

Crystal Data: Triclinic. *Point Group:* $\bar{1}$. Crystals are poorly developed, tabular on {100}, elongated along [001], showing {010}, {001}, {011}, small $\{\bar{1}10\}$, to 0.2 mm, in spherical aggregates and crusts. *Twinning:* Common, interpenetrant, by rotation about [010].

Physical Properties: *Fracture:* Conchoidal. Hardness = 4.5 VHN = 360(30) (25 g load). D(meas.) = n.d. D(calc.) = 6.99

Optical Properties: Transparent to translucent in thin fragments. *Color:* White, pale pink, pale to dark yellow; may be dark brown to nearly black. *Streak:* White. *Luster:* Vitreous to adamantine.

Optical Class: Biaxial (+). *Dispersion:* $r > v$, distinct. $\alpha = 2.06(2)$ $\beta = \text{n.d.}$ $\gamma = 2.13(2)$ $2V(\text{meas.}) = 75(5)^\circ$

Cell Data: *Space Group:* $[P\bar{1}]$ (by analogy to preisingerite). $a = 9.798(3)$ $b = 7.250(3)$ $c = 6.866(2)$ $\alpha = 88.28(2)^\circ$ $\beta = 115.27(2)^\circ$ $\gamma = 110.70(3)^\circ$ $Z = 2$

X-ray Powder Pattern: Gadernheim, Germany; very similar to preisingerite and schumacherite.

3.188 (100), 3.135 (95), 3.247 (87), 3.026 (75), 2.953 (47), 4.437 (46), 2.165 (41)

Chemistry:

	(1)	(2)	(3)
P ₂ O ₅	14.34	14.72	16.70
As ₂ O ₅	2.99	2.93	
V ₂ O ₅	0.01	0.02	
Bi ₂ O ₃	76.04	75.26	82.24
PbO	3.39	4.88	
H ₂ O	[1.18]	[1.25]	1.06
Total	[97.95]	[99.06]	100.00

(1–2) Gadernheim, Germany; by electron microprobe, averages of five and eight analyses, H₂O calculated for charge balance; (1) corresponds to (Bi_{2.86}Pb_{0.13}) $_{\Sigma=2.99}$ O_{0.85}[(PO₄)_{1.77}(AsO₄)_{0.23}] $_{\Sigma=2.00}$ (OH)_{1.15}. (3) Bi₃O(PO₄)₂(OH).

Polymorphism & Series: Forms series with preisingerite and schumacherite.

Occurrence: A rare secondary mineral in a silicified barite vein (Gadernheim, Germany).

Association: Bismutite, mixite, reichenbachite, pyromorphite, malachite (Gadernheim, Germany).

Distribution: In Germany, from Gadernheim, and on the Hohenstein, near Reichenbach, Hesse; at the Pucher shaft, Schneeberg, Saxony. From near Smrkovec, Slavkovský Les Mountains, about 10 km north-northeast of Mariánské Lázně (Marienbad), Czech Republic.

Name: Honoring Klaus Petitjean, amateur mineral collector who has discovered several new species in the Reichenbach, Germany district.

Type Material: Mineralogy Institute, Ruhr University, Bochum, Germany.

References: (1) Krause, W., K. Belendorff, and H.-J. Bernhardt (1993) Petitjeanite, Bi₃O additional data for the corresponding arsenate and vanadate, preisingerite and schumacherite. Neues Jahrb. Mineral., Monatsh., 487–503. (2) (1994) Amer. Mineral., 79, 764–765 (abs. ref. 1).