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Supplement of

Measurement report: Effects of anthropogenic emissions and environmental factors on the formation of biogenic secondary organic aerosol (BSOA) in a coastal city of southeastern China

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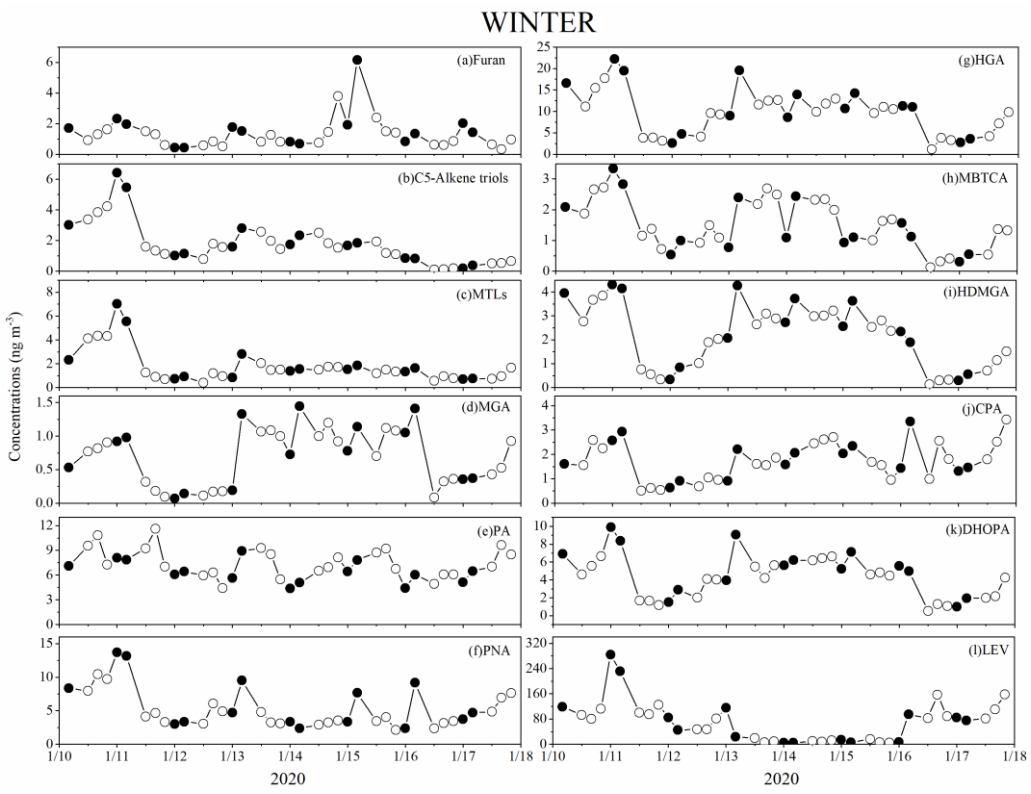


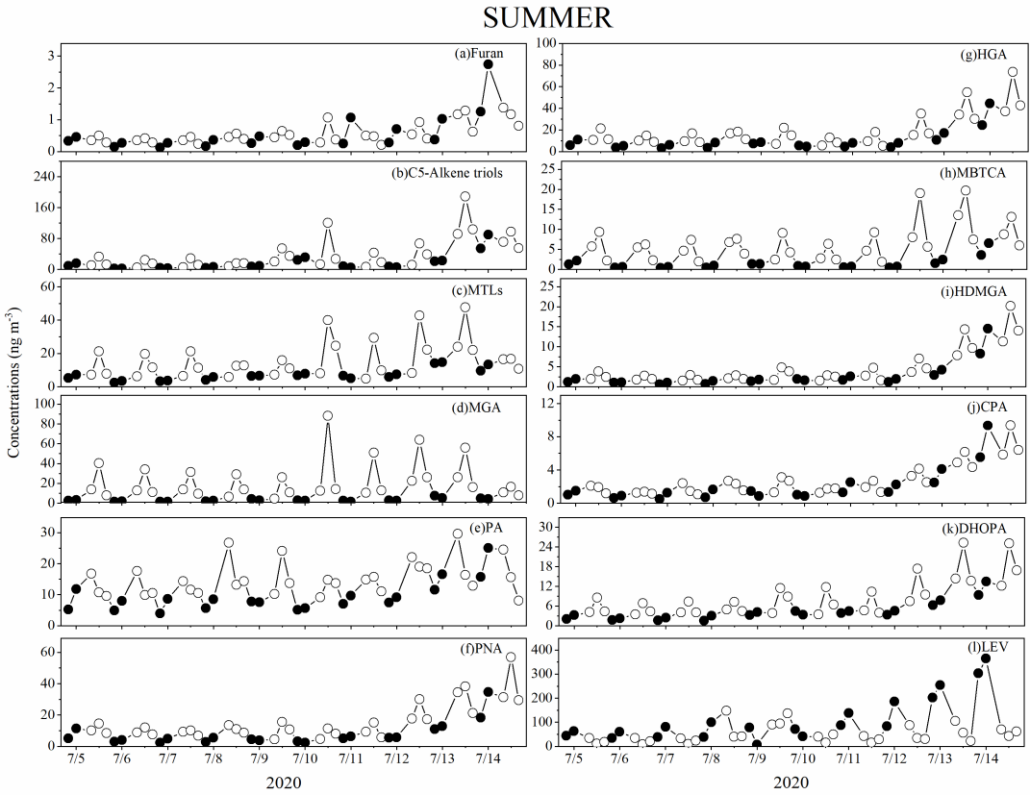
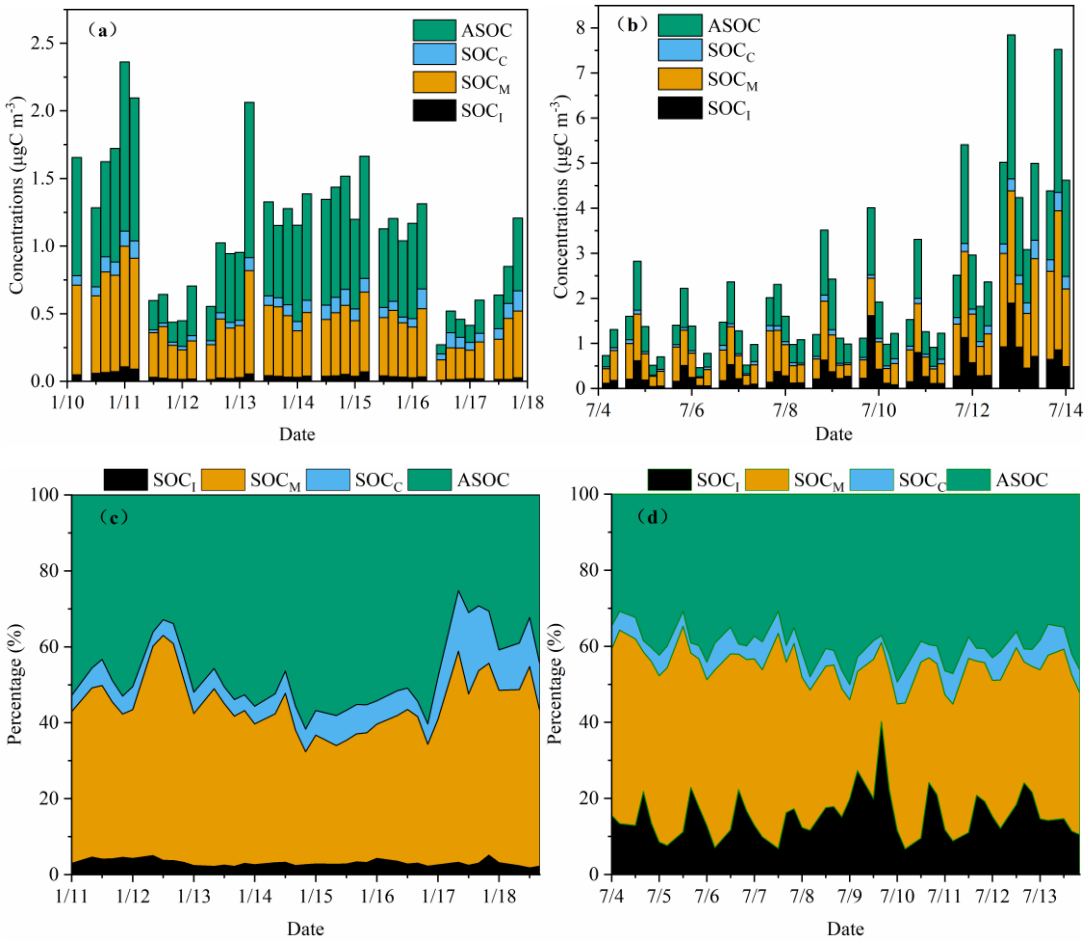


Fig.S1. Temporal variations of SOA tracers detected in the wintertime and summertime $PM_{2.5}$ samples in the coastal city of Southeast China



FigS2. Concentrations (a, b) and percentages (c, d) of SOA tracer-based estimated SOC during the sampling period

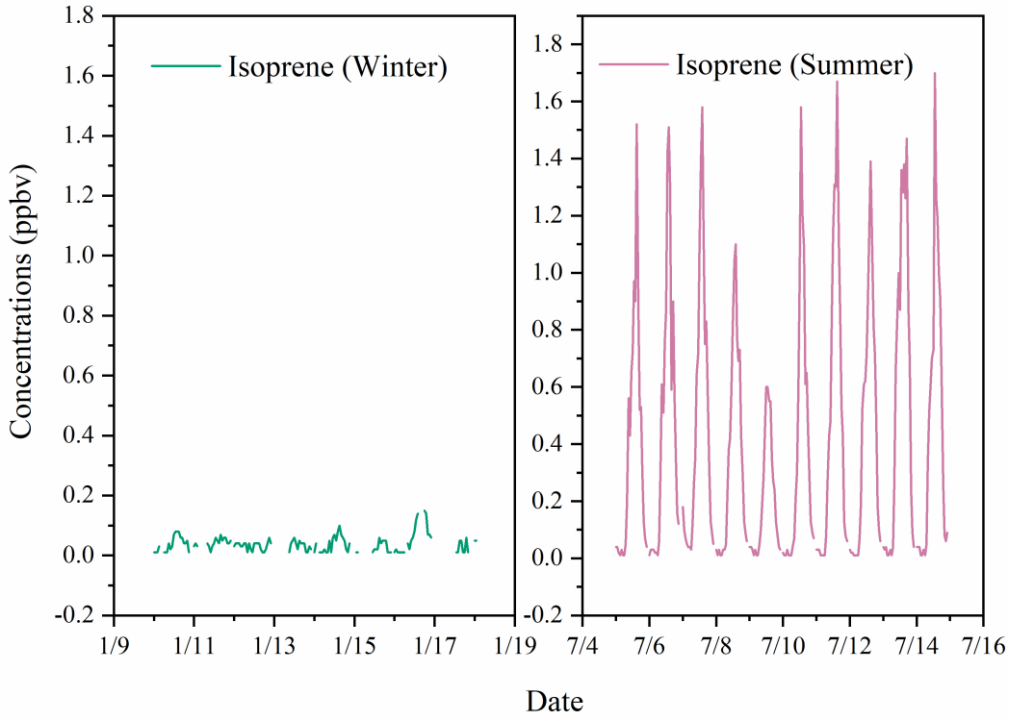


Fig.S3. Diurnal variation of isoprene concentrations during the wintertime and summertime

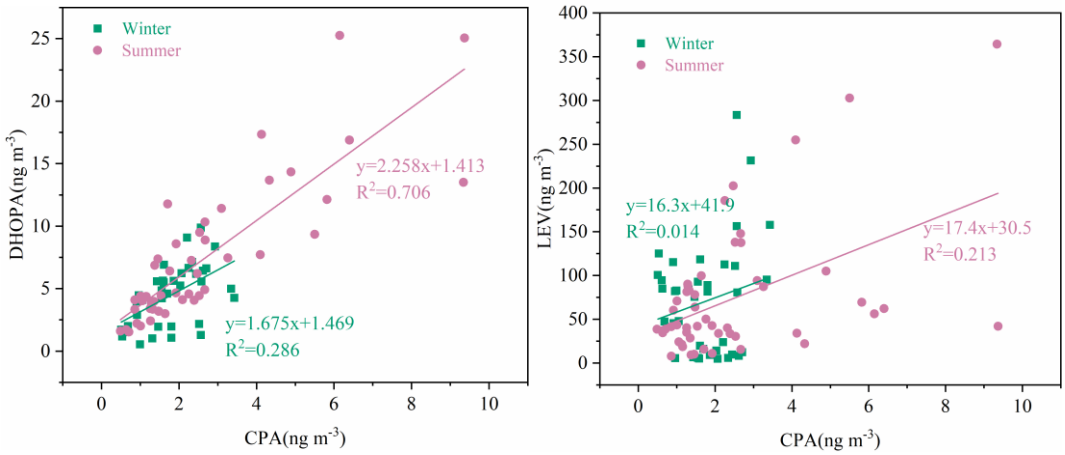


Fig.S4 Correlations of CPA, LEV and DHOPA during winter and summertime

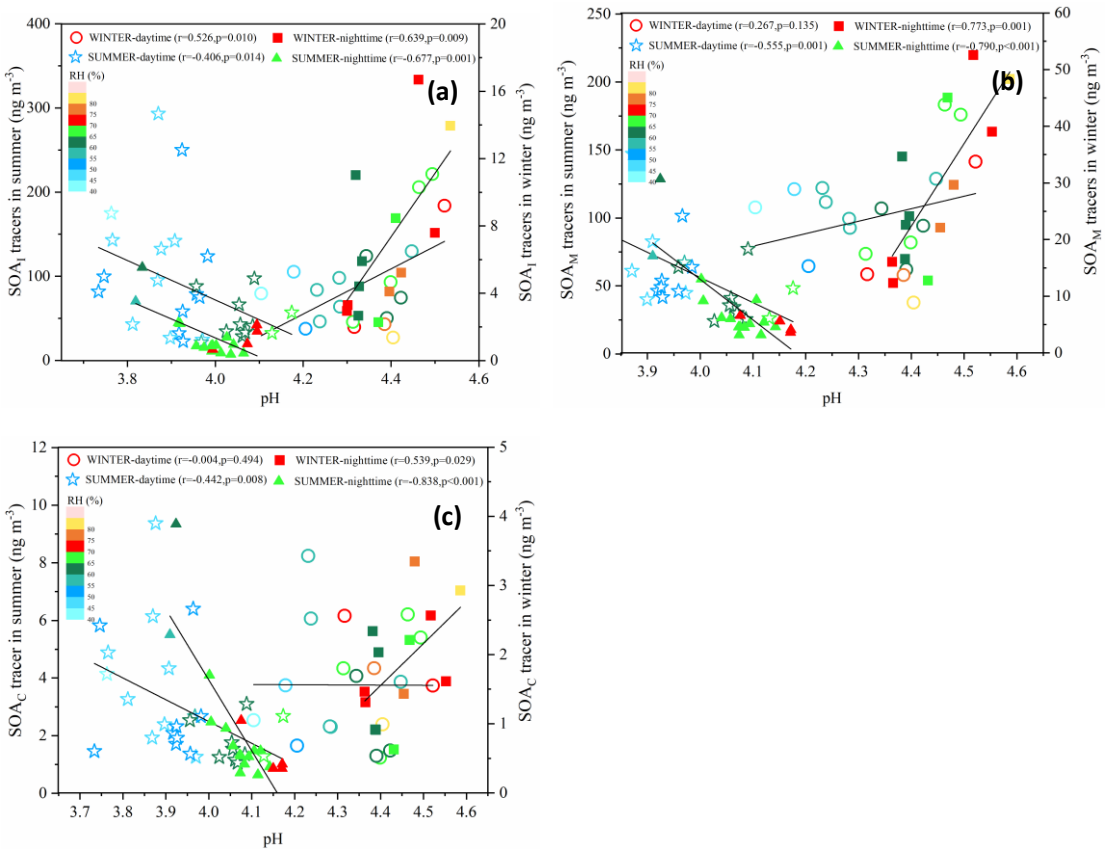


Fig.S5. Correlations of SOA_I tracers (a), SOA_M tracers (b), SOA_C tracer (c) with aerosol acidity (pH) during the daytime and night-time

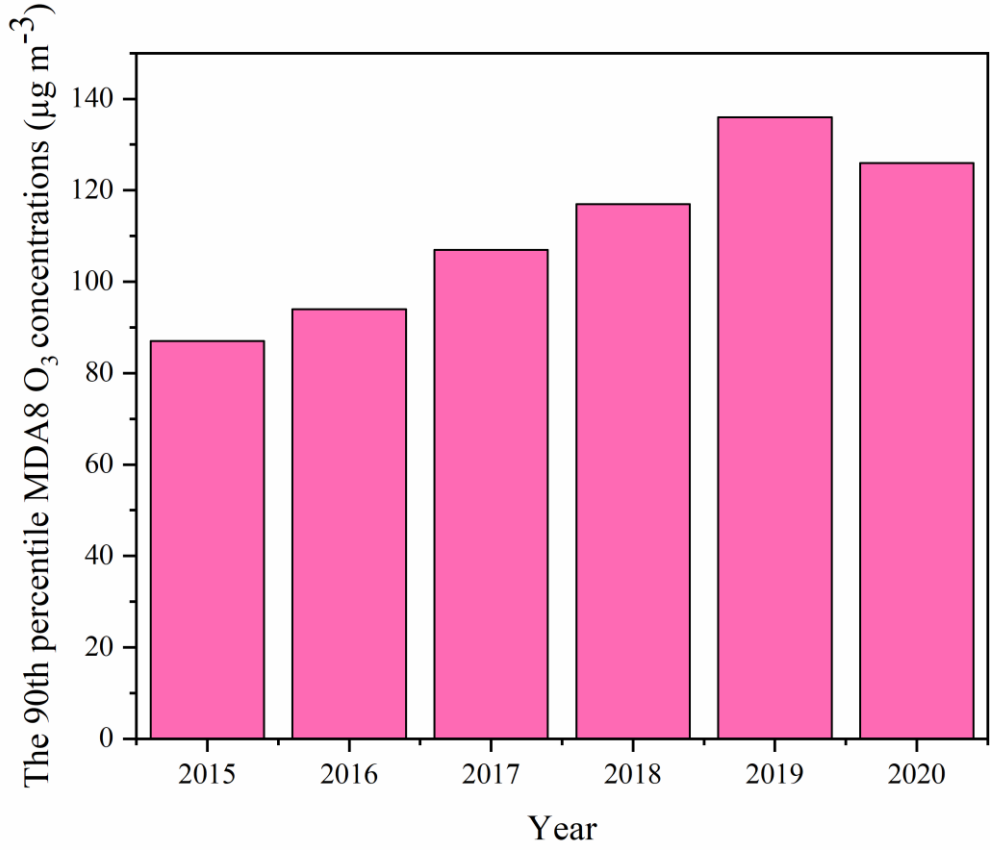


Fig.S6 Annual trends of the 90th percentile MDA8 O_3 concentrations in Xiamen

Table S1 Comparisons of criteria air pollutants and meteorological parameters during the daytime and nighttime in winter and summer

Index	Winter		Summer	
	Daytime	Nighttime	Daytime	Nighttime
$PM_{2.5}$(μg/m^3)	40.3±18.7	45.1±17.0	19.4±9.70	14.1±6.00
PM_{10}(μg/m^3)	61.1±27.2	68.9±25.0	36.5±17.5	30.3±9.70
O_3(μg/m^3)	45.7±25.4	37.6±16.8	80.3±46.2	24.2±11.8
CO(mg/m^3)	0.70±0.10	0.70±0.10	0.30±0.10	0.30±0.10
SO_2(μg/m^3)	2.90±1.80	2.10±0.90	8.30±1.00	7.80±1.40
NO_2(μg/m^3)	33.0±8.50	32.3±9.00	12.2±6.50	18.7±7.40
T(℃)	16.8±2.60	14.6±1.70	36.0±2.70	31.2±1.00
P(kPa)	100.9±0.20	100.9±0.20	99.5±0.20	99.6±0.20
RH(%)	60.7±9.50	69.5±5.80	55.0±6.90	67.7±3.30
WD(°)	159.0±14.3	151.3±12.7	191.5±16.9	194.0±30.8
WS(m/s)	1.50±0.40	1.10±0.70	1.40±0.30	0.80±0.20

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101 **Table S2 Comparisons of different types of SOA tracers (ng m^{-3}) during the daytime and**
102 **nighttime in winter and summer**

SOA tracers	Winter		Summer	
	Daytime	Nighttime	Daytime	Nighttime
SOA_I	3.79±2.37	4.91±3.75	81.9±66.2	26.8±24.8
SOA_M	24.9±8.51	28.3±13.0	64.5±38.5	31.2±27.2
SOA_C	1.70±0.81	1.82±0.77	2.83±1.97	2.06±2.11
Sum of BSOA	30.4±11.1	35.0±17.1	149.3±96.9	60.1±52.9
ASOA	3.80±1.99	5.35±2.72	9.00±5.98	4.28±2.96
Total SOA	34.2±12.8	40.4±19.6	158.3±102.5	64.4±55.8

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