

# HOUJOU LAB.

## [Functional Organic Materials]

Department of Materials and Environmental Science

Molecular Integrated System Engineering

Department of Chemistry and Biochemistry

[http://iis.u-Tokyo.ac.jp/~Houjou/hjlab\\_wiki/](http://iis.u-Tokyo.ac.jp/~Houjou/hjlab_wiki/)

## Functional Organic Crystals

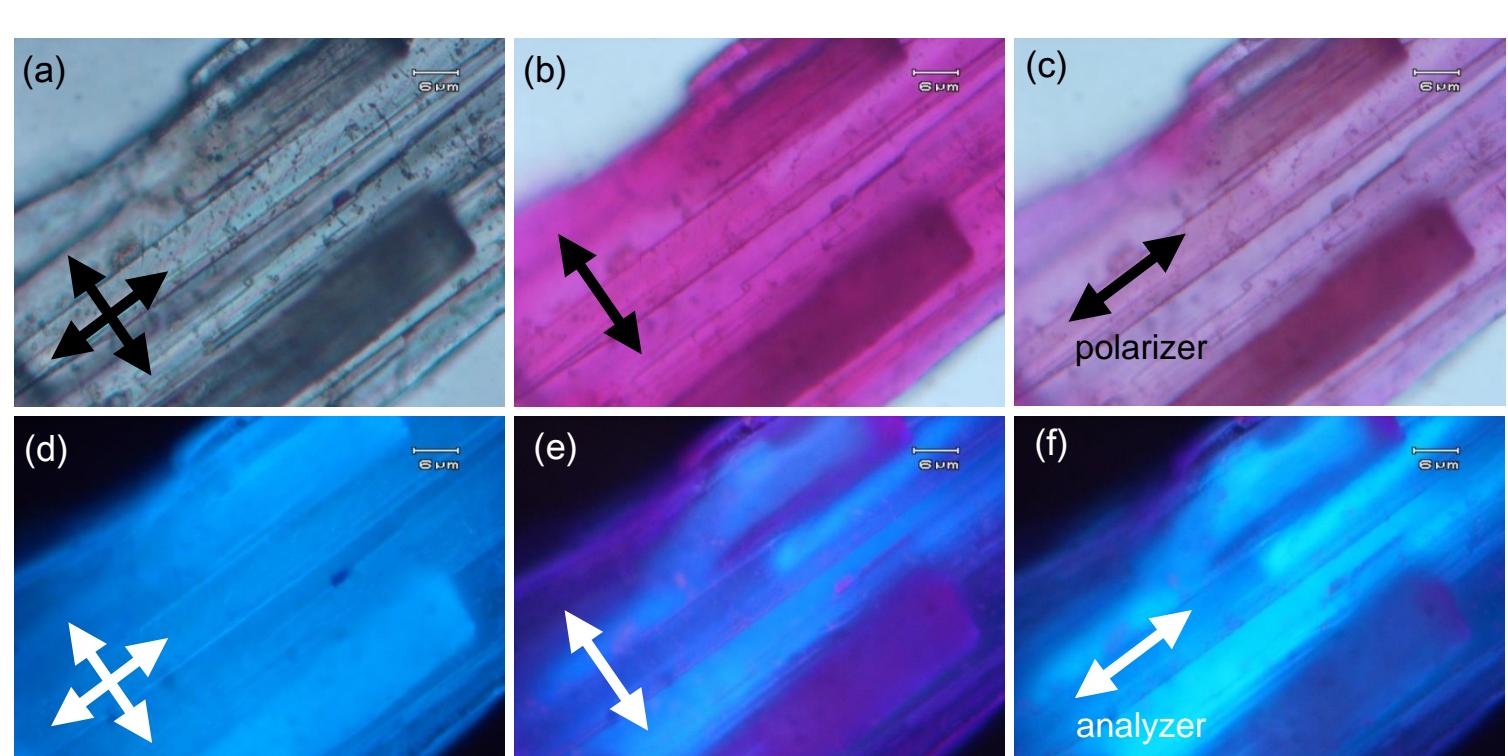
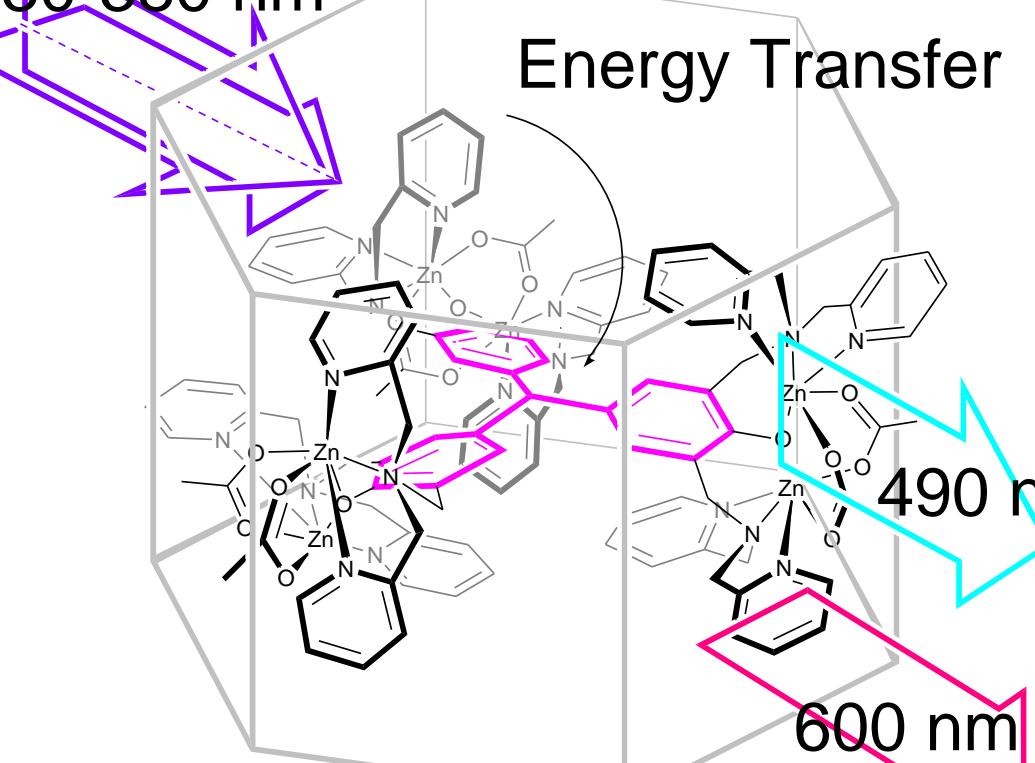
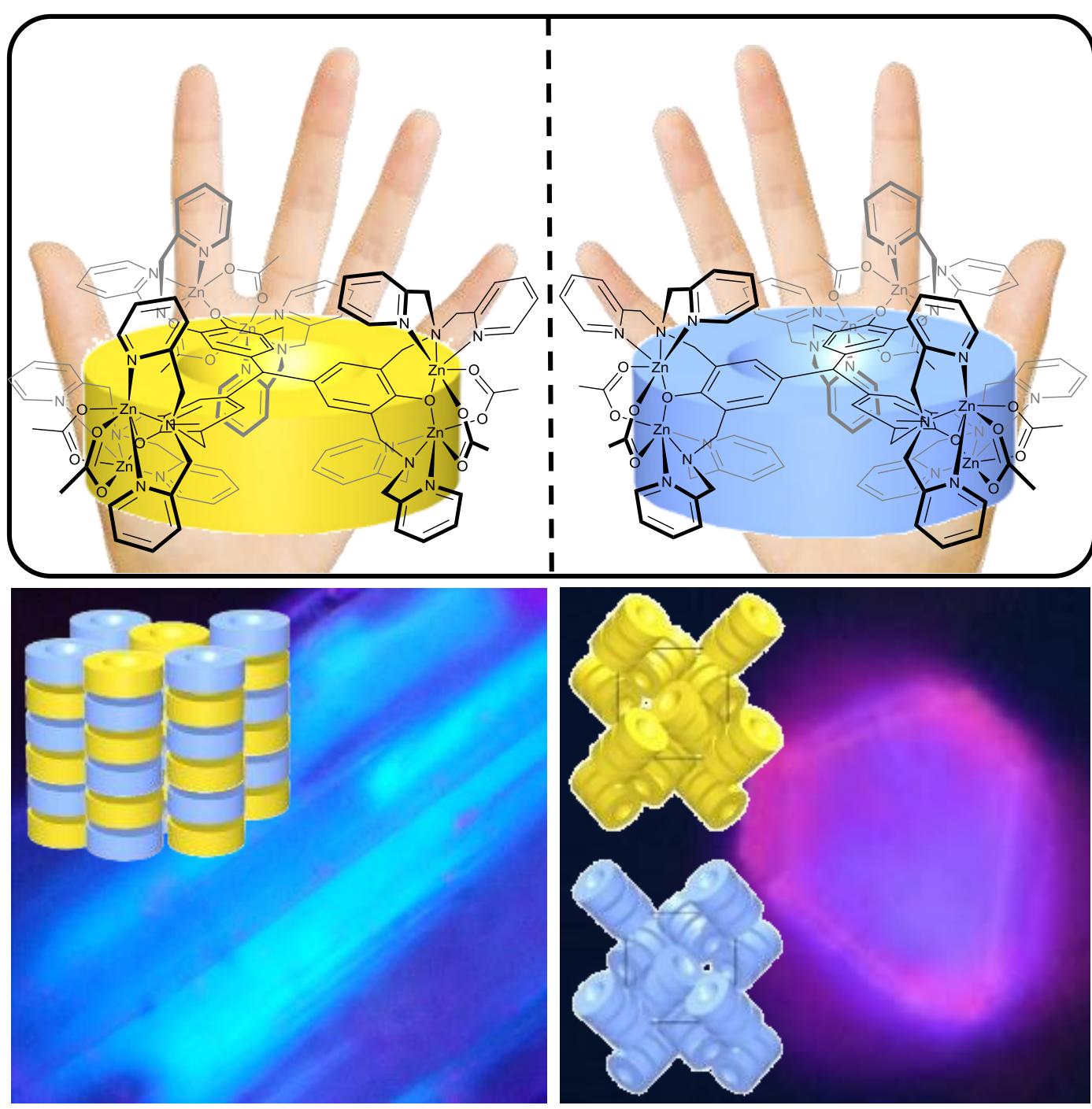
Functions arising from molecular arrangement

Our research aims for creating new functional materials originating not only in molecular structure, but also in molecular arrangement in organic crystal.

### Dichroic Emission

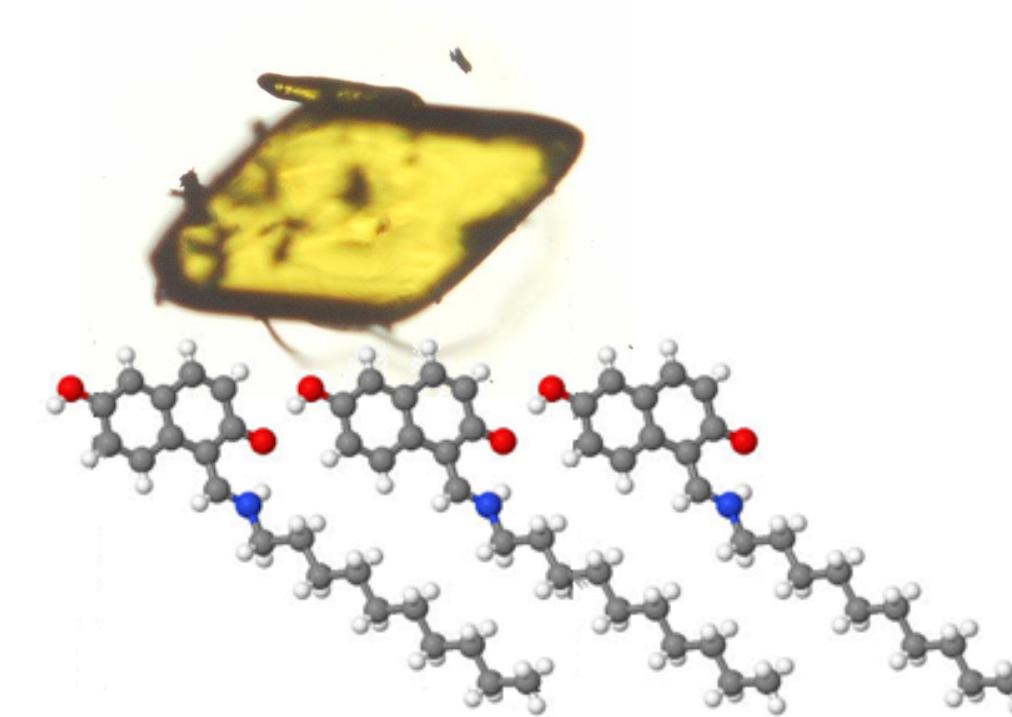
330-380 nm

Energy Transfer



H. Houjou, et al., *Chem. Eur. J.* (2011).  
S. Takeda, et al., *Bull. Chem. Soc. Jpn.* (2015).

### Polymorph and Spectral Change



Phase

$\alpha$        $\beta$       liquid       $\beta$

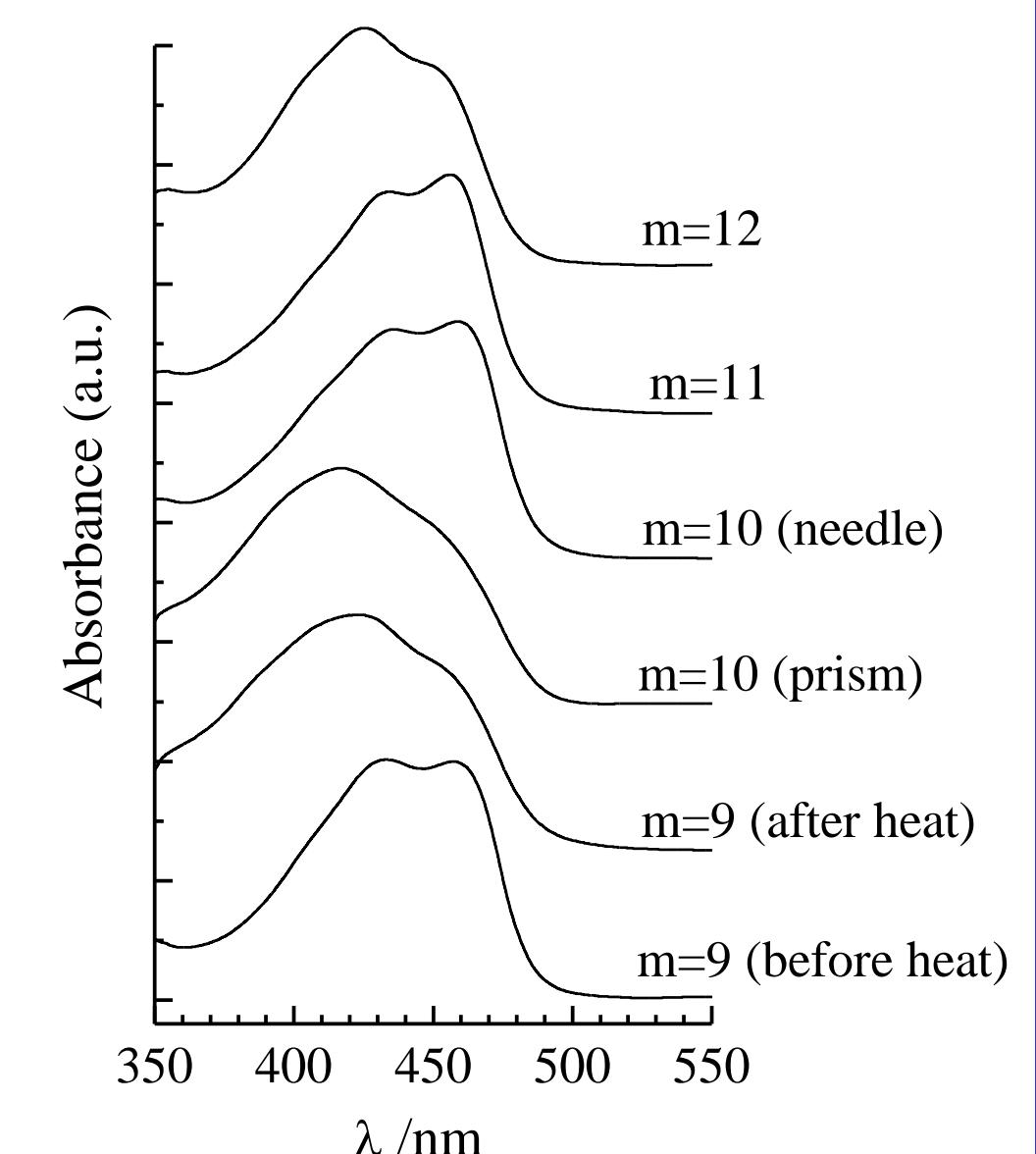
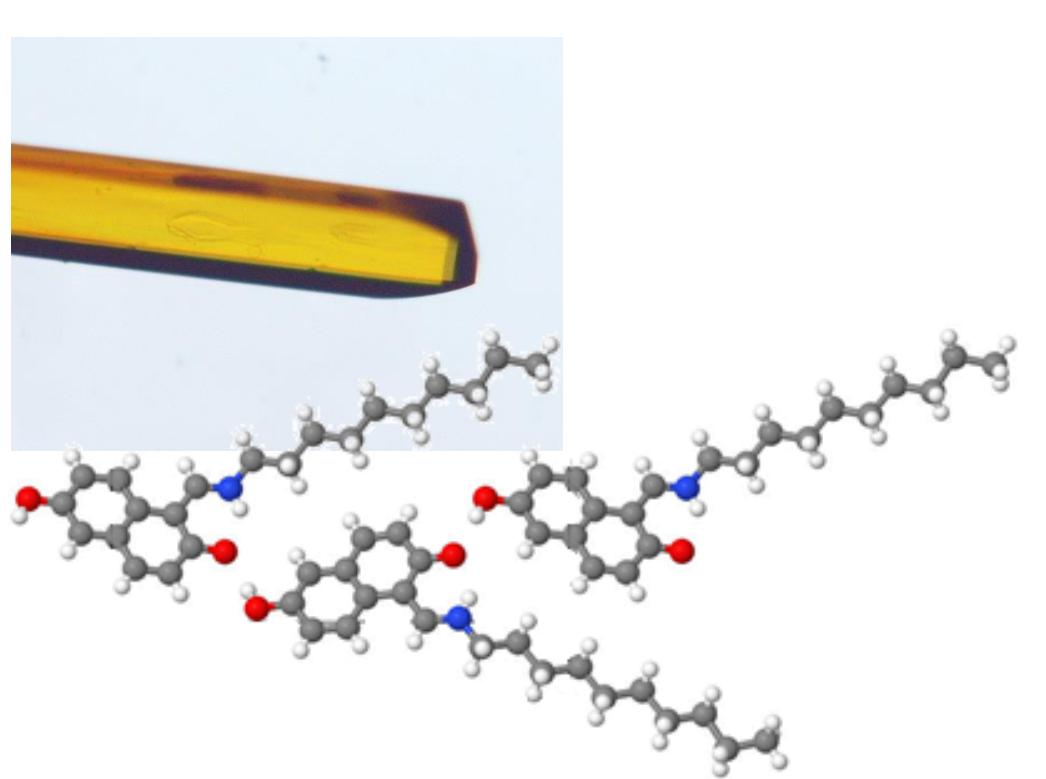
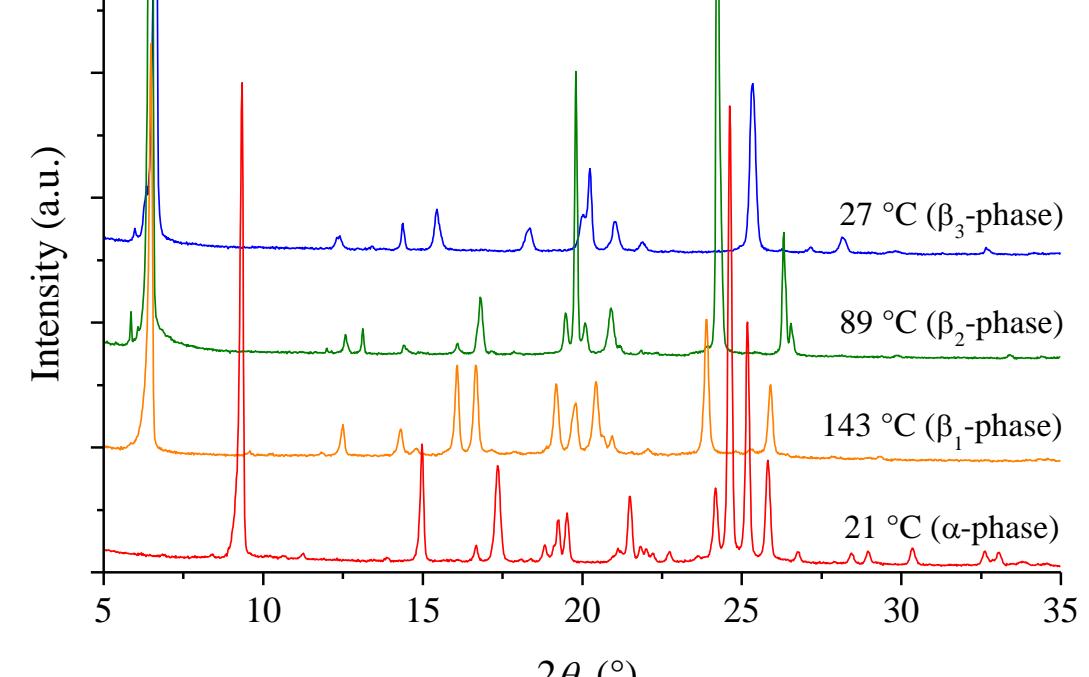
Spectral profile

II      I      I

HB network

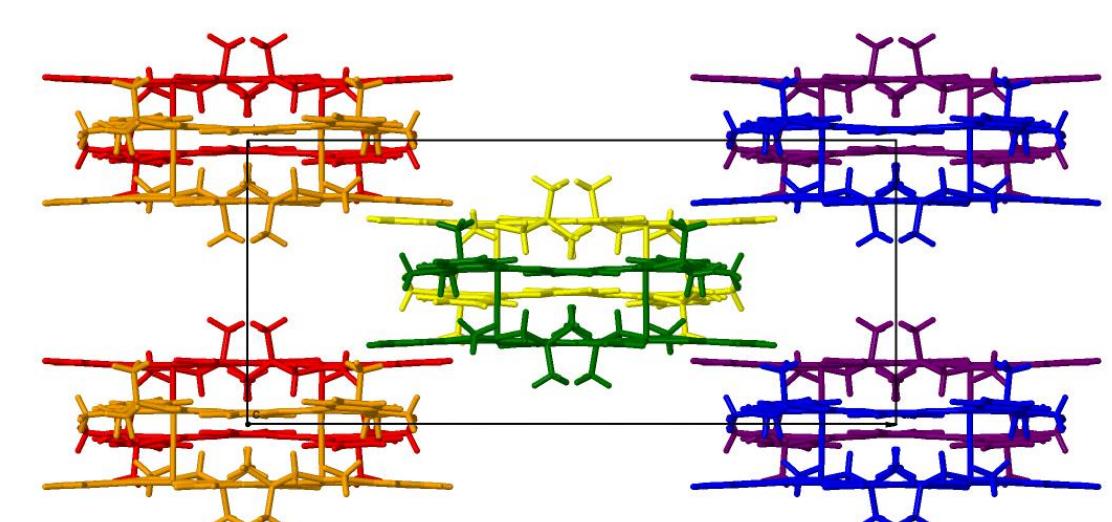
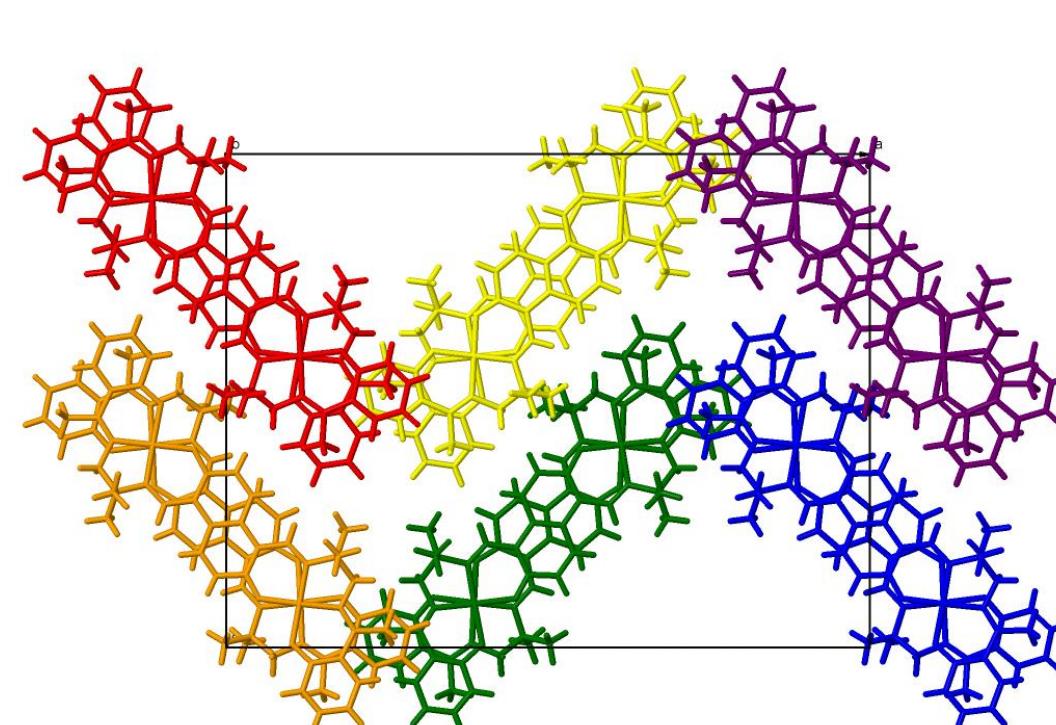
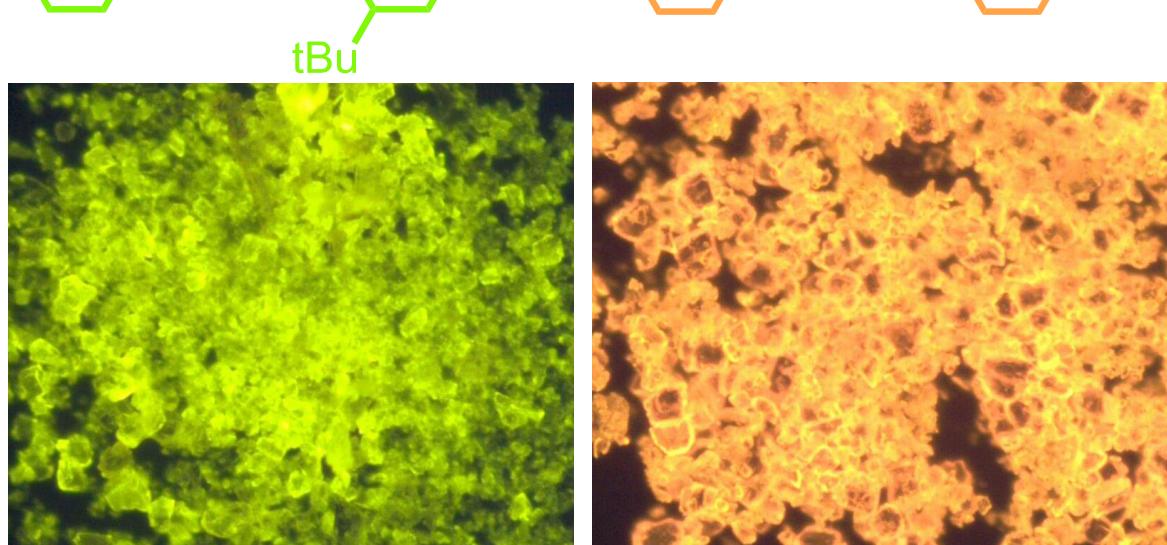
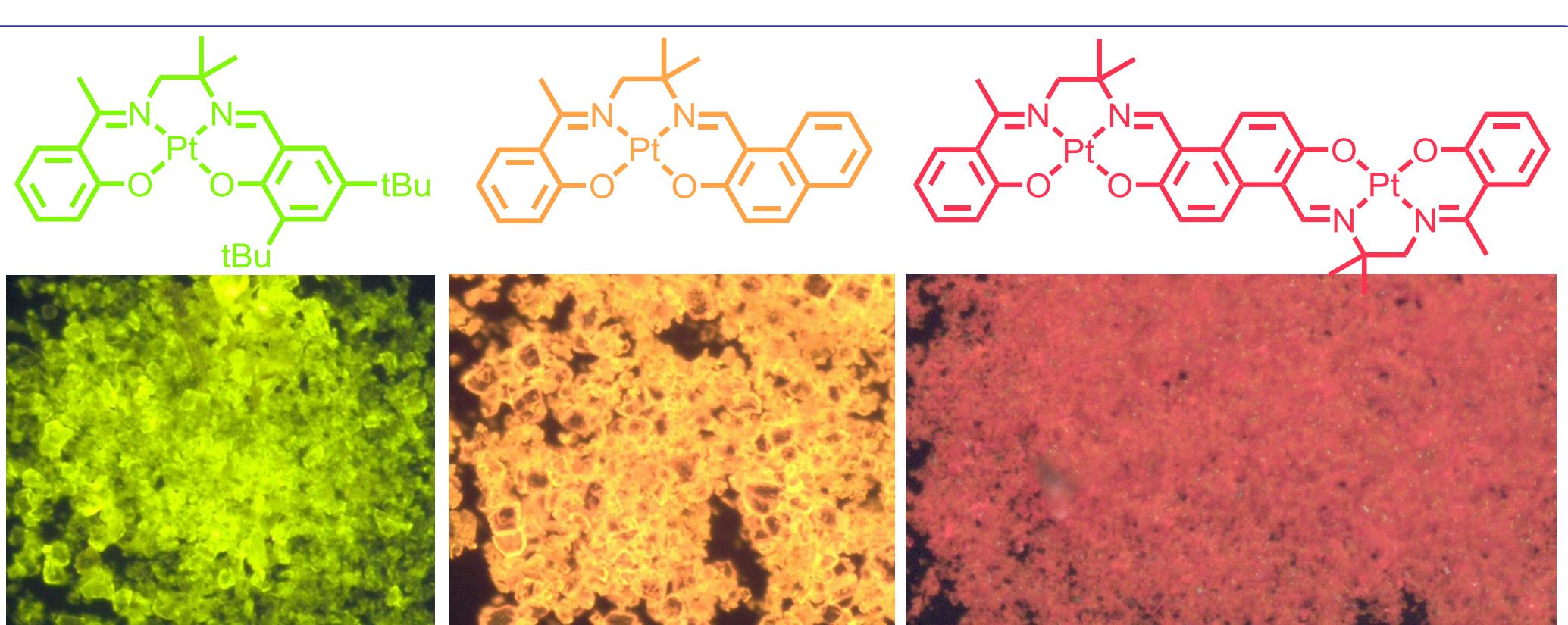
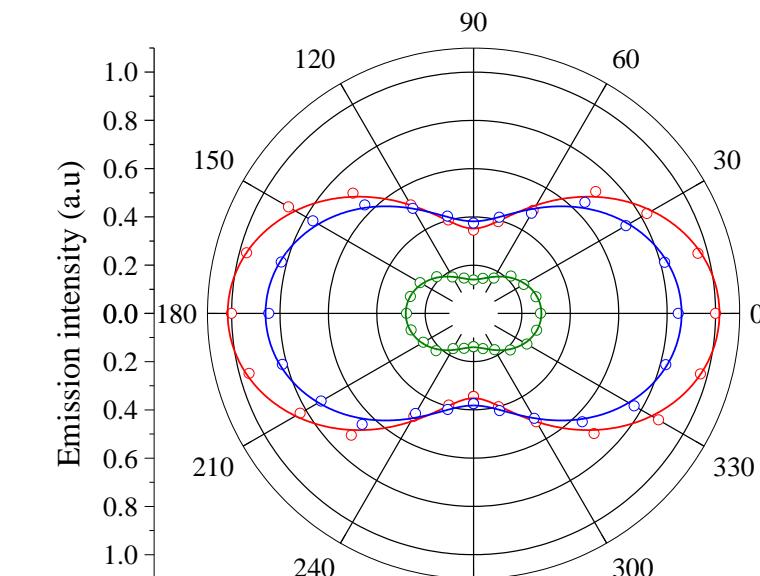
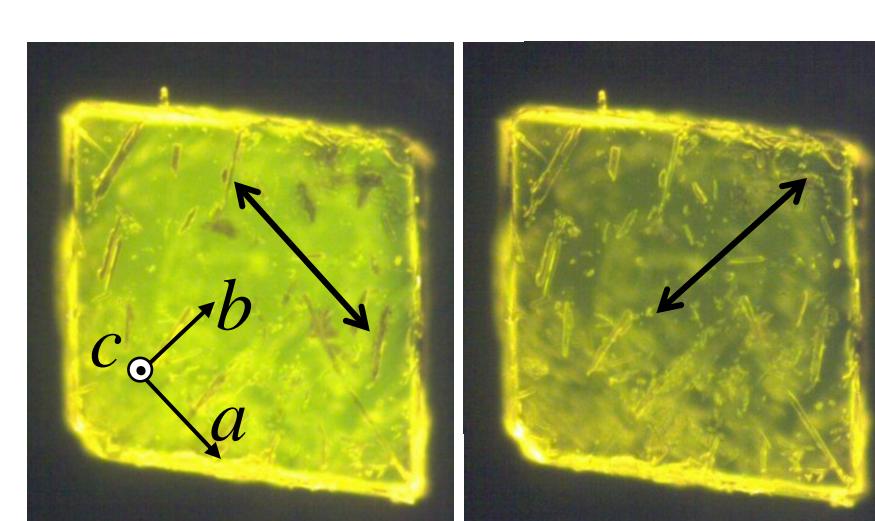
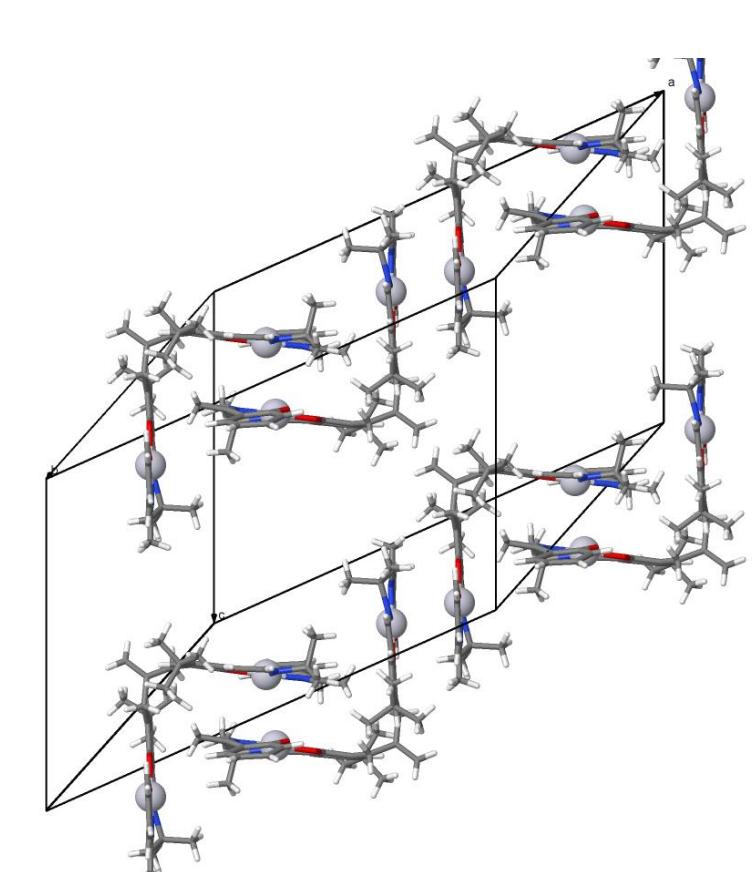
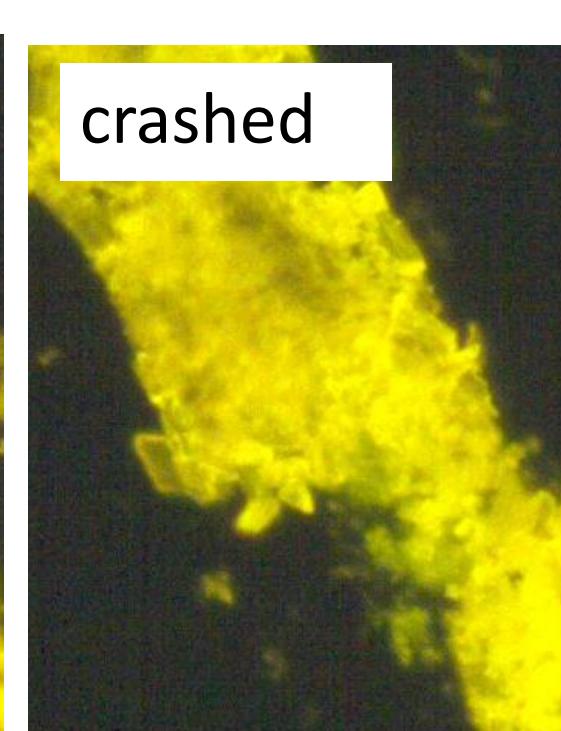
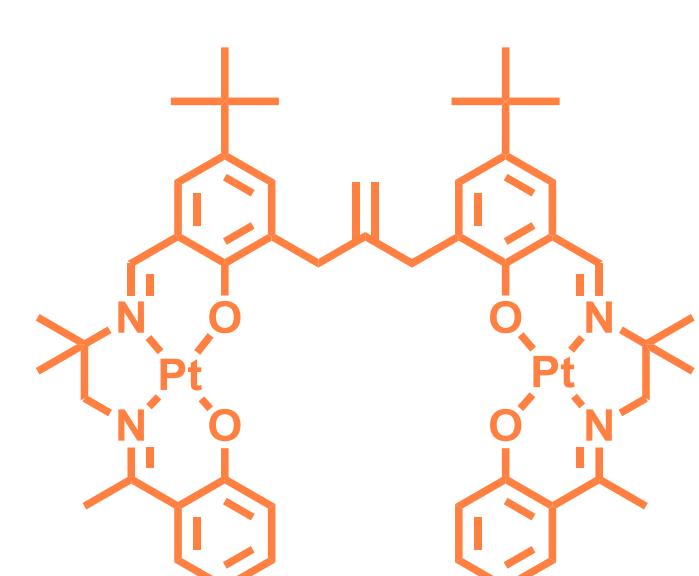
Alternate      Bunting      Bunting

heating      cooling



S. Hara, et al., *Cryst. Growth. Des.* (2011).  
S. Hara, et al., *J. Phys. Chem. A* (2014).

### Luminescence of Joint Pt Complexes



H. Achira, et al., *Polyhedron* (2016); H. Houjou, et al., *Inorg. Chim. Acta* (2017).