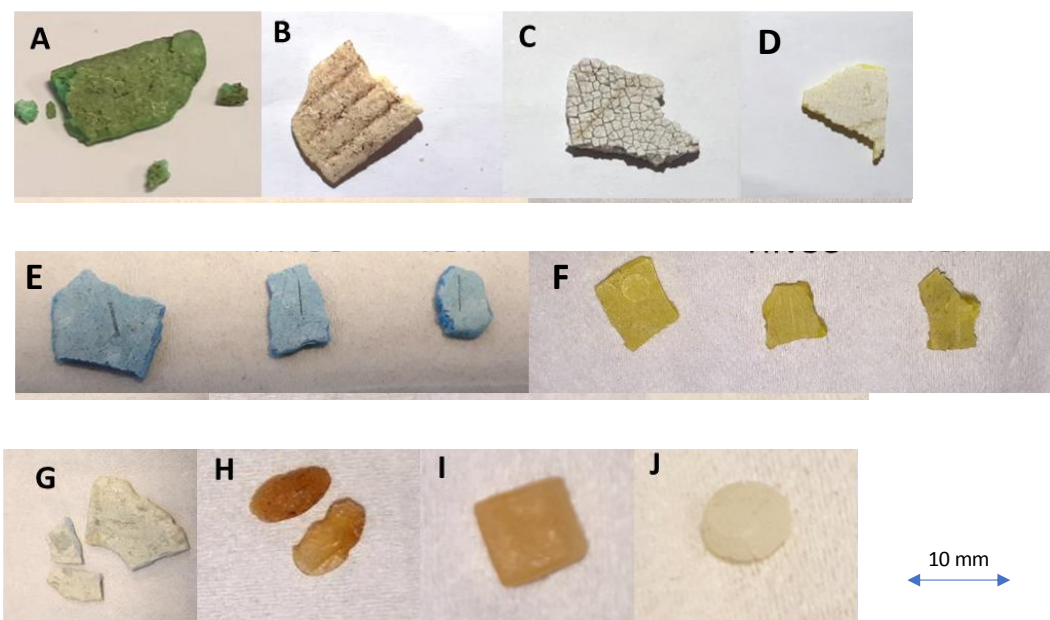


Figure S2: Normalized area of the signals obtained after in-depth laser ablation; ablation 1 corresponds to the MPG surface and ablation 4 corresponds to the deepest scan (correspond to the signals in figure 1).

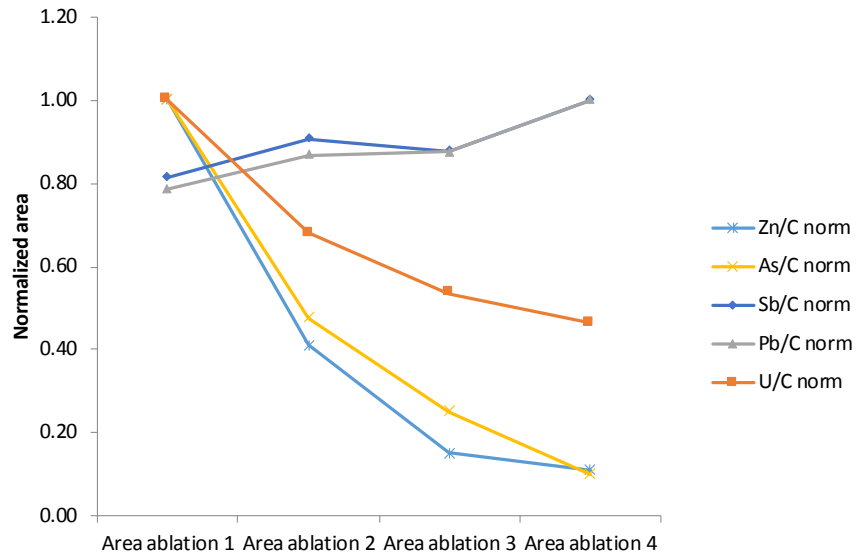


Figure S3: FT-IR spectra of pristine PP (top) and MPG-C (bottom)

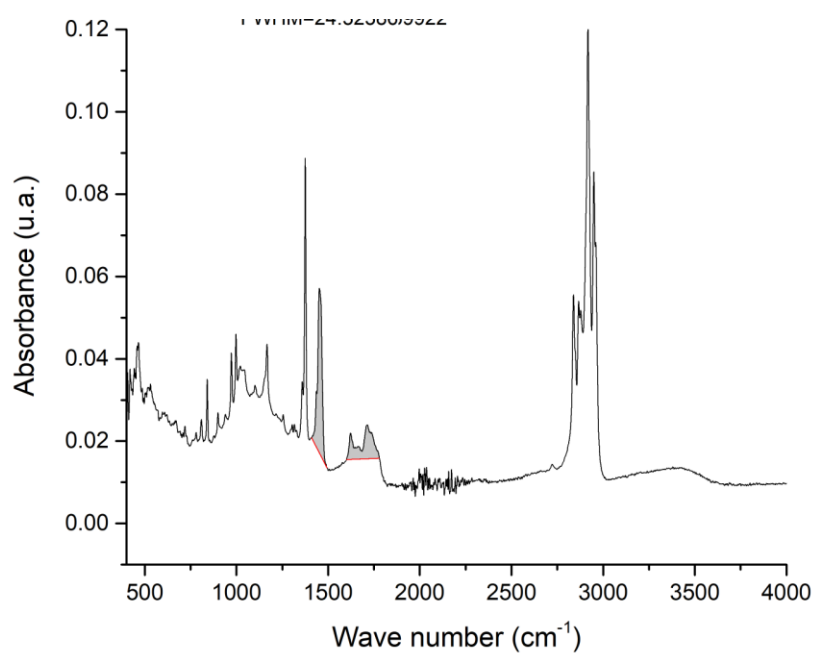
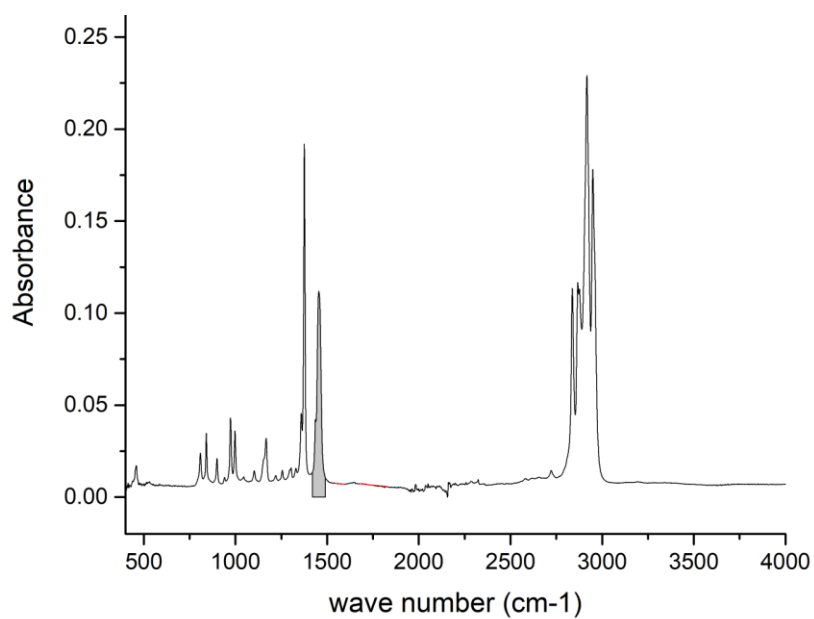
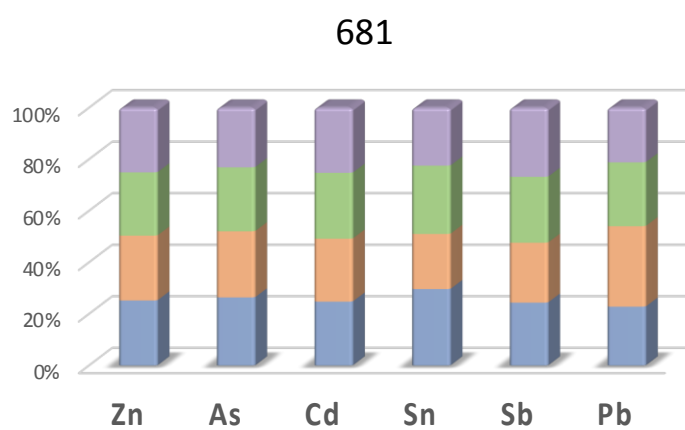
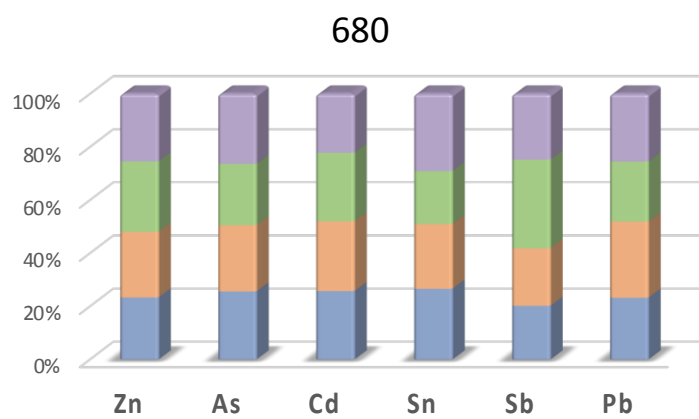


Figure S4: Relative proportions of the different trace element according to the MPs depth ablated: 0-50, 50-100, 100-150 and 150-200 μm for plastic standards (ERM-EC 680 and 681)



Depth in μm : ■ 0-50 ■ 50-100 ■ 100-150 ■ 150-200

Figure S5: Quantitative pattern of the trace element distribution.

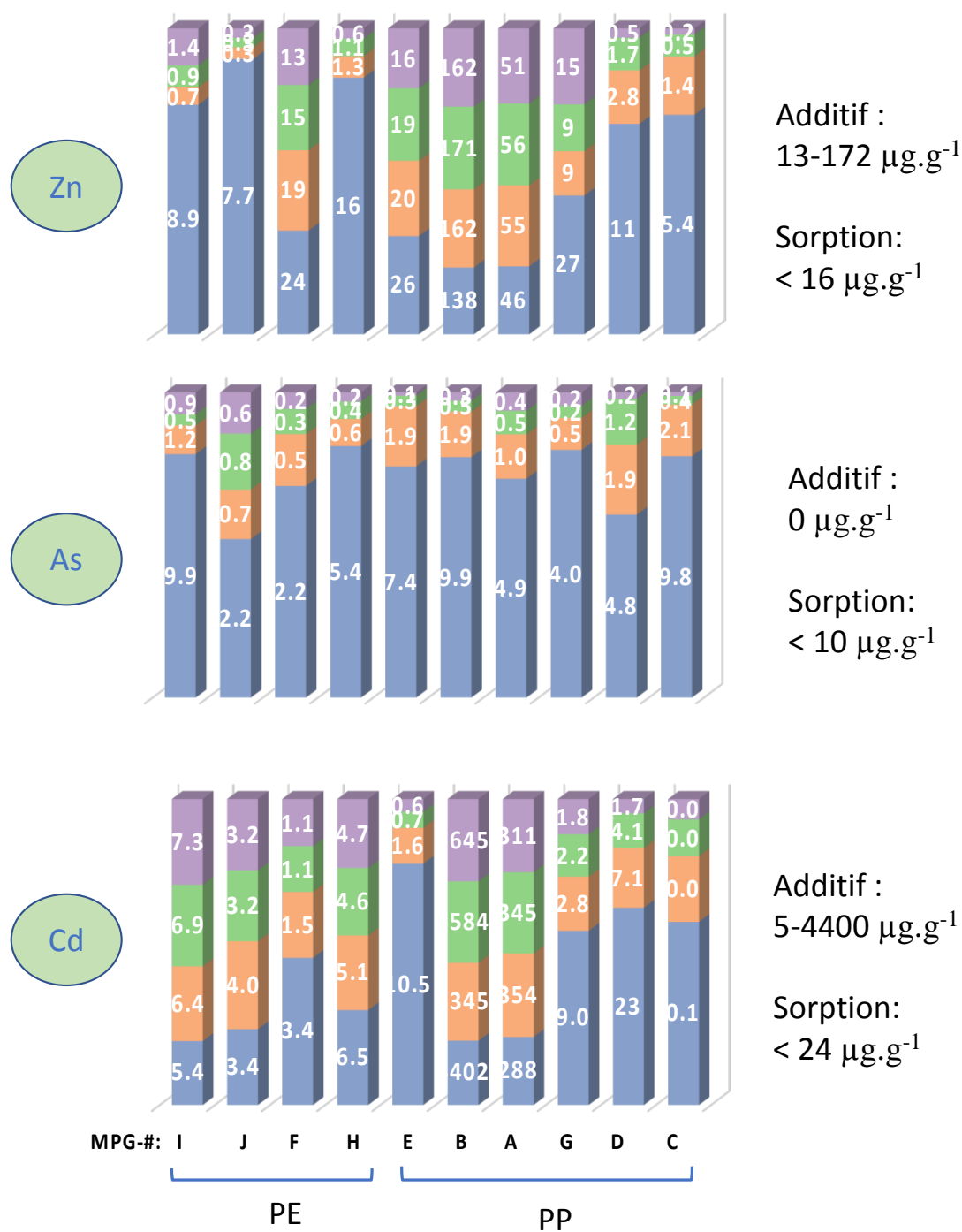
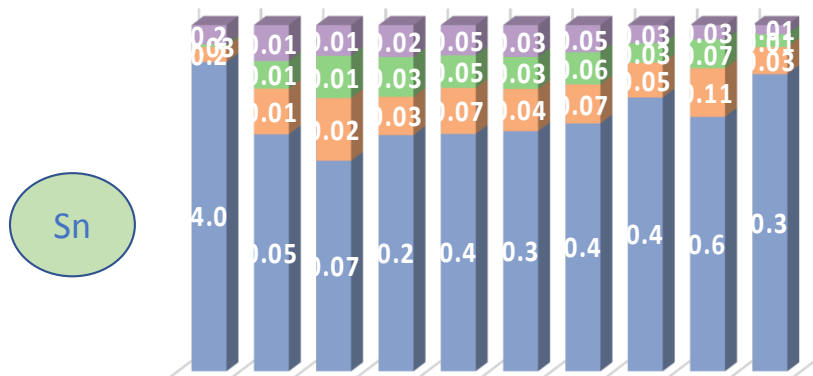
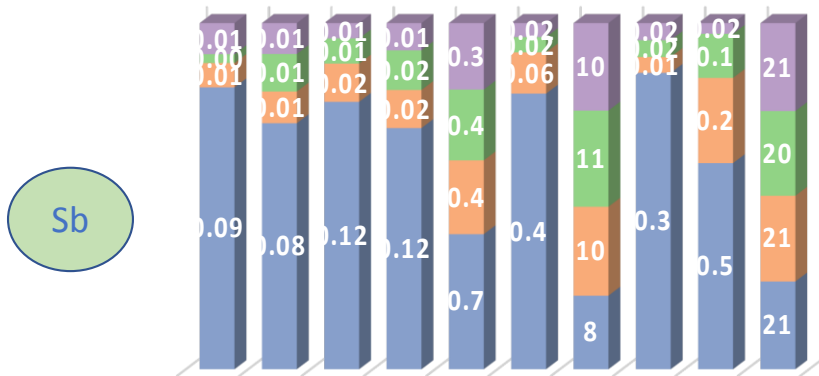


Figure S5: continued



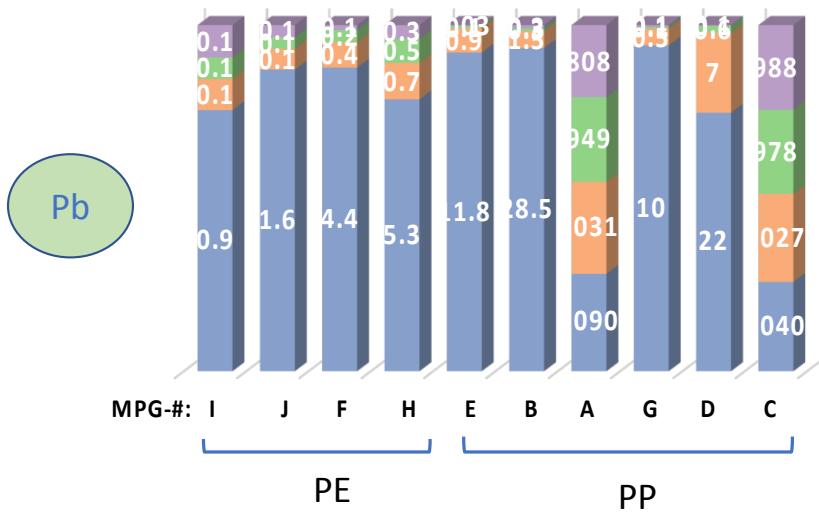
Additif :
0 $\mu\text{g}\cdot\text{g}^{-1}$

Sorption:
< 4 $\mu\text{g}\cdot\text{g}^{-1}$



Additif :
8-21 $\mu\text{g}\cdot\text{g}^{-1}$

Sorption:
< 1 $\mu\text{g}\cdot\text{g}^{-1}$



Additif :
800-1100 $\mu\text{g}\cdot\text{g}^{-1}$

Sorption:
< 29 $\mu\text{g}\cdot\text{g}^{-1}$

Figure S6: Relative proportions of the different trace element according to the MPs ablated depth: 0-50, 50-100, 100-150 and 150-200 μm for MPG-E and MPG-F untreated and treated with KOH

