**Table S3. Hg isotopic composition in reference material samples**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample name** | **204/198δ** | **202/198δ** | **201/198δ** | **200/198δ** | **199/198δ** | **∆201** | **∆200** | **∆199** | N | **References** |
| ‰ | ‰ | ‰ | ‰ | ‰ | ‰ | ‰ | ‰ |
| **UM-Almadén** | **-0.84** | **±** | **0.23** | **-0.54** | **±** | **0.12** | **-0.44** | **±** | **0.12** | **-0.24** | **±** | **0.12** | **-0.12** | **±** | **0.13** | **-0.03** | **±** | **0.08** | **0.04** | **±** | **0.08** | **0.01** | **±** | **0.12** | **34** | **This study** |
| UM Almaden | ND | -0.57 | ± | 0.05 | -0.46 | ± | 0.05 | -0.28 | ± | 0.03 | -0.16 | ± | 0.04 | -0.03 | ± | 0.02 | 0.01 | ± | 0.02 | -0.02 | ± | 0.03 | 61 | 2 |
| UM Almaden | -0.86 | ± | 0.21 | -0.57 | ± | 0.15 | -0.46 | ± | 0.14 | -0.28 | ± | 0.16 | -0.16 | ± | 0.13 | -0.03 | ± | 0.06 | 0.01 | ± | 0.1 | -0.02 | ± | 0.11 | 25 | 1 and 3 |
| NIST 1944 | -0.68 | ± | 0.17 | -0.44 | ± | 0.14 | -0.32 | ± | 0.18 | -0.23 | ± | 0.13 | -0.11 | ± | 0.12 | 0.01 | ± | 0.12 | -0.01 | ± | 0.1 | 0 | ± | 0.11 | 15 | 1 |
| NIST 1944 | ND | -0.44 | ± | 0.12 | -0.34 | ± | 0.08 | -0.22 | ± | 0.05 | -0.1 | ± | 0.04 | -0.01 | ± | 0.05 | ND | ± | 0.03 | 0.01 | ± | 0.04 | 9 | 2 |
| NIST 1944 | ND | -0.48 | ± | 0.29 | ND | ND | ND | ND | ND | 0.02 | ± | 0.05 | 3 | 4 |
| NIST 1944 | ND | -0.45 | ± | 0.06 | ND | ND | ND | ND | ND | -0.03 | ± | 0.02 | 5 | 5 |
|  **IAEA 405** | **-0.59** | **±** | **0.08** | **-0.44** | **±** | **0.03** | **-0.38** | **±** | **0.02** | **-0.22** | **±** | **0.09** | **-0.15** | **±** | **0.13** | **-0.05** | **±** | **0.04** | **0** | **±** | **0.09** | **-0.04** | **±** | **0.13** | **3** | **This study** |
| IAEA 405 | -0.56 | ± | 0.27 | -0.38 | ± | 0.19 | -0.31 | ± | 0.15 | -0.2 | ± | 0.13 | -0.13 | ± | 0.13 | -0.03 | ± | 0.08 | 0.01 | ± | 0.07 | -0.03 | ± | 0.1 | 48 | 1 |
| IAEA 405 | -0.62 | ± | 0.21 | -0.41 | ± | 0.16 | -0.31 | ± | 0.19 | -0.19 | ± | 0.12 | -0.12 | ± | 0.11 | -0.01 | ± | 0.09 | 0.01 | ± | 0.06 | -0.02 | ± | 0.08 | 14 | 3 |
| **BCR 464** | **0.96** | **±** | **0.2** | **0.69** | **±** | **0.16** | **2.47** | **±** | **0.15** | **0.42** | **±** | **0.16** | **2.52** | **±** | **0.17** | **1.95** | **±** | **0.09** | **0.07** | **±** | **0.08** | **2.35** | **±** | **0.15** | **6** | **This study** |
|  BCR 464 | ND | 0.59 | ± | 0.2 | 2.23 | ± | 0.18 | 0.37 | ± | 0.14 | 2.33 | ± | 0.11 | 1.79 | ± | 0.08 | 0.07 | ± | 0.08 | 2.18 | ± | 0.08 | 7 | 6 |
|
|  BCR 464 | 0.72 | ± | 0.05 | 0.55 | ± | 0.03 | 1.96 | ± | 0.11 | 0.33 | ± | 0.02 | 2.02 | ± | 0.13 | 1.54 | ± | 0.1 | 0.05 | ± | 0.1 | 1.88 | ± | 0.13 | 8 | 7 |

Results expressed as mean value ± 2SD. SD means standard deviation. ND: no data.

1. Data from studies performed at IPREM – LCABIE during the 2011-2015 period.

2. Sherman, L.S. and Blum, J.D., 2013. Mercury stable isotopes in sediments and largemouth bass from Florida lakes, USA. Science of the total environment, 448: 163-175.

3. Barre, J., 2013. Assessment of the atmospheric contamination of the ecosystems using the isotopic composition of lead and mercury in lichens. PhD Thesis, UPPA, Pau, 325 pp.

4. Sonke, J.E. et al., 2010. Sedimentary mercury stable isotope records of atmospheric and riverine pollution from two major European heavy metal refineries. Chemical Geology, 279(3): 90-100.

5. Ma, J., Hintelmann, H., Kirk, J.L. and Muir, D.C., 2013. Mercury concentrations and mercury isotope composition in lake sediment cores. Chemical Geology, 366: 96-102.

6. Epov VN, Rodriguez-Gonzalez P, Sonke JE, Tessier E, Amouroux D, et al. 2008. Simultaneous determination of species-specific isotopic composition of Hg by gas chromatography coupled to multicollector ICPMS. Analytical Chemistry, 80(10): 3530-3538.

7. Perrot V, Epov VN, Valentina MVP, Grebenshchikova I, Zouiten C, et al. 2010. Tracing sources and bioaccumulation of mercury in fish of Lake Baikal - Angara River using Hg isotopic composition. Environmental Science and Technology, 44(21): 8030-8037.