

Multi-Stimuli-Responsive and Multicolor Luminescent Organic Materials

Speaker:

Prof. Dr. Jye-Shane Yang (楊吉水)

Department of Chemistry,
National Taiwan University, Taipei, Taiwan

Date: Wednesday, Jan 17, 2018

Time: 12:50–14:20

Venue: B305 room, School of Science



In this talk, our recent work on organic and organometallic compounds that display photoluminescence color responses to external mechanical stresses (mechanochromism), chemical vapors (vapochromism), and UV light (photochromism) in the solid state will be presented. In particular, we are able to carry out spatial and temporal control of the mechanochromic, vapochromic, and photochromic luminescence such that a multicolor luminescence imaging with a single compound could be achieved. The key structural elements for the materials design is the bulky, rigid, H-shaped pentiptycene scaffold, which is a larger analog of triptycene. The critical role of pentiptycene in the observed mechanochromism, vapochromism, and photochromism will be discussed. In addition, a potential application of the multi-stimuli-responsive photoluminescent materials for differential sensing will be illustrated.

Manabu Abe (7432)