Rémondite-(Ce) $Na_3(Ca,Ce,Na,La)_3(CO_3)_5$

Crystal Data: Monoclinic, pseudohexagonal. *Point Group:* 2. Crystals, to 5 cm; massive, filling veinlets.

Physical Properties: *Cleavage:* Imperfect. *Fracture:* Conchoidal. Hardness = 3–3.5 D(meas.) = 3.43(1) D(calc.) = 3.46

Optical Properties: Transparent in thin splinters. *Color:* Red-orange, amber-yellow; may show a color change between daylight and artificial light. *Luster:* Vitreous. *Optical Class:* Biaxial (+). $\alpha = 1.632(2)$ $\beta = 1.633(2)$ $\gamma = 1.638(2)$ 2V(meas.) = 40(6)° 2V(calc.) = 48°

Cell Data: *Space Group:* $P2_1$. $a = 10.412(4)$ $b = 6.291(3)$ $c = 10.414(4)$ $\beta = 119.80(5)°$ Z = 2

X-ray Powder Pattern: Ebounja, Cameroon; similar to rémondite-(La).
2.589 (100), 3.006 (70), 2.609 (70), 2.132 (70), 2.617 (50), 2.127 (50), 5.17 (40)

Chemistry:

	(1)		(1)
CO_2	35.24	Dy_2O_3	0.07
Y_2O_3	0.24	Ho_2O_3	0.01
La_2O_3	11.60	Er_2O_3	0.03
Ce_2O_3	14.99	Yb_2O_3	0.03
Pr_2O_3	1.49	Lu_2O_3	< 0.01
Nd_2O_3	3.34	CaO	10.54
Sm_2O_3	0.50	SrO	3.98
Eu_2O_3	0.09	Na_2O	17.16
Gd_2O_3	0.24	Total	99.55

(1) Ebounja, Cameroon; by electron microprobe, 18 analyses of one grain, CO_2 by TGA; corresponds to $Na_{3.00}(Ca_{1.17}Ce_{0.57}Na_{0.46}La_{0.44}Sr_{0.24}Nd_{0.12}Pr_{0.06}Sm_{0.02}Y_{0.01}Gd_{0.01})_{\Sigma=3.10}(CO_3)_5$.

Occurrence: In a nepheline syenite (Ebounja, Cameroon); associated with an intrusive alkalic gabbro-syenite complex (Mont Saint-Hilaire, Canada).

Association: Burbankite, aegirine, calcite (Ebounja, Cameroon).

Distribution: From Ebounja, near Kribi, Cameroon. Large crystals found at Mont Saint-Hilaire, Quebec, Canada.

Name: To honor Dr. Guy Rémond (1935–), physicist, Bureau de Recherches Géologiques et Minières, Orléans, France, for his work on the physics of minerals, and the predominance of *cerium* over other rare-earth elements in the composition.

Type Material: National School of Mines, Paris, France.

References: (1) Cesbron, F., C. Gilles, P. Pelisson, and J.-C. Saugues (1988) La remondite-(Ce), un nouveau carbonate de terres rares de la famille de la burbankite. Compt. Rendus Acad. Sci. Paris, 307, 915–920 (in French with English abs.). (2) Ginderow, D. (1989) Structure de $Na_3M_3(CO_3)_5$ (M = terre rare, Ca, Na, Sr), rattaché à la burbankite. Acta Cryst., C45, 185–187 (in French with English abs.). (3) (1990) Amer. Mineral., 75, 433 (abs. ref. 1–2).