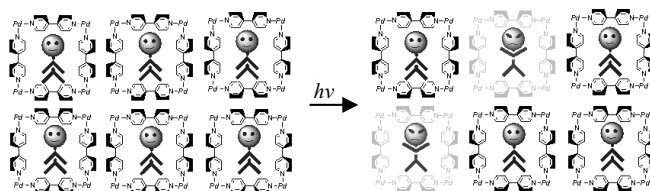


Direct Observation of Photochemical Reactions by X-ray Crystallography – Supramolecular Approach

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Kawano and coworkers crystallographically studied photo-induced reactive species such as radicals, carbenes, and nitrenes cryo-trapped in a crystal [1,2,3]. Here we propose a supramolecular approach for *in situ* observation to overcome practical problem of crystal deterioration by photo-irradiation as shown in scheme. We used a void in a self-assembled giant cage complex to control the reaction cavity. In this talk, we would like to introduce *in situ* observation of a photo-induced unsaturated transition metal complex and a crystalline state [2+2] reaction of acenaphthylene in a M6L4 cage [4].



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