

Table Captions

Table S1 The meteorological data from the China Weather website in the sampling period.

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Season	Date	T °C	RH %	Wind direction	Wind speed
	Jan. 3rd	-8-9	27	northwest wind	First level
	Jan. 4th	-4-8	31	west wind	First level
	Jan. 8th	-2-3	73	east wind	Second level
	Jan. 9th	-10-3	79	north wind	Second level
Winter	Jan. 10th	-12-0	82	northwest wind	Second level
	Jan. 11th	-10-4	66	northwest wind	First level
	Jan. 12th	-8-4	29	north wind	Second level
	Feb. 28th	-5-11	70	east wind	First level
	Mar. 1st	-8-6	42	northwest wind	Second level
	Mar. 2nd	-5-12	44	west wind	Second level
	Apr. 26th	4-20	15	east wind	Third level
	Apr. 27th	4-21	5	northeast wind	Second level
	Apr. 28th	8-26	8	east wind	Second level
	Apr. 29th	9-29	9	southwest wind	Third level
Spring	Apr. 30th	10-28	13	northeast wind	Level five wind
	May 1st	10-24	11	east wind	Level five wind
	May 2nd	13-26	27	southeast wind	Third level
	May 4th	8-23	15	west wind	Third level
	May 5th	4-19	7	west wind	Level four wind

	May 6th	5–25	10	west wind	Third level
	Jul. 10th	20–36	44	east wind	First level
	Jul. 11th	20–37	39	east wind	First level
	Jul. 12th	22–36	38	northeast wind	Second level
	Jul. 13th	19–37	35	east wind	First level
	Jul. 14th	22–38	35	west wind	First level
	Jul. 15th	23–37	39	east wind	Second level
Summer	Jul. 16th	21–29	66	northeast wind	Second level
	Jul. 17th	20–33	38	northeast wind	Second level
	Jul. 18th	21–31	56	east wind	First level
	Jul. 19th	22–31	39	northeast wind	Second level
	Oct. 11th	6–16	99	south wind	First level
	Oct. 12th	3–16	84	west wind	First level
	Oct. 13th	6–17	75	south wind	First level
	Oct. 14th	7–16	79	east wind	First level
Autumn	Oct. 15th	6–16	80	south wind	First level
	Oct. 16th	8–15	76	east wind	First level
	Oct. 18th	7–16	99	east wind	First level
	Oct. 19th	5–18	99	east wind	First level
	Oct. 20th	6–19	93	west wind	Second level
	Oct. 21th	6–19	91	east wind	First level

Figure Captions

Fig. S1 Scatter plots and fitted linear regressions between $[\text{NH}_4^+]$ vs. $[\text{SO}_4^{2-}]$, $[\text{NH}_4^+]$ vs. $[\text{SO}_4^{2-} + \text{NO}_3^-]$, $[\text{NH}_4^+]$ vs. $[\text{SO}_4^{2-} + \text{NO}_3^- + \text{Cl}^-]$ and $[\text{NH}_4^+ + \text{Ca}^{2+} + \text{Mg}^{2+}]$ vs. $[\text{SO}_4^{2-} + \text{NO}_3^-]$ in fine particles.

Fig. S2 Scatter plots and fitted linear regressions between $[\text{NH}_4^+]$ vs. $[\text{SO}_4^{2-}]$, $[\text{NH}_4^+]$ vs. $[\text{SO}_4^{2-} + \text{NO}_3^-]$, $[\text{NH}_4^+]$ vs. $[\text{SO}_4^{2-} + \text{NO}_3^- + \text{Cl}^-]$ and $[\text{NH}_4^+ + \text{Ca}^{2+} + \text{Mg}^{2+}]$ vs. $[\text{SO}_4^{2-} + \text{NO}_3^-]$ in coarse particles.

Fig. S3 Scatter plots of the concentration of $\text{PM}_{2.5}$ samples on the $\text{PM}_{2.5}$ samplers and the size-segregated sampler.

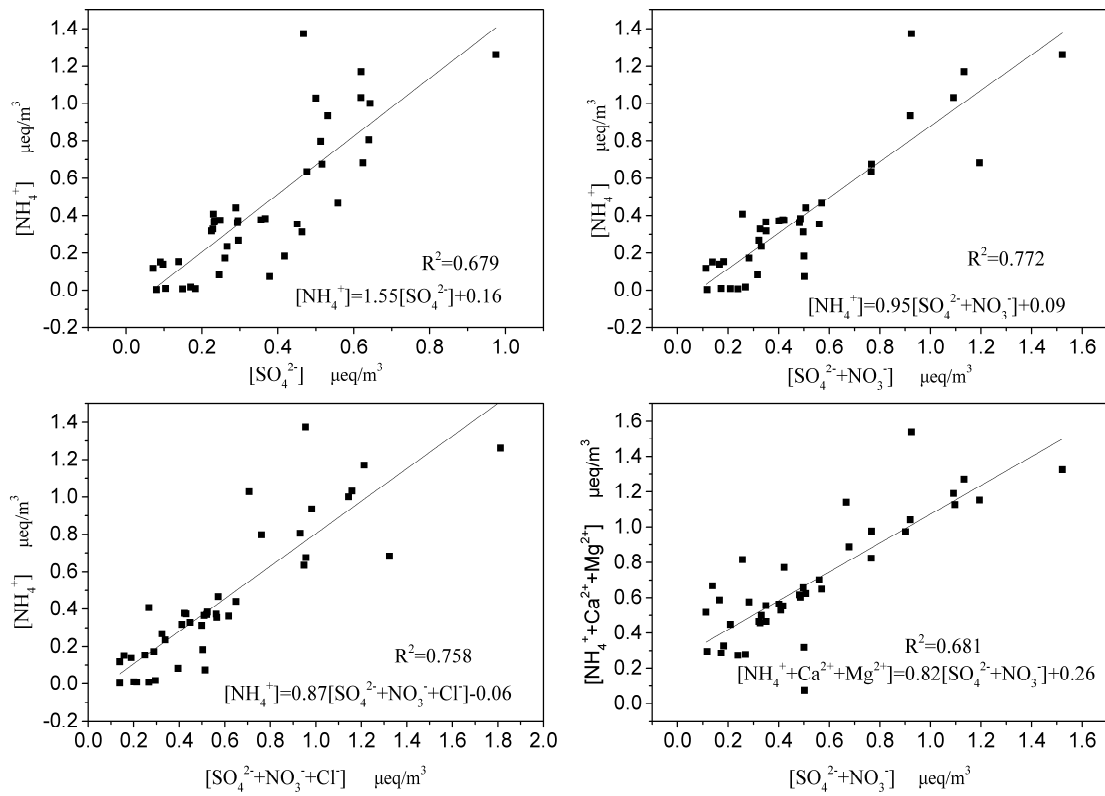


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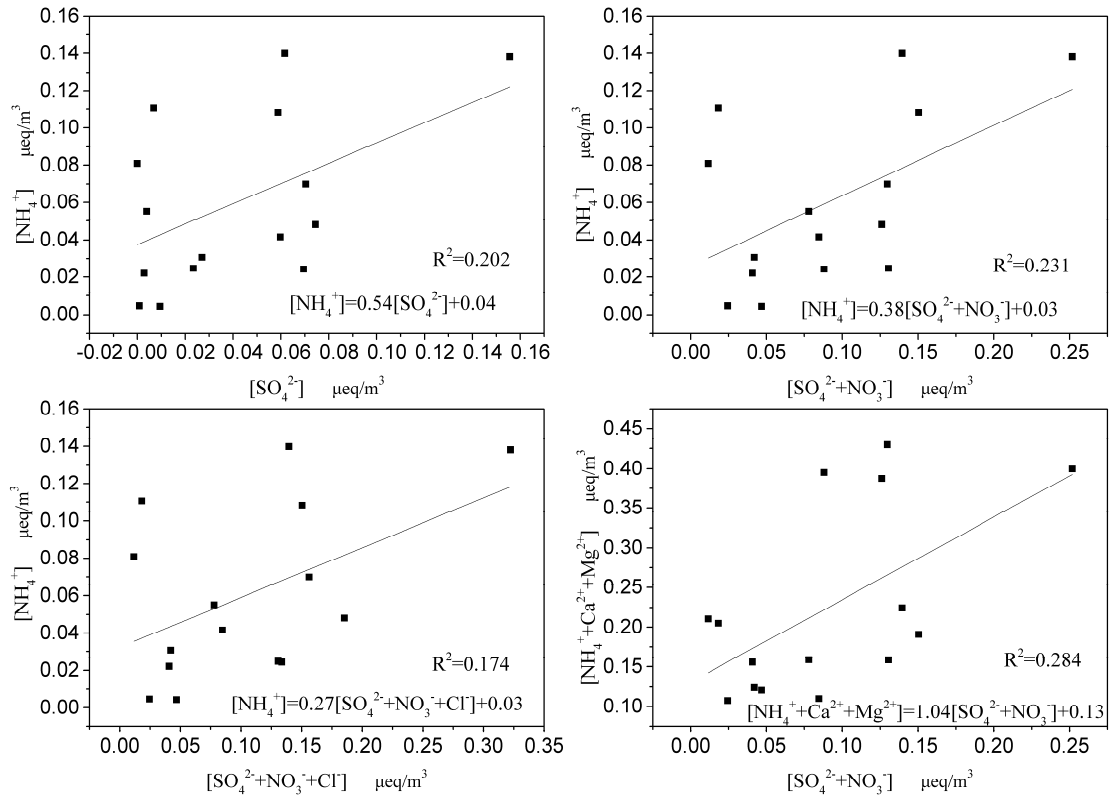


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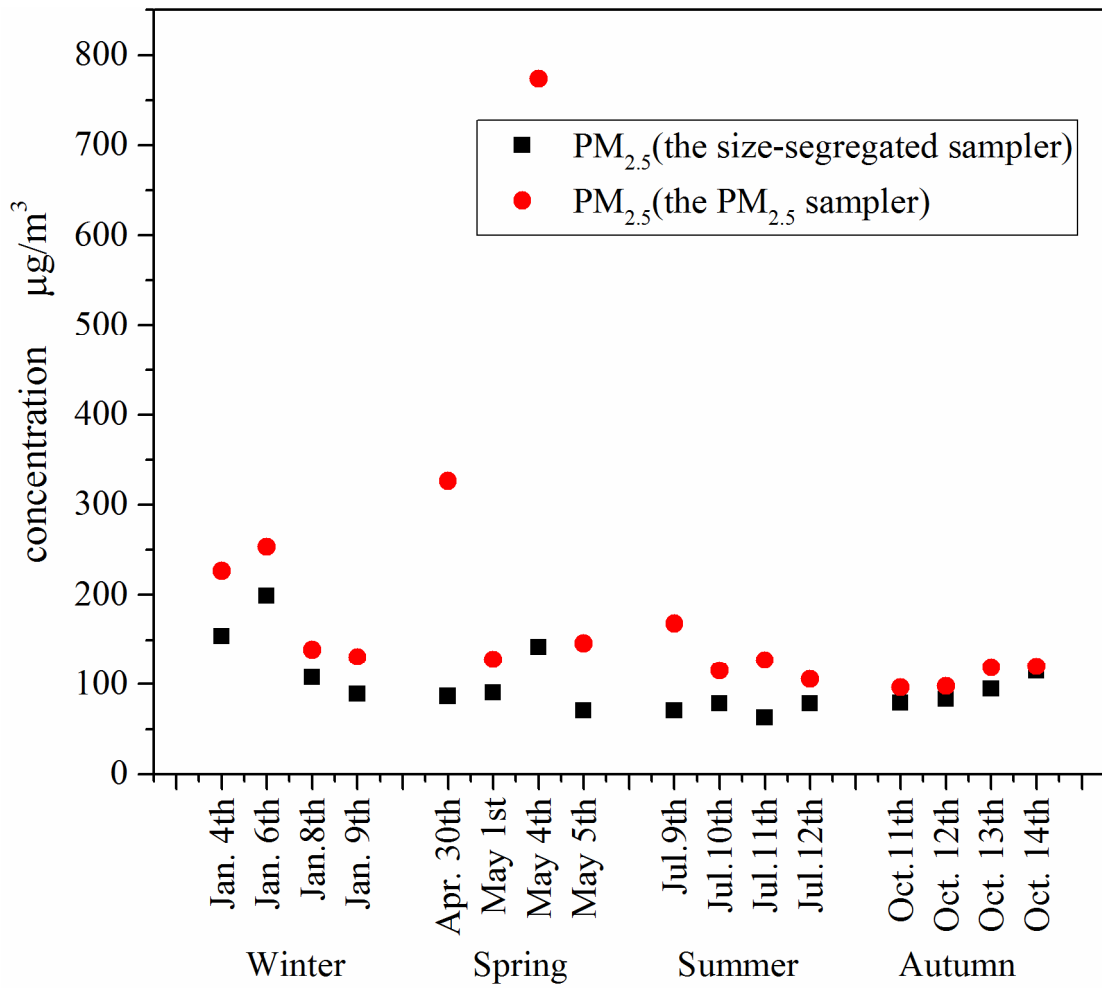


Fig. S3 Scatter plots of the concentration of PM_{2.5} samples on the PM_{2.5} samplers and the size-segregated sampler.