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茫茫資料海中，如何撈到**想要的寶藏**？

✓ **完整**撈取

✓ **快速**撈取

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茫茫資料海中，如何撈到**想要的寶藏**？

步驟 1.
完整性(廣泛)

步驟 2.
分析/篩選(精確)

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Overview

Steps/Stages

- 1.1 R:K₂CO₃, S:THF, S:DMF, 18 h, rt
- 2.1 R:(Me₃Si)₂NH •Li, S:THF, 5 min, -78°C
- 2.2 -78°C → rt; 40 min, rt
- 2.3 R:NaHCO₃, S:H₂O, rt
- 3.1 R:

R:AcOK, C:95464-05-4, S:Dioxane, 2 h, rt → 90°C

- 3.2 R:Disodium carbonate, C:Pd(PPh₃)₄, S:H₂O, 30 min, rt → 150°C

Experimental Procedure

Step 1

2-(4-bromophenylsulfonyl)-N,N-dimethylpropan-1-amine To a suspension of 1-bromo-4-(2-chloroethylsulfonyl)benzene (5 g, 18 mmol) and potassium carbonate (4.9 g, 35 mmol) in DMF (50mL) was added a 2M THF solution of dimethylamine (18 mL, 35 mmol) and the solution was stirred at rt for 18 hours. Water was added and the reaction mixture was extracted with EtOAc (3 x 50 mL). The combined organic layers were dried (MgSO₄) and concentrated to dryness, to give an oil which solidified upon standing to give 2-(4-bromophenyl)sulfonyl-N,N-dimethyl-ethanamine (4.3 g, 14.72 mmol, 83 %). MS (ES+) *m/z* 293 (M + H)⁺; ¹H NMR (400.0 MHz, CDCl₃) δ 7.79 (dd, 2H), 7.72 -7.70 (m, 2H), 3.26 (dd, 2H), 2.71 -2.68 (m, 2H) and 2.16 (s, 6H) ppm.

Step 2

To a solution of 2-(4-bromophenyl)sulfonyl-N,N-dimethyl-ethanamine (500 mg, 1.7 mmol) in THF (5.3

Notes

3) microwave irradiation, thermal, Reactants: 4, Reagents: 6, Catalysts: 2, Solvents: 4, Steps: 3, Stages: 6, Most stages in any one step: 3

References

Discovery of Potent and Selective Inhibitors of Ataxia Telangiectasia Mutated and Rad3 Related (ATR) Protein Kinase as Potential Anticancer Agents Full Text
 By Charrier, Jean-Damien et al
 From Journal of Medicinal Chemistry, 54(7), 2320-2330; 2011

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Q: 如何檢索文獻中這些特別(圖、表)區塊?

Fluorescence and Thermostability of Nanometer Porphyrin Trimer^{*}

SHI Ying-yan^{1,2}, FA Huan-bao¹, ZHENG Wen-qi¹, LI Di¹, SHAN Ning¹ and WANG Xing-qiao^{1,*,*}

1. College of Chemistry, Jilin University, Changchun 130023, P. R. China;

2. Department of Base Science, Jilin Institute of Architecture and Civil Engineering,

A nanometer porphyrin fluorescence property stability of the trimer and the thermostability were also studied in detail.

Keywords Monoporphyrin; Porphyrin trimer; Fluorescence; Thermostability

Article ID 1005-9040(2006)01-014-03

We cannot search this

bridge-linked agent and the fluorescence property and thermostability on the optical property.

Introduction

Porphyrin possesses some unique properties. In comparison with the porphyrin monomer, porphyrin oligomers are much attracting owing to their much better properties in some aspects, such as light harvest, energy transformation and electron transition. In recent years, oligomeric porphyrins with various structures have been under intensive research for their potential applications in molecular electronic and optic fields. For instance, multiporphyrin tapes or arrays may serve as molecular wires^[1-5], molecular switches^[6-8], photo funnels^[9], information storage^[10], and third-order nonlinear optical materials^[11]. In order to understand the effects of the peripheral substitution groups and oligomerization of porphyrin on the properties, we studied the UV-Vis and fluorescence spectra, and thermostability of the porphyrin trimer synthesized *via* a convenient route by using 1,3-dibromopropane as a bridge-linked agent. The results show that the fluorescence and the thermostability of porphyrins can change significantly

along with the change of porphyrin peripheral substitution groups as well as the oligomer formation. The kind of solvents and the symmetry of a molecular structure can also have very tremendous influence on the fluorescence and the thermostability of porphyrins. This investigation provides an available reference for the research on photosynthesis, molecular wires and logic gate circuits in molecular electronics.

Experimental

Pyrrrole (Fluka Chemika-Biochemika) and 1,3-dibromopropane (reagent grade) were freshly distilled prior to use. DMF and anhydrous K₂CO₃ were dried. Other chemicals were of reagent grade. The UV-Vis spectra were recorded on a Cintra 10 e UV-Visible spectrometer (GBC, Australia). The fluorescence spectra were obtained with a Perkin Elmer LS55 Fluorescence spectrometer. The TG/DTA curves were measured by a NETZSCH STA 449C analyzer.

The syntheses of all porphyrins (see Fig. 1) have been described elsewhere^[11].

Fig. 1 The structures of porphyrin monomers 1-3 and the porphyrin trimer (4).

1. R¹ = OH, R² = R³ = R⁴ = H; 2. R¹ = R² = OH, R³ = R⁴ = H; 3. R² = O(CH₂)₃Br, R¹ = R³ = R⁴ = H.

* Supported by the National Natural Science Foundation of China (No. 20071014).

** To whom correspondence should be addressed. E-mail: wangxingqiao@mail.jlu.edu.cn

Results and Discussion

1 UV-Vis Spectrum

The room temperature solution electronic absorption values are almost identical in Table 1. The characteristic absorptions of porphyrins are represented by the UV-Vis spectra of compounds 3 and 4 with a typical set of Soret bands and Q-bands in the visible region, which are similar to those of H₂MHTPP(1) and trans-

Compound	Soret band, λ/nm(10 ³ ε)		Q band, λ/nm(10 ³ ε)		
	λ	ε	λ	ε	λ
1	418.40(0.3)	515.68(2.3)	547.68(1.8)	589.92(1.4)	647.52(1.2)
2	418.40(0.3)	515.68(1.0)	550.24(0.7)	589.92(0.4)	648.80(0.2)
3	418.40(0.4)	515.68(1.8)	552.80(1.3)	592.48(0.2)	648.80(0.6)
4	419.68(0.2)	518.24(0.1)	554.08(0.01)	593.76(-0.3)	648.80(-0.1)

2 Fluorescence Spectrum

Fig. 2 shows the fluorescence emission spectra of porphyrin monomers 1-3 and a porphyrin trimer. When porphyrins 1-4 were excited at 400 nm, the fluorescence emission peaks of porphyrins 1 and 2 lie around 471, 651 and 714 nm; the fluorescence emission peaks of porphyrins 3 and 4 are at 653 and 717 nm. The fluorescence emission peaks of porphyrins 1 and 2 at 471 nm can be assigned to the S₂→S₀ transition and it is corresponds with the Soret band at 418.4 nm of their electronic absorption spectra^[11], but the fluorescence emission peaks of porphyrins 3 and 4 at the same position disappear. The fluorescence emission peaks at 650 and 714 nm of porphyrins 1-4 can be assigned to the S₁→S₀ transition and correspond with Q(0, 0), Q(0, 1) porphyrins 1-4^[14].

Fig. 2 The fluorescence emission spectra of porphyrin monomers 1-3 and a trimer (4) (excited at 400 nm).

The experimental results indicate that in dichloromethane, compared with those at 418 nm in the absorption spectrum, the fluorescence emission peak at 471 nm has several-nanometer displacement, which is caused by the lattice relaxation, that is, the electron has given its small part of energy to the crystal lattice by means of its interaction with crystal lattice in the form of heat, intensifying the thermal vibration of the

H₂DHDP(2). The band around 420 nm is assigned to the Soret band which arises from the transition of a_{1g}(π)→e_g^{*}(π*), and the other four absorption maxima around 516, 550, 590 and 645 nm can be attributed to the Q-bands, corresponding to a_{1g}(π)→e_g^{*}(π*)^[12]. This indicates that porphyrin monomers being linked by -CH₂- have little effect on the electron delocalization of a π-conjugated porphyrin system.

The main routes for the electrons in a conjugated system to transit from the excited states to the ground states are fluorescence radiation transition and nonradiation transition (interchange and system crossing). Compared with that of porphyrin 1, the fluorescence intensity of porphyrin 2 at 471 nm is stronger, for porphyrin 2 possesses two hydroxyphenyl groups at the meso-position, but porphyrin 1 has only one hydroxyphenyl group at the meso-position. Therefore, the different numbers of the porphyrin peripheral hydroxyphenyl groups result in the difference in the forms of energy releasing when electrons transit from a single excited state to the ground state. At 471 nm, along with the increase of porphyrin peripheral hydroxyphenyl groups, the non-radiation transition of electrons becomes weaker, while the fluorescence radiation transition becomes stronger. At the same position, the fluorescence emission peaks of porphyrins 3 and 4 nearly vanish because of the change of the porphyrin peripheral functional groups and polymerization. The non-radiation transition of electrons from the excited state to the ground state is the main form. This result shows that the porphyrin peripheral functional groups and polymerization have tremendous influence on the fluorescence property of porphyrins.

Fig. 3 shows the fluorescence excitation spectrum (monitored at 653 nm) and the emission spectrum of the trimer (excited at 400 or 327 nm) in CH₂Cl₂. The results in Fig. 3 confirm that different excitation wavelengths can only affect the fluorescence emission intensity, while they have no influence on peak position.

Fig. 4 shows the fluorescence excitation spectrum and the emission spectrum of the porphyrin trimer in different solvents, CH₂Cl₂ or DMF. It can be seen that the fluorescence intensity in DMF is stronger than that

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(21) International Application Number: PCT/US99/15246	(22) International Filing Date: 7 July 1999 (07.07.99)	(81) Designated States: AE, AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), EE, EE (Utility model), ES, FI, FI (Utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LU (1-7/MD), MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, HE, HU, IT, LI, NL, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TO).	
(30) Priority Data: 60/091,911 7 July 1998 (07.07.98) US		(71) Applicant (for all designated States except US): THE PROCTER & GAMBLE COMPANY [US/US]; One Procter & Gamble Plaza, Cincinnati, OH 45202 (US).	
(72) Inventors; and (75) Inventors/Applicants (for US only): SAUNDERS, Charles, Winston [US/US]; 5501 Caribbea Court, Fairfield, OH 45014 (US), CORREA, Paul, Elliott [US/US]; 5755 Dry Ridge Road, Cincinnati, OH 45252 (US), SUN, Yiping [US/US]; 7589 Lakota Springs Drive, West Chester, OH		Published Without international search report and to be republished upon receipt of that report.

CAS RN 2835-34-8

Protein Sequence

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1 MFPTIPLSRL FDNAMLRAHR LHQLAFDTYQ EFEEAYIPKE QK YSFLQNPQ
51 TSLCFSESIA TPSNREETQQ KSNLELLRIS LLIQSWLEP VQFLRSVFAN
101 SLVYGASDSN VYDLLKDLLEE GIQTLMGRLE DGSPTGTQIF KQTYSKFDTN
151 SHNDDALLKN YGLLYCFRKD MDKVETFLRI VQCRSVEGSC GF
    
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CAS RN 154907-93-4

- Somatotropin
- Animal gene *pac43*
- Oncogenes
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準備器材: 投影機、網路。

- ✓ 預約單位: _____
- ✓ 聯絡人/電話/email: _____
- ✓ 預計時間(請提供2~3組日期): _____
- ✓ 演講主題(請於下方勾選或填寫於後方): _____

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CAS-Representative Taiwan

許博奇 先生 0926-238809 / 許佳儒 小姐 0975-870976

+886 2571 3369 #228,213

cas.tw@igrouptaiwan.com

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美國化學索摘服務社(CAS)台灣代表

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