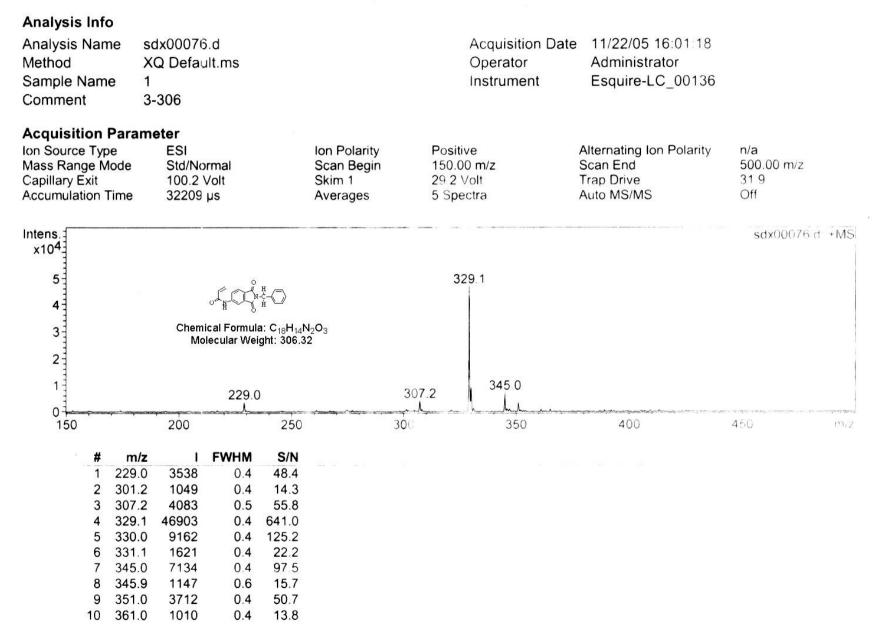
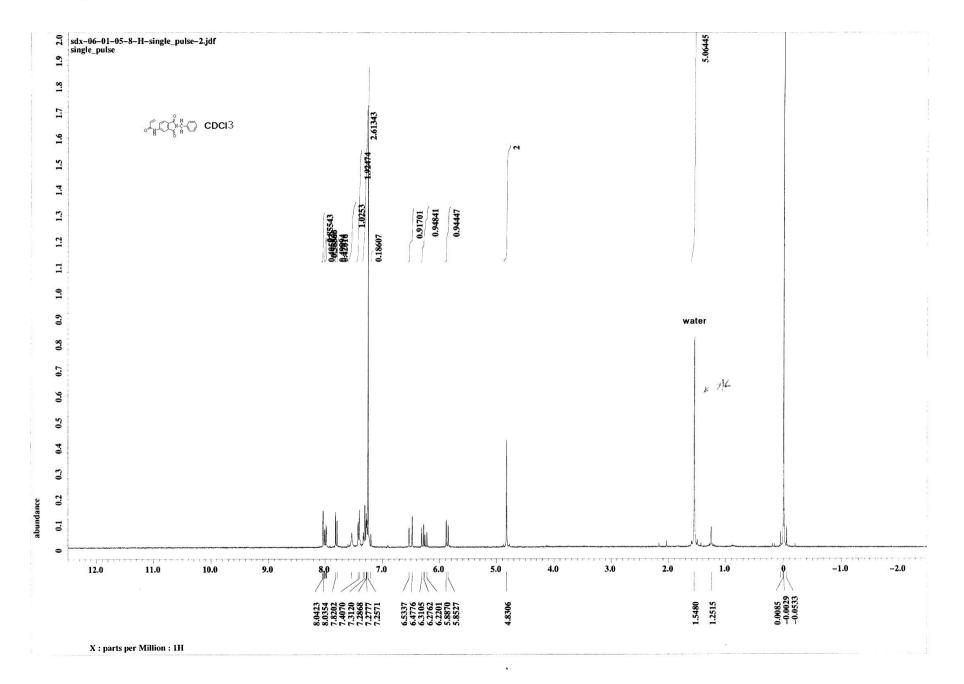
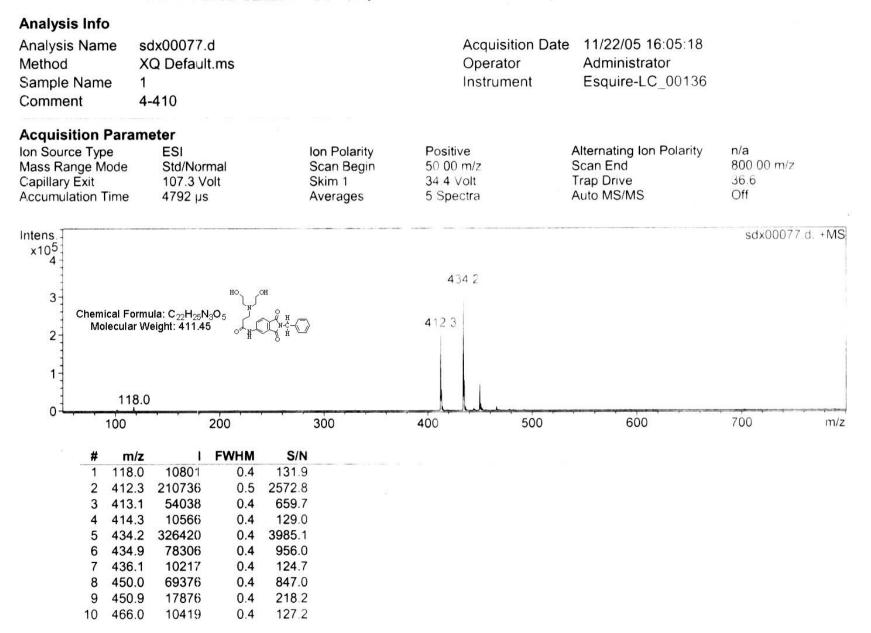
### Synthesis and photophysical properties of poly(ester-amine) dendrimers with focal 4amino-N-benzyl-phthalimide, as sensitive media probes and switchable proton sensors

Daxin Shi, Yaowu Sha, \* Feng Wang, Qingyong Tian

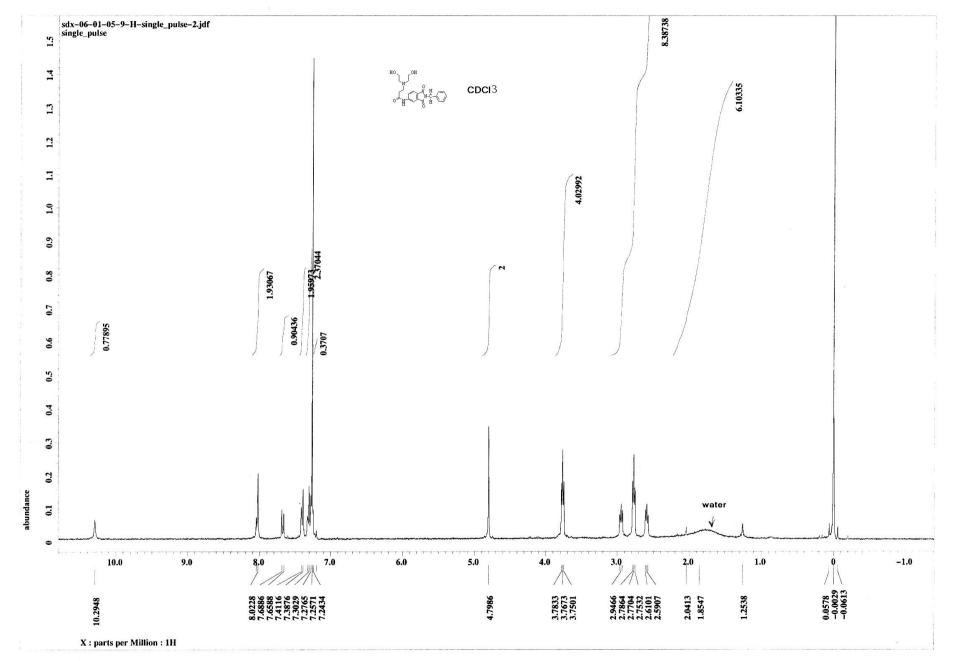
Page 2	ESI-MS spectrum of compound	2
Page 3	<sup>1</sup> H NMR spectrum of compound	2
Page 4	ESI-MS spectrum of compound	3
Page 5	<sup>1</sup> H NMR spectrum of compound	3
Page 6	ESI-MS spectrum of compound	4
Page 7	<sup>1</sup> H NMR spectrum of compound	4
Page 8	ESI-MS spectrum of compound	5
Page 9	<sup>1</sup> H NMR spectrum of compound	5
Page 10	ESI-MS spectrum of compound	6
Page 11	<sup>1</sup> H NMR spectrum of compound	6
Page <b>12</b>	ESI-MS spectrum of compound	7
Page 13	<sup>1</sup> H NMR spectrum of compound	7
Page 14	ESI-MS spectrum of compound	8
Page 15	<sup>1</sup> H NMR spectrum of compound	8
Page <b>16</b>	ESI-MS spectrum of compound	9
Page 17	<sup>1</sup> H NMR spectrum of compound	9





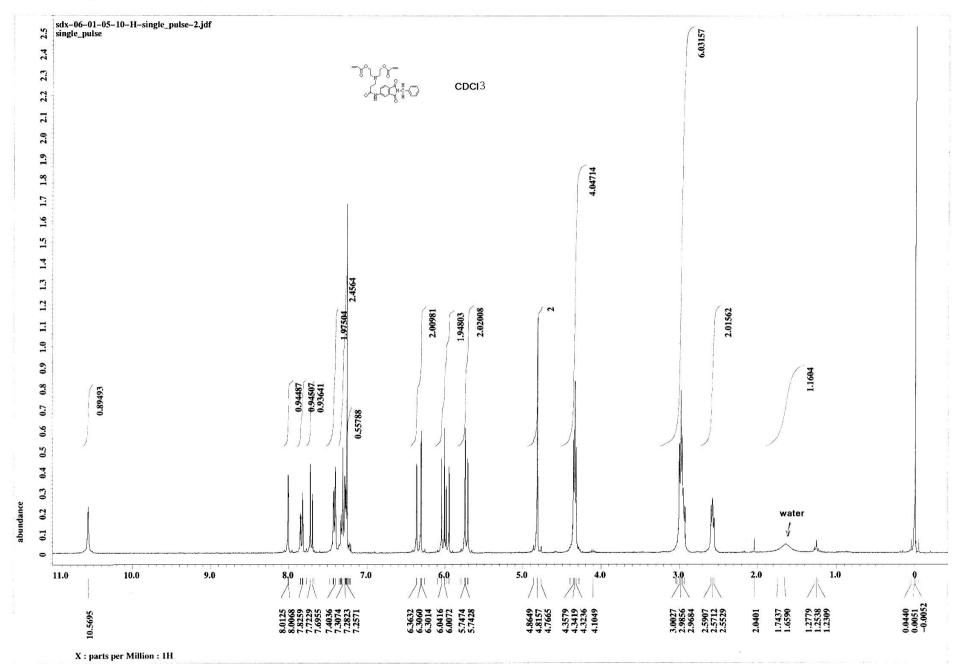






Analysis Inf Analysis Nar Method Sample Narr Comment	me s ) ne 1	sdx00079 (Q Defau I 5-520				0	cquisition Date perator strument	Administ	16:09:50 rator LC_00136		
Acquisition Ion Source Ty Mass Range M Capillary Exit Accumulation	pe Vode	ESI Std/Nor 114.3 V 5610 µs	/olt	0,00	on Polarity Scan Begin Skim 1 Averages	Positive 50 00 m/ 39 1 Volt 5 Spectra	Z	Alternating I Scan End Trap Drive Auto MS/MS		<b>n/a</b> 1000 00 m/. 41.6 Off	z
Intens x10 <sup>5</sup> 5 4 3 2 1		ی م لی 22		Chemical I Molecu	Formula: C <sub>28</sub> H <sub>28</sub> lar Weight: 519.	55 542	2			sd×000**	a - MS
0- <del>L,, -</del> 1	00	200		300	400	<b>50</b> 0	600	700	800	900	m/z
# 1 2 3 4 5 6 7 8 9 10	m/z 226.0 520.4 521.2 522.3 542.2 542.9 544.1 558.1 559.0 560.0	20423 174288 61466 12491 422547 123761 26031 104195 34233	FWHM 0.5 0.5 0.5 0.4 0.4 0.4 0.4 0.4 0.4 0.4	S/N 166.5 1421.1 501.2 101.8 3445.3 1009.1 212.3 849.6 279.1 147.5							

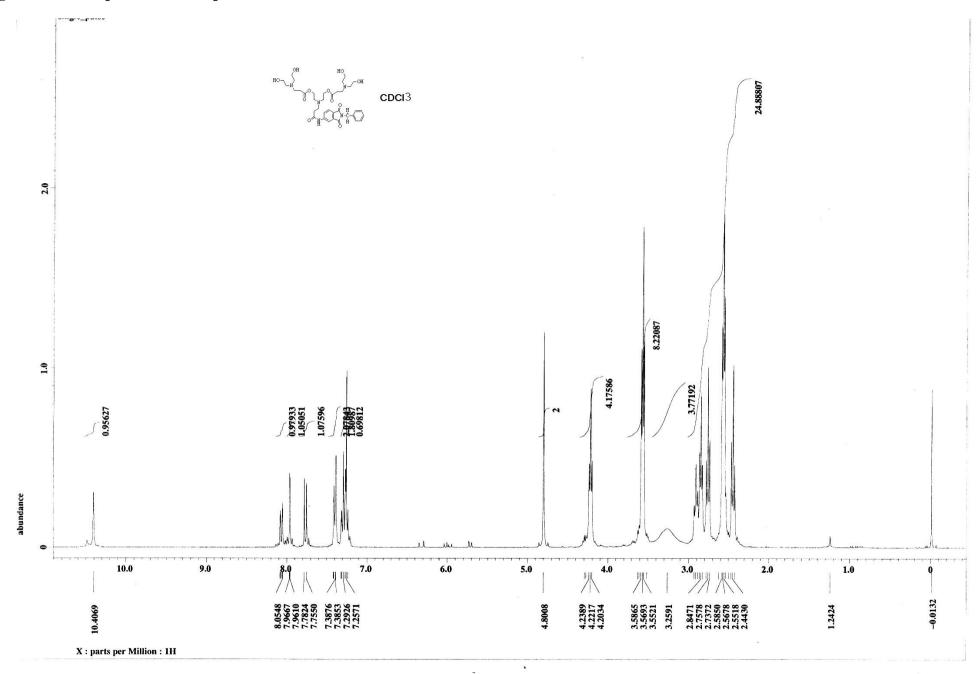
#### Page 7: <sup>1</sup>H NMR spectrum of compound 4



7

Analysis Info Analysis Name Method Sample Name Comment	sdx00072.c XQ Default 1 1				Oper	uisition Date rator ument	Adminis	5 15:28:50 trator LC_00136		
Acquisition Para	meter									
Ion Source Type Mass Range Mode Capillary Exit Accumulation Time	ESI Std/Norn 126.2 Vo 669 μs		S S	n Polarity can Begin kim 1 verages	Positive 50.00 m/z 47 0 Volt 5 Spectra		Alternating Scan End Trap Drive Auto MS/M	(D)	n/a 1000 00 m/z 51.2 Off	
Intens.									sdx00072	.d: +MS
×10 <sup>6</sup> 3 2 1	HO N OH	Ho Ho Ho Ho Ho Ho Ho	C	hemical Formula Molecular We	a: C <sub>36</sub> H <sub>51</sub> N <sub>5</sub> O <sub>11</sub> ight: 729.82	626.0	730.7			
100	200	3	00	400	500	600	700	800	900	m/z
"# m/		FWHM	S/N							
1 626.		0.5	133.1							
2 626.		0.2	117.2							
3 730.		0.6	4908.1							
4 731.		0.5	380.3		*.					
5 733.		0.4	105.1							
6 752		0.4	1612.8							
7 753		0.4	666 6							
8 754	2 98032	0.4	189 0							

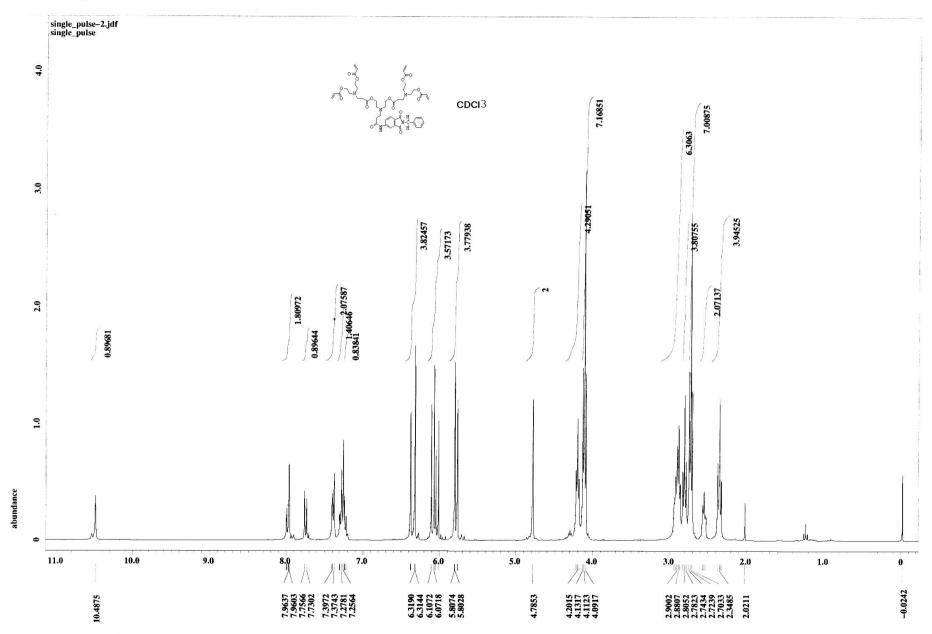
#### Page 9: <sup>1</sup>H NMR spectrum of compound 5



9

Analysis Analysis I Method Sample N	Name Name	e sd XC 1	x00087.d Q Default.n	ns			Op	equisition Da perator strument	Admin	05 10:34:00 istrator e-LC_00136		
Comment	t	2										
Acquisiti	ion Pa	arame	ter									
on Source	е Туре	2	ESI		lon Po		Positive			ng Ion Polarity	n/a	
lass Rang		ode	Std/Norma		Scan I		100.00 m		Scan End		1100.00 m/.	Z
apillary E			148.7 Volt		Skim		60.8 Volt		Trap Driv		60.9	
ccumulati	ion Iin	me	454 µs		Avera	ges	10 Spect	ra	Auto MS/	MS	Off	
ntens.											sdx00087	'.d: +MS
×10 <sup>6</sup> 4				27								
				1			<ul> <li>The state of the s</li></ul>					
4				o≓(	Seo	Chemica	l Formula: C <sub>48</sub> H	159N5U15			968.6	
3-			0.	°₹ 	\$=	Chemica Moleo	l Formula: C <sub>48</sub> F cular Weight: 94	46.01			968.6	
3			л¢	S=0 √√√		Chemica Moleo	l Formula: C <sub>48</sub> f cular Weight: 94	46.01			968.6	
1			Ŕ	°=} ∠^k k	<sup>h</sup> <sup>h</sup> <sup>h</sup>	Chemica Moleo	l Formula: C <sub>48</sub> F cular Weight: 9	46.01			968.6	
3			Ŕ	مع مع سکی کور		Chemica Molec	l Formula: C <sub>48</sub> t cular Weight: 9	159™5015 46.01			968.6	
2			ŕŝ	°≤ √ √ √ √ √ √ √ √ √ √ √ √ √ √ √ √ √		Chemica Moleo	l Formula: C <sub>48</sub> t cular Weight: 9∕	159№5015 46.01			968.6	
1			ŕŝ	ہو کی گیر 19		Chemica Moleo	l Formula: C <sub>48</sub> t cular Weight: 9∕	46.01			968.6	24
2			<i>"</i> {`	مج مح مح		Moleć	cular Weight: 94	<u>661.7</u>	755.6			
2		200	ہ∕، •	, , , , , , , , , , , , , , , , , , ,		Chemica Molec	Formula: C <sub>48</sub> t cular Weight: 9 600	46.01	755.6	<del>, , , , , , , , , , , , , , , , , , , </del>	968.6	
2	#	200 m/z	ہم 	هم مريخ مريخ مريخ مريخ مريخ مريخ مريخ مري	ہے۔ ۲ ۲ 400 S/N	Moleć	cular Weight: 94	<u>661.7</u>				m/z
2			ہے۔ 			Moleć	cular Weight: 94	<u>661.7</u>		900		——, , m/z
2	1 (	m/z	1	FWHM	S/N	Moleć	cular Weight: 94	<u>661.7</u>		900		m/z
2	1 0	<b>m/z</b> 661.7	ا 65429	<b>FWHM</b> 0.5	<b>S/N</b> 104.3	Moleć	cular Weight: 94	<u>661.7</u>		900		m/z
2	1 ( 2 ) 3 (	<b>m/z</b> 661.7 755.6	l 65429 74798	<b>FWHM</b> 0.5 0.6	<b>S/N</b> 104.3 119.3	Moleć	cular Weight: 94	<u>661.7</u>		, , , , , , , , , , , , , , , , , , ,		m/z
2	1 ( 2 <sup>-</sup> 3 9 4 9	<b>m/z</b> 661.7 755.6 947.5	l 65429 74798 393937	<b>FWHM</b> 0.5 0.6 1.3	<b>S/N</b> 104.3 119.3 628.2	Moleć	cular Weight: 94	<u>661.7</u>		<del>, , , , , , , , , , , , , , , , , , , </del>		m/z
2	1 ( 2 2 3 9 4 9 5 9	<b>m/z</b> 661.7 755.6 947.5 948.7	l 65429 74798 393937 179951	<b>FWHM</b> 0.5 0.6 1.3 0.5	S/N 104.3 119.3 628.2 287.0	Moleć	cular Weight: 94	<u>661.7</u>		900		
2	1 0 2 7 3 9 4 9 5 9 6 9 7 9	<b>m/z</b> 661.7 755.6 947.5 948.7 949.5 968.6 971.2	l 65429 74798 393937 179951 102418 3257314 104799	FWHM 0.5 0.6 1.3 0.5 0.4 0.7 0.5	S/N 104.3 119.3 628.2 287.0 163.3	Moleć	cular Weight: 94	<u>661.7</u>		900		m/z
2	1 0 2 3 4 9 5 9 6 9 7 9 8 9	<b>m/z</b> 661.7 755.6 947.5 948.7 949.5 968.6	l 65429 74798 393937 179951 102418 3257314	FWHM 0.5 0.6 1.3 0.5 0.4 0.7	S/N 104.3 119.3 628.2 287.0 163.3 5194.3	Moleć	cular Weight: 94	<u>661.7</u>		900		m/z

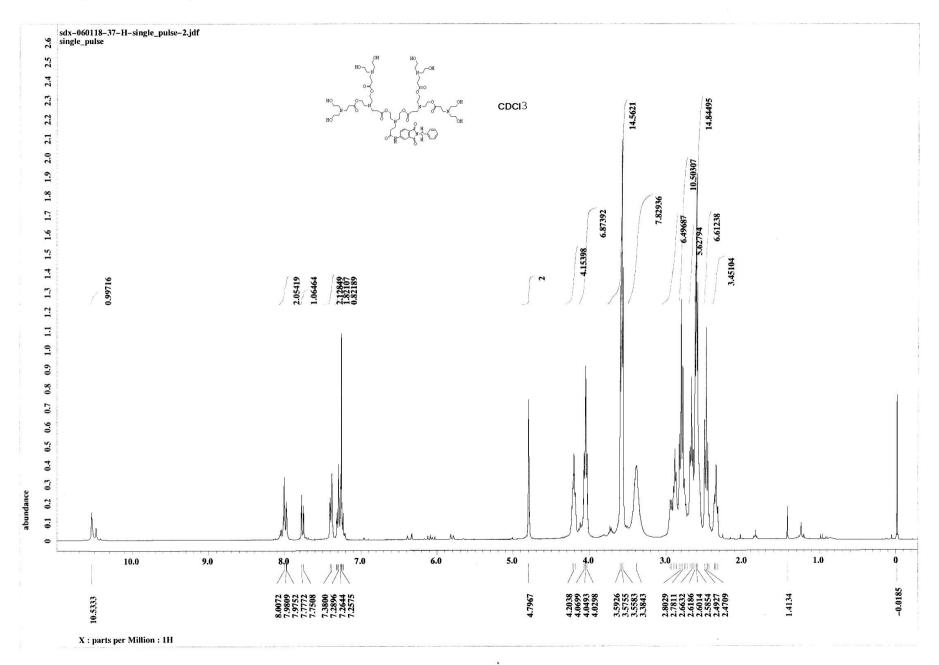
Page 11: <sup>1</sup>H NMR spectrum of compound 6



X : parts per Million : 1H

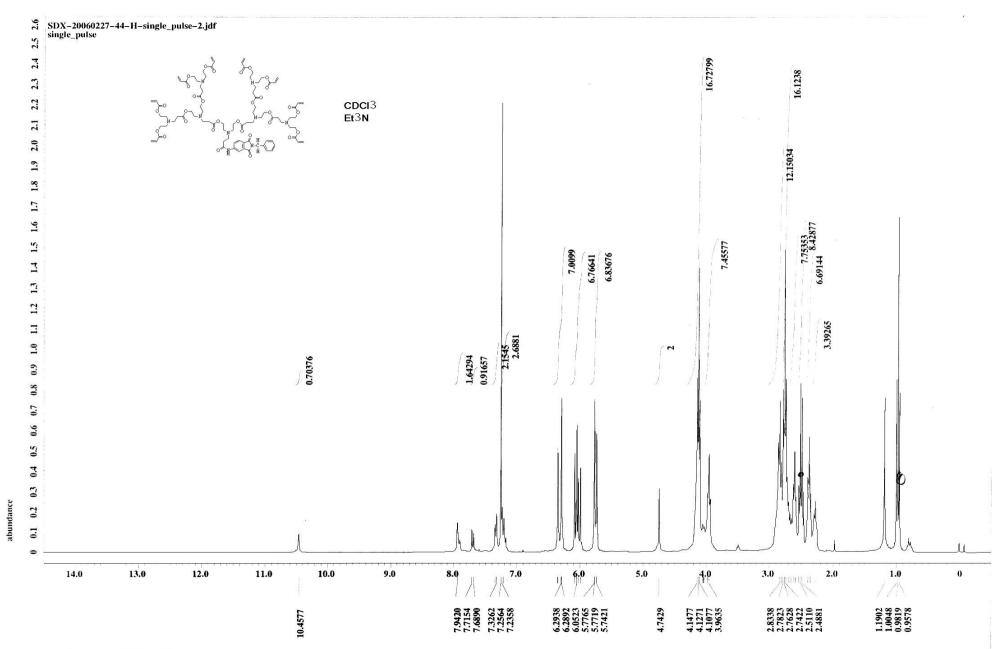
Analysis Info Analysis Nam Method Sample Name Comment	ie sd X( e n	x00117.α ⊋ Default 666-1				Acquisition Date Operator Instrument	e 12/26/05 Administra Esquire-L	ator		
Acquisition F		ter								
Ion Source Type Mass Range Mo Capillary Exit Accumulation T	ode	ESI Std/Norn 157.1 Vo 1233 µs		lon Polari Scan Beg Skim 1 Averages		0 m/z √olt	Alternating Io Scan End Trap Drive Auto MS/MS	n Polarity	n/a 1500.00 m/z 80.0 Off	
Intens. x10 <sup>6</sup>									sdx00117.0	d: +MS
0.8- 0.6- 0.4- 0.2-		HO N HO			Chemical Forn Molecular \	nula: C <sub>64</sub> H <sub>103</sub> N <sub>9</sub> O <sub>23</sub> Weight: 1366.55			1366.9	
0.0						1(	048.8	1261.7		
200		400		600	800	1000		1200	1400	m/z
2 3 4 5 6 7 8 9	m/z 1048.8 1049.5 1050.6 1261.7 1262.5 1263.5 1366.9 1369.3 1388.4 1389.3	I 76478 63679 28224 76475 66615 31627 775471 45097 67630 46416	FWHM 0.5 0.3 0.5 0.5 0.5 0.5 0.7 0.4 0.4 0.4	S/N 246.2 205.0 90.9 246.2 214.4 101.8 2496.4 145.2 217.7 149.4						

#### Page 13: <sup>1</sup>H NMR spectrum of compound 7



Analysis I Analysis N Method Sample Na Comment	lame	XQ 1	x00127.d ) Default. 06-1				Acquisitic Operator Instrumer		Admir	/06 17:36:19 histrator re-LC_00136		
Acquisition Ion Source Mass Range Capillary Ex Accumulation	Type e Mod tit	е	ter ESI Std/Norm 175.9 Vol 9837 μs				Positive 200.00 m/z 75.9 Volt 5 Spectra		Alternatir Scan En Trap Driv Auto MS	/e	n/a 2000.00 m/z 99.9 Off	21
Intens. x10 <sup>5</sup> 1.5 1.0 0.5				الم م			Chemical Formula Molecular Wei	ight: 1798.	N <sub>9</sub> O <sub>31</sub> 93 394.8	1607.9	sdx00127.0	1: +MS
200		400	)	600	800	1000	0 1200		1400	1600	1800	m/z
	2 1 3 1 4 1	<b>m/z</b> 607.9 608.8 799.0 799.5 800.5	l 20242 19954 69692 63405 53870	FWHM 0.5 0.5 0.5 0.4 0.5	<b>S/N</b> 157.7 155.4 542.8 493.8 419.6							
1	7 1 8 1 9 1	801.5 803.2 821.0 821.5 822.9	45664 20231 134310 130161 53884	0.4 0.5 0.4 0.4 0.4	355.7 157.6 1046.1 1013.8 419.7							

#### Page 15: <sup>1</sup>H NMR spectrum of compound 8



V + parts par Million + 1H

				Ma	ass Spec	trum List I	Repo	ort	
Analysis Info	)								
Analysis Nam		x00184				Acquisitio	on Date	06/20/06 09:44:3	2
Method		Defau	lt.ms			Operator		Administrator	
Sample Name Comment		efault 38				Instrume	nt	Esquire-LC_001	36
Somment	20	50							
Acquisition I									
lon Source Typ Mass Range M		ESI Extend	ed		Ion Polarity Scan Begin	Positive 2000.00 m/z		Alternating Ion Polari Scan End	ty n/a 2800.00 m/z
Capillary Exit		208.5 \	/olt		Skim 1	92.5 Volt		Trap Drive	137.7
Accumulation T	Ime	50000	μs	1	Averages	5 Spectra	1	Auto MS/MS	Off
Intens.				-					sdx00184.d: +MS
1									Sux00104.0. 100
5000								264	12
4000								20	
3000								19 - A. A.	
2000									
1					2325.9	2	482.0		2685.9
1000 2032.	5 209	5.2 2	152.7	2245		2377.7 2441.3	Na	2543.7	2715.0
0 from marchen	لمبلسبس	and the second	dely the server	-abladerbyle	man mar mar and	the make we have the	inda	montenuthelingitheter	Marin Marin Marin Marin Marin
2000	2	100	2	200	2300	2400	2500	2600	2700 m/z
. #	m/z	1	FWHM	S/N					
1	2481.2	1353	0.7	14.1					
2	2402 0	4050	0 5	470					
2	2482.0	1659 1605	0.5	17.3		OH {	и но		
3	2483.0	1605	0.6	16.7		OH OH	и но	∕ <sup>−OH</sup> Ho	
2002						HO OH HO V		∕ <sup>−OH</sup> HO HO N_−OH	
3 4	2483.0 2483.8 2488.5 2640.5	1605 1229 1089 3117	0.6 0.7 0.3 0.5	16.7 12.8 11.3 32.4		HO HO HO HO HO HO HO HO HO HO		✓ <sup>OH</sup> HO → N→ → → → → →	
3 4 5 6 7	2483.0 2483.8 2488.5 2640.5 2641.2	1605 1229 1089 3117 4333	0.6 0.7 0.3 0.5 0.5	16.7 12.8 11.3 32.4 45.1		HO HO HO HO HO HO HO HO HO HO HO HO HO H		но он он он	
3 4 5 6 7 8	2483.0 2483.8 2488.5 2640.5 2641.2 2642.0	1605 1229 1089 3117 4333 3508	0.6 0.7 0.3 0.5 0.5 0.3	16.7 12.8 11.3 32.4 45.1 36.5					
3 4 5 6 7 8 9	2483.0 2483.8 2488.5 2640.5 2641.2 2642.0 2643.0	1605 1229 1089 3117 4333 3508 2506	0.6 0.7 0.3 0.5 0.5 0.3 0.7	16.7 12.8 11.3 32.4 45.1 36.5 26.1					
3 4 5 6 7 8	2483.0 2483.8 2488.5 2640.5 2641.2 2642.0	1605 1229 1089 3117 4333 3508	0.6 0.7 0.3 0.5 0.5 0.3	16.7 12.8 11.3 32.4 45.1 36.5					

Chemical Formula: C<sub>120</sub>H<sub>207</sub>N<sub>17</sub>O<sub>47</sub> Molecular Weight: 2640.01

#### Page 17: <sup>1</sup>H NMR spectrum of compound 9

