Editorial

Foreword to the special issue "From experimental mineralogy and crystallography to mineral deposit: a tribute to Milan Drábek"

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This special issue aims to commemorate the life-long achievements of our colleague Milan Drábek, an eminent experimental mineralogist who deceased in early winter 2020, before reaching the age of 75 years. Milan's work in experimental mineralogy was topical and up-to-date and found a wide range of applications, including synthetic analogs of minerals and their crystal structure, phase relations in metal systems, the genesis of ore mineralization, and metamorphic rocks.

The presented collection of contributions from his former colleagues, co-workers, and friends both in the Czech Republic and abroad covers various topics ranging from crystallography and experimental mineralogy to mineral deposits. This is how the individual contributions in this volume are arranged.

In the first contribution, *Britvin et al*. resolved the crystal structure of perryite, $(Ni,Fe)_{16}PSi_8$, a minor but regular constituent of the metal phases in enstatite achondrite and chondrite meteorites. Their results demonstrate that the crystal-chemical factor could affect the differentiation of chemical elements upon the onset of the Solar System formation.

In the second paper, *Drábek et al*. present experimentally determined phase relations in the Hg–Pd–Te system. They prove that while kotulskite (PdTe) dissolves up to 8 at. % Hg at 350 °C, other palladium tellurides dissolve negligible quantities of Hg. Two ternary phases were found to be stable within this system at 350 °C: Pd_3HgTe_3 (temagamite) and a new phase Pd_4HgTe_4. The study within the Hg–Pd–Te system was the last experimental research that Milan had commenced.

Laufek et al., in their contribution, present an experimental mineralogical study of Ag, Cu, Hg, Pt, Sb and Te substitutions in the synthetic analog of palladseite, $Pd_{17}Se_{15}$. They revealed three different substitution mechanisms that occur in the palladseite structure.

Meszarosová et al. carried out an experimental investigation of FeS and TiS solid solution. According to their results, the synthetic phases of the (Fe,Ti)S series adopt NiAs-type structure of $P6_3/mmc$ space group in the compositional range from FeS to $Fe_{0.5}Ti_{0.5}S$. Members of the series rich in titanium crystallize in R–3m space group.

Hybler et al. focused on a determination of the structure of a rare layered iron silicate crondstedtite from hydrothermal ore veins in the Neoproterozoic black shale-hosted pyrite-manganese deposit of the Železné hory. Based on the single-crystal X-ray diffraction, they determined the most common and more rare OD subfamilies and polytypes.

The contribution of *Radková et al.* describes in detail amphibole species occurring in distinct mineral assemblages in banded marbles from Bližná within the Varied Unit of the Moldanubian Zone. This locality was previously studied also by Milan Drábek. The carbonatite origin of the marbles is proposed, mainly based on the composition of amphiboles.

Last but not least, *Veselovský et al.* present results of a detailed study of mineralogy and geochemistry of the black shales from Chynín within the Blovice Accretionary Complex of the Teplá–Barrandian Unit. They use textural relationships between sulfides (pyrite, pyrrhotite) and V–Cr–O and Ti–V–O minerals for constraining the genesis of this mineralization related to the thermal effects during regional and contact metamorphism.

We are grateful to all authors who contributed to this special issue and referees for their help. We believe that this volume brings both interesting and stimulating reading.