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Zhu-Jun Yao, Ph.D.

Research Interests

- ✧ Total synthesis of bioactive natural products, and development of the related synthetic methodologies.
- ✧ Chemical biology studies using bioactive natural products-based protocols.
- ✧ Medicinal chemistry of bioactive components from traditional Chinese medicines.
- ✧ New fluorescent chromophores and their applications in cell imaging studies.

Professional Experience

1999–present: Professor, State Key Laboratory of Bioorganic and Natural Products Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, China

1995–1996: Assistant Professor, State Key Laboratory of Bioorganic and Natural Products Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, China

Postdoctoral Training

1996-1999: Laboratory of Medicinal Chemistry, National Cancer Institute, NIH, Bethesda, Maryland, USA

- ✧ Advisor: Dr. Terrence R. Burke, Jr.

Education

1993-1995: Ph.D., Shanghai Institute of Organic Chemistry

- ✧ Major: Total synthesis of natural products
- ✧ Advisor: Prof. Yu-Lin Wu

1990-1992: B.S., Shanghai Institute of Organic Chemsitry

- ✧ Major: Synthetic chemistry
- ✧ Advisor: Prof. Yu-Lin Wu

Honors and Awards

- ■ 2008 Leading Talents Award of Shanghai Municipal, Shanghai Municipal People's Government (January 2009)
- ■ Distinguished Young Investigator Award of Chinese Academy of Sciences Shanghai Branch (May 2008)
- ■ Life Chemistry Award sponsored by Wuxi Pharmaceuticals and MOST (December 2007)
- ■ Best Teachers Award, Chinese Academy of Sciences (July 2006)
- ■ CCS-BASF Youth Innovation Award (2005-2006), Chinese Chemical Society (December 2005)

Professional Associations

- ✧ Editorial (advisory) board members of "*Current Chemical biology*", "*Chemical Biology and Drug Discovery*", "*Letters in Drug Design and Development*", "*Anticancer agents in Medicinal Chemistry*", "*Science in China B: Chemistry*", and "*Chinese Journal of Chemistry*".
- ✧ National Representative, IUPAC Division of Chemistry and Human Health.
- ✧ Chairman, Chinese Chemical Society Division of Chemical Biology.

Selected Recent Publications

1. Liu, G.-S.; Dong, Q.-L.; Yao, Y.-S.; **Yao, Z.-J.*** Expeditious Total Syntheses of Camptothecin and 10-Hydroxycamptothecin. *Organic Letters* **2008**, 10, 5393-5396.
2. Chen, L.; Li, F.-Q.; Hou, B.-H.; Hong, G.-F.;* **Yao, Z.-J.*** Site-Specific Fluorescent Labeling Approaches for Naringenin, an Essential Flavonone in Plant Nitrogen-Fixation Signaling Pathways. *J. Org. Chem.* **2008**, *73*, 8279-

8285.

3. Liu, H.-X.; Shao, F.; Li, G.-Q.; Xun, G.-L.; **Yao, Z.-J.*** Tuning the Acyclic Ether Moiety of Anticancer Agent AA005 with Conformation-Constrained Fragments. *Chem. Eur. J.* **2008**, *14*, 8632-8639.
4. Yao, Y.-S.; **Yao, Z.-J.*** Biomimetic Total Synthses of Cassiarins A and B. *J. Org. Chem.* **2008**, *73*, 5221-5225. (*Featured Article*)
5. Zhou, H.-B.; Liu, G.-S.; **Yao, Z.-J.*** Short and Efficient Total Synthesis of Luotonin A and 22-Hydroxyacuminatine Using A Common Cascade Strategy. *J. Org. Chem.* **2007**, *72*, 6270-6272.
6. Qian, W.-J.; Wei, W.-G.; Zhang, Y.-X.; **Yao, Z.-J.*** Total Synthesis, Assignment of Absolute Chemistry and Structure Revision of Chlorofusin. *J. Am. Chem. Soc.* **2007**, *129*, 6400-6401.
7. Zhou, H.-B.; Liu, G.-S.; **Yao, Z.-J.*** Mild Cascade Reactions Triggered by Bis(triphenyl)oxodiphosphonium Trifluoromethanesulfonate and A Concise Total Synthesis of Camptothecin. *Organic Letters* **2007**, *9*, 2003-2006.
8. Liu, H.-X.; Huang, G.-R.; Zhang, H.-M.; Jiang, S.; Wu, J.-R.;* **Yao, Z.-J.*** A Structure-Activity Guided Strategy for Fluorescent Labeling of Annonaceous Acetogenin Mimetics and Its Application in Cell Biology (*Cover Story*). *ChemBioChem* **2007**, *8*, 172-177.
9. Hong, W.-X.; Chen, L.-J.; Zhong, C.-L.; **Yao, Z.-J.*** Bi-directional Synthesis of the Central Amino Acid of Chloptosin. *Organic Letters* **2006**, *8*, 4919-4922.
10. Cong, X.; **Yao, Z.-J.*** RCM-Based Synthesis of (3*R*,4*R*,5*S*)-4-Acetylamino-5-amino-3-hydroxy- cyclohex-1-ene-carboxylic Acid Ethyl Ester, A Functionalized Cycloalkene Skeleton of GS4104. *J. Org. Chem.* **2006**, *71*, 5365-5368.
11. Wei, W.-G., **Yao, Z.-J.*** Synthesis Studies Toward Chloroazaphilone and Vinylogous -Pyridones: Two Common Natural Product Core Structures. *J. Org. Chem.* **2005**, *70*, 4585-4590.
12. Cong, X., Hu, F., Liu, K.-G., Liao, Q.-J., **Yao, Z.-J.*** Chemoselective Deprotection of Cyclic *N*,*O*-Aminals Using Catalytic Bismuth(III) Bromide in Acetonitrile. *J. Org. Chem.* **2005**, *70*, 4514-4516.
13. Cong, X., Liao, Q.-J., and **Yao, Z.-J.*** RCM Approaches Toward the Diastereoselective Synthesis of Vicinal *trans*-Diaminocyclitols from *L*-Serine. *J. Org. Chem.* **2004**, *69*, 5314-5321.
14. Wen, S.-J., **Yao. Z.-J.*** Total Synthesis of Cyclomarin C. *Organic Letters* **2004**, *6*, 2721-2724.
15. Liu, K.-G., Yan, S., Wu, Y.-L., **Yao, Z.-J.*** Synthesis of 4-Azido-4-deoxy-Neu5,7,8,9Ac_4- 2en1Me, A Key Intermediate for the Synthesis of GG167 from *D*-Glucono-δ-lactone. *Organic Letters* **2004**, *6*, 2269-2272.
16. Jiang, S., Li, Y., Chen, X.-G., Hu, T.-S., Wu, Y.-L., and **Yao, Z.-J.***, Parallel Fragment Assembly Strategy Towards Multi-ether Mimicry of Anti-cancer Annonaceous Acetogenins. *Angew. Chem. Int. Ed.* **2004**, *43*, 329-334.