

# K. ISHII LAB.

## [Functionalization of Molecules]

Department of Materials and Environmental Science

Department of  
Applied Chemistry,  
Graduate School of  
Engineering

<http://www.k-ishiilab.iis.u-tokyo.ac.jp>

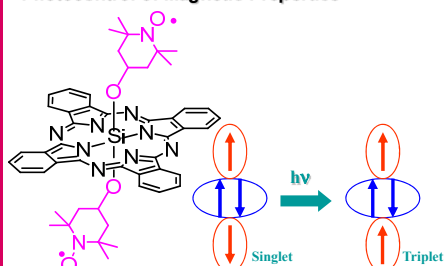
### Functional Metal Complexes Chemistry

## Functionalization of Molecules

The discovery and elucidation of new electronic structures are important not only for pioneering frontier science but also for developing new functions. Since metal complexes have various electronic structures, coordination chemistry is promising for designing electronic properties. We aim to create novel functions of organic-inorganic hybrid compounds in terms of coordination chemistry, photochemistry, and spin chemistry

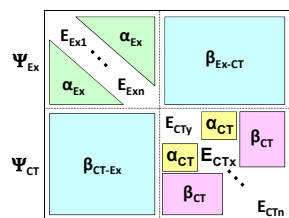
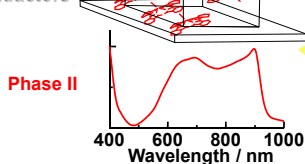
### Chemistry of Photofunctional Molecules

#### Photocontrol of Magnetic Properties



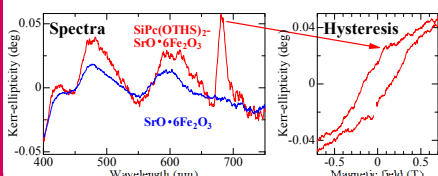
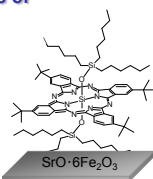
#### Photocontrol of Radical Spins

#### Theoretical Calculations of Organic Photoconductors



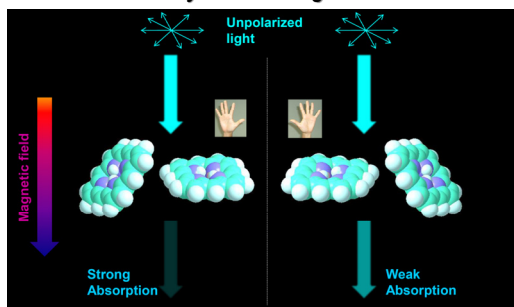
#### Theoretical Calculations of Molecular Crystals

#### Molecular Magneto-Optical Materials

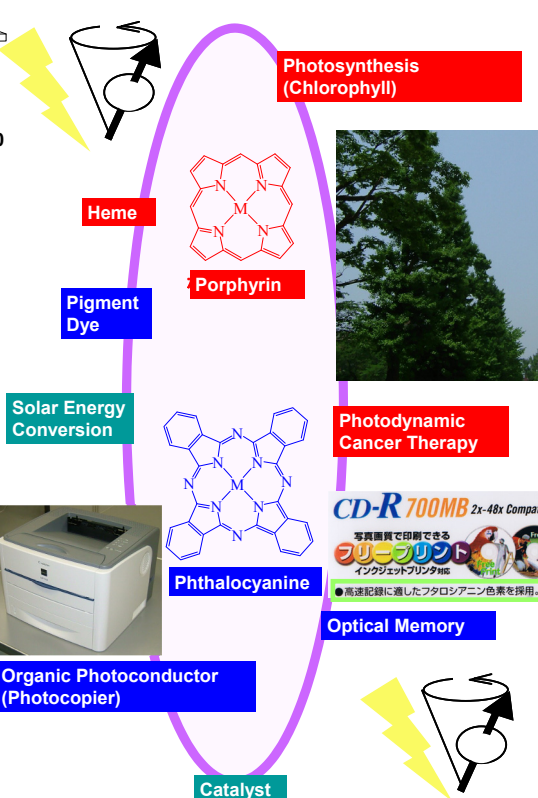


#### Molecular Magnetic Hysteresis at Room temperature

#### Homochirality of life : A magnetic answer

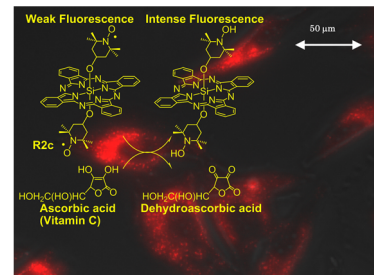


#### Magneto-Chiral Dichroism of Organic Compounds



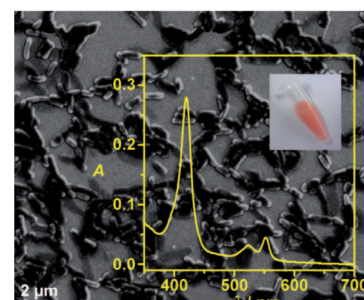
### Chemistry of Biofunctional Molecules

#### Fluorescence Probes



#### Fluorescence Bioimaging of Vitamin C in Cancer Cells

#### Spectroscopic Molecular Detections in Bacteria



#### Spectroscopic Observations of Cytochrome c in Bacteria

#### Photodynamic Cancer Therapy (PDT)

