

## Supplementary Materials:

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**Table S1.** student T-test of the difference.

City:PT																				
year	O <sub>3</sub>			PM <sub>10</sub>			PM <sub>2.5</sub>			SO <sub>2</sub>			NO <sub>2</sub>							
	AAC	TSP	AAC	TC	p-Value	AAC	TSP	AAC	TC	p-Value	AAC	TSP	AAC	TC	p-Value	AAC	TSP	AAC	TC	p-Value
2019	64.6±38.2	76.4±42.5	<0.05*	37.7±15.6	39.3±16.6	0.13	18.0±9.1	19.6±10.1	<0.05*	5.3±1.8	5.8±1.7	<0.05*	11.3±5.2	11.9±6.2	0.12					
2020	61.3±42.7	76.0±53.7	<0.05*	37.7±15.4	44.0±16.2	<0.05*	16.1±8.6	22.2±10.1	<0.05*	5.5±1.4	6.7±1.9	<0.05*	13.9±5.3	15.1±5.3	<0.05*					
2021	60.1±35.7	72.3±30.5	<0.05*	32.3±13.3	26.7±12.4	<0.05*	15.1±7.6	14.1±7.7	<0.05*	4.6±1.4	4.4±1.6	<0.05*	11.2±4.7	9.8±4.3	<0.05*					
City:QZ																				
year	O <sub>3</sub>			PM <sub>10</sub>			PM <sub>2.5</sub>			SO <sub>2</sub>			NO <sub>2</sub>							
	AAC	TSP	AAC	TC	p-Value	AAC	TSP	AAC	TC	p-Value	AAC	TSP	AAC	TC	p-Value	AAC	TSP	AAC	TC	p-Value
2019	60.9±41.6	75.2±47.1	<0.05*	37.2±15.6	42.6±18.4	<0.05*	17.0±8.5	19.7±11.5	<0.05*	8.0±2.2	8.2±1.8	0.11	19.2±6.9	20.6±7.7	<0.05*					
2020	55.9±42.1	68.0±52.1	<0.05*	34.4±16.2	43.6±18.0	<0.05*	14.8±9.6	20.7±9.4	<0.05*	5.2±3.4	5.2±1.9	0.89	18.3±8.9	20.6±9.5	<0.05*					
2021	60.9±39.3	76.3±37.5	<0.05*	30.7±14.2	26.4±14.9	<0.05*	14.3±8.0	14.2±9.1	0.86	4.5±3.2	3.8±1.5	<0.05*	13.7±7.2	12.5±5.6	<0.05*					
City:XM																				
year	O <sub>3</sub>			PM <sub>10</sub>			PM <sub>2.5</sub>			SO <sub>2</sub>			NO <sub>2</sub>							
	AAC	TSP	AAC	TC	p-Value	AAC	TSP	AAC	TC	p-Value	AAC	TSP	AAC	TC	p-Value	AAC	TSP	AAC	TC	p-Value
2019	60.9±35.2	71.4±42.9	<0.05*	30.1±11.4	35.9±12.4	<0.05*	16.7±8.0	20.4±8.9	<0.05*	4.4±3.2	5.8±3.4	<0.05*	17.8±10.6	24.5±12.7	<0.05*					
2020	54.6±32.4	65.8±43.0	<0.05*	24.3±12.2	33.7±14.7	<0.05*	12.7±8.8	20.7±11.3	<0.05*	5.6±2.6	8.0±3.8	<0.05*	15.9±9.4	23.0±13.1	<0.05*					
2021	57.6±31.0	75.9±31.1	<0.05*	26.7±10.5	26.6±11.3	0.94	13.6±7.2	15.9±8.2	<0.05*	4.7±2.2	4.5±2.5	0.11	15.7±6.9	15.7±7.8	0.91					

\* Significant differences. AAC TSP:annual average concentration of TSP. AAC TC:annual average concentration during the DateSTC