

Inter-laboratory calibration of a Ag₃PO₄ comparison material for oxygen stable isotope analysis

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Material and Method



Inter-laboratory calibration of a Ag₃PO₄ comparison material for oxygen stable isotope composition

Contributing labs:

- University of Natural Resources and Life Science (BOKU)
- University of Western Australia (UWA)
- ETH Zurich (ETH)
- University of Helsinki (UH)
- Helmholtz Centre for Environmental Research Halle (UFZ)

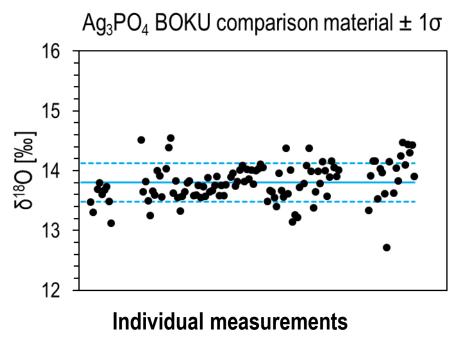
Measurements:

- Thermal Combustion Elemental Analyser (TC/EA) coupled to an IRMS
- 10 individual measurements
- 2 independent measuring rounds
- Normalisation by IAEA-601 ($\delta^{18}O_{VSMOW}$ = +23.14 ± 0.17 %) IAEA-602 ($\delta^{18}O_{VSMOW}$ = +71.28 ±0.42 %) (both benzoic acid) NBS 127 (barium sulfate) ($\delta^{18}O_{VSMOW}$ = +8.59 ± 0.20 %)

Results



- Arithmetic means of 2 measuring round outside ± 1σ → excluded
- Weighted arithmetic mean: $\delta^{18}O_{VSMOW} = 13.80 \pm 0.32 \%$ (n = 111)
- Median of the single valid rounds: $\delta^{18}O_{VSMOW} = 13.76 \% (n=9)$
- Median of the labs: $\delta^{18}O_{VSMOW} = 13.79 \% (n=5)$



Ag₃PO₄ BOKU comparison material ± 1σ

16

17

18

19

19

19

10

11

12

Single measurement rounds

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