Hephaistosite

\[ \text{TlPb}_2\text{Cl}_5 \]

**Crystal Data:** Monoclinic. *Point Group: 2/m.* Crystals tabular on \{010\}, to 0.1 mm, displaying \{010\}, \{101\}, \{100\}, \{001\}, \{011\}, \{110\).


D(meas.) = n.d.  
D(calc.) = 5.932


**Cell Data:** *Space Group: P2_1/c.*

\[
a = 8.9477(6) \quad b = 7.9218(7) \quad c = 12.4955(5) \\
\beta = 90.092(4)^\circ \quad Z = 4
\]

**X-ray Powder Pattern:** La Fossa crater, Vulcano, Aeolian Islands, Italy.

3.696 (100), 3.971 (83), 2.109 (45), 2.569 (42), 1.848 (41), 2.851 (38), 2.236 (25)

**Chemistry:**

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tl</td>
<td>23.78</td>
<td>25.67</td>
</tr>
<tr>
<td>K</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Pb</td>
<td>51.78</td>
<td>52.06</td>
</tr>
<tr>
<td>Cl</td>
<td>21.40</td>
<td>22.27</td>
</tr>
<tr>
<td>Br</td>
<td>1.34</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>0.17</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>98.48</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) La Fossa crater, Vulcano, Aeolian Islands, Italy; average of 8 EDS electron microprobe analyses, corresponding to \( \text{Tl}_{0.94}\text{Pb}_{2.01}(\text{Cl}_{4.85}\text{Br}_{0.14}\text{F}_{0.07})_{2.05} \).  
(2) \( \text{TlPb}_2\text{Cl}_5 \).

**Occurrence:** On fragments of altered pyroclastic breccia in a high temperature (400° C) fumarole, most likely formed as a sublimate.

**Association:** Bismuthinite, cotunnite, challacolloite, pseudocotunnite.

**Distribution:** La Fossa crater, Vulcano, Aeolian Islands, Italy.

**Name:** For *Hephaistos*, the Greek god of fire, whose workshops were believed to be located at Vulcano.

**Type Material:** Reference Collection, Dipartimento di Chimica Strutturale e Stereochimica Inorganica, Università degli Studi, Milan, Italy, 2006-2.

**References:**