

Crystal Data: Monoclinic. *Point Group:* $2/m$. Crystals equant to tabular on {010}; striated parallel to [001]; nearly globular crystals, with over 40 forms, to 5 mm. *Twinning:* Partly bent twin lamellae seen in polished section, in two sets crossing at oblique angles.

Physical Properties: *Fracture:* Conchoidal. *Tenacity:* Brittle. Hardness = 3 VHN = 168 D(meas.) = n.d. D(calc.) = 5.822

Optical Properties: Opaque. *Color:* Lead-gray to steel-gray, commonly tarnishes to iridescence; white in polished section, with red internal reflections. *Luster:* Metallic.

Anisotropism: Distinct, strong in oil.

R₁–R₂: n.d.

Cell Data: *Space Group:* $P2_1/a$. $a = 7.291(8)$ $b = 12.68(34)$ $c = 5.998(5)$
 $\beta = 91^\circ 13(2)'$ $Z = 4$

X-ray Powder Pattern: Binntal, Switzerland.

3.45 (100), 2.75 (100), 3.00 (70), 2.05 (50), 2.91 (40), 2.01 (40), 0.996 (40)

Chemistry:

	(1)	(2)
Pb	41.0	42.62
Ag	23.7	22.19
As	17.9	15.41
S	18.8	19.78
Total	101.4	100.00

(1) Binntal, Switzerland; by electron microprobe, corresponding to Pb_{1.01}Ag_{1.12}As_{1.22}S_{3.00}.

(2) PbAgAsS₃.

Occurrence: Of hydrothermal origin, in dolostone.

Association: Lengenbachite, rathite, tennantite, sartorite.

Distribution: From the Lengenbach quarry, Binntal, Valais, Switzerland [TL].

Name: In honor of Dr. John Edward Marr (1857–1933), Professor of Geology, Cambridge University, Cambridge, England.

Type Material: The Natural History Museum, London, England, 87130.

References: (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 487–488. (2) Wuensch, B.J. and W. Nowacki (1963) Zur Kristallchemie des Sulfosalzes Marrite. *Chimia* (Switzerland), 17, 381–382 (in German). (3) (1965) *Amer. Mineral.*, 50, 812 (abs. ref. 2). (4) Wuensch, B.J. and W. Nowacki (1967) The crystal structure of marrite, PbAgAsS₃. *Zeits. Krist.*, 125, 459–488.