K. ISHII LAB.

[Functionalization of Molecules]

Department of Materials and Environmental Science

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

Functional Metal Complexes Chemistry

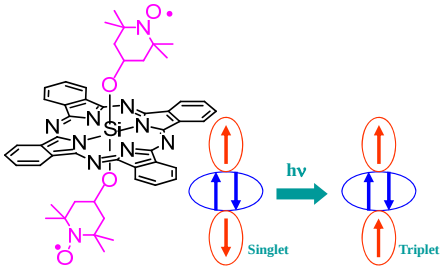
Department of Applied Chemistry, Graduate School of Engineering

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

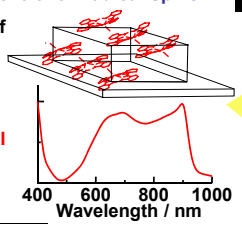
Chemistry of Photofunctional Molecules

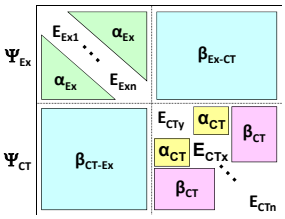
Photocontrol of Magnetic Properties



Photocontrol of Radical Spins

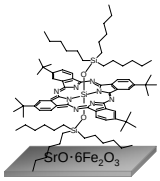
Theoretical Calculations of Organic Photoconductors

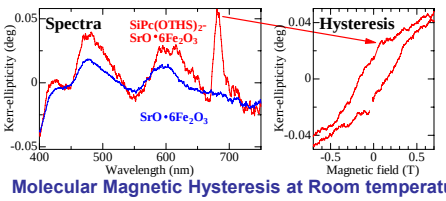




Theoretical Calculations of Molecular Crystals

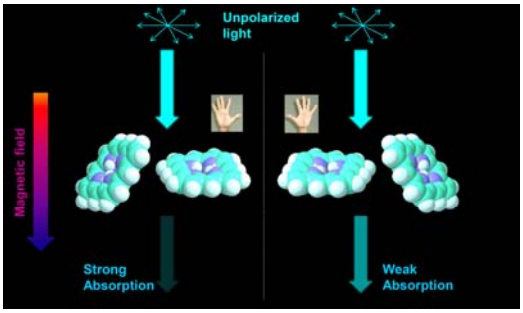
Molecular Magneto–Optical Materials



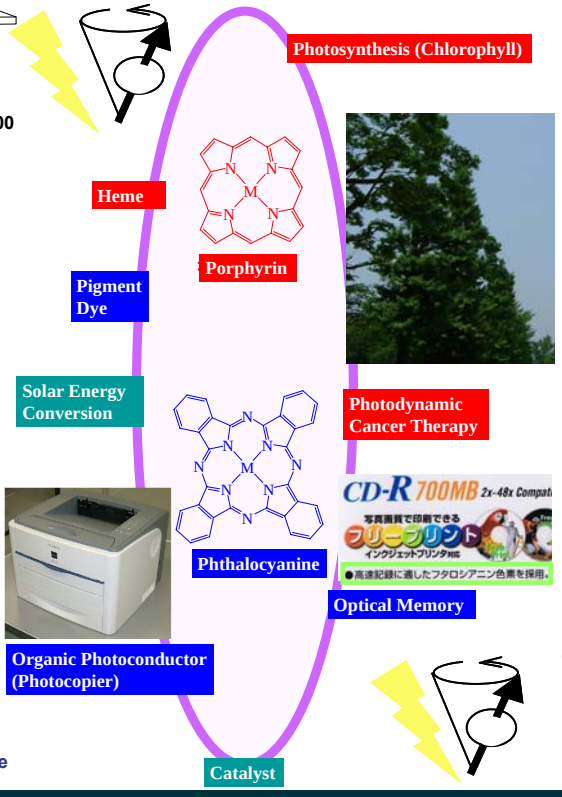


Molecular Magnetic Hysteresis at Room temperature

Homochirality of life : A magnetic answer

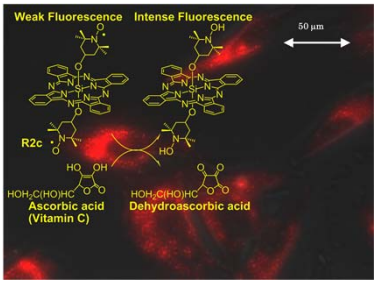


Magneto-Chiral Dichroism of Organic Compounds



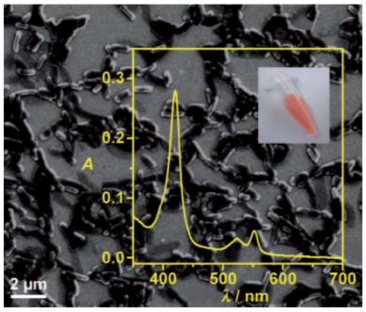
Chemistry of Biofunctional Molecules

Fluorescence Probes



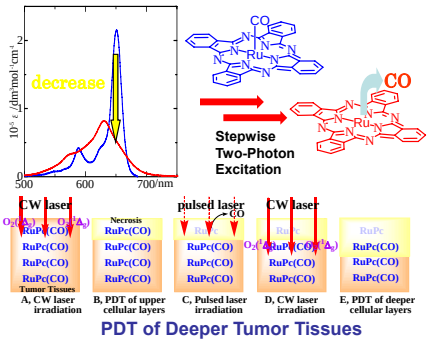
Fluorescence Bioimaging of Vitamin C in Cancer Cells

Spectroscopic Molecular Detections in Bacteria



Spectroscopic Observations of Cytochrome *c* in Bacteria

Photodynamic Cancer Therapy (PDT)



PDT of Deeper Tumor Tissues