

Organic / Inorganic Hybrid Nanomaterials For Theranostics, Molecular Sensing, and Catalysis

Our research group is focusing on different research areas: (1) Synthesis of novel interlocked supramolecules such as rotaxanes and catenanes, and their polymers. (2) Manipulation of these supramolecules as molecular machines that are responsive to external stimuli (e.g., pH, light, redox, heat, etc). (3) Synthesis and MRI applications of magnetic iron oxide-based nanoparticles. (4) Synthesis and sensor applications of discretely functionalized gold nanoparticles. (5) Synthesis of gold and iron oxide hybrid nanomaterials for theranostic purposes. (6) Organocatalytic nanomaterials.

Selected reviews:

Chem. Soc. Rev. **2012**, in press.
Eur. J. Pharm. Sci. **2011**, *44*, 1-10.
Expert Rev. Mol. Diagn. **2010**, *10*, 863-867.
Polym. Chem. **2010**, *1*, 988-1000.
Chem. Asian J. **2009**, *4*, 364-381.
Adv. Funct. Mater. **2007**, *17*, 685-693.
Top. Curr. Chem. **2005**, *249*, 203-259.

Selected publications:

Chem. Commun. **2011**, *47*, 2514-2516.
J. Mater. Chem. **2011**, *21*, 15398-15404.
J. Mater. Chem. **2011**, *21*, 8317-8323.
J. Mater. Chem. **2010**, *20*, 5086-5094.
Chem. Mater. **2009**, *21*, 5079-5087.
Chem. Eur. J. **2009**, *15*, 12417-12425.
ACS Nano **2009**, *3*, 2129-2138.
Angew. Chem. Int. Ed. **2008**, *47*, 7470-7474.
Proc. Natl. Acad. Sci. USA **2007**, *104*, 17266-17271.
J. Am. Chem. Soc. **2006**, *128*, 15358-15359.

Selected highlights:

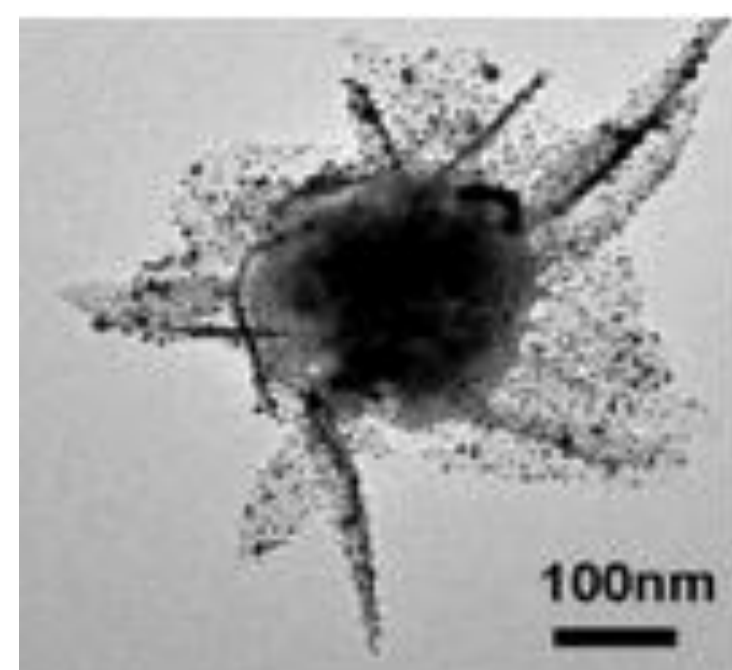
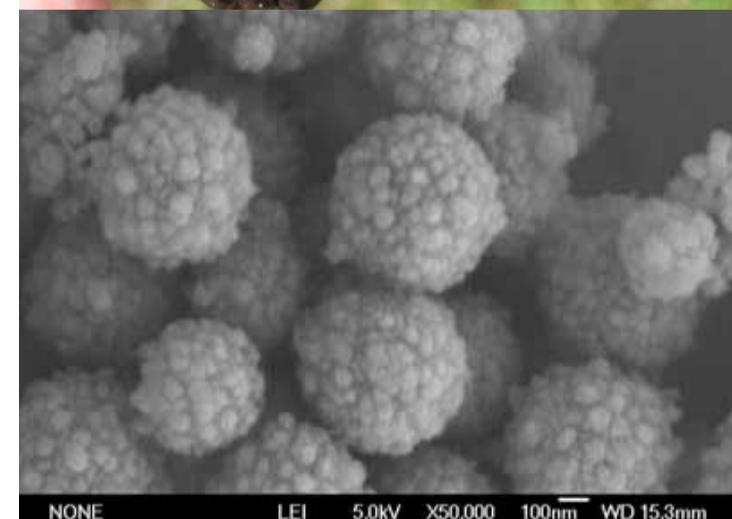
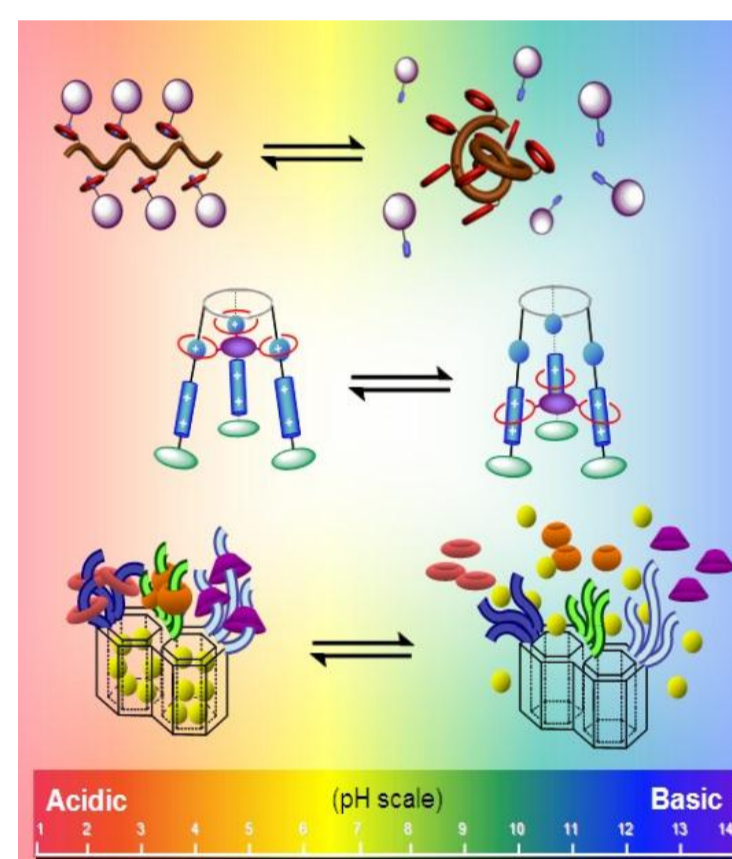
Chemistry World, 7 October 2011
Nature Chemistry blog, 2 September 2011

Recent awards:

2011 MoE Higher Education Outstanding Scientific Research Output Award (Technology development, First class)
 2010 Asian Core Program Lectureship Award

Ken Cham-Fai Leung

BSc (CUHK), PhD (CUHK)
 Postdoctoral (UCLA)
 Adjunct Assistant Prof (CUHK)
 Research Assistant Prof (HKBU)
 MAAAS, MACS, MRSC



Polymer Chemistry



ChemComm

