

Supporting information for:

Nanoscale chemical characterization of a post-consumer recycled polyolefin blend using tapping mode AFM-IR

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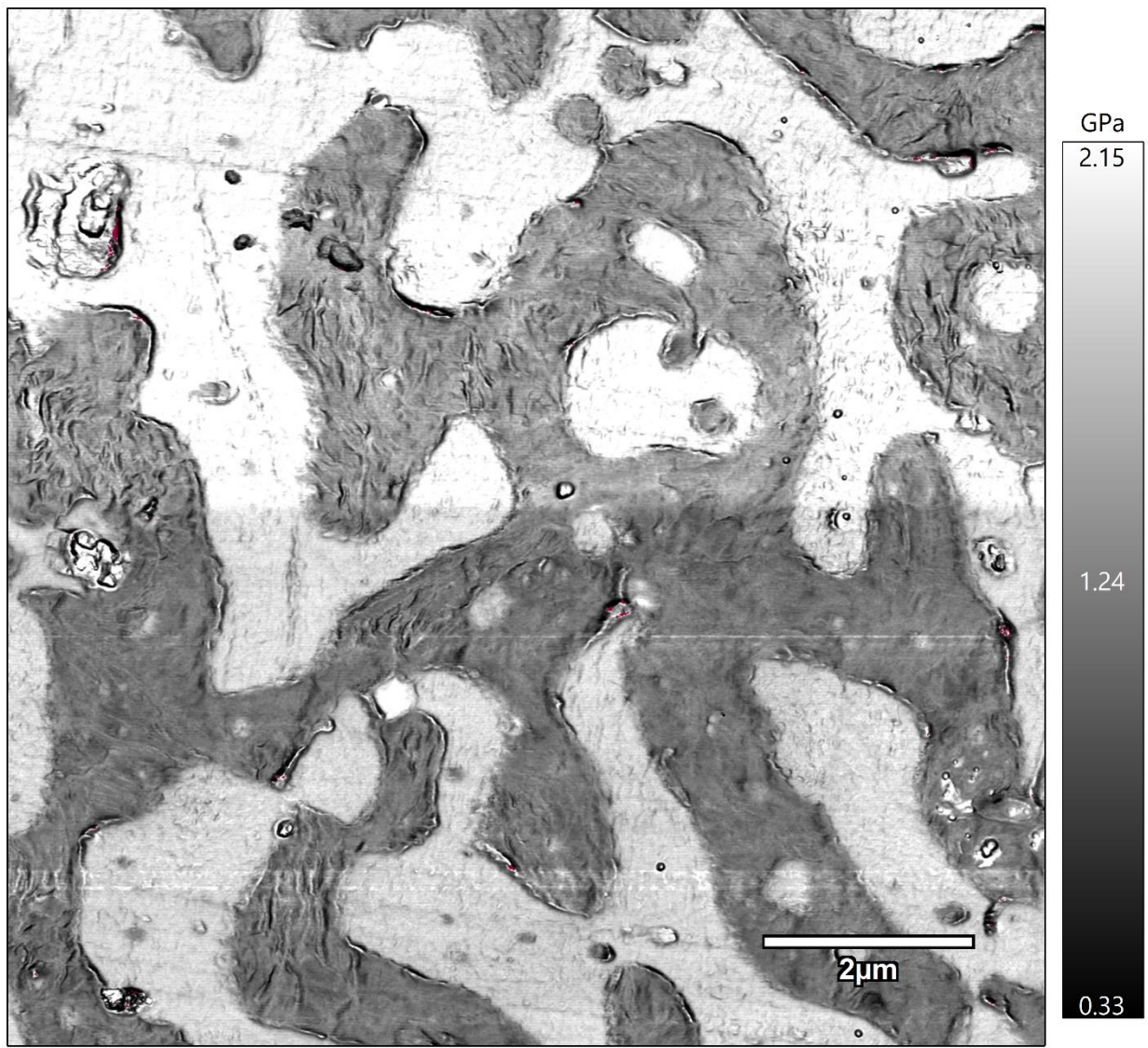


Figure S1. AM-FM AFM image of the material used in this study showing that the particles inside of the PE (lighter colored) phase have the same Young's modulus as the PP (darker colored) phase.

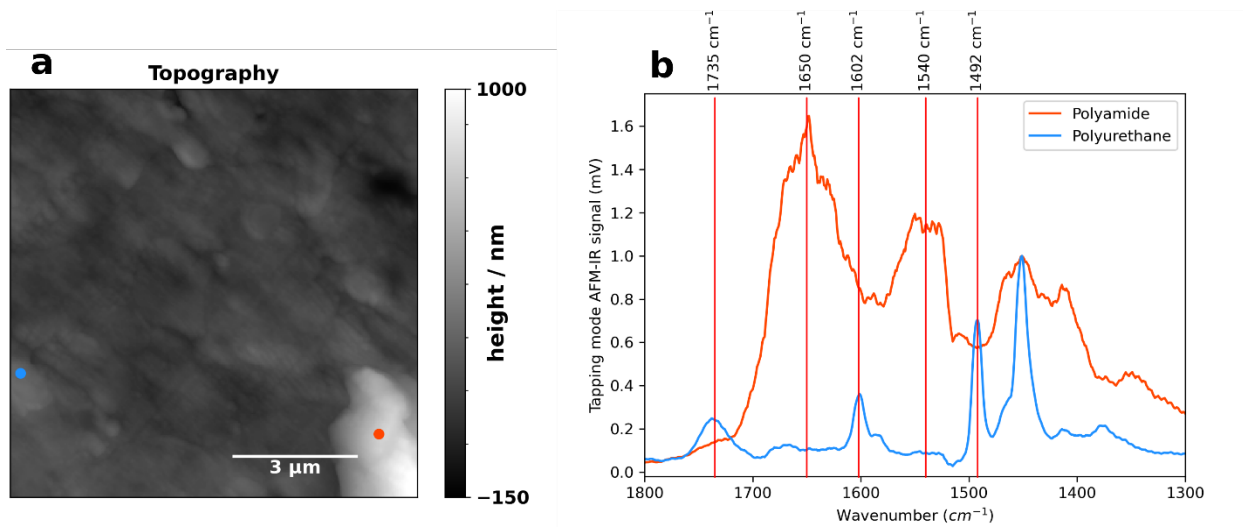


Figure S2. (a) Topography image of the same location as Fig. 1 and locations where AFM-IR spectra of PA (orange) and PU (blue) were obtained. (b) AFM-IR spectra obtained in the locations indicated in (a). The highlighted wavenumbers correspond to marker bands for polyamide and polyurethane.

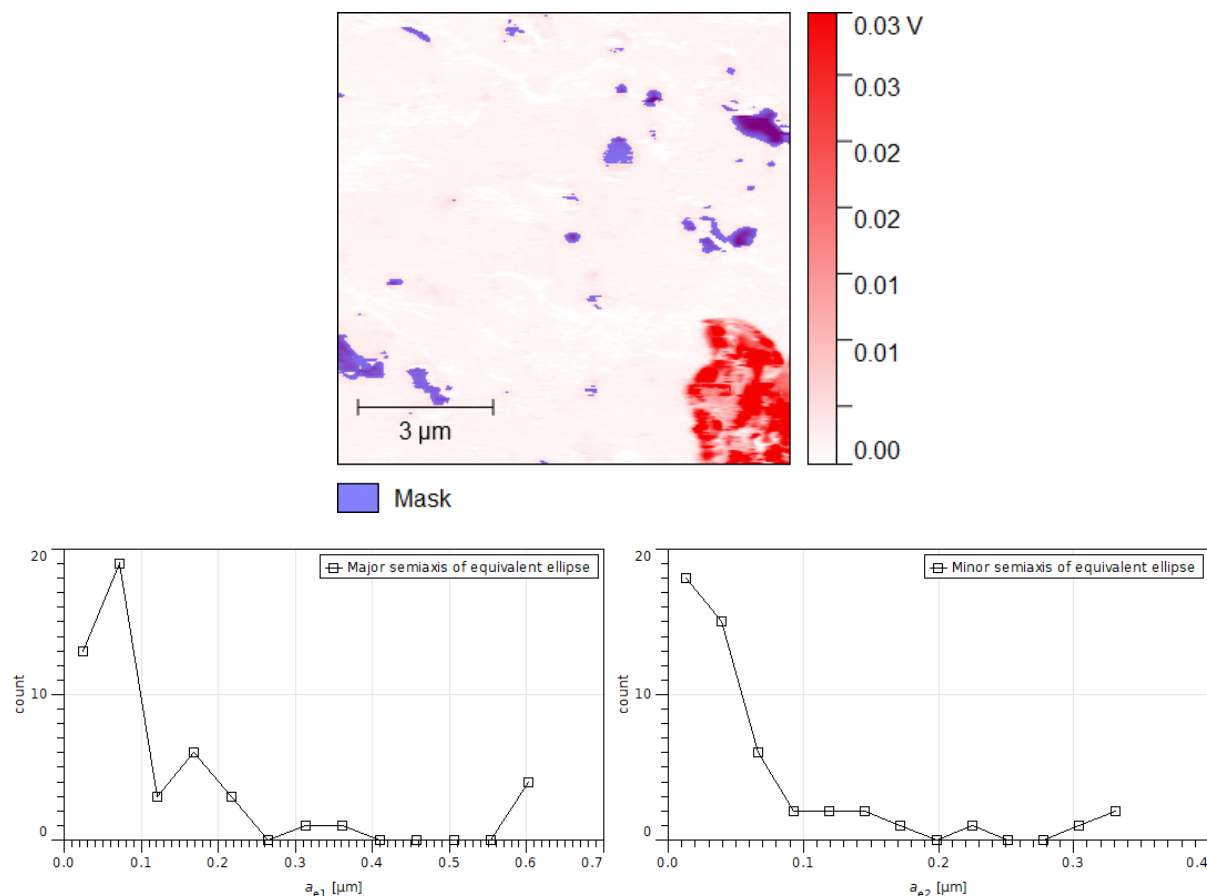


Figure S3. Particle size of the Polyamide particles (1640 cm^{-1} absorption map), excluding the partial particle on the bottom-left. The absorption map shows in purple the marked regions containing PA particles (mask). The size of the masked regions was then evaluated using the software Gwyddion. The two bottom graphs correspond to the size distribution of the PA particles according to their major and minor axes.

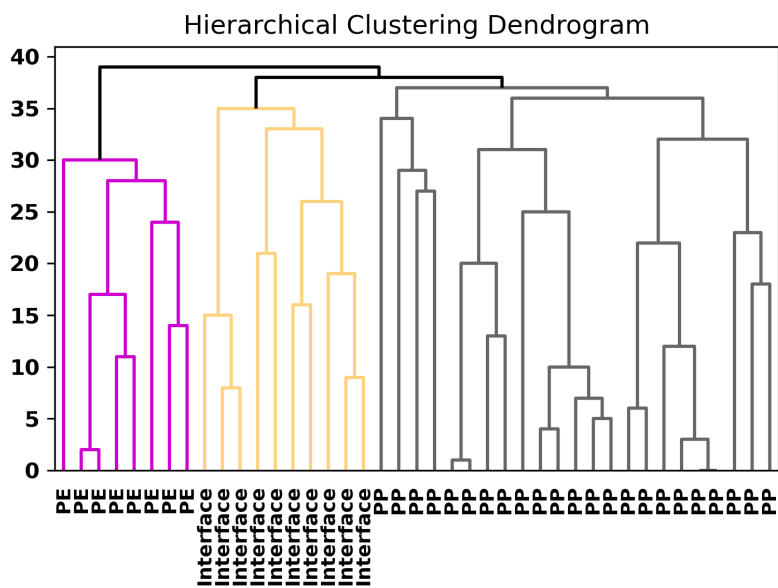


Figure S4. Dendrogram obtained for the hierarchical cluster analysis.

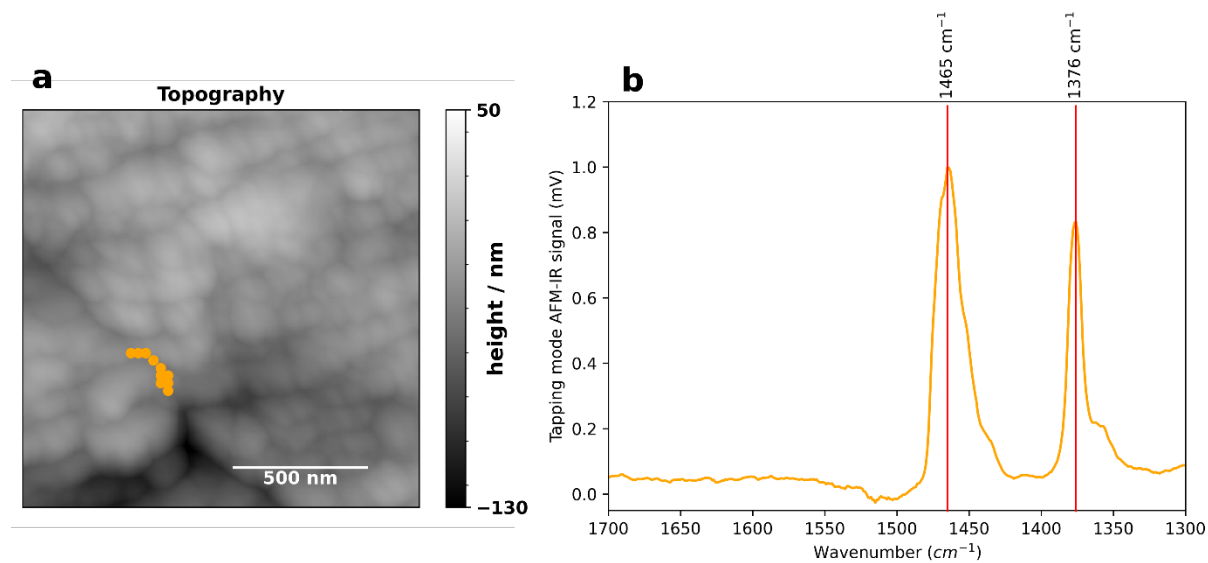


Figure S5. (a) topography image of the same location as Fig. 2 and locations of AFM-IR spectra classified by the HCA as interface. (b) average AFM-IR spectra of the interface showing no bands corresponding to the presence of aromatic groups.