**S1 Table. Chemical composition of the initial schwertmannites**

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| --- | --- | --- | --- |
|  | **Chromium** **( mmol g-1)** | **Iron (mmol g-1)** | **Sulfur (mmol g-1)** |
| Zero Cr(III)-schwertmannite | 0  | 8.1 ± 0.42 | 1.63 ± 0.03 |
| Low Cr(III)-schwertmannite | 0.021± 0.001 | 8.2 ± 0.08 | 1.70 ± 0.03 |
| Medium Cr(III)-schwertmannite | 0.05 ± 0.001 | 8.0 ± 0.24 | 1.71 ± 0.05 |
| High Cr(III)-schwertmannite | 0.21 ± 0.024 | 7.9 ± 1.06 | 1.82 ± 0.15 |