

Actinolite,  $\text{Ca}_2(\text{Mg},\text{Fe}^{2+})_5\text{Si}_8\text{O}_{22}(\text{OH})_2$

Actinolite

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Fe-Mg order-disorder in tremolite-actinolite-ferro-actinolite at ambient and high temperature

Locality: Greiner, Zillertal, Austria

9.834 18.078 5.283 90 104.63 90 C2/m

Atom	x	y	z	Wyckoff
Mg1	0	0.0879	0.5	4h
Mg2	0	0.1770	0	4g
Mg3	0	0	0	2a
Ca4	0	0.2769	0.5	4h
Si1	0.2805	0.0841	0.2958	8j
Si2	0.2890	0.1710	0.8039	8j
H	0.190	0	0.765	4i
O1	0.1116	0.0865	0.2163	8j
O2	0.1191	0.1715	0.7245	8j
O3	0.1100	0	0.7157	4i
O4	0.3663	0.2477	0.7912	8j
O5	0.3468	0.1342	0.0987	8j
O6	0.3440	0.1184	0.5880	8j
O7	0.3367	0	0.2907	4i

$$(7 \times 8j) + (3 \times 4i) + (2 \times 4h) + (1 \times 4g) + (1 \times 2a)$$

**Raman Active Modes**

WP	$A_g$	$A_u$	$B_g$	$B_u$
8j	3	-	3	-
4i	2	-	1	-
4h	1	-	2	-
4g	1	-	2	-
2a	-	-	-	-

Total number of modes:

$$30A_g + 30B_g = 60$$