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PŮVODNÍ PRÁCE/ORIGINAL PAPER

## Polytypism of cronstedtite from two localities in Mexico

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### Abstract

Cronstedtite from two Mexican localities: 1) San Antonio mine, 9<sup>th</sup> level, East camp, Santa Eulalia mining district, Aquiles Serdán Municipality, Chihuahua, Mexico (MSA in the following), 2) Francisco I. Madero Mine, Noria de los Gringos, Zacatecas, Mexico (FIM in the following), were studied by single-crystal X-ray diffraction using the four-circle diffractometer with area detector. The reciprocal space (RS) sections were generated by the diffractometer software in order to determine OD subfamilies (Bailey's groups) A, B, C, D, and particular polytypes. In the samples from MSA the polytype 3T (Subfamily A) is the most frequent. Some crystals are affected by twinning by reticular merohedry with the 180° rotation as twinning operation (obverse-reverse twinning). The 2H<sub>2</sub> polytype (subfamily D) occurs rarely. In the FIM sample, the 2H<sub>1</sub> + 2H<sub>2</sub> allotwins (subfamily D) are most frequent. In one sample, the rare 6T<sub>1</sub> polytype (subfamily D) was detected. The 3T polytype is rare. The electron probe microanalysis showed broad similarities in composition of the studied cronstedtites, characterized by common lack of any substitutes except of low S (up to 0.02 *apfu*; at both sites), and Cl (up to 0.01 *apfu*, at FIM only).

**Keywords:** *cronstedtite, 1:1 layer silicate, polytypism, twinning, Mexico*

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