

Introduction to Crystal Chemistry

Part 1. The symmetry of crystals

Topic 1.1. Symmetry around us

Topic 1.2. Symmetry elements in crystals

Topic 1.3. Interaction of symmetry elements

Part 2. Point symbols to describe the symmetry of a crystal

Topic 2.1. Point symbols

Topic 2.2. How to determine the symmetry of a crystal?

Topic 2.3. Curie's principle

Part 3. Analysis of crystal structures

Topic 3.1. Translations and crystal lattice

Topic 3.2. Crystal system

Topic 3.3. Bravais lattices

Topic 3.4. Open symmetry elements. Spatial symmetry group

Topic 3.5. Wyckoff positions

Part 4. Examples of crystal structure analysis

Topic 4.1. Analysis of the structure of the molecular crystal

Topic 4.2. Analysis of the structure of a crystal chain

Topic 4.3. Analysis of the structure of the layered crystal

Part 5. The most important concepts of crystal chemistry

Topic 5.1. Isomorphic and isostructural crystals

Topic 5.2. The principle of maximum space filling

Topic 5.3. Closest ball packing