Supporting Material Information

Synthesis, Tumor-Specificity and Photosensitizing Efficacy of Erlotinib Conjugated Chlorins and Bacteriochlorins: Identification of a Highly Effective Candidate for Photodynamic Therapy of Cancer

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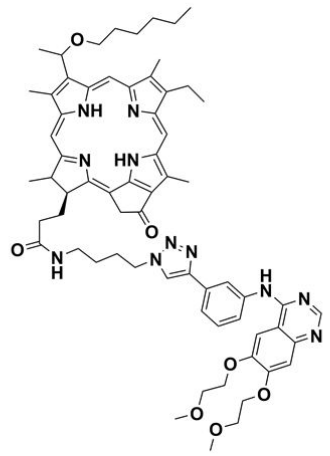
Table S1

Cmpd.	Chemical Shift (ppm)							
#	Erlo 5-H	Erlo 8-H	13-2a-H	13-2b-H	15-1a-H	15-1b-H	12-CH3	10-H
5	7.77	7.23	5.28	4.98			2.77	8.80/8.78
7			5.181/5.177	4.97/4.96			3.393/3.387*	9.07/9.05
8	7.853/7.850	7.23	5.07	4.53			2.29/2.26	8.97/8.95
13	7.27	7.26	4.96	4.79			3.15/3.14*	8.19
14	7.28	7.12	4.95	4.75			3.23/3.22*	8.10/8.08
16	~7.29	7.25	5.267/5.265	5.117/5.116			3.67*	9.52
17	7.51	7.04	5.13/5.12	4.96			3.50*	9.36
19	7.05	7.24	5.26	5.11			3.61*	9.45
22			5.18	5.15			3.66*	9.57
23	7.56	7.25	5.15	5.12			3.65*	9.48
27	7.514/7.512	7.063/7.059	5.14	4.91			3.50	9.37/9.36
29	7.24	7.18					3.75*	9.46*
31	7.41	7.22					3.61	8.57
35					5.5	5.24	3.51*	~9.64
36					5.51	5.26/5.25	3.56*	9.71
37	7.27	7.16			5.49	5.25	3.45*	9.59
38	7.26	7.19			5.52	5.27/5.26	3.53*	9.67
40					5.52	5.273/5.265	3.55	9.72
42					5.62/5.60	5.27	3.58	9.72
43	7.40	7.07			5.58/5.57	5.28/5.27	3.525*	9.67
47					5.51	5.28	3.49*	9.68
49					5.32	5.17	3.24	9.57
50	7.45	7.10			5.42	5.21	3.43*	9.58
52					5.30	5.19	3.62*	9.73
53	7.20	7.20			5.31	5.17	3.57	9.69

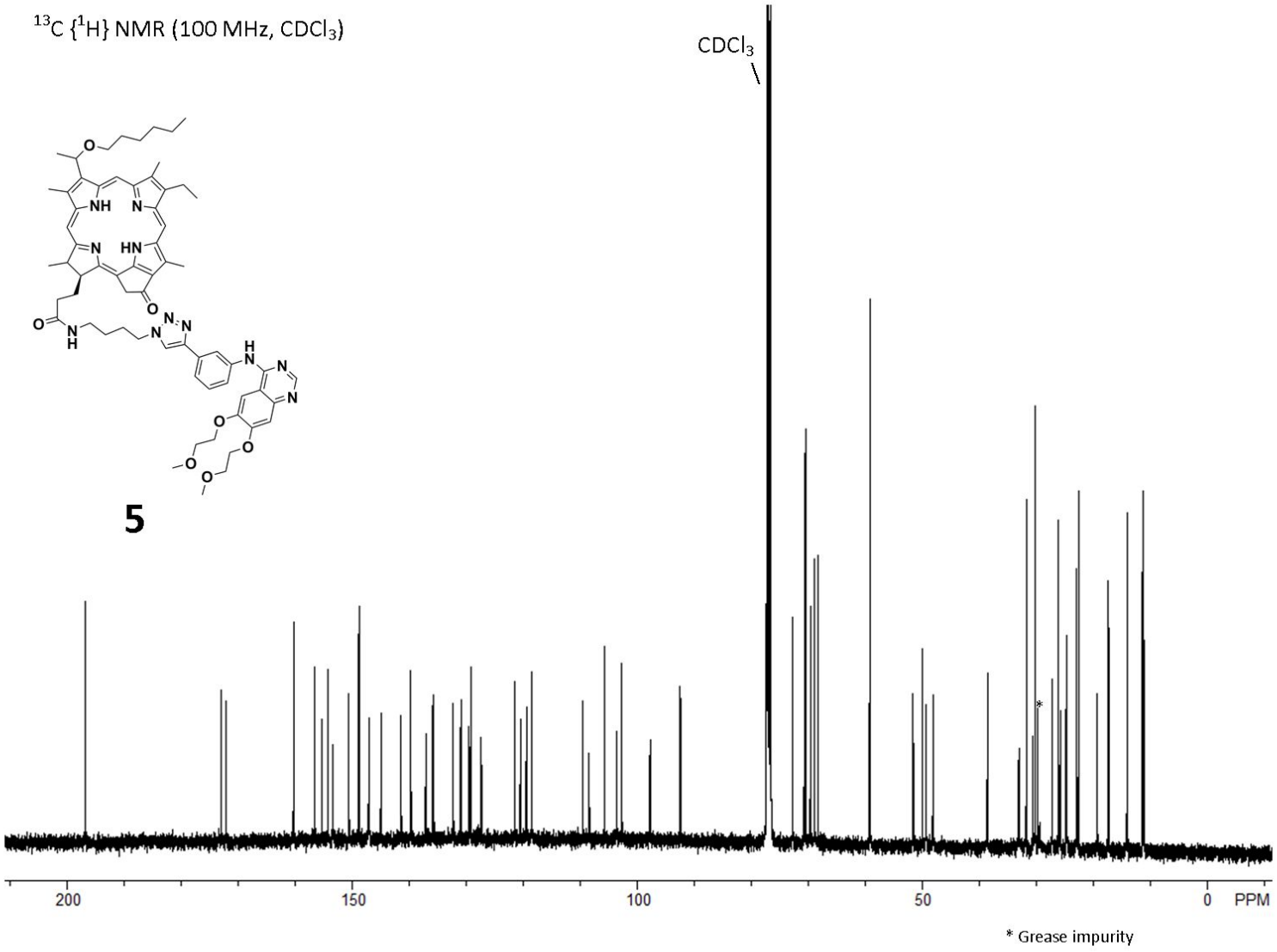
* Assignment of these protons is uncertain. These could not be unambiguously distinguished from other protons of the same types (i. e. ring methyl and meso protons) using the available data. In these cases, however, no reasonable assignment of the observed ring methyl or meso proton signals results in shieldings similar to those observed for **5** and **8**, which were induced by the presence of erlotinib.

^{1}H NMR (400 MHz, $CDCl_3$)

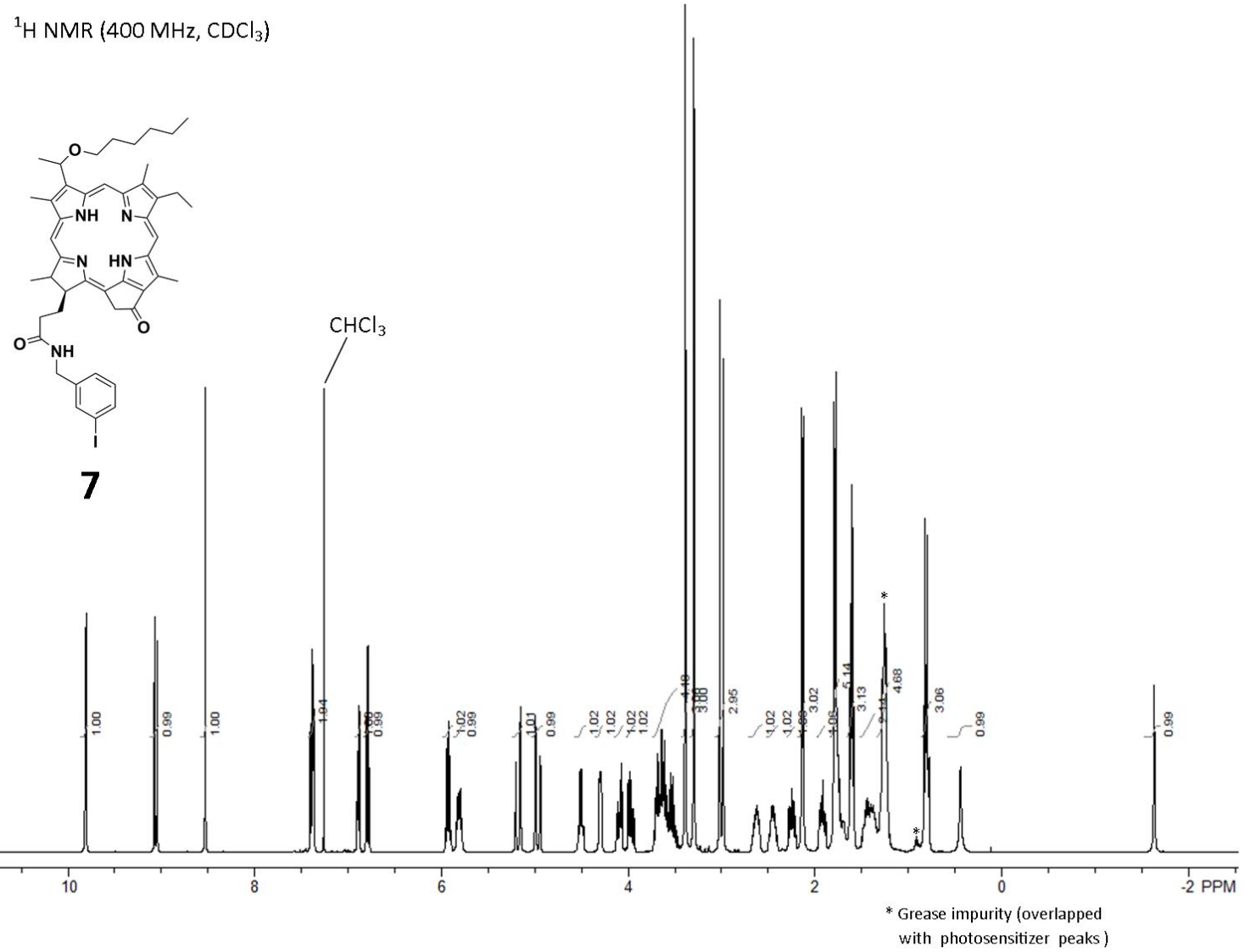


5

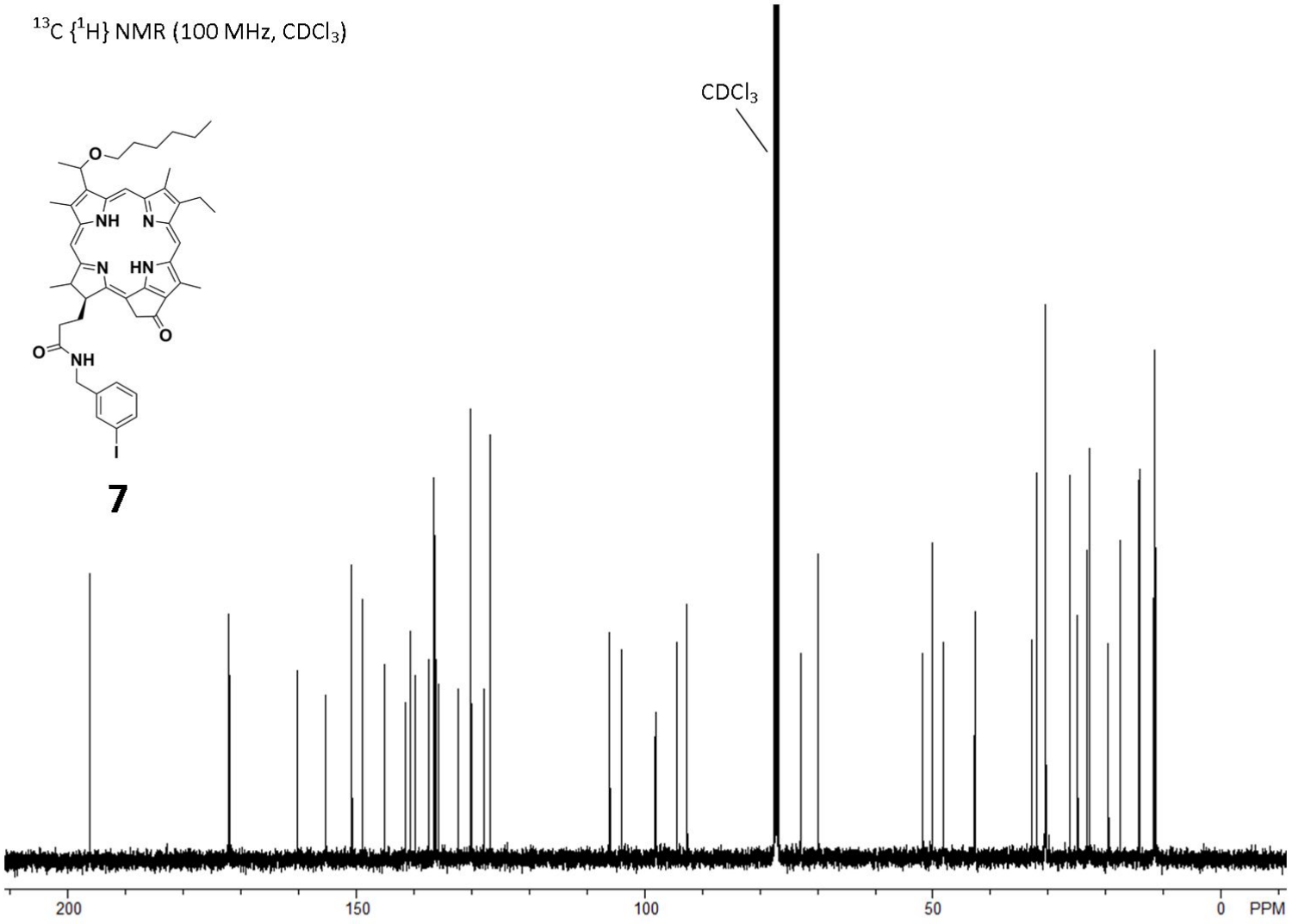
* Grease impurity overlapped with conjugate peaks


^{13}C {^{1}H} NMR (100 MHz, $CDCl_3$)
$CDCl_3$
5
200
150
100
50
0
PPM
* Grease impurity

^{1}H NMR (400 MHz, $CDCl_3$)

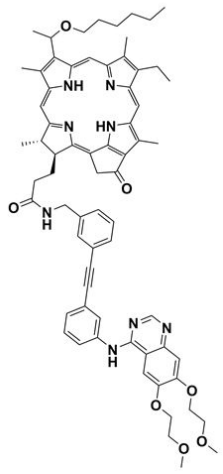


^{13}C {^{1}H} NMR (100 MHz, $CDCl_3$)



7

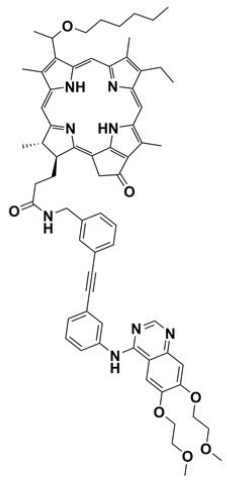
^{1}H NMR (400 MHz, $CDCl_3$)



8

* Grease impurity overlapped with conjugate peaks

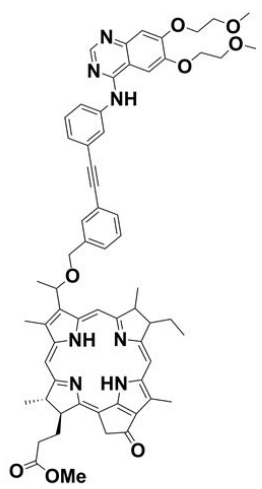
^{13}C {^{1}H} NMR (100 MHz, $CDCl_3$)



8

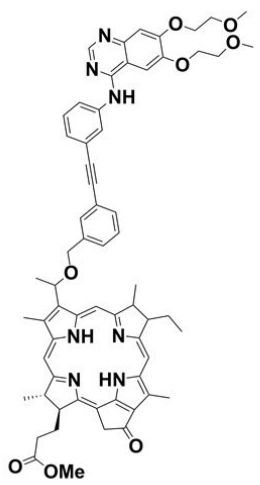
* Grease impurity

^{1}H NMR (400 MHz, $CDCl_3$)

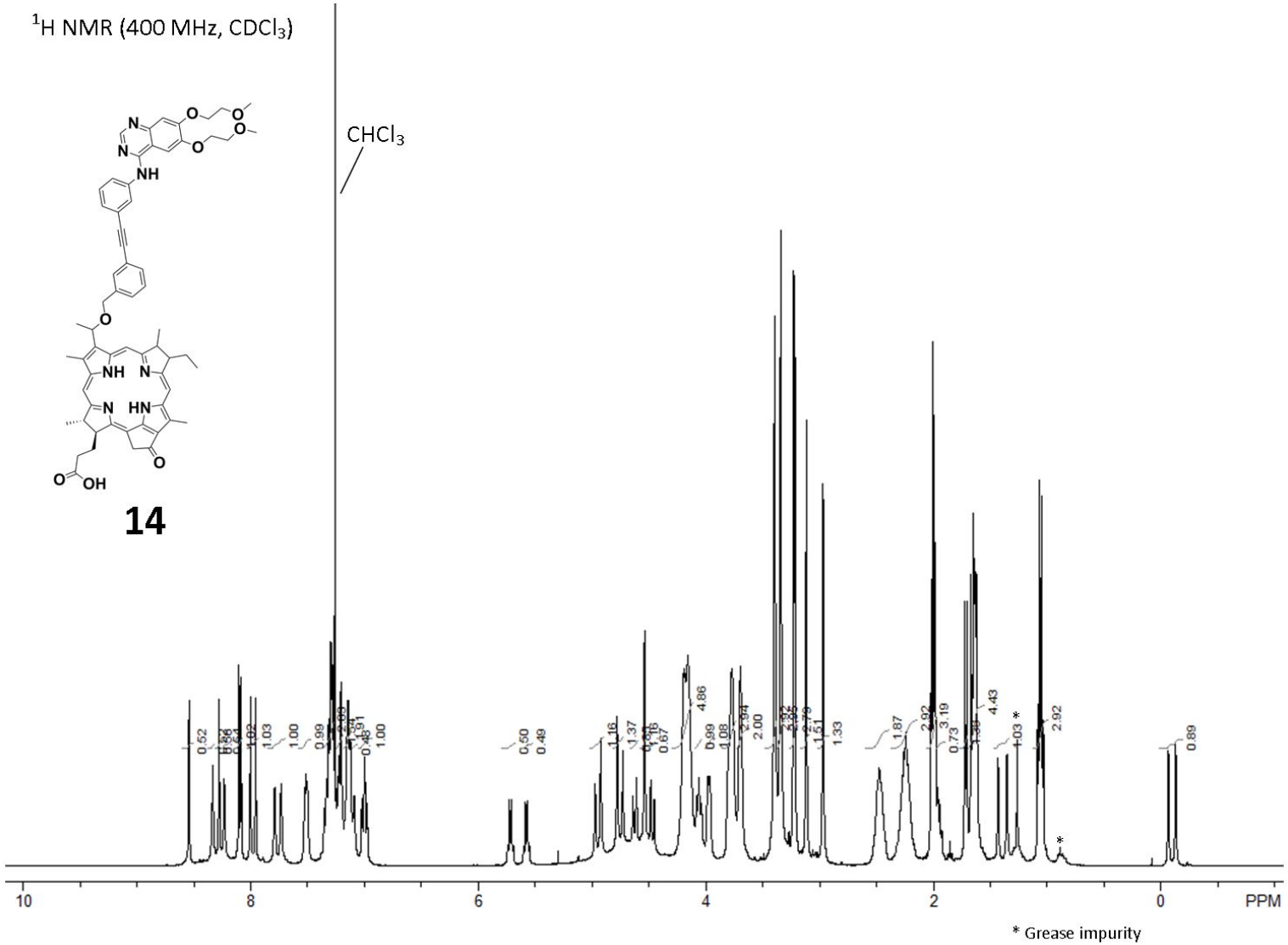


13

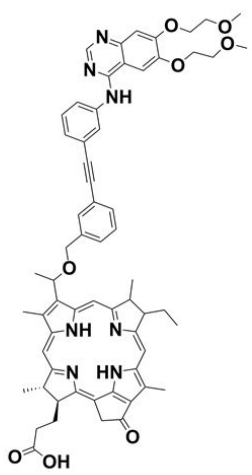
^{13}C {^{1}H} NMR (100 MHz, $CDCl_3$)



13


^{1}H NMR (400 MHz, $CDCl_3$)
$CHCl_3$
14
10
8
6
4
2
0
PPM
* Grease impurity

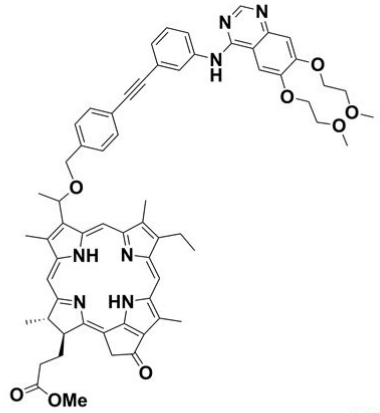
^{13}C {^{1}H} NMR (100 MHz, $CDCl_3$)



14

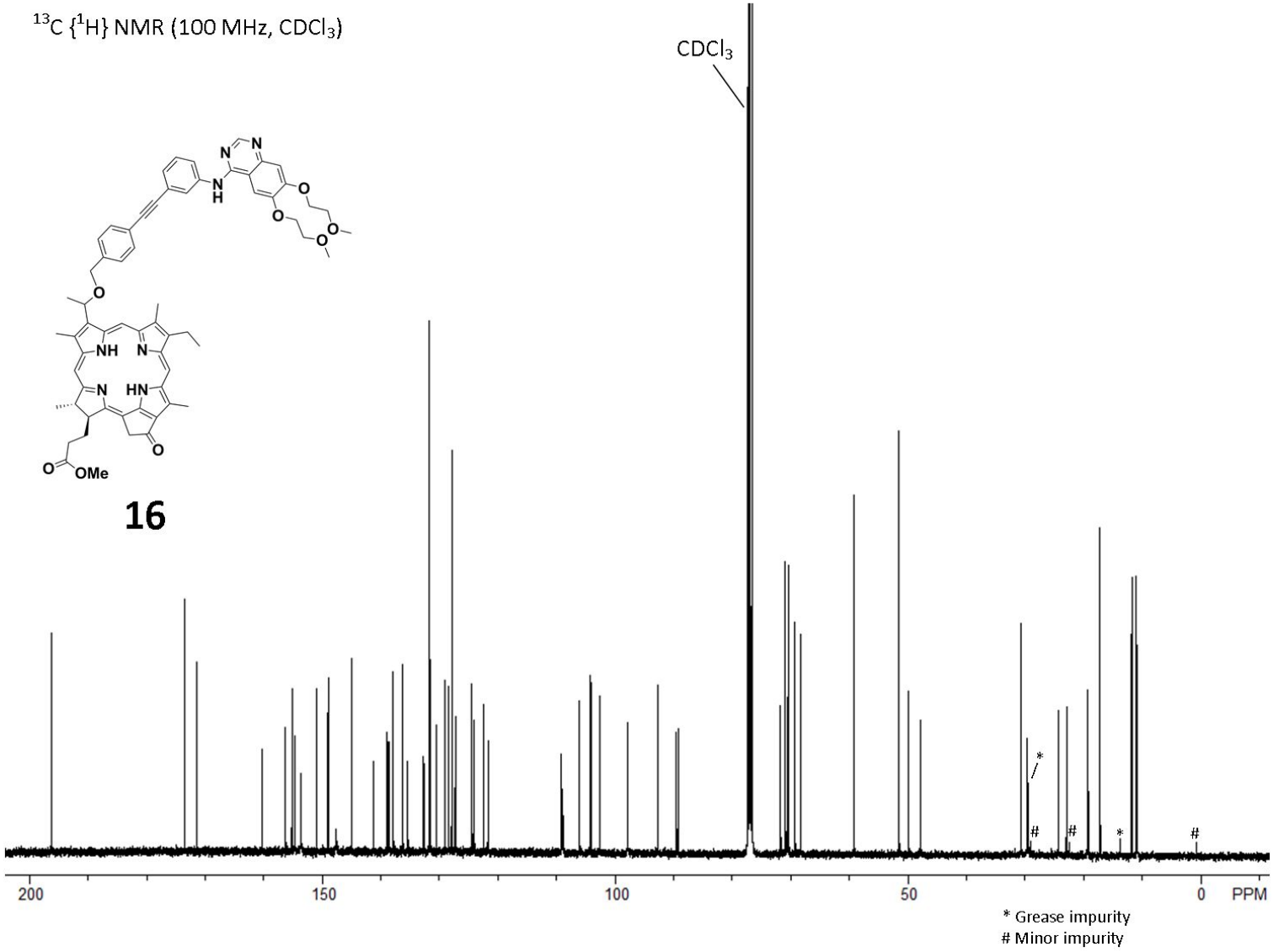
* Grease impurity

^{1}H NMR (400 MHz, $CDCl_3$)

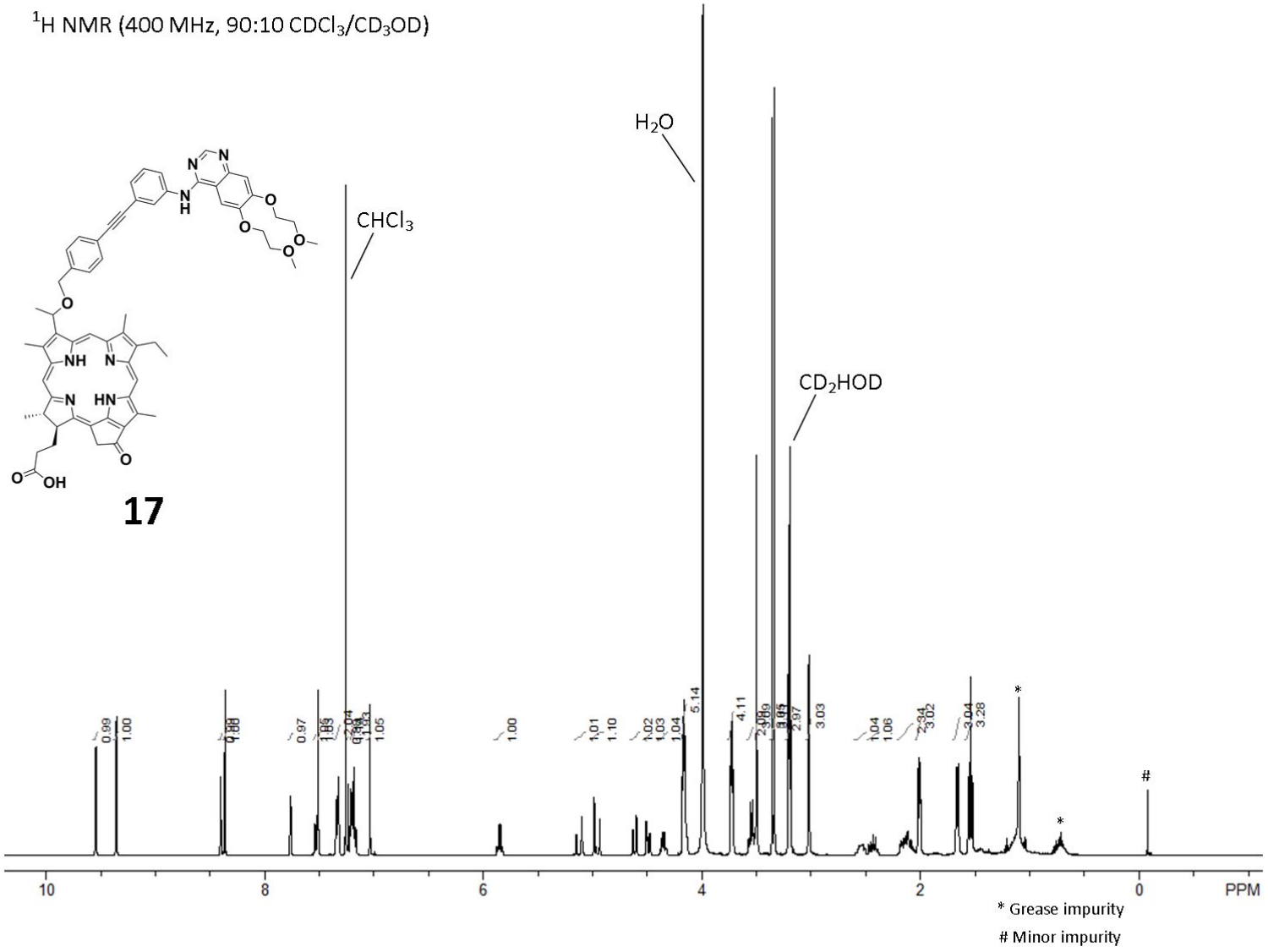


16

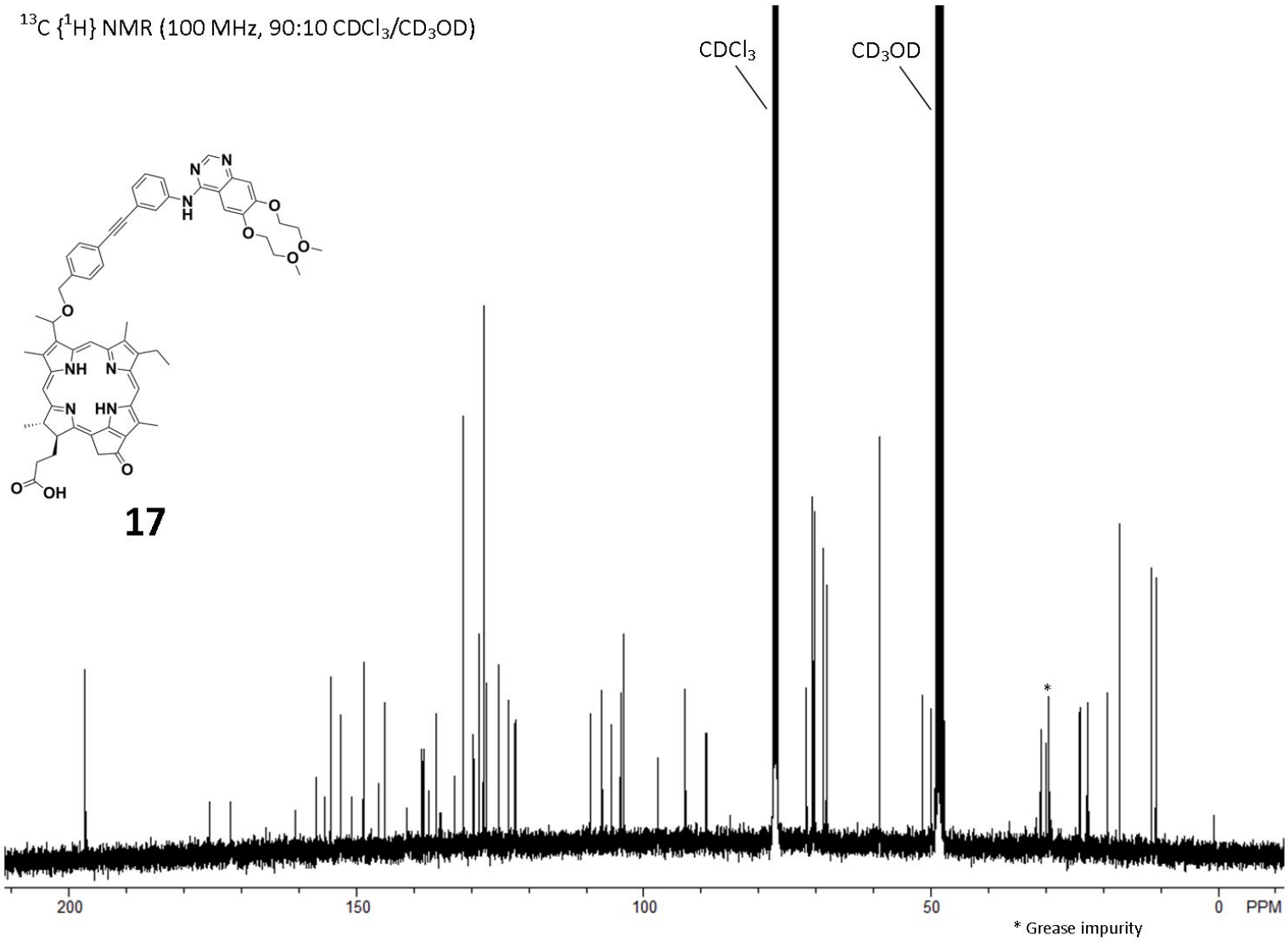
^{13}C {^{1}H} NMR (100 MHz, $CDCl_3$)



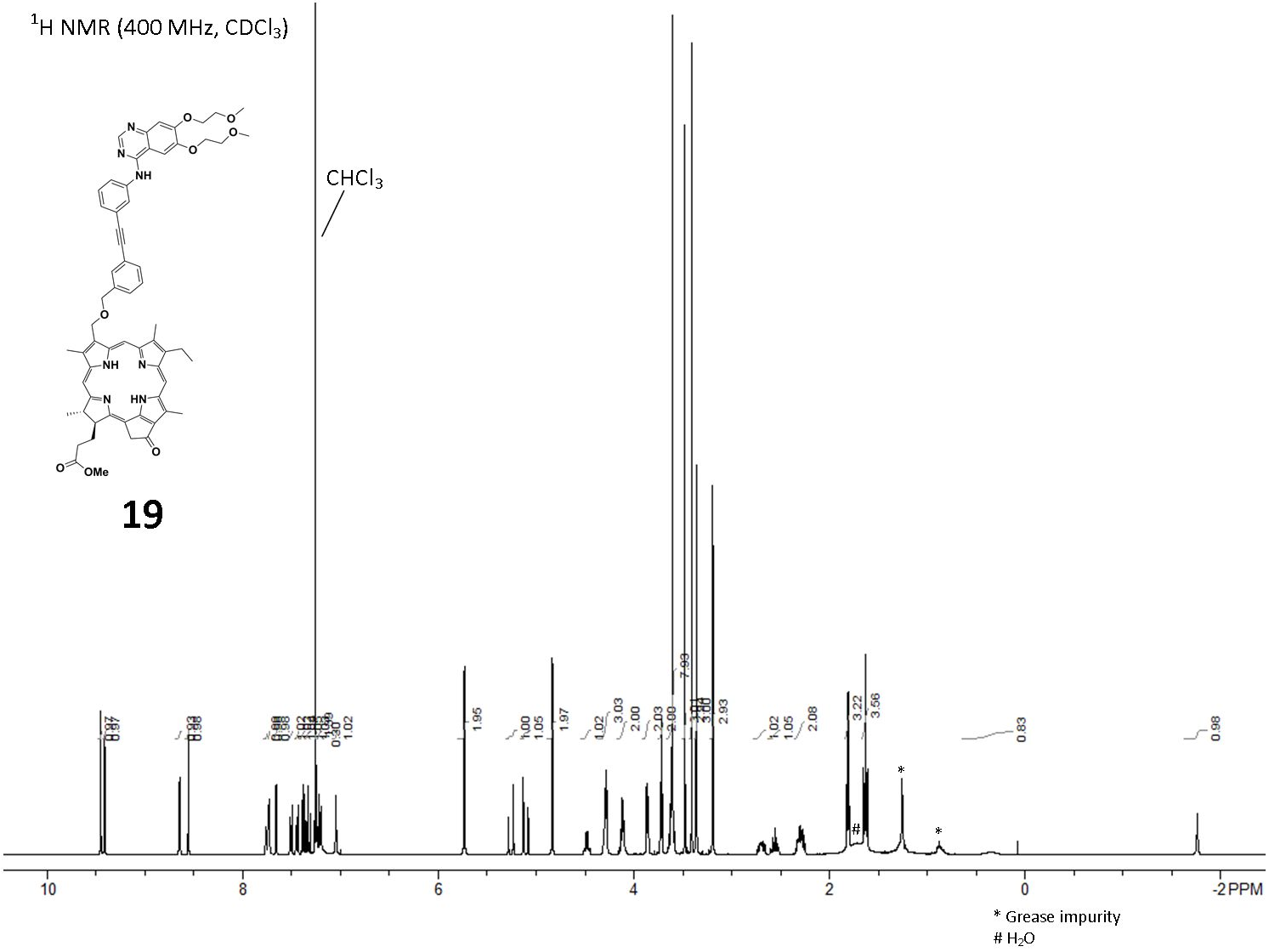
16


^{1}H NMR (400 MHz, 90:10 $CDCl_3/CD_3OD$)
H_2O
$CHCl_3$
CD_2HOD
17
0.99
1.00
0.97
1.00
1.01
1.10
1.02
1.03
1.04
5.14
4.11
3.03
1.04
1.06
2.04
3.02
3.04
3.28
1.05
10
8
6
4
2
0
PPM
* Grease impurity
# Minor impurity

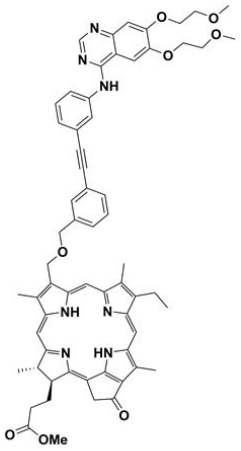
^{13}C {^{1}H} NMR (100 MHz, 90:10 $CDCl_3/CD_3OD$)



17

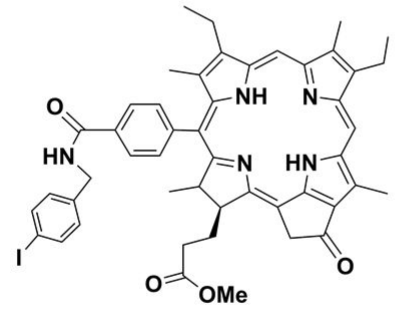

1H NMR (400 MHz, CDCl3)
CHCl3
19
10
8
6
4
2
0
-2 PPM
* Grease impurity
# H2O

^{13}C {^{1}H} NMR (100 MHz, $CDCl_3$)



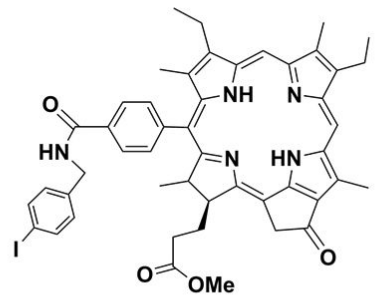
19

^{1}H NMR (400 MHz, CD_2Cl_2)

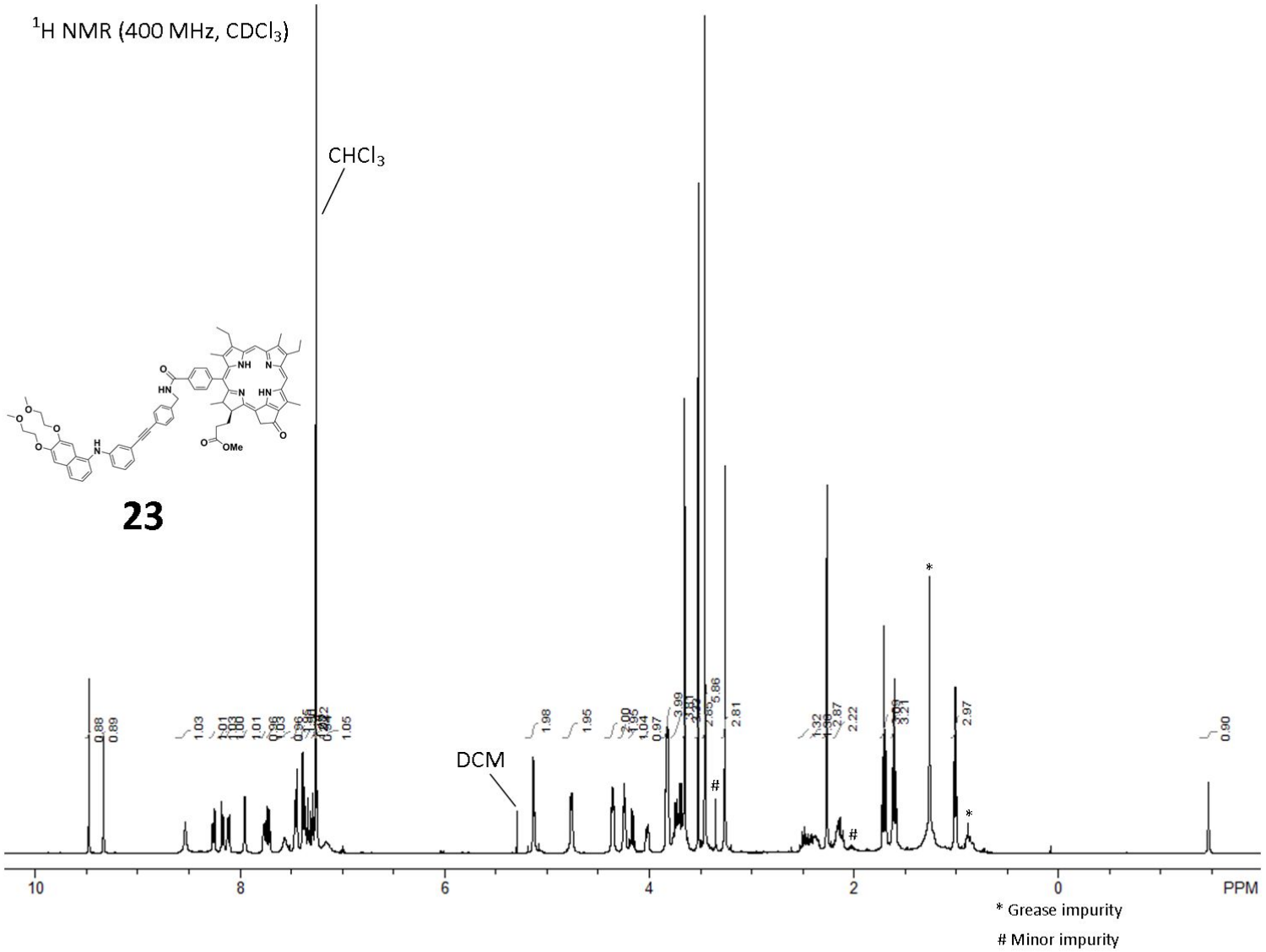


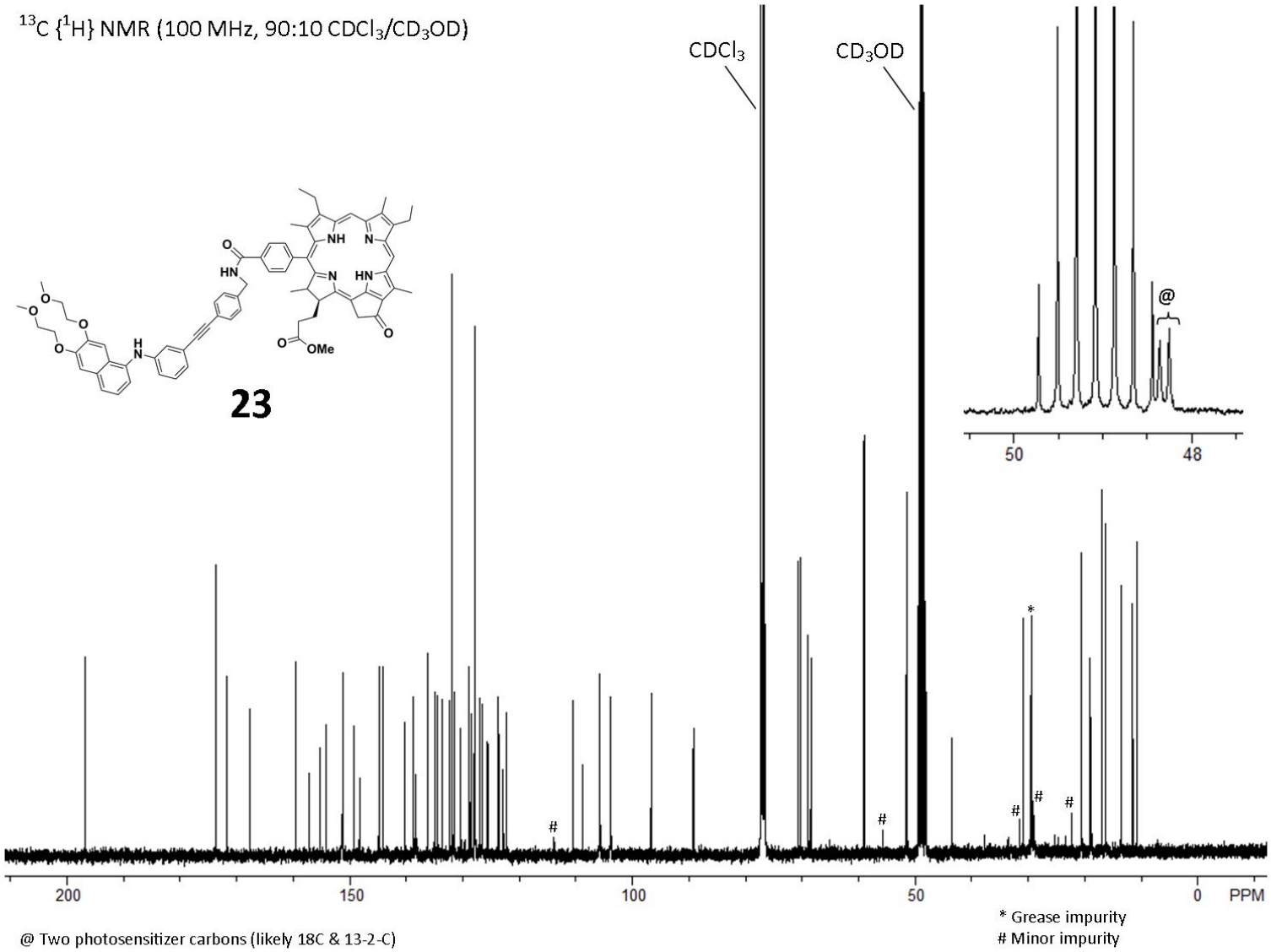
22

^{13}C {^{1}H} NMR (100 MHz, CD_2Cl_2)

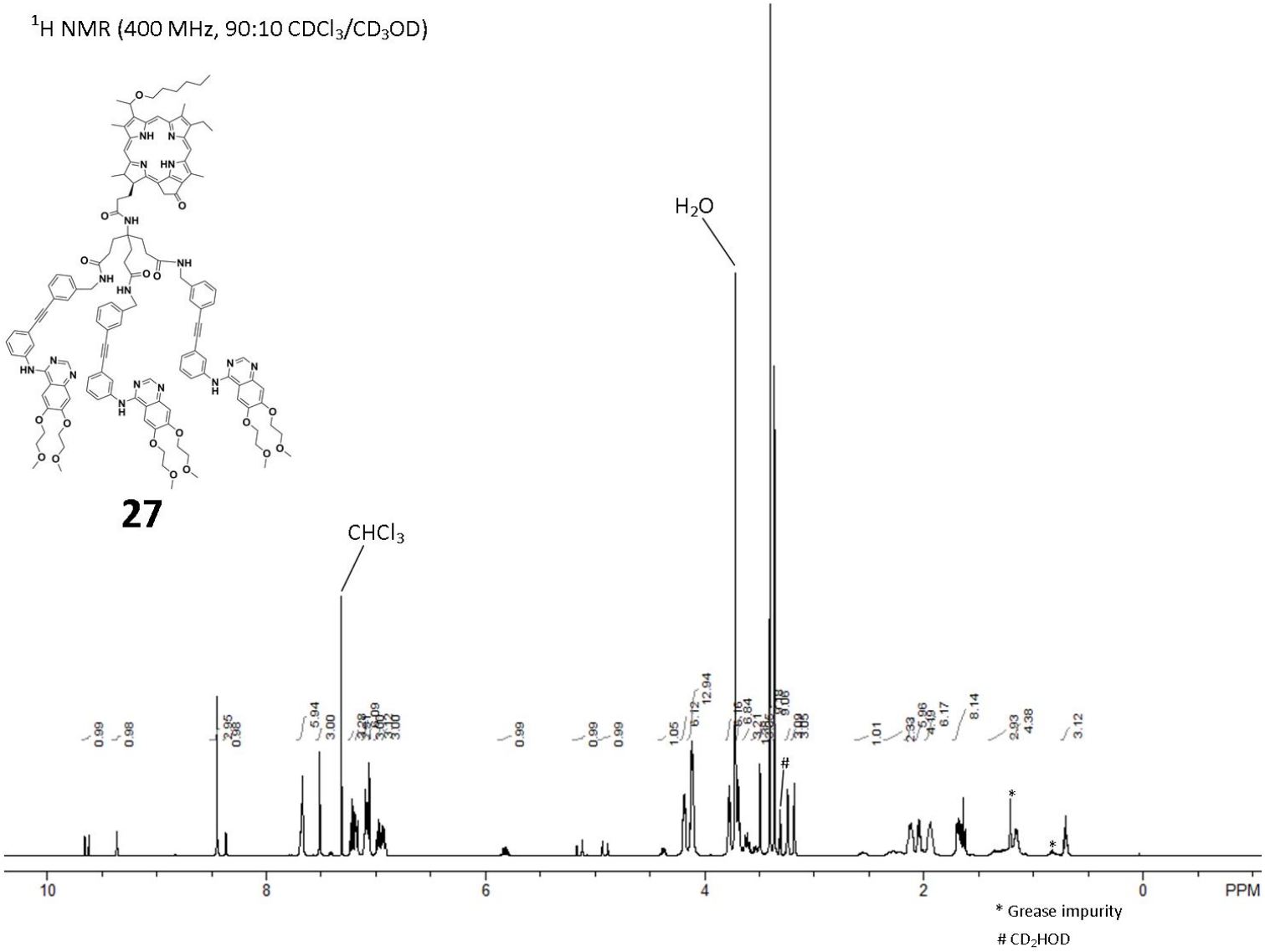


22


^{1}H NMR (400 MHz, $CDCl_3$)
$CHCl_3$
23
DCM
0.88
0.89
1.03
1.98
1.95
0.97
3.99
5.86
2.81
1.32
2.87
2.22
2.97
0.90
*
#
10
8
6
4
2
0
PPM
* Grease impurity
# Minor impurity


^{13}C {^{1}H} NMR (100 MHz, 90:10 $CDCl_3$/CD_3OD)
$CDCl_3$
CD_3OD
23
@
50
48
#
*
200
150
100
50
0
PPM
* Grease impurity
# Minor impurity
@ Two photosensitizer carbons (likely 18C & 13-2-C)

^{1}H NMR (400 MHz, 90:10 $CDCl_3/CD_3OD$)

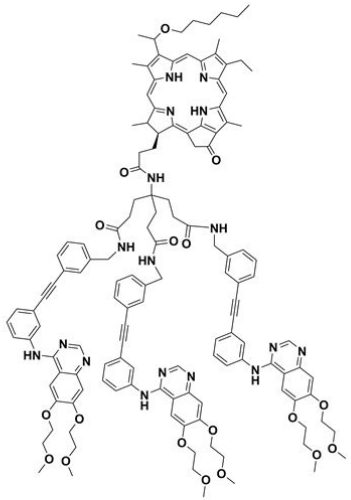


27

* Grease impurity

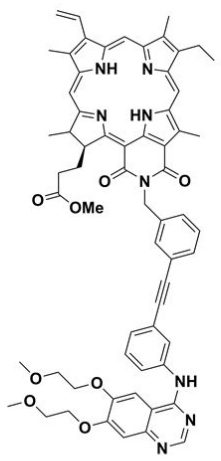
CD_2HOD

^{13}C {^{1}H} NMR (100 MHz, 90:10 $CDCl_3/CD_3OD$)



27

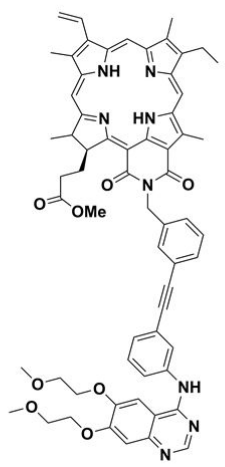
^{1}H NMR (400 MHz, $CDCl_3$)



29

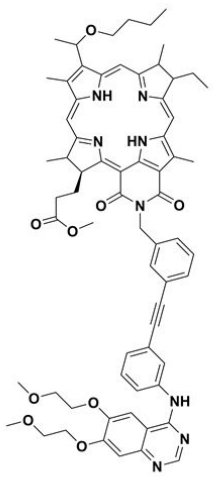
* Grease impurity

^{13}C {^{1}H} NMR (100 MHz, $CDCl_3$)



29

^{1}H NMR (400 MHz, $CDCl_3$)

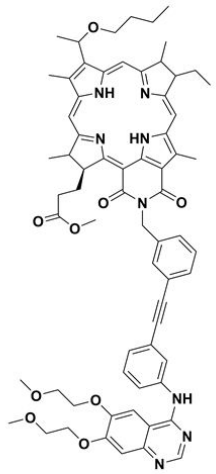


31

* Grease impurity

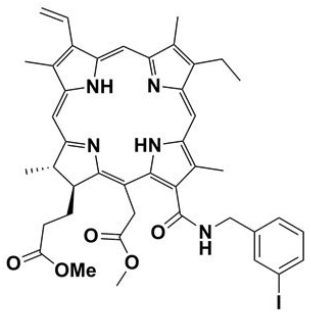
\# Photosensitizer signal augmented by grease impurity

^{13}C {^{1}H} NMR (100 MHz, $CDCl_3$)



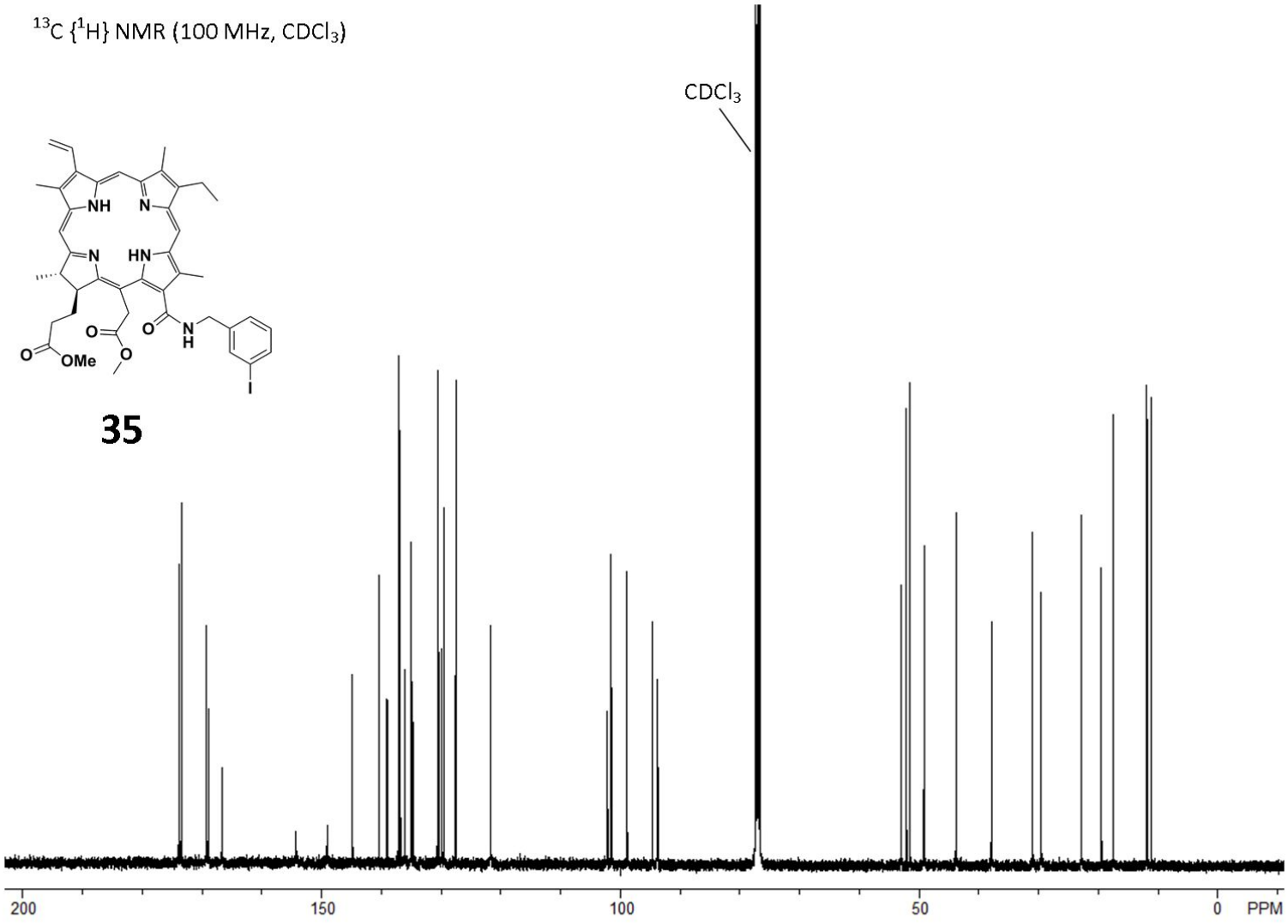
31

^{1}H NMR (400 MHz, $CDCl_3$)



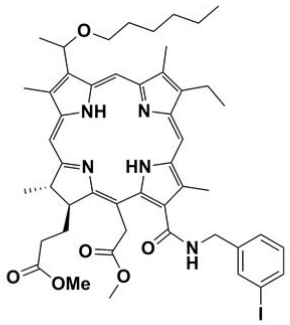
35

^{13}C {^{1}H} NMR (100 MHz, $CDCl_3$)



35

^{1}H NMR (400 MHz, $CDCl_3$)

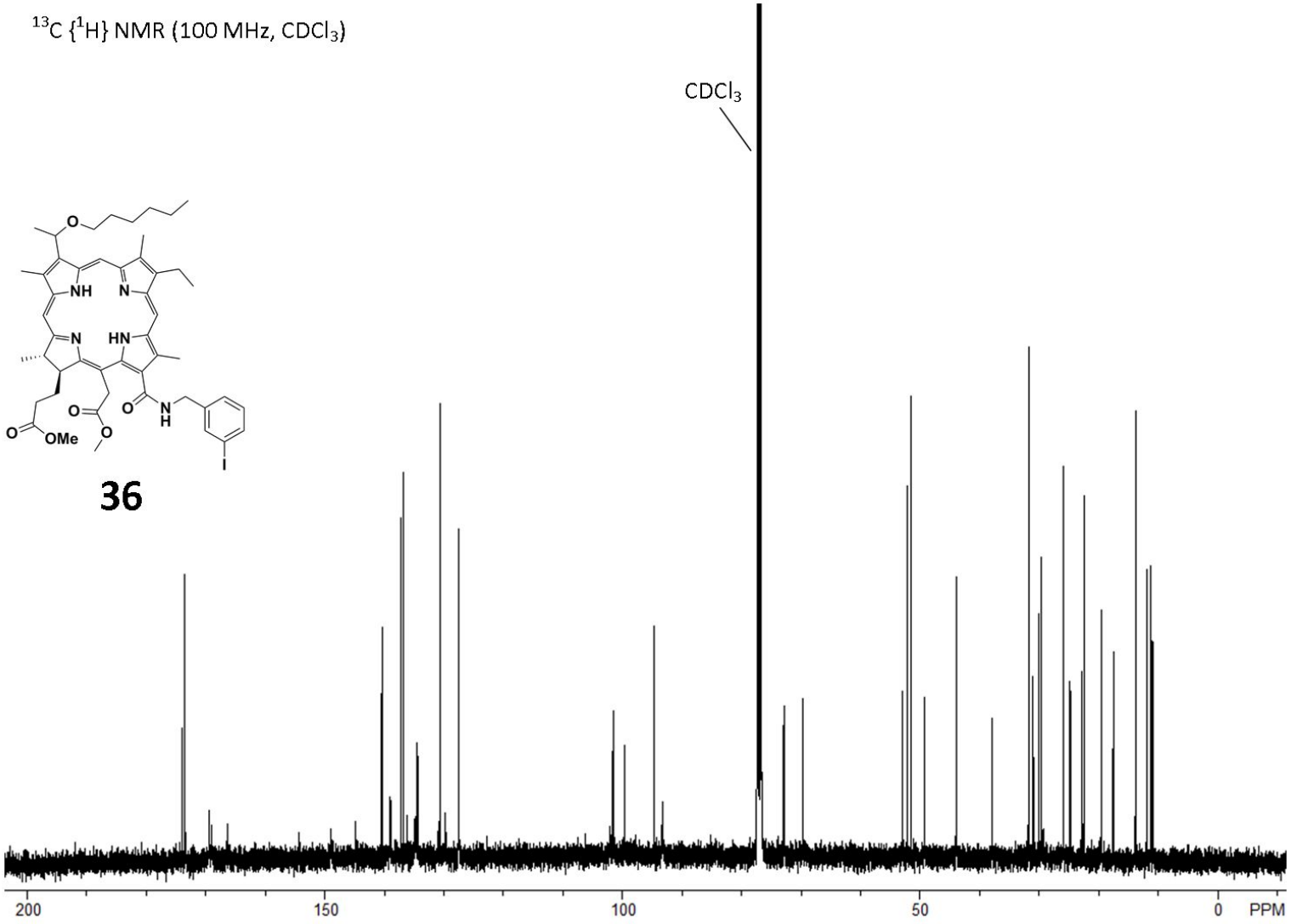


36

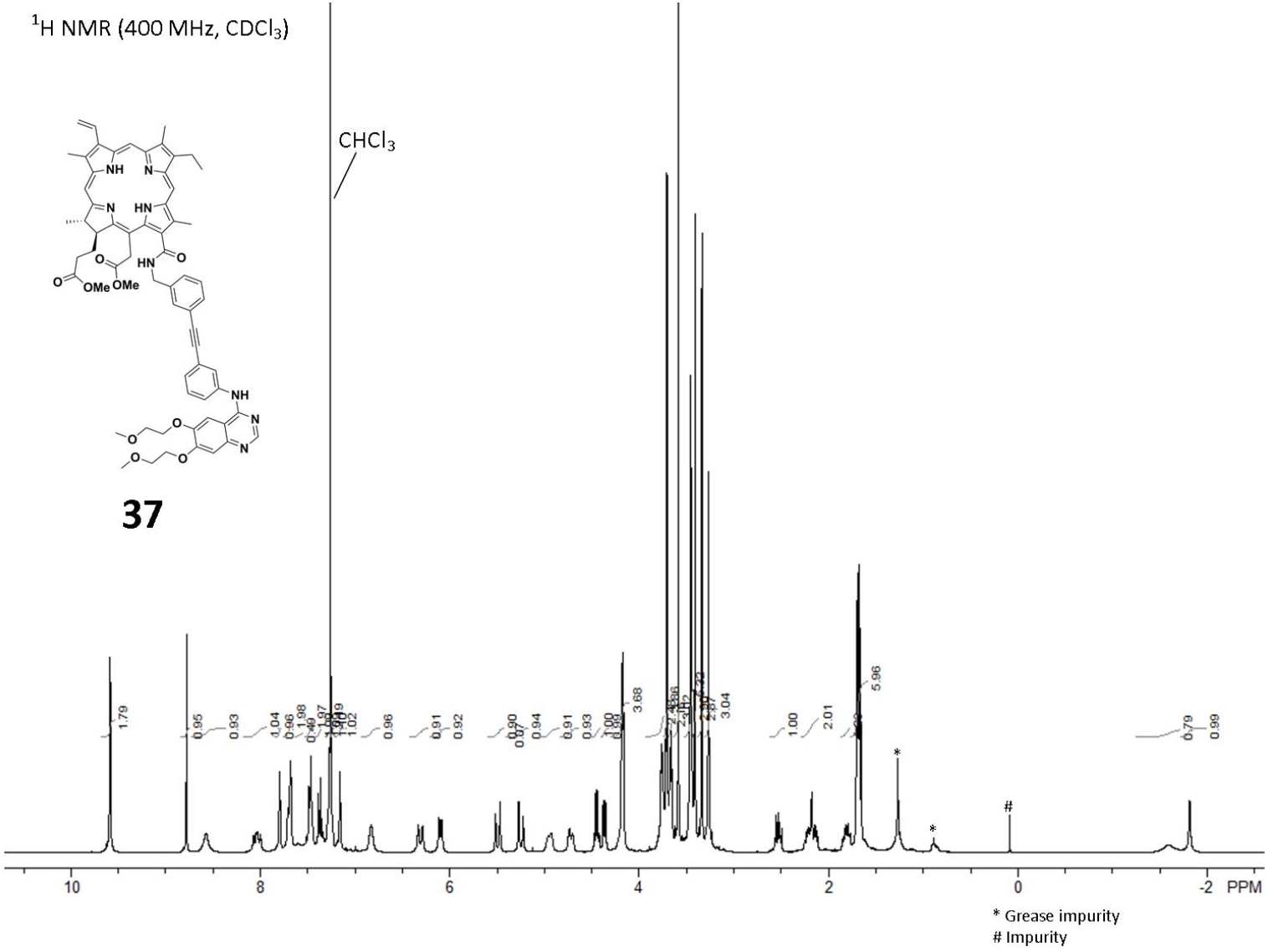
Minor impurity

* Grease impurity (overlapped with photosensitizer peaks)

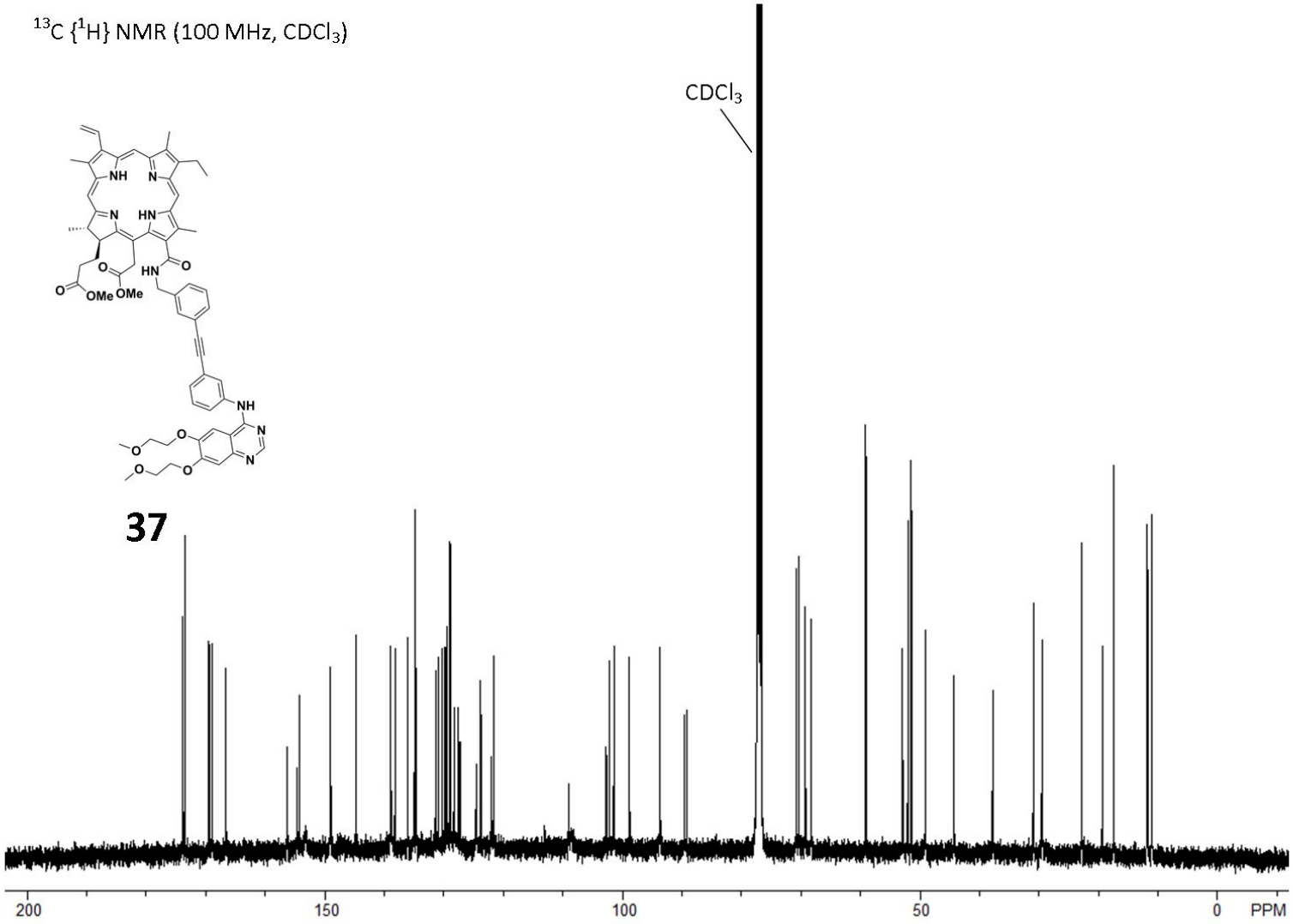
^{13}C {^{1}H} NMR (100 MHz, $CDCl_3$)



36

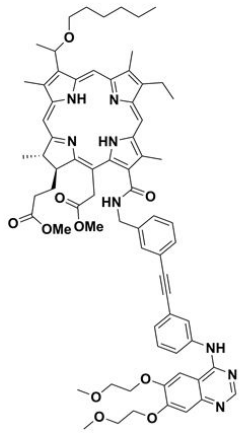

^{1}H NMR (400 MHz, $CDCl_3$)
$CHCl_3$
37
1.79
0.95
0.93
1.04
0.96
1.98
0.49
1.07
1.09
1.02
0.96
0.91
0.92
0.90
0.97
0.94
0.91
0.93
1.00
0.88
3.68
2.86
2.87
3.04
1.00
2.01
5.96
0.79
0.99
*
#
*
10
8
6
4
2
0
-2
PPM
* Grease impurity
# Impurity

^{13}C {^{1}H} NMR (100 MHz, $CDCl_3$)



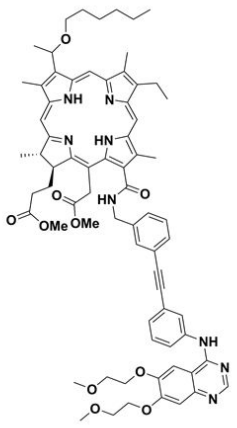
37

^{1}H NMR (400 MHz, $CDCl_3$)



38

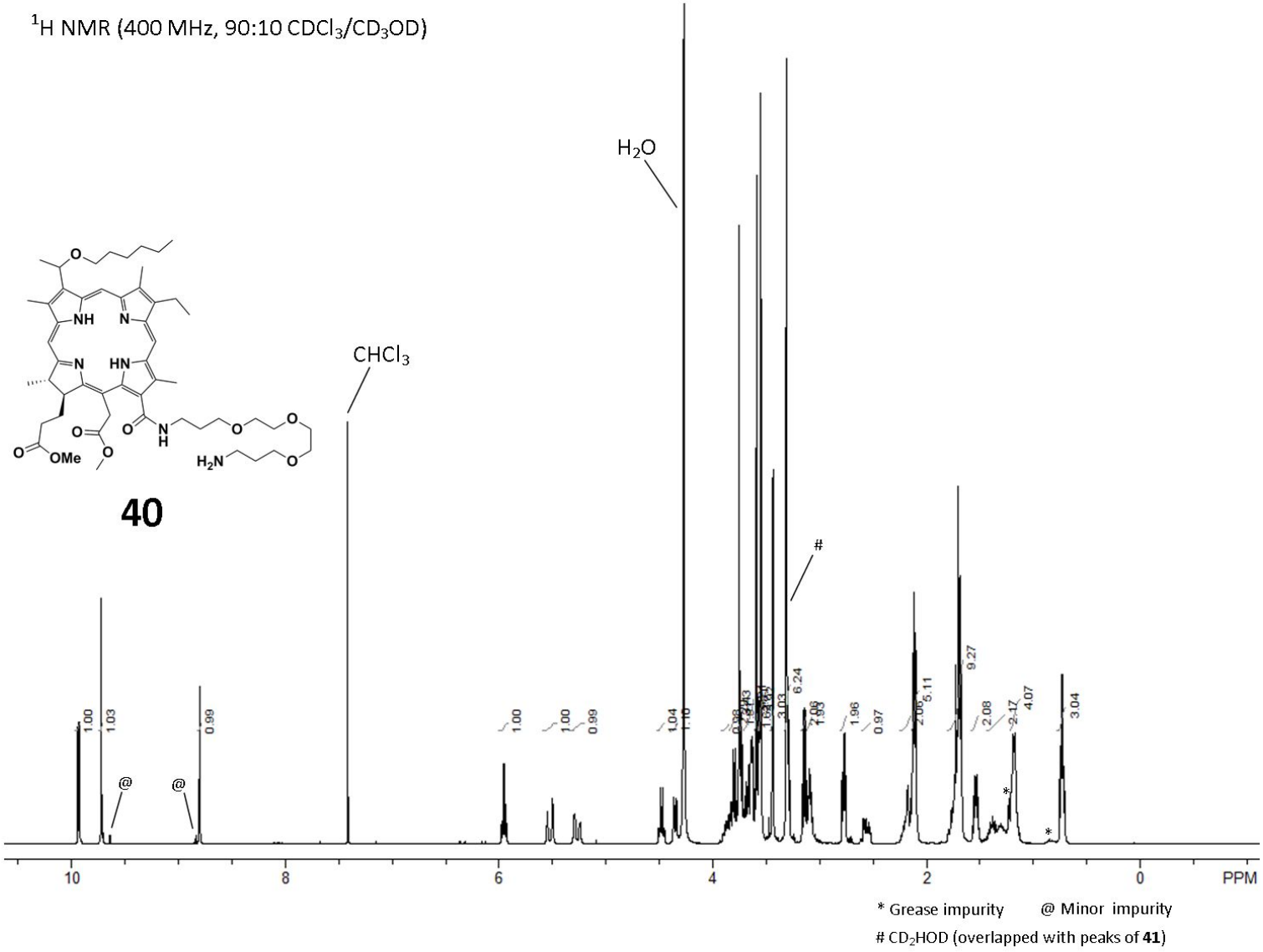
^{13}C {^{1}H} NMR (100 MHz, $CDCl_3$)



38

Minor impurity

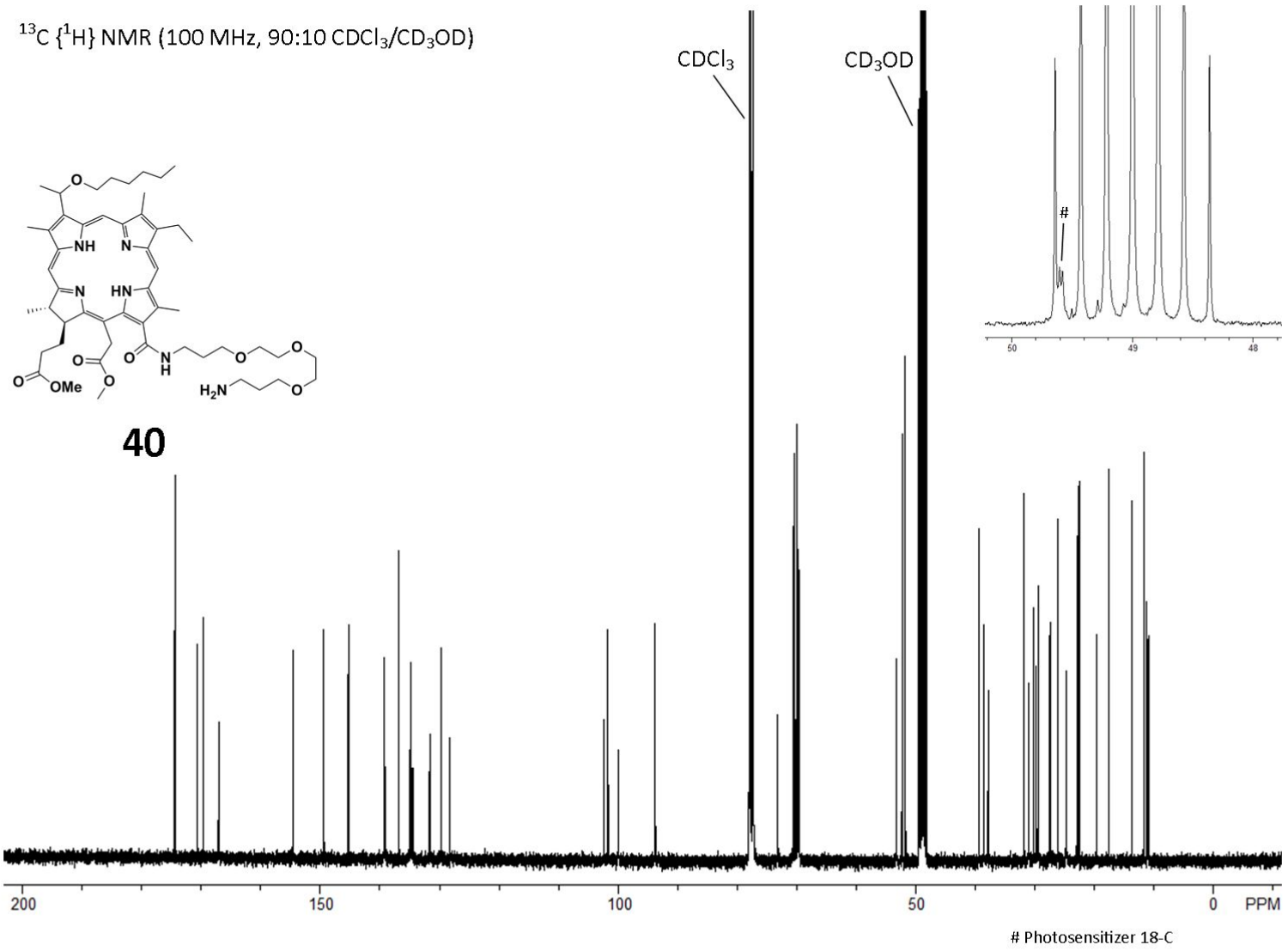
^{1}H NMR (400 MHz, 90:10 $CDCl_3/CD_3OD$)



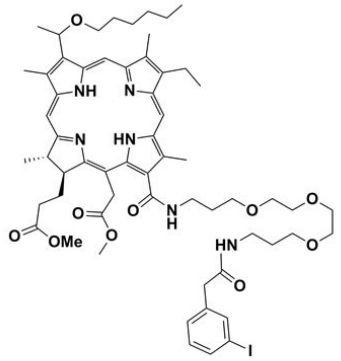
40

* Grease impurity @ Minor impurity

CD_2HOD (overlapped with peaks of **41**)


^{13}C {^{1}H} NMR (100 MHz, 90:10 $CDCl_3$/CD_3OD)
$CDCl_3$
CD_3OD
#
50
49
48
40
200
150
100
50
0
PPM
Photosensitizer 18-C

^{1}H NMR (400 MHz, $CDCl_3$)

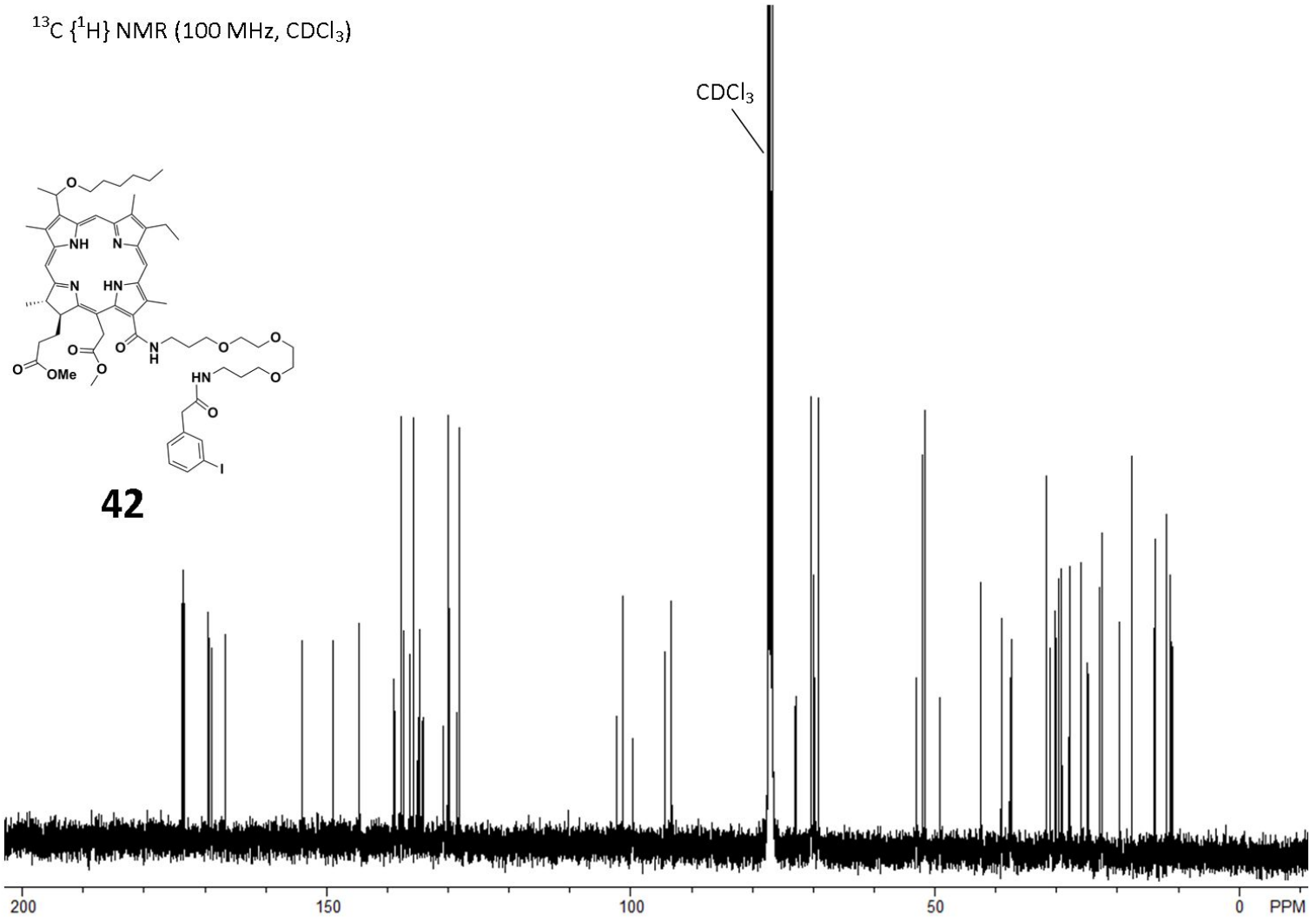


42

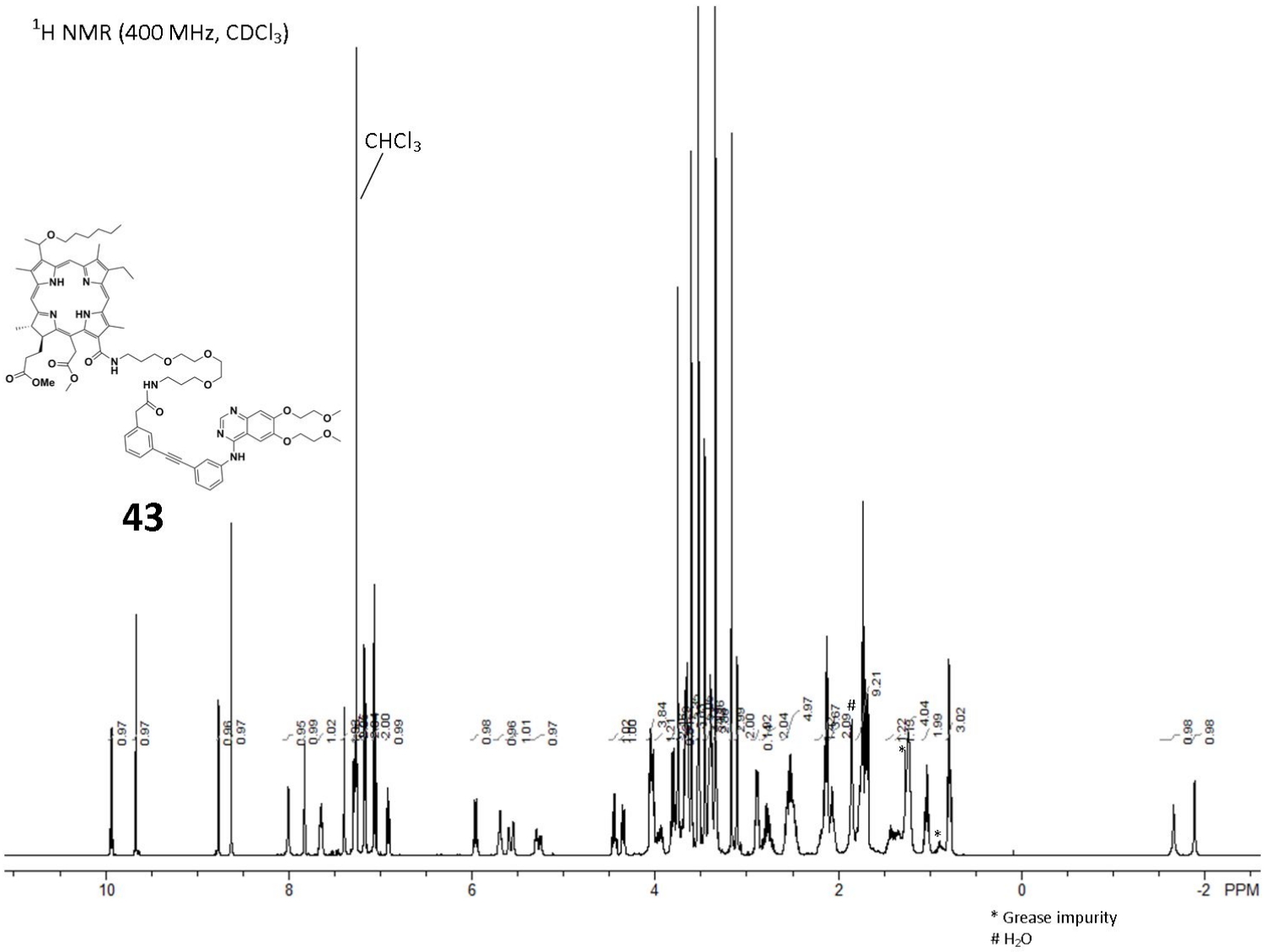
Minor impurities

* Grease impurity (overlapped with photosensitizer peaks)

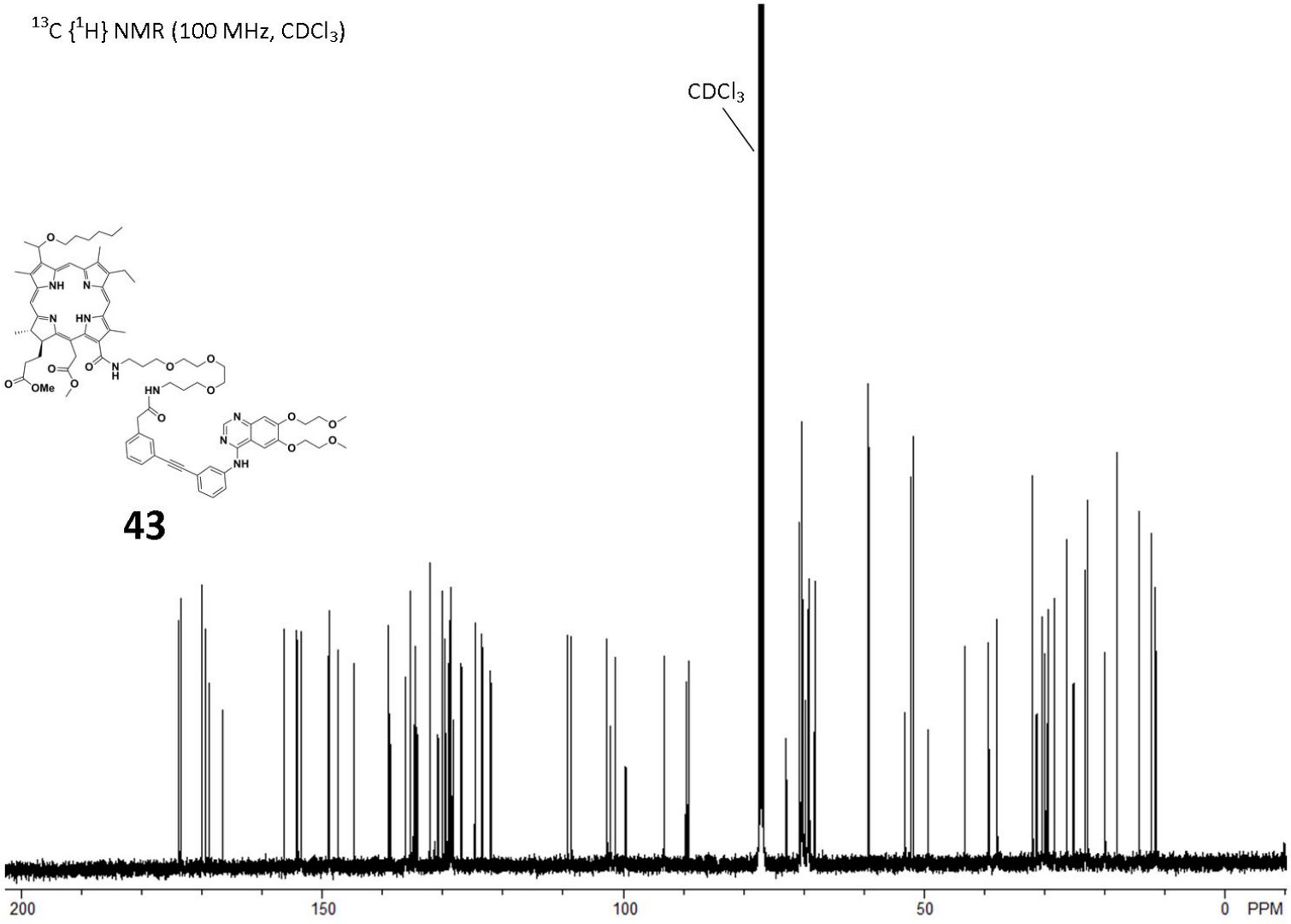
^{13}C {^{1}H} NMR (100 MHz, $CDCl_3$)



42

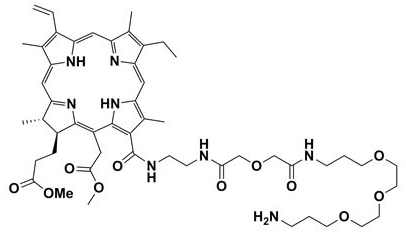

^{1}H NMR (400 MHz, $CDCl_3$)
$CHCl_3$
43
10
8
6
4
2
0
-2 PPM
* Grease impurity
# H_2O

^{13}C {^{1}H} NMR (100 MHz, $CDCl_3$)



43

^{1}H NMR (400 MHz, 80:20 $CDCl_3/CD_3OD$)



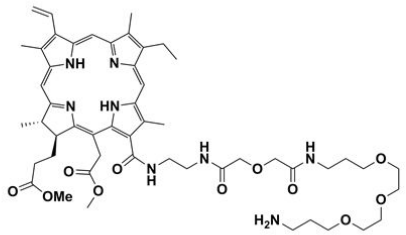
47

* Grease impurity (overlapped with linker CH_2 peaks)

@ 18-H overlapped with H_2O

\# CD_2HOD

^{13}C {^{1}H} NMR (100 MHz, 80:20 $CDCl_3/CD_3OD$)

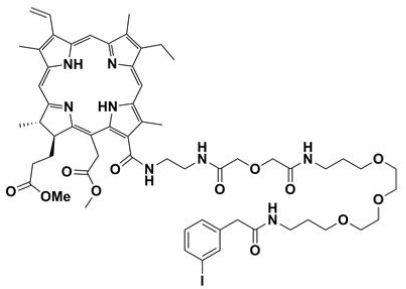


47

* Grease impurity @ Photosensitizer 18-C

\# Minor impurity

^{1}H NMR (400 MHz, $CDCl_3$)

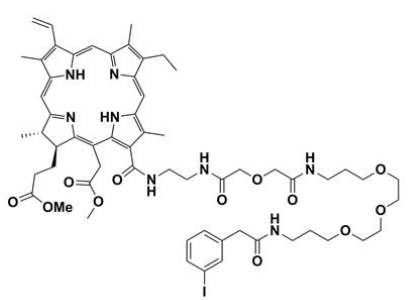


49

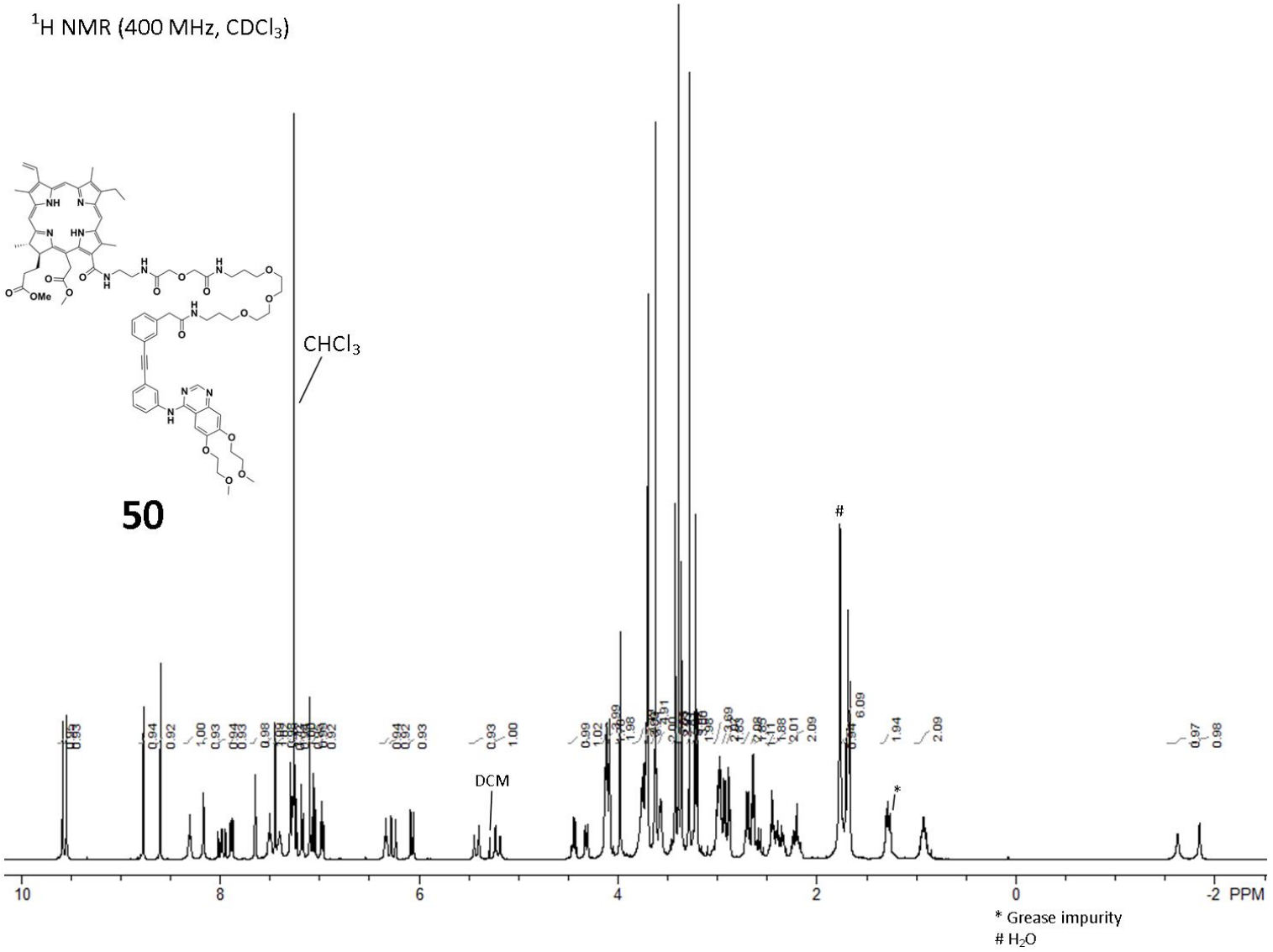
H_2O (overlapped with photosensitizer peaks)

* Grease impurity (overlapped with linker peaks)

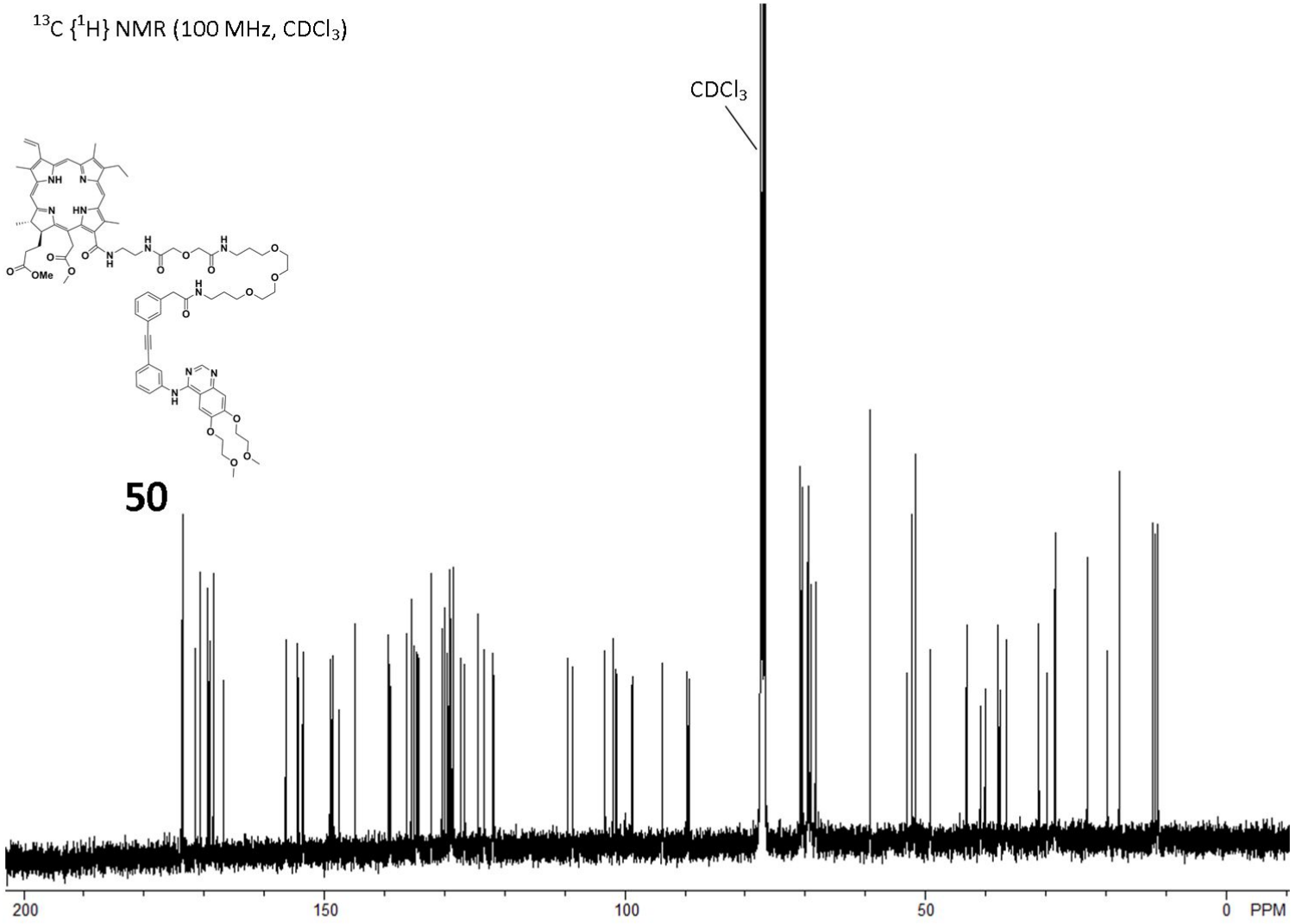
^{13}C {^{1}H} NMR (100 MHz, $CDCl_3$)



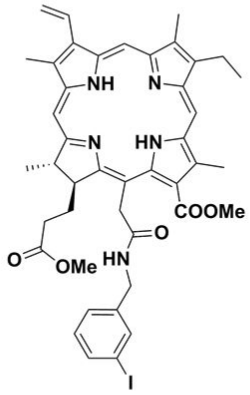
49


^{1}H NMR (400 MHz, $CDCl_3$)
$CHCl_3$
50
DCM
#
*
10
8
6
4
2
0
-2 PPM
* Grease impurity
# H_2O

^{13}C {^{1}H} NMR (100 MHz, $CDCl_3$)



^{1}H NMR (400 MHz, $CDCl_3$)

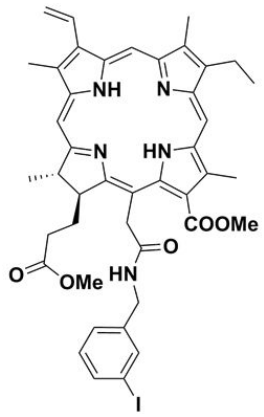


52

* Grease impurity

\# Minor impurities

^{13}C {^{1}H} NMR (100 MHz, $CDCl_3$)

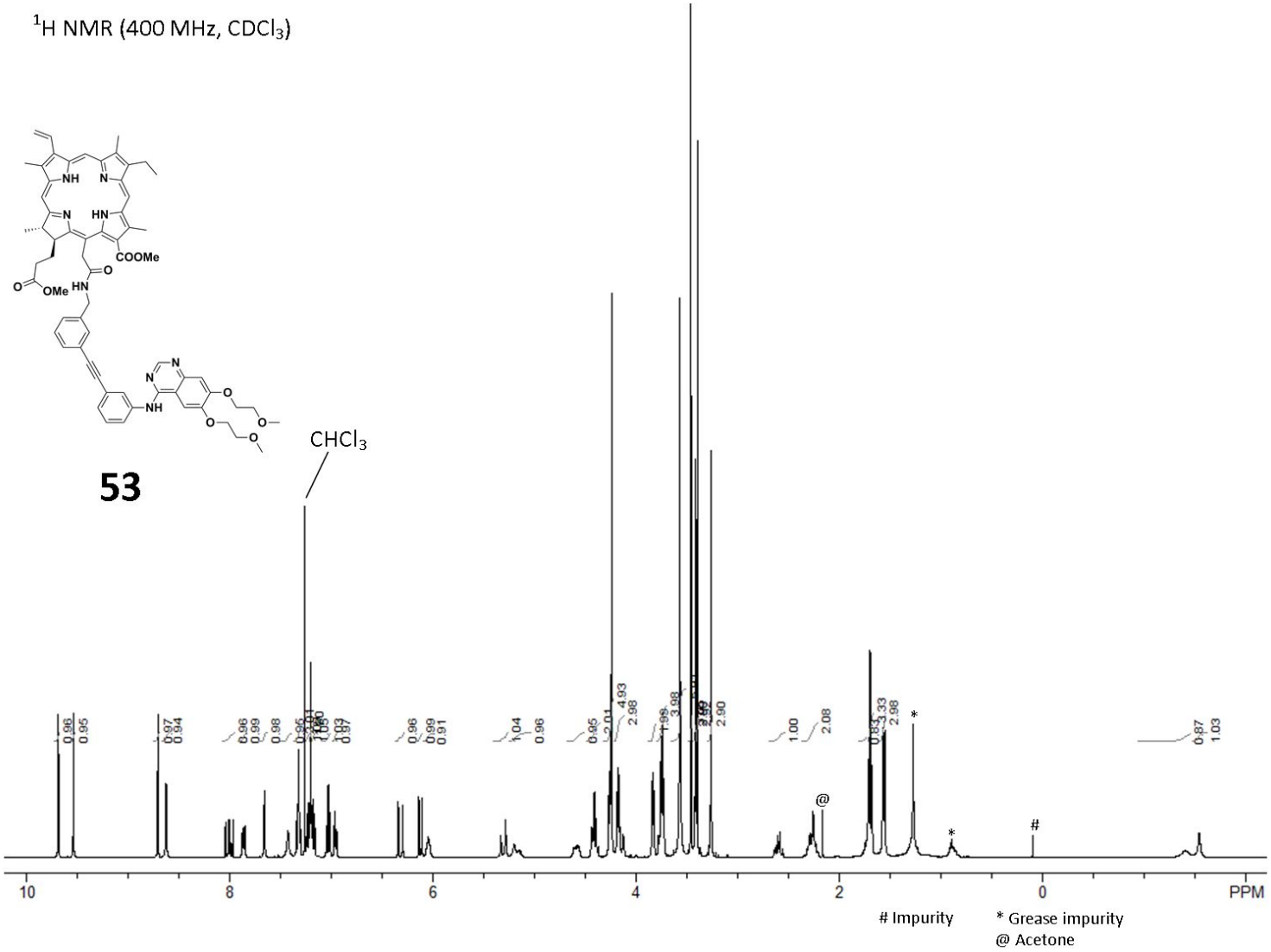


52

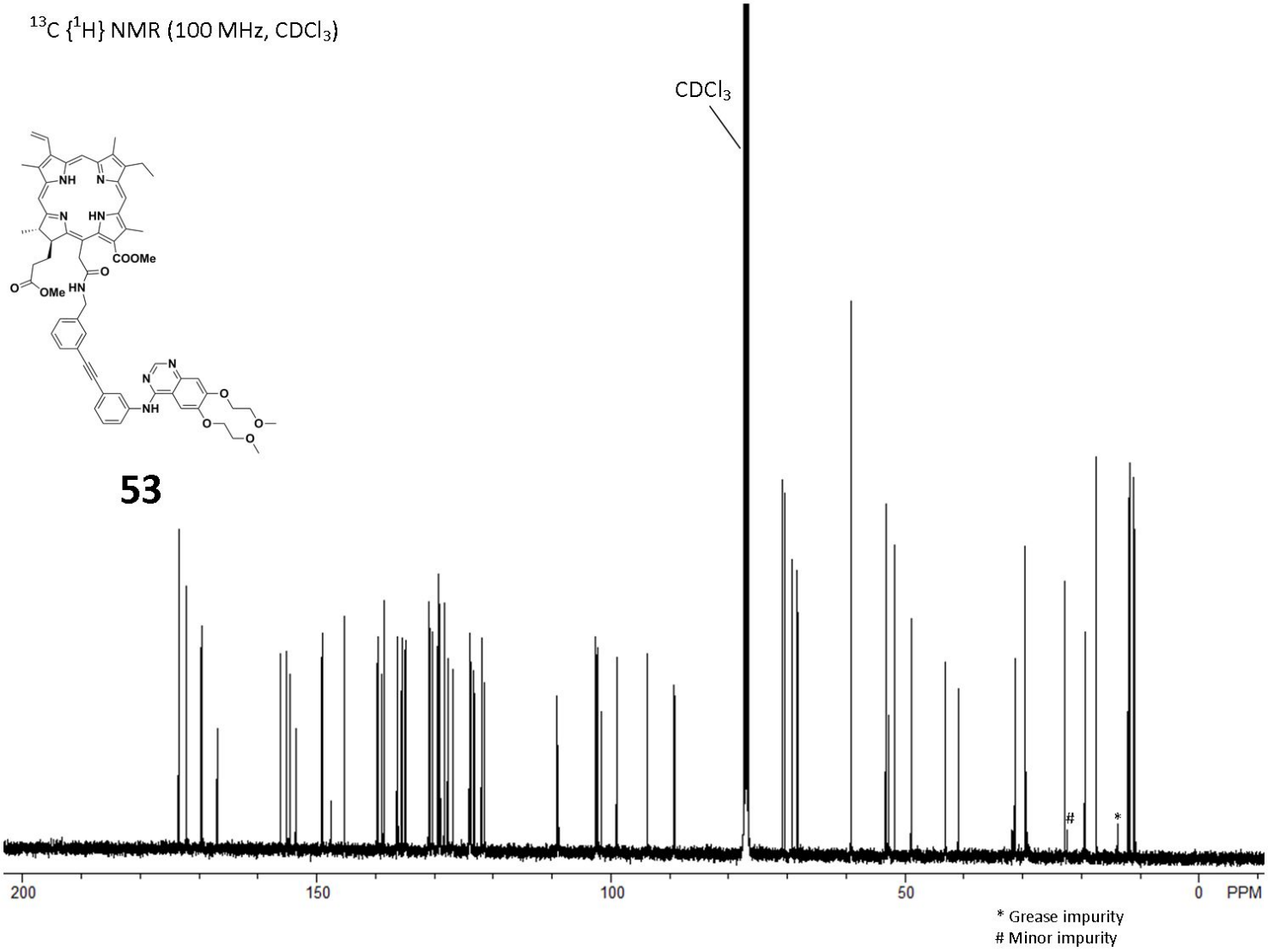
* Grease impurity

\# Minor impurities

^{1}H NMR (400 MHz, $CDCl_3$)



^{13}C {^{1}H} NMR (100 MHz, $CDCl_3$)



53

* Grease impurity
\# Minor impurity

Figure S1. A duplicate experimental series as described in Figure 4 was carried out to test the reproducibility of the PS retention pattern. Four-day old co-cultures of HN-143 T-EC (passage 60) with HN-166 T-Fb were incubated with medium containing 10% FBS and 3 μM indicated PS for 5 h. The cellular distribution of the indicated PSs was imaged and the cultures subjected to a 40-h chase with PS-free RPMI containing 10% FBS. Fluorescent images of the cultures after 5 h uptake and 40 h chase were recorded on a Nikon microscope at 100X magnification using a Spot camera. Exposure time for all images was 2 seconds. The sensitivity of the camera is 3-times lower than the QImage system of the Zeiss microscope used in Figure 4.

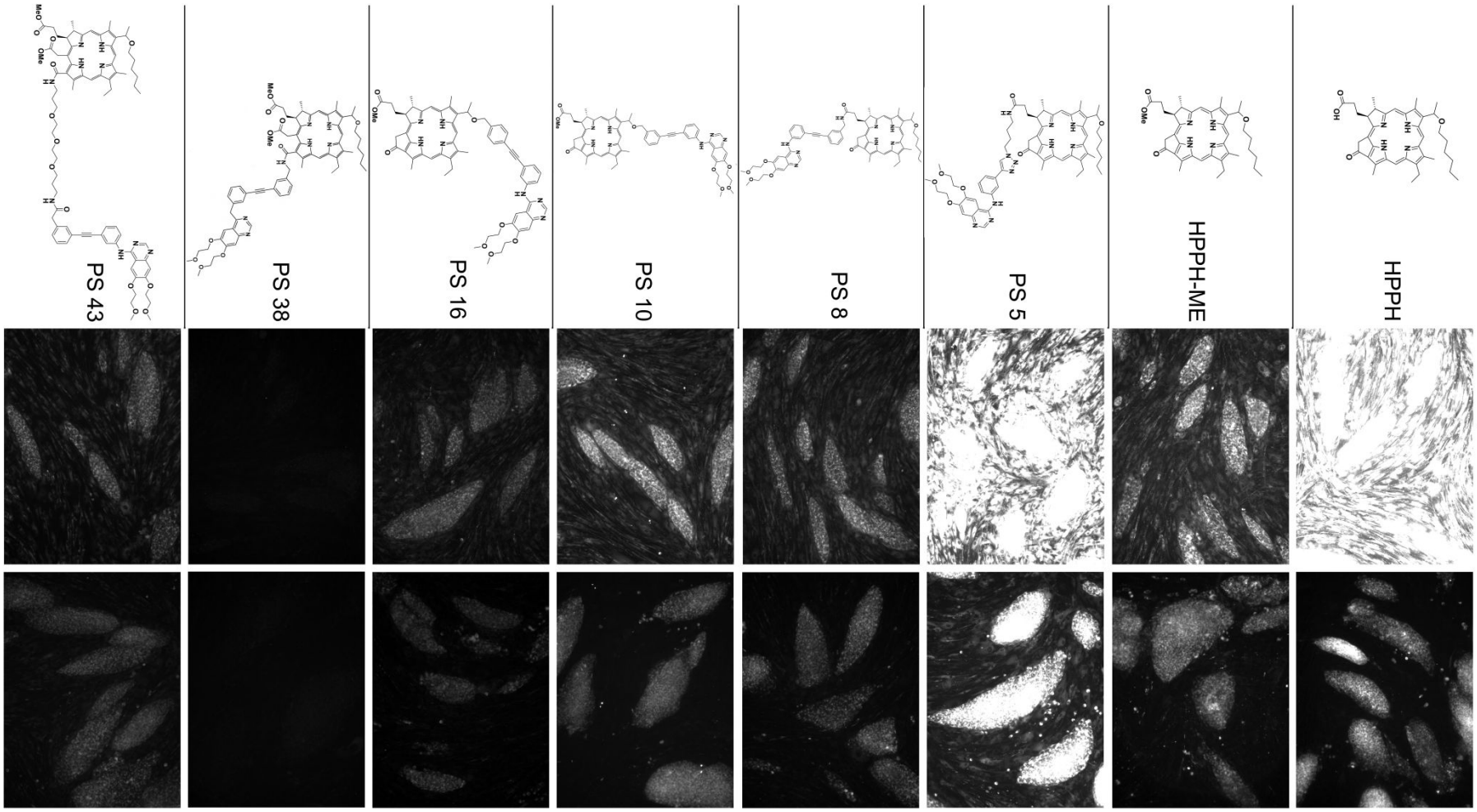


Table S2

Compound No	Molecular Formla Strings
Compond 5	CC(C(/C=C(C(C(OCCCCCC)C)=C/1C)\NC1=C/C(C(C)[C@@H]/2CCC(NCCCCN3C=C(C4=CC=CC(NC5=C(C=C(OCCOC)C(OCCOC)=C6)C6=NC=N5)=C4)N=N3)=O)=NC2=C7\CC8=O)=N/9)=C(CC)C9=C\C%10=C(C)C8=C7N%10
Compond 7	C[C@@H]([C@@H]/1CCC(NCC2=CC(I)=CC=C2)=O)C(/C=C(N/3)/C(C)=C(C(C)OCCCCCC)C3=C\C4=N/C(C(CC)=C4C)=C\5)=NC1=C(CC6=O)/C7=C6C(C)=C5N7
Compound 8	C[C@@H]([C@@H]/1CCC(NCC2=CC(C#CC3=CC=CC(NC4=C(C=C(OCCOC)C(OCCOC)=C5)C5=NC=N4)=C3)=CC=C2)=O)C(/C=C(N/6)/C(C)=C(C(C)OCCCCCC)C6=C\C7=N/C(C(CC)=C7C)=C\8)=NC1=C(CC9=O)/C%10=C9C(C)=C8N%10
Compound 9	CC(OCC1=CC=CC(I)=C1)C2=C(C)/C3=C/C(C[C@@H]/4CCC(OC)=O)=NC4=C(CC5=O)/C6=C5C(C)=C(/C=C7C(CC)=C(C)C(/C=C2\N3)=N/7)N6
Compound 10	CC(OCC1=CC=CC(C#CC2=CC(NC3=C(C=C(OCCOC)C(OCCOC)=C4)C4=NC=N3)=CC=C2)=C1)C5=C(C)/C6=C/C(C[C@@H]/7CCC(OC)=O)=NC7=C(CC8=O)/C9=C8C(C)=C(/C=C%10C(CC)=C(C)C(/C=C5\N6)=N/%10)N9
Compound 11	CC(OCC1=CC=CC(C#CC2=CC(NC3=C(C=C(OCCOC)C(OCCOC)=C4)C4=NC=N3)=CC=C2)=C1)C5=C(C)/C6=C/C(C[C@@H]/7CCC(O)=O)=NC7=C(CC8=O)/C9=C8C(C)=C(/C=C%10C(CC)=C(C)C(/C=C5\N6)=N/%10)N9
Compound 12	CC(OCC1=CC=CC(I)=C1)C2=C(C)/C3=C/C(C[C@@H]/4CCC(OC)=O)=NC4=C(CC5=O)/C6=C5C(C)=C(/C=C7C(CC)C(C)C(/C=C2\N3)=N/7)N6
Compound 13	CC(OCC1=CC=CC(C#CC2=CC(NC3=C(C=C(OCCOC)C(OCCOC)=C4)C4=NC=N3)=CC=C2)=C1)C5=C(C)/C6=C/C(C[C@@H]/7CCC(OC)=O)=NC7=C(CC8=O)/C9=C8C(C)=C(/C=C%10C(CC)C(C)C(/C=C5\N6)=N/%10)N9
Compound 14	CC(OCC1=CC=CC(C#CC2=CC(NC3=C(C=C(OCCOC)C(OCCOC)=C4)C4=NC=N3)=CC=C2)=C1)C5=C(C)/C6=C/C(C[C@@H]/7CCC(O)=O)=NC7=C(CC8=O)/C9=C8C(C)=C(/C=C%10C(CC)C(C)C(/C=C5\N6)=N/%10)N9
Compound 15	C[C@@H]([C@@H]/1CCC(OC)=O)C(/C=C(N/2)/C(C)=C(C(C)OCC3=CC=C(I)C=C3)C2=C\C4=N/C(C(CC)=C4C)=C\5)=NC1=C(CC6=O)/C7=C6C(C)=C5N7
Compound 16	C[C@@H]([C@@H]/1CCC(OC)=O)C(/C=C(N/2)/C(C)=C(C(C)OCC3=CC=C(C#CC4=CC(NC5=C(C=C(OCCOC)C(OCCOC)=C6)C6=NC=N5)=CC=C4)C=C3)C2=C\C7=N/C(C(CC)=C7C)=C\8)=NC1=C(CC9=O)/C%10=C9C(C)=C8N%10
Compound 17	C[C@@H]([C@@H]/1CCC(O)=O)C(/C=C(N/2)/C(C)=C(C(C)OCC3=CC=C(C#CC4=CC(NC5=C(C=C(OCCOC)C(OCCOC)=C6)C6=NC=N5)=CC=C4)C=C3)C2=C\C7=N/C(C(CC)=C7C)=C\8)=NC1=C(CC9=O)/C%10=C9C(C)=C8N%10
Compound 18	C[C@@H]([C@@H]/1CCC(OC)=O)C(/C=C(N/2)/C(C)=C(COCC3=CC=CC(I)=C3)C2=C\C4=N/C(C(CC)=C4C)=C\5)=NC1=C(CC6=O)/C7=C6C(C)=C5N7
Compound 19	C[C@@H]([C@@H]/1CCC(OC)=O)C(/C=C(N/2)/C(C)=C(COCC3=CC=CC(C#CC4=CC(NC5=C(C=C(OCCOC)C(OCCOC)=C6)C6=NC=N5)=CC=C4)=C3)C2=C\C7=N/C(C(CC)=C7C)=C\8)=NC1=C(CC9=O)/C%10=C9C(C)=C8N%10
Compound 20	
Compound 21	CC(C(/C=C(C(CC)=C/1C)\NC1=C(C2=CC=C(C(O)=O)C=C2)/C(C(C)[C@@H]/3CCC(OC)=O)=NC3=C4\CC5=O)=N/6)=C(CC)C6=C\C7=CC5=C4N7
Compound 22	IC(C=C1)=CC=C1CNC(C(C=C2)=CC=C2/C(C(C(C)[C@@H]/3CCC(OC)=O)=NC3=C4\CC5=O)=C(N/6)\C(C)=C(CC)C6=C\C7=N/C(C(CC)=C7C)=C\C8=CC5=C4N8)=O
Compound 23	COCCOC(C(OCCOC)=C1)=CC(C1=CC=C2)=C2NC3=CC=CC(C#CC(C=C4)=CC=C4CNC(C(C=C5)=CC=C5/C(C(C(C)[C@@H]/6CCC(OC)=O)=NC6=C7\CC8=O)=C(N/9)\C(C)=C(CC)C9=C\C%10=N/C(C(CC)=C%10C)=C\C%11=CC8=C7N%11)=O)=C3

Compound 24		
Compound 25	CC(C(/C=C(C(C(C)OCCCCCC)=C/1C)\NC1=C/C(C(C)[C@@H]/2CCC(NC(CCC(O)=O)(CCC(O)=O)CCC(O)=O)=O)=NC2=C3\CC4=O)=N/5)=C(CC)C5=C\C6=C(C)C4=C3N6	
Compound 26	NCC1=CC(C#CC2=CC=CC(NC3=C(C=C(OCCOC)C(OCCOC)=C4)C4=NC=N3)=C2)=CC=C1	
Compound 27	COCCOC1=CC2=NC=NC(NC3=CC(C#CC4=CC=CC(CNC(CCC(CCC(NCC5=CC=CC(C#CC6=CC=CC(NC7=C(C=C(OCCOC)C(OCCOC)=C8)C8=NC=N7)=C6)=C5)=O)(CCC(NCC9=CC=CC(C#CC%10=CC=CC(NC%11=C(C=C(OCCOC)C(OCCOC)=C%12)C%12=NC=N%11)=C%10)=C9)=O)NC(CC[C@H]%13C(C)C(/C=C(N/%14)/C(C)=C(C(C)OCCCCCC)C%14=C\C%15=N/C(C(CC)=C%15C)=C\%16)=N/C%13=C(CC%17=O)\C%18=C%17C(C)=C%16N%18)=O)=O)=C4)=CC=C3)=C2C=C1OCCOC	
Compound 28	CC(C(/C=C(C(C=C)=C/1C)\NC1=C/C(C(C)[C@@H]/2CCC(OC)=O)=NC2=C3\C(N4CC5=CC(I)=CC=C5)=O)=N/6)=C(CC)C6=C\C7=C(C)C(C4=O)=C3N7	
Compound 29	CC(C(/C=C(C(C=C)=C/1C)\NC1=C/C(C(C)[C@@H]/2CCC(OC)=O)=NC2=C3\C(N4CC5=CC(C#CC6=CC=CC(NC7=C(C=C(OCCOC)C(OCCOC)=C8)C8=NC=N7)=C6)=CC=C5)=O)=N/9)=C(CC)C9=C\C%10=C(C)C(C4=O)=C3N%10	
Compound 30	CC(C(/C=C(C(C=C)=C/1C)\NC1=C/C(C(C)[C@@H]/2CCC(OC)=O)=NC2=C3\C(N4CC5=CC(I)=CC=C5)=O)=N/6)C(CC)C6=C\C7=C(C)C(C4=O)=C3N7	
Compound 31	CC(C(/C=C(C(C=C)=C/1C)\NC1=C/C(C(C)[C@@H]/2CCC(OC)=O)=NC2=C3\C(N4CC5=CC(C#CC6=CC=CC(NC7=C(C=C(OCCOC)C(OCCOC)=C8)C8=NC=N7)=C6)=CC=C5)=O)=N/9)C(CC)C9=C\C%10=C(C)C(C4=O)=C3N%10	
Compound 32	C[C@@H]([C@@H]/1CCC(OC)=O)C(/C=C(N/2)/C(C)=C(C=C)C2=C\C3=N/C(C(CC)=C3C)=C\4)=NC1=C(C(C5=O)C(OC)=O)/C6=C5C(C)=C4N6	
Compound 33	C[C@@H]([C@@H]/1CCC(OC)=O)C(/C=C(N/2)/C(C)=C(C(OCCCCCC)C)C2=C\C3=N/C(C(CC)=C3C)=C\4)=NC1=C(C(C5=O)C(OC)=O)/C6=C5C(C)=C4N6	
Compound 34		
Compound 35	C[C@@H]([C@@H]/1CCC(OC)=O)C(/C=C(N/2)/C(C)=C(C=C)C2=C\C3=N/C(C(CC)=C3C)=C\4)=NC1=C(CC(OC)=O)/C5=C(C(NCC6=CC(I)=CC=C6)=O)C(C)=C4N5	
Compound 36	C[C@@H]([C@@H]/1CCC(OC)=O)C(/C=C(N/2)/C(C)=C(C(OCCCCCC)C)C2=C\C3=N/C(C(CC)=C3C)=C\4)=NC1=C(CC(OC)=O)/C5=C(C(NCC6=CC(I)=CC=C6)=O)C(C)=C4N5	
Compound 37	C[C@@H]([C@@H]/1CCC(OC)=O)C(/C=C(N/2)/C(C)=C(C=C)C2=C\C3=N/C(C(CC)=C3C)=C\4)=NC1=C(CC(OC)=O)/C5=C(C(NCC6=CC(C#CC7=CC(NC8=C(C=C(OCCOC)C(OCCOC)=C9)C9=CC=C8)=CC=C7)=CC=C6)=O)C(C)=C4N5	
Compound 38	C[C@@H]([C@@H]/1CCC(OC)=O)C(/C=C(N/2)/C(C)=C(C(OCCCCCC)C)C2=C\C3=N/C(C(CC)=C3C)=C\4)=NC1=C(CC(OC)=O)/C5=C(C(NCC6=CC(C#CC7=CC(NC8=C(C=C(OCCOC)C(OCCOC)=C9)C9=CC=C8)=CC=C7)=CC=C6)=O)C(C)=C4N5	
Compound 39		
Compound 40	C[C@@H]([C@@H]/1CCC(OC)=O)C(/C=C(N/2)/C(C)=C(C(C)OCCCCCC)C2=C\C3=N/C(C(CC)=C3C)=C\4)=NC1=C(CC(OC)=O)/C5=C(C(NCCCOCCOCCOCCCN)=O)C(C)=C4N5	

Compound 41		
Compound 42	C[C@@H]([C@@H]/1CCC(OC)=O)C(/C=C(N/2)/C(C)=C(C(C)OCCCCCC)C2=C\C3=N/C(C(CC)=C3C)=C\4)=NC1=C(CC(OC)=O)/C5=C(C(NCCCOCCOCCOCCCNC(CC6=CC=CC(I)=C6)=O)=O)C(C)=C4N5	
Compound 43	C[C@@H]([C@@H]/1CCC(OC)=O)C(/C=C(N/2)/C(C)=C(C(C)OCCCCCC)C2=C\C3=N/C(C(CC)=C3C)=C\4)=NC1=C(CC(OC)=O)/C5=C(C(NCCCOCCOCCOCCCNC(CC6=CC=CC(C#CC7=CC=CC(NC8=C(C=C(OCCOC)C(OCCOC)=C9)C9=NC=N8)=C7)=C6)=O)=O)C(C)=C4N5	
Compound 44		
Compound 45		
Compound 46	C[C@@H]([C@@H]/1CCC(OC)=O)C(/C=C(N/2)/C(C)=C(C=C)C2=C\C3=N/C(C(CC)=C3C)=C\4)=NC1=C(CC(OC)=O)/C5=C(C(NCCN)=O)C(C)=C4N5	
Compound 47	C[C@@H]([C@@H]/1CCC(OC)=O)C(/C=C(N/2)/C(C)=C(C=C)C2=C\C3=N/C(C(CC)=C3C)=C\4)=NC1=C(CC(OC)=O)/C5=C(C(NCCNC(CCCC(NCCCOCCOCCOCCCN)=O)=O)=O)C(C)=C4N5	
Compound 48	IC1=CC=CC(CC(O)=O)=C1	
Compound 49	IC1=CC(CC(NCCCOCCOCCOCCCNC(CCCC(NCCNC(C2=C(/C(CC(OC)=O)=C3[C@@H](CCC(OC)=O)[C@H](C)C(/C=C(N/4)/C(C)=C(C=C)C4=C\C5=N/C(C(CC)=C5C)=C\6)=N/3)NC6=C2C)=O)=O)=O)=O)=CC=C1	
Compound 50	COCCOC(C(OCCOC)=C1)=CC(C1=NC=N2)=C2NC3=CC(C#CC4=CC(CC(NCCCOCCOCCOCCCNC(CCCC(NCCNC(C5=C(/C(CC(OC)=O)=C6[C@@H](CCC(OC)=O)[C@H](C)C(/C=C(N/7)/C(C)=C(C=C)C7=C\C8=N/C(C(CC)=C8C)=C\9)=N/6)NC9=C5C)=O)=O)=O)=O)=CC=C4)=CC=C3	
Compound 51	C[C@@H]([C@@H]/1CCC(OC)=O)C(/C=C(N/2)/C(C)=C(C=C)C2=C\C3=N/C(C(CC)=C3C)=C\4)=NC1=C(CC(O)=O)/C5=C(C(O)=O)C(C)=C4N5	
Compound 52	C[C@@H]([C@@H]/1CCC(OC)=O)C(/C=C(N/2)/C(C)=C(C=C)C2=C\C3=N/C(C(CC)=C3C)=C\4)=NC1=C(CC(NCC5=CC=CC(I)=C5)=O)/C6=C(C(OC)=O)C(C)=C4N6	
Compound 53	C[C@@H]([C@@H]/1CCC(OC)=O)C(/C=C(N/2)/C(C)=C(C=C)C2=C\C3=N/C(C(CC)=C3C)=C\4)=NC1=C(CC(NCC5=CC=CC(C#CC6=CC=CC(NC7=C(C=C(OCCOC)C(OCCOC)=C8)C8=NC=N7)=C6)=C5)=O)/C9=C(C(OC)=O)C(C)=C4N9	

Table S3. Analysis (including HPLC) of Photosensitizer-Erlotinib Conjugates

Compound Number	^{1}H NMR	^{13}C NMR	HRMS	HPCL Analysis RT (min)	HPCL Analysis Purity (%)	Method*
5	Yes	Yes	Yes	5.0	96.93	A
8	Yes	Yes	Yes	5.79, 6.18 (epimers)	99.84	A
10	Ref. 38	Ref 38	Ref. 38	6.0	99.58	A
11	Ref. 38	Ref 38	Ref 38	1.75, 1.97 (epimers)	99.06	B
13	Yes	Yes	Yes	12.15	97.97	C
14	Yes	Yes	Yes	2.10	96.60	D
16	Yes	Yes	Yes	8.89	98.49	A
17	Yes	Yes	Yes	2.80	96.72	B
19	Yes	Yes	Yes	5.83	96.19	A
23	Yes	Yes	Yes	7.50	97.94	A
27	Yes	Yes	Yes	10.63	94.22	C
29	Yes	Yes	Yes	26.48	99.37	A
31	Yes	Yes	Yes	16.03,17.35 (epimers)	97.22	A
37	Yes	Yes	Yes	2.65	94.88	A
38	Yes	Yes	Yes	3.53	94.42	A
43	Yes	Yes	Yes	1.54, 1.79 (epimers)	99.90	A
50	Yes	Yes	Yes	2.93	94.93	A
53	Yes	Yes	Yes	3.95	94.40	A

- **Method(s) for HPLC analysis:**

A . Instrument: Waters analytical system 600 connecter with 996 photodiode array detector and Delta 600 multi-solvent delivery unit with millennium 3,05, 01 data-system.

B. HPLC parameter:

* Solvent flow rate: 1.0 mL/min

* Mobile Phase:

Method A: Methanol

Method B: Methanol with 0.5% acetic acid

Method C: Methanol (975), and water (3%)

Method D: Methanol (97%), water (3%) with 0.5% acetic acid.

Data collected between 220 nm to 750 nm, processed at wavelength with maximum absorption of the compound.

C. HPLC Column: Waters Symmetry, catalog WAT 045905 (C18, 4.6 x 150 nm, 5μ)