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**Importance of Ca-rich fluids for the formation of secondary Sc-minerals. An example from metaluminous pegmatite Kožichovice II, Czech Republic**

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**Supplementary data**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **CaNb2O6, columbite-type structure** | | | | | | | **ScNbO4, wolframite-type structure** | | | | | | |
| fersmite | | | CaNb2O6(1) | | CaNb2O6(2) | | Niobo  heftetjernite | | ScNbO4(3) | | Niobo  heftetjernite(4) | | |
| Kožichovice | | | synthetic | | synthetic | | Kožichovice | | synthetic | | Befanamo | | |
| 904 | s | 904 | | s | 906 | s | 895 | sh |  |  | 850 | sh | |
| 854 | w | 853 | | w | 852 | w | 838 | s | 827 | s | 834 | s | |
| 630 | w | 627 | | w | 629 | w | 793 | sh |  |  |  |  | |
| 540 | s | 540 | | s | 540 | m | 661 | sh | 660 | sh |  |  | |
| 496 | m | 495 | | s | 498 | w | 633 | s | 633 | s | 626 | m | |
| 463 | sh | 461 | | w | 461 | w | 590 | sh | 603 | sh |  |  | |
| 428 | w | 430 | | w | 431 | w | 507 | w | 512 | m |  |  | |
| 381 | w | 379, 381 | | w | 379, 380 | w | 470 | w | 477 | w |  |  | |
| 367 | w | 367 | | w | 365 | w | 438 | sh | 438 | sh |  |  | |
| 315 | w | 316 | | w | 315 | w | 413 | m | 417 | s | 415 | m | |
| 291 | m | 291 | | m | 293, 294 | w | 367 | m | 367 | m | 376 | sh | |
| 266 | w | 265 | | m | 267 | m | 305 | m | 308 | sh |  |  | |
| 241 | m | 241 | | m | 242 | m | 280 | m | 280 | m | 292 | m | |
| 224 | m | 225 | | m | 227 | m | 251 | sh | 243 | w |  |  | |
| 210 | w | 213 | | m | 215 | m | 230 | w | 210 | w |  |  | |
| 195 | m | 195 | | m | 197 | m | 190 | w | 187 | w |  |  | |
| 161 | w | 163 | | w | 167 | w | 133 | s | 145 | s | 138 | m | |
| 136 | w | 139 | | m | 140 | w | 114 | sh |  |  |  |  | |
| 125 | w | 128 | | w | 130 | w |  |  |  |  |  | |  |
|  | | | | | | | | | | | | | |

**Table ST1**. Raman vibration bands in (cm-1) of fersmite and nioboheftetjernite from Kožichovice and their comparison to the published data: 1-Husson *et al.* (1977); 2-Moreira *et al.* (2010); 3-Ouahrani et al. (2022); 4- Lykova *et al.* (2021). Intensity: s-strong, m-medium, w-weak, sh-shoulder

Obsah obrázku text, diagram, skica, kresba

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**Figure S1**. Raman spectrum of nioboheftetjernite from Kožichovice excited by 532 nm laser compared to the spectrum of its synthetic analogue (Ouahrani *et al.* 2022).

Obsah obrázku text, řada/pruh, diagram, Paralelní

Popis byl vytvořen automaticky

**Figure S2**. Raman spectrum of fersmite from Kožichovice excited by 532 nm laser. The dashed lines indicate the vibration bands observed on the synthetic analogue (Husson *et al.* 1977).

Obsah obrázku text, mapa

Popis byl vytvořen automaticky

**Figure S3.** TIMA phase map of RS88.

Obsah obrázku text, mapa, atlas

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**Figure S4.** TIMA phase map of RS169.