Characterization of byaryl-acyl-1,2,3-triazoles

[1,1'-Biphenyl]-2-yl(1-(4-bromophenyl)-1*H*-1,2,3-triazol-4-yl)methanone (**11ab**)

Yield of 40%; yellowish brown solid; ^{1}H NMR (400 MHz, $CDCl_3$) δ 8.25 (s, 1H), 7.79 – 7.73 (m, 1H), 7.67 – 7.58 (m, 3H), 7.55 – 7.47 (m, 4H), 7.36 – 7.31 (m, 2H), 7.30 – 7.16 (m, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 190.2, 148.5, 141.8, 140.6, 138.1, 135.3, 133.2, 131.5, 130.6, 129.5, 129.2, 128.4, 127.5, 127.4, 125.2, 123.4, 122.3, 77.2.

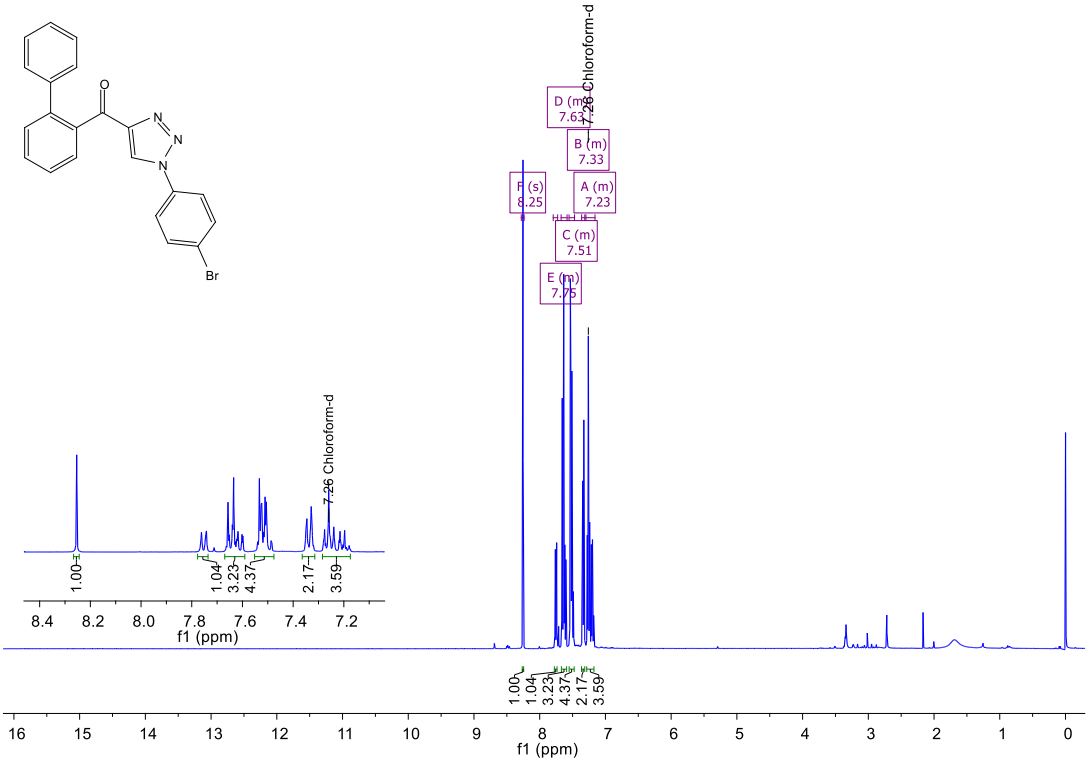

Figure S1 – ^{1}H NMR of the compound **11ab**

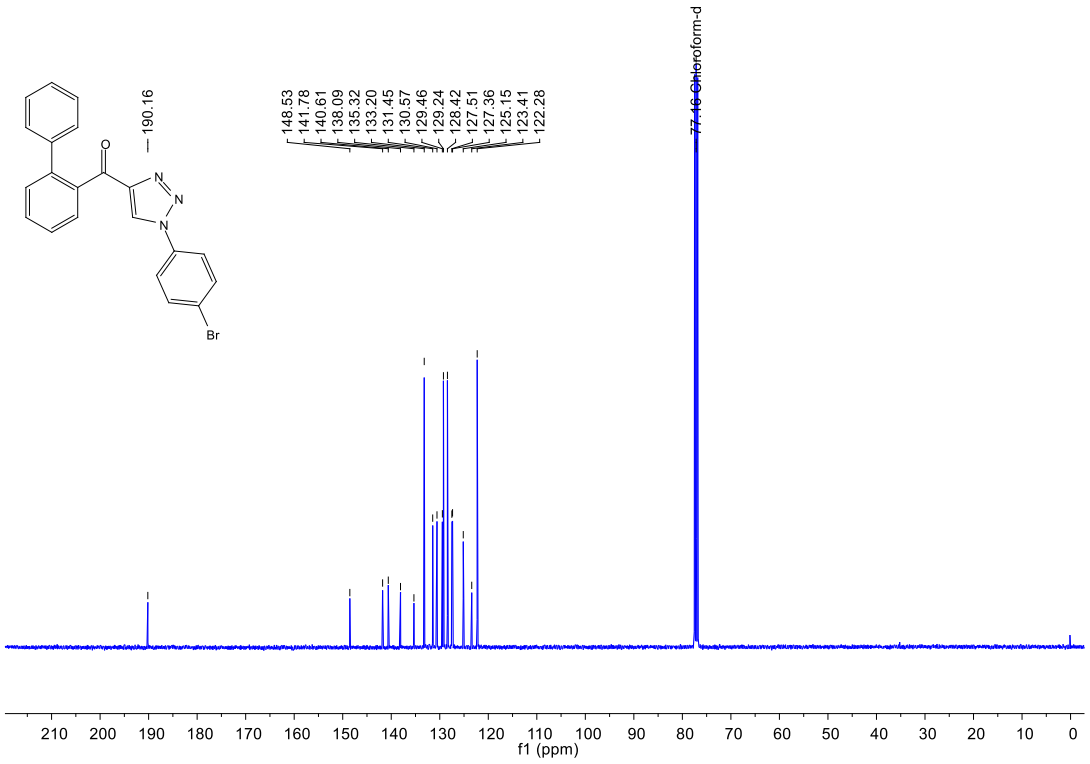

Figure S2 – ^{13}C NMR of the compound **11ab**

Characterization of byaryl acetophenones

1-([1,1'-Biphenyl]-2-yl)ethan-1-one (**10a**)

Yield of 90%; yellowish oil; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.56 (ddd, *J* = 7.6, 1.4, 0.4 Hz, 1H), 7.51 (dd, *J* = 7.5, 1.5 Hz, 1H), 7.44 – 7.38 (m, 5H), 7.36 – 7.33 (m, 2H), 2.01 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 205.1, 141.0, 140.9, 140.7, 130.9, 130.4, 129.0, 128.8, 128.0, 128.0, 127.6, 77.2, 30.6.

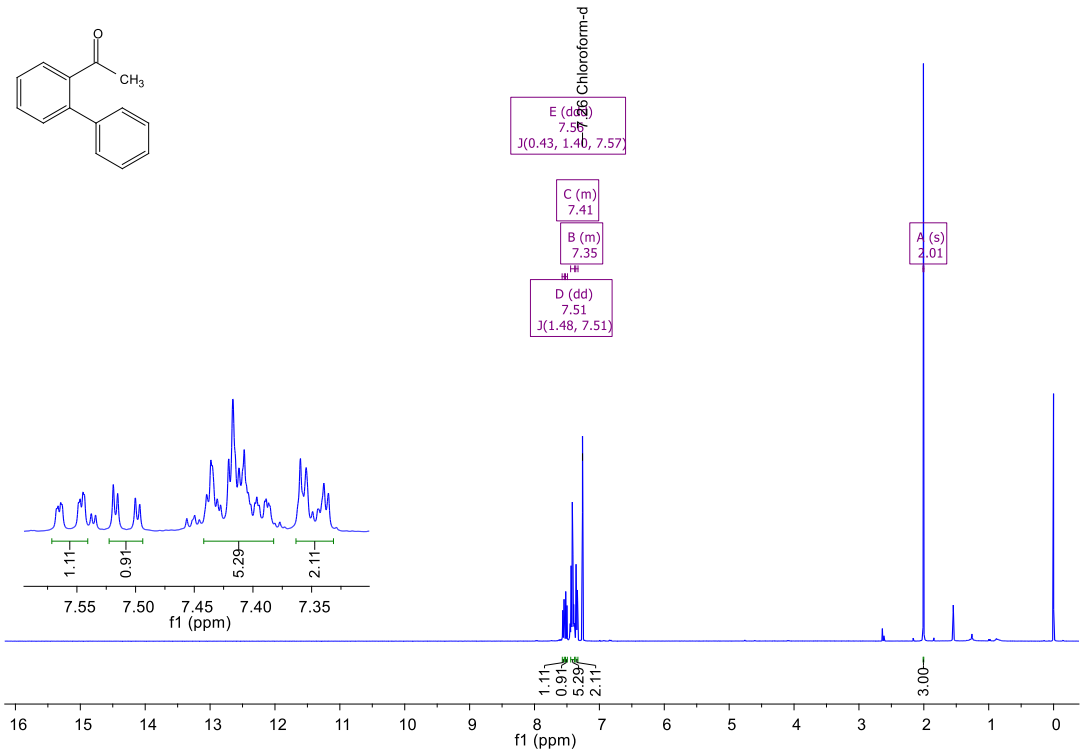

Figure S3 – ^{1}H NMR of the compound **10a**

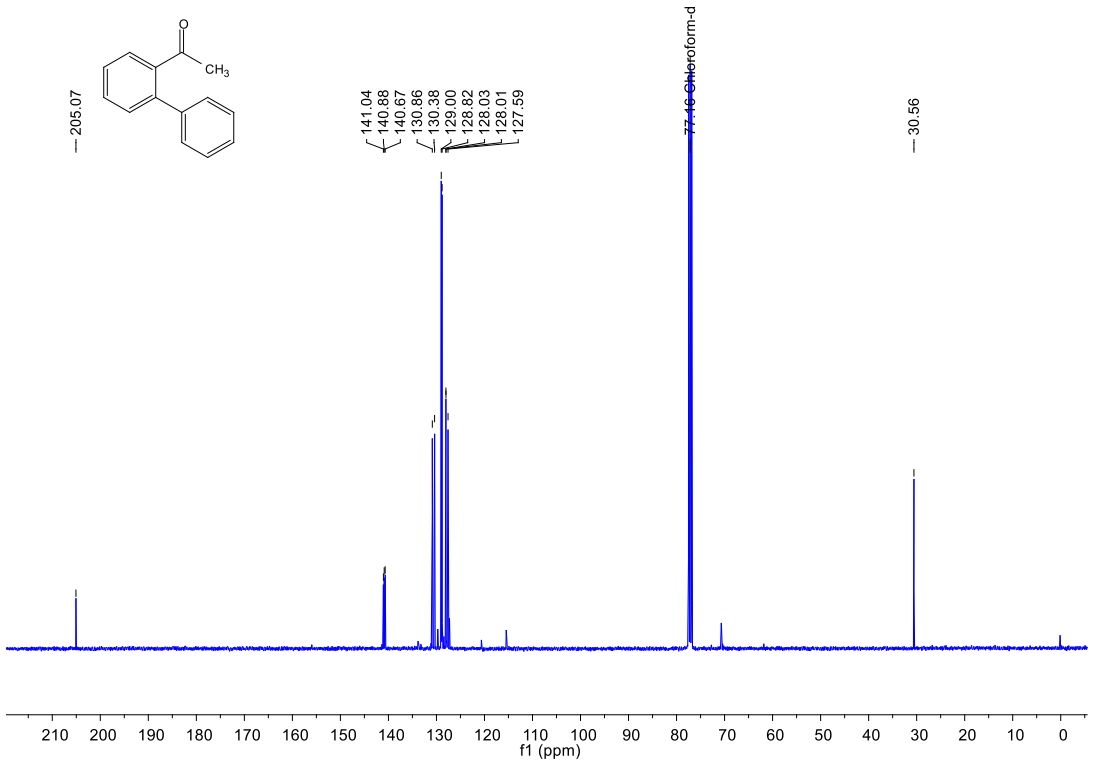

Figure S4 – ^{13}C NMR of the compound **10a**

2'-Acetyl-[1,1'-biphenyl]-4-carbonitrile (**10b**)

Yield of 61%; white solid; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.73 – 7.69 (m, 2H), 7.66 (dd, *J* = 7.6, 1.2 Hz, 1H), 7.56 (td, *J* = 7.5, 1.5 Hz, 1H), 7.49 (td, *J* = 7.5, 1.3 Hz, 1H), 7.45 – 7.40 (m, 2H), 7.34 (dd, *J* = 7.5, 1.1 Hz, 1H), 2.21 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 202.9, 146.0, 143.7, 140.0, 139.1, 133.0, 132.4, 131.4, 130.6, 129.6, 128.7, 128.6, 128.1, 118.5, 77.2, 14.3.

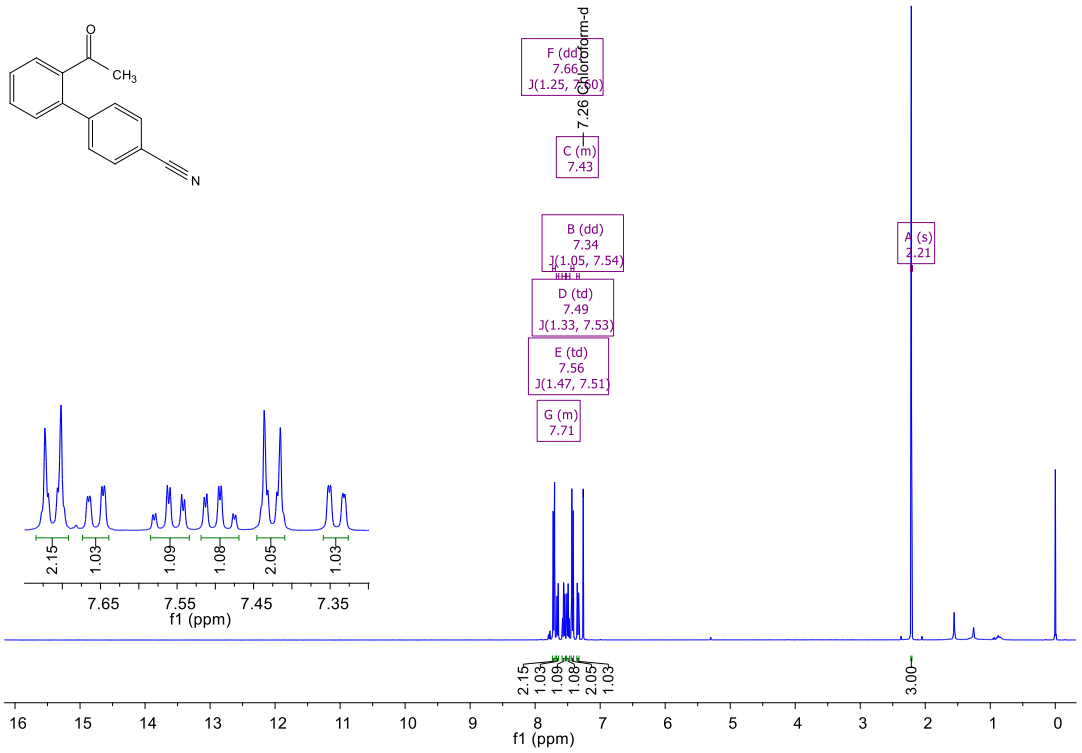

Figure S5 – ^{1}H NMR of the compound **10b**

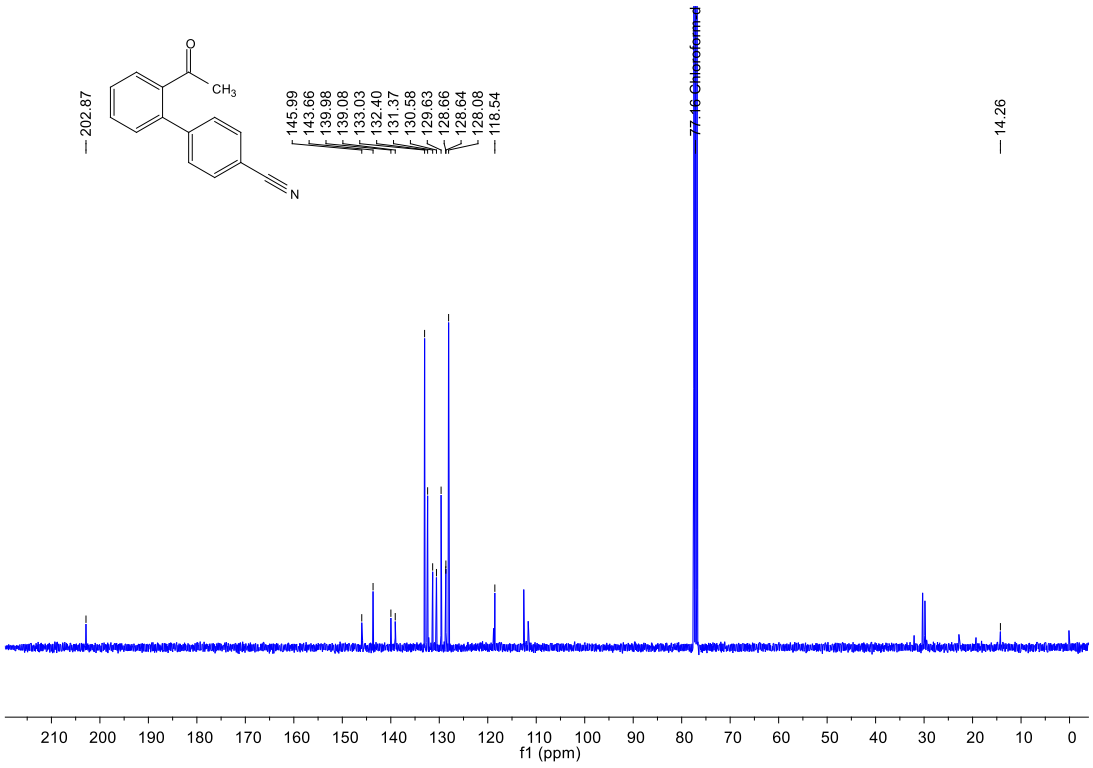

Figure S6 – ^{13}C NMR of the compound **10b**

1-(4'-(Methylthio)-[1,1'-biphenyl]-2-yl)ethan-1-one (**10c**)

Yield of 98%; light brown oil; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.56 – 7.52 (m, 1H), 7.49 (dd, *J* = 7.5, 1.5 Hz, 1H), 7.41 (dd, *J* = 7.5, 1.3 Hz, 1H), 7.39 – 7.35 (m, 1H), 7.31 – 7.25 (m, 4H), 2.52 (s, 3H), 2.05 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 205.0, 140.9, 140.0, 138.8, 137.4, 130.9, 130.3, 129.4, 128.1, 127.6, 126.6, 77.2, 30.7, 15.7.

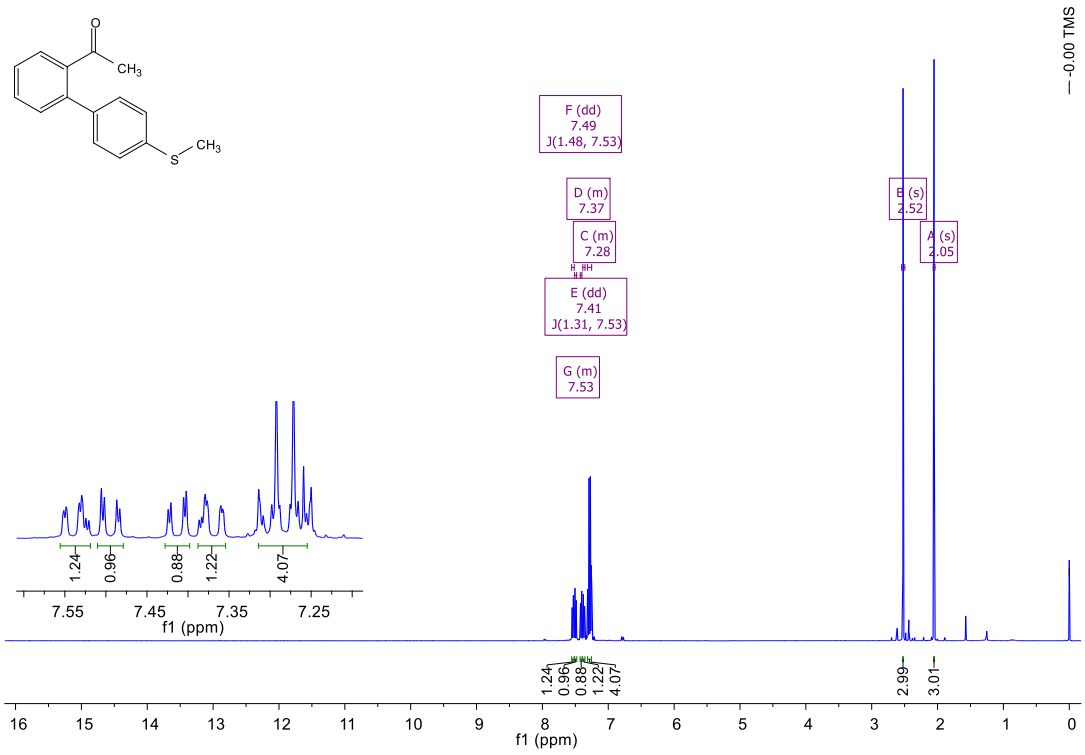

Figure S7 – ^{1}H NMR of the compound **10c**

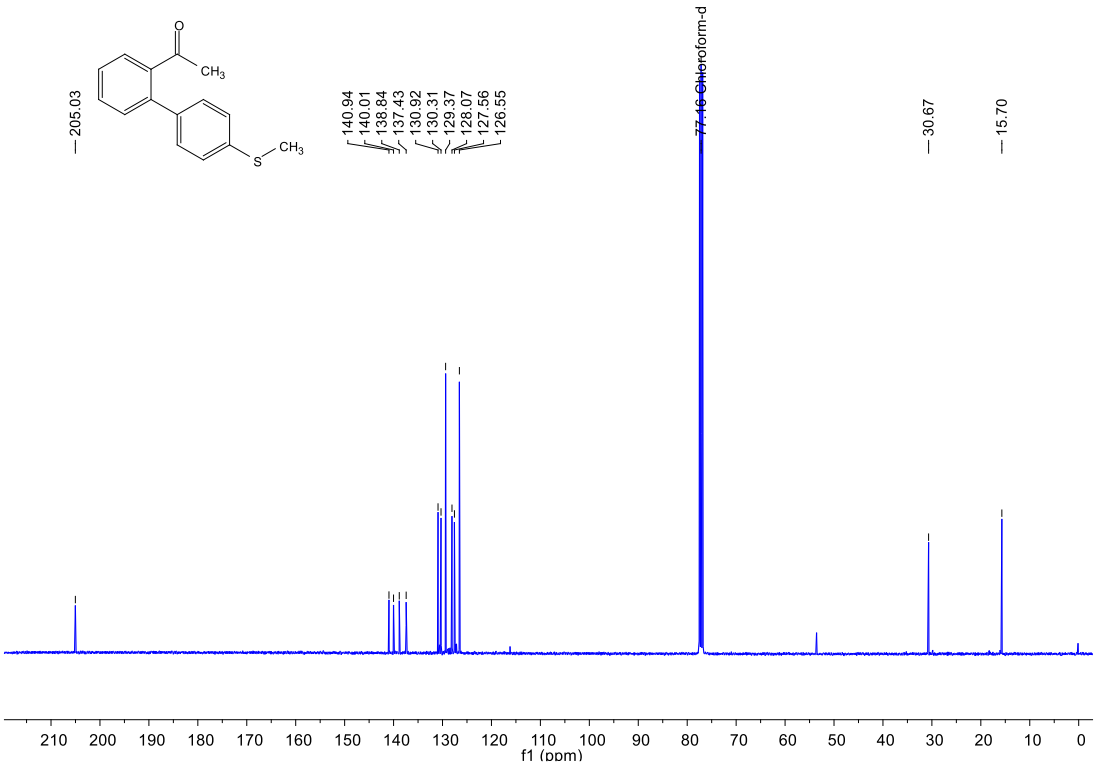

Figure S8 – ^{13}C NMR of the compound **10c**

1-(4'-Methoxy-[1,1'-biphenyl]-2-yl)ethan-1-one (**10d**)

Yield of 99%; brown oil; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.54 – 7.46 (m, 2H), 7.41 – 7.35 (m, 2H), 7.29 – 7.24 (m, 2H), 6.98 – 6.94 (m, 2H), 3.86 (s, 3H), 2.01 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 205.0, 140.9, 140.0, 138.8, 137.4, 130.9, 130.3, 129.4, 128.1, 127.6, 126.6, 77.2, 30.7, 15.7.

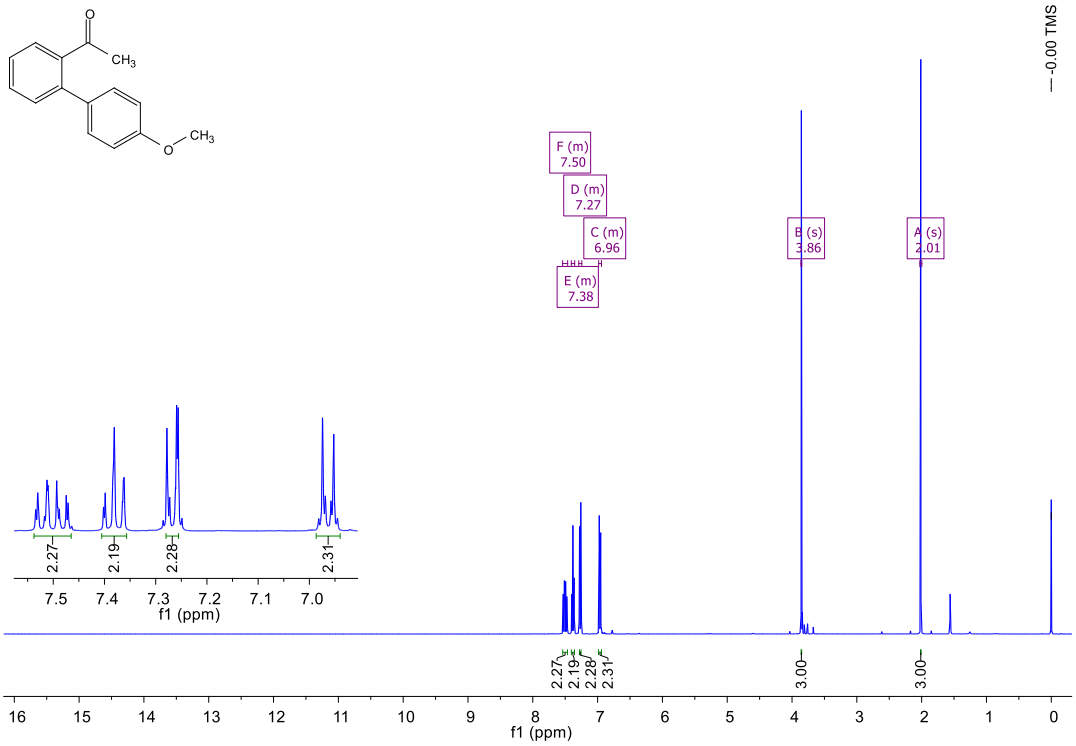

Figure S9 – ^{1}H NMR of the compound **10d**

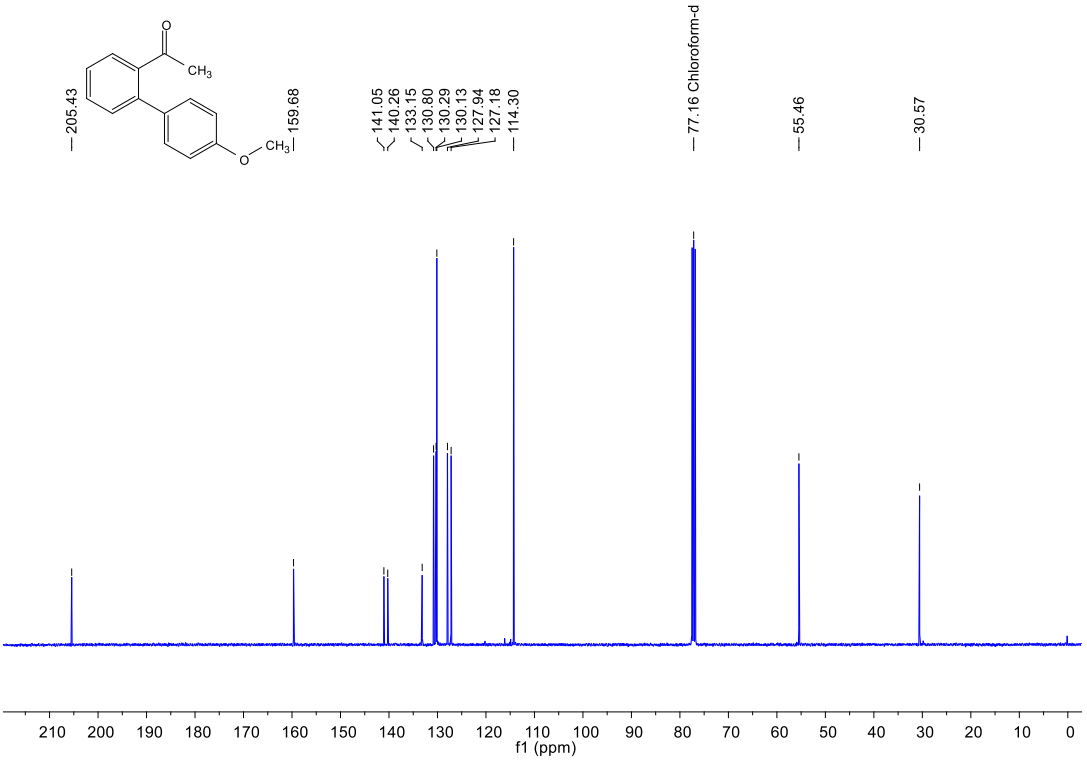

Figure S10 – ^{13}C NMR of the compound **10d**

1-(4'-Fluoro-[1,1'-biphenyl]-2-yl)ethan-1-one (**10e**)

Yield of 39%; brown oil; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.57 – 7.52 (m, 1H), 7.52 – 7.48 (m, 1H), 7.45 – 7.40 (m, 1H), 7.36 (dd, J = 7.6, 1.0 Hz, 1H), 7.33 – 7.28 (m, 2H), 7.15 – 7.09 (m, 2H), 2.06 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 204.7, 162.8 (d, J_1 = 247.6 Hz, C-F, 1C), 140.9, 139.6, 136.9, 136.9, 131.0, 130.6 (d, J_3 = 8.1 Hz, C-F, 2C), 130.5, 128.1, 127.7, 115.8 (d, J_2 = 21.5 Hz, C-F, 2C), 77.2, 30.6.

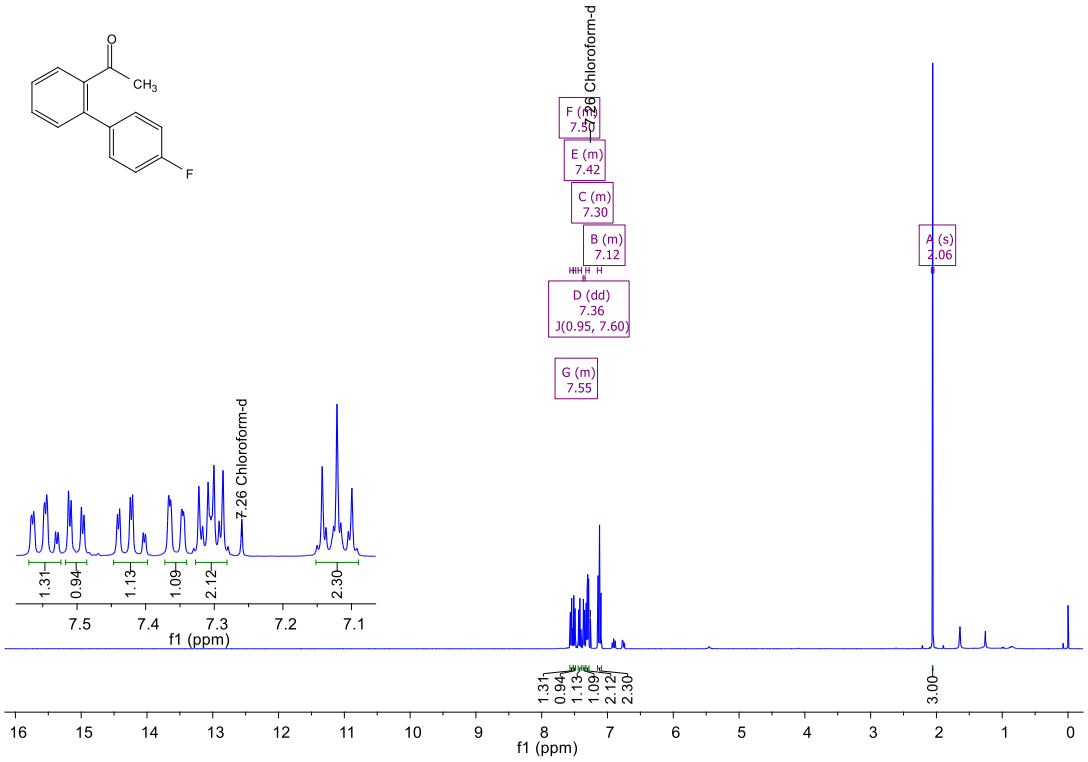

Figure S11 – ^{1}H NMR of the compound **10e**

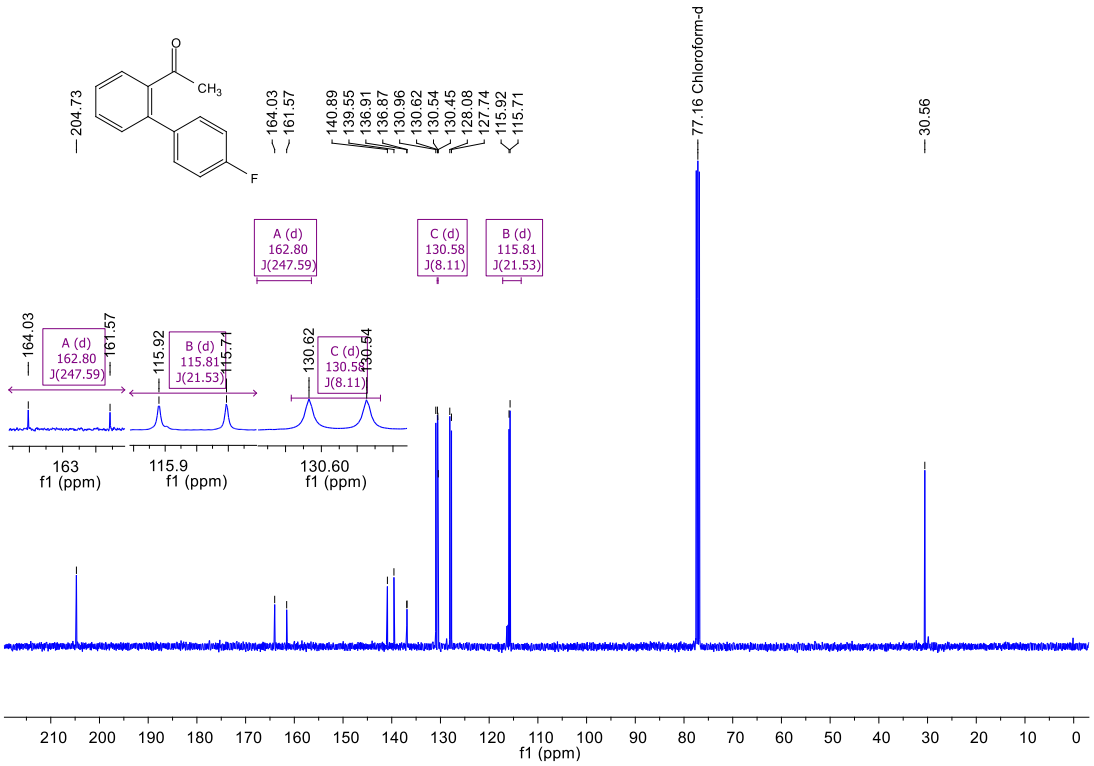

Figure S12 – ^{13}C NMR of the compound **10e**

1-(4'-(Trifluoromethyl)-[1,1'-biphenyl]-2-yl)ethan-1-one (**10f**)

Yield of 63%; brown oil; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.68 (d, *J* = 8.1 Hz, 2H), 7.62 (dd, *J* = 7.6, 1.2 Hz, 1H), 7.55 (td, *J* = 7.5, 1.5 Hz, 1H), 7.48 (dd, *J* = 7.5, 1.3 Hz, 1H), 7.45 (d, *J* = 8.0 Hz, 2H), 7.37 (dd, *J* = 7.6, 1.0 Hz, 1H), 2.14 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 203.7, 144.7, 140.5, 139.3, 131.2, 130.6, 129.3, 128.4, 128.3, 125.7 (dd, J_3 = 7.5 Hz, C-F, 2C), 77.2, 30.5.

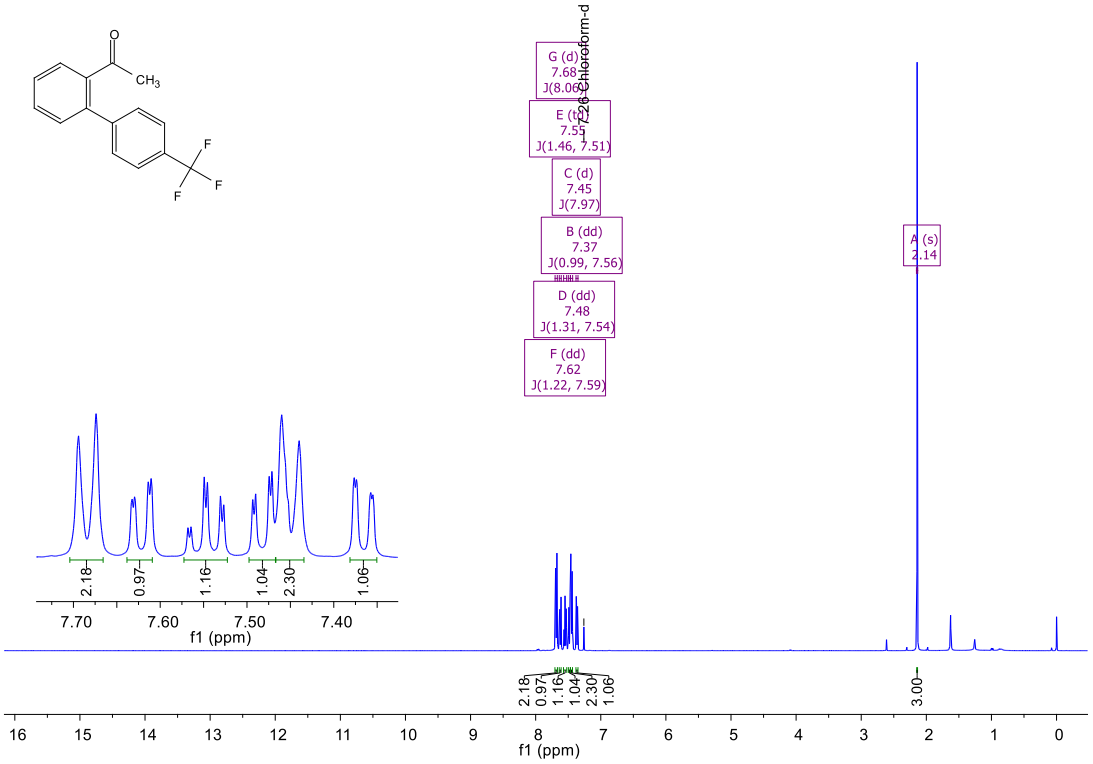

Figure S13 – ^{1}H NMR of the compound **10f**

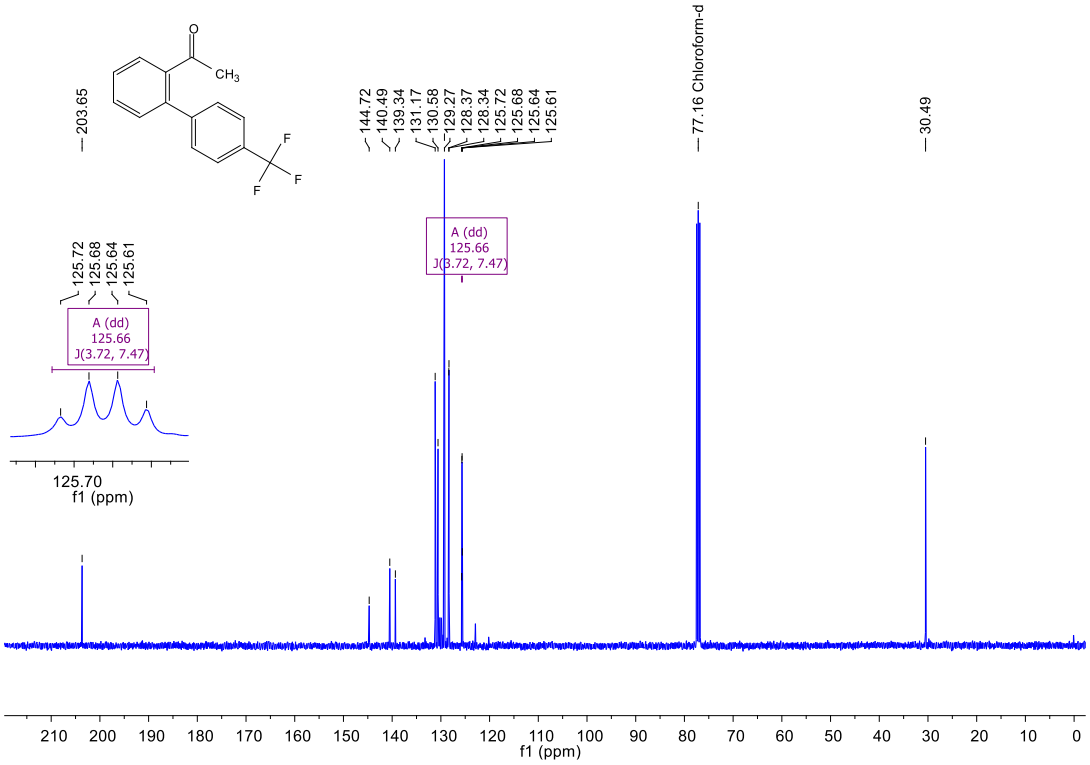

Figure S14 – ^{13}C NMR of the compound **10f**

Characterization of byaryl hydroxy-1,2,3-triazoles

(4'-(aminomethyl)-[1,1'-biphenyl]-2-yl)(1-(4-bromophenyl)-1H-1,2,3-triazol-4-yl)methanol

Yield of 22%; dark brown oil; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.76 – 7.69 (m, 1H), 7.65 – 7.56 (m, 3H), 7.55 – 7.50 (m, 1H), 7.40 (dddd, *J* = 10.5, 7.9, 3.6, 1.7 Hz, 3H), 7.34 – 7.27 (m, 1H), 7.25 – 7.18 (m, 2H), 7.14 (ddd, *J* = 15.0, 7.4, 1.8 Hz, 1H), 7.02 (d, *J* = 7.9 Hz, 1H), 5.94 (s, 1H), 3.81 (s, 2H).; ^{13}C NMR (101 MHz, $CDCl_3$) δ 151.7, 140.6, 137.7, 133.0, 131.9, 131.3, 130.9, 130.7, 129.4, 129.2, 128.4, 128.3, 128.3, 127.2, 122.3, 121.9, 121.8, 121.5, 121.0, 119.6, 77.2, 67.4, 56.1. HRMS(ESI) m/z calculated for $C_{22}H_{19}BrN_4O$+H $[M+H]^+$, 435.0820; found 435.0892.

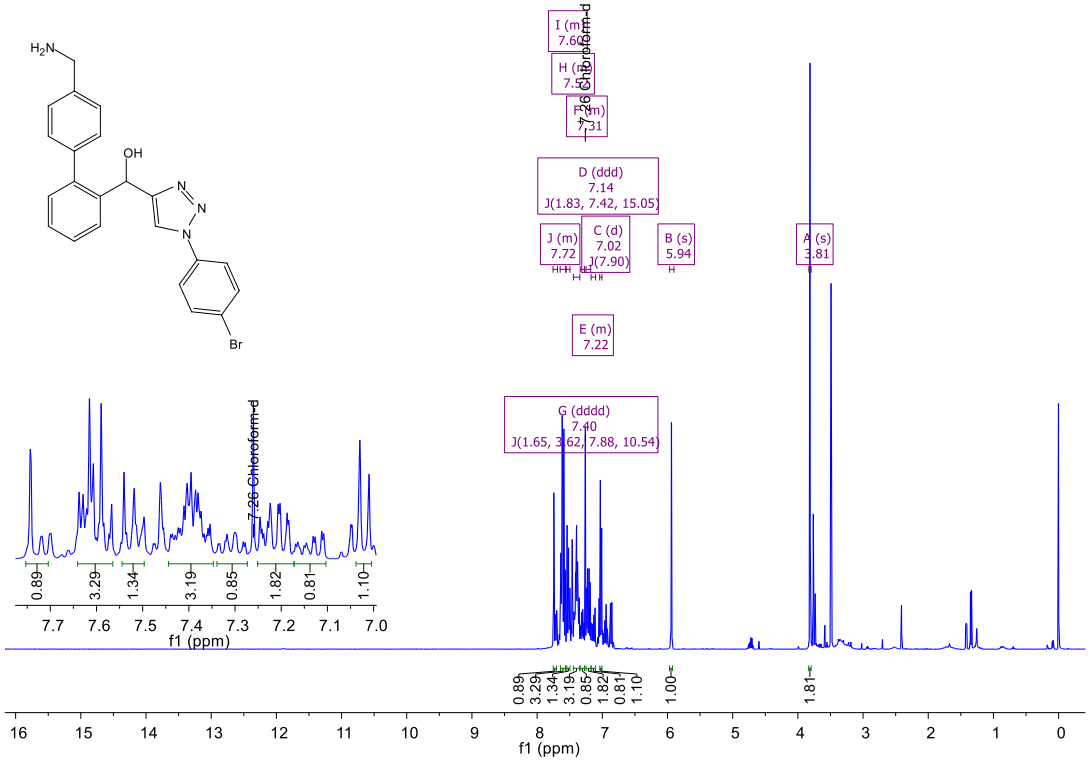

Figure S15 – ^{1}H NMR of the compound **6ba**

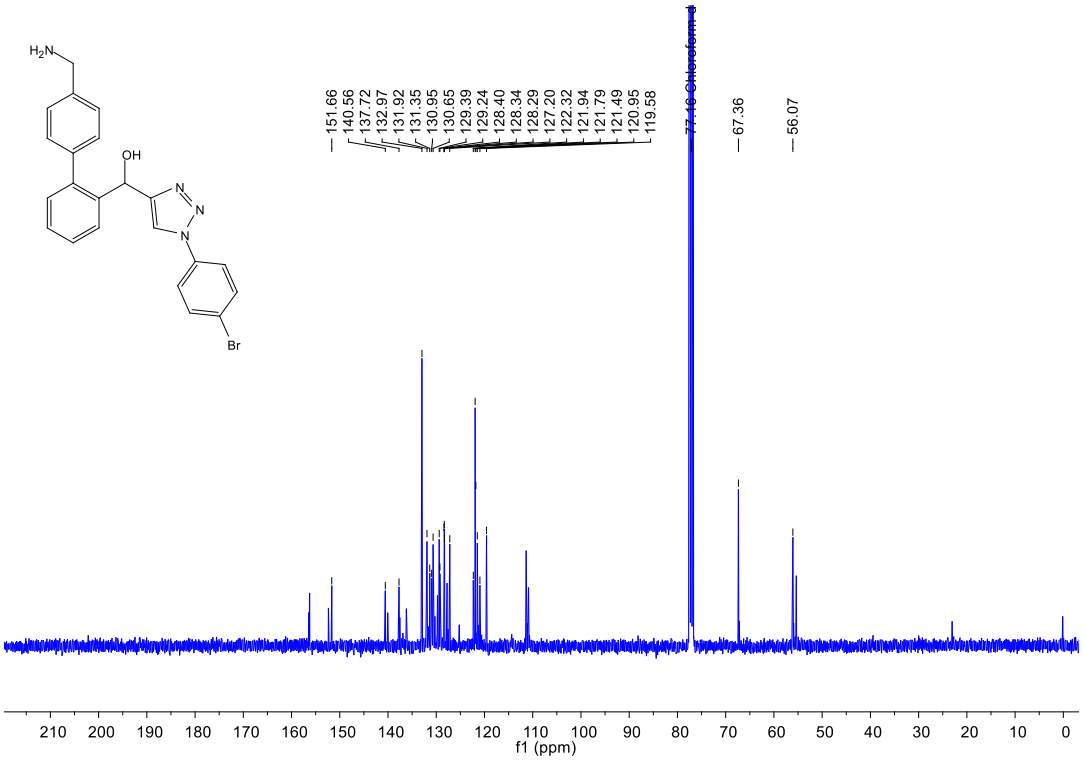

Figure S16 – ^{13}C NMR of the compound **6ba**

(1-(4-Bromophenyl)-1*H*-1,2,3-triazol-4-yl)(4'-(methylthio)-[1,1'-biphenyl]-2-yl)methanol (**6ca**)

Yield of 48%; brown solid; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.74 (d, *J* = 0.6 Hz, 1H), 7.71 – 7.68 (m, 3H), 7.66 – 7.62 (m, 2H), 7.60 – 7.53 (m, 4H), 7.48 (td, *J* = 7.5, 1.4 Hz, 1H), 7.42 (td, *J* = 7.5, 1.5 Hz, 1H), 7.28 – 7.25 (m, 2H), 6.03 (s, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 152.1, 145.3, 139.6, 139.1, 136.0, 133.1, 132.2, 130.5, 130.0, 129.2, 128.6, 127.9, 122.7, 122.0, 119.5, 118.9, 111.5, 77.2, 66.1. HRMS(ESI) m/z calculated for $C_{22}H_{18}BrN_3OS$+H $[M+H]^+$, 452.0432; found 452.0439.

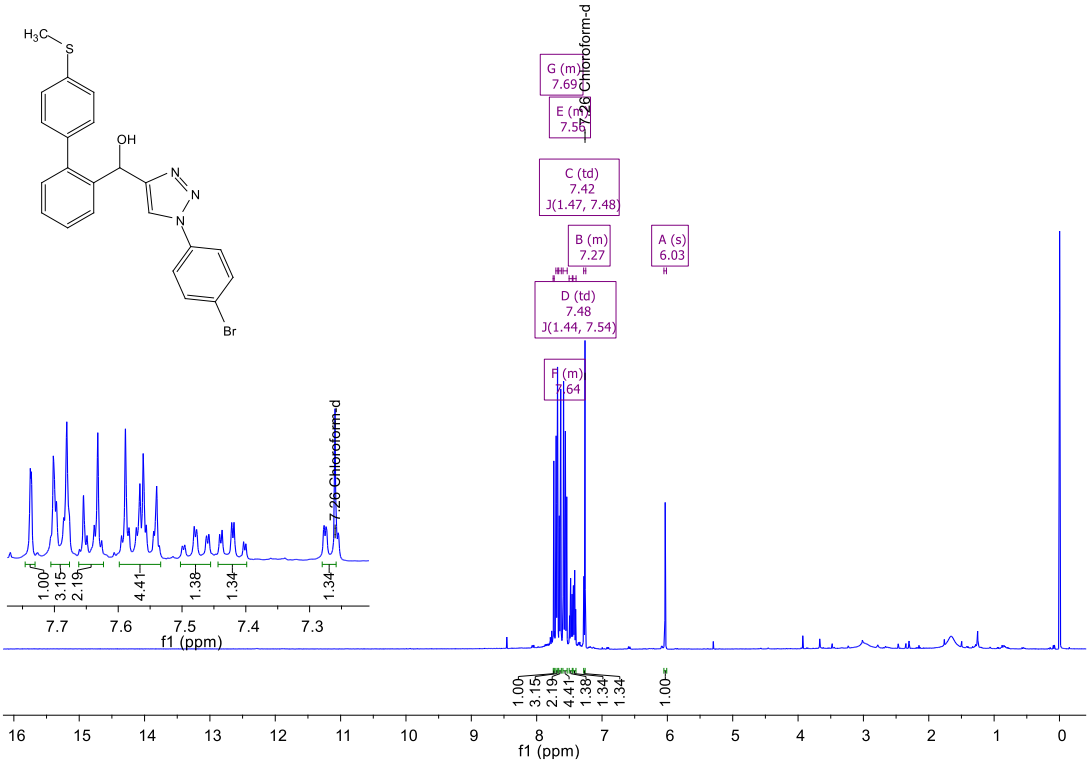

Figure S17 – ^{1}H NMR of the compound **6ca**

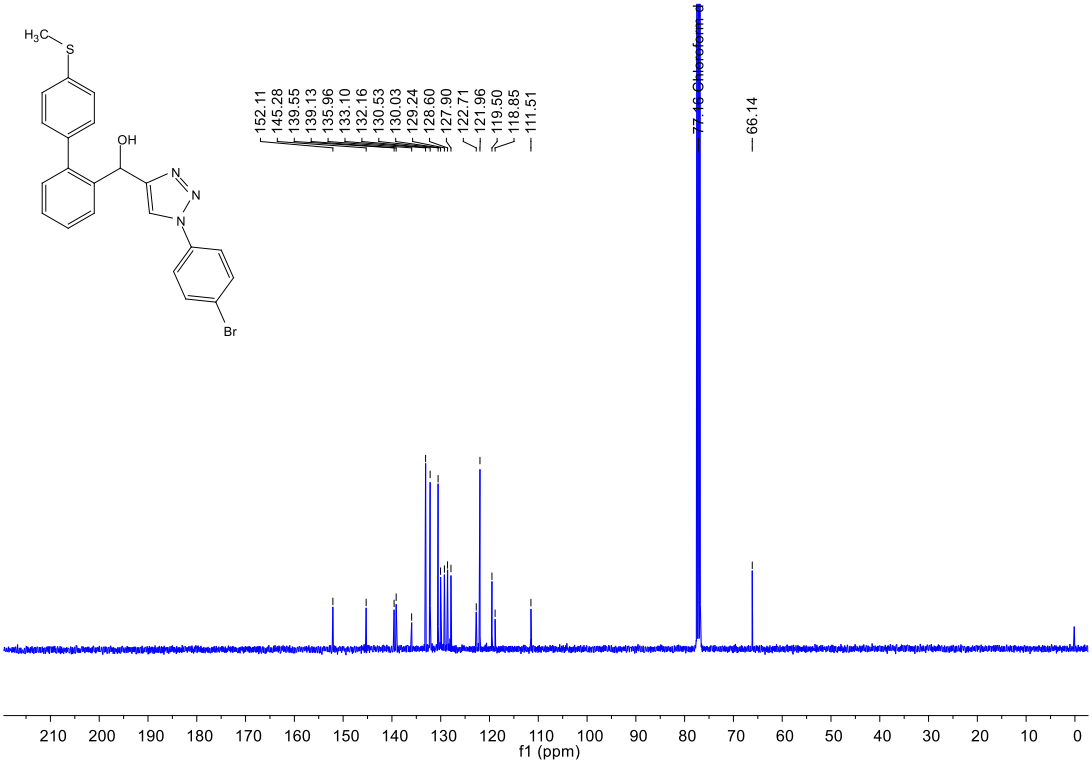

Figure S18 – ^{13}C NMR of the compound **6ca**

(1-(4-Bromophenyl)-1*H*-1,2,3-triazol-4-yl)(4'-methoxy-[1,1'-biphenyl]-2-yl)methanol (**6da**)

Yield of 37%; gray solid; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.67 (dd, *J* = 7.5, 1.4 Hz, 1H), 7.62 (dd, *J* = 6.0, 2.9 Hz, 3H), 7.58 – 7.55 (m, 2H), 7.39 (dtd, *J* = 16.5, 7.3, 1.5 Hz, 3H), 7.30 – 7.26 (m, 5H), 6.14 (s, 1H), 2.50 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 152.3, 140.8, 139.3, 138.0, 137.1, 136.0, 133.0, 130.4, 130.0, 128.3, 128.3, 127.6, 126.3, 122.5, 122.0, 119.6, 77.2, 66.1, 15.8. HRMS(ESI) m/z calculated for $C_{22}H_{18}BrN_3O_2$+H $[M+H]^+$, 436.0661; found 436.0350.

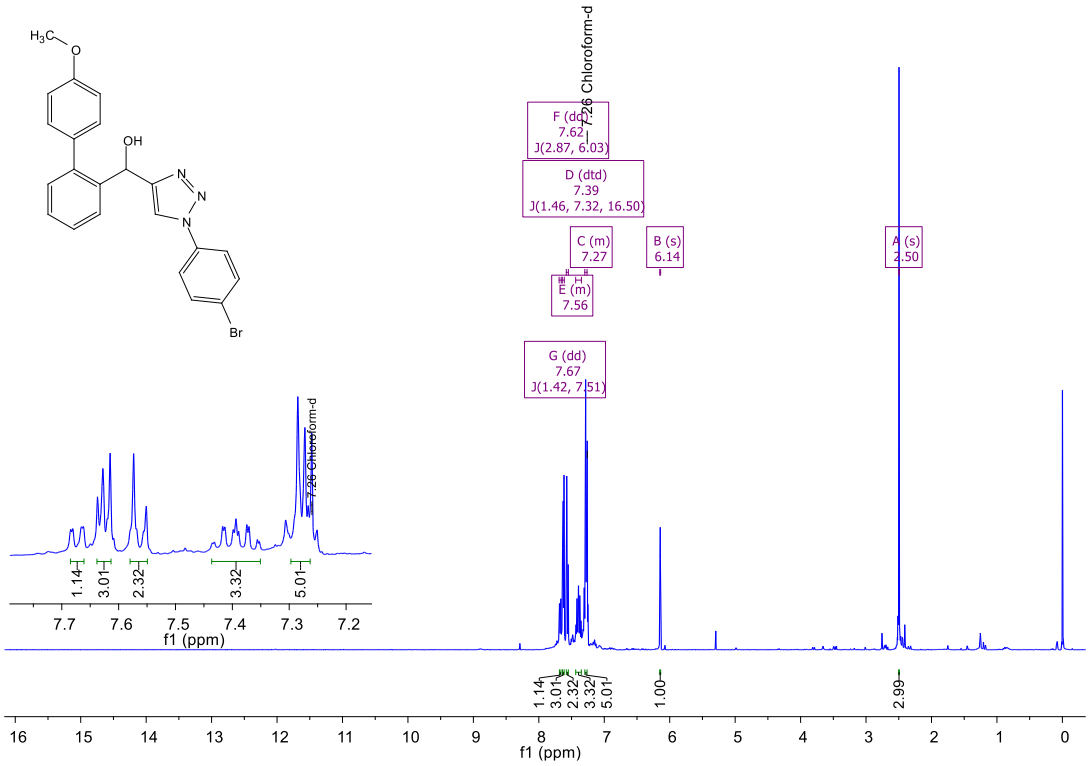

Figure S19 – ^{1}H NMR of the compound **6da**

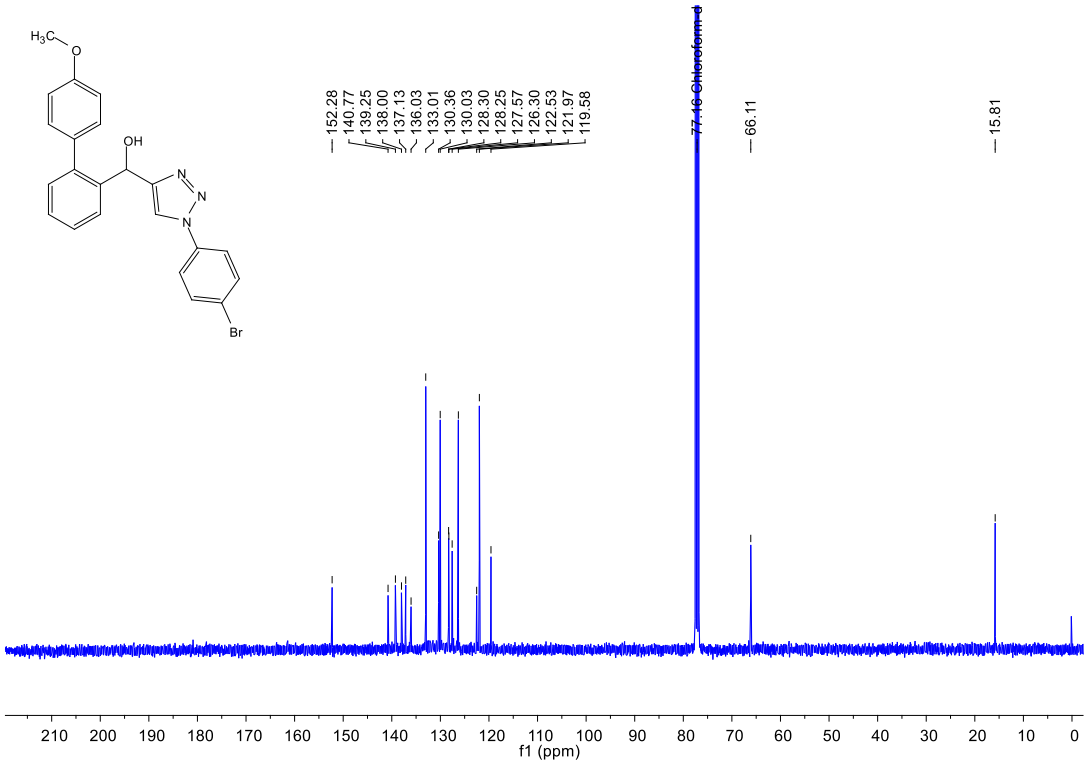

Figure S20 – ^{13}C NMR of the compound **6da**

(1-(4-Bromophenyl)-1*H*-1,2,3-triazol-4-yl)(4'-fluoro-[1,1'-biphenyl]-2-yl)methanol (**6ea**)

Yield of 89%; brown solid; ^{1}H NMR (400 MHz, DMSO) δ 8.67 (s, 1H), 7.92 – 7.87 (m, 2H), 7.80 – 7.75 (m, 2H), 7.67 – 7.63 (m, 1H), 7.52 – 7.45 (m, 2H), 7.41 (td, *J* = 7.5, 1.4 Hz, 1H), 7.35 (td, *J* = 7.4, 1.4 Hz, 1H), 7.28 (ddd, *J* = 8.9, 5.9, 2.5 Hz, 2H), 7.23 (dd, *J* = 7.6, 1.3 Hz, 1H), 6.54 (s, 1H); ^{13}C NMR (101 MHz, DMSO) δ 161.5 (d, J_1 = 243.9 Hz, C-F, 1C), 153.0, 140.9, 139.2, 136.7, 136.6, 135.9, 132.7, 131.3 (d, J_3 = 8.1 Hz, C-F, 2C), 129.6, 128.1, 127.7, 127.3, 121.9, 121.9, 121.1, 120.5, 114.9 (d, J_2 = 21.2 Hz, C-F, 2C), 64.6, 39.5. HRMS(ESI) m/z calculated for $C_{21}H_{15}BrFN_3O$+H $[M+H]^+$, 424.0461; found 424.0448.

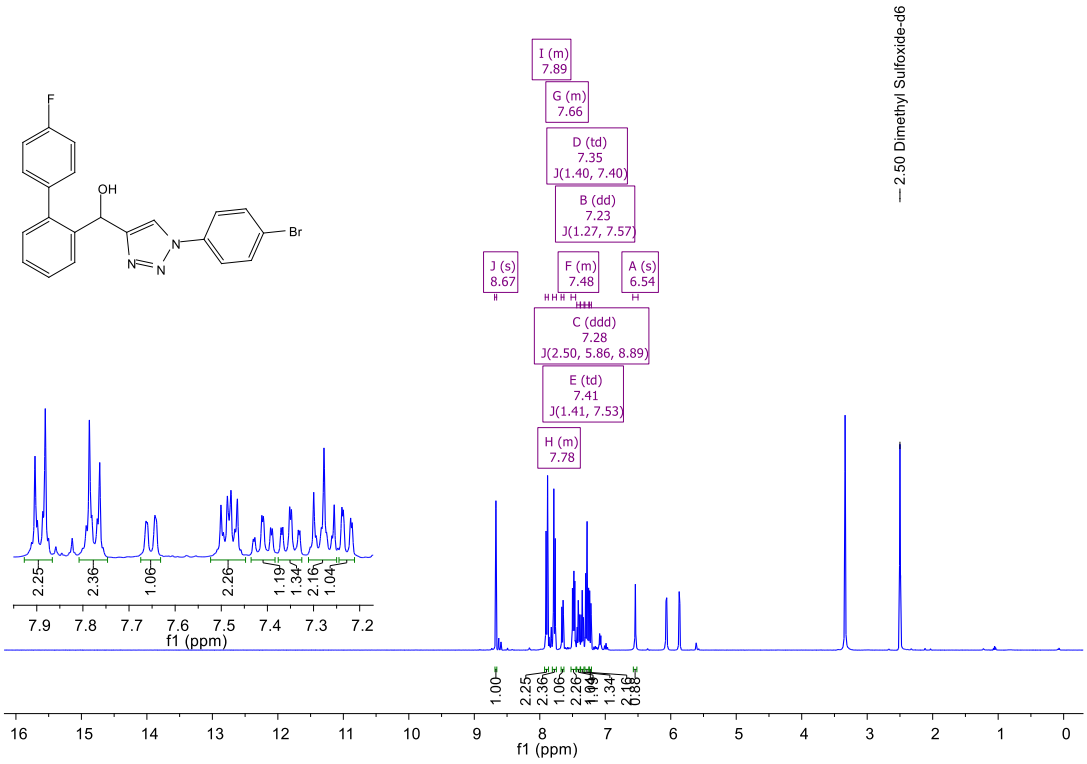

Figure S21 – ^{1}H NMR of the compound **6ea**

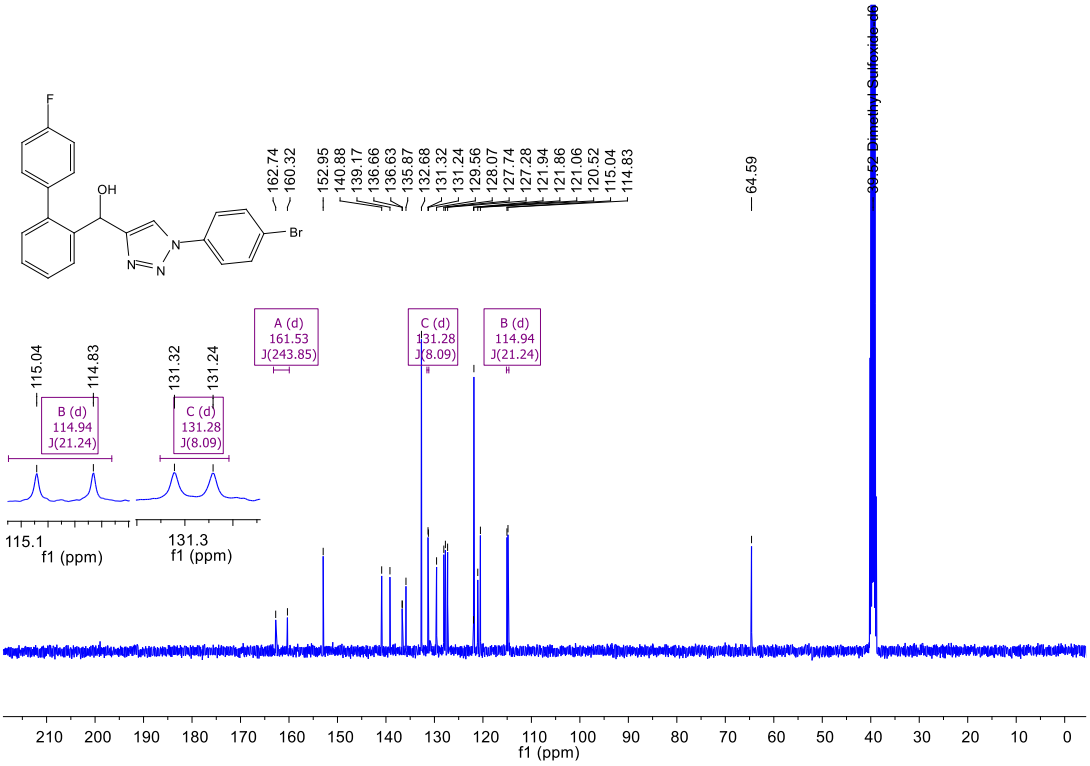

Figure S22 – ^{13}C NMR of the compound **6ea**

(1-(4-Bromophenyl)-1*H*-1,2,3-triazol-4-yl)(4'-(trifluoromethyl)-[1,1'-biphenyl]-2-yl)methanol (**6fa**)

Yield of 86%; brown solid; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.71 – 7.62 (m, 6H), 7.59 – 7.51 (m, 4H), 7.44 (dtd, *J* = 21.9, 7.4, 1.3 Hz, 3H), 7.28 (dd, *J* = 7.6, 1.3 Hz, 1H), 6.06 (s, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 152.1, 140.0, 139.2, 136.0, 133.1, 130.2, 130.1, 129.9, 128.9, 128.5, 127.8, 125.3, 125.3, 122.6, 122.0, 120.6, 119.5, 77.2, 66.2. HRMS(ESI) m/z calculated for $C_{22}H_{15}BrF_3N_3O$+H $[M+H]^+$, 474.0429; found 474.0417.

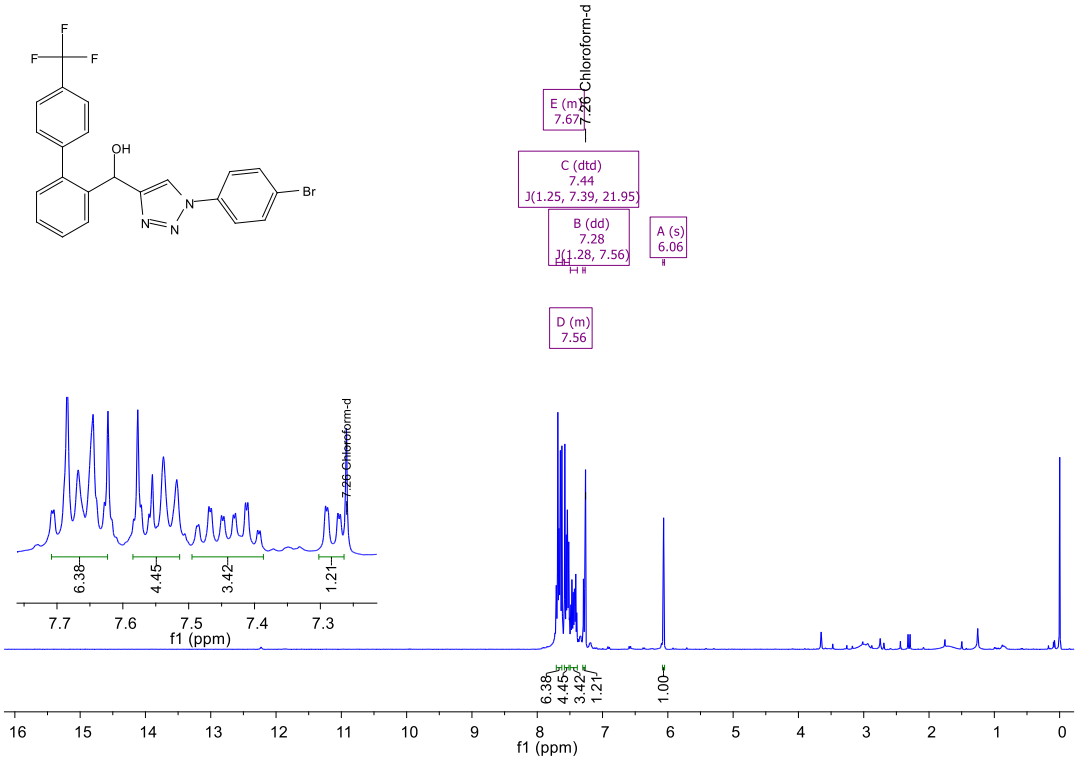

Figure S23 – ^{1}H NMR of the compound **6fa**

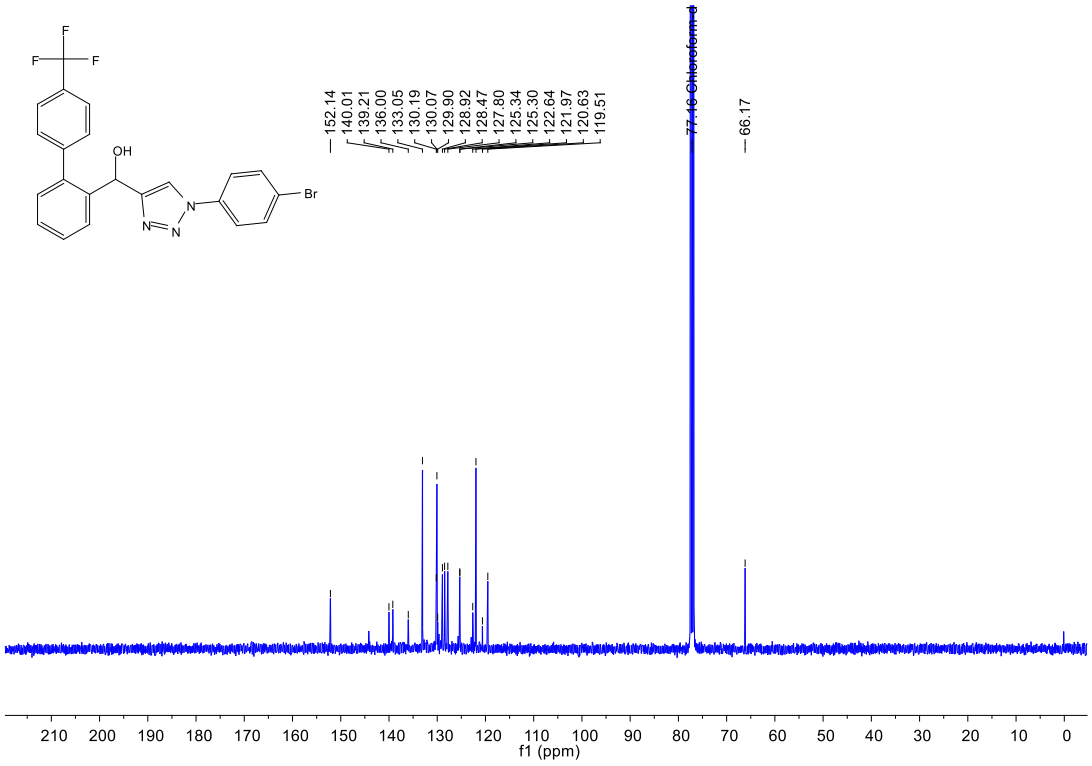

Figure S24 – ^{13}C NMR of the compound **6fa**

[1,1'-Biphenyl]-2-yl(1-(4-bromophenyl)-1*H*-1,2,3-triazol-4-yl)methanol (**6ab**)

Yield of 40%; creme solid; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.69 (dd, *J* = 7.6, 1.5 Hz, 1H), 7.64 – 7.60 (m, 3H), 7.58 – 7.54 (m, 2H), 7.45 – 7.34 (m, 8H), 7.30 (dd, *J* = 7.5, 1.5 Hz, 1H), 6.16 (s, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 152.3, 141.4, 140.5, 139.2, 136.1, 133.0, 130.4, 129.6, 128.4, 128.2, 127.5, 127.5, 122.5, 122.0, 119.6, 77.2, 66.0. FTIR-ATR (cm^{-1}) 422.9, 459.9, 503, 521.4, 548.1, 564.6, 615.9, 632.3, 654.9, 700, 747.3, 759.6, 771.9, 794.5, 819.1, 843.7, 954.6, 985.4, 1008, 1038.8, 1057.3, 1069.6, 1110.6, 1182.5, 1229.7, 1248.2, 1398, 1439.1, 1471.9, 1494.5, 1590.3, 3253.8. HRMS(ESI) m/z calculated for $C_{21}H_{16}BrN_3O$+H $[M+H]^+$, 406.0555; found 406.0809.

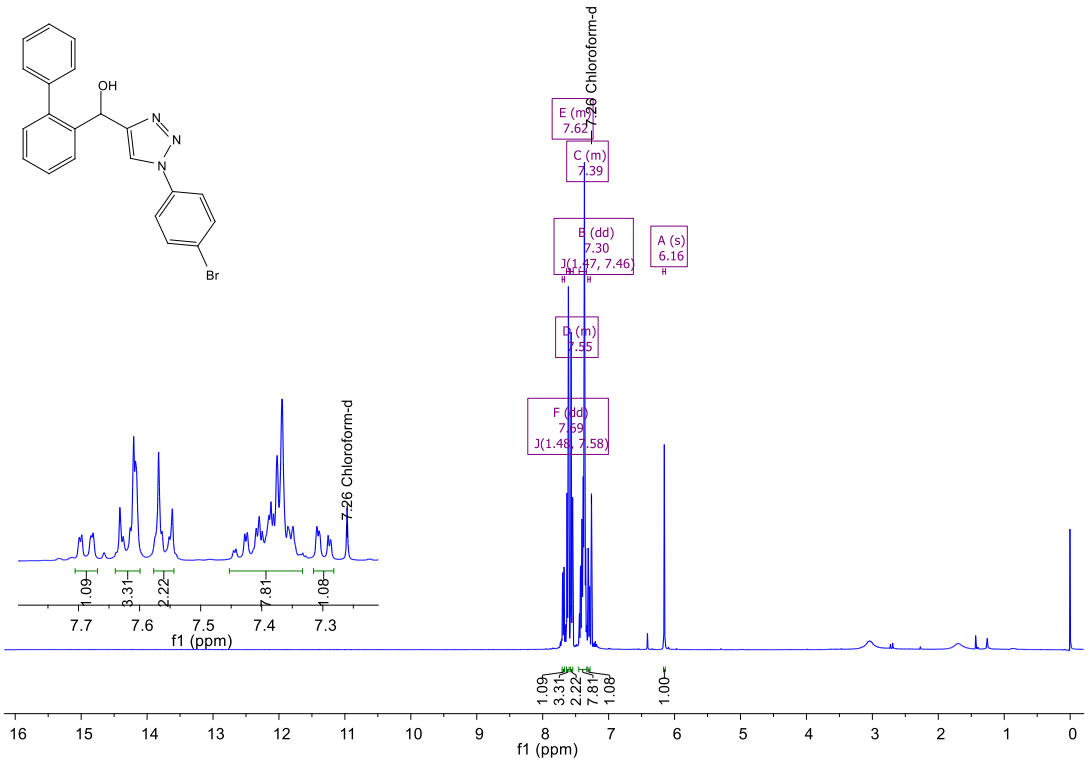

Figure S25 – ^{1}H NMR of the compound **6ab**

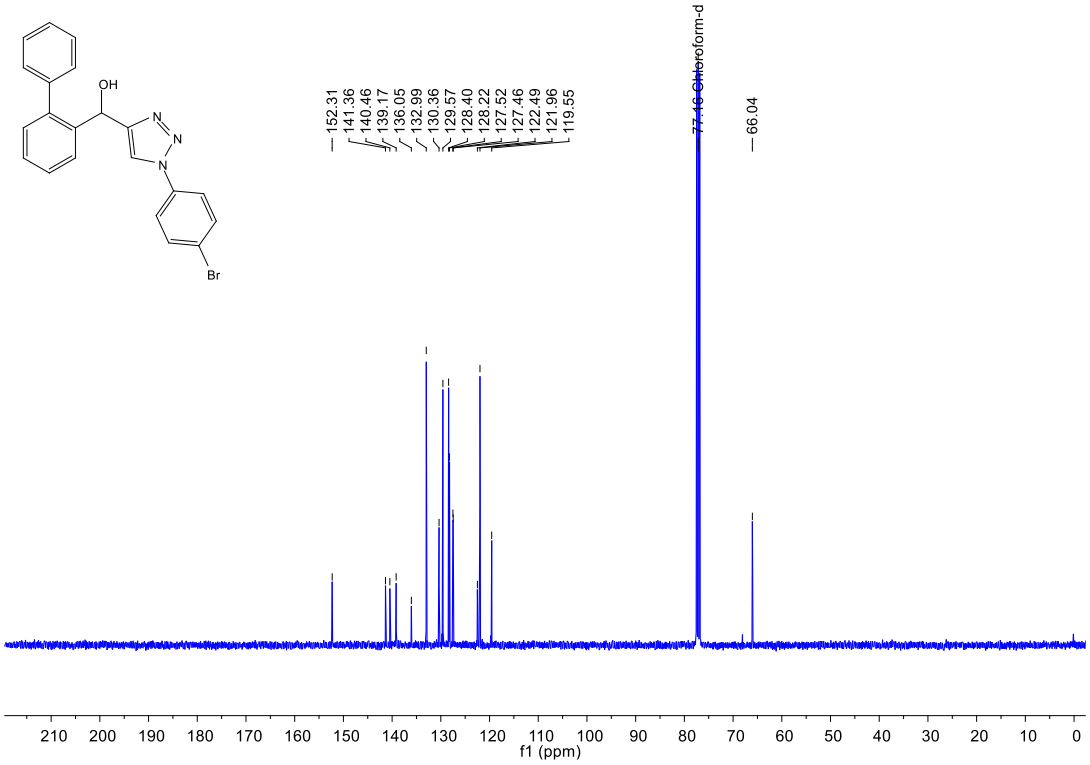

Figure S26 – ^{13}C NMR of the compound **6ab**

[1,1'-Biphenyl]-2-yl(1-(2-bromophenyl)-1*H*-1,2,3-triazol-4-yl)methanol (**6ac**)

Yield of 58%; orange-brown solid; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.73 (dd, *J* = 7.9, 1.2 Hz, 2H), 7.58 (s, 1H), 7.51 (dd, *J* = 7.9, 1.8 Hz, 1H), 7.49 – 7.41 (m, 3H), 7.41 – 7.35 (m, 7H), 7.30 (dd, *J* = 7.5, 1.4 Hz, 1H), 6.18 (s, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 151.1, 141.4, 140.5, 139.2, 136.6, 134.0, 131.3, 130.3, 129.6, 128.6, 128.4, 128.4, 128.2, 128.1, 127.5, 127.4, 123.9, 120.6, 118.8, 77.2, 66.0. HRMS(ESI) m/z calculated for $C_{21}H_{16}BrN_3O$+H $[M+H]^+$, 406.0555; found 406.0550.

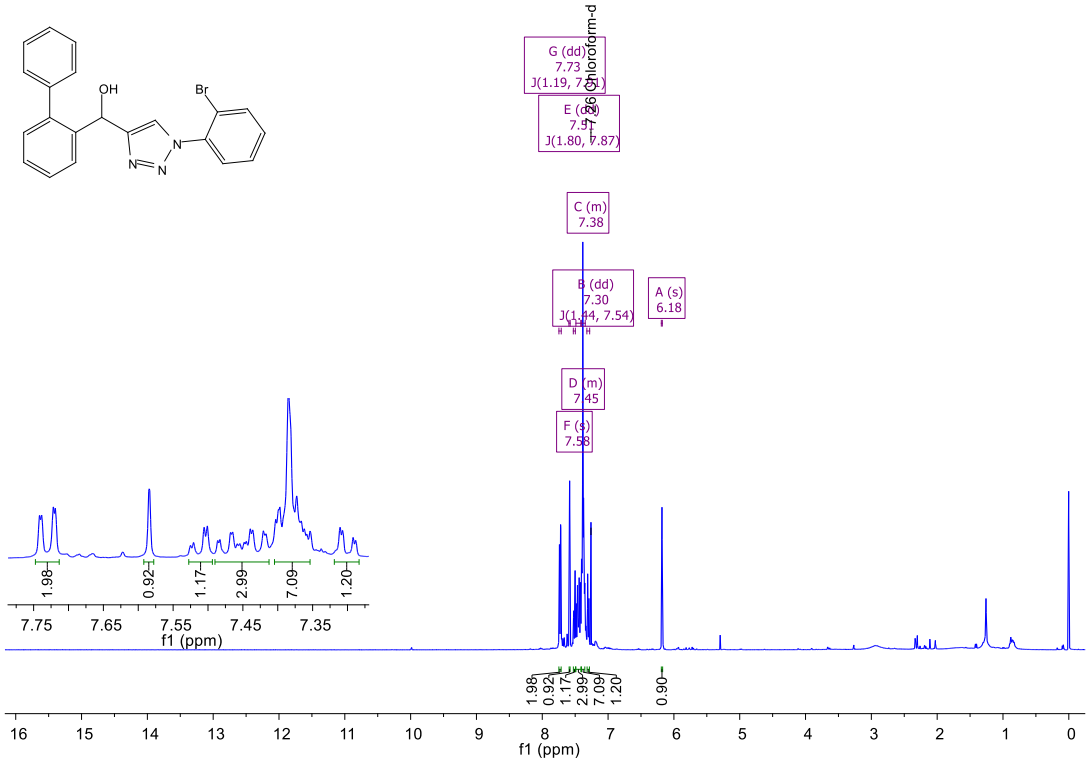

Figure S27 – ^{1}H NMR of the compound **6ac**

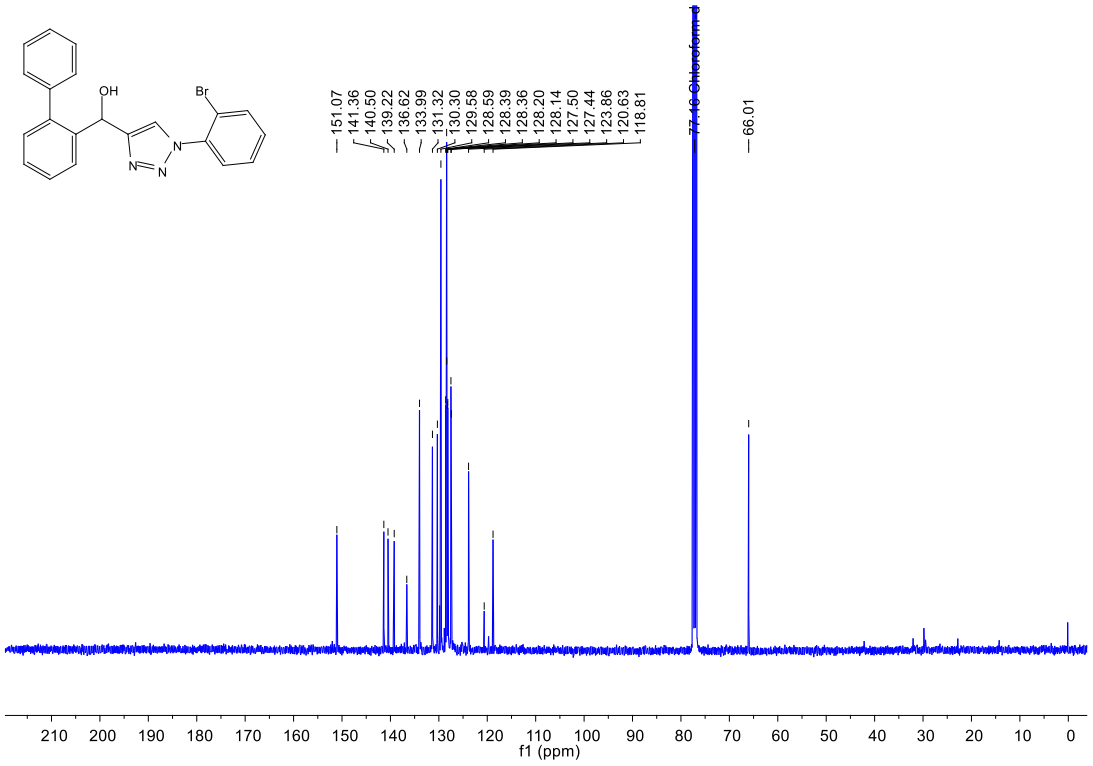

Figure S28 – ^{13}C NMR of the compound **6ac**

[1,1'-Biphenyl]-2-yl(1-(4-bromo-2-fluorophenyl)-1*H*-1,2,3-triazol-4-yl)methanol (**6ad**)

Yield of 50%; brown oil; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.82 (dd, J = 11.6, 5.3 Hz, 1H), 7.74 – 7.68 (m, 2H), 7.49 – 7.44 (m, 2H), 7.43 – 7.34 (m, 9H), 7.32 – 7.28 (m, 2H), 6.17 (s, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 153.3 (d, J_1 = 255.5 Hz, C-F, 1C), 152.0, 141.4, 140.5, 139.1, 130.3, 129.6, 128.8, 128.8, 128.4, 128.2, 128.2, 127.5, 127.4, 125.9, 122.6 (d, J_3 = 8.5 Hz, C-F, 1C), 120.8 (d, J_2 = 23.1 Hz, C-F, 1C), 77.2, 66.0. HRMS(ESI) m/z calculated for $C_{21}H_{15}BrFN_3O$+H $[M+H]^+$, 424.0461; found 424.0462.

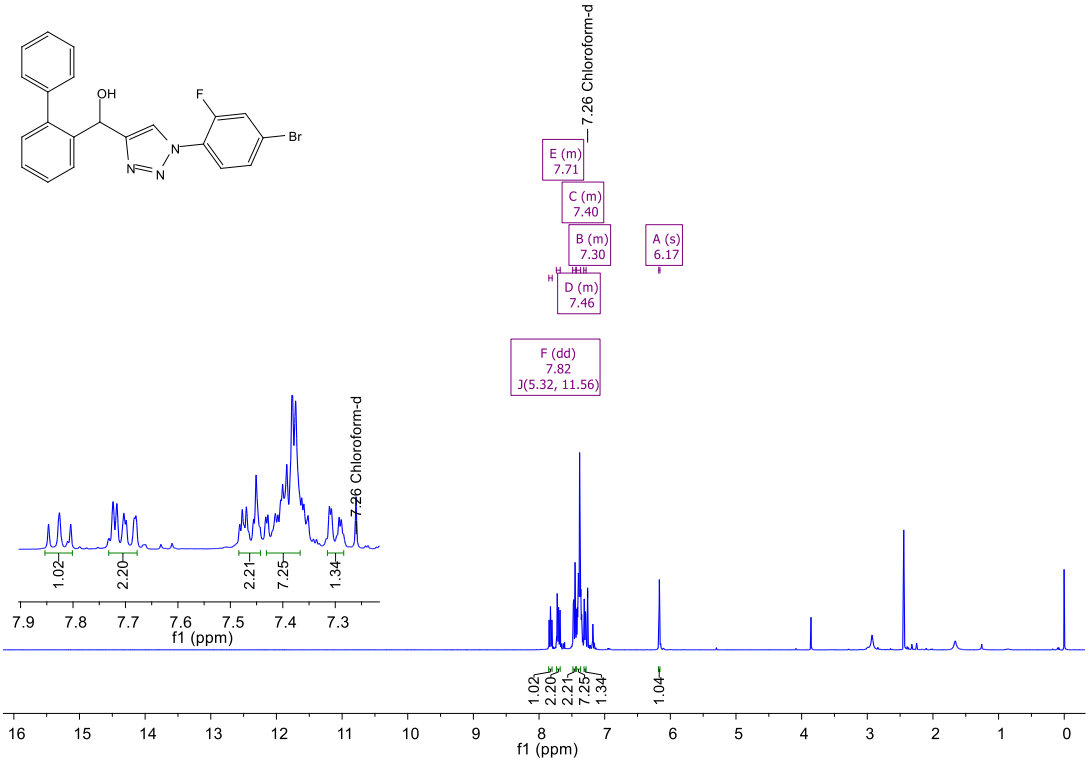

Figure S29 – ^{1}H NMR of the compound **6ad**

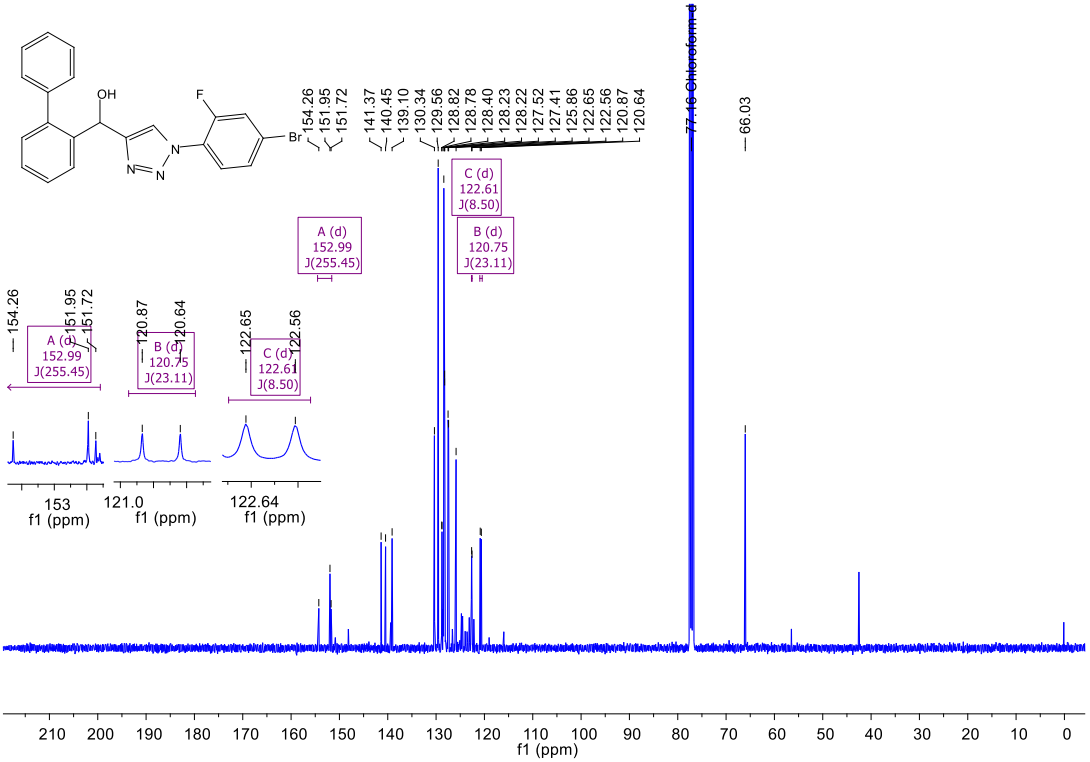

Figure S30 – ^{13}C NMR of the compound **6ad**

[1,1'-Biphenyl]-2-yl(1-(2,5-dibromophenyl)-1*H*-1,2,3-triazol-4-yl)methanol (**6ae**)

Yield of 21%; light brown oil; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.72 – 7.65 (m, 2H), 7.58 (d, *J* = 11.5 Hz, 2H), 7.49 (d, *J* = 8.6 Hz, 1H), 7.43 – 7.34 (m, 7H), 7.29 (d, *J* = 7.4 Hz, 1H), 6.17 (s, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 151.4, 151.3, 141.3, 140.5, 139.1, 137.5, 135.1, 134.3, 131.3, 130.3, 129.6, 128.4, 128.2, 127.5, 127.4, 123.7, 123.7, 121.9, 117.4, 77.2, 66.0, 65.9. HRMS(ESI) m/z calculated for $C_{21}H_{15}Br_2N_3O$+H $[M+H]^+$, 483.9660; found 483.9662.

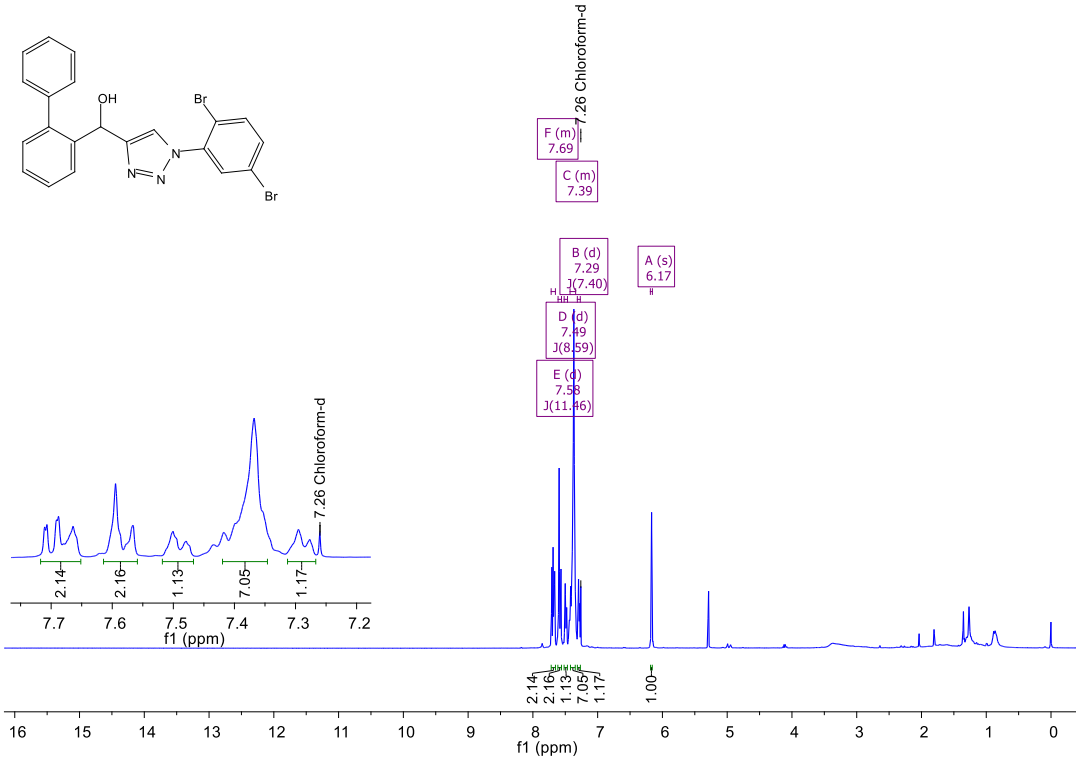

Figure S31 – ^{1}H NMR of the compound **6ae**

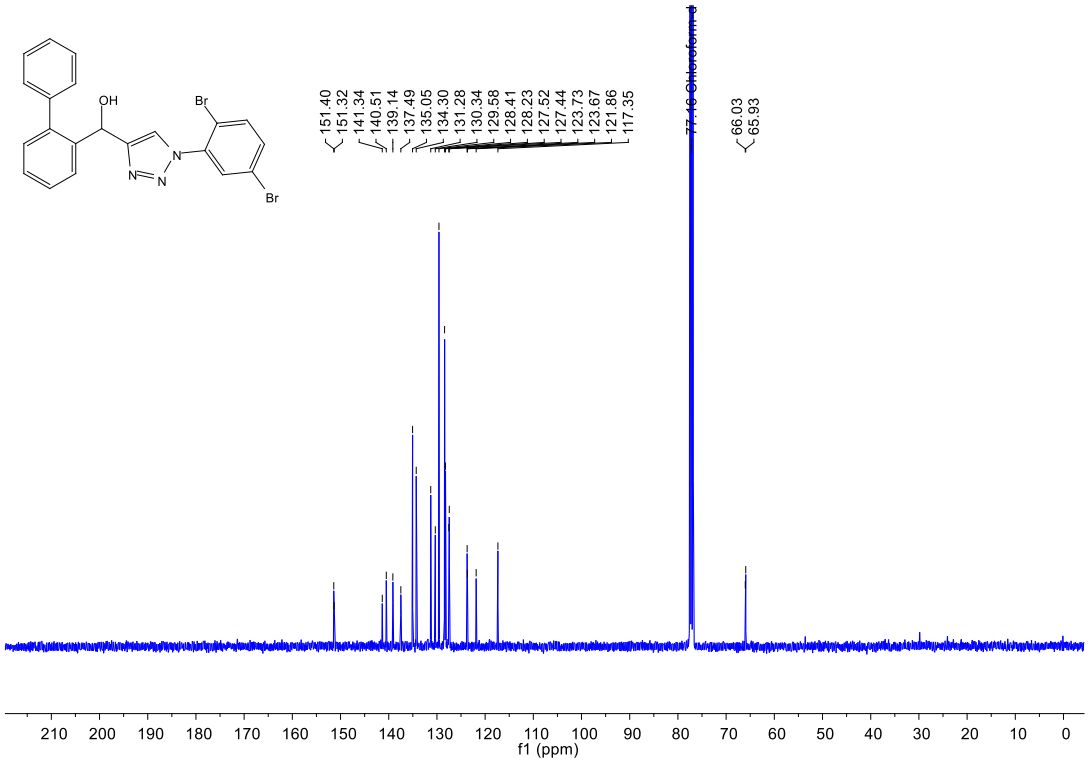

Figure S32 – ^{13}C NMR of the compound **6ae**

4-(4-([1,1'-Biphenyl]-2-yl(hydroxy)methyl)-1*H*-1,2,3-triazol-1-yl)benzamide (**6af**)

Yield of 16%; beige solid; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.69 (dd, *J* = 7.6, 1.3 Hz, 1H), 7.65 – 7.61 (m, 2H), 7.59 – 7.55 (m, 2H), 7.44 (dd, *J* = 7.4, 1.5 Hz, 1H), 7.42 – 7.35 (m, 7H), 7.31 (dd, *J* = 7.5, 1.5 Hz, 1H), 6.16 (s, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 152.3, 141.4, 140.5, 139.2, 136.1, 133.0, 130.4, 129.6, 128.4, 128.3, 127.5, 127.5, 122.5, 122.0, 119.5, 77.2, 66.1. HRMS(ESI) m/z calculated for $C_{22}H_{18}N_4O_2$+H $[M+H]^+$, 371.1508; found 371.1532.

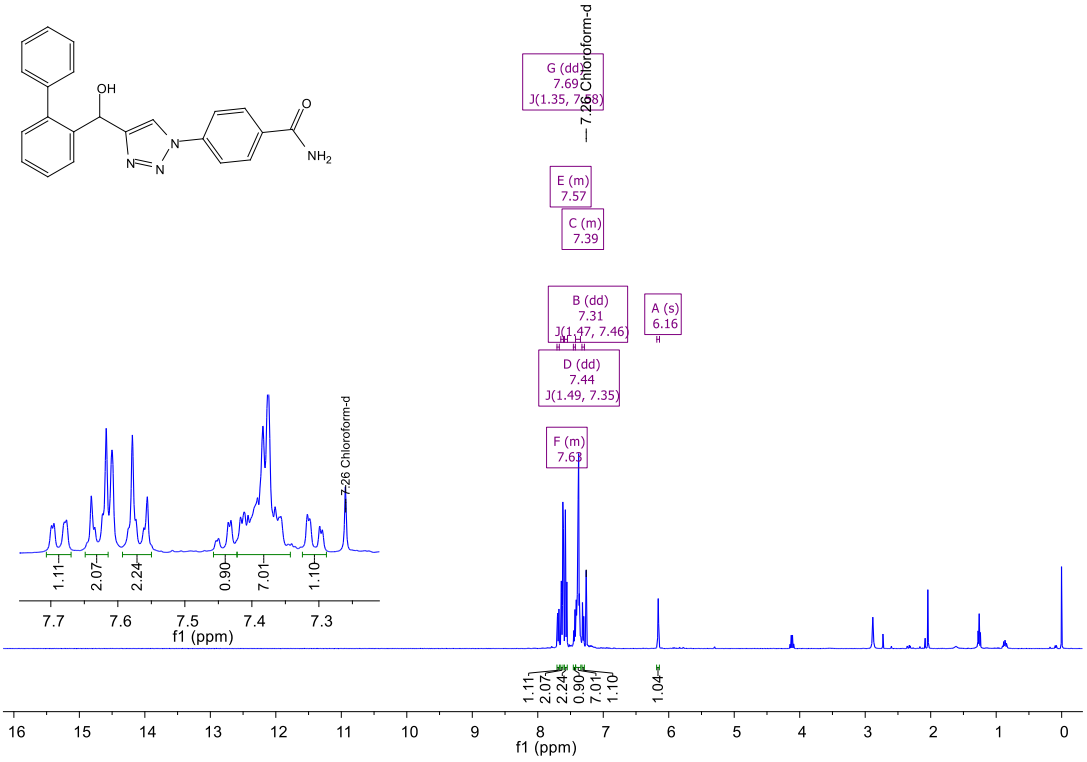

Figure S33 – ^{1}H NMR of the compound **6af**

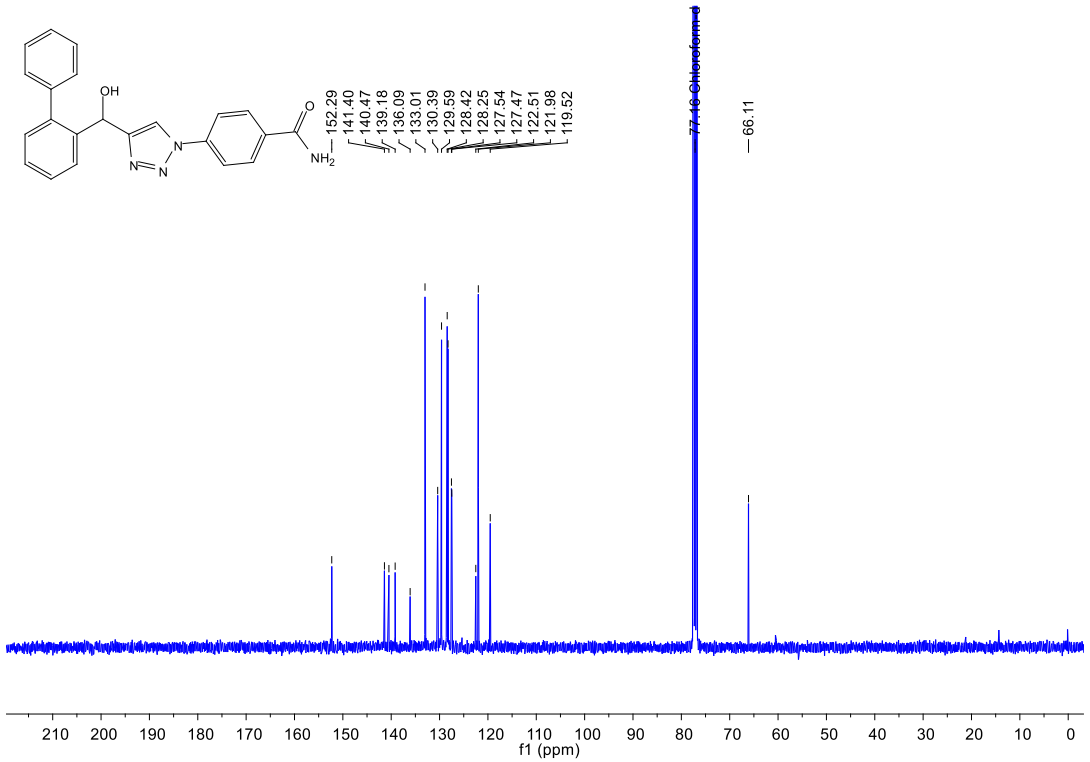

Figure S34 – ^{13}C NMR of the compound **6af**

[1,1'-Biphenyl]-2-yl(1-(4-fluorophenyl)-1*H*-1,2,3-triazol-4-yl)methanol (**6ag**)

Yield of 27%; dark brown solid; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.70 (dd, *J* = 7.6, 1.3 Hz, 1H), 7.68 – 7.62 (m, 2H), 7.57 (s, 1H), 7.45 (dd, *J* = 7.4, 1.5 Hz, 1H), 7.42 – 7.35 (m, 6H), 7.31 (dd, *J* = 7.5, 1.4 Hz, 1H), 7.22 – 7.16 (m, 2H), 6.16 (s, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 162.6 (d, J_1 = 249.2 Hz, C-F, 1C), 152.1, 141.4, 140.5, 139.2, 133.4, 130.4, 129.6, 128.4, 128.2, 127.5, 127.5, 122.6 (d, J_3 = 8.6 Hz, C-F, 2C), 119.9, 116.8 (d, J_2 = 23.3 Hz, C-F, 2C), 77.2, 66.1. HRMS(ESI) m/z calculated for $C_{21}H_{16}FN_3O$+H $[M+H]^+$, 346.1356; found 346.1338.

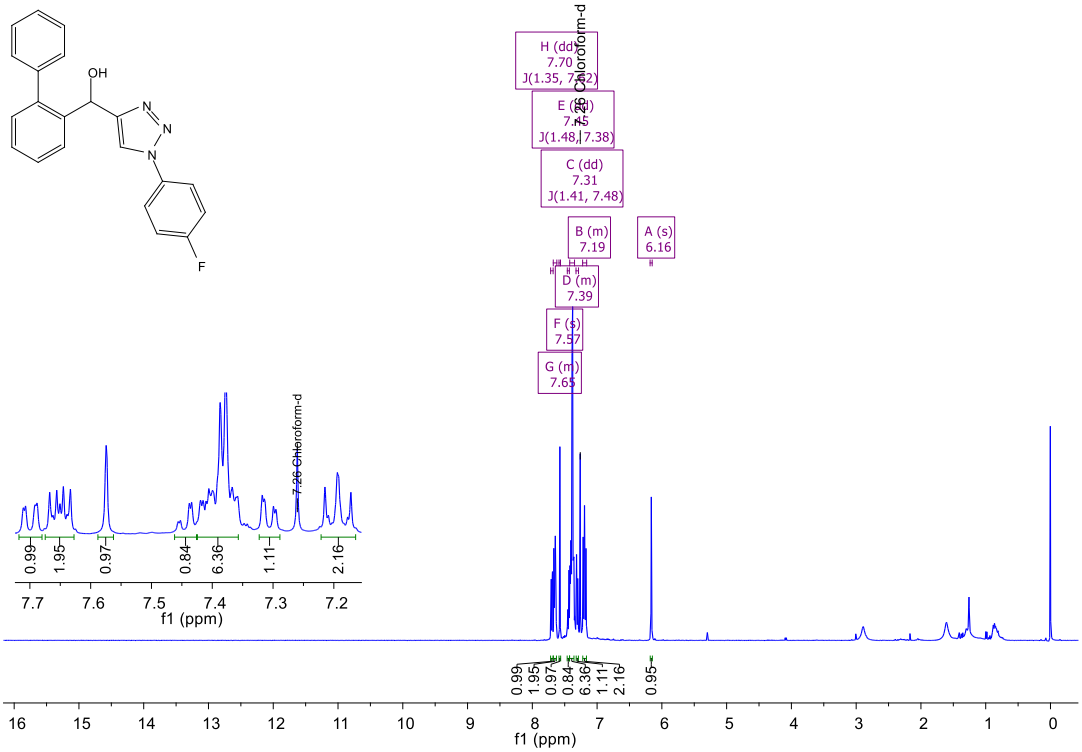

Figure S35 – ^{1}H NMR of the compound **6ag**

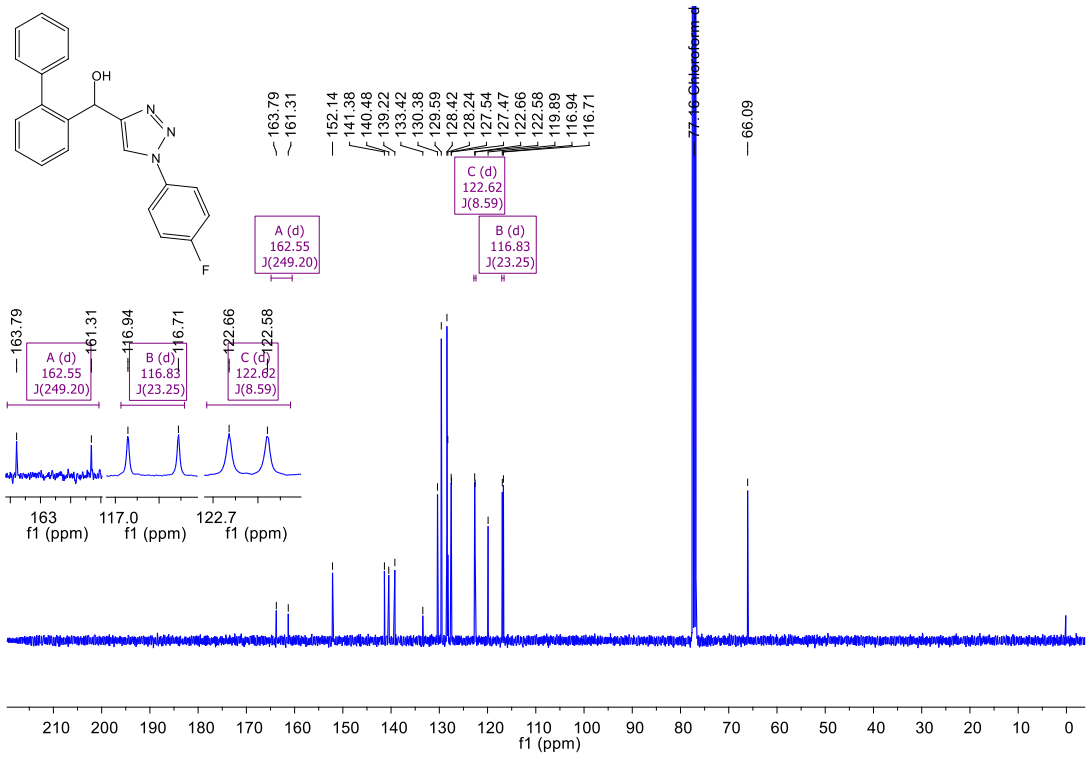

Figure S36 – ^{13}C NMR of the compound **6ag**

[1,1'-Biphenyl]-2-yl(1-phenyl-1*H*-1,2,3-triazol-4-yl)methanol (**6ah**)

Yield of 54%; beige solid; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.71 (dd, *J* = 7.6, 1.4 Hz, 1H), 7.67 (d, *J* = 7.7 Hz, 2H), 7.62 (s, 1H), 7.50 (dd, *J* = 10.3, 5.0 Hz, 2H), 7.46 – 7.35 (m, 8H), 7.31 (dd, *J* = 7.5, 1.5 Hz, 1H), 6.17 (s, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 152.0, 141.4, 140.5, 139.3, 137.1, 130.3, 129.9, 129.6, 128.9, 128.4, 128.2, 128.2, 127.5, 127.5, 120.6, 119.7, 77.2, 66.1. HRMS(ESI) m/z calculated for $C_{21}H_{17}N_3O$+H $[M+H]^+$, 328.1450; found 328.1448.

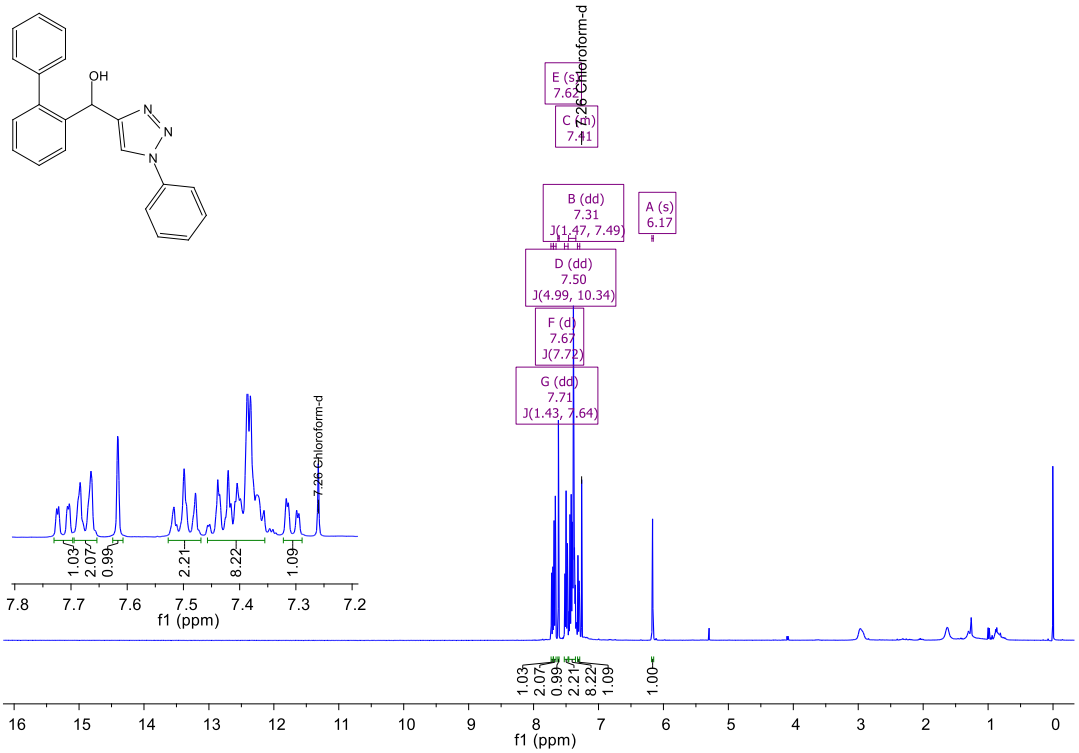

Figure S37 – ^{1}H NMR of the compound **6ah**

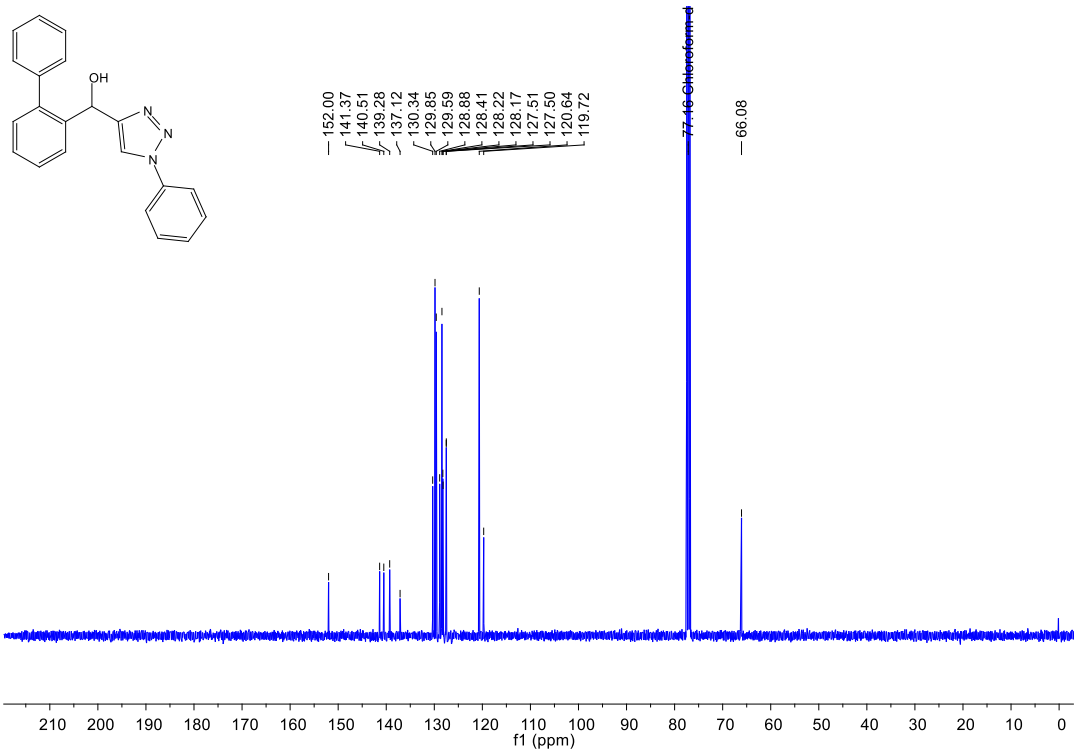

Figure S38 – ^{13}C NMR of the compound **6ah**

[1,1'-Biphenyl]-2-yl(1-(4-(trifluoromethyl)phenyl)-1*H*-1,2,3-triazol-4-yl)methanol (**6ai**)

Yield of 67%; creme solid; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.84 (d, *J* = 8.5 Hz, 2H), 7.78 (d, *J* = 8.6 Hz, 2H), 7.72 – 7.67 (m, 2H), 7.47 – 7.35 (m, 8H), 7.34 – 7.30 (m, 1H), 6.18 (s, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 152.5, 141.4, 140.5, 139.1, 130.4, 129.6, 128.4, 128.3, 128.3, 127.6, 127.5, 127.2, 127.2, 120.5, 119.5, 77.2, 66.1. HRMS(ESI) m/z calculated for $C_{22}H_{16}F_3N_3O$+H $[M+H]^+$, 396.1324; found 396.1326.

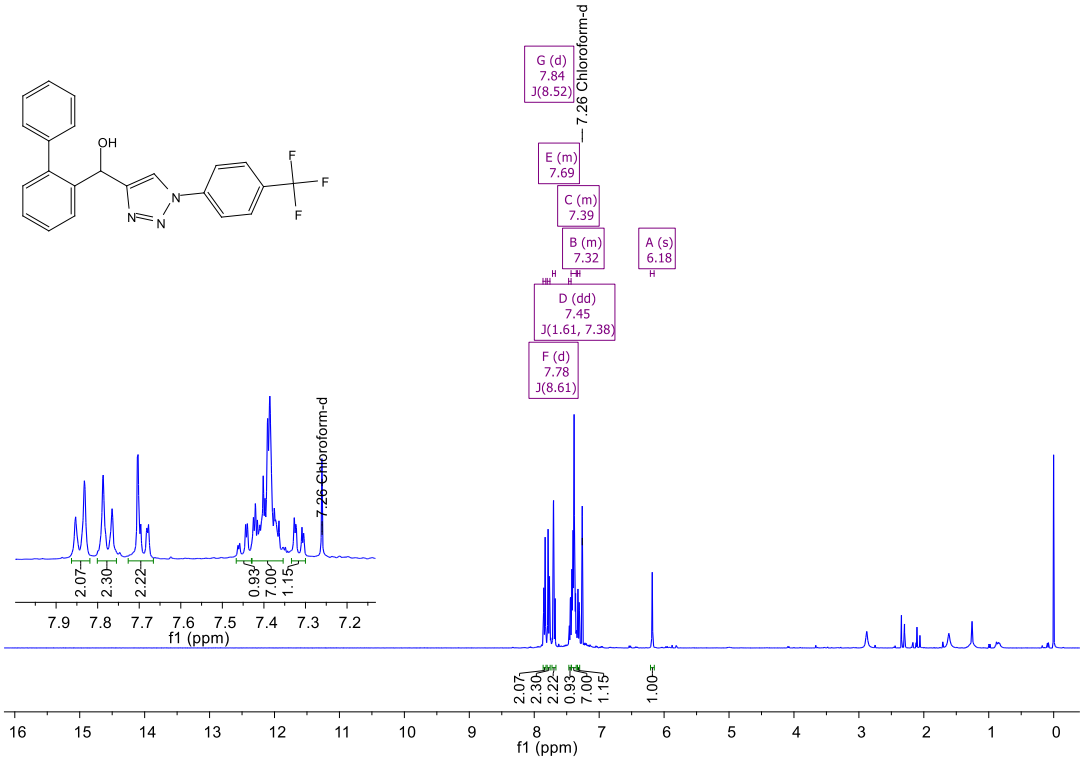

Figure S39 – ^{1}H NMR of the compound **6ai**

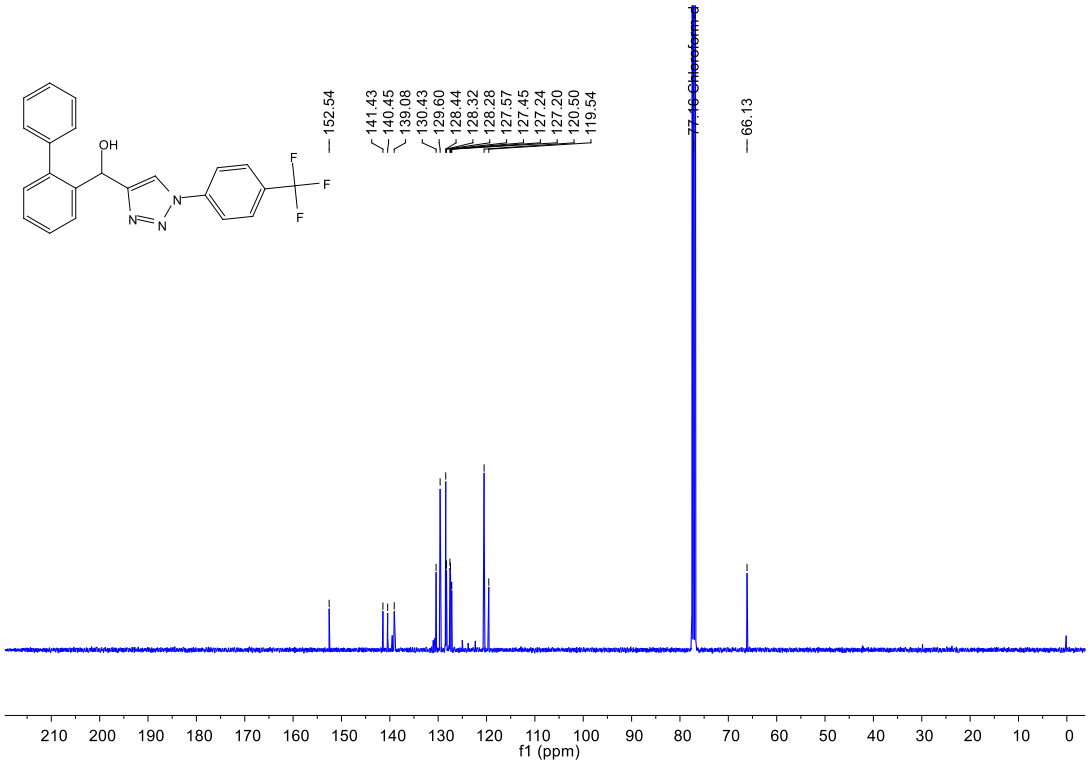

Figure S40 – ^{13}C NMR of the compound **6a**

Characterization of 9*H*-fluorene-1,2,3-triazoles

1-(4-Bromophenyl)-4-(9*H*-fluoren-9-yl)-1*H*-1,2,3-triazole (**7ab**)

Yield of 65%; orange solid; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.81 (d, *J* = 7.6 Hz, 2H), 7.64 (dd, *J* = 7.5, 0.7 Hz, 2H), 7.60 – 7.55 (m, 2H), 7.54 – 7.50 (m, 2H), 7.43 (t, *J* = 7.4 Hz, 2H), 7.38 (d, *J* = 0.5 Hz, 1H), 7.34 (td, *J* = 7.5, 1.1 Hz, 2H), 5.51 (s, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 149.4, 145.2, 141.0, 136.2, 132.9, 128.1, 127.7, 125.5, 122.3, 121.9, 120.3, 118.3, 77.2, 45.5; FTIR-ATR (cm^{-1}) 410.6, 420.8, 437.3, 455.7, 498.9, 507.1, 523.5, 589.2, 620, 652.8, 669.3, 689.8, 710.3, 739.1, 825.3, 944.3, 987.5, 1014.1, 1042.9, 1071.6, 1170.2, 1178.4, 1229.7, 1244.1, 1400.1, 1447.3, 1494.5, 3057.2, 3117.5; HRMS(ESI) m/z calculated for $C_{21}H_{14}BrN_3$+H $[M+H]^+$, 388.0449; found 388.0485.

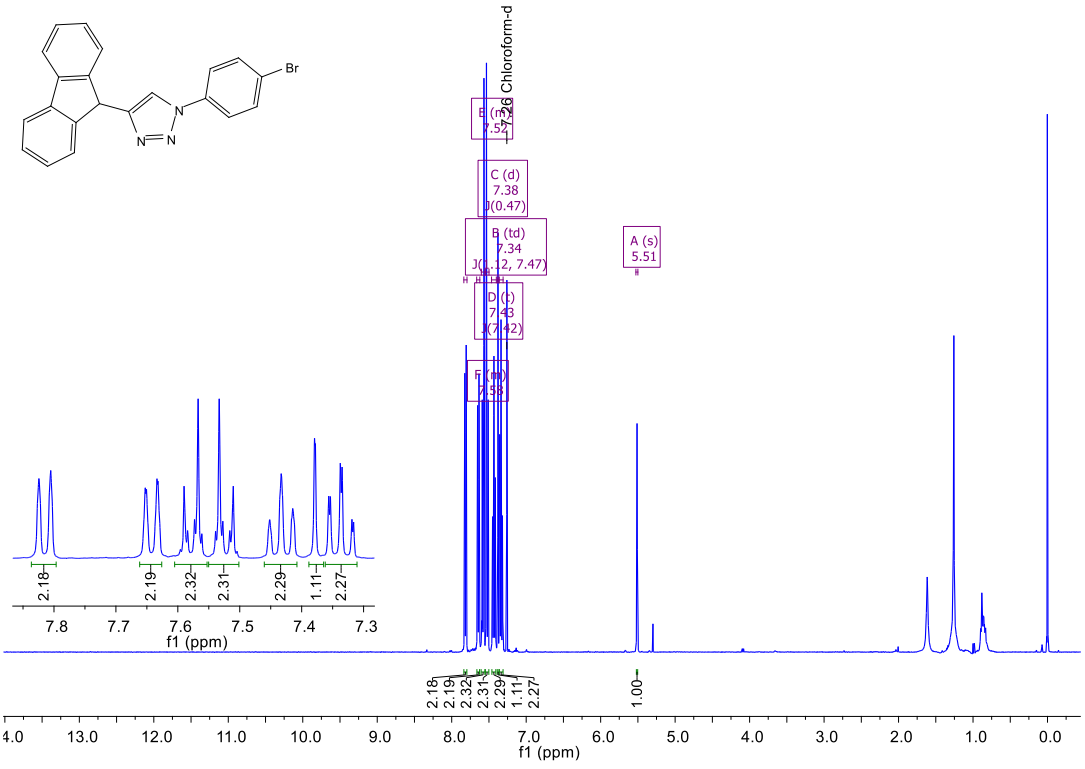

Figure S41 – ^{1}H NMR of the compound **7ab**

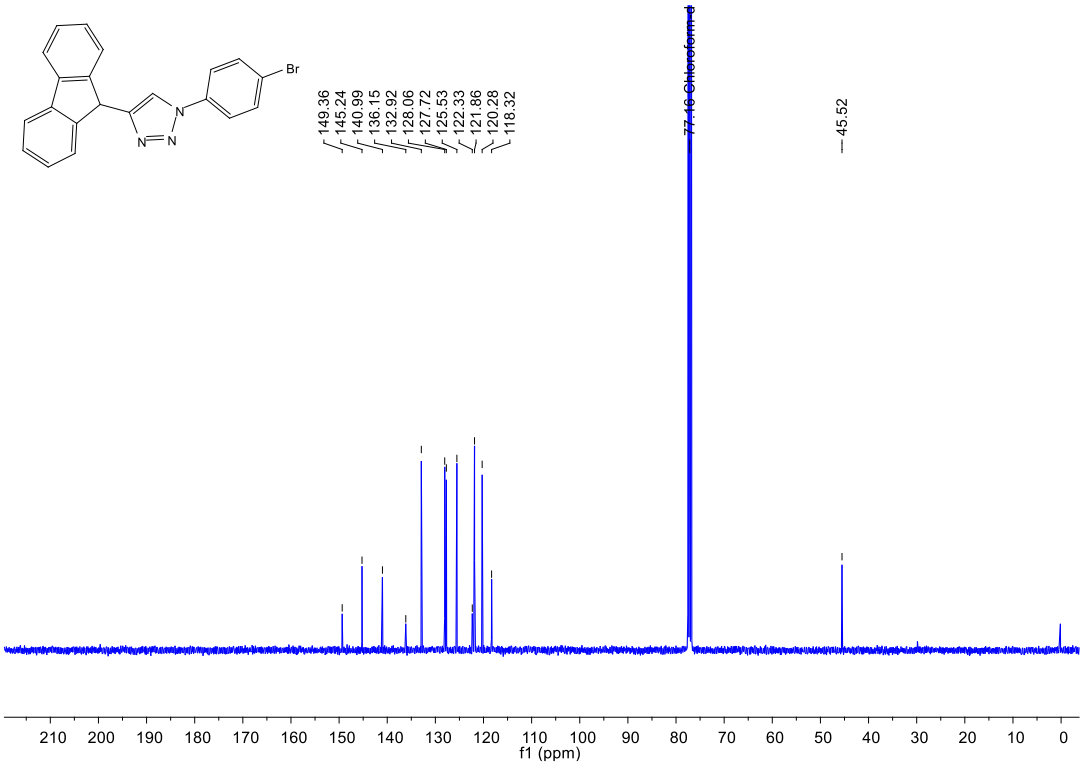

Figure S42 – ^{13}C NMR of the compound **7ab**

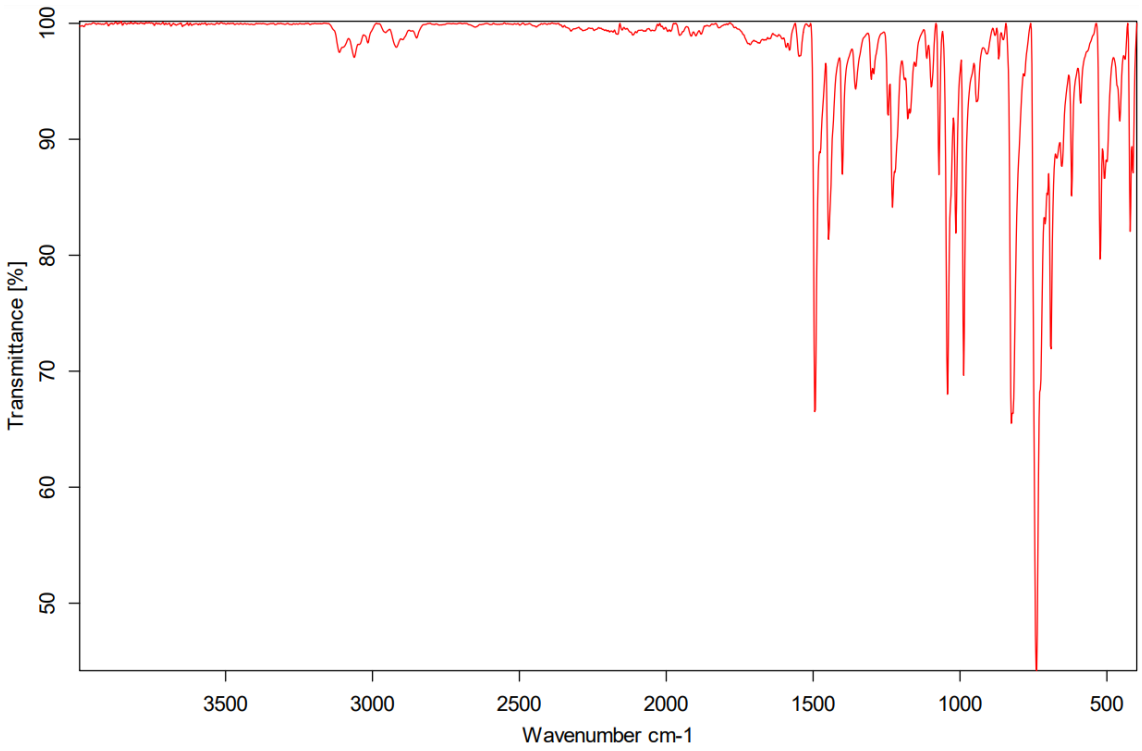

Figure S43 – FTIR-ATR of the compound **7ab** at room temperature

1-(2-Bromophenyl)-4-(9*H*-fluoren-9-yl)-1*H*-1,2,3-triazole (**7ac**)

Yield of 20%; brown oil; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.81 (d, *J* = 7.5 Hz, 2H), 7.69 (d, *J* = 8.1 Hz, 3H), 7.49 (dd, *J* = 7.9, 1.7 Hz, 1H), 7.45 – 7.40 (m, 4H), 7.37 – 7.32 (m, 3H), 5.53 (s, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 147.8, 145.3, 141.0, 133.9, 131.2, 128.5, 128.3, 127.9, 127.6, 125.5, 122.7, 120.2, 118.7, 77.2, 45.5; FTIR-ATR (cm^{-1}) 423.6, 449.0, 548.5, 620.1, 642.5, 687.3, 737.4, 827.4, 866.5, 910.7, 944.2, 986.4, 1038.4, 1121.8, 1180.6, 1229.7, 1294.0, 1447.1, 1489.1, 1546.8, 1585.7, 1714.9, 2922.8, 3062.8; HRMS(ESI) m/z calculated for $C_{21}H_{14}BrN_3$+H $[M+H]^+$, 388.0449; found 388.0489.

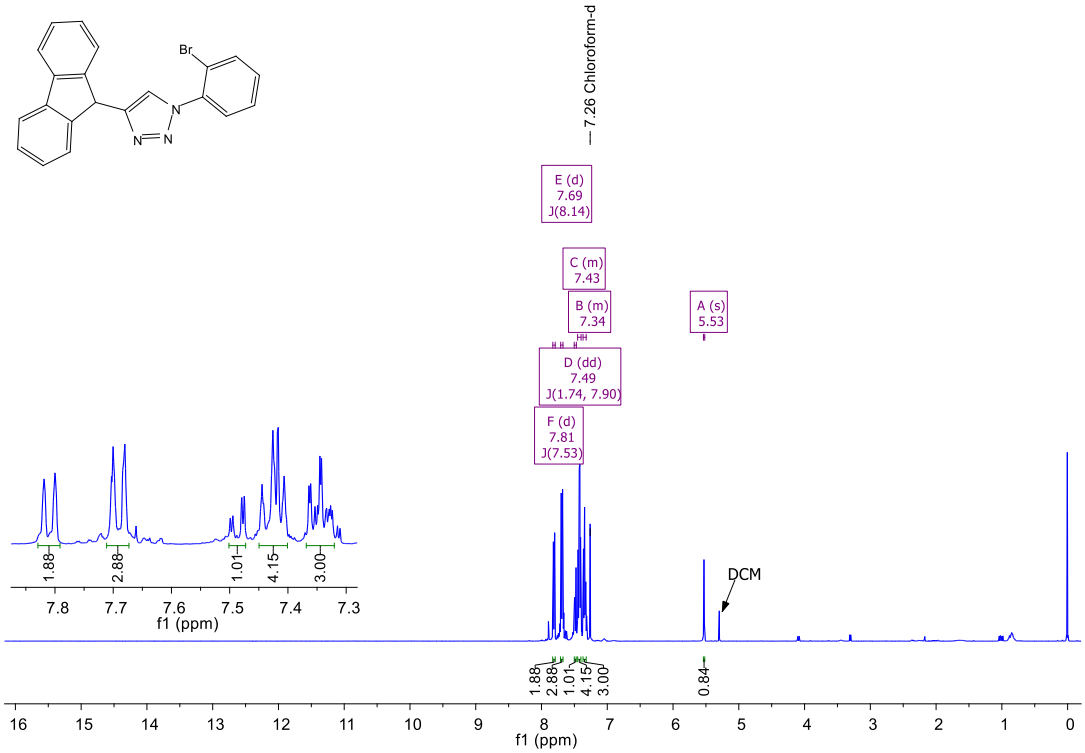

Figure S44 – ^{1}H NMR of the compound **7ac**

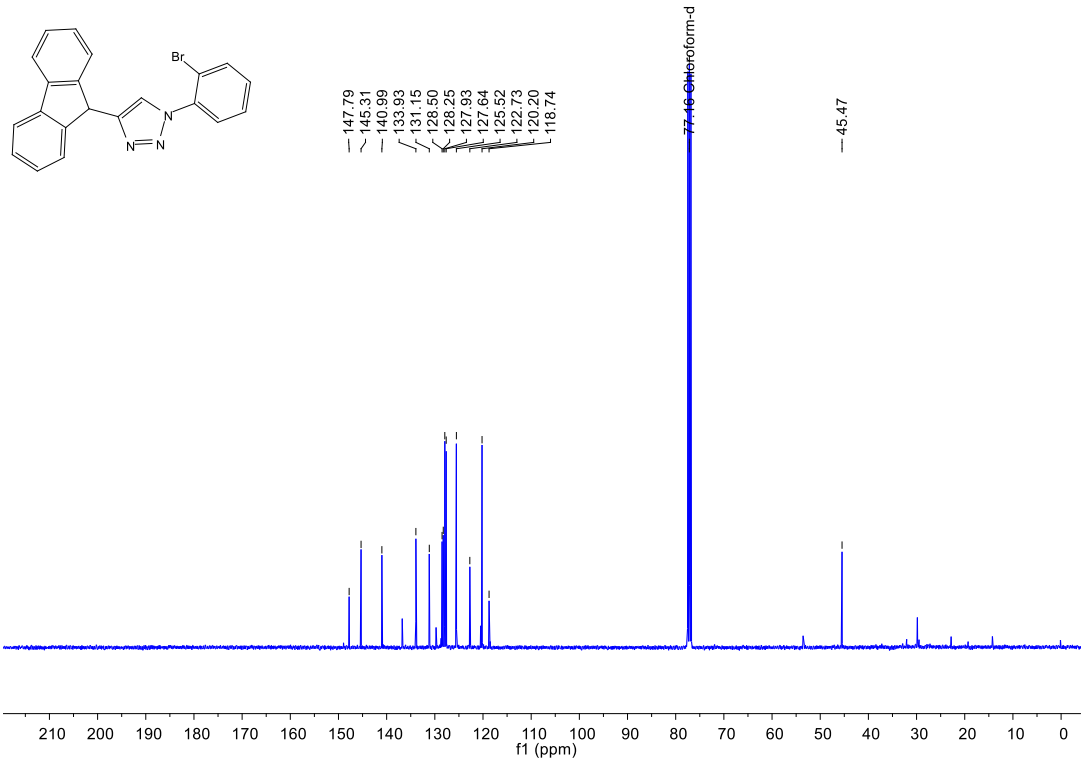

Figure S45 – ^{13}C NMR of the compound **7ac**

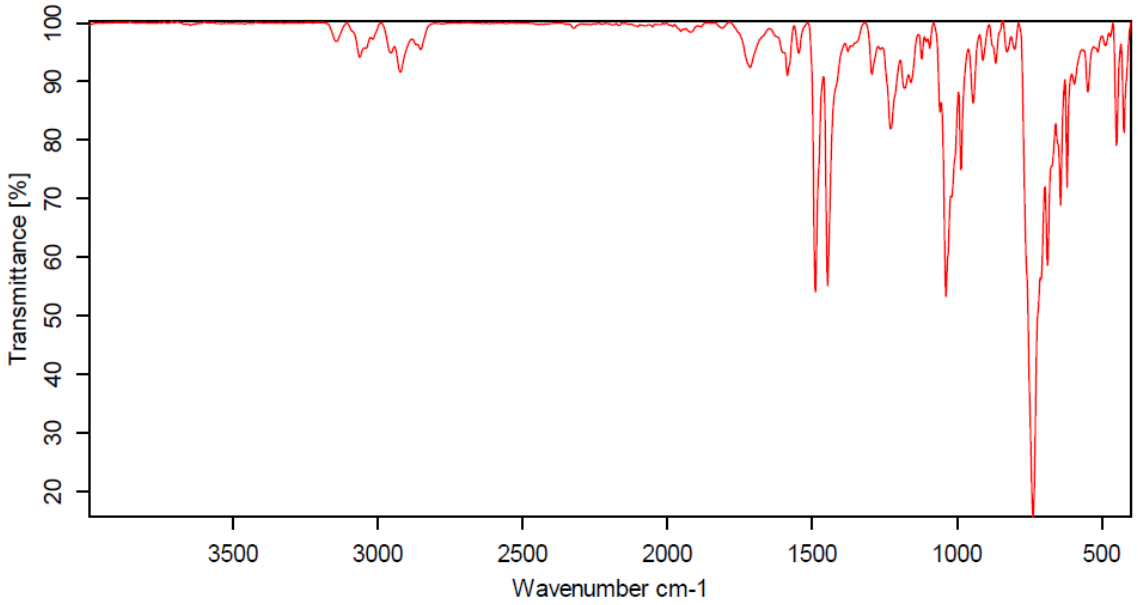

Figure S46 – FTIR-ATR of the compound **7ac** at room temperature

1-(4-Bromo-2-fluorophenyl)-4-(9*H*-fluoren-9-yl)-1*H*-1,2,3-triazole (**7ad**)

Yield of 91%; white solid; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.87 – 7.79 (m, 3H), 7.65 (d, *J* = 7.5 Hz, 2H), 7.52 (d, *J* = 2.9 Hz, 1H), 7.46 – 7.38 (m, 4H), 7.34 (td, *J* = 7.5, 0.9 Hz, 2H), 5.51 (s, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 152.8 (d, J_1 = 255.4 Hz, C-F, 1C), 148.9, 145.0, 141.0, 128.8, 128.7, 128.0, 127.7, 125.7, 125.5, 122.6 (d, J_3 = 8.9 Hz, C-F, 1C), 121.5, 121.4, 120.7 (d, J_2 = 23.1 Hz, C-F, 1C), 120.3, 77.2, 45.4; FTIR-ATR (cm^{-1}) 409.2, 429.7, 466.1, 490.9, 511.6, 547.7, 565.8, 579.9, 620.6, 663.1, 682.1, 702.1, 736.4, 747.1, 813.4, 836.6, 860.0, 874.9, 940.2, 987.1, 1028.1, 1043.0, 1093.6, 1128.9, 1164.7, 1187.2, 1220.0, 1251.2, 1351.3, 1396.3, 1433.7, 1476.1, 1504.0, 1548.3, 1589.8, 2919.1, 3064.1; HRMS(ESI) m/z calculated for $C_{21}H_{13}BrFN_3$+H $[M+H]^+$, 406.0355; found 406.0398.

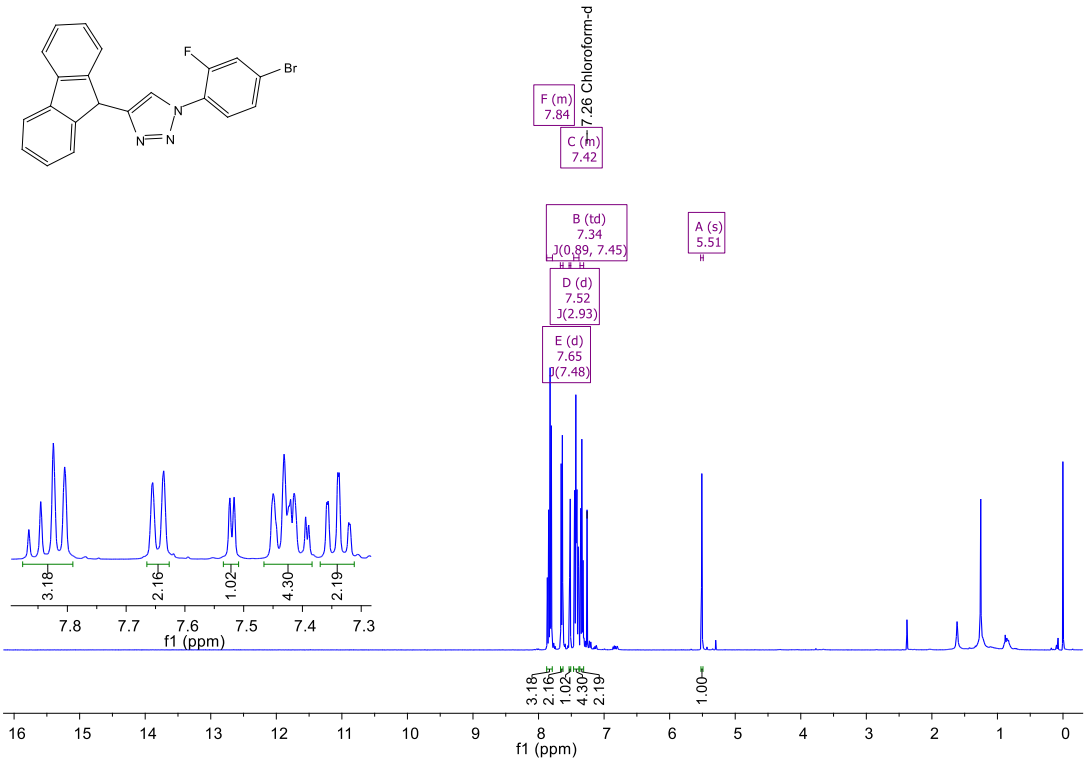

Figure S47 – ^{1}H NMR of the compound **7ad**

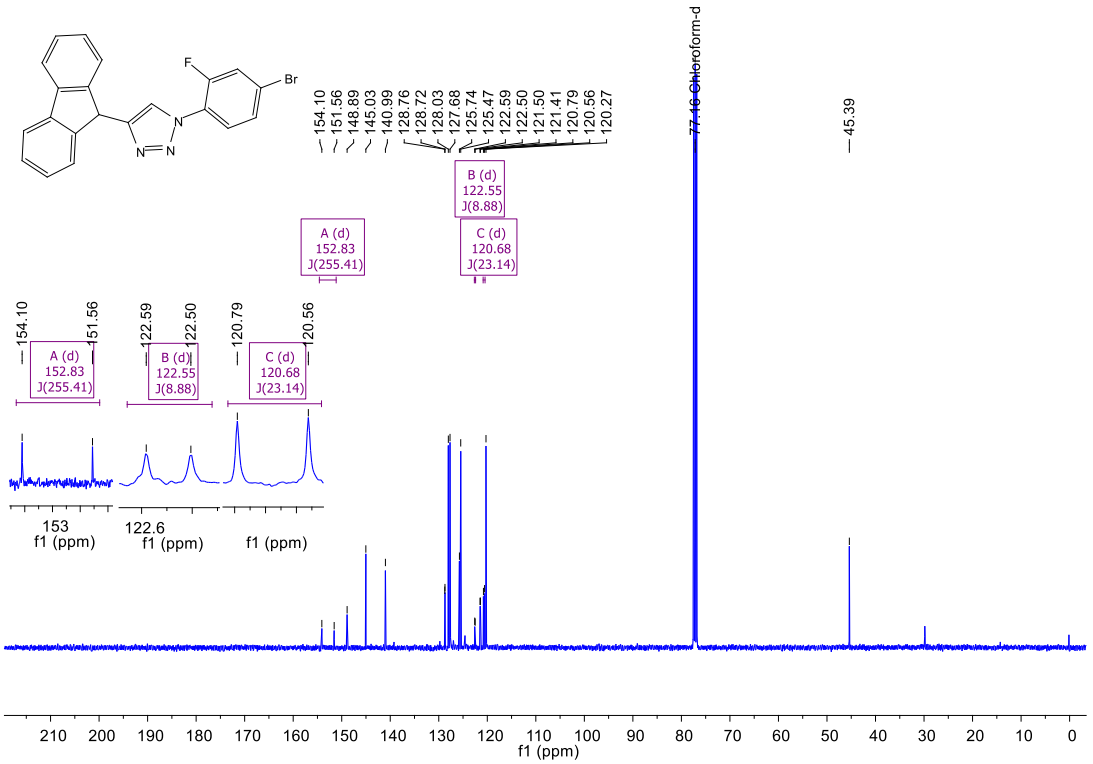

Figure S48 – ^{13}C NMR of the compound **7ad**

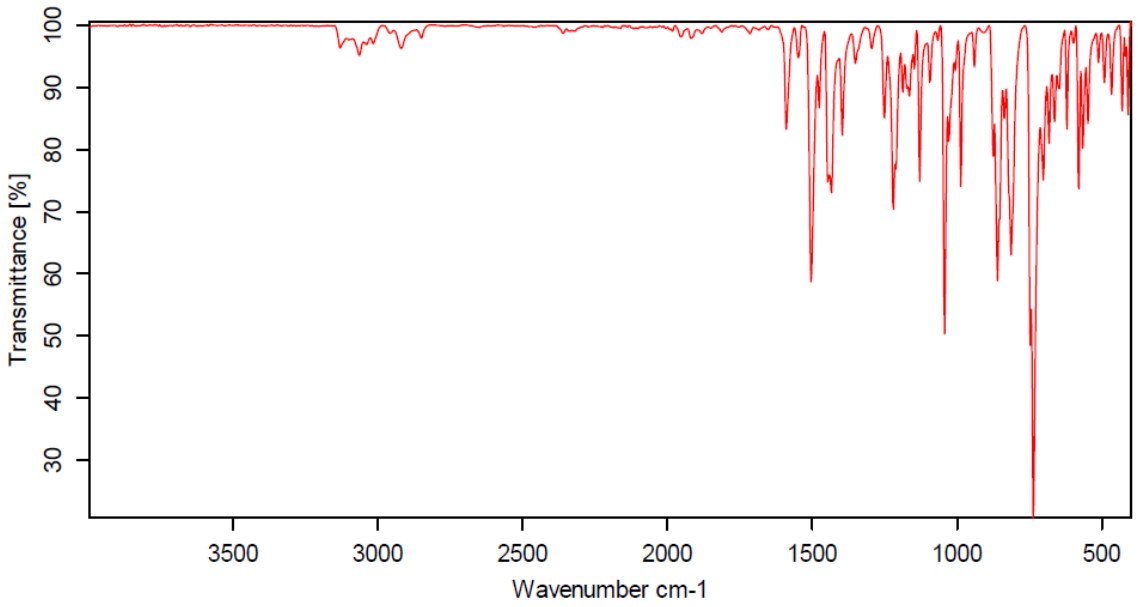

Figure S49 – FTIR-ATR of the compound **7ad** at room temperature

1-(2,5-Dibromophenyl)-4-(9*H*-fluoren-9-yl)-1*H*-1,2,3-triazole (**7ae**)

Yield of 74%; white solid; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.81 (d, *J* = 7.5 Hz, 2H), 7.66 (dd, *J* = 6.0, 1.4 Hz, 3H), 7.55 (d, *J* = 8.6 Hz, 1H), 7.44 (dt, *J* = 14.3, 5.1 Hz, 4H), 7.34 (td, *J* = 7.5, 1.1 Hz, 2H), 5.52 (s, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 148.2, 145.2, 141.0, 137.6, 135.0, 134.2, 131.2, 128.0, 127.7, 125.5, 122.6, 121.8, 120.3, 117.3, 77.2, 45.4; FTIR-ATR (cm^{-1}) 410.7, 420.6, 449.9, 509.1, 576.0, 619.6, 653.6, 671.8, 694.5, 737.0, 765.5, 808.9, 838.7, 866.6, 941.4, 995.1, 1030.7, 1043.4, 1084.9, 1126.0, 1187.1, 1232.2, 1261.7, 1293.4, 1380.4, 1421.6, 1446.3, 1483.9, 1578.2, 1724.2, 2920.8, 3057.5. HRMS(ESI) m/z calculated for $C_{21}H_{13}Br_2N_3$+H $[M+H]^+$, 465.9554; found 465.9542.

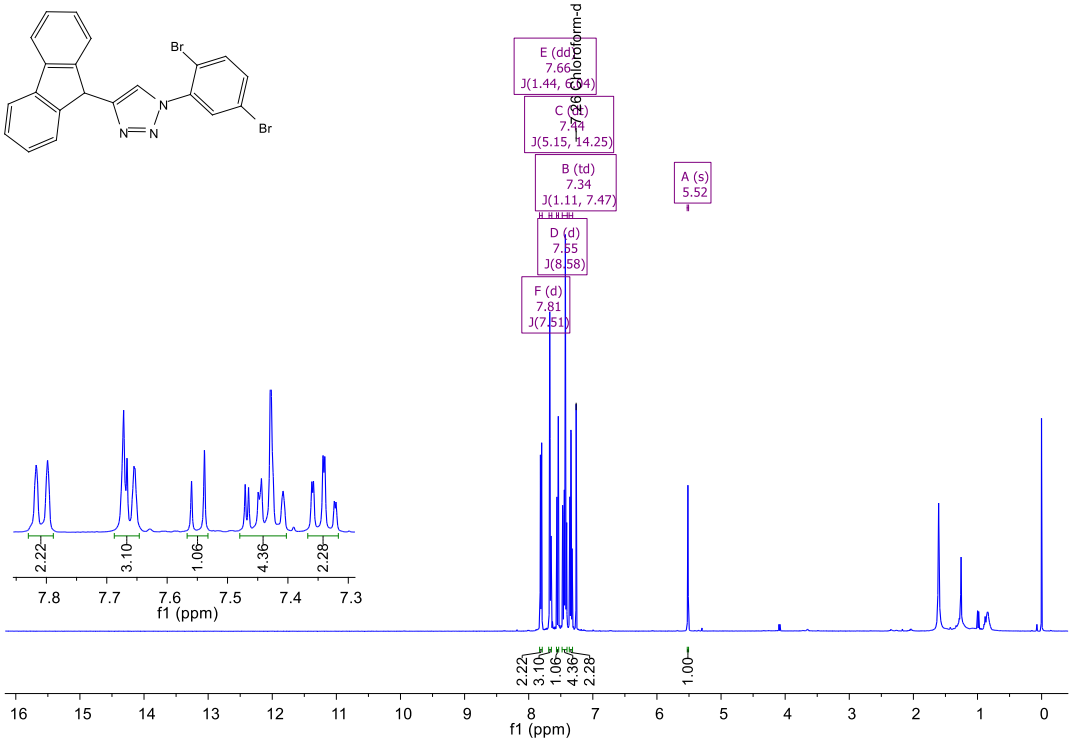

Figure S50 – ^{1}H NMR of the compound **7ae**

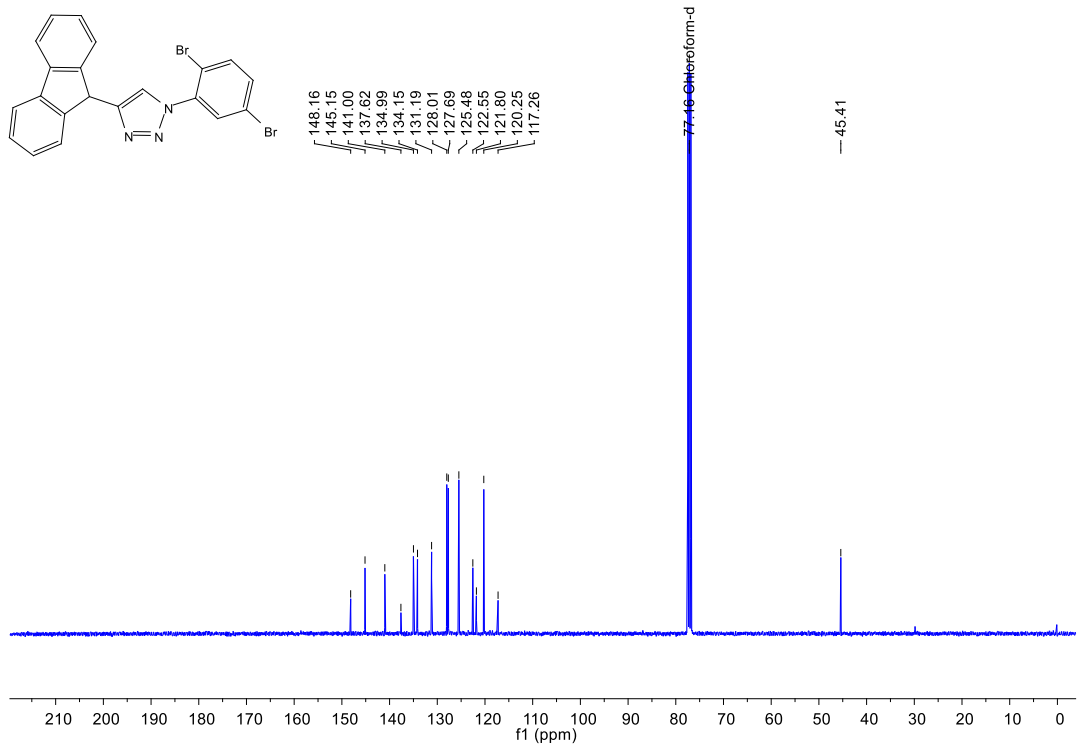

Figure S51 – ^{13}C NMR of the compound **7ae**

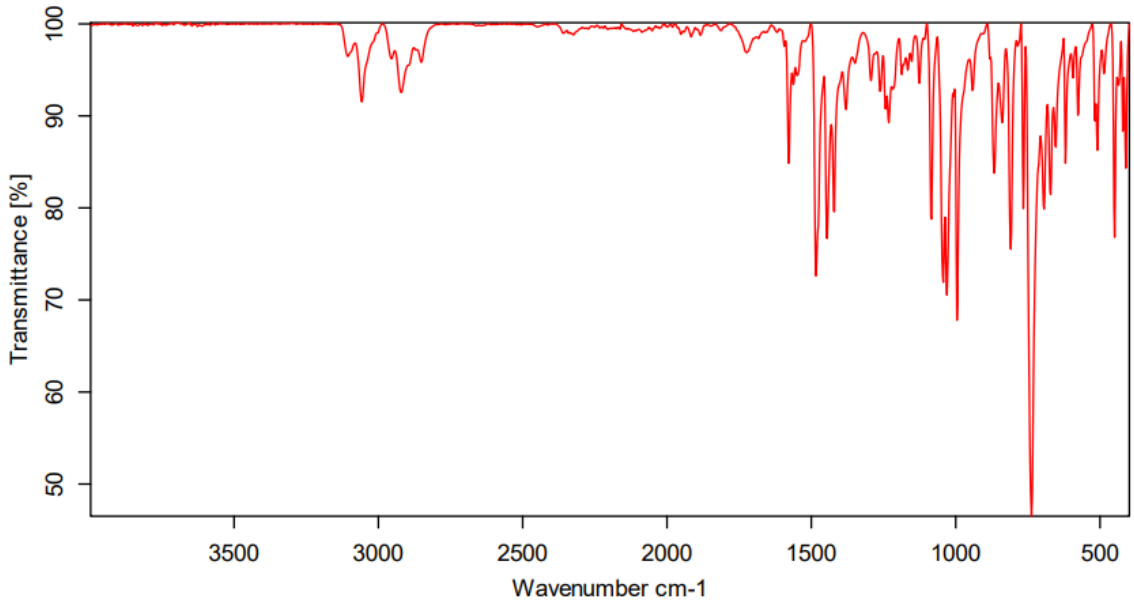

Figure S52 – FTIR-ATR of the compound **7ae** at room temperature

4-(4-(9*H*-fluoren-9-yl)-1*H*-1,2,3-triazol-1-yl)benzamide (**7af**)

Yield of 64%; beige solid; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.81 (d, *J* = 7.6 Hz, 2H), 7.64 (dd, *J* = 7.5, 0.6 Hz, 2H), 7.60 – 7.55 (m, 2H), 7.54 – 7.50 (m, 2H), 7.43 (t, *J* = 7.4 Hz, 2H), 7.37 (d, *J* = 4.7 Hz, 1H), 7.34 (td, *J* = 7.5, 1.1 Hz, 2H), 5.51 (s, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 149.3, 145.2, 141.0, 136.1, 132.9, 128.1, 127.7, 125.5, 122.3, 121.9, 120.3, 118.3, 77.2, 45.5; FTIR-ATR (cm^{-1}) 411.5, 420.6, 456.5, 508.2, 523.2, 590.2, 619.8, 691.0, 740.1, 825.3, 943.8, 987.5, 1014.4, 1042.8, 1071.9, 1097.6, 1177.8, 1229.9, 1245.2, 1302.3, 1355.7, 1400.5, 1447.3, 1493.6, 1548.4, 3062.4. HRMS(ESI) m/z calculated for $C_{22}H_{16}N_4O$+H $[M+H]^+$, 353.1402; found 353.1380.

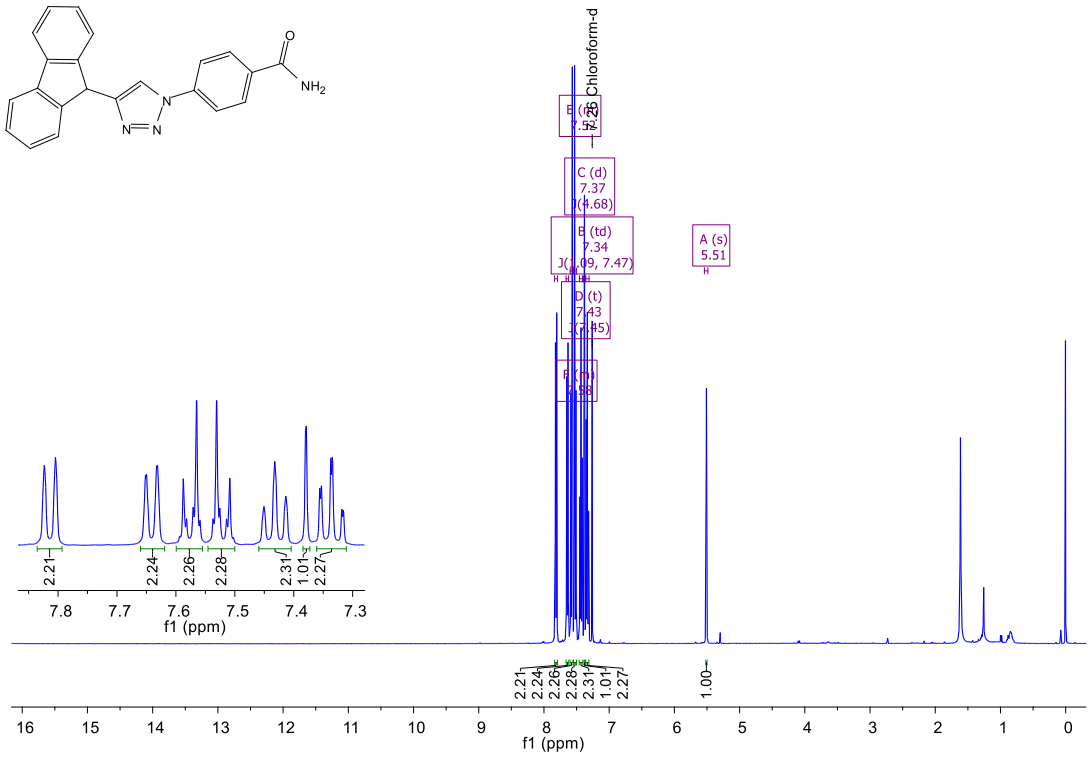

Figure S53 – ^{1}H NMR of the compound **7af**

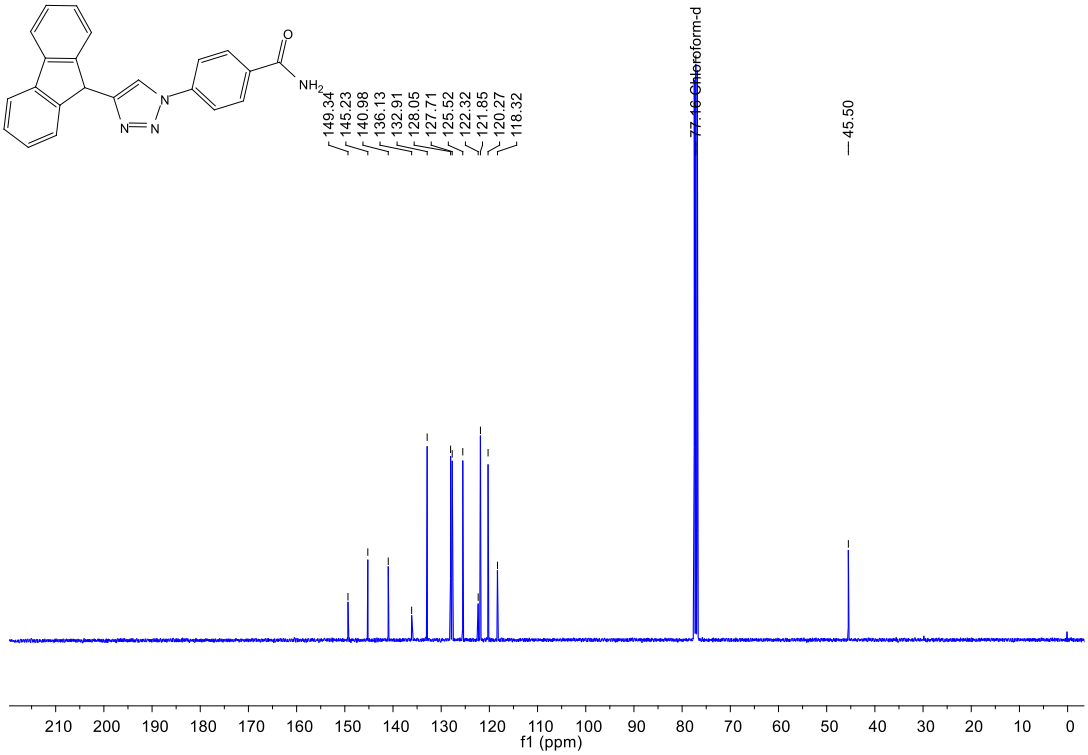

Figure S54 – ^{13}C NMR of the compound **7af**

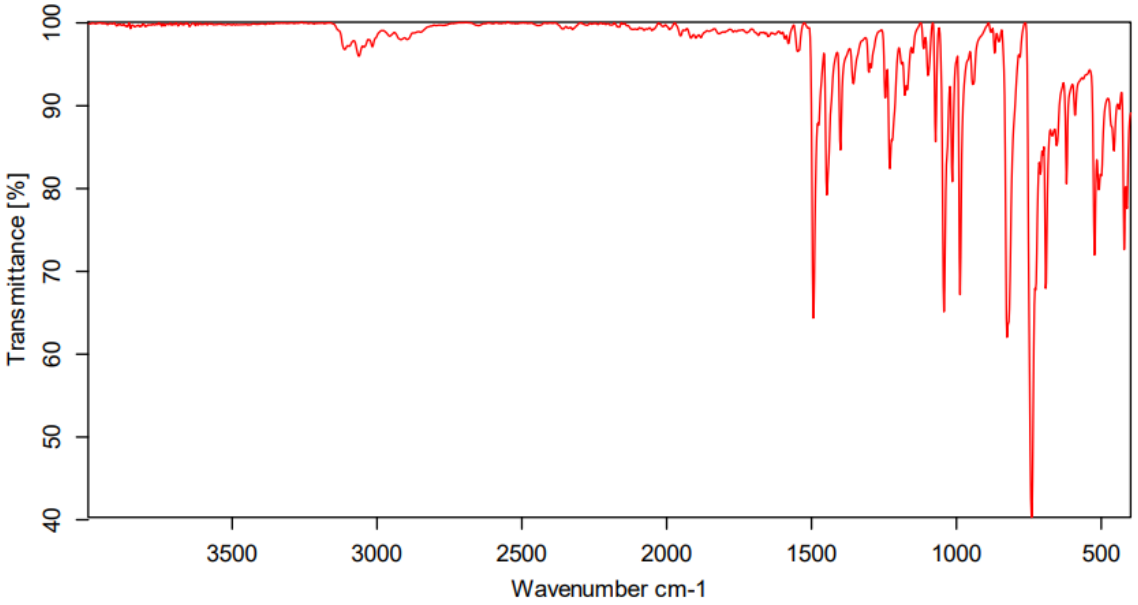

Figure S55 – FTIR-ATR of the compound **7af** at room temperature

4-(9*H*-fluoren-9-yl)-1-(4-fluorophenyl)-1*H*-1,2,3-triazole (**7ag**)

Yield of 57%; light yellowish brown solid; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.82 (d, *J* = 7.6 Hz, 2H), 7.65 (dd, *J* = 7.5, 0.6 Hz, 2H), 7.63 – 7.59 (m, 2H), 7.43 (t, *J* = 7.4 Hz, 2H), 7.35 (s, 2H), 7.33 (dd, *J* = 7.5, 1.1 Hz, 2H), 7.17 – 7.12 (m, 2H), 5.52 (s, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 162.5 (d, J_1 = 249.0 Hz, C-F, 1C), 149.2, 145.3, 141.0, 133.5, 128.0, 127.7, 125.6, 122.5 (d, J_3 = 8.6 Hz, C-F, 2C), 120.3, 118.7, 116.7 (d, J_2 = 23.2 Hz, C-F, 2C), 77.2, 45.5; FTIR-ATR (cm^{-1}) 413.0, 427.9, 484.3, 529.1, 615.7, 652.7, 695.5, 737.0, 814.4, 834.5, 877.8, 939.1, 993.9, 1048.4, 1096.1, 1155.8, 1196.0, 1220.0, 1292.3, 1377.2, 1447.7, 1511.9, 1599.9, 1708.9, 2853.0, 2922.3, 3064.0. HRMS(ESI) m/z calculated for $C_{21}H_{14}FN_3$+H $[M+H]^+$, 328.1250; found 328.1247.

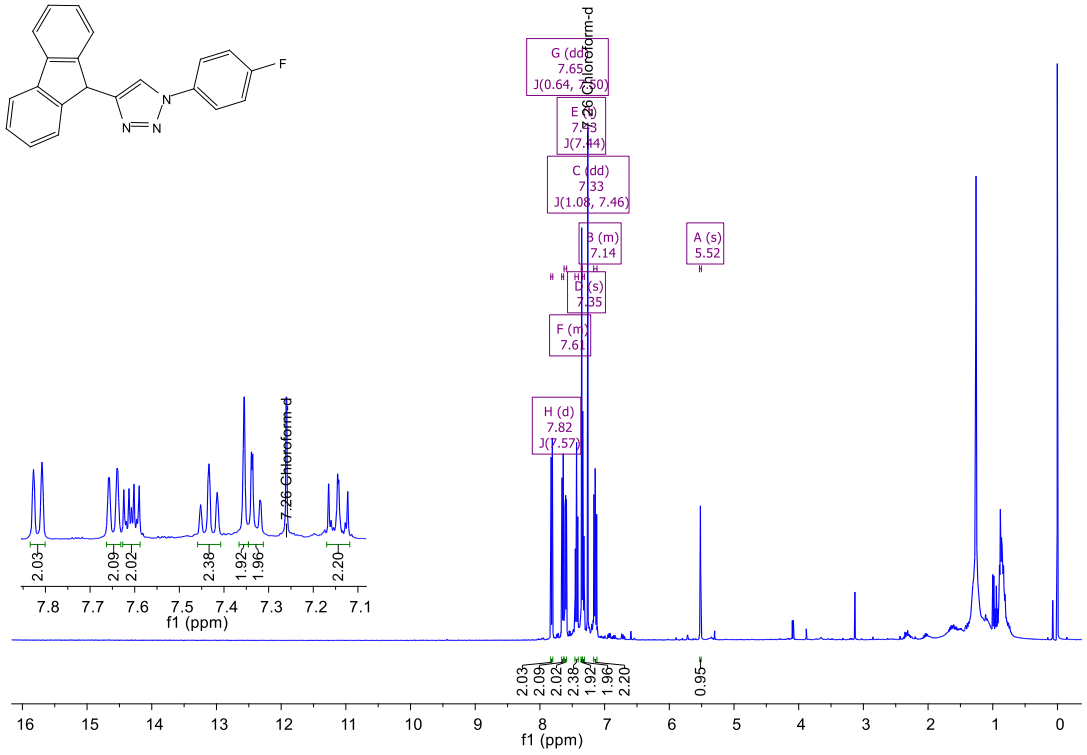

Figure S56 – ^{1}H NMR of the compound **7ag**

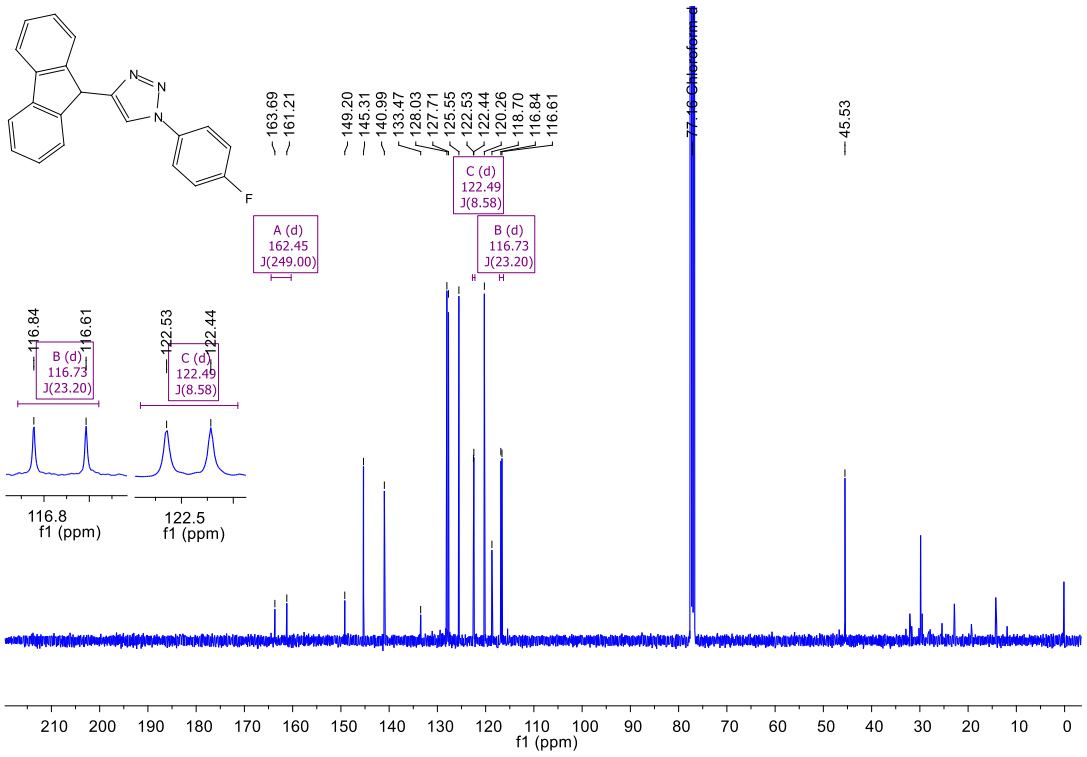

Figure S57 – ^{13}C NMR of the compound **7ag**

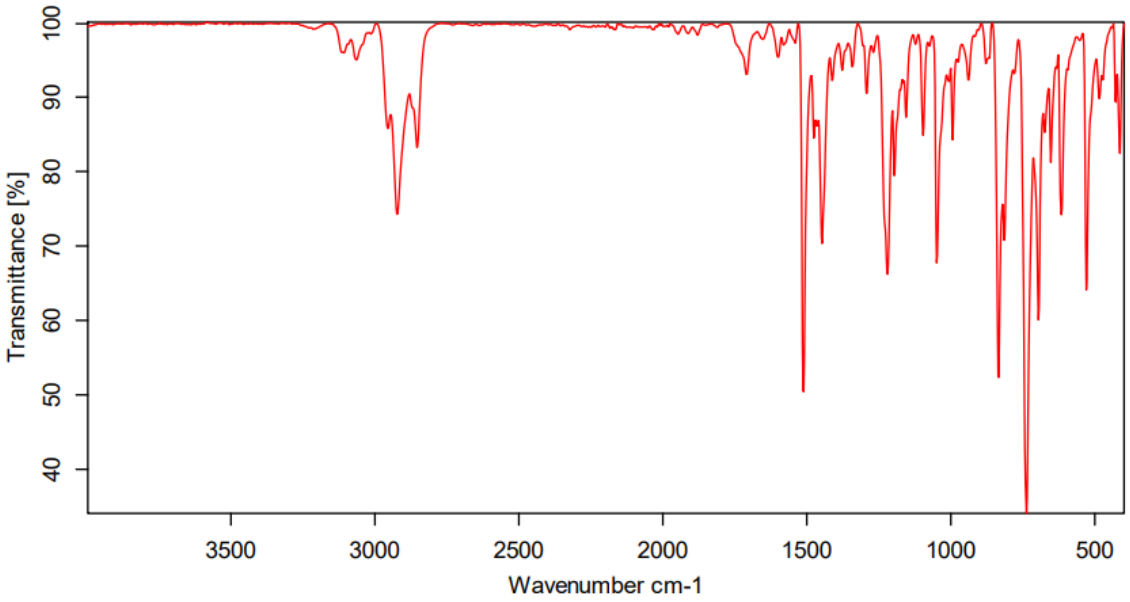

Figure S58 – FTIR-ATR of the compound **7ag** at room temperature

4-(9*H*-fluoren-9-yl)-1-phenyl-1*H*-1,2,3-triazole (**7ah**)

Yield of 67%; white solid; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.82 (d, *J* = 7.6 Hz, 2H), 7.68 – 7.61 (m, 4H), 7.47 – 7.40 (m, 5H), 7.38 (dt, *J* = 4.4, 1.7 Hz, 1H), 7.34 (td, *J* = 7.5, 1.1 Hz, 2H), 5.52 (s, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 149.0, 145.4, 141.0, 137.2, 129.8, 128.7, 128.0, 127.7, 125.6, 120.5, 120.2, 118.5, 77.2, 45.6; FTIR-ATR (cm^{-1}) 410.9, 423.9, 443.5, 486.5, 521.0, 620.0, 688.2, 706.2, 733.6, 756.7, 830.1, 866.4, 907.9, 940.0, 1033.9, 1072.6, 1152.2, 1178.0, 1207.4, 1232.2, 1260.2, 1294.6, 1362.6, 1445.3, 1463.4, 1500.8, 1595.8, 2851.9, 2921.2, 3120.8. HRMS(ESI) m/z calculated for $C_{21}H_{15}N_3$+H $[M+H]^+$, 310.1344; found 310.1343.

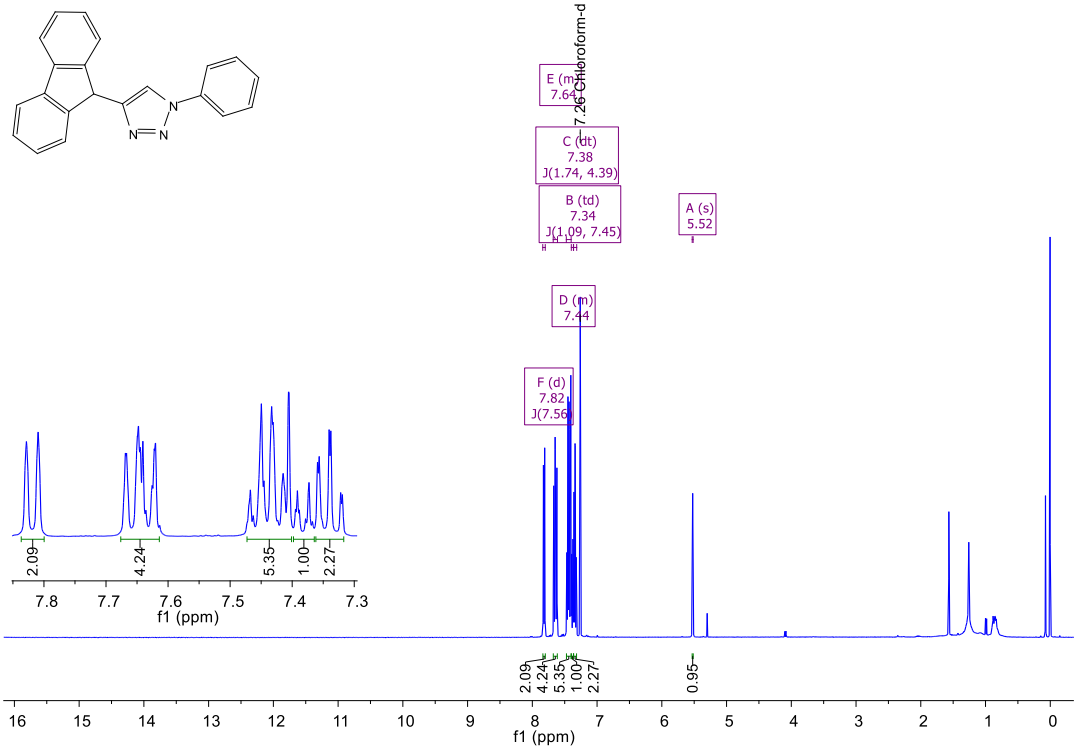

Figure S59 – ^{1}H NMR of the compound **7ah**

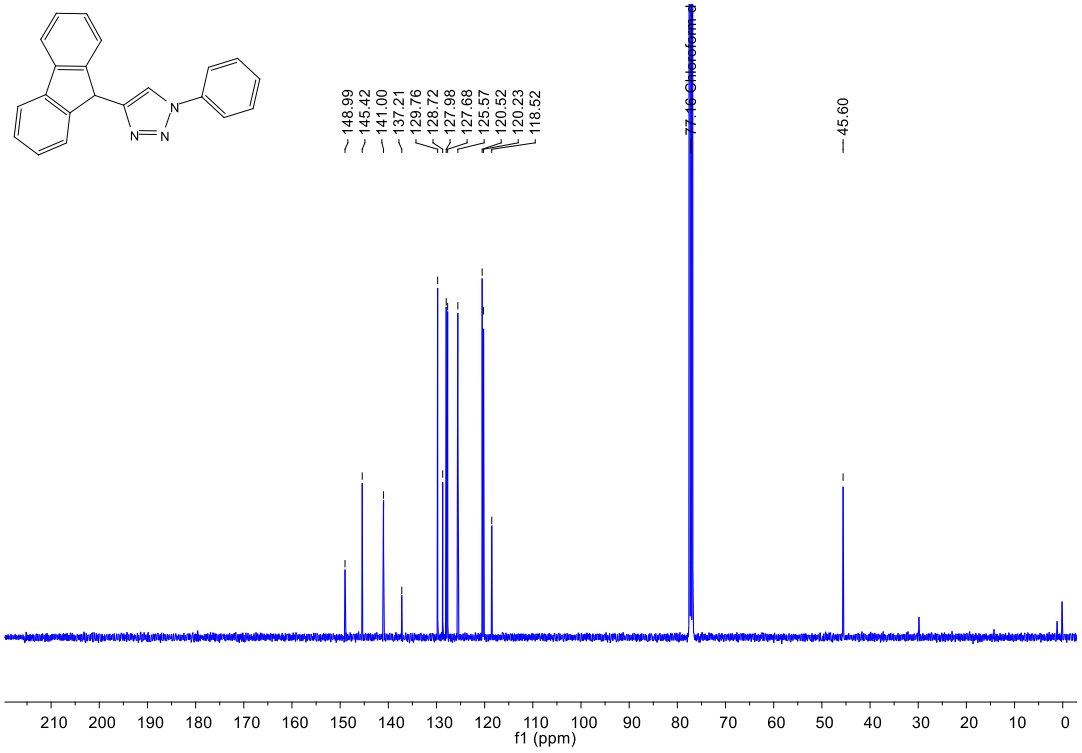

Figure S60 – ^{13}C NMR of the compound **7ah**

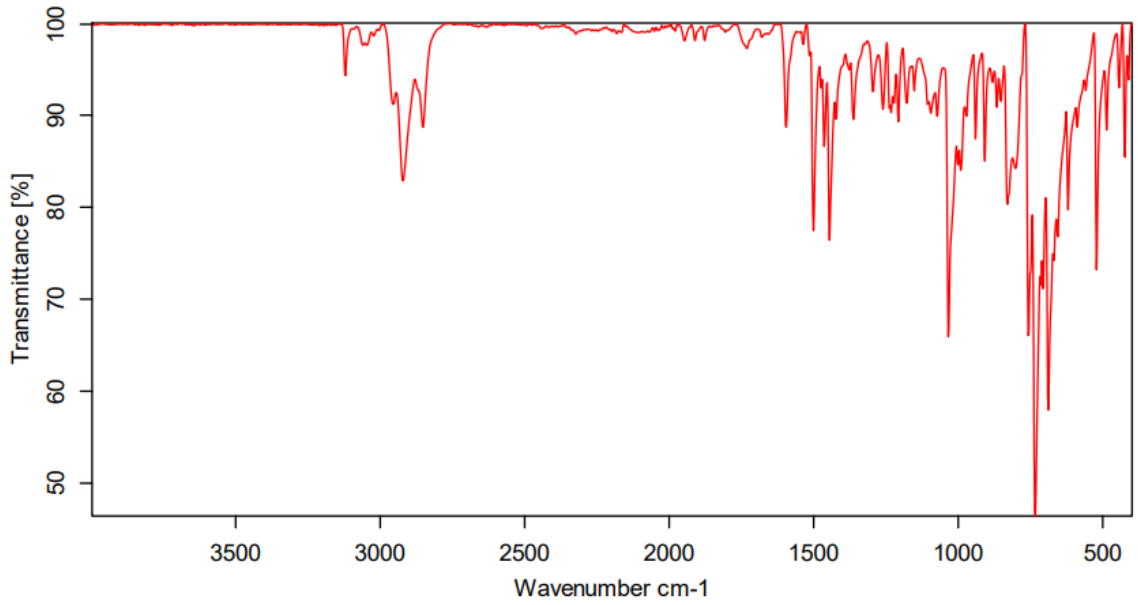

Figure S61 – FTIR-ATR of the compound **7ah** at room temperature

4-(9*H*-fluoren-9-yl)-1-(4-(trifluoromethyl)phenyl)-1*H*-1,2,3-triazole (**7ai**)

Yield of 97%; orange solid; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.81 (dd, *J* = 12.2, 8.1 Hz, 4H), 7.72 (d, *J* = 8.6 Hz, 2H), 7.65 (dd, *J* = 7.5, 0.6 Hz, 2H), 7.45 (dd, *J* = 13.8, 6.4 Hz, 3H), 7.34 (td, *J* = 7.5, 1.1 Hz, 2H), 5.52 (s, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 149.6, 145.1, 141.0, 139.5, 130.9, 130.5, 128.1, 127.8, 127.1 (d, J_3 = 7.5 Hz, C-F, 2C), 125.5, 120.4, 120.3, 118.4, 77.2, 45.4; FTIR-ATR (cm^{-1}) 410.8, 421.3, 467.6, 516.7, 593.2, 619.8, 685.5, 738.4, 778.5, 834.6, 989.3, 1028.0, 1040.4, 1068.2, 1106.5, 1119.6, 1166.0, 1232.5, 1250.5, 1321.4, 1410.7, 1441.8, 1523.7, 1614.9, 2923.0, 3064.8; HRMS(ESI) m/z calculated for $C_{22}H_{14}F_3N_3$+H $[M+H]^+$, 378.1218; found 378.1255.

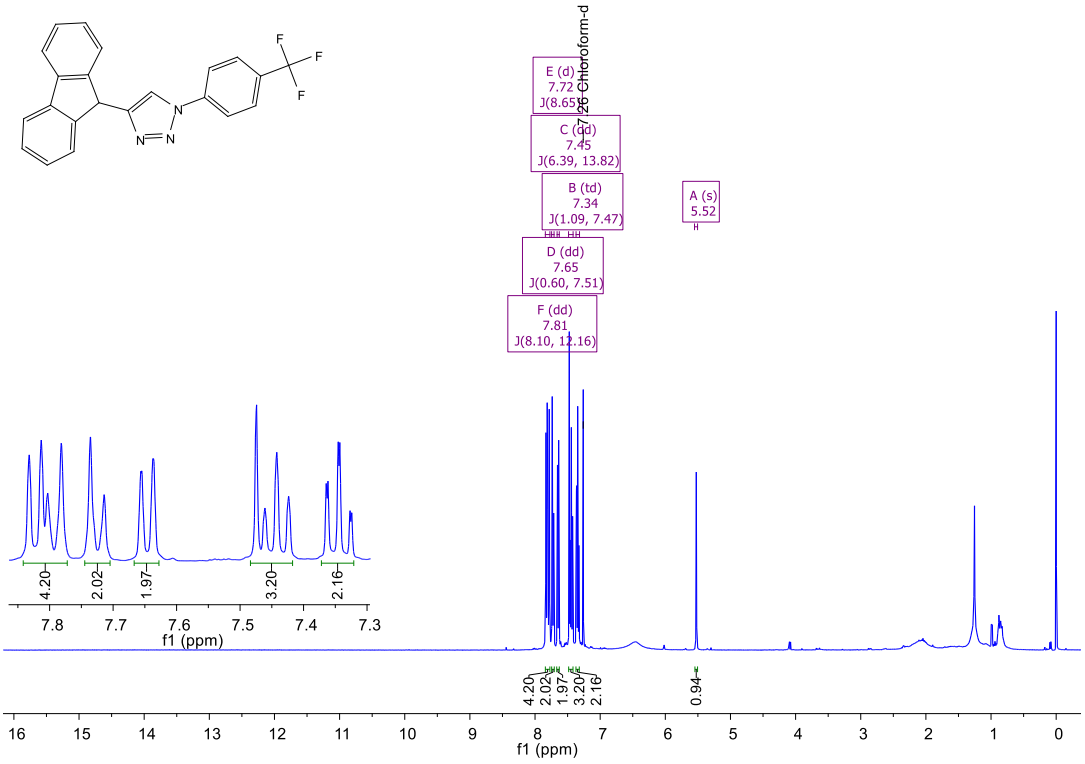

Figure S62 – ^{1}H NMR of the compound **7ai**

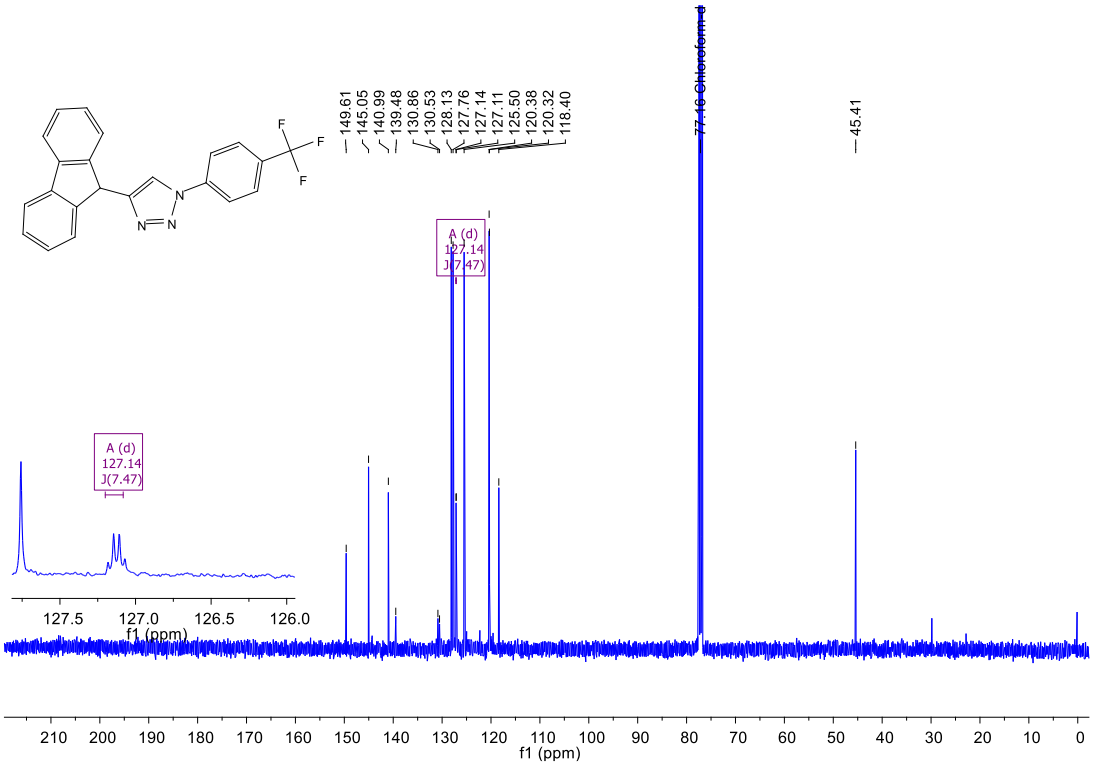

Figure S63 – ^{13}C NMR of the compound **7ai**

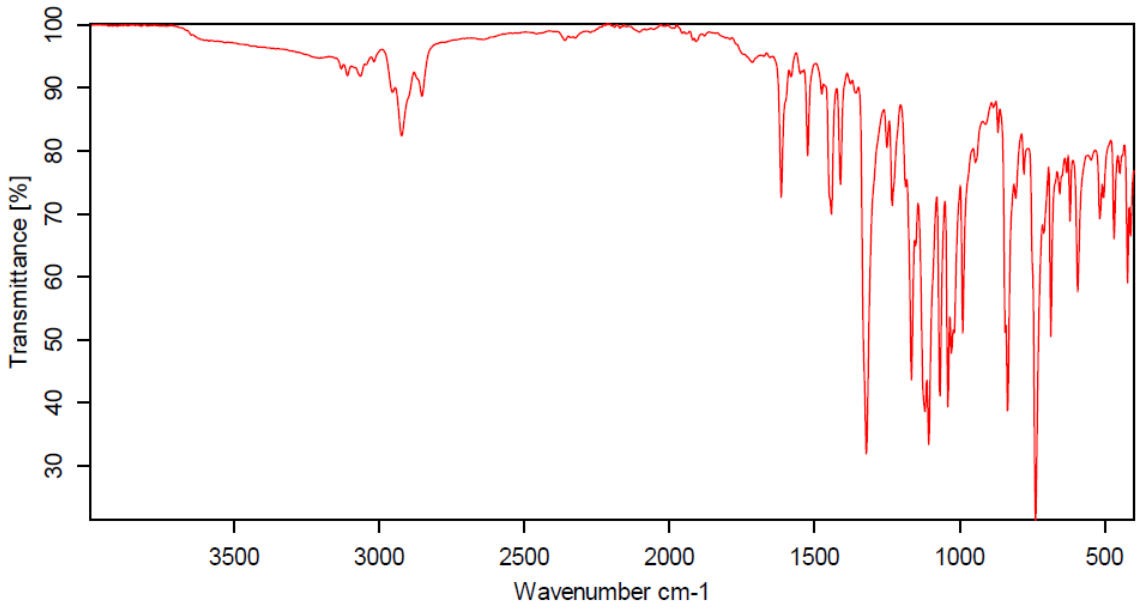

Figure S64 – FTIR-ATR of the compound **7ai** at room temperature

9-(1-(4-Bromophenyl)-1*H*-1,2,3-triazol-4-yl)-9*H*-fluoren-2-yl)methanamine (**7ba**)

Yield of 55%; yellowish brown solid; ^{1}H NMR (400 MHz, $CDCl_3$) δ 8.17 (d, *J* = 7.6 Hz, 1H), 7.62 – 7.55 (m, 3H), 7.54 – 7.50 (m, 2H), 7.44 – 7.39 (m, 1H), 7.36 (d, *J* = 0.4 Hz, 1H), 7.32 – 7.27 (m, 2H), 7.26 – 7.22 (m, 1H), 6.95 (d, *J* = 8.0 Hz, 1H), 5.50 (s, 1H), 4.04 (s, 2H), 1.26 (s, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 156.1, 149.5, 147.1, 144.6, 140.3, 136.2, 132.9, 129.0, 128.7, 128.0, 126.8, 124.8, 124.2, 122.3, 121.8, 118.4, 117.7, 110.0, 77.2, 55.6, 45.8; FTIR-ATR (cm^{-1}) 408.1, 431.3, 465.9, 503.3, 547.9, 590.5, 614.0, 663.0, 729.8, 737.9, 773.7, 811.0, 830.6, 948.9, 986.8, 1010.5, 1040.9, 1070.8, 1114.0, 1149.9, 1177.0, 1228.8, 1240.7, 1269.0, 1300.2, 1351.9, 1398.2, 1432.5, 1453.1, 1488.7, 1544.1, 1584.4, 1605.8, 1714.9, 2851.7, 2922.3, 3004.5, 3098.9; HRMS(ESI) m/z calculated for $C_{22}H_{17}BrN_4$+H $[M+H]^+$, 418.0715; found 418.00595.

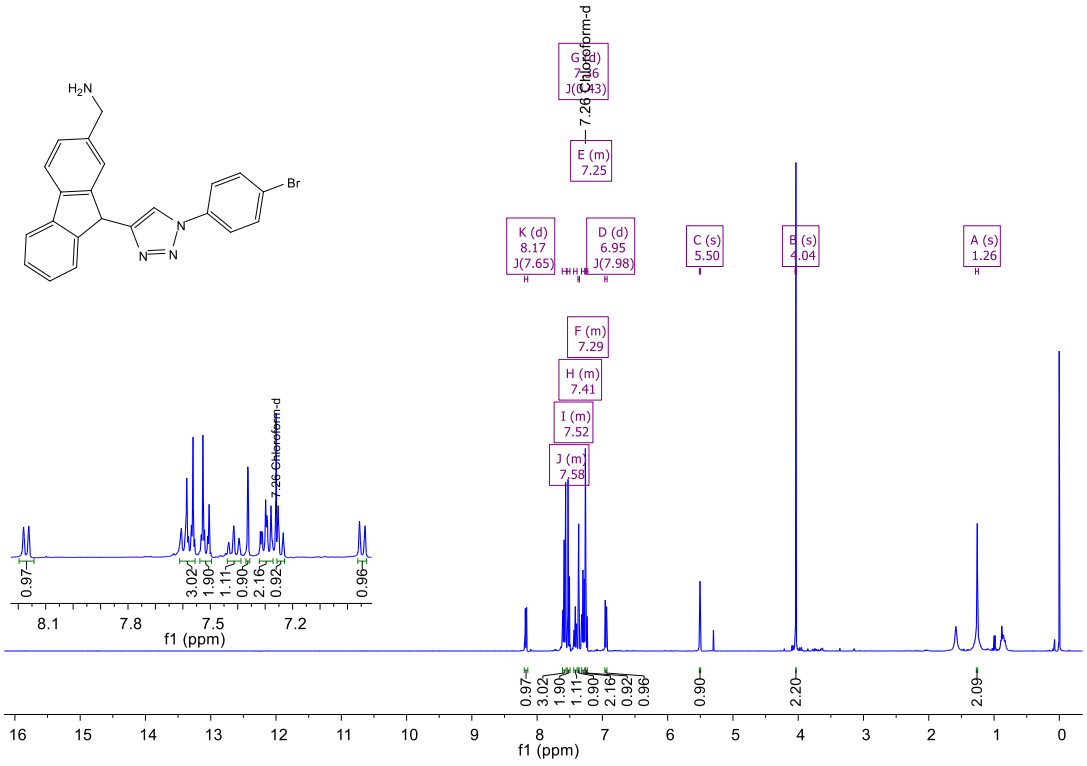

Figure S65 – ^{1}H NMR of the compound **7ba**

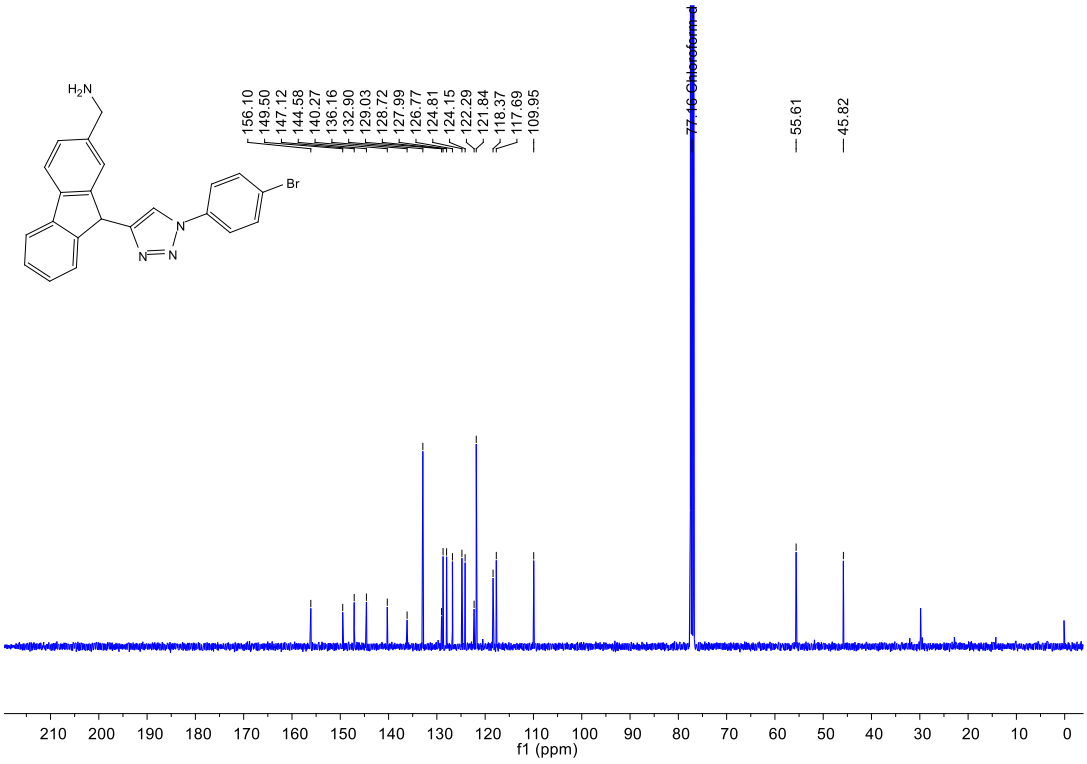

Figure S66 – ^{13}C NMR of the compound **7ba**

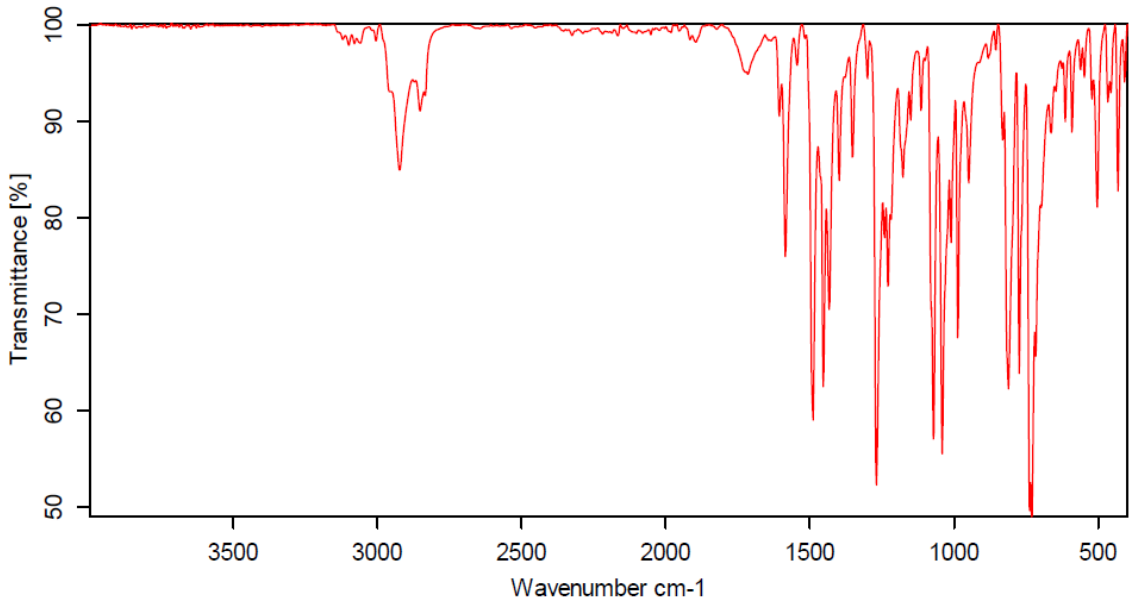

Figure S67 – FTIR-ATR of the compound **7ba** at room temperature

1-(4-Bromophenyl)-4-(2-fluoro-9*H*-fluoren-9-yl)-1*H*-1,2,3-triazole (**7ea**)

Yield of 94%; brown solid; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.77 – 7.72 (m, 3H), 7.60 (dd, *J* = 7.7, 5.5 Hz, 4H), 7.54 (d, *J* = 8.8 Hz, 2H), 7.46 – 7.41 (m, 3H), 7.33 (dd, *J* = 14.8, 7.3 Hz, 3H), 7.13 (td, *J* = 8.7, 1.9 Hz, 2H), 5.49 (s, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 162.8 (d, J_1 = 246.4 Hz, C-F, 1C), 148.6, 147.2, 144.9, 140.2, 136.9, 136.0, 133.0, 128.3, 127.4, 125.5, 122.6, 122.0, 121.3 (d, J_3 = 8.9 Hz, C-F, 1C), 120.0, 118.6, 115.4 (d, J_2 = 23.1 Hz, C-F, 1C), 113.0 (d, J_2 = 23.4 Hz, C-F, 1C), 77.2, 45.4; FTIR-ATR (cm^{-1}) 410.5, 426.9, 518.7, 557.9, 579.8, 597.5, 720.0, 741.9, 763.7, 792.6, 824.1, 880.8, 942.4, 987.5, 1010.7, 1068.9, 1158.8, 1199.1, 1222.3, 1267.8, 1401.8, 1453.6, 1490.5, 1589.8, 2324.0, 2919.9, 3148.2. HRMS(ESI) m/z calculated for $C_{21}H_{13}BrFN_3$+H $[M+H]^+$, 406.0355; found 406.0375.

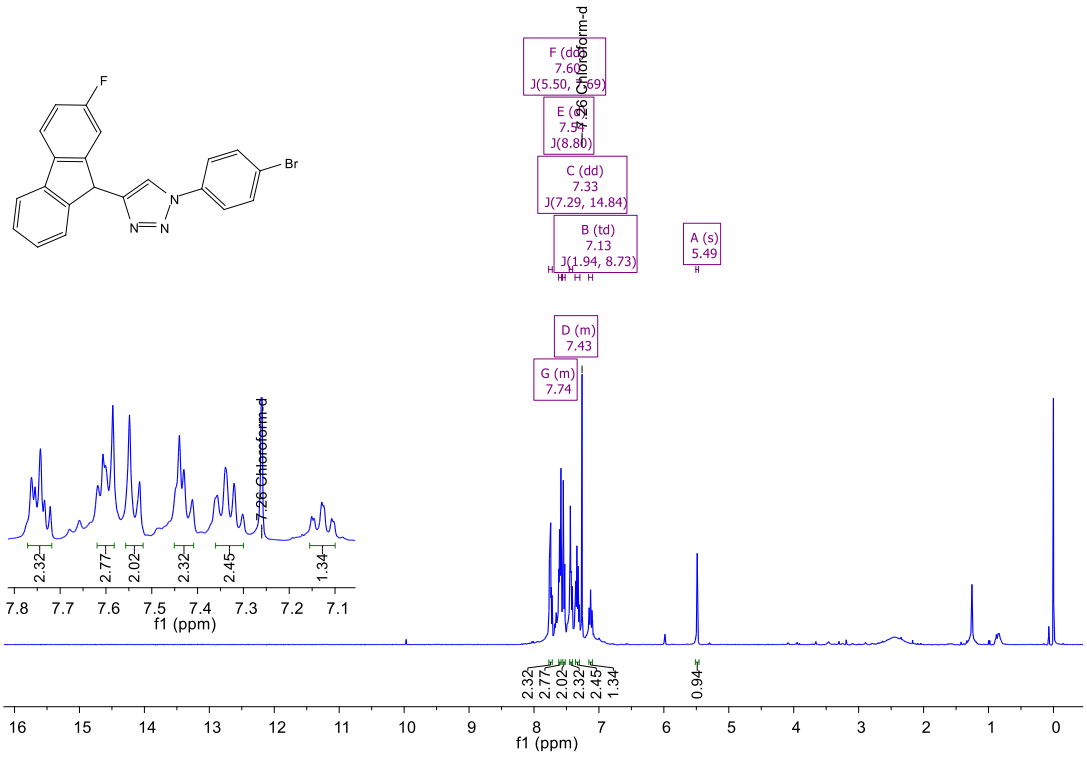

Figure S68 – ^{1}H NMR of the compound **7ea**

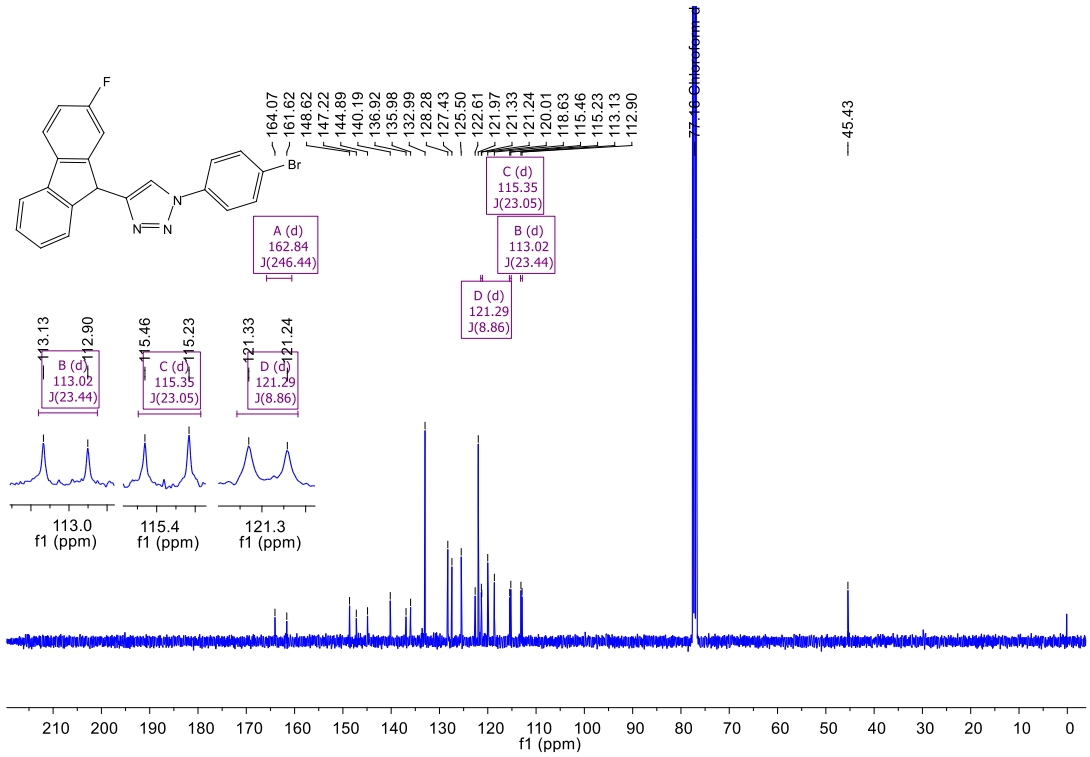

Figure S69 – ^{13}C NMR of the compound **7ea**

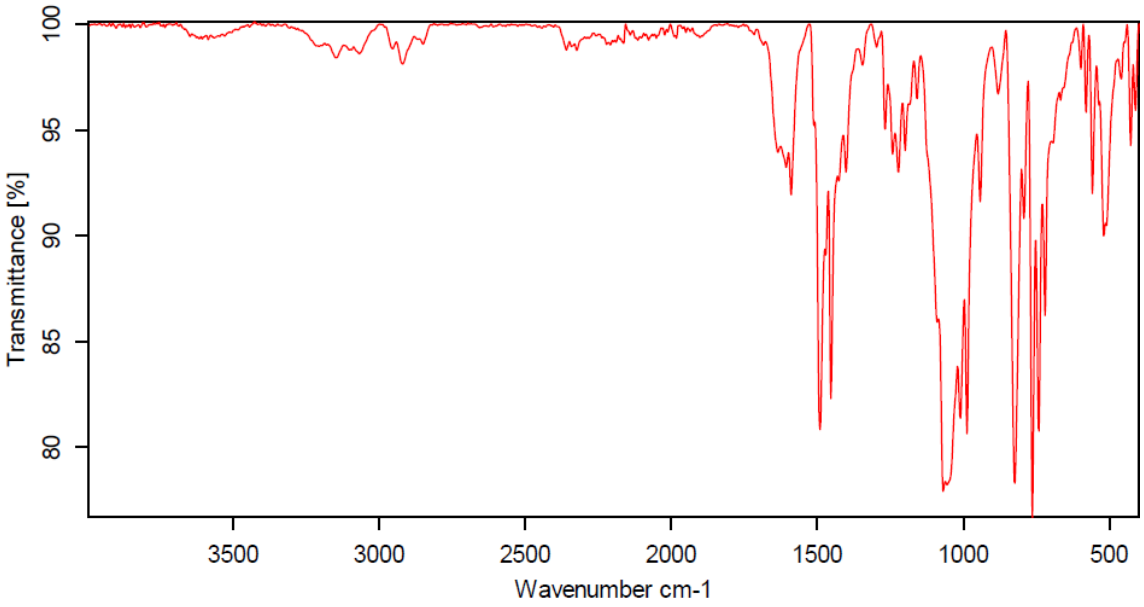

Figure S70 – FTIR-ATR of the compound **7ea** at room temperature

1-(4-Bromophenyl)-4-(2-(trifluoromethyl)-9*H*-fluoren-9-yl)-1*H*-1,2,3-triazole (**7fa**)

Yield of 60%; white solid; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.89 (dd, *J* = 11.2, 5.3 Hz, 3H), 7.68 (dd, *J* = 17.0, 7.7 Hz, 2H), 7.62 – 7.58 (m, 2H), 7.57 – 7.53 (m, 2H), 7.49 (t, *J* = 7.4 Hz, 1H), 7.44 – 7.40 (m, 2H), 5.56 (s, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 148.1, 145.7, 145.5, 139.5, 132.8, 128.8, 128.3, 125.7, 125.5, 123.8 (d, J_1 = 294.9 Hz, C-F, 2C), 121.8, 120.9, 120.3, 118.3, 45.4; FTIR-ATR (cm^{-1}) 426.6, 451.9, 476.7, 516.4, 588.3, 631.1, 677.8, 706.7, 731.0, 746.7, 767.4, 787.0, 826.1, 897.9, 911.0, 989.7, 1041.3, 1062.8, 1075.7, 1100.0, 1120.2, 1148.7, 1175.7, 1225.6, 1257.5, 1279.3, 1323.0, 1402.2, 1425.8, 1468.4, 1495.1, 1619.8, 3128.7. HRMS(ESI) m/z calculated for $C_{22}H_{13}F_3N_3$+H $[M+H]^+$, 456.0323; found 456.0324.

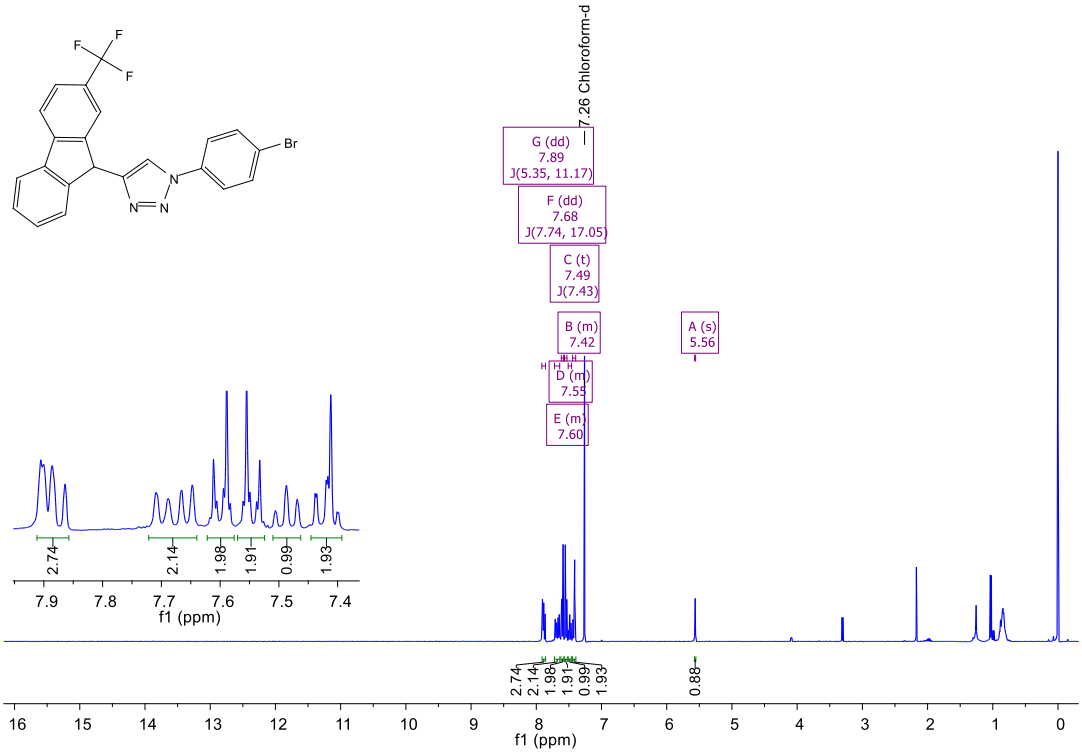

Figure S71 – ^{1}H NMR of the compound **7fa**

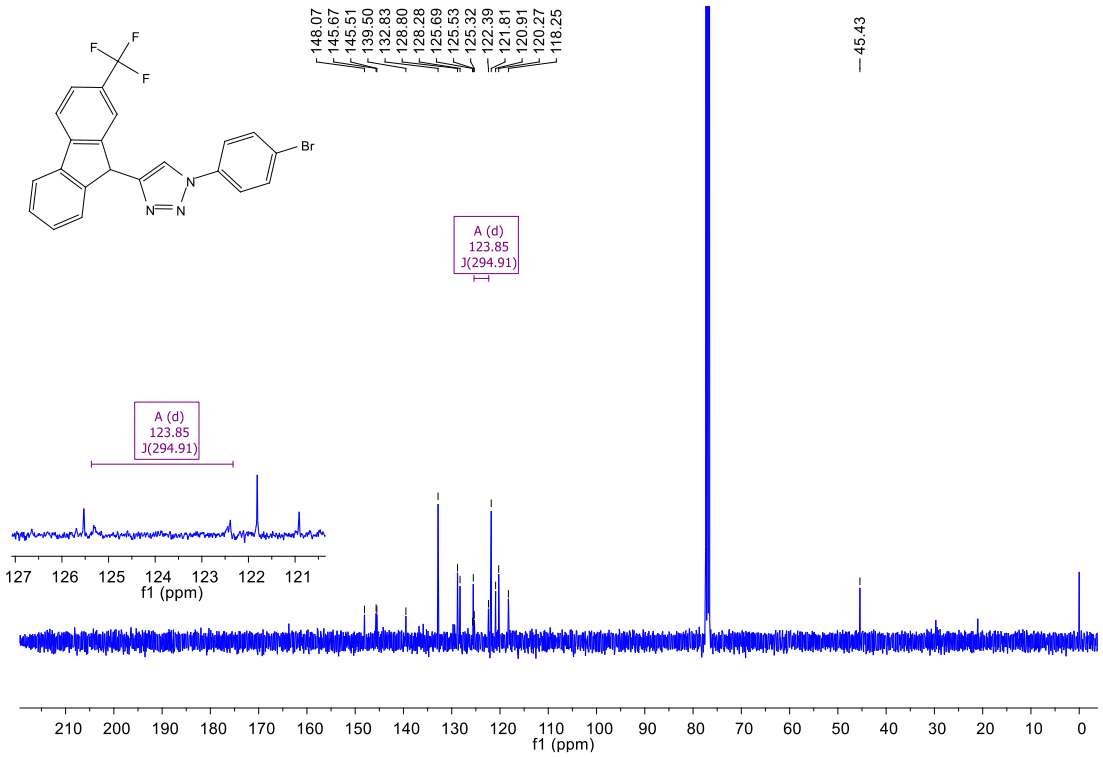

Figure S72 – ^{13}C NMR of the compound **7fa**

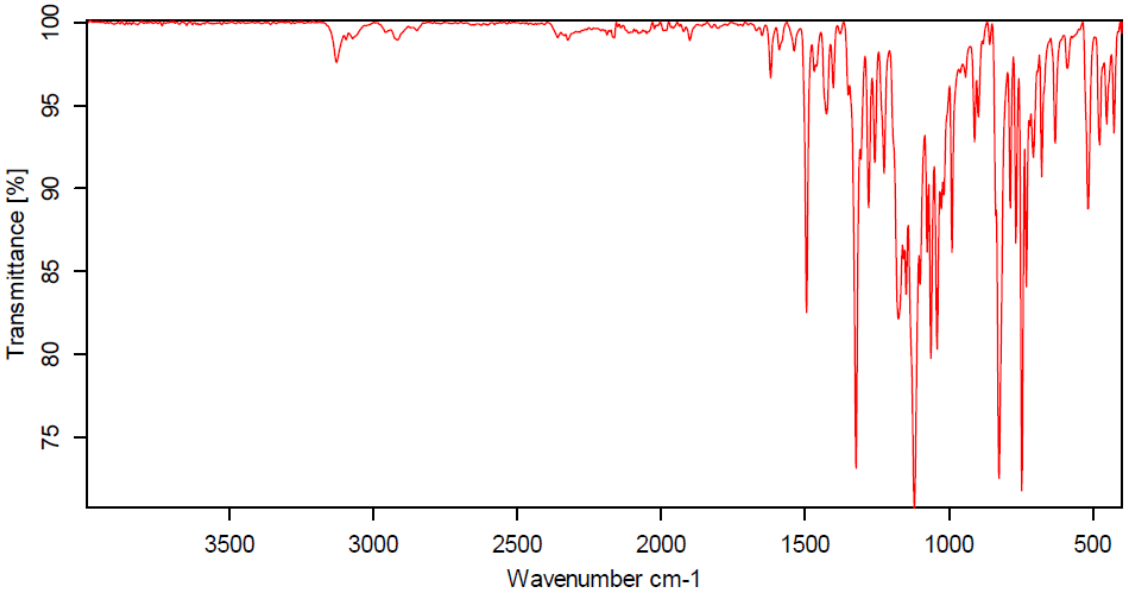

Figure S73 – FTIR-ATR of the compound **7fa** at room temperature