Mercury isotope compositions of PM2.5 samples from Beijing, Changchun and Chengdu

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **City** | **No.** | **Date** | **Filter ID** | **PM2.5 (μg m-3)** | **HgPM2.5**  **(ng m-3)** | **HgPM2.5**  **(μg g-1)** | **δ199Hg (‰)** | **δ200Hg (‰)** | **δ201Hg (‰)** | **δ202Hg (‰)** | **δ204Hg (‰)** | **∆199Hg (‰)** | **∆200Hg (‰)** | **∆201Hg (‰)** | **∆204Hg (‰)** |
| Beijing | 1+2a | 13/12/30-13/12/31 | HTC-0564-HTC-0565 | 91 | 0.16 | 1.73 | -0.53 | -0.71 | -1.28 | -1.50 | -2.08 | -0.15 | 0.04 | -0.15 | 0.15 |
| Beijing | 3+4a | 14/1/1-14/1/2 | HTC-0566-HTC-0567 | 100 | 0.19 | 1.90 | -0.44 | -0.79 | -1.22 | -1.56 | -2.23 | -0.05 | -0.01 | -0.05 | 0.10 |
| Beijing | 6 | 2014/1/4 | HTC-0569 | 153 | 0.36 | 2.35 | 0.14 | -0.39 | -0.53 | -0.91 | -1.59 | 0.37 | 0.07 | 0.15 | -0.23 |
| Beijing | 7 | 2014/1/5 | HTC-0570 | 84 | 0.19 | 2.28 | -1.14 | -0.68 | -1.82 | -1.31 | -2.11 | -0.81 | -0.03 | -0.84 | -0.16 |
| Beijing | 8 | 2014/1/6 | HTC-0571 | 159 | 0.28 | 1.73 | -1.05 | -0.55 | -1.79 | -1.06 | -1.75 | -0.79 | -0.02 | -0.99 | -0.17 |
| Beijing | 12 | 2014/1/10 | HTC-0575 | 102 | 0.51 | 4.98 | -0.84 | -0.58 | -1.50 | -1.12 | -1.59 | -0.56 | -0.02 | -0.65 | 0.08 |
| Beijing | 13+14a | 14/1/11-14/1/12 | HTC-0576-HTC-0577 | 79 | 0.16 | 2.04 | -0.79 | -0.73 | -1.51 | -1.45 | -2.11 | -0.42 | 0.00 | -0.42 | 0.06 |
| Beijing | 15+16a | 14/1/13-14/1/14 | HTC-0578-HTC-0579 | 105 | 0.21 | 2.03 | -0.70 | -0.70 | -1.33 | -1.40 | -2.02 | -0.34 | 0.00 | -0.28 | 0.06 |
| Beijing | 17 | 2014/1/15 | HTC-0580 | 319 | 0.50 | 1.56 | -0.56 | -0.38 | -0.91 | -0.78 | -1.06 | -0.37 | 0.01 | -0.32 | 0.11 |
| Beijing | 18 | 2014/1/16 | HTC-0581 | 240 | 0.56 | 2.35 | -0.93 | -0.52 | -1.56 | -1.13 | -1.66 | -0.65 | 0.05 | -0.71 | 0.03 |
| Beijing | 20 | 2014/1/18 | HTC-0583 | 119 | 0.36 | 3.05 | -0.49 | -0.42 | -0.98 | -0.94 | -1.56 | -0.26 | 0.05 | -0.27 | -0.15 |
| Beijing | 21 | 2014/1/19 | HTC-0584 | 151 | 0.19 | 1.28 | -0.37 | -0.41 | -0.95 | -0.87 | -1.42 | -0.15 | 0.03 | -0.30 | -0.13 |
| Beijing | 24 | 2014/1/22 | HTC-0587 | 176 | 0.37 | 2.13 | -0.52 | -0.54 | -0.95 | -1.03 | -1.56 | -0.26 | -0.02 | -0.18 | -0.02 |
| Beijing | 25 | 2014/1/23 | HTC-0588 | 231 | 0.41 | 1.79 | 0.05 | -0.30 | -0.45 | -0.71 | -1.20 | 0.22 | 0.05 | 0.08 | -0.14 |
| Beijing | 29+30a | 2014/1/28-2014/1/29 | wgh4571-wgh4572 | 97 | 0.20 | 2.10 | 0.04 | -0.43 | -0.48 | -0.89 | -1.23 | 0.27 | 0.02 | 0.19 | 0.10 |
| Beijing | 31 | 2014/1/30 | wgh4573 | 95 | 0.20 | 2.06 | -0.59 | -0.59 | -0.98 | -1.21 | -1.59 | -0.29 | 0.02 | -0.07 | 0.22 |
| Beijing | 32-1a | 2014/1/31 | wgh4574-1 | 128 | 0.82 | 6.38 | -1.34 | -0.40 | -1.90 | -0.90 | -1.52 | -1.11 | 0.05 | -1.22 | -0.17 |
| Beijing | 32-2a | 2014/1/31 | wgh4574-2 | 128 | 0.82 | 6.38 | -1.38 | -0.46 | -1.87 | -1.01 | -1.72 | -1.13 | 0.05 | -1.11 | -0.21 |
| Changchun | 1 | 2013/12/30 | HTC-0533 | 108 | 0.36 | 3.33 | -0.34 | -0.51 | -0.99 | -1.16 | -1.80 | -0.05 | 0.07 | -0.11 | -0.07 |
| Changchun | 2+3a | 13/12/31-14/1/1 | HTC-0535-HTC-0536 | 103 | 0.15 | 1.48 | -0.28 | -0.81 | -1.36 | -1.85 | -3.05 | 0.19 | 0.12 | 0.04 | -0.28 |
| Changchun | 5 | 2014/1/3 | HTC-0538 | 135 | 0.24 | 1.78 | -0.75 | -1.25 | -1.78 | -2.46 | -3.53 | -0.14 | -0.02 | 0.07 | 0.13 |
| Changchun | 6 | 2014/1/4 | HTC-0539 | 222 | 0.30 | 1.37 | -0.67 | -1.16 | -1.89 | -2.23 | -3.21 | -0.11 | -0.04 | -0.21 | 0.12 |
| Changchun | 8 | 2014/1/6 | HTC-0541 | 93 | 0.22 | 2.37 | -0.77 | -0.49 | -1.41 | -1.19 | -1.98 | -0.47 | 0.10 | -0.52 | -0.21 |
| Changchun | 13+14a | 14/1/11-14/1/12 | HTC-0546-HTC-0547 | 94 | 0.14 | 1.45 | -0.27 | -0.81 | -1.34 | -1.90 | -2.88 | 0.21 | 0.14 | 0.09 | -0.05 |
| Changchun | 15 | 2014/1/13 | HTC-0548 | 158 | 0.63 | 3.98 | -0.46 | -1.05 | -1.62 | -2.05 | -3.05 | 0.05 | -0.02 | -0.08 | 0.00 |
| Changchun | 16 | 2014/1/14 | HTC-0549 | 129 | 0.29 | 2.27 | -0.56 | -0.72 | -1.48 | -1.49 | -2.61 | -0.18 | 0.03 | -0.36 | -0.39 |
| Changchun | 17 | 2014/1/15 | HTC-0550 | 121 | 0.39 | 3.22 | -0.29 | -0.53 | -1.19 | -1.28 | -2.41 | 0.03 | 0.12 | -0.23 | -0.50 |
| Changchun | 18 | 2014/1/16 | HTC-0551 | 146 | 0.32 | 2.23 | -0.59 | -0.99 | -1.48 | -1.97 | -2.79 | -0.10 | -0.01 | 0.00 | 0.14 |
| Changchun | 20 | 2014/1/18 | HTC-0553 | 102 | 0.33 | 3.23 | -0.55 | -0.93 | -1.53 | -1.87 | -2.96 | -0.07 | 0.01 | -0.12 | -0.17 |
| Changchun | 21 | 2014/1/19 | HTC-0554 | 117 | 0.73 | 6.22 | -0.29 | -0.39 | -0.55 | -0.65 | -0.96 | -0.13 | -0.06 | -0.06 | 0.00 |
| Changchun | 23 | 2014/1/21 | HTC-0556 | 149 | 0.38 | 2.52 | -0.97 | -0.82 | -1.82 | -1.70 | -2.47 | -0.54 | 0.04 | -0.54 | 0.07 |
| Changchun | 24 | 2014/1/22 | HTC-0557 | 125 | 0.32 | 2.58 | -0.70 | -0.57 | -1.29 | -1.11 | -1.61 | -0.42 | -0.02 | -0.46 | 0.05 |
| Changchun | 25+26a | 2014/1/23-2014/1/24 | HTC-0558-HTC-0559 | 139 | 0.17 | 1.25 | -0.58 | -0.54 | -1.23 | -1.29 | -2.00 | -0.25 | 0.10 | -0.26 | -0.07 |
| Changchun | 28+29a | 2014/1/26-2014/1/27 | HTC-0561-HTC-0562 | 108 | 0.18 | 1.69 | -0.45 | -0.81 | -1.20 | -1.53 | -2.27 | -0.07 | -0.04 | -0.05 | 0.01 |
| Changchun | 30 | 2014/1/28 | HTC-0563 | 92 | 0.29 | 3.13 | -0.31 | -0.64 | -1.15 | -1.51 | -2.57 | 0.07 | 0.12 | -0.01 | -0.32 |
| Changchun | 31+32a | 2014/1/29-2014/1/30 | HTC-0749-HTC-0750 | 165 | 0.18 | 1.10 | -0.56 | -0.77 | -1.31 | -1.50 | -2.30 | -0.18 | -0.02 | -0.18 | -0.06 |
| Chengdu | 1 | 2013/12/30 | HTC-0688 | 246 | 1.73 | 7.05 | -0.31 | -0.77 | -1.15 | -1.56 | -2.37 | 0.09 | 0.02 | 0.02 | -0.04 |
| Chengdu | 2 | 2013/12/31 | HTC-0689 | 177 | 0.71 | 4.01 | -0.19 | -0.28 | -0.50 | -0.69 | -0.97 | -0.02 | 0.06 | 0.02 | 0.06 |
| Chengdu | 3 | 2014/1/1 | HTC-0690 | 182 | 0.43 | 2.35 | -0.11 | -0.44 | -0.75 | -0.85 | -1.30 | 0.11 | -0.01 | -0.11 | -0.03 |
| Chengdu | 4 | 2014/1/2 | HTC-0691 | 211 | 0.57 | 2.72 | -0.45 | -0.49 | -1.01 | -0.96 | -1.60 | -0.21 | -0.01 | -0.29 | -0.16 |
| Chengdu | 5 | 2014/1/3 | HTC-0692 | 114 | 0.29 | 2.58 | -0.13 | -0.22 | -0.70 | -0.63 | -1.02 | 0.03 | 0.10 | -0.22 | -0.08 |
| Chengdu | 7 | 2014/1/5 | HTC-0694 | 165 | 3.23 | 19.55 | -0.38 | -0.66 | -1.24 | -1.36 | -2.02 | -0.04 | 0.02 | -0.22 | 0.00 |
| Chengdu | 8 | 2014/1/6 | HTC-0695 | 95 | 1.27 | 13.45 | -0.08 | -0.36 | -0.63 | -0.89 | -1.39 | 0.15 | 0.08 | 0.04 | -0.05 |
| Chengdu | 9 | 2014/1/7 | HTC-0696 | 85 | 1.45 | 17.02 | -0.37 | -0.70 | -1.25 | -1.43 | -2.16 | -0.01 | 0.01 | -0.17 | -0.02 |
| Chengdu | 10 | 2014/1/8 | HTC-0697 | 100 | 0.24 | 2.35 | -0.09 | -0.39 | -0.58 | -0.90 | -1.24 | 0.13 | 0.06 | 0.10 | 0.10 |
| Chengdu | 11 | 2014/1/9 | HTC-0698 | 104 | 0.83 | 7.94 | -0.17 | -0.52 | -1.08 | -1.22 | -1.76 | 0.13 | 0.10 | -0.15 | 0.06 |
| Chengdu | 12 | 2014/1/10 | HTC-0699 | 90 | 1.94 | 21.62 | -0.37 | -0.91 | -1.35 | -1.75 | -2.57 | 0.07 | -0.03 | -0.03 | 0.04 |
| Chengdu | 13 | 2014/1/11 | HTC-0700 | 102 | 1.07 | 10.50 | -0.02 | -0.20 | -0.28 | -0.39 | -0.58 | 0.08 | 0.00 | 0.01 | 0.01 |
| Chengdu | 14 | 2014/1/12 | HTC-0701 | 87 | 0.36 | 4.17 | -0.09 | -0.24 | -0.43 | -0.59 | -0.99 | 0.06 | 0.05 | 0.01 | -0.11 |
| Chengdu | 15 | 2014/1/13 | HTC-0702 | 150 | 1.96 | 13.07 | -0.33 | -0.89 | -1.33 | -1.72 | -2.57 | 0.10 | -0.03 | -0.04 | 0.00 |
| Chengdu | 16 | 2014/1/14 | HTC-0703 | 165 | 1.26 | 7.62 | -0.30 | -0.21 | -0.55 | -0.43 | -0.74 | -0.20 | 0.00 | -0.23 | -0.10 |
| Chengdu | 17 | 2014/1/15 | HTC-0704 | 199 | 1.00 | 5.04 | -0.34 | -0.27 | -0.66 | -0.56 | -0.84 | -0.19 | 0.02 | -0.23 | 0.00 |
| Chengdu | 18 | 2014/1/16 | HTC-0705 | 192 | 1.45 | 7.58 | -0.51 | -0.67 | -1.21 | -1.30 | -2.04 | -0.18 | -0.02 | -0.23 | -0.10 |
| Chengdu | 19-1 | 2014/1/17 | HTC-0706 | 259 | 3.56 | 13.75 | -0.38 | -0.71 | -1.17 | -1.39 | -2.08 | -0.03 | -0.01 | -0.12 | 0.00 |
| Chengdu | 19-2 | 2014/1/17 | HTC-0706 | 259 | 3.56 | 13.75 | -0.36 | -0.67 | -1.12 | -1.32 | -1.98 | -0.03 | -0.01 | -0.13 | -0.01 |
| Chengdu | 20 | 2014/1/18 | HTC-0707 | 243 | 1.62 | 6.66 | -0.06 | -0.27 | -0.44 | -0.56 | -0.84 | 0.08 | 0.01 | -0.02 | 0.01 |
| Chengdu | 21 | 2014/1/19 | HTC-0708 | 91 | 0.26 | 2.85 | -0.26 | -0.52 | -0.76 | -0.99 | -1.27 | -0.01 | -0.02 | -0.02 | 0.21 |
| Chengdu | 22 | 2014/1/20 | HTC-0709 | 114 | 2.43 | 21.29 | -0.31 | -0.74 | -1.07 | -1.41 | -2.07 | 0.04 | -0.03 | -0.01 | 0.04 |
| Chengdu | 23 | 2014/1/21 | HTC-0710 | 188 | 1.02 | 5.43 | 0.06 | 0.14 | 0.18 | 0.24 | 0.35 | 0.00 | 0.02 | -0.01 | -0.01 |
| Chengdu | 24 | 2014/1/22 | HTC-0711 | 218 | 1.42 | 6.53 | -0.06 | 0.02 | -0.14 | -0.04 | -0.08 | -0.05 | 0.04 | -0.11 | -0.02 |
| Chengdu | 25-1 | 2014/1/23 | HTC-0712 | 223 | 5.02 | 22.52 | -0.18 | -0.45 | -0.86 | -1.06 | -1.42 | 0.09 | 0.08 | -0.06 | 0.16 |
| Chengdu | 25-2 | 2014/1/23 | HTC-0712 | 223 | 5.02 | 22.52 | -0.24 | -0.52 | -0.82 | -1.06 | -1.49 | 0.02 | 0.01 | -0.02 | 0.09 |
| Chengdu | 26 | 2014/1/24 | HTC-0713 | 201 | 0.36 | 1.78 | -0.16 | -0.07 | -0.40 | -0.35 | -0.68 | -0.07 | 0.10 | -0.14 | -0.16 |
| Chengdu | 27 | 2014/1/25 | HTC-0714 | 210 | 1.31 | 6.22 | 0.09 | -0.07 | -0.06 | -0.15 | -0.20 | 0.13 | 0.01 | 0.05 | 0.02 |
| Chengdu | 28 | 2014/1/26 | HTC-0715 | 223 | 0.35 | 1.57 | -0.29 | 0.33 | -0.07 | 0.43 | 0.51 | -0.40 | 0.11 | -0.40 | -0.14 |
| Chengdu | 29 | 2014/1/27 | HTC-0716 | 325 | 1.12 | 3.44 | 0.15 | 0.54 | 0.60 | 1.07 | 1.58 | -0.12 | 0.00 | -0.20 | -0.02 |
| Chengdu | 30 | 2014/1/28 | HTC-0717 | 208 | 0.45 | 2.18 | -0.43 | 0.07 | -0.43 | 0.06 | -0.06 | -0.45 | 0.04 | -0.47 | -0.14 |

a concentrations of PM2.5 and HgPM2.5 are the weighted mean of the combined PM2.5 samples.