Jankovičite  \( \text{Tl}_5\text{Sb}_9(\text{As, Sb})_4\text{S}_{22} \)

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Crystal Data: Triclinic.  
Point Group: \( \overline{1} \).  
Granular, may be tabular, to 1 mm.  
Twinning: May exhibit polysynthetic lamellae.

Physical Properties:  
Cleavage: Perfect on \{100\}.  
Fracture: Sunconchoidal.  
Tenacity: Brittle.  
Hardness = \(~2\)  
VHN = 98 (50 g load).  
D(meas.) = n.d.  
D(calc.) = 5.12

Optical Properties:  
Opaque.  
Color: Black, with abundant red internal reflections.  
Streak: Brown-violet.  
Luster: Metallic.  
Optical Class: Biaxial.  
Anisotropism: Distinct to strong; gray-blue to blue-green.  
Bireflectance: Low to medium; white to grayish-bluish white.

Cell Data:  
Space Group: \( \overline{1} \).  
\( a = 7.393(4) \) \( b = 8.711(5) \) \( c = 17.58(1) \)  
\( \alpha = 103.81(3) \)  
\( \beta = 91.81(3) \)  
\( \gamma = 109.51(3) \)  
\( Z = 1 \)

X-ray Powder Pattern:  
Alšar, Macedonia.  
3.459 (100), 3.0755 (65), 3.884 (64), 2.2868 (57), 3.1774 (54), 2.8019 (44), 1.7364 (38)

Chemistry:  
\begin{align*}
\text{Tl} & \quad 31.51 \\
\text{As} & \quad 7.95 \\
\text{Sb} & \quad 37.69 \\
\text{S} & \quad 22.30 \\
\text{Total} & \quad 99.45
\end{align*}

(1) Alšar, Macedonia; by electron microprobe, average of five analyses; corresponds to \( \text{Tl}_{4.87}\text{Sb}_{9.79}\text{As}_{3.35}\text{S}_{21.99} \).

Occurrence:  
In a hydrothermal Tl–Sb–As deposit, formed at low temperatures.

Association:  
Realgar, stibnite, pyrite.

Distribution:  
From the Crven Dol mine, Alšar (Allchar), near Rošden, Macedonia [TL].

Name:  
To honor Professor S. Janković (1925–), who has worked in the Allchar region.

Type Material:  
Natural History Museum, Belgrade, Serbia; Natural History Museum, Vienna, Austria.

References:  
(3) Lobowitzky, E., G. Giester, nd E. Tillmanns (1995) The crystal structure of jankovičite, \( \text{Tl}_5\text{Sb}_9(\text{As, Sb})_4\text{S}_{22} \).  