Tinnunculite

Crystal Data: Monoclinic.  \textit{Point Group: }$2/m$. As prismatic or tabular crystals to 0.2 mm and as micro-globular crusts.


\alpha &= 1.503(3) \\
\beta &= 1.712(3) \\
\gamma &= 1.74(1) \\
2V(\text{meas.}) &= 40(10)^\circ \\
2V(\text{calc.}) &= \text{n.d.}
\end{align*}
Dispersion: Medium, \text{r} > \text{v}.

Cell Data: Space Group: P2$_1$/c.  \begin{align*}
a &= 7.34(4) \\
b &= 6.326(16) \\
c &= 17.59(4) \\
\beta &= 90(1)^\circ \\
Z &= 4
\end{align*}

X-ray Powder Pattern: Mt. Rasvumchorr, Khibiny complex, Kola Peninsula, Russia. 3.18 (100), 8.82 (84), 3.12 (44), 3.24 (27), 5.63 (24), 4.22 (22), 5.97 (15)

Chemistry:

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>37.5</td>
<td>39.19</td>
</tr>
<tr>
<td>C</td>
<td>28.4</td>
<td>29.42</td>
</tr>
<tr>
<td>N</td>
<td>27.0</td>
<td>27.44</td>
</tr>
<tr>
<td>H</td>
<td>[3.8]</td>
<td>3.95</td>
</tr>
<tr>
<td>Total</td>
<td>96.7</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Mt. Rasvumchorr, Khibiny complex, Kola Peninsula, Russia; average of 4 electron microprobe analyses supplemented by IR spectroscopy, H calculated from stoichiometry; corresponds to C$_{4.96}$H$_{3.07}$N$_{4.07}$O$_{4.94}$.  (2) C$_{5}$H$_{4}$N$_{4}$O$_{3}$•2H$_{2}$O.

Occurrence: From the crystallization of uric acid in bird excrement in a cold and humid Arctic climate (Kola) or through reaction with hot gases on a burning coal mine slagheap (South Urals).

Association: n.d.


Name: For the scientific name for the bird species (\textit{Falco tinnunculus} L.) responsible for the guano essential to the formation of the mineral on a burning slagheap (Kopeisk, South Urals, Russia).

Type Material: A.E. Fersman Mineralogical Museum, Russian Academy of Science, Moscow, Russia (4695/1).