



## Chemistry

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### Definition

The physical science that investigates the composition, structure, properties, and transformations of substances and elementary forms of matter, primarily at the molecular level ([National Science Foundation](#)).

### Discussion

The science of chemistry is historically and conceptually fundamental to many disciplines in the physical, biological and medical sciences. The principal areas of study within chemistry include organic chemistry, inorganic chemistry, physical and theoretical chemistry, biochemistry, and analytical chemistry. There are many subdisciplines, such as chemical engineering, electrochemistry, industrial chemistry, computational chemistry, crystallography, spectroscopy, and nuclear chemistry. As interdisciplinary research has grown in importance, the boundaries among different areas of chemistry, as well as those among chemistry, biology and physics, have become less well defined. There is heightened biomedical interest in many areas (such as surfaces and polymers) that formerly appeared to have little relevance to biomedical research.

### Scope and emphasis

NLM collects works in areas of chemistry that are pertinent to biomedical and life sciences research, notably biochemistry; biochemical engineering; biophysical chemistry, chemical toxicology; computational chemistry; and medicinal, pharmaceutical, and natural products chemistry. NLM is particularly interested in studies conducted at the chemistry/biology interface, which focus on the fundamental underlying chemical principles governing biological processes. Typical areas of research include chemical biology, structural biology, molecular recognition, complex biomolecules, signal transduction, metalloproteins, and synthesis of novel biopolymers.

### Special considerations

The Library's historical collections (pre-1914) are broader in scope in this area than are the modern collections. Works on alchemy, Paracelsianism and the emerging science of chemistry are well represented in the historical collection and continue to be acquired because of their influence on the development of medicine and pharmacy.

NLM develops and makes available [PubChem](#).