

Crystal Data: Triclinic. *Point Group:* $\bar{1}$. Crystals tabular prismatic, pseudo-monoclinic, elongated along [100] and flattened on {010}, to 0.6 mm; exhibit forms {100}, {001}, {20 $\bar{1}$ }. *Twinning:* Probable on {110}.

Physical Properties: *Cleavage:* Imperfect on {001}. *Fracture:* Irregular. *Tenacity:* Brittle. Hardness = n.d. D(meas.) = n.d. D(calc.) = 2.266

Optical Properties: Transparent. *Color:* Pink, yellow-pink, white; colorless in thin section. *Streak:* White. *Luster:* Vitreous. *Optical Class:* Biaxial (-). $\alpha = 1.506(2)$ $\beta = 1.514(2)$ $\gamma = 1.518(2)$ $2V(\text{meas.}) = 71.0(5)^\circ$ $2V(\text{calc.}) = 70.2^\circ$ *Orientation:* $X \wedge c = 43^\circ$; $Y \wedge b = 40^\circ$; $Z \wedge a = 8^\circ$. *Dispersion:* (r < v), weak.

Cell Data: *Space Group:* $P\bar{1}$. $a = 19.965(1)$ $b = 14.274(1)$ $c = 8.704(1)$ $\alpha = 88.37(1)^\circ$ $\beta = 125.08(1)^\circ$ $\gamma = 89.57(1)^\circ$ $Z = 2$

X-ray Powder Pattern: Bellerberg volcano, near Ettringen, East Eifel volcanic area, Germany. 3.235 (100), 3.162 (80), 3.135 (80), 2.736 (60), 4.956 (45), 2.712 (40), 2.665 (40)

Chemistry:	(1)	(2)
SiO ₂	35.29	34.60
Al ₂ O ₃	30.20	29.36
MgO	0.04	
CaO	8.43	8.07
Na ₂ O	2.32	2.23
K ₂ O	10.29	10.17
<u>H₂O</u>	<u>15.57</u>	<u>15.57</u>
Total	102.14	100.00

(1) Bellerberg volcano, near Ettringen, East Eifel volcanic area, Germany; average of 11 electron microprobe analysis, H₂O from structure refinement, corresponding to $K_{2.96}Ca_{2.04}Na_{1.02}Mg_{0.01}[Al_{8.03}Si_{7.97}O_{31.97}] \cdot 11.72H_2O$. (2) $K_3Ca_2Na [Al_8Si_8O_{32}] \cdot 12H_2O$.

Group: Zeolite group.

Occurrence: In late-stage, low-temperature mineral in small cavities of a pyrometamorphically modified limestone xenolith in leucite-tephritic lava.

Association: Tobermorite, thaumasite.

Distribution: Bellerberg volcano, near Ettringen, East Eifel volcanic area, Germany.

Name: Honors the German mineralogist and crystallographer Otto Wilhelm Flörke (b. 1926) for his investigations on silica polymorphs.

Type Material: Natural History Museum, Vienna, Austria, (2009-IV-a).

References: (1) Lengauer, C.L., U. Kolitsch, and E. Tillmanns (2009) Flörkeite, $K_3Ca_2Na[Al_8Si_8O_{32}] \cdot 12H_2O$, a new phillipsite-type zeolite from the Bellerberg, East Eifel volcanic area, Germany. *Eur. J. Mineral.*, 21, 901–913. (2) (2010) *Amer. Mineral.*, 95, 1123 (abs. ref. 1).