

The Original Coordination Chemistry of 2-Phosphaphenol with Copper (I) and Gold (I) Halides

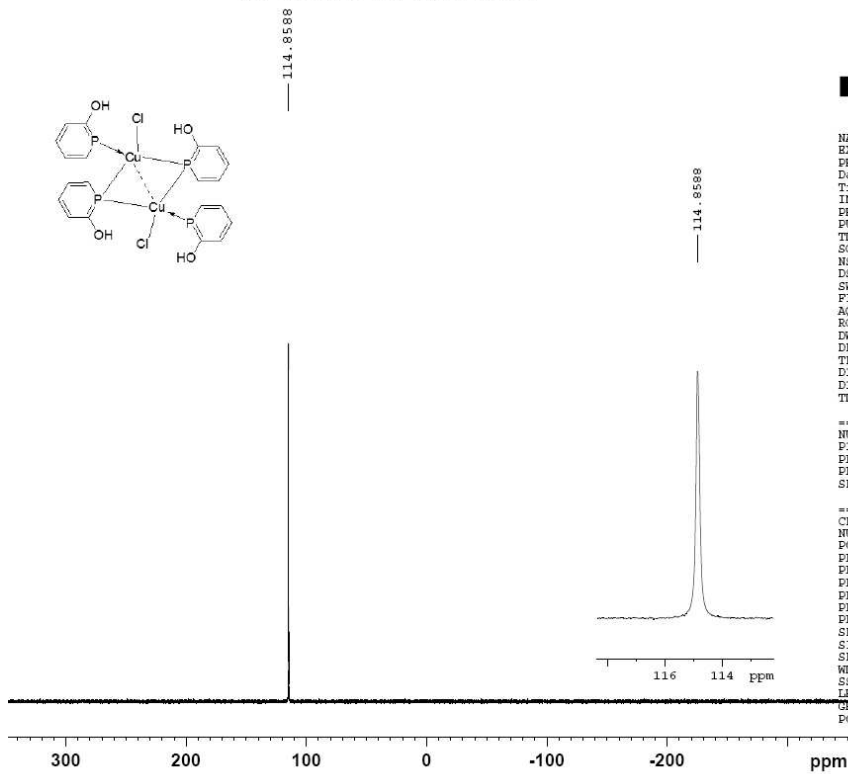
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NMR spectra

M4-20121231-060-P131P CDCl3

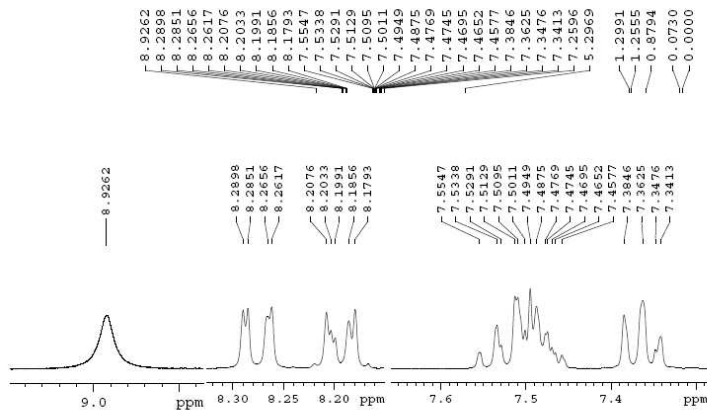


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PROCNO 1
Date 20121231
Time 15.31
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PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 4
DS 4
SWH 113636.367 Hz
FIDRES 1.733953 Hz
AQ 0.2884084 sec
RG 203
DW 4.400 usec
DE 6.50 usec
TE 300.0 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

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NUC1 31P
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PL1 -1.00 dB
PL1W 31.62277603 W
SFO1 162.0160740 MHz

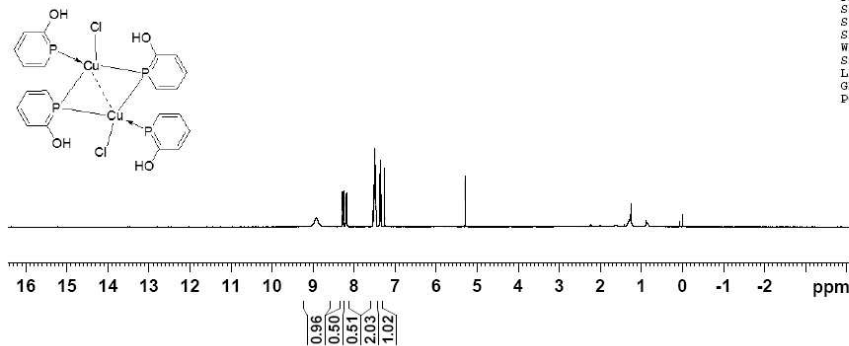
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PL12 13.64 dB
PL13 13.89 dB
PL2W 23.09303856 W
PL12W 0.39763173 W
PL13W 0.37538856 W
SFO2 400.2316009 MHz
SI 32768
SF 162.0160740 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

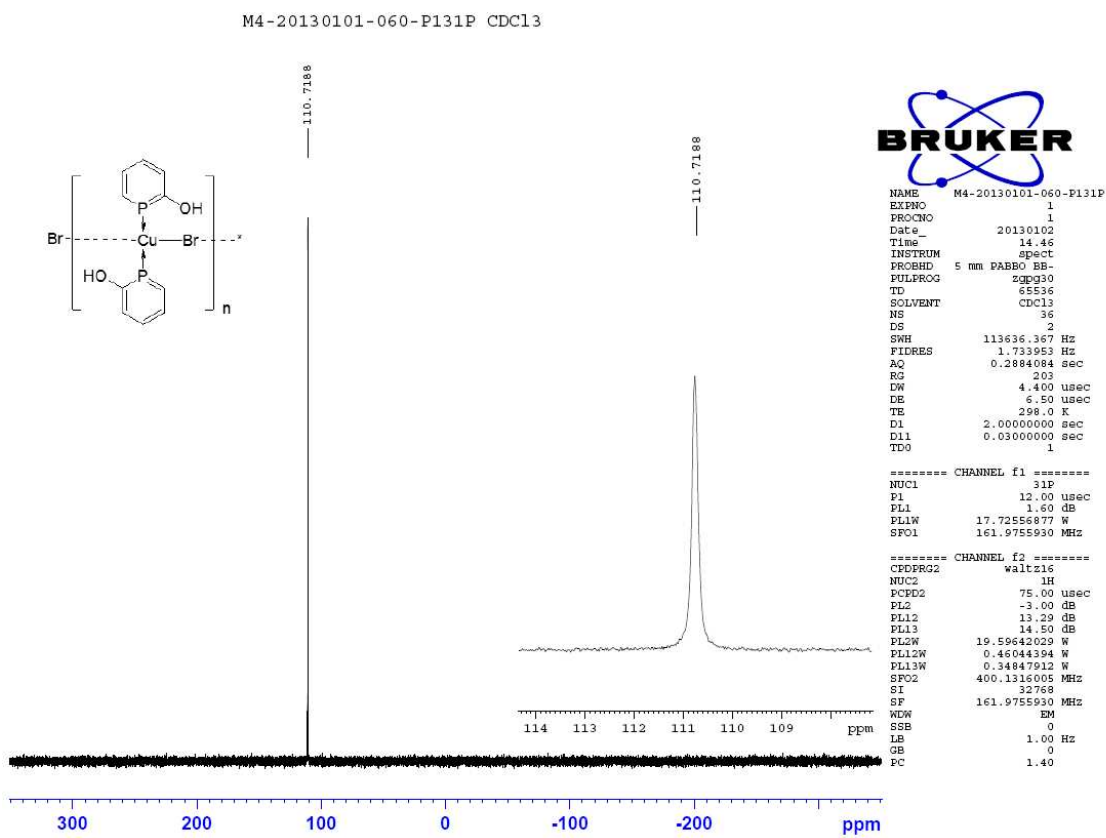
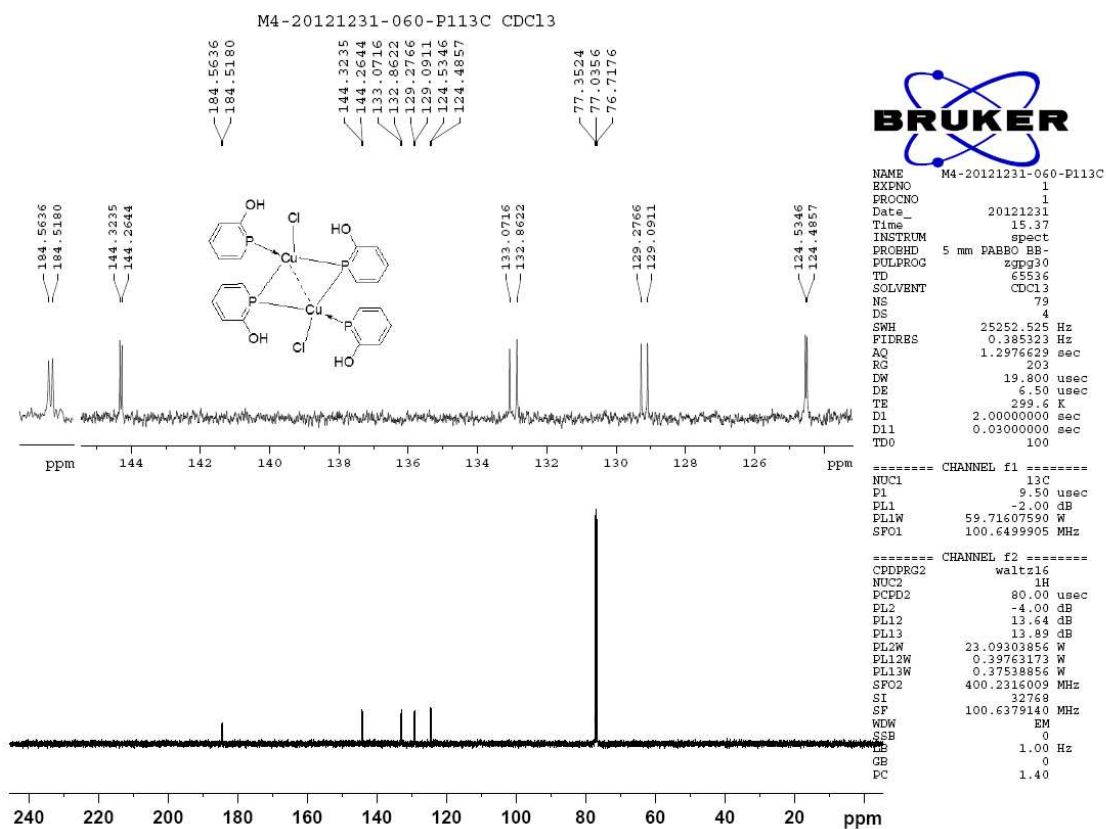
M4-20121231-060-P11H CDCl3



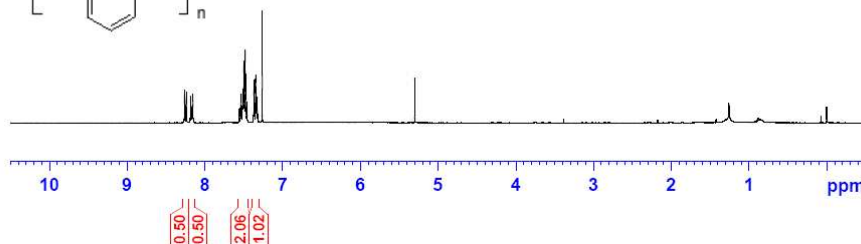
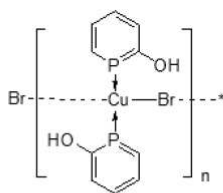
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PROCNO 1
Date 20121231
Time 15.28
INSTRUM spect
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PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 8
DS 0
SWH 8223.685 Hz
FIDRES 0.125483 Hz
AQ 3.9846387 sec
RG 144
DW 60.800 usec
DE 6.50 usec
TE 299.3 K
D1 1.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 10.80 usec
PL1 -4.00 dB
PL1W 23.09303856 W
SFO1 400.2324716 MHz
SI 32768
SF 400.2300135 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



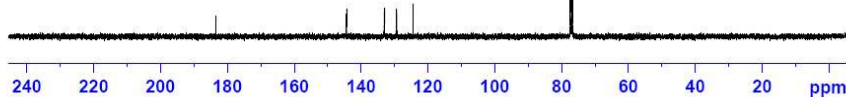
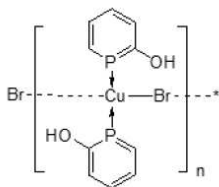


The figure displays two ^1H NMR spectra of compound **1**. The left spectrum covers the aromatic region from 8.25 to 8.10 ppm, showing a complex multiplet pattern with peaks labeled at 8.2615, 8.2572, 8.2532, 8.2371, 8.2332, 8.1751, 8.1712, 8.1532, 8.1521, 8.1512, 8.1503, 8.1498, 8.1486, 8.1472, 8.1459, 8.1442, 8.1427, 8.1412, 8.1397, 8.1382, 8.1367, 8.1352, 8.1337, 8.1322, 8.1307, 8.1292, 8.1277, 8.1262, 8.1247, 8.1232, 8.1217, 8.1202, 8.1187, 8.1172, 8.1157, 8.1142, 8.1127, 8.1112, 8.1097, 8.1082, 8.1067, 8.1052, 8.1037, 8.1022, 8.1007, 8.0992, 8.0977, 8.0962, 8.0947, 8.0932, 8.0917, 8.0902, 8.0887, 8.0872, 8.0857, 8.0842, 8.0827, 8.0812, 8.0797, 8.0782, 8.0767, 8.0752, 8.0737, 8.0722, 8.0707, 8.0692, 8.0677, 8.0662, 8.0647, 8.0632, 8.0617, 8.0602, 8.0587, 8.0572, 8.0557, 8.0542, 8.0527, 8.0512, 8.0497, 8.0482, 8.0467, 8.0452, 8.0437, 8.0422, 8.0407, 8.0392, 8.0377, 8.0362, 8.0347, 8.0332, 8.0317, 8.0302, 8.0287, 8.0272, 8.0257, 8.0242, 8.0227, 8.0212, 8.0197, 8.0182, 8.0167, 8.0152, 8.0137, 8.0122, 8.0107, 8.0092, 8.0077, 8.0062, 8.0047, 8.0032, 8.0017, 8.0002. The right spectrum covers the aliphatic region from 7.55 to 7.26 ppm, showing a complex multiplet pattern with peaks labeled at 7.5553, 7.5533, 7.5358, 7.5335, 7.5288, 7.5268, 7.5248, 7.5228, 7.5208, 7.5188, 7.5168, 7.5148, 7.5128, 7.5108, 7.5088, 7.5068, 7.5048, 7.5028, 7.4986, 7.4966, 7.4946, 7.4926, 7.4906, 7.4886, 7.4866, 7.4846, 7.4826, 7.4806, 7.4786, 7.4766, 7.4746, 7.4726, 7.4706, 7.4686, 7.4666, 7.4646, 7.4626, 7.4606, 7.4586, 7.4566, 7.4546, 7.4526, 7.4506, 7.4486, 7.4466, 7.4446, 7.4426, 7.4406, 7.4386, 7.4366, 7.4346, 7.4326, 7.4306, 7.4286, 7.4266, 7.4246, 7.4226, 7.4206, 7.4186, 7.4166, 7.4146, 7.4126, 7.4106, 7.4086, 7.4066, 7.4046, 7.4026, 7.4006, 7.3986, 7.3966, 7.3946, 7.3926, 7.3906, 7.3886, 7.3866, 7.3846, 7.3826, 7.3806, 7.3786, 7.3766, 7.3746, 7.3726, 7.3706, 7.3686, 7.3666, 7.3646, 7.3626, 7.3606, 7.3586, 7.3566, 7.3546, 7.3526, 7.3506, 7.3486, 7.3466, 7.3446, 7.3426, 7.3406, 7.3386, 7.3366, 7.3346, 7.3326, 7.3306, 7.3286, 7.3266, 7.3246, 7.3226, 7.3206, 7.3186, 7.3166, 7.3146, 7.3126, 7.3106, 7.3086, 7.3066, 7.3046, 7.3026, 7.3006, 7.2986, 7.2966, 7.2946, 7.2926, 7.2906, 7.2886, 7.2866, 7.2846, 7.2826, 7.2806, 7.2786, 7.2766, 7.2746, 7.2726, 7.2706, 7.2686, 7.2666, 7.2646, 7.2626, 7.2606, 7.2586, 7.2566, 7.2546, 7.2526, 7.2506, 7.2486, 7.2466, 7.2446, 7.2426, 7.2406, 7.2386, 7.2366, 7.2346, 7.2326, 7.2306, 7.2286, 7.2266, 7.2246, 7.2226, 7.2206, 7.2186, 7.2166, 7.2146, 7.2126, 7.2106, 7.2086, 7.2066, 7.2046, 7.2026, 7.2006, 7.1986, 7.1966, 7.1946, 7.1926, 7.1906, 7.1886, 7.1866, 7.1846, 7.1826, 7.1806, 7.1786, 7.1766, 7.1746, 7.1726, 7.1706, 7.1686, 7.1666, 7.1646, 7.1626, 7.1606, 7.1586, 7.1566, 7.1546, 7.1526, 7.1506, 7.1486, 7.1466, 7.1446, 7.1426, 7.1406, 7.1386, 7.1366, 7.1346, 7.1326, 7.1306, 7.1286, 7.1266, 7.1246, 7.1226, 7.1206, 7.1186, 7.1166, 7.1146, 7.1126, 7.1106, 7.1086, 7.1066, 7.1046, 7.1026, 7.1006, 7.0986, 7.0966, 7.0946, 7.0926, 7.0906, 7.0886, 7.0866, 7.0846, 7.0826, 7.0806, 7.0786, 7.0766, 7.0746, 7.0726, 7.0706, 7.0686, 7.0666, 7.0646, 7.0626, 7.0606, 7.0586, 7.0566, 7.0546, 7.0526, 7.0506, 7.0486, 7.0466, 7.0446, 7.0426, 7.0406, 7.0386, 7.0366, 7.0346, 7.0326, 7.0306, 7.0286, 7.0266, 7.0246, 7.0226, 7.0206, 7.0186, 7.0166, 7.0146, 7.0126, 7.0106, 7.0086, 7.0066, 7.0046, 7.0026, 7.0006. The chemical structure of compound **1** is shown above the spectra, with protons labeled with numbers 1 through 20. The x-axis for both spectra is labeled 'ppm'.



¹³C NMR spectrum of compound 10. The x-axis represents chemical shift in ppm, ranging from approximately 185 to 120. The spectrum shows several sharp peaks corresponding to the carbon atoms in the molecule. Key peak values are indicated above the baseline:

- 183.3924
- 183.3647
- 144.3170
- 144.2811
- 133.3976
- 132.8791
- 129.4732
- 129.2885
- 124.4641
- 124.4160



NAME	M4-2130101-060-PL1H
EXPNO	1
PROCNO	1
Date_	20130102
Time	14.50
INSTRUM	spect
PROBHD	5 mm F4BBO BB-
PULPROG	zg30
TD	65536
SOLVENT	CDCl3
NS	8
DS	0
SWH	8223.695 Hz
F1FRES	6125493 Hz
AQ	3.9844387 sec
RQ	203
DW	60.800 usec
DE	6.50 usec
TE	297.8 K
D1	1.00000000 sec
TD0	

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===== CHANNEL f1 =====
NUC1                1H
P1                  11.50 usec
PL1                 -3.00 dB
PL1W                19.59642029 W
SFO1                400.1324710 MHZ
SI                  32768
SF                  400.1300094 MHZ
WDW                  EM
SSB                  0
LB                   0.30 Hz
GB                   0
PC                   1.00

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NAME	M4-20130101-060-FL113C
EXPNO	1
PROCNO	1
Date_	20130102
Time	14.56
INSTRUM	aspect
PROBHD	5 mm PABBO BB-
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	198
DS	0
SWH	25525.525 Hz
FIDRES	0.385323 Hz
AQ	1.2976629 sec
RG	203
DW	19.800 usec
DE	6.50 usec
TE	298.7 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	100

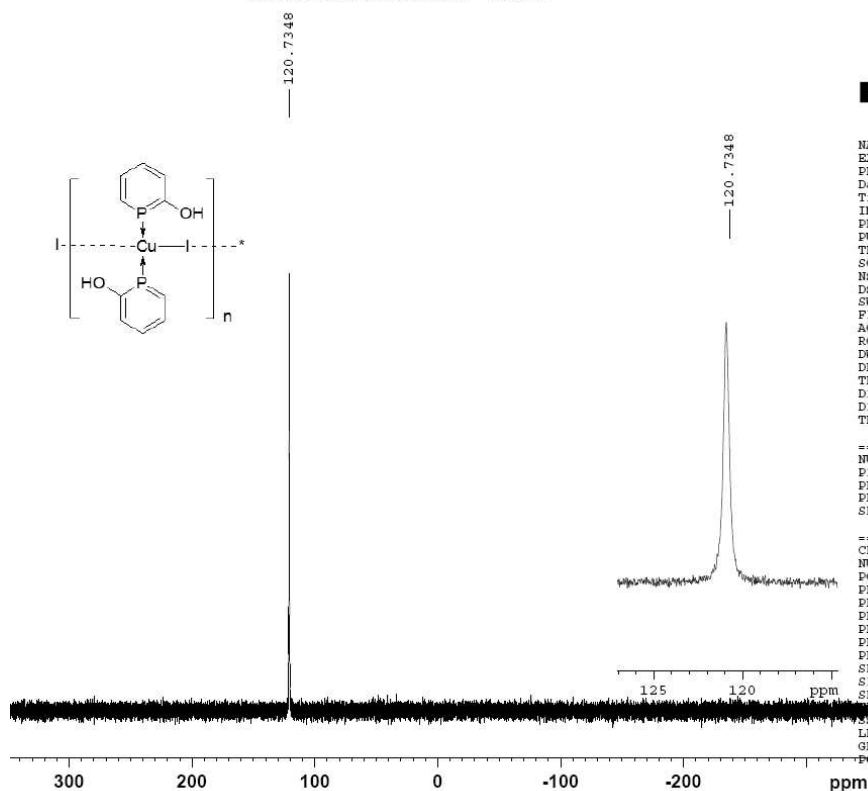
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===== CHANNEL f1 =====
NUC1      13C
P1         9.00 USEC
FL1        -2.80 DB
PLW1       65.36360931 W
SFO1      100.6248425 MHz

===== CHANNEL f2 =====
CEDPRG2   wait16
NUC2      1H
P1         9.00 USEC
FL2        -3.00 DB
PL12       13.29 DB
PL13       14.50 DB
PL2W      19.59642029 W
PL12W     0.46044034 W
PL13W     0.34047912 W
SW12      400.1316005 MHz
SI         32768
SF1       100.6127690 MHz
MDW       EDW
SSB        0
GB         0 1.00 Hz
LB         0
PC         1.40

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M3-20110825-73-P131P CDCl3

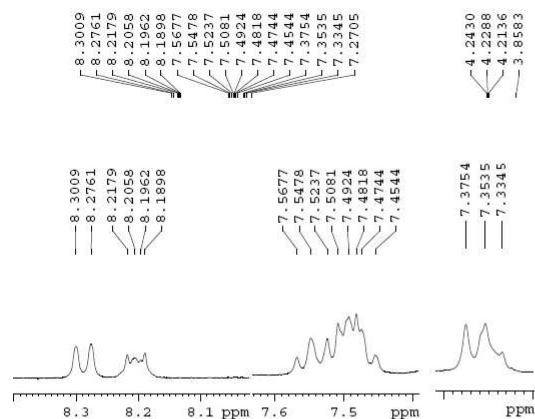


NAME M3-20110825-73-P131P
EXPNO 1
PROCNO 1
Date_ 20110825
Time 16.03
INSTRUM spect
PROBHD 5 mm DABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 100
DS 4
SWH 113636.367 Hz
FIDRES 1.732953 Hz
AQ 0.2884084 sec
RG 203
DW 4.400 usec
DE 6.50 usec
TE 295.2 K
D1 2.00000000 sec
D11 0.03000000 sec
TDO 1

===== CHANNEL f1 =====
NUC1 31P
P1 9.00 usec
PL1 -1.00 dB
PL1W 31.62277603 W
SFO1 162.0160740 MHz

===== CHANNEL f2 =====
CPDPR32 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -4.00 dB
PL12 13.64 dB
PL13 13.89 dB
PL2W 23.09303856 W
PL12W 0.39763173 W
PL13W 0.37538856 W
SFO2 400.2316009 MHz
SI 32768
SF 162.0160740 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

M3-20110825-73-P11H CDCl3



NAME M3-20110825-73-P11H
EXPNO 1
PROCNO 1
Date_ 20110825
Time 16.30
INSTRUM spect
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PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 8
DS 0
SWH 8223.685 Hz
FIDRES 0.125483 Hz
AQ 3.9846387 sec
RG 161
DW 60.800 usec
DE 6.50 usec
TE 295.2 K
D1 1.00000000 sec
D11 0.03000000 sec
TDO 1

===== CHANNEL f1 =====
NUC1 1H
P1 10.80 usec
PL1 -4.00 dB
PL1W 23.09303856 W
SFO1 400.2324716 MHz
SI 32768
SF 400.2300087 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

