



首页 学部概况 机构设置 学部资讯 师资队伍 科学研究 党建工作 学生园地 人才培养 联系我们

师资队伍

材料学院

当前位置: 首页 师资队伍 在职教师 按学院分类 材料学院

在职教师

按字母分类

按学院分类

讲客座教授

名师介绍

博士研究生导师

硕士研究生导师



姓名: 蔡远利
 职称: 教授、博士生导师
 部门: 材料学院
 联系方式:
 Tel: 0512-65884419
 邮箱: ylcai@suda.edu.cn

[课题组网站](#)

学历及学术经历:

2001年博士毕业于中国科学院化学研究所。2001-2004年德国Bayreuth大学, 英国Sussex大学、Sheffield大学, 博士后。加拿大Montréal大学访问学者(2005)。2004-2011年, 湘潭大学教授, 博士生导师。2005-2011年担任化学学院副院长。2011年至今, 苏州大学特聘教授, 博士生导师。2013-2017年担任研究生院培养办公室主任。入选“湖南省新世纪121人才工程”第二层次人选(2011)、“江苏省创新团队”引进团队核心成员(2012)、“江苏省高层次创新创业人才计划”(2013, “江苏省双创人才”)。中国化学会第28届理事会高分子学科委员会委员(2011-2015), 教育部环境友好化学与应用重点实验室学术委员会委员, 科技部国际科技合作计划项目评价专家, 国家自然科学基金委化学部重点项目中期检查及结题验收专家组成员, IUPAC先进材料与合成研讨会分会主席, Macromolecules刊物Top 25%审稿专家、Polymer Chemistry刊物2017年Outstanding Reviewer。承担并完成国家“八五”科技攻关重点项目、英国EPSRC基金、德国DFG基金、美国罗姆哈慈公司项目、国家自然科学基金、高校博士学科点导师基金、留学回国人员科研启动基金等。率先发展了可见光诱导可控自由基聚合新方法并运用于聚合诱导自组装(2004年至今), 被国内外学者誉为相关研究领域的开拓性成果。

培养出站博士后1名, 博士4名、硕士42名, 指导教育部大学生创新性实验计划团队2项。1名博士生获省自然科学基金优秀学术论文一等奖, 3名硕士生获省优秀硕士学位论文, 6名硕士生获校长奖, 1名硕士生获太平洋地区高分子大会奖(2017), 1项教育部大学生创新性实验计划获优秀奖。

热诚欢迎有共同志趣的本科生、硕士研究生、博士研究生、博士后加盟研究团队。

研究领域:

五彩缤纷的生物世界赐予我们无穷灵感和启迪。师法自然, 感悟生物大分子跨尺度精准构筑和精细功能, 实现水溶高分子绿色精准合成、仿生自组装和功能化, 是本研究组成员肩负的科学使命。我们重点探讨:

绿色精准合成: 可见光诱导可控自由基聚合; 仿生设计与合成; 聚合诱导自组装

仿生设计构筑: 动态组合化学; 高分子仿生组装、分区和功能化; 单链纳米技术

代表性论文:

1. Yi Ding, Meng Cai, Zhigang Cui, Leilei Huang, Lei Wang, Xinhua Lu, **Yuanli Cai***, Synthesis of Low-Dimensional Polyion Complex Nanomaterials via Polymerization-Induced Electrostatic Self-Assembly, *Angewandte Chemie International Edition* **2018**, *57*, 1053.
2. Meng Cai, Yi Ding, Lei Wang, Leilei Huang, Xinhua Lu, **Yuanli Cai***, Synthesis of One-Component Nanostructured Polyion Complexes via Polymerization-Induced Electrostatic Self-Assembly, *ACS Macro Letters* **2018**, *7*, 208.
3. Hui Cao, Zhigang Cui, Pan Gao, Yi Ding, Xuechao Zhu, Xinhua Lu, **Yuanli Cai***, Metal-folded single-chain nanoparticle: Nanoclusters and self-assembled reduction-responsive sub-5-nm discrete subdomains, *Macromolecular Rapid Communications* **2017**, *38*, 1700269.
4. Zhigang Cui, Hui Cao, Yi Ding, Pan Gao, Xinhua Lu, **Yuanli Cai***, Compartmentalization of ABC triblock copolymer single-chain nanoparticle via coordination driven orthogonal self-assembly, *Polymer Chemistry* **2017**, *8*, 3755.

5. Yudan Shui, Yunlan Su*, Xiao Kuang, Weiwei Zhao, **Yuanli Cai***, Dujin Wang, Facile and controllable synthesis of hybrid silica nanoparticles densely grafted with poly(ethylene glycol), *Polymer International* **2017**, 66, 1395.
6. 税禹单, 苏允兰*, 赵伟伟, **蔡远利***, 王笃金, 双分布聚乙二醇接枝纳米二氧化硅的高效可控制备, *高分子学报*, **2017**, 11, 1773.
7. Pan Gao, Hui Cao, Yi Ding, Meng Cai, Zhigang Cui, Xinhua Lu, **Yuanli Cai***, Synthesis of hydrogen-bonded pore-switchable cylindrical vesicles via visible-light-mediated RAFT room-temperature aqueous dispersion polymerization, *ACS Macro Letters* **2016**, 5, 1327.
8. Kaiyi Zhou, Hui Cao, Pan Gao, Zhigang Cui, Yi Ding, **Yuanli Cai***, Autocatalytic self-sorting in biomimetic polymer, *Macromolecules* **2016**, 49, 2189.
9. Jie Han, Kaiyi Zhou, Xuechao Zhu, Qiuping Yu, Yi Ding, Xinhua Lu, **Yuanli Cai***, Chelation-induced polymer structural hierarchy/complexity in water, *Macromolecular Rapid Communications* **2016**, 37, 1275.
10. Tao Huang, Zhigang Cui, Yi Ding, Xinhua Lu, **Yuanli Cai***, The use of electrostatic association for rapid RAFT synthesis of histamine polyelectrolyte in aqueous solutions at and below 25 °C, *Polymer Chemistry* **2016**, 7, 176.
11. Qiuping Yu, Yi Ding, Hui Cao, Xinhua Lu, **Yuanli Cai***, Use of polyion complexation for polymerization-induced self-assembly in water under visible light irradiation at 25 °C, *ACS Macro Letters* **2015**, 4, 1293.
12. Na Xu, Jie Han, Zhengguang Zhu, Bo Song, Xinhua Lu, **Yuanli Cai***, Directional supracolloidal self-assembly via a dynamic covalent bonds and metal coordination, *Soft Matter* **2015**, 11, 5546.
13. Lei Guo, Yi Ding, Jie Han, Na Xu, Xinhua Lu, **Yuanli Cai***, Reconstruction of block copolymer micelles to long-range ordered dense nanopatterns via light-tunable hydrogen-bonding association, *Macromolecular Rapid Communications* **2015**, 36, 1505.
14. Zhengguang Zhu, Na Xu, Qiuping Yu, Lei Guo, Hui Cao, Xinhua Lu, **Yuanli Cai***, Construction and self-assembly of single-chain polymer nanoparticles via coordination association and electrostatic repulsion in water, *Macromolecular Rapid Communications* **2015**, 36, 1521.
15. Yanyan Jiang, Na Xu, Jie Han, Qiuping Yu, Pan Gao, Xinhua Lu, **Yuanli Cai***, Direct synthesis of interface-decorated reactive block copolymer nanoparticles via polymerisation-induced self-assembly, *Polymer Chemistry* **2015**, 6, 4955.
16. Hui Shi, Kaiyi Zhou, Qiuping Yu, Zhigang Cui, Yanyan Jiang, Xinhua Lu and **Yuanli Cai***, Programmable self-assembly of cystamine-block copolymer in response to pH and progressive reduction-ionization-oxidation, *Polymer Chemistry* **2015**, 6, 7455.
17. Guangxiang Li, Na Xu, Qiuping Yu, Xinhua Lu, Hong Chen, **Yuanli Cai***, Acceleration and selective monomer addition during aqueous RAFT copolymerization of ionic monomers at 25 °C, *Macromolecular Rapid Communications* **2014**, 35, 1430.
18. Xianghua Tang, Jie Han, Zhengguang Zhu, Xinhua Lu, Hong Chen, **Yuanli Cai***, Facile synthesis, sequence-tuned thermoresponsive behaviours and reaction-induced reorganization of water-soluble keto-polymers, *Polymer Chemistry* **2014**, 5, 4115.
19. Xuewen Wu, Na Xu, Zhengguang Zhu, **Yuanli Cai***, Ying Zhao*, Dujin Wang, Subcomponent self-assembly of polymer chains based on dynamic and geometrical coordination diversity of the first row transition metal ions, *Polymer Chemistry* **2014**, 5, 1202.
20. Fen Wu, Xianghua Tang, Lei Guo, Ke Yang, **Yuanli Cai***, Switching preorganization and thermoresponsive behavior of a water-soluble polymer via light-tunable hydrogen bonding, *Soft Matter* **2013**, 9, 4036.
21. Xuejun Chen, Na Xu, Nan Li, Lican Lu, **Yuanli Cai***, Ying Zhao*, Dujin Wang, Programmable selectivity of metal-imine bond coordination in subcomponent self-assembly of a primary amine based block copolymer, *Soft Matter* **2013**, 9, 1885.
22. Jianyu Tong, Yi Shi, Guhuan Liu, Tao Huang, Na Xu, Zhengguang Zhu, **Yuanli Cai***, Visible light mediated fast iterative RAFT synthesis of amino-based reactive copolymers in water at 20 °C, *Macromolecular Rapid Communications* **2013**, 34, 1827.
23. Junjie Deng, **Yuanli Cai***, Botryoid-shaped reactive nanoparticles through spontaneous structural reorganization of terpolymer micelles, *Macromolecular Rapid Communications* **2013**, 34, 1459.
24. Zhenhua Hao, Guangxiang Li, Ke Yang, **Yuanli Cai***, Thermoresponsive synergistic hydrogen bonding switched by several guest units in a water-soluble polymer, *Macromolecular Rapid Communications* **2013**, 34, 411.
25. Guhuan Liu, Hui Shi, Yuru Cui, Jianyu Tong, Ying Zhao, Dujin Wang, **Yuanli Cai***, Toward rapid aqueous RAFT polymerization of primary amine functional monomer under visible light irradiation at 25 °C, *Polymer Chemistry* **2013**, 4, 1176.
26. Ying Chen, Fuxin Liang*, Haili Yang, Chengliang Zhang, Qian Wang, Xiaozhong Qu, Jiaoli Li, **Yuanli Cai***, Dong Qiu, and Zhenzhong Yang*, Janus nanosheets of polymer-inorganic layered composites, *Macromolecules* **2012**, 45, 1460.

27. Jian Yang, Yuhai Liu, Tao Wen, Xiaoxiao Wei, Zhiyong Li, **Yuanli Cai***, Yunlan Su*, Dujin Wang, Controlled mineralization of calcium carbonate on the surface of nonpolar organic fibers, *Crystal Growth Design* **2012**, 12, 29.
28. Yufang Tang, Zhilin Liu, Xuewen Wu, Guhuan Liu, Ke Yang, Yaohua Li, Lican Lu, **Yuanli Cai***, Modulating structural stability and acid sensitivity of photosensitive polymer micelles simply via one-batch UV irradiation, *Journal of Polymer Science Part A: Polymer Chemistry* **2012**, 50, 2878.
29. Zhilin Liu, Yufang Tang, Nan Li, Lican Lu, Junjie Deng, Yuanli Cai*, Modulating light-tunable acid sensitivity of a bioinspired polymer simply by adjusting the position of a single methoxy substituent, *Journal of Polymer Science Part A: Polymer Chemistry* **2012**, 50, 495.
30. Ke Yang, Xiangqian Wei, Fen Wu, Chaowei Cao, Junjie Deng, **Yuanli Cai***, Sequence control over thermo-triggered micellization and smart nanogels of copolymers based on PEGMA and aldehyde-functionalized monomer, *Soft Matter* **2011**, 7, 5861.
31. Chaowei Cao, Ke Yang, Fen Wu, Xiangqian Wei, Lican Lu, **Yuanli Cai***, Thermally Induced Swellability and Acid-Labile Dynamic properties of microgels of copolymers based on PEGMA and aldehyde-functionalized monomer, *Macromolecules* **2010**, 43, 9511.
32. Huan Gao, Guhuan Liu, Xuejun Chen, Zhenhua Hao, Jianyu Tong, Lican Lu, **Yuanli Cai***, Feng Long, Mingqian Zhu, Media-modulated interchain or intrachain coordination of amphiphilic block copolymer micelles, *Macromolecules* **2010**, 43, 6156.
33. Jun Sun, Yifeng Peng, Ying Chen, Yu Liu, Junjie Deng, Lican Lu, **Yuanli Cai***, Effect of molecular structure on thermo-responsive behaviors of pyrrolidone-based water-soluble polymers, *Macromolecules* **2010**, 43, 4041.
34. Junjie Wu, Songmiao Liang, Hongjun Dai, Xiaoyan Zhang, Xiaolan Yu, **Yuanli Cai***, Lina Zhang, Ning Wen, Bin Jiang, Jian Xu*, Structure and properties of cellulose/chitin blended hydrogel membranes fabricated via a solution pre-gelation technique, *Carbohydrate Polymers* **2010**, 79, 677.
35. Yi Shi, Guhuan Liu, Huan Gao, Lican Lu, **Yuanli Cai***, Effect of mild visible light on rapid aqueous RAFT polymerization of water-soluble acrylic monomers at ambient temperature: initiation and activation, *Macromolecules* **2009**, 42, 3917.
36. Yi Shi, Huan Gao, Lican Lu, **Yuanli Cai***, Ultra-fast RAFT polymerisation of poly(ethylene glycol) acrylate in aqueous media under mild visible light radiation at 25 °C, *Chemical Communications* **2009**, 1368.
37. Qing Luo, Haimei Zheng, Ye Peng, Gao Huan, Lican Lu, **Yuanli Cai***, Facile synthesis of well-defined pH-labile Schiff-base-type photosensitive polymers via visible-light-activated ambient temperature RAFT polymerization, *Journal of Polymer Science Part A: Polymer Chemistry* **2009**, 47, 6668.
38. Shanshan Jia, Junjie Fei*, Junjie Deng, **Yuanli Cai***, Junan Li, Direct electrochemistry and electrocatalysis of hemoglobin immobilized in an amphiphilic diblock copolymer film, *Sensors and Actuators B: Chemical* **2009**, 138, 244.
39. Yaohua Li, Yufang Tang, Ke Yang, Xiaoping Chen, Lican Lu, **Yuanli Cai***, Facile synthesis and photo-tunable properties of a photosensitive polymer whose chromophores bound with pH-labile cyclic acetal linkages, *Macromolecules* **2008**, 41, 4597.
40. Junjie Deng, Yi Shi, Wending Jiang, Yifeng Peng, Lican Lu, **Yuanli Cai***, Facile synthesis and thermoresponsive behaviors of a well-defined pyrrolidone based hydrophilic polymer, *Macromolecules* **2008**, 41, 3007.
41. Haijia Zhang, Junjie Deng, Lican Lu, **Yuanli Cai***, Ambient temperature RAFT polymerization of styrene and its functional derivatives under mild long-wave UV-visible radiation, *Macromolecules* **2007**, 40, 9252.
42. Huiwen Yin, Haimei Zheng, Lican Lu, Pengsheng Liu, **Yuanli Cai***, Highly efficient and well controlled ambient temperature RAFT polymerization of glycidyl methacrylate under visible light radiation, *Journal of Polymer Science Part A: Polymer Chemistry* **2007**, 45, 5091.
43. Ping Jiang, Yi Shi, Pengsheng Liu, **Yuanli Cai***, Synthesis of well-defined glycidyl methacrylate based block copolymers with self-activation and self-initiation behaviors via ambient temperature atom transfer radical polymerization, *Journal of Polymer Science Part A: Polymer Chemistry* **2007**, 45, 2947.
44. Wending Jiang, Lican Lu, **Yuanli Cai***, Highly efficient and well-controlled ambient temperature RAFT polymerization under solar radiation, *Macromolecular Rapid Communications* **2007**, 28, 725.
45. Lican Lu, Haijia Zhang, Nianfa Yang, **Yuanli Cai***, Toward rapid and well-controlled ambient temperature RAFT polymerization under UV-vis radiation: effect of radiation wave range, *Macromolecules* **2006**, 39, 3770.
46. Shaojun Chen, Qi Cao, Bo Jing, **Yuanli Cai***, Pengsheng Liu, Jinglian Hu, Effect of microphase-separation promoters on the shape-memory behavior of polyurethane, *Journal of Applied Polymer Science* **2006**, 102, 5224.
47. Hongmei Kang, **Yuanli Cai***, Junjie Deng, Haijia Zhang, Yufang Tang, Pengsheng Liu, Synthesis and aqueous solution behavior of phosphonate-functionalized chitosans, *European Polymer Journal* **2006**, 42, 2678.
48. Lican Lu, Nianfa Yang*, **Yuanli Cai***, Well-controlled reversible addition fragmentation chain transfer radical polymerization under ultraviolet radiation at ambient temperature, *Chemical Communications* **2005**, 5287.

49. Syuji Fujii, **Yuanli Cai**, Jonathan V. M. Weaver, Steven P. Armes*, Synthesis of shell cross-linked micelles using new acidic ABC triblock copolymers and their application as pH-responsive particulate emulsifiers, *Journal of the American Chemical Society* **2005**, 127, 7304.
50. **Yuanli Cai**, Steven P. Armes*, Synthesis of well-defined, Y-shaped zwitterionic block copolymers via atom transfer radical polymerization, *Macromolecules* **2005**, 38, 271.
51. **Yuanli Cai**, Yiqing Tang, Steven P. Armes*, Direct synthesis and stimulus-responsive micellization of Y-shaped hydrophilic block copolymers, *Macromolecules* **2004**, 37, 9728.
52. **Yuanli Cai**, Steven P. Armes*, A zwitterionic ABC triblock copolymer that forms a 'trinity' of micellar aggregates in aqueous solution, *Macromolecules* **2004**, 37, 7116.
53. **Yuanli Cai**, Carine Burguiere, Steven P. Armes*, Direct synthesis and aqueous solution properties of Y-shaped, stimulus-responsive block copolymer surfactants, *Chemical Communications* **2004**, 802.
54. **Yuanli Cai**, Markus Hartenstein, Axel H. E. Müller*, Synthesis of amphiphilic graft copolymers of *n*-butyl acrylate and acrylic acid by atom transfer radical copolymerization of macromonomers, *Macromolecules* **2004**, 37, 7484.
55. **Yuanli Cai**, Dujin Wang*, Yizhuang Xu, Xianbo Hu, Ying Zhao, Jinguang Wu, Duanfu Xu, Self-assembled mesomorphic structure of complexes of branched polyethyleneimine with octadecanoic acid, *Macromolecular Rapid Communications* **2001**, 22, 504.
56. **Yuanli Cai**, Dujin Wang*, Xianbo Hu, Yizhuang Xu, Ying Zhao, Jinguang Wu, Duanfu Xu, Crystalline polymorphism of alkyl chains in supramolecular complexes of polyethyleneimine with octadecanoic acid, *Macromolecular Chemistry and Physics* **2001**, 202, 2434.
57. **Yuanli Cai***, Pengsheng Liu, Xianbo Hu, Dujin Wang, Duanfu Xu, Microstructure-tensile properties relationships of polyurethane/poly(urethane modified bismaleimide-bismaleimide) interpenetrating polymer networks, *Polymer* **2000**, 41, 5653.
58. **Yuanli Cai***, Pengsheng Liu, Synthesis and characterization of polyurethane/poly(urethane modified bismaleimide-bismaleimide) IPNs, *Chinese Chemical Letters* **2000**, 11, 525.
59. **Yuanli Cai***, Zhongming Jiang, Dafong Yang, Pengsheng Liu, Structure and thermal properties of PU/P(BMI-U BMI) IPNs, *Journal of Applied Polymer Science* **1998**, 68, 1689.