# Yarzhemskiite, K[B5O7(OH)2]⋅H2O, a new mineral from the Chelkar salt dome, Western Kazakhstan

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## Table 1. Powder X-ray diffraction data (d in Å) of yarzhemskiite including intensities ≥1 for Icalc.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *I*obs | *d*obs | *I*calc\* | *d*calc\*\* | *h k l* |
| **86** | **9.39** | 79 | 9.397 | 100 |
| 3 | 6.26 | 2 | 6.265 | 011 |
| 3 | 5.867 | 2 | 5.871 | 110 |
| 9 | 5.387 | 7 | 5.390 | -111 |
| 1 | 5.150 | 1 | 5.149 | -102 |
| 5 | 5.049 | 4 | 5.052 | 111 |
| **41** | **4.696** | 35 | 4.698 | 200 |
| 8 | 4.523 | 7 | 4.524 | 012 |
| 6 | 4.247 | 6 | 4.248 | -112 |
| 13 | 3.982 | 12 | 3.984 | 210 |
| 13 | 3.922 | 11 | 3.924 | 112 |
| 7 | 3.867 | 6 | 3.866 | -202 |
| 17 | 3.759 | 24 | 3.760 | 020 |
| 1 | 3.637 | 1 | 3.638 | 211 |
| 6 | 3.567 | 8 | 3.569 | 021 |
| 3 | 3.436 | 2 | 3.438 | -212 |
| 13 | 3.379 | 14, 3 | 3.381, 3.374 | -121, 013 |
| **18** | **3.296** | 17, 2 | 3.297, 3.293 | -113, 121 |
| **19** | **3.130** | 12, 8 | 3.133, 3.132 | 022, 300 |
| 16 | 3.107 | 15 | 3.105 | 212 |
| 3 | 3.067 | 3 | 3.067 | 113 |
| **42** | **2.935** | 50 | 2.936 | 220 |
| **100** | **2.898** | 12, 2, 100, 8 | 2.902, 2.901, 2.898, 2.891 | -302, -213, -221, 310 |
| **56** | **2.832** | 51 | 2.832 | 004 |
| 8 | 2.789 | 10 | 2.789 | 221 |
| 3 | 2.723 | 2 | 2.726 | 311 |
| 11 | 2.696 | 12 | 2.695 | -222 |
| 4 | 2.649 | 1, 3 | 2.664, 2.650 | 023, 014 |
| 12 | 2.621 | 6, 10 | 2.626, 2.621 | -123, 104 |
| 12 | 2.606 | 10, 2 | 2.604, 2.604 | 302, 213 |
| 6 | 2.505 | 8 | 2.505 | 123 |
| 1 | 2.474 | 1 | 2.475 | 114 |
| 7 | 2.422 | 9 | 2.422 | 130 |
| 12 | 2.407 | 3, 9, 5 | 2.412, 2.407, 2.402 | -223, 320, -321 |
| 1 | 2.349 | 1 | 2.349 | 400 |
| 3 | 2.308 | 3 | 2.309 | 321 |
| 14 | 2.251 | 3, 10, 6 | 2.254, 2.252, 2.248 | -132, -411, -304 |
| 4 | 2.202 | 3, 3 | 2.201, 2.199 | 132, 214 |
| 11 | 2.173 | 2, 1, 7, 4 | 2.177, 2.176, 2.172, 2.169 | -412, 313, -115, 015 |
| 16 | 2.149 | 13, 2, 4, 7 | 2.150, 2.150, 2.147, 2.141 | 411, 124, 231, 322 |
| 9 | 2.126 | 11, 2 | 2.126, 2.124 | -323, -224 |
| 6 | 2.104 | 10 | 2.103 | -232 |
| 3 | 2.077 | 3, 2 | 2.078, 2.070 | 402, -133 |
| 5 | 2.060 | 5 | 2.059 | 115 |
| 12 | 2.040 | 16 | 2.040 | -413 |
| 11 | 2.020 | 20 | 2.020 | 232 |
| 7 | 2.004 | 9 | 2.003 | 412 |
| 3 | 1.979 | 4 | 1.979 | 304 |
| 8 | 1.962 | 8, 5 | 1.962, 1.960 | 224, -233 |
| 2 | 1.929 | 2, 1 | 1.929, 1.927 | -324, 421 |
| 2 | 1.914 | 2 | 1.914 | 314 |
| 2 | 1.888 | 1 | 1.888 | 006 |
| **18** | **1.867** | 4, 22, 2, 5 | 1.872, 1.867, 1.861, 1.860 | -414, -225, 125, 233 |
| 2 | 1.832 | 2 | 1.831 | 016 |
| 2 | 1.796 | 2 | 1.796 | -234 |
| 2 | 1.766 | 2, 1 | 1.766, 1.766 | 511, -142 |
| 4 | 1.753 | 1, 5 | 1.757, 1.751 | 116, 324 |
| 2 | 1.739 | 2, 1 | 1.740, 1.738 | 142, -241 |
| 2 | 1.718 | 1, 2 | 1.720, 1.716 | 502, -306 |
| 2 | 1.691 | 2, 1 | 1.695, 1.689 | 234, 423 |
| 2 | 1.676 | 1, 1, 1 | 1.676, 1.673, 1.672 | 512, -143, 431 |
| 2 | 1.668 | 3 | 1.666 | -504 |
| 1 | 1.640 | 1, 1 | 1.641, 1.639 | 143, 216 |
| 2 | 1.613 | 1, 3, 2 | 1.618, 1.614, 1.611 | -433, -243, -341 |
| 1 | 1.606 | 2 | 1.605 | -523 |
| 2 | 1.594 | 4 | 1.593 | -117 |
| 1 | 1.582 | 1 | 1.582 | 017 |
| 1 | 1.534 | 1, 1, 1 | 1.537, 1.534, 1.533 | 235, 226, 610 |
| 2 | 1.487 | 2, 1, 2, 3 | 1.491, 1.489, 1.486, 1.485 | -532, -317, -613, 150 |
| 2 | 1.470 | 2, 2 | 1.471, 1.468 | -441, 440 |
| 3 | 1.447 | 2, 2, 3, 1 | 1.449, 1.449, 1.447, 1.444 | -442, 343, 045, -152 |
| 1 | 1.427 | 1, 1 | 1.430, 1.425 | -525, -614 |
| 2 | 1.415 | 2, 2, 2, 1 | 1.418, 1.415, 1.413, 1.413 | 532, -245, 621, 145 |
| 1 | 1.409 | 2 | 1.408 | -327 |
| 2 | 1.397 | 5, 1, 1 | 1.397, 1.395, 1.395 | 053, 236, -417 |
| 1 | 1.389 | 2, 1 | 1.388, 1.388 | 406, -534 |
| 1 | 1.345 | 1, 1 | 1.346, 1.342 | 317, 515 |
| 2 | 1.334 | 5 | 1.334 | -541 |
| 1 | 1.300 | 1, 1 | 1.302, 1.299 | 426, -353 |

\*For the calculated pattern, only reflections with intensities ≥1 are given; \*\*for the unit-cell parameters calculated from single-crystal data; the strongest reflections are marked in boldtype.