

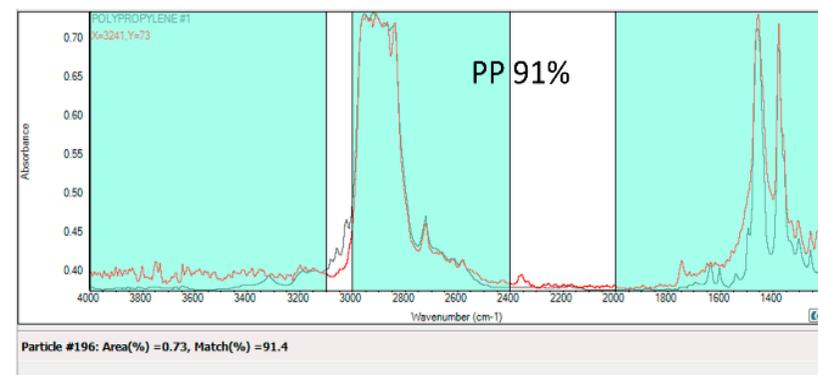
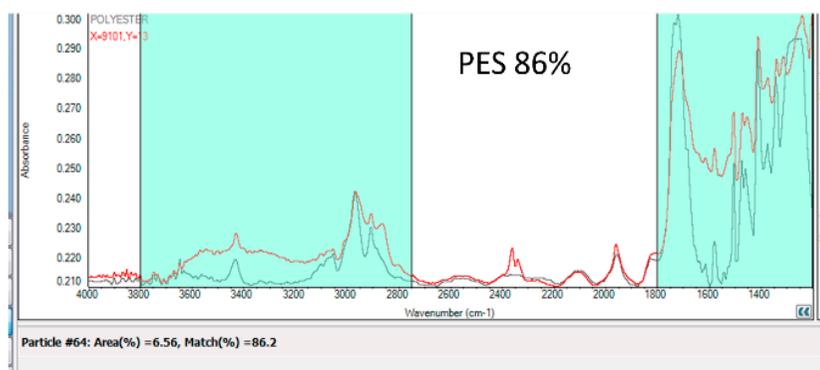
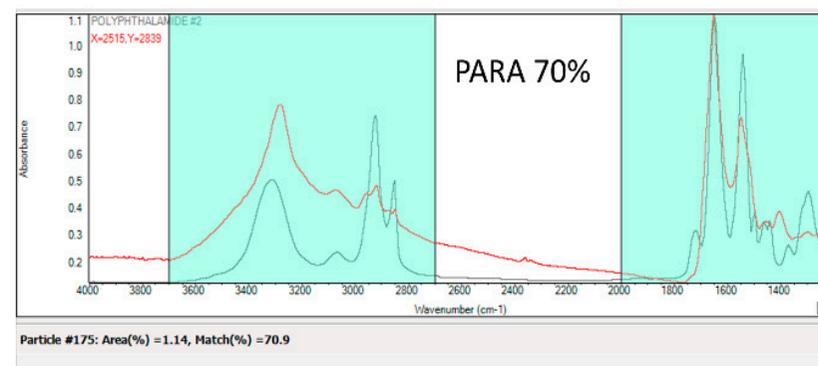
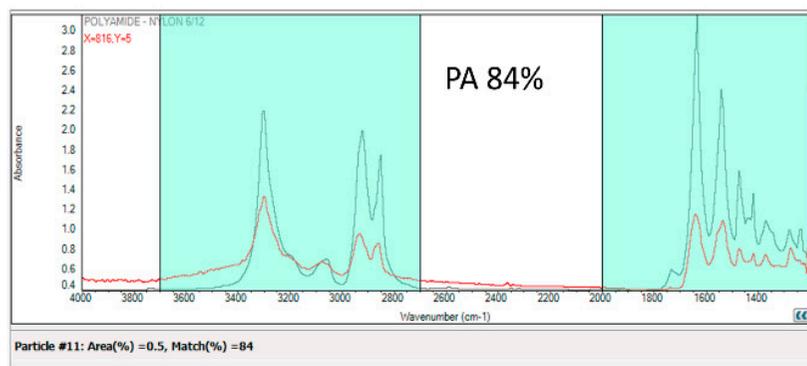
# **Quantification and chemical characterization of plastic additives and small microplastics (<100 µm) in highway road dust**

**Beatrice Rosso, Barbara Bravo, Elena Gregoris, Carlo Barbante, Andrea Gambaro, Fabiana Corami**

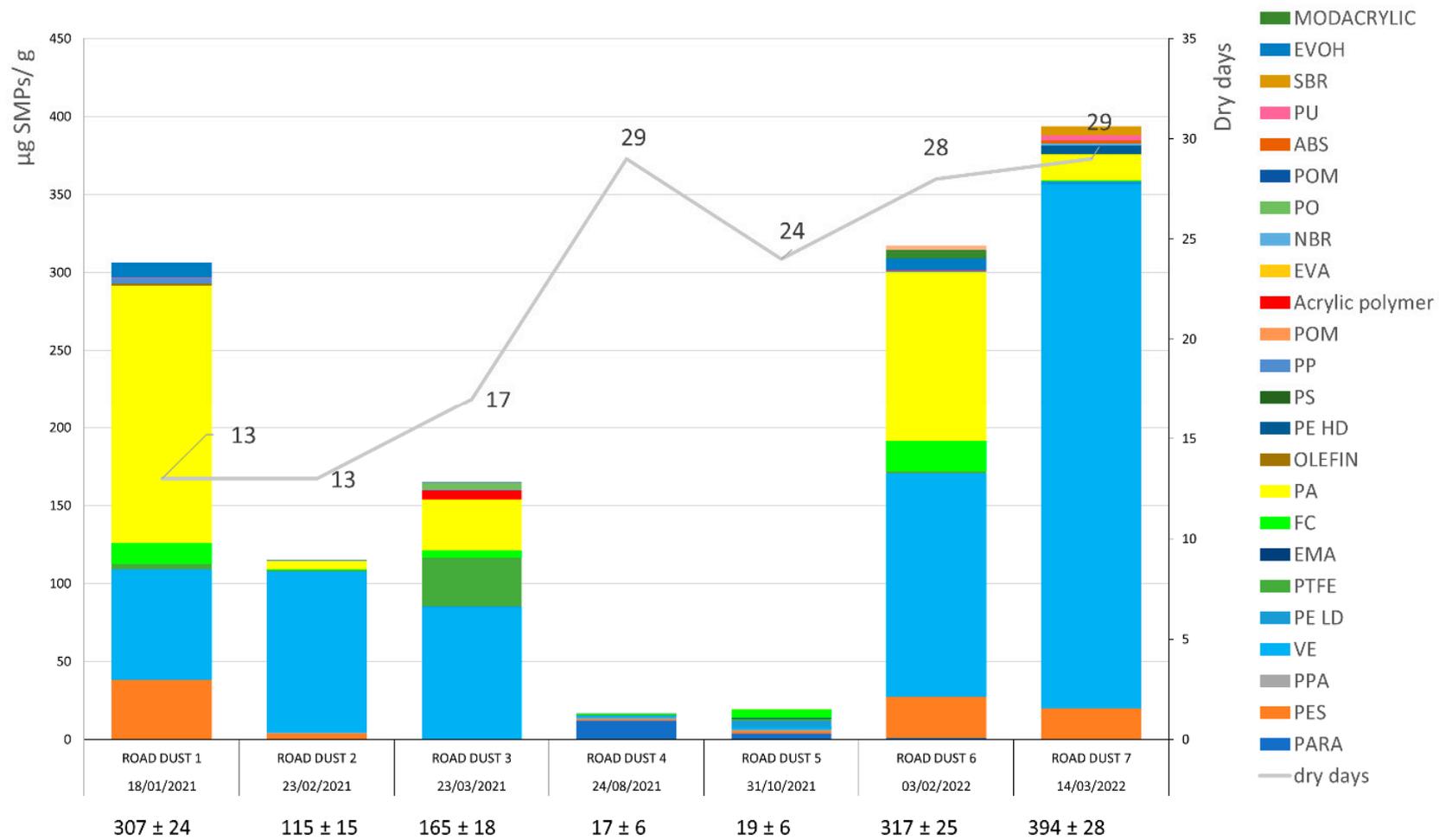
## **S1 List of libraries employed with Micro-FTIR**

- Synthetic fibers by Microscope
- Plastic Fibers
- Polymer additives and plasticizers
- HR Polymer additive and plasticizers
- HR Hummel Polymer and plasticizers
- Common materials
- HR Nicolet Sampler Library
- HR Sprouse Polymer additives
- HR rubber compounding materials

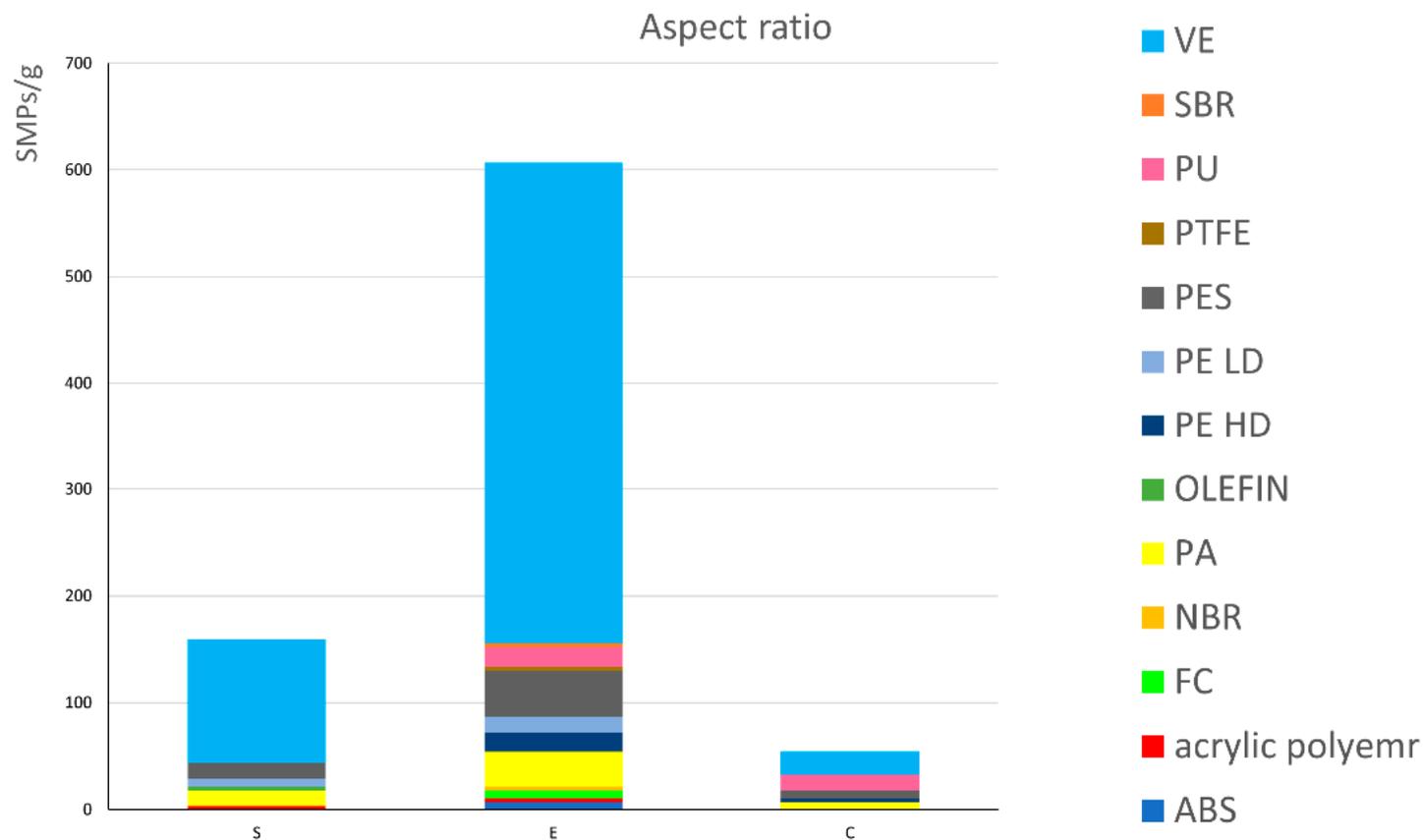
## **Figures in Supplementary Materials**



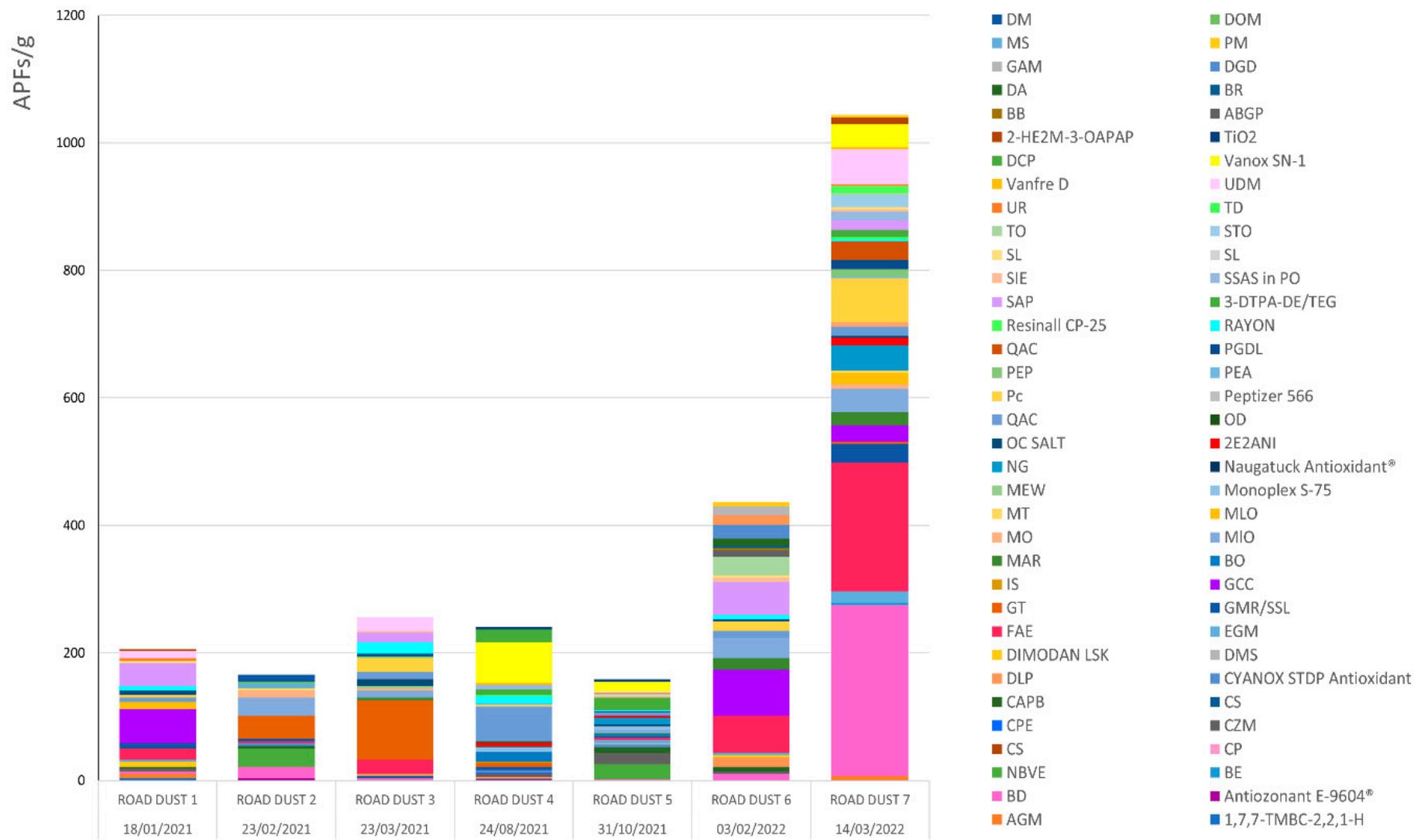
**Fig. S1: Some of the best spectra of the polymers observed in the samples. A match percentage higher than 65% indicates that the polymer spectrum was optimally identified.**



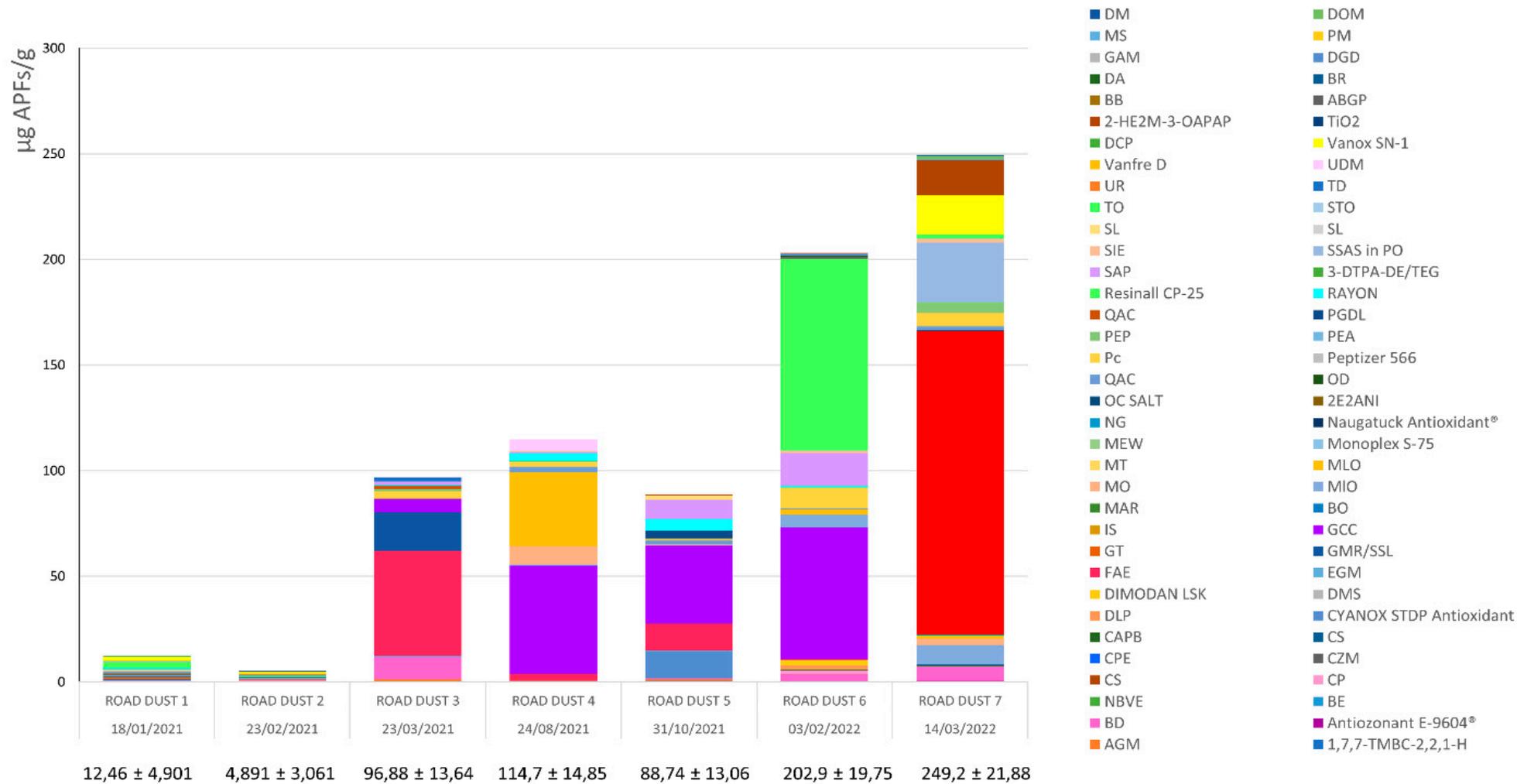
**Fig. S2 Weight of SMPs(µg/g) in the HWRD samples analyze**



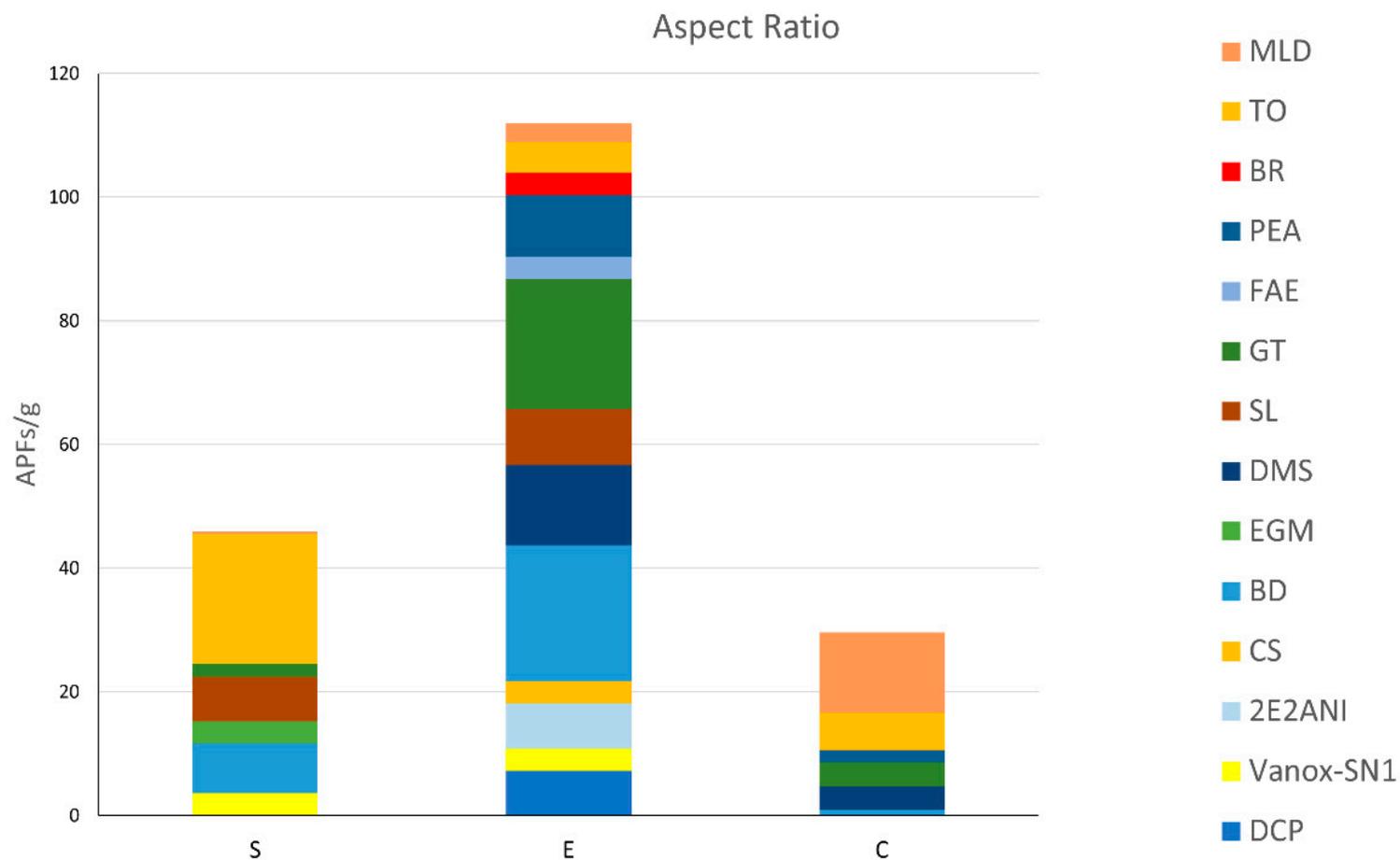
**Fig. S3 Ellipsoid (extrapolated from AR) being the most common shape for SMPs in HWRD. When AR =1, particles are considered spherical (S), while when AR =2, particles are elongated/ellipsoidal (E), and they are considered elliptical. When AR  $\geq$  3, particles are considered cylindrical (C).**



**Fig. S4 APFs' abundance (APFS/g) with the list of all singular APFs analyzed in all the HWRD samples**



**Fig. S5 Weight of APFs (µg/g) in all HWRD samples analyze**



**Fig. S6 Ellipsoid (extrapolated from AR) being the most common shape for APFs in HWRD. When AR =1, particles are considered spherical (S), while when AR =2, particles are elongated/ellipsoidal (E), and they are considered elliptical. When AR  $\geq$  3 particles are considered cylindrical (C).**