Supporting Information

Silver(I)-N-heterocyclic carbene complexes derived from clotrimazole: antiproliferative activity and interaction with an artificial membrane-based biosensor

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1. ^{1}H and $^{13}C\{^{1}H\}$ NMR spectra of imidazolium salts

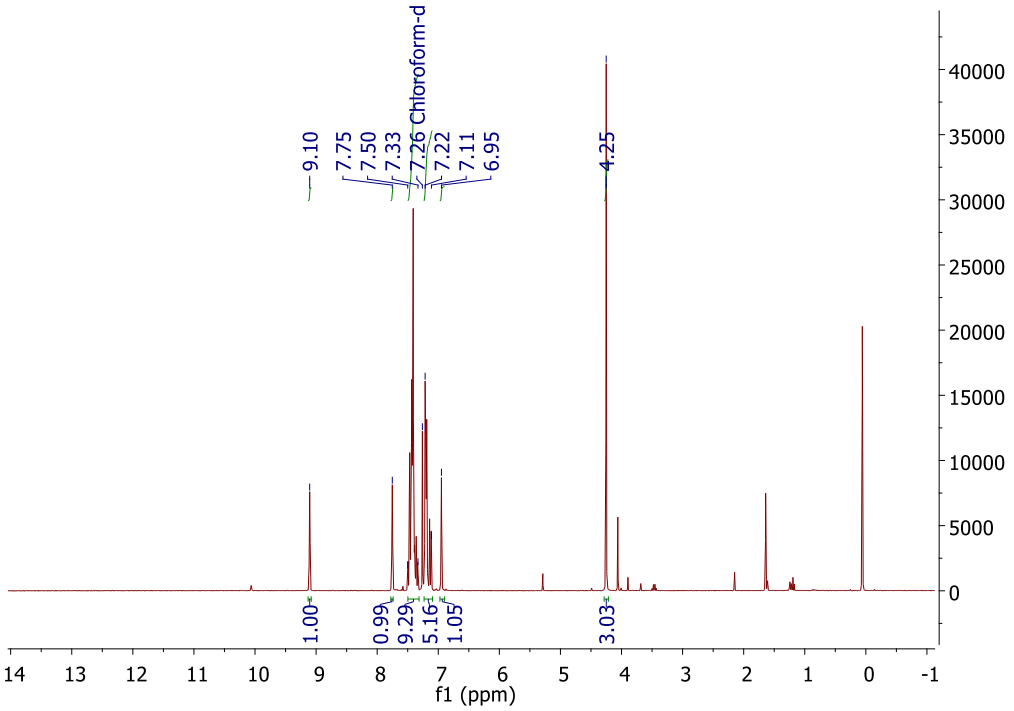

Figure S1a. ^{1}H NMR spectrum of imidazolium salt **1a** (300 MHz, $CDCl_3$)

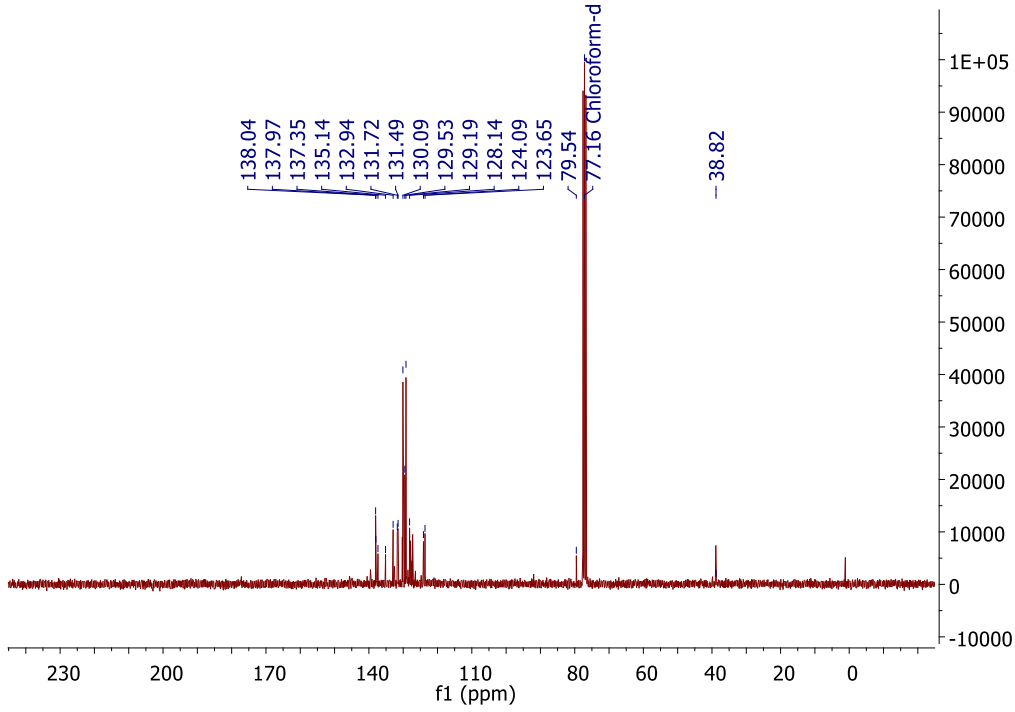

Figure S1b. $^{13}C\{^{1}H\}$ NMR spectrum of imidazolium salt **1a** (75 MHz, $CDCl_3$)

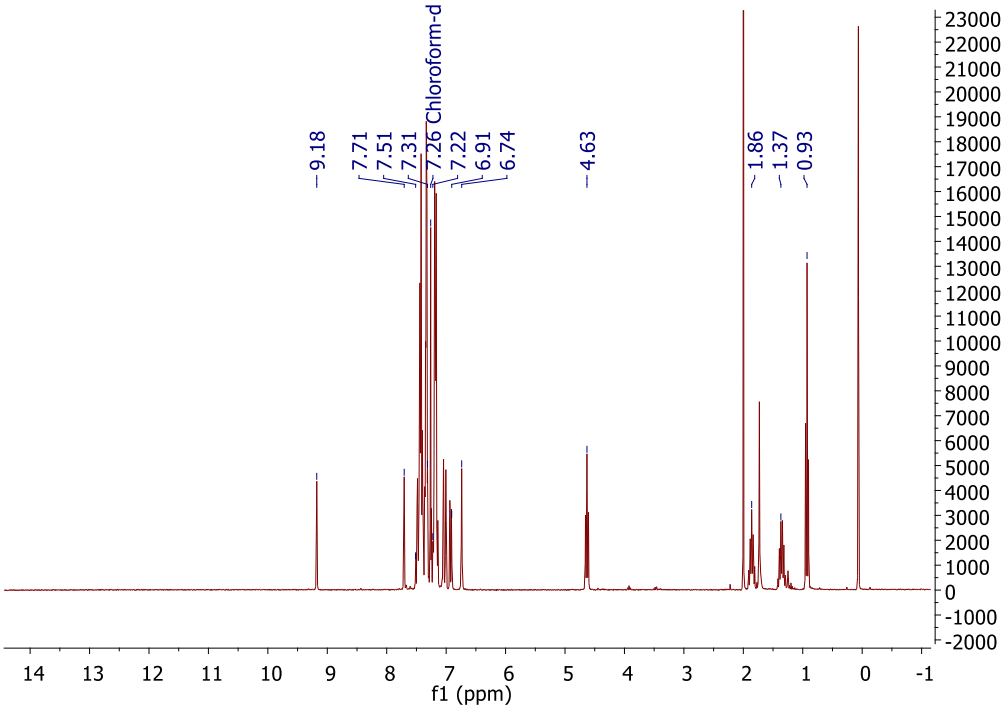

Figure S2a. ^{1}H NMR spectrum of imidazolium salt **1c** (300 MHz, $CDCl_3$)

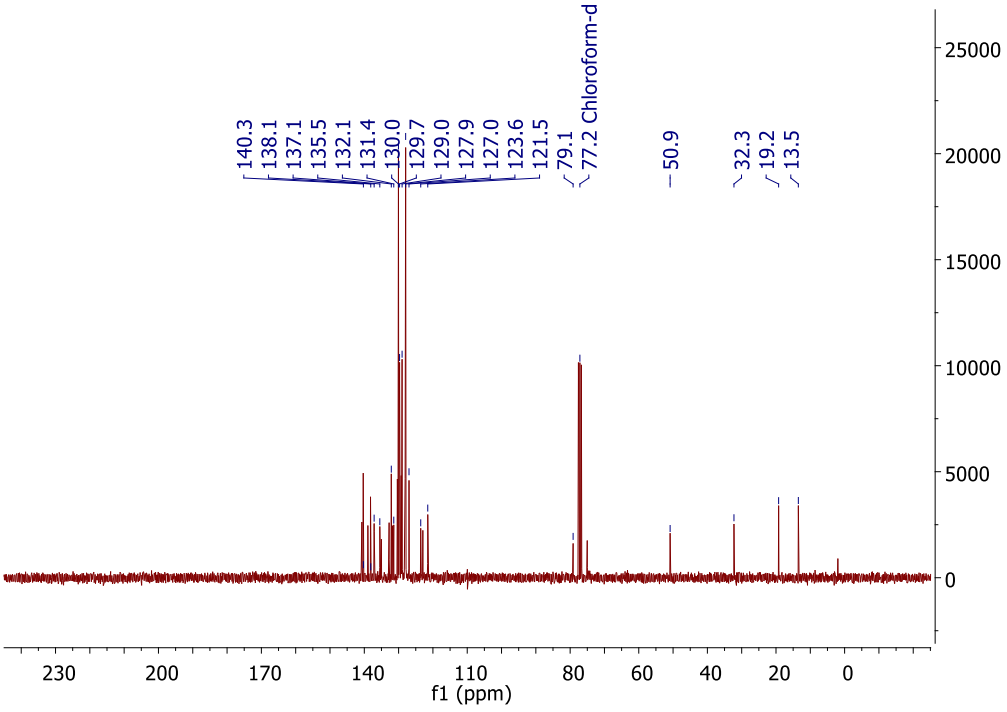

Figure S2b. $^{13}C\{^{1}H\}$ NMR spectrum of imidazolium salt **1c** (75 MHz, $CDCl_3$)

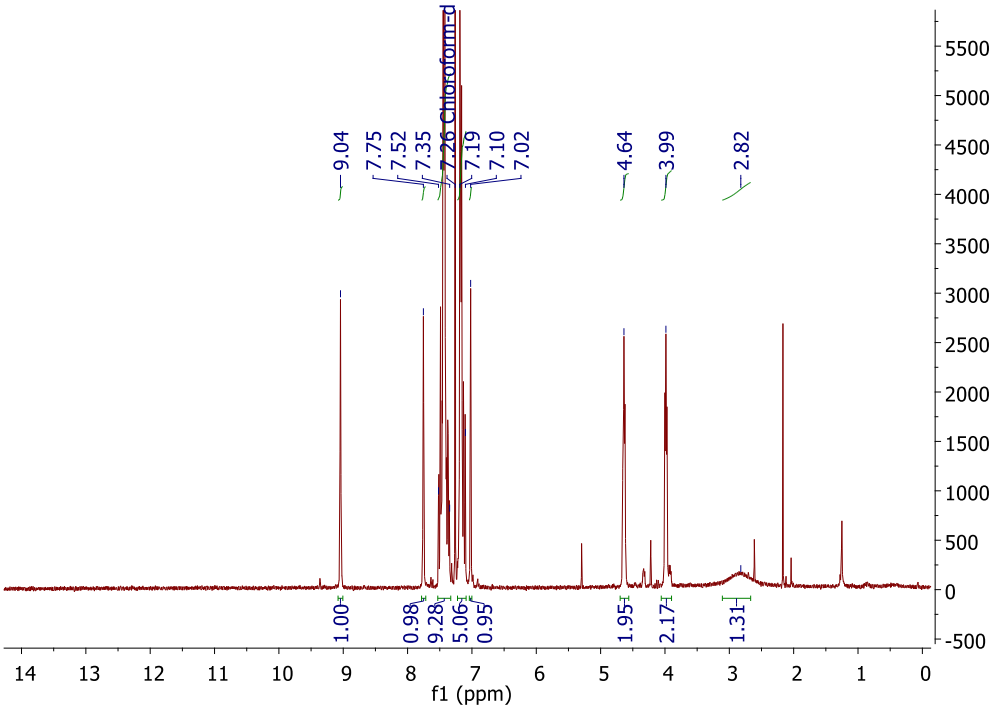

Figure S3a. ^{1}H NMR spectrum of imidazolium salt **1e** (300 MHz, $CDCl_3$)

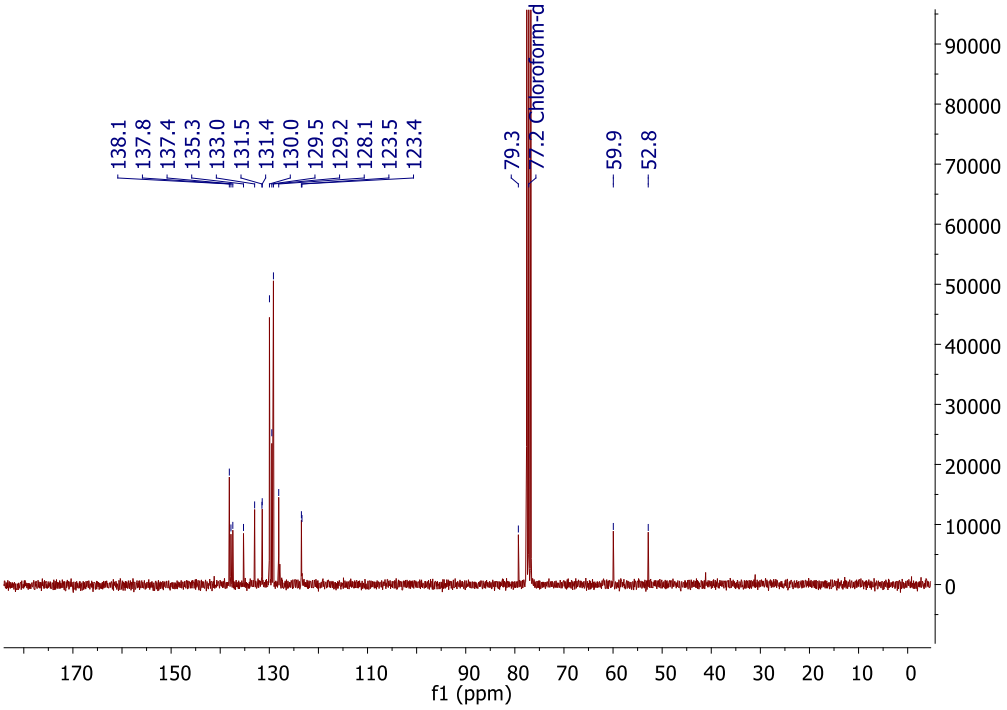

Figure S3b. $^{13}C\{^{1}H\}$ NMR spectrum of imidazolium salt **1e** (75 MHz, $CDCl_3$)

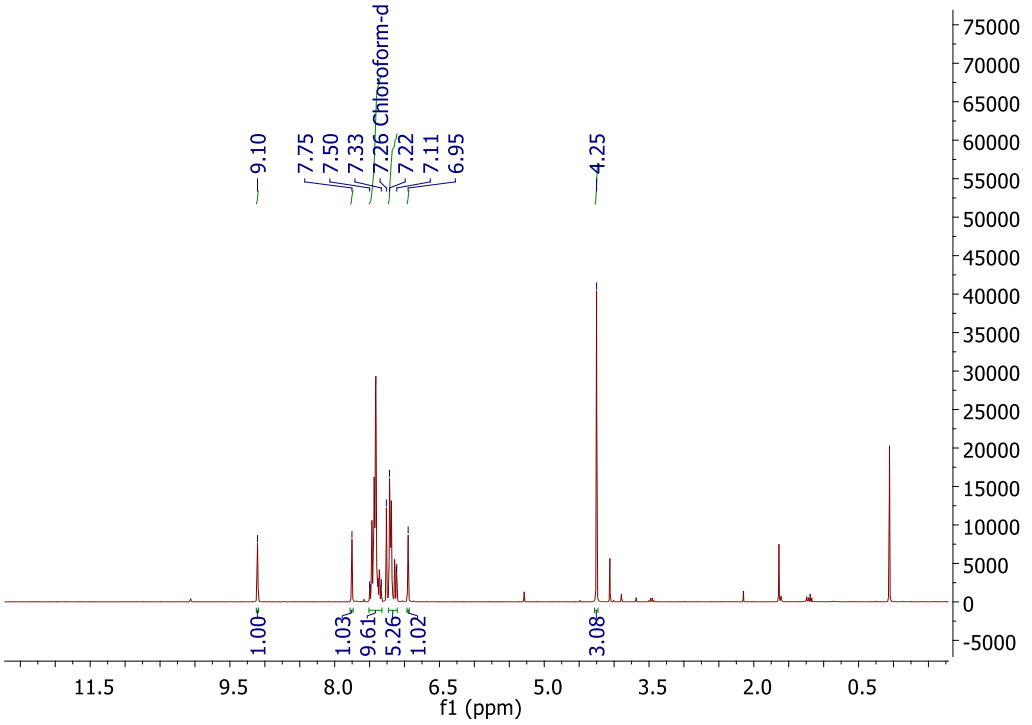

Figure S4a. ^{1}H NMR spectrum of imidazolium salt **2a** (300 MHz, $CDCl_3$)

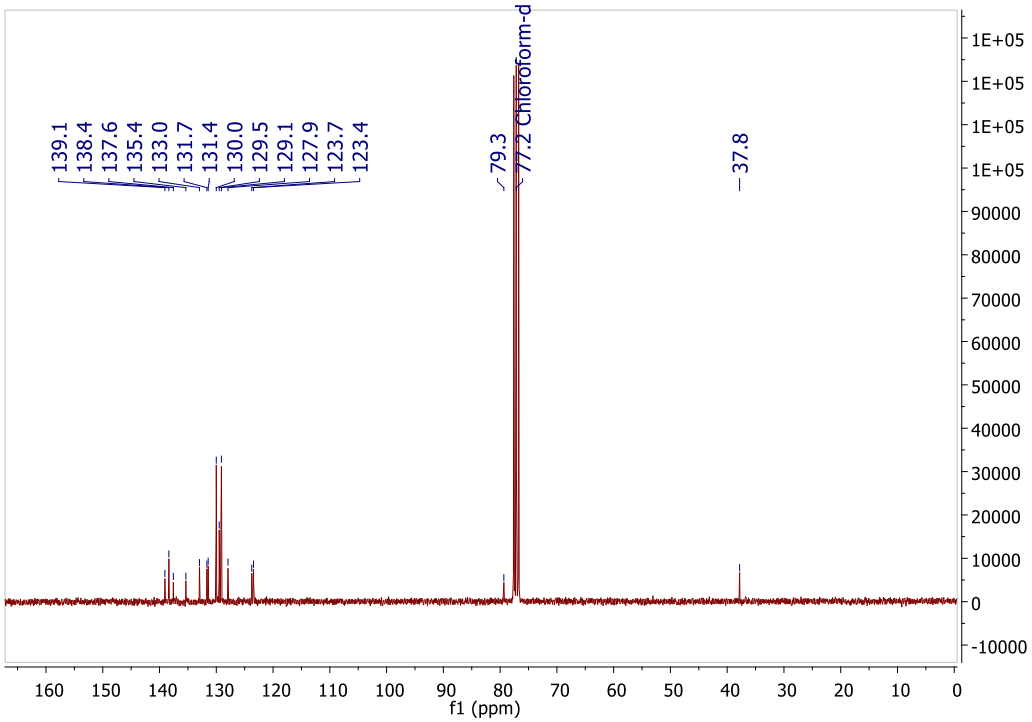

Figure S4b. $^{13}C\{^{1}H\}$ NMR spectrum of imidazolium salt **2a** (75 MHz, $CDCl_3$)

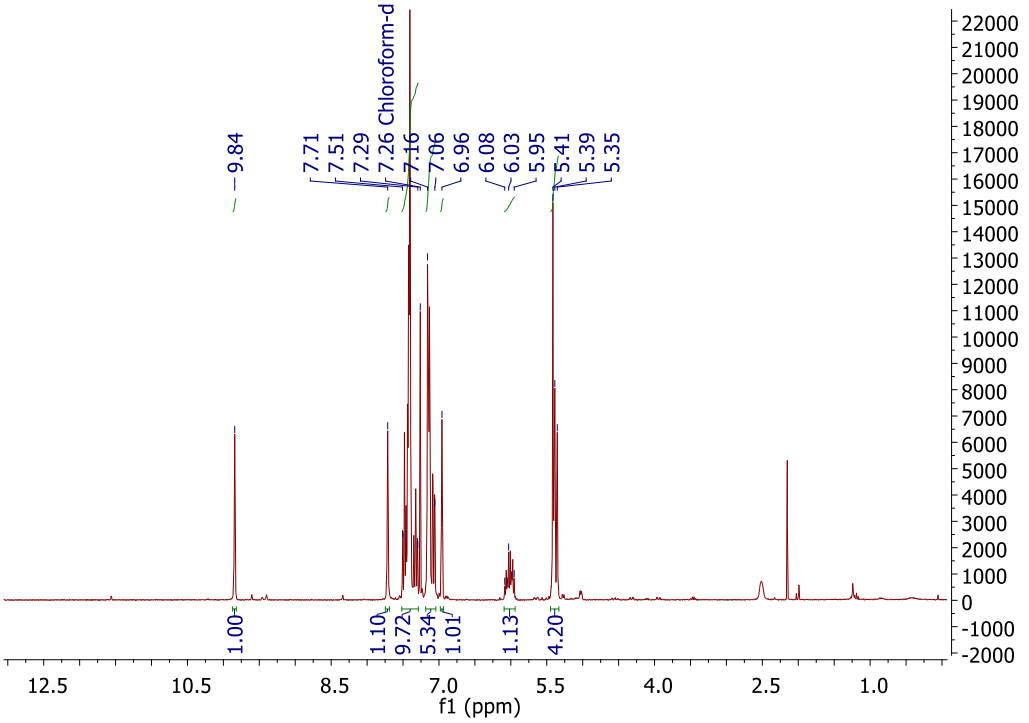

Figure S5a. ^{1}H NMR spectrum of imidazolium salt **2b** (300 MHz, $CDCl_3$)

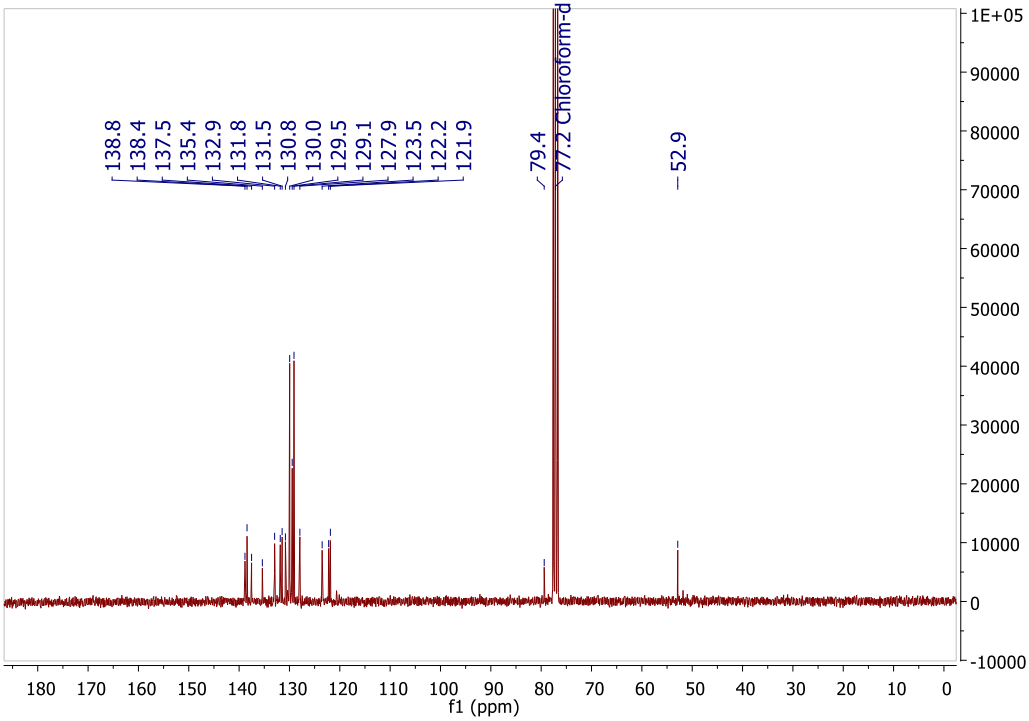

Figure S5b. $^{13}C\{^{1}H\}$ NMR spectrum of imidazolium salt **2b** (75 MHz, $CDCl_3$)

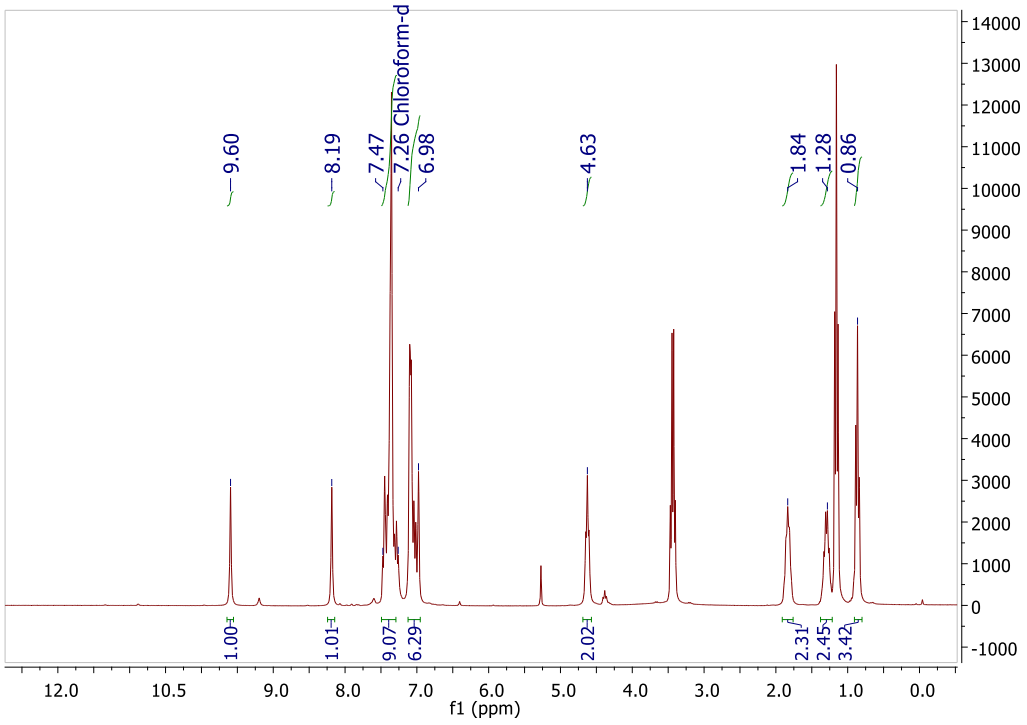

Figure S6a. ^{1}H NMR spectrum of imidazolium salt **2c** (300 MHz, $CDCl_3$)

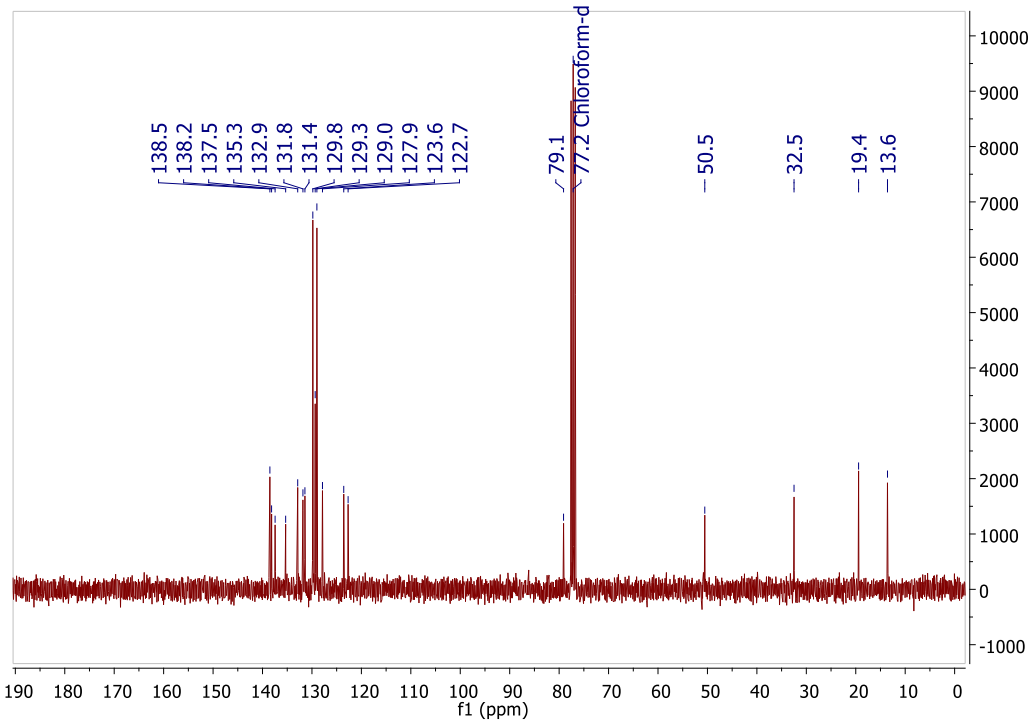

Figure S6b. $^{13}C\{^{1}H\}$ NMR spectrum of imidazolium salt **2c** (75 MHz, $CDCl_3$)

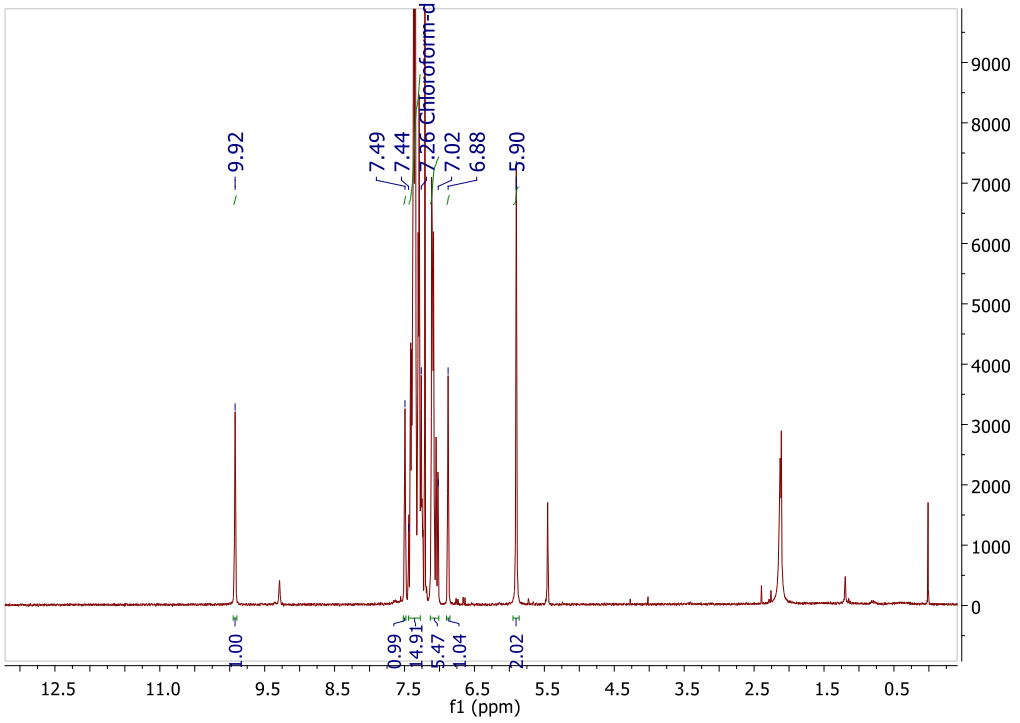

Figure S7a. ^{1}H NMR spectrum of imidazolium salt **2d** (300 MHz, $CDCl_3$)

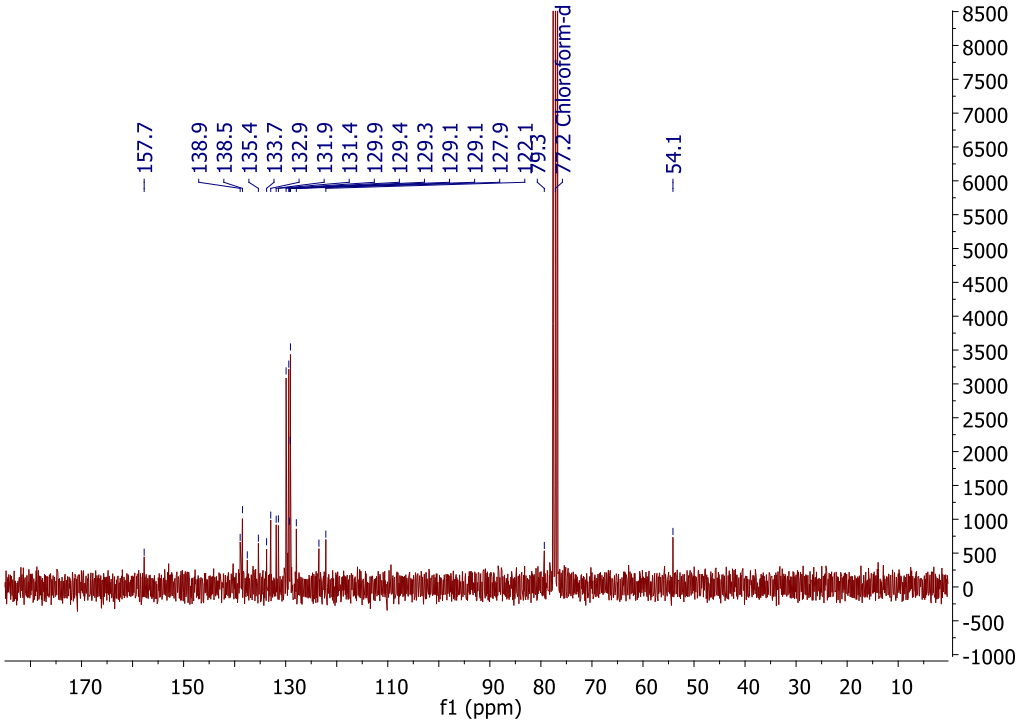

Figure S7b. ^{13}C{^{1}H} NMR spectrum of imidazolium salt **2d** (75 MHz, $CDCl_3$)

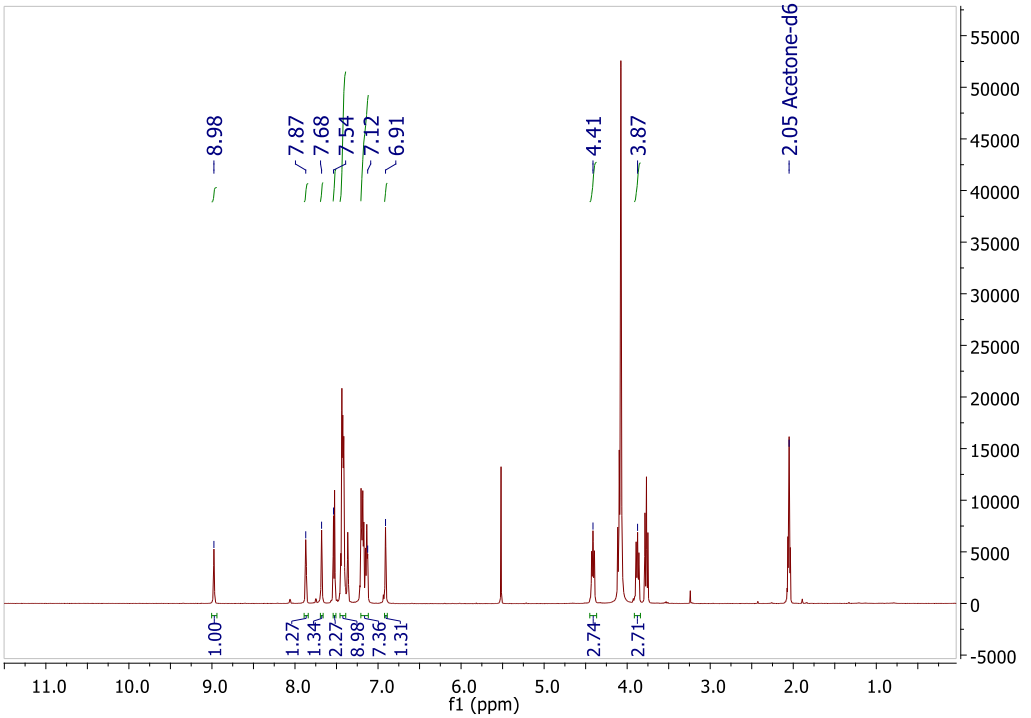

Figure S8a. ^{1}H NMR spectrum of imidazolium salt **2e** (300 MHz, Acetone-d_6)

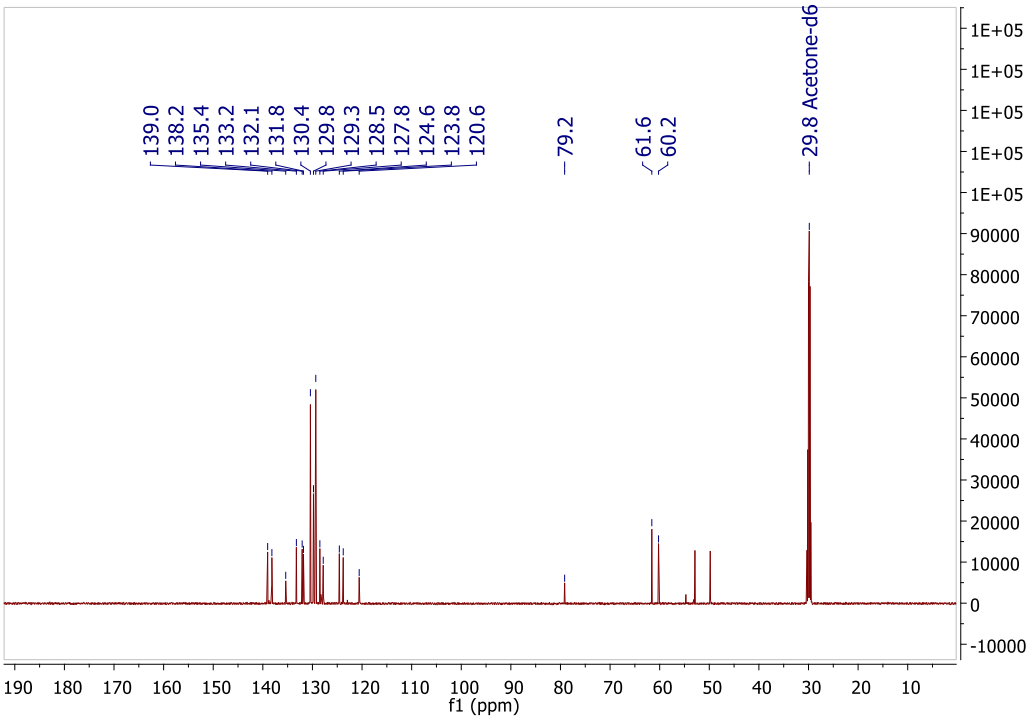

Figure S8b. ^{13}C{^{1}H} NMR spectrum of imidazolium salt **2e** (75 MHz, Acetone-d_6)

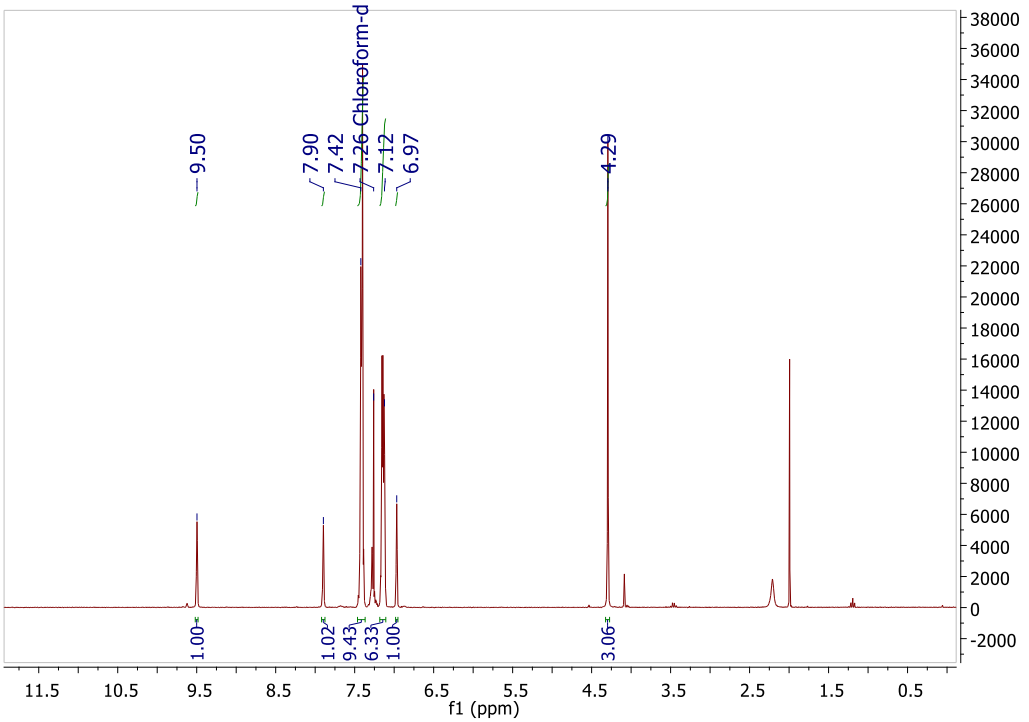

Figure S9a. ^{1}H NMR spectrum of imidazolium salt **3a** (300 MHz, $CDCl_3$)

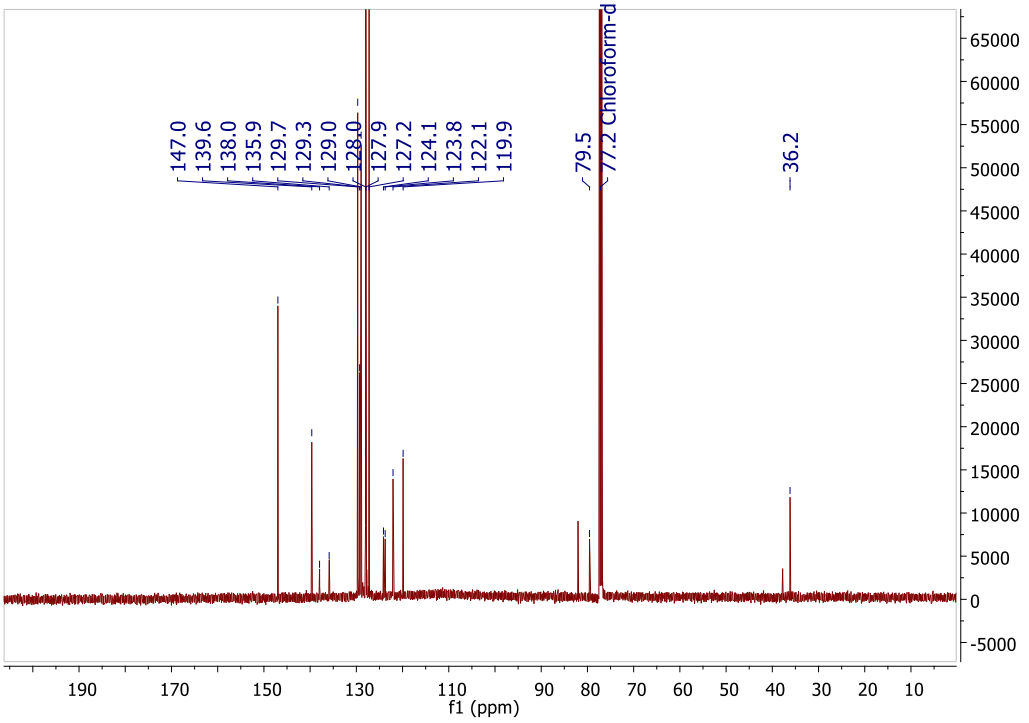

Figure S9b. $^{13}C\{^{1}H\}$ NMR spectrum of imidazolium salt **3a** (75 MHz, $CDCl_3$)

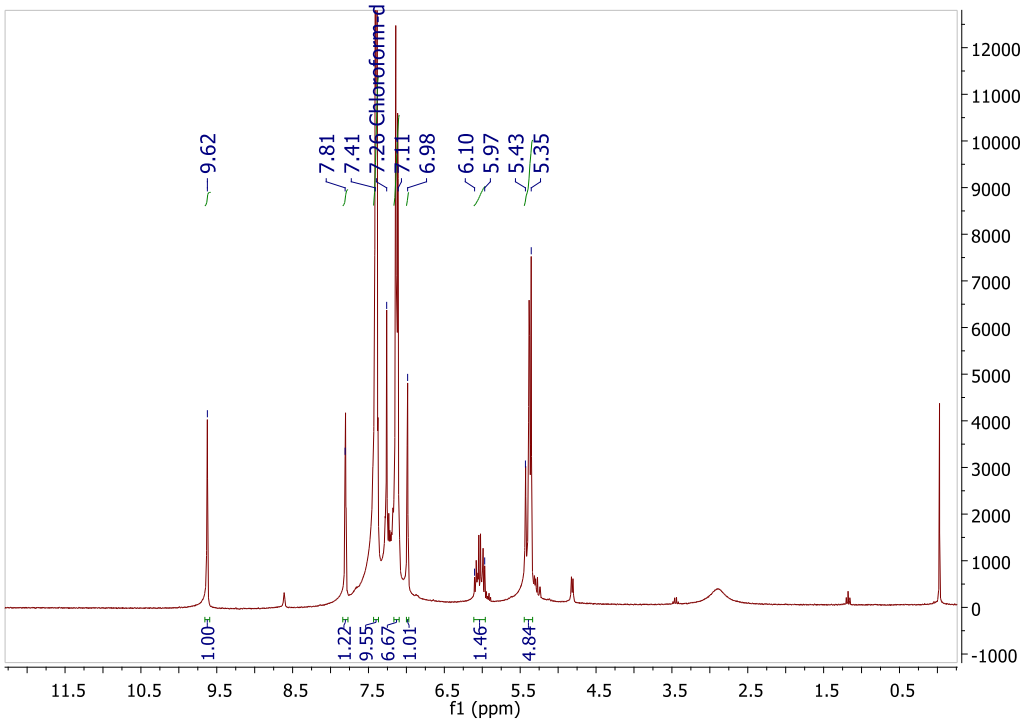

Figure S10a. ^{1}H NMR spectrum of imidazolium salt **3b** (300 MHz, $CDCl_3$)

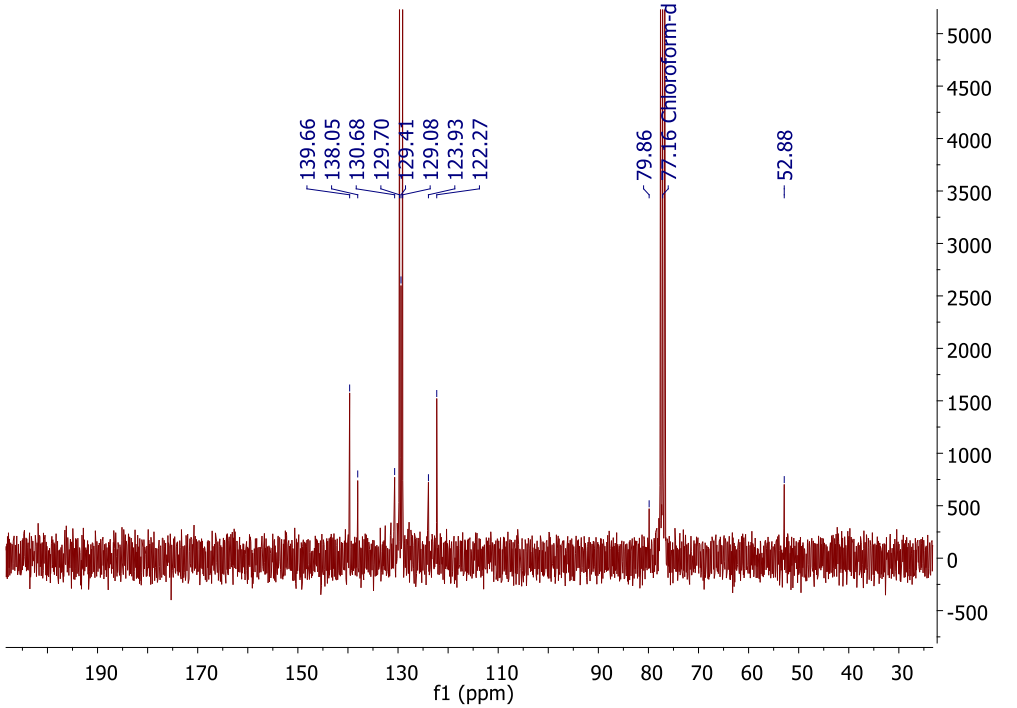

Figure S10b. ^{13}C{^{1}H} NMR spectrum of imidazolium salt **3b** (75 MHz, $CDCl_3$)

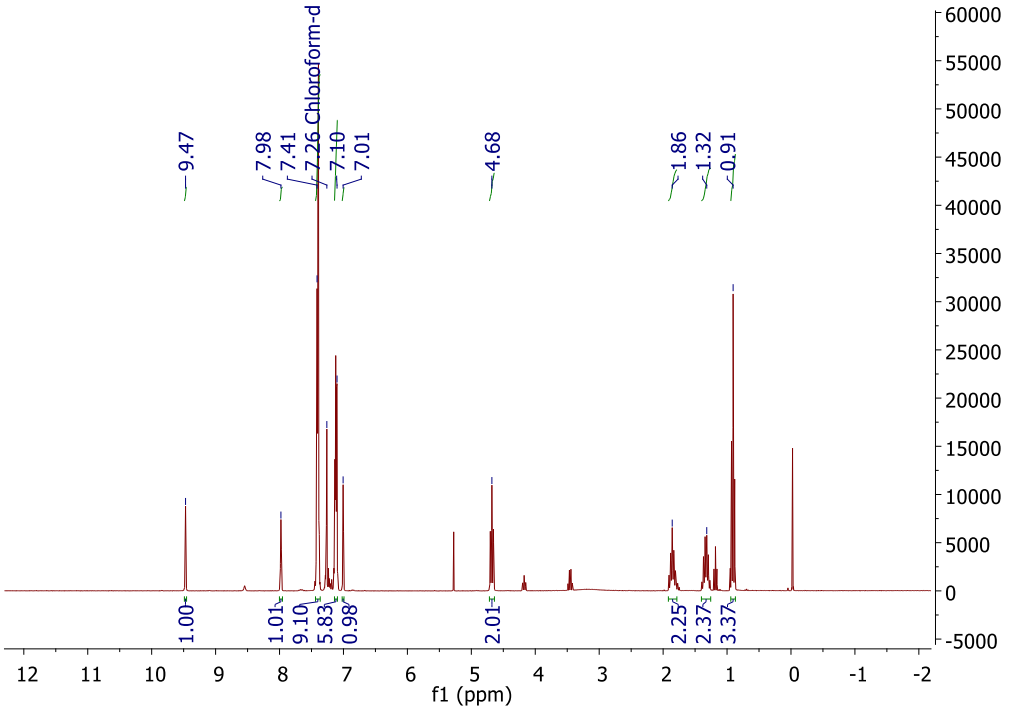

Figure S11a. ^{1}H NMR spectrum of imidazolium salt **3c** (300 MHz, $CDCl_3$)

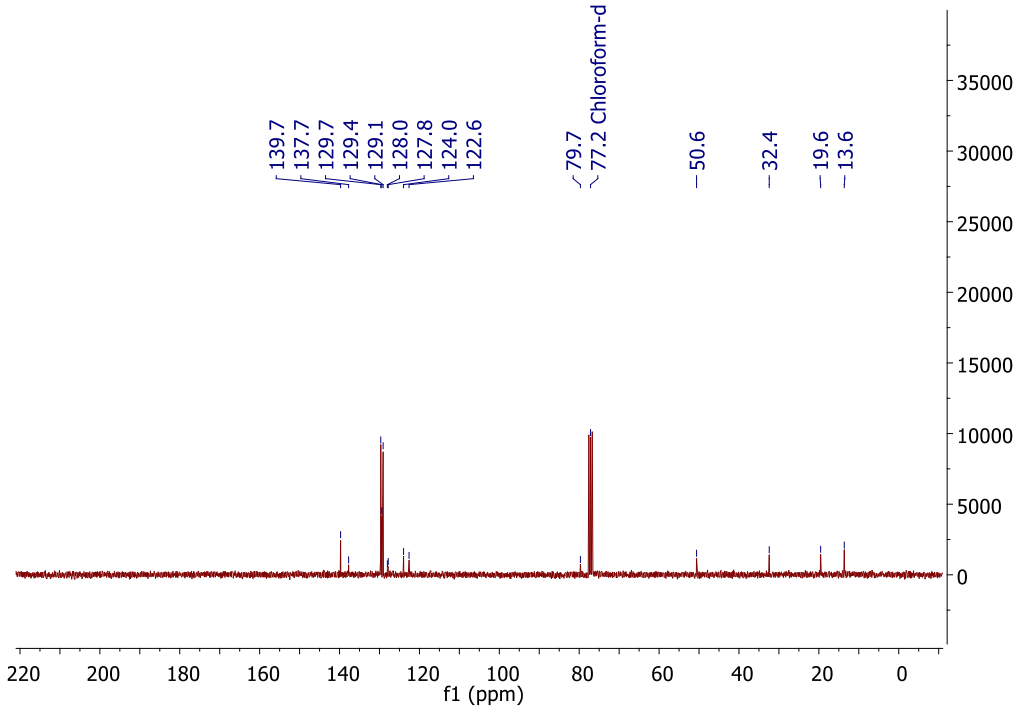

Figure S11b. $^{13}C\{^{1}H\}$ NMR spectrum of imidazolium salt **3c** (75 MHz, $CDCl_3$)

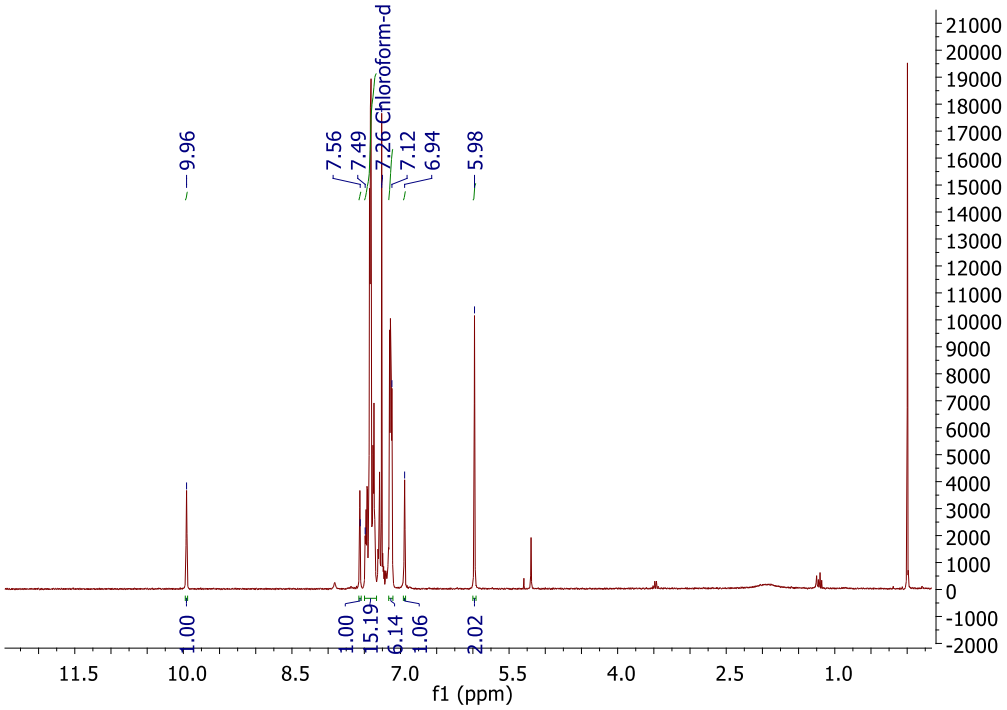

Figure S12a. ^{1}H NMR spectrum of imidazolium salt **3d** (300 MHz, $CDCl_3$)

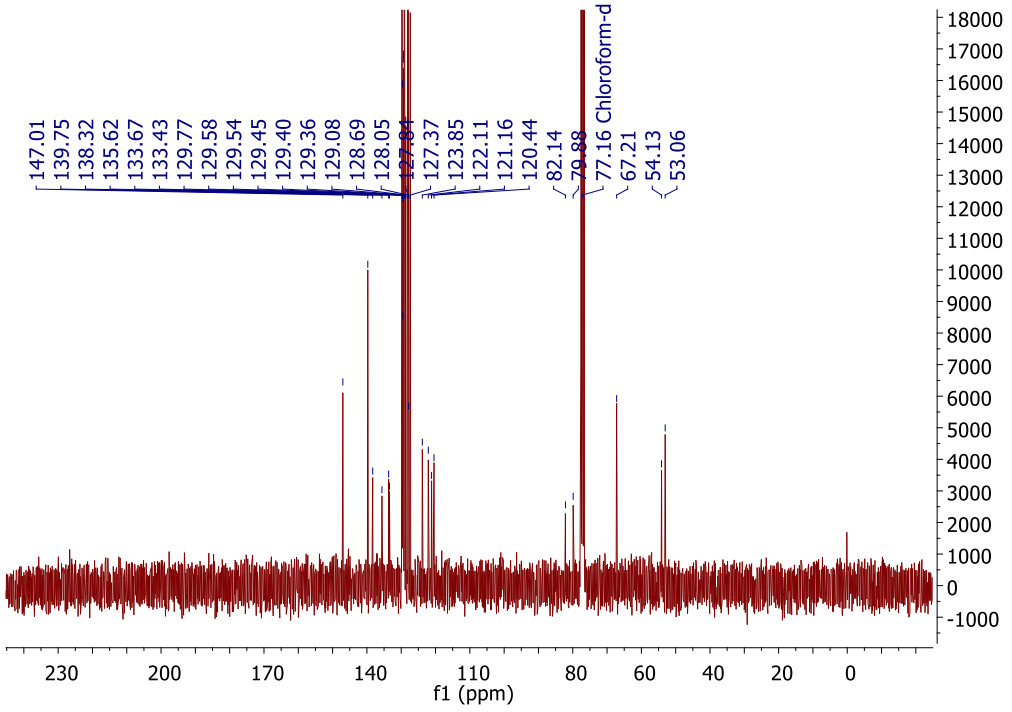

Figure S12b. $^{13}C\{^{1}H\}$ NMR spectrum of imidazolium salt **3d** (75 MHz, $CDCl_3$)

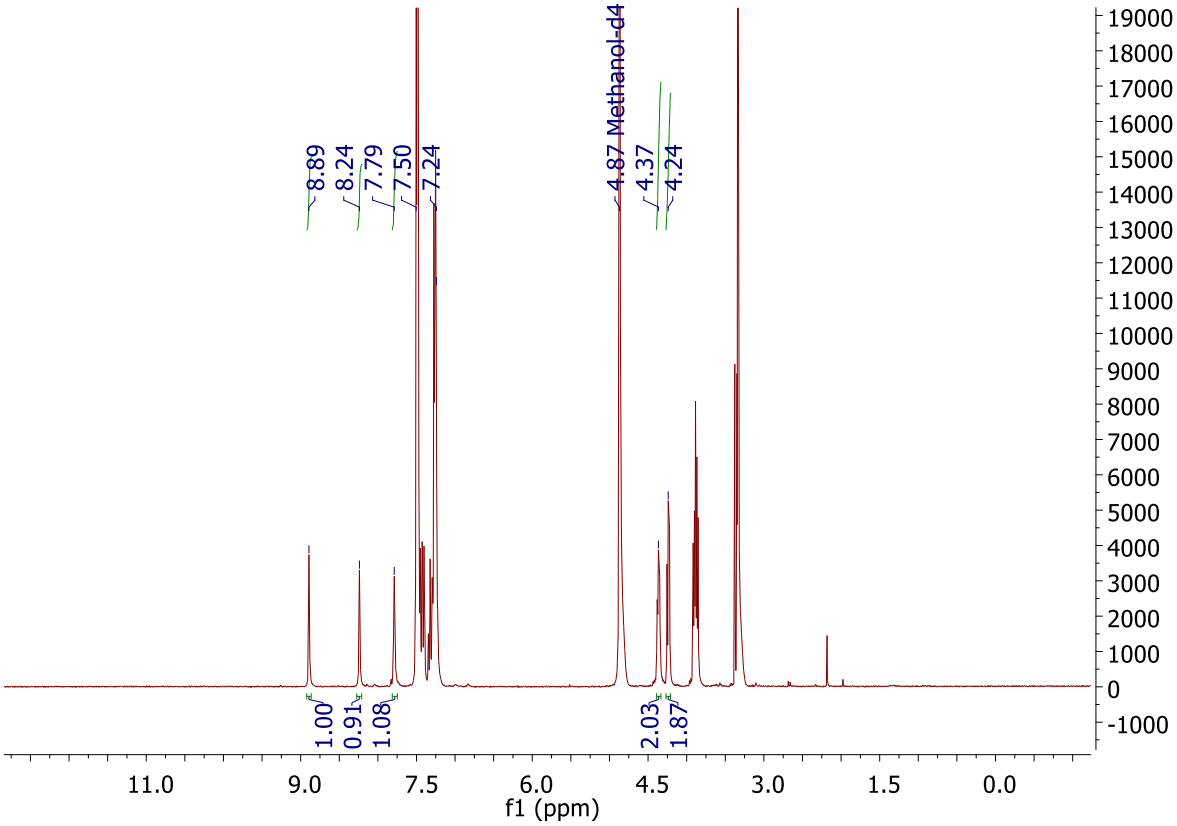

Figure S13a. ^{1}HNMR spectrum of imidazolium salt **3e** (300 MHz, Methanol-d_4)

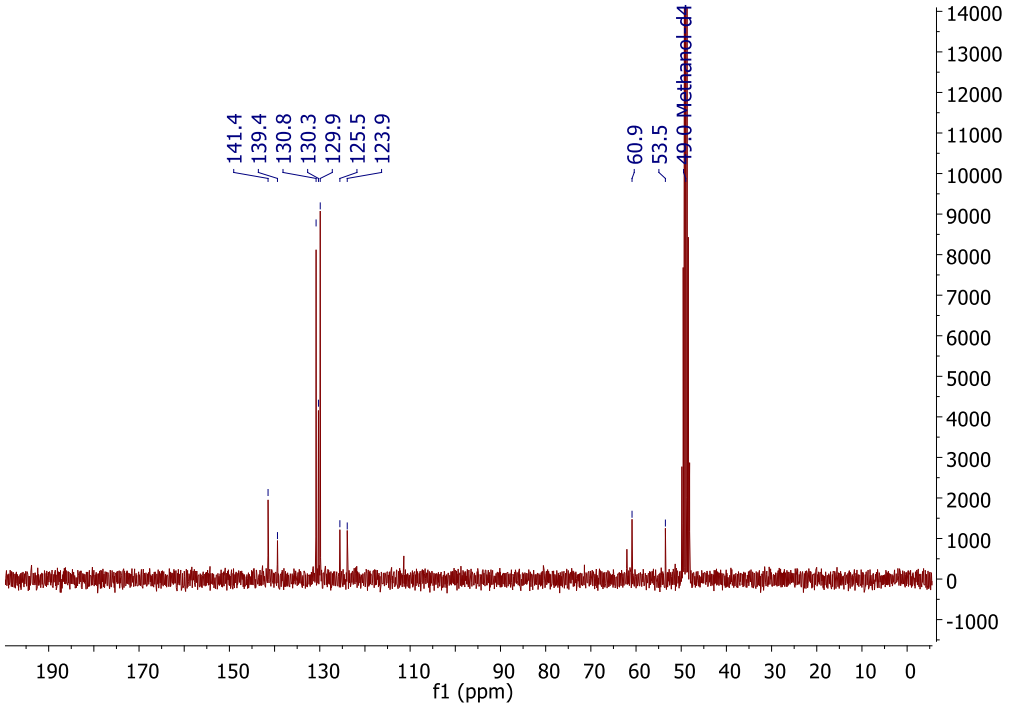

Figure S13b. ^{13}C{^{1}H} NMR spectrum of imidazolium salt **3e** (300 MHz, Methanol-d_4)

2. ^{1}H and $^{13}C\{^{1}H\}$ NMR spectra of silver complexes

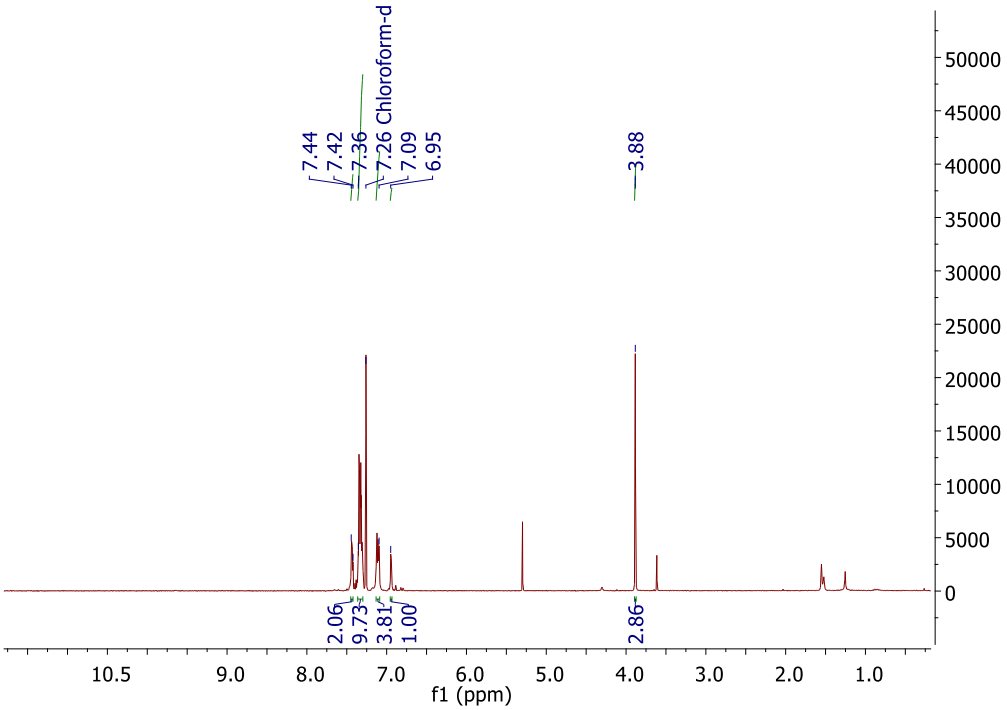

Figure S14a. ^{1}H NMR spectrum of complex **4a** (300 MHz, $CDCl_3$)

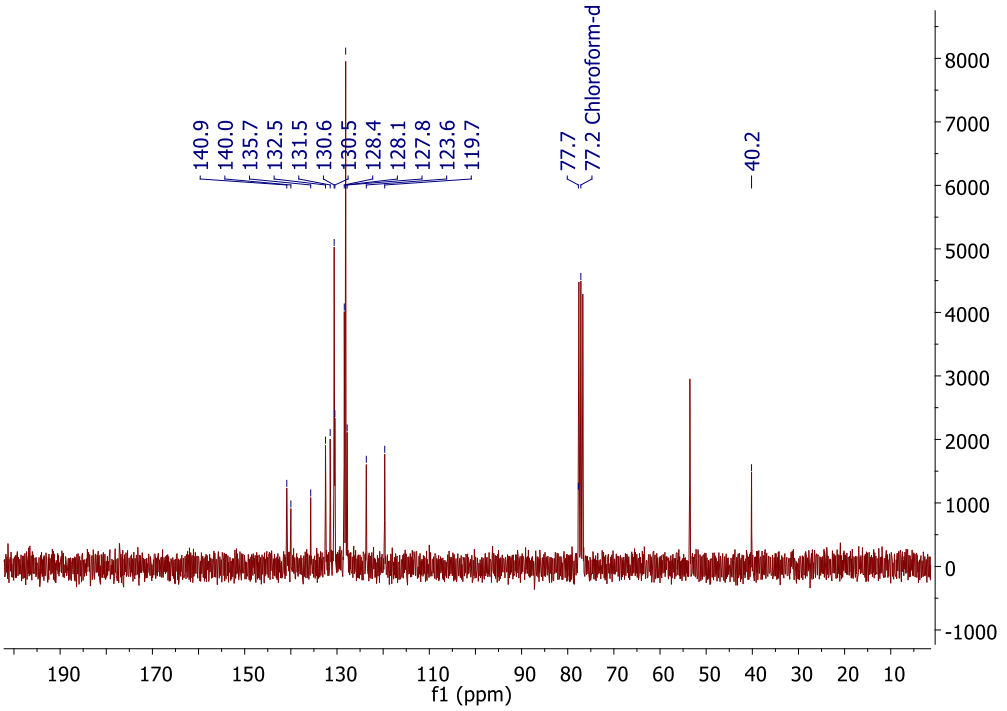

Figure S14b. $^{13}C\{^{1}H\}$ NMR spectrum of complex **4a** (75 MHz, $CDCl_3$)

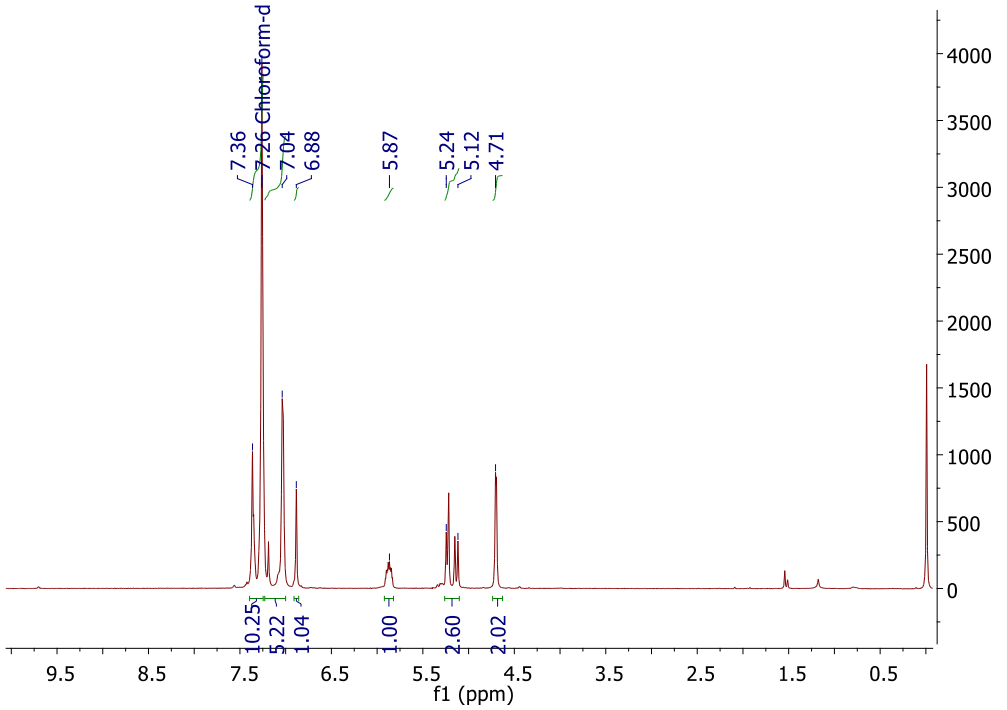

Figure S15a. ^{1}H NMR spectrum of complex **4b** (300 MHz, $CDCl_3$)

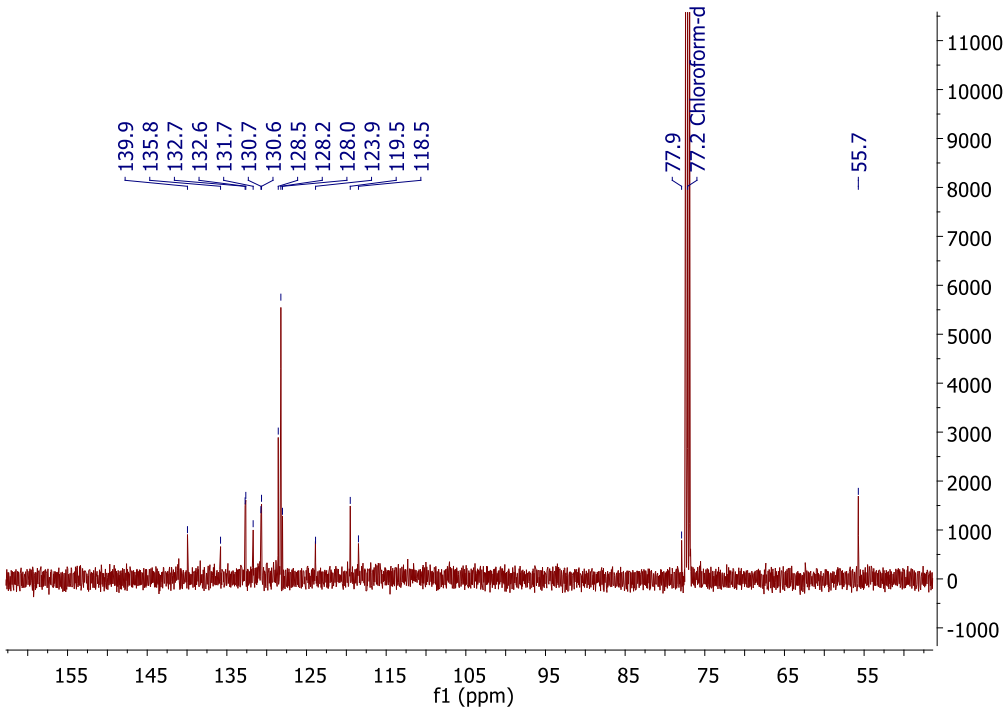

Figure S15b. $^{13}C\{^{1}H\}$ NMR spectrum of complex **4b** (75 MHz, $CDCl_3$)

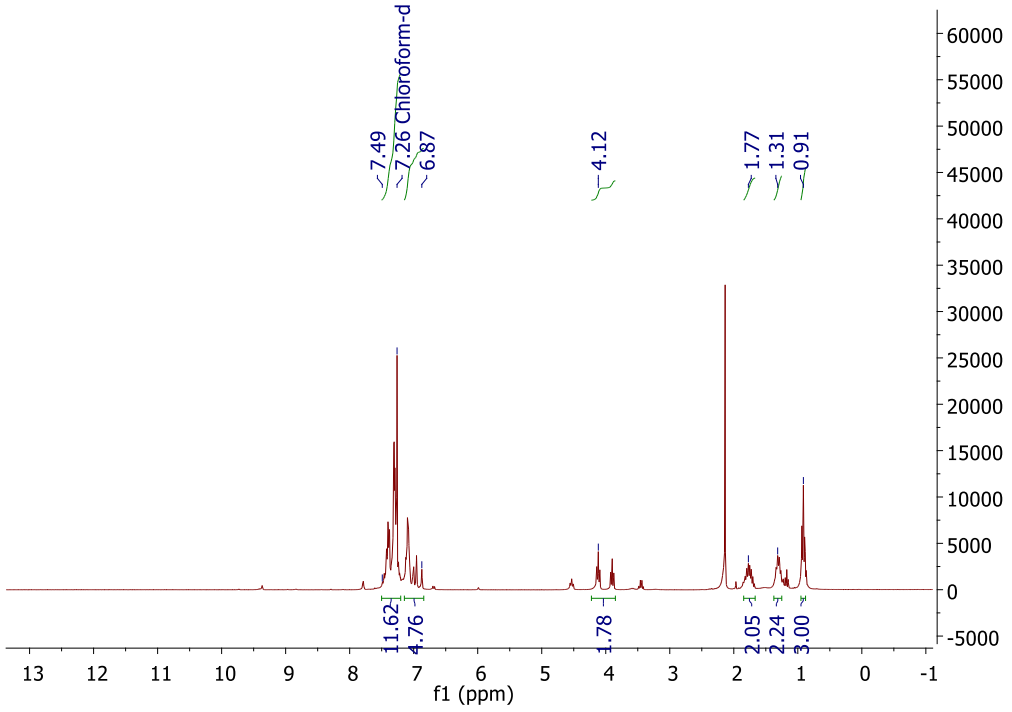

Figure S16a. ^{1}H NMR spectrum of complex **4c** (300 MHz, $CDCl_3$)

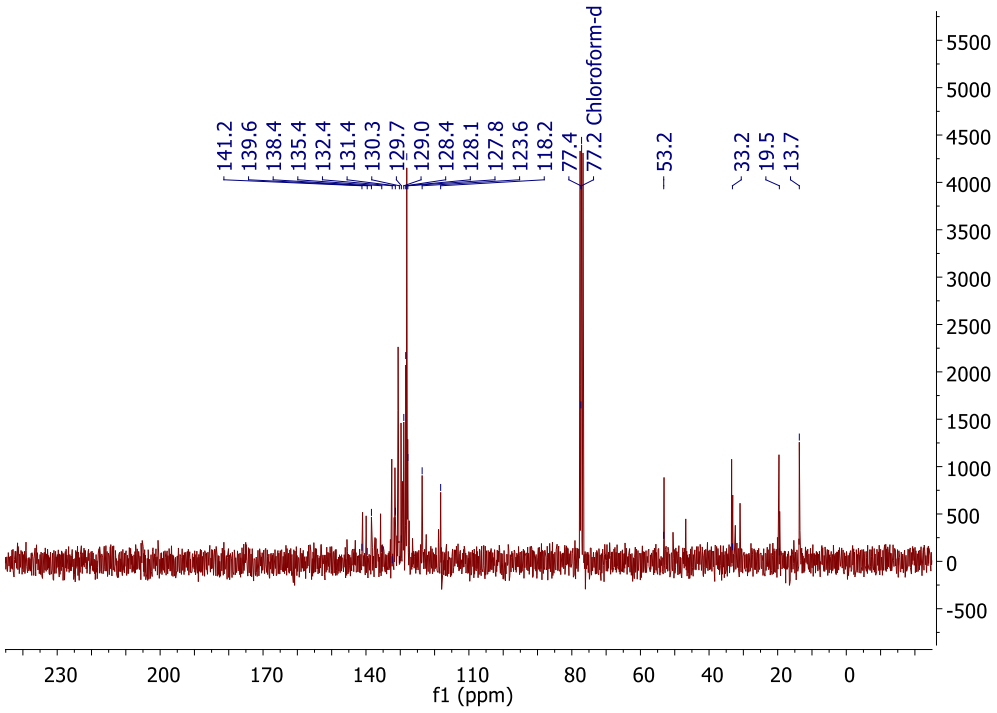

Figure S16b. $^{13}C\{^{1}H\}$ NMR spectrum of complex **4c** (75 MHz, $CDCl_3$)

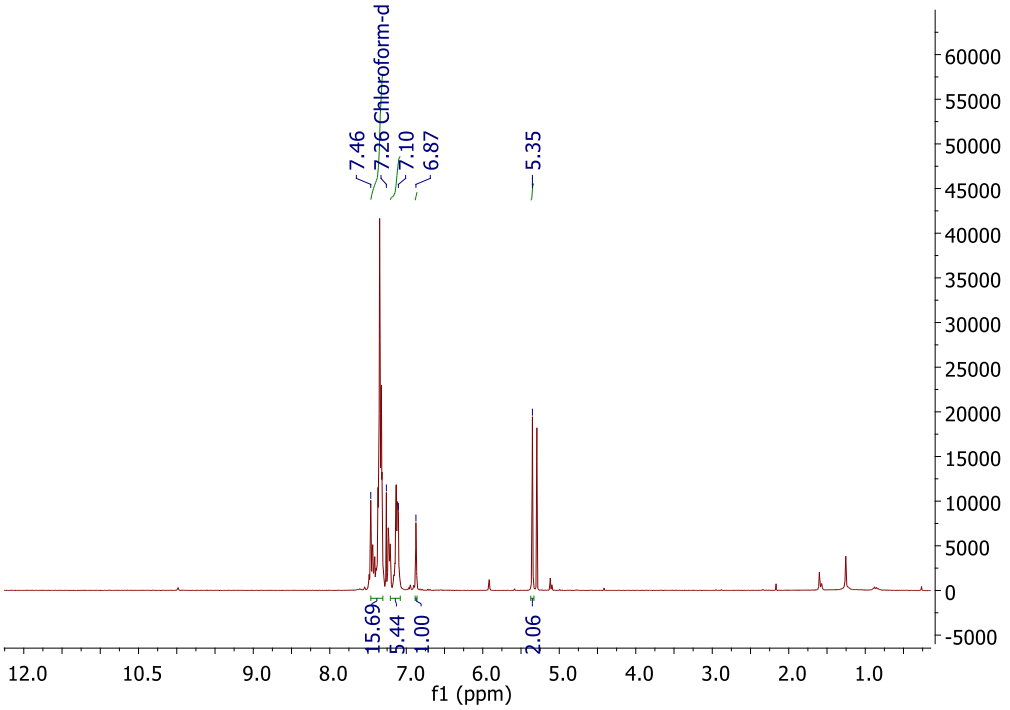

Figure S17a. ^{1}H NMR spectrum of complex **4d** (300 MHz, $CDCl_3$)

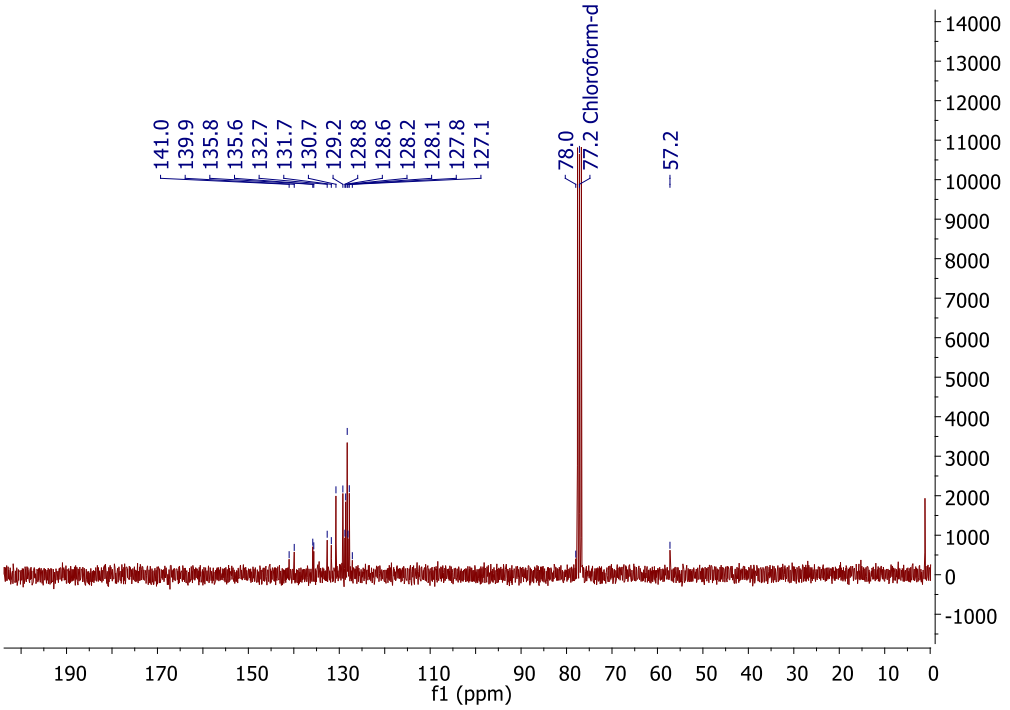

Figure S17b. $^{13}C\{^{1}H\}$ NMR spectrum of complex **4d** (75 MHz, $CDCl_3$)

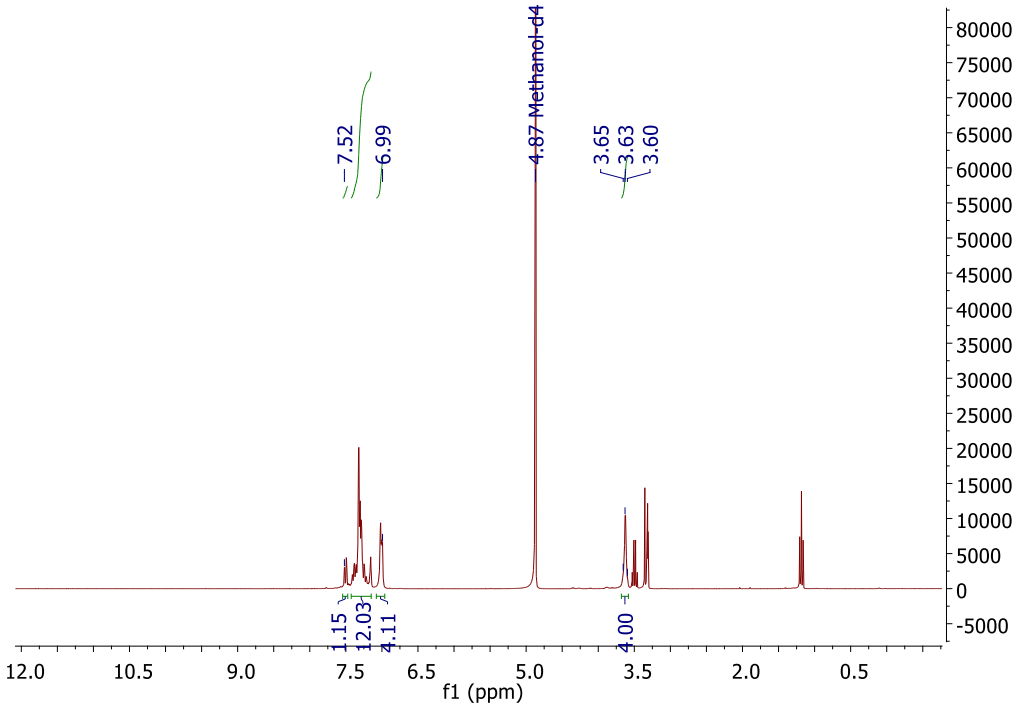

Figure S18a. ^{1}H NMR spectrum of complex **4e** (300 MHz, Methanol-d_4)

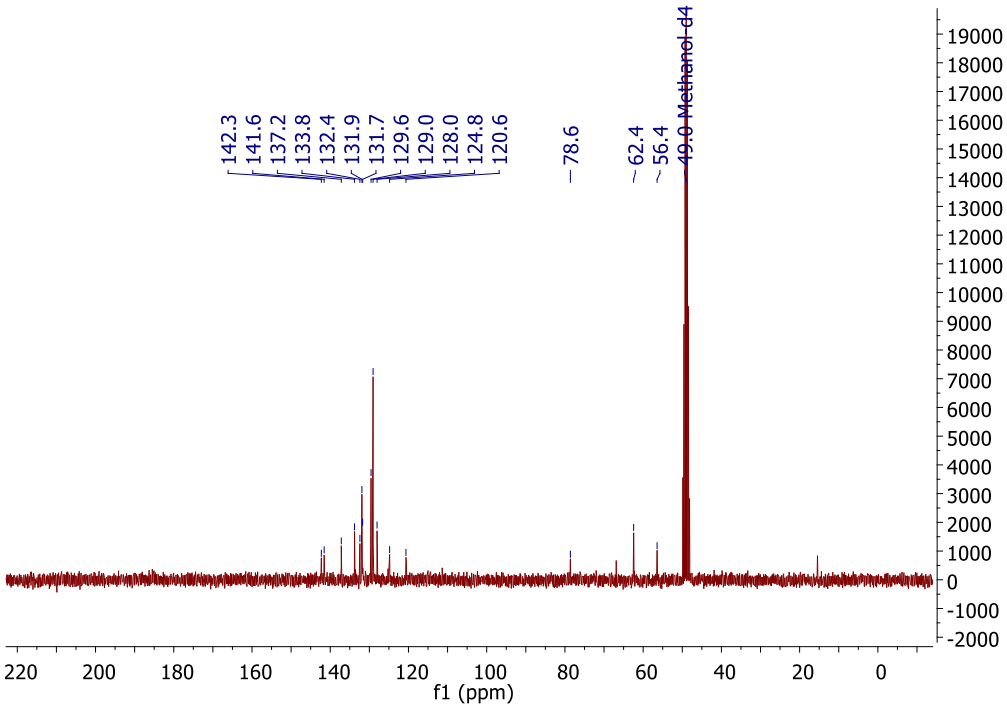

Figure S18b. ^{13}C{^{1}H} NMR spectrum of complex **4e** (75 MHz, Methanol-d_4)

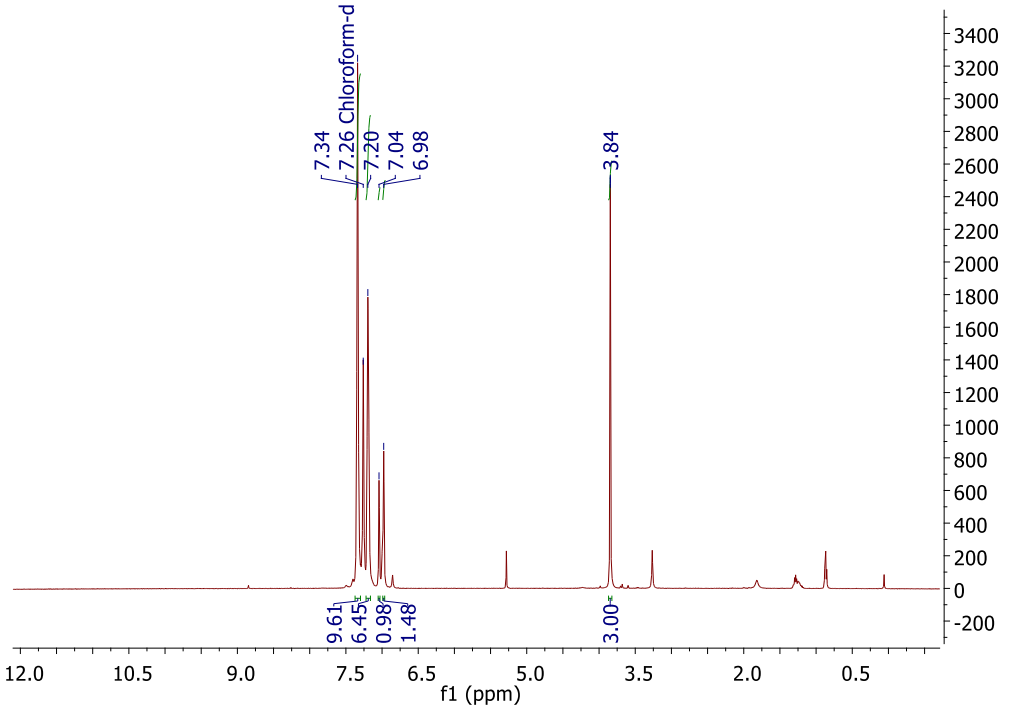

Figure S19a. ^{1}H NMR spectrum of complex **5a** (300 MHz, $CDCl_3$)

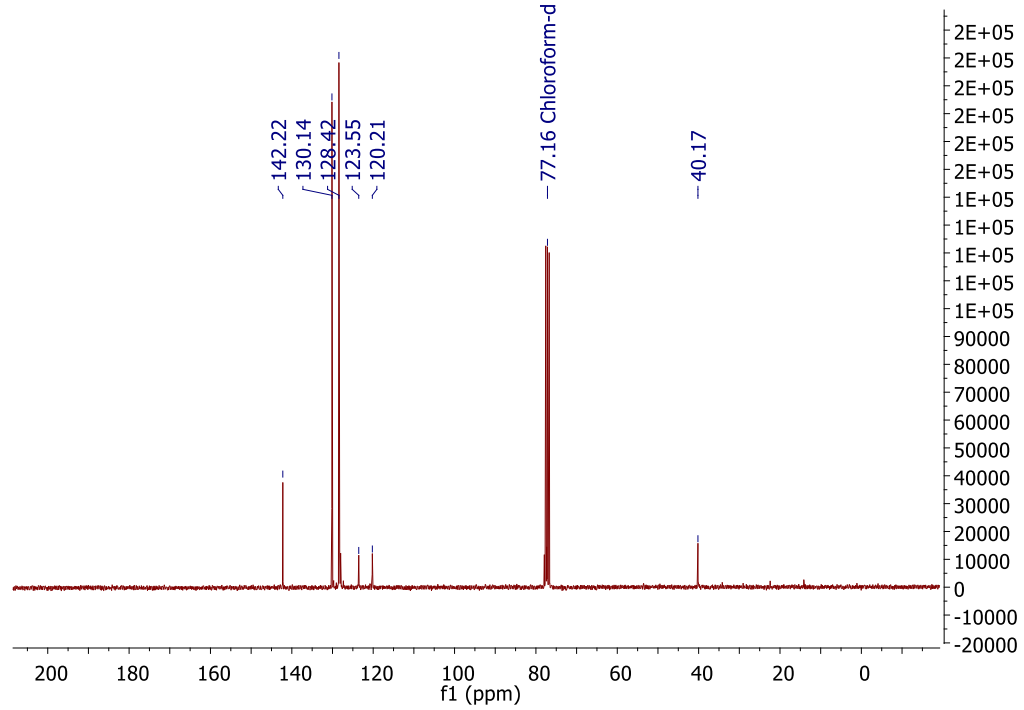

Figure S19b. $^{13}C\{^{1}H\}$ NMR spectrum of complex **5a** (75 MHz, $CDCl_3$)

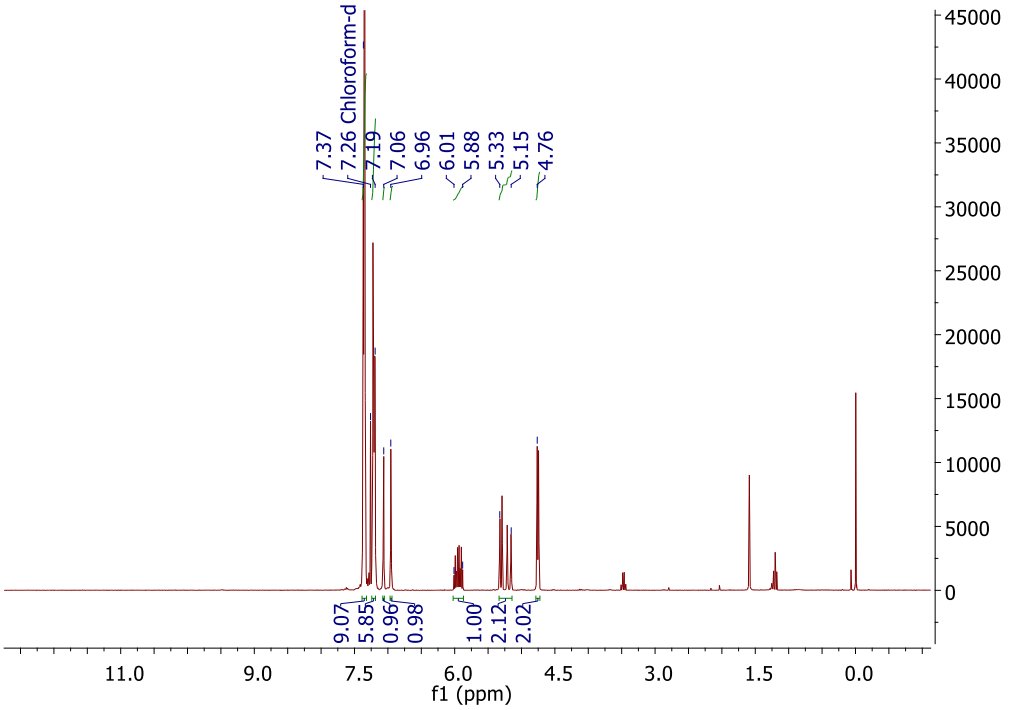

Figure S20a. ^{1}H NMR spectrum of complex **5b** (300 MHz, $CDCl_3$)

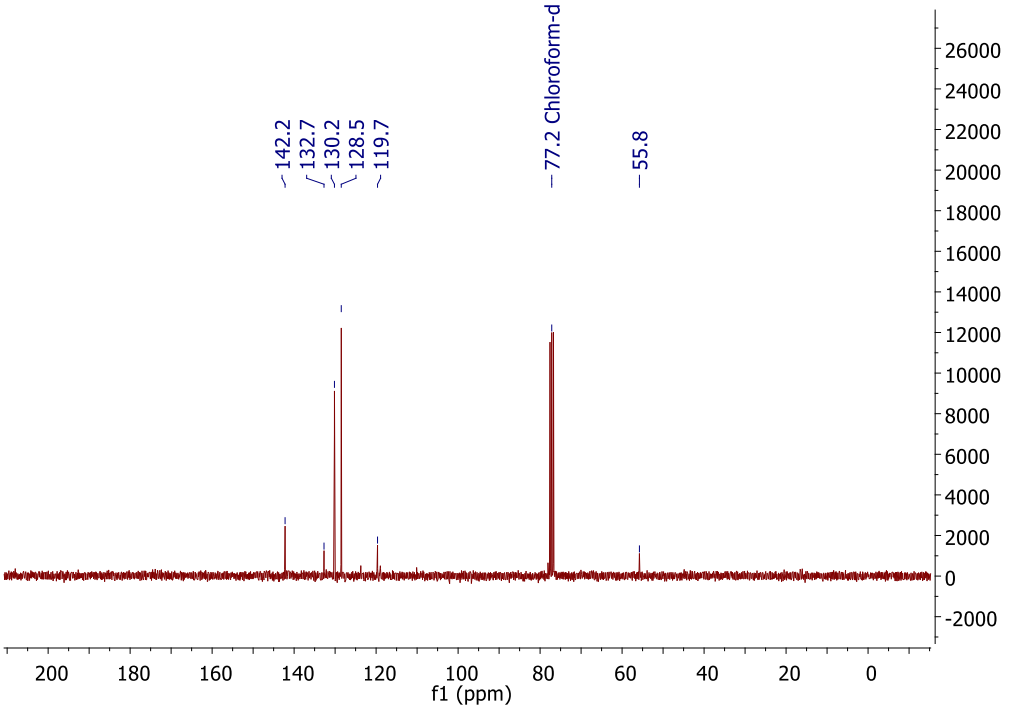

Figure S20b. $^{13}C\{^{1}H\}$ NMR spectrum of complex **5b** (75 MHz, $CDCl_3$)

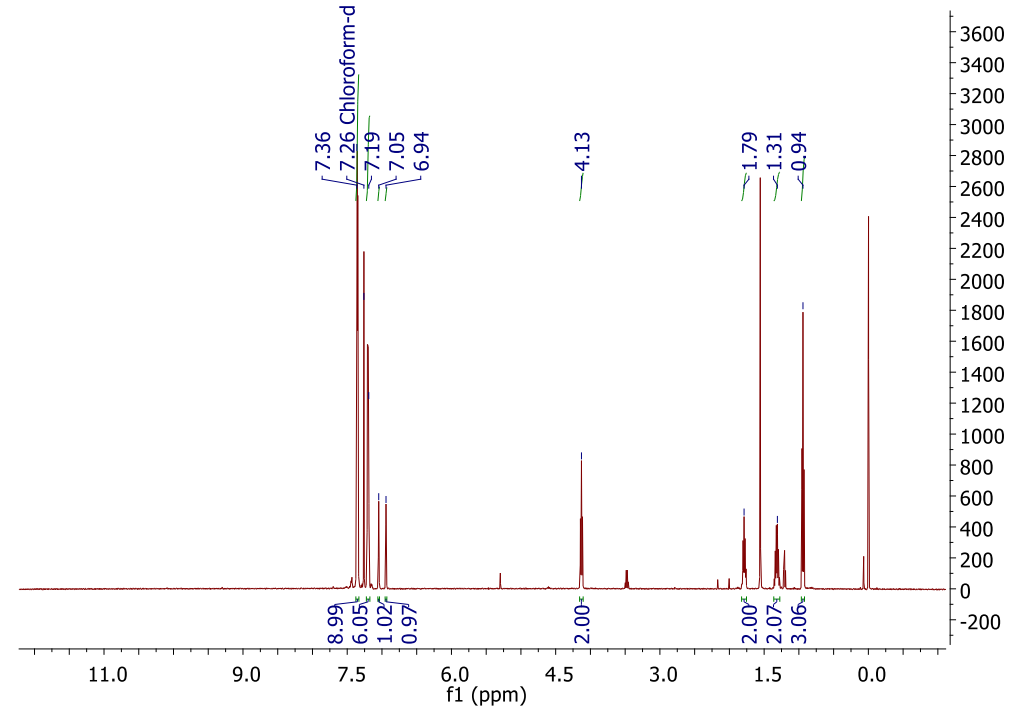

Figure S21a. ^{1}H NMR spectrum of complex **5c** (300 MHz, $CDCl_3$)

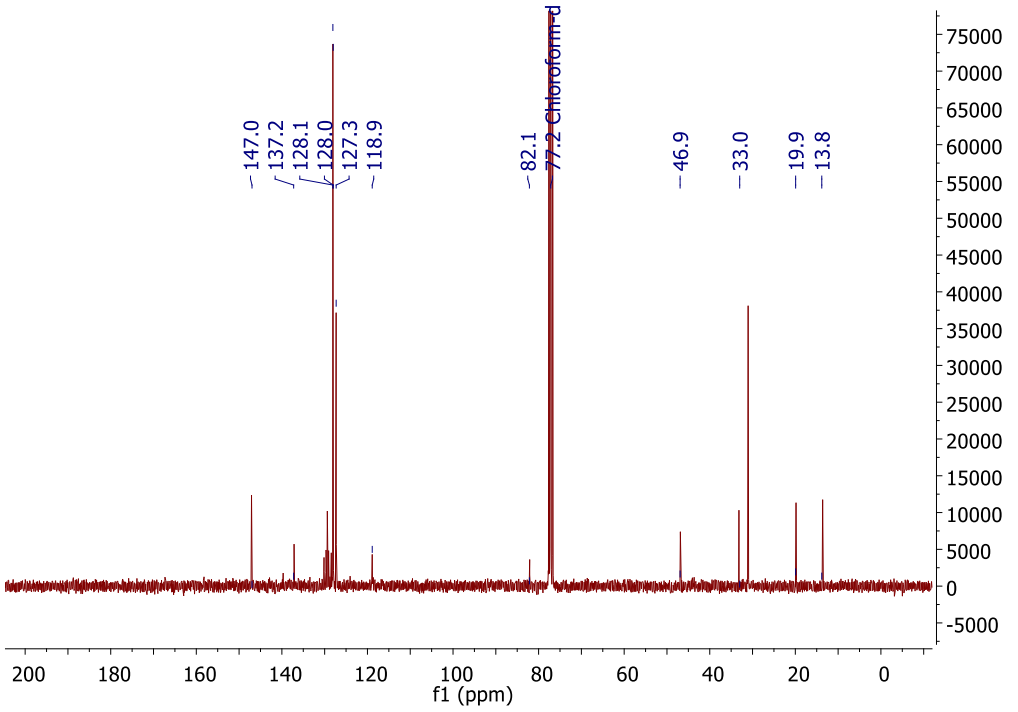

Figure S21b. $^{13}C\{^{1}H\}$ NMR spectrum of complex **5c** (75 MHz, $CDCl_3$)

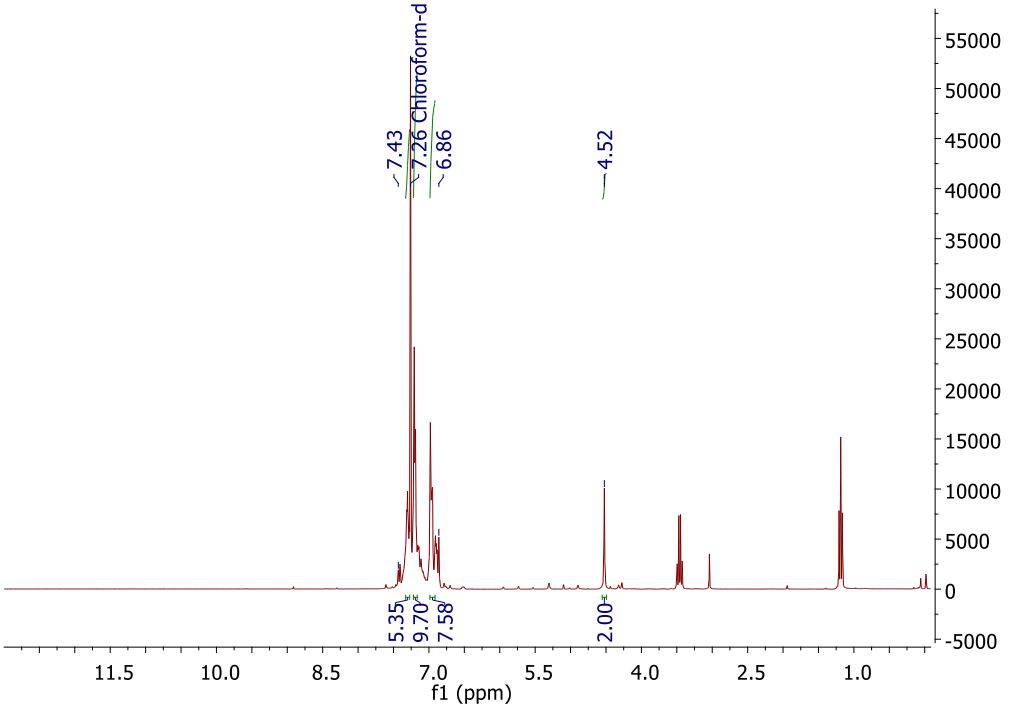

Figure S22a. ^{1}H NMR spectrum of complex **5d** (300 MHz, $CDCl_3$)

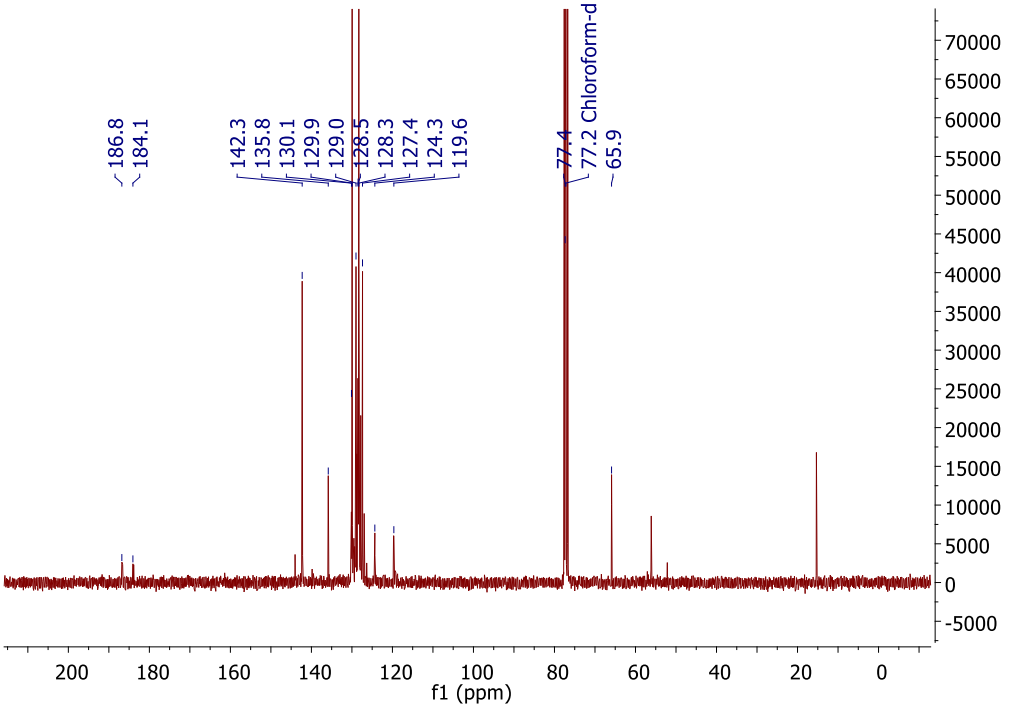

Figure S22b. $^{13}C\{^{1}H\}$ NMR spectrum of complex **5d** (75 MHz, $CDCl_3$)

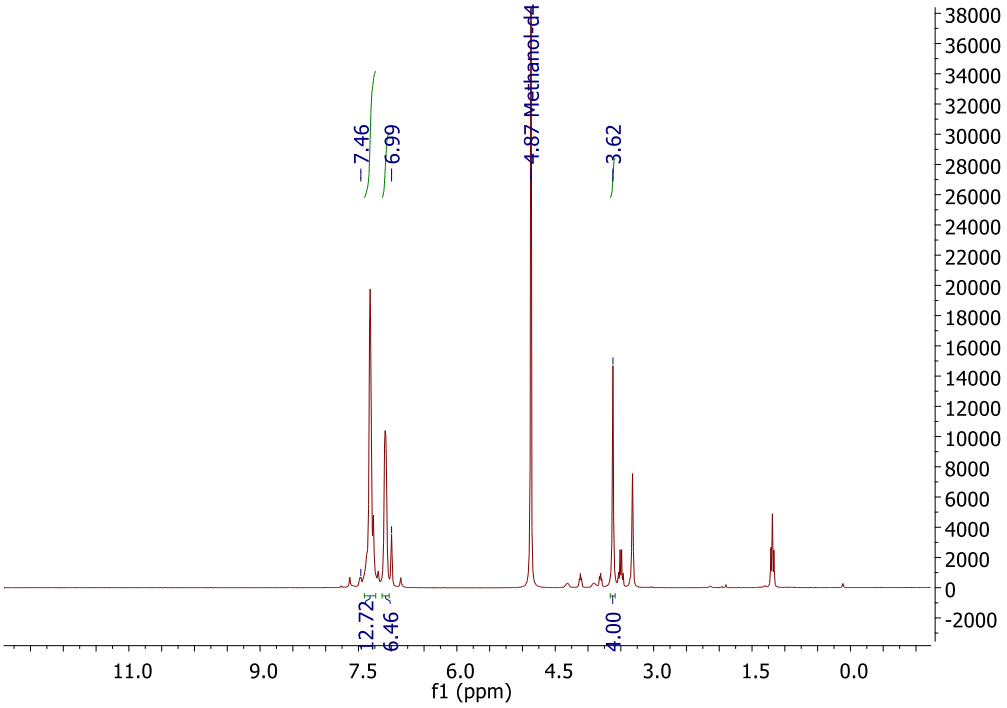

Figure S23a. ^{1}H NMR spectrum of complex **5e** (300 MHz, Methanol-d_4)

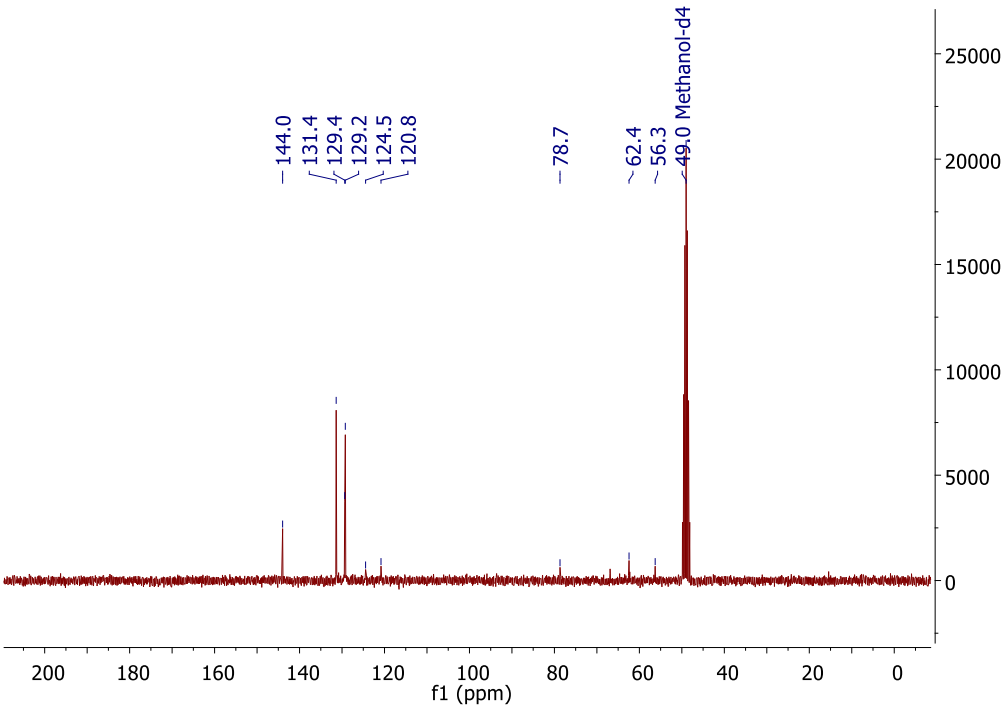

Figure S23b. $^{13}C\{^{1}H\}$ NMR spectrum of complex **5e** (300 MHz, Methanol-d_4)

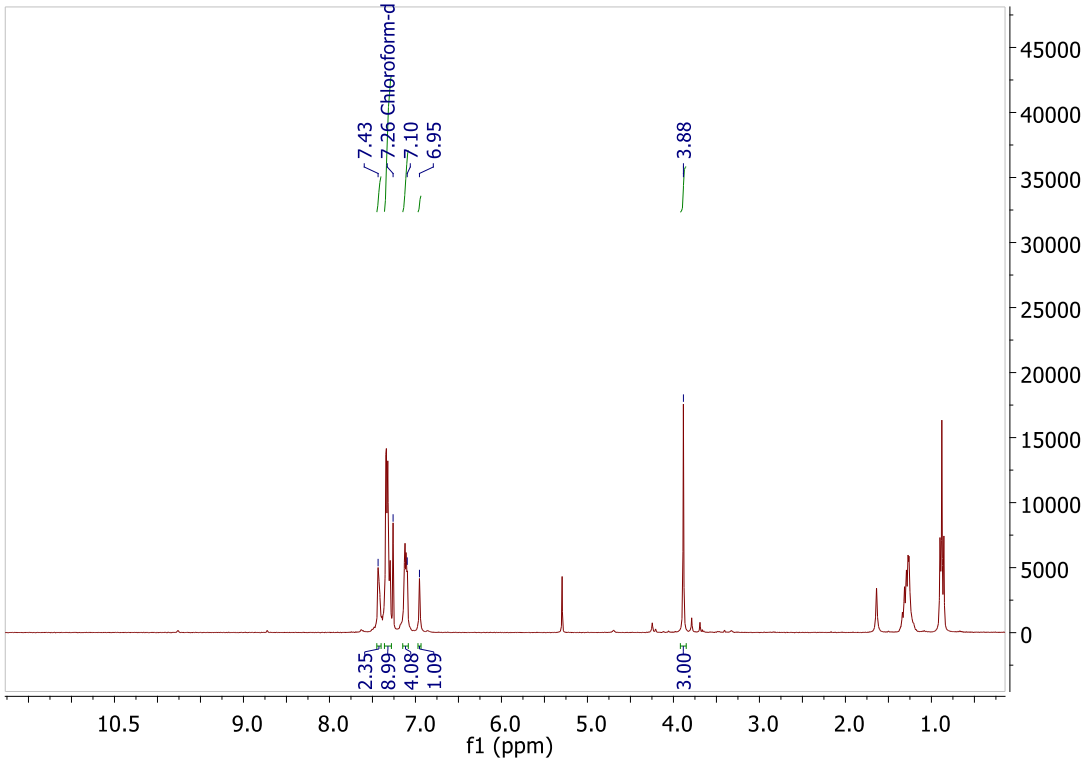

Figure S24a. ^{1}H NMR spectrum of complex **6a** (300 MHz, $CDCl_3$)

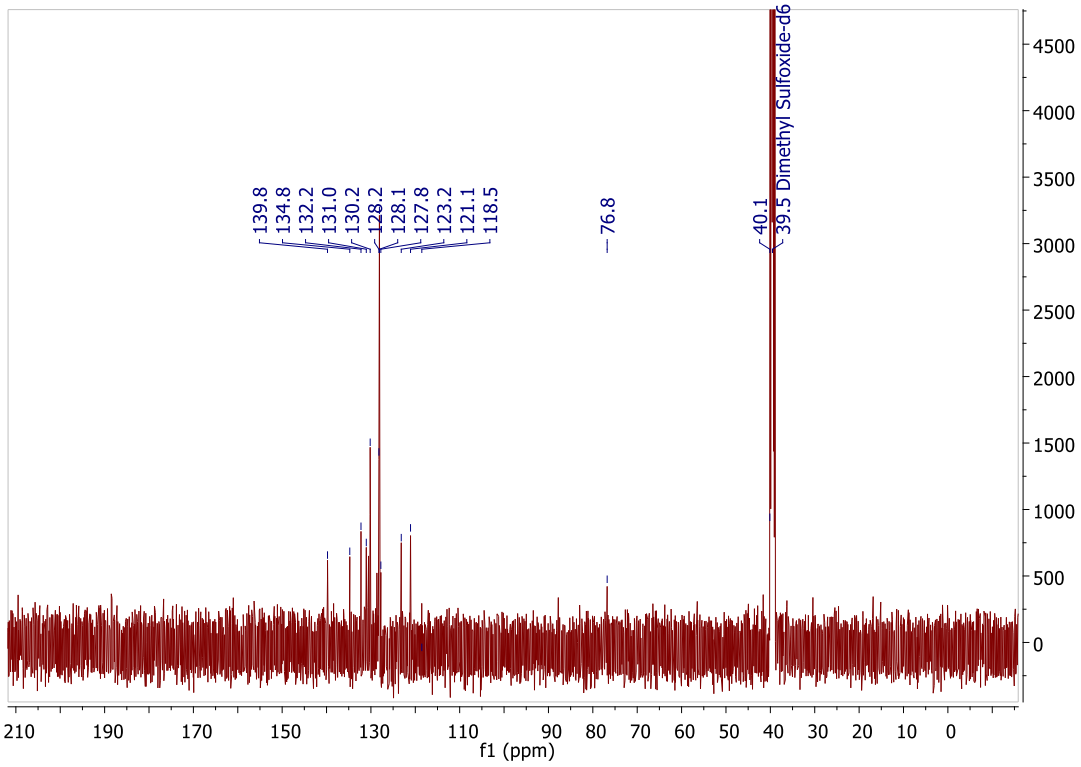

Figure S24b. $^{13}C\{^{1}H\}$ NMR spectrum of complex **6a** (75 MHz, DMSO-d_6)

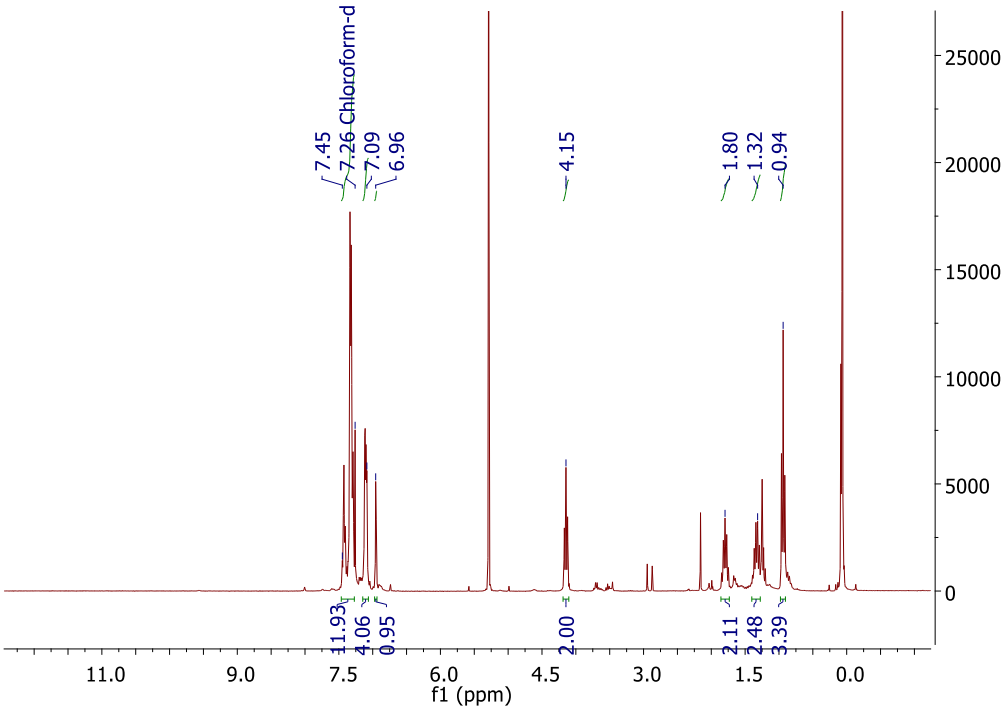

Figure S25a. ^{1}H NMR spectrum of complex **6c** (300 MHz, $CDCl_3$)

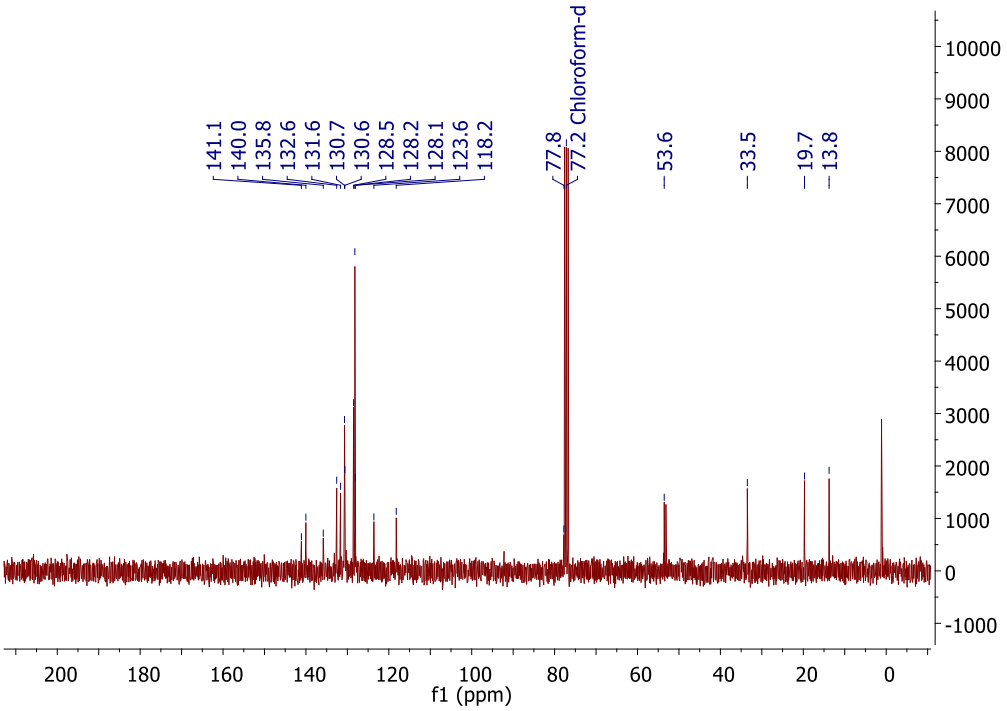

Figure S25b. ^{13}C{1H} NMR spectrum of complex **6c** (75 MHz, $CDCl_3$)

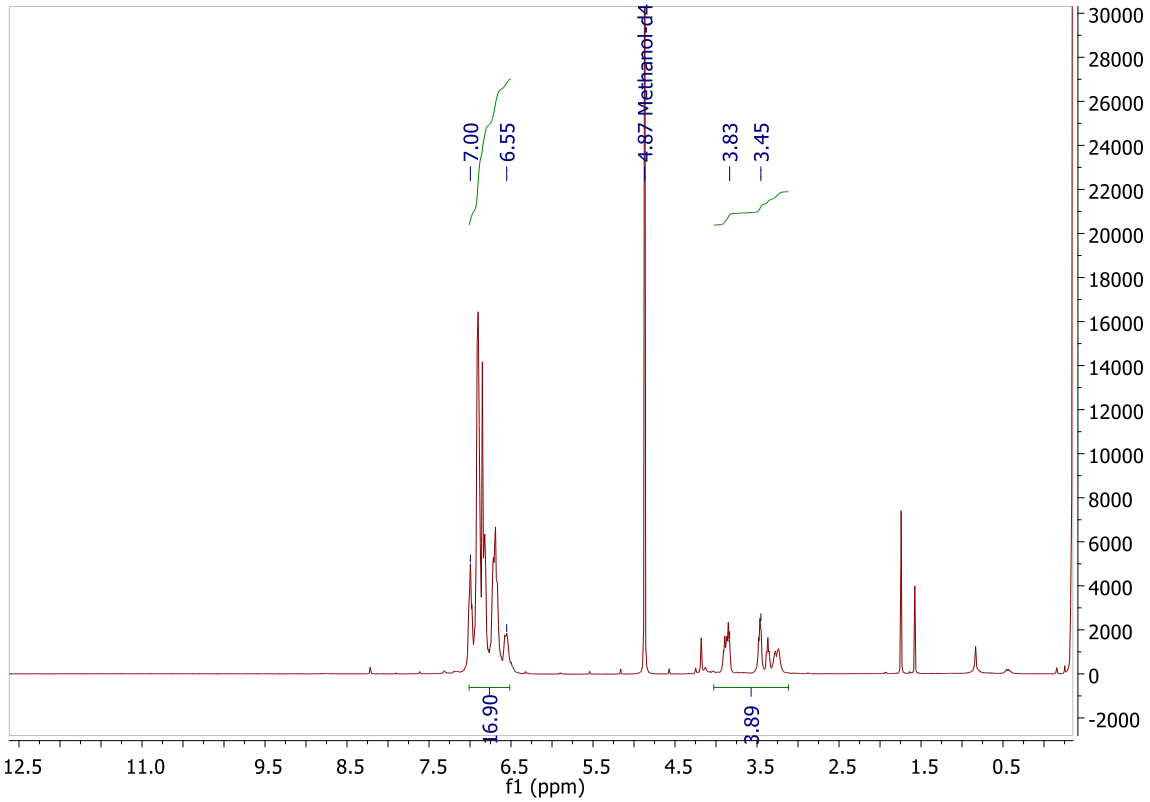

Figure S26a. ^{1}H NMR spectrum of complex **6e** (300 MHz, MeOD-d_4)

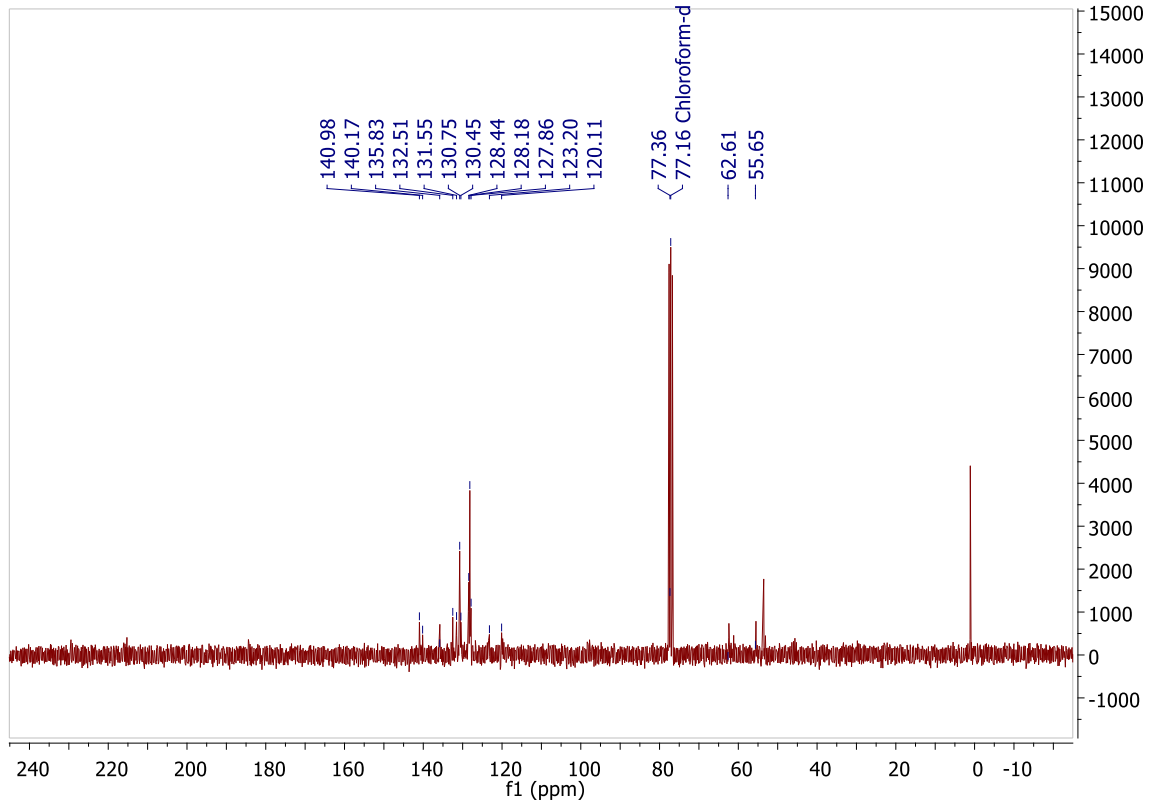

Figure S26b. $^{13}C\{^{1}H\}$ NMR spectrum of complex **6e** (75 MHz, $CDCl_3$)

3. Molecular Structures of Imidazolium Salts

Ellipsoids are drawn at 50% probability level and H atoms are omitted for clarity. Where observed, anion-π interactions are shown.

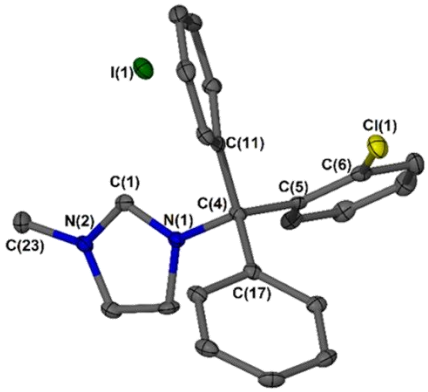

Figure S27. Molecular structure of imidazolium salt **1a**.

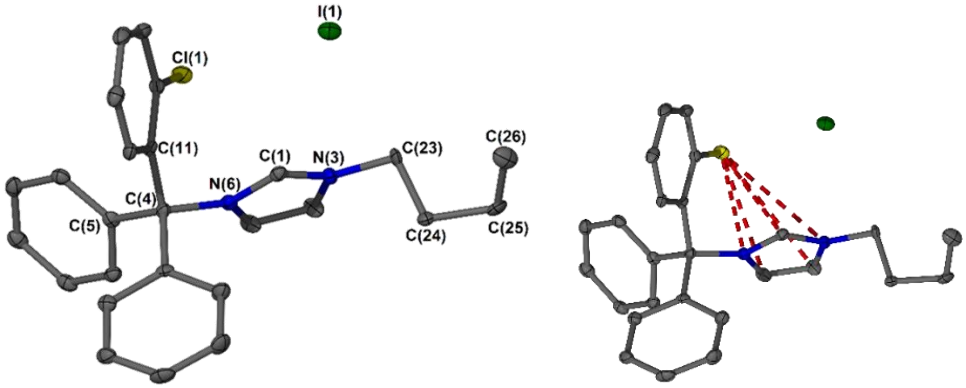

Figure S28. Molecular structure of imidazolium salt **1c**.

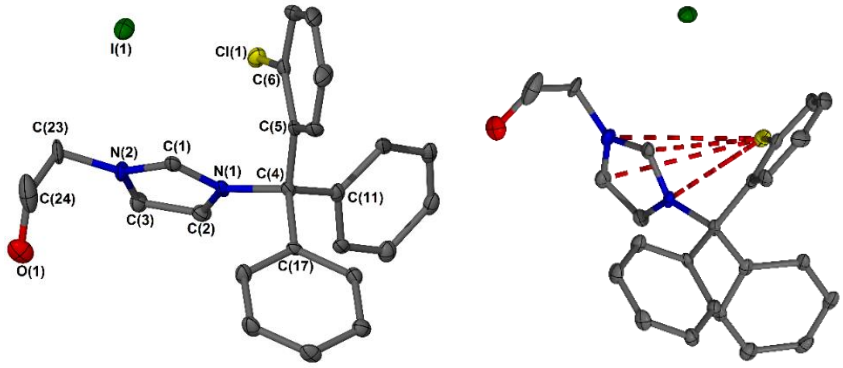

Figure S29. Molecular structure of imidazolium salt **1e**.

Table S1. Selected bond lengths and angles for imidazolium salts **1**			
Bond Lengths (Å) and angles (°)	**1a**	**1c**	**1e**
N1-C1-N2	108.9(2)	109.2(2)	109.0(4)
N1-C4-C5	107.1(3)	106.31(19)	106.0(3)
N1-C4-C17	108.3(3)	110.4(2)	108.0(3)
N1-C4-C11	104.4(3)	107.8(2)	110.6(3)
C5-C4-C11	112.8(3)	113.2(2)	111.9(3)
C17-C4-C11	114.0(3)	109.6(2)	109.1(3)
C17-C4-C5	109.8(3)	113.2(2)	111.1(3)
C6-Cl1	1.741(4)	1.745(3)	1.747(5)
N1-C4	1.508(4)	1.513(3)	1.519(5)
N2-C23	1.465(4)	1.478(3)	1.469(5)
Cl1……C1	5.511	3.188	3.201
I1……..C1	3.729	3.815	3.630
Cl1……I1	6.864	4.771	4.443

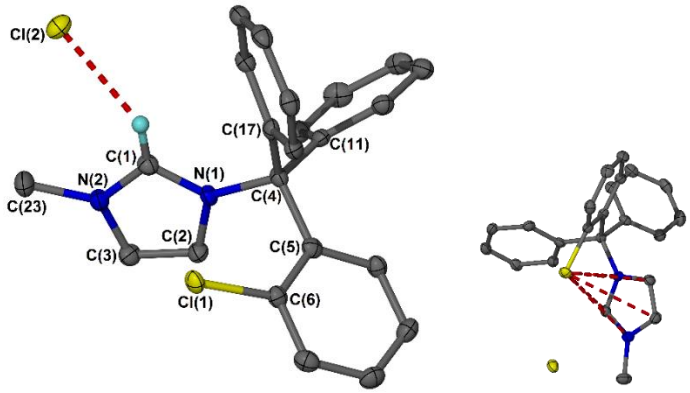

Figure S30. Molecular structure of imidazolium salt **2a**.

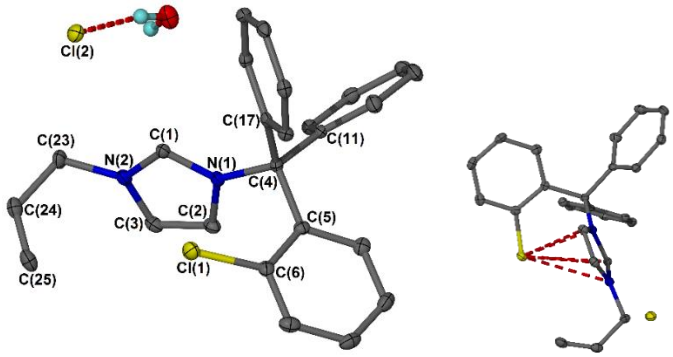

Figure S31. Molecular structure of imidazolium salt **2b**.

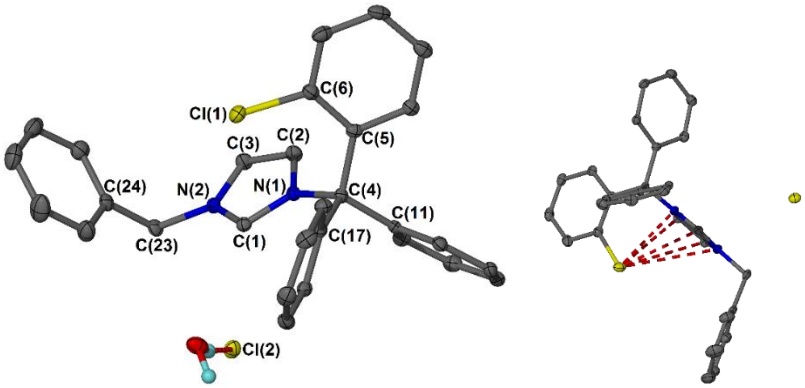

Figure S32. Molecular structure of imidazolium salt **2d**.

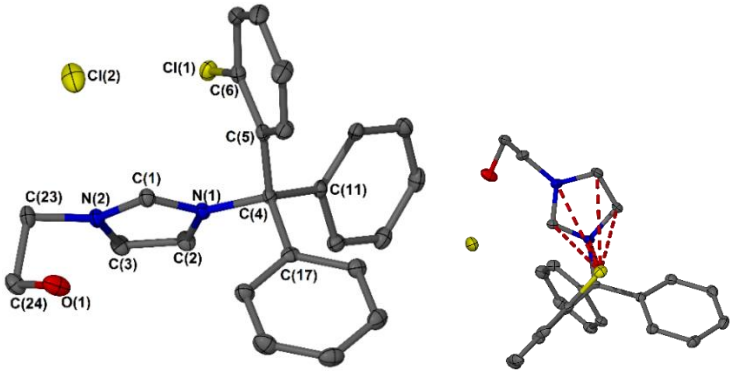

Figure S33. Molecular structure of imidazolium salt **2e**.

Table S2. Selected bond lengths and angles for imidazolium salts **2**				
Bond Lengths (Å) and angles (°)	**2a**	**2b**	**2d**	**2e**
N(1)-C(1)-N(2)	108.1 (3)	108.53 (17)	108.21 (16)	108.99 (14)
N(1)-C(4)	1.514 (4)	1.503 (2)	1.516 (2)	1.509 (2)
N(2)-C(23)	1.478 (4)	1.467 (2)	1.485 (2)	1.470 (2)
Cl(1)-C(6)	1.755 (3)	1.745 (2)	1.752 (2)	1.7471 (17)
Cl(1)·····C(1)	3.271	3.255	3.256	3.230
Cl(2)·····C(1)	3.323	3.432	3.782	3.371
Cl(1)·····Cl(2)	5.661	5.415	7.026	4.247

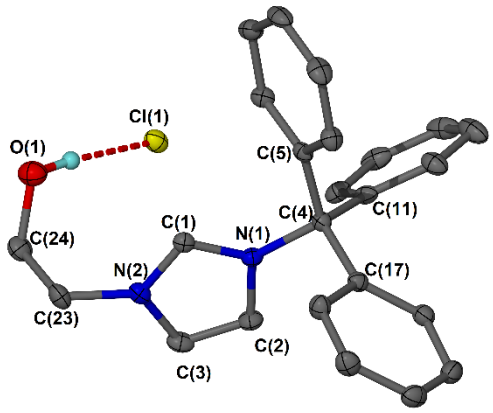

Figure S34. Molecular structure of imidazolium salt **3e**.

Table S3. Selected bond lengths and angles for imidazolium salt **3**	
Bond Lengths (Å) and angles (°)	**3e**
N(1)-C(1)-N(2)	108.62 (13)
N(1)-C(4)	1.5086 (18)
N(2)-C(23)	1.4723 (19)
Cl(1)·····C(1)	3.608

4. X-Ray Crystallographic Information for Imidazolium Salts

Table S4. Crystal data and structure refinement for **1a**

Empirical formula	$C_{23}H_{20}ClIN_2$
Formula weight	486.76
Temperature/K	99.98(10)
Crystal system	orthorhombic
Space group	Pbca
a/Å	11.1938(5)
b/Å	14.6954(5)
c/Å	25.1005(10)
α/°	90.00
β/°	90.00
γ/°	90.00
Volume/Å^3	4129.0(3)
Z	8
ρ_{calc}mg/mm^3	1.566
m/mm^{-1}	1.690
F(000)	1936.0
Crystal size/mm^3	0.21 × 0.11 × 0.07
2Θ range for data collection	6.5 to 56.56°
Index ranges	$-14 \leq h \leq 9$, $-19 \leq k \leq 18$, $-33 \leq l \leq 27$
Reflections collected	13104
Independent reflections	5081[R(int) = 0.0410]
Data/restraints/parameters	5081/0/245
Goodness-of-fit on F^2	1.032
Final R indexes [I>=2σ (I)]	R_1 = 0.0414, wR_2 = 0.0820
Final R indexes [all data]	R_1 = 0.0662, wR_2 = 0.0924
Largest diff. peak/hole / e Å^{-3}	2.02/-1.09

Table S5. Crystal data and structure refinement for **1c**

Empirical formula	$C_{26}H_{26}N_2ClI$
Formula weight	528.84
Temperature/K	99.8(6)
Crystal system	triclinic
Space group	P-1
a/Å	9.0800(4)
b/Å	10.6879(6)
c/Å	12.7305(6)
α/°	79.385(4)
β/°	70.251(4)
γ/°	79.962(4)
Volume/Å^3	1134.47(10)
Z	2
ρ_{calc}mg/mm^3	1.548
m/mm^{-1}	1.545
F(000)	532.0
Crystal size/mm^3	0.28 × 0.16 × 0.11
2Θ range for data collection	5.62 to 56.56°
Index ranges	$-12 \leq h \leq 10$, $-9 \leq k \leq 14$, $-14 \leq l \leq 16$
Reflections collected	8893
Independent reflections	5543[R(int) = 0.0353]
Data/restraints/parameters	5543/0/300
Goodness-of-fit on F^2	1.049
Final R indexes [I>=2σ (I)]	R_1 = 0.0362, wR_2 = 0.0723
Final R indexes [all data]	R_1 = 0.0450, wR_2 = 0.0780
Largest diff. peak/hole / e Å^{-3}	0.73/-0.49

Table S6. Crystal data and structure refinement for **1e**

Empirical formula	$C_{24}H_{22}N_2OCl_{1.26}I_{0.74}$
Formula weight	493.01
Temperature/K	100.0(2)
Crystal system	triclinic
Space group	P-1
a/Å	8.7680(5)
b/Å	10.5147(6)
c/Å	12.2516(7)
α/°	77.789(5)
β/°	72.958(5)
γ/°	79.794(4)
Volume/Å^3	1047.43(10)
Z	2
ρ_{calc}mg/mm^3	1.563
m/mm^{-1}	1.324
F(000)	497.3
Crystal size/mm^3	0.26 × 0.14 × 0.1
2Θ range for data collection	5.92 to 56.56°
Index ranges	$-11 \leq h \leq 10$, $-13 \leq k \leq 14$, $-16 \leq l \leq 12$
Reflections collected	8180
Independent reflections	5163[R(int) = 0.0315]
Data/restraints/parameters	5163/2/270
Goodness-of-fit on F^2	1.240
Final R indexes [I>=2σ (I)]	R_1 = 0.0585, wR_2 = 0.1120
Final R indexes [all data]	R_1 = 0.0679, wR_2 = 0.1165
Largest diff. peak/hole / e Å^{-3}	1.14/-0.84

Table S7. Crystal data and structure refinement for **2a**

Empirical formula	$C_{23}H_{20}N_2Cl_2$
Formula weight	395.31
Temperature/K	100.0(3)
Crystal system	monoclinic
Space group	$P2_1$
a/Å	8.2285(3)
b/Å	14.0099(5)
c/Å	8.8801(3)
α/°	90.00
β/°	105.303(4)
γ/°	90.00
Volume/Å^3	987.41(6)
Z	2
ρ_{calc}mg/mm^3	1.330
m/mm^{-1}	3.019
F(000)	412.0
Crystal size/mm^3	0.09 × 0.05 × 0.04
2Θ range for data collection	10.32 to 133.04°
Index ranges	$-9 \leq h \leq 6$, $-16 \leq k \leq 14$, $-10 \leq l \leq 9$
Reflections collected	3657
Independent reflections	2561[R(int) = 0.0318]
Data/restraints/parameters	2561/1/254
Goodness-of-fit on F^2	1.116
Final R indexes [I>=2σ (I)]	R_1 = 0.0363, wR_2 = 0.0864
Final R indexes [all data]	R_1 = 0.0392, wR_2 = 0.0875
Largest diff. peak/hole / e Å^{-3}	0.32/-0.19
Flack parameter	-0.001(16)

Table S8. Crystal data and structure refinement for **2b**

Empirical formula	$C_{25}H_{24}N_2OCl_2$
Formula weight	439.36
Temperature/K	99.9(4)
Crystal system	orthorhombic
Space group	Pbca
a/Å	8.7356(5)
b/Å	19.9479(8)
c/Å	24.8334(12)
α/°	90.00
β/°	90.00
γ/°	90.00
Volume/Å^3	4327.4(4)
Z	8
ρ_{calc}mg/mm^3	1.349
m/mm^{-1}	0.320
F(000)	1840.0
Crystal size/mm^3	0.31 × 0.2 × 0.15
2Θ range for data collection	6.4 to 56.56°
Index ranges	$-9 \leq h \leq 11$, $-14 \leq k \leq 26$, $-26 \leq l \leq 32$
Reflections collected	15101
Independent reflections	5342[R(int) = 0.0497]
Data/restraints/parameters	5342/3/277
Goodness-of-fit on F^2	1.029
Final R indexes [I>=2σ (I)]	R_1 = 0.0479, wR_2 = 0.0909
Final R indexes [all data]	R_1 = 0.0727, wR_2 = 0.1023
Largest diff. peak/hole / e Å^{-3}	0.37/-0.39

Table S9. Crystal data and structure refinement for **2d**

Empirical formula	$C_{29}H_{26}N_2OCl_2$
Formula weight	489.42
Temperature/K	99.9(4)
Crystal system	monoclinic
Space group	$P2_1/c$
a/Å	10.7546(7)
b/Å	25.2780(12)
c/Å	10.1699(7)
α/°	90.00
β/°	115.850(8)
γ/°	90.00
Volume/Å^3	2488.1(3)
Z	4
ρ_{calc}mg/mm^3	1.307
m/mm^{-1}	0.286
F(000)	1024.0
Crystal size/mm^3	0.33 × 0.15 × 0.12
2Θ range for data collection	6.58 to 56.56°
Index ranges	$-14 \leq h \leq 14$, $-27 \leq k \leq 33$, $-10 \leq l \leq 13$
Reflections collected	11440
Independent reflections	6126[R(int) = 0.0397]
Data/restraints/parameters	6126/3/307
Goodness-of-fit on F^2	1.042
Final R indexes [I>=2σ (I)]	R_1 = 0.0493, wR_2 = 0.1045
Final R indexes [all data]	R_1 = 0.0679, wR_2 = 0.1174
Largest diff. peak/hole / e Å^{-3}	0.81/-0.43

Table S10. Crystal data and structure refinement for **2e**

Empirical formula	$C_{24}H_{22}Cl_2N_2O$
Formula weight	425.33
Temperature/K	120.0(2)
Crystal system	triclinic
Space group	P-1
a/Å	8.6119(7)
b/Å	10.5213(8)
c/Å	11.8588(7)
α/°	79.723(6)
β/°	73.537(6)
γ/°	80.616(6)
Volume/Å^3	1006.70(13)
Z	2
ρ_{calc}mg/mm^3	1.403
m/mm^{-1}	0.341
F(000)	444.0
Crystal size/mm^3	0.11 × 0.06 × 0.03
2Θ range for data collection	5.946 to 56.564°
Index ranges	$-10 \leq h \leq 11$, $-14 \leq k \leq 14$, $-15 \leq l \leq 15$
Reflections collected	15179
Independent reflections	4984[R(int) = 0.0403]
Data/restraints/parameters	4984/0/282
Goodness-of-fit on F^2	1.039
Final R indexes [I>=2σ (I)]	R_1 = 0.0439, wR_2 = 0.0871
Final R indexes [all data]	R_1 = 0.0616, wR_2 = 0.0947
Largest diff. peak/hole / e Å^{-3}	0.39/-0.52

Table S11. Crystal data and structure refinement for **3e**

Empirical formula	$C_{24}H_{23}N_2OCl$
Formula weight	390.89
Temperature/K	120.15
Crystal system	monoclinic
Space group	$P2_1/c$
a/Å	12.6173(5)
b/Å	13.0098(5)
c/Å	12.7200(5)
α/°	90
β/°	107.183(5)
γ/°	90
Volume/Å^3	1994.76(15)
Z	4
ρ_{calc}mg/mm^3	1.302
m/mm^{-1}	0.209
F(000)	824.0
Crystal size/mm^3	0.46 × 0.35 × 0.19
2Θ range for data collection	6.558 to 56.564°
Index ranges	$-16 \leq h \leq 12$, $-17 \leq k \leq 11$, $-16 \leq l \leq 15$
Reflections collected	9414
Independent reflections	4908[R(int) = 0.0382]
Data/restraints/parameters	4908/1/257
Goodness-of-fit on F^2	1.071
Final R indexes [I>=2σ (I)]	R_1 = 0.0446, wR_2 = 0.0972
Final R indexes [all data]	R_1 = 0.0583, wR_2 = 0.1096
Largest diff. peak/hole / e Å^{-3}	0.26/-0.27

5. X-Ray Crystallographic Information for Silver Complexes

Table S12. Crystal data and structure refinement for **4e**

Empirical formula	$C_{48}H_{40}AgCl_3N_4O_2$
Formula weight	919.06
Temperature/K	119.98(18)
Crystal system	monoclinic
Space group	C2/c
a/Å	21.311(2)
b/Å	15.0537(13)
c/Å	14.0953(13)
α/°	90.00
β/°	90.886(10)
γ/°	90.00
Volume/Å^3	4521.3(7)
Z	4
ρ_{calc}mg/mm^3	1.350
m/mm^{-1}	0.665
F(000)	1880.0
Crystal size/mm^3	0.12 × 0.08 × 0.06
2Θ range for data collection	6.14 to 50.06°
Index ranges	$-24 \le h \le 25$, $-17 \le k \le 17$, $-16 \le l \le 16$
Reflections collected	13428
Independent reflections	3919[R(int) = 0.0858]
Data/restraints/parameters	3919/1/275
Goodness-of-fit on F^2	1.042
Final R indexes [I>=2σ (I)]	R_1 = 0.1018, wR_2 = 0.2844
Final R indexes [all data]	R_1 = 0.1554, wR_2 = 0.3228
Largest diff. peak/hole / e Å^{-3}	1.49/-0.64

Table S13. Crystal data and structure refinement for **5a**

Empirical formula	$C_{23}H_{20}N_2ClAg$
Formula weight	467.73
Temperature/K	110.01(10)
Crystal system	monoclinic
Space group	$P2_1/n$
a/Å	13.5174(5)
b/Å	9.9426(3)
c/Å	15.6082(6)
α/°	90.00
β/°	106.551(4)
γ/°	90.00
Volume/Å^3	2010.80(12)
Z	4
ρ_{calc}mg/mm^3	1.545
m/mm^{-1}	1.145
F(000)	944.0
Crystal size/mm^3	0.41 × 0.16 × 0.14
2Θ range for data collection	6.24 to 56.56°
Index ranges	$-18 \leq h \leq 17$, $-9 \leq k \leq 13$, $-20 \leq l \leq 20$
Reflections collected	15088
Independent reflections	4992[R(int) = 0.0523]
Data/restraints/parameters	4992/0/245
Goodness-of-fit on F^2	1.253
Final R indexes [I>=2σ (I)]	R_1 = 0.0757, wR_2 = 0.1738
Final R indexes [all data]	R_1 = 0.0850, wR_2 = 0.1784
Largest diff. peak/hole / e Å^{-3}	4.70/-0.82

Table S14. Crystal data and structure refinement for **5b**

Empirical formula	$C_{25}H_{22}N_2ClAg$
Formula weight	493.77
Temperature/K	120.01(10)
Crystal system	monoclinic
Space group	$P2_1$
a/Å	7.2098(3)
b/Å	10.3663(5)
c/Å	13.7678(6)
α/°	90.00
β/°	92.764(4)
γ/°	90.00
Volume/Å^3	1027.79(8)
Z	2
ρ_{calc}mg/mm^3	1.595
m/mm^{-1}	1.124
F(000)	500.0
Crystal size/mm^3	0.5 × 0.39 × 0.29
2Θ range for data collection	5.92 to 61°
Index ranges	$-8 \leq h \leq 10$, $-12 \leq k \leq 14$, $-19 \leq l \leq 19$
Reflections collected	10205
Independent reflections	5255[R(int) = 0.0591]
Data/restraints/parameters	5255/1/262
Goodness-of-fit on F^2	1.081
Final R indexes [I>=2σ (I)]	R_1 = 0.0377, wR_2 = 0.0926
Final R indexes [all data]	R_1 = 0.0387, wR_2 = 0.0939
Largest diff. peak/hole / e Å^{-3}	0.55/-0.69
Flack parameter	0.00(3)

Table S15. Crystal data and structure refinement for **5d**

Empirical formula	$C_{58.75}H_{49.5}AgCl_{2.5}N_4O_{0.25}$
Formula weight	1012.02
Temperature/K	120.0(2)
Crystal system	monoclinic
Space group	$P2_1/n$
a/Å	13.3752(3)
b/Å	18.7972(4)
c/Å	19.9989(6)
α/°	90.00
β/°	103.388(3)
γ/°	90.00
Volume/Å^3	4891.4(2)
Z	4
ρ_{calc}mg/mm^3	1.374
m/mm^{-1}	0.593
F(000)	2086.0
Crystal size/mm^3	0.2166 × 0.1046 × 0.0771
2Θ range for data collection	6.02 to 56.56°
Index ranges	$-17 \leq h \leq 17$, $-23 \leq k \leq 25$, $-26 \leq l \leq 26$
Reflections collected	55175
Independent reflections	12129[R(int) = 0.0473]
Data/restraints/parameters	12129/2/620
Goodness-of-fit on F^2	1.051
Final R indexes [I>=2σ (I)]	R_1 = 0.0564, wR_2 = 0.1381
Final R indexes [all data]	R_1 = 0.0728, wR_2 = 0.1493
Largest diff. peak/hole / e Å^{-3}	1.21/-1.70

Table S16. Crystal data and structure refinement for **6c**

Empirical formula	$C_{106.5}H_{106}N_8Cl_6Ag_4I_2$
Formula weight	2395.97
Temperature/K	99.93(16)
Crystal system	monoclinic
Space group	$P2_1/n$
a/Å	19.1036(18)
b/Å	23.4773(18)
c/Å	24.0473(14)
α/°	90.00
β/°	102.591(7)
γ/°	90.00
Volume/Å^3	10525.9(14)
Z	4
ρ_{calc}mg/mm^3	1.512
m/mm^{-1}	12.262
F(000)	4788.0
Crystal size/mm^3	0.14 × 0.06 × 0.04
2Θ range for data collection	6.56 to 113.84°
Index ranges	$-20 \le h \le 19$, $-18 \le k \le 25$, $-26 \le l \le 21$
Reflections collected	27795
Independent reflections	14093[R(int) = 0.1021]
Data/restraints/parameters	14093/8/1160
Goodness-of-fit on F^2	0.976
Final R indexes [I>=2σ (I)]	R_1 = 0.1000, wR_2 = 0.2512
Final R indexes [all data]	R_1 = 0.1859, wR_2 = 0.3281
Largest diff. peak/hole / e Å^{-3}	1.92/-2.21

6. Expanded RCVs

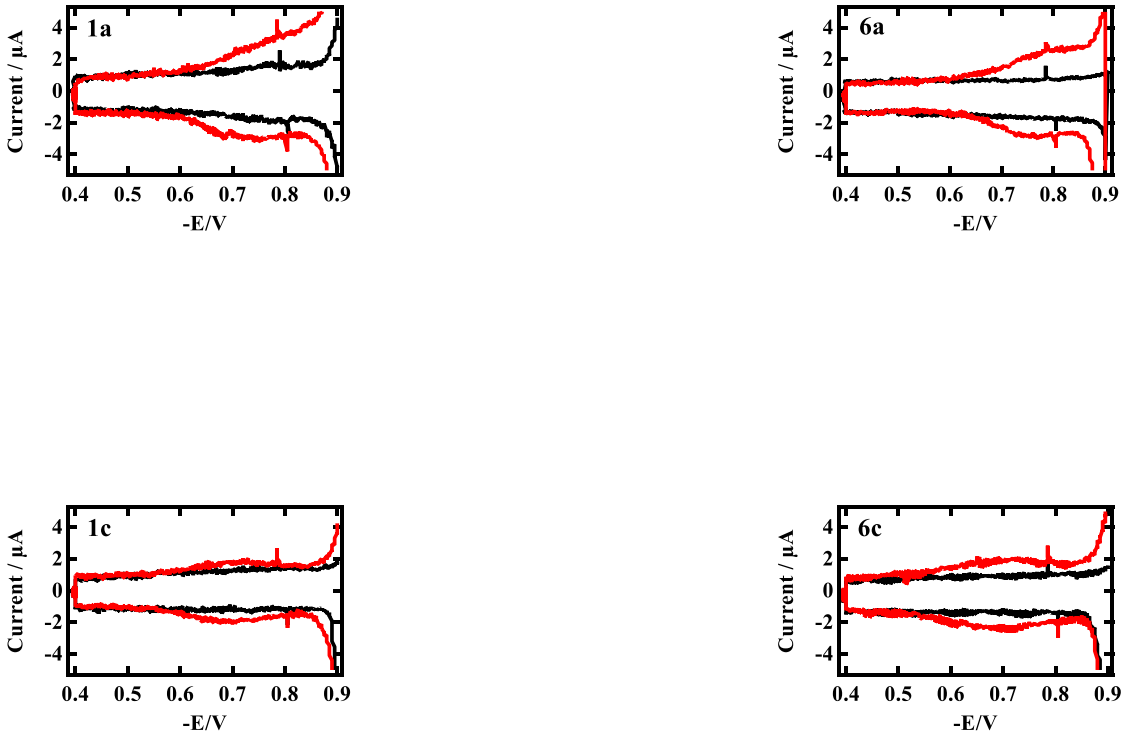

Figure S35. Expanded RCVs for imidazolium salts **1a** and **1c** and silver complexes **6a** and **6c**.