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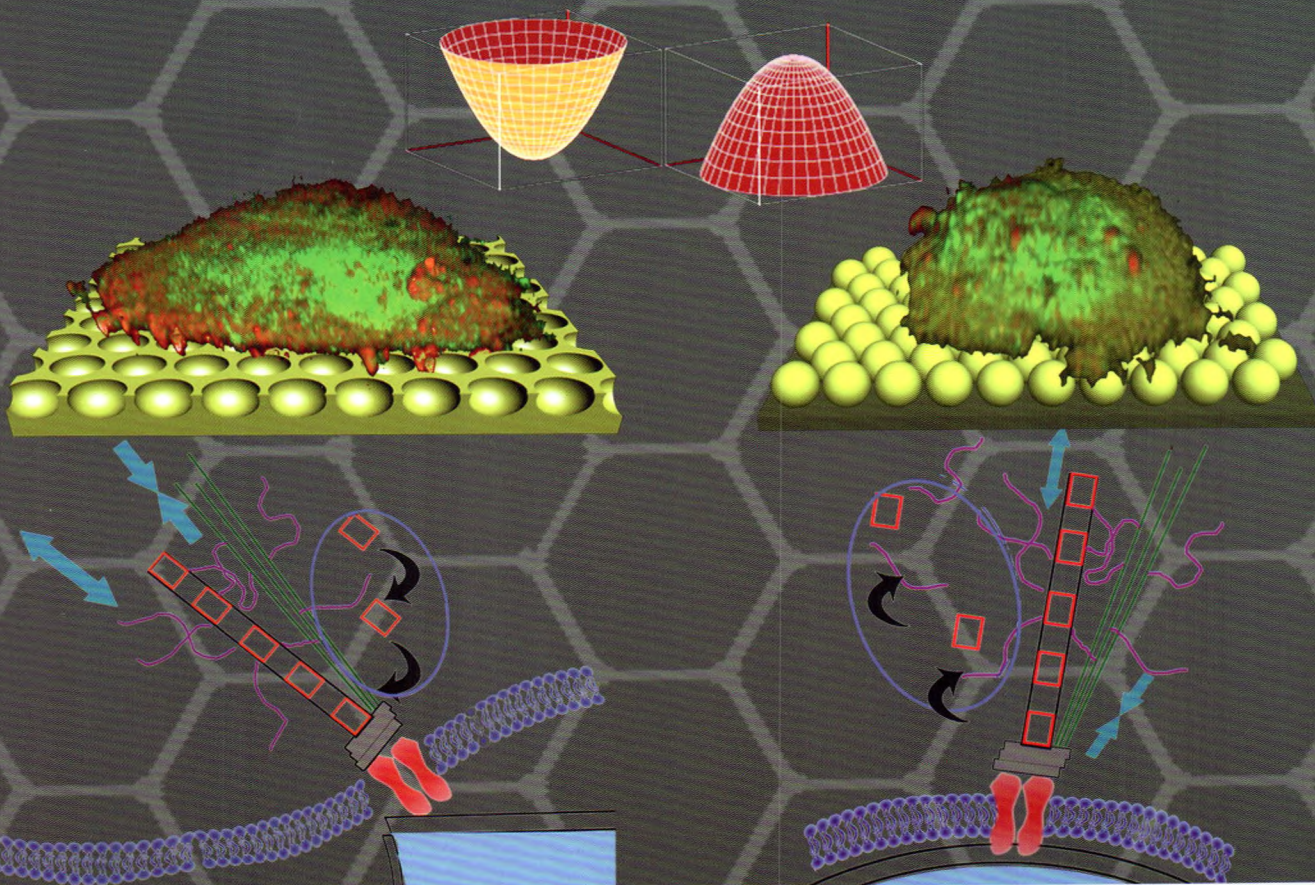
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Chinese Chemical Letters

| Volume 28 | Number 4 | APRIL 2017 |

Effects of concave and convex substrate curvature on cell mechanics and the cytoskeleton

Provided by Prof. Qinghua Lu's Group, SJTU, Shanghai



REVIEW

Wen-Dong Liu, Bai Yang
Patterned surfaces for biological applications: A new platform using two dimensional structures as biomaterials

ORIGINAL ARTICLE

Fan Zhang, Yi Liu, Zhan-Ting Li et al.
In situ-prepared homogeneous supramolecular organic framework drug delivery systems (sof-DDSs): overcoming cancer multidrug resistance and controlled release

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万方数据 Institute of Materia Medica, Chinese Academy of Medical Sciences



Graphical Abstracts/Chin Chem Lett 28 (2017) iii-x

Reviews

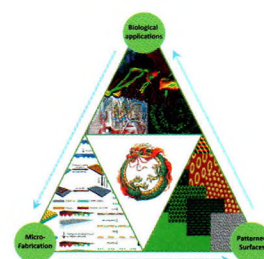
Patterned surfaces for biological applications: A new platform using two dimensional structures as biomaterials

Wen-Dong Liu, Bai Yang

State Key Laboratory of Supramolecular Structure and Materials, International Joint Research Laboratory of Nano-Micro Architecture Chemistry, College of Chemistry, Jilin University, Changchun 130012, China

With the great development of microfabrication techniques, series of two dimensional patterned structures have been successfully fabricated, and widely used in anti-reflection, self-cleaning, and sensing, etc. In the meantime, patterned structures have been gradually used in biologically relative fields such as biomaterials, aiming to deepen the perception of organism and understand the vital movements of human body.

Chinese Chemical Letters 28 (2017) 675



The *in vitro* and *in vivo* toxicity of gold nanoparticles

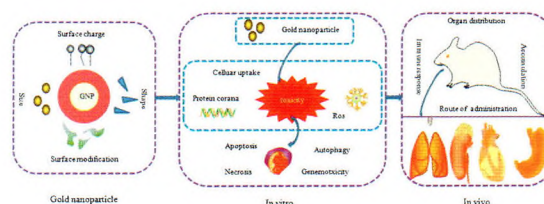
Yan-Peng Jia^a, Bu-Yun Ma^b, Xia-Wei Wei^a, Zhi-Yong Qian^a

^aState Key Laboratory of Biotherapy, Collaborative Innovation Center of Biotherapy, West China Hospital, Sichuan University, Chengdu 610041, China

^bDepartment of Ultrasound, West China Hospital, Sichuan University, Chengdu 610041, China

This is an illustrative scheme about gold nanoparticles and their interaction with biosystems both *in vitro* and *in vivo*. Some properties of gold nanoparticles (i.g. size, shape, and surface modification) are involved when considering their toxic effects on the cellular and systematic levels.

Chinese Chemical Letters 28 (2017) 691



A perspective on general direction and challenges facing antimicrobial peptides

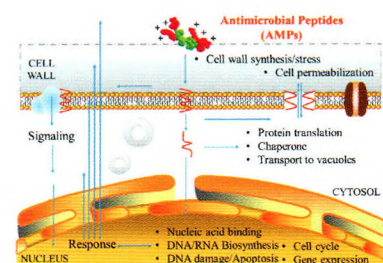
Meng Zhu^{a,b}, Peng Liu^a, Zhong-Wei Niu^a

^aKey Laboratory of Photochemical Conversion and Optoelectronic Materials, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing 100190, China

^bUniversity of Chinese Academy of Sciences, Beijing 100049, China

The increasing bacterial drug resistance has put antimicrobial peptides (AMPs) at the front as promising compounds to fight microbial infections and contaminations. This mini-review, inspired by a spate of recent studies of AMPs on structure, properties, production, modification and mechanisms, focuses on the general direction and challenges facing on this promising antimicrobial agent.

Chinese Chemical Letters 28 (2017) 703



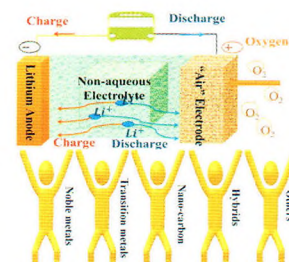
Recent advances in electrocatalysts for non-aqueous Li-O₂ batteries

Wei Chen, Ya-Feng Gong, Jie-Hua Liu

Future Energy Laboratory, School of Materials Science and Engineering, Hefei University of Technology, Hefei 230009, China

This review summarized the recent development of high-performance electrocatalysts including noble metals, nano-carbon materials, transition metals and their hybrids, which acted as the advanced cathodes for the non-aqueous Li-O₂ batteries.

Chinese Chemical Letters 28 (2017) 709



Recent catalytic syntheses of trifluoromethylthio-containing organic compounds by transition metals, chiral organocatalysts, and photocatalysts

Yong Guo^a, Mei-Wei Huang^b, Xiao-Lin Fu^b, Chao Liu^a, Qing-Yun Chen^a, Zhi-Gang Zhao^b, Ben-Zhong Zeng^c, Jiong Chen^c

^aKey Laboratory of Organofluorine Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai 200032, China

^bCollege of Chemistry and Environment Protection Engineering, Southwest University for Nationalities, Chengdu 610041, China

^cZhonghao Chenguang Research Institute of Chemical Industry, Zigong 643201, China

The trifluoromethylthio group (CF₃S) with high lipophilicity and strong electron-withdrawing properties plays an exceedingly important part in biological and medicinal chemistry. The review summarizes the recent developments in direct trifluoromethylthiolation using three catalytic methods, namely, transition-metal catalysis, chiral organocatalysis, and photocatalysis.

Chinese Chemical Letters 28 (2017) 719

Transition-metal catalyzed cross-coupling for preparing aryl trifluoromethyl sulfides
Organocatalysis for enantioselective trifluoromethylthiolation reactions
Visible light-induced photoredox trifluoromethylthiolation reactions

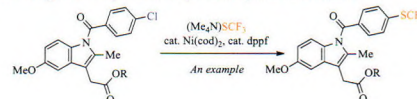


Photo-regulation of 2D supramolecular self-assembly: On-surface photochemistry studied by STM

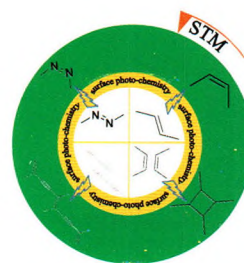
Hong-Liang Dai^{a,b}, Yan-Fang Geng^{a,b}, Qing-Dao Zeng^{a,b}, Chen Wang^{a,b}

^aCAS Key Laboratory of Standardization and Measurement for Nanotechnology, CAS Center for Excellence in Nanoscience, National Center for Nanoscience and Technology (NCNST), Beijing 100190, China

^bUniversity of Chinese Academy of Sciences, Beijing 100049, China

This review summarizes the recent progress on self-assemblies and reactions of molecules with different photosensitive groups upon photo-irradiation on solid surface probed by scanning tunneling microscopy (STM) technique.

Chinese Chemical Letters 28 (2017) 729



Original articles

Natural nitrogen-doped multiporous carbon from biological cells as sulfur stabilizers for lithium-sulfur batteries

Yan-Ping Xie^a, Hong-Wei Cheng^b, Wei Chai^c, Hong Yue^c, Xuan Zhang^a, Jian-Hui Fang^a, Hong-Bin Zhao^a, Jia-Qiang Xu^a

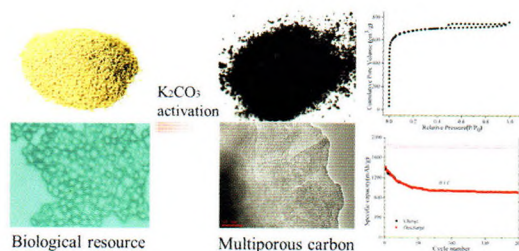
^aCollege of Science, Shanghai University, Shanghai 200444, China

^bDepartment of Material Science and Engineering, Shanghai University, Shanghai 200444, China

^cDepartment of Chemical Engineering, Zaozhuang Vocational College, Zaozhuang 277800, China

A novel nitrogen-doped multiporous carbon material from renewable biological cells was synthesized through a facile chemical activation with K₂CO₃, and employed as sulfur stabilizers for high-performance lithium-sulfur batteries.

Chinese Chemical Letters 28 (2017) 738

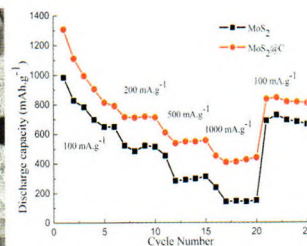


MoS₂ nanosheet arrays supported on hierarchical porous carbon with enhanced lithium storage properties

Zhi-Yan Guo, Yang Zhong, Yu Liu, Chang-Ming Mao, Gui-Cun Li

College of Materials Science and Engineering, Qingdao University of Science and Technology, Qingdao 266042, China

MoS₂ nanosheet arrays on hierarchical nitrogen-doped porous carbon (MoS₂@C) have been synthesized through a facile hydrothermal method, which exhibit enhanced electrochemical lithium storage performances.



Chinese Chemical Letters 28 (2017) 743

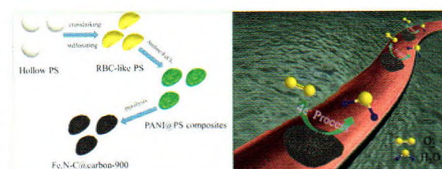
Red-blood-cell like nitrogen-doped carbons with highly catalytic activity towards oxygen reduction reaction

Jing-Jing Xu, Chun-Hui Xiao, Shu-Jiang Ding

Department of Applied Chemistry, School of Science, Xi'an Jiaotong University, Xi'an 710049, China

In this work, we prepare a high-performance ORR catalyst derived from PANI@PS composites with a unique red-blood-cell like morphology through heat treatment. This novel RBC-like catalyst is similar with RBC to adsorb and diffuse O₂. The unique structure of catalyst Fe,N-C@carbon-900 affords abundant catalytic sites and facilitates mass and electron transfer process during the oxygen reduction process. The catalyst exhibits the ORR E_{onset} at 0.87 V, E_{1/2} at 0.78 V and high diffusion-limiting current density (5.20 mA/cm²), which are approaching that of Pt/C in alkaline medium. We also provide a rational design of electrocatalysts with high ORR activity to further clarify the essential ORR sites of heteroatom doped carbon materials for fuel cells and metal-air battery applications.

Chinese Chemical Letters 28 (2017) 748



Fabrication of Nb₂O₅/C nanocomposites as a high performance anode for lithium ion battery

Gan-Ying Zeng^a, Hao Wang^a, Jing Guo^a, Li-Mei Cha^b, Yu-Hai Dou^{c,d}, Jian-Min Ma^{a,c}

^aSchool of Physics and Electronics, Hunan University, Changsha 410082, China

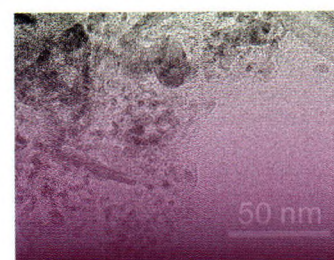
^bCollege of Materials Science and Engineering, Hunan University, Changsha 410082, China

^cInstitute for Superconducting and Electronic Materials, Australian Institute for Innovative Materials, University of Wollongong, Wollongong, New South Wales 2500, Australia

^dScience and Technology on Surface Physics and Chemistry Laboratory, China Academy of Engineering Physics, Mianyang 621908, China

Nb₂O₅/C nanosheets exhibits a high and stable specific capacity of ~380 mAh g⁻¹ at the current density of 50 mA g⁻¹.

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Unusually high electron density in an intermolecular non-bonding region: Role of metal substrate

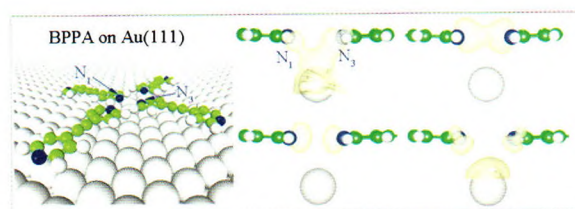
Chen-Guang Wang^a, Zhi-Hai Cheng^b, Xiao-Hui Qiu^b, Wei Ji^a

^aDepartment of Physics and Beijing Key Laboratory of Optoelectronic Functional Materials & Micro-nano Devices, Renmin University of China, Beijing 100872, China

^bCAS Key Laboratory of Standardization and Measurement for Nanotechnology, CAS Center for Excellence in Nanoscience, National Center for Nanoscience and Technology, Beijing 100190, China

We present a systematical density functional theory study on adsorbed bis(*para*-pyridyl) acetylene (BPPA) tetramer on Au(111) surface. Exceptionally large electron densities are found between two N atoms at an intermolecular "non-bonded" region, as observed a line-like feature in atomic force microscopy images. They originate from the N-Au-N three-center bonding which effectively compressed two lone electron pairs together forming non-bonding hybridization between two N atoms.

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Synthesis of nano-TiO₂ assisted by diethylene glycol for use in high efficiency dye-sensitized solar cells

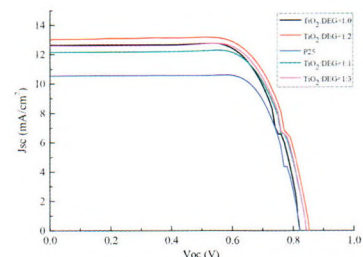
Lin Liu^{a,b}, Xiang-Mei Yu^a, Bao Zhang^a, Shu-Xian Meng^a, Ya-Qing Feng^{a,b}

^aSchool of Chemical Engineer and Technology, Tianjin University, Tianjin 300072, China

^bCollaborative Innovation Center of Chemical Science and Engineering, Tianjin 300072, China

The TiO₂-diethylene glycol (DEG) based dye-sensitized solar cells perform a noticeable improvement in the overall efficiency of maximum 7.90% which is higher than 7.53% for the cell made of TiO₂ (DEG free) and 6.59% for the cell made of P25.

Chinese Chemical Letters 28 (2017) 765



To gel or not to gel: A prior prediction of gelation in solvent mixtures

Peng Lin^{a,b}, Nan-Xiang Zhang^{a,b}, Jing-Jing Li^a, Jing Zhang^c, Jia-Hui Liu^a, Bao Zhang^{a,d}, Jian Song^{a,b,d}

^aSchool of Chemical Engineering and Technology, Tianjin University, Tianjin 300350, China

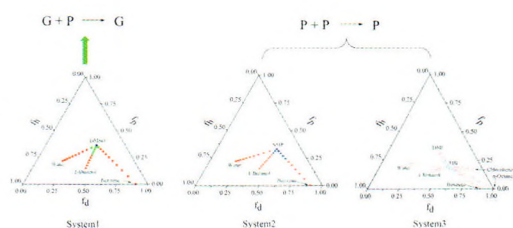
^bThe Co-Innovation Center of Chemistry and Chemical Engineering of Tianjin, Tianjin 300072, China

^cRenai College of Tianjin University, Tianjin 301636, China

^dTianjin Engineering Research Center of Functional Fine Chemicals, Tianjin 300072, China

The tendency of a gelator to form a gel in mixed solvents is strongly correlated with its gelation behaviours in good solvents.

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Glycine-conjugated porphyrin fluorescent probe with iRGD for live cell imaging

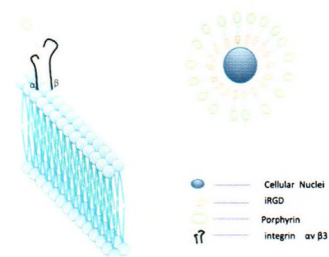
Qian Zhang^{a,b}, Xue Dong^{a,b}, Kun-Peng Wang^{a,b}, Ting-Ting Zhu^{a,b}, Feng-Nan Sun^{a,b}, Shu-Xian Meng^{a,b}, Ya-Qing Feng^{a,b}

^aSchool of Chemical Engineering and Technology, Tianjin University, Tianjin 300072, China

^bCollaborative Innovation Center of Chemical Science and Engineering (Tianjin), Tianjin 300072, China

This paper indicated that iRGD can penetrate GLC-82 cell membranes and porphyrins modified with glycine methyl ester had a good affinity with GLC-82 cells than other porphyrins when interacted with iRGD.

Chinese Chemical Letters 28 (2017) 777



A phase-selective, bis-urea organogelator with a curved bis-naphthalene core

Huan Yao^{a,b}, Liu-Pan Yang^{b,c}, Zhen-feng He^d, Jia-Rong Li^a, Wei Jiang^b

^aSchool of Chemical Engineering and Environment, Beijing Institute of Technology, Beijing 100081, China

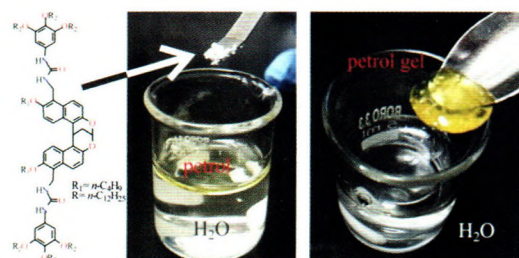
^bDepartment of Chemistry, South University of Science and Technology of China, Shenzhen 518055, China

^cDalian Institute of Chemical Physics, Chinese Academy of Science, Dalian 116023, China

^dSchool of Chemical Engineering and Environment, North University of China, Shanxi 030051, China

A bis-urea, phase-selective organogelator with a curved bis-naphthalene core is capable of gelating oils, and can be used to recover oil spill in water when applied in the powder form.

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Molecular recognition of sulfonatocalixarene with organic cations at the self-assembled interface: a thermodynamic investigation

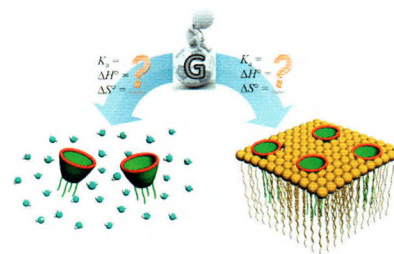
Yu-Chen Pan^a, Han-Wen Tian^a, Shu Peng^a, Xin-Yue Hu^a, Dong-Sheng Guo^{a,b}

^aDepartment of Chemistry, State Key Laboratory of Elemento-Organic Chemistry, Nankai University, Tianjin 300071, China

^bCollaborative Innovation Center of Chemical Science and Engineering, Nankai University, Tianjin 300071, China

The molecular recognition of sulfonatocalixarene at self-assembled interface was investigated by means of microcalorimetry, which is definitely different from that in aqueous phase owing to the unique physicochemical characteristics of interfaces.

Chinese Chemical Letters 28 (2017) 787



Modulating the properties of quadruple hydrogen bonded supramolecular polymers by photo-cross-linking between the coumarin moieties

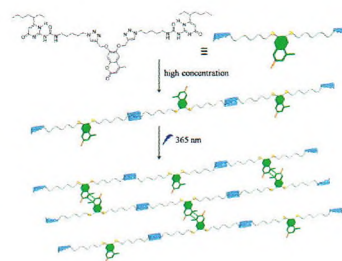
Qi Wang^{a,b}, Ming Cheng^b, Ju-Li Jiang^{b,c}, Le-Yong Wang^{b,c}

^aKey Laboratory for Organic Electronics & Information Displays (KLOEID) and Institute of Advanced Materials (IAM), Jiangsu National Synergetic Innovation Center for Advanced Materials (SICAM), Nanjing University of Posts & Telecommunications, Nanjing 210023, China

^bSchool of Chemistry and Chemical Engineering, Nanjing University, Nanjing 210023, China

^cInstitute for Natural & Synthetic Organic Chemistry, Changzhou University, Changzhou 213164, China

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In situ-prepared homogeneous supramolecular organic framework drug delivery systems (sof-DDSs): Overcoming cancer multidrug resistance and controlled release

Jia Tian^a, Chi Yao^a, Wen-Lin Yang^b, Lei Zhang^b, Dan-Wei Zhang^a, Hui Wang^a, Fan Zhang^a, Yi Liu^c, Zhan-Ting Li^a

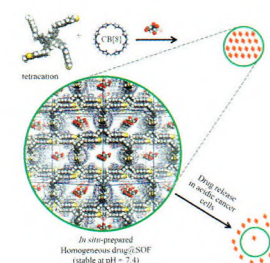
^aCollaborative Innovation Center of Chemistry for Energy Materials (iChEM), Department of Chemistry, Fudan University, Shanghai 200433, China

^bDepartment of Pathology, School of Basic Medical Sciences, Fudan University, Shanghai 200032, China

^cThe Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley 94720, United States

Supramolecular organic framework drug delivery systems (sof-DDSs) have been developed as loading-free porous nanocarriers, which enable efficient delivery of pemetrexed, an anti-cancer chemotherapeutic agent, into multidrug-resistant human breast cancer cells and the acidic medium-responsive drug release.

Chinese Chemical Letters 28 (2017) 798



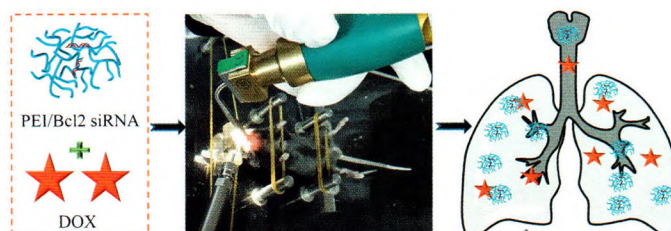
Anti-tumor effects of combined doxorubicin and siRNA for pulmonary delivery

Cai-Na Xu, Hua-Yu Tian, Yan-Bing Wang, Yang Du, Jie Chen, Lin Lin, Zhao-Pei Guo, Xue-Si Chen

Key Laboratory of Polymer Ecomaterials, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, China

PEI/Bcl2 siRNA and DOX were combined for synergistic anti-tumor and could be significantly accumulated in lungs via the pulmonary delivery.

Chinese Chemical Letters 28 (2017) 807

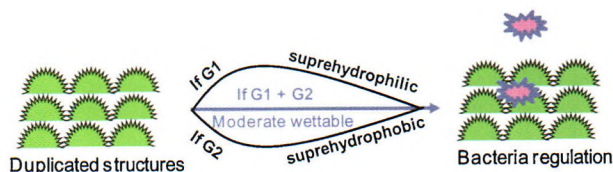


Wettability regulated gram-negative bacterial adhesion on biomimetic hierarchical structures

You Jiang, Yi-Jie Yin, Xin-Cheng Zha, Xiao-Qiu Dou, Chuan-Liang Feng

State Key Lab of Metal Matrix Composites, School of Materials Science and Engineering, Shanghai Jiaotong University, Shanghai 200240, China

Gram-negative bacterial adhesion is well-controlled on different wettable surfaces with a constant hierarchical structure, which is proved to be regulated by a lipopolysaccharide layer of the bacterial shell. The study not only enables the understanding of wettability regulated gram-bacteria adhesion under biomimetic environment, but also provides a methodology for exceptional/superior/effective/excellent/good control over bacterial adhesion by the proper design of wettable surface structures.



Chinese Chemical Letters 28 (2017) 813

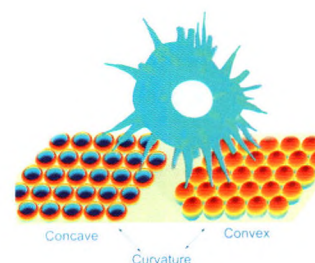
Effects of concave and convex substrate curvature on cell mechanics and the cytoskeleton

Shuang-Shuang Chen, Xue-Min Lu, Qing-Hua Lu

School of Chemistry and Chemical Engineering, State Key Laboratory of Metal Matrix Composites, Shanghai Jiao Tong University, Shanghai 200240, China

The colloidal crystal array and honeycomb surfaces were used to investigate the effects of hexagonal subcellular curvature on cell behaviors, showing the highly ordered hexagonal structure and completely inverse curvature. The main differences in cell behaviors were ascribed to differences in the distribution of the cytoskeleton that adopted to achieve mechanical balance.

Chinese Chemical Letters 28 (2017) 818



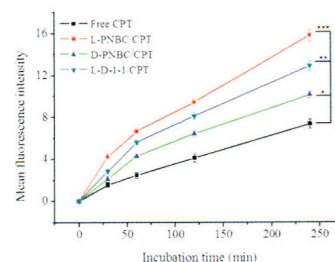
Effect of chirality on conformation and cellular uptake of poly(S-(o-nitrobenzyl)-L,D-cysteine) polypeptides

Yang Liu, Chang-Ming Dong

Department of Polymer Science & Engineering, School of Chemistry and Chemical Engineering, Shanghai Jiao Tong University, Shanghai 200240, China

A series of poly(S-(o-nitrobenzyl)-L,D-cysteine) polypeptides with different chirality was synthesized and their molecular structures, secondary conformations, drug release and biological properties were thoroughly investigated. The chirality of the polypeptides had effect on secondary conformations and the cellular uptake behavior of the related nanoparticles.

Chinese Chemical Letters 28 (2017) 827



Thermoresponsive dendronized copolymers for protein recognitions based on biotin-avidin interaction

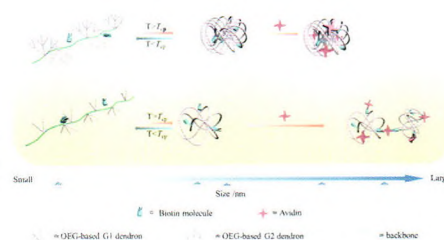
Chunhua Zhou^a, Mona A. Abdel-Rahman^b, Wen Li^a, Kun Liu^a, Afang Zhang^a

^aDepartment of Polymer Materials, Shanghai University, 99 Shangda Road, Mailbox 152, Shanghai 200444, China

^bChemistry Department, Polymer Lab. 109, Faculty of Science, Assiut University, PB 71516, Assiut, Egypt

Biotinylated dendronized copolymers were synthesized efficiently via free radical copolymerization, and their thermoresponsive properties, as well as thermally-regulated biotin-avidin interaction was investigated. Dendron generation was found to play an important rule on mediating the biotin-avidin interaction with temperature as a switcher.

Chinese Chemical Letters 28 (2017) 832



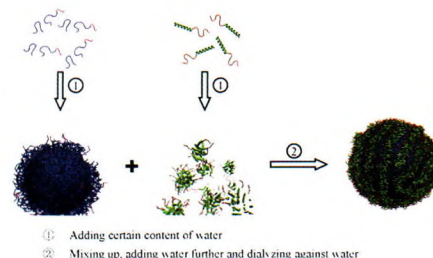
Fabrication of virus-like particles with strip-pattern surface: A two-step self-assembly approach

Shuo Zhang, Chun-Hua Cai, Zhou Guan, Jia-Ping Lin, Xing-Yu Zhu

Shanghai Key Laboratory of Advanced Polymeric Materials, State Key Laboratory of Bioreactor Engineering, Key Laboratory for Ultrafine Materials of Ministry of Education, School of Materials Science and Engineering, East China University of Science and Technology, Shanghai 200237, China

Spherical core-shell virus-like particles with strip-pattern surface are fabricated through a two-step self-assembly of two block copolymers.

Chinese Chemical Letters 28 (2017) 839



Enhanced critical-sized bone defect repair efficiency by combining deproteinized antler cancellous bone and autologous BMSCs

Jin-Qi Wei^{a,b}, Yun Liu^{a,c}, Xue-Hui Zhang^{d,e,f}, Wei-Wei Liang^a, Tuan-Feng Zhou^b, Hua Zhang^b, Xu-Liang Deng^{a,e,f}

^aDepartment of Geriatric Dentistry, Peking University School and Hospital of Stomatology, Beijing 100081, China

^bFirst Clinical Division, Peking University School and Hospital of Stomatology, Beijing 100034, China

^cDepartment of Prosthodontics, Peking University School and Hospital of Stomatology, Beijing 10081, China

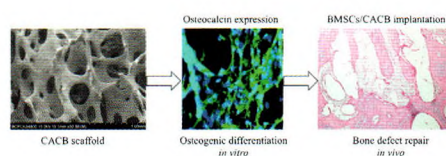
^dDepartment of Dental Materials & Dental Medical Devices Testing Center, Peking University School and Hospital of Stomatology, Beijing 100081, China

^eNational Engineering Laboratory for Digital and Material Technology of Stomatology, Peking University School and Hospital of Stomatology, Beijing 100081, China

^fBeijing Laboratory of Biomedical Materials, Peking University School and Hospital of Stomatology, Beijing 100081, China

The biomimetic multi-scale topography and chemical niches provided by calcinated antler cancellous bone (CACB) could not only promote bone marrow mesenchymal stem cells (BMSCs) viability and favor cell attachment and spreading, but also drive them down an osteogenic lineage without osteogenic induction. Synergistic effect of autologous undifferentiated BMSCs and CACB enhanced new bone formation and angiogenesis when compared with implanted CACB alone in rabbit mandible critical-sized defect repair.

Chinese Chemical Letters 28 (2017) 845



Binary self-assembly of highly symmetric DNA nanocages via sticky-end engineering

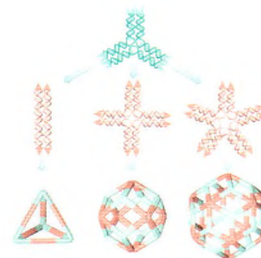
Xiao-Rong Wu^a, Chen-Wei Wu^a, Fei Ding^a, Cheng Tian^b, Wen Jiang^b, Cheng-De Mao^b, Chuan Zhang^a

^aSchool of Chemistry and Chemical Engineering, State Key Laboratory of Metal Matrix Composites, Shanghai Key Laboratory of Electrical Insulation and Thermal Ageing, Shanghai Jiao Tong University, Shanghai 200240, China

^bDepartments of Chemistry, Purdue University, West Lafayette, IN 47906, USA

DNA elongated tetrahedron (E-TET), rhombic dodecahedron (R-DOD), and rhombic triacontahedron (R-TRI) consisting of binary point-star motifs were successfully synthesized through deliberately engineering the sticky-end interaction between the component building blocks.

Chinese Chemical Letters 28 (2017) 851



Shape change of calcite single crystals to accommodate interfacial curvature: Crystallization in presence of Mg²⁺ ions and agarose gel-networks

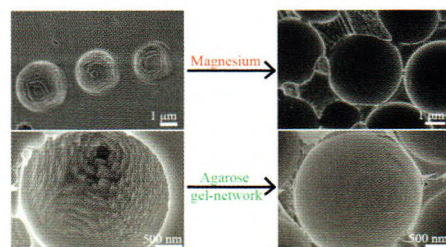
Tao Ye^a, Xin-Yi Jin^a, Liao Chen^a, Chong Hu^a, Jie Ren^a, Yu-Jing Liu^a, Gang Wu^a, Lu-Jian Chen^b, Hong-Zheng Chen^a, Han-Ying Li^a

^aMOE Key Laboratory of Macromolecular Synthesis and Functionalization, State Key Laboratory of Silicon Materials, Department of Polymer Science and Engineering, Zhejiang University, Hangzhou 310027, China

^bDepartment of Electronic Engineering, School of Information Science and Engineering, Xiamen University, Xiamen 361005, China

The addition of magnesium or the incorporation of agarose gel-networks can change the crystallization kinetics of calcite to accommodate the curvature of foreign solids.

Chinese Chemical Letters 28 (2017) 857



Fabrication of sulfonated mesoporous carbon by evaporation induced self-assembly/carbonization approach and its supercapacitive properties

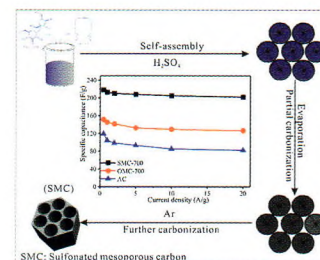
Zheng-Fang Tian^{a,b}, Ming-Jiang Xie^b, Yu Shen^b, Yong-Zheng Wang^b, Xue-Feng Guo^b

^aHubei Key Laboratory for Processing and Application of Catalytic Materials, Huanggang Normal University, Huanggang 438000, China

^bKey Lab of Mesoscopic Chemistry MOE, School of Chemistry and Chemical Engineering, Nanjing University, Nanjing 210093, China

Herein, an evaporation induced self-assembly/carbonization (EISAC) method was developed and applied to the synthesis of sulfonated mesoporous carbon (SMC). The final mesoporous carbon obtained by EISAC method possesses wormlike mesoporous structure, uniform pore size, large surface area (735 m²/g), graphitic pore walls and rich sulfonic acid group. Moreover, the resultant mesoporous carbon achieves a superior electrochemical capacitive performances (216 F/g) to phenolic resin derived mesoporous carbon (OMC, 152 F/g) and commercial activated carbon (AC, 119 F/g).

Chinese Chemical Letters 28 (2017) 863



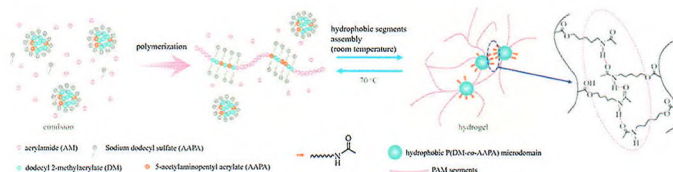
One-step synthesis of self-healable hydrogels by the spontaneous phase separation of linear multi-block copolymers during the emulsion copolymerization

Lan-Lan Li^a, Ru-Yi Jiang^b, Jin-Xing Chen^a, Mo-Zhen Wang^a, Xue-Wu Ge^a

^aCAS Key Laboratory of Soft Matter Chemistry, Department of Polymer Science and Engineering, University of Science and Technology of China, Hefei 230026, China

^bPetro China Company Limited, Beijing 100007, China

The temperature-responsive hydrogel with excellent self-healing ability was one-step synthesized by the emulsion copolymerization of acrylamide, dodecyl 2-methacrylate, and 5-acetylaminopentyl acrylate.



Chinese Chemical Letters 28 (2017) 868

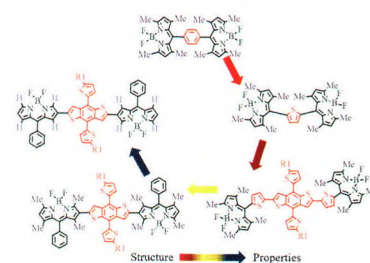
Tailoring the photophysical and photovoltaic properties of boron-difluorodipyrromethene dimers

Wen-Xu Liu, Jian-Nian Yao, Chuan-Lang Zhan

Beijing National Laboratory of Molecular Science, CAS Key Laboratory of Photochemistry, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, China

The photophysical and photovoltaic properties of BODIPY based dimers can be modulated effectively by facile structural modifications.

Chinese Chemical Letters 28 (2017) 875



Synthesis and characterization of NaSbS₂ thin film for potential photodetector and photovoltaic application

Zhe Xia^a, Feng-Xin Yu^a, Shuai-Cheng Lu^a, Ding-Jiang Xue^b, Yi-Su He^a, Bo Yang^a, Chong Wang^a, Rui-Qing Ding^a, Jie Zhong^c, Jiang Tang^a

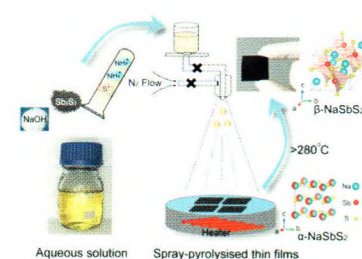
^aWuhan National Laboratory for Optoelectronics (WNLO) and School of Optical and Electronic Information, Huazhong University of Science and Technology (HUST), Wuhan 430074, China

^bBeijing National Laboratory for Molecular Sciences, Key Laboratory of Molecular Nanostructure and Nanotechnology, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, China

^cState Key Laboratory of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, Wuhan 430070, China

We present NaSbS₂ as a non-toxic, earth-abundant absorber material for thin film photovoltaics. It consists of covalently bonded (1/∞) [SbS₂⁻] polymeric chains held together by sodium ions, featuring easy dissolution in water due to the ionic nature and fast carrier transport along the covalent backbone. The optoelectronic properties of NaSbS₂ film were carefully studied, and a prototype substrate solar cell was successfully built.

Chinese Chemical Letters 28 (2017) 881



Isomorphism in ternary complex: Poly(ethylene oxide), urea and thiourea

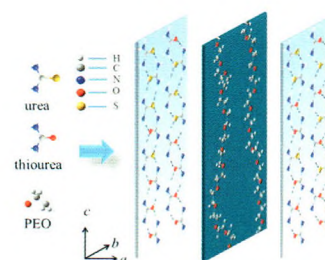
Hai-Mu Ye^a, Liu-Ting Hong^a, Yang Gao^b, Jun Xu^b

^aDepartment of Materials Science and Engineering, College of Science, China University of Petroleum, Beijing 102249, China

^bKey Laboratory of Advanced Materials (MOE), Department of Chemical Engineering, Tsinghua University, Beijing 100084, China

We demonstrate that urea, thiourea and poly(ethylene oxide) can show isomorphism phenomenon in their ternary complex for the first time. The molecular level hybrid crystal lattice between urea and thiourea can be realized with the aid of poly(ethylene oxide).

Chinese Chemical Letters 28 (2017) 888



Loading-free supramolecular organic framework drug delivery systems (sof-DDSs) for doxorubicin: normal plasm and multidrug resistant cancer cell-adaptive delivery and release

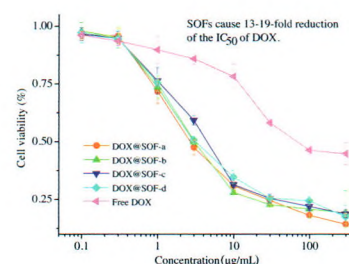
Chi Yao^a, Jia Tian^a, Hui Wang^a, Dan-Wei Zhang^a, Yi Liu^b, Fan Zhang^a, Zhan-Ting Li^a

^aCollaborative Innovation Center of Chemistry for Energy Materials (iChEM), Department of Chemistry, Fudan University, Shanghai 200433, China

^bThe Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley 94720, United States

With doxorubicin as model, we demonstrate loading-free supramolecular organic framework drug delivery systems (sof-DDSs) for the delivery and controlled release of the neutral hydrophobic chemotherapeutic agent doxorubicin for the treatment of multidrug resistant human breast cancer.

Chinese Chemical Letters 28 (2017) 893



Synthesis of 5-vinyl-2-norbornene through Diels–Alder reaction of cyclopentadiene with 1,3-butadiene in supercritical carbon dioxide

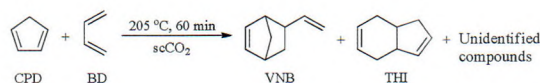
Fan-Qiang Meng^{a,b}, Xiu-Juan Feng^a, Wan-Hui Wang^{a,b}, Ming Bao^{a,b}

^aState Key Laboratory of Fine Chemicals, Dalian University of Technology, Dalian 116023, China

^bSchool of Petroleum and Chemical Engineering, Dalian University of Technology, Panjin 124221, China

The Diels–Alder reactions of cyclopentadiene with 1,3-butadiene proceeded smoothly in supercritical carbon dioxide in the absence of any polymerization inhibitor to produce the 5-vinyl-2-norbornene in satisfactory yield (25% yield) with high selectivity (52% selectivity).

Chinese Chemical Letters 28 (2017) 900



Clavirolide G, a new rare dolabellane-type diterpenoid from the Xisha soft coral *Clavularia viridis*

Yuan Gao^a, Wei Xiao^c, Hong-Chun Liu^b, Jian-Rong Wang^b, Li-Gong Yao^b, Ping-Kai Ouyang^a, De-Cai Wang^a, Yue-Wei Guo^b

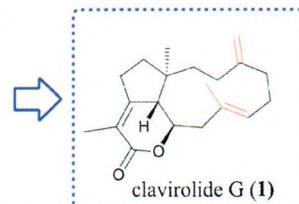
^aCollege of Biotechnology and Pharmaceutical Engineering, Nanjing Tech University, Nanjing 211816, China

^bState Key Laboratory of Drug Research, Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Shanghai 201203, China

^cJiangsu Kanion Pharmaceutical Co., Ltd., Lianyungang 222002, China

A rare new dolabellane-type diterpenoid, clavirolide G (**1**), was isolated from the Xisha soft coral *Clavularia viridis*.

Chinese Chemical Letters 28 (2017) 905



Synthesis of a novel C-branched polyhydroxylated cyclic nitron

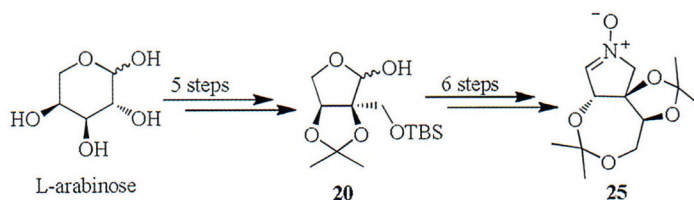
Qing-Kun Wu^{a,b}, Yi-Xian Li^a, Yue-Mei Jia^a, Chu-Yi Yu^{a,c}

^aBeijing National Laboratory for Molecular Science (BNLMS), CAS Key Laboratory of Molecular Recognition and Function, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, China

^bUniversity of Chinese Academy of Sciences, Beijing 100049, China

^cNational Engineering Research Center for Carbohydrate Synthesis, Jiangxi Normal University, Nanchang 330022, China

A novel C-branched polyhydroxylated cyclic nitron **25**, which could be a valuable intermediate for the synthesis of C-branched pyrrolidine iminosugars, was synthesized starting from the commercially available L-arabinose in 29.0% total yield.



Chinese Chemical Letters 28 (2017) 909

New triazole derivatives containing substituted 1,2,3-triazole side chains: Design, synthesis and antifungal activity

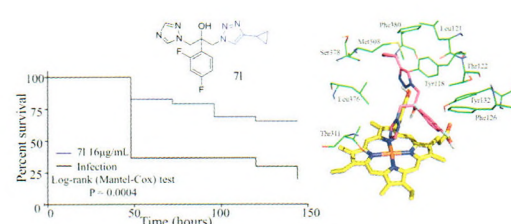
Hai-Jiang Chen^{a,b}, Yan-Juan Jiang^{a,b}, Yong-Qiang Zhang^c, Qi-Wei Jing^b, Na Liu^b, Yan Wang^b, Wan-Nian Zhang^b, Chun-Quan Sheng^{a,b}

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^bSchool of Pharmacy, Second Military Medical University, 325 Guohe Road, Shanghai 200433, People's Republic of China

^cSchool of Pharmacy, East China University of Science and Technology, Shanghai 200237, People's Republic of China

A series of new triazole antifungal derivatives were designed and synthesized. Compound **71** showed potent *in vitro* and *in vivo* antifungal activity.



Chinese Chemical Letters 28 (2017) 913

The discovery of new scaffold of plant activators: From salicylic acid to benzotriazole

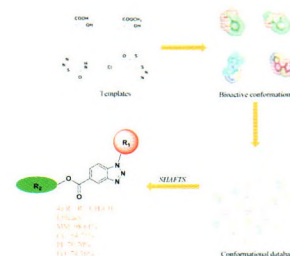
Kang Chang^a, Jian-Qin Chen^a, Yan-Xia Shi^c, Mei-Jian Sun^b, Peng-Fei Li^a, Zhen-Jiang Zhao^b, Wei-Ping Zhu^a, Hong-Lin Li^b, Yu-Fang Xu^a, Bao-Ju Li^c, Xu-Hong Qian^a

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^bState Key Laboratory of Bioreactor Engineering, Shanghai Key Laboratory of New Drug Design, School of Pharmacy, East China University of Science and Technology, Shanghai 200237, China

^cInstitute of Vegetables and Flowers, Chinese Academy of Agricultural Science, Beijing 100081, China

A series of novel plant activators possessing benzotriazole scaffold was developed with the help of SHAFTS.



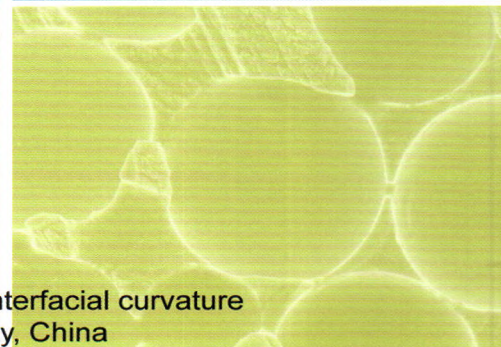
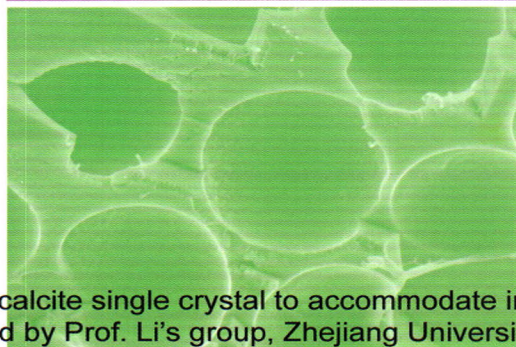
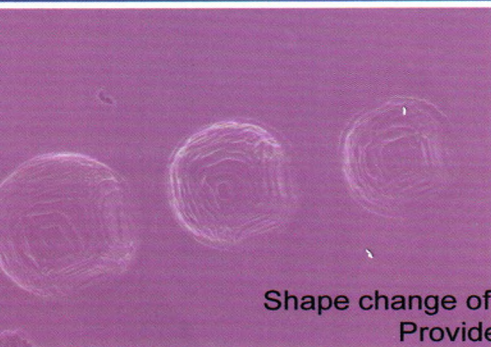
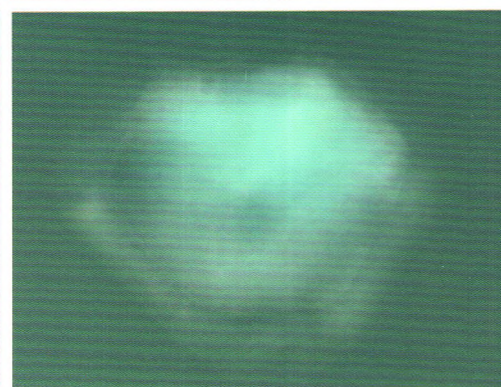
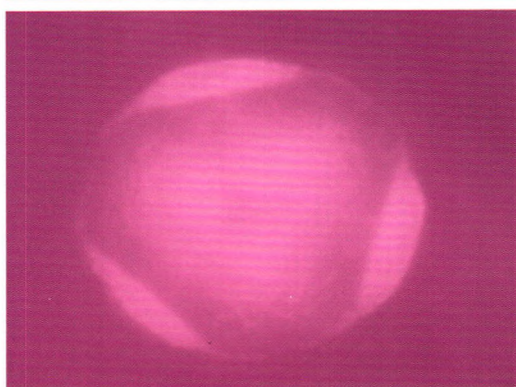
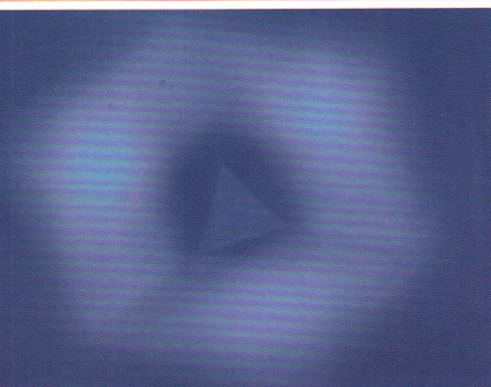
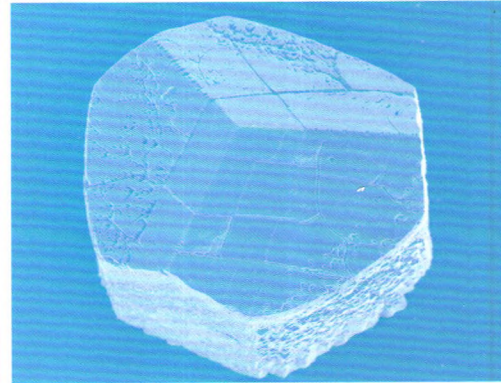
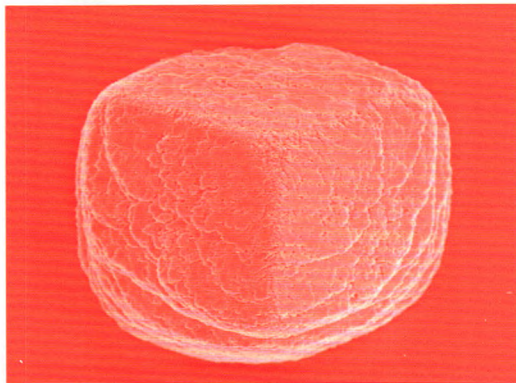
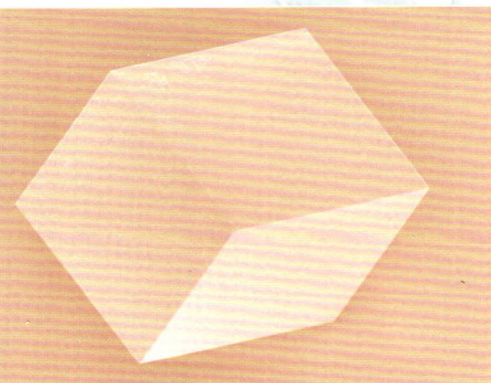
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