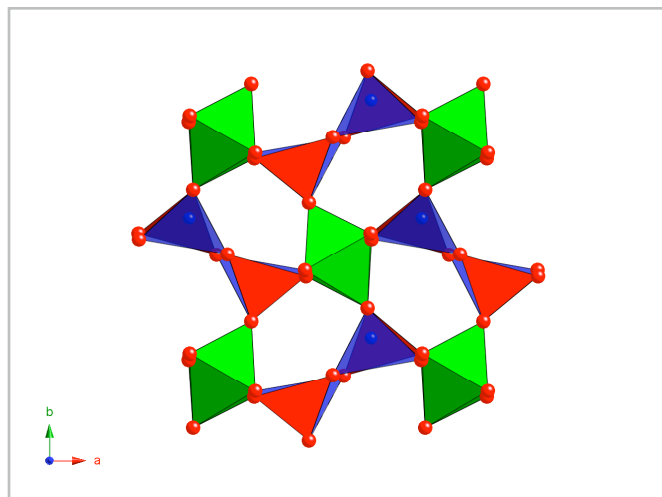


sillimanite

52.2.2a.1



| | |
|------------------|--|
| mineral group | andalusite |
| mineral subgroup | |
| date named | 1824 |
| name derivation | Named by Bowen for Benjamin Silliman, American geologist and chemist at Yale University. |



Harvard ID # 84622
Locality: Klovestenen, Sondeled, Aust-Agder Co., Norway
Horizontal Dimension: 4.1 cm

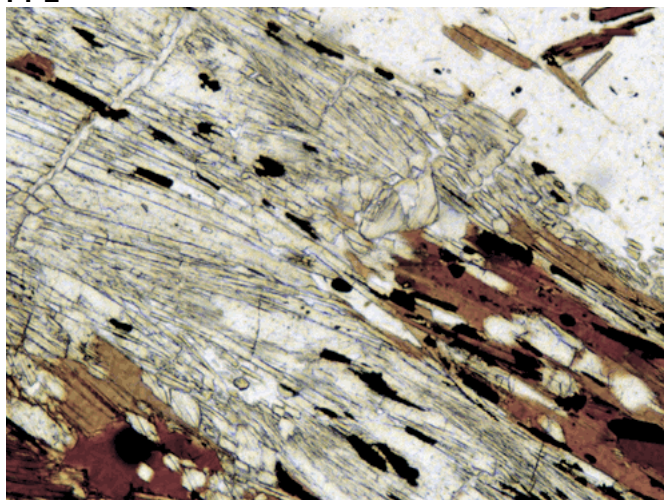
| | | |
|-----------------------|---|----------------------------|
| Dana class | orthosilicate | |
| diagnostic properties | tan bluish color; prismatic to bladed habit | |
| color | colorless, white, gray, brown, yellow, blue | |
| luster | satiny, vitreous, subadamantine | |
| streak | white | |
| Mohs hardness | 6.5-7.5 | specific gravity 3.23-3.27 |
| cleavage | perfect parallel | |
| fracture & tenacity | uneven, splintery, conchoidal | |
| habits | long, prismatic crystals nearly square in cross section; fibrous masses | |
| special properties | transparent to translucent | |
| reaction with acid | insoluble in acids | |

sillimanite

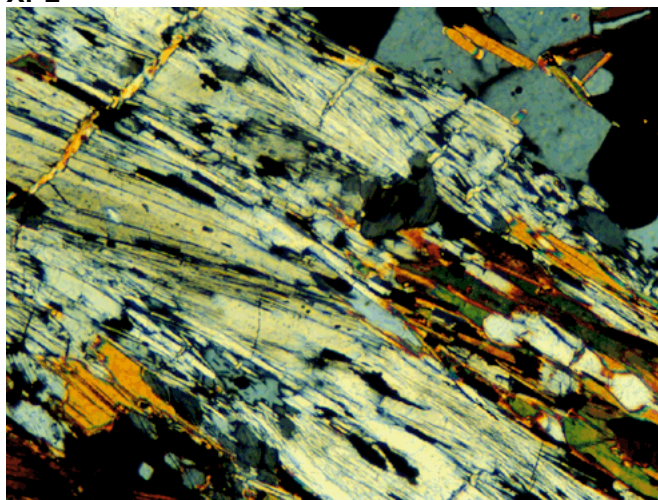
52.2.2a.1



PPL



XPL



| | |
|----------------------|------------------------|
| crystal class | orthorhombic pyramidal |
| birefringence | 0.018-0.022 |
| a Axis | 7.484 |
| b Axis | 7.672 |
| c Axis | 5.77 |
| alpha | 90 |
| beta | 90 |
| gamma | 90 |
| Z | 4 |

| | |
|-----------------------|--------------|
| crystal system | orthorhombic |
| reflectance | |
| space group | Pnma |
| 2V | 21-30 |
| optic type | biaxial |
| optic sign | + |
| alpha epsilon | 1.654-1.661 |
| beta omega | 1.658-1.662 |
| gamma | 1.673-1.683 |

optical comment

occurrence

Found in mica schists, gneisses, pegmatites, and contact metamorphosed deposits. Typically occurs with andalusite, kyanite, potassium feldspar, almandine, cordierite, biotite, and quartz.

selected localities

Chester, near Saybrook, Middlesex Co., and Norwich, New London Co., Connecticut; Chester and Mineral Hill, Delaware Co., Pennsylvania; Brandywine Springs, Delaware; Monroe, Orange Co., New York; Culsagee mine, Macon Co., North Carolina; Senecam Oconee Co., South Carolina; Custer and Pennington Cos., South Dakota; Silver Hill tin mine, Spokane Co., Washington; U.S.A. Vltava, Susice, Czech Republic. Lisens Alp, Selraintal, Tirol, Austria. Bodenmain, Bavaria, Germany. Pontigibaud, Auvergne, France. Klovestenen, Sondeled, Aust-agder Co., Norway. Diamantina, Minas Gerais, Brazil.