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Unusual aggregation of inorganic anions in metallo supra molecular ionic crystals

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One of the most fundamental laws of nature is the alternate arrangement of cationic and anionic species in an ionic solid. Thus, it is very hard to imagine that a number of inorganic anions come close to each other unless Coulombic repulsion is eased by the presence of polar molecules. As part of our continuing research on the development of chiral multinuclear and supramolecular coordination systems with thiol-containing amino acids, we designed and synthesized a cationic AuI_4CoIII_2 hexanuclear complex having both D-penicillamine and 1, 2-bis(diphenylphosphino)ethane. Remarkably, this complex was found to crystallize with appropriate inorganic anions to form ionic crystals, in which sixchiral AuI_4CoIII_2 complex-cations are aggregated into anoctahedron-shaped supramolecular structure, with the concomitant aggregation of inorganic counter-anions into an unprecedented cluster structure. Herein, a series of ionic crystals of this compound, which show the unusual aggregation of inorganic anions, will be presented.

Biography

Takumi Konno received his PhD degree in 1985 from University of Tsukuba. After working at University of Tsukuba and University of Cincinnati as a Postdoctoral fellow, he became an Assistant Professor at University of Tsukuba in 1987. In 1997, he moved to Gunma University as an Associate Professor and was promoted to a Full Professor in 1998. He was appointed as a Full Professor of Osaka University in 2000. He has published more than 200 papers in reputed journals and serving as a section editor of *Chemistry Letters* (The Chemical Society of Japan).

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