

Slawsonite

 $(\text{Sr}, \text{Ca})\text{Al}_2\text{Si}_2\text{O}_8$

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Crystal Data: Monoclinic. *Point Group:* $2/m$. Tabular crystals, elongated along [110], with {110} and {001}, to 7 cm; in radial aggregates.

Physical Properties: *Cleavage:* Good on {001}, fair to good on {100}.
Fracture: Subconchoidal. Hardness = 5.5–6.5 D(meas.) = 3.05(1) D(calc.) = 3.044
 May fluoresce intense pinkish red-purple under SW UV.

Optical Properties: Semitransparent. *Color:* Light gray to colorless; colorless in thin section.
Streak: White.

Optical Class: Biaxial (-). *Orientation:* $Y \wedge c = 5^\circ\text{--}11^\circ$. *Dispersion:* $r < v$, medium, or $r > v$, very weak. $\alpha = 1.570\text{--}1.573$ $\beta = 1.581\text{--}1.582$ $\gamma = 1.585\text{--}1.586$ $2V(\text{meas.}) = 55^\circ\text{--}82^\circ$

Cell Data: *Space Group:* $P2_1/a$. $a = 8.888(2)$ $b = 9.344(2)$ $c = 8.326(3)$ $\beta = 90.33(2)^\circ$
 $Z = [4]$

X-ray Powder Pattern: Sarusaka, Japan.
 3.231 (100), 3.938 (80), 2.930 (50), 2.087 (40), 3.720 (35), 2.949 (35), 2.679 (35)

Chemistry:	(1)	(2)
SiO ₂	38.68	37.78
TiO ₂	0.36	
Al ₂ O ₃	29.32	30.26
Fe ₂ O ₃	1.14	
FeO	0.02	
MgO	0.25	
CaO	2.26	0.33
SrO	26.60	31.22
Na ₂ O	0.13	
K ₂ O	0.07	
H ₂ O ⁺	0.17	
H ₂ O ⁻	0.09	
Total	99.09	99.59

(1) Wallowa Mountains, Oregon, USA; corresponds to $(\text{Sr}_{0.82}\text{Ca}_{0.13}\text{Mg}_{0.02})_{\Sigma=0.97}(\text{Al}_{1.84}\text{Fe}_{0.05}^{3+})_{\Sigma=1.89}(\text{Si}_{2.06}\text{Ti}_{0.01})_{\Sigma=2.07}\text{O}_8$. (2) Rendai, Japan; by electron microprobe, corresponds to $(\text{Sr}_{0.98}\text{Ca}_{0.02})_{\Sigma=1.00}\text{Al}_{1.93}\text{Si}_{2.04}\text{O}_8$.

Mineral Group: Feldspar group.

Occurrence: In pectolite veinlets in metamorphosed xenoliths (Rendai, Japan); in a xenolith in ultramafic rock (Sarusaka, Japan).

Association: Calcite, phlogopite, albite, pyrite (Wallowa Mountains, Oregon, USA); celsian, cymrite, xonotlite, prehnite, grossular, diopside (Sarusaka, Japan).

Distribution: From the Wallowa Mountains, Wallowa Co., Oregon, USA. In Japan, in Kochi Prefecture, from Sarusaka, Kamagi; Rendai, Kochi City; and Miyanotani, Hidaka.

Name: For Professor Chester Baker Slawson (1898–1964), mineralogist at the University of Michigan, Ann Arbor, Michigan, USA.

Type Material: Harvard University, Cambridge, Massachusetts, USA, 122831–122833.

References: (1) Griffen, D.T., P.H. Ribbe, and G.V. Gibbs (1977) The structure of slawsonite, a strontium analog of paracelsian. *Amer. Mineral.*, 62, 31–35. (2) Matsubara, S. (1985) The mineralogical implication of barium and strontium silicates. *Bull. Nat. Sci. Mus., Tokyo, ser. C*, 11, 37–95. (3) (1987) *Amer. Mineral.*, 72, 225–226 (abs. ref. 2).

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