Lafossaite

Crystal Data: Isometric.  
Point Group: 4/m 3 2/m. As a drusy coating comprised of cubes {100} and octahedra {111}, and their combination, to 0.2 mm.

Hardness = 3-4  
D(meas.) = n.d.  
D(calc.) = 7.212  
Soluble in dilute HCl.

Optical Properties: Translucent.  
Color: Gray-brown, yellow-brown in transmitted light, grayish white in reflected light with distinct white internal reflections.  
Streak: Off-white to cream.  
Luster: Resinous to greasy.

Optical Class: Isotropic.  
n(calc.) = 2.264  
R_{air/oil} = (470) 16/4.4, (546) 15.2/4.0, (589) 15.0/4.0, (650) 14.7/3.8

Cell Data: Space Group: Pm3m. (By analogy to synthetic material).  
a = 3.8756(3)  
Z = 1

X-ray Powder Pattern: La Fossa Crater, Vulcano, Aeolian archipelago, Sicily, Italy.  
2.745 (100), 3.887 (80), 1.583 (70), 2.237 (55), 1.937 (50), 1.733 (45), 1.370 (25)

Chemistry:  
<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tl</td>
<td>81.74</td>
<td>85.22</td>
</tr>
<tr>
<td>Cl</td>
<td>10.79</td>
<td>14.75</td>
</tr>
<tr>
<td>Br</td>
<td>5.99</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>98.52</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) La Fossa Crater, Vulcano, Italy; average of 14 electron microprobe analyses; corresponds to Tl₁₀₂₇(Cl₀.₇₆)Br₀.₁₉₂F₀.₉₇₃.  
(2) TICl.

Occurrence: By sublimation from fumarolic gas.

Association: Cannizzarite, galenobismutite, pyrite.

Distribution: From the La Fossa Crater, Vulcano, Aeolian archipelago, Sicily, Italy.

Name: For the locality that produced the first specimens – La Fossa Crater, Italy.
