Observation of a New Co-F Compound Detected by Very-High-Energy X-ray Diffraction During Thermal Decomposition of CoF₃

CoF₃(s) [initial phase] →

Co₂F₅(s) [intermediate phase] →

CoF₂(s) [final phase]

In situ diffraction studies of the crystal lattice evolution occurring during thermal decomposition of CoF₃ were performed using a very-high-energy synchrotron radiation. A new compound - Co₂F₅ - appearing as intermediate in the course of the decomposition from CoF₃ to CoF₂ was discovered.

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