


## Supplementary Information

### Assessment of Atmospheric PM<sub>10</sub> Pollution Levels and Chemical Composition in Urban Areas near the 2016 Olympic Game Arenas

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**Table S1.** Measured concentration (average  $\pm$  standard deviation) and extraction efficiencies for the analysis by ICP-MS of the certified reference material NIST-SRM 1648a

| Element | Reference / (mg kg <sup>-1</sup> ) | Measured / (mg kg <sup>-1</sup> ) | Extraction efficiency / % |
|---------|------------------------------------|-----------------------------------|---------------------------|
| Cd      | 74 $\pm$ 2                         | 71 $\pm$ 2                        | 96                        |
| Ce      | 55 $\pm$ 2                         | 31 $\pm$ 1                        | 58                        |
| Co      | 18 $\pm$ 1                         | 15 $\pm$ 1                        | 85                        |
| Cr      | 402 $\pm$ 17                       | 99 $\pm$ 11                       | 25                        |
| Cu      | 610 $\pm$ 86                       | 589 $\pm$ < 1                     | 97                        |
| Fe      | 39,200 $\pm$ 2100                  | 33,850 $\pm$ 1981                 | 86                        |
| La      | 39 $\pm$ 3                         | 22 $\pm$ 1                        | 56                        |
| Mn      | 790 $\pm$ 44                       | 743 $\pm$ 68                      | 94                        |
| Ni      | 81 $\pm$ 7                         | 71 $\pm$ 4                        | 91                        |
| Pb      | 6550 $\pm$ 330                     | 6191 $\pm$ 482                    | 95                        |
| Sb      | 45 $\pm$ 1                         | 8 $\pm$ < 1                       | 19                        |
| Ti      | 4021 $\pm$ 86                      | 259 $\pm$ 23                      | 6                         |
| V       | 127 $\pm$ 11                       | 72 $\pm$ 13                       | 57                        |

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**Table S2.** Limit of detection (LOD) for the determination of water-soluble ions and elemental concentration in PM<sub>10</sub> samples

| Limit of detection / (ng m <sup>-3</sup> ) | Analyzed species   |
|--|--|
| 0.01-1                                     | Br <sup>-</sup> , Mg <sup>2+</sup> , Co, V, Cr, Ni, Cd, Sb, Pb, Mo, La, Ce   |
| 1-10                                       | NO <sub>2</sub> <sup>-</sup> , NH <sub>4</sub> <sup>+</sup> , Ca <sup>2+</sup> , Cu, Mn, Ti  |
| 10-40                                      | F <sup>-</sup> , CH <sub>3</sub> COO <sup>-</sup> , PO <sub>4</sub> <sup>3-</sup>  |
| 40-100                                     | Cl <sup>-</sup> , NO <sub>3</sub> <sup>-</sup> , CH <sub>2</sub> (COO) <sub>2</sub> <sup>2-</sup> , (C <sub>2</sub> O <sub>4</sub> ) <sup>2-</sup> , K <sup>+</sup> , Fe |
| > 100                                      | HCOO <sup>-</sup> , SO <sub>4</sub> <sup>2-</sup> , Na <sup>+</sup>  |

