Supplementary Material

Identification, removal of microplastics and surfactants from laundry wastewater using electrocoagulation method

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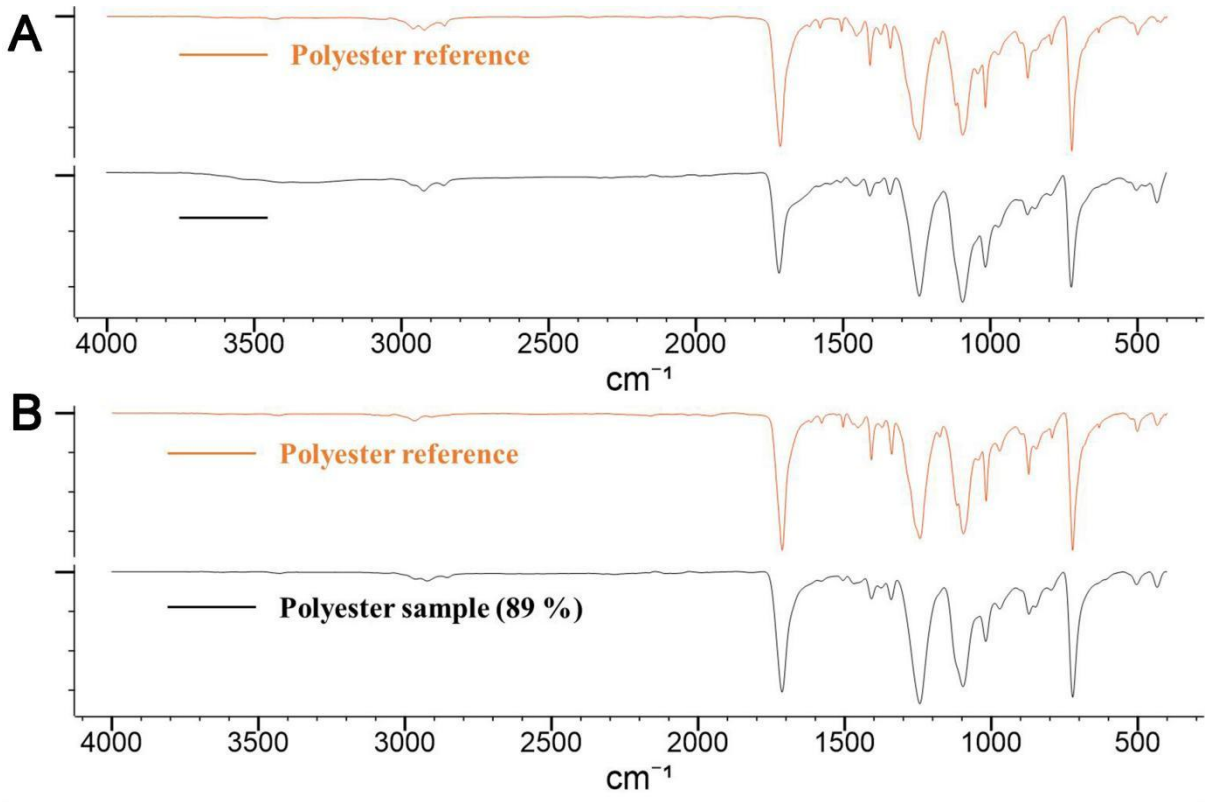
Anionic surfactant identification procedure

A calibration curve with 0, 0.25, 0.5, 1, 2, 5 ppm was first prepared and UV absorption at 650 nm was studied and plotted. Standard stock solution containing Dodecyl benzenesulfonic acid - methyl ester was prepared in a round-bottomed flask. 50 mL ethanol-sodium hydroxide solution and some anti-bumping granules were added. A reflux condenser was attached and boiled for 1 h. After cooling, and rinsing the condenser with about 30 mL of ethanol to the contents of the flask. The solution from round bottom flask is neutralized with Sulfuric acid until it becomes colourless. Phenolphthalein is used as an indicator. The solution was transferred to a 1000 mL standard measuring flask, and diluted to the mark with water. In a separating funnel, 100 mL of the standard solution is transferred, and 5.0 mL of neutral methylene blue solution, 10 mL of buffer solution, and 15 mL of chloroform are added. For 1 min, the separating funnel is shaken evenly and gently twice a second in a horizontal plane, and the layers are allowed to separate. A second separating funnel containing 110 mL of water and 5.0 mL of acidic methylene blue solution is used to separate the chloroform layer after this step. After shaking for about 1 min, the resulting chloroform layer is filtered into a 50 mL SMF using filter paper wetted with chloroform. The extraction process is repeated using 10 mL of chloroform and the chloroform layer is separated and filtered into 50 mL of

standard measuring flask using the same filter. Then, add chloroform and dilute to the mark. The MBAS chloroform layer should be transferred to the cuvette and the absorbance should be measured at 650 nm against a chloroform solution.



Supplementary Figure 1. Attenuated total reflectance - Fourier transform infrared spectroscopy (ATR-FTIR) spectra of polyester microfibers in laundry wastewater.