

Supplementary Document

Characteristics of Fine Particulate Matter (PM_{2.5})-Bound n-Alkanes and Polycyclic Aromatic Hydrocarbons (PAHs) in a Hong Kong Suburban Area

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Table S1. Meteorological data during the whole sampling period.

| Scheme 3. | Sampling date | Prevail wind ^a | Wind speed (m/s) | Tempera-ture (°C) | Relative hu-midity (%) | PAH ng/m ³ | n-alkanes ng/m ³ |
|------------------------------------|---|---------------------------|------------------|-------------------|------------------------|-----------------------|-----------------------------|
| August/September (summer), 2011 | August 10 th -11 st , 2011 | SW | 11.40 | 32 | 69 | 1.33 | 66.01 |
| | August 16 th -17 th , 2011 | SW | 10.90 | 32 | 71 | 1.25 | 38.58 |
| | August 22 nd -23 rd , 2011 | SW | 11.20 | 32 | 71 | 1.39 | 72.16 |
| | August 29 th – 30 th , 2011 | NW | 16.20 | 34 | 64 | 13.93 | 100.41 |
| | September 6 th -7 th , 2011 | SE | 12.70 | 32 | 71 | 2.42 | 82.59 |
| | September 8 th – 9 th , 2011 (blank) | SE | 6.38 | 30 | 76 | n.a. | n.a. |
| November/December (fall), 2011 | November 3 rd – 4 th , 2011 | NE | 6.04 | 28 | 68 | 1.99 | 191.44 |
| | November 8 th – 9 th , 2011 | NE | 10.63 | 22 | 80 | 1.62 | 80.23 |
| | November 14 th – 15 th , 2011 | NE | 8.85 | 25 | 68 | 2.18 | 164.42 |
| | November 21 st – 22 nd , 2011 | NE | 10.04 | 22 | 60 | 1.82 | 82.51 |
| | November 22 nd -23 rd , 2011 | N | 9.86 | 23 | 65 | 3.58 | 92.44 |
| | November 25 th – 26 th , 2011 | NE | 10.6 | 22 | 60 | 1.78 | 90.77 |
| | December 1 st – 2 nd , 2011 | N | 9.56 | 16 | 57 | 1.70 | 66.52 |

| | | | | | | | |
|-------------------------------|--|----|-------|----|----|------|--------|
| | December 3 rd – 4 th , 2011 (blank) | N | 7.74 | 18 | 80 | n.a. | n.a. |
| February/March (winter), 2012 | February 2 nd – 3 rd , 2012 | NE | 8.89 | 16 | 70 | 2.29 | 66.13 |
| | February 9 th – 10 th , 2012 | E | 8.92 | 14 | 79 | 3.71 | 109.26 |
| | February 15 th – 16 th , 2012 | NE | 5.08 | 20 | 85 | 2.05 | 87.24 |
| | February 20 th – 21 st , 2012 | NE | 10.01 | 18 | 66 | 2.63 | 181.74 |
| | February 27 th – 28 th , 2012 | NE | 7.97 | 10 | 80 | 2.03 | 128.95 |
| | March 2 nd – 3 rd , 2012 | NE | 5.16 | 22 | 83 | 4.15 | 85.98 |
| | March 4 th – 5 th , 2012 (blank) | NE | 6.36 | 18 | 89 | n.a. | n.a. |
| May (spring), 2012 | May 2 nd – 3 rd , 2012 | SW | 7.83 | 30 | 74 | 1.71 | 156.32 |
| | May 9 th – 10 th , 2012 | SW | 6.86 | 31 | 69 | 1.63 | 147.55 |
| | May 14 th – 15 th , 2012 | SE | 3.11 | 30 | 75 | 1.39 | 50.61 |
| | May 21 st – 22 nd , 2012 | SE | 11.52 | 27 | 67 | 1.68 | 116.16 |
| | May 24 th – 25 th , 2012 | E | 8.33 | 28 | 75 | 1.66 | 145.37 |
| | May 30 th – 31 st , 2012 | E | 6.08 | 29 | 75 | 1.66 | 70.52 |
| | June 1 st – 2 nd , 2012 (blank) | SE | 10.36 | 27 | 82 | n.a. | n.a. |

^a refer to prevail wind direction, N-North, NE-Northeast, E-East, SE-Southeast, S-South, SW-Southwest, W-West, NW-Northwest.

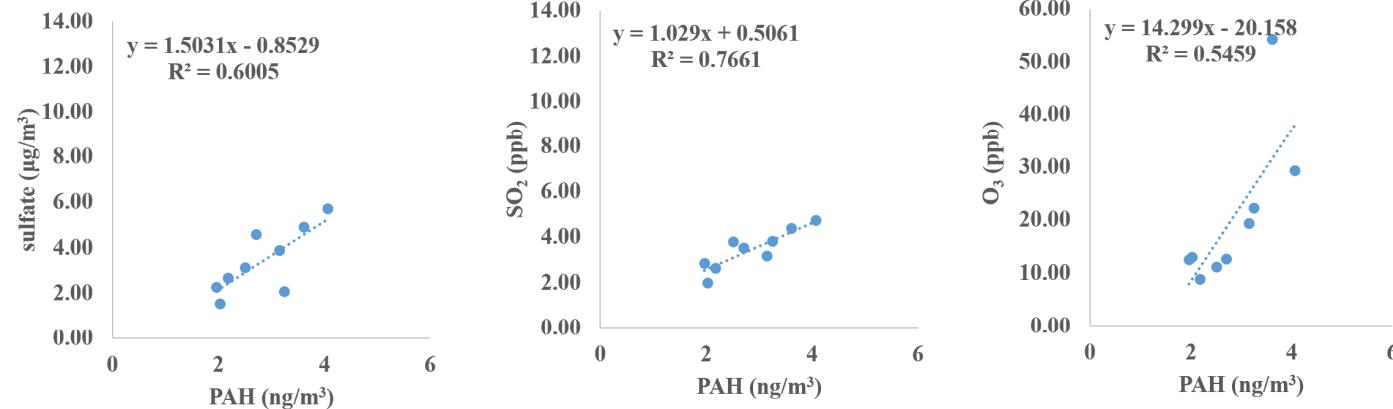
Table S2. Data of PM_{2.5}, potassium, sulfate, chloride, nitrate, sodium, calcium, ammonium, NO_x, SO₂, O₃ and CO during the whole sampling period.

| Date | PM _{2.5} | potas- sium | sulfate | µg/m ³ | | | | | ppb | | | |
|-------------------------|-------------------|----------------|---------|-------------------|---------|-------------|---------|---------------|-----------------|-----------------|----------------|--------|
| | | | | chlo- ride | nitrate | so- dium | calcium | ammo- nium | NO _x | SO ₂ | O ₃ | CO |
| August 10-11, 2011 | 11.48 | 0.05 | 1.52 | | | | | 0.63 | 23.78 | 1.97 | 12.93 | 407.07 |
| August 16-17, 2011 | 8.47 | 0.04 | 2.25 | | 0.33 | 0.21 | 0.42 | 0.90 | 24.29 | 2.85 | 12.49 | 324.06 |
| August 22-23, 2011 | 12.44 | 0.12 | 2.66 | 0.05 | 0.34 | 0.29 | 0.44 | 0.88 | 26.05 | 2.62 | | 304.60 |
| August 29-30, 2011 | 68.66 | 0.67 | 13.04 | 0.19 | 1.71 | 0.51 | 0.46 | 3.38 | | 11.69 | 53.21 | 782.53 |
| September 6-7, 2011 | 44.97 | | | 0.14 | 1.12 | | 0.47 | | | 10.65 | 45.21 | 658.21 |
| November 3-4, 2011 | 32.97 | 0.46 | 6.83 | 0.74 | 1.91 | | 0.43 | 2.26 | 22.23 | 5.86 | 31.36 | 441.97 |
| November 8-9, 2011 | 16.35 | 0.39 | 2.28 | | | 1.02 | 0.14 | 0.39 | 27.66 | 2.21 | | 696.63 |
| November 14-15, 2011 | 38.81 | 0.50 | | | | 0.28 | 0.15 | 4.50 | 30.85 | 7.07 | 40.10 | 701.72 |
| November 21-22, 2011 | 31.89 | 0.45 | 7.11 | 1.00 | 2.67 | 0.39 | 0.38 | 2.30 | 23.47 | 5.15 | 30.40 | 485.67 |

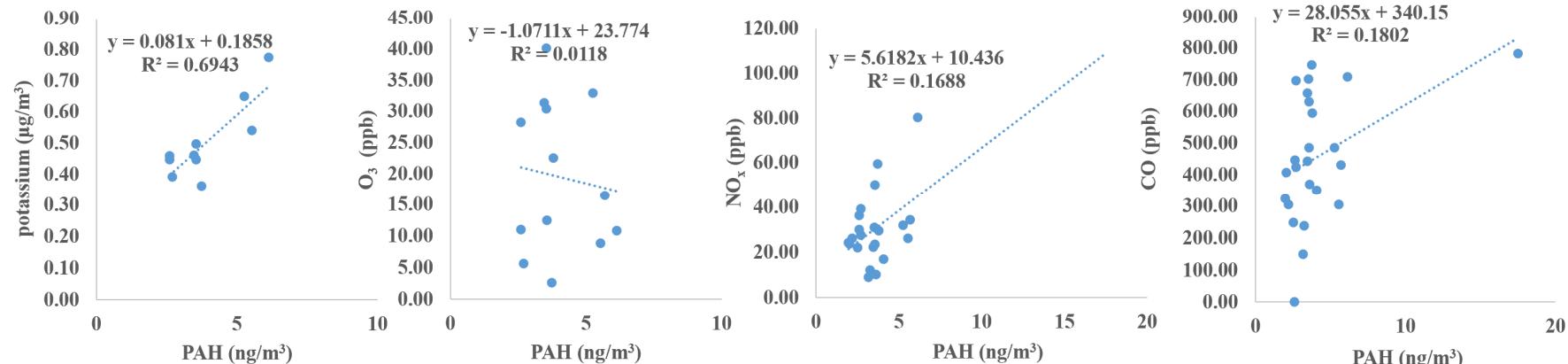
| | | | | | | | | | | | |
|-------------------------|-------|------|-------|------|------|------|------|-------|-------|------|--------------|
| November 22-23, 2011 | 47.99 | 0.54 | 8.12 | | 0.95 | | 2.75 | 26.05 | 2.62 | | 304.60 |
| November 25-26, 2011 | 31.65 | 0.46 | 8.31 | 1.42 | 3.15 | 1.02 | 0.27 | 2.25 | 29.95 | 6.42 | 28.23 446.85 |
| December 1-2, 2011 | 28.31 | 0.45 | 8.52 | 1.74 | 2.30 | 0.23 | 0.29 | | 36.36 | 9.82 | 10.96 |
| February 2-3, 2012 | 41.55 | | | | | | | | 29.44 | 4.09 | 22.54 594.12 |
| February 9-10, 2012 | 54.03 | | | | | | | | 34.26 | 5.39 | 16.42 430.90 |
| February 15-16, 2012 | 38.38 | | | | | | | | 50.07 | 5.26 | 12.48 629.70 |
| February 20-21, 2012 | 47.86 | 0.65 | 9.27 | 1.06 | 2.89 | 0.47 | 0.57 | 3.20 | 31.88 | 5.15 | 32.92 484.88 |
| February 27-28, 2012 | 35.42 | 0.36 | 4.60 | 0.93 | 1.89 | 0.56 | 0.23 | 1.67 | 59.53 | 3.99 | 2.60 747.07 |
| March 2-3, 2012 | 64.70 | 0.78 | 14.20 | 0.83 | 3.38 | 1.04 | 0.15 | | 80.31 | 7.92 | 10.79 709.00 |
| May 2-3, 2012 | 29.79 | 0.15 | 3.87 | 0.35 | 0.73 | 0.51 | 0.20 | 1.40 | 9.01 | 3.17 | 19.34 149.91 |
| May 9-10, 2012 | 21.56 | 0.10 | 2.07 | 0.31 | 0.52 | 0.38 | 0.23 | 0.85 | 12.20 | 3.80 | 22.22 237.37 |
| May 14-15, 2012 | 13.16 | 0.13 | 3.12 | 0.39 | 0.58 | 0.57 | 0.22 | 1.25 | 21.97 | 3.79 | 11.16 247.44 |
| May 21-22, 2012 | 25.43 | 0.23 | 4.90 | 0.67 | 1.27 | 0.69 | 0.22 | 1.74 | 10.27 | 4.37 | 54.27 369.94 |
| May 24-25, 2012 | 24.71 | 0.23 | 5.70 | 0.63 | 1.50 | 0.79 | 0.42 | 2.28 | 16.86 | 4.72 | 29.30 351.44 |
| May 30-31, 2012 | 22.95 | 0.29 | 4.57 | 0.48 | 1.16 | 0.54 | 0.42 | 1.71 | 39.28 | 3.50 | 12.58 423.19 |

a)

Summer and spring seasons



b) Autumn and winter seasons



c) In whole sampling period

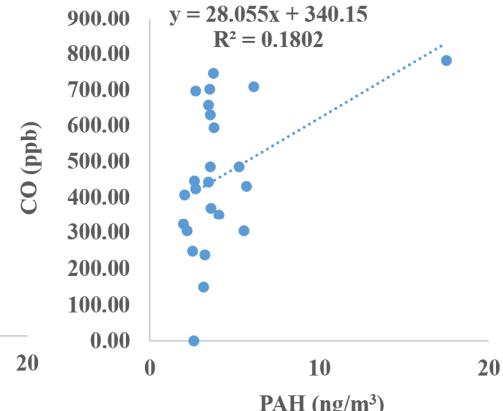


Figure S1. correlation plot between a) PAH and sulfate, SO₂ in summer and spring seasons; b) PAH and potassium, O₃ in autumn and winter seasons; c) PAH and NO_x, CO in whole sampling period.