Dzierżanowskite $CaCu_2S_2$

Crystal Data: Hexagonal. *Point Group*: $\bar{3}$ 2/*m*. As grains to 10-15 μm and intergrowths with other sulfides to 0.5 mm.

Physical Properties: *Cleavage*: None. *Tenacity*: n.d. *Fracture*: n.d. Hardness = n.d. D(meas.) = n.d. D(calc.) = 4.391

Optical Properties: Opaque. *Color*: Dark orange; gray with cream tint in reflected light with yellow-orange internal reflections. *Streak*: Creamy. *Luster*: Submetallic.
Optical Class: n.d.
R_1-R_2: n.d.

Cell Data: *Space Group*: $P\bar{3}\,m1$. a = 3.9400(4) c = 6.523(1) Z = 1

X-ray Powder Pattern: Calculated pattern.
2.358 (100), 1.970 (93), 3.023 (78), 6.523 (36), 3.412 (28), 1.834 (28), 3.262 (25)

Chemistry:

	(1)	(2)
Cu	55.25	55.78
Fe	0.13	0.13
Ca	16.99	16.52
S	27.46	27.81
Total	99.83	100.24

(1) Nabi Musa, Judean Desert, West Bank, Palestine Autonomy, Israel; average of 9 electron microprobe analyses; corresponds to $Ca_{0.98}Cu_{2.02}Fe_{0.01}S_{1.99}$. (2) Jabel Harmun, Judean Desert, West Bank, Palestine Autonomy, Israel; average of 3 electron microprobe analyses; corresponds to $Ca_{0.95}Cu_{2.03}Fe_{0.01}S_{2.01}$.

Occurrence: In pyrometamorphic rocks of the Hatrurim Complex ("Mottled Zone").

Association: Chalcocite, covellite, anilite, djurleite, oldhamite, jasmundite, brownmillerite.

Distribution: From near the Palestinian village of Nabi Musa and on Jabel Harmun, Judean Desert, West Bank, Palestine Autonomy, Israel.

Name: Honors Piotr Dzierżanowski (1947-2015), Institute of Geochemistry, Mineralogy and Petrology, University of Warsaw, Poland, who first identified natural $CaCu_2S_2$ in 2012.

Type Material: Mineralogical Museum, University of Wrocław, Poland (MMUWr II-20464).

References: (1) Galuskina, I.O., E.V. Galuskin, K. Prusik, Y. Vapnik, R. Juroszek, L. Jeżak, and M. Murashko (2017) Dzierżanowskite, $CaCu_2S_2$ - a new natural thiocuprate from Jabel Harmun, Judean Desert, Palestine Autonomy, Israel. Mineral. Mag., 81(5), 1073-1085. (2) (2018) Amer. Mineral., 103, 830-831 (abs. ref. 1).