

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

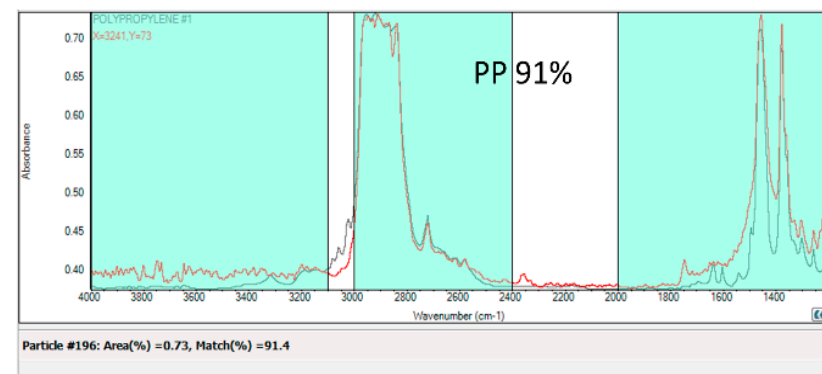
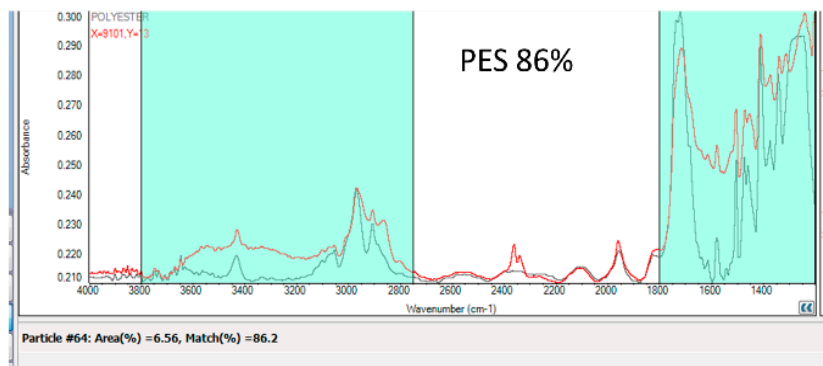
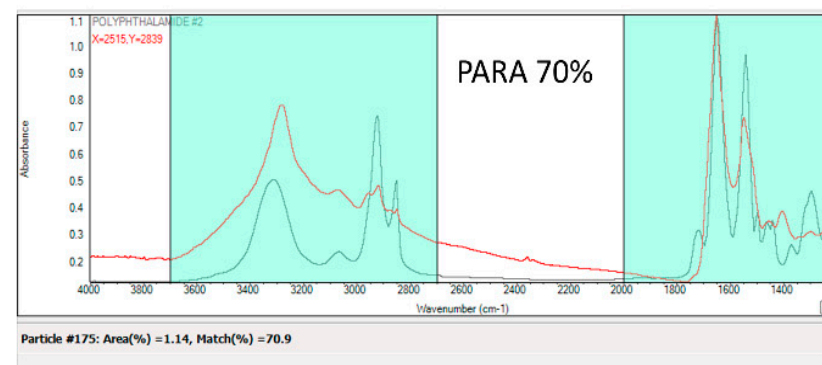
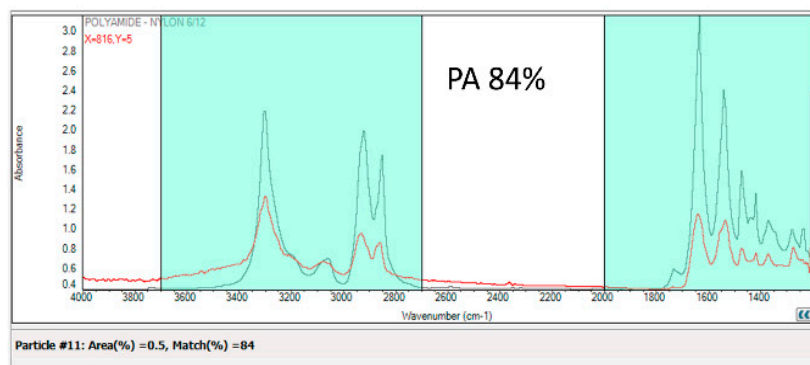


Fig. S1: Some of the best spectra of the polymers observed in the samples. A match percentage higher than 65% indicates that the polymer spectrum was optimally identified.

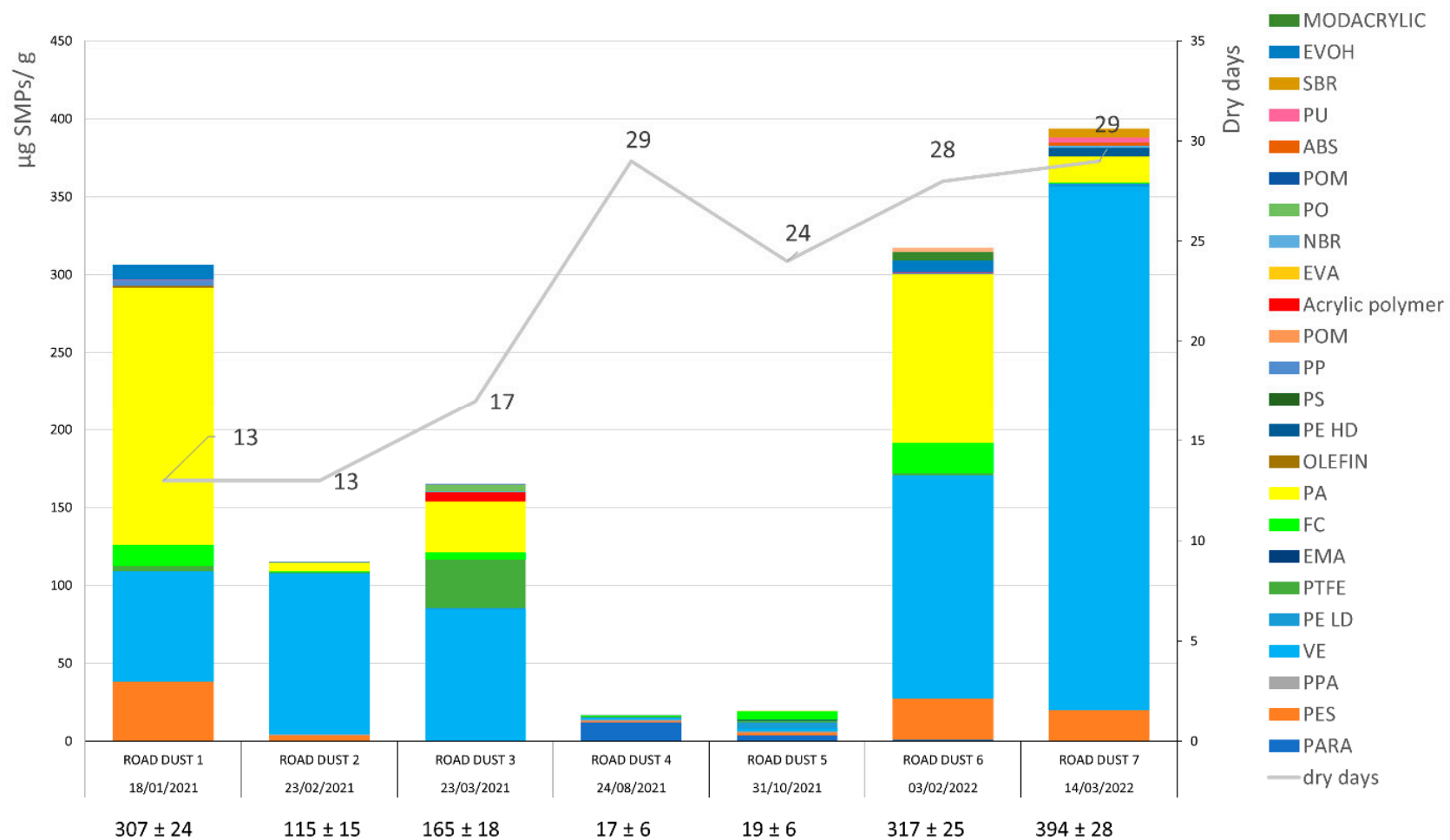


Fig. S2 Weight of SMPs($\mu\text{g/g}$) in the HWRD samples analyze

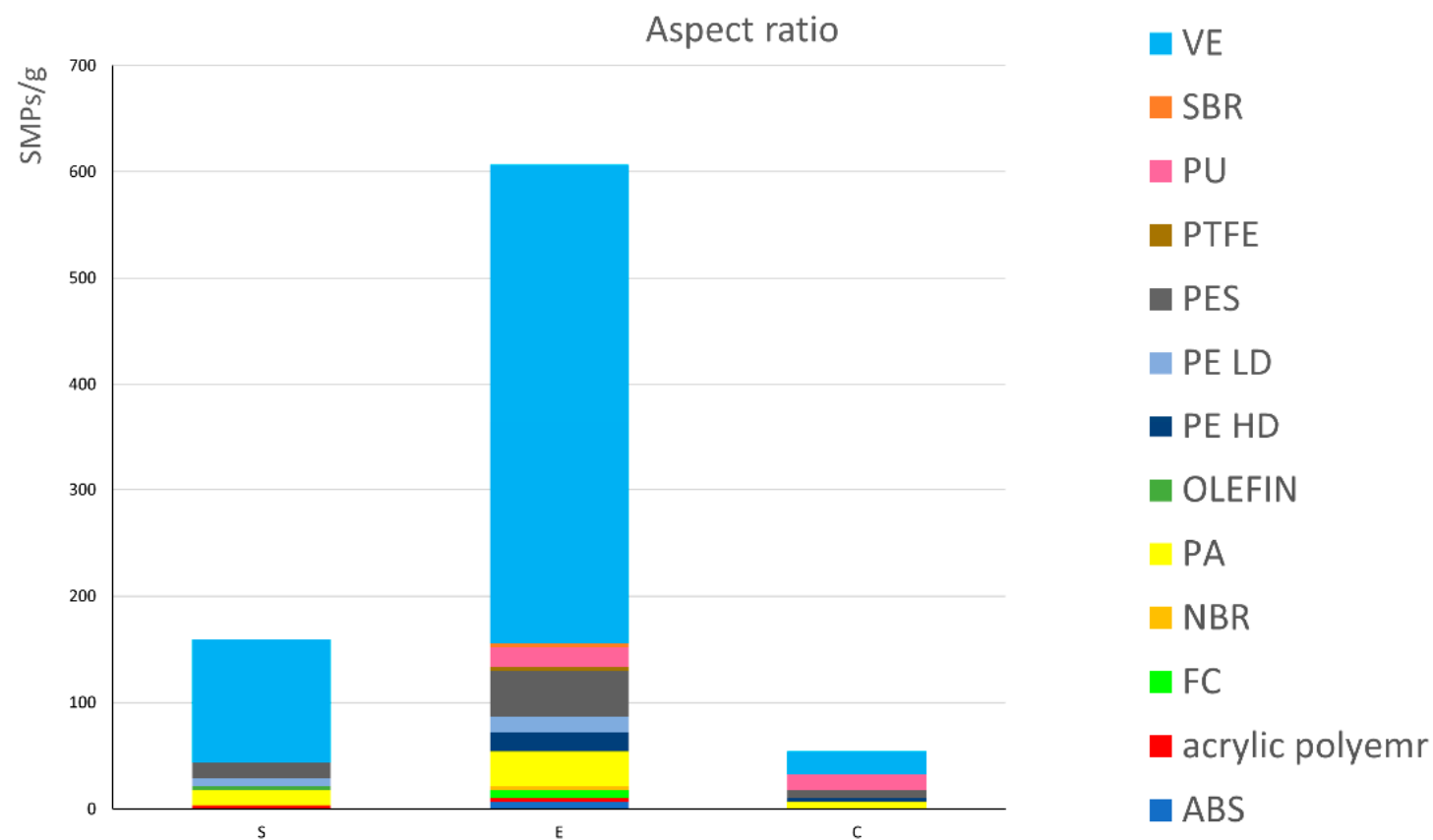


Fig. S3 Ellipsoid (extrapolated from AR) being the most common shape for SMPs in HWRD. When AR =1, particles are considered spherical (S), while when AR =2, particles are elongated/ellipsoidal (E), and they are considered elliptical. When $AR \geq 3$, particles are considered cylindrical (C).

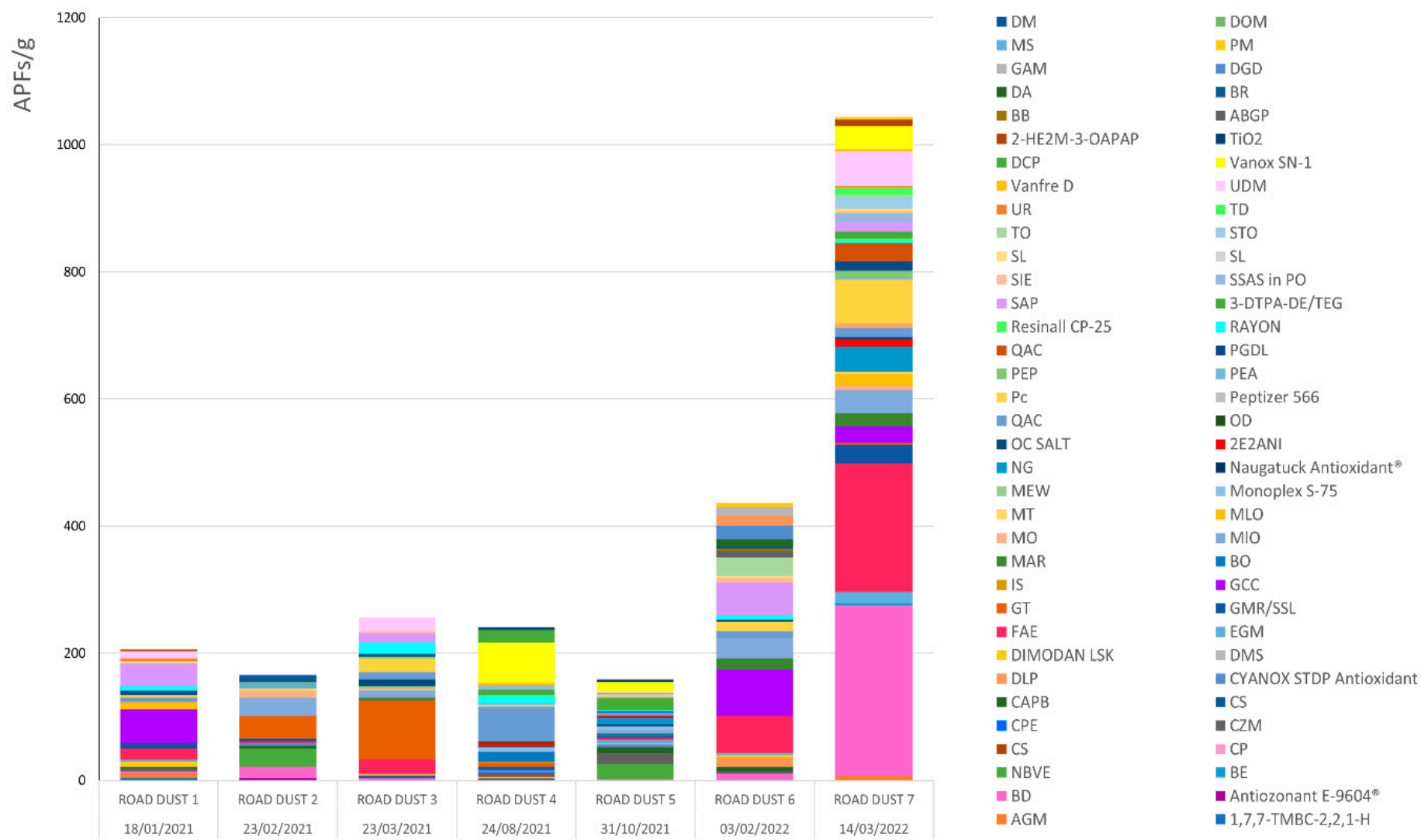


Fig. S4 APFs' abundance (APFS/g) with the list of all singular APFs analyzed in all the HWRD samples

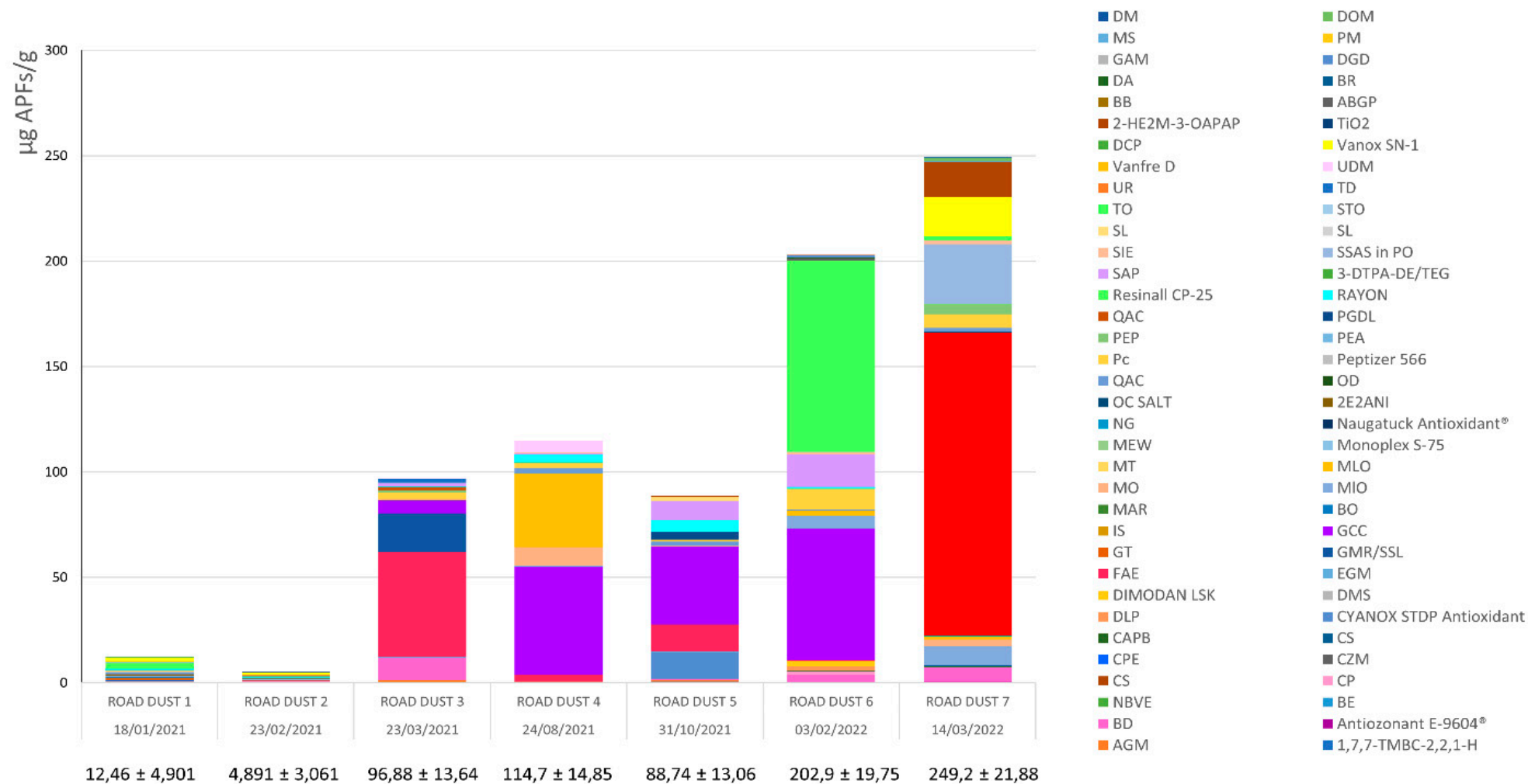


Fig. S5 Weight of APFs (µg/g) in all HWRD samples analyze

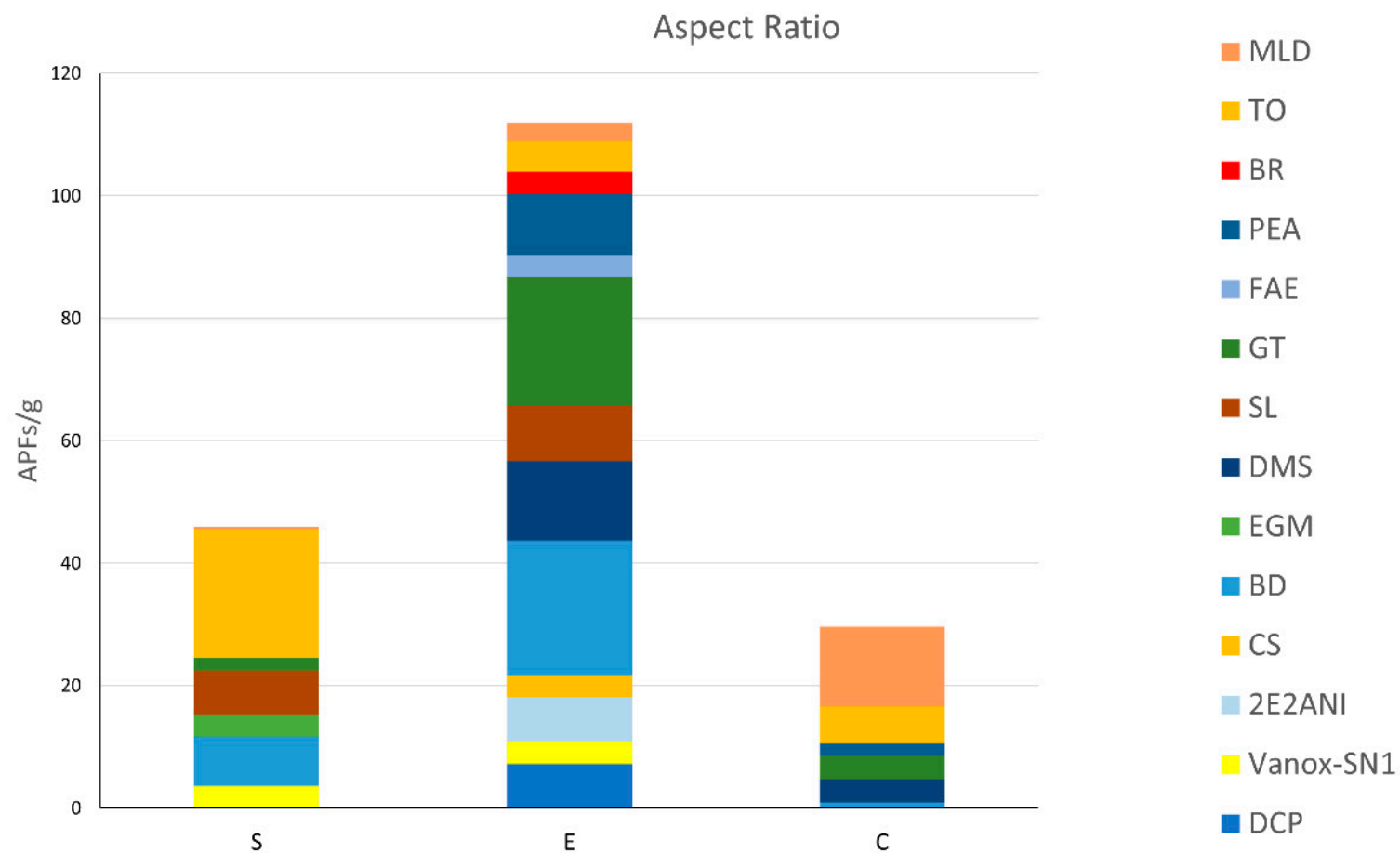


Fig. S6 Ellipsoid (extrapolated from AR) being the most common shape for APFs in HWRD. When AR =1, particles are considered spherical (S), while when AR =2, particles are elongated/ellipsoidal (E), and they are considered elliptical. When $AR \geq 3$ particles are considered cylindrical (C).