

substance: hematite (α -Fe₂O₃)
property: phonon wavenumbers

wavenumbers of ir and Raman active lattice modes

symmetries: $\Gamma = 2A_{1g} + 2A_{1u} + 3A_{2g} + 3A_{2u} + 5E_g + 5E_u$, ir active: $2A_{2u} + 4E_u$, Raman active: $2A_{1g} + 5E_g$

(ν/c) _{TO} (A _{2u})	299 cm ⁻¹	RT	from ir reflectance	77O
	526 cm ⁻¹			
(ν/c) _{LO} (A _{2u})	414 cm ⁻¹	RT		
	660 cm ⁻¹			
(ν/c) _{TO} (E _u)	227 cm ⁻¹			
	286 cm ⁻¹			
	437 cm ⁻¹			
	524 cm ⁻¹			
(ν/c) _{LO} (E _u)	230 cm ⁻¹			
	368 cm ⁻¹			
	494 cm ⁻¹			
	662 cm ⁻¹			
(ν/c) _R (A _{1g})	225 cm ⁻¹			75H
	498 cm ⁻¹			
(ν/c) _R (E _g)	247 cm ⁻¹			
	293 cm ⁻¹			
	299 cm ⁻¹			
	412 cm ⁻¹			
	613 cm ⁻¹			

References:

- 75H Hart, T. R., Adams, S. B., Temkin, H.: Proc. Int. Conf on "Light Scattering in Solids", ed. 1975, 259.
77O Onari, S., Arai, T., Kudo, K.: Phys. Rev. B16 (1977) 1717.