

Roselite-beta**Ca₂Co(AsO₄)₂•2H₂O**

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Crystal Data: Triclinic. *Point Group:* $\bar{1}$ or 1. As granular aggregates.

Physical Properties: *Cleavage:* On {010}, perfect. Hardness = 3.5–4 D(meas.) = 3.71
D(calc.) = 3.77

Optical Properties: Semitransparent. *Color:* Dark rose-red. *Luster:* Vitreous.
Optical Class: Biaxial (–) [sic]. *Pleochroism:* X = pink; Y = pale pink; Z = nearly colorless.
Dispersion: $r < v$, strong, crossed. $\alpha = 1.723$ $\beta = 1.737$ $\gamma = 1.756$ 2V(meas.) = 80°–90°

Cell Data: *Space Group:* $P\bar{1}$ or $P1$. $a = 5.88$ $b = 7.67$ $c = 5.58$ $\alpha = 112^\circ 19'$
 $\beta = 71^\circ 21'$ $\gamma = 119^\circ 41'$ $Z = 1$

X-ray Powder Pattern: Schneeberg, Germany; nearly identical to talmessite.
2.75 (10), 3.08 (9), 3.59 (6), 3.98 (4), 3.22 (4), 1.894 (4), 1.719 (4)

Chemistry:

	(1)	(2)
As ₂ O ₅	49.66	50.74
FeO	0.32	
CoO	13.28	16.54
NiO	1.43	
MgO	0.92	
CaO	26.29	24.76
H ₂ O	8.41	7.96
Total	100.31	100.00

(1) Schneeberg, Germany. (2) Ca₂Co(AsO₄)₂•2H₂O.

Polymorphism & Series: Dimorphous with roselite.

Mineral Group: Fairfieldite group.

Occurrence: A rare secondary mineral in cobalt-bearing hydrothermal mineral deposits.

Association: Roselite, calcite, pyrite, quartz (Schneeberg, Germany); erythrite, arthurite, conichalcite, chenevixite, scorodite, cobaltaustinite, heterogenite (Dome Rock mine, Australia).

Distribution: From Schneeberg, Saxony, and at the Bauhaus district, Richelsdorf Mountains, Hesse, Germany. At Bou Azzer, Morocco. From Tsumeb, Namibia. In the Dome Rock copper mine, about 40 km northwest of Mingary, South Australia. From the San Jose del Carmen mine, Copiapó, Atacama, Chile.

Name: As a monoclinic dimorph of *roselite*.

Type Material: The Natural History Museum, London, England, 1956,196; Harvard University, Cambridge, Massachusetts, USA, 105301.

References: (1) Frondel, C. (1955) Neomesselite and beta-roselite: two new members of the fairfieldite group. *Amer. Mineral.*, 40, 828–833. (2) Pierrot, R. (1964) Contribution à la minéralogie des arsénates calciques et calcomagnésiens naturels. *Bull. Soc. fr. Minéral.*, 87, 169–211 (in French).