

Online Materials for

High-*P-T* phase relations of Al-bearing magnetite: Post-spinel phases as indicators for *P-T* conditions of formation of natural samples

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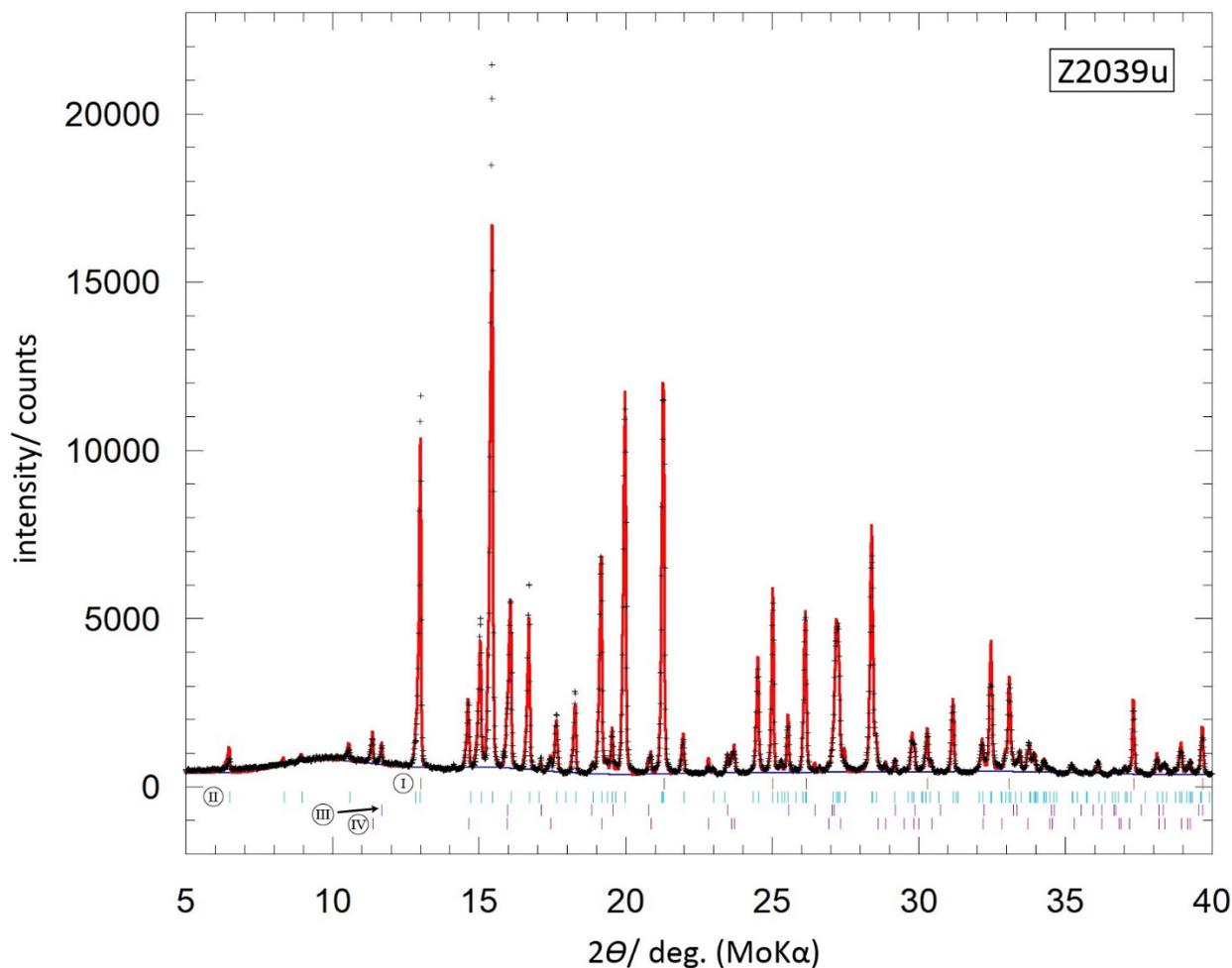


Figure OM1. Powder X-ray diffraction pattern of the run products of experiment Z2039u. Black crosses and red solid curves are the observed and calculated X-ray diffraction profiles, respectively. The blue curve represents the fitted background. Vertical bars under the diffraction pattern indicate the peak positions for the individual phases. Brown (I): internal Si standard; Light blue (II): CaFe_3O_5 -type structured $\text{Fe}_2(\text{Fe,Al})_2\text{O}_5$ phase with the $Cmcm$ space group; Purple (III): Fe^{3+} -bearing corundum phase. Pink (IV): siderite. In this case, siderite was detectable not only by electron microprobe but also in the diffraction pattern.

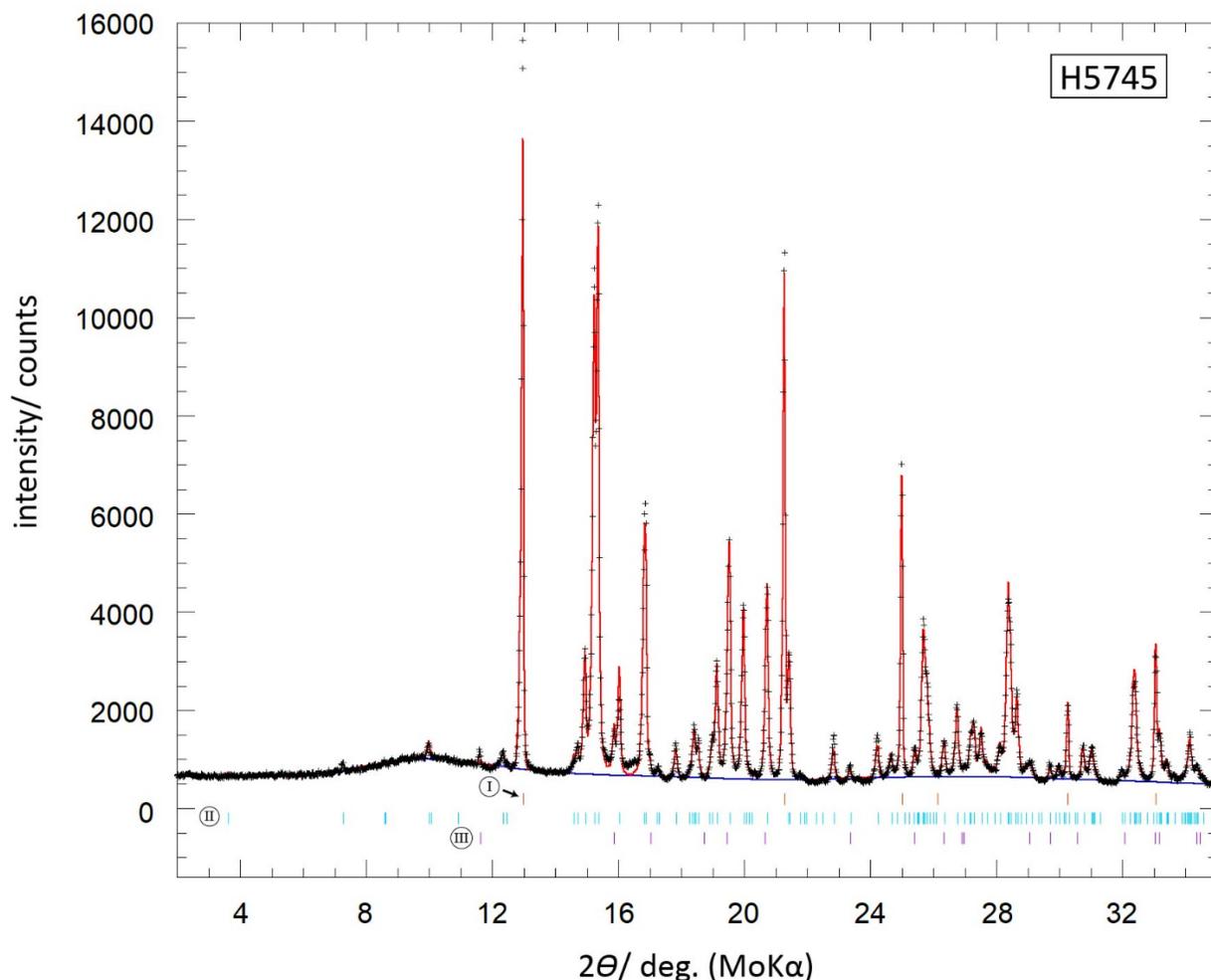


Figure OM2. Powder X-ray diffraction pattern of the run products of experiment H5745. Black crosses and red solid curves are the observed and calculated X-ray diffraction profiles, respectively. The blue curve represents the fitted background. Vertical bars under the diffraction pattern indicate the peak positions for the individual phases. Brown (I): internal Si standard; Light blue (II): monoclinic $\text{Fe}_3(\text{Fe,Al})_4\text{O}_9$ phase with the $C2/m$ space group. Note that the 001 reflection at $2\theta = 3.629^\circ$ (d -spacing: 11.159 \AA) is barely detectable, indicating that this reflection is clearly dependent on the phase composition. Purple (III): Fe^{3+} -bearing corundum.