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# Microplastic SEM Sample Prep

Forked from a private protocol

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2 Works for me dx.doi.org/10.17504/protocols.io.uy8exzw

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## Sample Dehydration

1 Fill a petri dish with enough PBS to submerge your microplastic sample. Rinse the plastic in the PBS bath to remove loosely associated debris.

2 Next, create similar baths of ethanol or HMDS, as indicated below.
Submerge each piece of plastic in the bath, let incubate in solution for **00:15:00**

Washes:
1. 25% ETOH
2. 50% ETOH
3. 70% ETOH
4. 95% ETOH
5. 100% ETOH
6. 100% ETOH
7. 2 ETOH: 1 HMDS
8. 1 ETOH: 1 HMDS
9. 1 HMDS

## Drying

3 Air-dry the dehydrated samples overnight in desiccator underneath a fume hood. **12:00:00 overnight**

## Affix

4 Affix plastic to double-side carbon tape on aluminum stud.
Draw a strap of carbon paint from stud base to top of plastic. Dry overnight in desiccator. **12:00:00 overnight**

## Microscopy

5 The next day, sputter-coat plastic sample with heavy metal.

6 Image sample under scanning electron microscope as soon as possible following sputter-coating.

Samples keep for a maximum of 2 weeks after prep.