

Editor's note

The past several decades have witnessed great progress in the research on coordination polymers since the conception of supramolecular chemistry was advanced by Prof. Lehn, especially after the report of Prof. Robson on coordination polymers. Thanks to the development in several related fields, such as crystal engineering, supramolecular chemistry, material chemistry and solid state chemistry, the rational design and construction of coordination polymers with multiple functions has become one of the most active arenas in inorganic and material chemistry.

A coordination polymer is a metal coordination compound, in which a ligand bridges metal centres or clusters, while each metal centre or cluster binds to more than one ligand to create an infinite array of metal centres or clusters, thus forming one-, two-, or three-dimensional structures. Prussian blue, which is one of the first coordination compounds ever studied systematically, is a coordination polymer based on Fe-CN-Fe linkages. Coordination polymers may exhibit intriguing structures and unique physical/chemical properties such as optic and electric properties, magnetism, chirality, catalysis, and adsorption, and show great potential applications in guest exchange and separation, gas storage, chirality resolution, drug delivery and release, luminescence, selective catalysis, sensors, molecule recognition and microporous device, *etc.*

Research on coordination polymers has experienced development from syntheses and structural characterizations to explorations of properties and functions, and finally to industrial applications; from self-assembly to precise structure prediction and rational assembly; from uncontrollable properties to controllable properties; from mono-functionality to multi-functionalities and further to advanced multi-functionalities; and from "black box" reaction to the insight of the reaction mechanism.

In order to further promote the studies on coordination polymers, *Chinese Science Bulletin* presents the special topic of "coordination polymers", in which 6 papers have been included. Although the papers cannot represent the research level of coordination polymers in China, to some extent, they may still reflect some hot topics in the current studies on coordination polymers. We hope that this special issue will help to promote further innovations and development in this field, and attract more submissions on this topic to *Chinese Science Bulletin*.

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