

Syntheses and analytical characterizations of the research chemical 1-[1-(2-fluorophenyl)-2-phenylethyl]pyrrolidine (fluorolintane) and five of its isomers

Michael Dybek,^a Jason Wallach,^a Pierce V. Kavanagh,^b Tristan Colestock,^a Nadine Filbman,^a Geraldine Dowling,^{b,c} Folker Westphal,^d Simon P. Elliott,^e Adeboye Adejare,^a Simon D. Brandt^{f,*}

^a Department of Pharmaceutical Sciences, University of the Sciences, 600 South 43rd Street, Philadelphia, PA 19104, USA

^b Department of Pharmacology and Therapeutics, School of Medicine, Trinity Centre for Health Sciences, St. James's Hospital, James's Street, Dublin 8, D08W9RT, Ireland

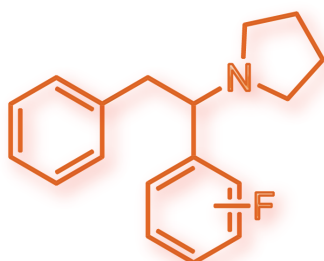
^c Department of Life Sciences, School of Science, Sligo Institute of Technology, Ash Lane, Sligo, F91YW50, Ireland

^d State Bureau of Criminal Investigation Schleswig-Holstein, Section Narcotics/Toxicology, Mühlenweg 166, D-24116 Kiel, Germany

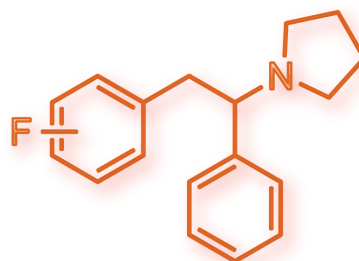
^e Elliott Forensic Consulting, Birmingham, UK

^f School of Pharmacy and Biomolecular Sciences, Liverpool John Moores University, Byrom Street, Liverpool, L3 3AF, UK

*Corresponding author: Simon D. Brandt, School of Pharmacy and Biomolecular Sciences, Liverpool John Moores University, Byrom Street, Liverpool, L3 3AF, UK. E-Mail: s.brandt@ljmu.ac.uk

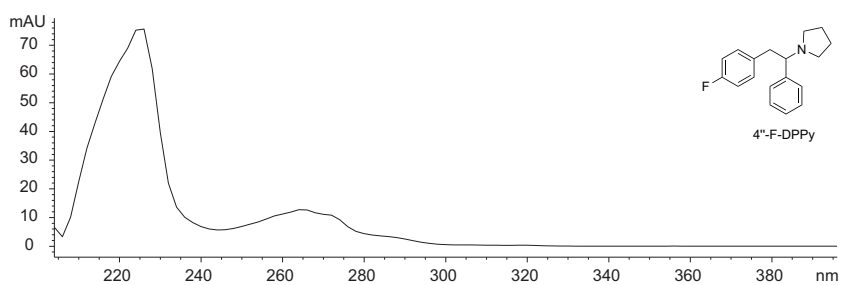
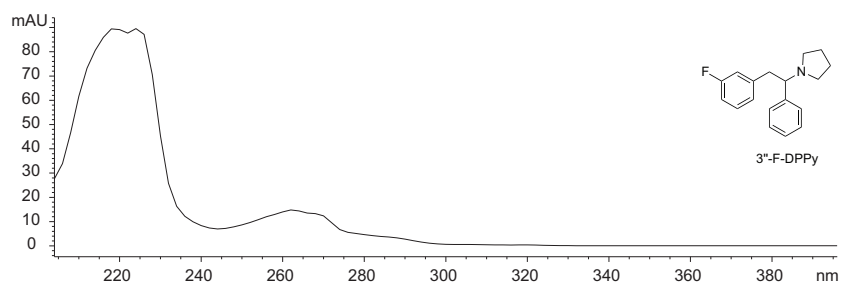
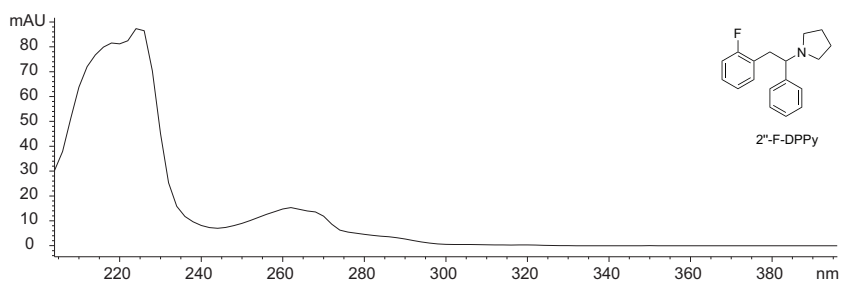
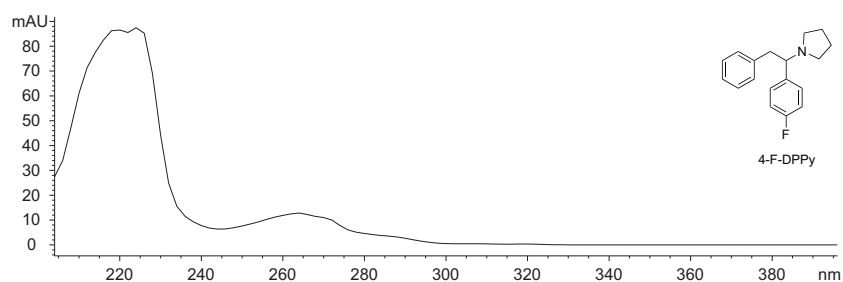
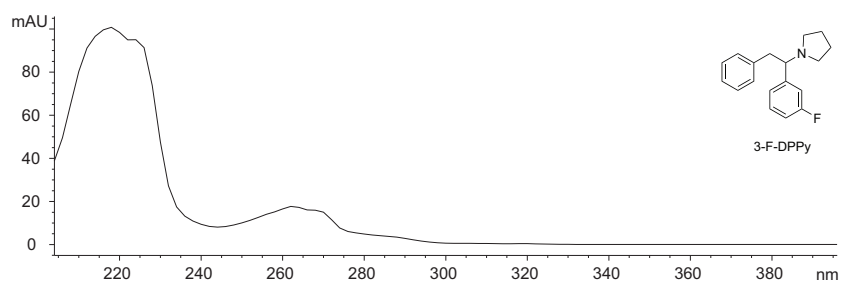
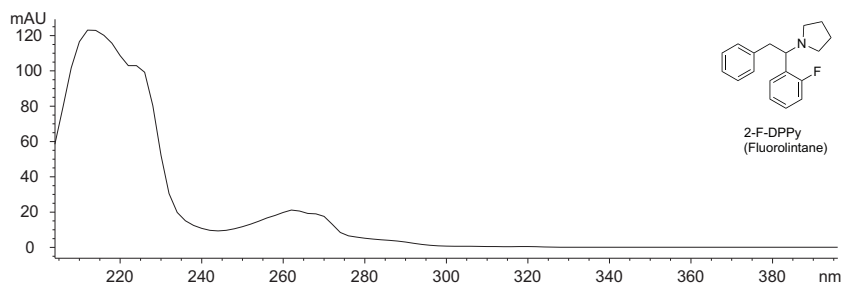


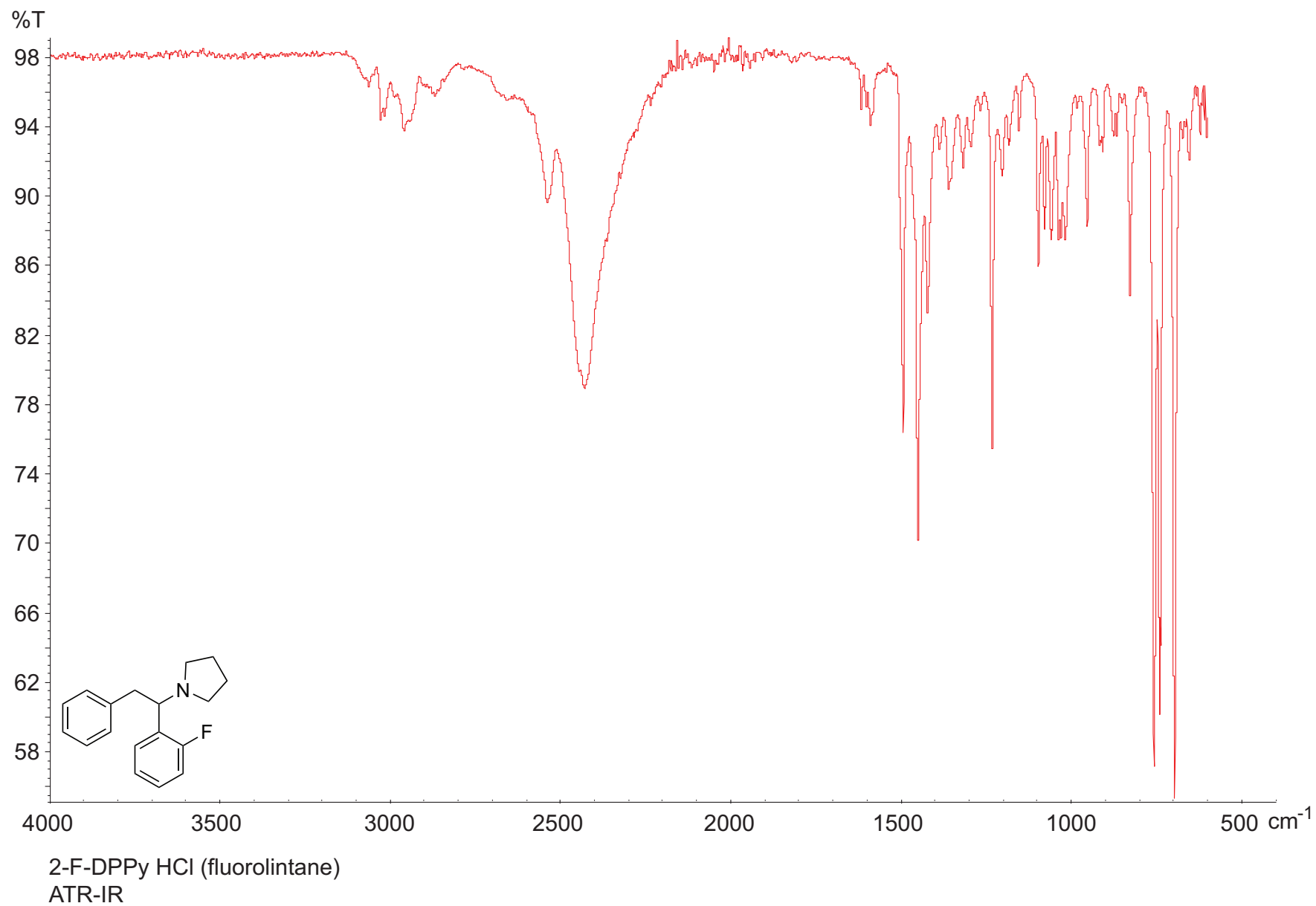
2-F: 2-F-DPPy (fluorolintane)
3-F: 3-F-DPPy
4-F: 4-F-DPPy



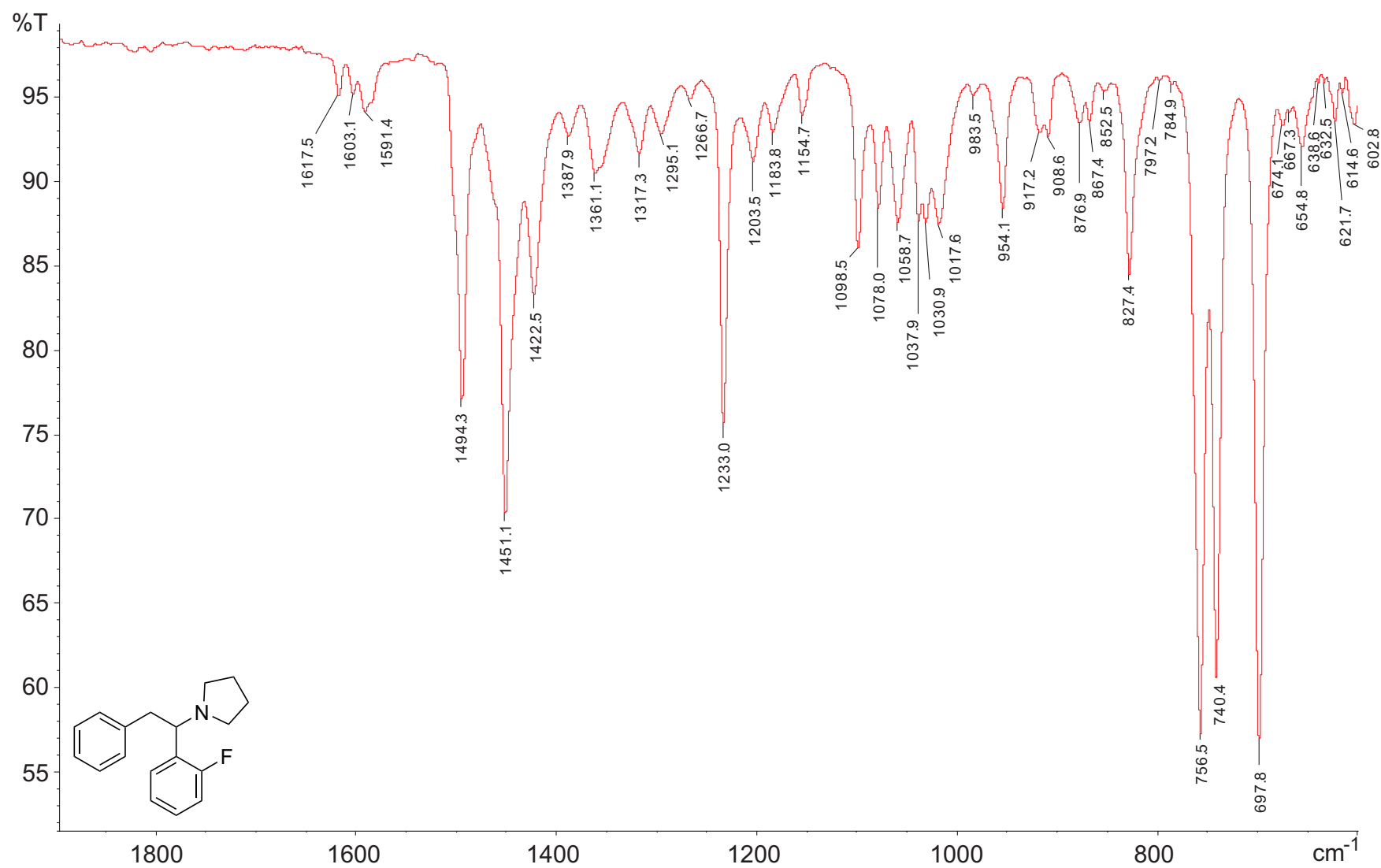
2-F: 2''-F-DPPy
3-F: 3''-F-DPPy
4-F: 4''-F-DPPy

Supporting Information – Drug Testing and Analysis





Supporting Information – Drug Testing and Analysis



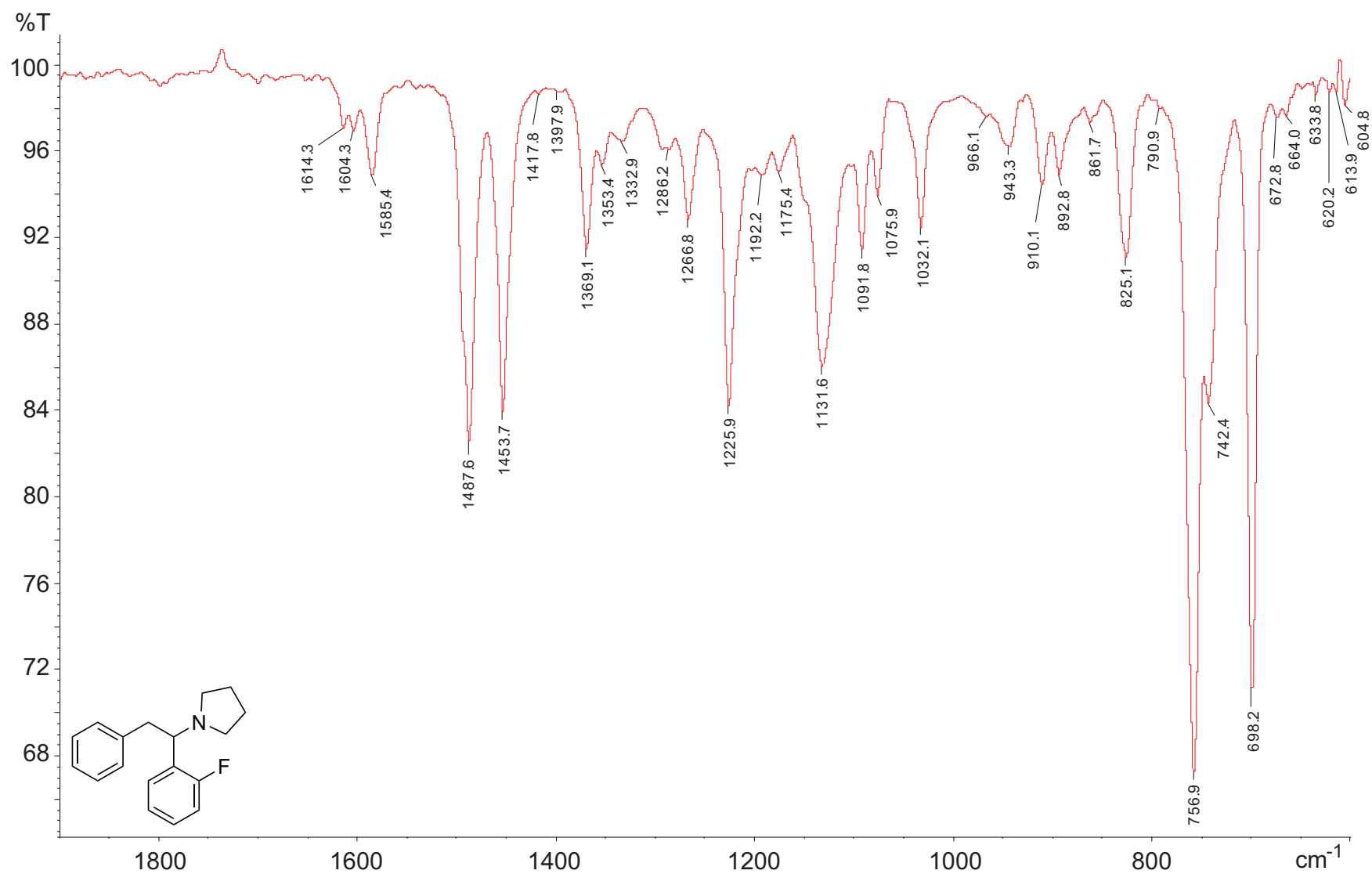
2-F-DPPy HCl (fluorolintane) (zoom)
ATR-IR

Supporting Information – Drug Testing and Analysis



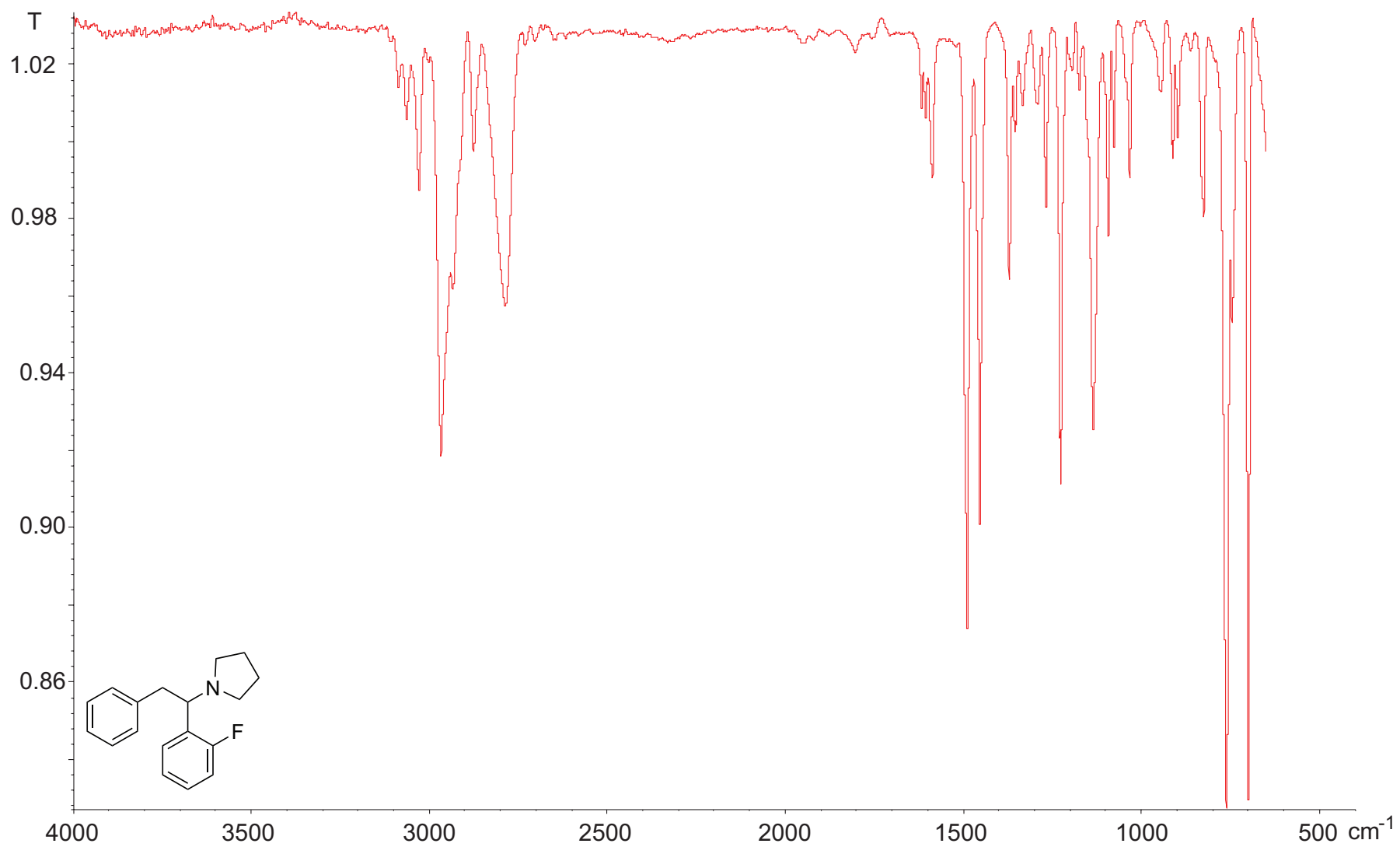
2-F-DPPy (fluorolintane) base
ATR-IR

Supporting Information – Drug Testing and Analysis



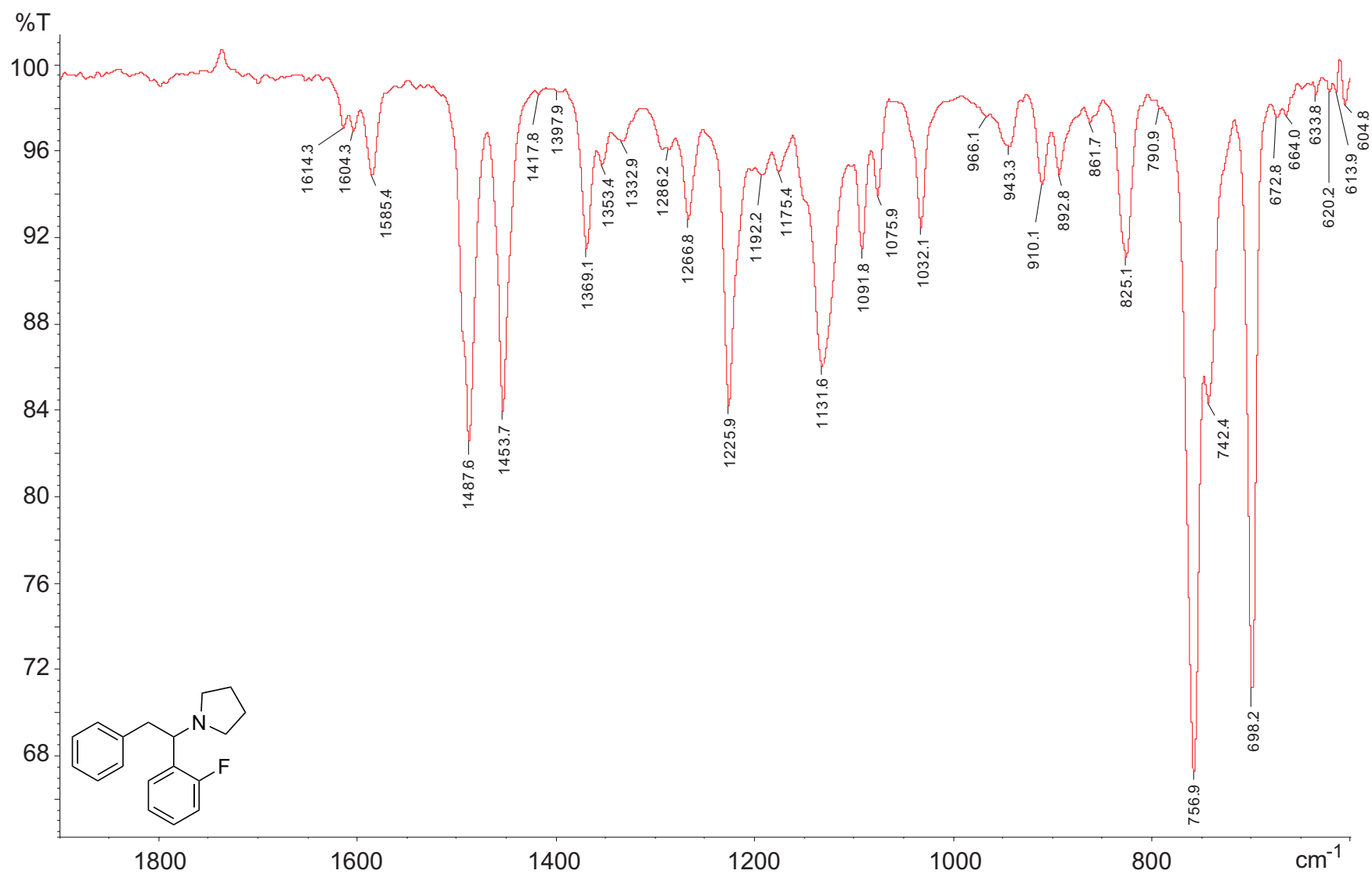
2-F-DPPy base (fluorolintane) (zoom)
ATR-IR

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2-F-DPPy (fluorolintane) GC-sIR

Supporting Information – Drug Testing and Analysis

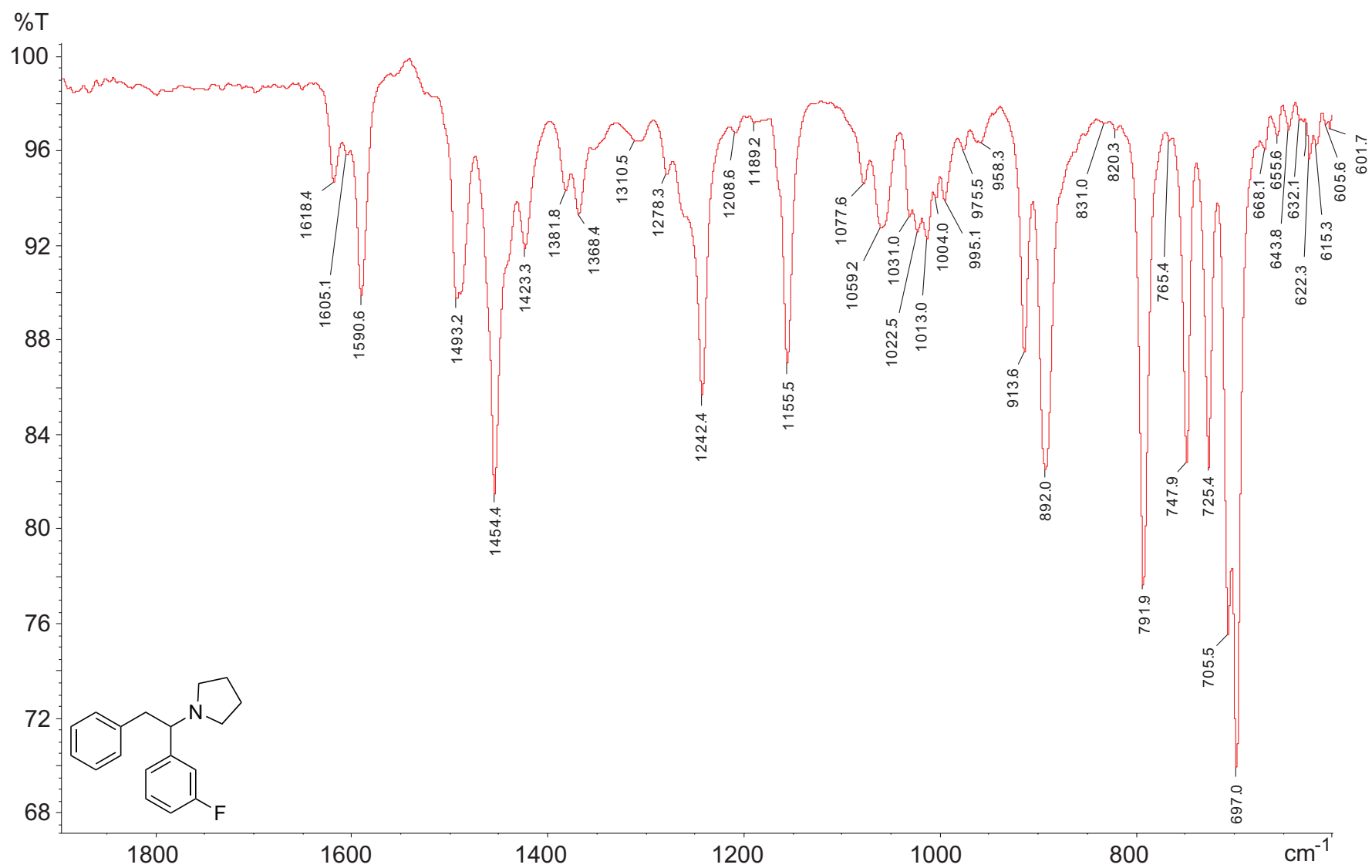


2-F-DPPy base (fluorolintane) (zoom)
ATR-IR

Supporting Information – Drug Testing and Analysis

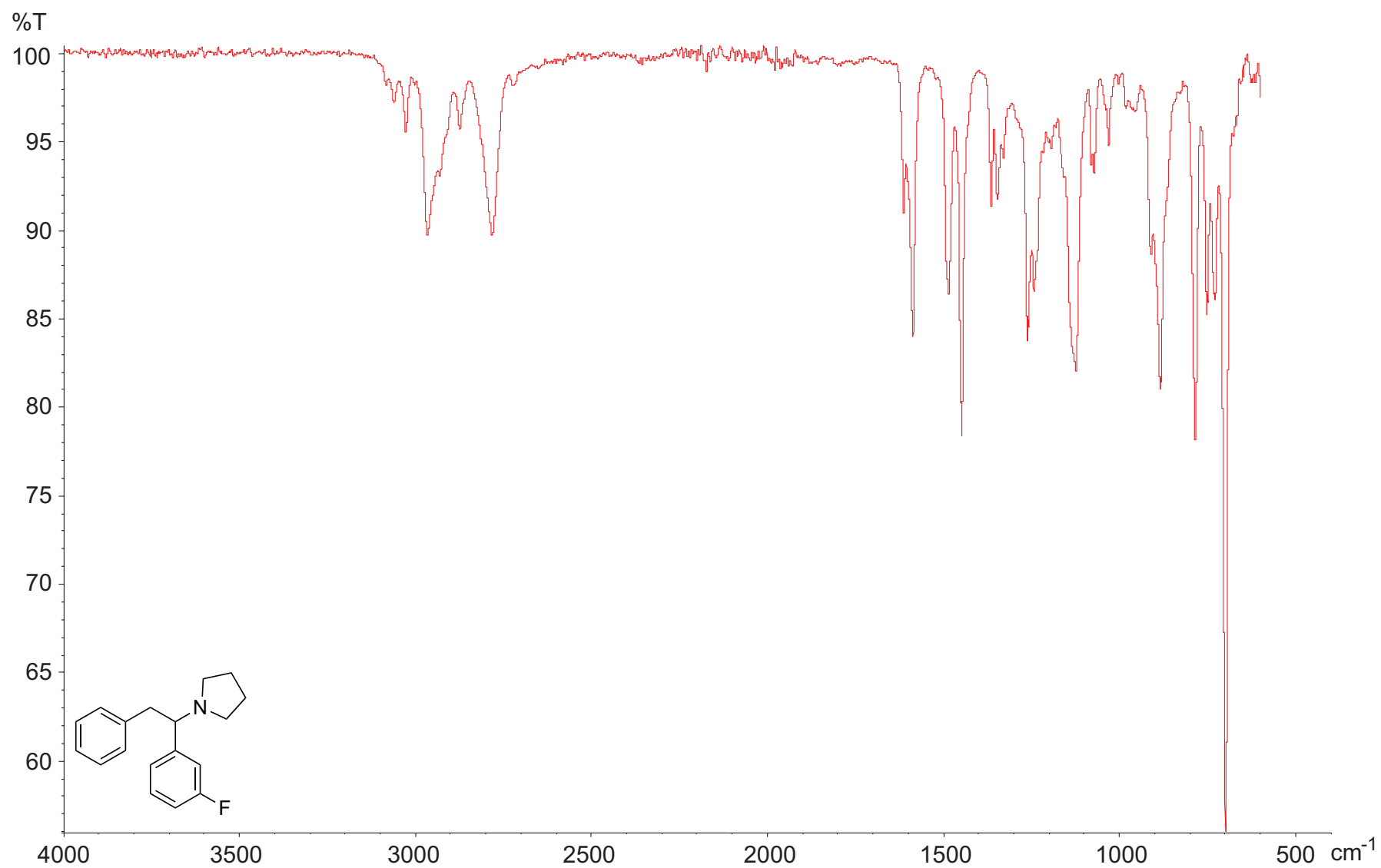


3-F-DPPy HCl
ATR-IR

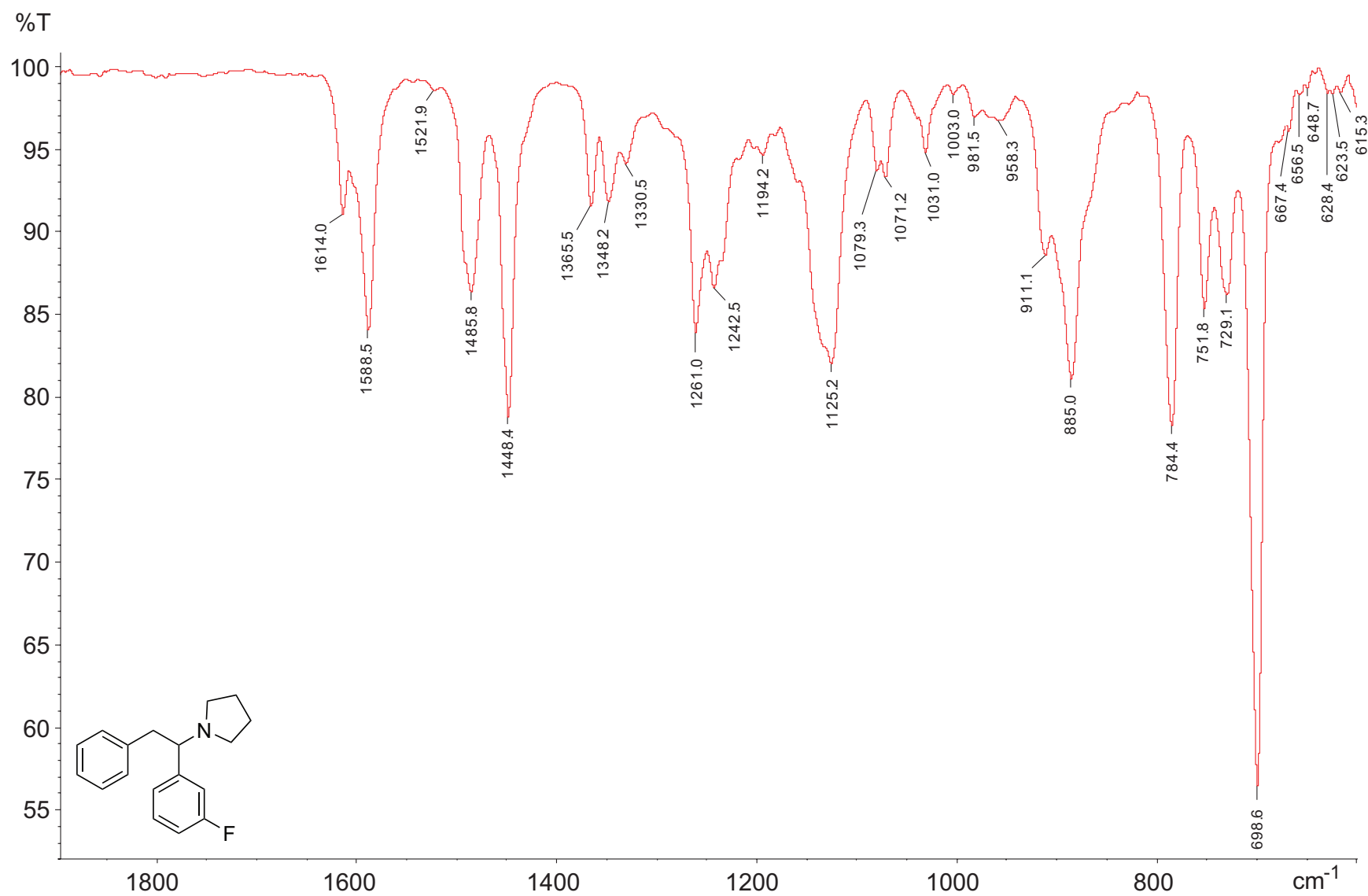


3-F-DPPy HCl (zoom)
ATR-IR

Supporting Information – Drug Testing and Analysis

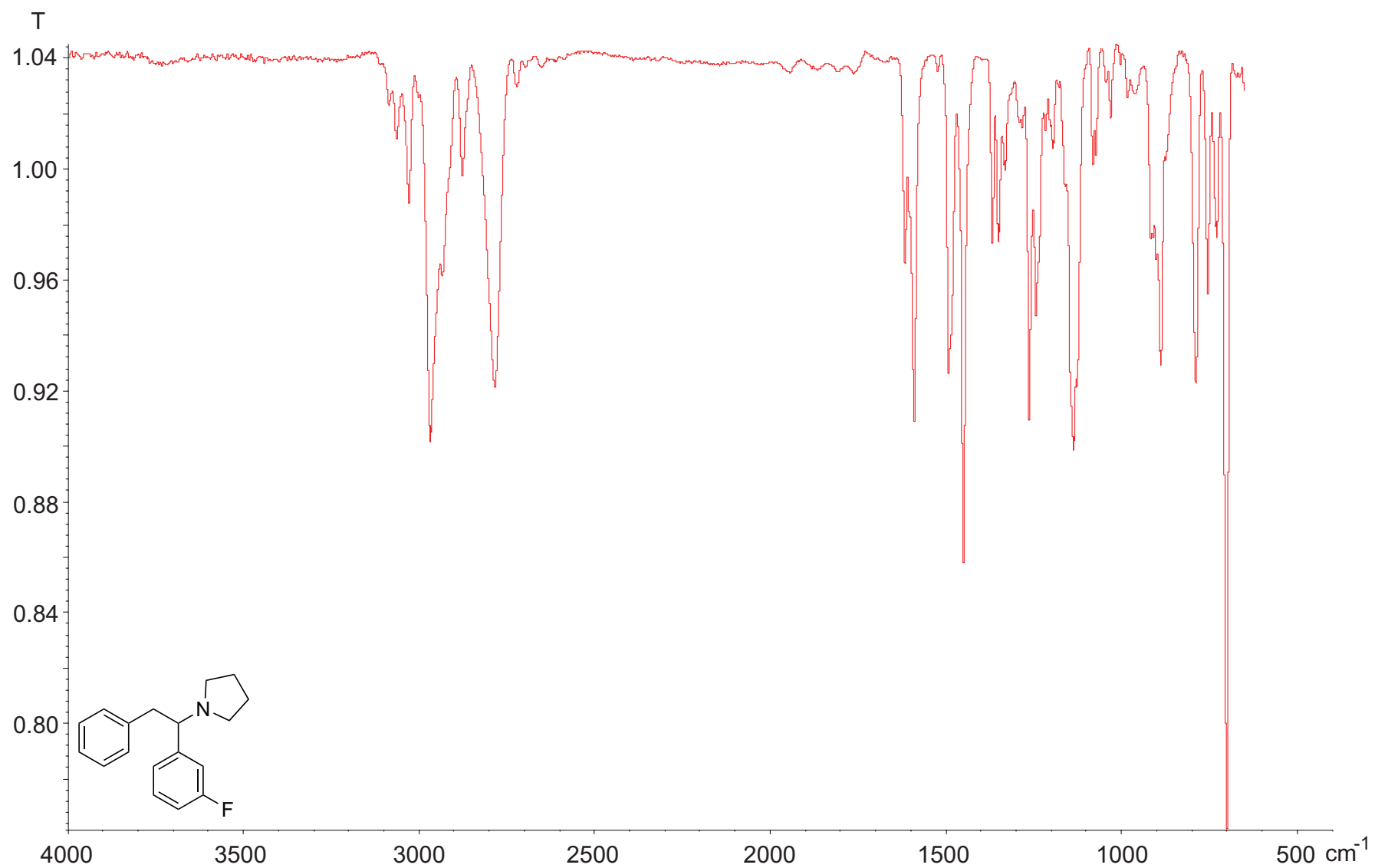


3-F-DPPy base
ATR-IR



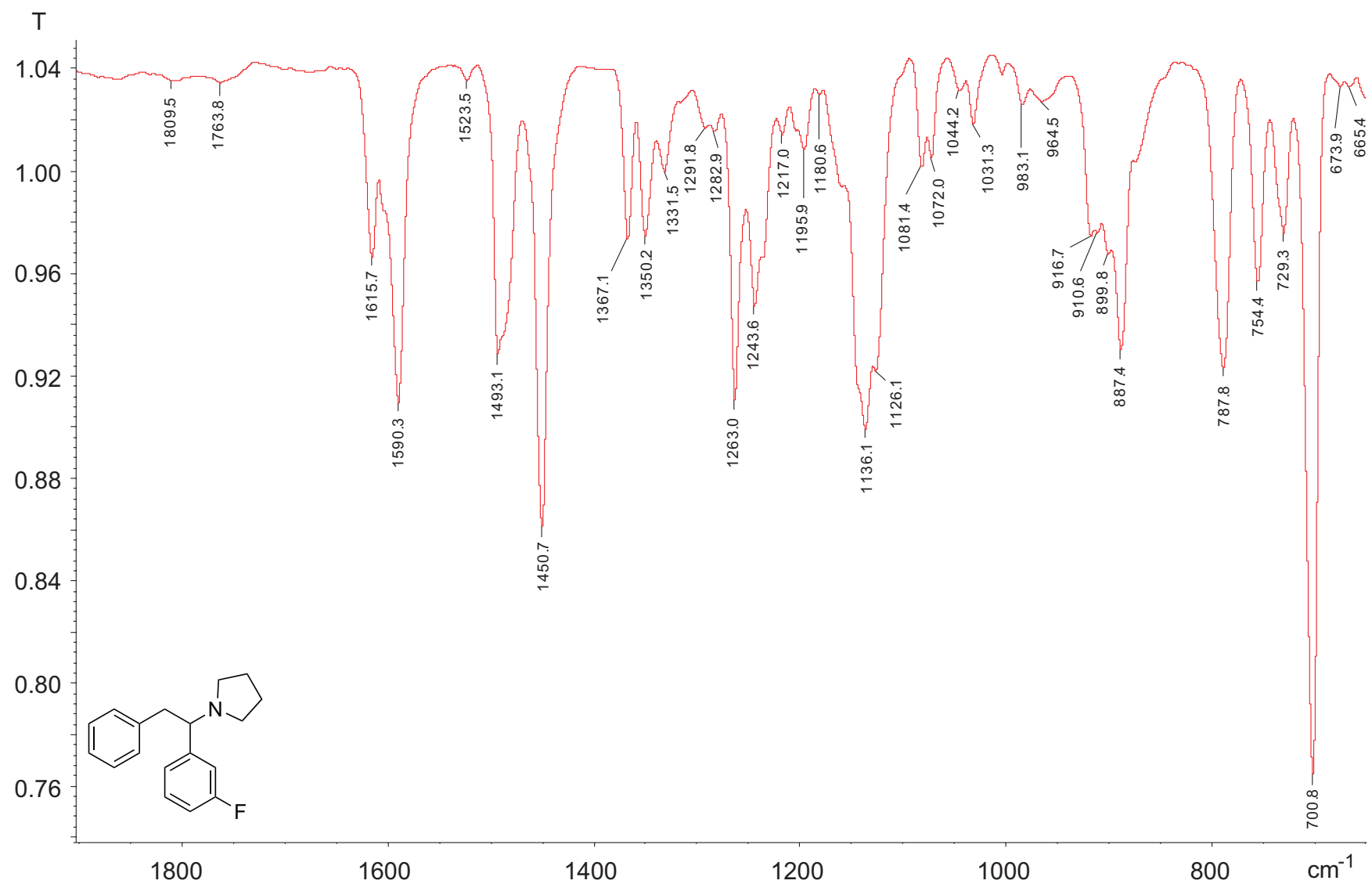
3-F-DPPy base (zoom)
ATR-IR

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3-F-DPPy GC-sIR

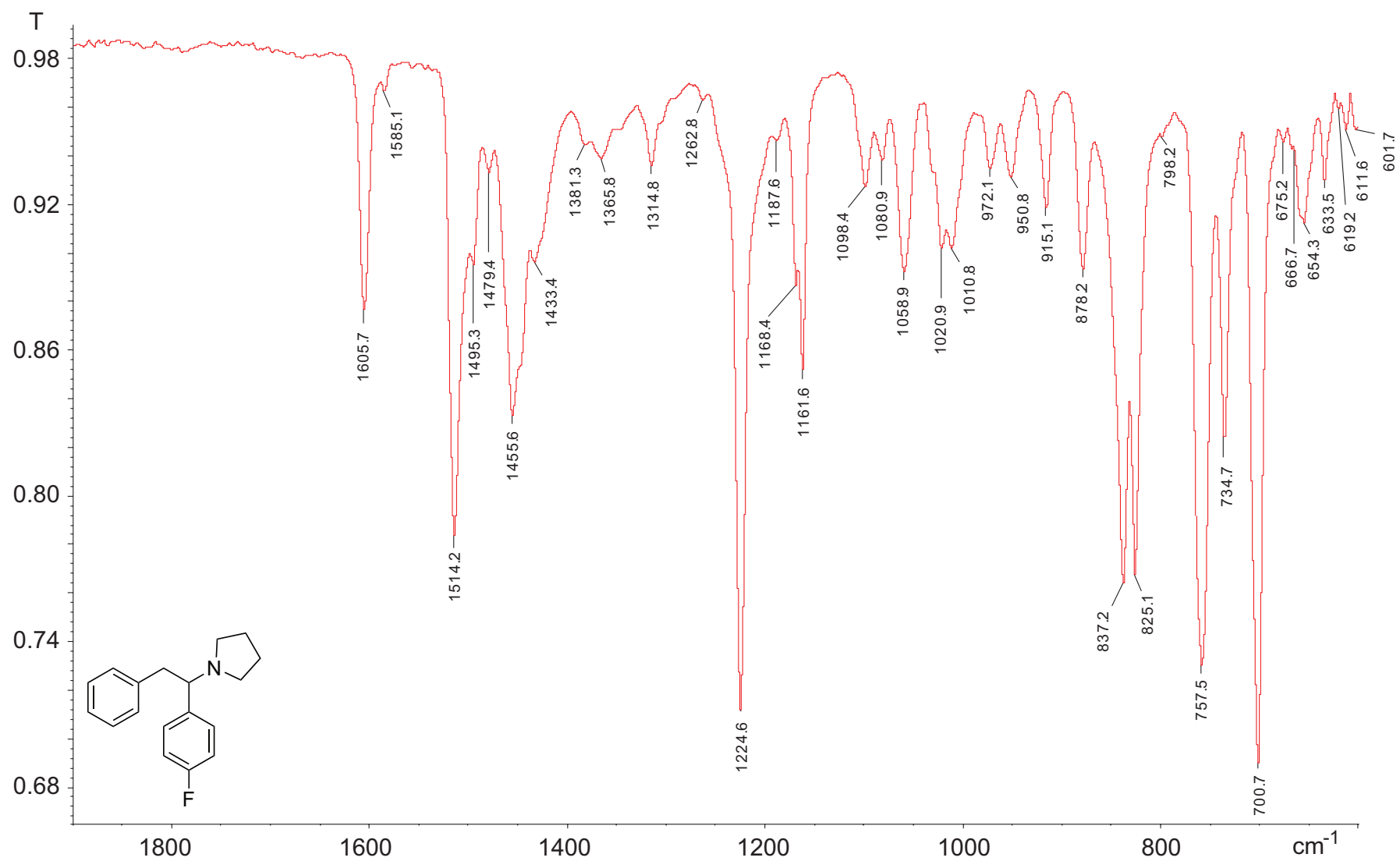
Supporting Information – Drug Testing and Analysis



3-F-DPPy GC-sIR (zoom)

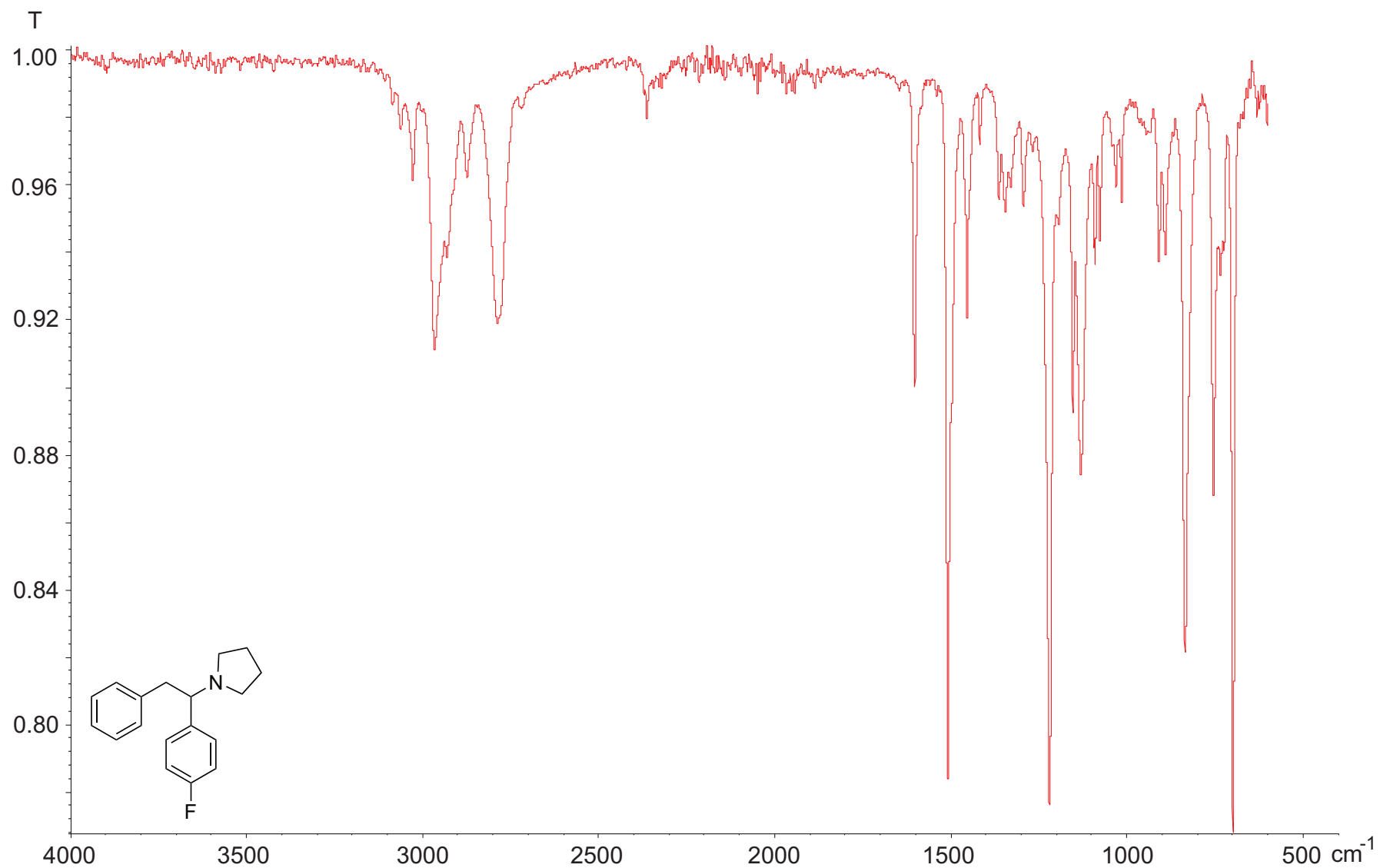


Supporting Information – Drug Testing and Analysis

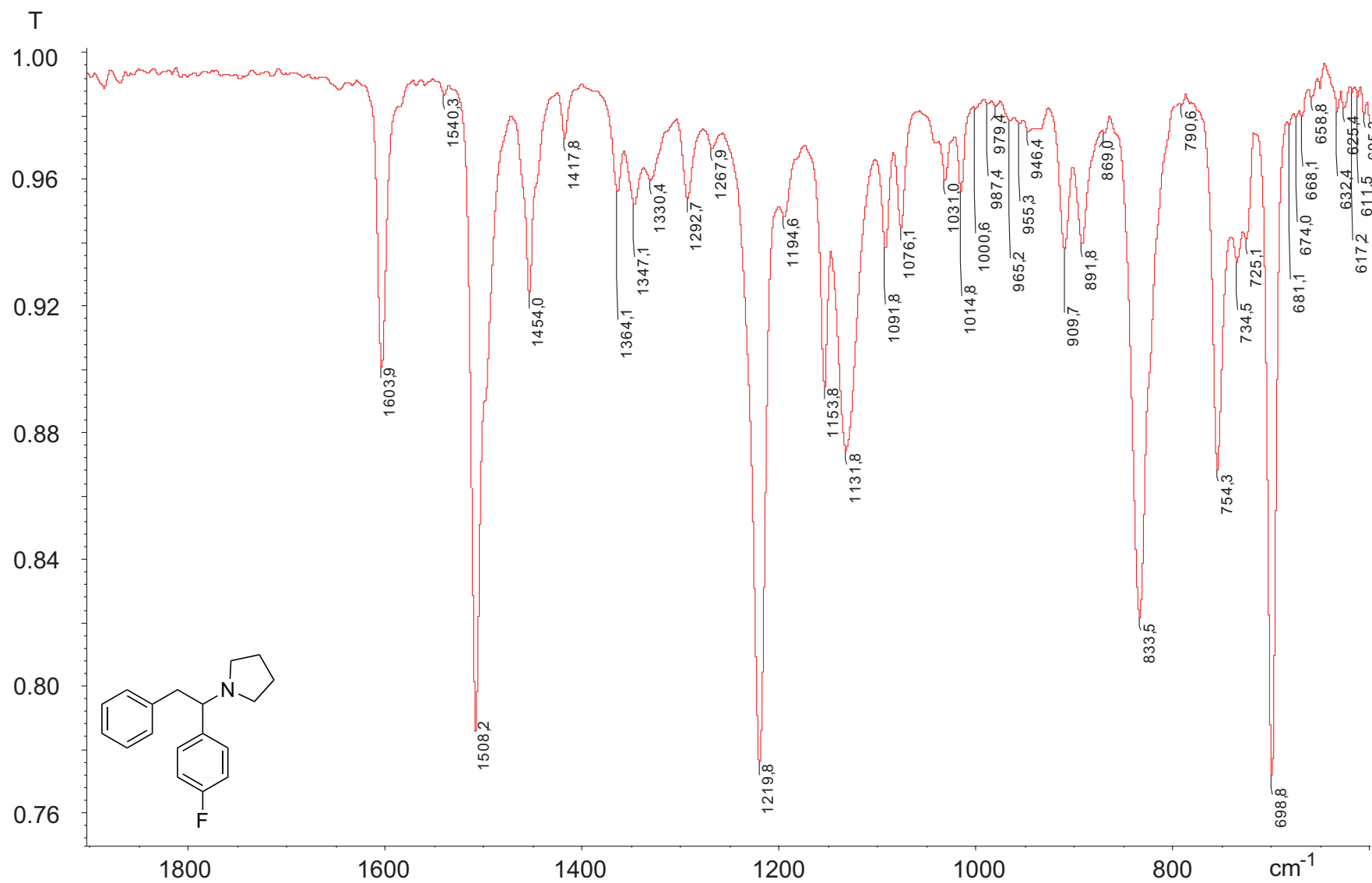


4-F-DPPy HCl (zoom)
ATR-IR

Supporting Information – Drug Testing and Analysis



4-F-DPPy base
ATR-IR

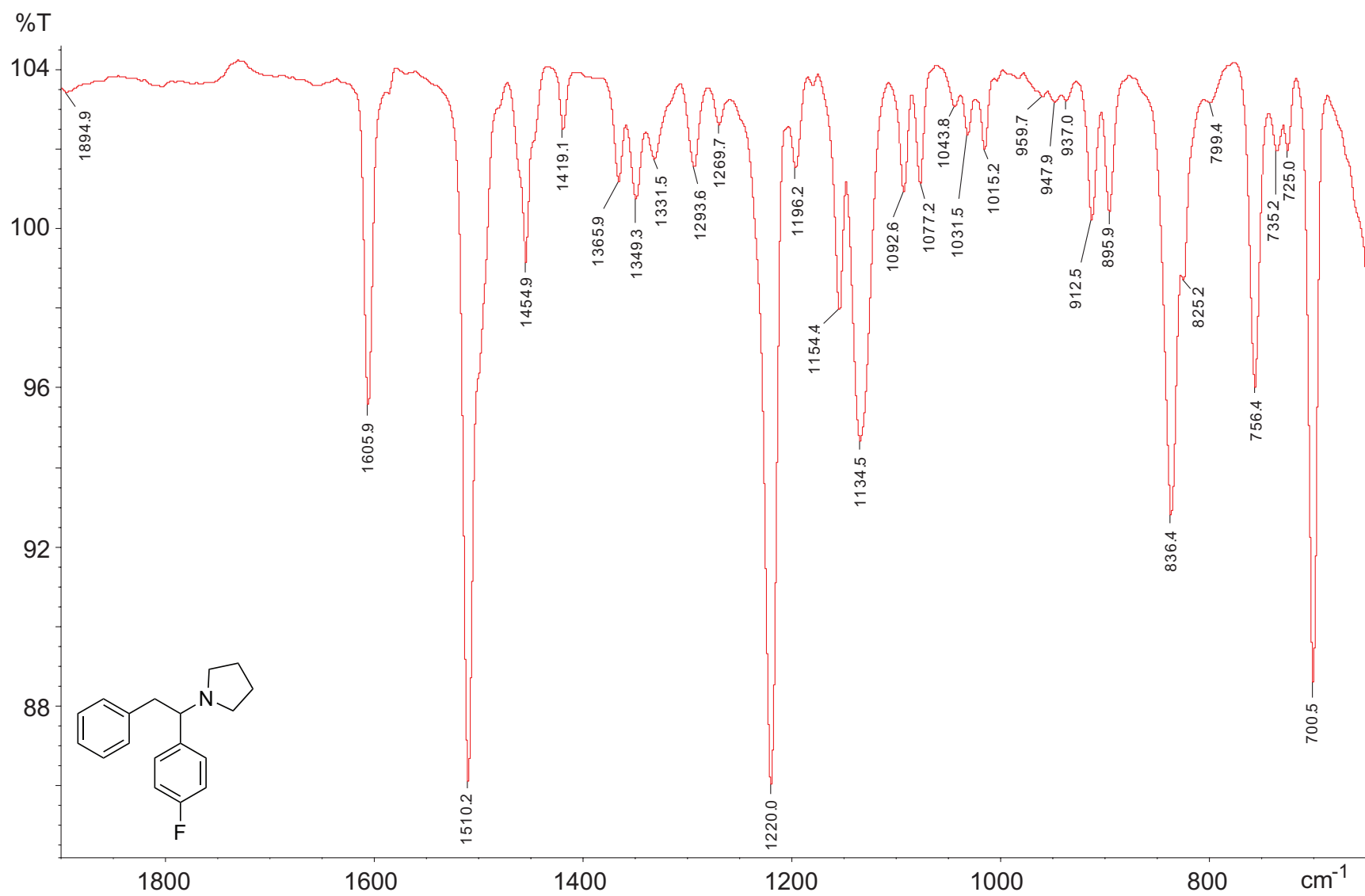


4-F-DPPy base (zoom)
ATR-IR

Supporting Information – Drug Testing and Analysis



4-F-DPPy GC-sIR



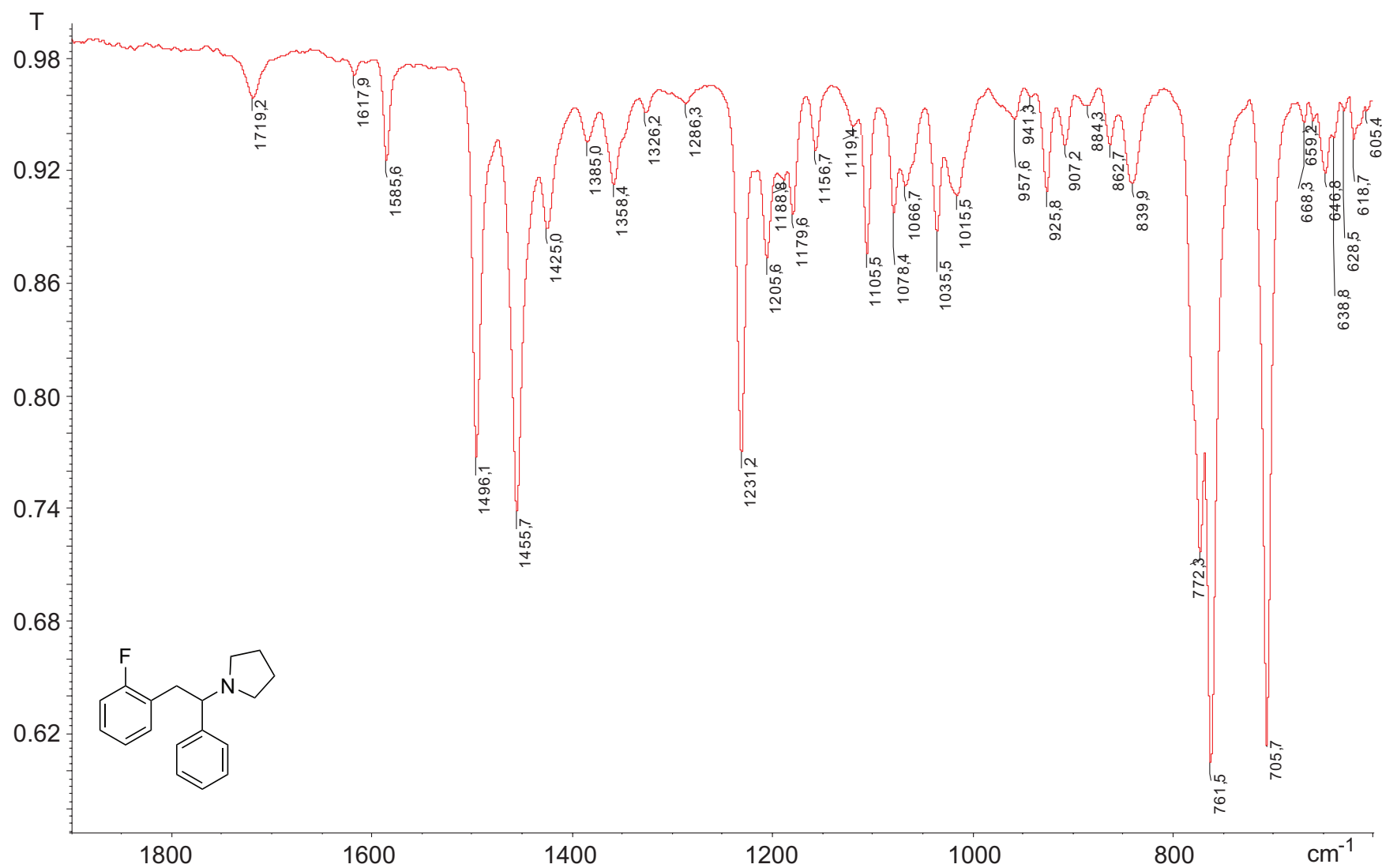
4-F-DPPy GC-sIR (zoom)

Supporting Information – Drug Testing and Analysis



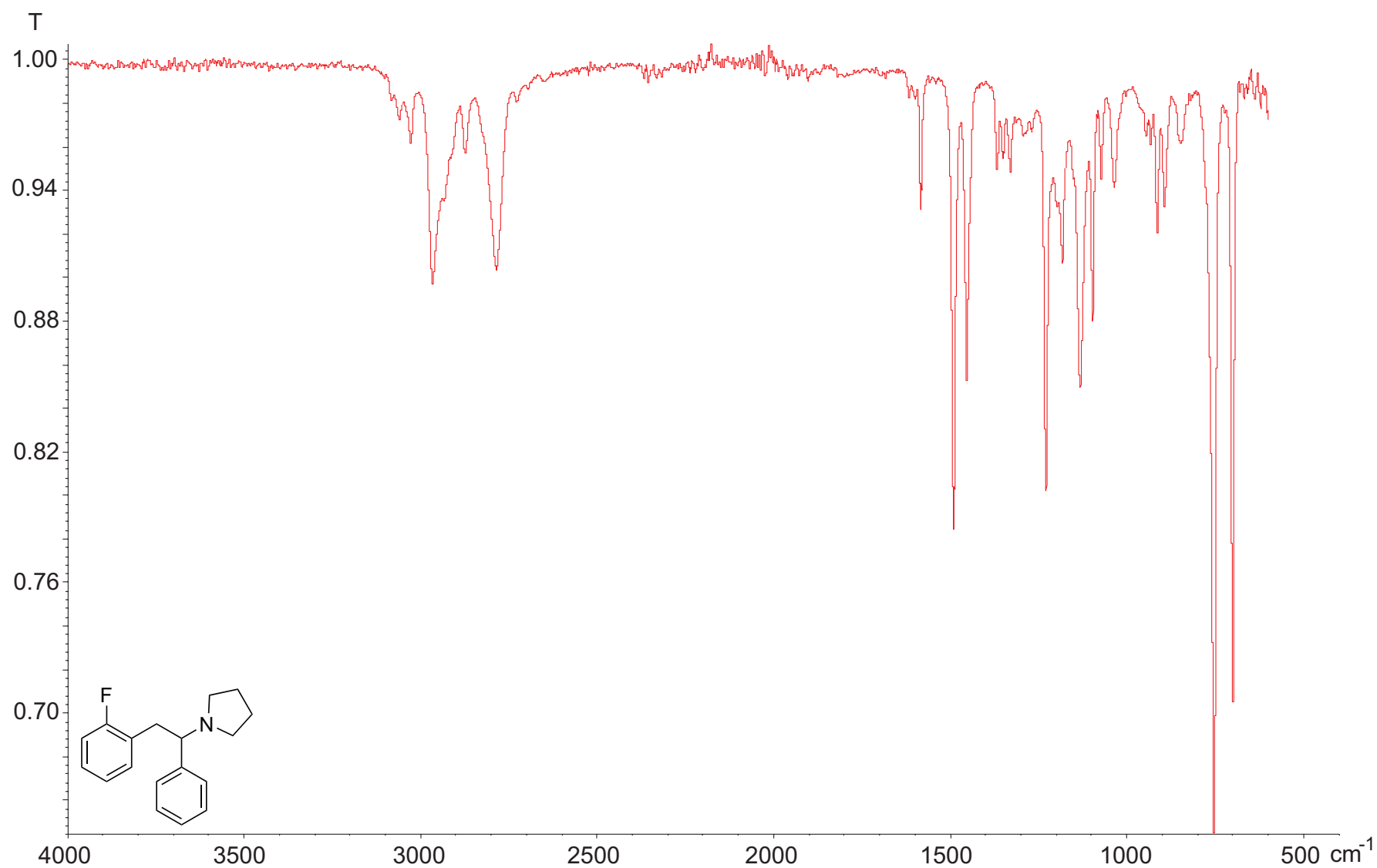
2''-F-DPPy HCl
ATR-IR

Supporting Information – Drug Testing and Analysis



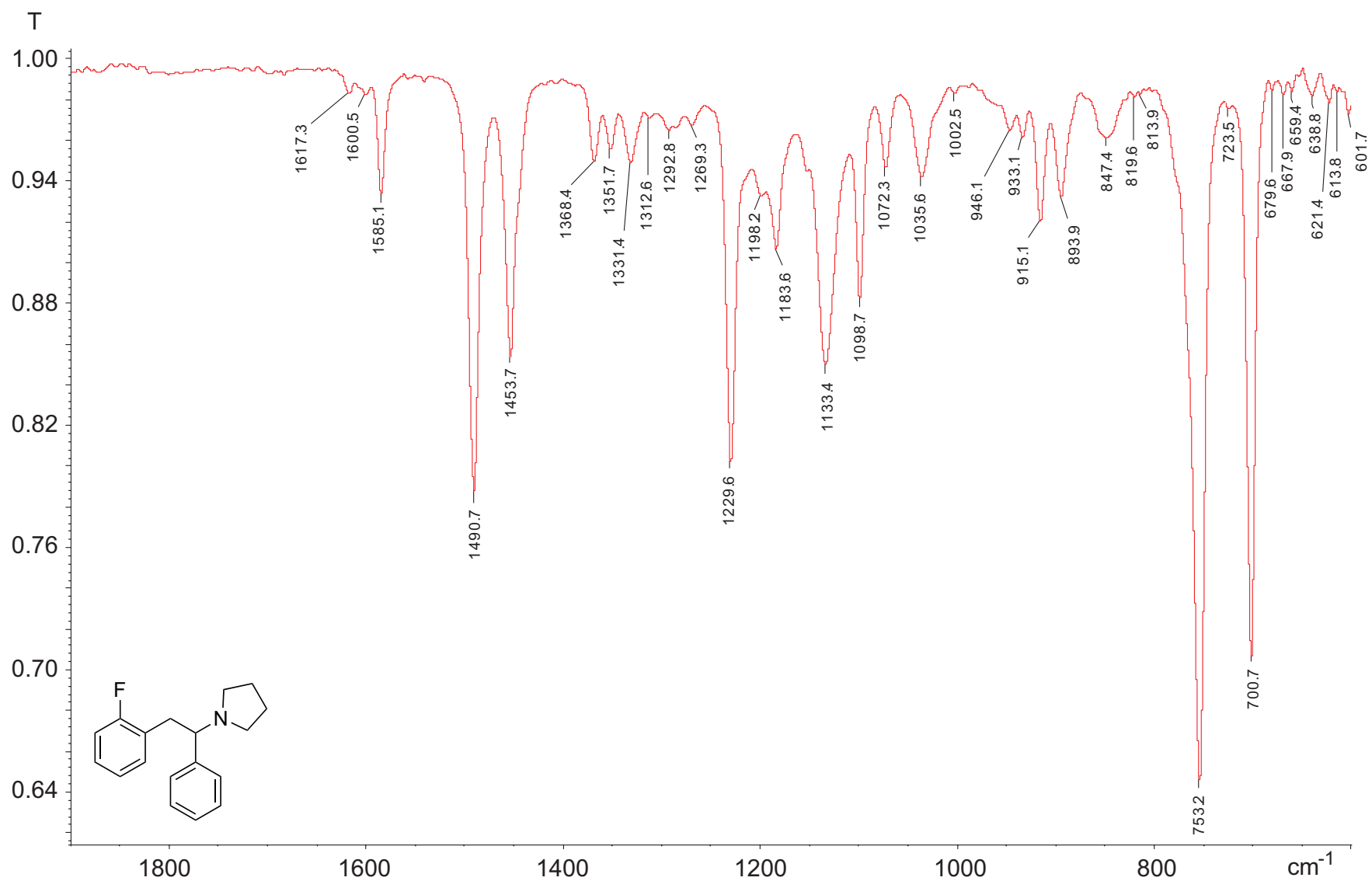
2''-F-DPPy HCl (zoom)
ATR-IR

Supporting Information – Drug Testing and Analysis



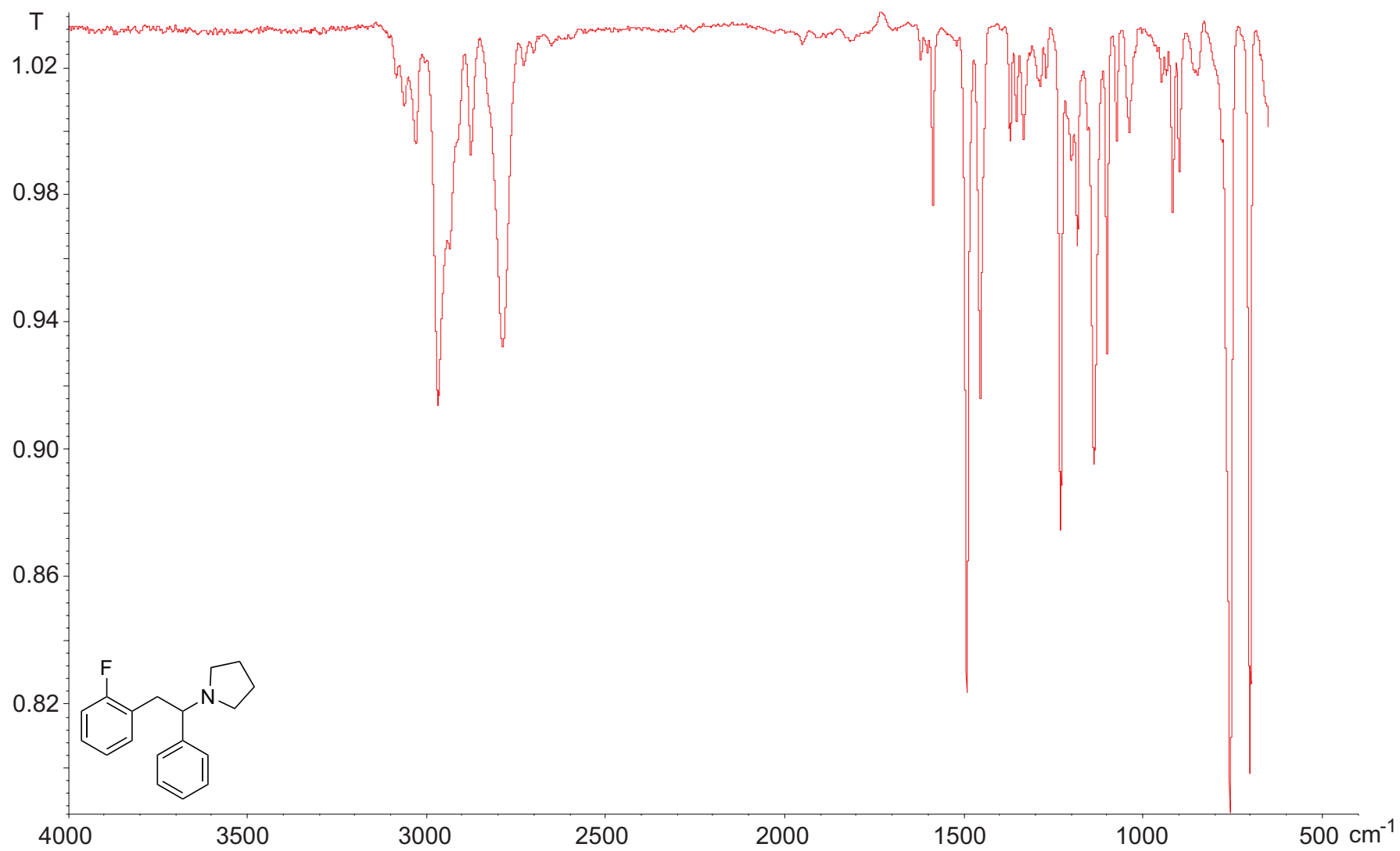
2''-F-DPPy base
ATR-IR

Supporting Information – Drug Testing and Analysis



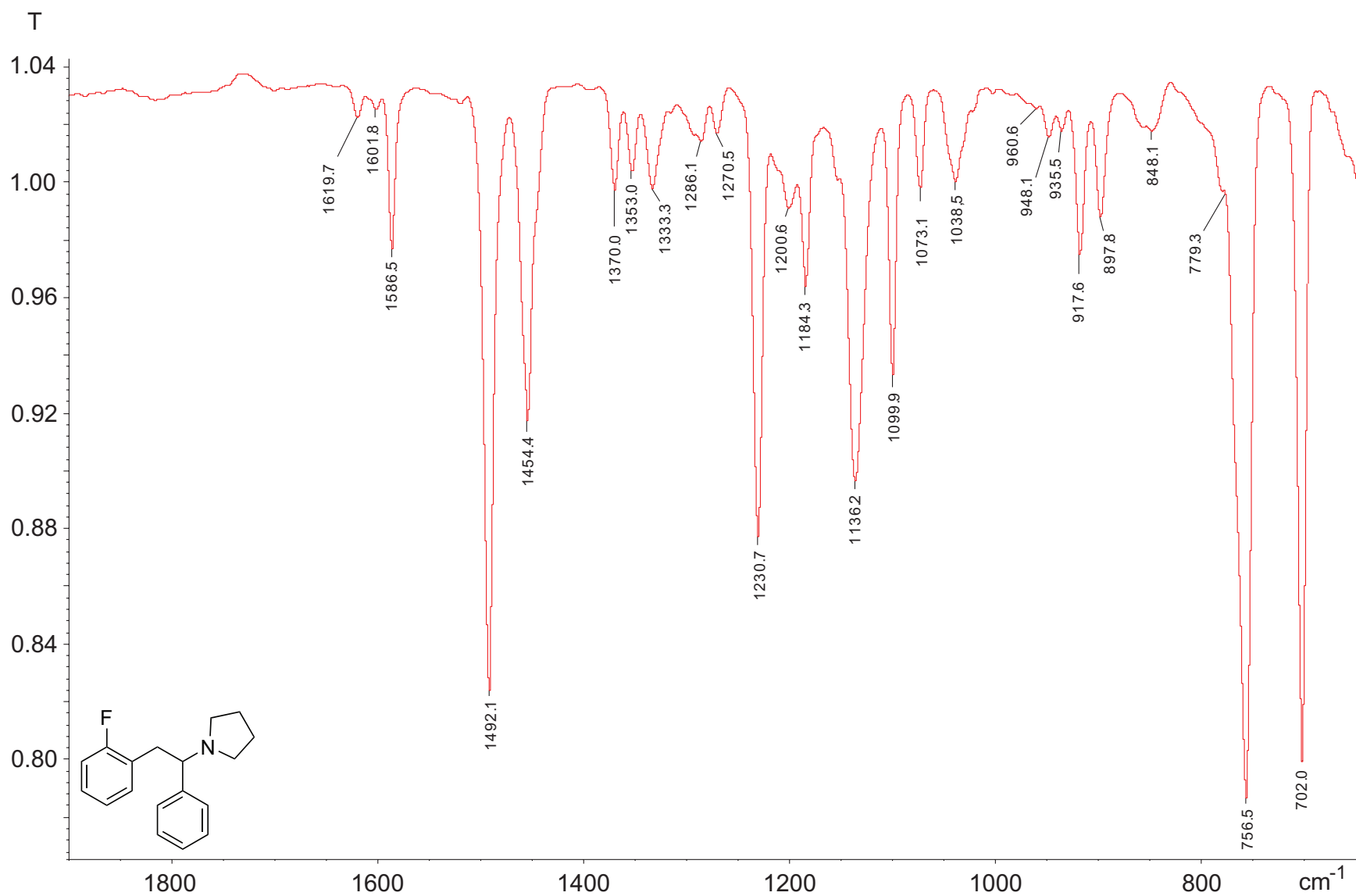
2''-F-DPPy base (zoom)
ATR-IR

Supporting Information – Drug Testing and Analysis



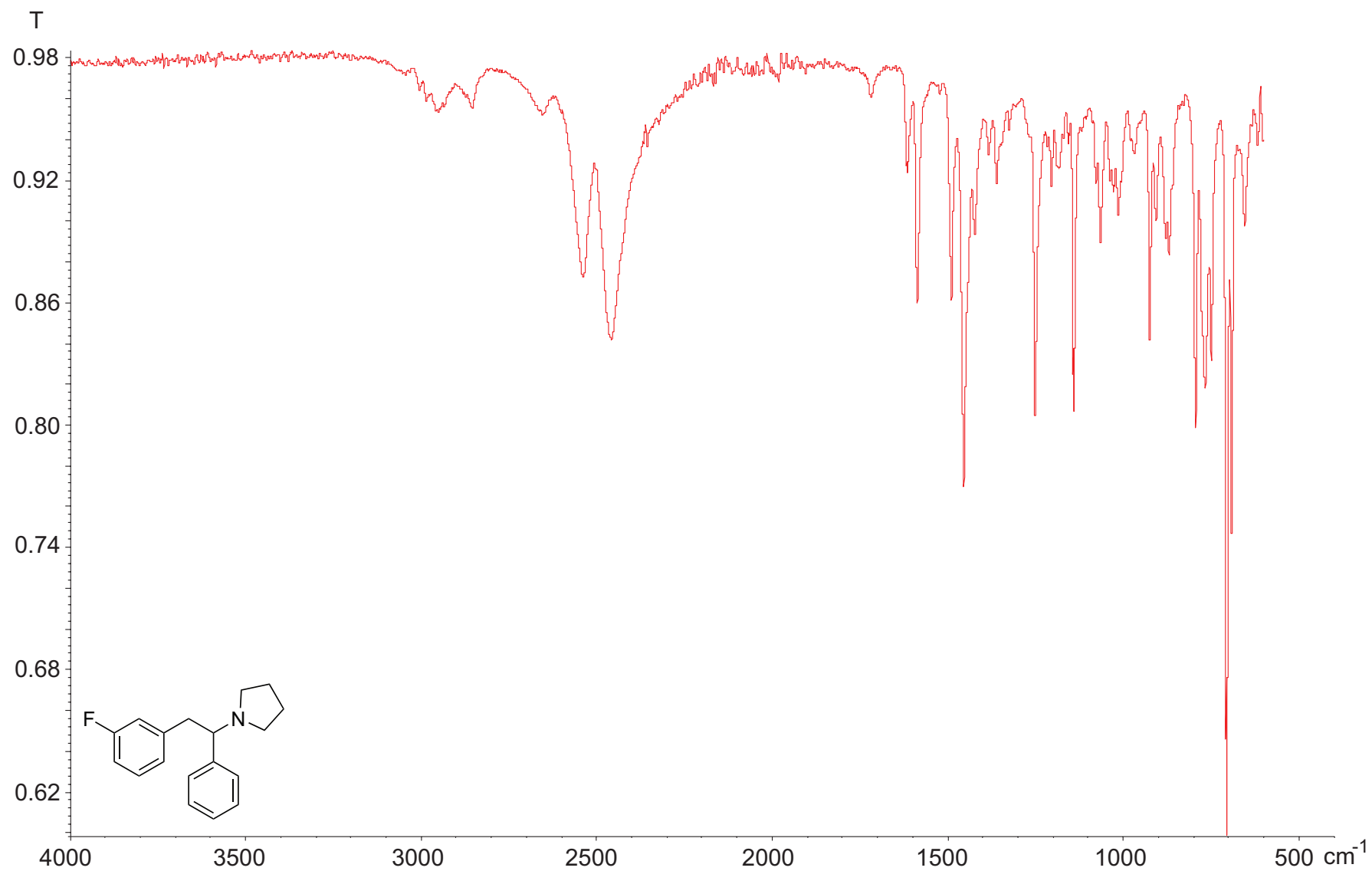
2''-F-DPPy GC-sIR

Supporting Information – Drug Testing and Analysis

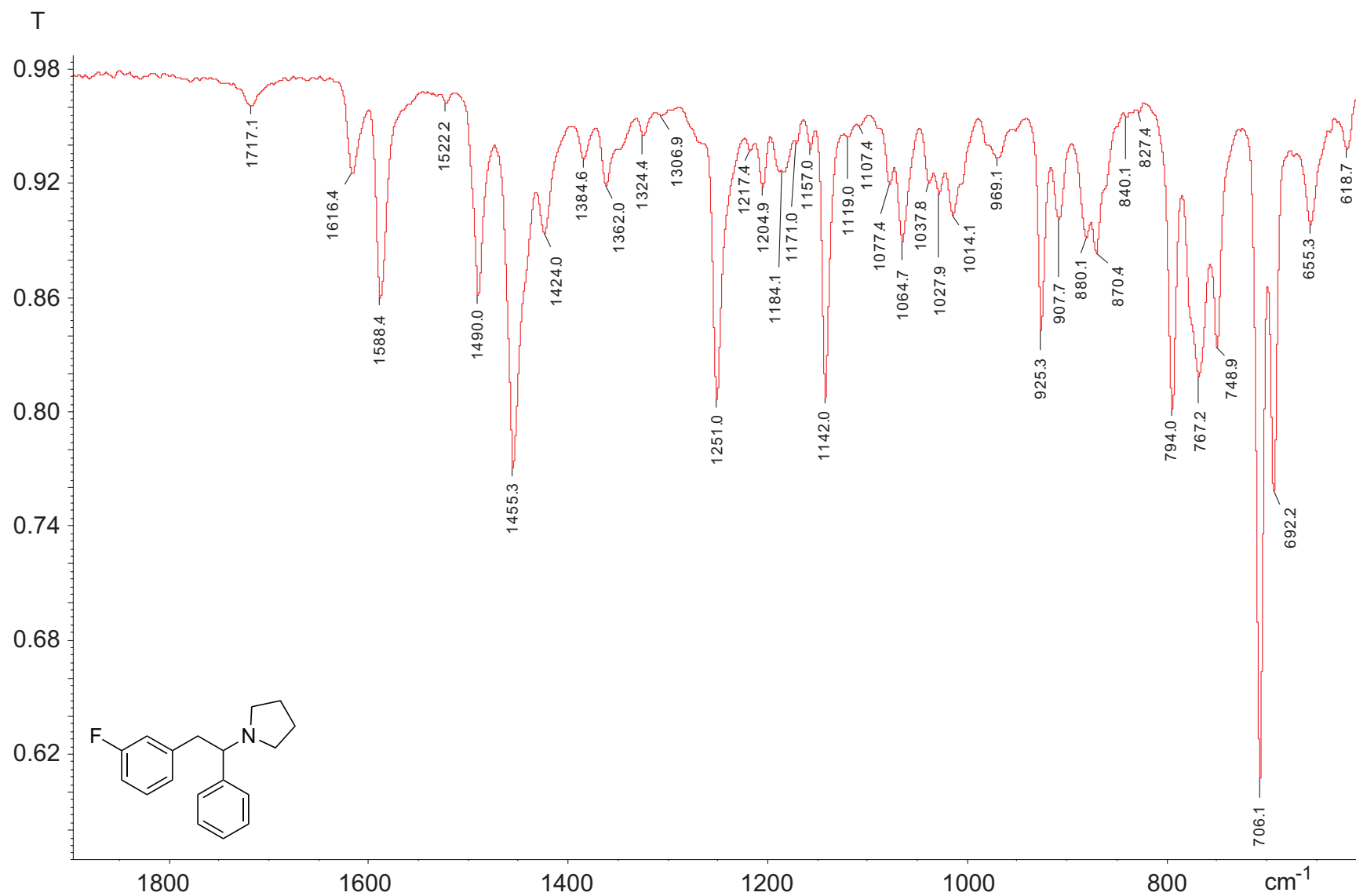


2''-F-DPPy GC-sIR (zoom)

Supporting Information – Drug Testing and Analysis

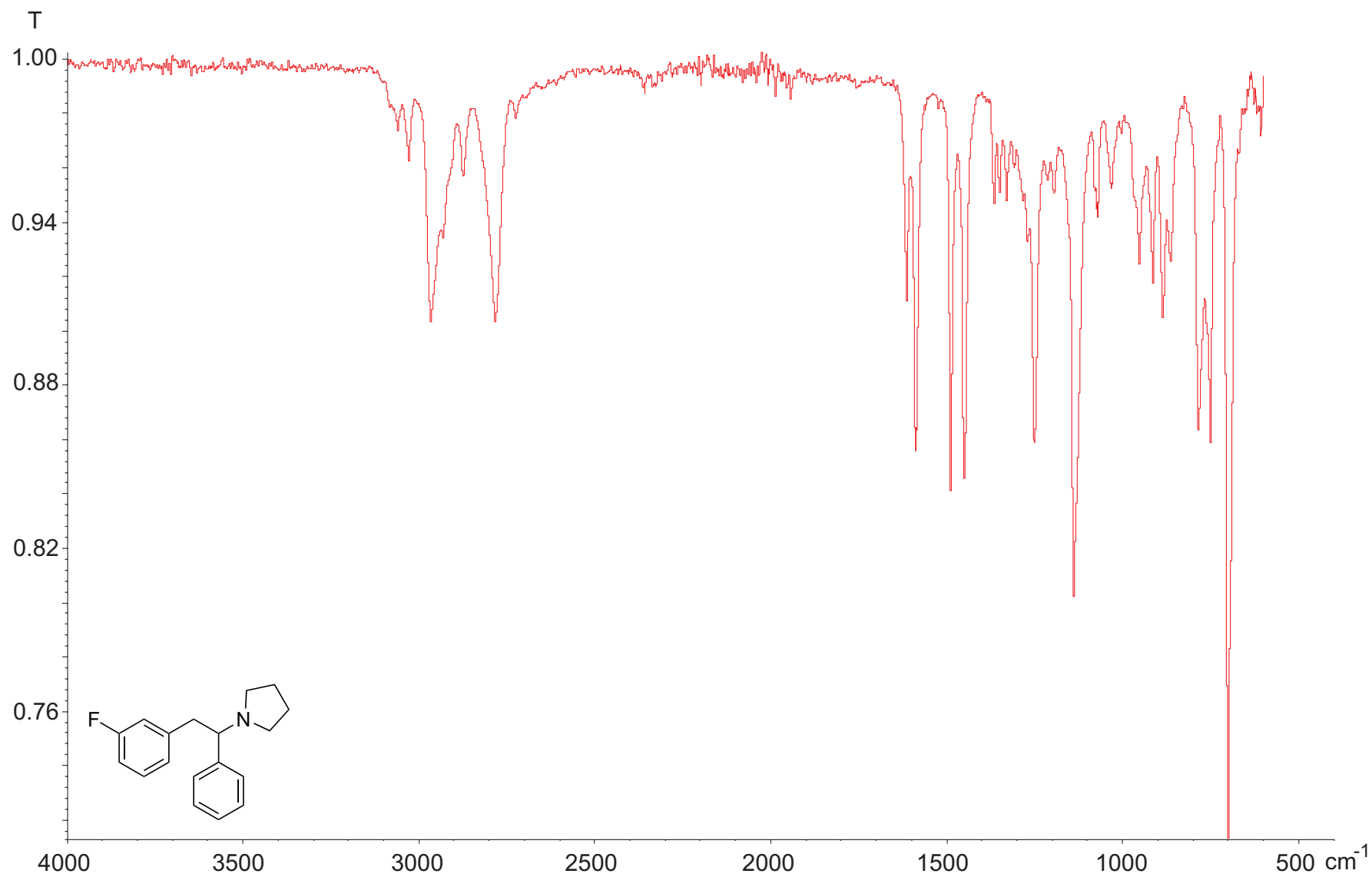


3''-F-DPPy HCl
ATR-IR

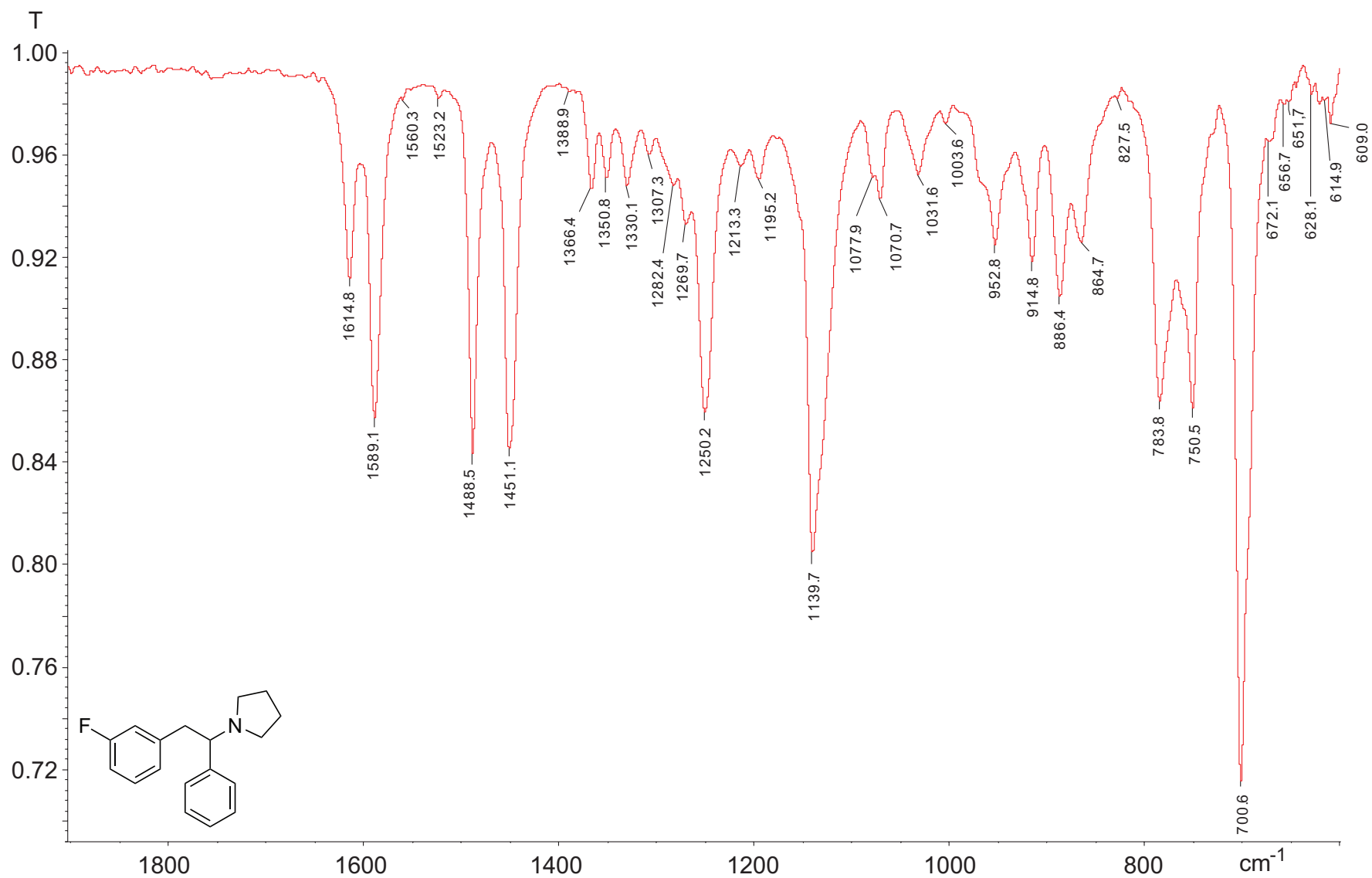


3''-F-DPPy HCl (zoom)
ATR-IR

Supporting Information – Drug Testing and Analysis

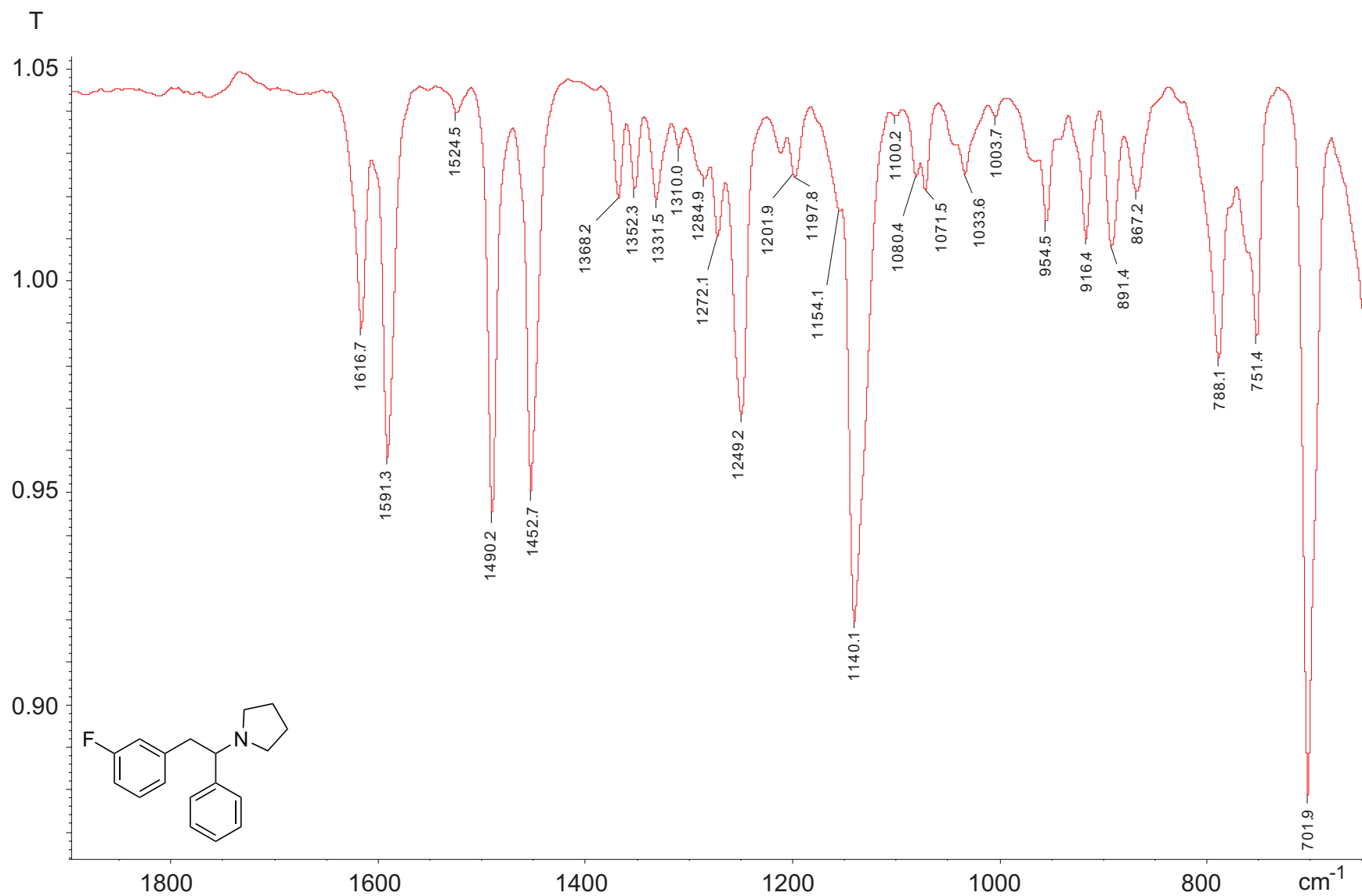


3''-F-DPPy base
ATR-IR



3''-F-DPPy base (zoom)
ATR-IR



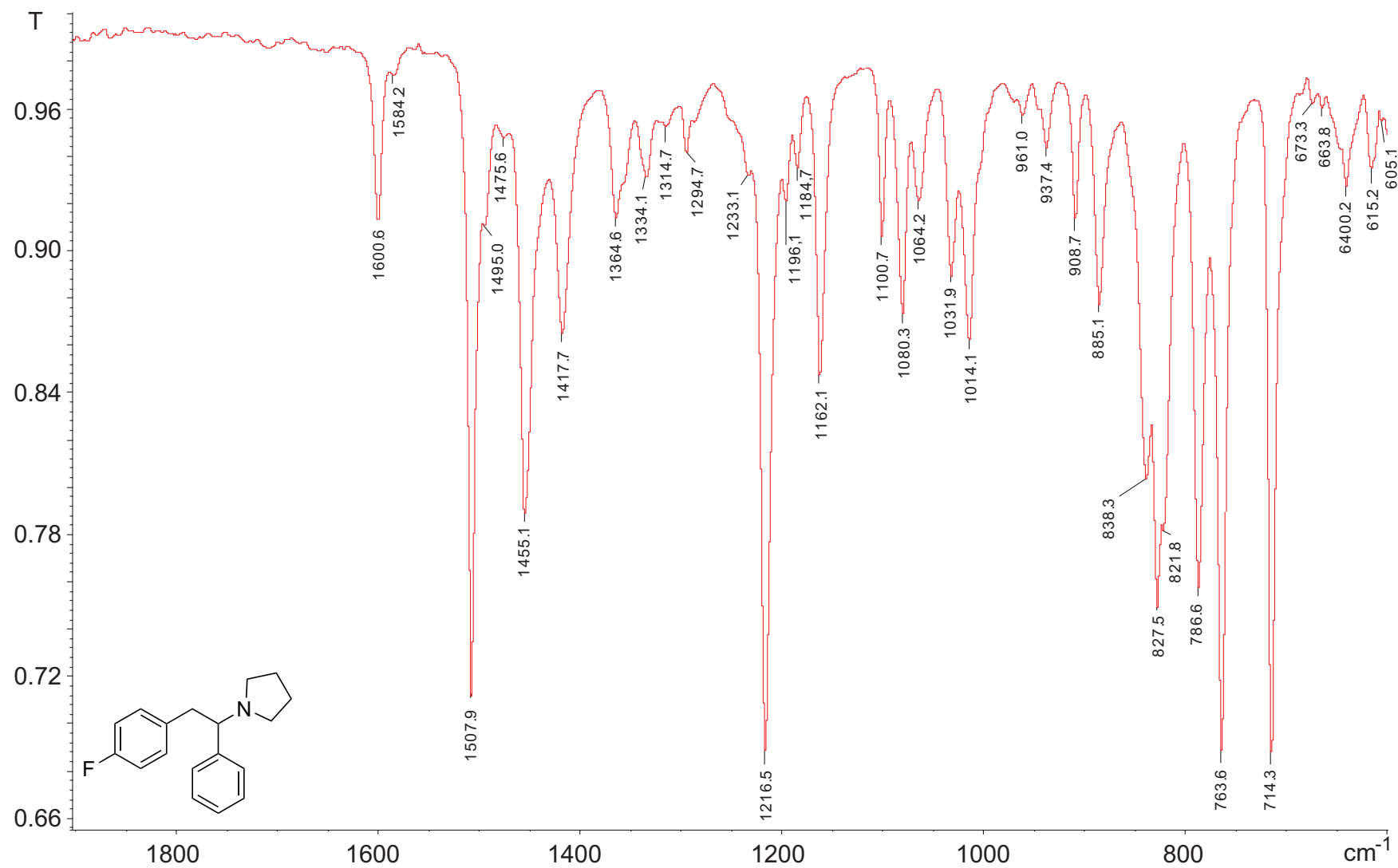


Supporting Information – Drug Testing and Analysis



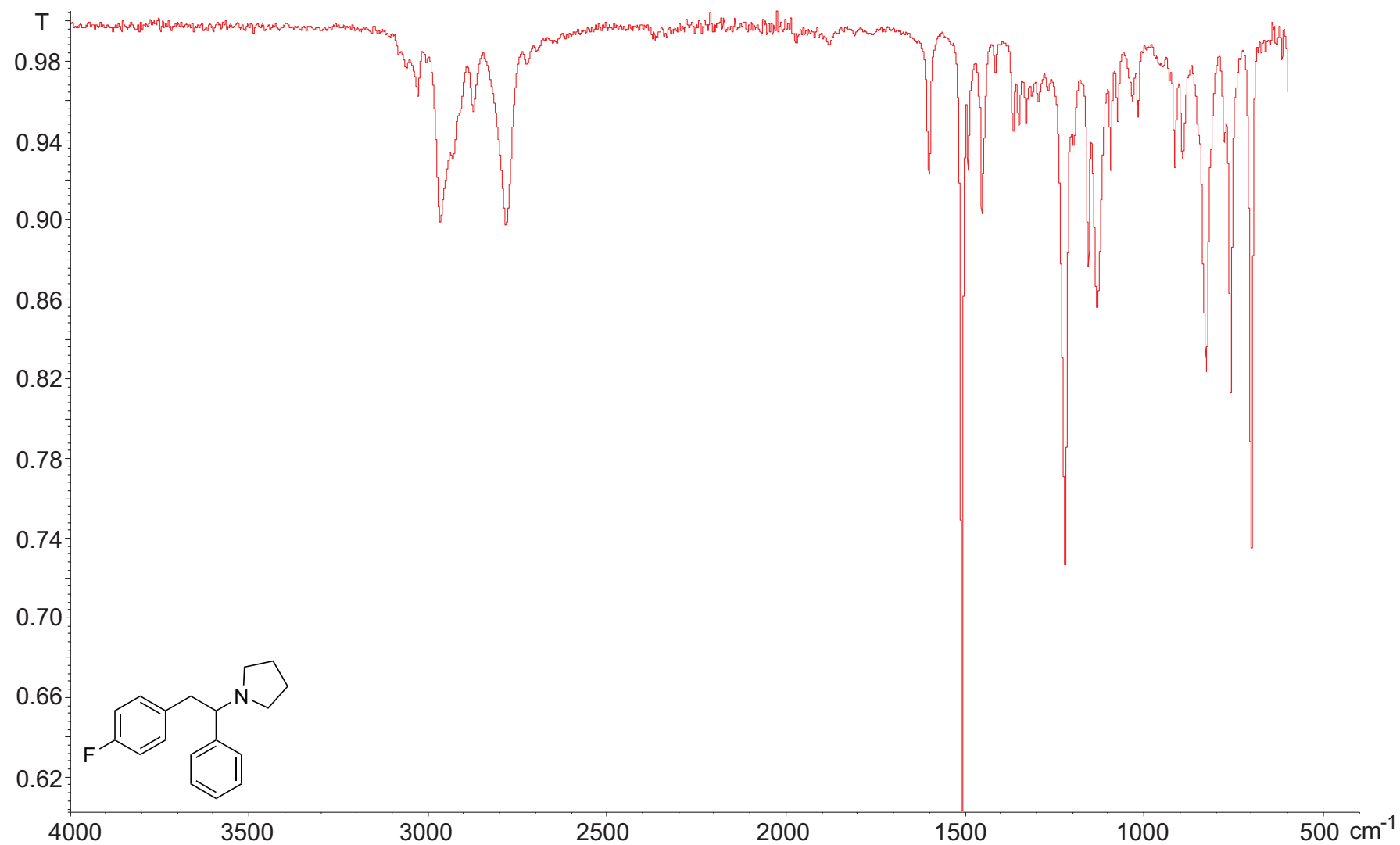
4''-F-DPPy HCl
ATR-IR

Supporting Information – Drug Testing and Analysis



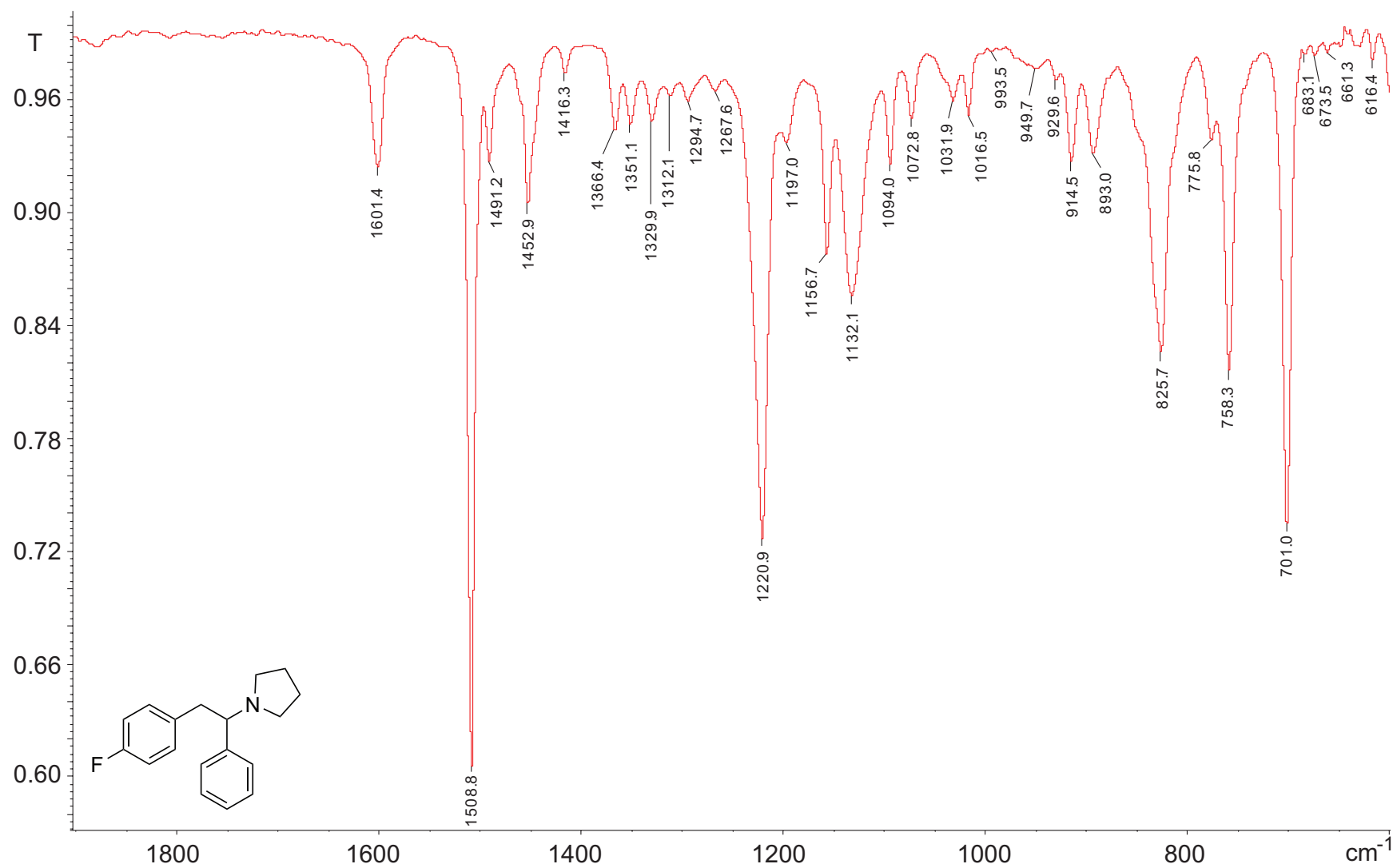
4''-F-DPPy HCl (zoom)
ATR-IR

Supporting Information – Drug Testing and Analysis



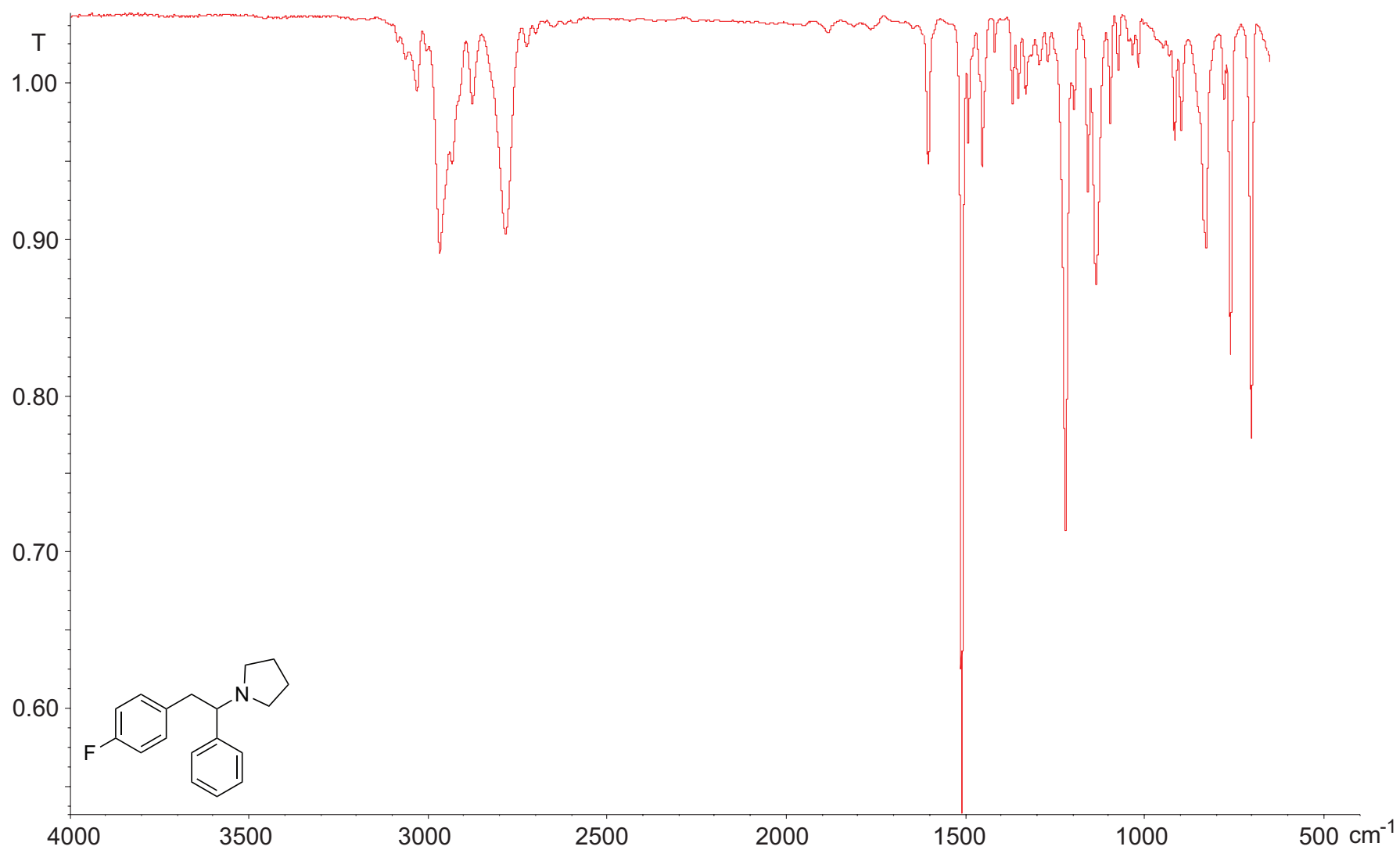
4''-F-DPPy base
ATR-IR

Supporting Information – Drug Testing and Analysis



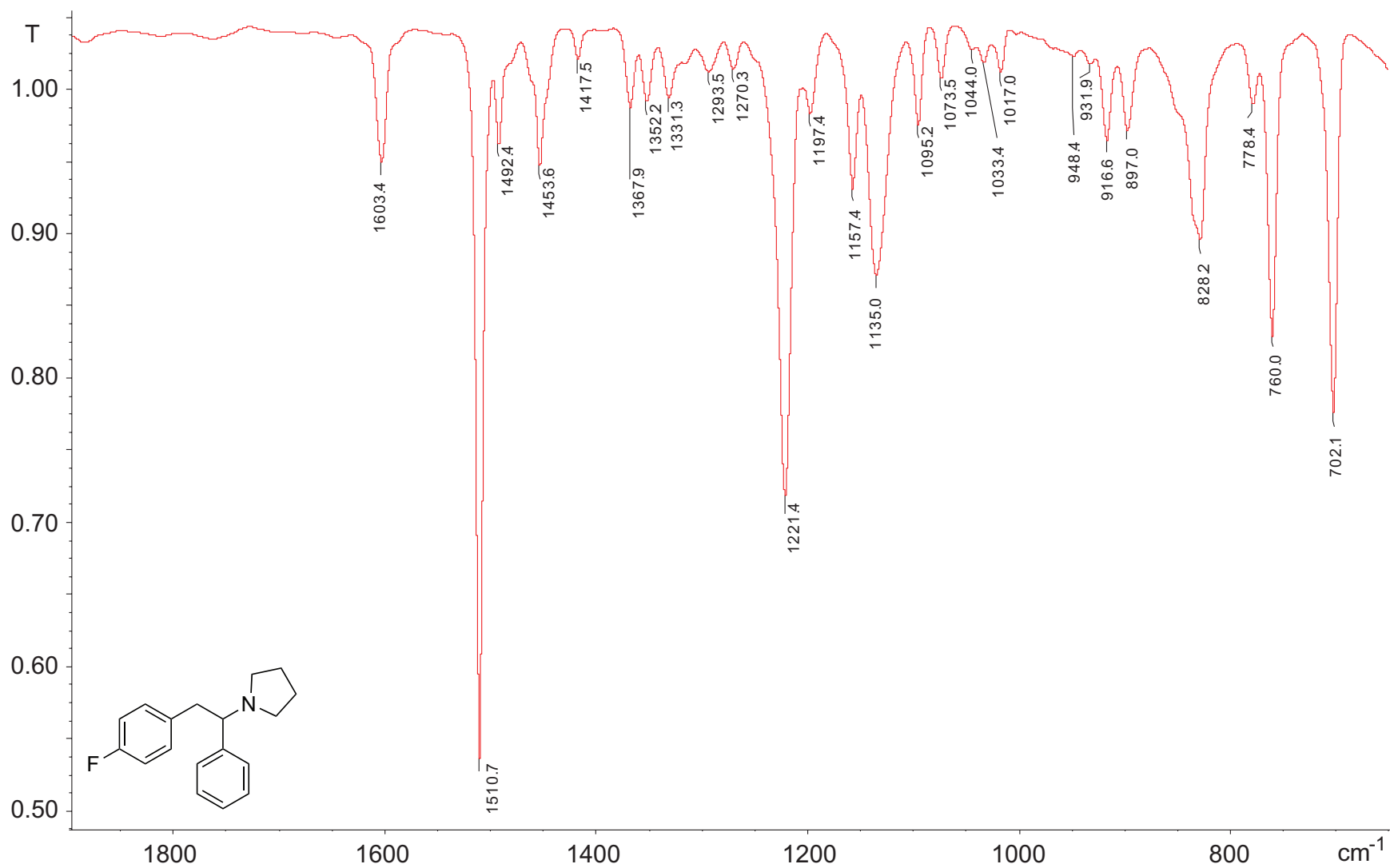
4''-F-DPPy base (zoom)
ATR-IR

Supporting Information – Drug Testing and Analysis



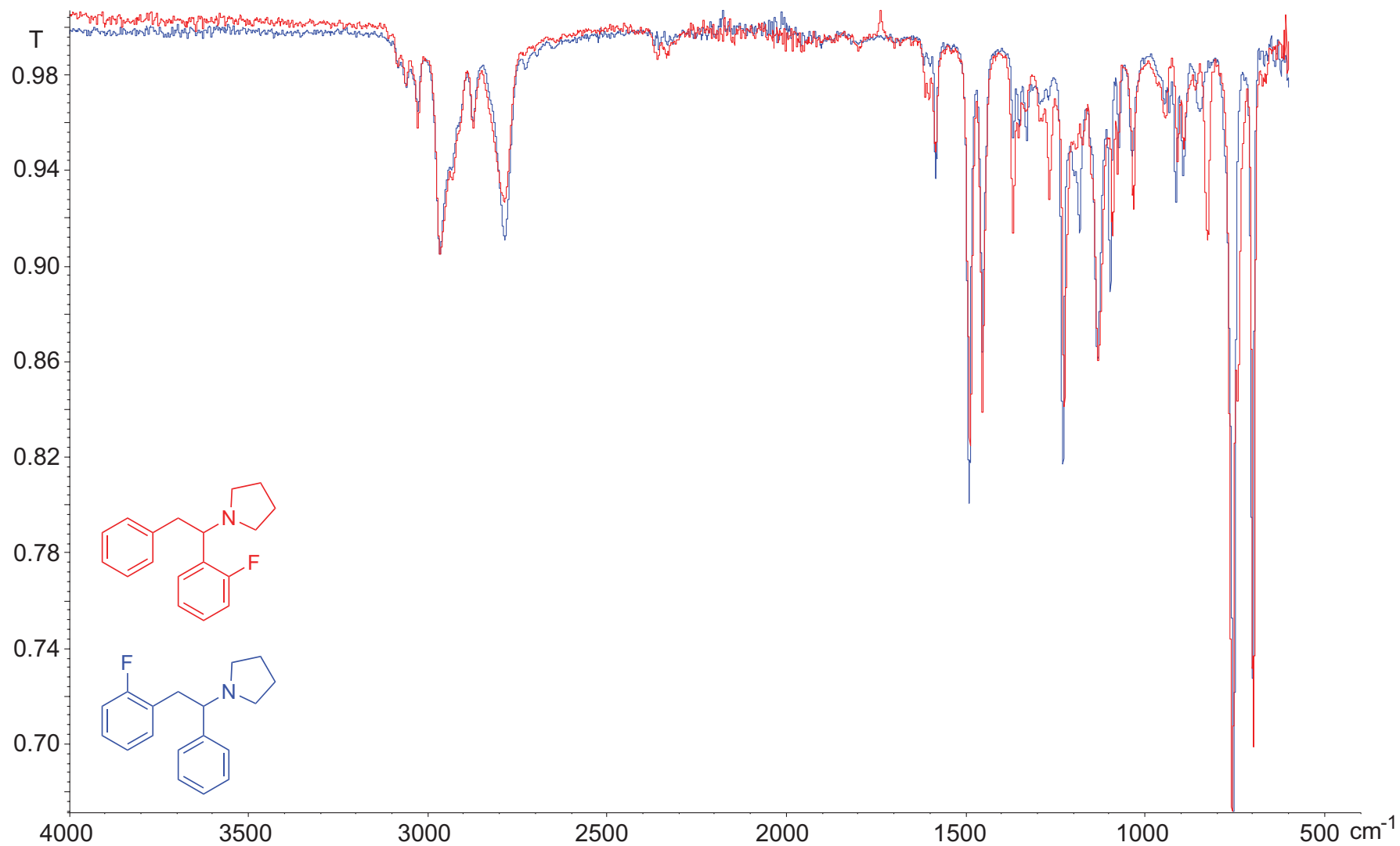
4''-F-DPPy GC-sIR

Supporting Information – Drug Testing and Analysis



4''-F-DPPy GC-sIR (zoom)

Supporting Information – Drug Testing and Analysis

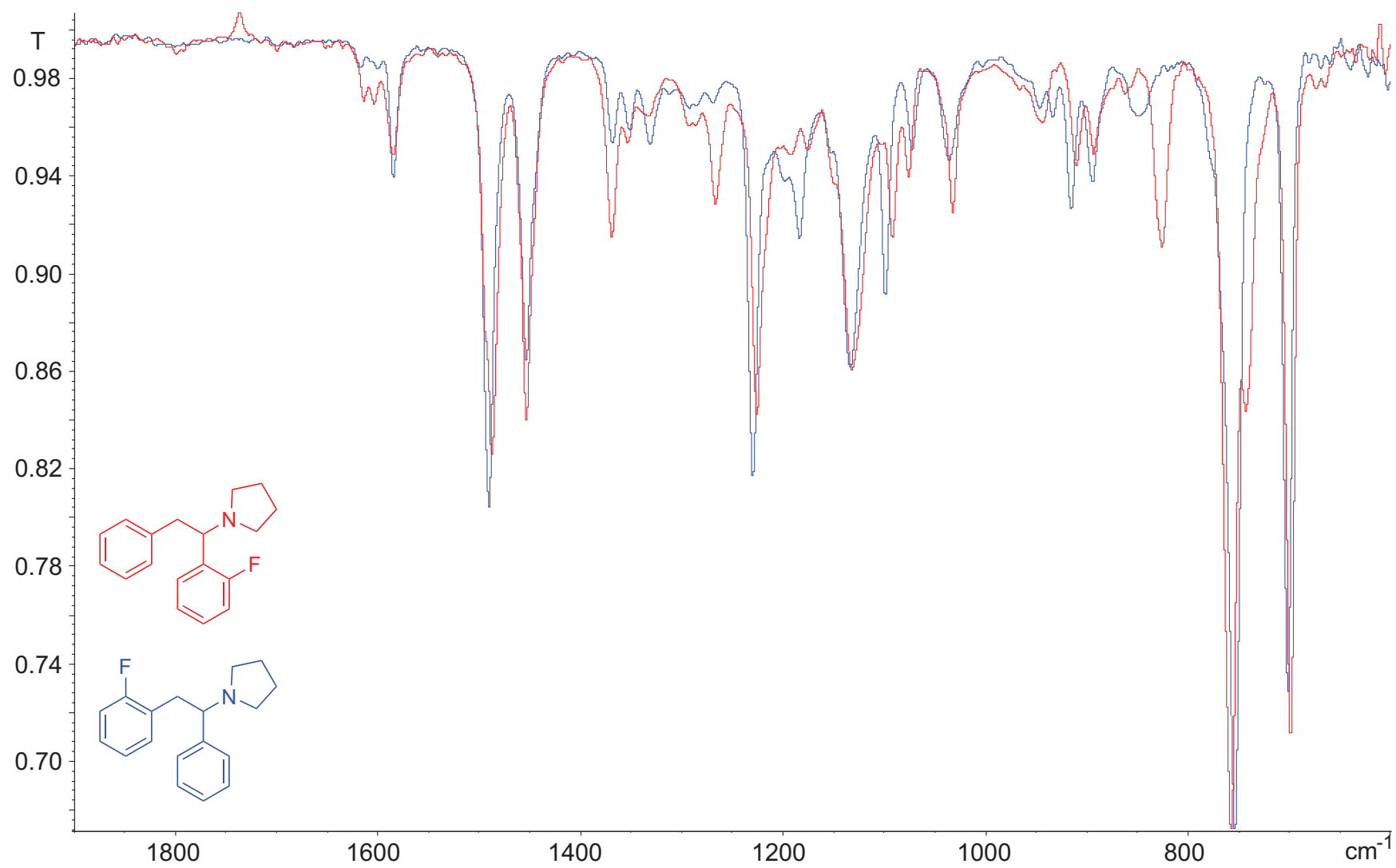


2-F-DPPy (fluorolintane) base

2''-F-DPPy base

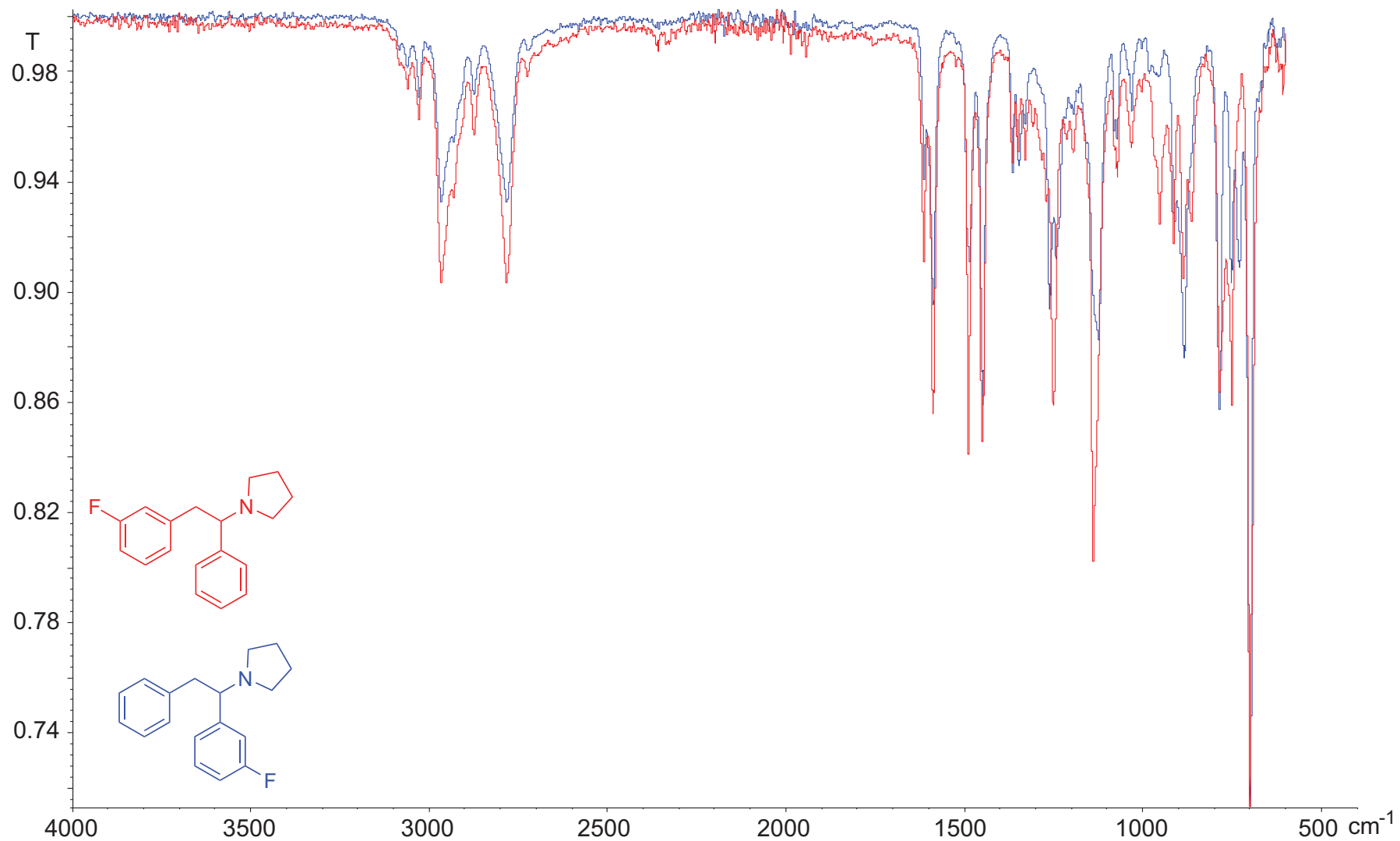
ATR-IR

Supporting Information – Drug Testing and Analysis



2-F-DPPy base (zoom)
2''-F-DPPy base (zoom)
ATR-IR

Supporting Information – Drug Testing and Analysis

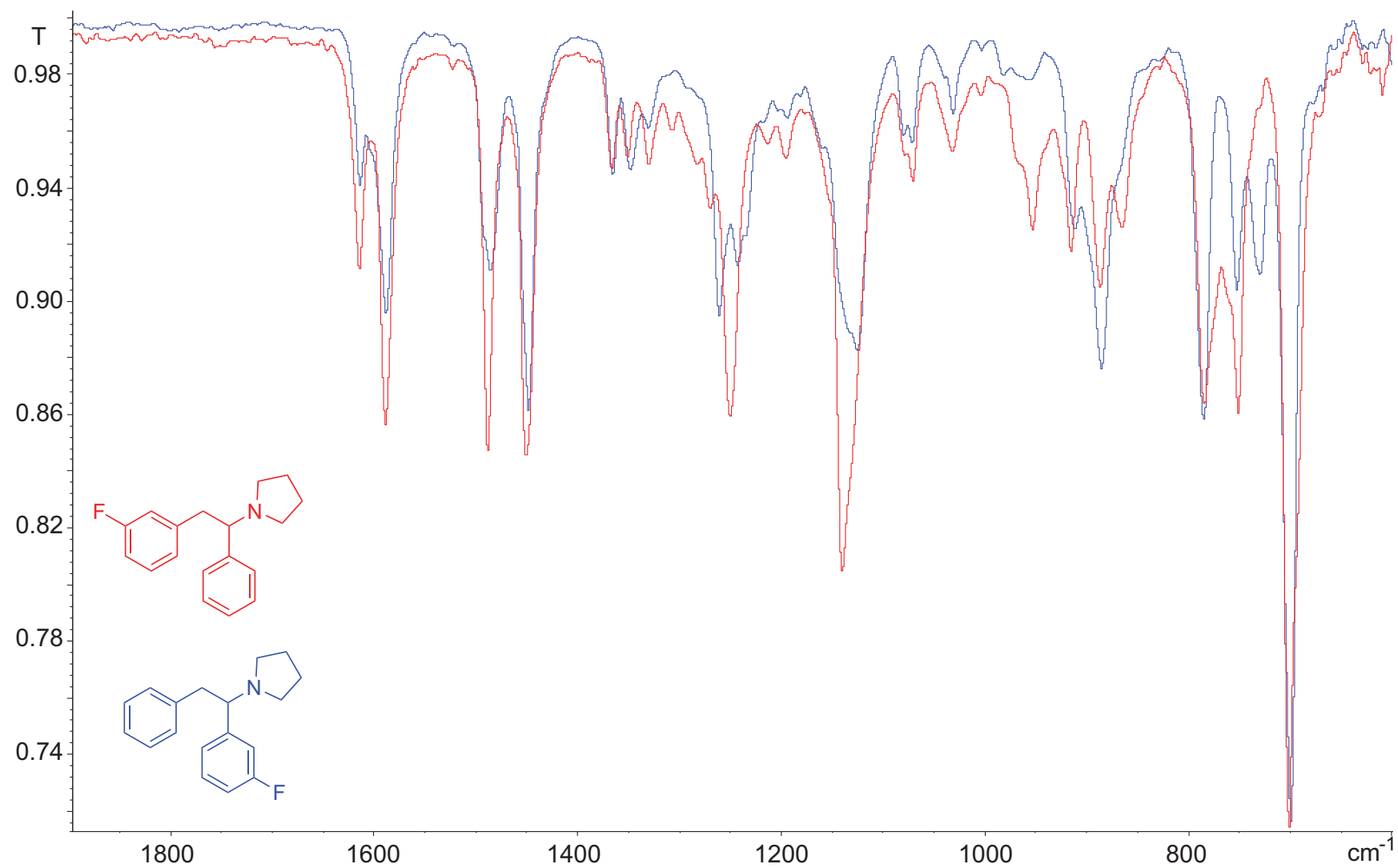


3''-F-DPPy base

3-F-DPPy base

ATR-IR

Supporting Information – Drug Testing and Analysis

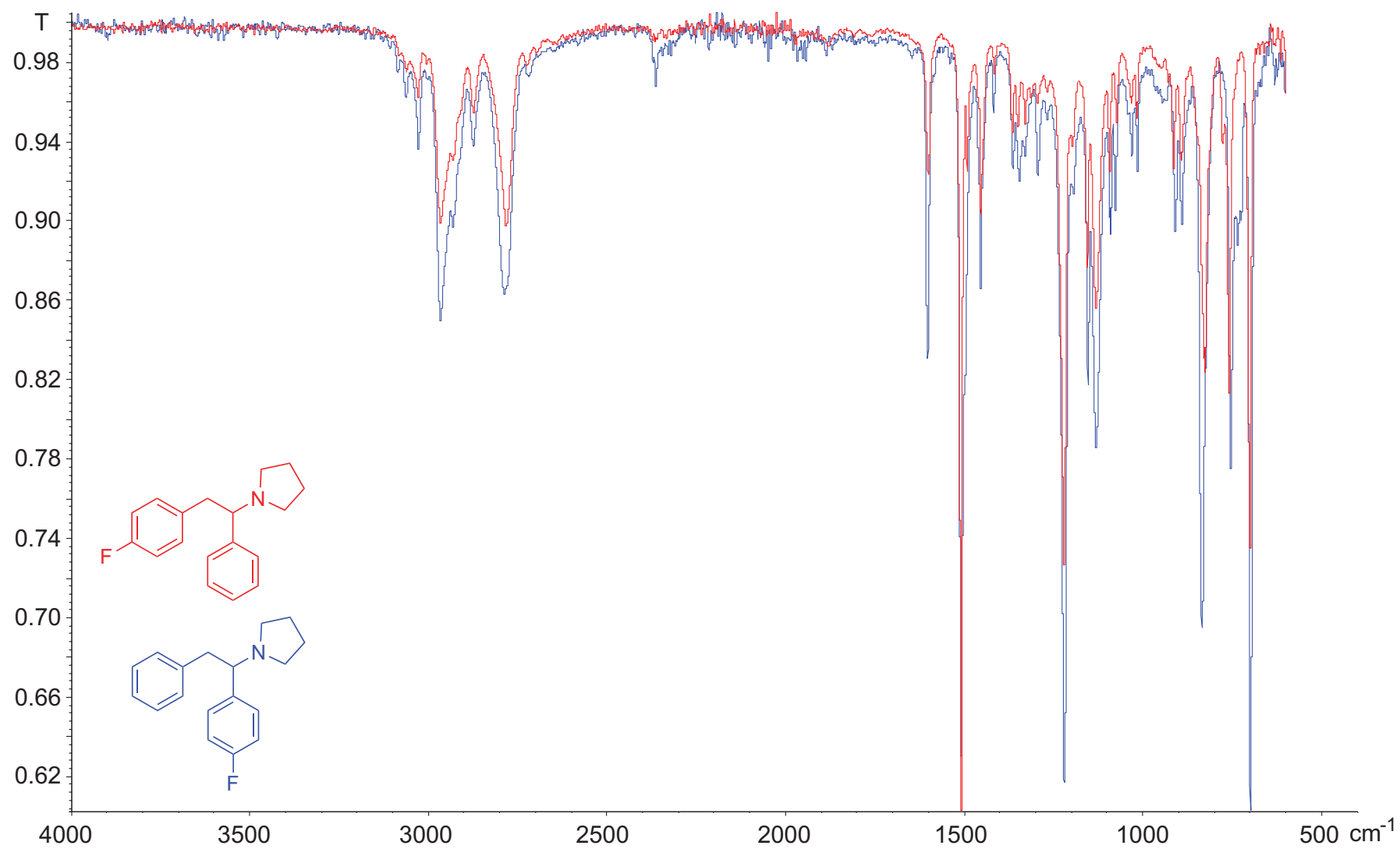


3''-F-DPPy base (zoom)

3-F-DPPy base (zoom)

ATR-IR

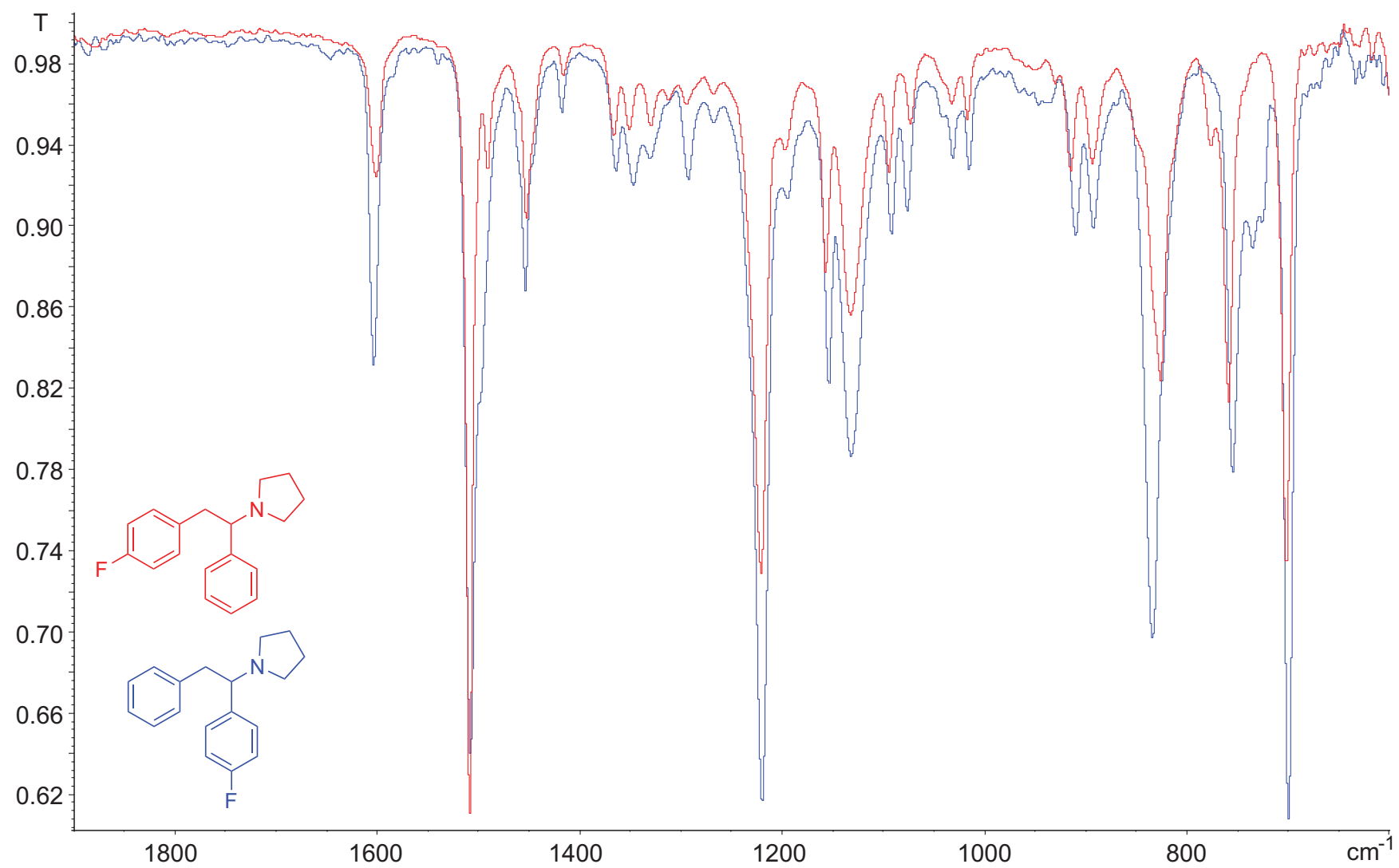
Supporting Information – Drug Testing and Analysis



4''-F-DPPy base

4-F-DPPy base

ATR-IR



4''-F-DPPy base (zoom)

4-F-DPPy base (zoom)

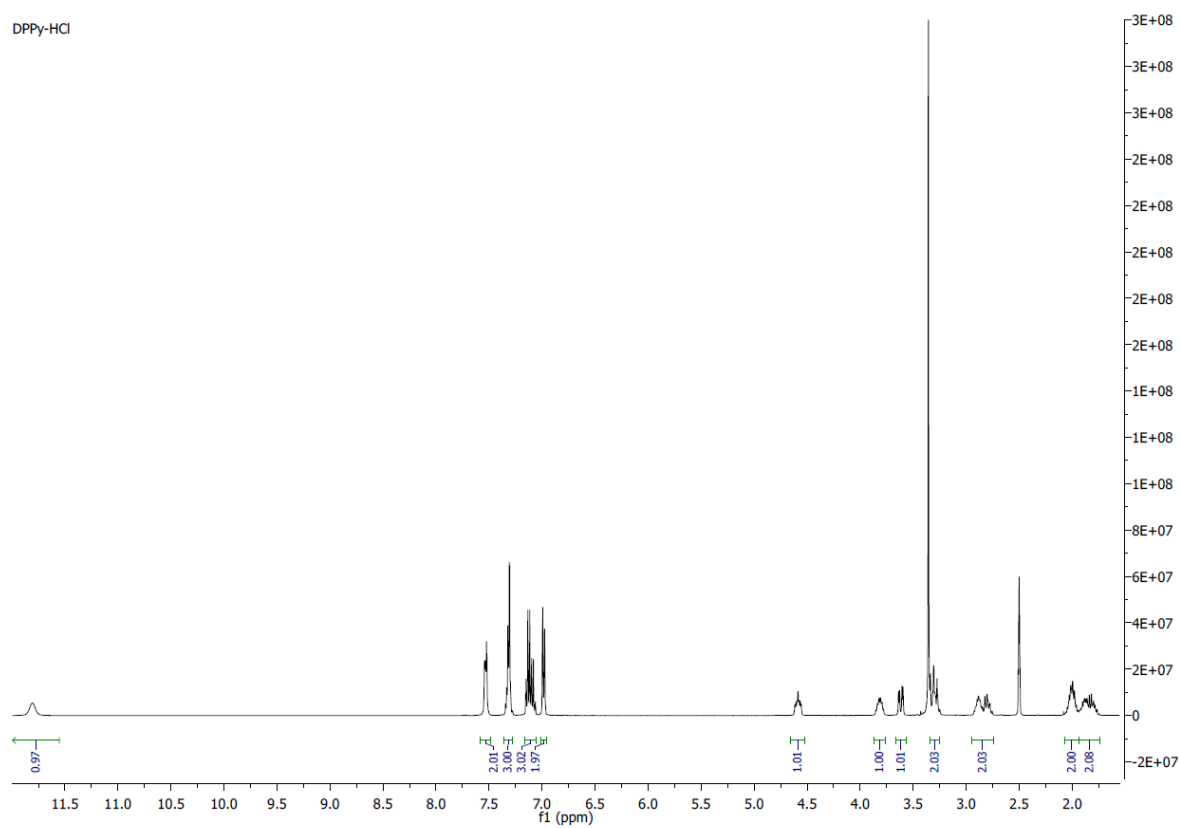
ATR-IR

| 400 MHz ^1H NMR for 2-F-DPPy (fluorolintane) freebase. 20 mg/mL in d_6 -DMSO. Shifts in ppm and set to solvent reference (2.50 ppm). | |
|--|---|
| ^1H [δ / ppm] | 2-F-DPPy |
| H_1 | 3.89 (dd, $J = 10.1, 4.9$ Hz, 1H) |
| H_2 | 3.29 (dd, $J = 13.2, 4.8$ Hz, 1H) 2.91 (dd, $J = 12.9, 10.4$ Hz, 1H) |
| H_α | 2.60–2.47 (m, 2H) *coalescing with solvent DMSO solvent peak 2.42–2.30 (m, 2H) |
| H_β | 1.69–1.60 (m, 4H) |
| $\text{H}_{1'}$ | – |
| $\text{H}_{2'}$ | – |
| $\text{H}_{3'}$ | 7.00–6.89 (m, 1H) *overlap with $\text{C}_{2'',6''}$ |
| $\text{H}_{4'}$ | 7.22–7.15 (m, 1H) |
| $\text{H}_{5'}$ | 7.15–7.00 *overlap with $\text{H}_{4''}$ and $\text{H}_{3'',5''}$ |
| $\text{H}_{6'}$ | 7.45 (td, $J = 7.4, 1.9$ Hz, 1H) |
| $\text{H}_{1''}$ | – |
| $\text{H}_{2''}$ | 6.94 (d, $J = 7.0$ Hz, 1H) *overlap with $\text{C}_{3'}$ |
| $\text{H}_{3''}$ | 7.15–7.00 (m, 2H) *overlap with $\text{H}_{4''}$ and $\text{H}_{5'}$ |
| $\text{H}_{4''}$ | 7.15–7.00 *overlap with $\text{H}_{5'}$ and $\text{H}_{3'',5''}$ |
| $\text{H}_{5''}$ | 7.15–7.00 (m, 2H) *overlap with $\text{H}_{4''}$ and $\text{H}_{5'}$ |
| $\text{H}_{6''}$ | 6.94 (d, $J = 7.0$ Hz, 1H) *overlap with $\text{C}_{3'}$ |

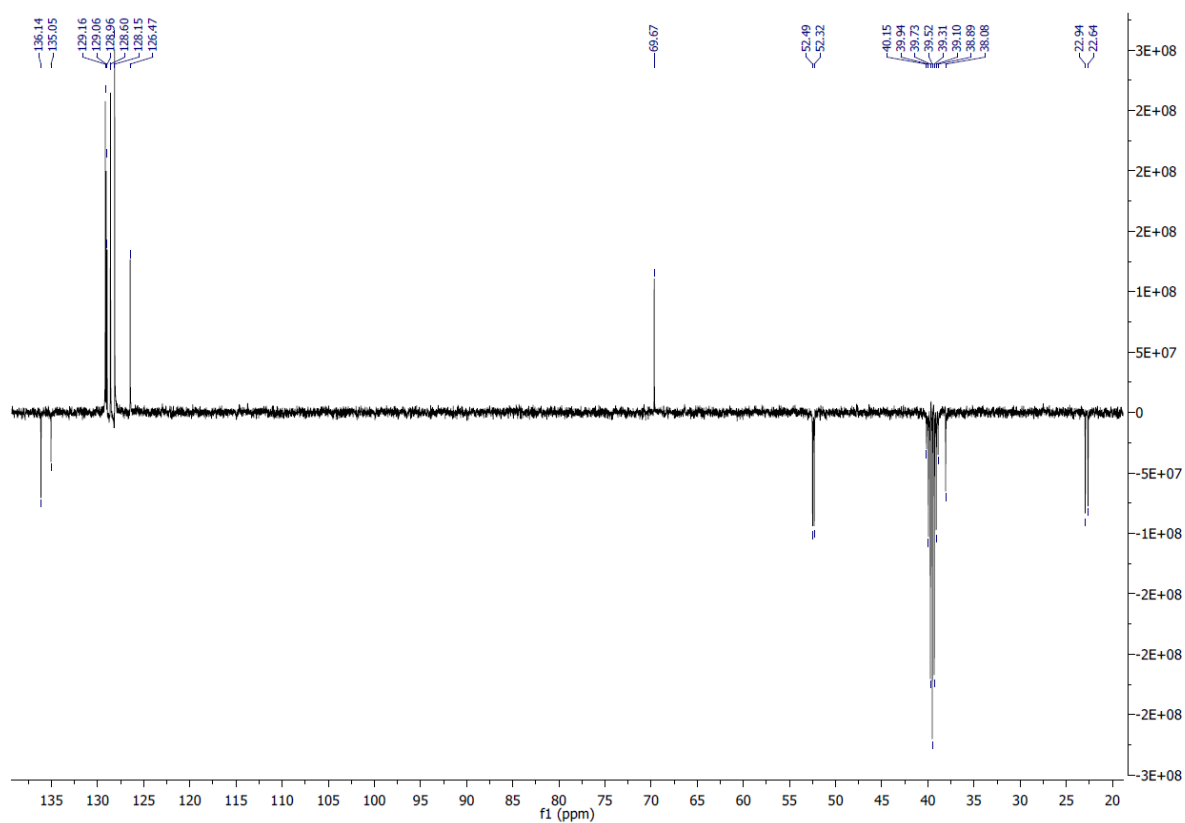
| 101 MHz ^{13}C NMR for 2-F-DPPy (fluorolintane) freebase. 20 mg/mL in d_6 -DMSO. Shifts in ppm, and set to solvent reference (39.52 ppm). | |
|---|--|
| ^{13}C [δ / ppm] | 2-F-DPPy (^{13}C) |
| C_1 | 62.28 |
| C_2 | 40.39 |
| C_α | 51.41 |
| C_β | 22.88 |
| $\text{C}_{1'}$ | 127.96 127.83 *overlap with $\text{C}_{3'',5''}$ |
| $\text{C}_{2'}$ | 161.48 159.06 |
| $\text{C}_{3'}$ | 114.99 114.76 |
| $\text{C}_{4'}$ | 128.60 128.52 |
| $\text{C}_{5'}$ | 124.11 124.07 |
| $\text{C}_{6'}$ | 129.78 129.73 |
| $\text{C}_{1''}$ | 138.66 |
| $\text{C}_{2''}$ | 129.16 |
| $\text{C}_{3''}$ | 127.86 |
| $\text{C}_{4''}$ | 125.87 |
| $\text{C}_{5''}$ | 127.86 |
| $\text{C}_{6''}$ | 129.16 |

| |
|---|
| 376.5 MHz ^{19}F NMR. 20 mg/mL for fluorolintane freebase in d_6 -DMSO. Reference CFCl_3 (0.00 ppm). |
| ^{19}F NMR |
| 117.78 |

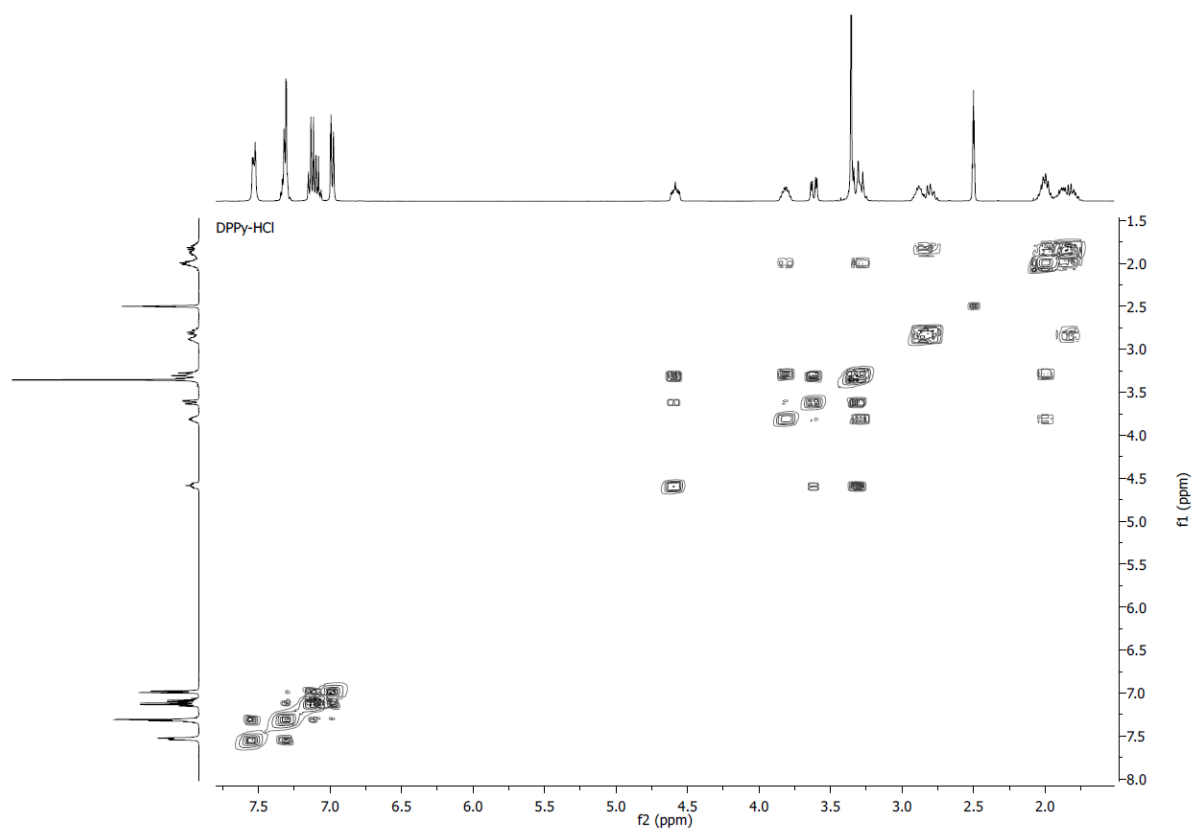
| Compound | ^{19}F NMR |
|------------|---------------------|
| 2-F-DPPy | -116.32 |
| 3-F-DPPy | -111.59 |
| 4-F-DPPy | -112.06 |
| 2''-F-DPPy | -117.11 |
| 3''-F-DPPy | -113.10 |
| 4''-F-DPPy | -115.80 |



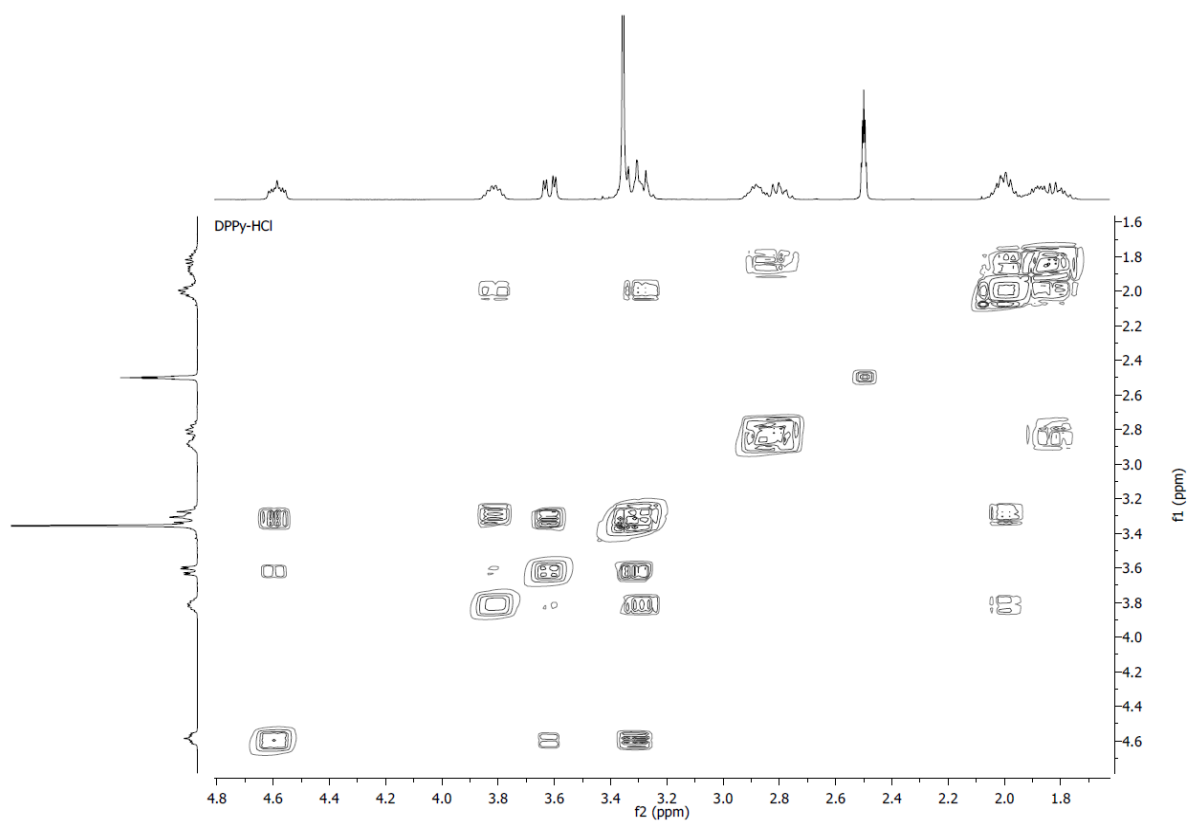
^1H NMR of DPPy HCl (400 MHz, $\text{d}_6\text{-DMSO}$)



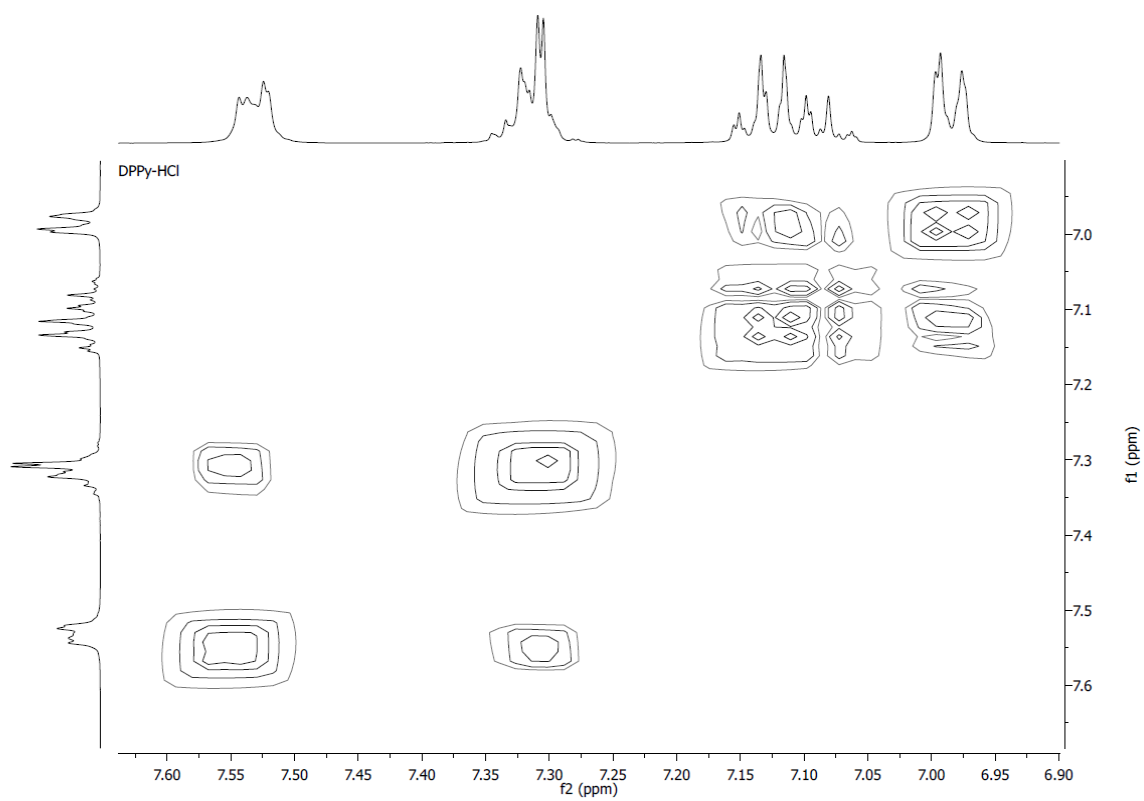
^{13}C PENDANT NMR of DPPy HCl (101 MHz, $\text{d}_6\text{-DMSO}$)



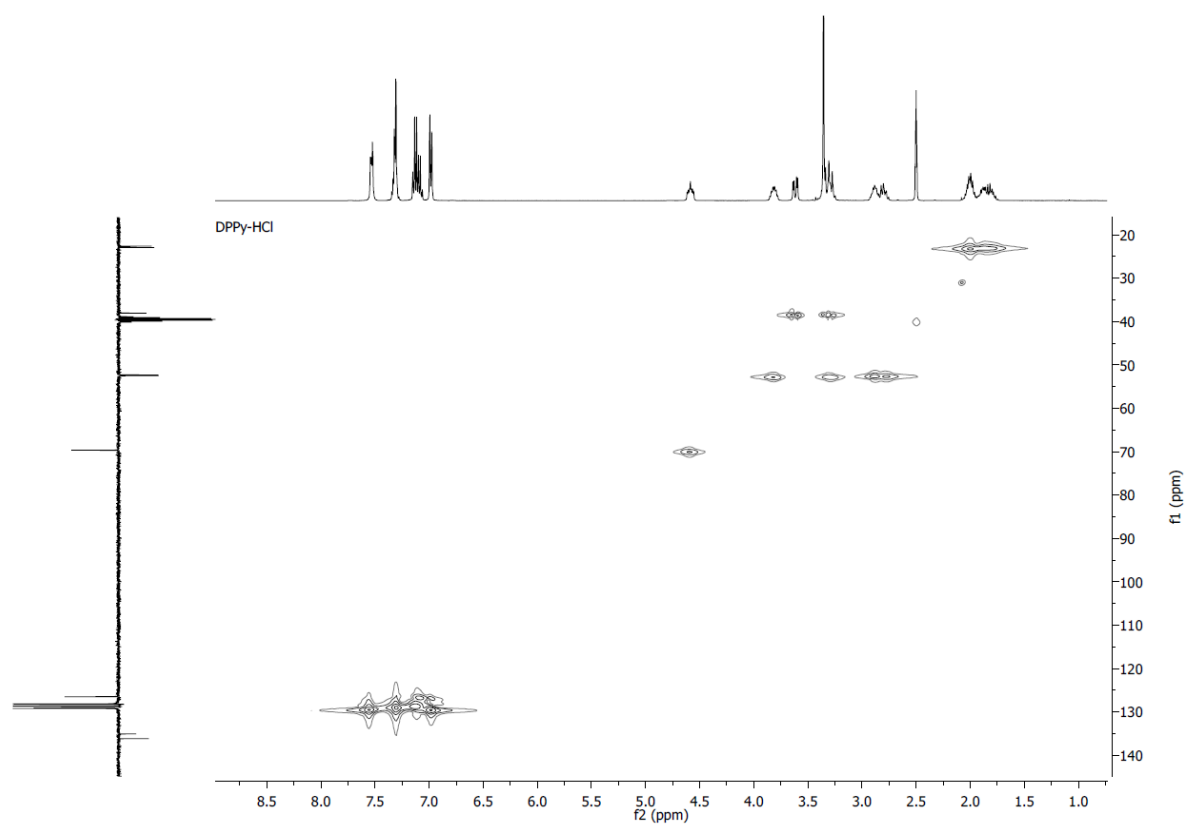
COSY-45 2-D NMR of DPPy HCl (d_6 -DMSO)



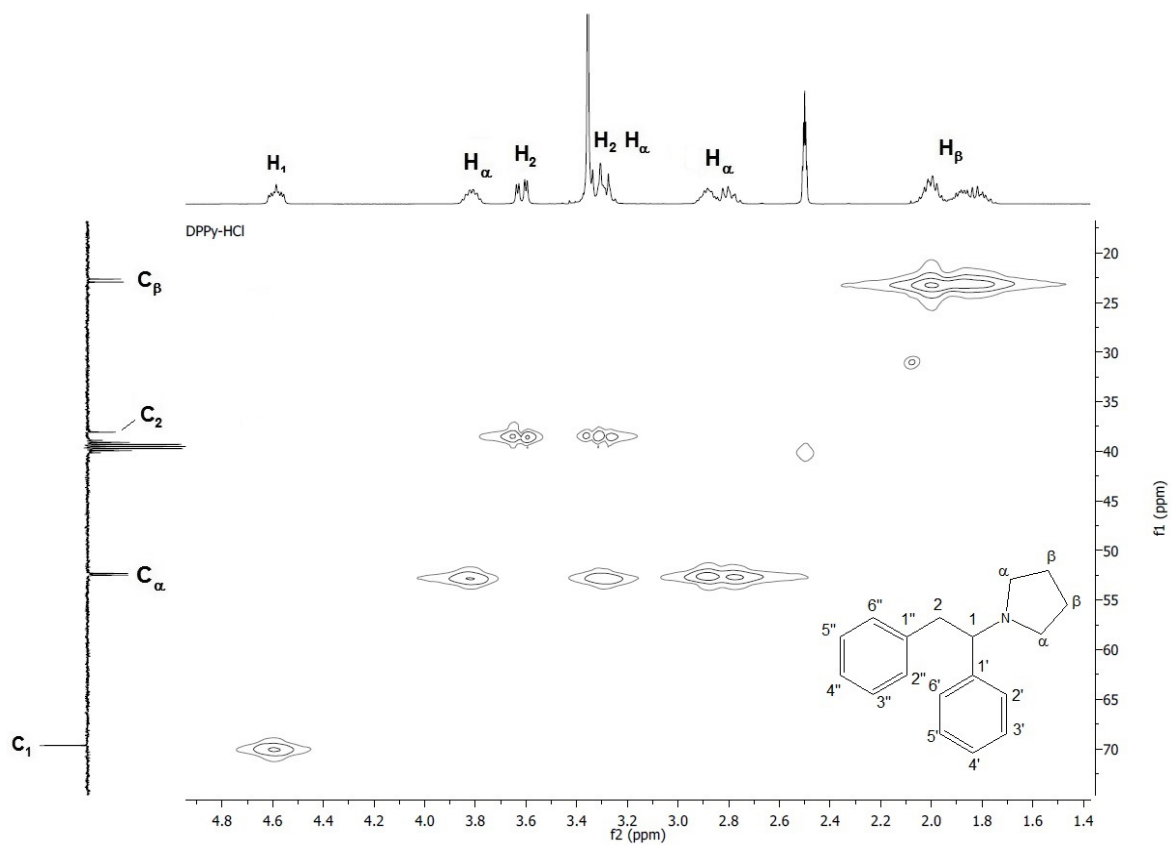
COSY-45 2-D NMR of DPPy HCl, zoomed in on aliphatic section (d_6 -DMSO)



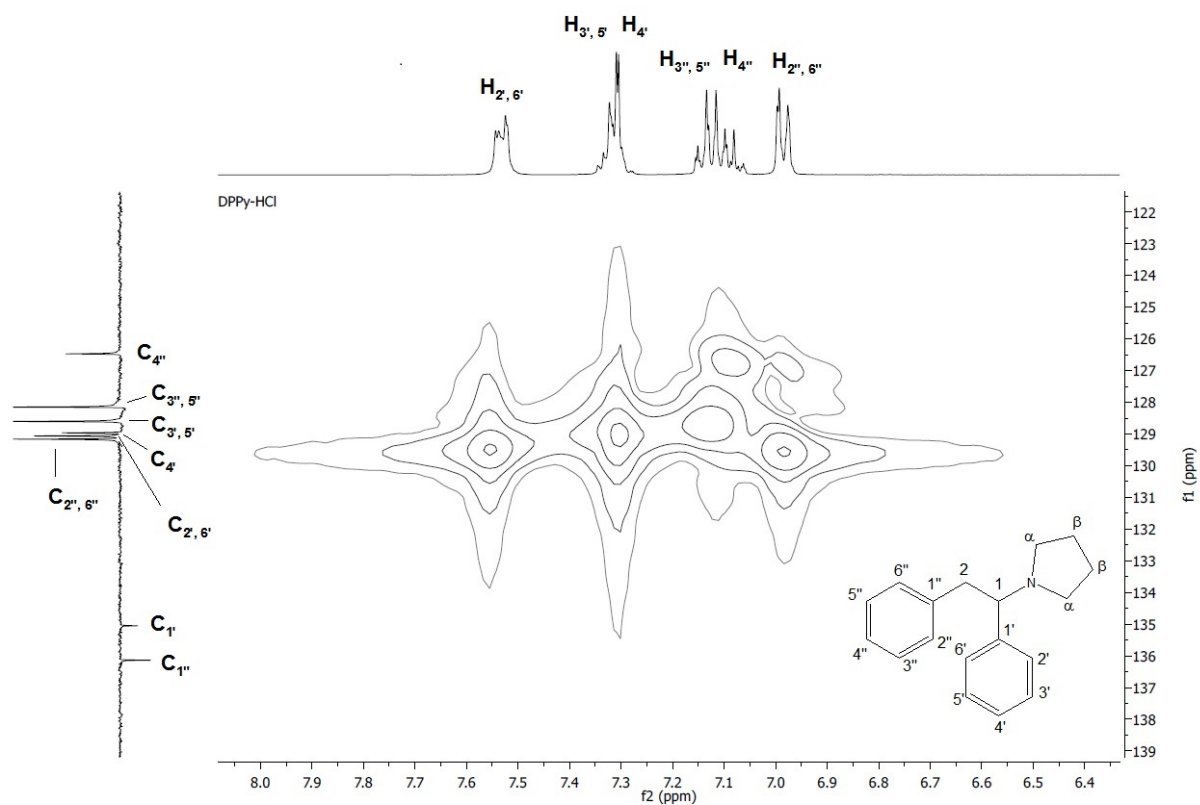
COSY-45 2-D NMR of DPPy HCl, zoomed in on aromatic section (d_6 -DMSO)



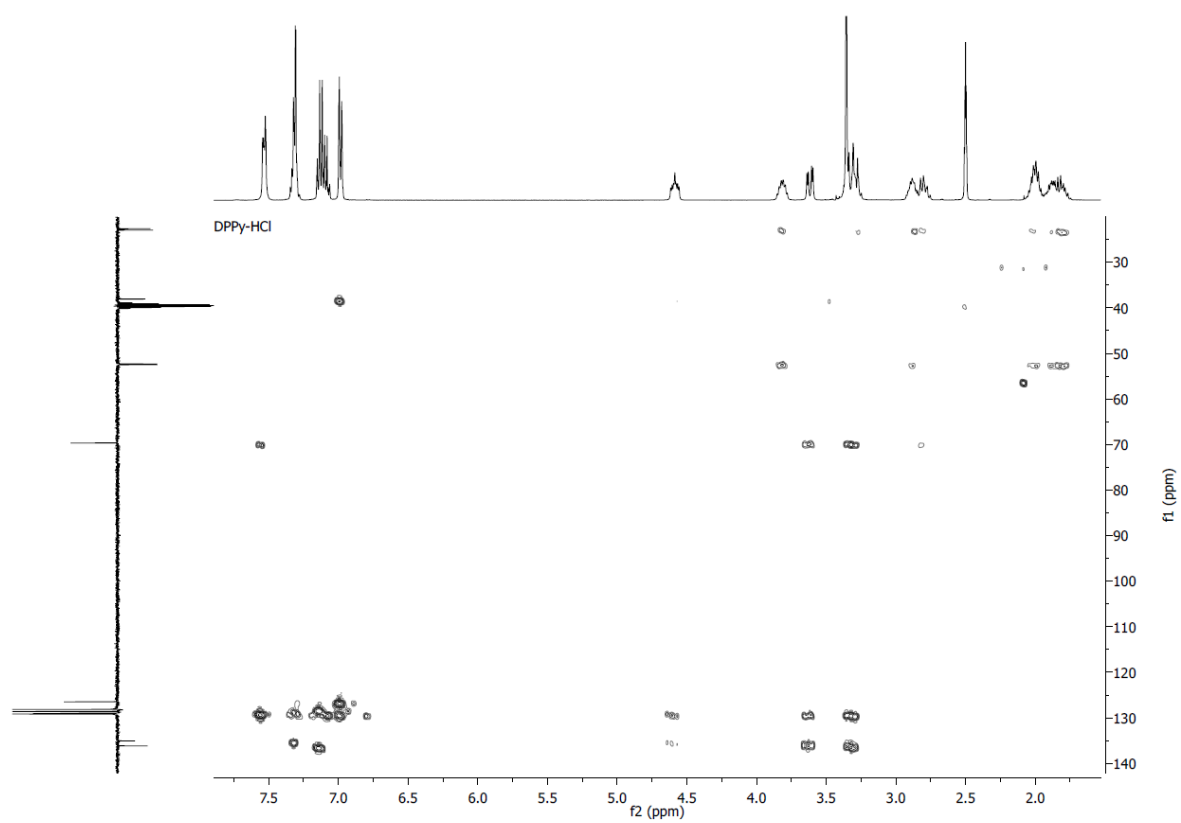
HMQC 2-D NMR of DPPy HCl (d_6 -DMSO)



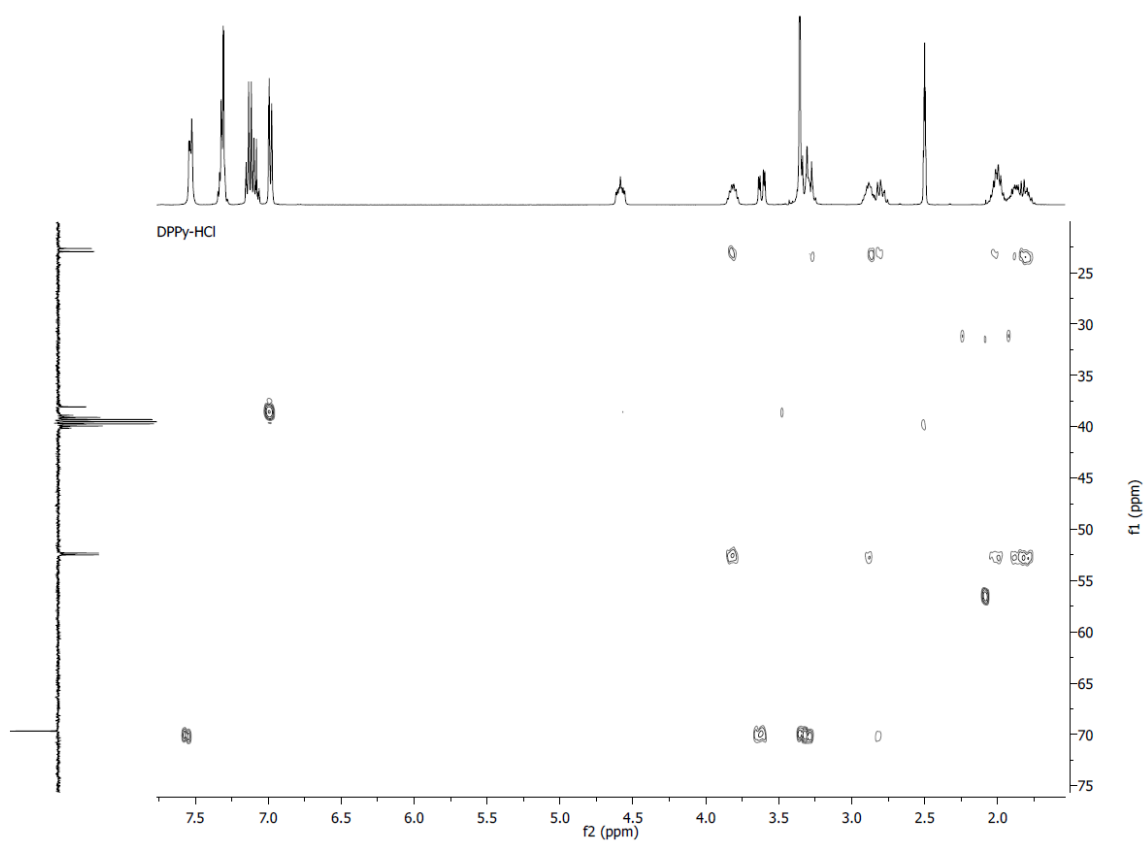
HMQC 2-D NMR of DPPy HCl, zoomed in on aliphatic section (d_6 -DMSO)



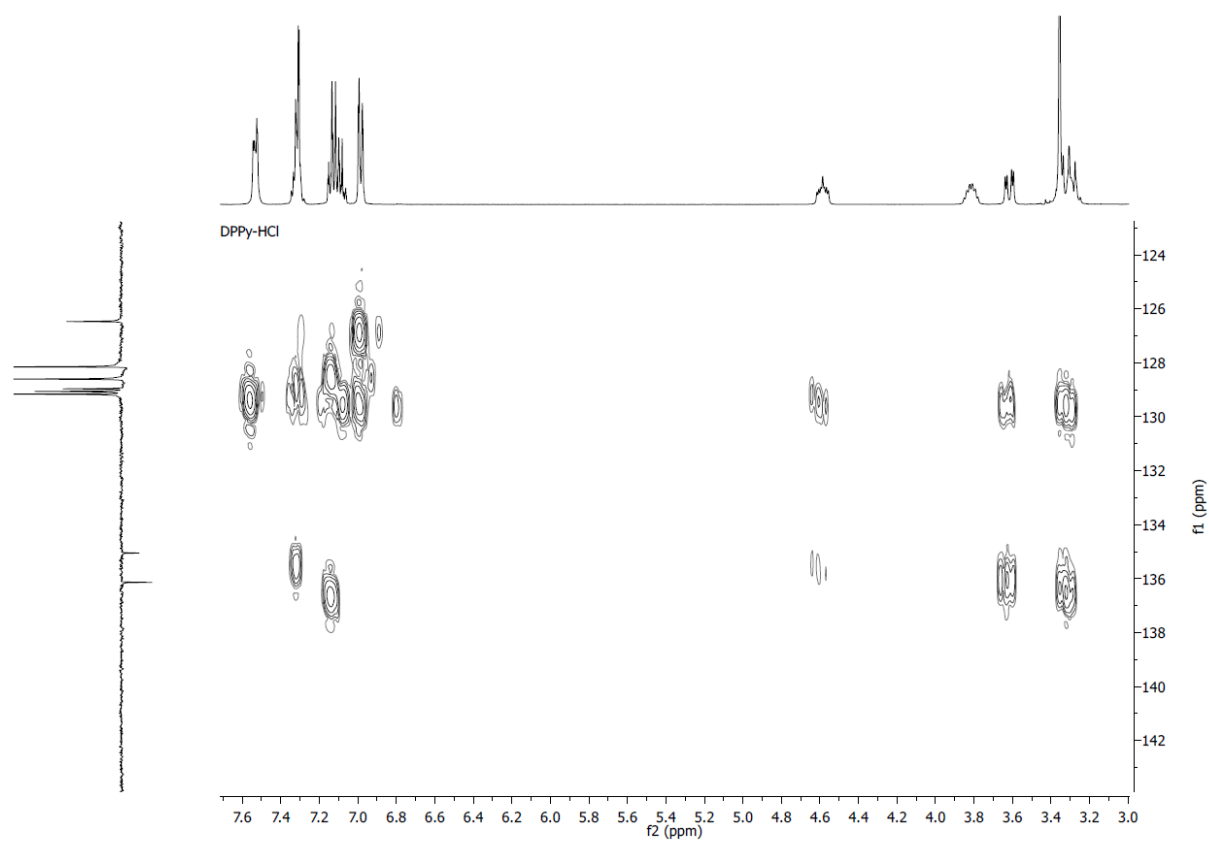
HMQC 2-D NMR of DPPy HCl, zoomed in on aromatic section (d_6 -DMSO)



HMBC 2-D NMR of DPPy HCl (d₆-DMSO)

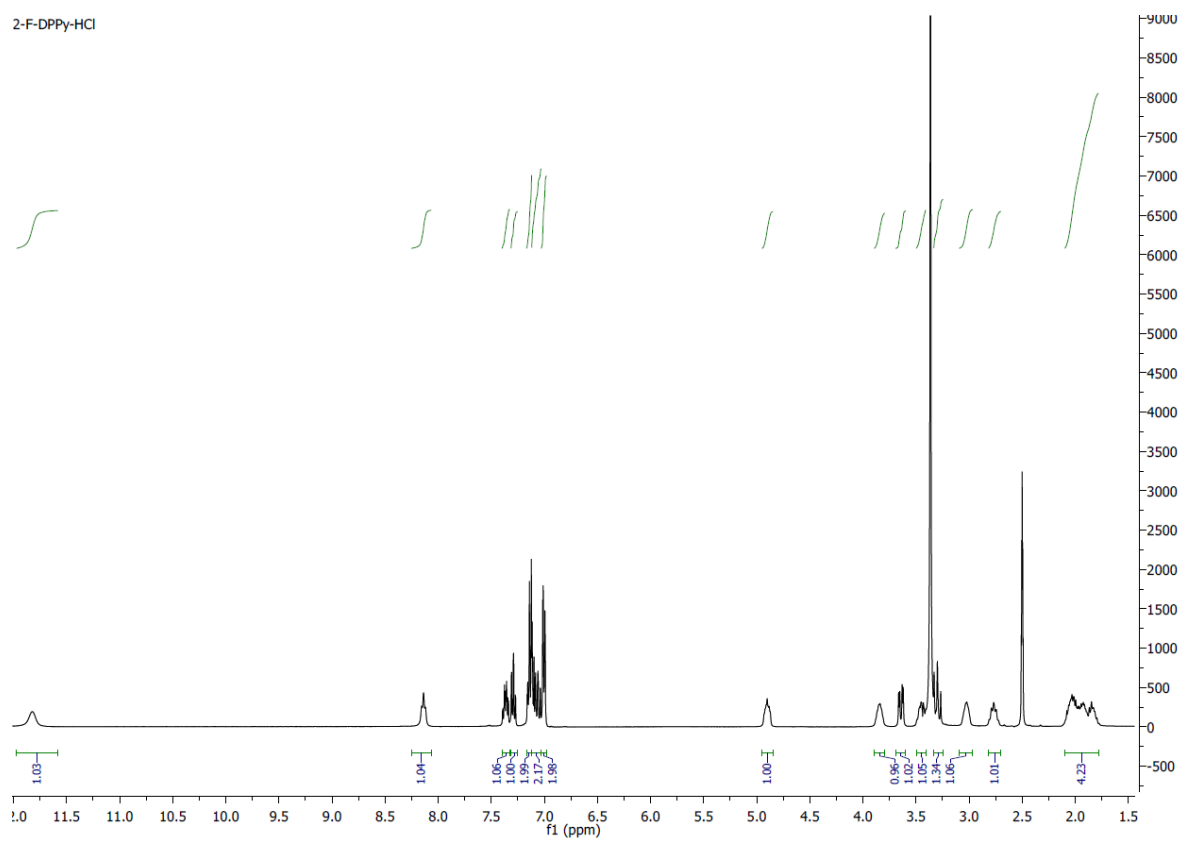


HMBC 2-D NMR of DPPy HCl, zoomed in on aliphatic section (d_6 -DMSO)



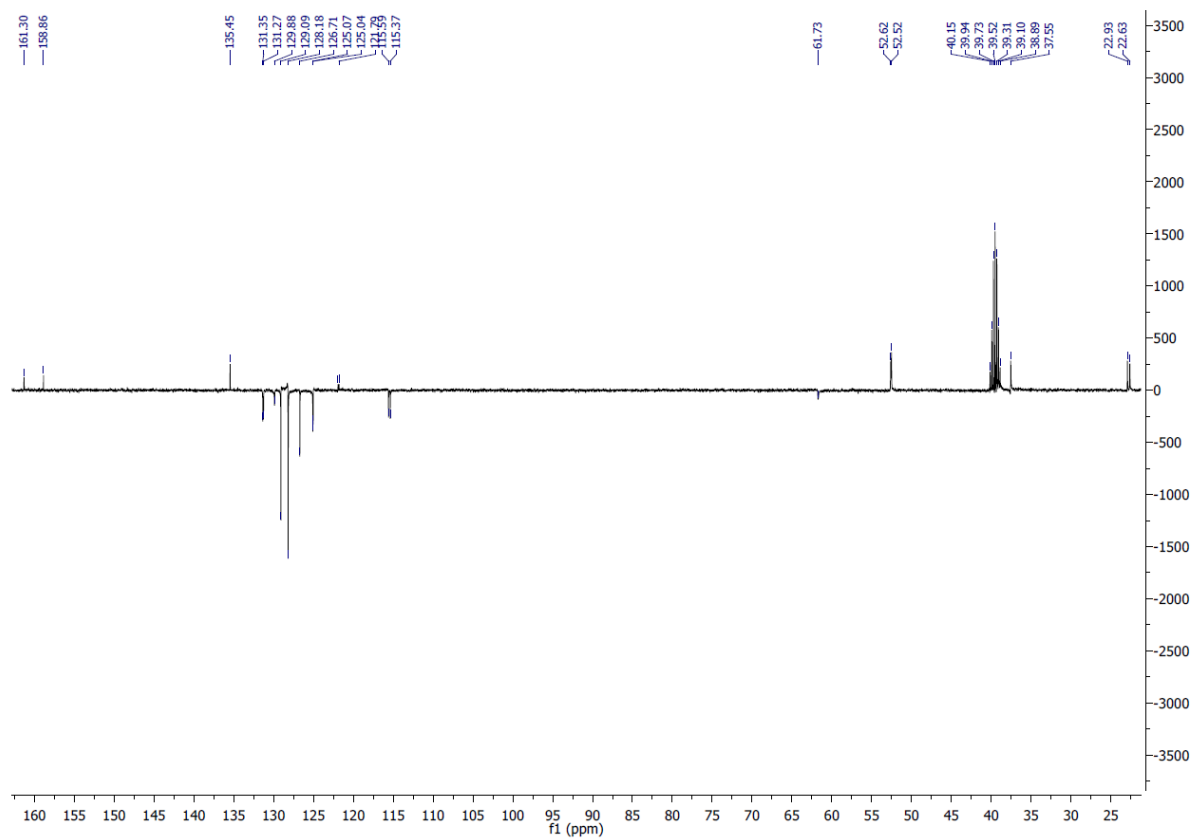
HMBC 2-D NMR of DPPy HCl, zoomed in on aromatic section (d₆-DMSO)

Supporting Information – Drug Testing and Analysis

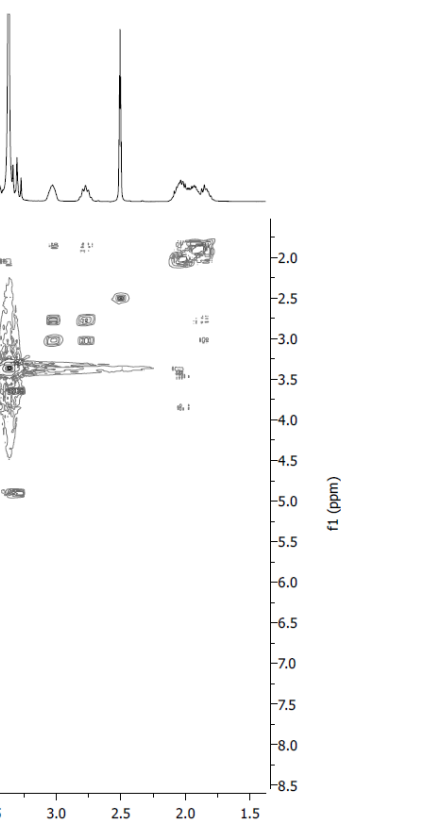


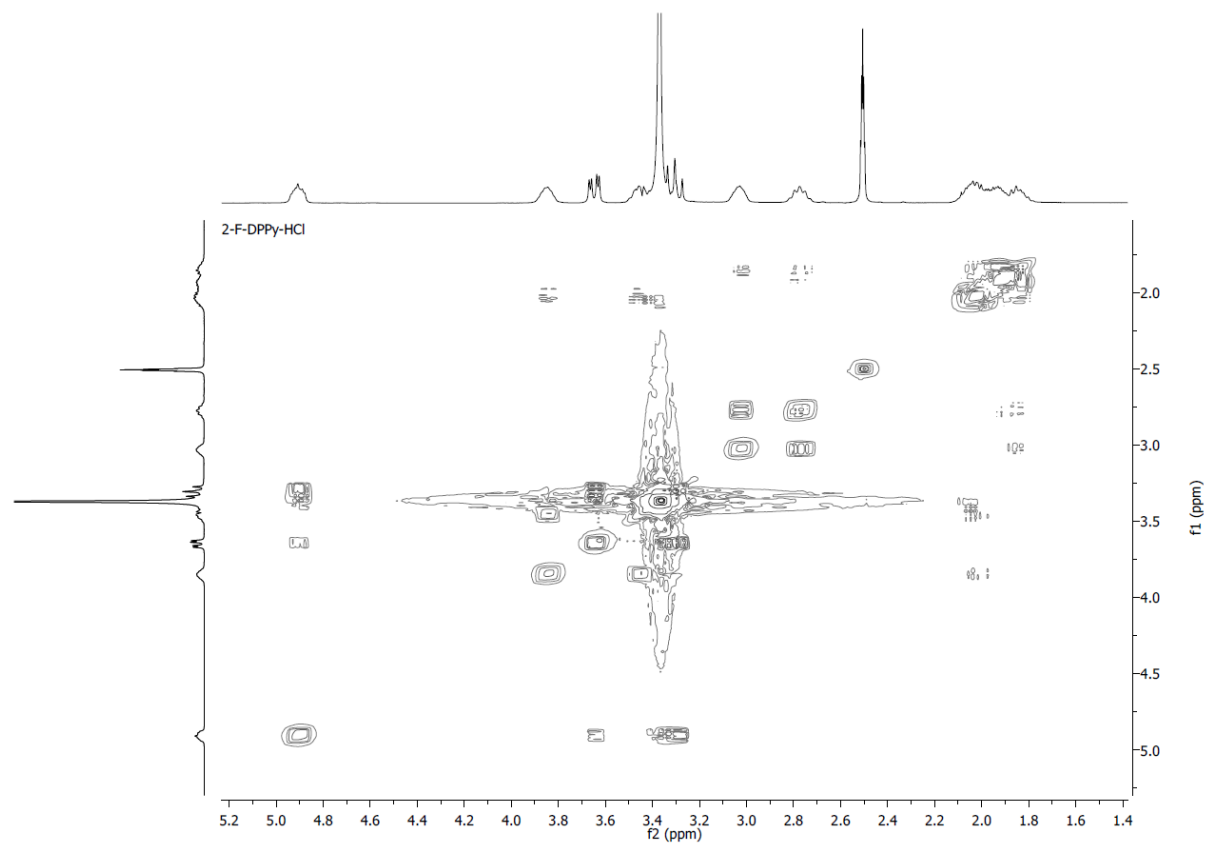
¹H NMR of 2-F-DPPy HCl (400 MHz, d₆-DMSO)

Supporting Information – Drug Testing and Analysis

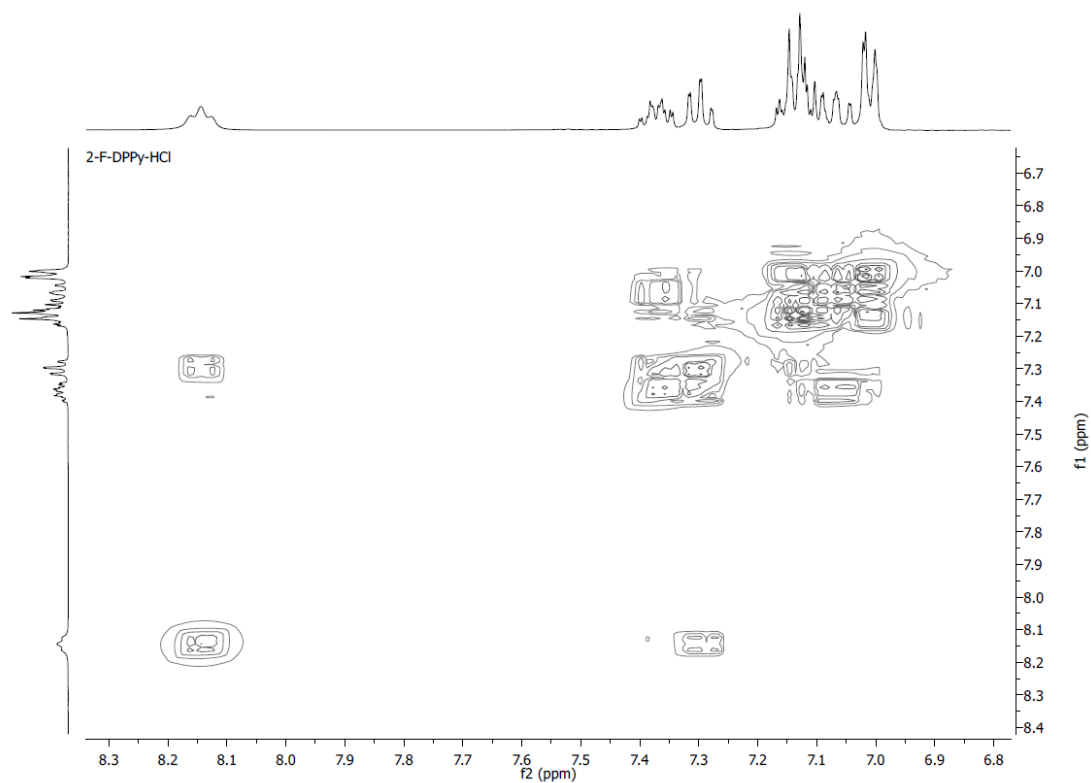


¹³C PENDANT NMR of 2-F-DPPy HCl (101 MHz, d₆-DMSO)

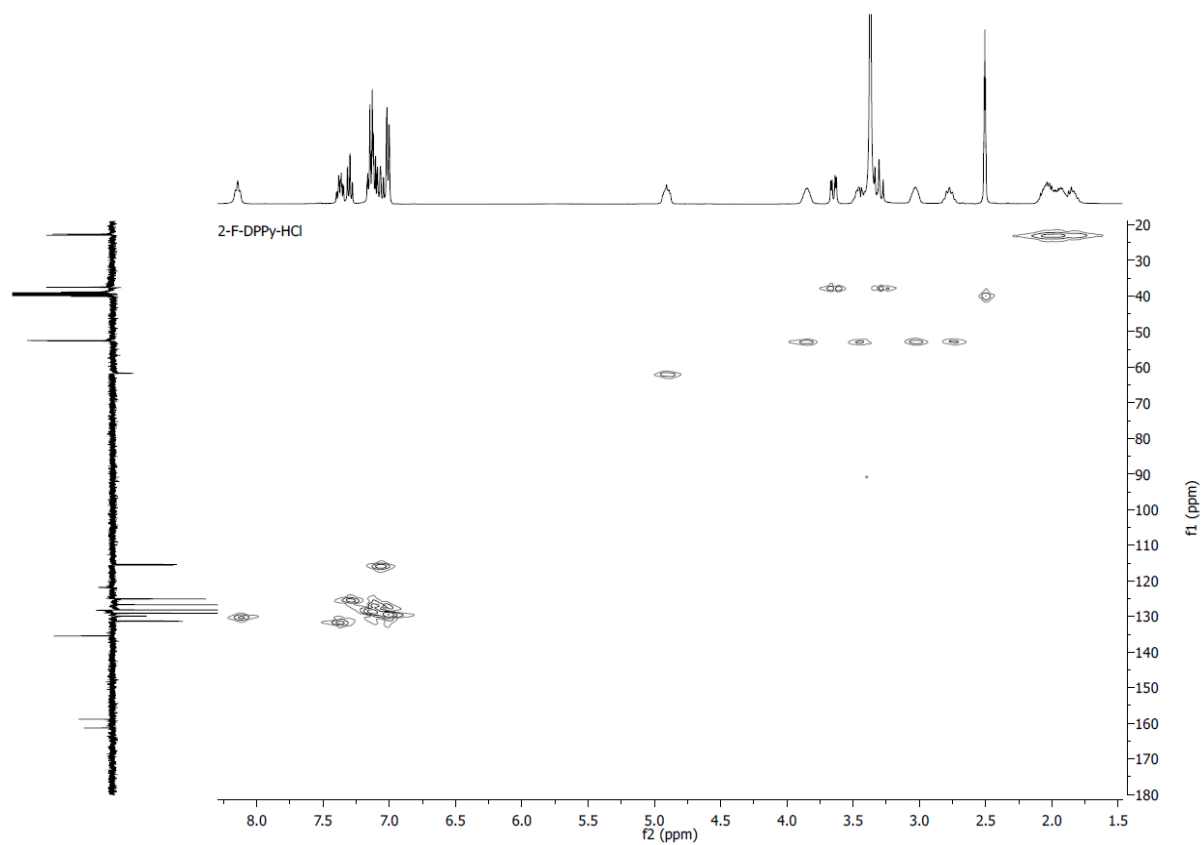




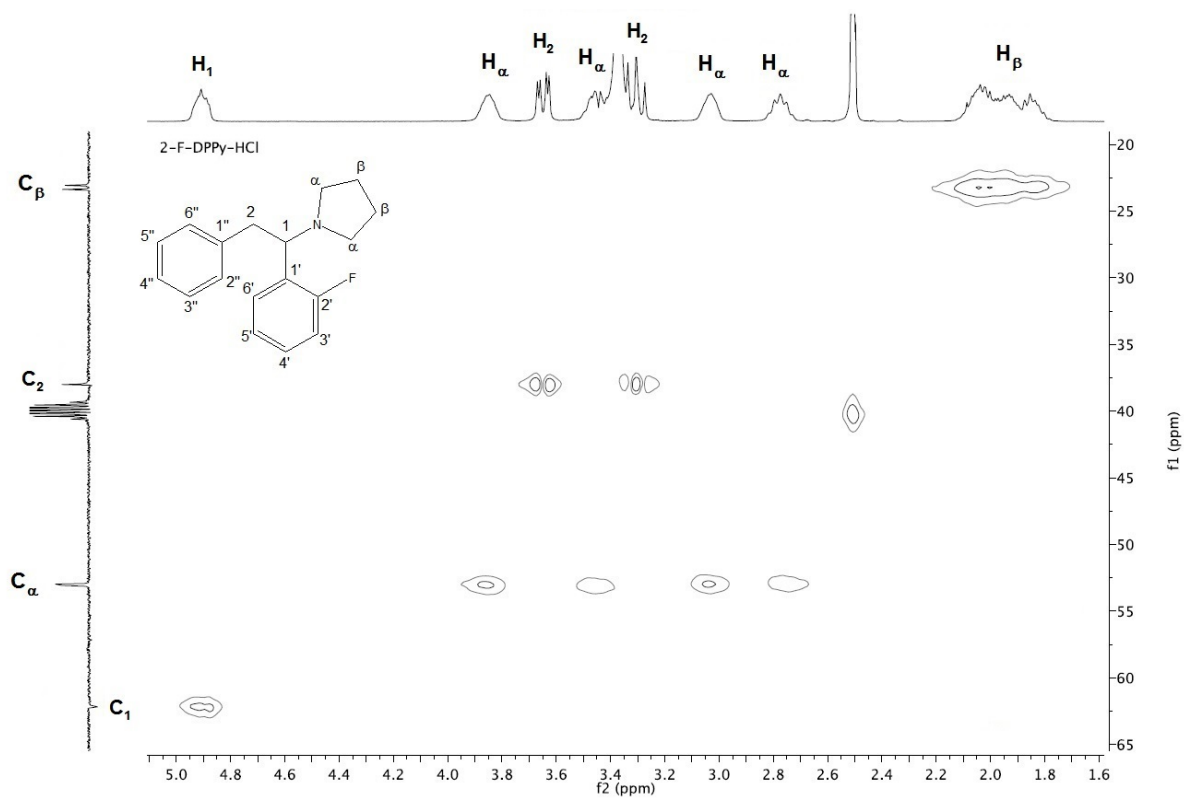
COSY-45 2-D NMR of 2-F-DPPy HCl, zoomed in on aliphatic section (d₆-DMSO)



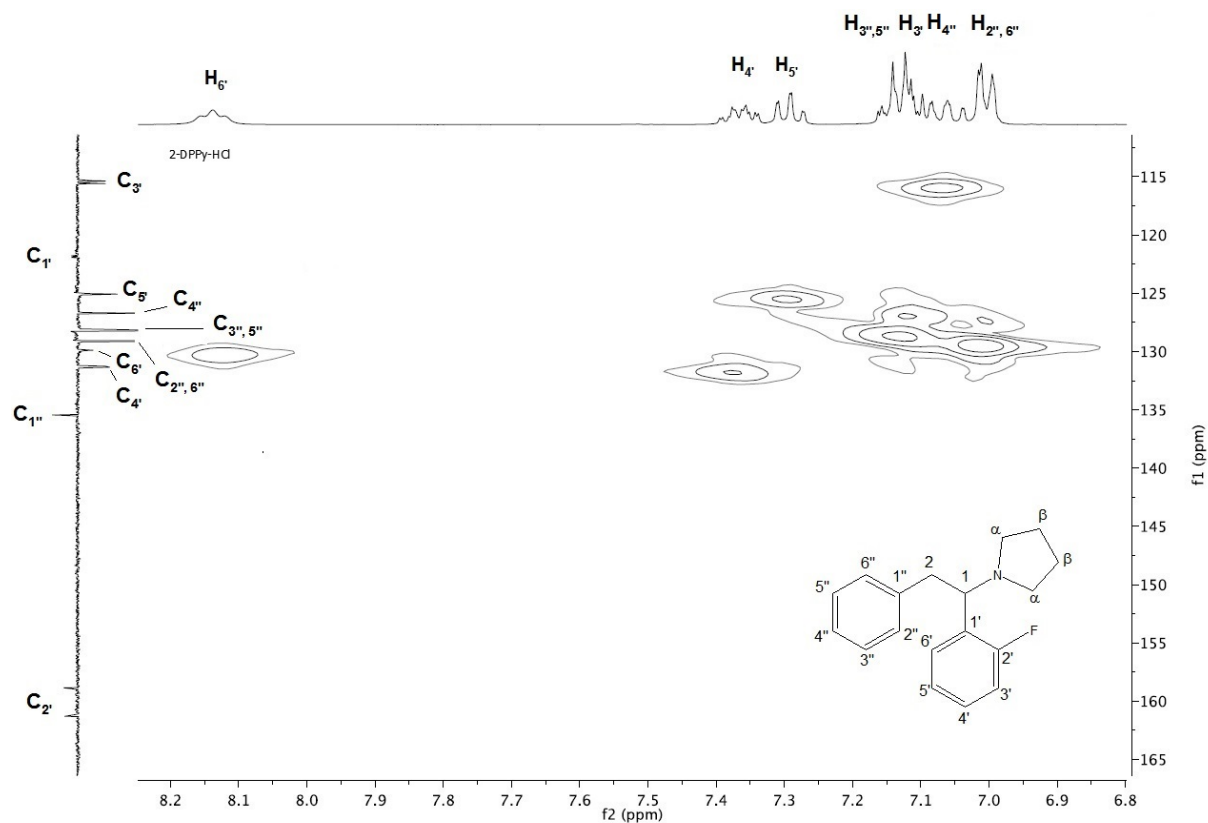
COSY-45 2-D NMR of 2-F-DPPy HCl, zoomed in on aromatic section (d_6 -DMSO)



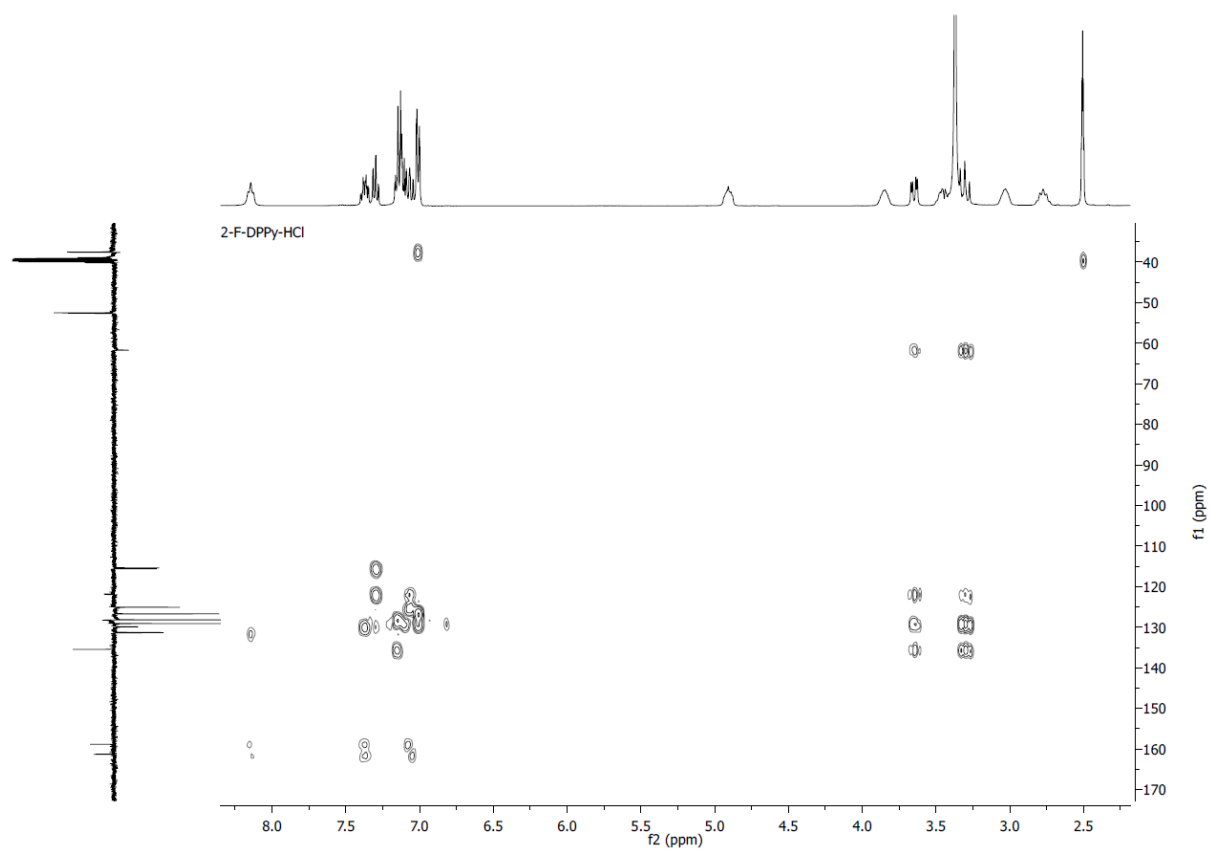
HMQC 2-D NMR of 2-F-DPPy HCl (d_6 -DMSO)



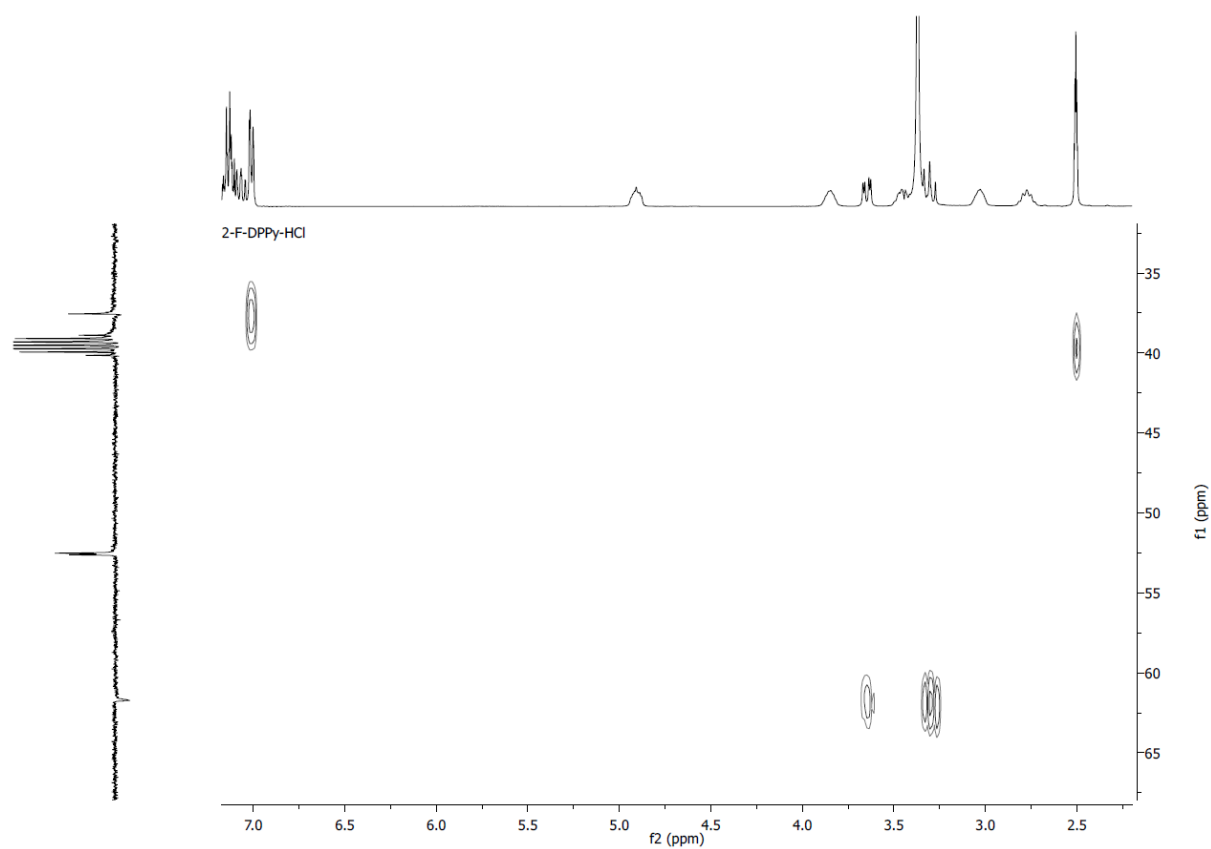
HMQC 2-D NMR of 2-F-DPPy HCl, zoomed in on the aliphatic section (d_6 -DMSO)



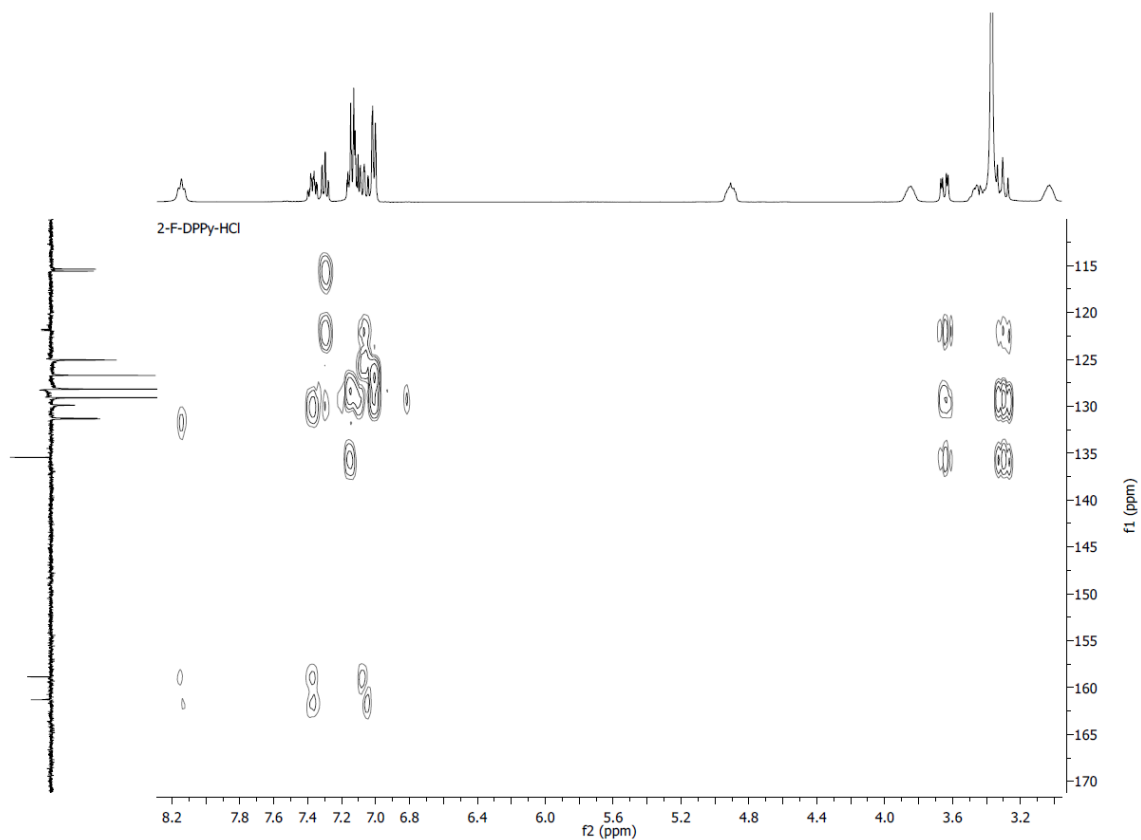
HMQC 2-D NMR of 2-F-DPPy HCl, zoomed in on the aromatic section (d_6 -DMSO)



HMBC 2-D NMR of 2-F-DPPy HCl (d₆-DMSO)

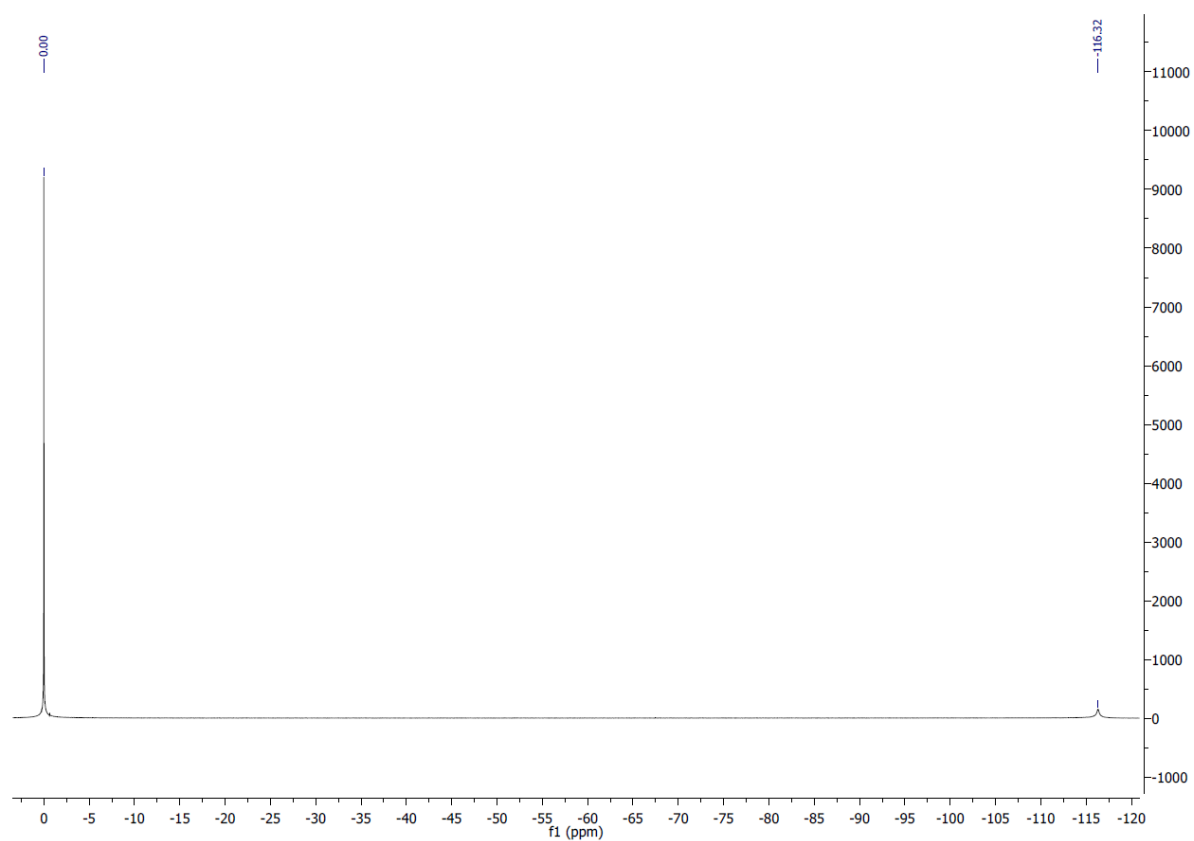


HMBC 2-D NMR of 2-F-DPPy HCl, zoomed in on the aliphatic section (d_6 -DMSO)



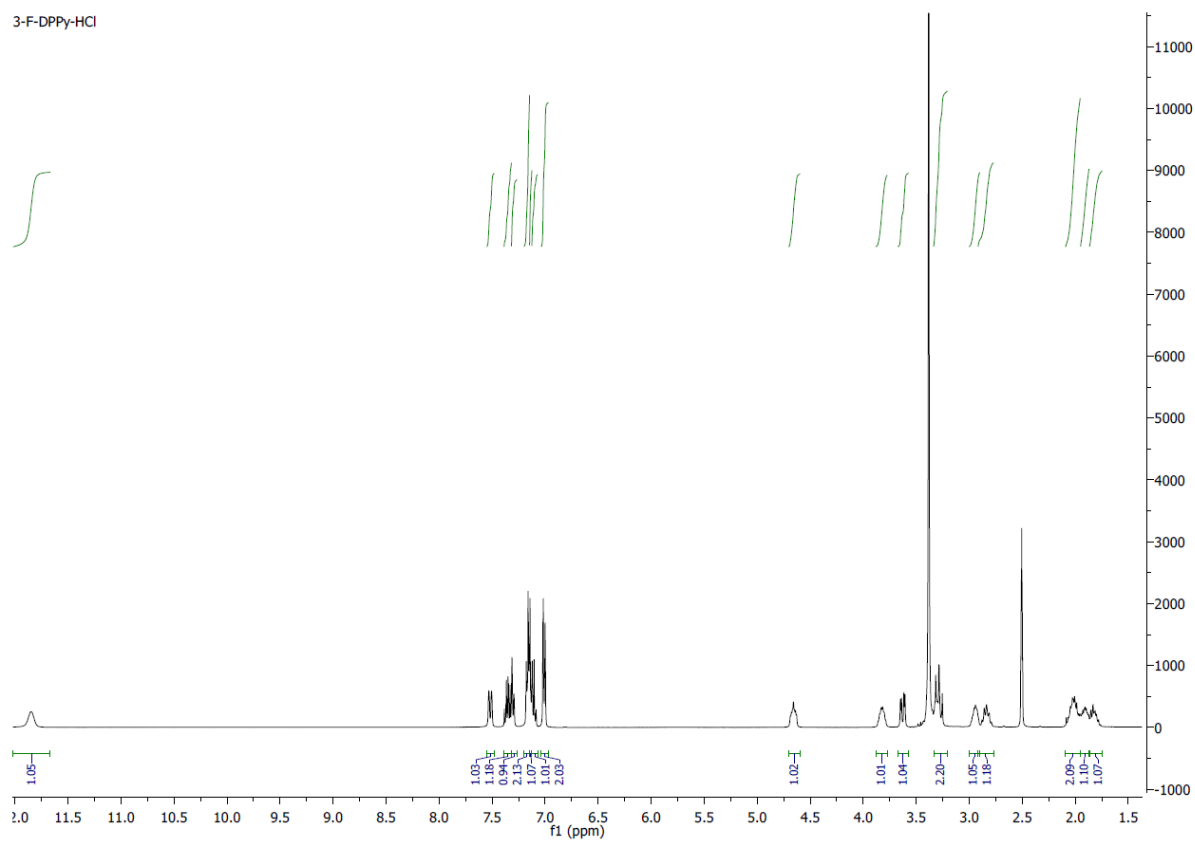
HMBC 2-D NMR of 2-F-DPPy HCl, zoomed in on the aromatic section (d₆-DMSO)

Supporting Information – Drug Testing and Analysis



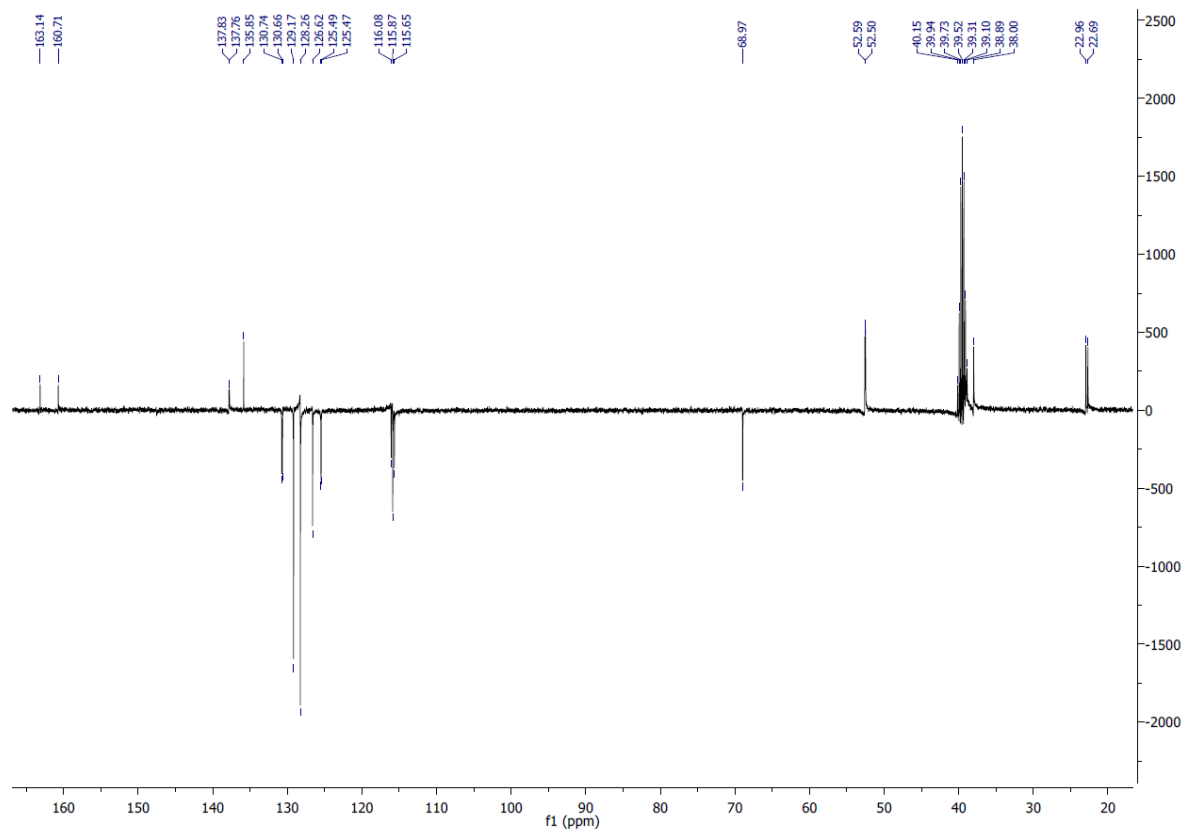
^{19}F NMR of 2-F-DPPy HCl with CFCl_3 as internal reference (376.5 MHz, d_6 -DMSO)

Supporting Information – Drug Testing and Analysis

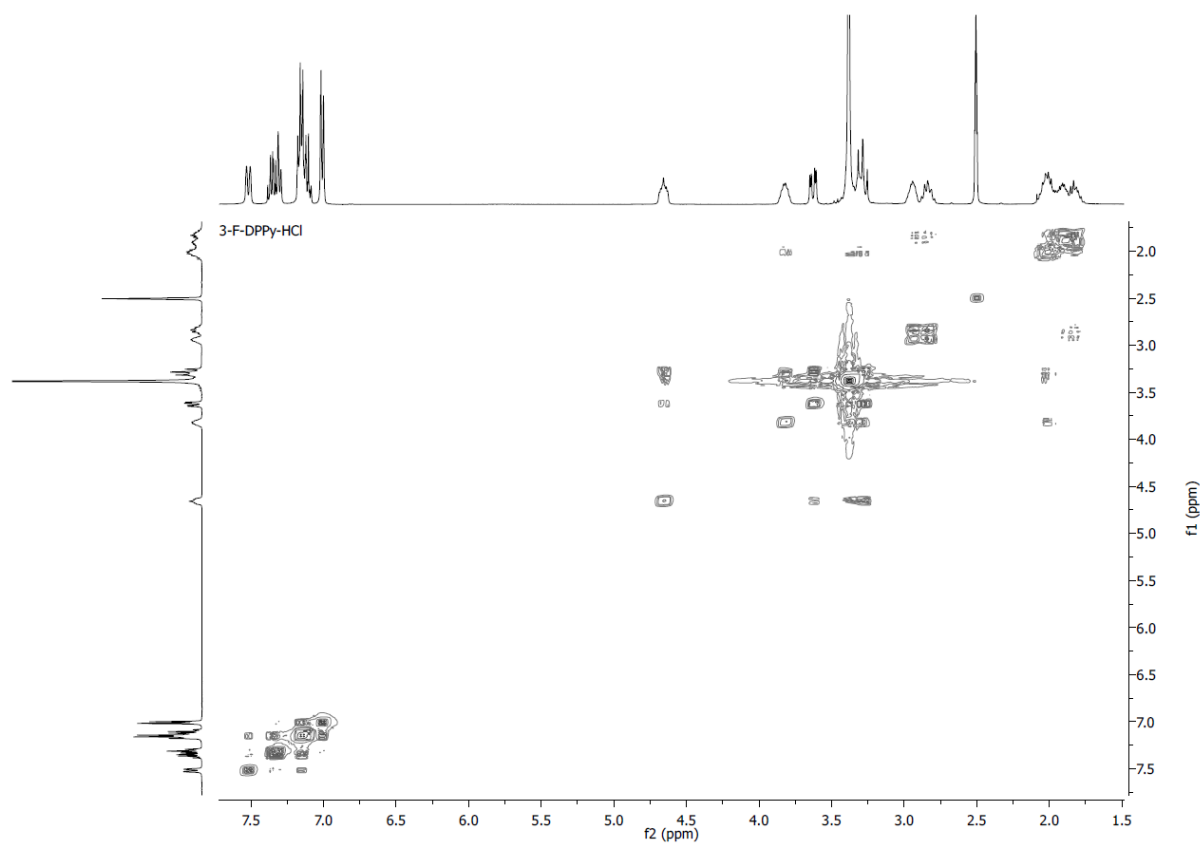


^1H NMR of 3-F-DPPy HCl (400 MHz, $\text{d}_6\text{-DMSO}$)

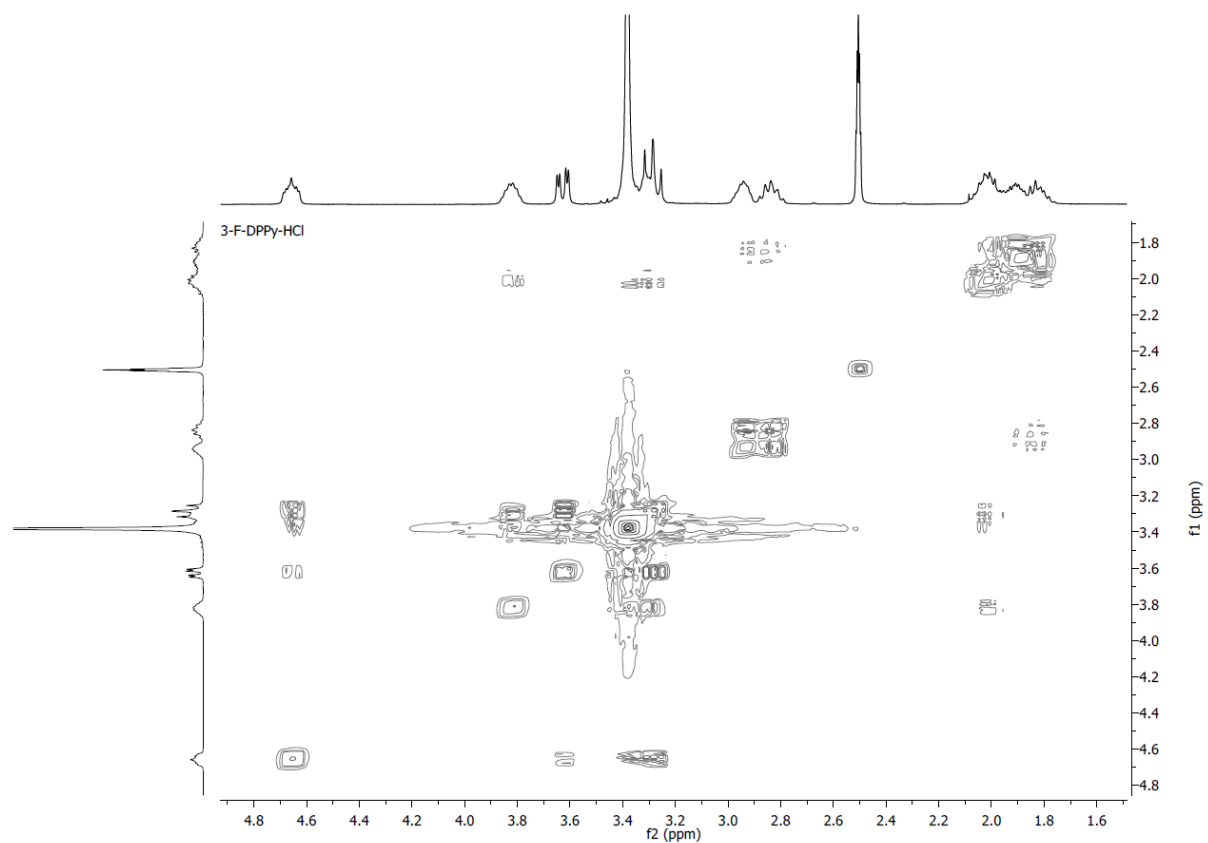
Supporting Information – Drug Testing and Analysis



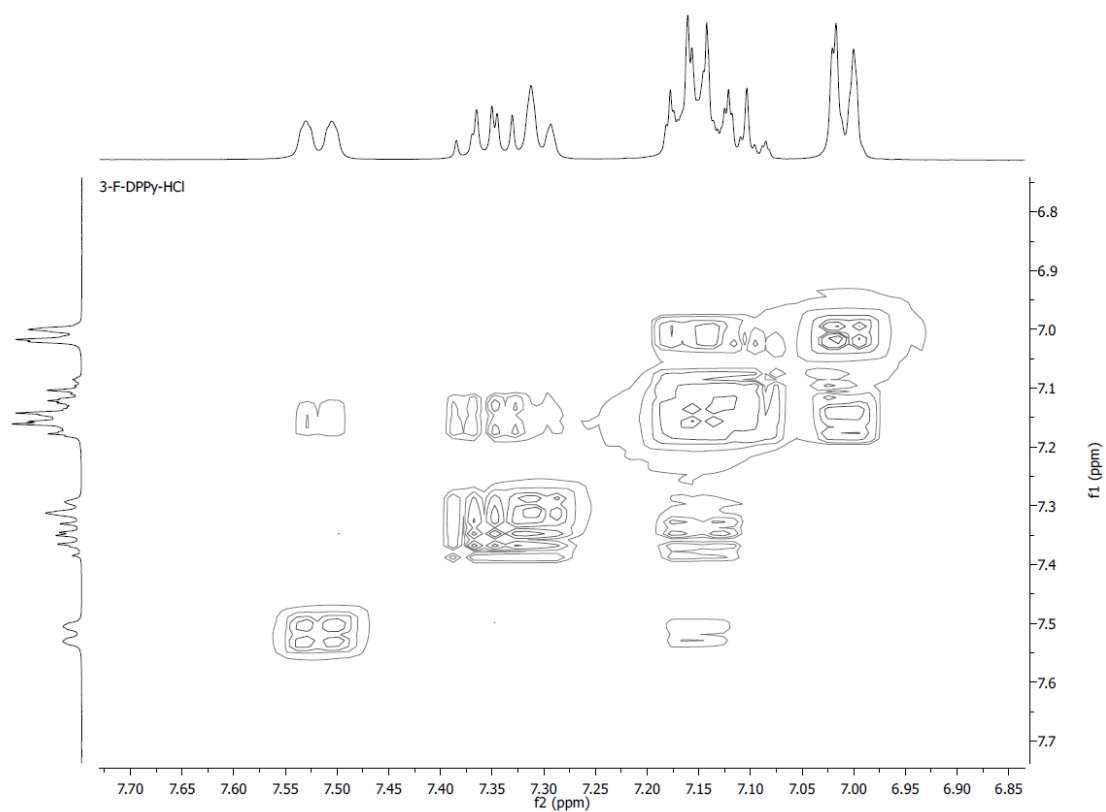
¹³C PENDANT NMR of 3-F-DPPy HCl (101 MHz, d₆-DMSO)



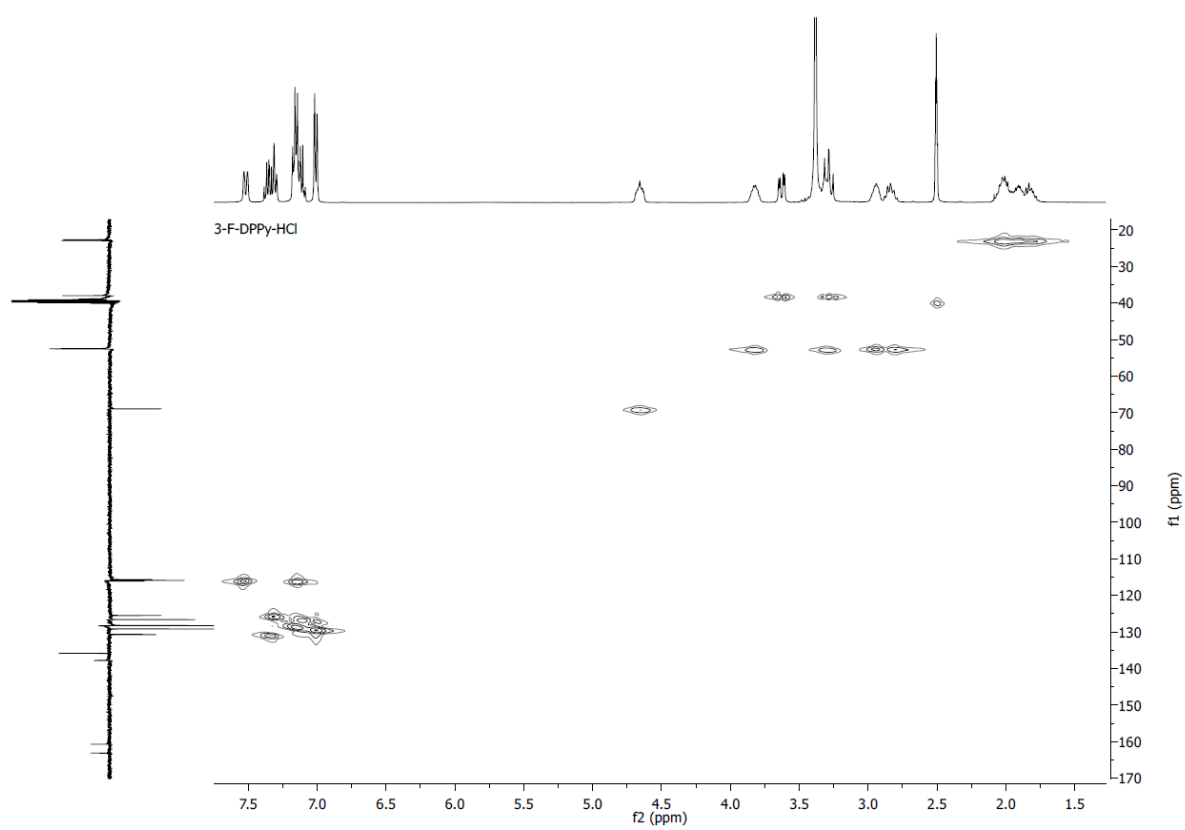
COSY-45 2-D NMR of 3-F-DPPy HCl (d_6 -DMSO)



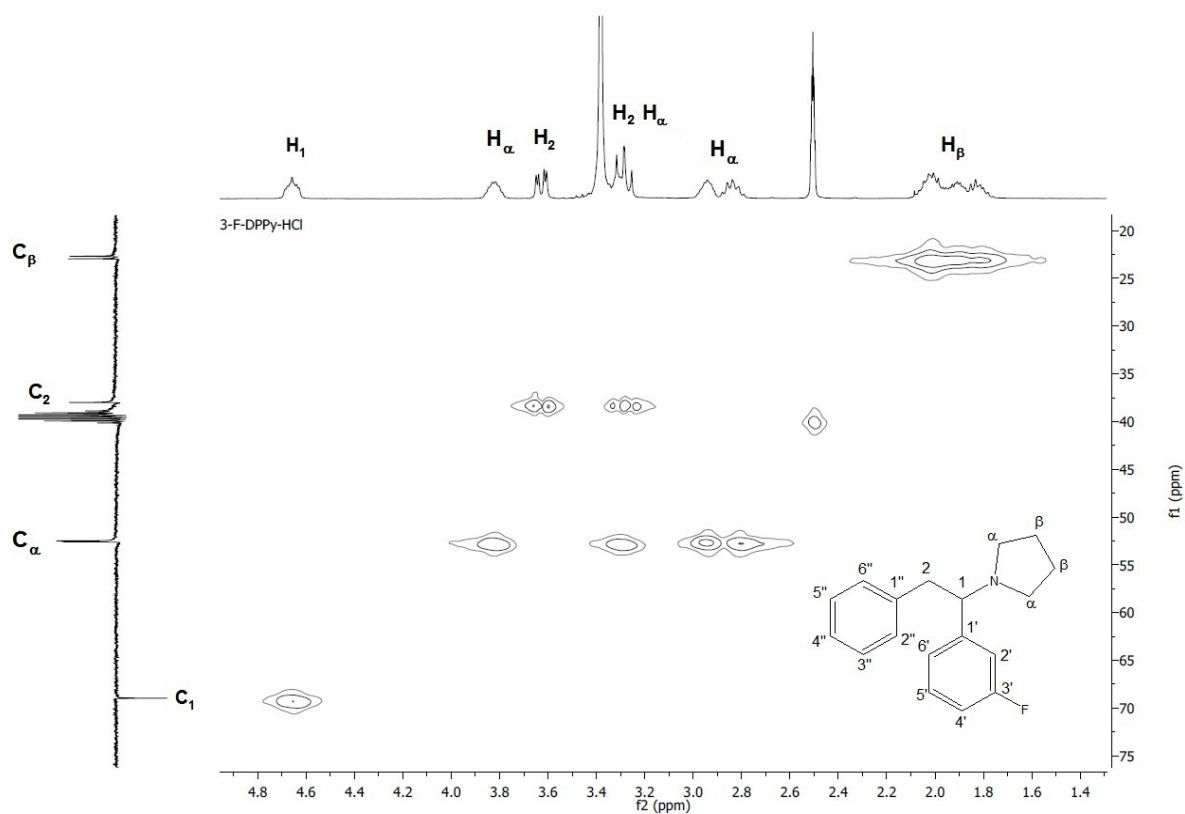
COSY-45 2-D NMR of 3-F-DPPy HCl, zoomed in on aliphatic section (d₆-DMSO)



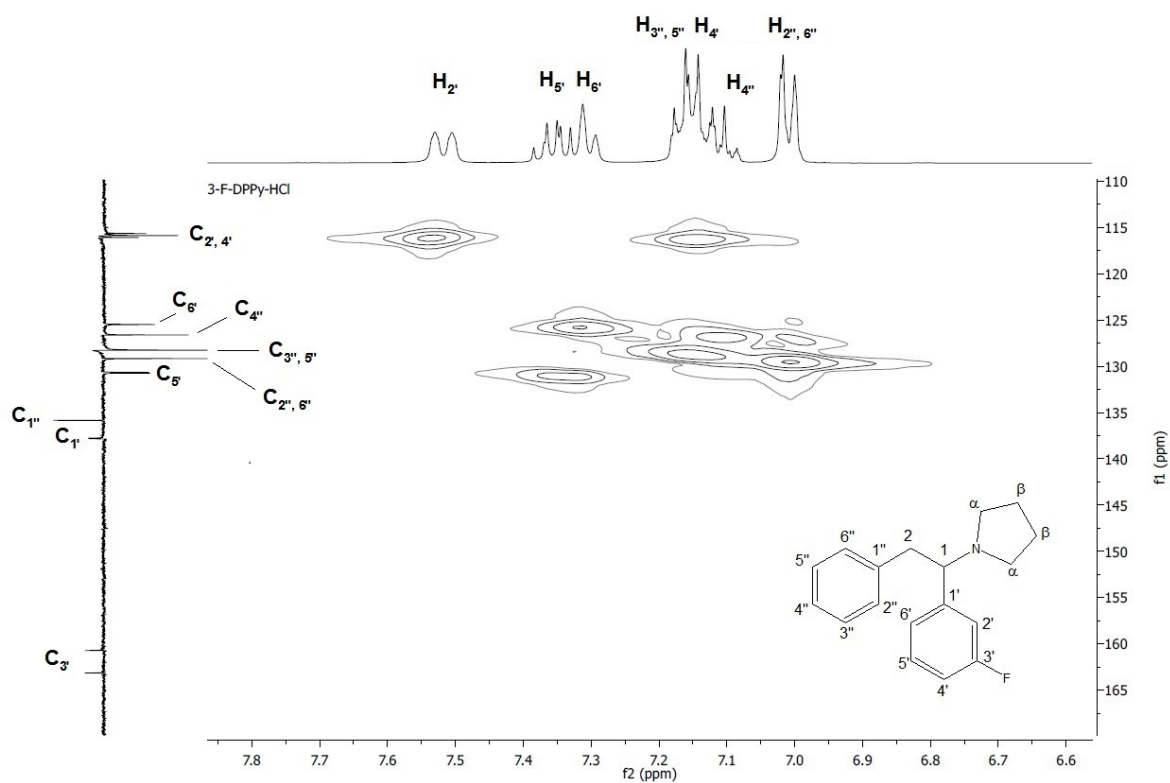
COSY-45 2-D NMR of 3-F-DPPy HCl, zoomed in on aromatic section (d₆-DMSO)



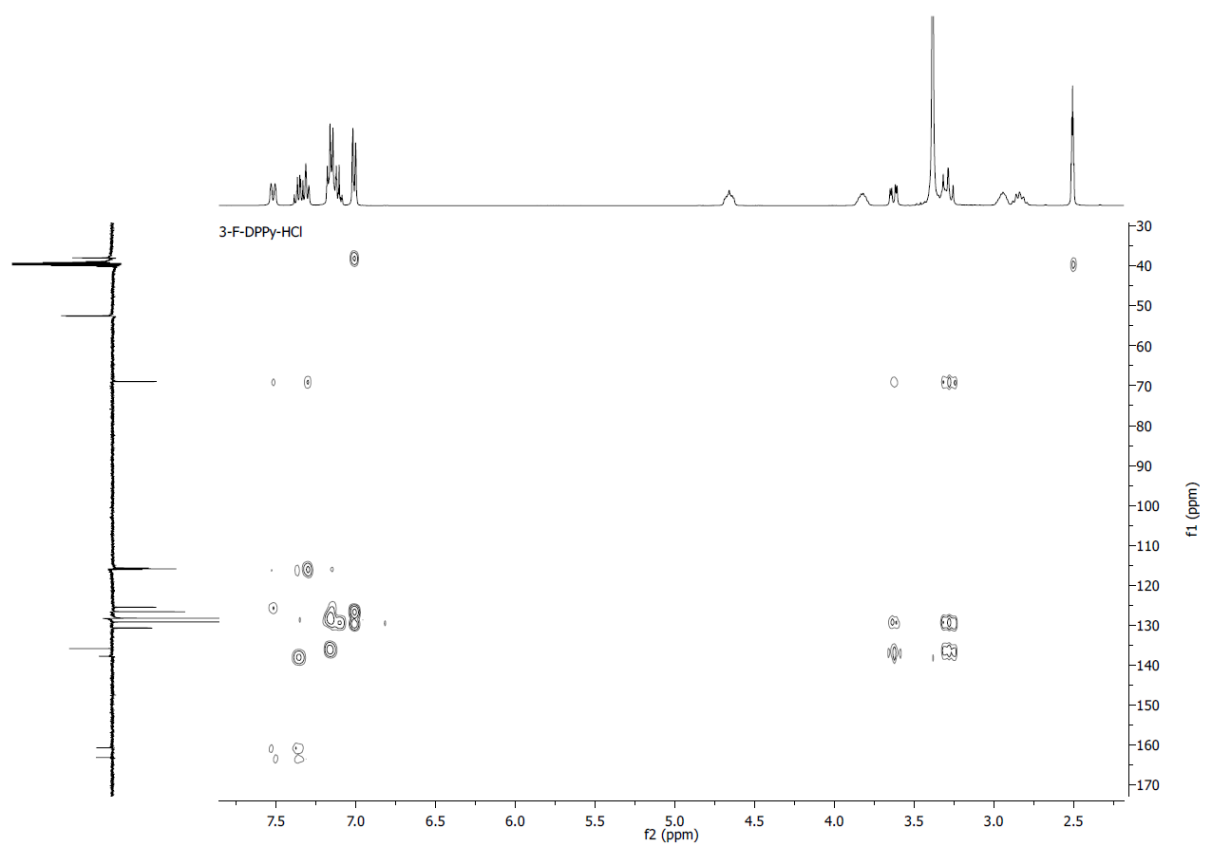
HMQC 2-D NMR of 3-F-DPPy HCl (d_6 -DMSO)



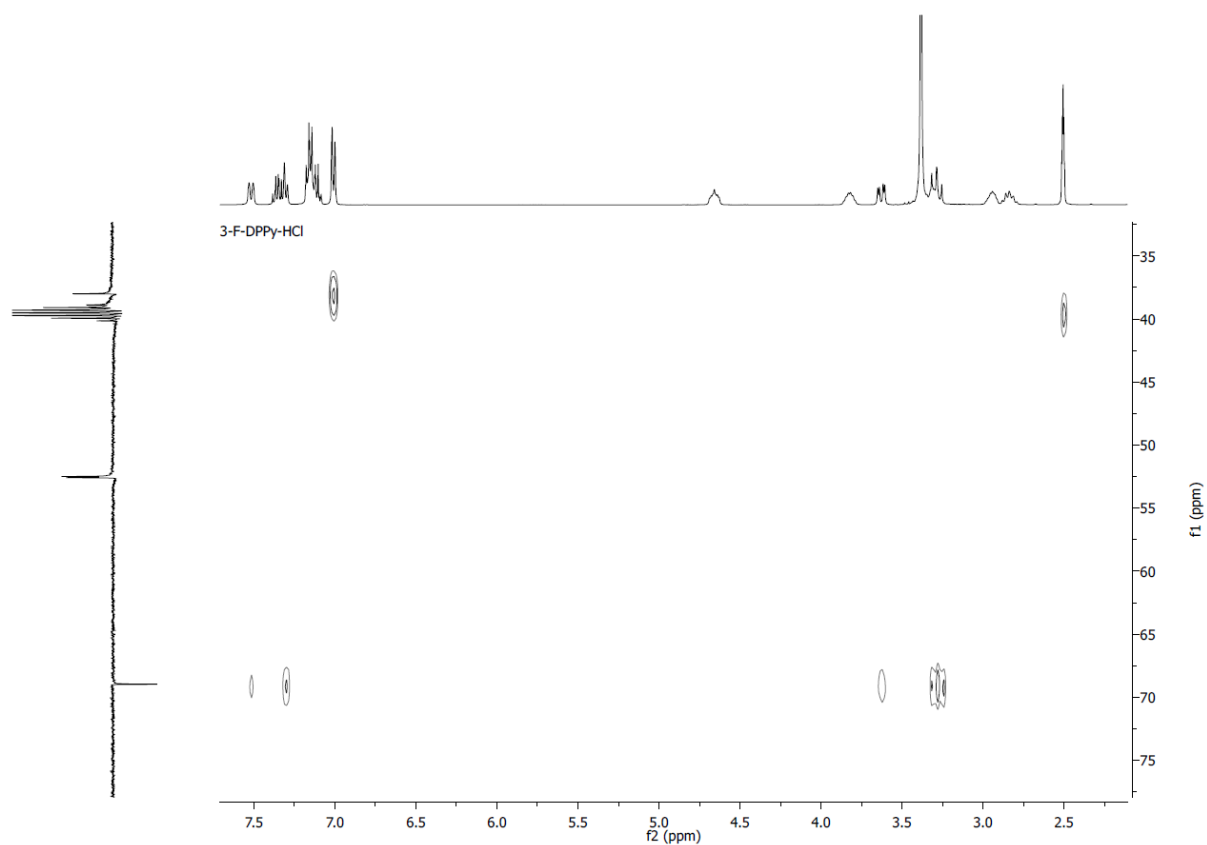
HMQC 2-D NMR of 3-F-DPPy HCl, zoomed in on aliphatic section (d_6 -DMSO)



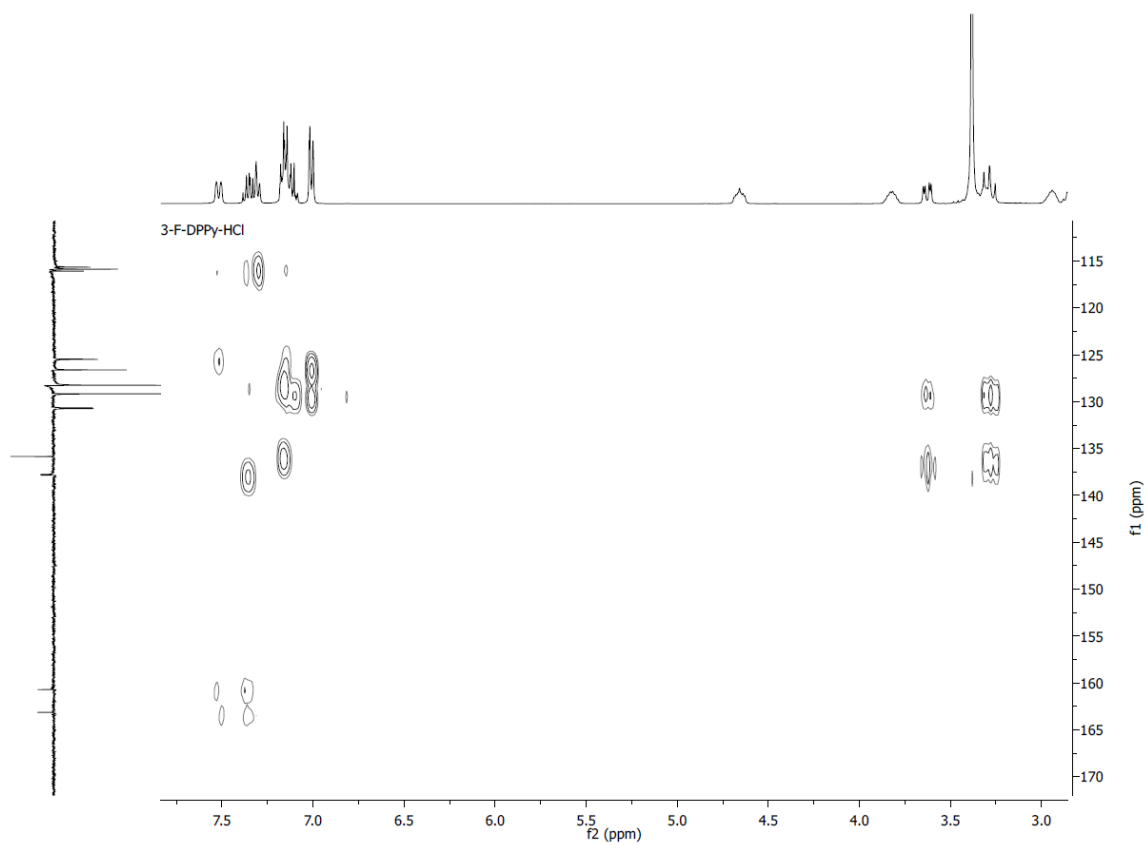
HMQC 2-D NMR of 3-F-DPPy HCl, zoomed in on aromatic section (d_6 -DMSO)



HMBC 2-D NMR of 3-F-DPPy HCl (d_6 -DMSO)

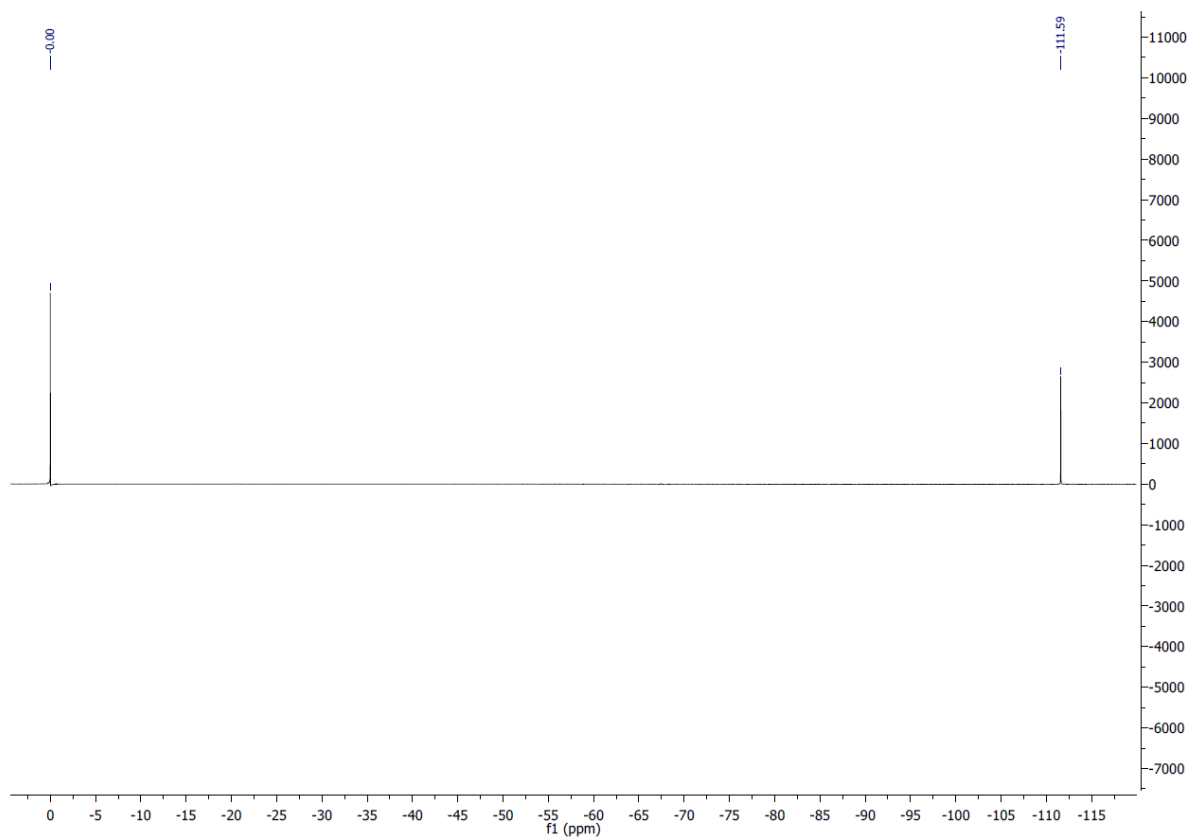


HMBC 2-D NMR of 3-F-DPPy HCl, zoomed in on the aliphatic section (d_6 -DMSO)



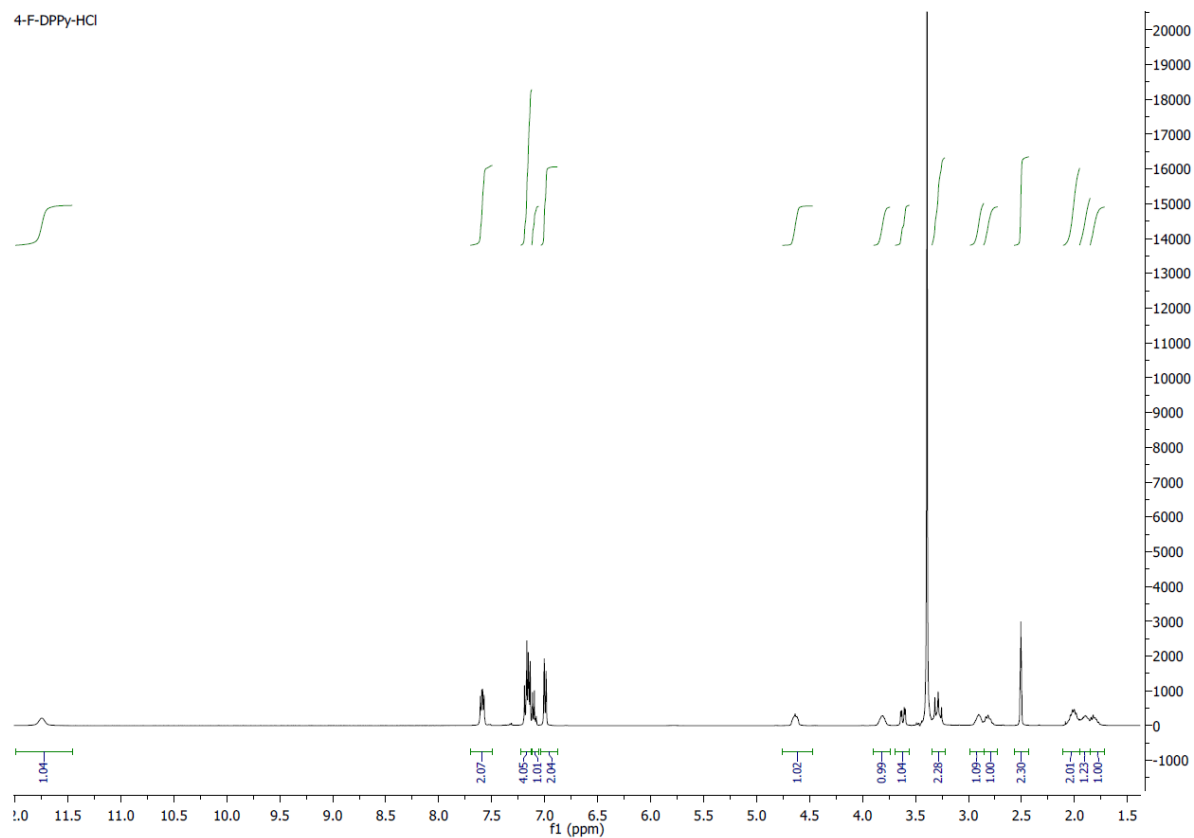
HMBC 2-D NMR of 3-F-DPPy HCl, zoomed in on the aromatic section (d₆-DMSO)

Supporting Information – Drug Testing and Analysis



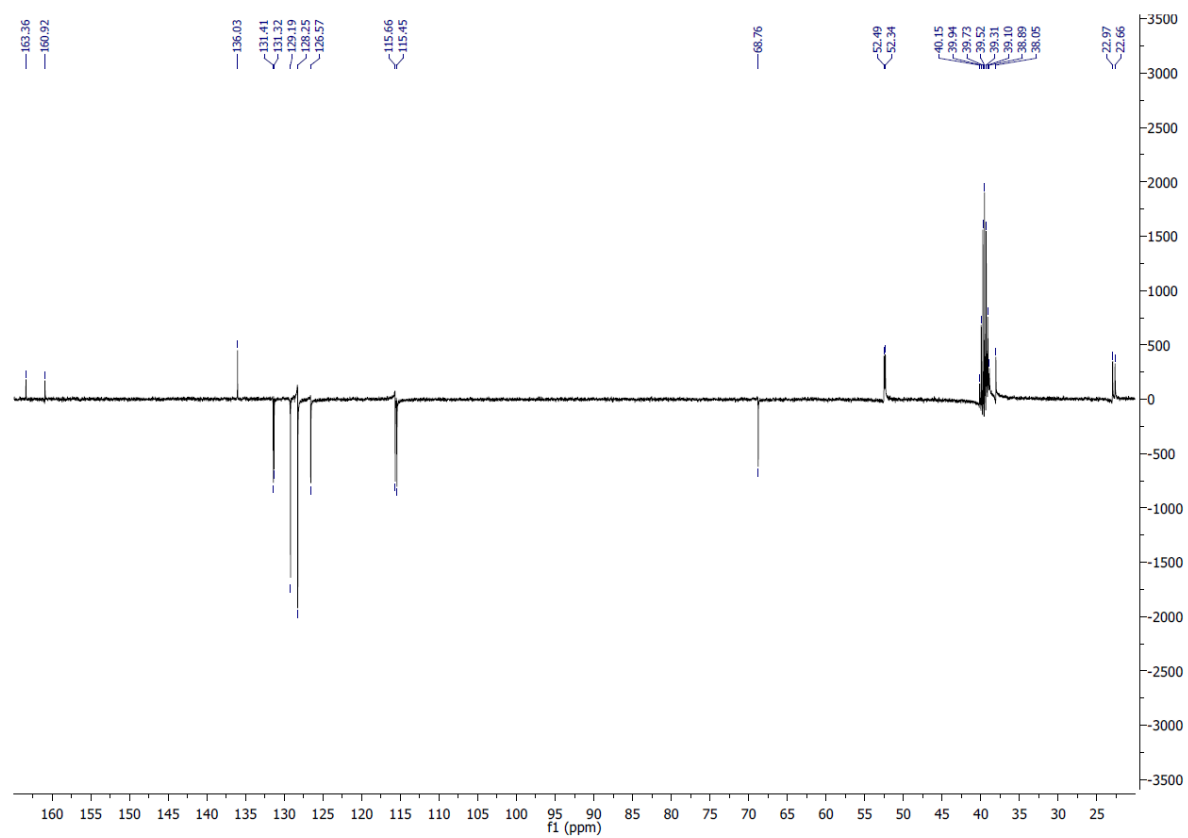
^{19}F NMR of 3-F-DPPy HCl with CFCl_3 as internal reference (376.5 MHz, $\text{d}_6\text{-DMSO}$)

Supporting Information – Drug Testing and Analysis



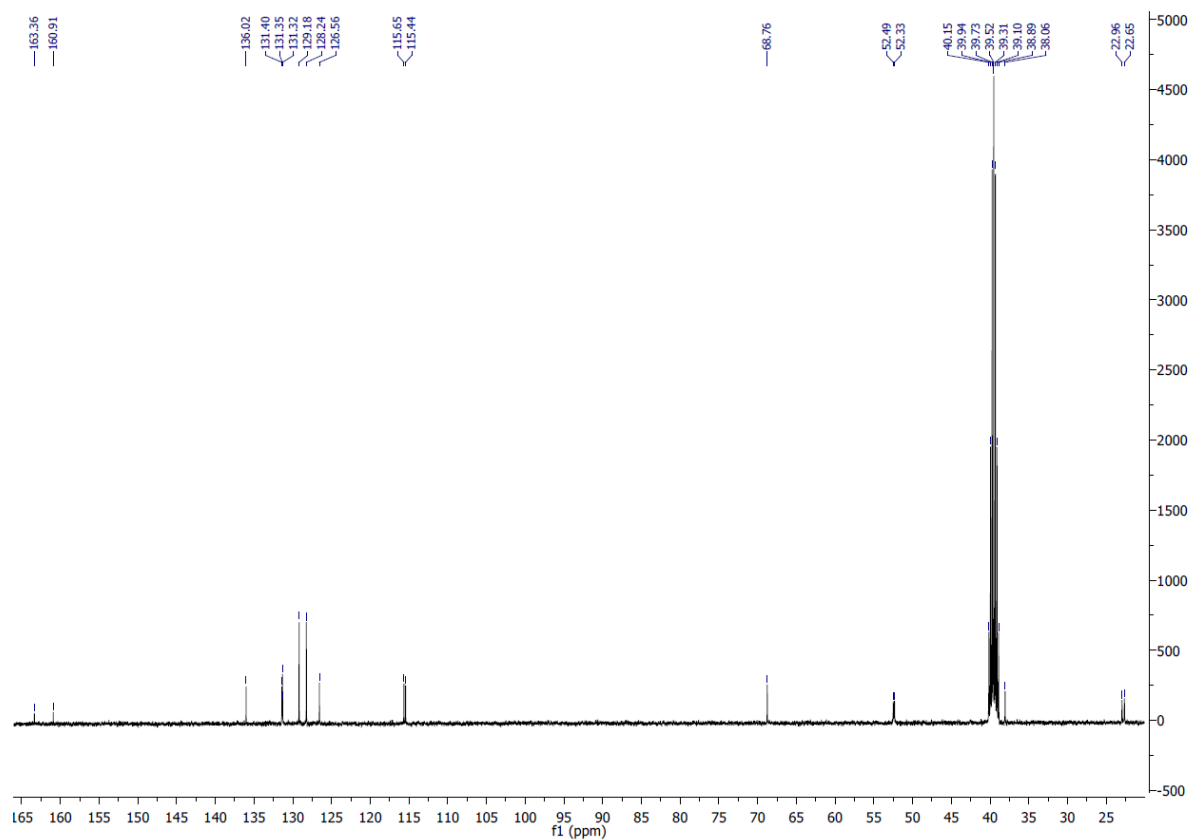
^1H NMR of 4-F-DPPy HCl (400 MHz, $\text{d}_6\text{-DMSO}$)

Supporting Information – Drug Testing and Analysis

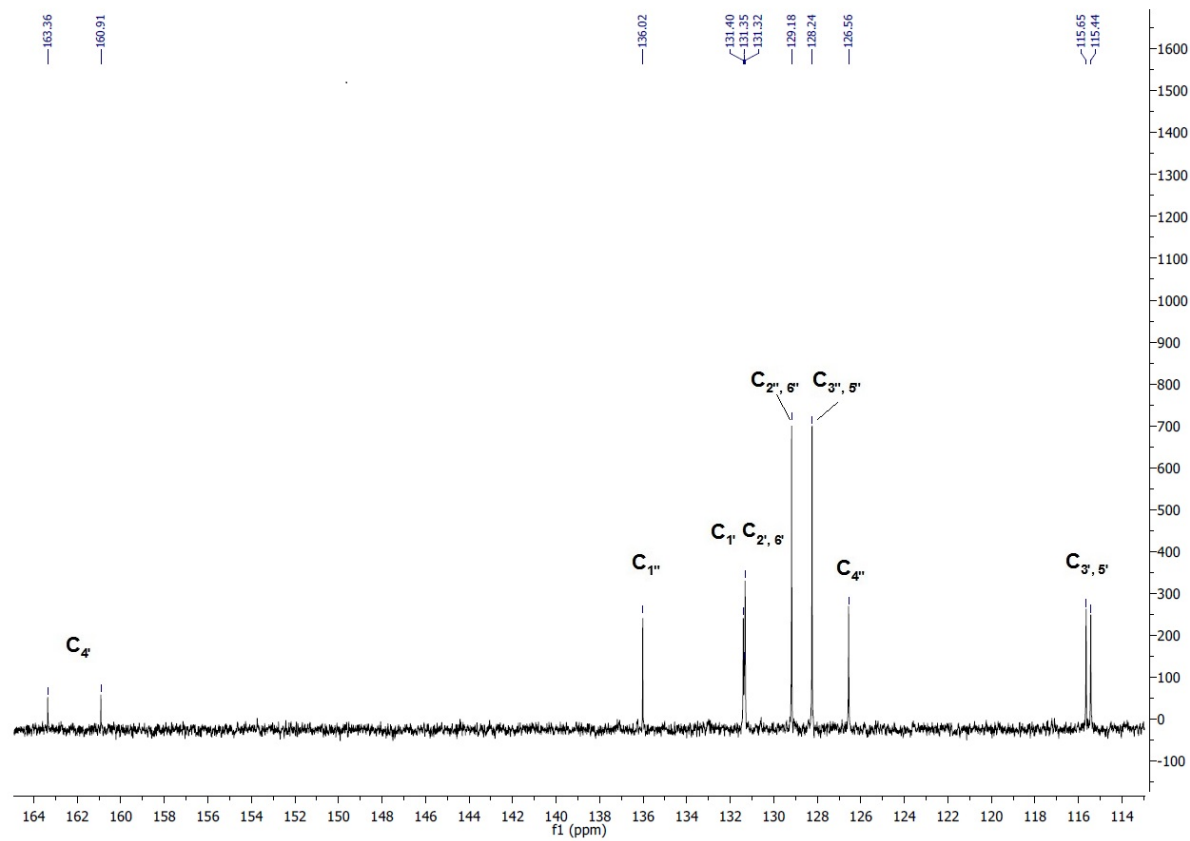


¹³C PENDANT NMR of 4-F-DPPy HCl (101 MHz, d₆-DMSO)

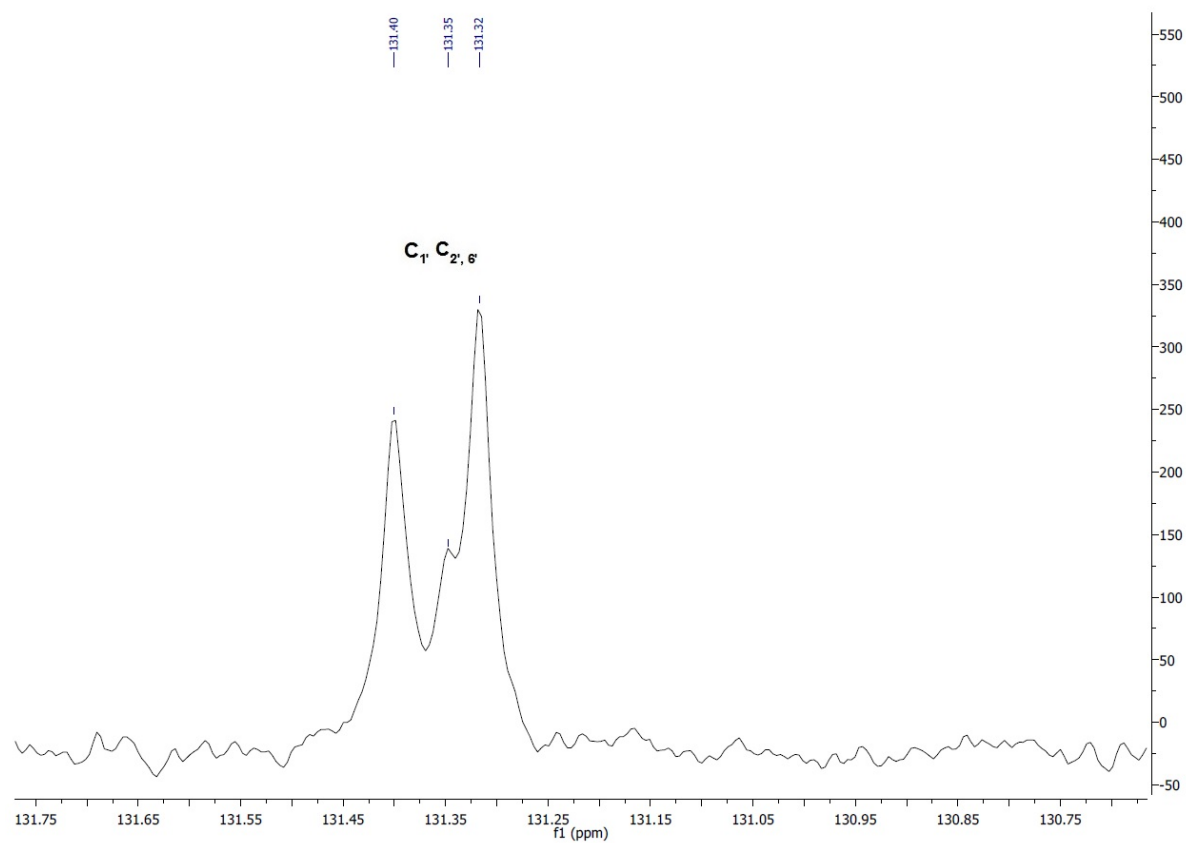
Supporting Information – Drug Testing and Analysis



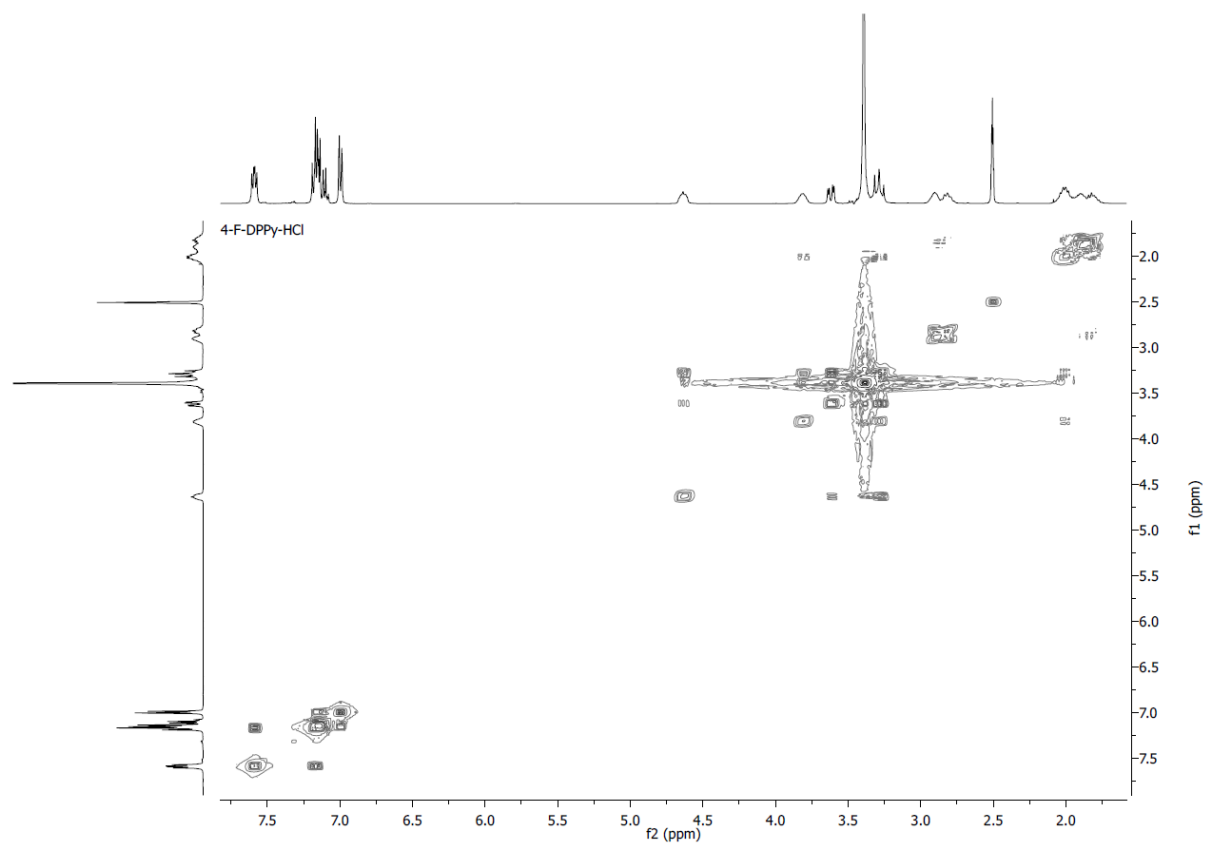
¹³C NMR of 4-F-DPPy HCl (101 MHz, d₆-DMSO)



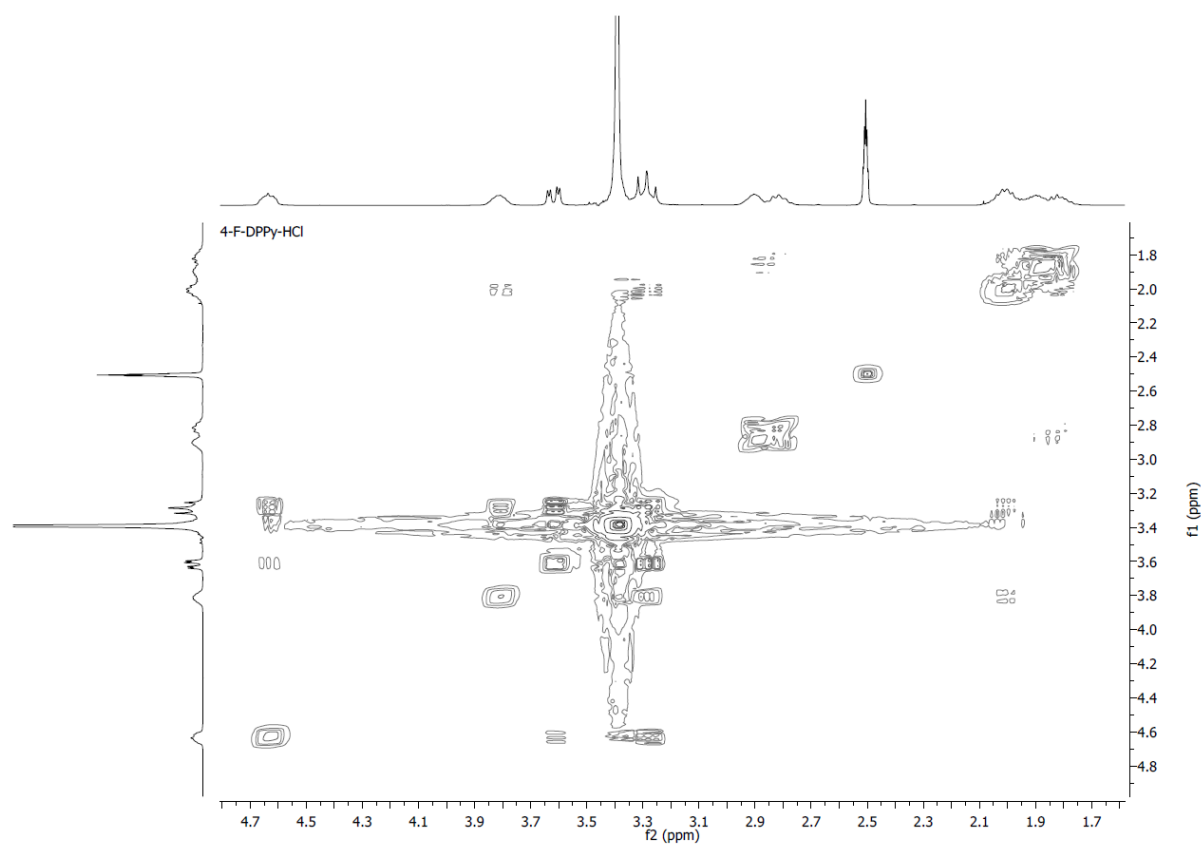
¹³C NMR of 4-F-DPPy HCl, zoomed in on the aromatic section (101 MHz, d₆-DMSO)



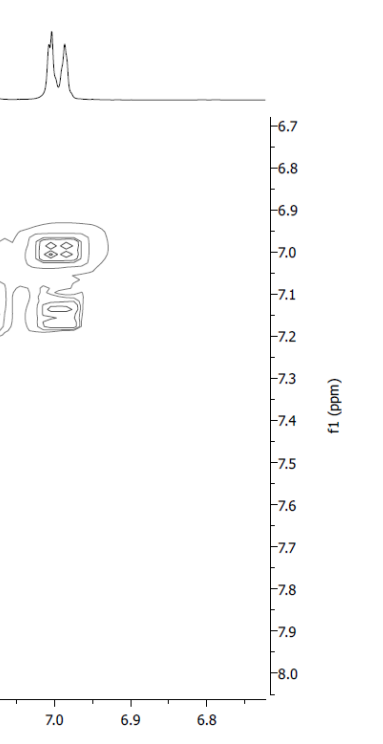
^{13}C NMR of 4-F-DPPy HCl, zoomed in to display $\text{C}_{1'}$, $\text{C}_{2''}$, $6''$ overlap (101 MHz, d_6 -DMSO)

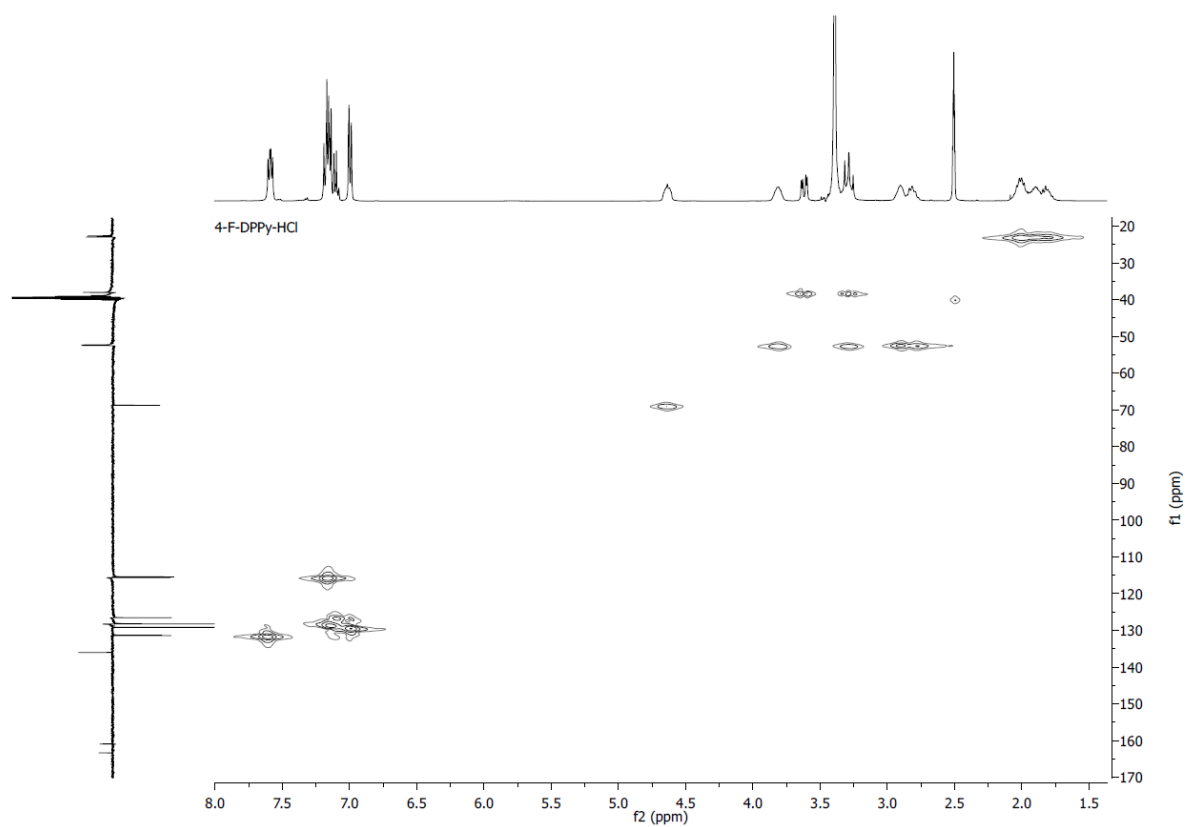


COSY-45 2-D NMR of 4-F-DPPy HCl (d_6 -DMSO)

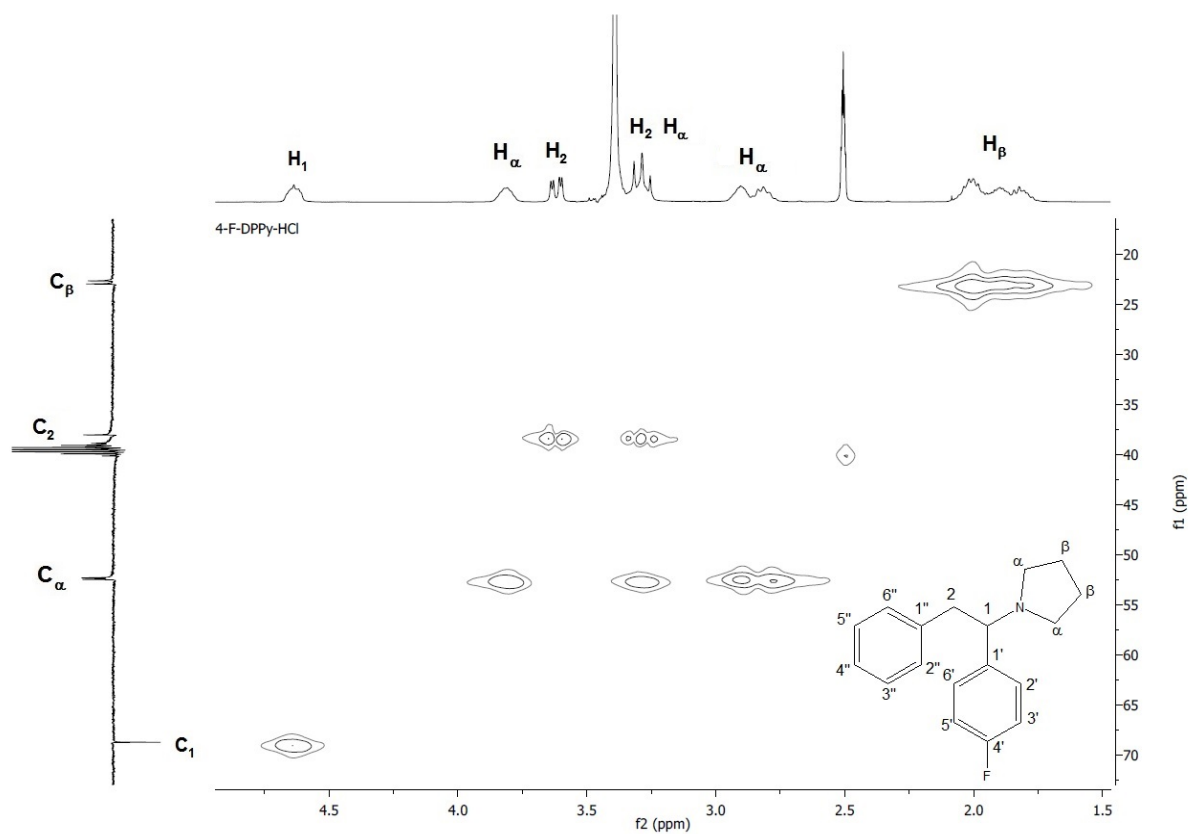


COSY-45 2-D NMR of 4-F-DPPy HCl, zoomed in on aliphatic section (d₆-DMSO)

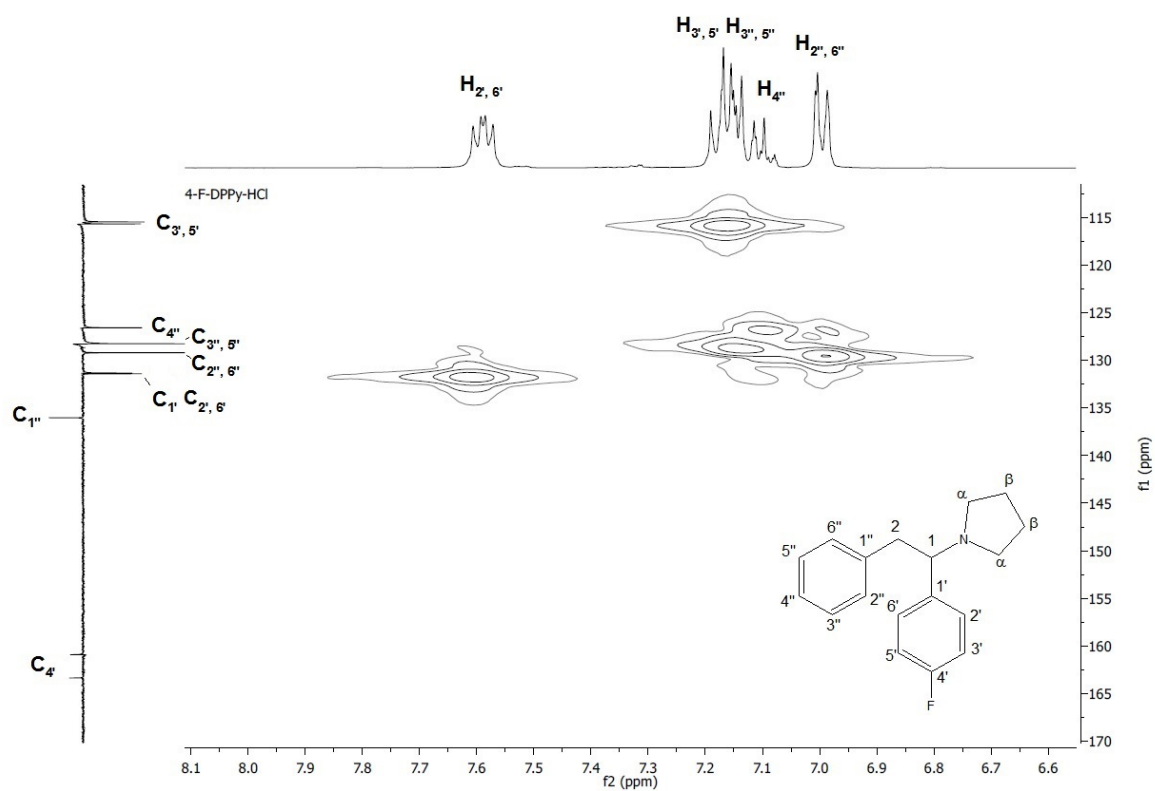
n (d₆-DMSO)



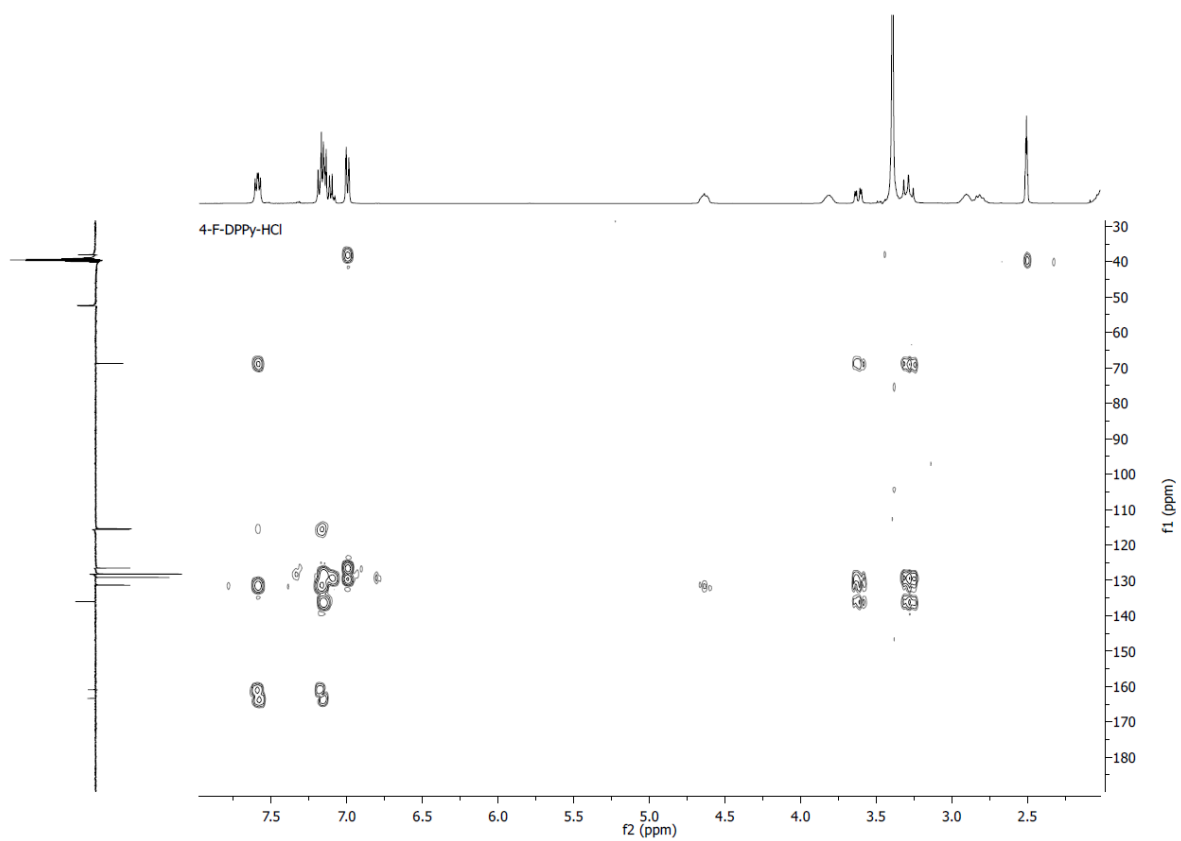
HMQC 2-D NMR of 4-F-DPPy HCl (d_6 -DMSO)



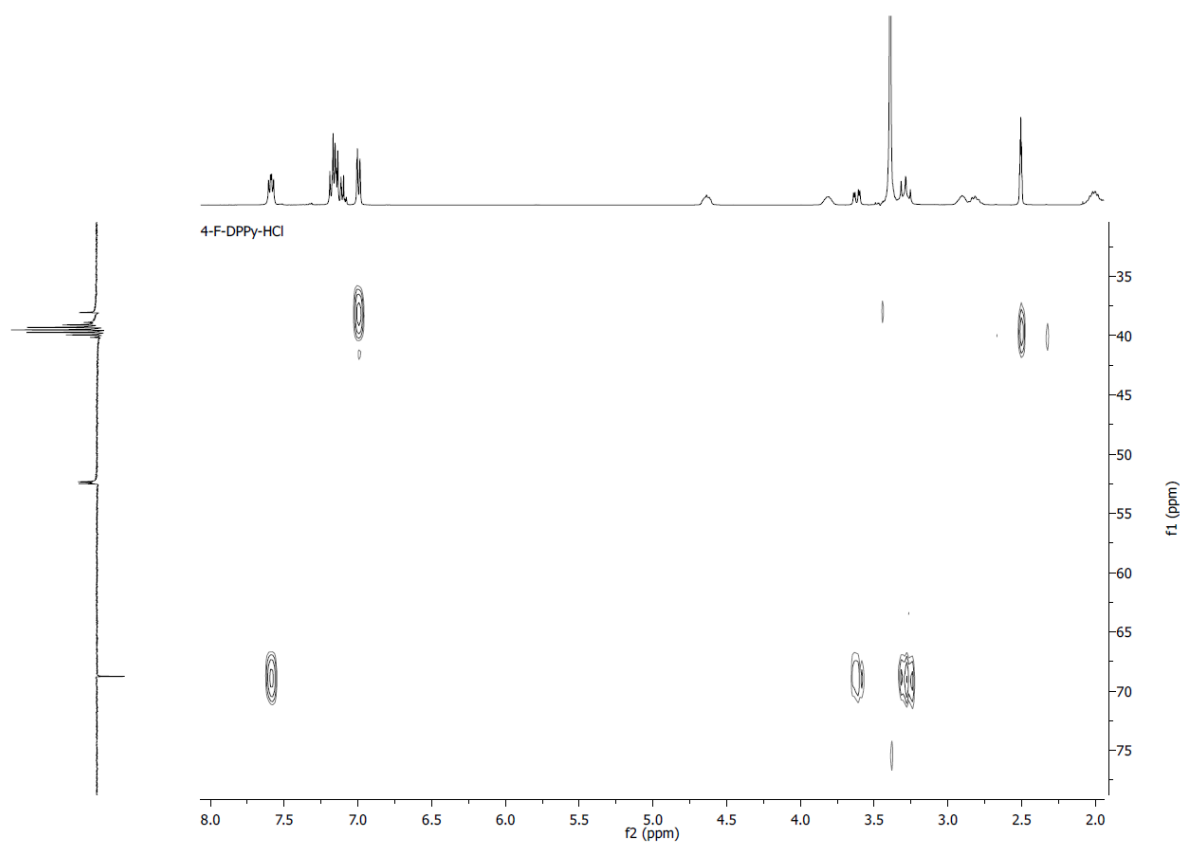
HMQC 2-D NMR of 4-F-DPPy HCl, zoomed in on aliphatic section (d_6 -DMSO)



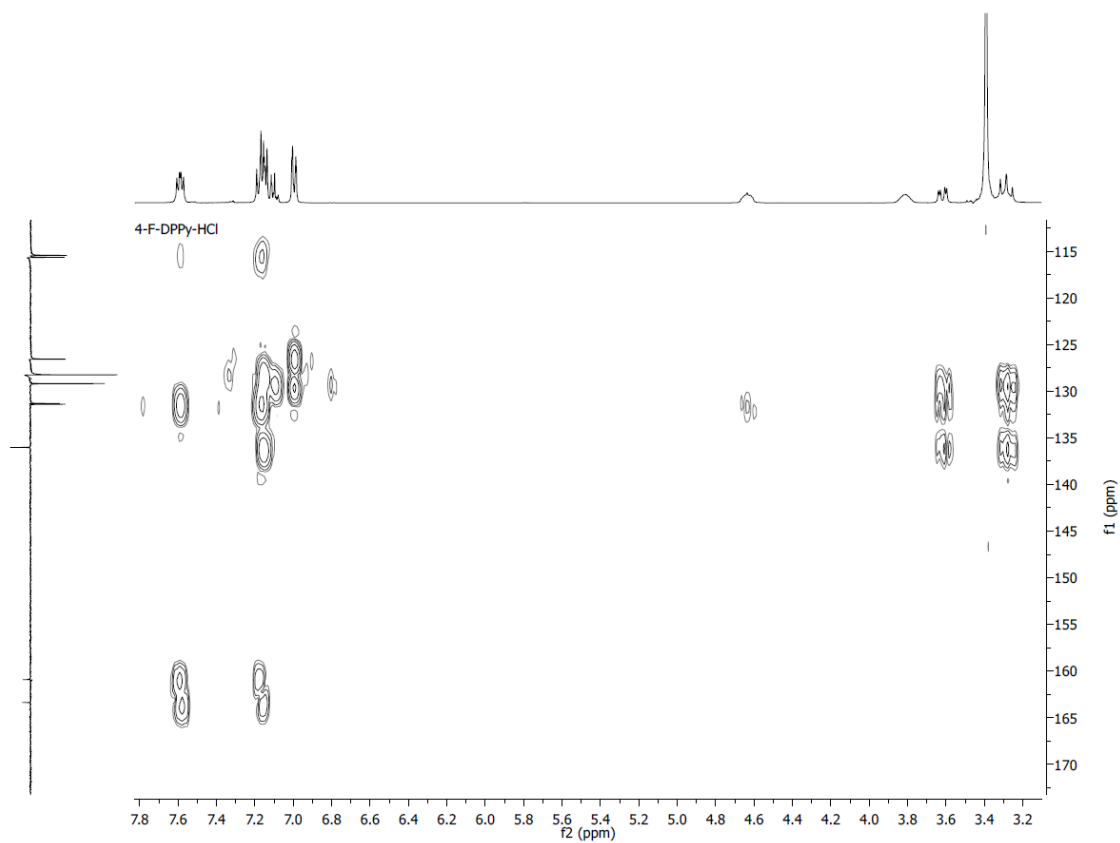
HMQC 2-D NMR of 4-F-DPPy HCl, zoomed in on aromatic section (d_6 -DMSO)



HMBC 2-D NMR of 4-F-DPPy HCl (d_6 -DMSO)

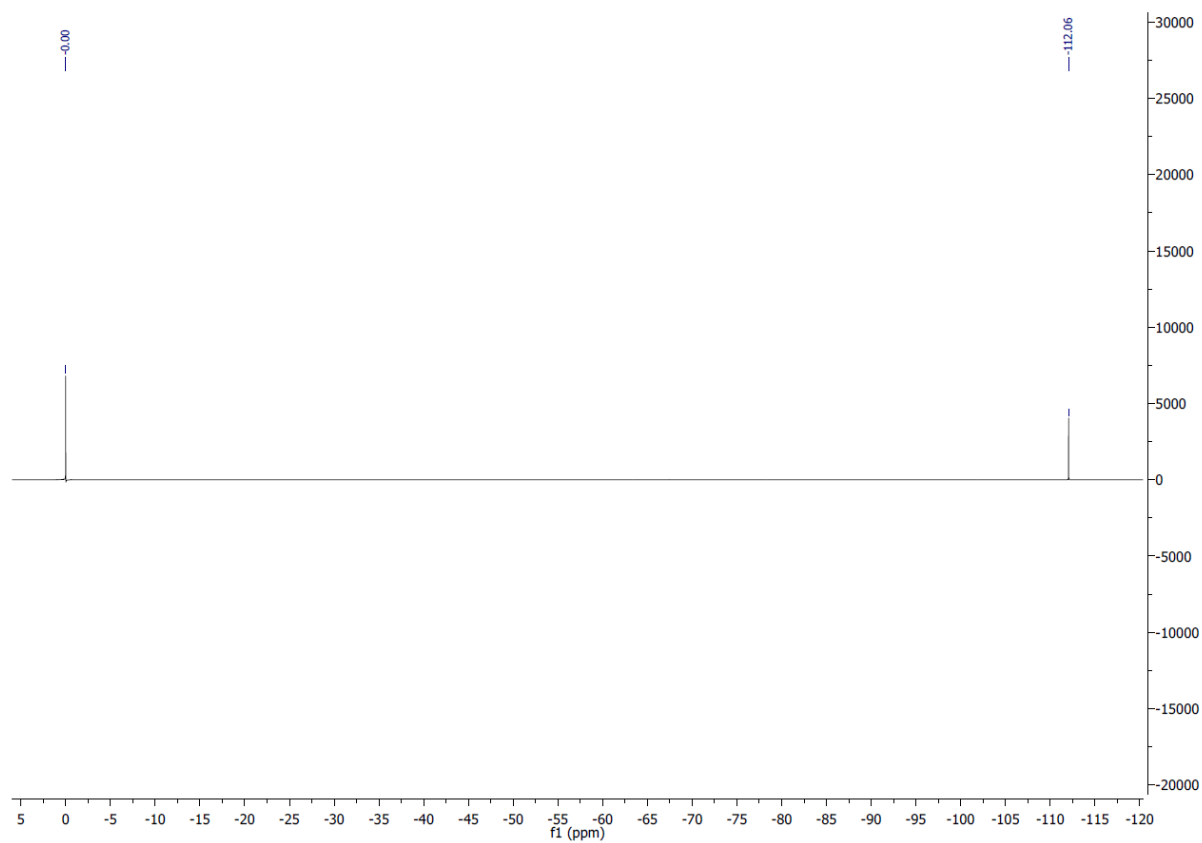


HMBC 2-D NMR of 4-F-DPPy HCl, zoomed in on aliphatic section (d₆-DMSO)

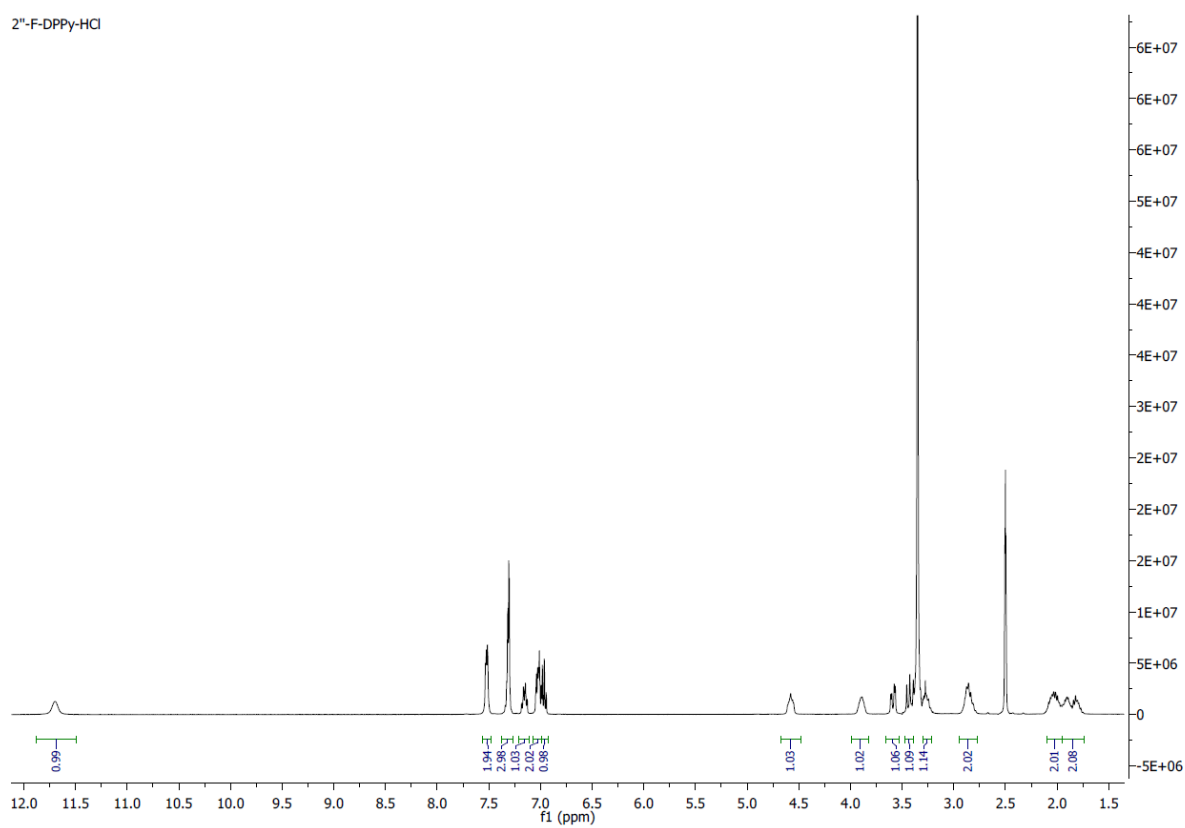


HMBC 2-D NMR of 4-F-DPPy HCl, zoomed in on aromatic section (d₆-DMSO)

Supporting Information – Drug Testing and Analysis

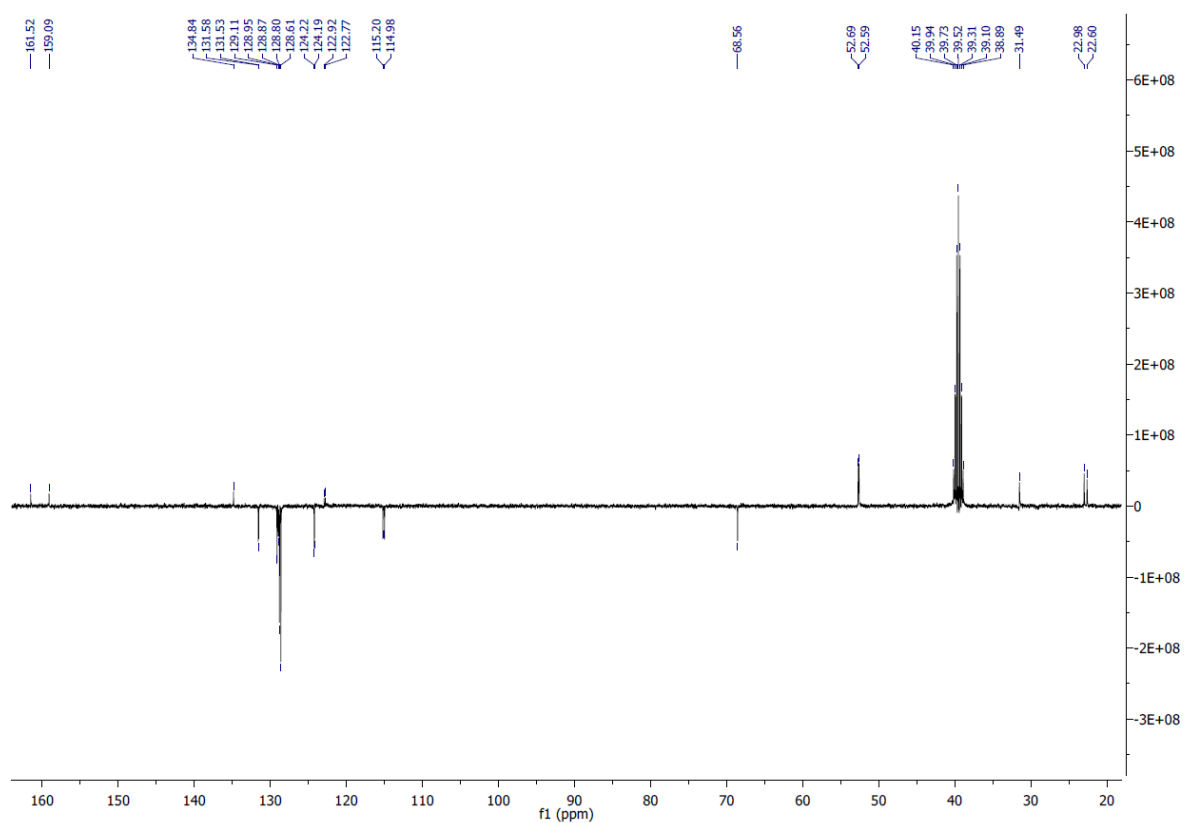


^{19}F NMR of 4-F-DPPy HCl with CFCI_3 as internal reference (376.5 MHz, d_6 -DMSO)

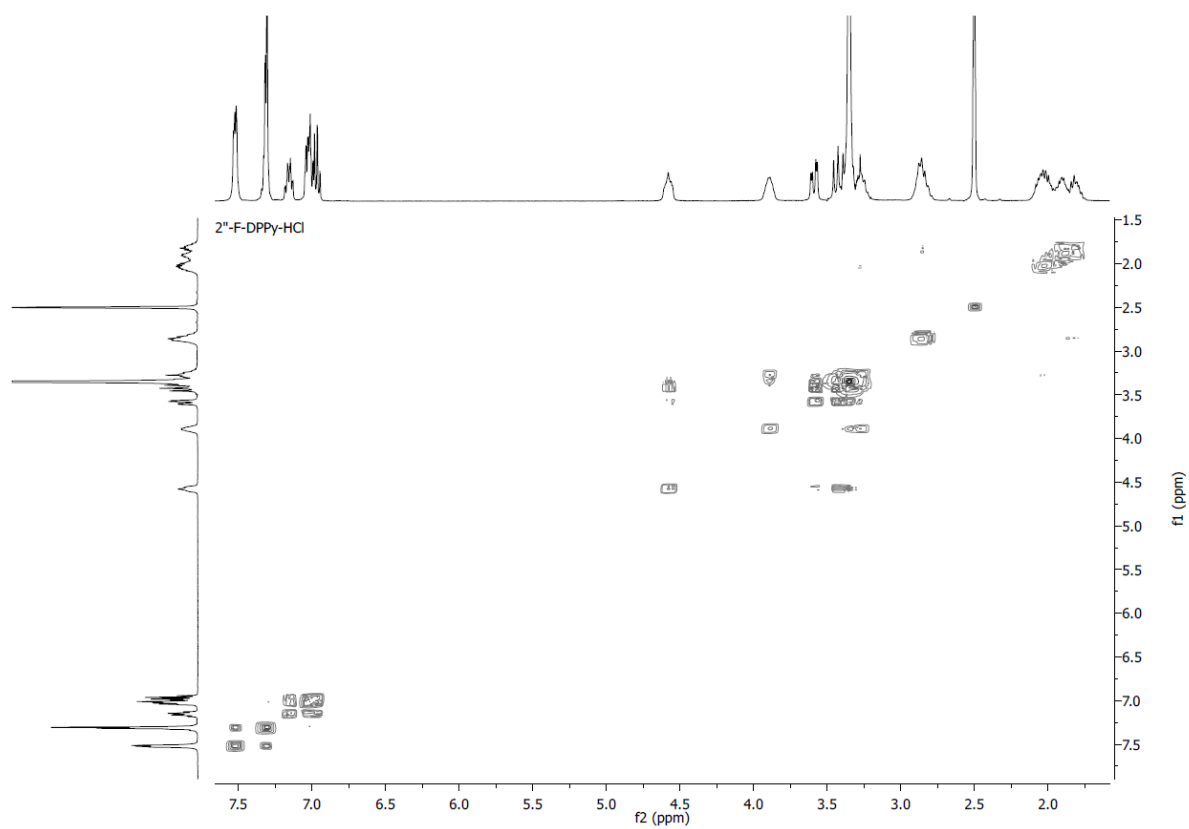


^1H NMR of 2''-F-DPPy HCl (400 MHz, $\text{d}_6\text{-DMSO}$)

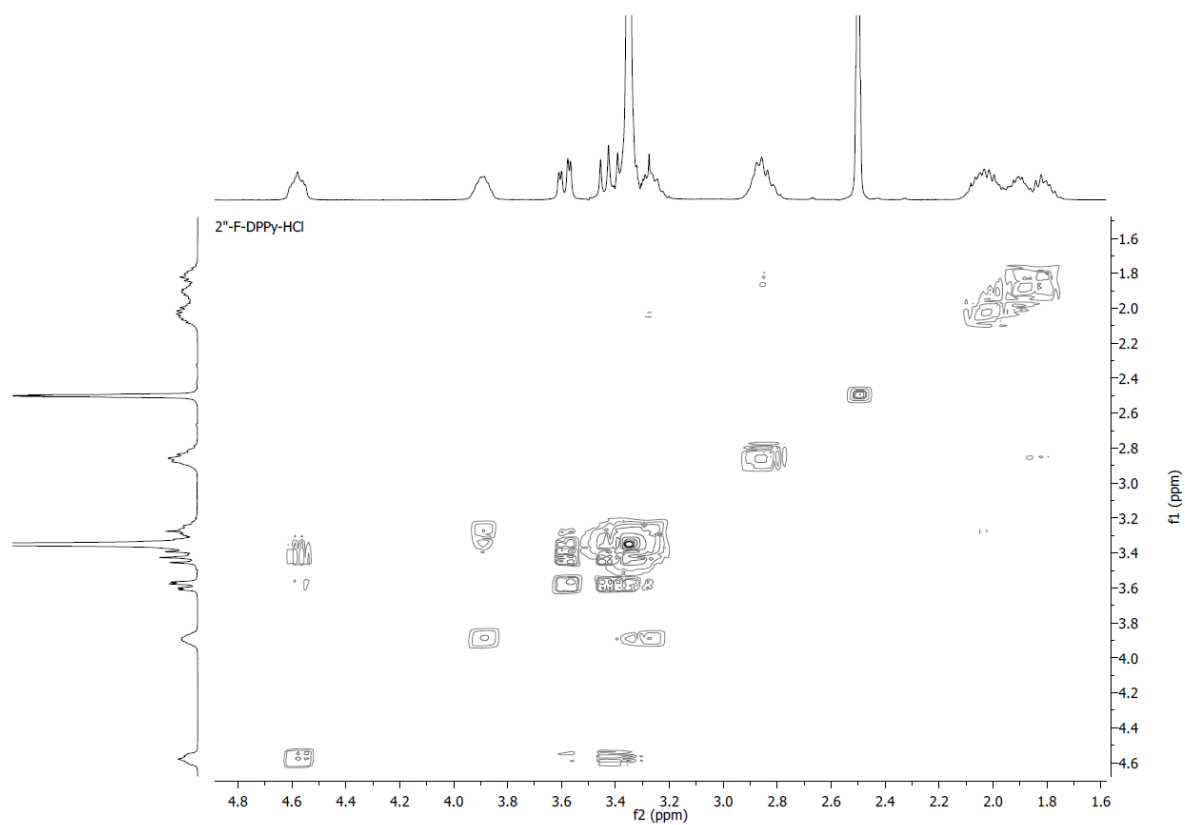
Supporting Information – Drug Testing and Analysis



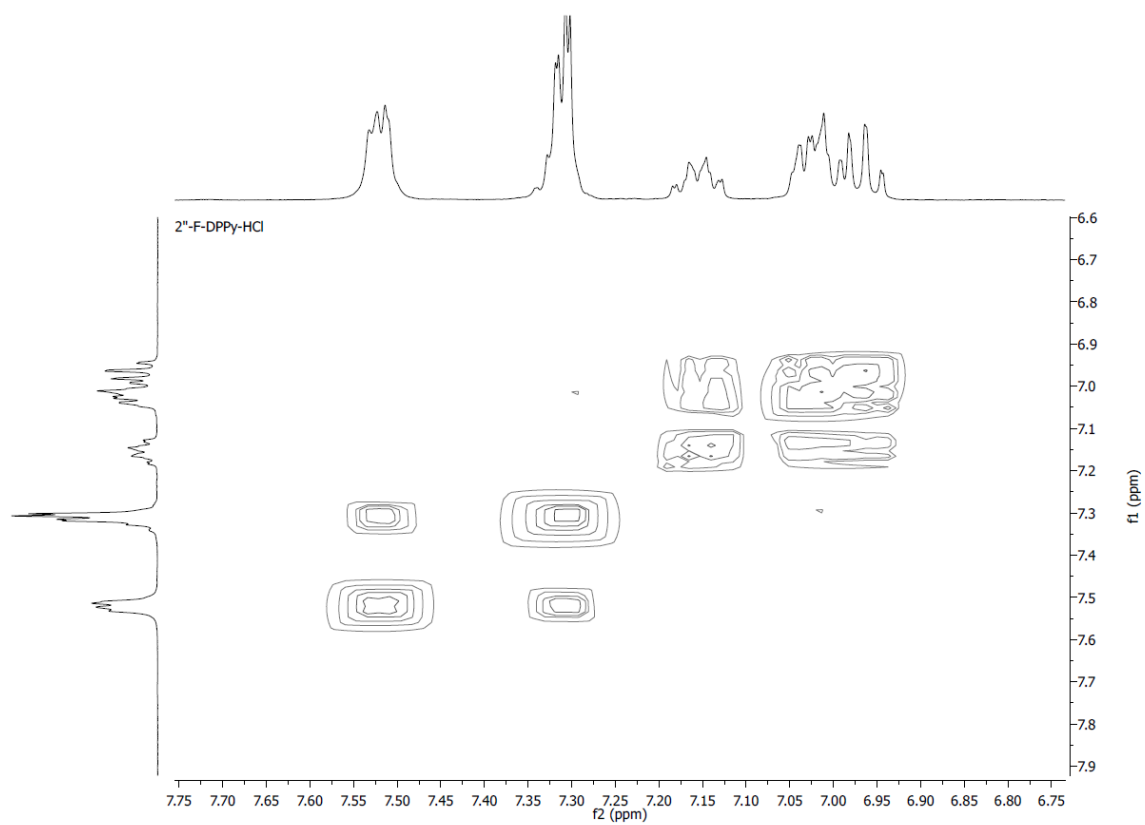
^{13}C PENDANT NMR of 2''-F-DPPy HCl (101 MHz, d_6 -DMSO)



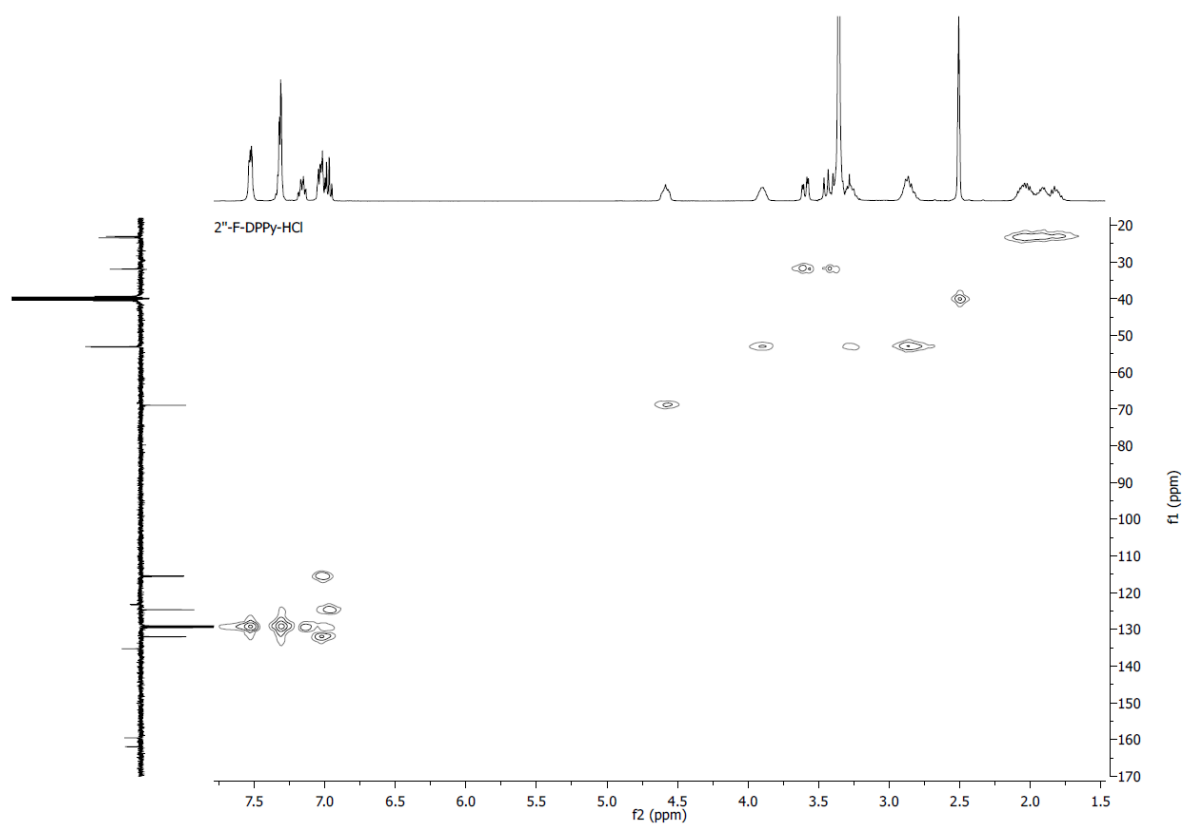
COSY-45 2-D NMR of 2''-F-DPPy HCl (d_6 -DMSO)



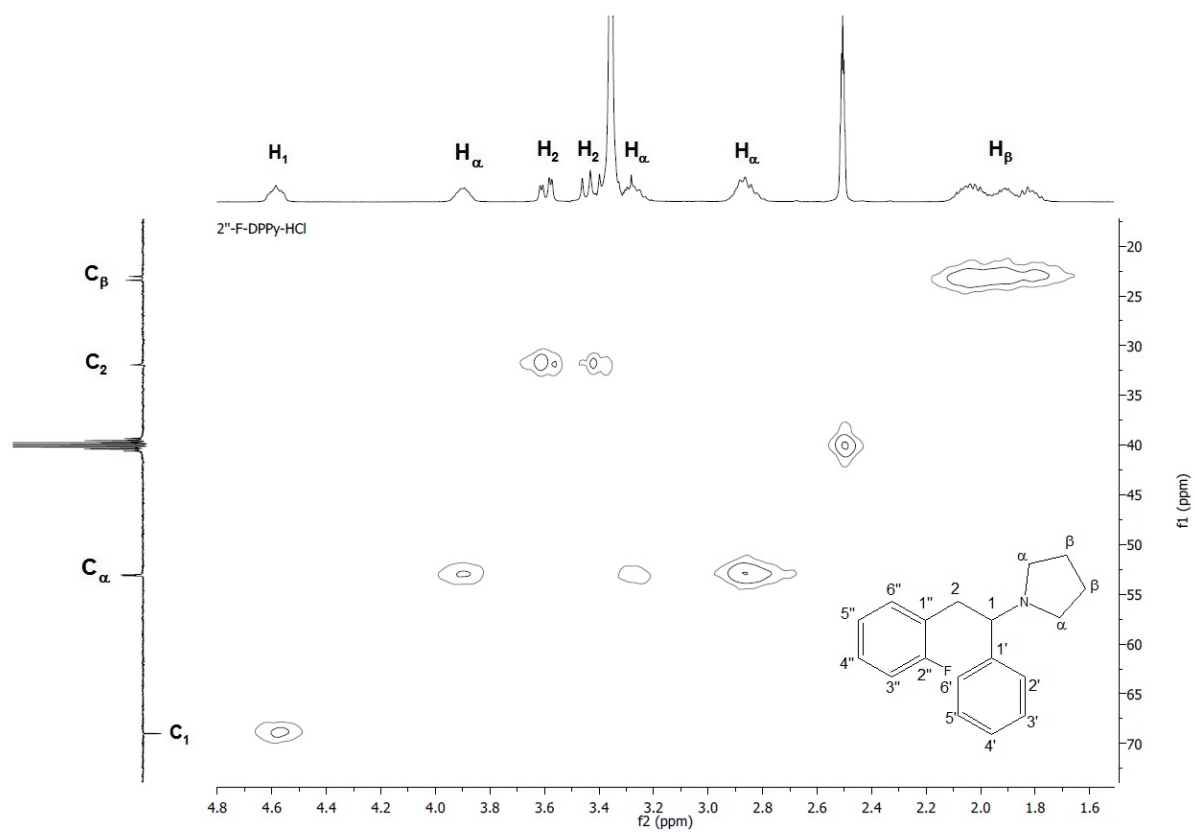
COSY-45 2-D NMR of 2''-F-DPPy HCl, zoomed in on aliphatic section (d_6 -DMSO)



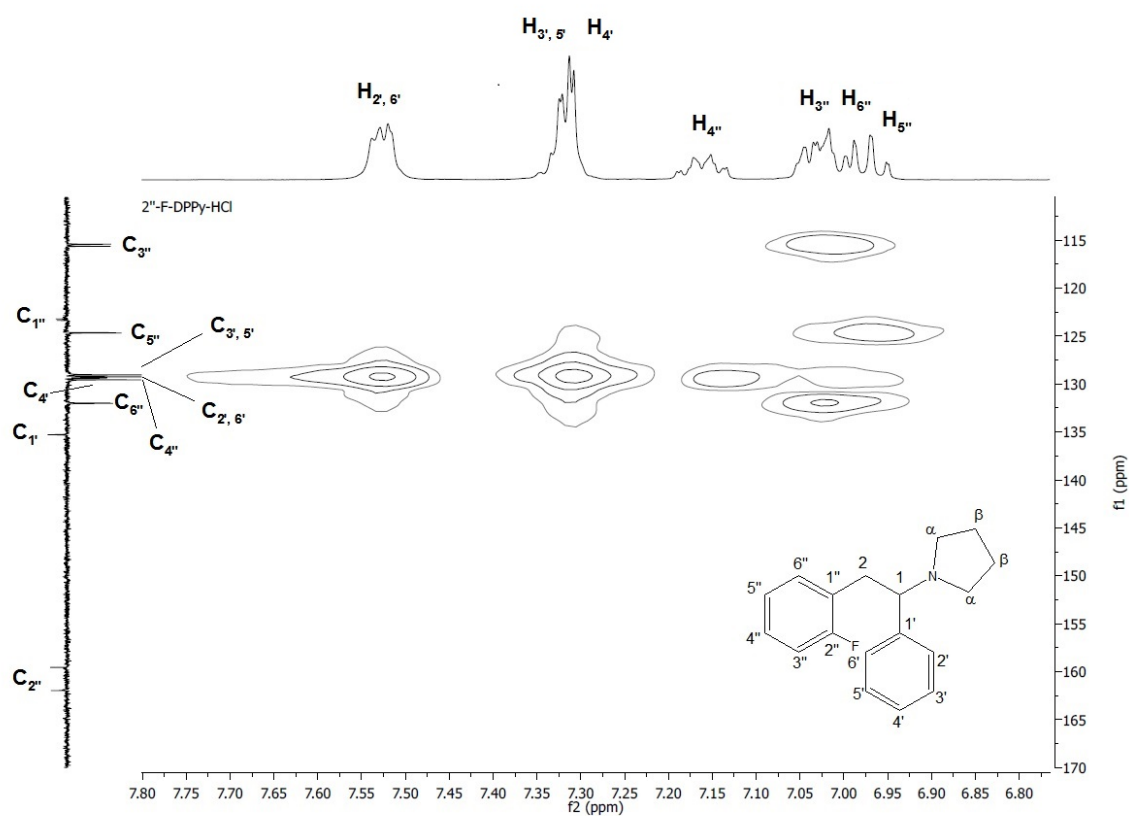
COSY-45 2-D NMR of 2''-F-DPPy HCl, zoomed in on aromatic section (d₆-DMSO)



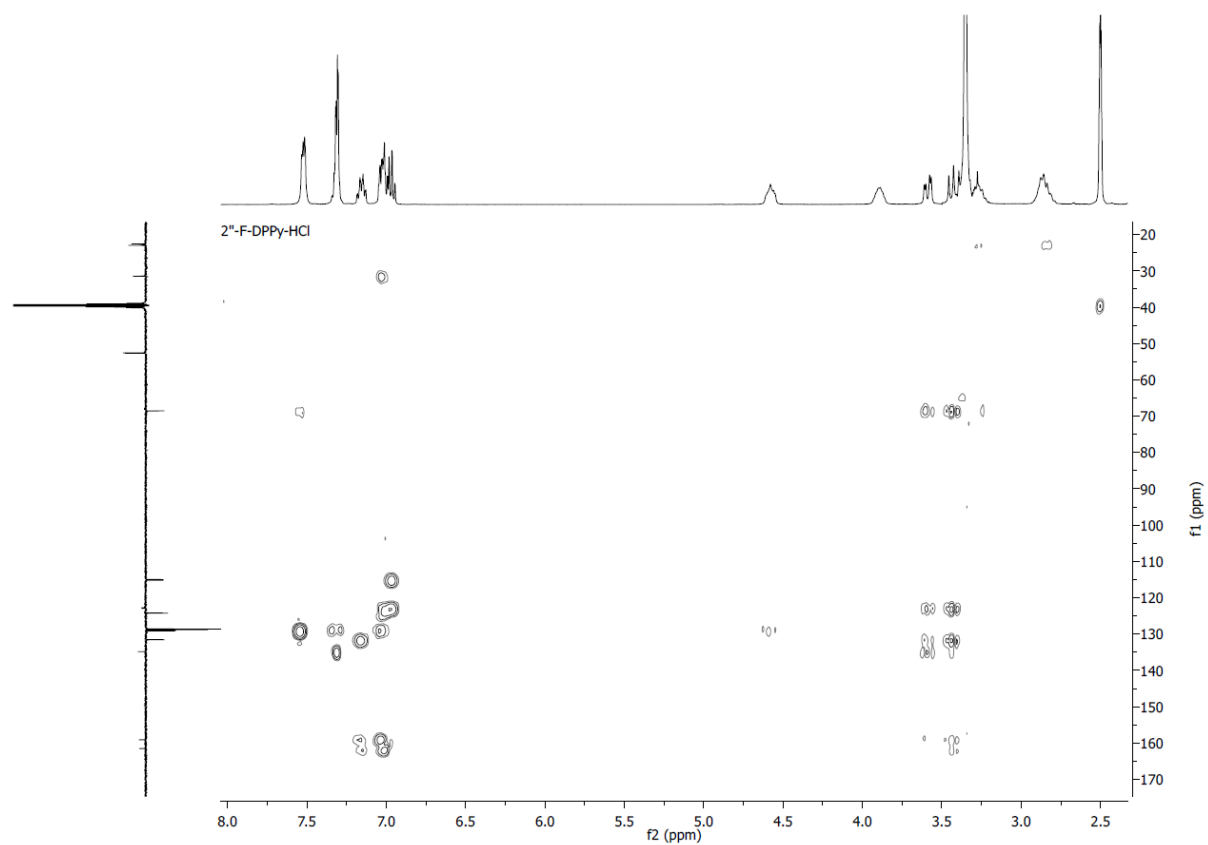
HMQC 2-D NMR of 2''-F-DPPy HCl (d_6 -DMSO)



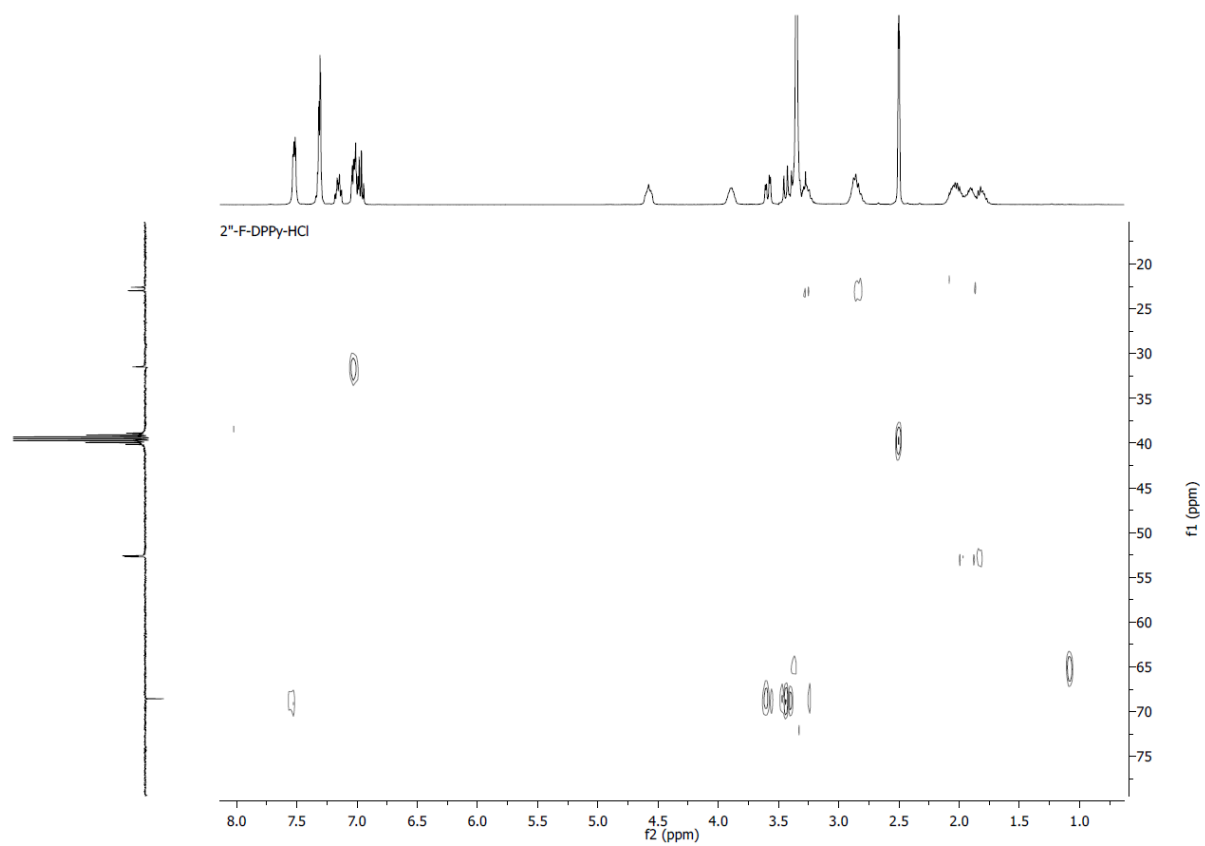
HMQC 2-D NMR of 2''-F-DPPy HCl, zoomed in on aliphatic section (d₆-DMSO)



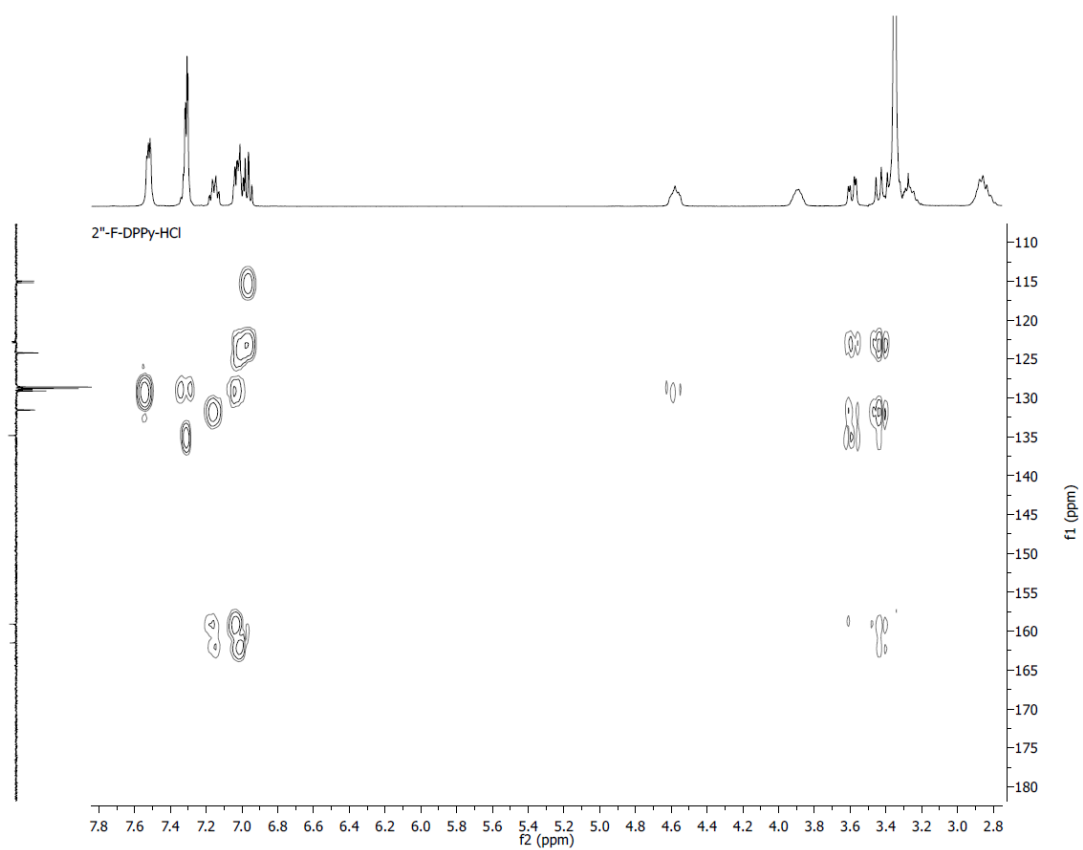
HMQC 2-D NMR of 2''-F-DPPy HCl, zoomed in on aromatic section (d_6 -DMSO)



HMBC 2-D NMR of 2''-F-DPPy HCl (d_6 -DMSO)

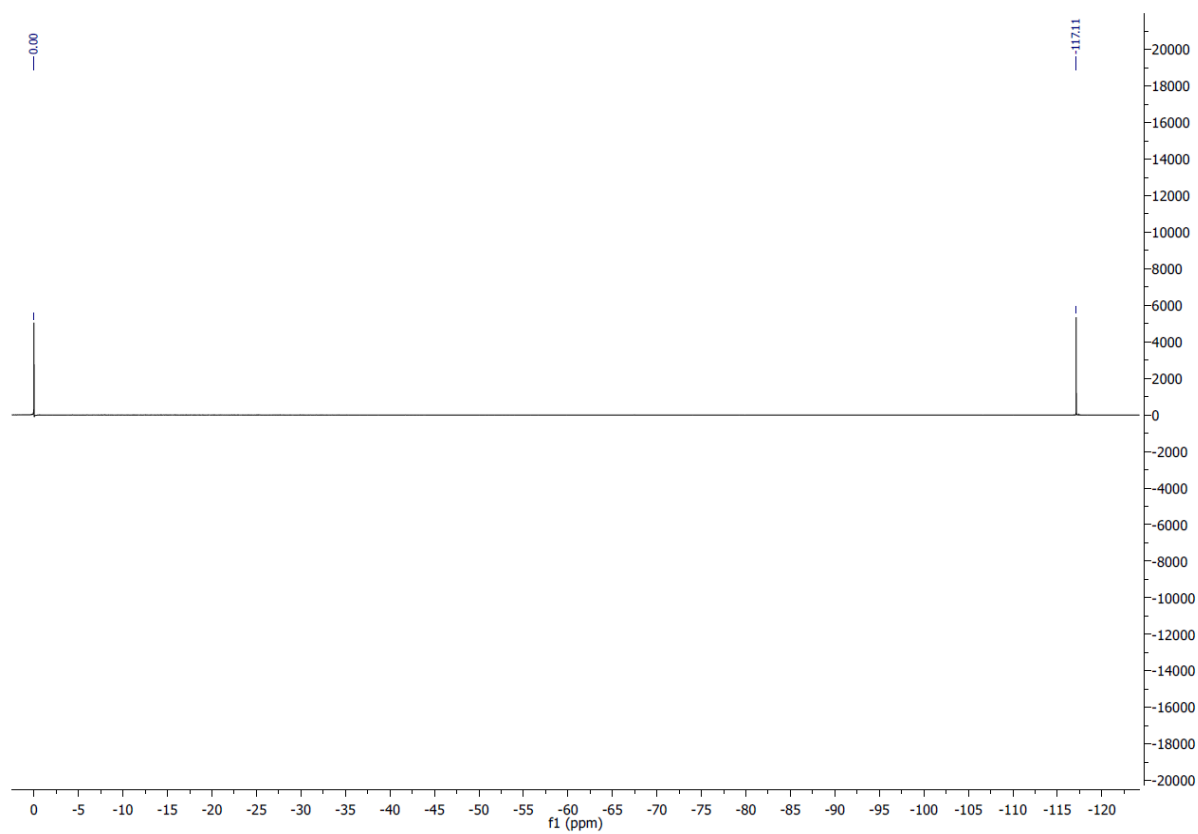


HMBC 2-D NMR of 2''-F-DPPy HCl, zoomed in on aliphatic section (d₆-DMSO)

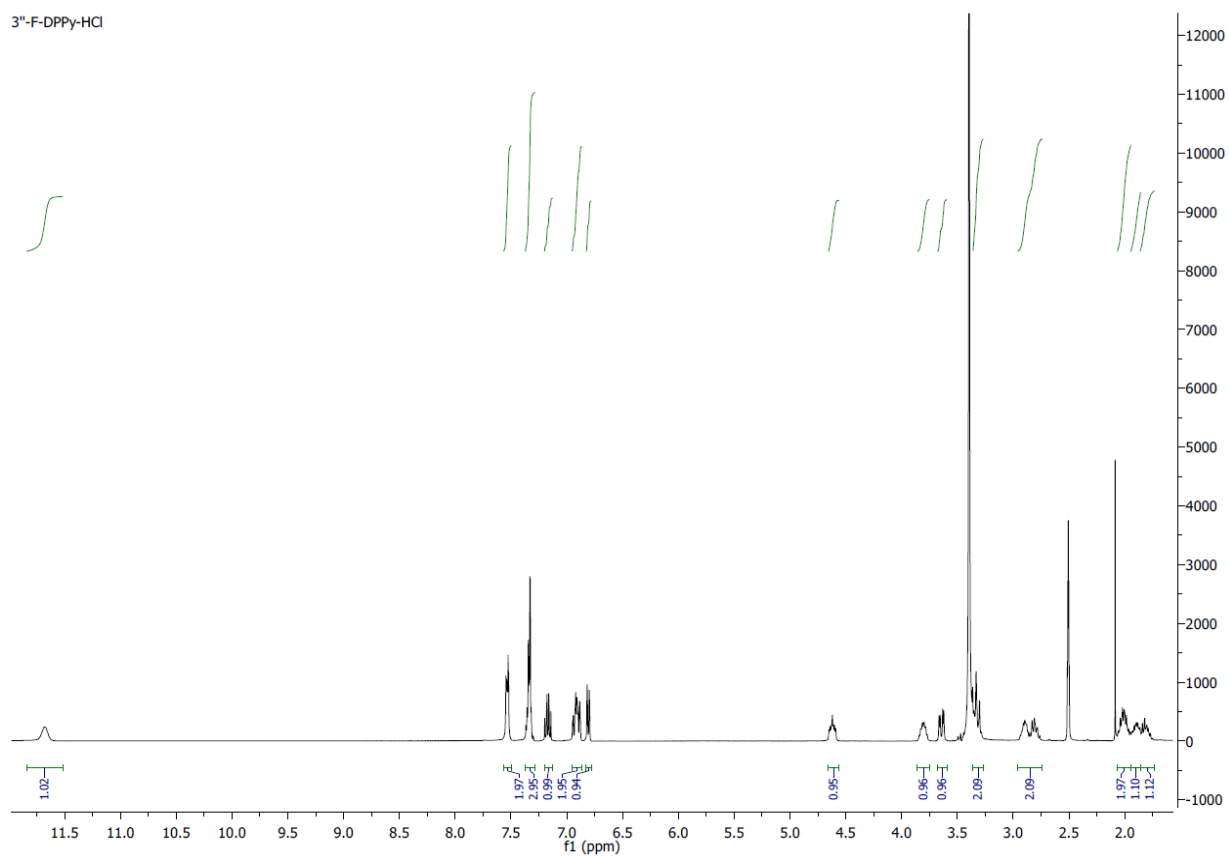


HMBC 2-D NMR of 2''-F-DPPy HCl, zoomed in on aromatic section (d₆-DMSO)

Supporting Information – Drug Testing and Analysis

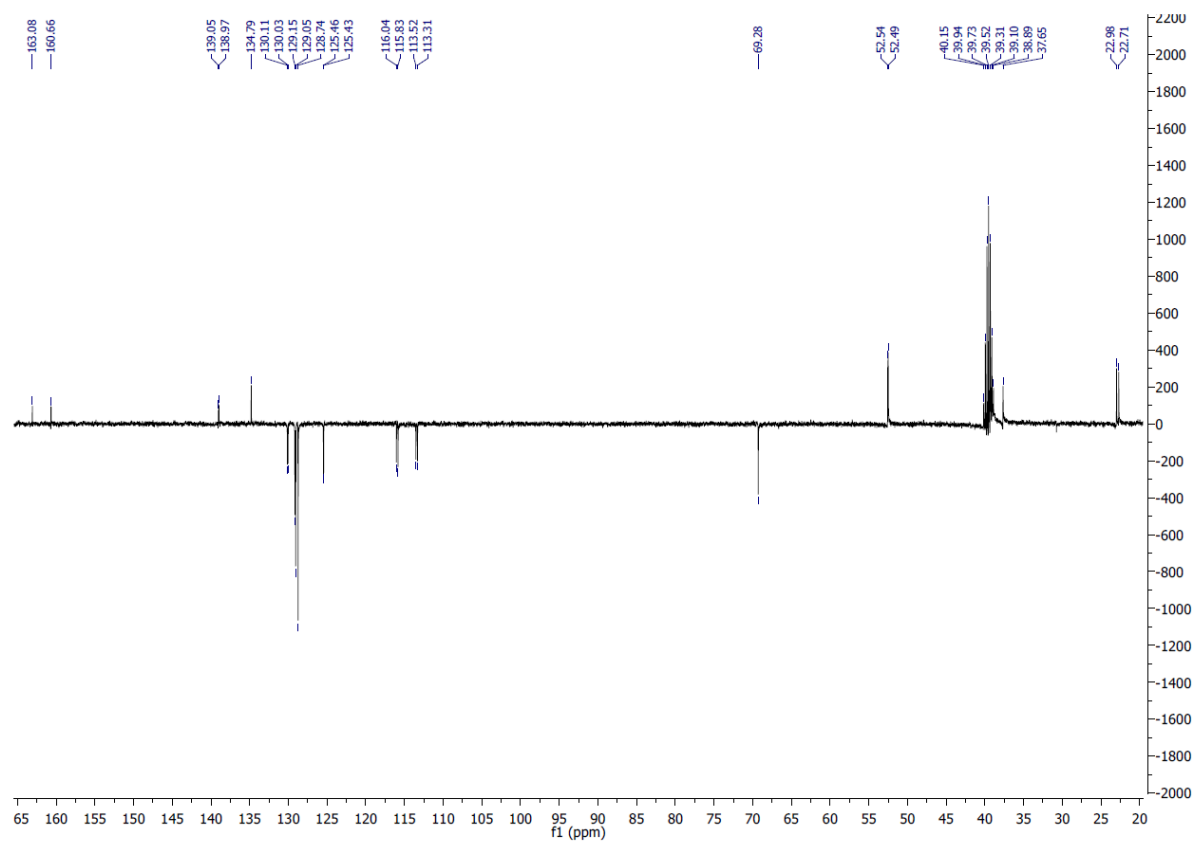


^{19}F NMR of $2''\text{-F-DPPy HCl}$ with CFCl_3 as internal reference (376.5 MHz, $\text{d}_6\text{-DMSO}$)

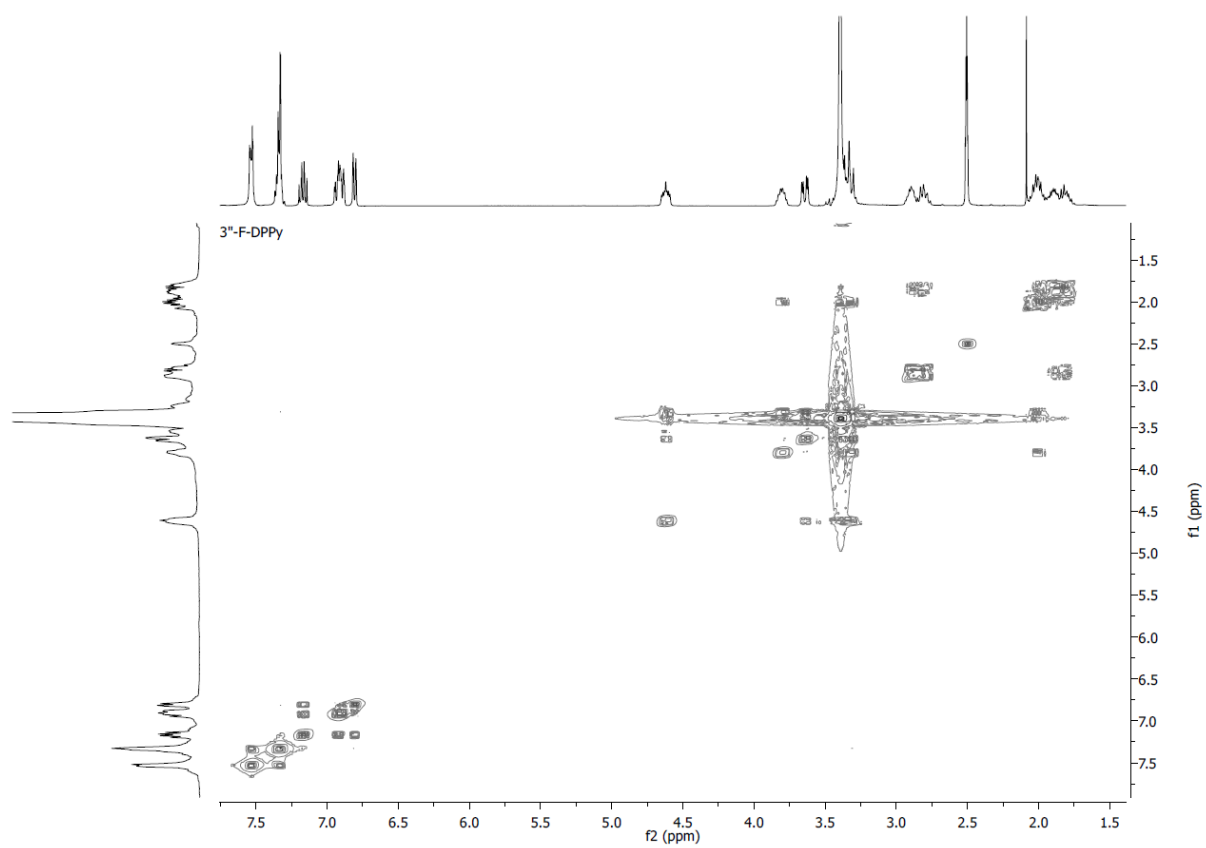


^1H NMR of 3''-F-DPPy HCl (400 MHz, $\text{d}_6\text{-DMSO}$)

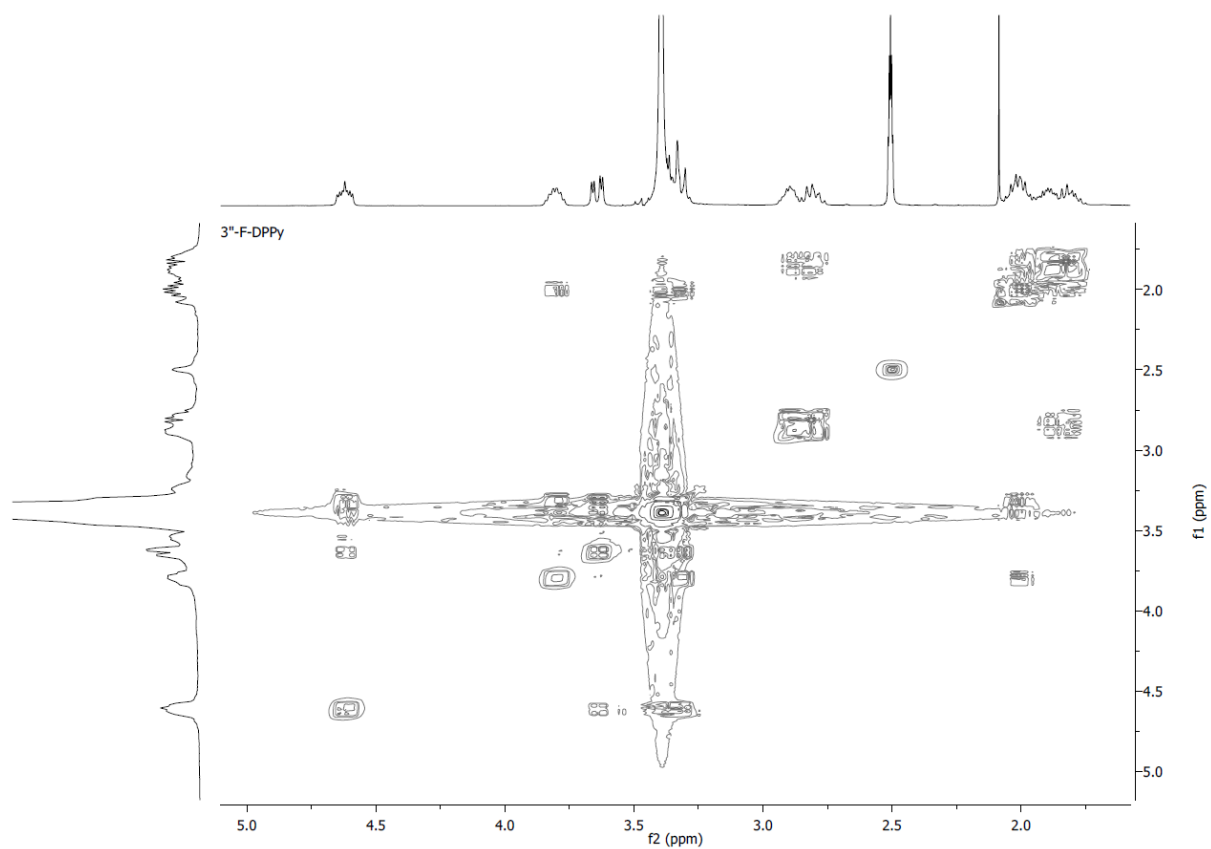
Supporting Information – Drug Testing and Analysis



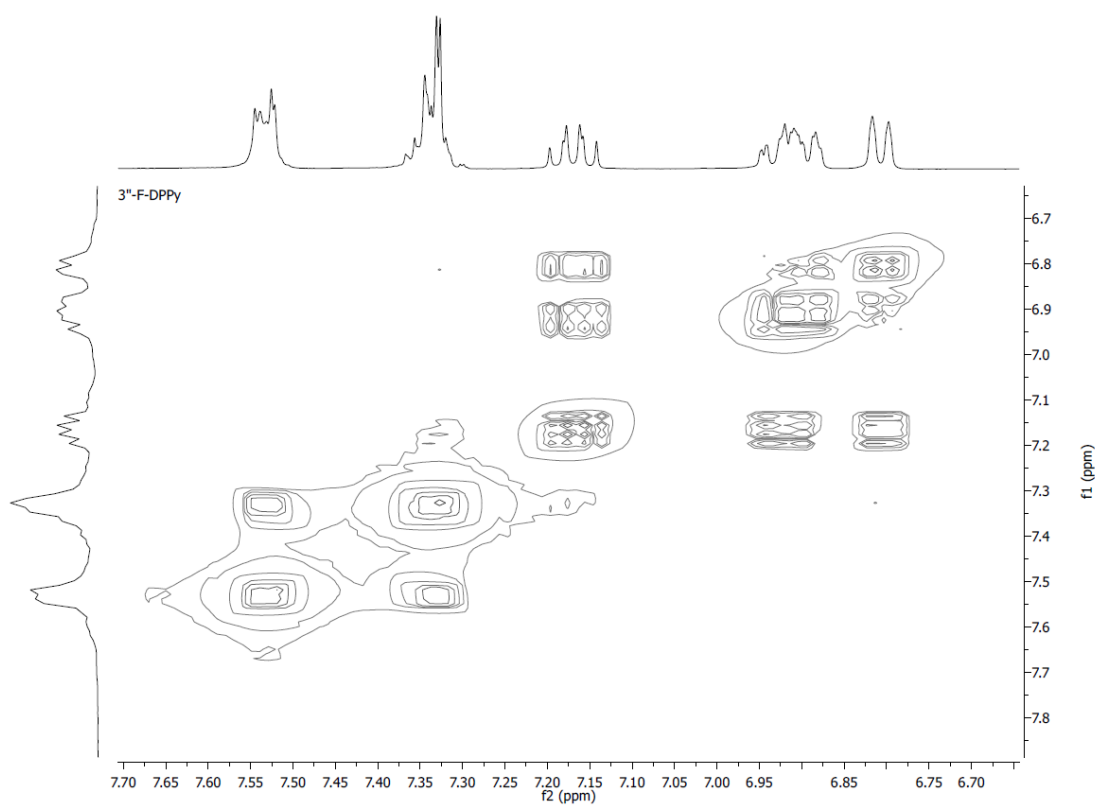
^{13}C PENDANT NMR of 3''-F-DPPy HCl (101 MHz, $\text{d}_6\text{-DMSO}$)



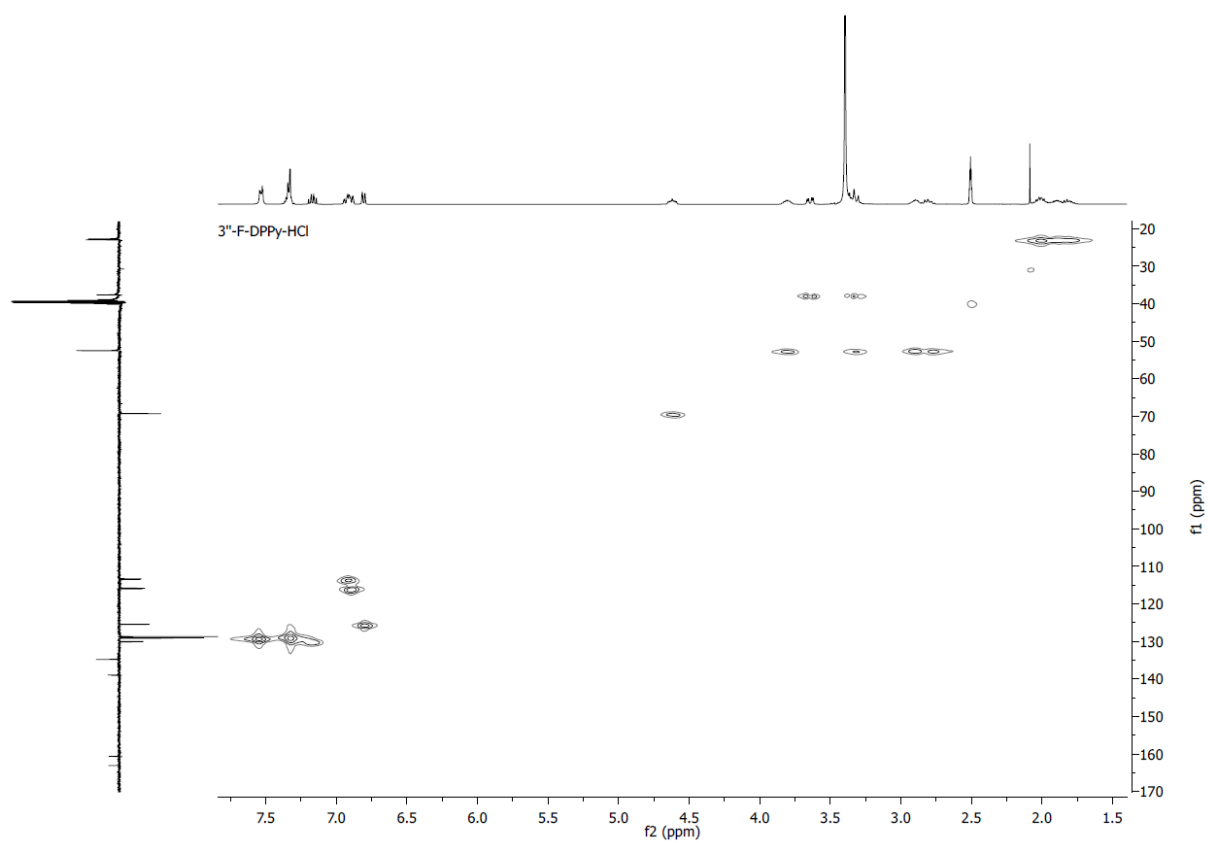
COSY-45 2-D NMR of 3''-F-DPPy HCl (d_6 -DMSO)



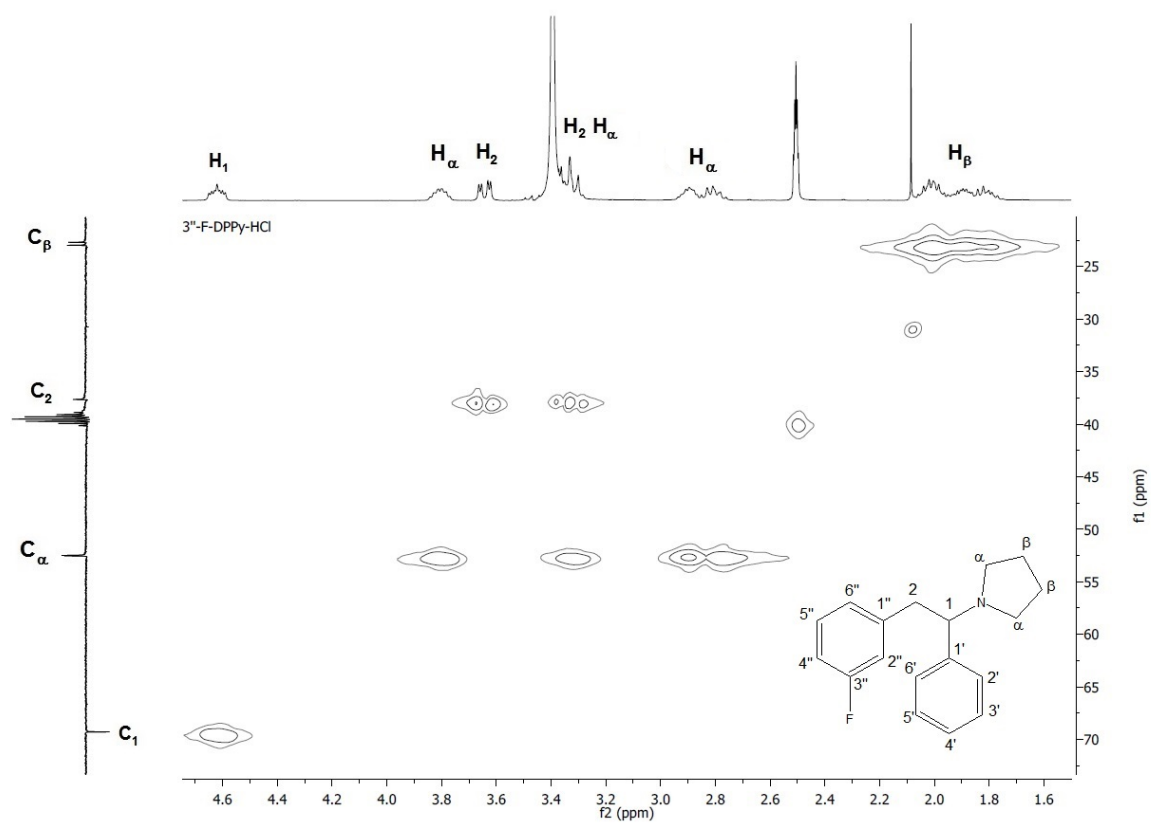
COSY-45 2-D NMR of 3''-F-DPPy HCl, zoomed in on aliphatic section (d₆-DMSO)



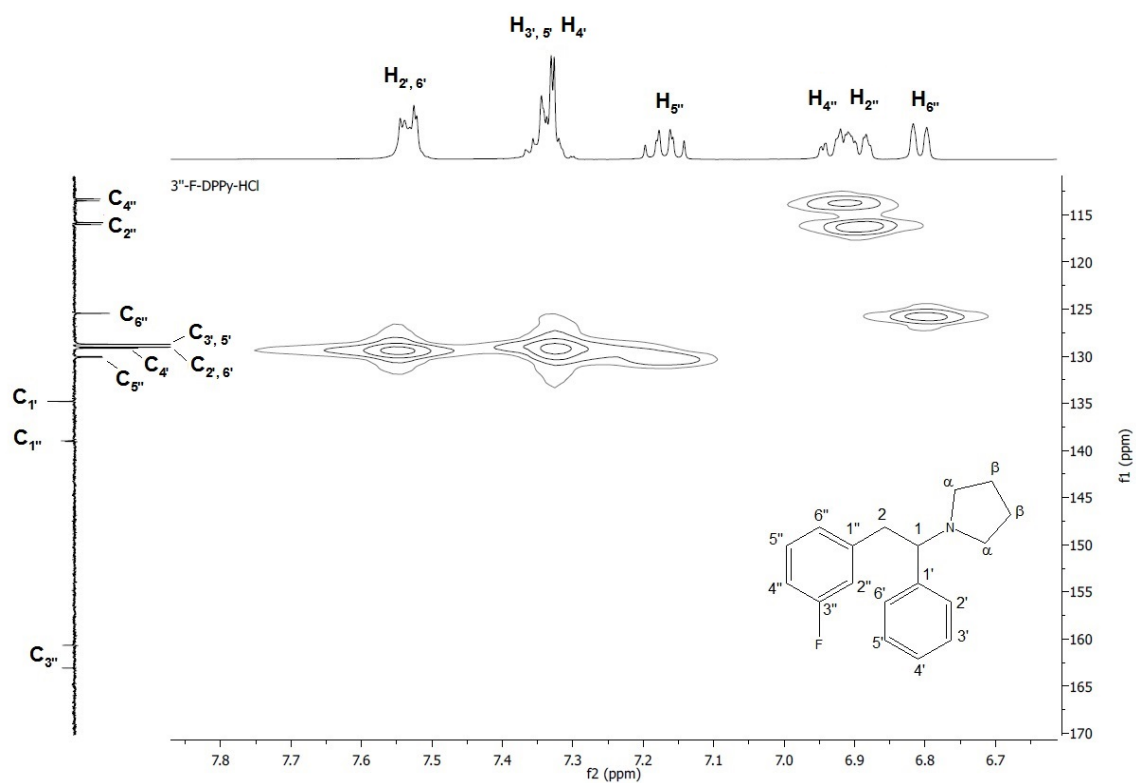
COSY-45 2-D NMR of 3''-F-DPPy HCl, zoomed in on aromatic section (d₆-DMSO)

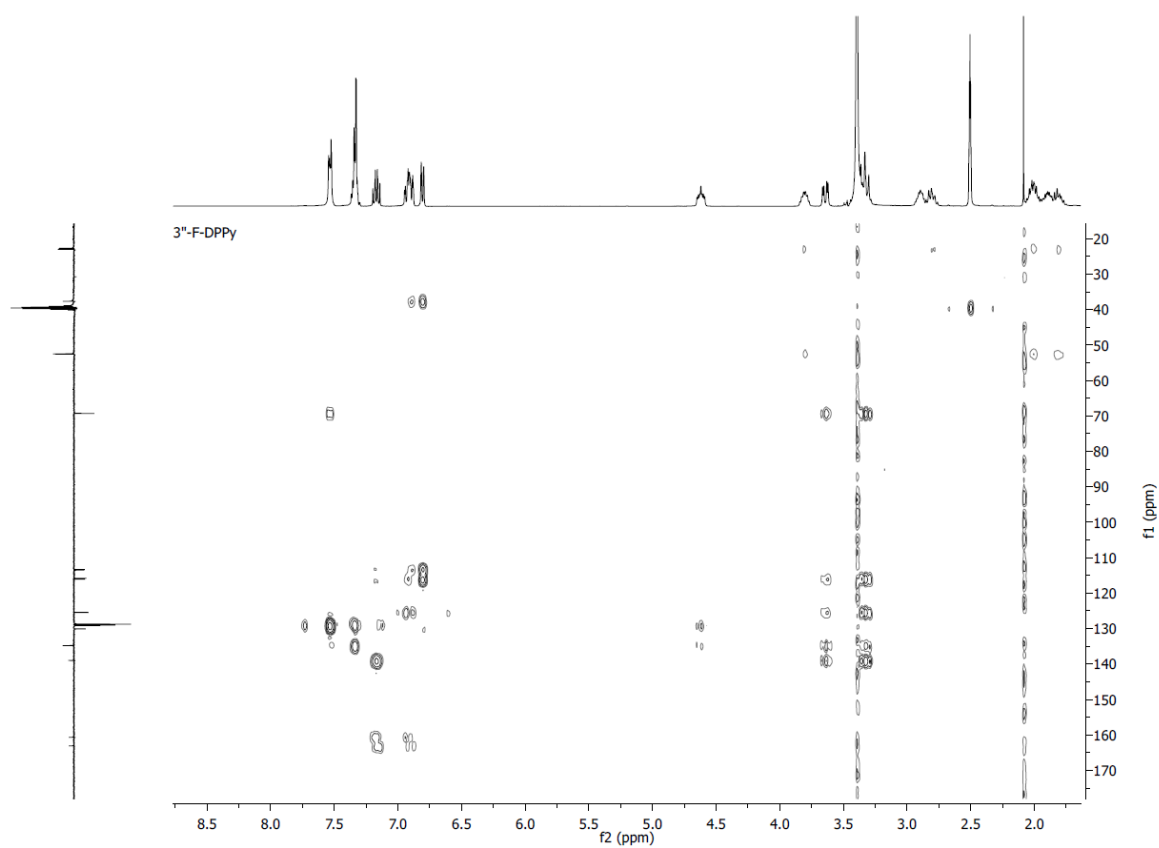


HMQC 2-D NMR of 3''-F-DPPy HCl (d_6 -DMSO)

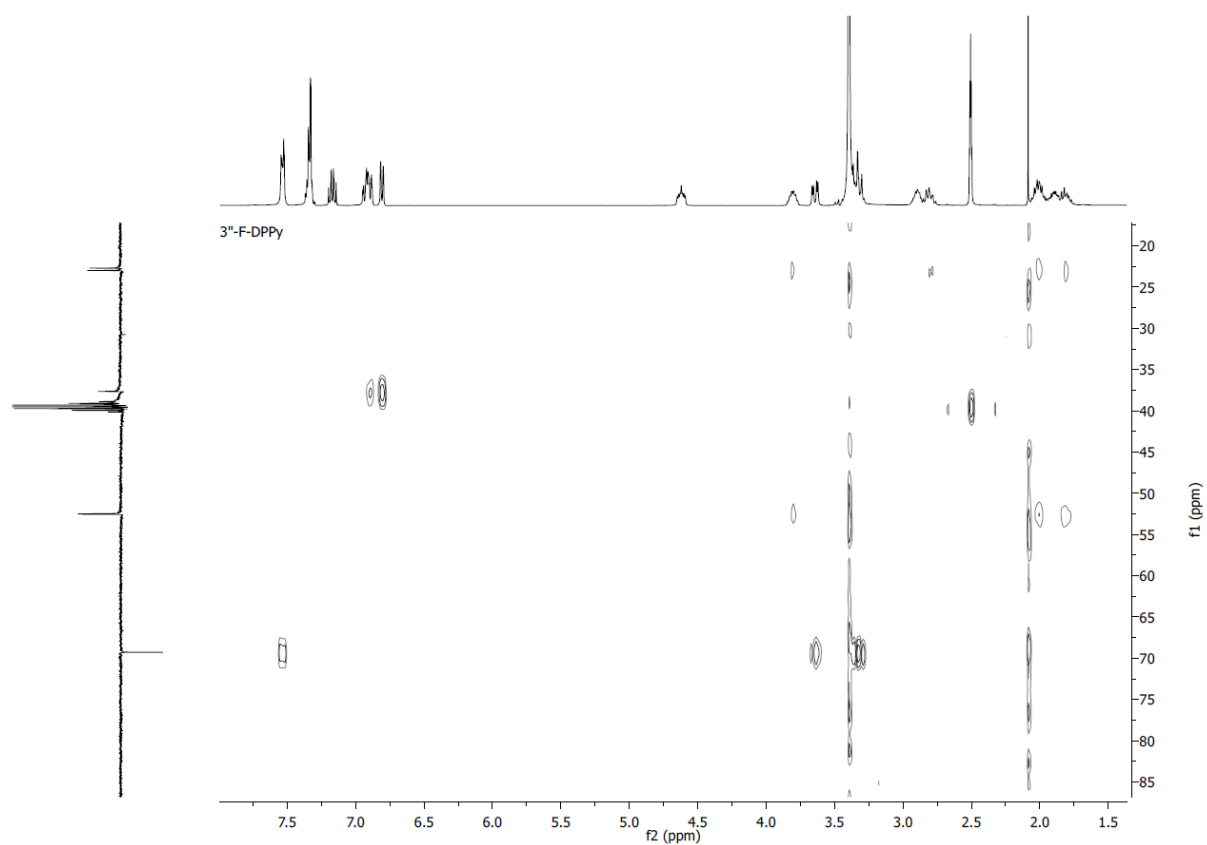


HMQC 2-D NMR of 3''-F-DPPy HCl, zoomed in on aliphatic section; acetone integration value of 0.64; 2% (w/w) based on peak area (d₆-DMSO)

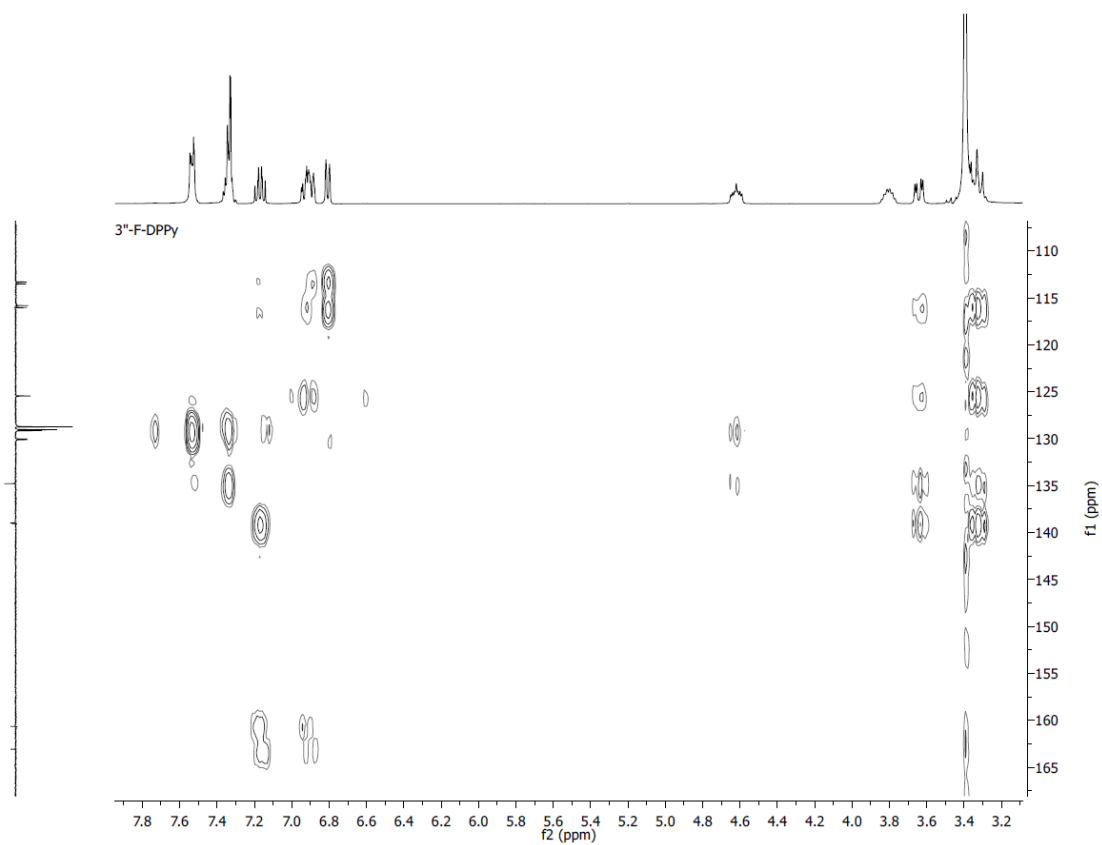
HMQC 2-D NMR of 3''-F-DPPy HCl, zoomed in on aromatic section (d_6 -DMSO)



HMBC 2-D NMR of 3''-F-DPPy HCl (d_6 -DMSO)

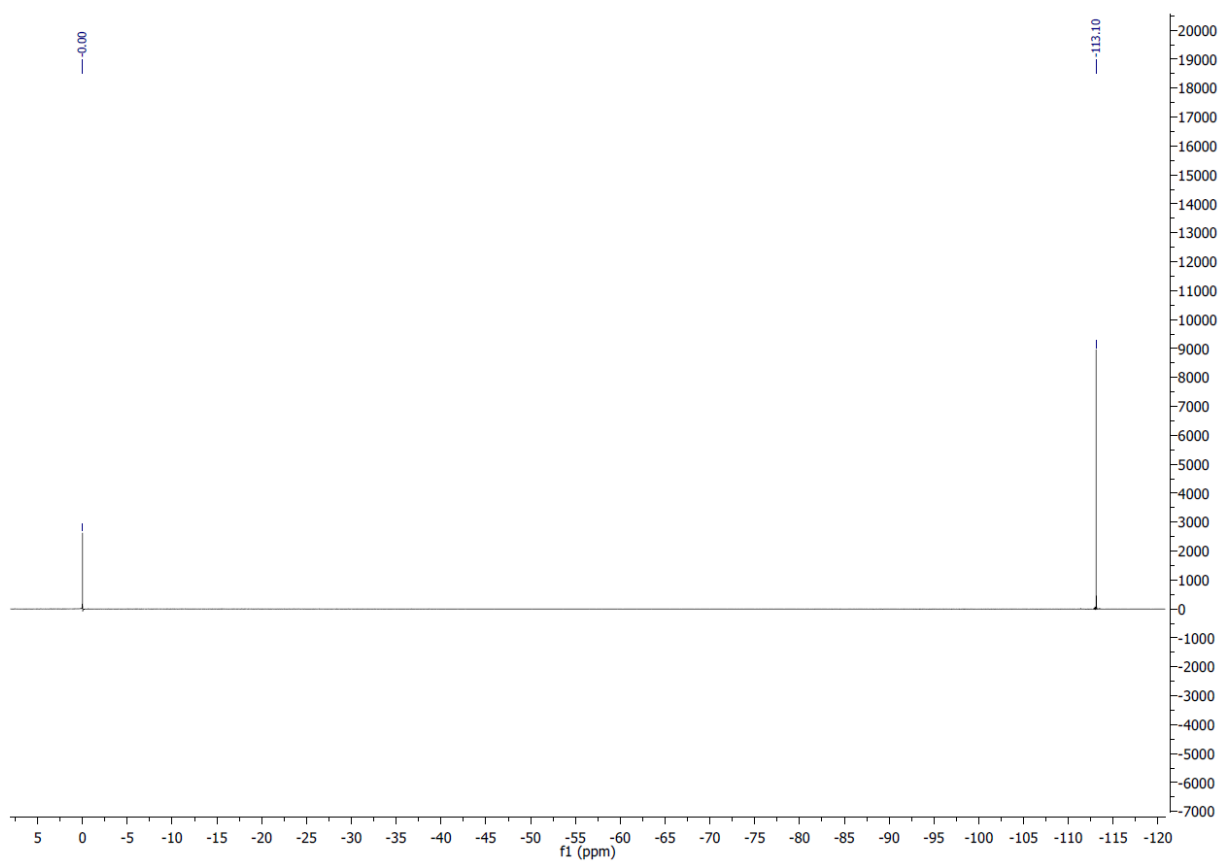


HMBC 2-D NMR of 3''-F-DPPy HCl, zoomed in on the aliphatic section (d₆-DMSO)

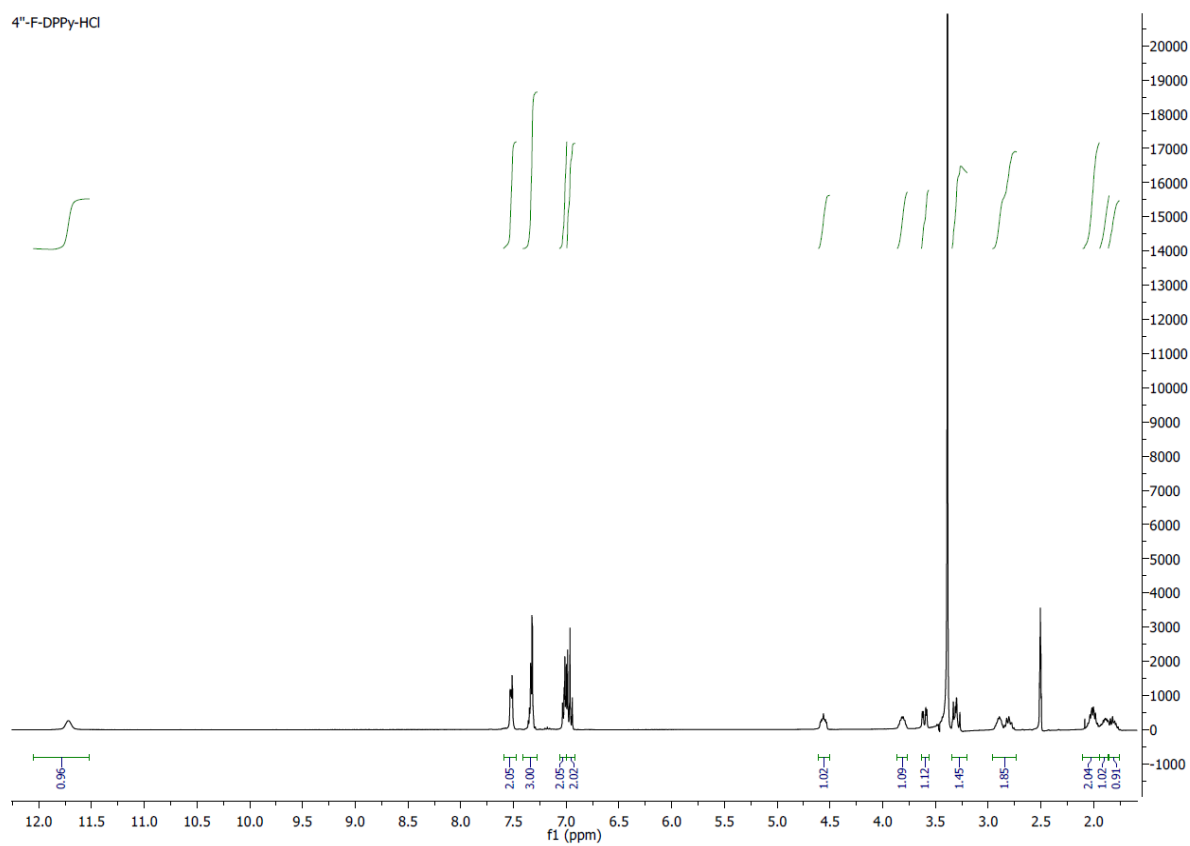


HMBC 2-D NMR of 3''-F-DPPy HCl, zoomed in on the aromatic section (d₆-DMSO)

Supporting Information – Drug Testing and Analysis

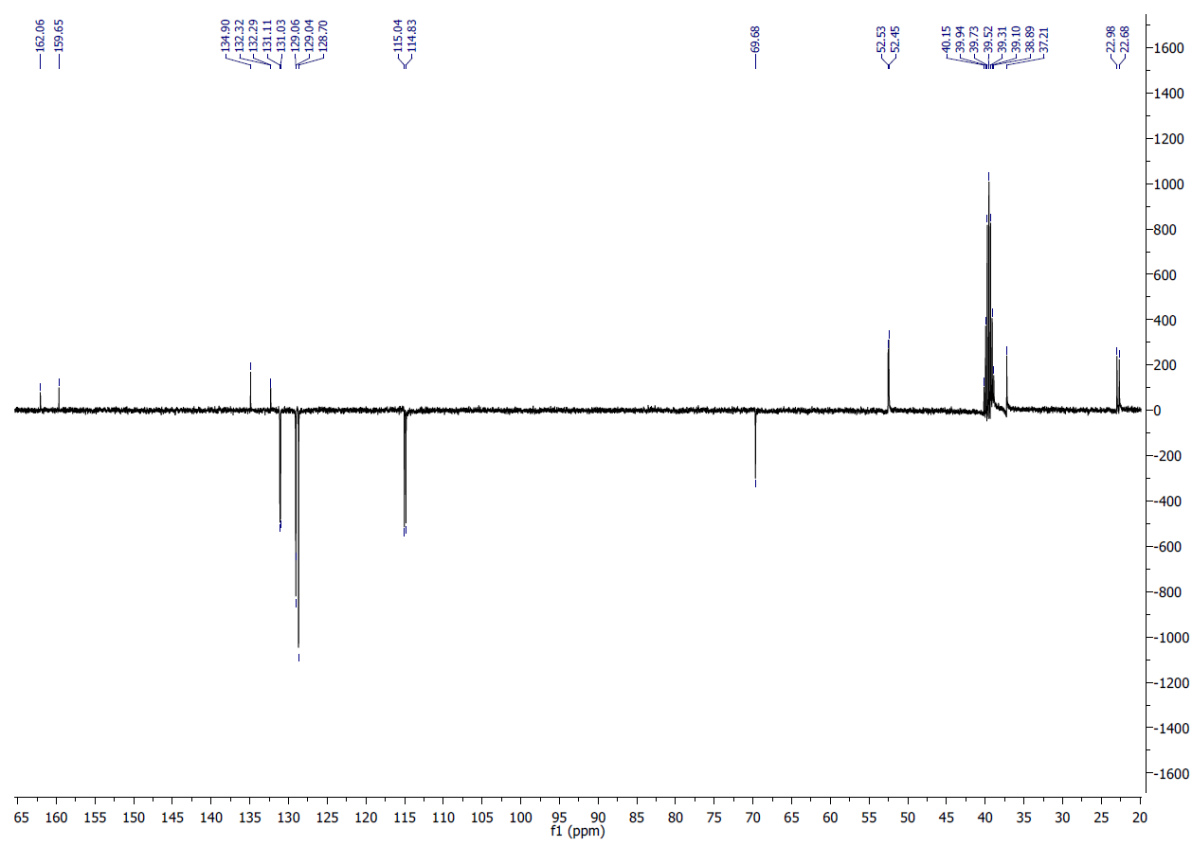


^{19}F NMR of 3''-F-DPPy HCl with CFCl_3 as internal reference (376.5 MHz, d_6 -DMSO)

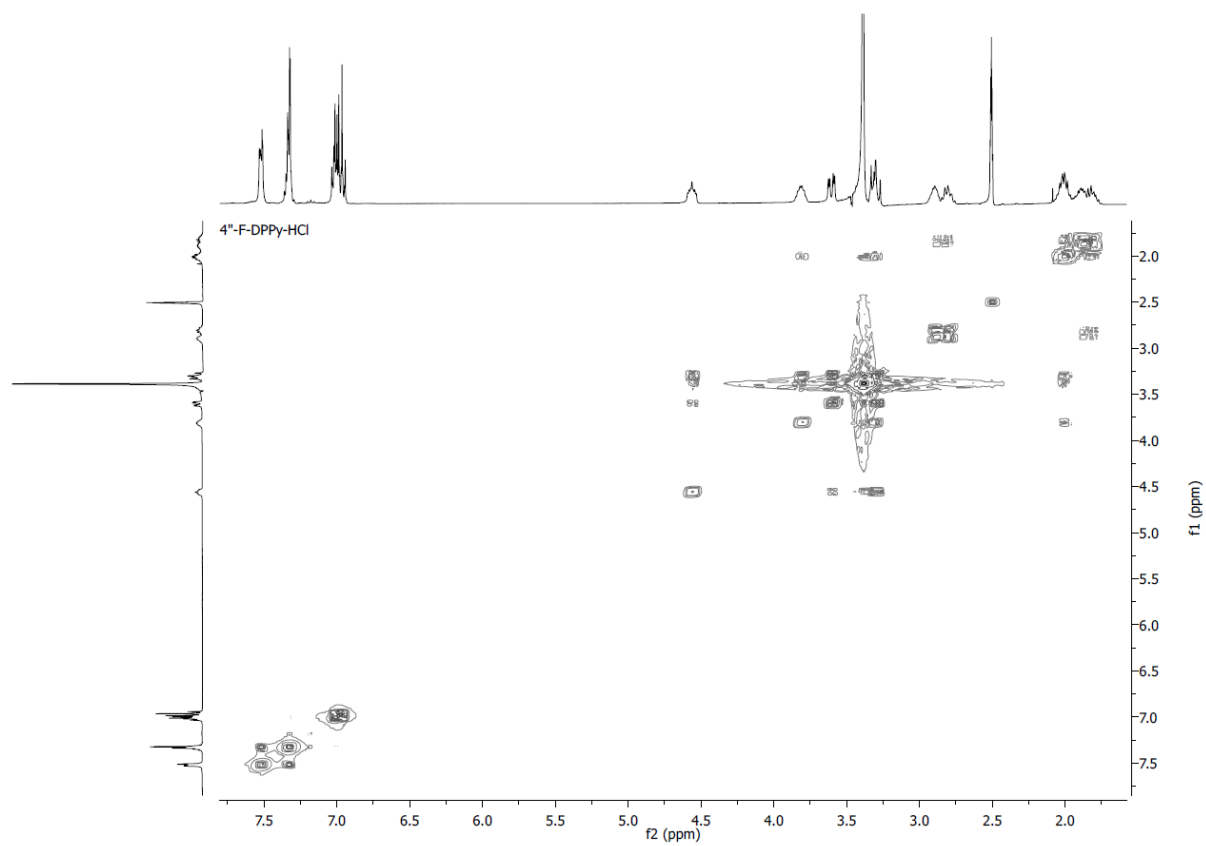


^1H NMR of 4''-F-DPPy HCl (400 MHz, $\text{d}_6\text{-DMSO}$)

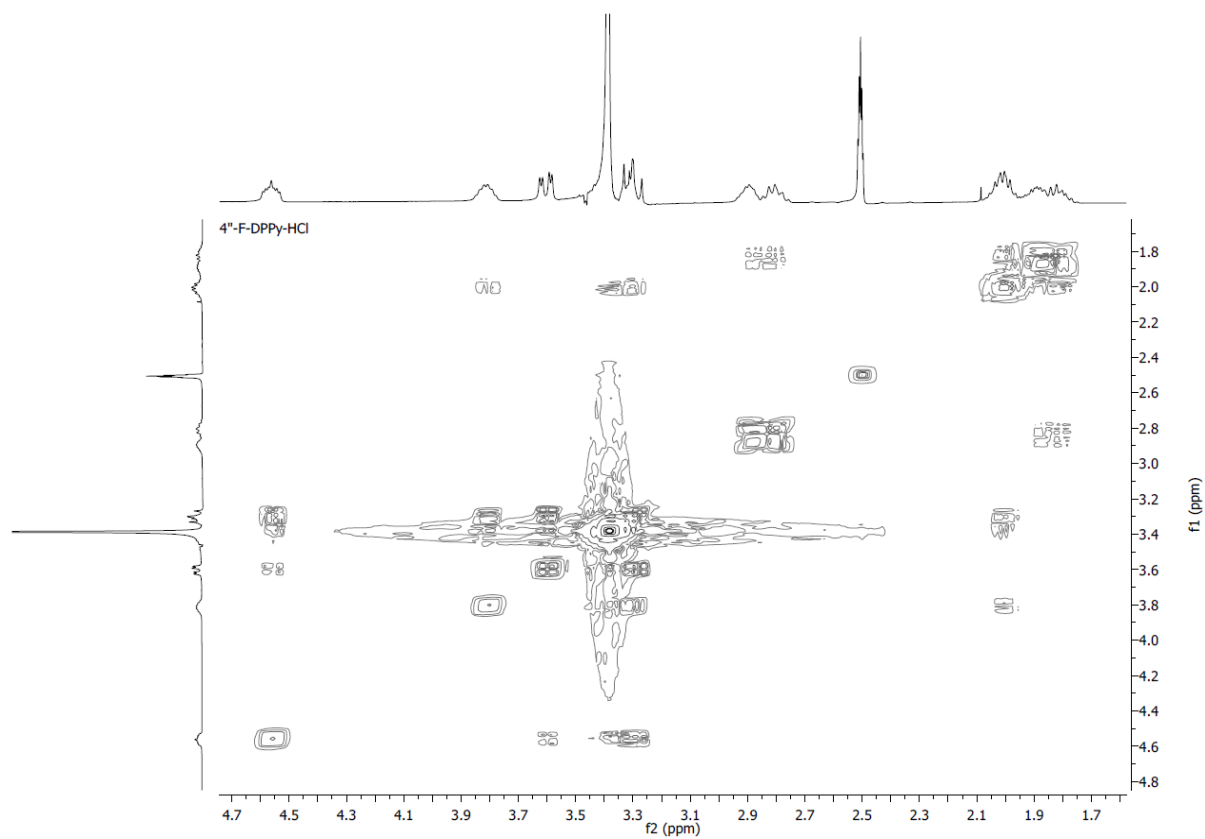
Supporting Information – Drug Testing and Analysis



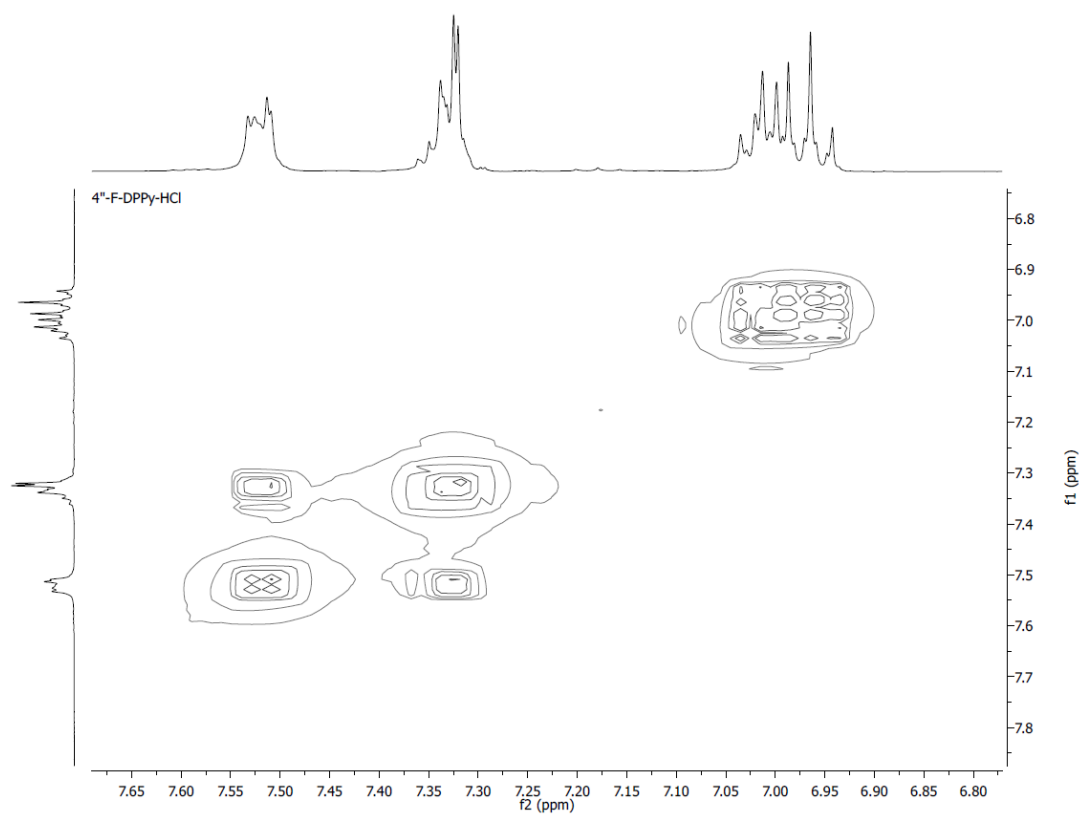
^{13}C PENDANT NMR of 4''-F-DPPy HCl (101 MHz, $\text{d}_6\text{-DMSO}$)



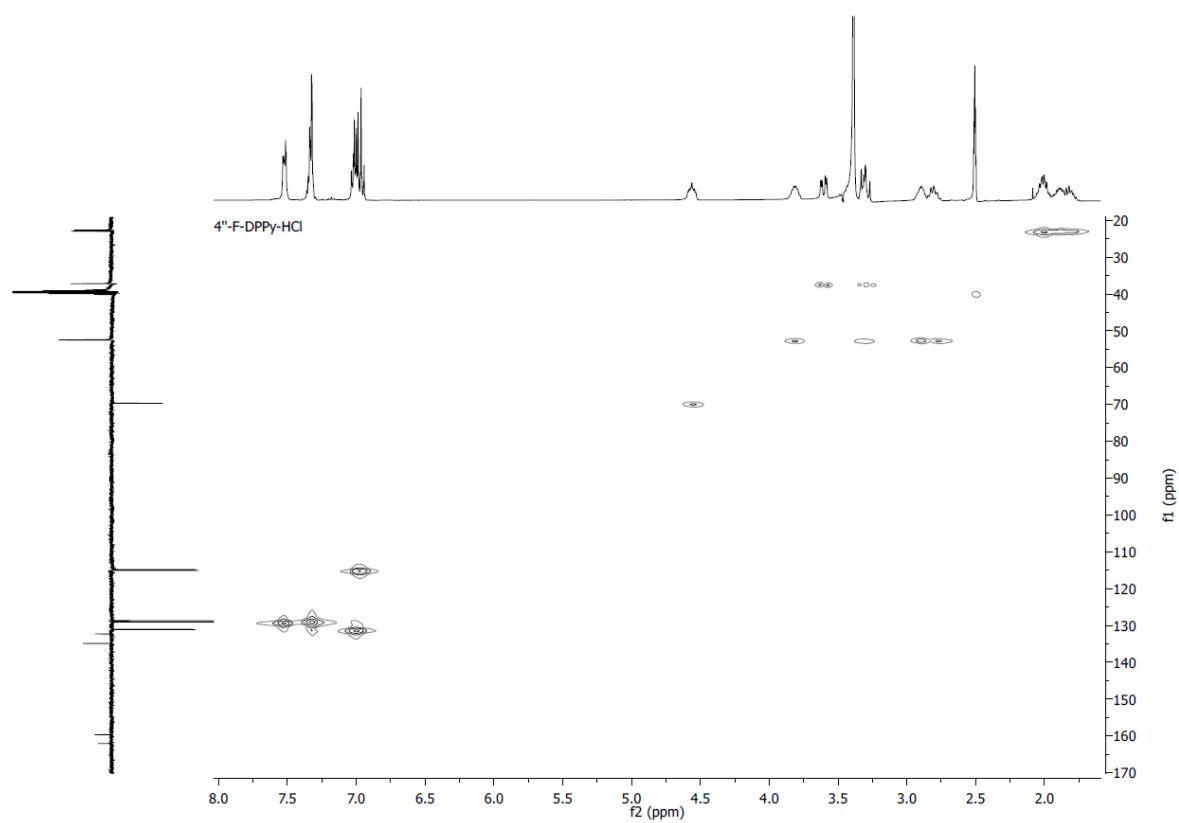
COSY-45 2-D NMR of 4''-F-DPPy HCl (d₆-DMSO)



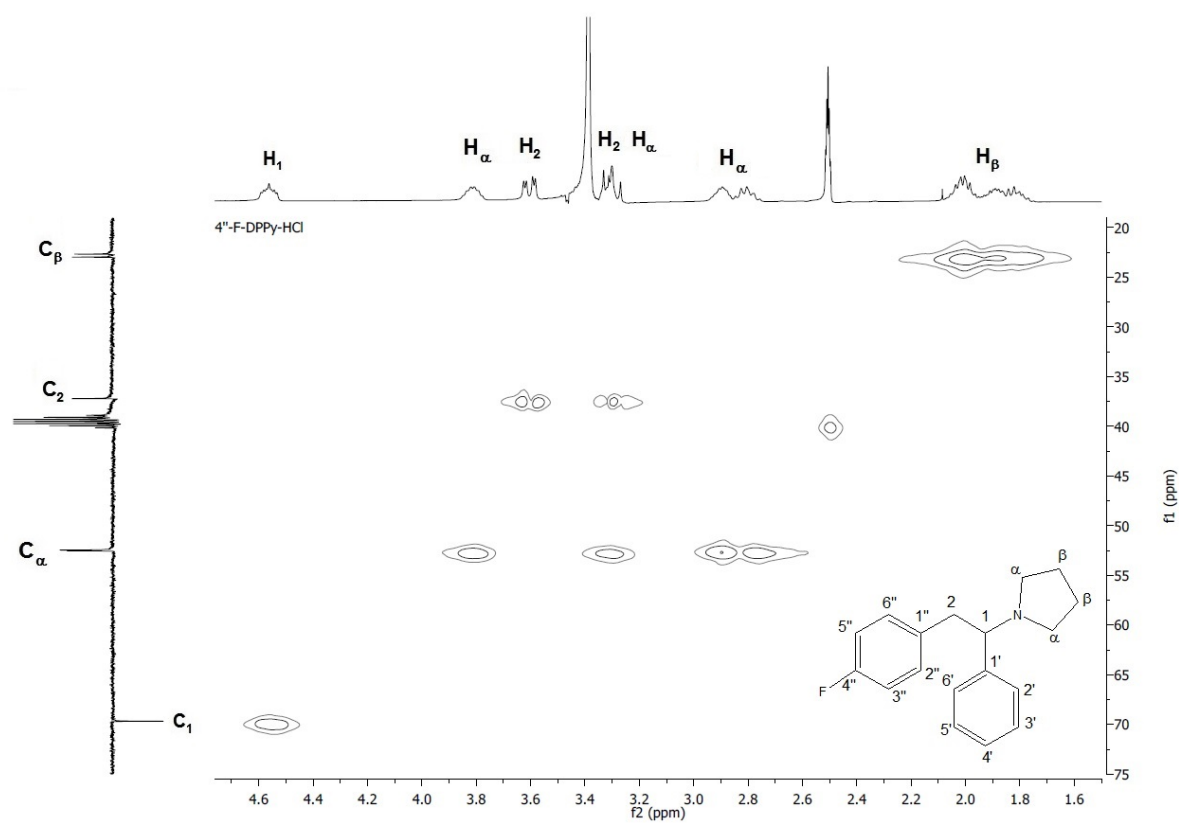
COSY-45 2-D NMR of 4''-F-DPPy HCl, zoomed in on the aliphatic section (d₆-DMSO)



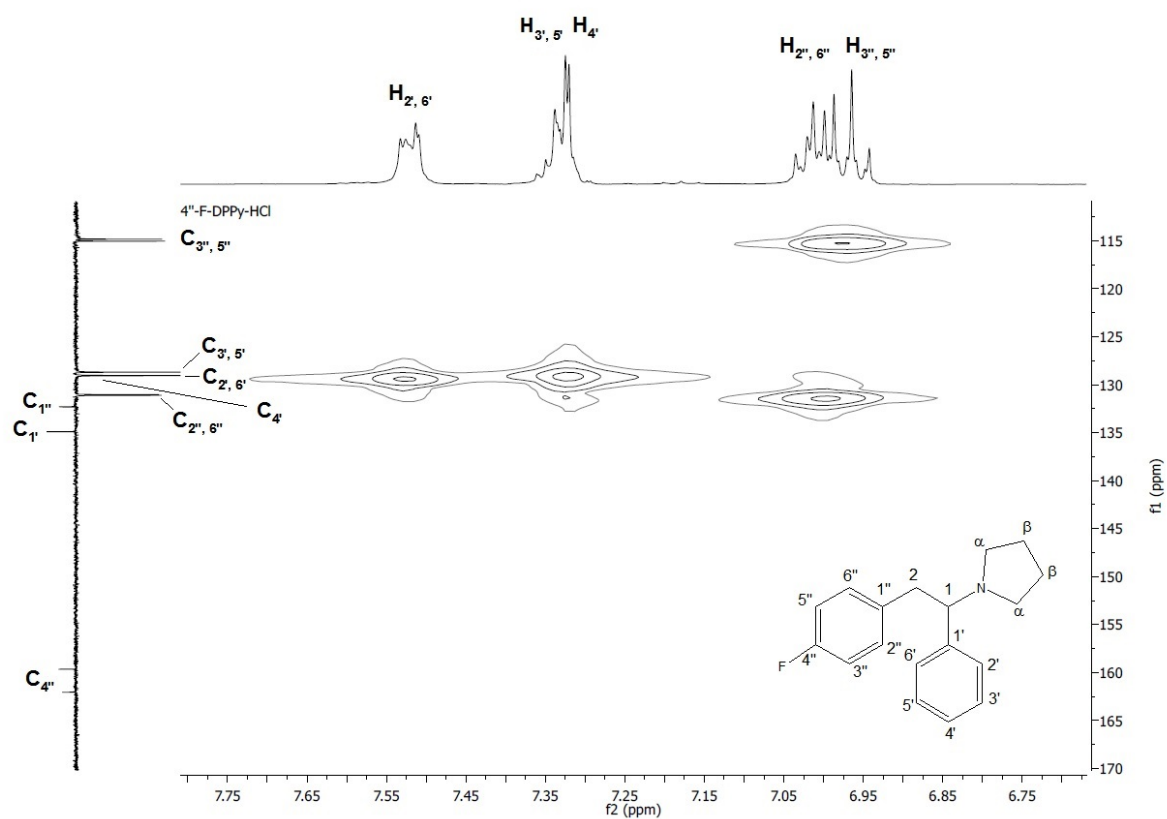
COSY-45 2-D NMR of 4''-F-DPPy HCl, zoomed in on the aromatic section (d_6 -DMSO)



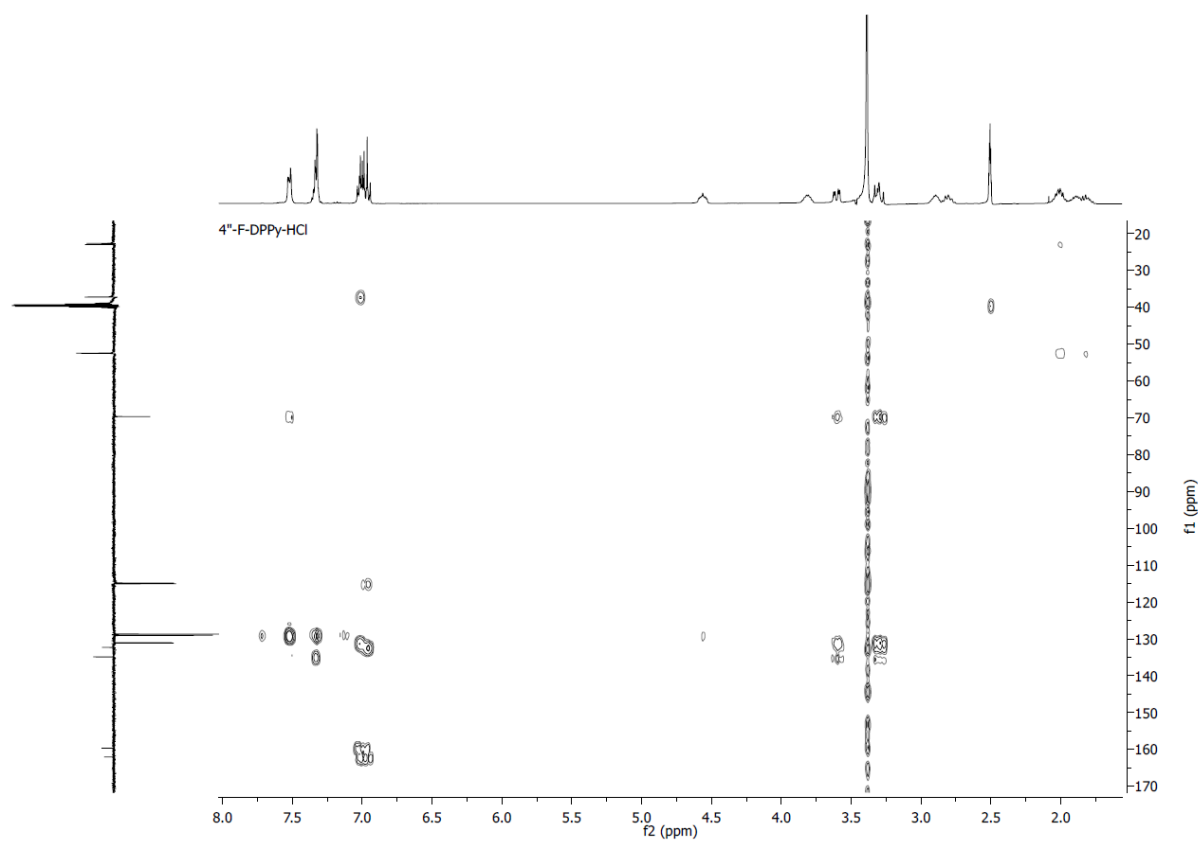
HMQC 2-D NMR of 4''-F-DPPy HCl (d₆-DMSO)



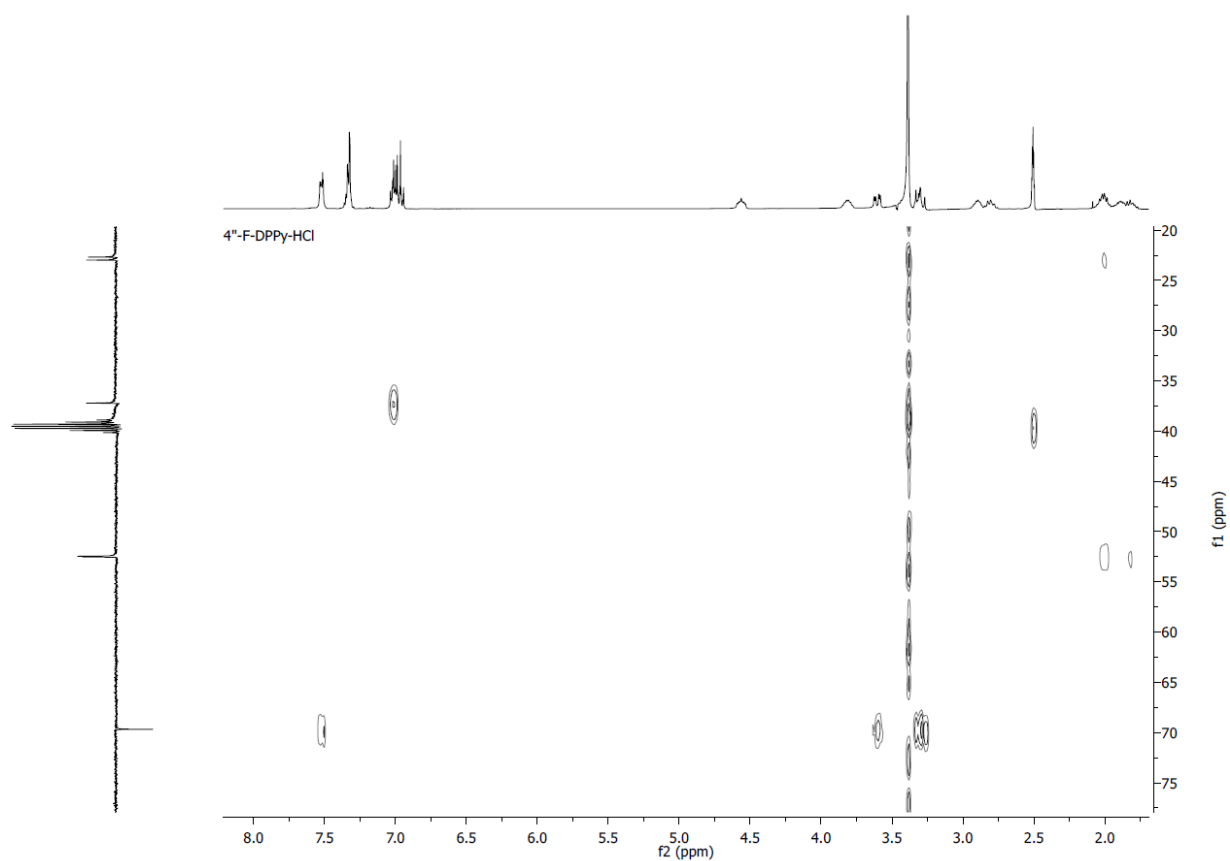
HMQC 2-D NMR of 4''-F-DPPy HCl, zoomed in on the aliphatic section (d_6 -DMSO)



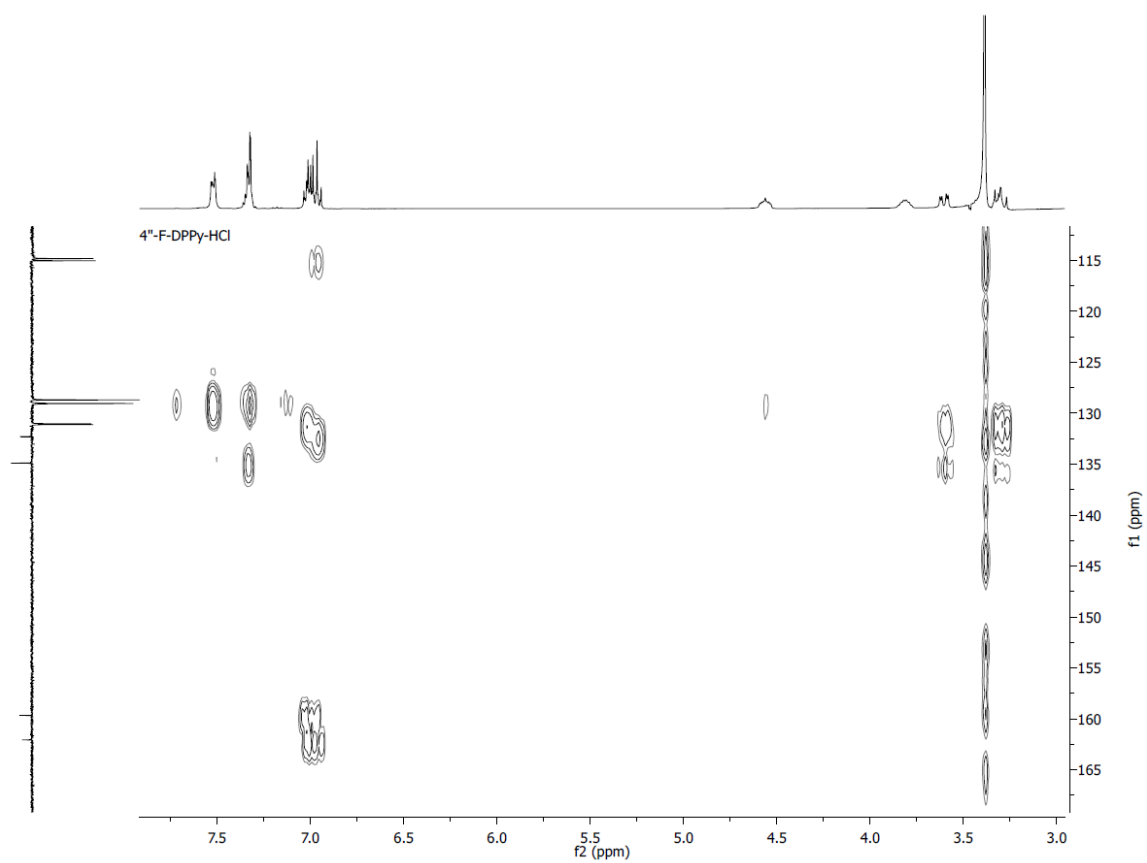
HMQC 2-D NMR of 4''-F-DPPy HCl, zoomed in on the aromatic section (d_6 -DMSO)



HMBC 2-D NMR of 4''-F-DPPy HCl (d_6 -DMSO)

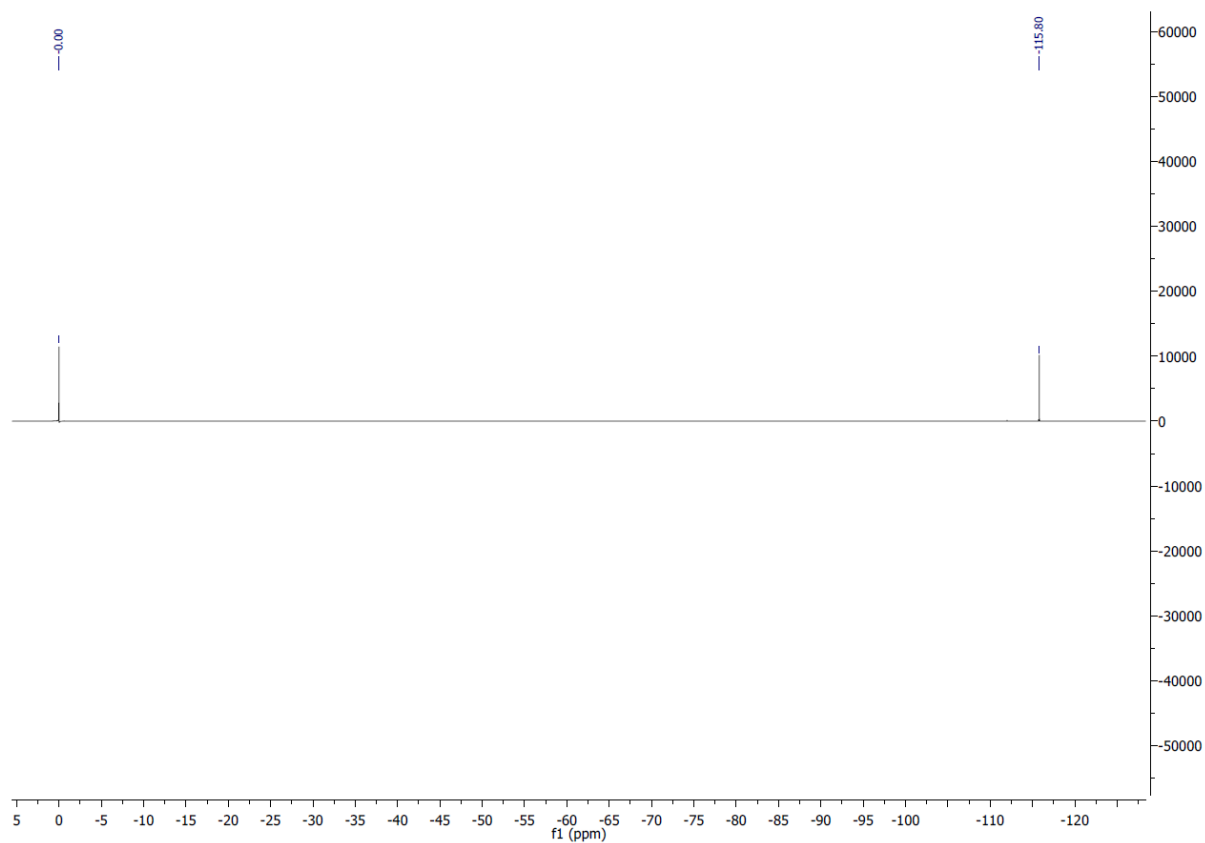


HMBC 2-D NMR of 4''-F-DPPy HCl, zoomed in on the aliphatic section (d₆-DMSO)

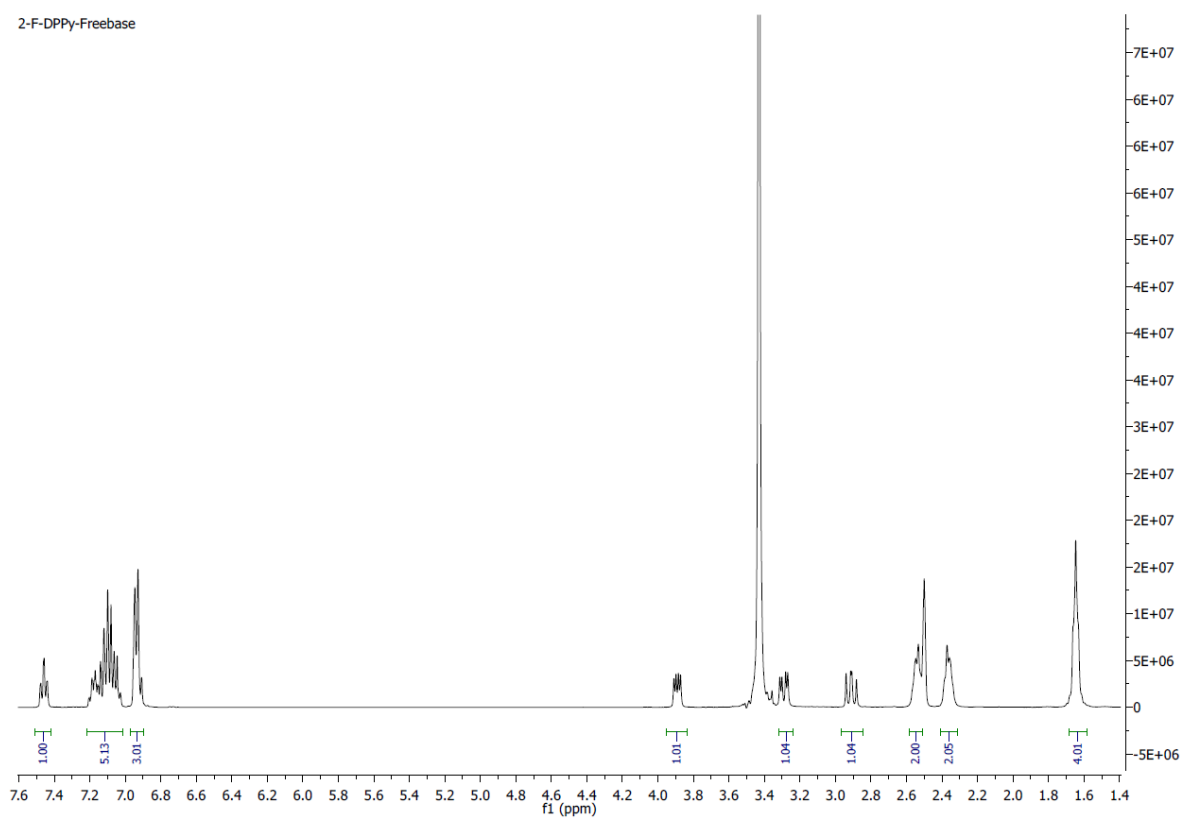


HMBC 2-D NMR of 4''-F-DPPy HCl, zoomed in on the aromatic section (d₆-DMSO)

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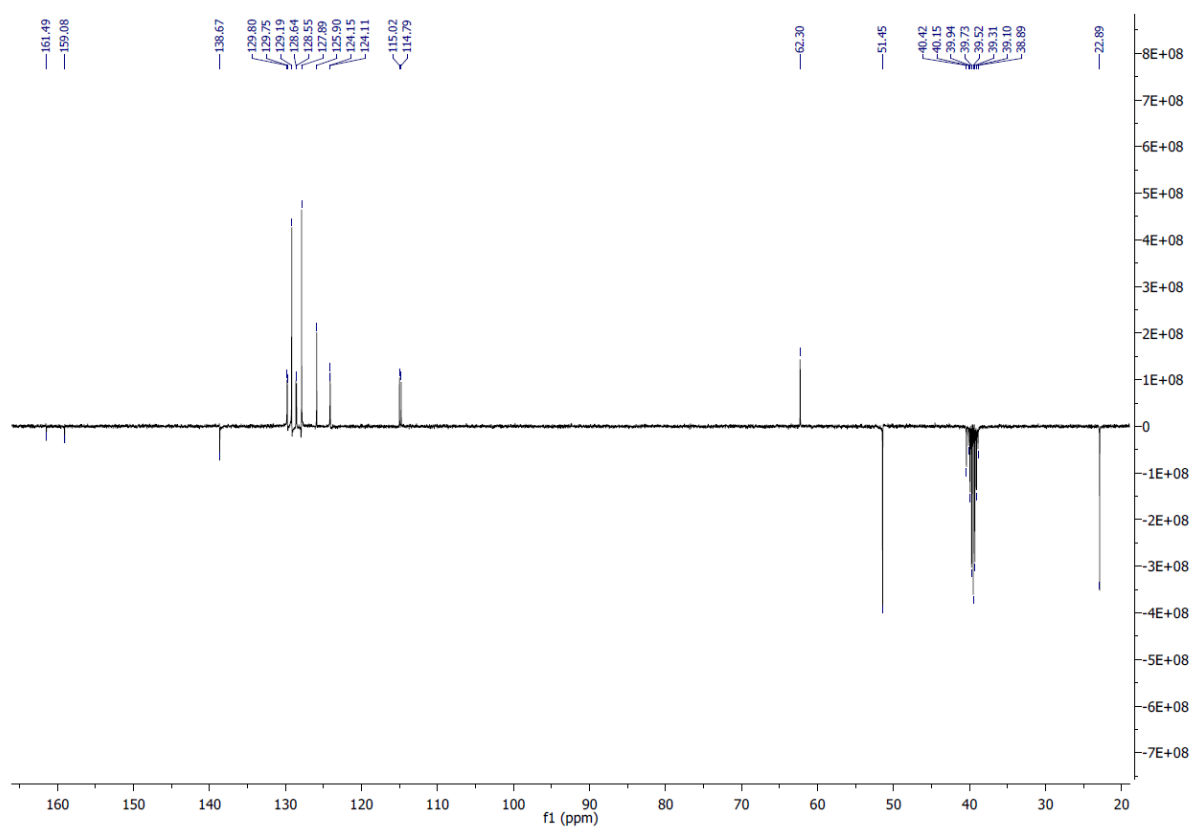


^{19}F NMR of 4''-F-DPPy HCl with CFCl_3 as internal reference (376.5 MHz, d_6 -DMSO)



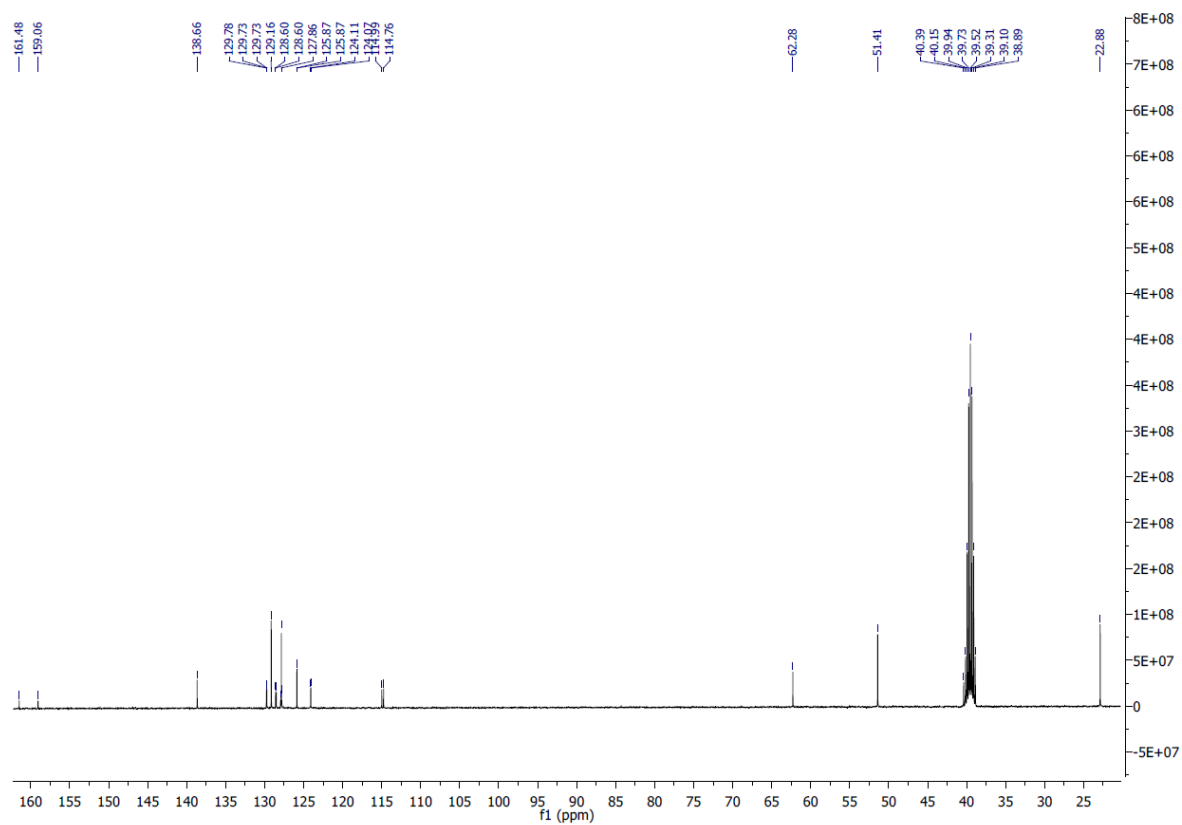
^1H NMR of 2-F-DPPy freebase (400 MHz, $\text{d}_6\text{-DMSO}$)

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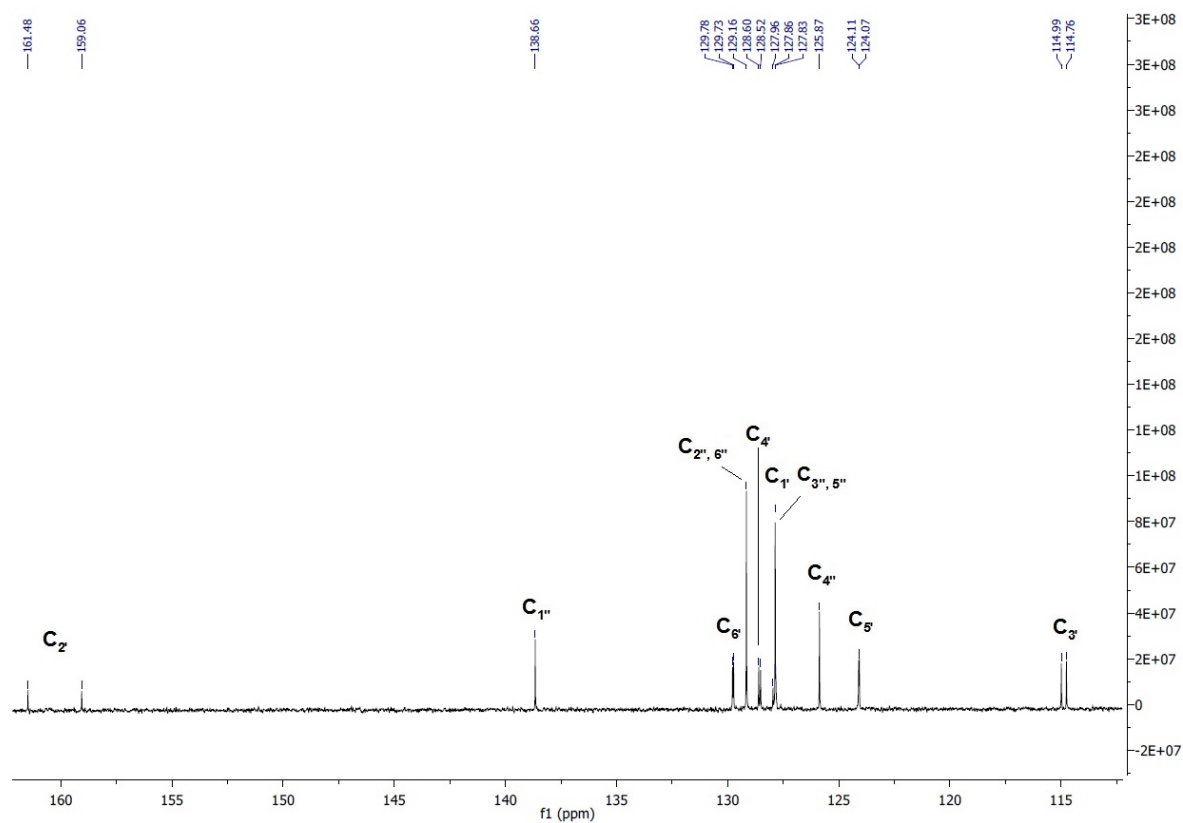


¹³C PENDANT NMR of 2-F-DPPy freebase (101 MHz, d₆-DMSO)

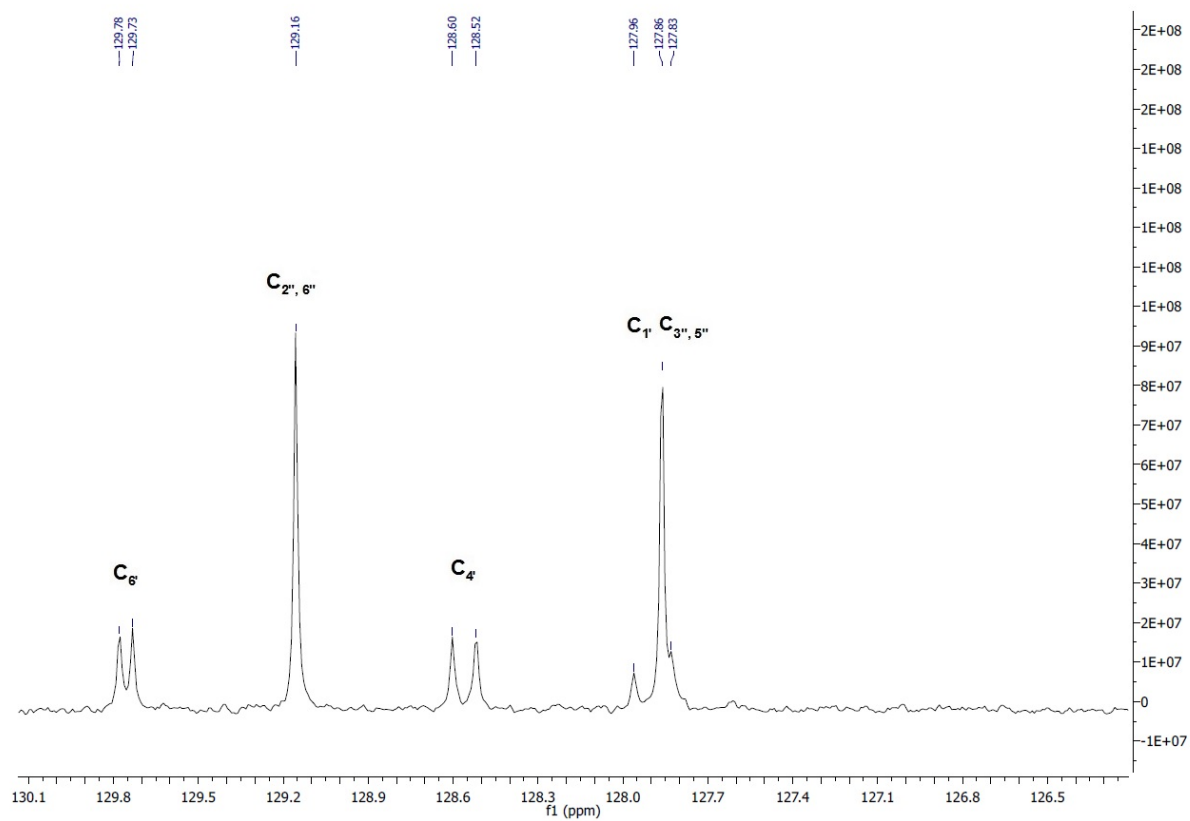
Supporting Information – Drug Testing and Analysis



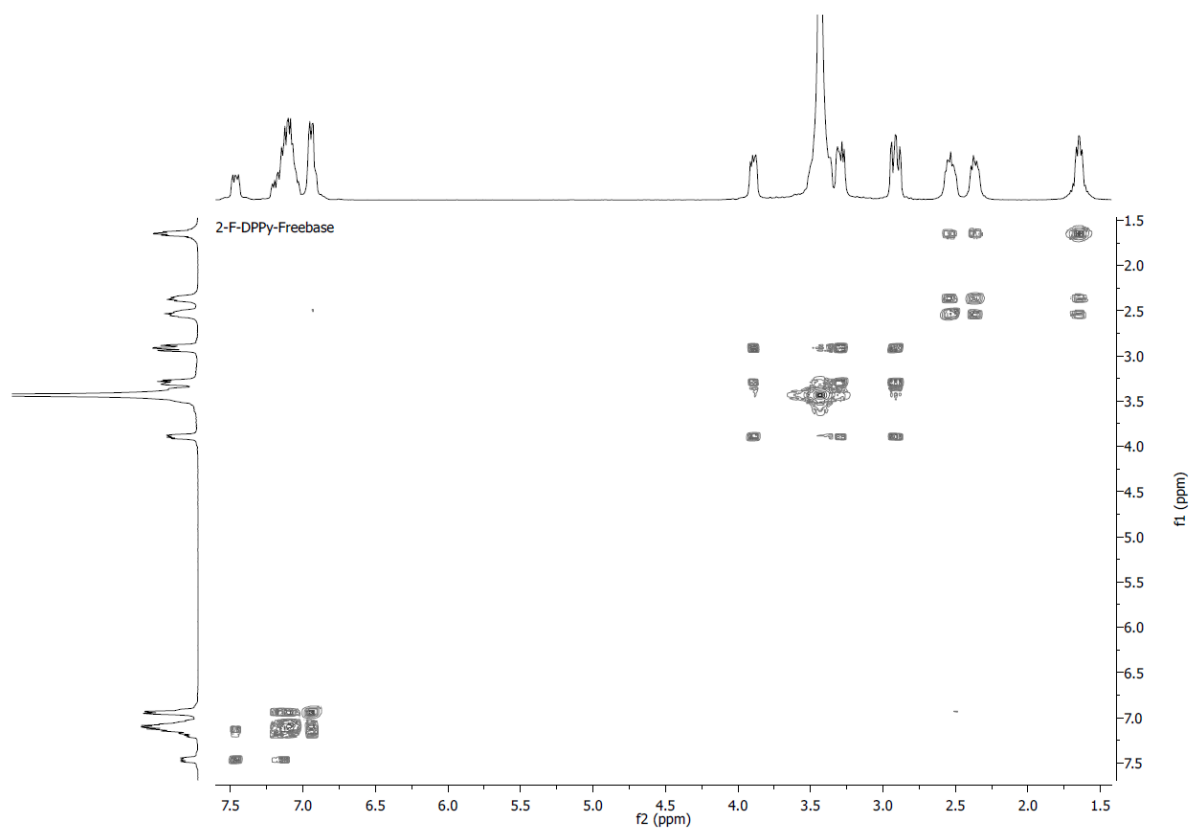
¹³C NMR of 2-F-DPPy freebase (101 MHz, d₆-DMSO)



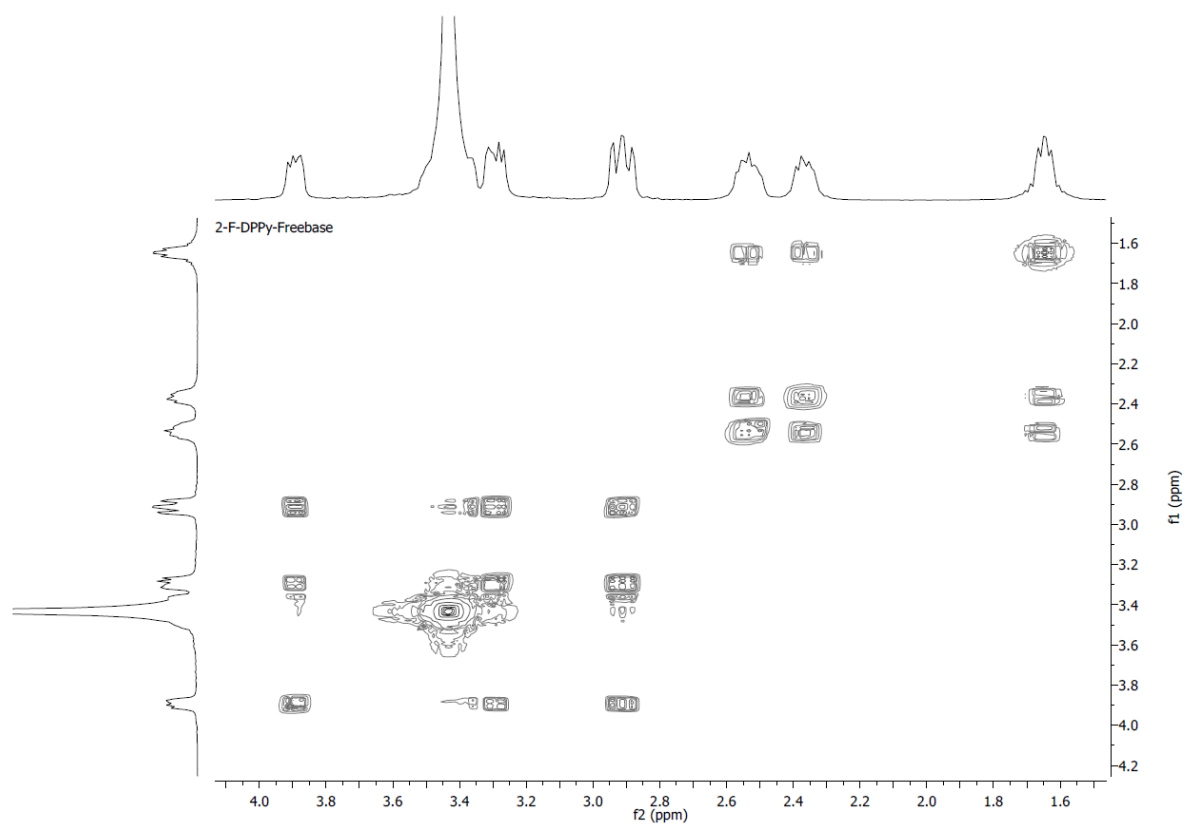
^{13}C NMR of 2-F-DPPy freebase, zoomed in on the aromatic section (101 MHz, d_6 -DMSO)



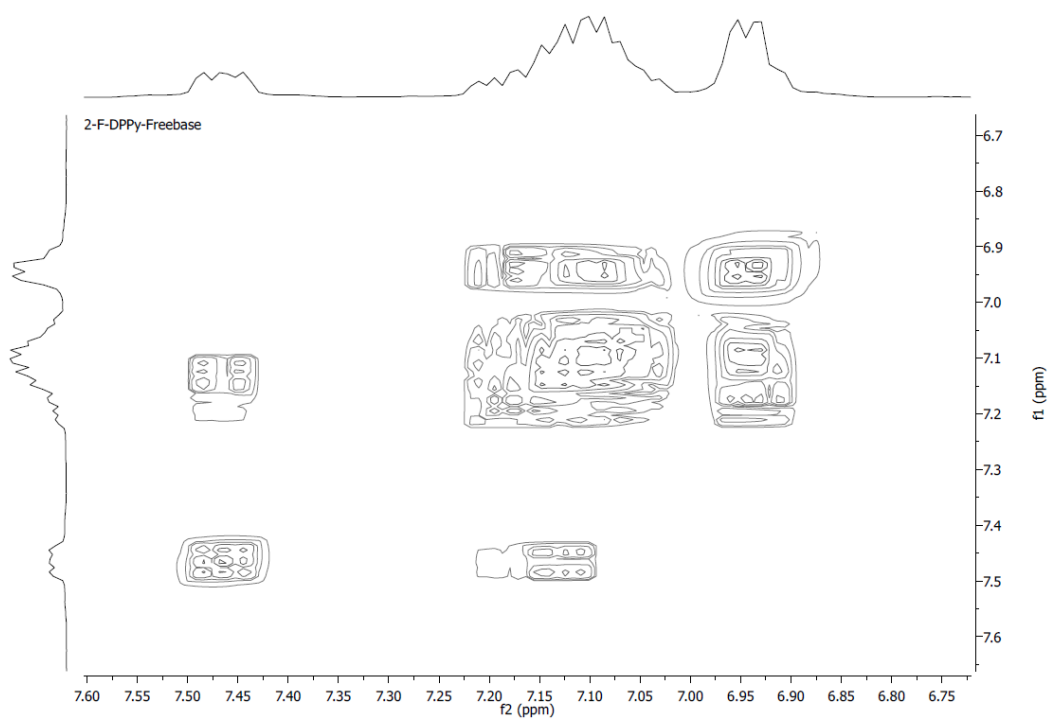
^{13}C NMR of 2-F-DPPy freebase, zoomed in to display $C_{1'}$, $C_{3''}$, $5''$ overlap (101 MHz, $\text{d}_6\text{-DMSO}$)



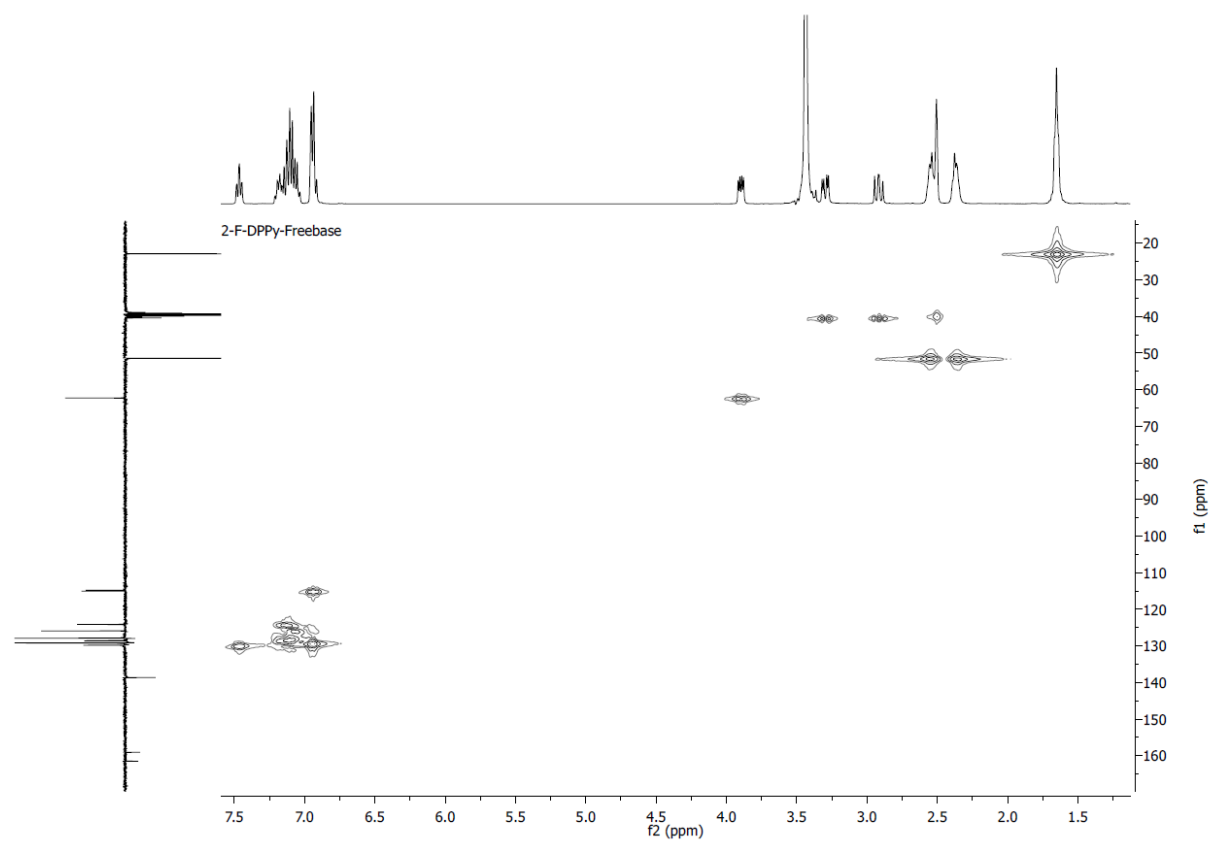
COSY-45 2-D NMR of 2-F-DPPy freebase (d₆-DMSO)



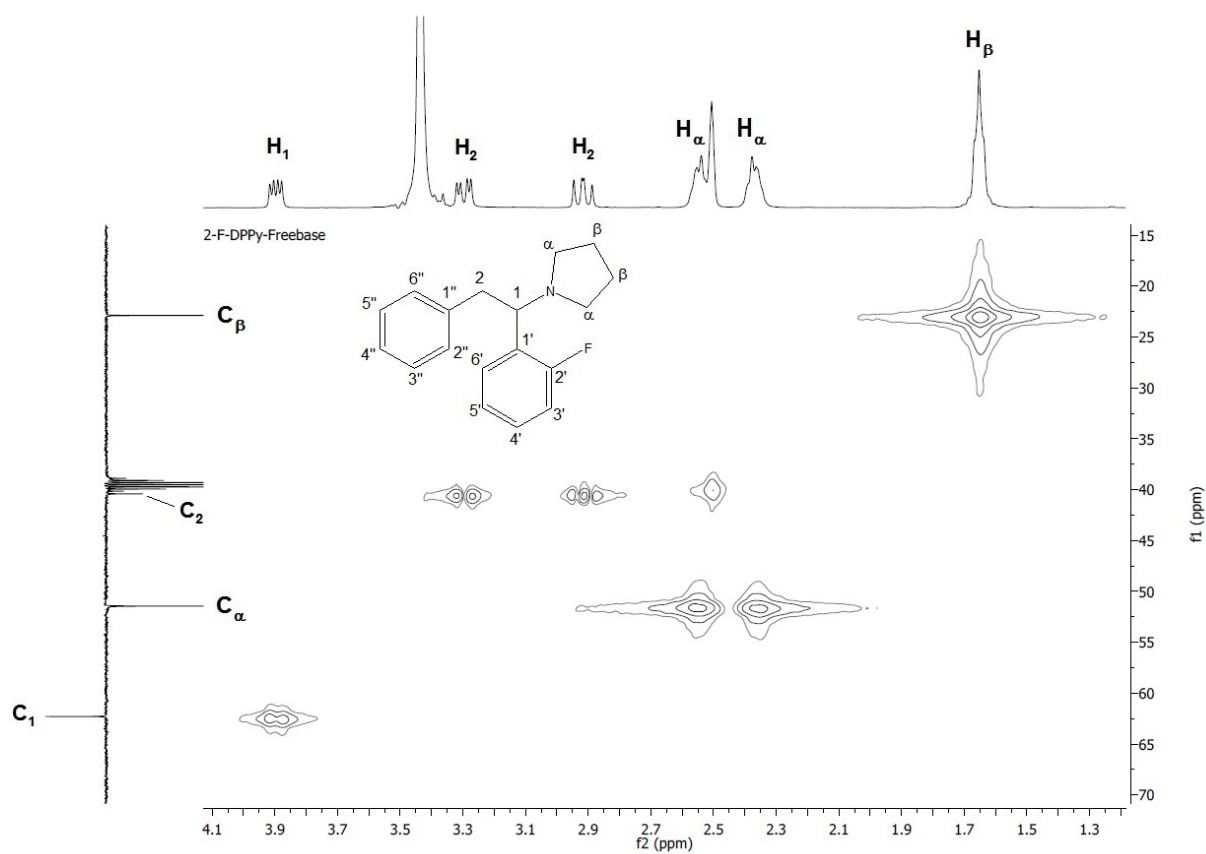
COSY-45 2-D NMR of 2-F-DPPy freebase, zoomed in on aliphatic section (d_6 -DMSO)



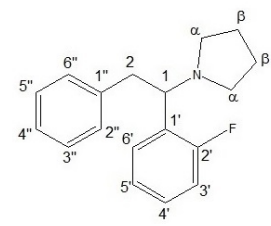
COSY-45 2-D NMR of 2-F-DPPy freebase, zoomed in on aromatic section (d_6 -DMSO)



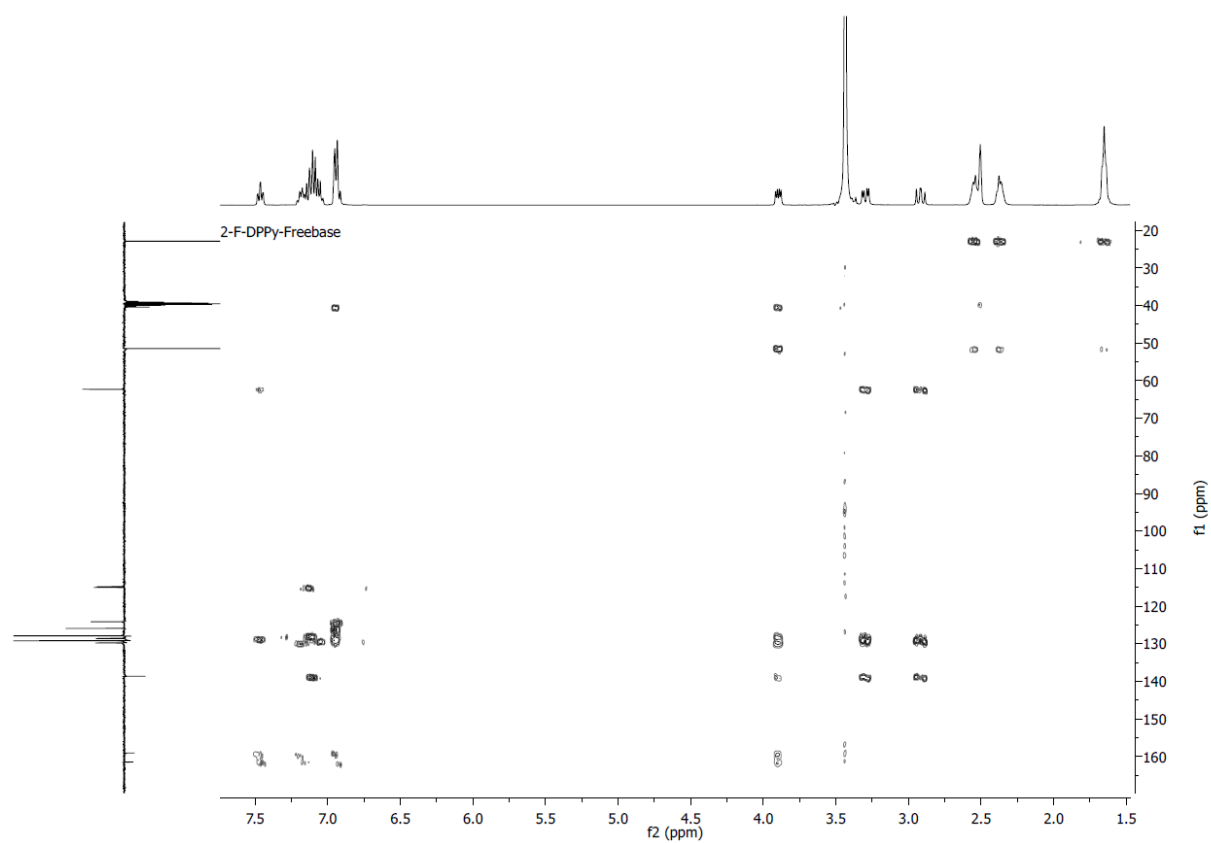
HMQC 2-D NMR of 2-F-DPPy freebase (d_6 -DMSO)



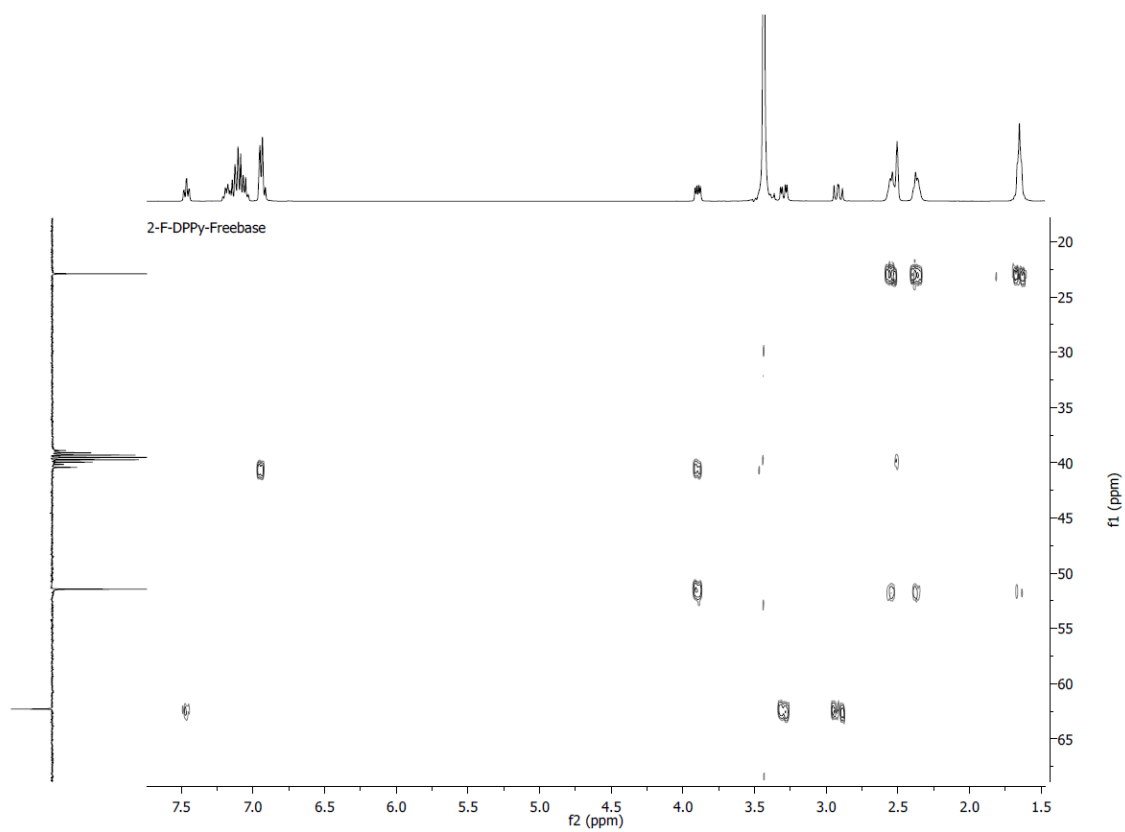
HMQC 2-D NMR of 2-F-DPPy freebase, zoomed in on aliphatic section (d_6 -DMSO)



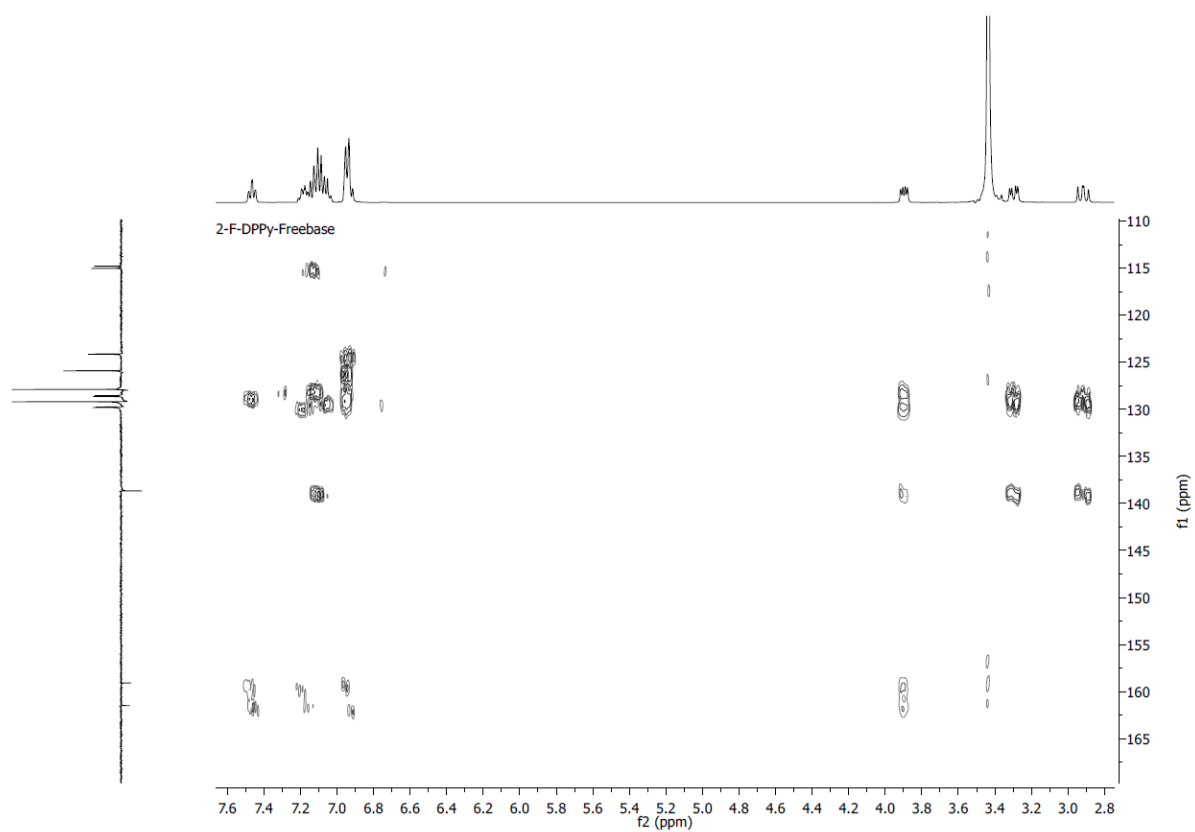
Reaction (d₆-DMSO)



HMBC 2-D NMR of 2-F-DPPy freebase (d_6 -DMSO)

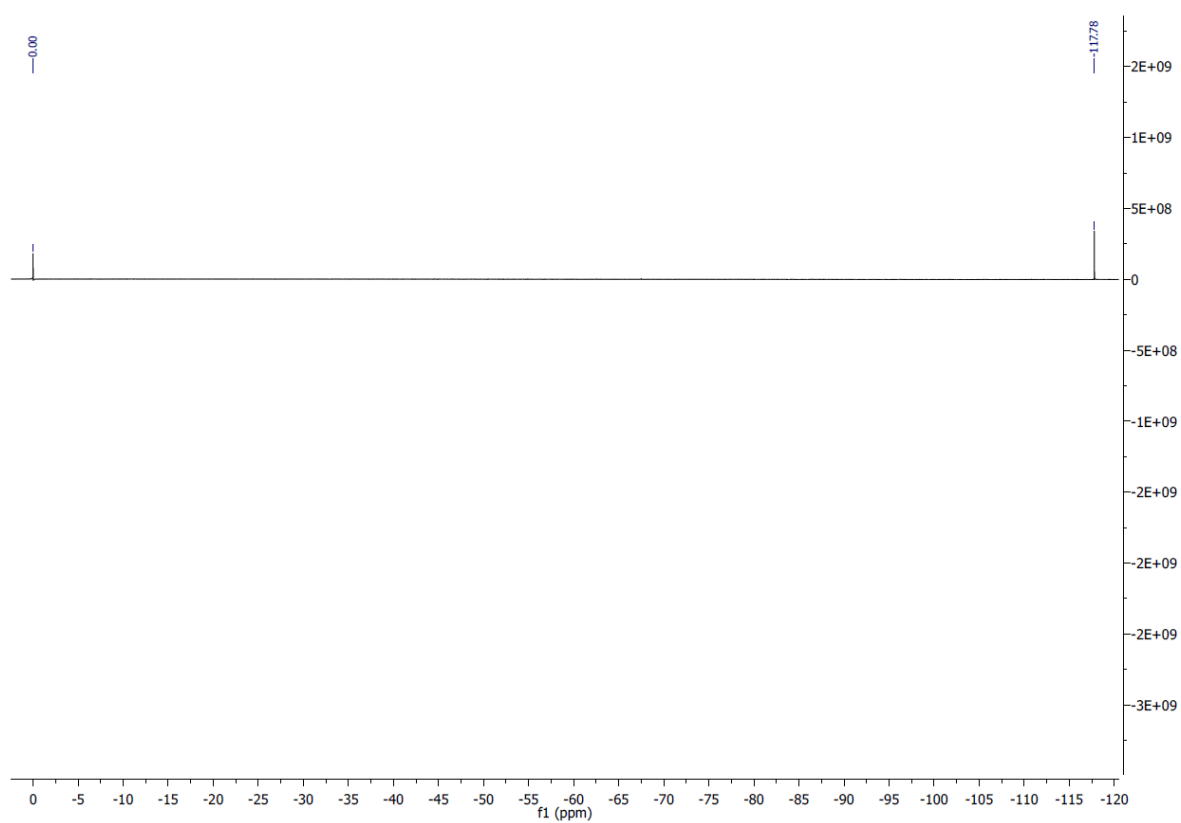


HMBC 2-D NMR of 2-F-DPPy freebase, zoomed in on aliphatic section (d_6 -DMSO)



HMBC 2-D NMR of 2-F-DPPy freebase, zoomed in on aromatic section (d_6 -DMSO)

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^{19}F NMR of 2-F-DPPy freebase with CFCl_3 as internal reference (376.5 MHz, d_6 -DMSO)