



## 研究年报

### 2000年研究年报

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1.G.M.Liu, X.Z.Li, J.C.Zhao, S. Horikoshi, H. Hidaka. Photooxidation mechanism of dye alizarin red in TiO<sub>2</sub> dispersions under visible illumination: an experimental and theoretical examination.

J. Mol. Catal., 2000, 153, 221-229

2.G.M.Liu, J.C.Zhao, H. Hidaka. ESR spin-trapping detection of radical intermediates in the TiO<sub>2</sub>-assisted photooxidation of sulforhodamine B under visible irradiation.

J. Photochem and Photobiol. A: Chem., 2000, 133, 83-88

3.T.X.Wu, G.M.Liu, J.C.Zhao, H. Hidaka, N. Serpone.. Mechanism study of the TiO<sub>2</sub>-assisted photodegradation of squarylium

cyanine dye in methanolic suspensions exposed to visible light.

New J. Chem., 2000, 24, 93-9

4.G.M.Liu, J.C.Zhao. Photocatalytic Degradation of Dye Sulforhodamine B: A Comparative Study of Photocatalysis with Photosensitization.

New J. Chem., 2000, 24, 411-417

5.K. Waki, J.C.Zhao, S.Horikoshi, N. Watanabe, H. Hidaka. Photooxidation Mechanism of Nitrogen-containing Compounds at TiO<sub>2</sub>/H<sub>2</sub>O Interfaces: An Experimental and Theoretical Examination of Hydrazine Derivatives.

Chemosphere, 2000, 41, 337-343

6.Xuezhong He, Yuxiang Zhou, Yalin Zhou, Lingxuan Wang, Tiankai Li, Zhichu Bi, Manhua Zhang, Tao Shen. Structure and photoelectric Properties of Tetrakis(4-N-Hexadecylpyridiniumyl)-Porphyrin/Anthraquinone LB films.

J. Materials Chem., 2000, 10(4): 873-877

7.Xuezhong He, Yuxiang Zhou, Yalin Zhou, Manhua Zhang, Tao Shen . Different Interaction between Isomeric Tetra-N-hexadecyl-pyridiniumyl) Porphyrins and CdS nanoparticles.

J. Colloid and Interface Sci., 2000, 225(1): 128

8.A.M. Song, J.H. Zhang, M.H. Zhang, T. Shen, J.A. Tang . Spectral Properties and Structure of Fluorescein and its Alkyl Derivatives in Micelles.

Colloids and Surfaces A, 2000, 167(3): 253

9.敬炳文, 吴韬, 张曼华, 沈涛. 功能性多吡啶配体的合成。

高等学校化学学报, 2000, 21(3): 395

10.韩二勇, 马金石, 蒋丽金. 石油卟啉的合成进展。

有机化学, 2000, 20 (30): 327-333

11.程凌江, 张驿, 王鹏, 闫芳, 马金石. 胆红素二牛磺酸钠的化学制备及性质。

化学试剂, 2000, 22(2): 70-71

12.Yuying He, Hongyan Liu, Jingyi An, Rei Han, Lijin Jiang. Photodynamic action of hypocrellin dyes: Structure-activity relationships. Dyes and Pigments, 2000, 44, 63-67

## 实验室动态信息

- 光化学实验室被人力资源和社会保...
- 余彩兰助理研究员获“中国化学会...
- 丁涛、薛林、王熙等研究生荣获中...
- 赵进才研究员获日本光化学协会“...
- 关于2007级硕博连续研究生转博考...
- 2008年元旦放假通知
- 光化学实验室关于2007年工作总结...

13. Suping Zhang, Side Yao, Wenfeng Wang, Jie Xie, Jianping Zhang, Jingquan Zhao, Lijin Jiang. Studies on Kinetics of reactions between phycobiliproteins and hydroxyl radicals by pulse radiolytic technique. Chinese Science Bulletin, 2000, 45(10): 899-902.

14. 蒋丽金, 赵井泉. 藻类光合天线系统的微观结构和整体功能.  
中国科学(B), 2000, 30(3): 242-249

15. Yao Liu, Xurui Xiao, Tiping Zeng. Photoelectrochemical behavior of a novel composite In<sub>0.15</sub>Ga<sub>0.85</sub>As/GaAs|GaAs/Al<sub>0.3</sub>Ga<sub>0.7</sub>As Multiple quantum well electrode.  
Electrochemistry communication, 2000, 2, 404-406

16. 张敬波, 林原, 尹峰, 肖绪瑞. 强度调制光电流谱研究纳米CdSe薄膜电极的界面电荷转移过程.  
中国科学(B), 2000, 30, 263

17. 张东社, 刘尧, 王维波, 肖绪瑞. 纳晶多孔TiO<sub>2</sub>薄膜电极的化学处理.  
科学通报, 2000, 45, 929

18. 张敬波, 林原, 肖绪瑞. 半导体CdS簇合物的制备及性能.  
半导体学报, 2000, 21(3): 245

19. Z.H. Chen, Y.A. Yang, J.B. Qiu, J.N. Yao. Fabrication of photochromic WO<sub>3</sub>/4,4'-BAMBp superlattice films.  
Langmuir, 2000, 16, 722-725

20. H.B. Fu, Y.Q. Wang, J.N. Yao. The Size-dependent Property of pyrazolines Nanocrystals.  
Chem. Phys. Lett., 2000, 322, 327-332

21. H.B. Fu, R.M. Xie, Y.Q. Wang, J.N. Yao. The Optical Size-dependent Properties of pyrazolines Nanocrystals.  
Colloids Surf. A, 2000, 174, 367-373

22. N. Xu, M. Sun, Y.W. Cao, J.N. Yao, E.G. Wang. Influence of pH on Structure and Photochromic Behavior of Nanocrystalline WO<sub>3</sub> Films.  
Appl. Surf. Sci., 2000, 157, 81-84

23. Y.A. Yang, J.N. Yao. Microstructural Properties of an electrochromic WO<sub>3</sub> thin film.  
J. Phys Chem. Solids, 2000, 61, 647-650

24. Y.A. Yang, Y. Ma, J.N. Yao, B.H. Loo. Simulation of the sublimation process in the preparation of photochromic WO<sub>3</sub> film by laser microprobe mass spectrometry.  
J. Non-Cryst. Solids, 2000, 272, 71-7

25. C. Wang, J. Wang, Y. Cao, C. Cao, J. Yao. Synthesis of a Soluble Diacetylene Derivative with Imidazole Ring.  
Polymer Preprints, 2000, 41(1): 246

26. X.M. Qian, X.T. Zhang, T.J. Li, et al. Photoelectrochemical Characteristics of  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> nanocrystalline film.  
J. Nanoparticle Res., 2000, (5): 5

27. 陈朝晖, 刘斌, 姚建年. 光致变色的PW12/1,10-DAD自组装超晶格多层膜.  
感光科学与光化学, 2000, 18(3): 198-203

28. 管自生, 马颖, 曹亚安, 纪学海, 姚建年. 钛凝胶的光致变色和电致变色特性.  
物理化学学报, 2000, 16, 5-8

29. 管自生, 马颖, 曹亚安, 张昕彤, 姚建年. 预处理对TiO<sub>2</sub>表面超亲水性的影响.  
感光科学与光化学, 2000, 18(3): 204-207

30. 邱健斌, 曹亚安, 马颖, 管自生, 姚建年. 担载材料对TiO<sub>2</sub>薄膜光催化活性的影响.  
物理化学学报, 2000, 16, 1-4

31. 张昕彤, 庄家琪, 任玉林, 徐金杰, 王德军, 白玉白, 李铁律, 姚建年. 量子尺寸氧化锌微粒的制备与表征.  
物理化学学报, 2000, 16(7): 636-642

32. Shuangqing Wang, Shuyin Shen, Huijun Xu. Synthesis, spectroscopic and thermal properties of a series of azo metal chelate dyes.  
Dyes and Pigments, 2000, 44(3): 195-198

33. 王双青, 沈淑引, 许慧君. 一种光存储用短波长偶氮染料金属螯合物的光谱学与热学特性研究.  
感光科学与光化学, 2000, 18(2): 184-187

34. 李晖, 许慧君, 周庆复. 冠醚取代葱醌超分子体系的设计与合成及分子内能量转移研究.  
感光科学与光化学, 2000, 18(1): 58-62

35. J. Wang, H. Xu, S. Shen. Synthesis of phthalocyaninatocobalt(II) and Complex Formation with Imidazole.  
Dyes and Pigments, 2000, 45, 59-63

36. 汪舰, 沈淑引, 许慧君. 酞菁钴(II)轴向配合物的合成及其光谱特性研究.

感光科学与光化学, 2000, 18(2): 179-183

37.Hua Jiang, Huijun Xu, Jianping Ye. Synthesis and cation-mediated electron transfer in intramolecular fluorescence quenching of donor-acceptor podands: observation of Marcus inverted region in forward electron transfer reactions.

J. Chem. Soc., Perkin Trans 2, 2000, (5): 925-930

38.Shuangqing Wang, Shuyin Shen, Huijun Xu, Donghong Gu, Jinlong Yin, Xiaodong Tang. Spectroscopic and optical properties of an azo-metal chelate dye as optical recording medium.

Material Sciences and Engineering B, 2000, B76, 69-72

39.Ximing Ding, Huijun Xu. Gas-sensing properties of asymmetrically substituted amphiphilic phthalocyanines. Sensors and Actuators B, 2000, 65, 108-110

40.江华, 许慧君, 沈淑引, 周庆复. 蒽醌冠醚铜离子络合物分子内能量转移。

感光科学与光化学, 2000, 18(3): 223-228

41.李文, 郑培菊, 叶建平. 金属硼烷 arachno-P4M2B8 和closo-MB10X2 分子结构的键合研究。

分子科学学报, 2000, 16(2): 94-101

42.郭丰启, 孙文芳, 王夺元, 赵理管, 卢振钟, 聂玉昕. 五氟钽金属配合物溶液对皮秒激光的光限幅。

功能材料, 2000, 31(1): 87-92

43.蒋峰芝, 许认, 王夺元, 董兴德, 李桂春. 气动力压敏漆发光氧猝灭影响因素的研究。

功能材料, 2000, 31(1): 72-76

44.展传郎, 王夺元. 类杂萜分子第一超极化率的溶剂效应研究。

化学学报, 2000, 58(1): 24-28

45.Chuanlang Zhan, Duoyuan Wang. Linearity relationship between solvatochromic shifts of stilbazolium-like dyes and modified reaction field function.

Chin. J. Chem. 2000, 18 (3): 418-424

46.Fengqi Guo, Shiming Dong. Duoyuan Wang, A novel pentaazadentate bismacrocylic cadmium complex.

Chin. J. Chem., 2000, 18 (4): 551-554

47.G.M.Liu, X.Z.Li, J.C.Zhao, H. Hidaka, N. Serpone. Photooxidation Pathway of Sulforhodamine-B. Dependence on the Adsorption Mode on TiO<sub>2</sub> Exposed to Visible Light Radiation.

Environ. Sci. Technol. (Amer. Chem. Soc.), 2000, 34, 3982-3990

48.Lei Li, Yanwen Chen, Manhua Zhang, Tao Shen. New long-wavelength Perylenequinones: Synthesis and Phototoxicity of Hypocrellin B Derivatives.

Biochimica et Biophysica Acta (BBA), 2000, 1523(1): 6-12

49.Tao Wu, Jianquan Shen, Shen Chen, Manhua Zhang, Tao Shen. Photodynamic action of amino substituted hypocrellins: EPR studies on the photogenerations of active oxygen and free radical species.

J. Photochem. Photobiol., B., 2000, 57, 14-21

50.B.W. Jing, T. Wu, C.H. Tian, M.H. Zhang, T. Shen. pH-Dependent luminescence of Ruthenium(II) Polypyridine Complexes.

Bull. Chem. Soc. Japan, 2000, 73(8): 1749-1755

51.Yi Zhang, Zheming Wang, Chunhua Yan, Genpei Li, Jinshi Ma. Synthesis and Self-Assembly of a Novel Tetrapyrrole Containing Dipyrin Units Linked at the 3,3'-positions.

Tetrahedron Letters, 2000, 41(400): 7717-7721

52.Lijin Jiang, Yuying He. Photophysics, Photochemistry and Photobiology of hypocrellin photosensitizer.

Chinese Science Bulletin, 2000, 45(1):

53.Y.A. Cao, X.T. Zhang, W.S. Yang, H. Du, Y.B. Bai, T.J. Li, J.N. Yao. Bicomponent TiO<sub>2</sub>/SnO<sub>2</sub> particulate film for photocatalysis.

Chem. Mater., 2000, 12(11): 3445-3448

54.Wenfang Sun, Clare C. Byeon, Chris M. Lawson, Gary M. Gray, Duoyuan Wang. Third-order nonlinear optical properties of an expanded porphyrin cadmium complex.

Applied Physics Letter, 2000, 77(12): 1759-1761

55.Wen Li, Peiju Zheng, Jianping Ye. Electronic structure calculations for metallaboranes with C<sub>2v</sub> arachno-P4M2B8 and closo-MB10X2 skeletons.

J. of Molecular Science, 2000, 16(2): 94-101

56.Yuying He, Lijin Jiang. Synthesis and EPR investigations of new aminated hypocrellin derivatives.

Free Radical Biology & Medicine, 2000, 28(11): 1642-1651

57.Yuying He, Lijin Jiang. Photosensitized damage to calf thymus DNA by a hypocrellin derivative: Mechanisms under aerobic anaerobic conditions.

Biochim. Biophys. Acta, 2000, 1523, 29-36

58. Jingbo Zhang, Yuan Lin, Feng Yin, Xurui Xiao. Studies on the interfacial charge transfer process of nanocrystalline CdSe thin film electrodes by Intensity Modulated Photocurrent Spectroscopy. *Science in China(B)*, 2000, 43,(4), 443-448
59. Dongshe Zhang, Yao Liu, Weibo Wang, Xurui Xiao. Studies on the Chemical Treatments of the nanocrystalline Porous TiO<sub>2</sub> Electrodes  
*Chinese Science Bulletin*, 2000, 45, (21), 1956-1959
60. Dong She Zhang, Xu Rui Xiao. A Dye-sensitized Nanocrystalline Solid State Photovoltaic Cell. *Chinese Chemical Letters*, 2000, 11,(9),813-814
61. Dongshe Zhang, Weibo wang, Yaoliu, Xurui Xiao, Wei Zhao, Baowen Zhang, Yi Cao. Photosensitization of nanocrystalline TiO<sub>2</sub> electrodes by squarylium cyanine incorporated with a ruthenium bipyridyl complex. *Journal of Photochemistry and Photobiology A: Chemistry*, 2000,135, 235-240
62. 刘恺, 沈淑引, 许慧君. 酞菁与TiO<sub>2</sub> 超微粒间的光诱导电子转移相互作用,  
*物理化学学报*, 2000,16,(12), 1103-1109
63. 沈淑引, 周庆复, 李顺来, 黄河, 熊国祥, 丁世岭. 新型有机相变光存储材料研究,  
*光电子·激光*, 2000, 9, 81
64. Hua Jiang, Hui Jun Xu. Synthesis and Cation-Mediated Electron Transfer in Fluorescence Quenching of Donor-Acceptor Podands. *Chinese Chemical Letters*, 2000, 11(9). 767-770
65. Zhijian Liang, Shuangqing Wang, Fulong Tang, Fuxi Gan, Baolong yu. Investigation on third-order optical nonlinearity of Ni-azo metal complex by the Z-scan technique. *Chinese Journal of Lasers B*, 2000, B9(3), 233-237
66. Saijun Wu, Wei Qian, Zongju Xia, Yinghua Zou, Shuangqing Wang, Shuyin Shen, Huijun Xu. Investigation of third-order nonlinearity of an azo dye and its metal substituted compounds. *Chemical Physics Letters*, 2000, 330, 535-540
67. Su-ping Zhang, Jing-quan Zhao, Li-jin Jiang. Photosensitized Formation of Singlet Oxygen by Phycobiliproteins in Neutral Aqueous Solutions. *Free Rad. Res*, 2000, 33,489-496
68. Ye Li, Jian Ping Zhang, Jie Xie, Jing Quan zhao, Li Jin Jiang. Detection of the photochemical intermediate processes in phycobiliproteins. *Res. Chem. Intermed*, 2000, 26, (7,8) 775-784
69. Y. Zhang, P. Fan, M.G. Fan. Semiempirical calculation on photochromic process of spirooxazines. *Res, Chem. Intermed*, 2000, 26, (7,8) 785-791
70. Bin Tu, Changqi Wang, Jinshi Ma. New method for synthesis of ( $\omega$ -chloroalkyl)pyrroles. *Organic preparations and procedures int*, 2000, 32(5), 481-504
71. Tu Bin, Zhang Yi, Wang Chang-qi, Ma Jin-shi. Synthesis of 8-( $\omega$ -Chloroalkyl)-dipyrrinones. *Chemical Research in Chinese Universities*, 2000, 16(3) 266-270
72. Jiming Hu, Damien Moigno, Wolfgang Kiefer, Jinshi Ma, Qiongqi Chen, Changqi Wang, Haitao Feng, Jingkai Shen, Fei Niu, Yinghong Gu. Fourier-transform Raman and infrared spectroscopic analysis of novel biliverdin compounds. *Spectrochimica Acta Part A*, 2000, 56, 2365-2372
73. Ping Fan, Yi Zhang, Aiping Zhu, Yangfu Ming, M.G. Fan, Weizhen Lin, Side Yaa, Y. Yokoyama. Structure effect on photochromic mechanism of spirooxazines. *Mol. Cryst. Liq. Cryst*, 2000, 344, 151-156
74. 王鹏, 马金石. 胆色素类化合物光学活性及其立体化学研究进展. *化学进展*, 2000, 12(4),391-400
75. 蒋丽金, 何玉英. 竹红菌素类光敏剂的光物理、光化学及光生物. *科学通报*, 2000, 45(19) 2019-2032
76. 王天宇, 马金石. 光到病除—介绍光动力治疗. *新技术·新材料*, 2000, 22(5) 276-281
77. 詹传郎, 王夺元. 新型有机类杂萘染料的合成及其光物理性质研究. *感光科学与光化学*, 2000, 18(2), 121-130
78. 王夺元. 有机分子的非线性光学效应与光子学功能材料  
*中国科学基金*, 2000, 14(5)274-278
79. 詹传郎, 王夺元. 类萘分子一阶超极化率与Gibbs自由能,基态和重组能之间的非线性相关特性. *科学通报*, 2000, 45(20) 2146-2152
80. Fengqi Guo, Wenfang Sun, Yunjing Li, Yinglin Song, Duoyuan Wang, Lizheng Zhao, Zhenzhong Lu, Yuxin Nie. Nonlinear optical properties and optical limiting performances of pentaazadentate metal complexes in solution

SPIE, 2000, 4106, 300-310

81.Chuan-Lang Zhan, Duo-Yuan Wang. Linear Correlation between first Hyperpolarisabilities and Modified Reaction Field Function.

SPIE, 2000, 4106, 213-221

82.W.Sun, M.M. Mckerns, C.M. Lawson, G.M. Gary, C.Zhan, D. Wang. Solvent Effect on the Third-Order Nonlinearity and Optical limiting Ability of a stilbazolium-like dyes.

SPIE, 2000, 4106, 280-288

83.陈朝晖, 马颖, 姚建年. 高效率变色WO<sub>3</sub>多聚体/1,10-DAD自组装薄膜的制备

物理化学学报, 2000, 16(12)1057-1061

84.邵柯, 马颖, 曹亚安, 陈朝晖, 纪学海, 姚建年. 聚(四甲基对苯二胺)/MoO<sub>3</sub>层状材料的制备

物理化学学报, 2000, 16(10) 865-868

85.邵柯, 马颖, 陈朝晖, 姚建年. 以萘二胺为模板合成十聚钨酸多孔材料

物理化学学报, 2000, 16(9) 769-771

86.陈朝晖, 邱健斌, 杨永安, 姚建年. WO<sub>3</sub>/4,4'-联苯胺光致变色超晶格薄膜的研究.

化学通报, 2000, 11, 33-35

87.冯威, 张铁锐, 刘延, 卢然, 赵英英, 姚建年. Keggin 结构钨磷酸/聚丙烯胺复合物的制备及光性质研究

高等学校化学学报, 2000, 21, 1563-1565

88.Mu Sun, Ning Xu, Y.W.Cao, J.N.Yao, E.G.Wang. Preparation, microstructure and photochromism of a new nanocrystalline WO<sub>3</sub> film.

Journal of materials science letters, 2000, 19, 1407-1409

89.Mu Sun, Ning Xu, Y.W.Cao, J.N.Yao, E.G.Wang. Nanocrystalline tungsten oxide thin film: Preparation, microstructure, and photochromic behavior.

J.Mater. Res. 2000, 15(4) 927-933

90.Tao Wu, Shang-jin Xu, Jian-quan Shen, Shen Chen, Man-hua Zhang, Tao Shen. Photosensitization of TiO<sub>2</sub> Colloid by Hypocrellin B in Ethanol

J. Photochem. Photobiol. A, 2000, 137, 191-196

91.Ai-min Song, Min Weng, Man-hua Zhang, tao Shen. The Radicals formed by photoinduced Electron Transfer from Hypocrellins to Electron Acceptors.

Res. Chem. Intermed, 2000, 26(7) 763-764

92.陈燕雯, 李磊, 徐尚杰, 张曼华, 沈涛. 四间羟基苯基二氢卟吩用于光动力疗法高活性的一种解释

科学通报, 2000, 45(24) 2600-2605

93.Tao Wu, Jian-quan Shen, Chun-hong Ting, Ai-ming Song, Wen Li, Shen Chen, Man-hua Zhang, Tao Shen. Photoinduced Charge Injection from excited triplet Hypocrellin B into TiO<sub>2</sub> Colloid in Ethanol.

Chin. J. Chem, 2000, 18(5) 770-772

94.Tao Wu, Shang-jie Xu, Jian-quan Shen, Shen Chen, Man-hua Zhang, Tao Shen. Synthesis of demethoxy-amono-substituted Hypocrellins: Noval Photosensitizers for photodynamic Therapy.

Chin. Chem. Lett. 2000, 11(11) 963-966

95.Y. Xie, F. Chen, J. J. He, J.C.Zhao, H. Wang. Photoassisted degradation of dyes in the presence of Fe<sup>3+</sup> and H<sub>2</sub>O<sub>2</sub> under visible irradiation

J. photochem and photobio A: Chem., 2000, 136, 235-240

96.Feng Chen, Yinde Xie, Jianjun He, Jincai Zhao. Photo-Fenton degradation of dye in methanolic solution under both UV and visible irradiation.

J. photochem and photobio A. Chem. 2000, 138, 139-146

97.N. Serpone, I. Texier, A.V. Emeline, P.Pichat, H. Hidaka, J.C. Zhao. Post-irradiation effect and reductive dechlorination of chlorophenols at oxygen-free TiO<sub>2</sub>/water interfaces in the presence of prominent hole scavengers

J. Photochem and Photobio A: Chem, 2000, 136, 145-155

98.G.M. Liu, J.C. Zhao. TiO<sub>2</sub>-Photosensitized Decomposition of dye Pollutant Sulforhodamine B Under Visible Light Irradiation.

J. Adv.Oxid. Technol, 2000, 5, (1) 1-5

99.Feng Chen, Yinde Xie, Jincai Zhao, Gongxuan Lu. Photocatalytic degradation of dyes on a magnetically separated photocatalyst under visible and UV irradiation.

Chemosphere, 2000, 280-289

100.谢银德, 陈锋, 何建军, 赵进才. Photo-Fenton 反应研究进展

感光科学与光化学, 2000, 18(4) 357-365

101.贺学忠,周亚琳,王令萱,黎甜楷,张曼华,沈涛. TC16PyP(4)/AnQ 混合LB 膜结构的研究

高等学校化学学报, 2000, 21,(12) 1919-1921

102.Ning XU, Zhou ZHOU, Hong Mei WANG, Chang Hui DENG, Yan Mei LI, Yu Fen ZHAO, Ling Xuan WANG, Tian Kai LI. Chiral discrimination in N-(O, O-dialkyl)phosphoamino Acid Monolayers at the Air-water Interface

Chinese Chemical Letters, 2000, 11(8) 717-718

103.Zhixin Guo, Yuliang Li, Fenglian Bai, Jimin Yan, Zhongxin Ge, Daoben Zhu, Jinhai Si, Peixian Ye, Lingxuan Wang, Tiankai Li . Langmuir—Biodgett films and optical second—harmonic generation of a crowned [60] fulleropyrrolidine

Journal of Physics and Chemistry of Solids, 2000,61 1089-1093

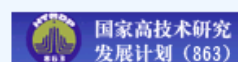
104.陈燕雯,李磊,徐尚杰,张曼华,沈涛 四间羟基苯基二氢卟吩用于光动力疗法高活性的一种解释

科学通报, 2000, 45(24), 2600-2605.

105.Wu T, Xu SJ, Shen JQ, Song AM, Chen S, Zhang MH, Shen T. New Potential Photodynamic Therapy Agents Demethoxy Amino Substituted Hypocrellins: Synthesis and Active Oxygen Generation Anti-Cancer Drug Design, 2000, 15(4), 287-293.



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中国科学院光化学重点实验室 北京中关村北一街2号 电话: 82617315 传真: 82617315

邮箱: gqyang@iccas.ac.cn office908@iccas.ac.cn