Authors: Anastasija Paškeviča, Ērika Plopa

Project illustrations.

1. LITERATURE REVIEW

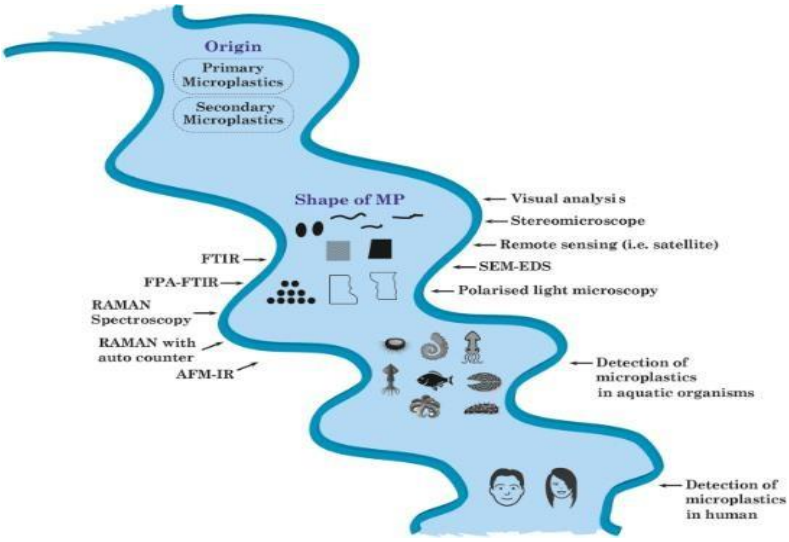

Figure 1. Source of photo: [1]

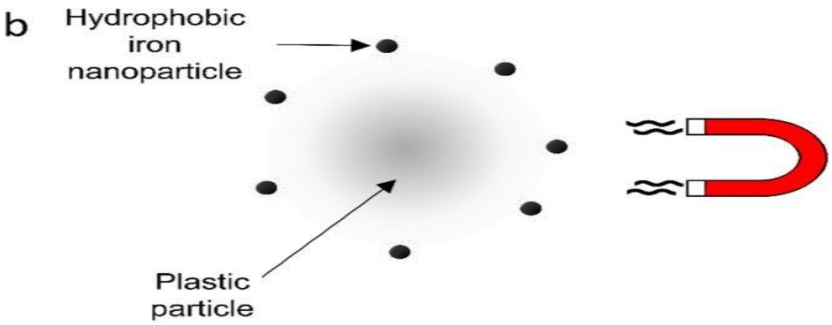

Figure 2. Source of photo: [1]

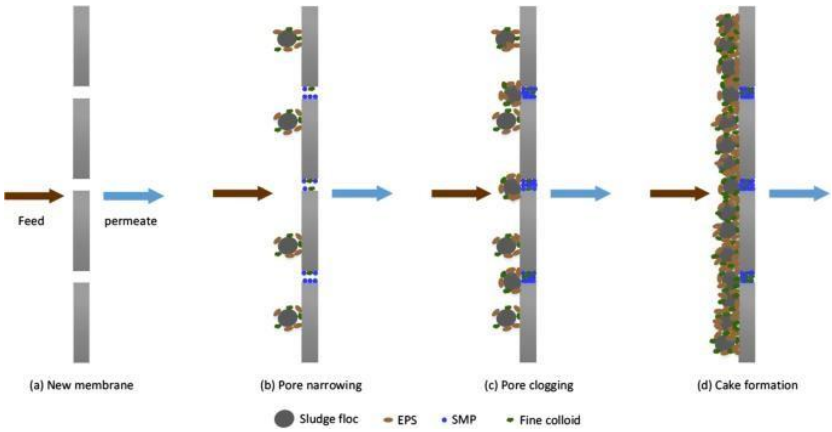

Figure 3. Source of photo: [1]

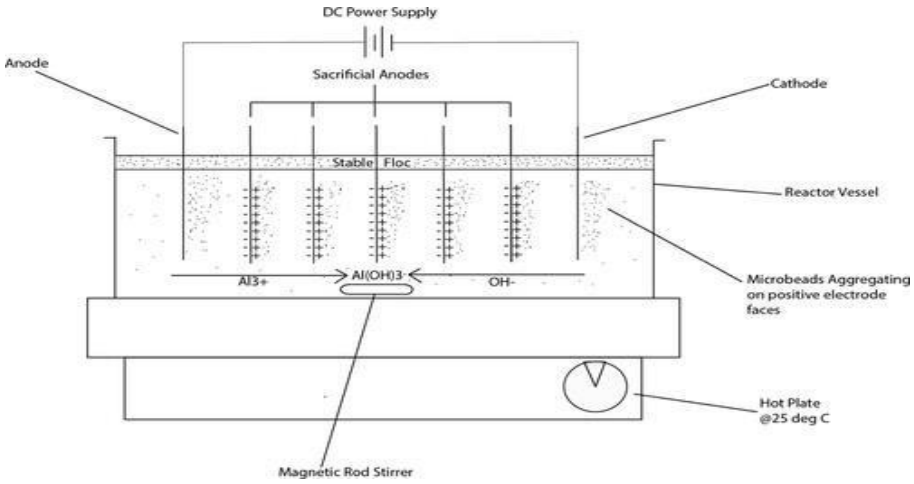

Figure 4. Source of photo: [2]

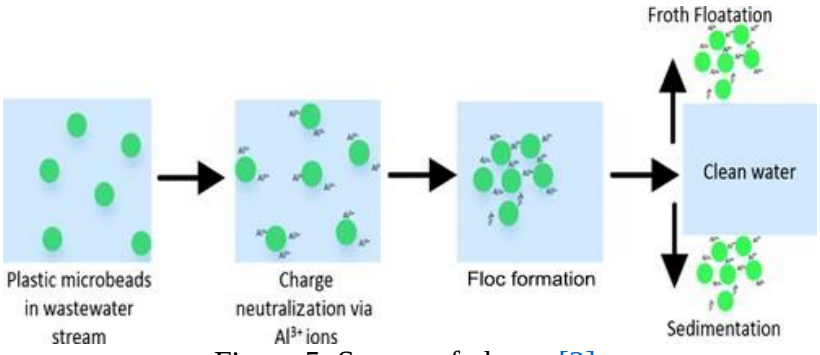

Figure 5. Source of photo: [2]

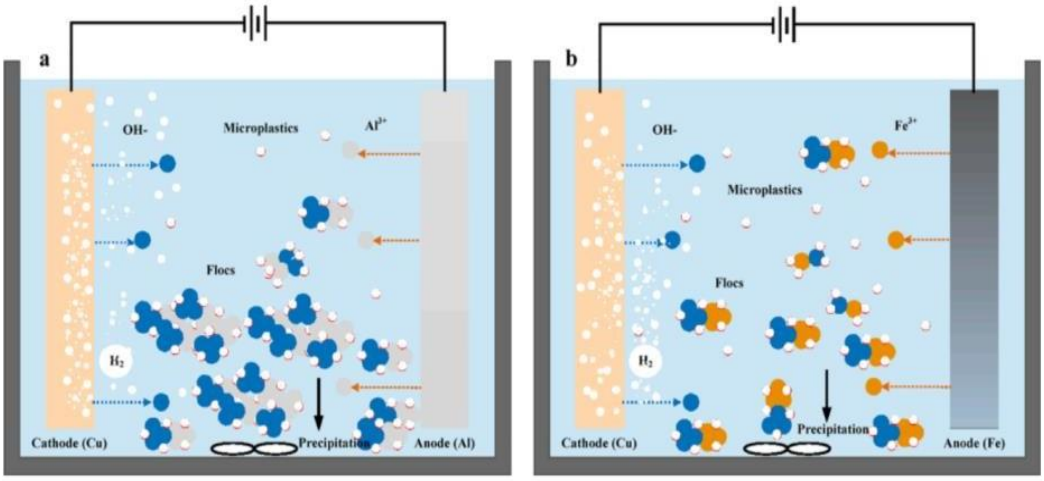

Figure 6. Source of photo: [3]

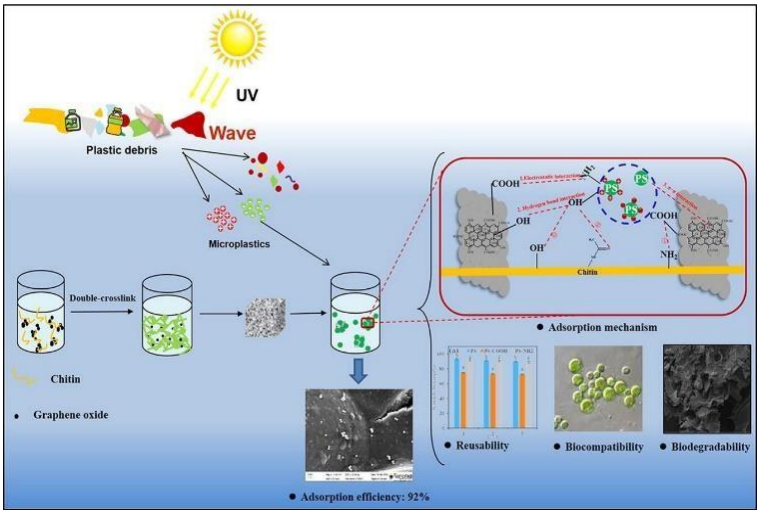

Figure 7. Source of photo : [4]

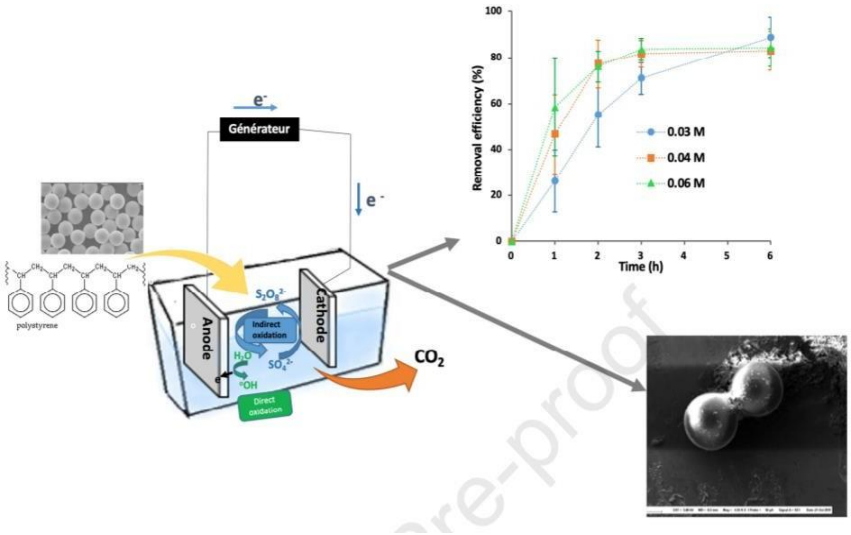

Figure 8. Source of photo: [5]

2. EXPERIMENT METHODOLOGY

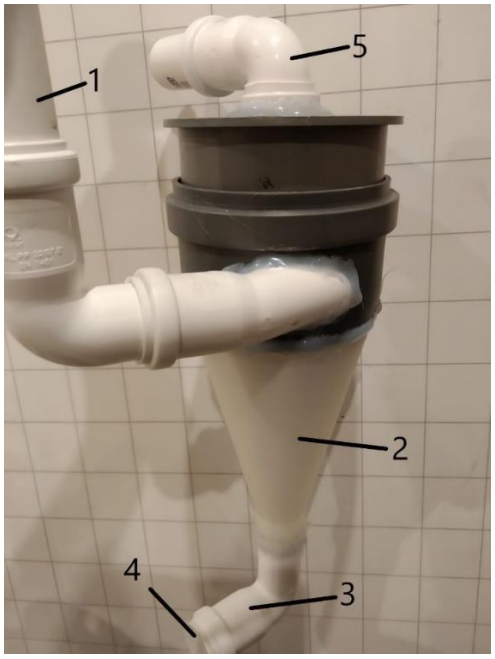

Figure 9. Filter cyclone - Daugavpils 13th Secondary School. Photo author Anastasija Paškeviča.

PF1 mesh.
Cell area 1 mm^2.

PF2 mesh.
Cell area 0.04 mm^2.

Figure 10. Stainless steel meshes - Daugavpils 13th Secondary School. Photo author Ērika Plopa.

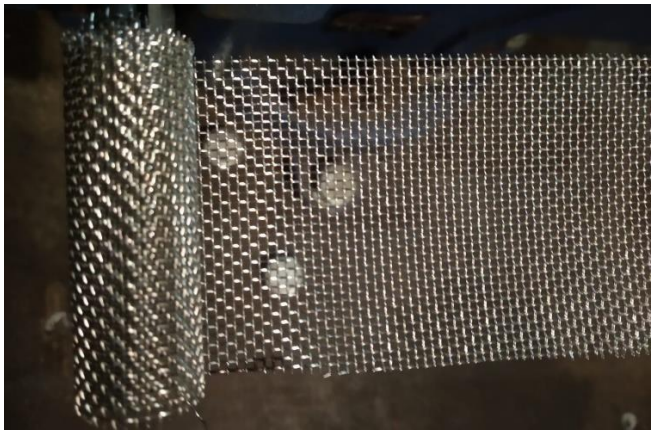

Figure 11. Folding a mesh into a roll– Daugavpils 13th Secondary School. Photo author Anastasija Paškeviča.

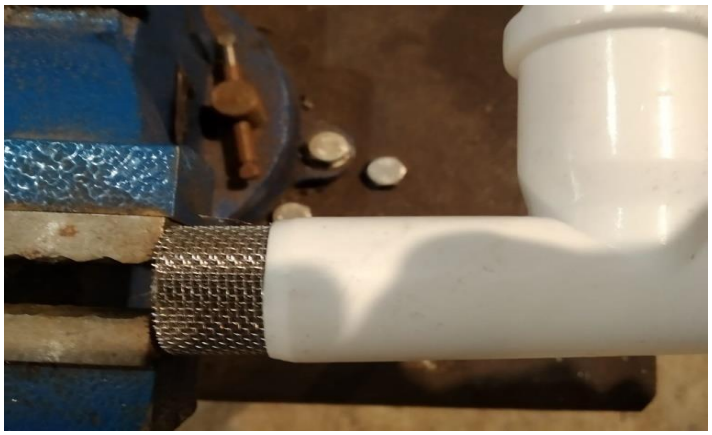

Figure 12. Filter in t-piece – Daugavpils 13th Secondary School. Photo author Anastasija Paškeviča.

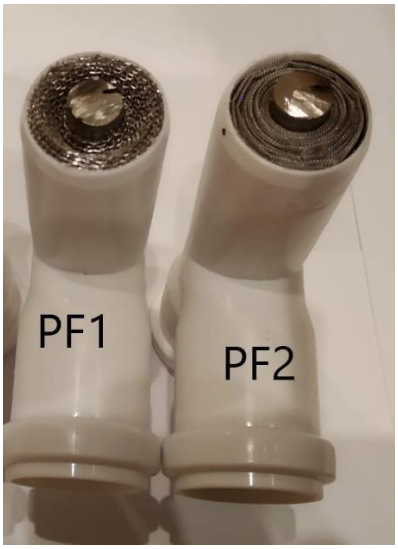

Figure 13. Fabricated filters – Daugavpils 13th Secondary School. Photo author Ērika Plopa.

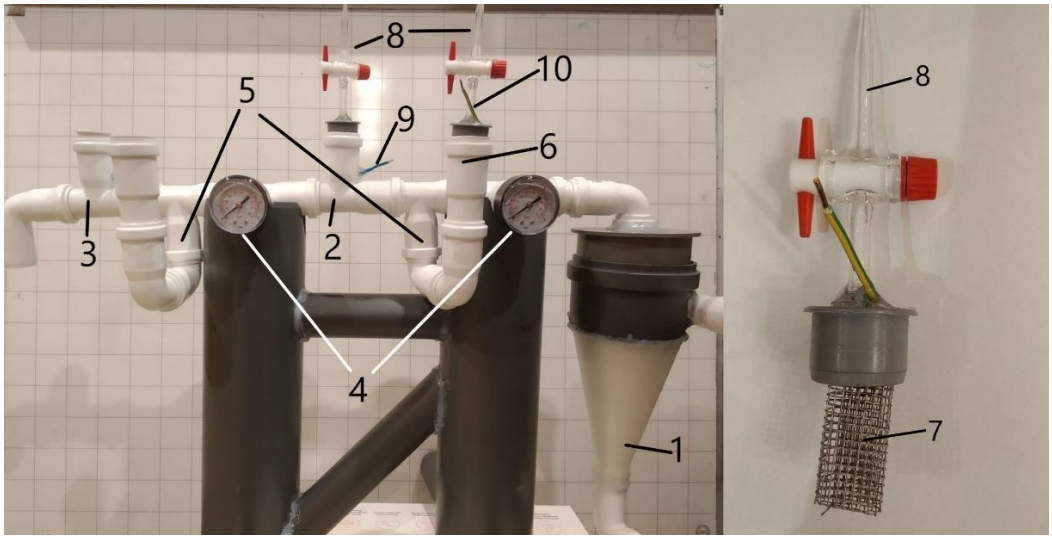

Figure 14. Filter structure – Daugavpils 13th Secondary School. Photo author Ērika Plopa.

3. RESULTS AND DATA ANALYSIS

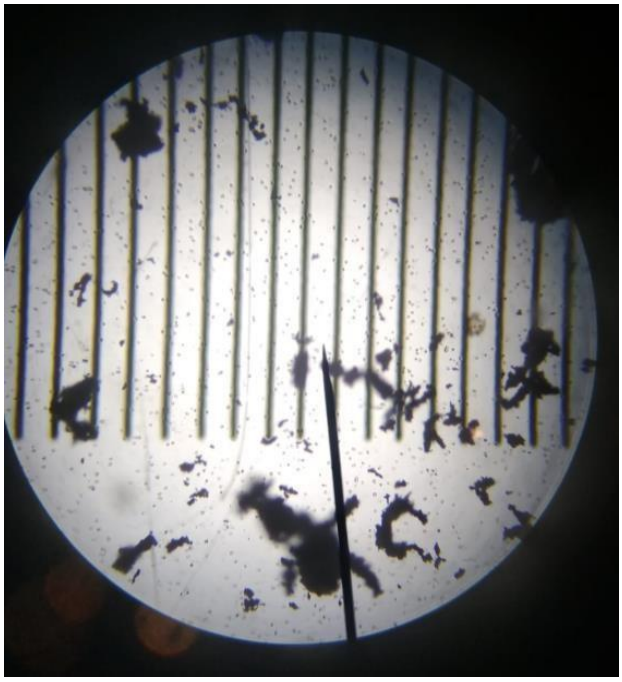

Figure 15. Microplastic particles. Scale: one section - 100 µm – Daugavpils 13th Secondary School. Photo author Anastasija Paškeviča.

Figure 16. The largest particles of microplastics. Scale: one section - 100 µm – Daugavpils 13th Secondary School. Photo author Anastasija Paškeviča.

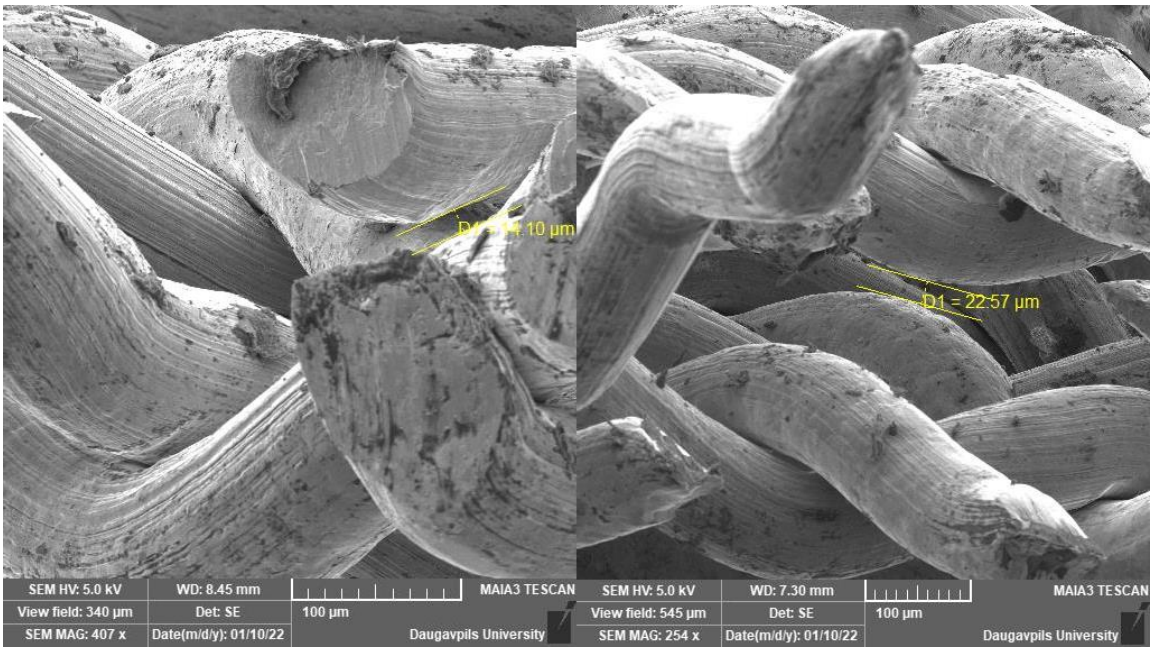

Figure 17. PF2 mesh SEM photo– Daugavpils University.

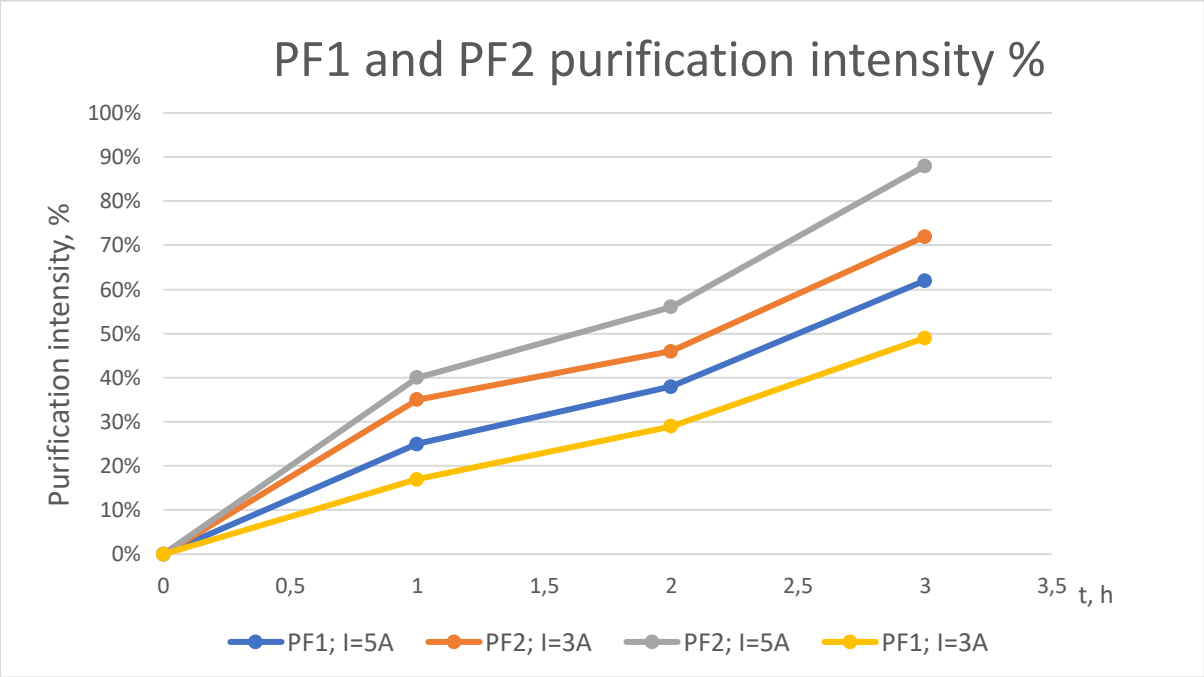

Figure 18. PF1 un PF2 purification rate at current I_1 and I_2.

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MATERIAL LIST

Title	**Manufacturer**
Sewer pipe elements (20 pcs)	China
Plastic cone	3D printer
Stainless steel strainer with 1 mm cell edge (0.2 m^2)	Germany
Stainless steel strainer with 0.2 mm cell edge (0.2 m^2)	Germany
Pressure gauges (2 pcs)	China
Glass tubes with tap (2 pcs)	Germany
Wires	-
NaOH	SIA Enola
SEM	-
Optical microscope	Motic Europe
Power source	NPS1203W 0-120V/3A
Microplastic powder	-

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Thuhin K. Dey, Md. Elias Uddin & Mamun Jamal
https://link.springer.com/article/10.1007/s11356-021-12943-5

2. Removal of Microbeads from Wastewater Using Electrocoagulation.
William Perren, Arkadiusz Wojtasik, and Qiong Cai
https://pubs.acs.org/doi/10.1021/acsomega.7b02037

3. Efficient removal of microplastics from wastewater by an electrocoagulation process.
Maocai Shen, Yaxing Zhang, Eydhah Almatrafi, Tong Hu, Chengyun Zhou, Biao Song, Zhuotong Zeng, Guangming Zeng
https://www.sciencedirect.com/science/article/abs/pii/S138589472102742X

4. Fabrication of robust and compressive chitin and graphene oxide sponges for removal of microplastics with different functional groups.
Cuizhu Sun, Zhenggang Wang,Lingyun Chen, Fengmin Li
https://www.sciencedirect.com/science/article/abs/pii/S1385894720307877?via%3

5. Treatment of microplastics in water by anodic oxidation: a case study for polystyrene.
Marthe Kiendrebeogo, M.R. Karimi Estahbanati, Ali Khosravanipour Mostafazadeh, Patrick Drogui, R.D. Tyagi
https://www.sciencedirect.com/science/article/abs/pii/S0269749120368573?via%3