Xiangtai Meng

Education;

2003. 7; Bachelor Degree, Qufu Normal University, China

2006. 7; Master Degree, Nankai University, China

2009. 7; Doctor Degree, Nankai University, China

Research area;

Bioorganometallics Chemistry

Key words;

Nucleobase, Guanosine derivatives, Asymmetric catalytic reactions

Employment experience;

Sep. 2009 –till date GCOE research fellow at Osaka University, Japan

Supervisor: Prof. Toshikazu Hirao

Awards;

2007; Second Rank Award of excellent graduate student scholarship, NanKai University

2008; First Rank Award of excellent graduate student scholarship, NanKai University

Selected publications;

1 **Xiang-Tai Meng**, Qing-Shan Li, Feng-Bo Xu, Hai-Bin Song, Christopher E. Anson, and Zheng-Zhi Zhang Extended Calix[4]arene Analogues by Two P-Cu(I)-P Bridges and Anion Encapsulation ***Inorganic Chemistry*** **2006**, *45*, 7986-7987

2 **Xiangtai Meng**, You Huang, Ruyu Chen A Novel Selective Aza-Morita-Baylis-Hillman (aza-MBH) Domino Reaction and Aza-MBH Reaction of N-sulfonated Imines with Acrolein Catalyzed by a Bifunctional Phosphine Organocatalyst ***Chemistry A European Journal*** **2008**, *14*, 6852-6856

3 **Xiangtai Meng,** You Huang, Ruyu Chen Bifunctional Phosphine Catalyzed Domino Reaction: Highly Stereoselective Synthesis of *Cis*-2,3-dihydrobenzofurans from Salicyl N-thiophosphinyl imines and Allenes ***Organic Letters*** **2009,** *11*, 137-140.

4 **Xiangtai Meng**, You Huang, Hongxia Zhao, Peizhong Xie, Jianze Ma and Ruyu Chen. PPh_3-Catalyzed Domino Reaction: A Facile Method for the Synthesis of Chroman Derivatives. ***Organic Letters***, **2009**, *11*, 991-994.

Research Statement;

Guanosine analogs, with their self-complementary hydrogen-bonding edges and aromatic surfaces, are programmed to self-associate. Guanosine has two hydrogen bond acceptors on its Hoogsteen face and two hydrogen bond donors on its Watson-Crick face. Depending on the conditions, guanosine derivatives can self-associate into dimmers, ribbons, or G-quadruplexes. These hydrogen-bonded structures can stack in solution due to their polarized aromatic surfaces. Therefore, the G-quadruplexes structures are an ideal scaffold to study the metal-metal interactions after assembly. For this purpose, many bioorganometallic molecules based on guanosine were synthesized and studied the assembly properties.

My goal;

The main research objectives in Hirao Laboratory are:

1) Synthesize many bioorganometallic molecules based on guanosine and study the assembly properties.
2) Try to do some asymmetric catalytic reactions using the assembled aggregates in future.