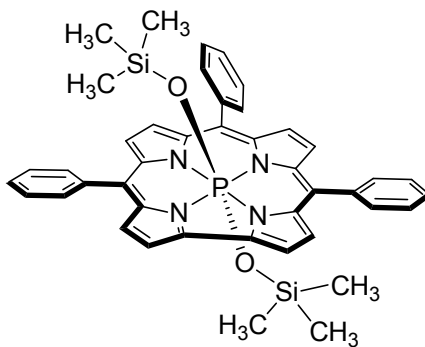


Chemicals: All the solvents such as Chloroform, Toluene, Triethylamine, Dichloromethane, *n*-hexane, Benzene were dried by following available methods and distilled under inert atmosphere prior to use. Deuterated solvents such as CDCl₃ and C₆D₆ were obtained from Aldrich and used as received. All the chemicals used for the synthesis were reagent grade. Column chromatography was performed using 60-120 mesh silica gel and basic aluminium oxide obtained from Sisco Research Laboratories, India.

Instrumentation: ¹H, ¹³C and ³¹P NMR spectra were recorded in C₆D₆ using a Bruker 400 MHz and 500 MHz spectrometer and reported in δ ppm. Absorption spectra were obtained using Cary series UV-VIS NIR spectrophotometer. The fluorescence quantum yields (ϕ_f) were calculated from the emission and absorption spectra by a comparative method at a excitation wavelength of 430 nm using Tetratolyl porphyrin (H₂TTP) ($\phi_f = 0.11$) as the standard. The time resolved fluorescence decay measurement were carried out at magic angle (54.60) using a picoseconds diode laser based TCSPC fluorescence spectrometer from IBH, UK. All the decays were fitted to single exponential decay. Cyclic voltammetry (CV) studies are carried out with a BAS electrochemical system by utilizing the three-electrode configuration consisting of glassy carbon (working electrode), platinum wire (auxiliary electrode) and saturated calomel (reference electrode) electrodes. The experiments were carried out in dry dichloromethane using tetrabutylammonium perchlorate as the supporting electrolyte. The high resolution mass spectra (HRMS) were recorded on a Q-Tof micro mass spectrometer.

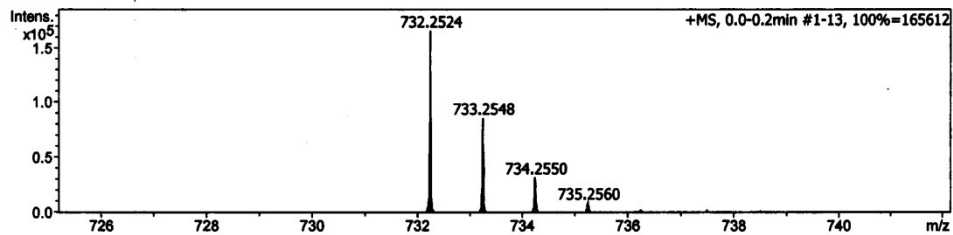
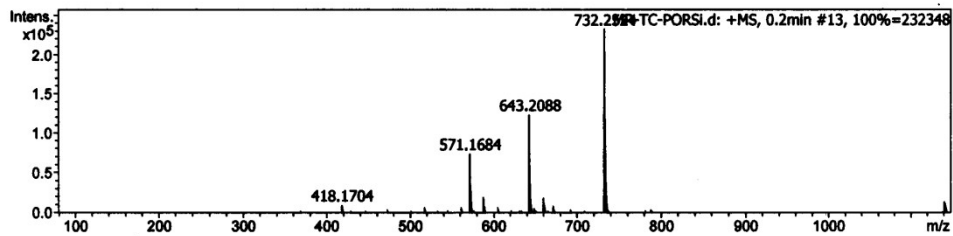


Compound 2
Mol. Wt. = 732.25

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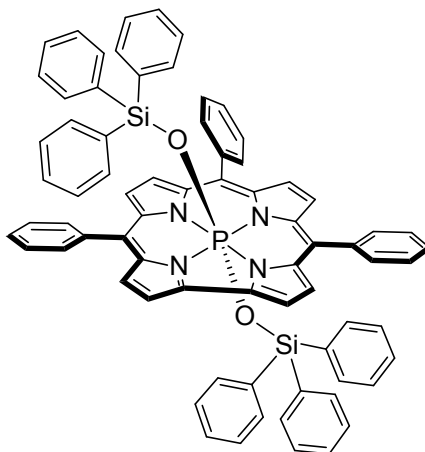
Analysis Info		Acquisition Date 7/7/2015 10:27:04 PM	
Analysis Name	C:\Documents and Settings\Administrator\Desktop\tamal\MR-TC-PORSi.d	Operator	MSB IN
Method	Tune_pos_NAICSI-1500.m	Instrument	maXis impact 282001.00081
Sample Name	MR-TC-PORSi		
Comment	C43H41N4O2PSi2		

Acquisition Parameter					
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.3 Bar
Focus	Active	Set Capillary	3800 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	1500 m/z	Set Collision Cell RF	1800.0 Vpp	Set Divert Valve	Source



Meas. m/z	#	Ion Formula	m/z	err [ppm]	mSigma	# Sigma	Score	rdb	e ⁻ Conf	N-Rule
732.2524	1	C43H41N4O2PSi2	732.2500	-3.2	39.4	1	100.00	28.0	odd	ok

Figure S1: HR-MS mass spectrum of compound 2.

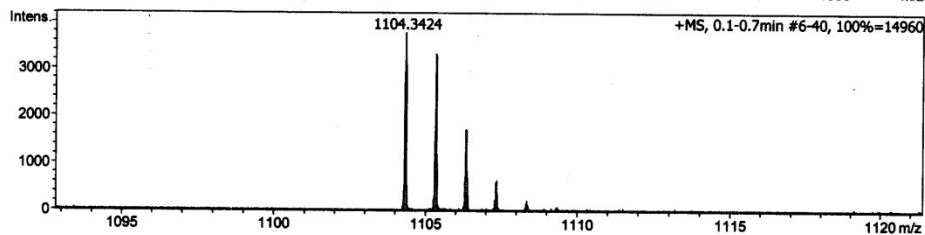
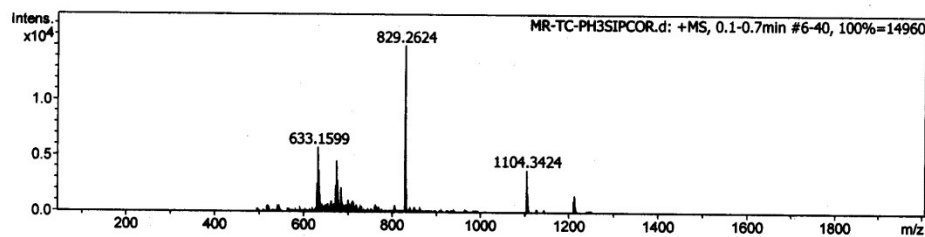


Compound 3
Mol. Wt. = 1104.34

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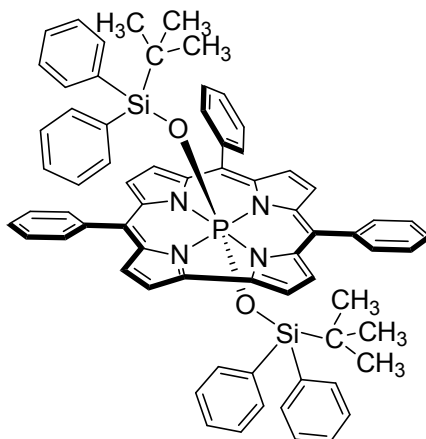
Analysis Info		Acquisition Date	
Analysis Name	D:\Data\JAN-2016\MR-TC-PH3SIPCOR.d	1/27/2016 7:47:51 PM	
Method	Tune_pos_NAICSI-2000.m	Operator	SSK- OUT
Sample Name	MR-TC-PH3SIPCOR	Instrument	maXis impact 282001.00081
Comment	C73H53N4O2PSi2		

Acquisition Parameter					
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.3 Bar
Focus	Active	Set Capillary	3800 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	2000 m/z	Set Collision Cell RF	2100.0 Vpp	Set Divert Valve	Source



Meas. m/z	#	Ion Formula	m/z	err [ppm]	mSigma	# Sigma	Score	rdb	e ⁻ Conf	N-Rule
1104.3424	1	C73H53N4O2PSi2	1104.3439	1.3	17.3	1	100.00	52.0	odd	ok

Figure S2: HR-MS mass spectrum of compound 3.

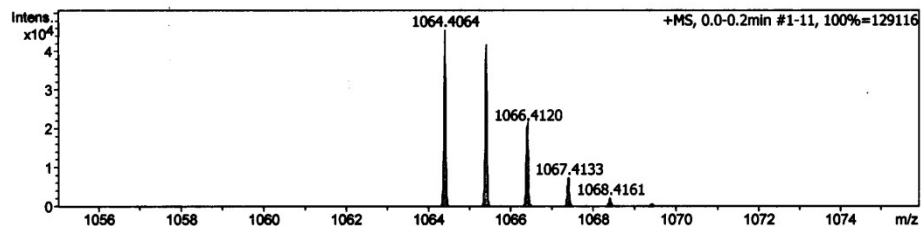
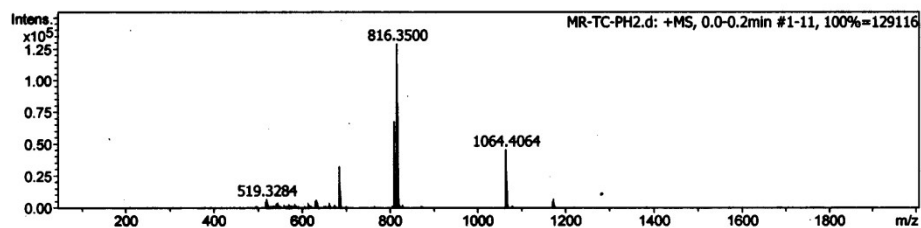


Compound 4
Mol. Wt. = 1164.40

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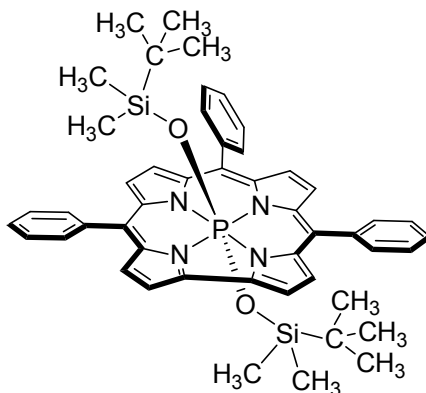
Analysis Info		Acquisition Date 1/27/2016 8:21:00 PM	
Analysis Name	D:\Data\JAN-2016\MR-TC-PH2.d	Operator	SSK- OUT
Method	Tune_pos_NAICSI-2000.m	Instrument	maXis impact 282001.00081
Sample Name	MR-TC-PH2		
Comment	C89H61N4O2PSi2		

Acquisition Parameter			
Source Type	ESI	Ion Polarity	Positive
Focus	Active	Set Capillary	3800 V
Scan Begin	50 m/z	Set End Plate Offset	-500 V
Scan End	2000 m/z	Set Collision Cell RF	2100.0 Vpp
		Set Nebulizer	0.3 Bar
		Set Dry Heater	180 °C
		Set Dry Gas	4.0 l/min
		Set Divert Valve	Source



Meas. m/z	#	Ion Formula	m/z	err [ppm]	mSigma	# Sigma	Score	rdB	e ⁻ Conf	N-Rule
1064.4064	1	C89H61N4O2PSi2	1064.4065	-0.1	22.2	1	100.00	44.0	odd	ok

Figure S3: HR-MS mass spectrum of compound 4.

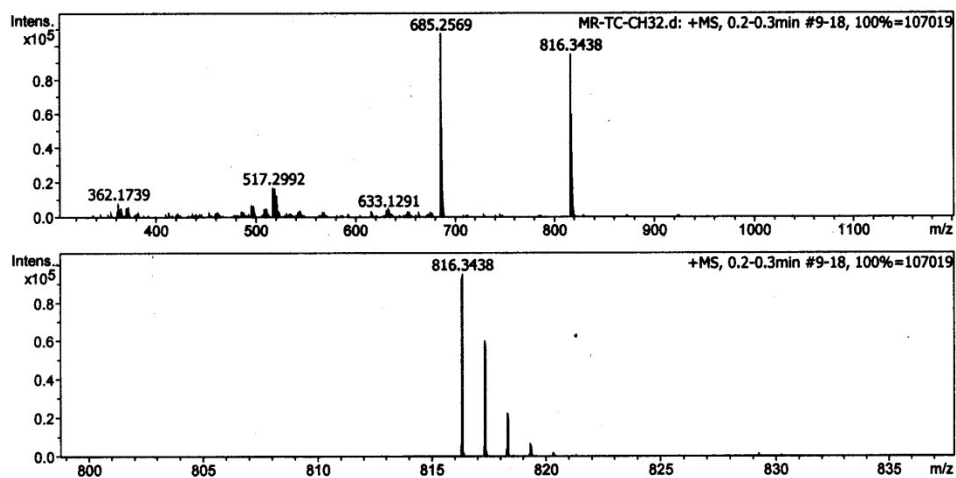


Compound 5
Mol. Wt. = 816.34

DEPARTMENT OF CHEMISTRY, I.I.T.(B)

Analysis Info		Acquisition Date 1/27/2016 8:11:41 PM	
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Method	Tune_pos_NAICSI-2000.m	Instrument	maXis impact 282001.00081
Sample Name	MR-TC-CH32		
Comment	C49H53N4O2PSi2		

Acquisition Parameter					
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.3 Bar
Focus	Active	Set Capillary	3800 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	2000 m/z	Set Collision Cell RF	2100.0 Vpp	Set Divert Valve	Source



Meas. m/z	#	Ion Formula	m/z	err [ppm]	mSigma	# Sigma	Score	rdb	e ⁻ Conf	N-Rule
816.3438	1	C49H53N4O2PSi2	816.3439	0.1	21.5	1	100.00	28.0	odd	ok

Figure S4: HR-MS mass spectrum of compound 5.

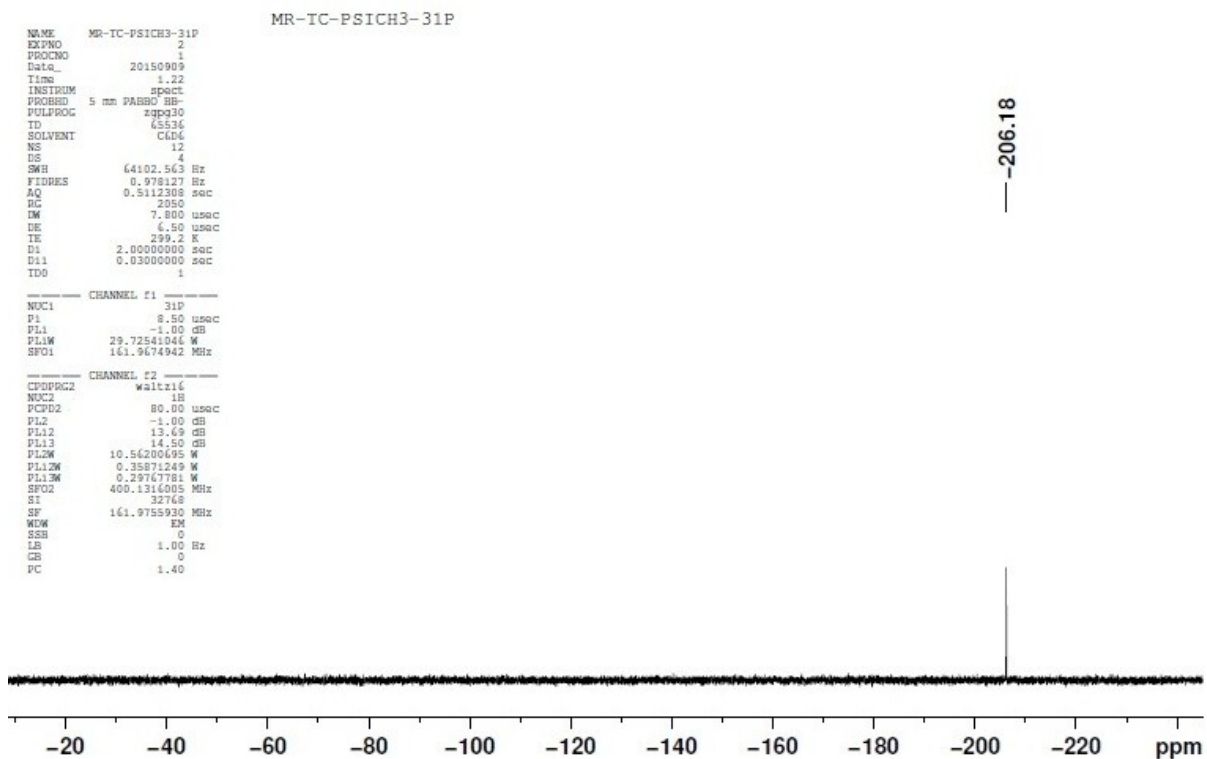


Figure S5. ^{31}P NMR spectrum of compound **2** recorded in C_6D_6 at room temperature.

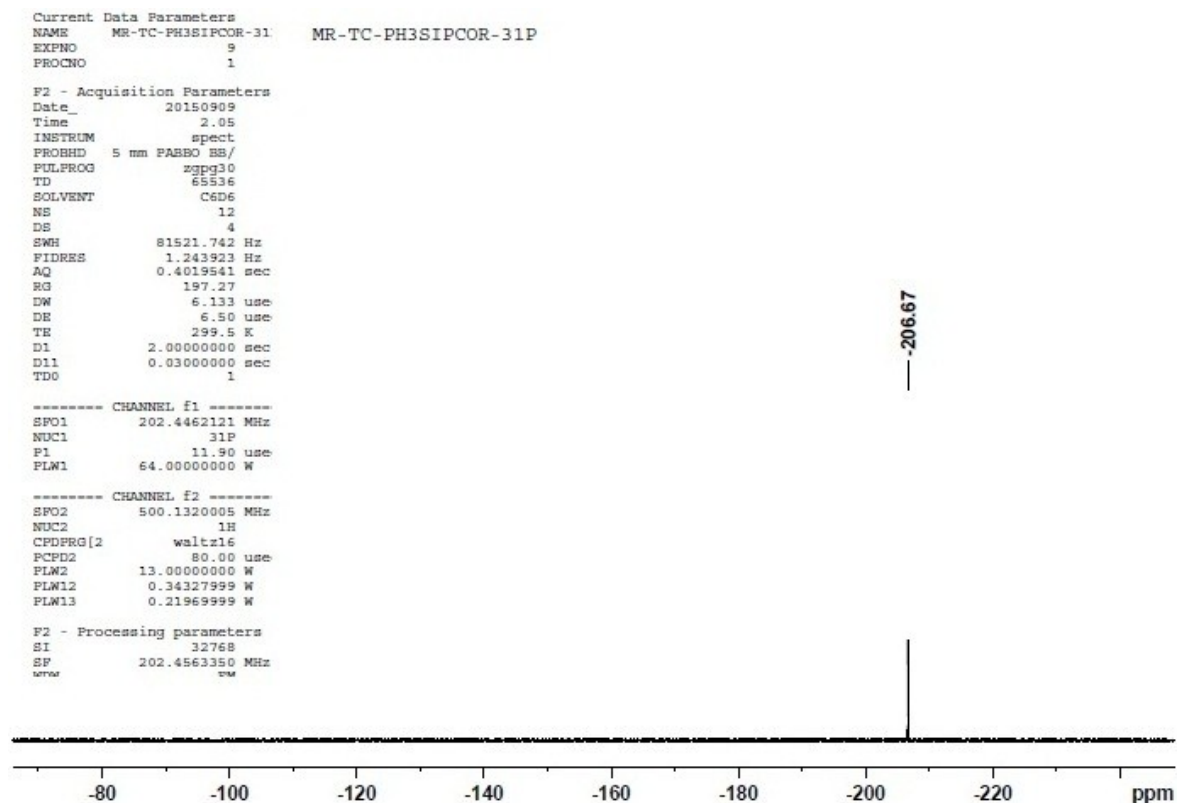


Figure S6. ^{31}P NMR spectrum of compound **3** recorded in C_6D_6 at room temperature.

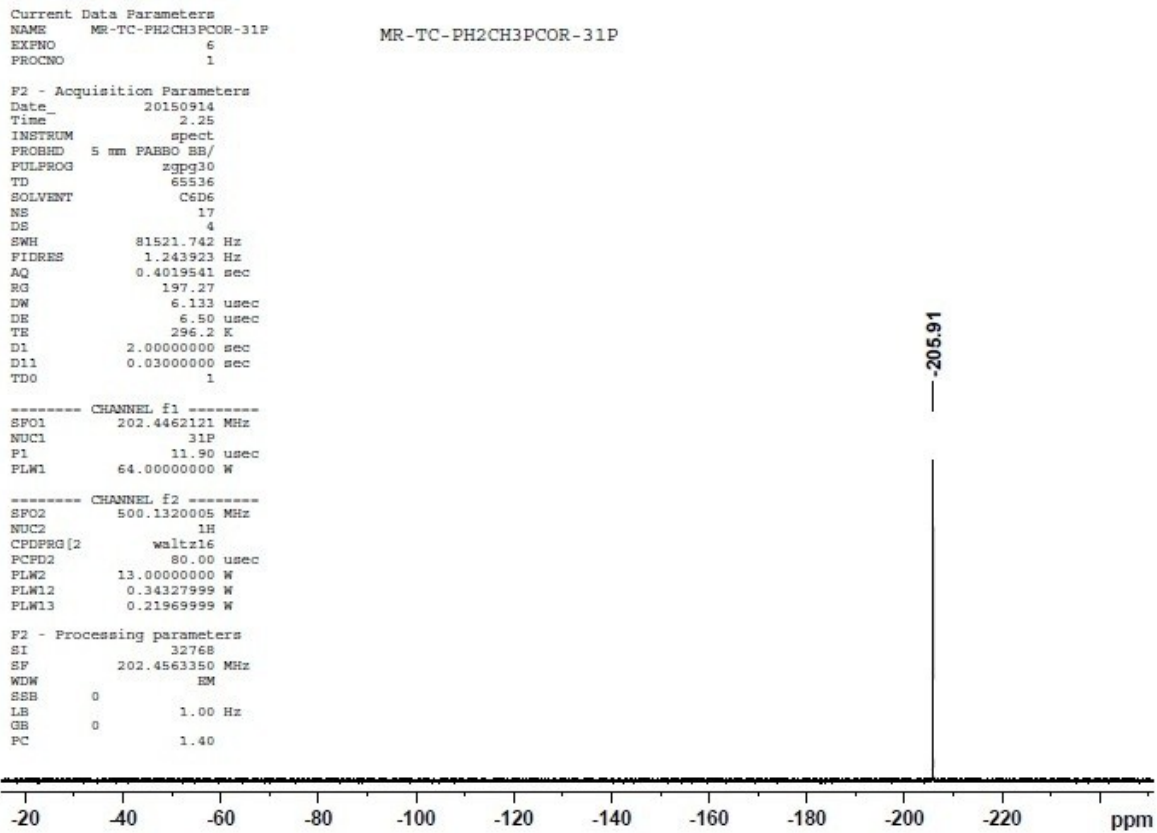


Figure S7. ^{31}P NMR spectrum of compound **4** recorded in C_6D_6 at room temperature.

Current Data Parameters
NAME MR-TC-TBU-PCOR-31P
EXPNO 2
PROCNO 1

MR-TC-TBU-PCOR-31P

F2 - Acquisition Parameters
Date_ 20150913
Time 22.17
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT C6D6
NS 27
DS 4
SWH 81521.742 Hz
FIDRES 1.243923 Hz
AQ 0.4019541 sec
RG 197.27
DW 6.133 usec
DE 6.50 usec
TE 296.6 K
D1 2.00000000 sec
D11 0.03000000 sec
TDO 1

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SFO1 202.4462121 MHz
NUC1 31P
P1 11.90 usec
PLW1 64.00000000 W

----- CHANNEL f2 -----
SFO2 500.1320005 MHz
NUC2 1H
CFDPRG[2] waltz16
PCPD2 80.00 usec
PLW2 13.00000000 W
PLW12 0.34327999 W
PLW13 0.21969999 W

F2 - Processing parameters
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SF 202.4563350 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

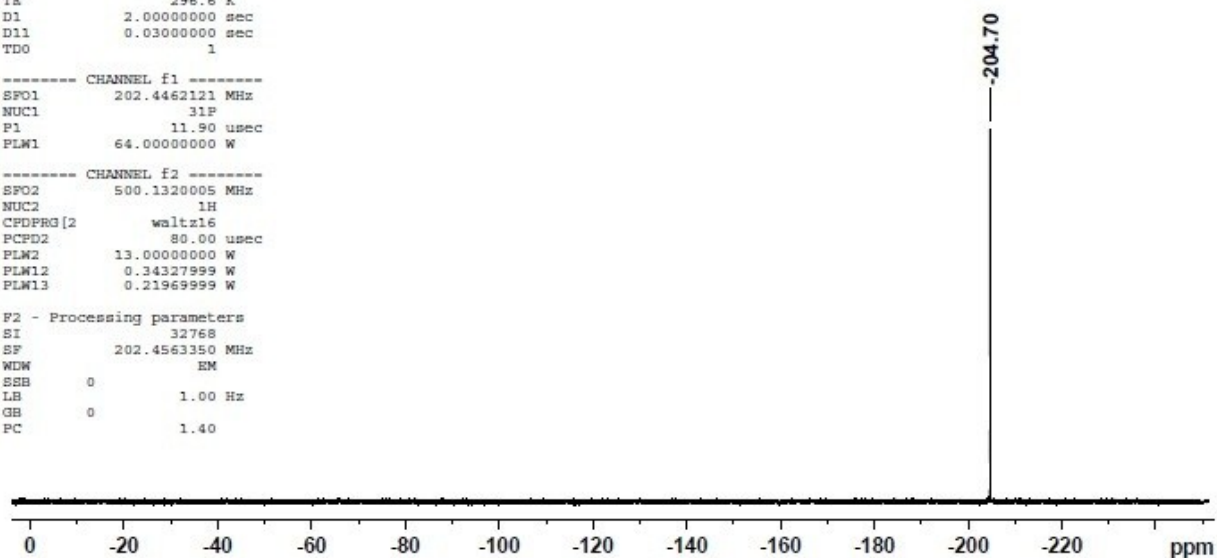


Figure S8. ^{31}P NMR spectrum of compound **5** recorded in C_6D_6 at room temperature.

MR-TC-PSICH3-13C

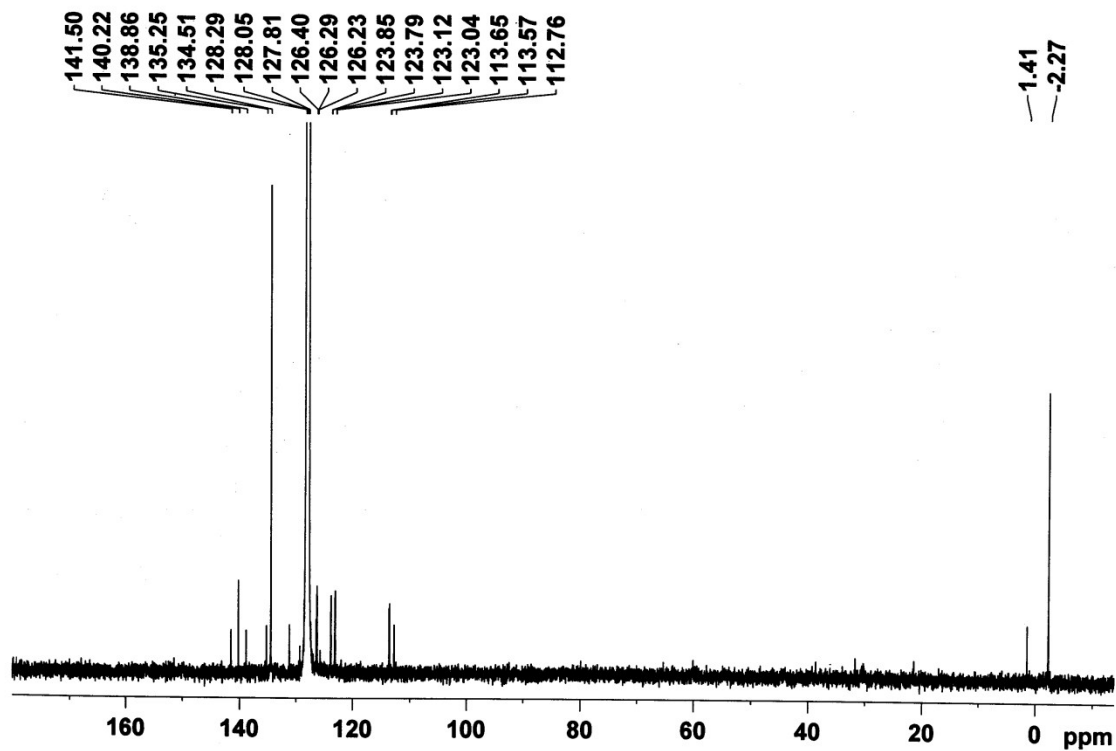


Figure S9. ^{13}C NMR spectrum of compound **2** recorded in C_6D_6 at room temperature.

MR-TC-PH3SIPCOR-13C

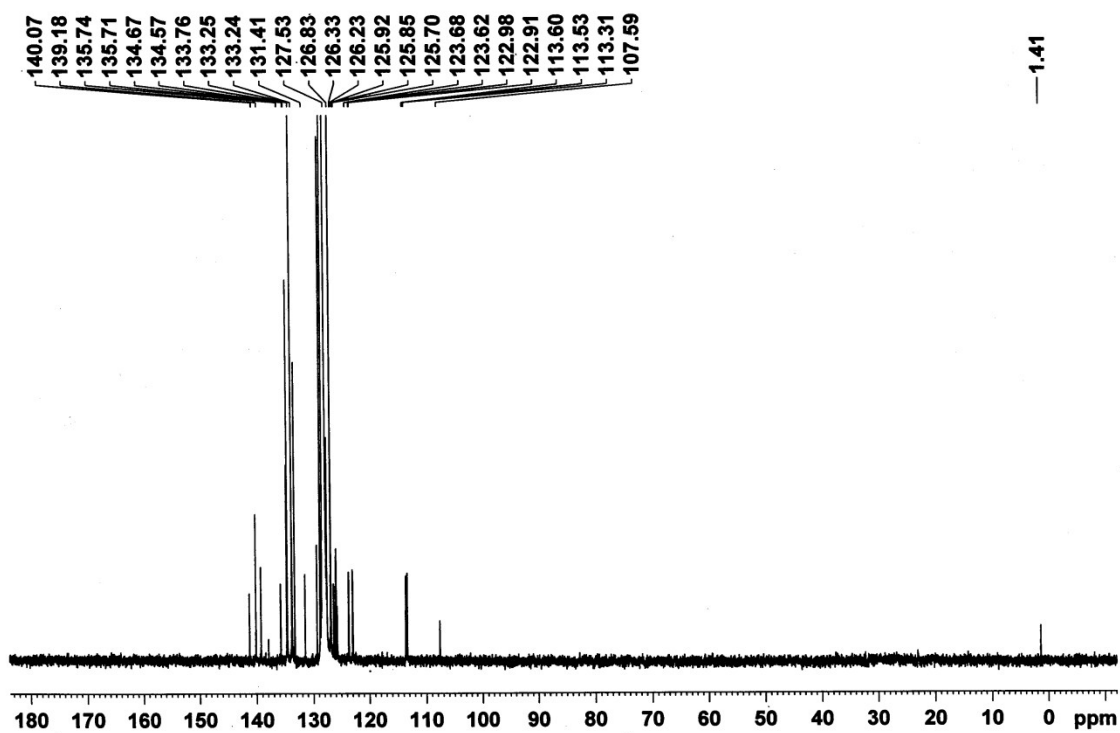


Figure S10. ¹³C NMR spectrum of compound **3** recorded in C₆D₆ at room temperature.

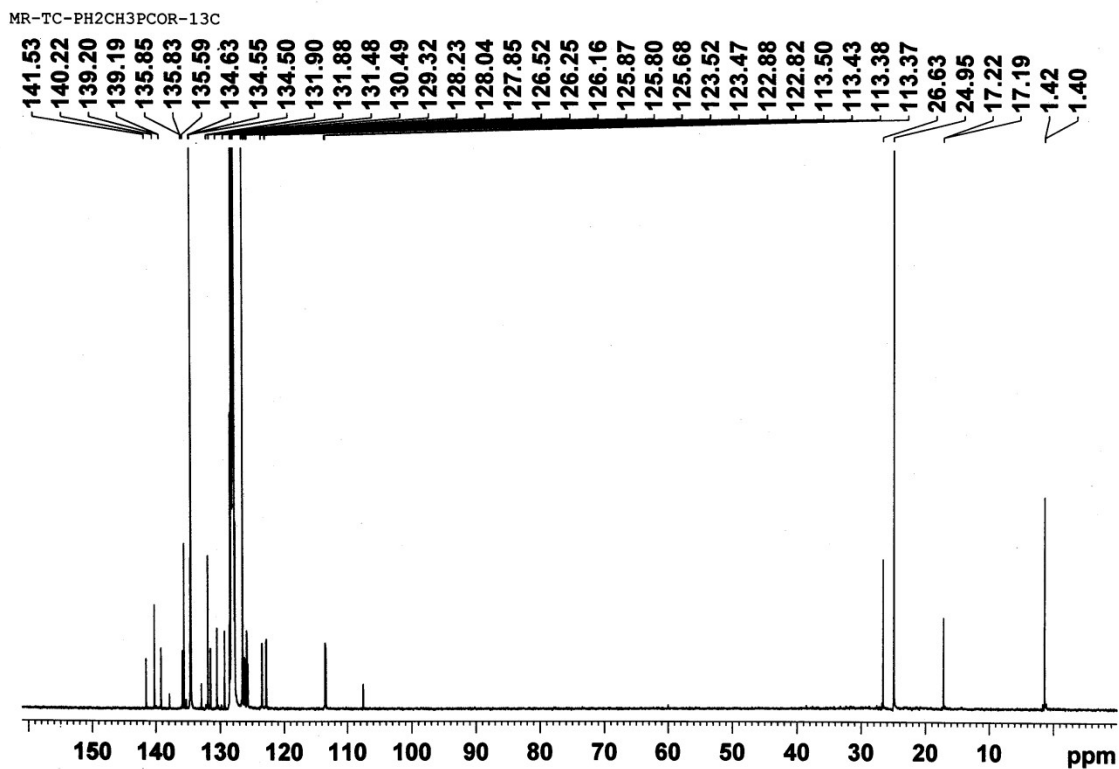


Figure S11. ^{13}C NMR spectrum of compound 4 recorded in C_6D_6 at room temperature.

MR-TC-TBU-PCOR-13C

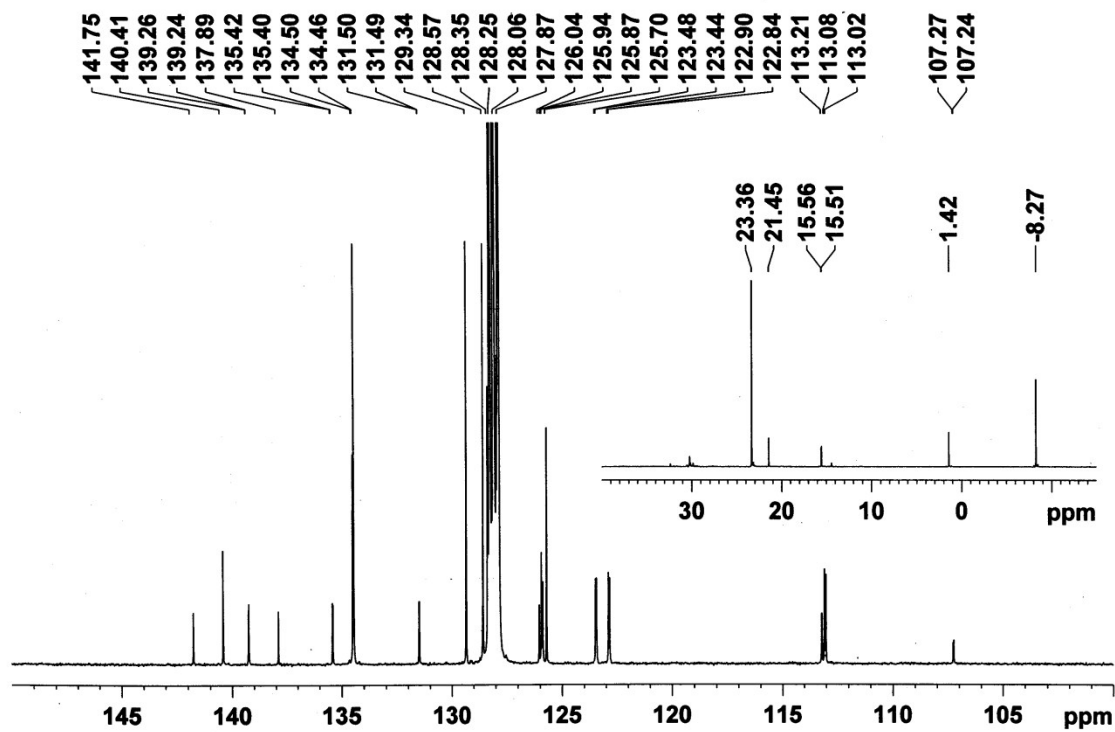


Figure S12. ^{13}C NMR spectrum of compound 5 recorded in C_6D_6 at room temperature.

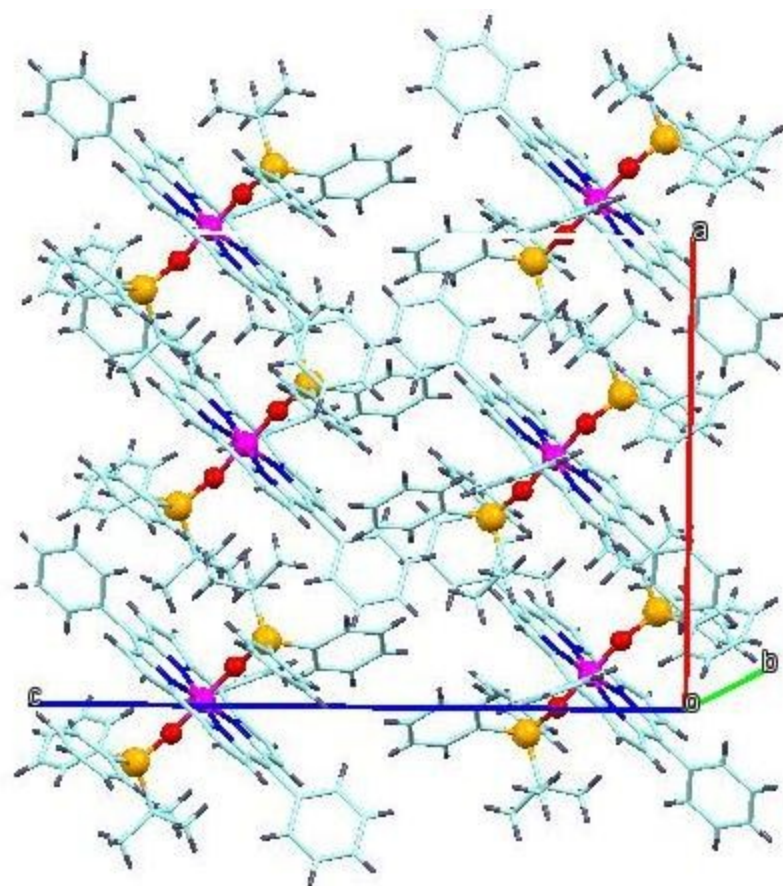


Figure S13. Unit cell packing diagram for **4** as determined from the single crystal structural analysis.