Inorganic chemistry is of fundamental importance not only as a basic science but also as one of the most useful sources for modern technologies. Elementary substances and solid-state inorganic compounds are widely used in the core of information, communication, automotive, aviation and space industries as well as in traditional ones. Inorganic compounds are also indispensable in the frontier chemistry of organic synthesis using metal complexes, homogeneous catalysis, bioinorganic functions, etc. One of the reasons for the rapid progress of inorganic chemistry is the development of the structural determination of compounds by X-ray and other analytical instruments. It has now become possible to account for the structure-function relationships to a considerable extent by the accumulation of structural data on inorganic compounds. It is no exaggeration to say that a revolution of inorganic chemistry is occurring. We look forward to the further development of inorganic chemistry in near future.

This text book describes important compounds systematically along the periodic table, and readers are expected to learn typical ones both in the molecular and solid states. The necessary theories to explain these properties of compounds come from physical chemistry and basic concepts for learning inorganic chemistry are presented in the first three chapters.
3: Reactions

4: Chemistry of Nonmetallic Elements

5: Chemistry of Main-Group Metals

6: Chemistry of Transition Metals
7: Lanthanoids and Actinoids

8: Reaction and Physical Properties

9: Solution of problems

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Thumbnail: The ball-and-stick model of diisobutylaluminium hydride, showing aluminium as pink, carbon as black, and hydrogen as white. (Public Domain; Benjah-bmm27).