Jimthompsonite $(Mg, Fe^{2+})_5Si_6O_{16}(OH)_2$

Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. As radiating sprays of crystals, to 5 cm; as fibrous intergrowths parallel to {010} in anthophyllite and cummingtonite.

Physical Properties: *Cleavage:* Perfect on {210}, intersecting at 38° and 142°; breakage on {100} and {010} may be partings. Hardness = n.d. D(meas.) = n.d. D(calc.) = [3.02]

Optical Properties: Transparent. *Color:* Colorless to very light pinkish brown; colorless in thin section.
Optical Class: Biaxial (–). *Orientation:* $X = a$; $Y = b$; $Z = c$. *Dispersion:* $r > v$, weak.
$\alpha = 1.605(5)$ $\beta = 1.626(5)$ $\gamma = 1.633(5)$ 2V(meas.) = 62(2)°

Cell Data: *Space Group: Pbca.* $a = 18.6263(3)$ $b = 27.2303(6)$ $c = 5.2970(3)$ Z = 8

X-ray Powder Pattern: Calculated. (ICDD 31-638).
8.812 (100), 13.6 (57), 3.092 (53), 2.601 (42), 3.250 (38), 2.547 (28), 3.814 (27)

Chemistry:

	(1)
SiO_2	57.78
Al_2O_3	0.29
FeO	12.22
MnO	0.72
MgO	25.14
CaO	0.38
Na_2O	0.12
H_2O	[2.92]
Total	[99.57]

(1) Chester, Vermont, USA; by electron microprobe; H_2O assuming (OH) sites filled by $(OH)^{1-}$.

Polymorphism & Series: Dimorphous with clinojimthompsonite.

Occurrence: In the black wallrock between chlorite and actinolite zones of a metamorphosed ultramafic body.

Association: Chesterite, clinojimthompsonite, anthophyllite, cummingtonite, talc.

Distribution: In the Carleton talc quarry, near Chester, Windsor Co., Vermont, USA.

Name: For Professor James Burleigh Thompson, Jr. (1921–), eminent petrologist of Harvard University, Cambridge, Massachusetts, USA.

Type Material: Royal Ontario Museum, Toronto, Canada, M36083; Harvard University, Cambridge, Massachusetts; National Museum of Natural History, Washington, D.C., USA, 145689.

References: (1) Veblen, D.R. and C.W. Burnham (1978) New biopyriboles from Chester, Vermont: I. Descriptive mineralogy. Amer. Mineral., 63, 1000–1009. (2) Veblen, D.R. and C.W. Burnham (1978) New biopyriboles from Chester, Vermont: II. The crystal chemistry of jimthompsonite, clinojimthompsonite, chesterite, and the amphibole-mica reaction. Amer. Mineral., 63, 1053–1073. (3) Veblen, D.R. and P.R. Buseck (1979) Chain-width order and disorder in biopyriboles. Amer. Mineral., 64, 687–700.