

Supplementary Materials

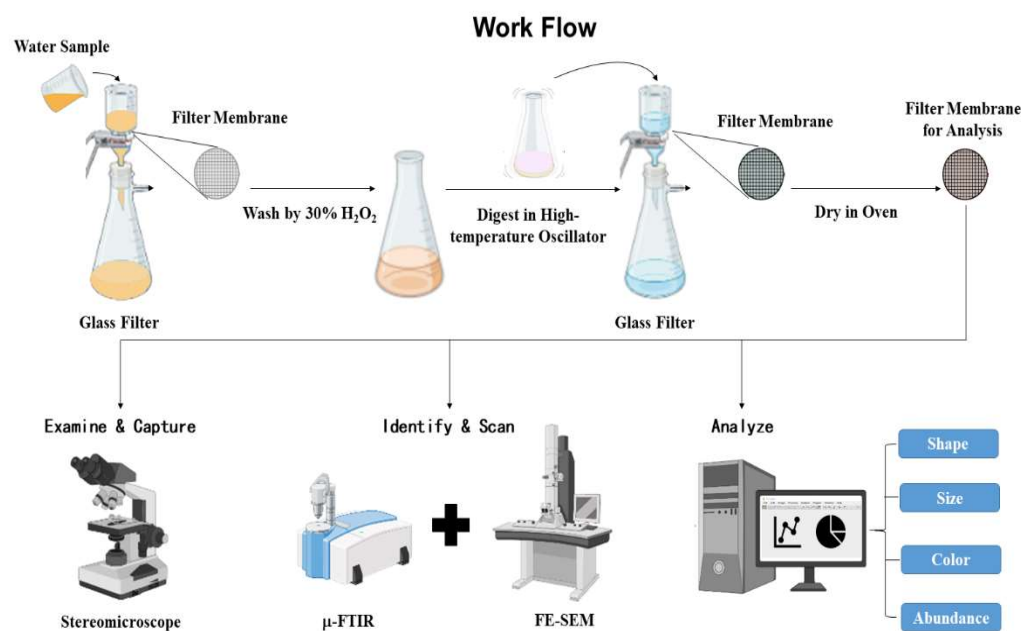


Figure S1. Work flow

Table S1. Detailed information of sampling sites

Site	Location	River	Latitude	Longitude	Population (10 thousand)	GRP (100 million RMB)	Annual Rainfall (mm)
A	Nanjing, Jiangsu	Qinhuai River	32.0566	118.7580	931.97	14817.95	1294.4
B	Changzhou, Jiangsu	Datong River	31.7393	119.9367	527.96	7805.32	1408.5
C	Lianyungang, Jiangsu	Qiangwei River	34.6856	119.1880	459.94	3277.07	1145.4
D	Hangzhou, Zhejiang	Shangtang River	30.3006	120.1735	1196.50	16105.83	1882.0
E	Wuhu, Anhui	Qingyi River	31.3338	118.4399	388.47	3753.00	1888.4
F	Jinan, Shandong	Xiaoqing River	36.7085	117.0596	920.24	10140.91	548.7
G	Zibo, Shandong	Fanyang River	36.7921	117.9814	469.68	3642.42	789.7
H	Taiyuan, Shanxi	Fenhe River	37.9215	112.5303	530.41	4153.25	542.9
I	Anyang, Henan	Anyang River	36.1138	114.4593	547.76	2300.50	637.1
J	Zhoukou, Henan	Shaying River	33.6318	114.6515	901.87	3267.19	949.9
K	Shijiazhuang, Hebei	Hutuo River	38.1211	114.5706	1123.51	5935.10	551.4
L	Jiamusi, Heilongjiang	Songhua River	47.2549	132.0174	230.00	811.80	830.5
M	Ningde, Fujian	Lantian River	26.6691	119.5597	315.60	2619.00	1811.2

N	Yiyang, Hunan	Zishui River	28.5998	112.3703	385.16	1853.48	1711.0
O	Zigong, Sichuan	Fuxi River	29.3539	104.8289	249.00	1458.44	1191.7
P	Fuling, Chongqing	Wujing River	29.7190	107.4104	111.50	1225.08	1139.1
Q	Guilin, Guangxi	Lijiang River	25.1781	110.4118	493.74	2130.41	2268.3
R	Panzhou, Guizhou	Lufan River	25.5981	104.5521	303.16	1339.62	1383.1
S	Wuzhong, Ningxia	Xinning River	38.0396	106.2236	138.27	621.77	257.4
T	Xining, Qinghai	Beichuan River	36.7234	101.7704	246.79	1372.98	506.4
U	Linzhi, Tibet	Niyang River	29.6765	94.3575	23.89	208.29	650.0

Table S2. Land use types of sampling sites (%)

Site	Farm	Garden	Forest	Grass	Wetland	Town	Transport	Water
A	21.98	2.20	23.58	1.74	0.25	22.63	4.68	22.94
B	20.29	5.76	17.47	2.22	0.14	24.09	4.65	25.38
C	49.24	2.09	5.77	1.21	2.66	16.83	3.86	18.34
D	7.38	5.76	65.61	0.32	0.06	10.87	2.08	7.92
E	38.30	0.92	20.68	0.47	0.50	15.87	2.08	21.18
F	34.49	10.19	24.83	2.71	0.04	18.77	3.07	5.90
G	27.28	13.63	29.33	2.99	0.16	19.69	2.96	3.96
H	16.90	2.60	40.20	24.30	2.20	9.40	2.00	2.40
I	53.10	1.97	21.07	2.05	0.06	17.18	2.64	1.93
J	70.65	0.54	4.18	0.03	0.04	17.93	2.21	4.42
K	33.95	7.67	29.48	6.59	0.49	16.18	2.78	2.86
L	67.18	0.06	15.67	1.08	4.85	2.41	1.69	7.06
M	8.13	9.74	69.85	1.06	2.97	3.29	1.59	3.37
N	22.48	1.77	49.07	0.11	5.85	7.72	1.74	11.26
O	44.30	6.53	25.75	0.28	0.05	14.16	2.46	6.47
P	28.74	3.47	51.64	0.09	0.41	8.12	2.22	5.31
Q	6.89	12.74	71.50	1.46	0.13	3.74	1.08	2.46
R	28.10	0.00	59.37	2.33	0.01	6.70	2.35	1.14
S	20.80	1.79	16.89	50.83	0.62	4.85	1.82	2.40
T	1.07	0.12	8.72	74.82	9.67	0.70	0.27	4.63
U	0.41	0.01	16.42	73.47	3.95	0.15	0.15	5.44

Table S3. Group information and microplastics abundance (n/m³)

Group	Site	MPs	Group	Site	MPs	Group	Site	MPs
A1	T	1738	B1	M	2850	C1	N	4175
A2	U	1875	B2	D	3000	C2	S	4363
A3	H	2013	B3	O	3113	C3	I	4613
A4	P	2250	B4	F	3313	C4	C	4975
A5	B	2450	B5	R	3513	C5	K	5250
A6	G	2563	B6	Q	3725	C6	J	5500
A7	A	2713	B7	E	3913	C7	L	5650

Note: Arranged from low to high microplastics abundance.