

Feruvite

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Crystal Data: Hexagonal. *Point Group:* $3m$. Subhedral to anhedral grains, to 2 mm.**Physical Properties:** *Fracture:* Conchoidal. *Tenacity:* Brittle. Hardness = ~ 7
D(meas.) = 3.207(9) D(calc.) = 3.21**Optical Properties:** Semitransparent. *Color:* Dark brown-black. *Streak:* Gray.
Luster: Vitreous to dull.
Optical Class: Uniaxial (-). *Pleochroism:* Strong; *O* = light brown; *E* = very dark brown.
 $\omega = 1.687(1)$ $\epsilon = 1.669(1)$ **Cell Data:** *Space Group:* $R3m$. $a = 16.012(2)$ $c = 7.245(2)$ $Z = 3$ **X-ray Powder Pattern:** Cuvier Island, New Zealand.
2.586 (100), 2.979 (80), 4.24 (60), 4.00 (60), 3.50 (60), 2.051 (50), 6.43 (40)**Chemistry:**

	(1)	(2)
SiO ₂	33.33	33.33
TiO ₂	2.19	2.19
B ₂ O ₃	11.25	[9.93]
Al ₂ O ₃	23.38	23.38
Fe ₂ O ₃		[2.56]
FeO	13.56	[11.26]
MnO	0.07	0.07
MgO	7.80	7.80
CaO	3.30	3.30
Na ₂ O	1.16	1.16
K ₂ O	0.05	0.05
H ₂ O	[3.48]	[3.43]
Total	[99.57]	[98.46]

(1) Cuvier Island, New Zealand; by electron microprobe, average of five analyses, total Fe as FeO, H₂O calculated from stoichiometry. (2) Do.; B₂O₃, Fe₂O₃, FeO, and H₂O calculated from stoichiometry, original total given as 98.45%; corresponding to $(\text{Ca}_{0.62}\text{Na}_{0.39}\text{K}_{0.01})_{\Sigma=1.02}(\text{Fe}_{1.53}^{2+}\text{Mg}_{1.21}\text{Ti}_{0.29}\text{Mn}_{0.01})_{\Sigma=3.04}(\text{Al}_{4.72}\text{Mg}_{0.82}\text{Fe}_{0.34}^{3+}\text{Fe}_{0.12}^{2+})_{\Sigma=6.00}(\text{BO}_3)_3(\text{Si}_{5.83}\text{Al}_{0.10})_{\Sigma=5.93}\text{O}_{18}(\text{OH})_4$.

Mineral Group: Tourmaline group.**Occurrence:** By hydrothermal replacement of silicates in a pegmatitic rock.**Association:** Dravite, quartz, microcline, chlorapatite, pyrite.**Distribution:** On Cuvier Island, New Zealand.**Name:** For iron (FERrum), in the formula and the similarity to *uvite*.**Type Material:** Canadian Museum of Nature, Ottawa, Canada.**References:** (1) Grice, J.D. and G.W. Robinson (1989) Feruvite, a new member of the tourmaline group, and its crystal structure. *Can. Mineral.*, 27, 199–203. (2) (1990) *Amer. Mineral.*, 75, 706–707 (abs. ref. 1).