Supplementary Information for:

Lewis acid induced spectral changes of sterically hindered and unhindered *meso*-tetra(aryl)porphyrins: Fluorescence emission spectra

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Contents:

S1: ^{1}H NMR, ^{13}C NMR and UV-Vis spectral data of *meso*-tetra(aryl)porphyrins:

H_2TPP. ^{1}H NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: -2.77 (2H, br, s, NH), 7.77-7.84 ($8H_m$ and 4Hp, m), 8.26-8.27 ($8H_o$, d), 8.90 ($8H_\beta$, s); ^{13}C NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: 120.18 (C_{meso}), 142.20 (C_1), 134.60 (C_2, C_6), 126.73 (C_3, C_5), 127.75 (C_4), 131.5 (C_β); UV-vis in CH_2Cl_2, λ_{max}/nm (logε): 417 (5.79), 513 (4.58), 548 (4.38), 590 (4.30), 647 (4.29).

H_2T(4-OCH_3)PP. ^{1}H NMR (400MHz, $CDCl_3$, TMS), δ/ppm: -2.72 (2H, br, s, NH), 7.29-7.32 ($8H_m$, d), 8.15-8.17 ($8H_o$, d), 8.89 ($8H_\beta$, s), 4.13 ($12H_{Me}$, s); ^{13}C NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: 119.75 (C_{meso}), 134.67 (C_1), 135.62 (C_2, C_6), 112.20 (C_3, C_5), 159.39 (C_4), 131.34 (C_β), 55.61 (C_{Me}); UV-vis in CH_2Cl_2, λ_{max}/nm (logε): 421 (5.61), 517 (4.32), 555 (4.22), 593 (4.06), 651 (4.11).

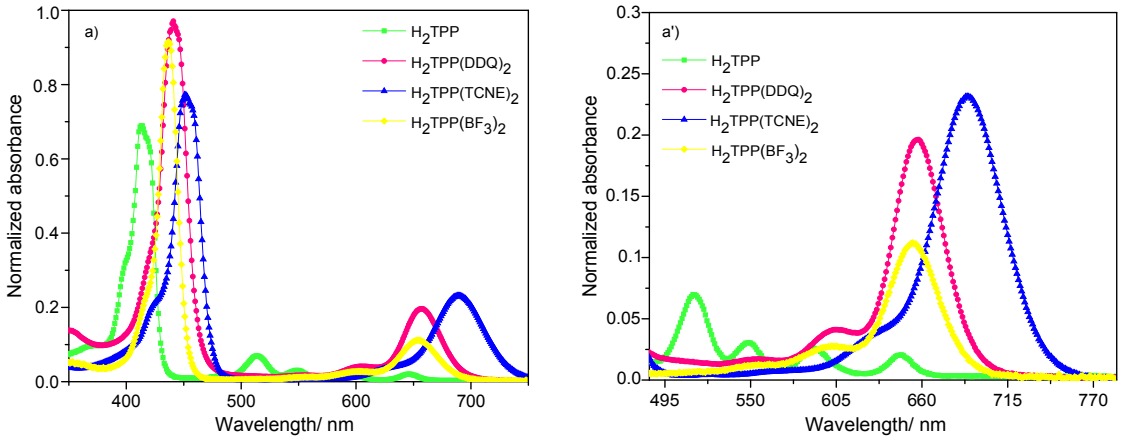
H_2T(4-CH_3)PP. ^{1}H NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: -2.76 (2H, br, s, NH), 7.55-7.58 ($8H_m$, d), 8.09-8.12 ($8H_o$, d), 8.86 ($8H_\beta$, s), 2.65 ($12H_{Me}$, s); ^{13}C NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: 120.47 (C_{meso}), 139.73 (C_1), 134.92 (C_2, C_6), 127.81 (C_3, C_5), 137.71 (C_4), 131.37 (C_β), 21.57 (C_{Me}); UV-vis in CH_2Cl_2, λ_{max}/nm (logε): 418 (5.89), 516 (4.54), 551 (4.34), 590 (4.18), 647 (4.20).

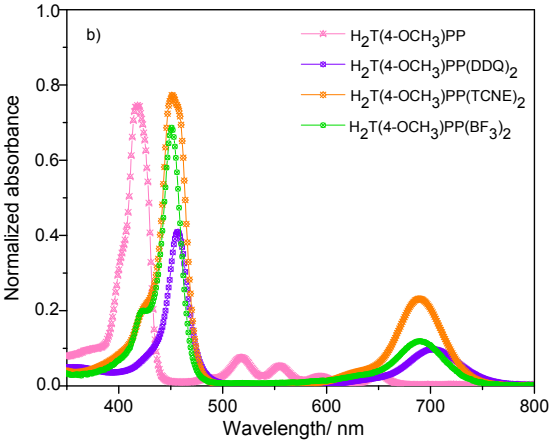
H_2T(4-Cl)PP. ^{1}H NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: -2.83 (2H, br, s, NH), 7.77-7.79 ($8H_m$, d), 8.15-8.17 ($8H_o$, d), 8.87 ($8H_\beta$, s); ^{13}C NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: 119.01 (C_{meso}), 140.37 (C_1), 135.52 (C_2, C_6), 127.07 (C_3, C_5), 134.41 (C_4), 131.64 (C_β); UV-vis in CH_2Cl_2, λ_{max}/nm (logε): 418 (5.79), 513 (4.52), 547 (4.25), 590 (4.16), 647 (4.10).

H_2T(2-CH_3)PP. ^{1}H NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: -2.59 (2H, br, s, NH), 7.54-7.74 ($8H_m$ and $4H_p$, m, *meta* and *para* position relative to C atom attached to the *meso* position), 7.99-8.11 ($4H_o$, m, *ortho* position relative to C atom attached to the *meso* position), 8.70 ($8H_\beta$, s), 2.01-2.11 ($12H_{Me}$, m);); ^{13}C NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: 118.82 (C_{meso}), 139.54 (C_1), 139.63 (C_2), 128.38 (C_3), 129.22 (C_4), 124.21 (C_5), 133.90 (C_6), 141.48 (C_α), 129.22 (C_β), 21.37 (C_{Me}); UV-vis in CH_2Cl_2, λ_{max}/nm (logε): 416 (6.04), 512 (4.74), 545 (4.34), 589 (4.34), 645 (4.25).

H_2T(2-Cl)PP. ^{1}H NMR (400MHz, $CDCl_3$, TMS), δ/ppm: -2.62 (2H, br, s, NH), 7.66-7.87 ($8H_m$ and $4H_p$, m), 8.10-8.26 ($4H_o$, m), 8.72 ($8H_\beta$, s); ^{13}C NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: 116.76 (C_{meso}), 137.10 (C_1), 136.94 (C_2), 129.01 (C_3), 129.93 (C_4), 125.32 (C_5), 135.52 (C_6), 140.50 (C_α), 135.39 (C_β); UV-vis in CH_2Cl_2, λ_{max}/nm (logε): 416 (5.64), 512 (4.47), 543 (4.07), 587 (4.15), 643 (3.96).

S2: (a-f) UV-Vis spectra of *meso*-tetra(aryl)porphyrins and their molecular complexes with DDQ, TCNE and BF_3, (a'-f') The expanded region of Q-bands in UV-Vis spectra.

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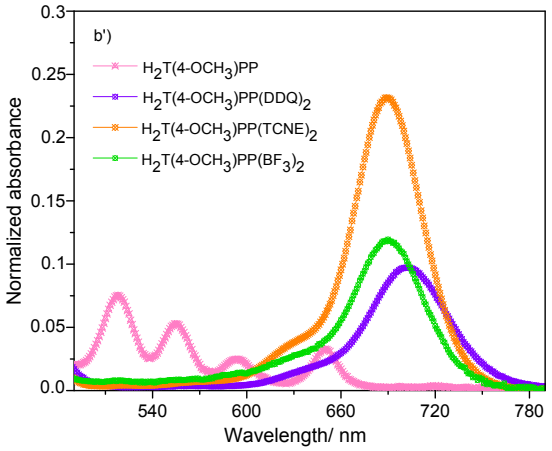
$H_2T(4\text{-}OCH_3)PP$
$H_2T(4\text{-}OCH_3)PP(DDQ)_2$
$H_2T(4\text{-}OCH_3)PP(TCNE)_2$
$H_2T(4\text{-}OCH_3)PP(BF_3)_2$
Normalized absorbance
Wavelength/ nm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$H_2T(4\text{-}OCH_3)PP(DDQ)_2$
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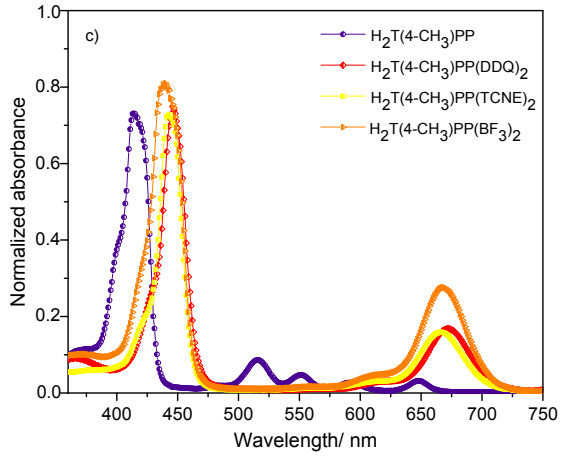
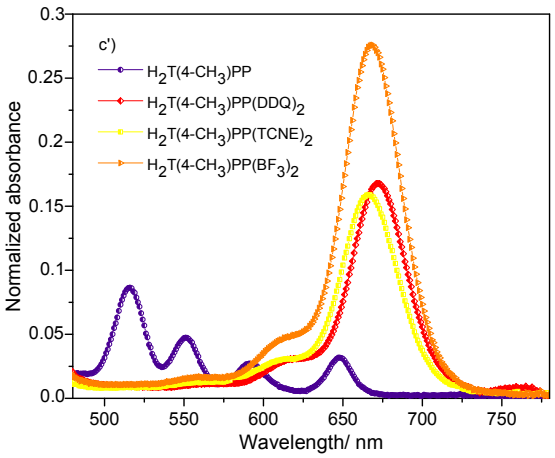
$H_2T(4\text{-}OCH_3)PP(BF_3)_2$
Normalized absorbance
Wavelength/ nm


c)
$H_2T(4\text{-}CH_3)PP$
$H_2T(4\text{-}CH_3)PP(DDQ)_2$
$H_2T(4\text{-}CH_3)PP(TCNE)_2$
$H_2T(4\text{-}CH_3)PP(BF_3)_2$
Normalized absorbance
Wavelength/ nm


c')
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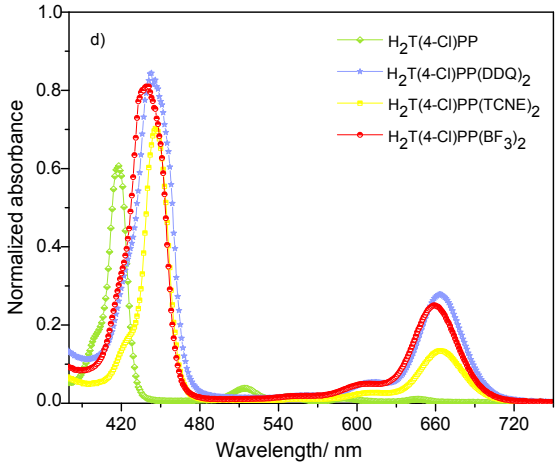
$H_2T(4\text{-}CH_3)PP(DDQ)_2$
$H_2T(4\text{-}CH_3)PP(TCNE)_2$
$H_2T(4\text{-}CH_3)PP(BF_3)_2$
Normalized absorbance
Wavelength/ nm


d)
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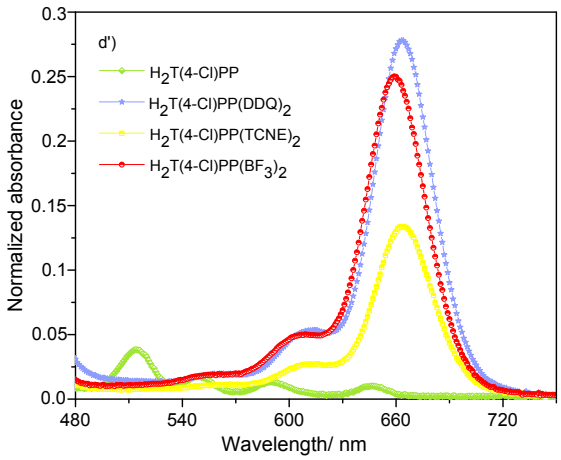
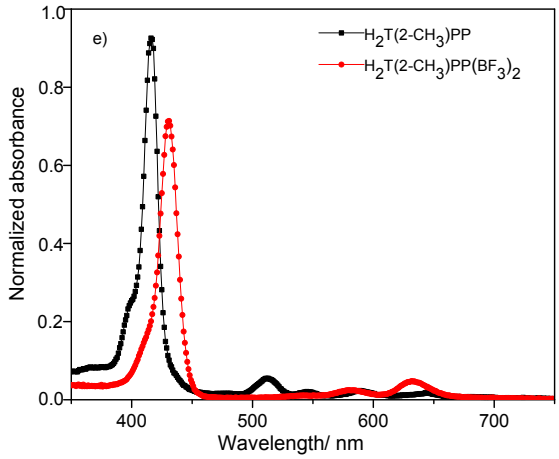
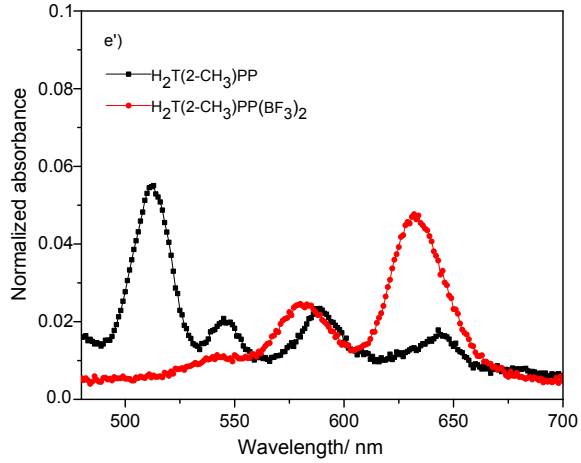
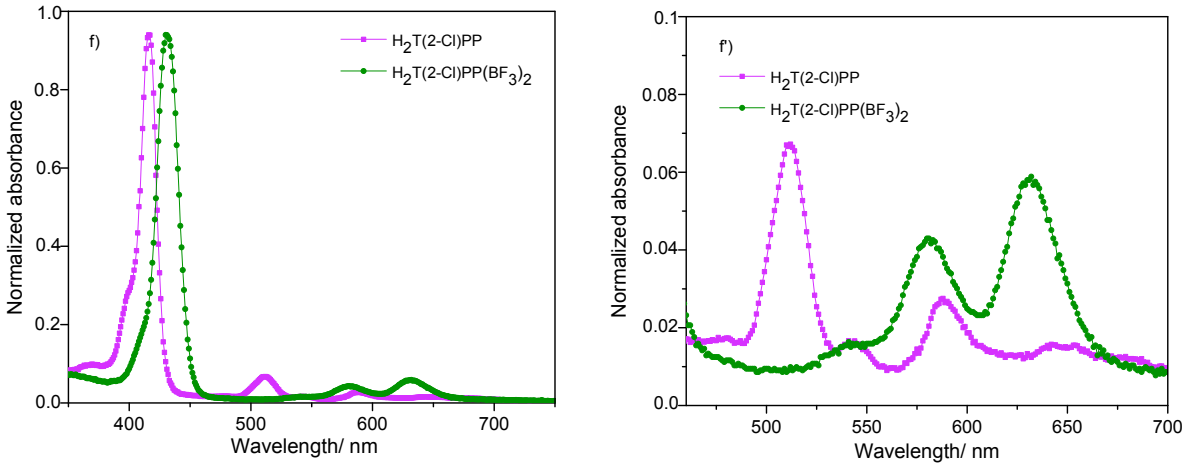
$H_2T(4\text{-}Cl)PP(DDQ)_2$
$H_2T(4\text{-}Cl)PP(TCNE)_2$
$H_2T(4\text{-}Cl)PP(BF_3)_2$
Normalized absorbance
Wavelength/ nm


d')
$H_2T(4\text{-}Cl)PP$
$H_2T(4\text{-}Cl)PP(DDQ)_2$
$H_2T(4\text{-}Cl)PP(TCNE)_2$
$H_2T(4\text{-}Cl)PP(BF_3)_2$
Normalized absorbance
Wavelength/ nm


e)
$H_2T(2\text{-}CH_3)PP$
$H_2T(2\text{-}CH_3)PP(BF_3)_2$
Normalized absorbance
Wavelength/ nm


e')
$H_2T(2\text{-}CH_3)PP$
$H_2T(2\text{-}CH_3)PP(BF_3)_2$
Normalized absorbance
Wavelength/ nm



S3: ^{1}H NMR,^{13}C NMR, ^{11}B NMR, ^{19}F NMR and UV-Vis spectral data of 1:2 molecular complexes of *meso*-tetra(aryl)porphyrins with BF_3.

$H_2TPP(BF_3)_2$. ^{1}H NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: -2.87 (2H, br, s, NH), 8.83 ($8H_\beta$, s), 8.65-8.67 ($8H_o$, m), 8.02-8.10 ($8H_m$ and $4H_p$, m); ^{13}C NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: 146.03 (C_α), 129.77 (C_β), 123.43 (C_{meso}), 139.35 (C_1), 138.73 (C_2), 128.60 (C_3), 130.55 (C_4). ^{11}B NMR (400 MHz, $CDCl_3$, $BF_3.OEt_2$), δ/ppm: -6.40, (The ^{11}B signal of the free $BF_3.OEt_2$ was observed at 0.14 ppm); ^{19}F NMR (400 MHz, $CDCl_3$, $CFCl_3$), δ/ppm: -155.52, (The ^{19}F signal of the free $BF_3.OEt_2$ was observed at -152.85 ppm); UV-vis in CH_2Cl_2, λ_{max}/nm (log ε): 437 (5.64), 605 (4.03), 654 (4.67).

$H_2T(4\text{-}OCH_3)PP(BF_3)_2$. ^{1}H NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: -2.37 (2H, br, s, NH), 8.68 ($8H_\beta$, s), 8.59-8.60 ($8H_o$, br), 7.57-7.61 ($8H_m$, m), 4.06-4.22 (12 H_{Me}, m); ^{13}C NMR spectra of $H_2T(4\text{-}OCH_3)PP(BF_3)_2$ was not obtained due to the low solubility of the adduct in $CDCl_3$ at the concentration needed for ^{13}C NMR study; ^{11}B NMR (400 MHz, $CDCl_3$, $BF_3.OEt_2$), δ/ppm: -5.95; ^{19}F NMR (400 MHz, $CDCl_3$, $CFCl_3$), δ/ppm: -155.39; UV-vis in CH_2Cl_2, λ_{max}/nm (log ε): 451 (4.73), 690 (4.08).

$H_2T(4\text{-}CH_3)PP(BF_3)_2$. ^{1}H NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: -2.69 (2H, br, s, NH), 8.77 ($8H_\beta$, s), 8.53, 8.55 ($8H_o$, d), 7.86, 7.88 ($8H_m$, d), 2.82 (12 H_{Me}, s); ^{13}C NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: 146.10 (C_α), 129.48 (C_β), 123.28 (C_{meso}), 136.96 (C_1), 138.80 (C_2), 129.44 (C_3), 141.07 (C_4), 21.70 (C_{Me}); ^{11}B NMR (400 MHz, $CDCl_3$, $BF_3.OEt_2$), δ/ppm: -6.30; ^{19}F NMR (400 MHz, $CDCl_3$, $CFCl_3$), δ/ppm: -155.73, -155.68; UV-vis in CH_2Cl_2, λ_{max}/nm (log ε): 441 (5.44), 668 (4.73).

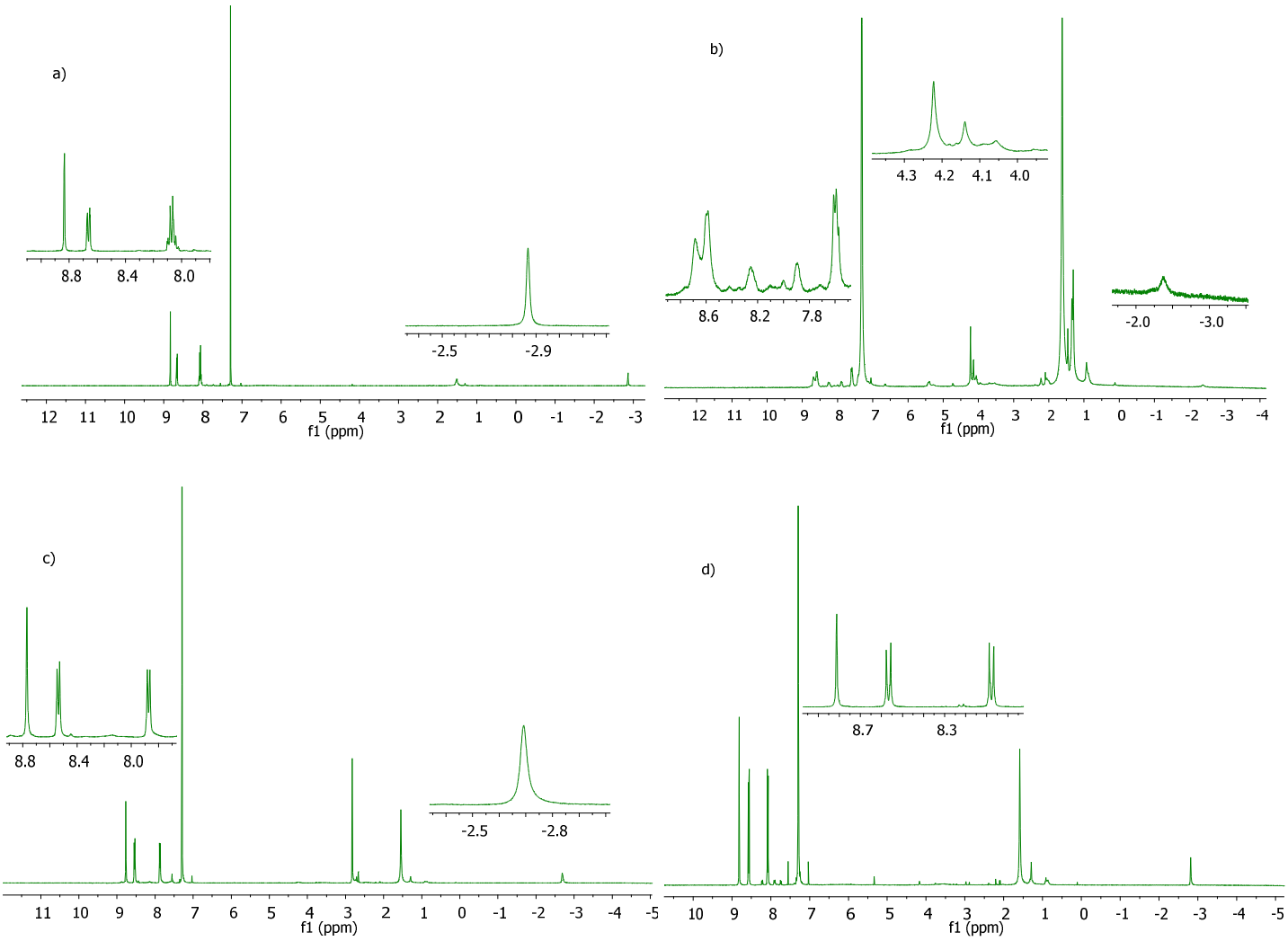
$H_2T(4\text{-}Cl)PP(BF_3)_2$. ^{1}H NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: -2.81 (2H, br, s, NH), 8.81 ($8H_\beta$, s), 8.56, 8.58 ($8H_o$, d), 8.07, 8.09 ($8H_m$, d); ^{13}C NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: 146.03 (C_α), 128.86 (C_β), 122.42 (C_{meso}), 138.10 (C_1), 139.31 (C_2), 129.11 (C_3), 137.60 (C_4); ^{11}B NMR (400 MHz, $CDCl_3$, $BF_3.OEt_2$), δ/ppm: -6.33; ^{19}F NMR (400 MHz, $CDCl_3$, $CFCl_3$), δ/ppm: -155.14; UV-vis in CH_2Cl_2, λ_{max}/nm (log ε): 440 (5.99), 600 (4.52), 658 (5.29).

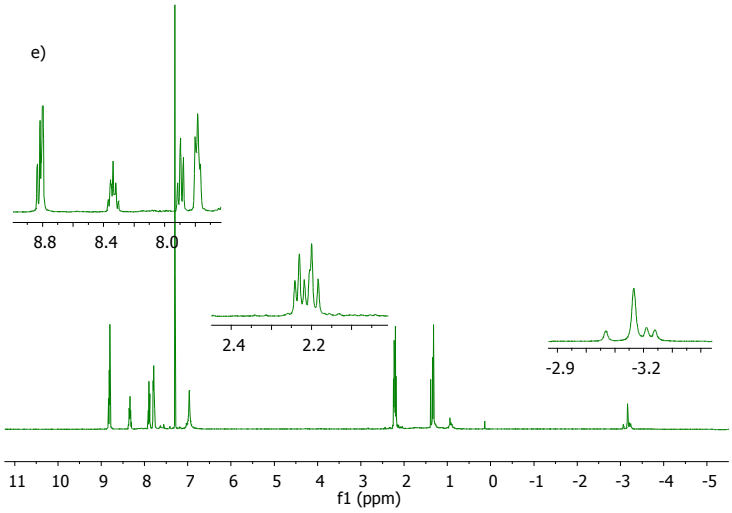
$H_2T(2\text{-}CH_3)PP(BF_3)_2$. ^{1}H NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: -3.24, -3.21, -3.17, -3.07 (2H, br, s, NH), 8.80-8.84 ($8H_\beta$, m), 8.30-8.37 ($4H_o$, m), 7.77-7.92 ($8H_m$, $8H_p$, m), 2.18-2.24 ($12H_{Me}$, m); ^{13}C NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: 145.72, 145.89, 146.01, 146.07 (C_α), 130.44, 130.78 (C_β), 121.79, 121.90 (C_{meso}), 141.23, 141.36 (C_1), 141.56, 141.65 (C_2),

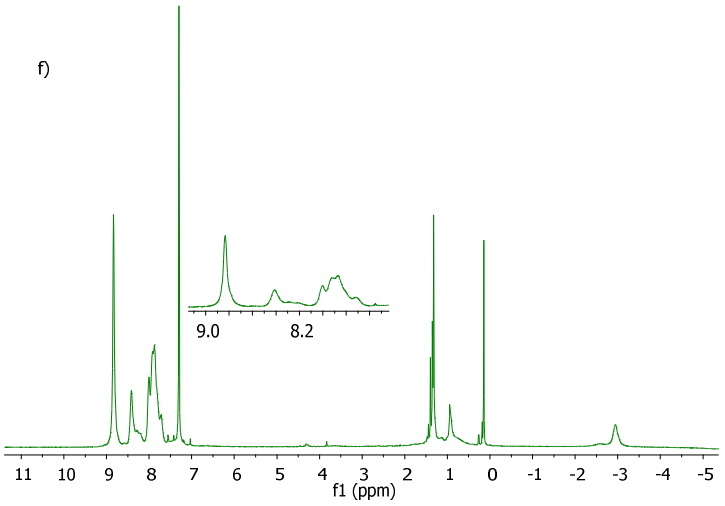
129.86, 129.91 (C_3), 130.05, 130.15 (C_4), 125.33 (C_5), 136.30 (C_6), 21.07-21.30, 29.43, 29.76, 30.23 (C_{Me}); ^{11}B NMR (400 MHz, $CDCl_3$, $BF_3.OEt_2$), δ/ppm: -6.28; ^{19}F NMR (400 MHz, $CDCl_3$, $CFCl_3$), δ/ppm: -155.12, -149.70, -149.66, -148.39, -147.63, -147.57; UV-vis in CH_2Cl_2, λ_{max}/nm: 431 (5.87), 583 (4.18), 634 (4.50).

H_2T(2-Cl)PP(BF_3)$_2$. ^{1}H NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: -2.94 (2H, br, s, NH), 8.83 (8H_β, s), 8.20-8.41 (4H_o, m), 7.72-8.00 (8H_m and 4H_p, m); ^{13}C NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: 145.96 (C_α), 132.24 (C_β), 119.51 (C_{meso}), 137.87 (C_1), 137.13 (C_2), 129.10 (C3), 130.0 (C_4), 126.61 (C_5), 135.60 (C_6); ^{11}B NMR (400 MHz, $CDCl_3$, $BF_3.OEt_2$), δ/ppm: -5.94; ^{19}F NMR (400 MHz, $CDCl_3$, $CFCl_3$), δ/ppm: -155.07; UV-vis in CH_2Cl_2, λ_{max}/nm: 430 (5.79), 581 (4.15), 632 (4.47).

S6: ^{1}H NMR spectra of a) $H_2TPP(BF_3)_2$, b) $H_2T(4\text{-}OCH_3)PP(BF_3)_2$, c) $H_2T(4\text{-}CH_3)PP(BF_3)_2$, d) $H_2T(4\text{-}Cl)PP(BF_3)_2$, e) $H_2T(2\text{-}CH_3)PP(BF_3)_2$ and f) $H_2T(2\text{-}Cl)PP(BF_3)_2$; ^{13}C NMR spectra of a_1) $H_2TPP(BF_3)_2$, b_1) $H_2T(4\text{-}CH_3)PP(BF_3)_2$, c_1) $H_2T(4\text{-}Cl)PP(BF_3)_2$, d_1) $H_2T(2\text{-}CH_3)PP(BF_3)_2$ and e_1) $H_2T(2\text{-}Cl)PP(BF_3)_2$; ^{11}B NMR spectra of a_2) $BF_3.OEt_2$ (The inset shows ^{11}B background signals of the NMR tube), b_2) $H_2TPP(BF_3)_2$, c_2) $H_2T(4\text{-}OCH_3)PP(BF_3)_2$, d_2) $H_2T(4\text{-}CH_3)PP(BF_3)_2$, e_2) $H_2T(4\text{-}Cl)PP(BF_3)_2$, f_2) $H_2T(2\text{-}CH_3)PP(BF_3)_2$, g_2) $H_2T(2\text{-}Cl)PP(BF_3)_2$ and ^{19}F NMR spectra of a_3) $BF_3.OEt_2$, b_3) $H_2TPP(BF_3)_2$, c_3) $H_2T(4\text{-}OCH_3)PP(BF_3)_2$, d_3) $H_2T(4\text{-}CH_3)PP(BF_3)_2$, e_3) $H_2T(4\text{-}Cl)PP(BF_3)_2$, f_3) $H_2T(2\text{-}CH_3)PP(BF_3)_2$, g_3) $H_2T(2\text{-}Cl)PP(BF_3)_2$.




e)
8.8
8.4
8.0
2.4
2.2
-2.9
-3.2
11 10 9 8 7 6 5 4 3 2 1 0 -1 -2 -3 -4 -5
f1 (ppm)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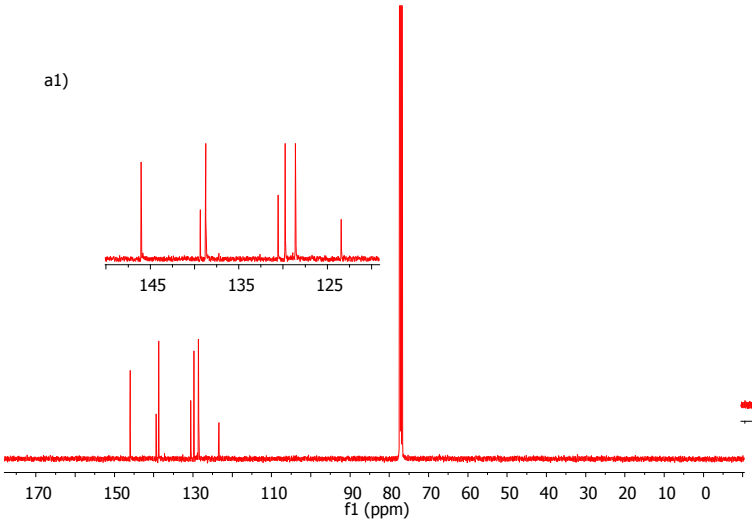
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135
125
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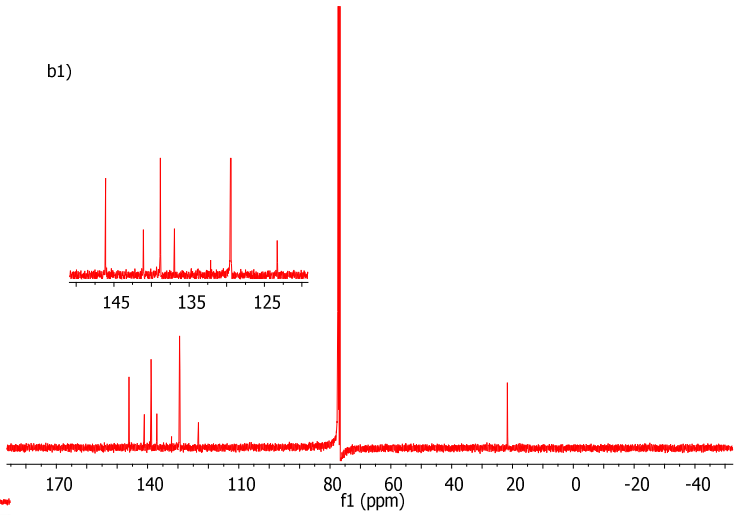
f1 (ppm)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135
125
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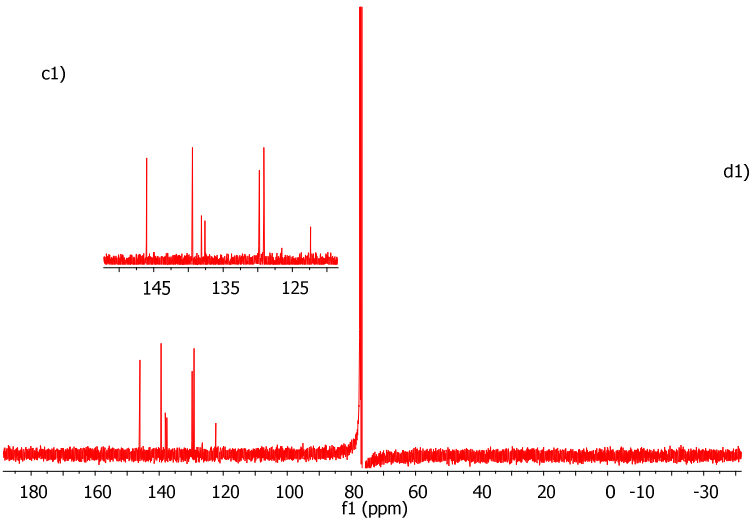
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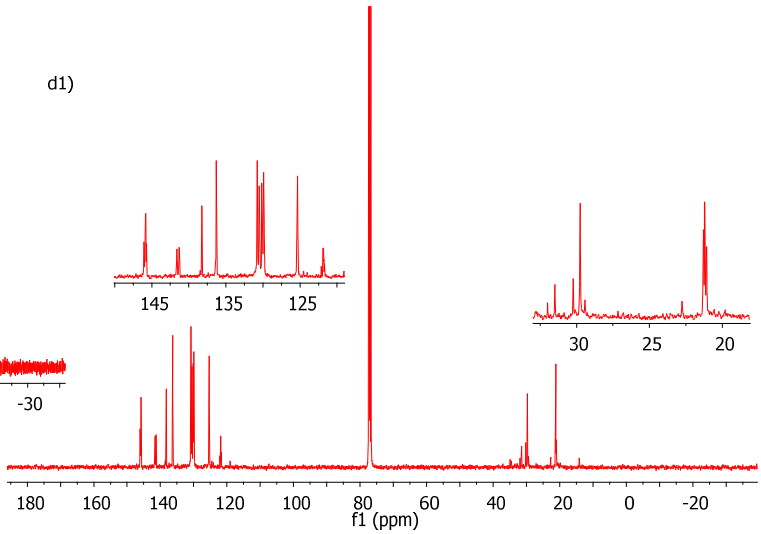
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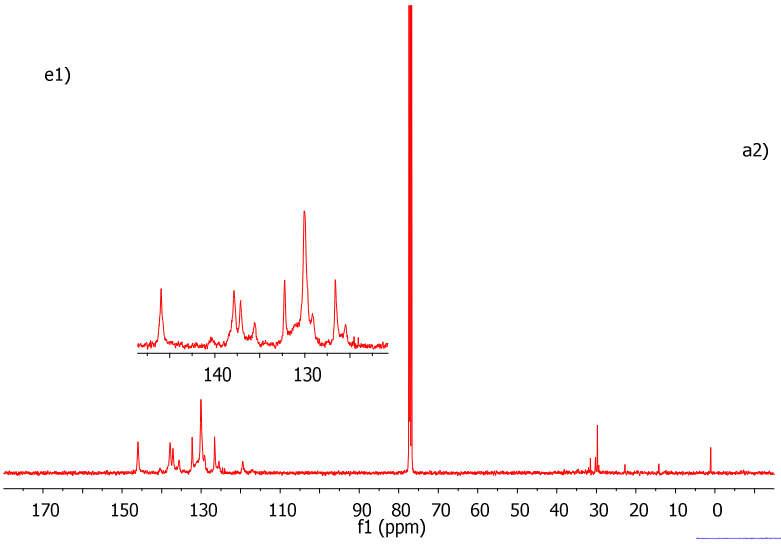
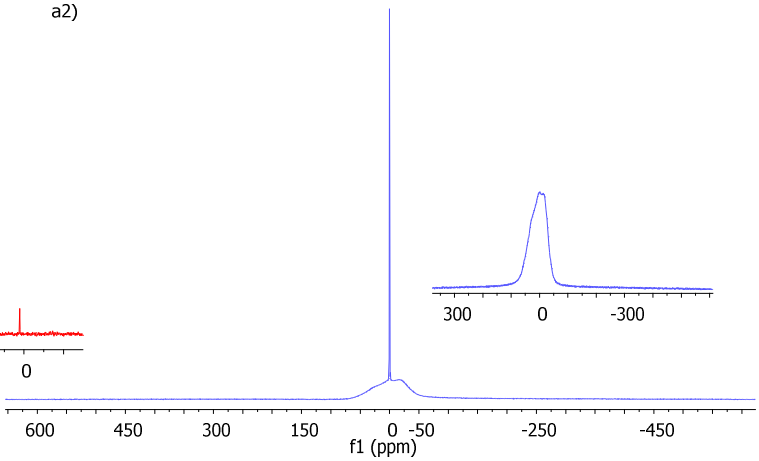
f1 (ppm)

e1)



a2)



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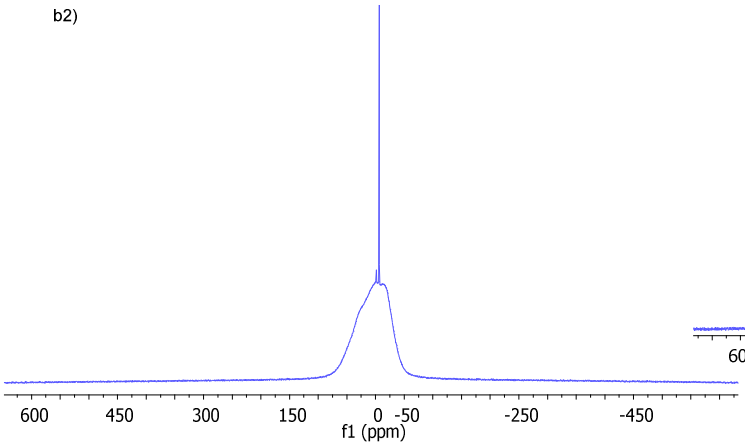

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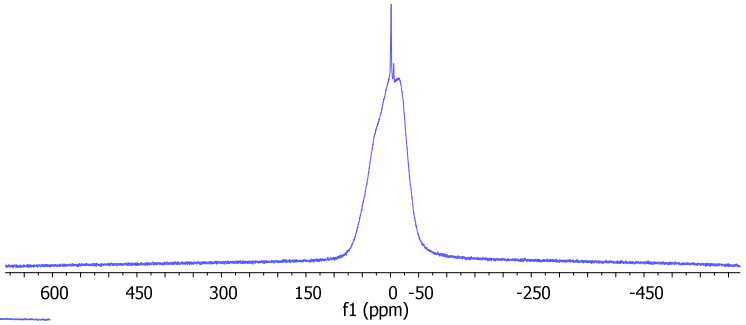
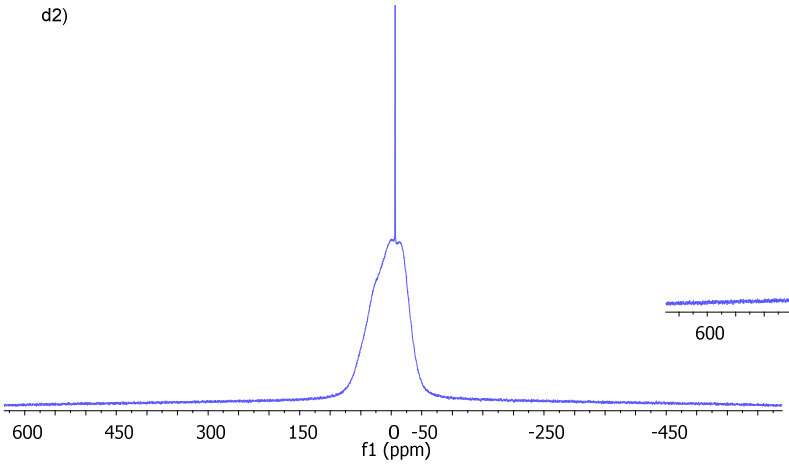


d2)



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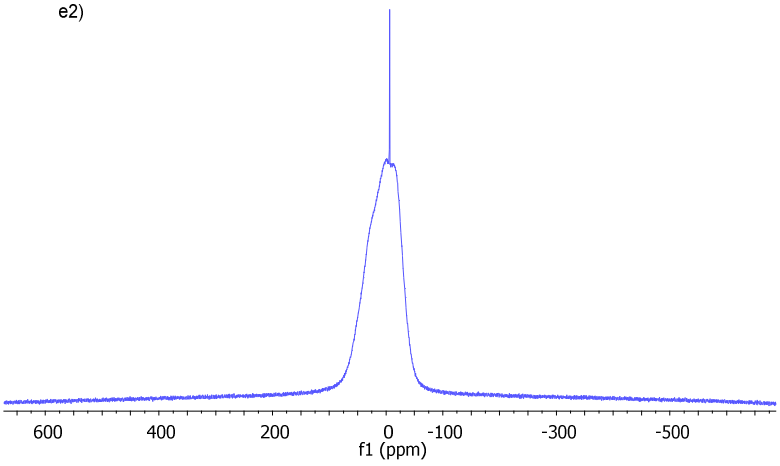

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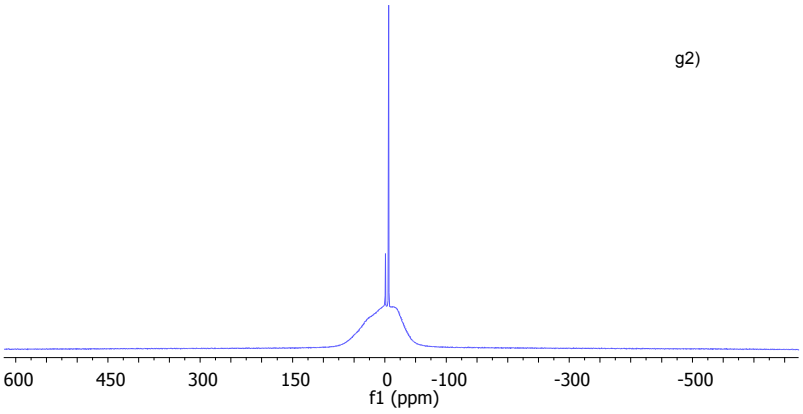

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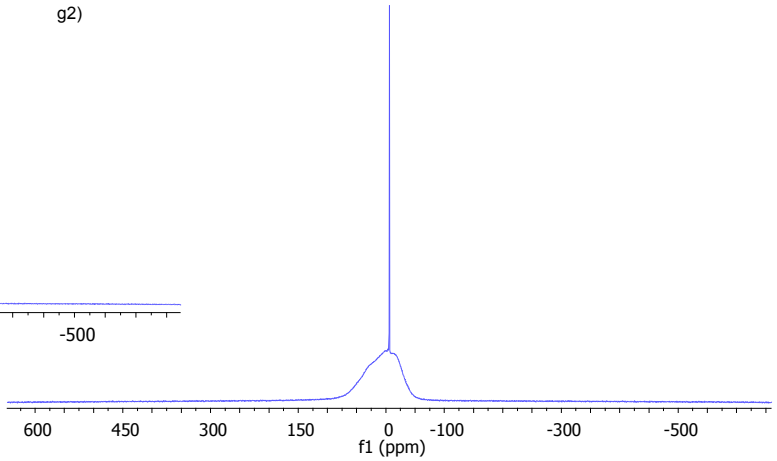

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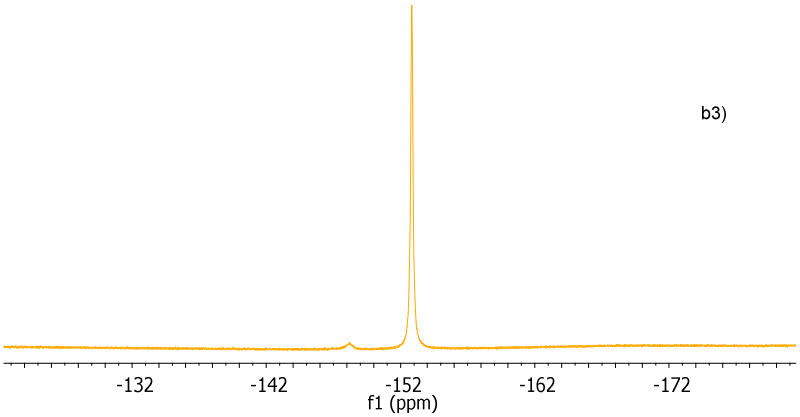

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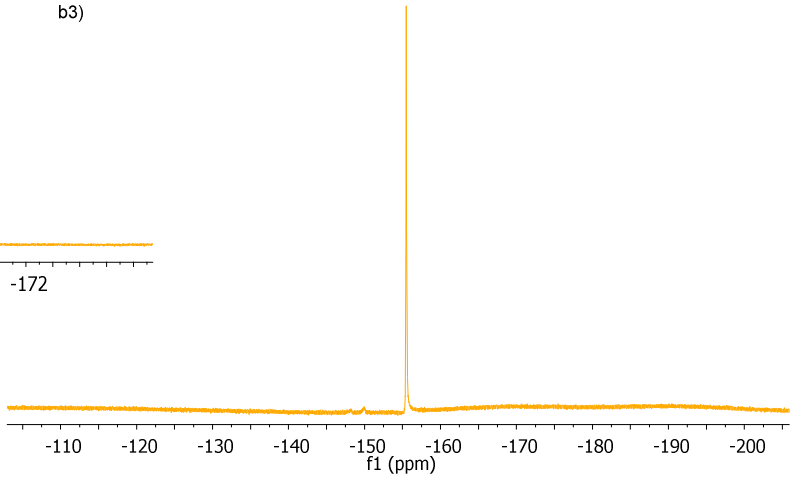
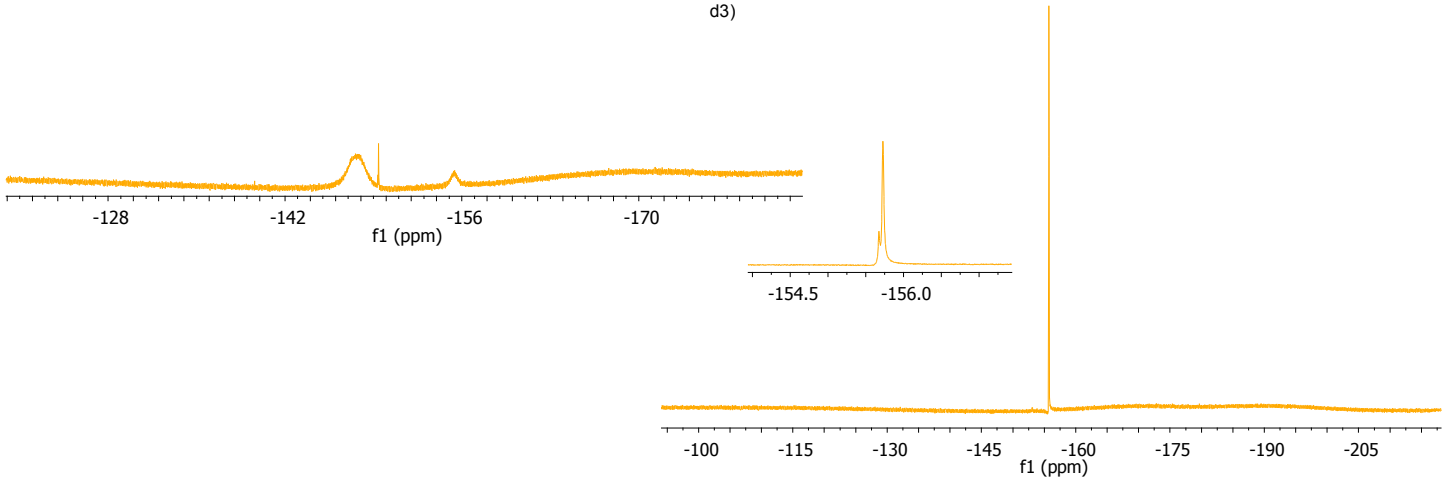
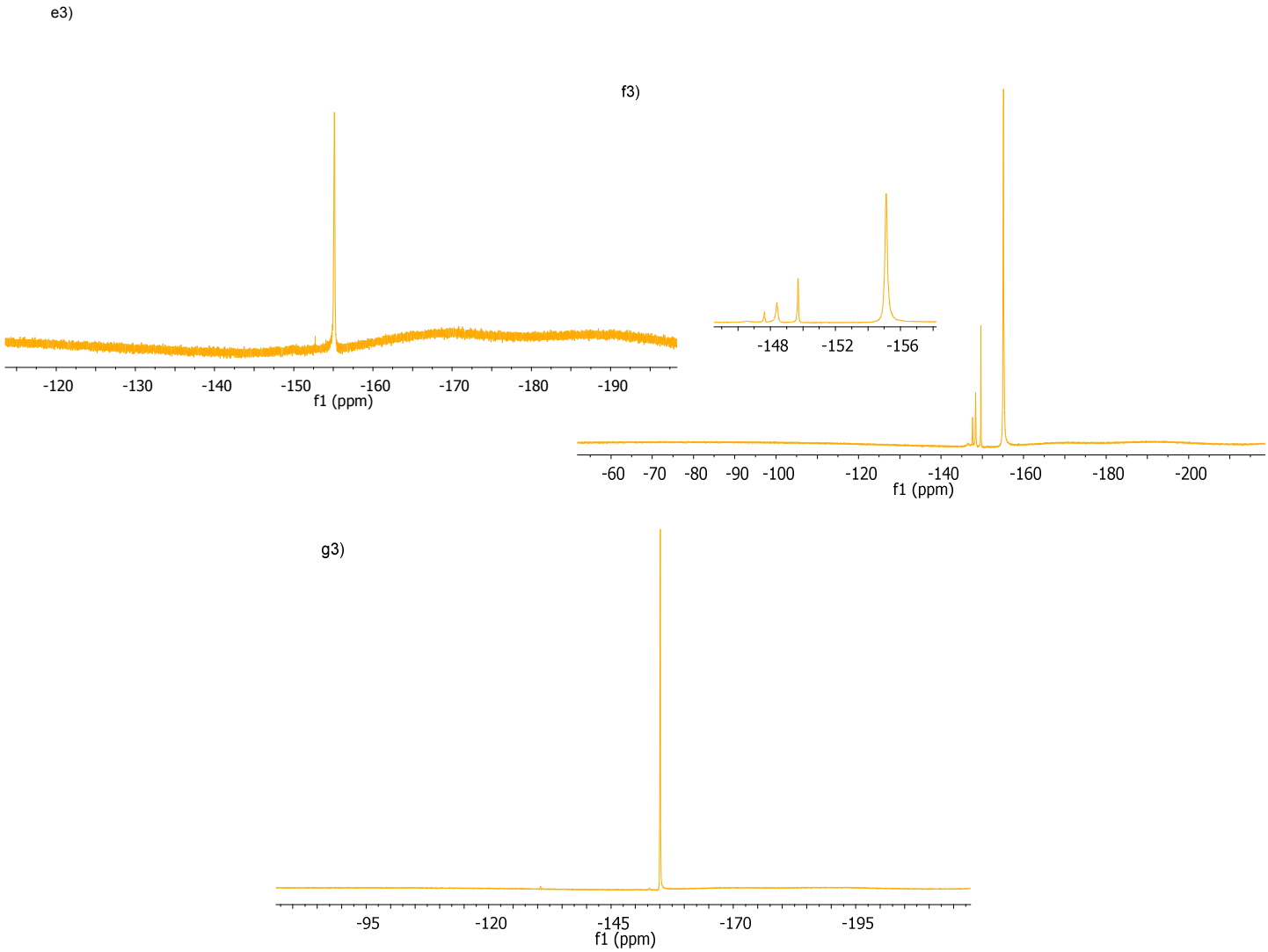


c3)

d3)





S7: ^{1}H NMR, ^{13}C NMR and UV-Vis spectral data of the 1:2 molecular complexes of *meso*-tetra(aryl)porphyrins with DDQ.

H_2TPP(DDQ)$_2$. ^{1}H NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: -0.36 (2H, br, s, NH), 8.61 (8H_β, s), 8.68 (8H_o, d), 7.99 (8H_m and 4H_p, m); ^{13}C NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: 145.96 (C_α), 128.95 (C_β), 123.44 (C_{meso}), 139.89 (C_1'), 138.87 (C_2'), 128.73 (C_3'), 130.51 (C_4'). The DDQ molecules of H_2TPP(DDQ)$_2$, 171.81 (C_1), 172.07 (C_4), 143.33 (C_2, C_3), 135.39 (C_5), 87.99 (C_6), 165.43 (C_7), 112.23 (C_8); UV-vis in CH_2Cl_2, λ_{max}/nm (log ε): 441 (4.78), 606 (3.69), 655 (4.23).

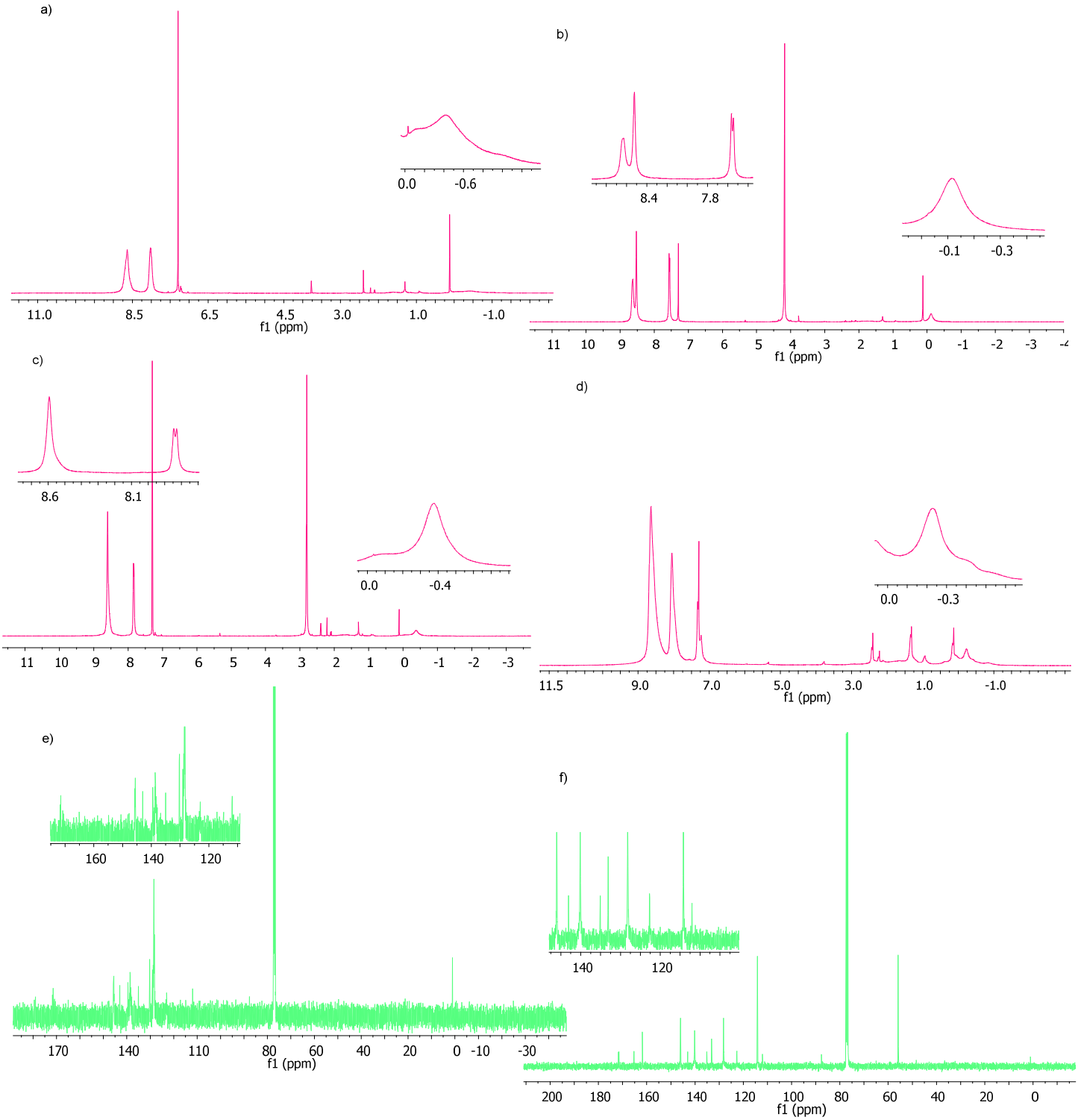
H_2T(4-OCH_3)PP(DDQ)$_2$. ^{1}H NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: -0.13 (2H, br, s, NH), 8.48 (8H_β, s), 8.59, 8.62 (8H_o, d), 7.50, 7.54 (8H_m, d), 4.15 (12 H_{Me}, s); ^{13}C NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: 146.36 (C_α), 128.53 (C_β), 123.01 (C_{meso}), 133.44 (C_1'), 140.46 (C_2'), 114.50 (C_3'), 162.11 (C_4'); UV-vis in CH_2Cl_2, λ_{max}/nm (log ε): 454 (5.58), 690 (4.84).

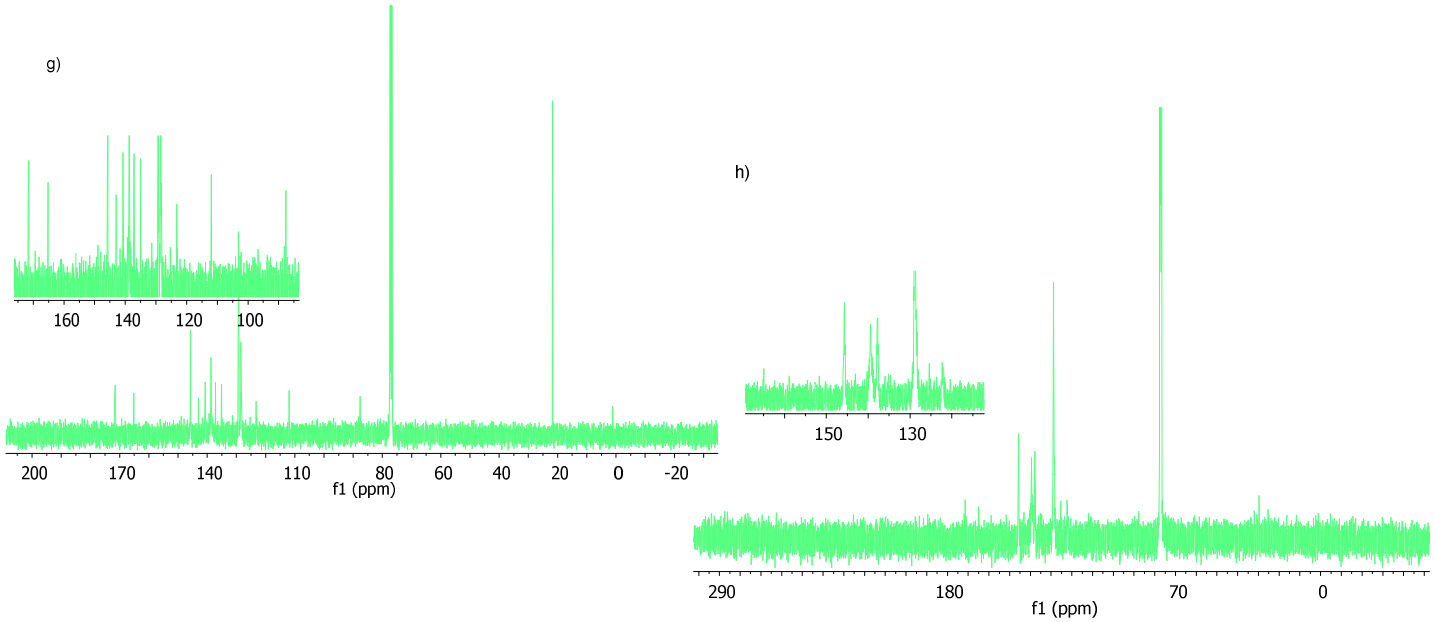
H_2T(4-CH_3)PP(DDQ)$_2$. ^{1}H NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: -0.38 (2H, br, s, NH), 8.55 (8H_β, s), 8.55 (8H_o, d), 7.78, 7.81 (8H_m, d), 2.77 (12 H_{Me}, s); ^{13}C NMR (400 MHz, $CDCl_3$,

TMS), δ/ppm: 146.05 ($C_α$), 128.68 ($C_β$), 121.82 (C_{meso}), 137.47 (C_1'), 138.94 (C_2'), 129.35 (C_3'), 140.93 (C_4'); UV-vis in CH_2Cl_2, $λ_{max}$/nm (log ε): 446 (5.65), 669 (4.85).

H_2T(4-Cl)PP(DDQ)$_2$. ^{1}H NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: -0.29 (2H, br, s, NH), 8.59 (8$H_β$, s), 8.59 (8H_o, d), 7.98, 8.01 (8H_m, d); ^{13}C NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: 145.87 ($C_α$), 128.91 ($C_β$), 122.39 (C_{meso}), 137.87 (C_1'), 139.66 (C_2'), 129.11 (C_3'), 137.12 (C_4'); UV-vis in CH_2Cl_2, $λ_{max}$/nm (log ε): 446 (5.46), 662 (4.95).

S4: ^{1}H NMR spectra of a) H_2TPP(DDQ)$_2$, b) H_2T(4-OCH_3)PP(DDQ)$_2$, c) H_2T(4-CH_3)PP(DDQ)$_2$ and d) H_2T(4-Cl)PP(DDQ)$_2$; ^{13}C NMR spectra of e) H_2TPP(DDQ)$_2$, f) H_2T(4-OCH_3)PP(DDQ)$_2$, g) H_2T(4-CH_3)PP(DDQ)$_2$ and h) H_2T(4-Cl)PP(DDQ)$_2$.





S5: ^{1}H NMR, ^{13}C NMR and UV-Vis spectral data of the 1:2 molecular complexes of *meso*-tetra(aryl)porphyrins with TCNE.

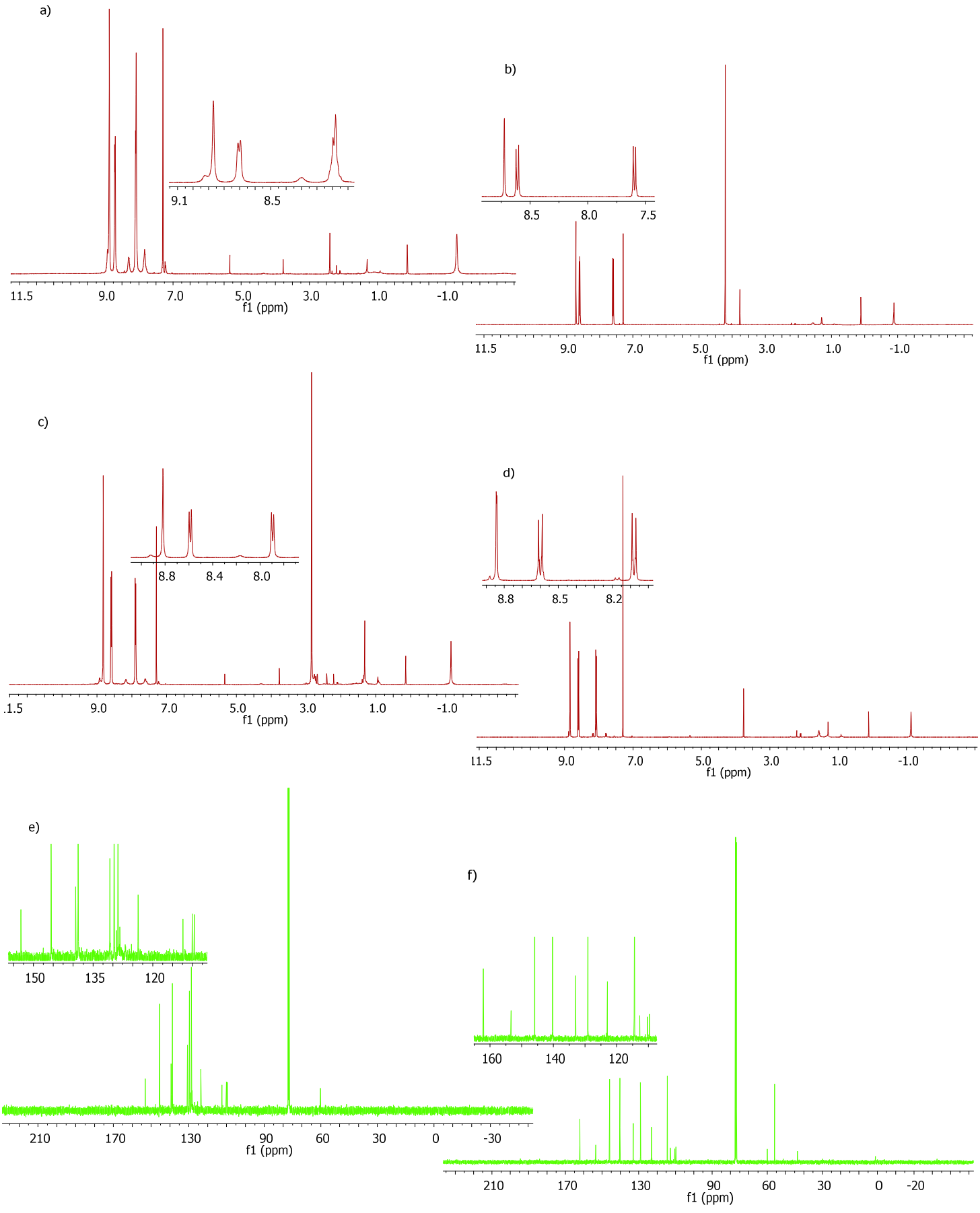
H_2TPP(TCNE)$_2$. ^{1}H NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: -1.26 (2H, br, s, NH), 8.81 (8H_β, s), 8.64, 8.67 (8H_o, d), 8.03, 8.07 (8H_m and 4H_p, m); ^{13}C NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: 145.84 (C_α), 129.98 (C_β), 123.95 (C_{meso}), 139.70 (C_1'), 139.07 (C_2'), 129 (C_3'), 131.03 (C_4'). The TCNE molecules of H_2TPP(TCNE)$_2$, 108.25 (C_1, C_2), 112.31 (C_3, C_4, C_5, C_6); UV-vis in CH_2Cl_2, λ_{max}/nm (log ε): 439 (5.79), 605 (3.85), 655 (4.83).

H_2T(4-OCH_3)PP(TCNE)$_2$. ^{1}H NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: -0.92 (2H, br, s, NH), 8.68 (8H_β, s), 8.55, 8.59 (8H_o, d), 7.54, 7.58 (8H_m, d), 4.18 (12H_{Me}, s); ^{13}C NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: 146.30 (C_α), 129.45 (C_β), 123.33 (C_{meso}), 133.35 (C_1'), 140.60 (C_2'), 114.81 (C_3'), 162.52 (C_4'); UV-vis in CH_2Cl_2, λ_{max}/nm (log ε): 454 (5.66), 691 (4.85).

H_2T(4-CH_3)PP(TCNE)$_2$. ^{1}H NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: -1.20 (2H, br, s, NH), 8.76 (8H_β, s), 8.51, 8.54 (8H_o, d), 7.82, 7.85 (8H_m, d), 2.80 (12H_{Me}, s); ^{13}C NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: 145.96 (C_α), 129.69 (C_β), 123.83 (C_{meso}), 137.36 (C_1'), 139.11 (C_2'), 129.82 (C_3'), 141.59 (C_4'); UV-vis in CH_2Cl_2, λ_{max}/nm (log ε): 445(5.69), 667(4.69).

H_2T(4-Cl)PP(TCNE)$_2$. ^{1}H NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: -1.16 (2H, br, s, NH), 8.81 (8H_β, s), 8.55, 8.58 (8H_o, d), 8.03, 8.06 (8H_m, d); ^{13}C NMR (400 MHz, $CDCl_3$, TMS), δ/ppm: 145.89 (C_α), 130.01 (C_β), 122.95 (C_{meso}), 138.66 (C_1'), 139.81 (C_2'), 129.52 (C_3'), 138.01 (C_4'); UV-vis in CH_2Cl_2, λ_{max}/nm (log ε): 444 (5.42), 659 (4.57).

S8: ^{1}H NMR spectra of a) H_2TPP(TCNE)$_2$, b) H_2T(4-OCH_3)PP(TCNE)$_2$, c) H_2T(4-CH_3)PP(TCNE)$_2$ and d) H_2T(4-Cl)PP(TCNE)$_2$; ^{13}C NMR spectra of e) H_2TPP(TCNE)$_2$, f) H_2T(4-OCH_3)PP(TCNE)$_2$, g) H_2T(4-CH_3)PP(TCNE)$_2$ and h) H_2T(4-Cl)PP(TCNE)$_2$.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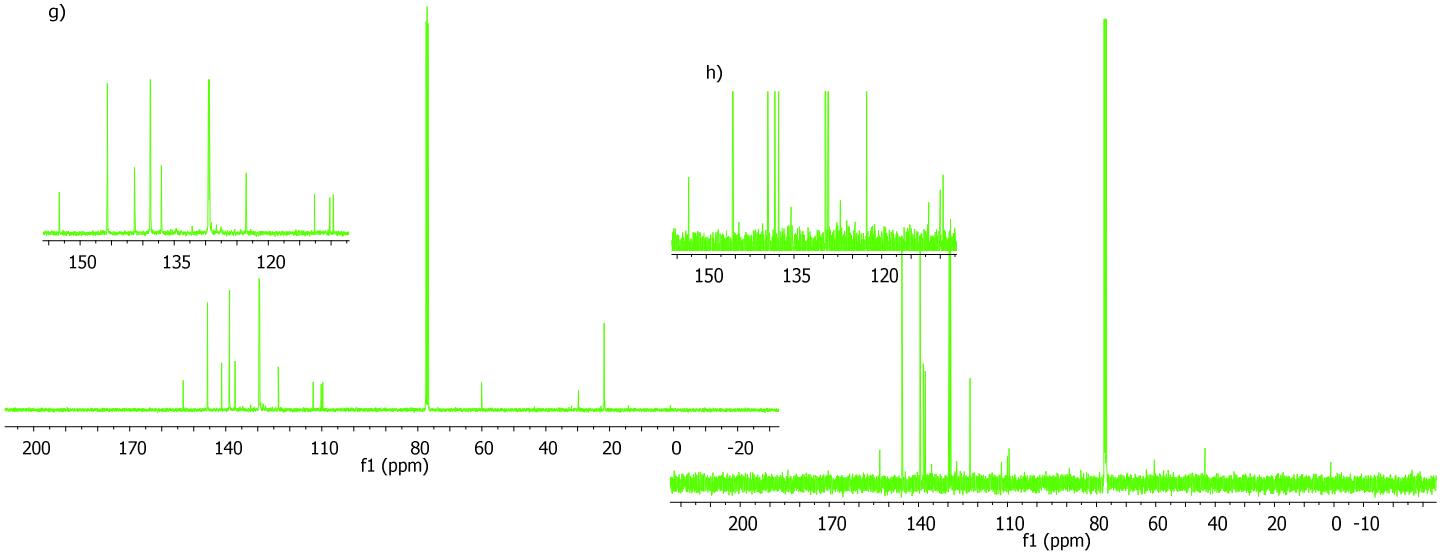
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