Uranopolycrase  
(U, Y)(Ti, Nb)₂O₆

Crystalline Data: Orthorhombic; metamict.  
Point Group: 2/m 2/m 2/m.  
Euhedral crystals, elongated along [001], tabular on {100}, with {100}, {010} and {011}, to 0.15 mm, intergrown with uranoan polycrase-(Y).

Physical Properties:  
Cleavage: {100}, good.  
Hardness = n.d.  
VHN = 659 (20 g load).  
D(meas.) = n.d.  
D(calc.) = 6.60.  
Radioactive.

Optical Properties:  
Opaque.  
Color: Red-brown; in reflected light, pale gray with bluish tint and dark red-brown internal reflections.  
Streak: Brown.  
Luster: Adamantine.  
Optical Class: Isotropic.

R: (470) 23.6, (546) 21.5, (589) 22.3, (650) 25.1

Cell Data:  
Space Group: Pbcn.  
a = 14.51(1)  
b = 5.558(5)  
c = 5.173(4)  
Z = 4

X-ray Powder Pattern:  
San Piero in Campo, Elba, Italy; after heating at 900 °C for ten hours.  
2.99 (100), 1.90 (50), 1.48 (40), 1.77 (35), 2.78 (25), 3.21 (12), 1.86 (10)

Chemistry:  
\begin{align*}  
\text{Nb}_2\text{O}_5 & : 11.27 \\  
\text{Ta}_2\text{O}_5 & : 5.98 \\  
\text{TiO}_2 & : 27.36 \\  
\text{ThO}_2 & : 4.14 \\  
\text{UO}_2 & : 39.08 \\  
\text{Y}_2\text{O}_3 & : 7.78 \\  
\text{Nd}_2\text{O}_3 & : 0.37 \\  
\text{MnO} & : 0.48 \\  
\text{CaO} & : 0.22 \\  
\text{Total} & : 96.68 \end{align*}

(1) San Piero in Campo, Elba, Italy; by electron microprobe, original total given as 96.73%; corresponding to \((\text{U}_{0.62}\text{Y}_{0.29}\text{Th}_{0.07}\text{Mn}_{0.03}\text{Ca}_{0.02}\text{Nd}_{0.01})\Sigma=1.04(\text{Ti}_{1.46}\text{Nb}_{0.36}\text{Ta}_{0.12})\Sigma=1.94\text{O}_6\).

Occurrence: In a zoned pegmatite vein near the contact with granodiorite.

Association: Uranoo polycrase-(Y), euxenite-(Y), manganocolumbite, titanowodginite, uranmicrolite, beryl, stilbite, quartz, orthoclase, albite, lepidolite, elbaite.

Distribution: From San Piero in Campo, Elba, Italy.

Name: For its content of URANium and relation to polycrase-(Y).

Type Material: University of Pisa, Pisa, Italy.