Jimthompsonite  
\((\text{Mg, Fe}^{2+})_5\text{Si}_6\text{O}_{16}(\text{OH})_2\)

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\(^\circ\) and 142\(^\circ\); 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.  
\(\alpha = 1.605(5)\)  
\(\beta = 1.626(6)\)  
\(\gamma = 1.633(5)\)  
\(2V(\text{meas.}) = 62(2)\)\(^\circ\)

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:  
\[
\begin{array}{ll}
\text{SiO}_2 & 57.78 \\
\text{Al}_2\text{O}_3 & 0.29 \\
\text{FeO} & 12.22 \\
\text{MnO} & 0.72 \\
\text{MgO} & 25.14 \\
\text{CaO} & 0.38 \\
\text{Na}_2\text{O} & 0.12 \\
\text{H}_2\text{O} & [2.92] \\
\hline
\text{Total} & 99.57 \\
\end{array}
\]

(1) Chester, Vermont, USA; by electron microprobe; H\(_2\)O 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:  
Amer. Mineral., 63, 1000–1009.  
Amer. Mineral., 64, 687–700.