

A Way from Static to Dynamic Micropores in Crystalline Coordination Polymers. S. Kitagawa, Dept. of Synthetic Chemistry and Biological Chemistry, Kyoto Univ., Katsura, Kyoto, 615-8510, Japan.

The recent advent of porous coordination polymers (PCPs), as new functional microporous adsorbents, has attracted the attention of chemists due to scientific interest in the creation of unprecedented regular nano-sized spaces and in the finding of novel phenomena, as well as commercial interest in their application for storage, for separation and in heterogeneous catalysis.¹⁻⁴ One of the advantages of PCPs, as compared with other microporous inorganic materials such as zeolites, is flexibility accompanied with regularity, which provides unique sorption behaviors such as gated sorption for specific guests. We have succeeded in obtaining interesting array structures of adsorbed benzene,⁵ acetylene,⁶ O₂⁷ molecules and so on. To this confinement phenomena, we have found flexible porous frameworks, which respond to specific guests, dissimilar to the conventional porous materials. [Cu(dhbc)₂(4,4'-bpy)]_n and [Cu(bdc)₂(bpy)] are representatives.⁸ Very recently, we found another flexible pores in {[Cu(pyrdc)(bpp)](5H₂O)}_n.⁹

References

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