# SUPPORTING INFORMATION
# Microplastics in the Rough: Using Data Augmentation to Identify Plastics Contaminated by Water and Plant Matter

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# I. INSTRUMENT PHOTOS

**Figure SI 1** The photograph depicts a plastic sample being measured while placed on a piece of bark that has been wetted with water. Photo by K.A.R.

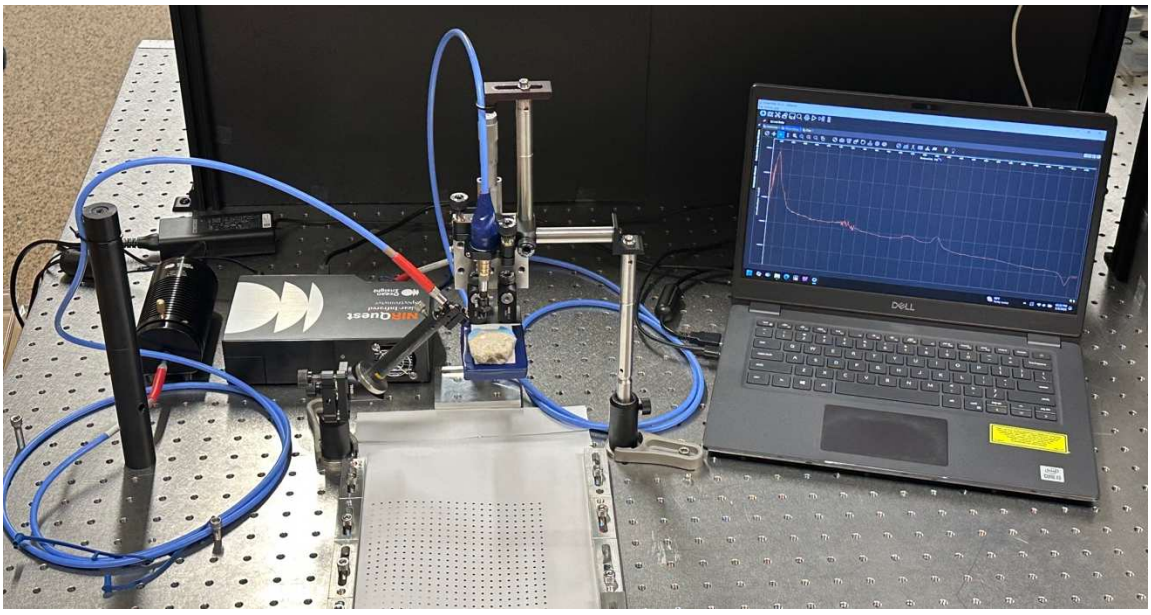
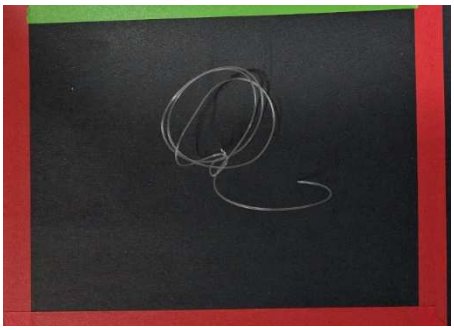


**Figure SI 2** Photograph of the NIR spectrometer. Photo by K.A.R.

# II. PLASTIC PHOTOS

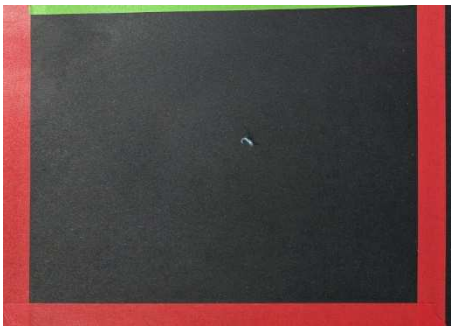
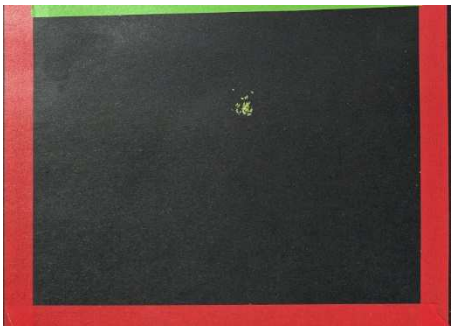
Pictures of plastics are summarized in **Table 1**. Some plastics are shown intact while others are shown in their processed form depending on how they were acquired.

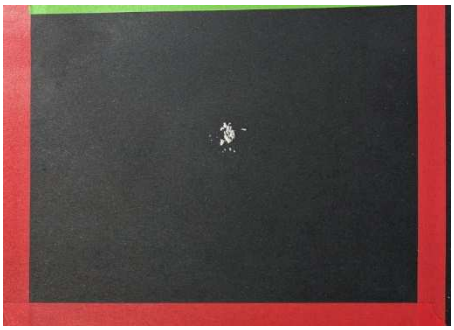
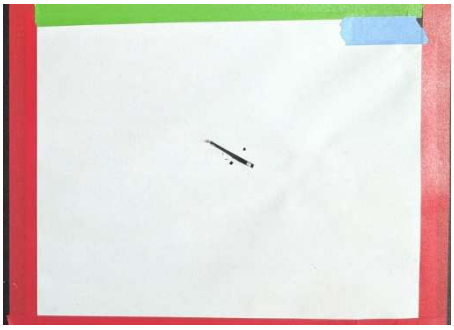
**Table 1** Plastic types and sample numbers for each plastic material in used in the basis training set.

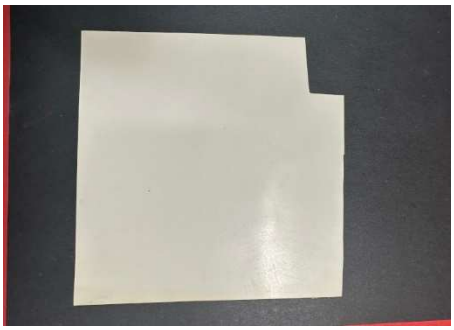
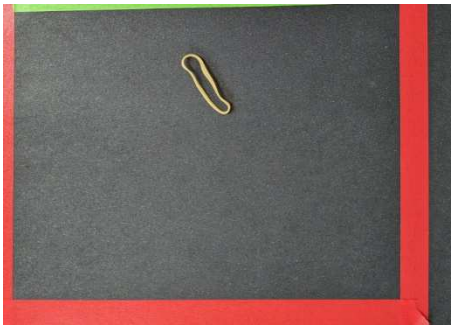
| Material | Sample # | Photo |
|---|---|---|
| ABS | 1 |  |
| Nylon | 2 |  |
| Nylon | 3 |  |
| PE | 2 |  |

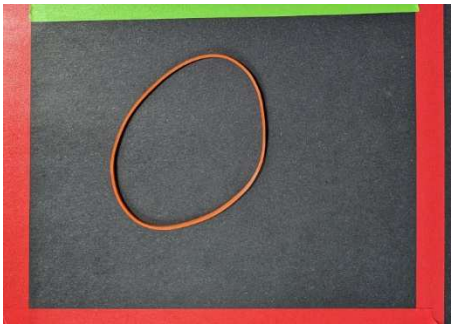
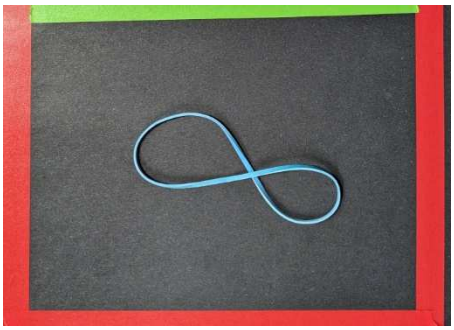
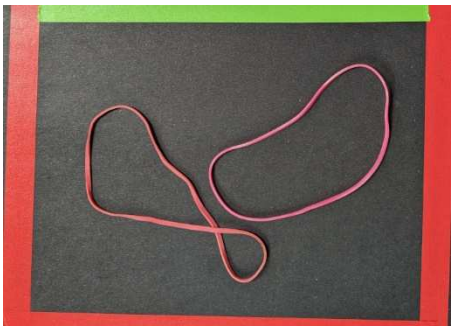
| | | |
|---|---|---|
| PE | 3 |  |
| PE | 4 |  |
| PE | 5 |  |
| PE | 6 |  |
| PE | 7 |  |

| | | |
|---|---|---|
| PE | 8 |  |
| PET | 1 |   |
| PET | 2 |  |
| PET | 3 |  |
| PET | 4 |   |

| | | |
|---|---|---|
| PET | 5 |  |
| Polyester | 1 |  |
| PP | 1 |  |
| PP | 2 |  |
| PS | 1 |  |

| | | |
|---|---|---|
| PS | 2 |  |
| PS | 3 |  |
| PS | 4 |  |
| PVC | 1 |  |
| PVC | 2 |  |

| | | |
|---|---|---|
| PVC | 3 |  |
| PVC | 4 |  |
| Rubber | 1 |  |
| Rubber | 2 |  |
| Rubber | 3 |  |

| | | |
|---|---|---|
| Rubber | 4 |  |
| Rubber | 5 |  |
| Rubber | 6 (left)<br>7 (right) |  |

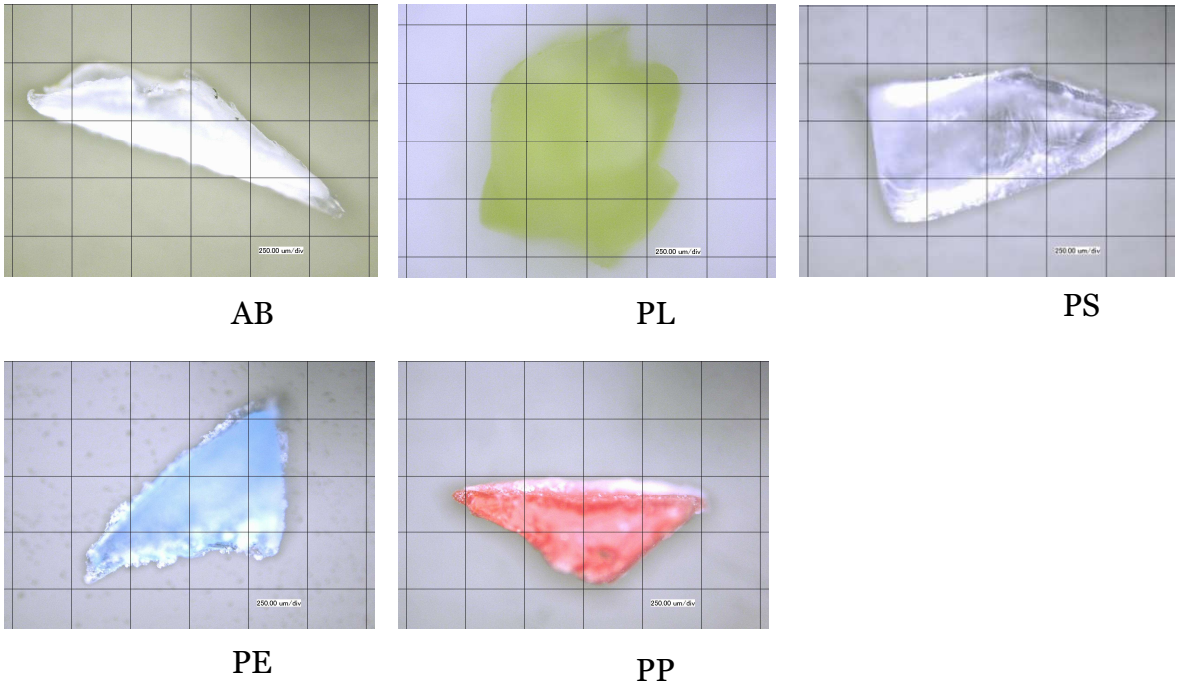



**Figure SI 3** Sample plastic images measured using an optical microscope (square grid represents 25 μm per division).

## III. BEAM SIZE

The size of the NIR beam waist was determined by positioning a razor blade on a translation stage perpendicular to beam located at the waist. By moving the razor blade across the beam and measuring the transmitted light, the integral of the beam profile at the waist can be measured. Via numerical differentiation, the beam profile is extracted and shown in **Figure SI** .

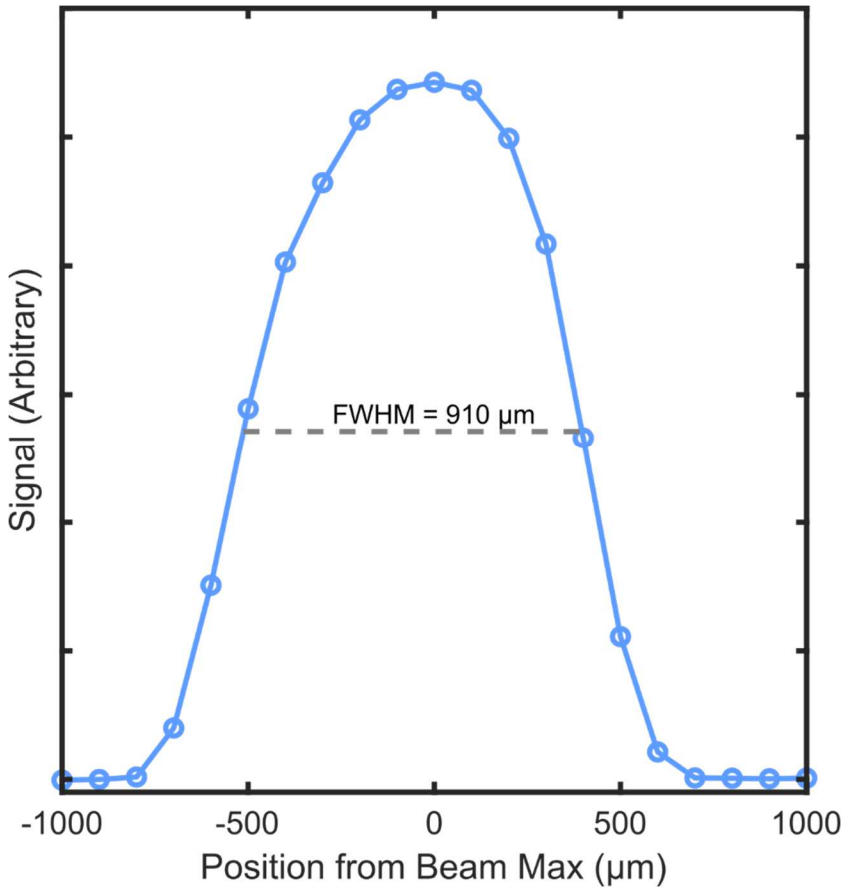



**Figure SI 4** Beam profile at the beam waist of the NIR white light determined via a razor blade on a translation stage. The y-axis is the derivative of the integrated transmission over the detector range and is shown in arbitrary units. The x-axis is the position from the beam center in µm.