Electronic Supplementary Material (ESI) for Environmental Science: Water Research & Technology.

Supplementary Information for Emerging Investigator Series: Microplastic-based Leachate Formation under UV Irradiation: The Extent, Characteristics, and Mechanisms

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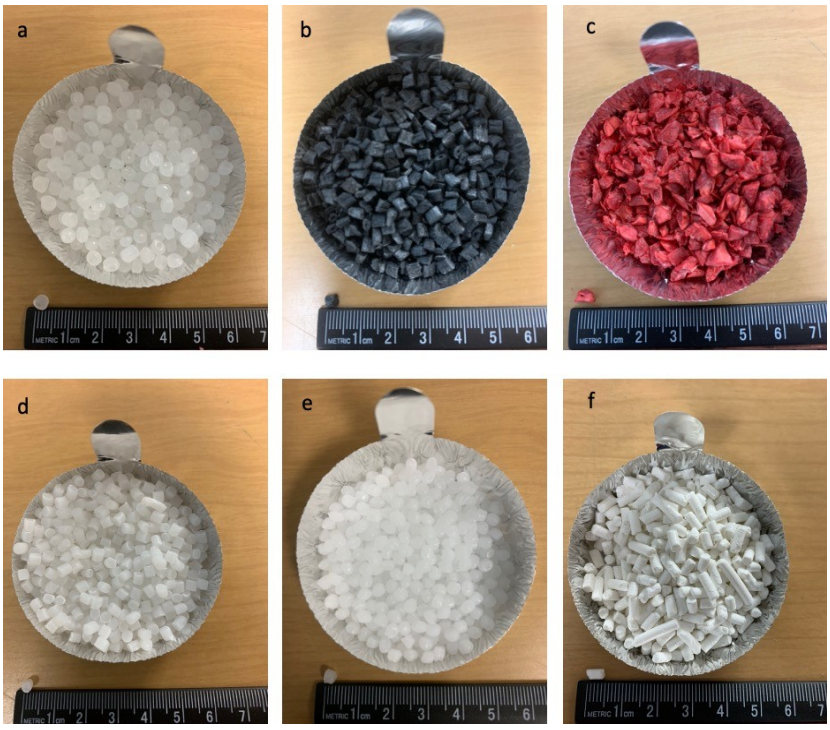

Figure S1. Photographs of each polymer used for analysis: polyethylene (a), polystyrene colored (b), polyethylene recycled (c), polystyrene (d), polypropylene (e), and polylactic acid (f)

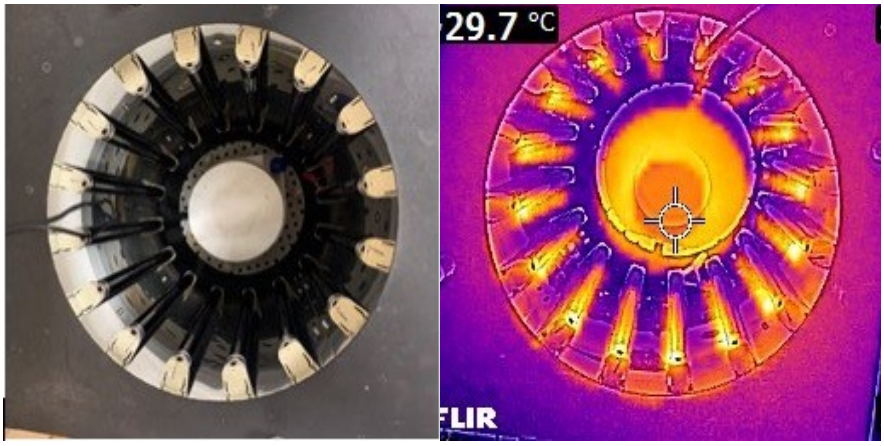

Figure S2. A top view photograph of UV aging chamber with the stir plate inside (left). Example of a thermal image taken at one of the four different time intervals for each experiment (right). Temperature shown is average inside target circle. Thermometer was used for actual temperature analysis as the thermal image was used to ensure consistency of UV intensity

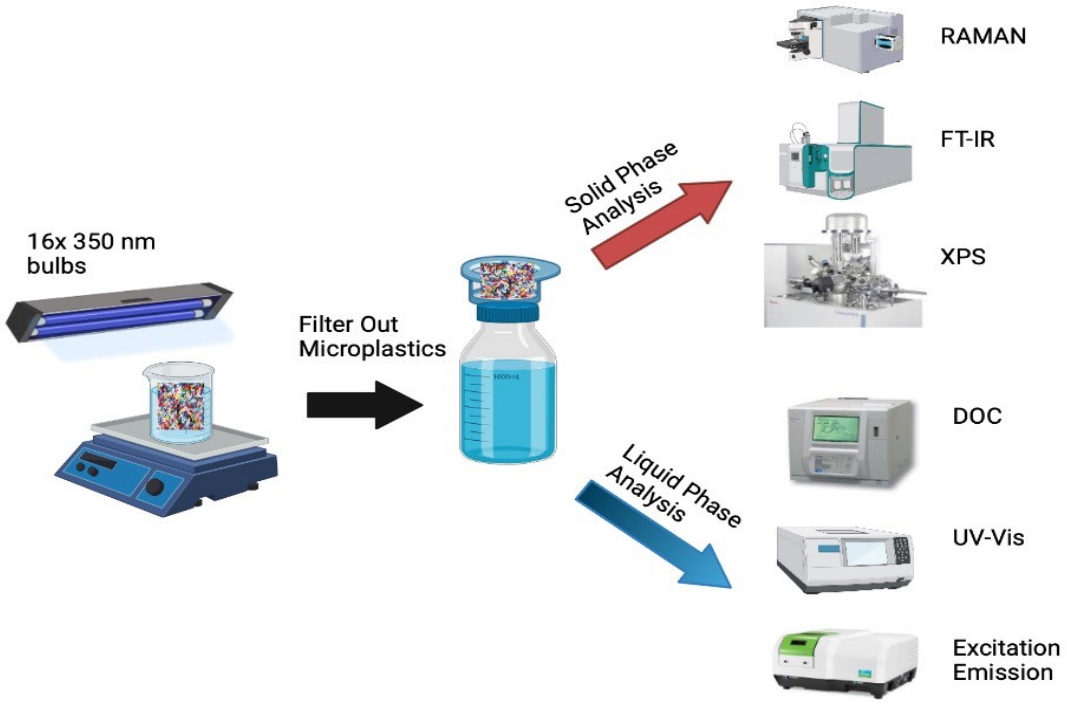

Figure S3. Schematic of experimental process for UV aging experiments

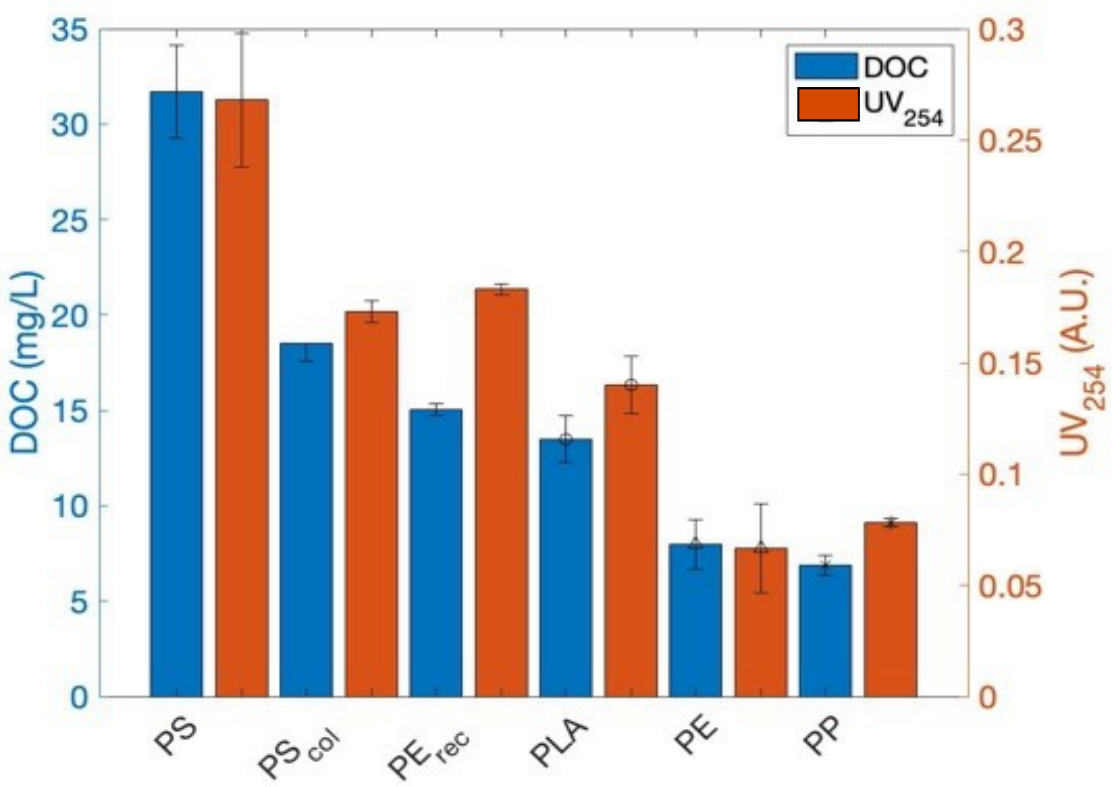

Figure S4. Comparison of UV_{254} and DOC concentrations after 24 h for all six polymers. Error bars represent one standard deviation between triplicates for PE and PS and replicates for the other polymers.

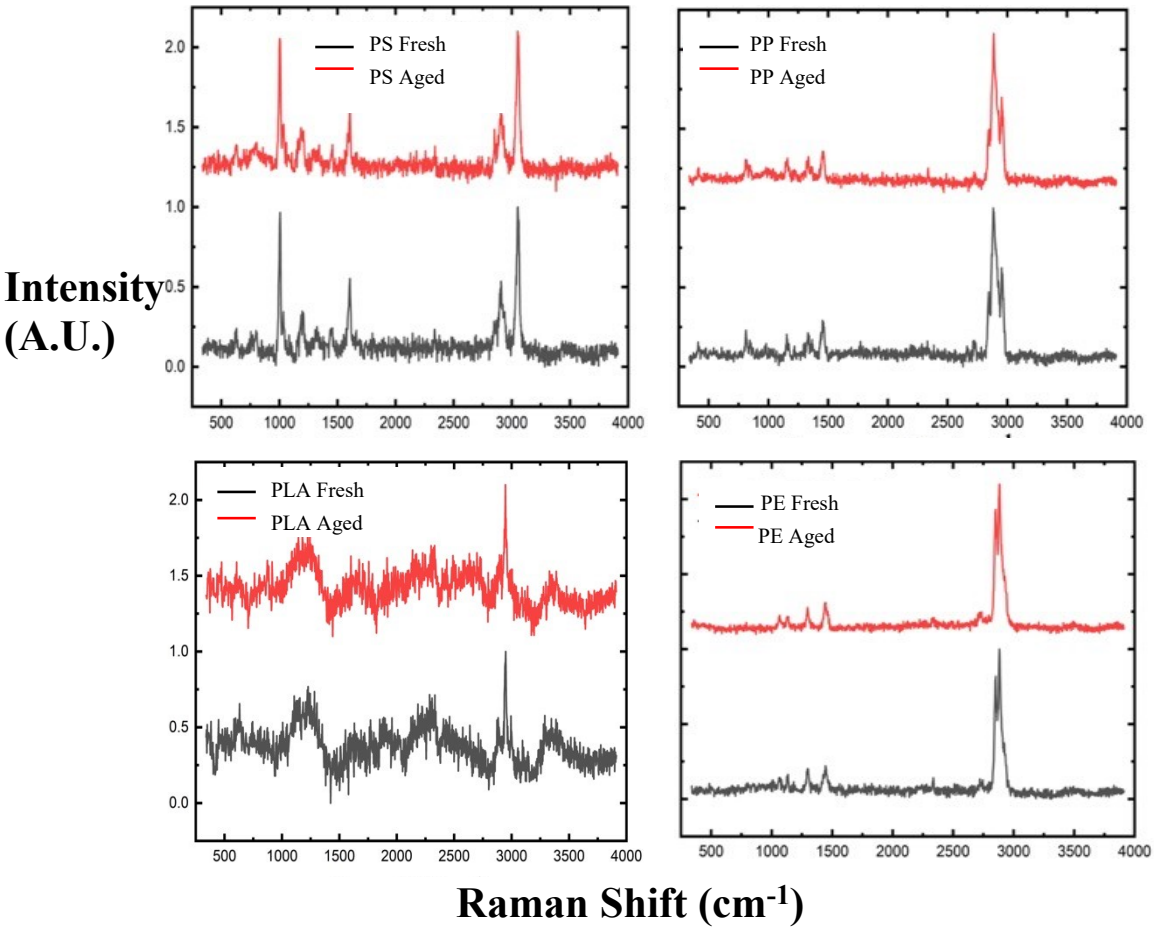

Figure S5. Raman spectroscopy on pristine and 24 h UV aged microplastic polymers with black line for fresh polymers and red line for the aged polymers. Spectral analysis is mean of triplicates for each polymer.