

Molecular Machinery Inside Crystalline Materials

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Last year the Nobel Prize in chemistry was given to Jean-Pierre Sauvage, Fraser Stoddart, and Ben Feringa for the design and synthesis of molecular machines. The journal *Nature* recently highlighted a short list of publications which made important contributions to the field. One of the few publications listed which was not produced by one of the Nobel laureates was from the group of Professor Steven J. Loeb of the University of Windsor. This presentation will highlight several contributions from the Loeb group regarding the incorporation of molecular machinery within crystalline metal organic frameworks. Variable temperature single crystal and powder X-ray data will be presented alongside solid state NMR data used to characterize the superb rotational and translational motion occurring within these unique crystalline materials.