



Chemistry Department e-Seminar

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Molecular Machines in Regular 2-D Systems



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Abstract: Regular 2-D arrays of self-assembled molecular devices are increasingly attracting attention because of their potential application in nanomaterials, such as memory devices, frequency filters, etc. One of the crucial parameters affecting functionality of individual machines within 2-D array is intermolecular spacing that determines the area required for geometrical changes during photoswitching. Three distinctively different approaches leading to such arrays will be discussed during this presentation: (i) molecular machines grafted on flat crystalline facets of porous matrix, (ii) self-assembled monolayers (SAMs) prepared using Langmuir-Blodgett technique, and (iii) SAMs grown on flat gold (111) surfaces. Special attention will be dedicated to description of specific requirements characterizing these approaches.

