



Development of Functional Materials Based on State-of-the-Art Molecular Science

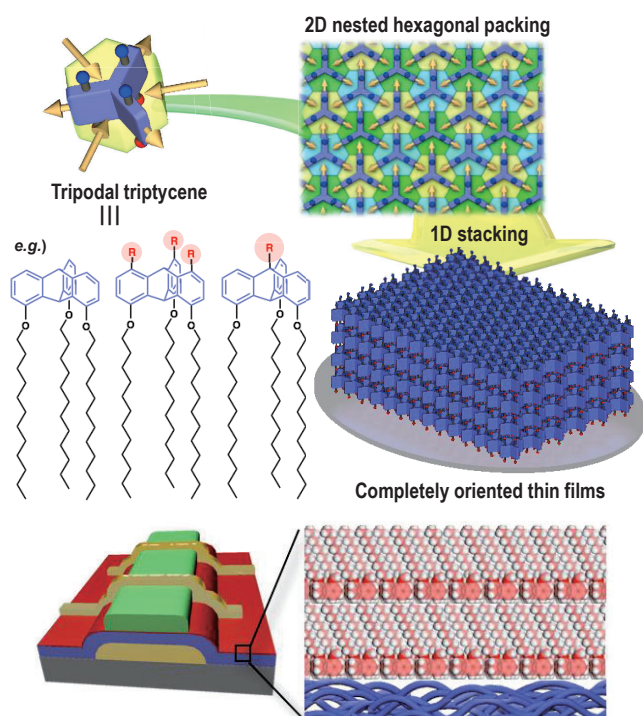
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<http://fuku.res.titech.ac.jp/english/>

Examples of Ongoing Research Projects

1. Development of Large-Area and Highly Ordered Organic Thin Film and Monolayers
2. New Structures of Liquid Crystalline Assemblies
3. Boron-Based New Molecules and Organic Transformations
4. Polymer Materials with Unique Structures and Dynamic Properties

Project 1. Highly Ordered Organic Thin Films



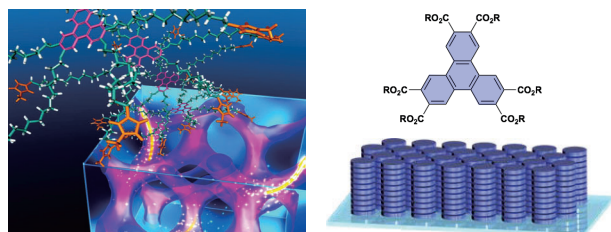
Selected publication:

Science **2015**, 348, 1122–1126.

J. Am. Chem. Soc. **2016**, 138, 11727–11733.

Nature Nanotech. **2018**, 13, 139–144, etc.

Project 2. New liquid crystalline assemblies

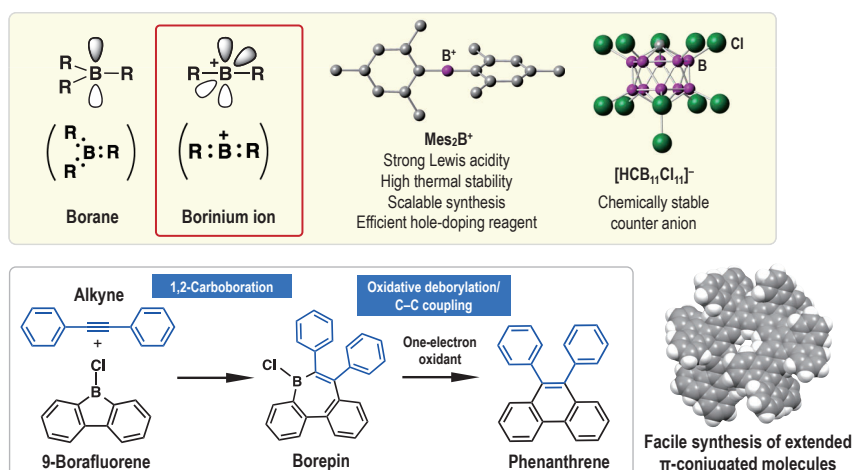


Angew. Chem. Int. Ed. **2012**, 51, 7990–7993.

Nature Commun. **2018**, 9, 4431.

Nature Mater. **2019**, 18, 266–272, etc.

Project 3. Boron Compounds and Organic Transformations



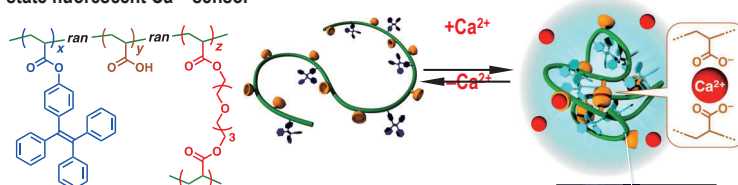
Selected publications:

Nature Chem. **2014**, 6, 498–503.

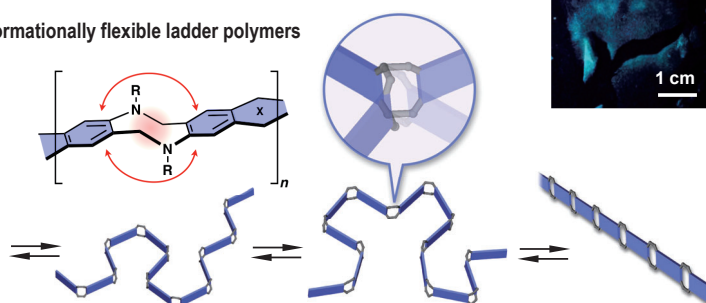
Nature Commun. **2016**, 7, 12704, etc.

Project 4. Polymer Sensors and Flexible Ladder Polymers

Solid-state fluorescent Ca^{2+} -sensor



Conformationally flexible ladder polymers



Selected publications: *Sci. Rep.* **2016**, 6, 24275. *ACS Macro Lett.* **2017**, 6, 775, etc.