

## Crystallization & X-Ray Structure Analysis

### Description



Single crystals of a nickel complex compound

Dr. Eric Sperlich heads the X-ray crystallography service group at the Institute of Chemistry at the University of Potsdam. Together with his team, he undertakes the crystallization of substances, the structural analysis of single crystals using X-ray crystallography and the subsequent evaluation. Together with researchers, he has already published more than 50 new crystal structures.

The support service is available to both internal and external scientists as well as business partners.

### Details

- Crystallization methods
  - Solvothermal synthesis using sand baths
  - Evaporation by means of vacuum drying oven or desiccator
  - From melt by means of autoclaves or glass or quartz ampoules
  - Sublimation by means of glass or quartz ampoules
  - Liquid-liquid or liquid-gas phase diffusion
  - Formation of co-crystals or salt formation
- Analysis of the single crystal structure
- Literature research on similar compounds
- Analysis of the Hirshfeld surface
- Geometry analysis
- Analysis of the occurring intra- and intermolecular interactions
- Preparation of images, GIFs, videos, digital 3D models
- 3D printing of the analyzed crystal structures
- Production of crystal images
- Preparation of text and images for publication

### Infrastructure

- Stoe open Eulerian cradle Stadivari (Dectris PILATUS 200K pixel detector)
- Stoe IPDS-2 (Imaging Plate Detector)
- Leica M205C Microscoop (DMC4500 Camera)

### Scientific literature

- Eric Sperlich and Martin Köckerling, *Inorg. Chem.* 2022, 61, 5, 2409–2420. DOI: 10.1021/acs.inorgchem.1c03109
- Dr. Eric Sperlich and Prof. Dr. Martin Köckerling, *ChemistryOpen* 2021, 10(2), 248–254. DOI: 10.1002/open.202000266

### Applications

- Pharmacy
- Structural chemistry

### Keywords

- Crystallography
- Structural analysis
- Molecular structure
- Crystallization

### Interest in cooperation

- Research-based collaboration
- Contract research
- Industry-sponsored research

### Contact

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