HOUJOU LAB.

[Crystal Engineering]

Department of Materials and Environmental Science

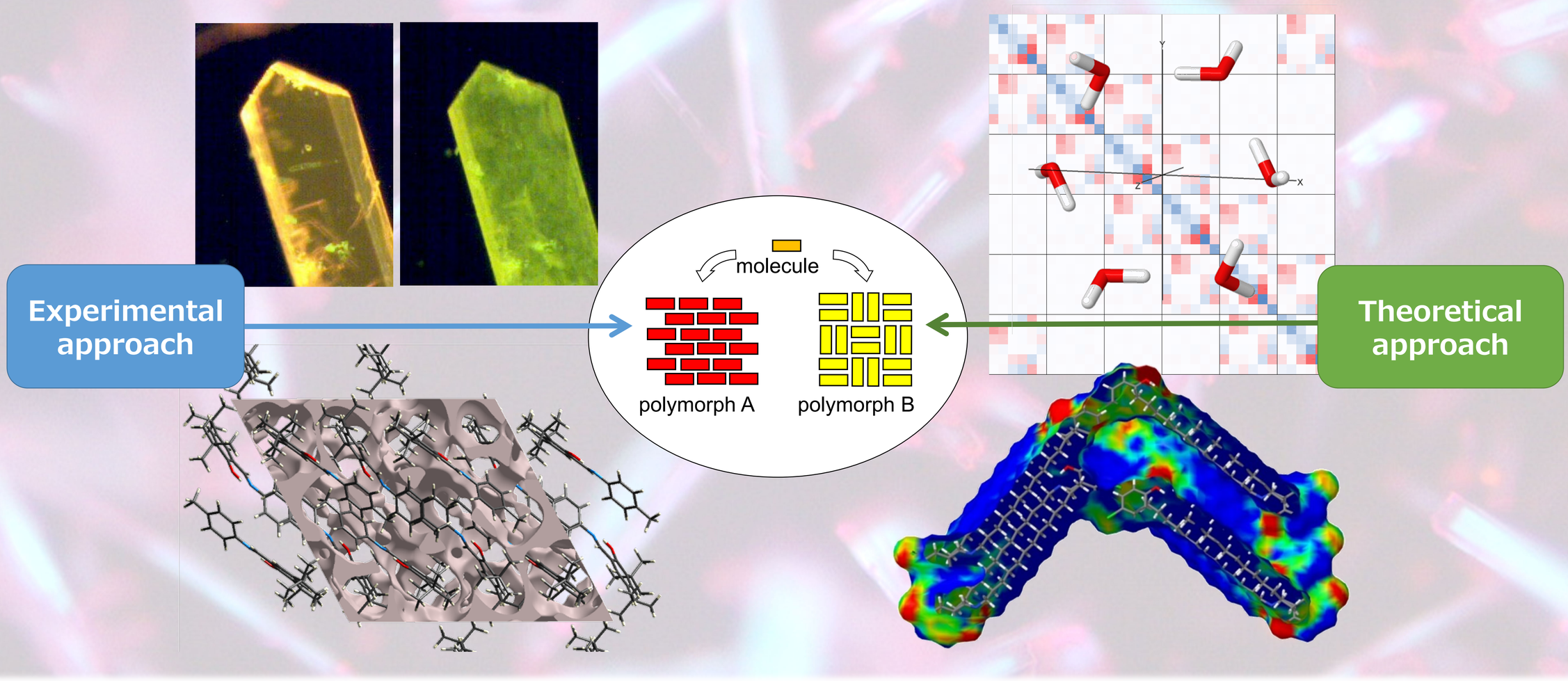
Molecular Integrated System Engineering

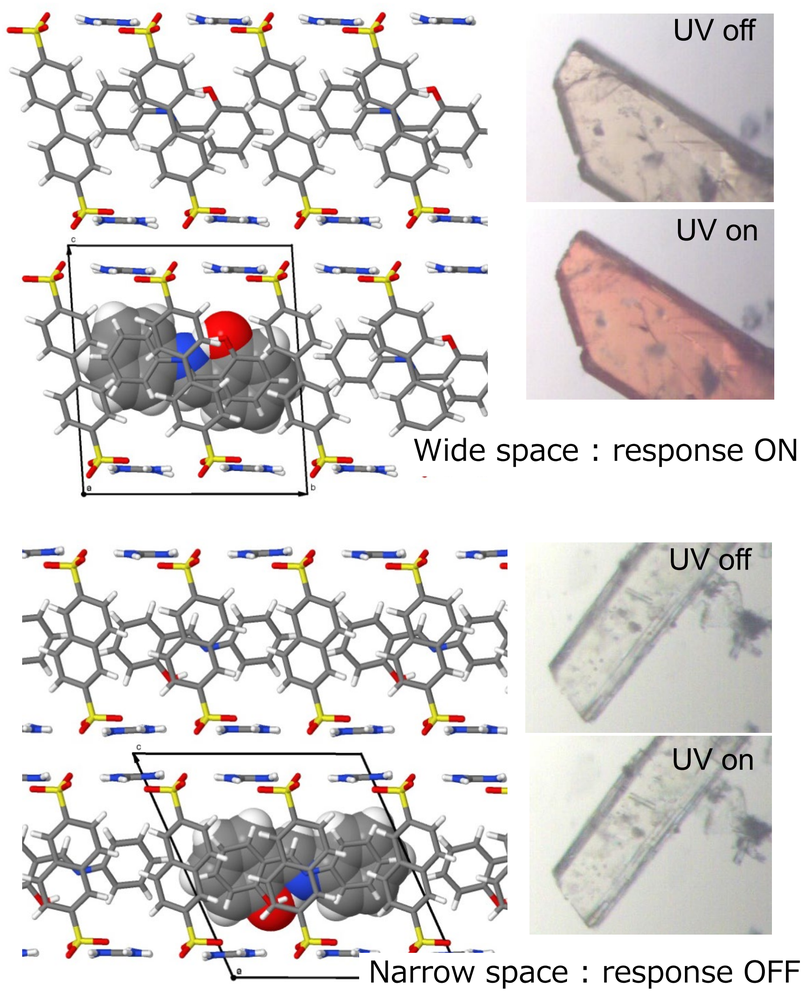
Department of Chemistry and Biotechnology

http://www.iis.u-tokyo.ac.jp/~houjou/hjlab_wiki/

Functions of Molecular Arrangement

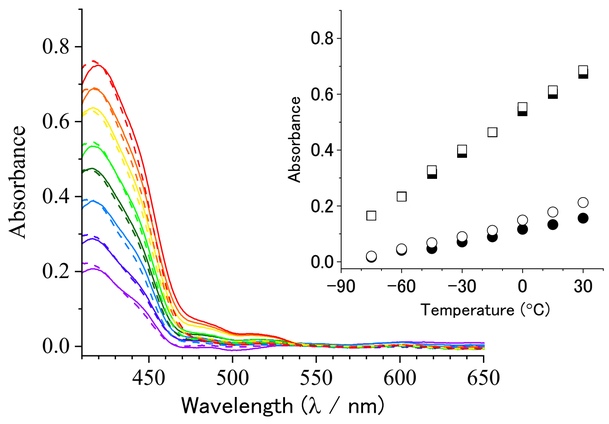
Polymorphism, a phenomenon that a single molecule crystallizes differently, has an impact on the materials' function, hence it is associated with pharmaceutics, food science, dyes and pigments, and organic electronics. We are working on crystal engineering problems through experimental and theoretical approaches.

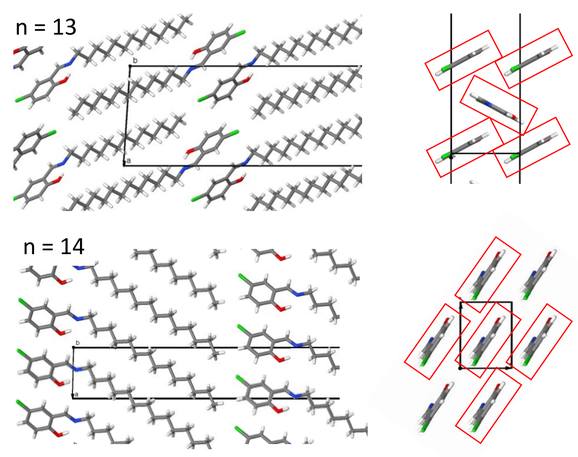




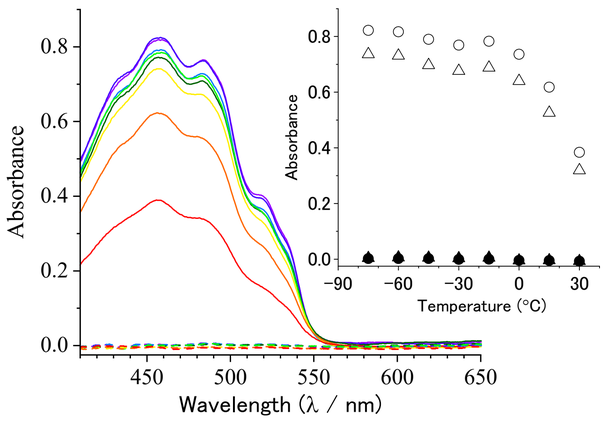
Encapsulation of molecules into crystal space modifies their photo-response. (*RSC Adv.* 2021)

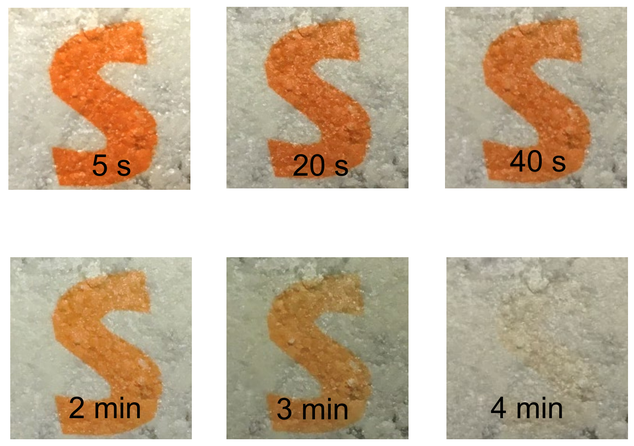
Odd number carbon atoms: thermo-responsive





Even number carbon atoms: photo-responsive





A slight modification of molecular structure (i.e. homolog approach) had an impact on crystal packing, which realized hi-spec photochromic materials. (Cryst. Growth Des. 2021)