



**Figure S1. The time series of all these data from 16 November 2014 to 18 May 2017. The red, green, blue, and black lines are the dephelometer, aethalometer, meteorological and PM data, respectively.**

**Table S1. The number of samples above each threshold and P of the corresponding case.**

EC (km <sup>-1</sup> )	Counts	P (PM1)		P (PM2.5)		P (PM10)	
	Above the threshold	RF	ANN	RF	ANN	RF	ANN
0.1	4453	0	0	0	0	0	0
0.15	3788	0	0	0	0	0	0
0.2	3062	0	0	0	0	0	0
0.25	2392	0	0	0	0	0	0
0.3	1809	0	0	0	0	0	0
0.35	1354	0	0	0	0	0	0
0.4	1013	1.85E-317	0	0	0	0	5.91E-305
0.45	730	5.92E-228	3.54E-261	1.81E-234	3.99E-273	8.68E-242	1.95E-224
0.5	542	2.22E-174	8.37E-197	7.50E-178	1.19E-209	3.34E-187	1.61E-180
0.55	394	8.55E-124	4.60E-144	9.10E-127	8.96E-154	2.54E-134	1.87E-136
0.6	291	6.09E-86	8.97E-103	3.48E-88	8.23E-112	1.32E-95	9.42E-101
0.65	240	2.71E-70	5.02E-85	1.01E-71	6.37E-92	7.92E-79	1.31E-84
0.70	206	2.73E-57	1.86E-68	2.49E-57	2.32E-75	2.14E-64	4.38E-71
0.75	165	2.50E-44	2.02E-50	6.49E-45	1.04E-56	4.19E-51	8.56E-56
0.8	137	2.09E-35	4.42E-42	1.02E-35	1.60E-47	7.06E-42	1.15E-45
0.85	126	1.04E-32	2.53E-39	2.46E-31	9.56E-43	1.55E-37	1.02E-41
0.9	106	2.08E-28	1.73E-32	1.72E-26	2.51E-37	3.88E-32	4.03E-36
0.95	83	1.33E-22	1.19E-25	2.62E-20	8.75E-29	1.42E-24	6.81E-30
1.0	70	1.80E-18	5.90E-21	5.65E-16	4.80E-23	6.56E-20	1.54E-25
1.05	57	1.53E-18	1.85E-17	1.97E-15	1.36E-20	2.14E-21	1.30E-22
1.1	39	1.35E-12	1.75E-11	1.14E-09	5.27E-12	5.03E-15	5.96E-16