

Crystal Data: Monoclinic, perhaps triclinic. *Point Group:* $2/m$, 2, or m . As complex intergrowths with arzakite, to 0.2 mm. *Twinning:* Noted.

Physical Properties: Hardness = 2.0–2.5 VHN = 82–103 D(meas.) = 7.46
D(calc.) = 7.26–7.5

Optical Properties: Transparent. *Color:* Colorless to yellow. *Luster:* Vitreous to adamantine.

R_1 – R_2 : n.d.

Cell Data: *Space Group:* $P2/m$, $P2$, or Pm . $a = 8.94(2)$ $b = 5.194(7)$ $c = 18.33(4)$
 $\beta = 92.44(8)^\circ$ $Z = 5$

X-ray Powder Pattern: Arzak deposit, Russia; differs only by intensities from arzakite.
2.61 (100), 3.01 (55), 3.38 (50), 1.587 (45), 3.96 (40), 2.292 (40), 2.199 (40)

Chemistry:	(1)	(2)	(3)	(4)
Hg	81.4	78.48	79.25	77.02
S	8.51	8.35	8.06	8.21
Br	1.29	6.94	7.73	10.23
Cl	9.13	6.04	5.20	4.54
Total	100.33	99.81	100.24	100.00

(1) Arzak deposit, Russia; by electron microprobe, average of ten analyses; corresponding to $\text{Hg}_{3.01}\text{S}_{1.96}(\text{Cl}_{1.91}\text{Br}_{0.12})_{\Sigma=2.03}$. (2) Do.; by electron microprobe, corresponding to $\text{Hg}_{3.01}\text{S}_{2.00}(\text{Cl}_{1.31}\text{Br}_{0.67})_{\Sigma=1.98}$. (3) Kadyrel deposit, Russia, by electron microprobe, average of eight grains; corresponding to $\text{Hg}_{3.11}\text{S}_{1.97}(\text{Cl}_{1.16}\text{Br}_{0.76})_{\Sigma=1.92}$. (4) $\text{Hg}_3\text{S}_2(\text{Cl}, \text{Br})_2$ with Cl:Br = 1:1.

Polymorphism & Series: Dimorphous with corderoite; forms a series with arzakite.

Occurrence: In the oxidized zone of hydrothermal mercury-bearing deposits (Arzak and Kadyrel deposits, Russia).

Association: Arzakite, cinnabar, corderoite, quartz, kaolinite (Arzak deposit, Russia); bromian calomel, bromian corderoite, bromian eglestonite, kuzminite, mercury, cinnabar, iron oxides (Kadyrel deposit, Russia).

Distribution: In Russia, in the Pii-Khem district, Tuva, Siberia, from the Arzak mercury deposit, Uyk Range [TL] and the Kadyrel mercury deposit, right bank of the Oorash-Khem River Valley.

Name: For Mikhail Alekseevich Lavrent'ev (1900–1980), Institute of Hydrodynamics, Novosibirsk, Russia, founder of the Siberian Academy of Science.

Type Material: Central Siberian Geological Museum, Novosibirsk, VI-24/3; Mining Institute, St. Petersburg, 1676/1; A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 84398.

References: (1) Vasil'ev, V.I., N.A. Pal'chik, and O.K. Grechishchev (1984) Lavrentievite and arzakite, new natural sulfohalogenides of mercury. *Geol. i Geofiz.*, 7, 54–63 (in Russian). (2) (1985) *Amer. Mineral.*, 70, 873–874 (abs. ref. 1). (3) (1984) *Chem. Abs.*, 101, 174794 (abs. ref. 1). (4) Vasil'ev, V.I., Y.G. Lavrent'ev, and N.A. Pal'chik (1986) New data on arzakite and lavrentievite. *Doklady Acad. Nauk SSSR*, 290, 948–951 (in Russian).