

Soft and Dynamic Properties of PCPs and MOFs

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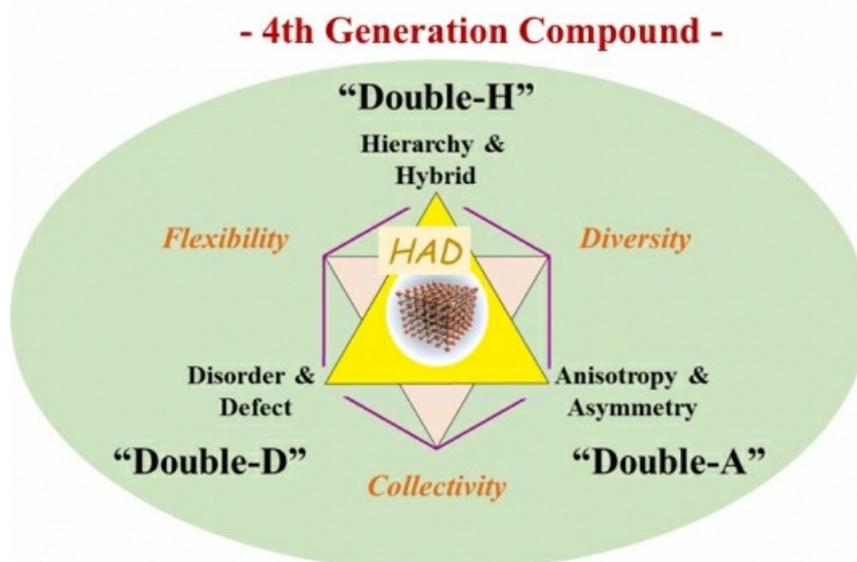
A wide variety of porous coordination polymers (PCPs) or metal-organic frameworks (MOFs) as functional microporous materials, have attracted the attention of chemists, physicists and biologists due to not only scientific but also application interest in the creation of unprecedented regular nano-sized spaces and in the finding of novel phenomena. The unique properties are flexible frameworks, which provide global and local dynamics, responding to specific guests and/or physical stimuli dissimilar to the conventional porous materials. We call this new material as "soft porous crystal (SPC)". SPCs herein are defined as solids possessing both highly ordered network and structural transformability. This new class of materials encompasses possibility creating platform for porous functions. One target of the synthesis of SPCs is for gas substances and ions because they are associated with the global issues of energy, natural resources, the environment, and living systems. They are key to future "gas and ion science & technology".

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