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# 速度論的に組み立てられたネットワーク錯体の動的構造変換の解明
# Investigation of dynamic nature of kinetically assembled coordination networks

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Recently, amorphous coordination networks (amorphous MOFs) have obtained considerable attention because of their novel functionalities and practical applicabilities.[1] The coordination network, $[(ZnI_2)_3(TPT)_2]_n$, shows unique amorphous phase during its phase transition: Crystalline-to-Amorphous-to-Crystalline (CAC) phase transition by raising temperature.[2] In this structural transformation, the amorphous phase plays a crucial role as an intermediate state to create a stable porous coordination network. During this phase transition, topology of the network changed; 3D network changed into 1D network via amorphous phase. Therefore, bond cleavage and formation should occur during this process. To clarify the process of this phase transition, we investigated structural information for the amorphous phase. Herein, we report the structural analysis of the amorphous phase of $[(ZnI_2)_3(TPT)_2]_n$ network using XAFS and PDF analysis in addition to X-ray powder diffraction, thermal analysis and spectroscopic analysis. We found that there are two amorphous phases (amorphous network **1** and **2**) during CAC phase transition. Both amorphous phases were successfully isolated. The XAFS and PDF analysis of the amorphous network **1** revealed that the coordination geometry around Zn retained, therefore the amorphous network **1** has relaxed interpenetrating structure that has the same topology as the original network.

**References**

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