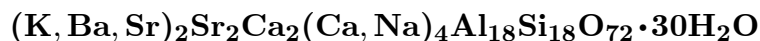


**Bellbergite**

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**Crystal Data:** Hexagonal. *Point Group:*  $6/m\ 2/m\ 2/m, \bar{6}m2$ , or  $6mm$ . Rarely as hexagonal dipyramidal crystals, consisting of  $\{10\bar{1}2\}$ , to 0.3 mm; commonly subparallel intergrowths elongated along  $[0001]$ .

**Physical Properties:** *Fracture:* Conchoidal. Hardness =  $\sim 5$  D(meas.) = 2.20(2)  
D(calc.) = 2.19

**Optical Properties:** Transparent. *Color:* Colorless to white; crystals zoned, with transparent ends and white sides. *Streak:* [White.] *Luster:* Vitreous.

*Optical Class:* Uniaxial (-).  $\omega = 1.522(2)$   $\epsilon = 1.507(2)$

**Cell Data:** *Space Group:*  $P6_3/mmc$ ,  $P6_3mc$ , or  $P\bar{6}2c$ .  $a = 13.244(1)$   $c = 15.988(2)$   
 $Z = 1$

**X-ray Powder Pattern:** Bellerberg volcano, Germany.

3.80 (100), 6.58 (80), 2.95 (70), 2.21 (70), 2.70 (50), 2.50 (50), 1.83 (50)

**Chemistry:**

	(1)
SiO <sub>2</sub>	34.41
Al <sub>2</sub> O <sub>3</sub>	27.90
CaO	9.31
SrO	7.63
BaO	1.22
Na <sub>2</sub> O	0.70
K <sub>2</sub> O	1.95
H <sub>2</sub> O	[16.88]
Total	[100.00]

(1) Bellerberg volcano, Germany; by electron microprobe, H<sub>2</sub>O by difference; corresponds to  $K_{1.33}Na_{0.72}Ca_{5.32}Sr_{2.36}Ba_{0.26}Al_{17.55}Si_{18.36}O_{72} \cdot 30H_2O$ .

**Mineral Group:** Zeolite group.

**Occurrence:** In leucite tephrite lava at contacts between lava and calcium-rich xenoliths.

**Association:** Sanidine, clinopyroxene, pyrrhotite, thompsonite, ettringite, willhendersonite, gismondine, jasmundite, mayenite, srebrodolskite, calcic olivine, portlandite.

**Distribution:** From the Bellerberg volcano, two km north of Mayen, Eifel district, Germany.

**Name:** For its occurrence at the Bellerberg (also Bellberg) volcano, Germany.

**Type Material:** University of Vienna, Vienna, Austria.

**References:** (1) Rüdinger, B., E. Tillmanns, and G. Hentschel (1993) Bellbergite – a new mineral with the zeolite structure type EAB. *Mineral. Petrol.*, 48, 147–152.