

**Parisite-(Nd)****Ca(Nd, Ce)<sub>2</sub>(CO<sub>3</sub>)<sub>3</sub>F<sub>2</sub>**

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**Crystal Data:** [Monoclinic.] [by analogy to parisite-Ce]. *Point Group:* n.d. Large grains.

**Physical Properties:** *Fracture:* Conchoidal. Hardness = 4–5 D(meas.) = 4.20–4.50  
D(calc.) = n.d.

**Optical Properties:** Semitransparent. *Color:* Yellowish brown; pale yellowish brown in thin section. *Luster:* Vitreous to greasy.

*Optical Class:* Uniaxial (+).  $\omega = 1.679$   $\epsilon = 1.754$

**Cell Data:** *Space Group:* n.d. Z = n.d.

**X-ray Powder Pattern:** Stated to be identical to parisite-(Ce).

**Chemistry:** (1) Bayan Obo, China; average of two analyses, RE = Y 0.2%, La 9.6%, Ce 35.9%, Pr 7.7%, Nd 40.6%, Sm 4.5%, Eu 0.4%, Gd 1.0%, Dy 0.2%, Yb 0.1%.

**Occurrence:** In carbonatite-derived dolomitic marble.

**Association:** Calcite, aegirine, sodic amphibole, quartz.

**Distribution:** In the Bayan Obo Fe–Nb–RE deposit, 130 km north of Baotou, Inner Mongolia, China.

**Name:** For its relation to *parisite*, with *neodymium* as its dominant rare-earth element.

**Type Material:** n.d.

**References:** (1) Zhang Peishan and Tao Kejie (1986) Bayan Obo mineralogy. Science Publisher, Beijing, China, 208 pp. (in Chinese with English abs.). (2) (1988) Amer. Mineral., 73, 1496–1497 (abs. ref. 1). (3) Zhang Peishan, Yang Zhuming, Tao Kejie, and Yang Xueming (1995) Mineralogy and geology of rare earths in China. Science Press, Beijing, China, 209 pp. esp. p. 104 (in English).