Clinoferrosilite \((\text{Fe}^{2+}, \text{Mg})_2\text{Si}_2\text{O}_6\)

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**Crystal Data:** Monoclinic. **Point Group:** 2/m. As acicular crystals lacking terminal faces. **Twinning:** On {100}.

**Physical Properties:**  
**Cleavage:** \([\text{Good on } \{110\}, \{110\} \wedge \{1\overline{1}0\} \sim 87^\circ}\) (by analogy to ferrosilite). \text{Hardness} = [5–6] \text{D(meas.)} = \text{n.d.} \text{D(calc.)} = 4.068

**Optical Properties:** Semitransparent. **Color:** Colorless with slight amber tint. **Optical Class:** Biaxial (+). **Orientation:** \(Z \wedge c = 31^\circ\). \(\alpha = 1.764(2)\) (synthetic \(\text{Fe}_2\text{Si}_2\text{O}_6\)). \(\beta = 1.767(2)\) \(\gamma = 1.792(2)\) \(2V(\text{meas.}) = 25(5)^\circ\)

**Cell Data:** **Space Group:** \(P2_1/c\) (synthetic \(\text{Fe}_2\text{Si}_2\text{O}_6\)). \(a = 9.7085\)  
\(b = 9.0872\)  
\(c = 5.2284\)  
\(\beta = 108.432^\circ\)  
\(Z = 4\)

**X-ray Powder Pattern:** Synthetic \(\text{Fe}_2\text{Si}_2\text{O}_6\).  
3.035 (100), 2.603 (63), 2.909 (55), 2.408 (53), 2.161 (51), 4.605 (49), 3.234 (40)

**Chemistry:** (1) Material from Lake Naivasha, Kenya, approximates \((\text{Fe}_{1.90}\text{Mn}_{0.10})_\Sigma=2.00\text{Si}_2\text{O}_6\), with Mg, Al, Ca, Ti, V, Cr, Co, and Ni absent.

**Polymorphism & Series:** Dimorphous with ferrosilite; forms a series with clinoenstatite.

**Mineral Group:** Pyroxene group.

**Occurrence:** As acicular crystals in lithophysae in obsidian (Lake Naivasha, Kenya).

**Association:** Anorthoclase, magnetite, cristobalite, fayalite, biotite (Lake Naivasha, Kenya).

**Distribution:** From near Lake Naivasha, Rift Valley, Kenya. In the USA, from the Coso Mountains, Inyo Co., California; and at Obsidian Cliffs, Yellowstone National Park, Wyoming. From Hrafntinnuhryggur, Iceland.

**Name:** For its monoclinic crystal system and chemical identity with ferrosilite.

**Type Material:** National Museum of Natural History, Washington, D.C., USA, 102793.