Supplemental Table S1: The chemical composition of UFP1 and UFP2 in total PM mass

|                            | UFP1 (Idle)           |             | UFP2 (UDDS)           |             |
|----------------------------|-----------------------|-------------|-----------------------|-------------|
|                            | Value                 | Uncertainty | Value                 | Uncertainty |
| WSOC and inorganic ions    | mg/g of total PM mass |             | mg/g of total PM mass |             |
| WSOC                       | 43.4                  | 0.3         | 51.5                  | 0.2         |
| Nitrates                   | 10.1                  | 0.6         | 0.7                   | 0.2         |
| Sulfates                   | 1.4                   | 0.9         | 1.3                   | 0.5         |
| Ammonium                   | 1.6                   | 0.4         | 0.2                   | 0.1         |
| PAHs and hopanes           | μg/g of total PM mass |             | μg/g of total PM mass |             |
| Phenanthrene               | 33.14                 | 6.80        | 15.10                 | 3.17        |
| Pyrene                     | 35.42                 | 7.12        | 70.30                 | 14.07       |
| Benzo(GHI)fluoranthene     | 3.14                  | 0.67        | 29.74                 | 5.95        |
| Cyclopenta(cd)pyrene       | 6.83                  | 1.68        | 26.00                 | 5.24        |
| Benz(a)anthracene          | 4.03                  | 1.26        | 22.37                 | 4.52        |
| Chrysene                   | 4.63                  | 1.05        | 28.58                 | 5.72        |
| Benzo(b)fluoranthene       | 1.66                  | 1.03        | 19.42                 | 3.94        |
| Benzo(k)fluoranthene       | 2.76                  | 0.60        | 11.70                 | 2.35        |
| Benzo(e)pyrene             | 3.25                  | 0.98        | 24.31                 | 4.89        |
| Benzo(a)pyrene             | 3.95                  | 0.93        | 17.11                 | 3.44        |
| Indeno(1,2,3-cd)pyrene     | 1.63                  | 0.58        | 4.34                  | 0.93        |
| Benzo(GHI)perylene         | 2.20                  | 0.74        | 18.28                 | 3.67        |
| 17B(H)-21A(H)-30-Norhopane | 12.49                 | 2.50        | 20.68                 | 4.14        |
| 17A(H)-21B(H)-Hopane       | 9.28                  | 1.87        | 7.62                  | 1.53        |
| Metals and trace elements  | ng/g of total PM mass |             | ng/g of total PM mass |             |
| Na                         | 49648.0               | 1320.2      | 40325.3               | 2626.9      |
| Mg                         | 10566.1               | 595.7       | 13533.8               | 664.9       |
| A1                         | 1613.6                | 70.8        | 353.5                 | 383.2       |
| P                          | 574452.4              | 2824.0      | 258247.4              | 3681.9      |
| S                          | 211640.4              | 2169.3      | 326607.0              | 3751.0      |
| K                          | 23582.8               | 204.6       | 17607.8               | 749.6       |
| Ca                         | 233281.8              | 3024.3      | 987416.5              | 9763.1      |
| Fe                         | 474.2                 | 948.2       | 2976.1                | 2107.1      |
| V                          | 76.1                  | 11.0        | 30.4                  | 9.5         |
| Cr                         | 124.4                 | 14.7        | 307.3                 | 39.9        |
| Mn                         | 1008.9                | 36.9        | 451.6                 | 57.4        |
| Co                         | 13.4                  | 1.3         | 18.2                  | 4.9         |
| Ni                         | 537.9                 | 54.7        | 2182.0                | 78.5        |
| Cu                         | 71.9                  | 17.2        | 13.6                  | 31.7        |
| Zn                         | 558221.3              | 12684.6     | 280343.4              | 3514.2      |
| As                         | 111.4                 | 23.9        | 31.3                  | 31.4        |
| Zr                         | 191.3                 | 21.1        | 281.7                 | 5.9         |
| Nb                         | 1.3                   | 0.5         | 20.9                  | 3.1         |
| Mo                         | 139.1                 | 33.2        | 718.1                 | 77.5        |
| Pď                         | 15.3                  | 1.8         | 7.9                   | 3.0         |
| Ag                         | 22.6                  | 4.9         | 69.1                  | 6.8         |
| Cd                         | 53.8                  | 7.5         | 3.1                   | 2.0         |
| Cs                         | 137.8                 | 5.5         | 0.5                   | 0.1         |
| Ba                         | 747.9                 | 36.1        | 752.6                 | 64.4        |
| La                         | 3.2                   | 0.1         | 2.5                   | 0.4         |
| Ce                         | 3.9                   | 0.7         | 2.7                   | 0.9         |
| Nd                         | 1.5                   | 1.0         | 0.8                   | 0.9         |
| Pt                         | 1.3                   | 1.1         | 2.1                   | 2.4         |
| Pb                         | 786.1                 | 21.1        | 22.5                  | 6.0         |