Parádsasvárite $(Zn,Cu)Zn(CO_3)(OH)_2$

Crystal Data: Monoclinic. *Point Group*: 2/*m.* As bladed crystals to 80 μm; as globular aggregates of divergent crystals to 0.2 mm.

Physical Properties: *Cleavage*: None. *Fracture*: Fibrous. *Tenacity*: Brittle. Hardness = ~ 2-3 D(meas.) = n.d. D(calc.) = 4.104

Optical Properties: Translucent. *Color*: White with pale bluish tint, pale beige (aggregates). *Streak*: White. *Luster*: Vitreous (crystals), silky (sections of globules), dull (aggregate surfaces). *Optical Class*: n.d. *n*(calc.) = 1.764 *Pleochroism*: Weak, colorless to very pale green.

Cell Data: *Space Group*: $P2_1/a$. a = 12.253(4) b = 9.348(3) c = 3.167(1) β = 97.700(4)° Z = 4

X-ray Powder Pattern: Parádsasvár, Mátra Mountains, Hungary.
5.085 (100), 3.703 (87), 6.054 (67), 2.603 (62), 2.539 (36), 3.021 (25), 2.971 (25)

Chemistry:	(1)	(2)	(3)
ZnO	58.08	69.53	72.40
CuO	12.60	2.14	
PbO	1.27		
CO_2	[19.50]	19.64	
H_2O	[7.94]	8.04	8.02
Total	99.39	99.81	100.00

(1) Parádsasvár, Mátra Mountains, Hungary; average of 9 electron microprobe analyses supplemented by FTIR spectroscopy, CO_2 and H_2O from stoichiometry; corresponding to $(Zn_{0.62}Cu_{0.36}Pb_{0.01})_{\Sigma=0.99}Zn_{1.00}(CO_3)(OH)_2$. (2) Andrássy-I. mine, Rudaba´nya, Hungary; average electron microprobe analysis supplemented by FTIR spectroscopy, CO_2 and H_2O from stoichiometry, total includes CaO = 0.04 and MgO = 0.41; corresponding to $(Zn_{0.91}Cu_{0.06}Mg_{0.03})Zn(CO_3)(OH)_2$. (3) $Zn_2(CO_3)(OH)_2$.

Mineral Group: Malachite-rosasite group.

Occurrence: As a secondary oxidation product of sphalerite and chalcopyrite in small cavities in calcite veins cutting argillized and pyritized andesites.

Association: Smithsonite, hydrozincite, hemimorphite, aurichalcite, rosasite, malachite, chalcophanite, azurite, cerussite, anglesite, devilline, linarite.

Distribution: From the Nagy-Lápafő area, Parádsasvár, Mátra Mountains, and the Andrássy-I. mine, Rudaba´nya, Hungary.

Name: For the locality that produced the first specimens, *Parádsasvár*, Hungary.

Type Material: Herman Ottó Museum, Miskolc, Hungary (2012.23).

References: (1) Fehér, B., S. Szakáll, N. Zajzon, and J. Mihály (2015) Parádsasvárite, a new member of the malachite-rosasite group from Parádsasvár, Mátra Mountains, Hungary. Mineralogy and Petrology, 109(4), 405-411. (2) (2016) Amer. Mineral., 101, 1922-1923 (abs. ref. 1). (3) Perchiazzi, N., N. Demitri, B. Fehér, and P. Vignola (2017) On the crystal-chemistry of rosasite and parádsasvárite. Can. Mineral., 55, 1027-1040.