

【Abstract of 2008 Grant – in – Aid for Scientific Research on Innovative Areas
(Research in a proposed research area)】

Title of project	New Frontier in Materials Science Opened by Molecular Degrees of Freedom
Head Investigator Name	Kazushi Kanoda
Abstract of Research Project	Emergence of various properties in condensed matter is governed by the manner of atomic or molecular assemblies. Molecular materials have qualitatively different degrees of freedom from inorganic materials whose structural unit is atom. The anisotropic shape of molecules gives variation in molecular arrangement in their condensate. Molecule has molecular orbital degrees of freedom, which are designable by the chemical modification of molecules. Moreover, molecule has flexibility such as bending or stretching. These degrees of freedom inherent in molecules can be sources to afford novel properties in condensed matter. In this project, we aim at developing novel properties caused by the molecular degrees of freedom and opening a new avenue in materials science.
Term of Project: 2008–2012	