

## **Kozoite-(Nd), Nd(CO<sub>3</sub>)(OH), a new mineral in an alkali olivine basalt from Hizen-cho, Saga Prefecture, Japan**

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### **ABSTRACT**

Kozoite-(Nd), Nd(CO<sub>3</sub>)(OH), occurs in cavities and fissures of alkali olivine basalt exposed at Niikoba, Hizen-cho, Higashi Matsuura-gun, Saga Prefecture, Japan, in association with lanthanite-(Nd) and kimuraite-(Y). The crystal structure was refined by the Rietveld method in space group *Pmcn*;  $a = 4.9829(1)$ ,  $b = 8.5188(2)$ ,  $c = 7.2570(2)$  Å,  $Z = 4$  using powder diffraction data obtained by a combination of a Gandolfi camera and monochromatic synchrotron radiation. Kozoite-(Nd) is pale pinkish-purple to white with a vitreous to powdery luster. The calculated density is 4.77 g/cm<sup>3</sup>. It has high birefringence,  $\alpha = 1.698(2)$ ,  $\gamma = 1.780(5)$ . The four strongest lines in the X-ray powder patterns [ $d(\text{Å})$ ,  $l/l_0$ ,  $hkl$ ] are (4.29, 100, 110); (2.93, 89, 102); (2.33, 78, 131) and (2.06, 78, 221). Kozoite-(Nd) is the first naturally occurring RE(CO<sub>3</sub>)(OH) end-member in the ancylite group.