

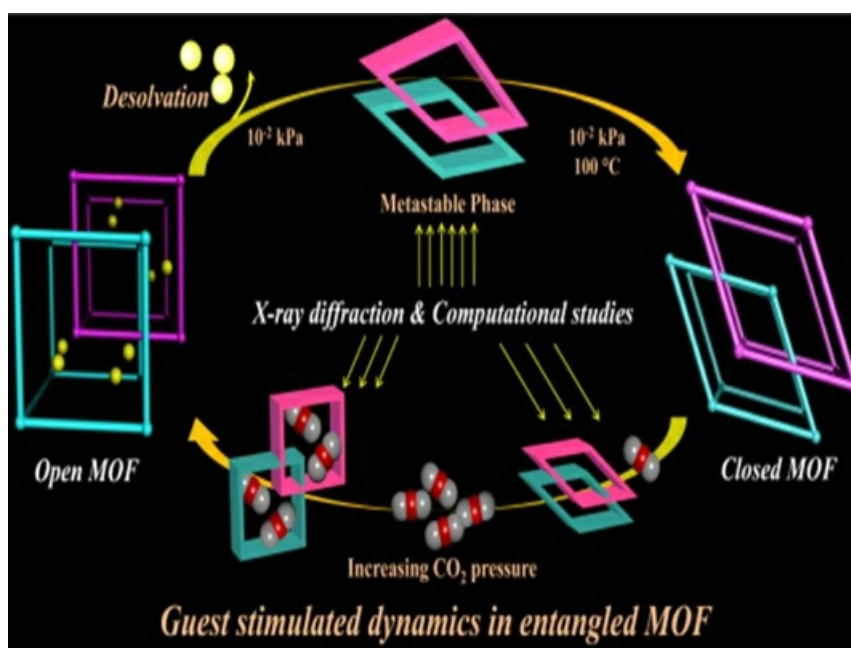
*Stimuli-re- sponsive functional metal-or- ganic frameworks*

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Metal-organic frameworks (MOFs) or porous coordination polymers (PCPs) have been one of the most studied materials in recent past and efforts are continuing to uncover their fascinating properties at various levels like gas storage/separation, catalysis, sensing and drug delivery. One of the most intriguing phenomena observed in MOFs is stimuli responsive "dynamic behavior" which can arise either locally from flexible ligands and /or from the global cooperative movement of the frameworks that consequences selective capture or recognition of the specific molecule. Such flexible frameworks shows hysteretic and gated sorption profiles for selective adsorbate molecules and also exhibit guest repsonive modulation of opto-electronic and magnetic properties. For example tuning of permanent porosity and modulation of magnetic properties by post-synthetic modification using light in a porous coordination polymer is yet to be accounted. Such synergism, where two different functionalities are combined, would open up the possibility and prospect of finding novel physical phenomena for designing new smart materials. This talk would try to explore some of these stiumuli responsive metal-organic framework systems and their different functionalities.

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