

Supplementary Material

**Manuscript Title: Divisive Refinement of Metal Fibers at the PM_{0.1}
Classification Stage for PM_{0.5-0.1} Sampling with Nanosampler**

Table S1. Details of each sample during collection.

No.	Mesh Type	Date	Total Volume (L)	Site
A1	A	2020/2/10	54998	4th floor of Lecture Hall
A2	A	2020/2/11	56903	4th floor of Lecture Hall
A3	A	2020/2/12	54696	4th floor of Lecture Hall
A4	A	2020/2/13	55273	4th floor of Lecture Hall
B1	B	2020/10/7	58080	4th floor of Lecture Hall
B2	B	2020/9/30	57286	4th floor of Lecture Hall
B3	B	2020/10/1	56470	4th floor of Lecture Hall
C1	C	2020/2/20	56494	4th floor of Lecture Hall
C2	C	2020/2/27	56886	4th floor of Lecture Hall
C3	C	2020/3/4	55432	4th floor of Lecture Hall
C4	C	2020/3/5	60373	4th floor of Lecture Hall
C5	C	2020/10/7	58080	4th floor of Lecture Hall
C6	C	2020/8/5	55948	4th floor of Lecture Hall
C7	C	2020/8/11	55697	4th floor of Lecture Hall
D1	D	2020/8/5	56274	4th floor of Lecture Hall
D2	D	2020/9/30	56400	4th floor of Lecture Hall
D3	D	2020/10/6	57647	4th floor of Lecture Hall
E1	E	2020/8/11	57506	4th floor of Lecture Hall
E2	E	2020/10/1	56217	4th floor of Lecture Hall
E4	E	2020/10/6	55475	4th floor of Lecture Hall
F1	F	2020/11/24	56814	4th floor of Lecture Hall
F2	F	2020/11/25	55116	4th floor of Lecture Hall
F3	F	2020/11/26	59817	4th floor of Lecture Hall
G1	G	2020/11/24	55795	4th floor of Lecture Hall
G2	G	2020/11/25	56885	4th floor of Lecture Hall
G3	G	2020/11/26	57793	4th floor of Lecture Hall
Imp	-	2020/3/17	56400	4th floor of Lecture Hall
imp	-	2020/3/18	56949	4th floor of Lecture Hall
Normal	-	2020/3/17	55693	4th floor of Lecture Hall
Normal	-	2020/3/18	56839	4th floor of Lecture Hall
S1	F	2022/8/31	56924	10th floor of Research and Project Building
S2	F	2022/8/31	57825	10th floor of Research and Project Building
S3	F	2022/9/27	56906	10th floor of Research and Project Building
S4	F	2022/9/27	56150	10th floor of Research and Project Building

Table S2. Mean, standard deviation (SD), and relative standard deviation (RSD) of the sulfate ion concentration of each sample.

	Opening Area(%)	Mesh Count	Wire Diameter(mm)	SO ₄ ²⁻ Conc. µg/m ³				AVE(µg/m ³)	SD	RSD(%)
				□	□	□	□			
A1	36.7	120	0.08	0.07	0.07	0.09	0.09	0.08	0.009	0.12
A2	36.7	120	0.08	0.20	0.12	0.21	0.21	0.19	0.035	0.19
A3	36.7	120	0.08	0.21	0.22	0.18	0.22	0.21	0.016	0.08
A4	36.7	120	0.08	0.17	0.14	0.15	0.13	0.15	0.016	0.11
B1	31.3	80	0.14	0.11	0.15	0.11	0.12	0.12	0.017	0.14
B2	31.3	80	0.14	0.12	0.14	0.14	0.13	0.13	0.008	0.06
B3	31.3	80	0.14	0.20	0.17	0.18	0.23	0.19	0.022	0.11
C1	44.8	60	0.14	0.17	0.16	0.16	0.17	0.16	0.004	0.03
C2	44.8	60	0.14	0.11	0.10	0.09	0.08	0.10	0.011	0.11
C3	44.8	60	0.14	0.07	0.08	0.09	0.08	0.08	0.005	0.06
C4	44.8	60	0.14	0.06	0.06	0.08	0.07	0.07	0.007	0.10
C5	44.8	60	0.14	0.13	0.14	0.13	0.17	0.14	0.017	0.12
C6	44.8	60	0.14	0.38	0.36	0.38	0.41	0.38	0.015	0.04
C7	44.8	60	0.14	0.12	0.15	0.15	0.14	0.14	0.010	0.07
D1	52.5	50	0.14	0.45	0.48	0.51	0.48	0.48	0.021	0.04
D2	52.5	50	0.14	0.16	0.14	0.13	0.13	0.14	0.012	0.08
D3	52.5	50	0.14	0.10	0.09	0.10	0.11	0.10	0.008	0.08
E1	60.8	40	0.14	0.11	0.13	0.14	0.14	0.13	0.011	0.08
E2	60.8	40	0.14	0.20	0.22	0.21	0.21	0.21	0.009	0.04
E3	60.8	40	0.14	0.13	0.13	0.13	0.14	0.13	0.005	0.04
F1	46.9	80	0.1	0.05	0.05	0.06	0.06	0.06	0.005	0.10
F2	46.9	80	0.1	0.02	0.02	0.02	0.03	0.02	0.002	0.11
F3	46.9	80	0.1	0.10	0.14	0.11	0.13	0.12	0.016	0.14
G1	38.7	80	0.12	0.06	0.05	0.05	0.05	0.05	0.006	0.11
G2	38.7	80	0.12	0.02	0.02	0.02	0.02	0.02	0.002	0.13
G3	38.7	80	0.12	0.13	0.11	0.13	0.14	0.13	0.011	0.09
S1	60.8	40	0.14	0.09	0.08	0.08	0.07	0.08	0.004	0.06
S2	60.8	40	0.14	0.10	0.09	0.07	0.08	0.08	0.010	0.12
S3	60.8	40	0.14	0.33	0.36	0.34	0.35	0.34	0.010	0.03
S4	60.8	40	0.14	0.31	0.29	0.30	0.30	0.30	0.007	0.02