Supplementary Table S1. Powder X-ray diffraction data (*d* in Å) for cherokeeite. Only calculated lines with *I* > 1.5 are listed.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *I*obs | *d*obs | *d*calc | *I*calc | *hkl* |  | *I*obs | *d*obs | *d*calc | *I*calc | *hkl* |  | *I*obs | *d*obs | *d*calc | *I*calc | *hkl* |
| 12 | 7.39 | 7.3325 | 10 | -2 0 2 |  | **34** | **2.595** | 2.6164 | 5 | 1 2 3 |  | 11 | 1.8963 | 1.9098 | 3 | -3 3 4 |
| 7 | 5.98 | 5.9905 | 7 | 0 1 1 |  | 2.6044 | 6 | 3 2 1 |  | 1.8926 | 4 | -9 0 5 |
| **100** | **5.29** | 5.3055 | 100 | 1 1 1 |  | 2.6030 | 7 | -6 1 2 |  | 1.8923 | 3 | 0 1 8 |
|  |  | 5.0102 | 6 | 0 1 2 |  | 2.5995 | 5 | -2 2 4 |  | 1.8834 | 5 | 4 2 4 |
| 13 | 4.94 | 4.9681 | 6 | 2 1 0 |  | 2.5862 | 2 | -1 2 4 |  | 13 | 1.8621 | 1.8637 | 2 | 5 2 3 |
| 4 | 4.82 | 4.8521 | 7 | -2 1 2 |  | 2.5841 | 10 | 6 0 0 |  | 1.8593 | 6 | -4 3 4 |
|  |  | 4.6324 | 4 | 2 0 2 |  | 2.5818 | 6 | -4 2 2 |  | 1.8566 | 3 | 8 1 0 |
| **29** | **4.42** | 4.4467 | 20 | 1 0 3 |  | 5 | 2.535 | 2.5418 | 3 | -3 2 4 |  | 8 | 1.8379 | 1.8331 | 5 | -8 0 8 |
| 4.4063 | 2 | 2 1 1 |  | 2.5321 | 4 | -4 2 3 |  | 9 | 1.8171 | 1.8218 | 3 | -1 3 5 |
| 4.3883 | 24 | 3 0 1 |  |  |  | 2.5051 | 2 | 0 2 4 |  | 1.8096 | 3 | -5 3 1 |
| 8 | 4.32 | 4.3255 | 4 | -1 1 3 |  |  |  | 2.4442 | 2 | -6 0 6 |  | 13 | 1.7881 | 1.7917 | 3 | -2 2 8 |
|  |  | 4.2717 | 2 | -3 1 1 |  |  |  | 2.4432 | 2 | 0 1 6 |  | 1.7882 | 2 | -5 3 4 |
|  |  | 3.4678 | 2 | -3 1 4 |  |  |  | 2.3776 | 3 | -2 2 5 |  | 1.7828 | 2 | 0 3 5 |
| 12 | 3.448 | 3.4362 | 17 | -3 0 5 |  | **40** | **2.348** | 2.3557 | 16 | -3 2 5 |  | 1.7814 | 7 | 5 1 5 |
|  |  | 3.4017 | 2 | -1 0 5 |  | 2.3382 | 16 | -5 2 3 |  | 8 | 1.7651 | 1.7631 | 3 | -8 2 2 |
| 21 | 3.399 | 3.3825 | 17 | -5 0 3 |  | 2.3355 | 3 | -3 1 7 |  | 1.7585 | 2 | 2 3 4 |
| **71** | **3.197** | 3.2359 | 20 | 0 2 0 |  | 10 | 2.293 | 2.2960 | 2 | 3 0 5 |  | 1.7530 | 2 | 4 3 2 |
| 3.1899 | 52 | -4 1 4 |  | 2.2935 | 4 | -7 1 3 |  | 8 | 1.7431 | 1.7397 | 4 | -7 1 9 |
|  |  | 3.1676 | 3 | 1 2 0 |  | 2.2833 | 3 | -4 2 5 |  | 1.7320 | 2 | 5 2 4 |
| **34** | **3.012** | 3.0361 | 4 | 2 0 4 |  | 2.2797 | 4 | 5 0 3 |  | 10 | 1.7257 | 1.7256 | 5 | -9 1 7 |
| 3.0111 | 29 | -1 1 5 |  |  |  | 2.1942 | 2 | 6 0 2 |  | 1.7181 | 2 | -6 0 10 |
| 3.0080 | 6 | 4 0 2 |  | 8 | 2.148 | 2.1502 | 3 | 5 1 3 |  | 8 | 1.6928 | 1.6916 | 7 | -4 1 10 |
| 2.9952 | 3 | 0 2 2 |  | 2.1410 | 2 | -6 2 3 |  | 1.6913 | 2 | -10 0 6 |
| **29** | **2.969** | 2.9862 | 4 | 2 2 0 |  | 2.1375 | 4 | 0 3 1 |  | 13 | 1.6627 | 1.6693 | 2 | 1 0 9 |
| 2.9571 | 24 | -5 1 1 |  | 7 | 2.093 | 2.1120 | 2 | 1 0 7 |  | 1.6582 | 5 | -10 1 4 |
| 7 | 2.838 | 2.8557 | 3 | 1 2 2 |  | 2.1010 | 5 | 1 3 1 |  | 1.6548 | 4 | -5 2 9 |
|  |  | 2.8498 | 2 | 2 2 1 |  | 9 | 2.039 | 2.0448 | 4 | 0 2 6 |  | 9 | 1.6388 | 1.6386 | 3 | 9 0 1 |
|  |  | 2.7962 | 2 | -3 2 2 |  | 2.0193 | 3 | 6 2 0 |  | 1.6337 | 4 | -9 2 5 |
| **29** | **2.741** | 2.7486 | 11 | 2 1 4 |  | 9 | 2.008 | 2.0078 | 6 | 1 1 7 |  | 11 | 1.6142 | 1.6179 | 2 | 0 4 0 |
| 2.7427 | 3 | 3 2 0 |  | 4 | 1.966 | 1.9757 | 4 | 7 1 1 |  | 1.6092 | 5 | 1 4 0 |
| 2.7278 | 15 | 4 1 2 |  | 1.9574 | 2 | -6 1 8 |  | 12 | 1.5973 | 1.5950 | 6 | -8 2 8 |
| 22 | 2.641 | 2.6527 | 5 | 2 2 2 |  | 10 | 1.929 | 1.9399 | 2 | -8 1 6 |  | 5 | 1.5687 | 1.5718 | 2 | -3 0 11 |
| 2.6522 | 6 | -2 1 6 |  | 1.9256 | 5 | -5 0 9 |  | 7 | 1.5398 | 1.5441 | 3 | 6 0 6 |
| 2.6384 | 13 | 0 0 6 |  | 1.9194 | 2 | -4 3 1 |  |  |  |  |  |  |