Crystal Data: Tetragonal. *Point Group*: 4/*m*. As fibrous, highly porous aggregates <50 μm that fill small fractures and voids in sandstone breccia.

Physical Properties: *Cleavage*: n.d. *Tenacity*: n.d. *Fracture*: n.d. Hardness = n.d.
D(meas.) = n.d. D(calc.) = 5.370

Optical Properties: Translucent. *Color*: n.d. *Streak*: n.d. *Luster*: n.d.
Optical Class: [Uniaxial.] *n*(calc.) = 2.68

Cell Data: *Space Group*: *I*4/*m*. *a* = 9.8664(12) *c* = 2.8721(4) Z = 1

TEM Diffraction Pattern: Calculated pattern.
1.6444 (100), 3.1200 (85), 1.4361 (76), 2.0471 (66), 2.1633 (66), 1.8385 (45), 2.4666 (39)

Chemistry:

	(1)	(2)
SiO_2	0.17	
MnO_2	67.23	72.11
Al_2O_3	0.02	
Fe_2O_3	0.49	
CoO	0.64	
NiO	0.23	
MgO	0.05	
CuO	5.47	4.40
ZnO	0.04	
SrO	0.01	
BaO	3.53	
PbO	0.14	
Na_2O	0.04	
K_2O	0.14	
Tl_2O	17.67	23.49
H_2O	[0.32]	.
Total	96.19	100.00

(1) Zalas, near Kraków, southern Poland; average electron microprobe analysis, H_2O calculated for charge balance; corresponding to $(Tl_{0.77}Ba_{0.21}K_{0.03}Na_{0.01}Pb_{0.01})_{\Sigma=1.03}(Mn^{4+}_{7.15}Cu^{2+}_{0.63}Co^{2+}_{0.08}Fe^{3+}_{0.06}Ni^{2+}_{0.03}Si_{0.03}Mg_{0.01})_{\Sigma=8}[O_{15.67}(OH)_{0.33}]$. (2) $TlMn^{4+}_{7.5}Cu^{2+}_{0.5}O_{16}$.

Mineral Group: Hollandite supergroup, coronadite group.

Occurrence: Precipitated from a mixture of Cl-, Br-, and I-bearing brines and pore waters during weathering of a sulfide mineral assemblage under semi-arid to arid climate. Tl likely transported from depth along fractures.

Association: Cuprite, malachite, iodargyrite.

Distribution: From Zalas, near Kraków, southern Poland [TL].

Name: Indicates the main constituent (Tl) and the affinity to dark-colored manganese oxides.

Type Material: Mineralogical Museum, Faculty of Earth Sciences and Environmental Management, Institute of Geological Sciences, University of Wrocław, Poland (MMWr IV8025).

References: (1) Gołębiowska, B., A. Pieczka1, M. Zubko, A. Voegelin, J. Göttlicher, and G. Rzepa (2021) Thalliomelane, $TlMn^{4+}_{7.5}Cu^{2+}_{0.5}O_{16}$, a new member of the coronadite group from the preglacial oxidation zone at Zalas, southern Poland. Amer. Mineral., 106, 2020-2027.