

Large Ring-Forming Alkylations Provide Facile Access to Composite Macrocycles

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Supporting Materials

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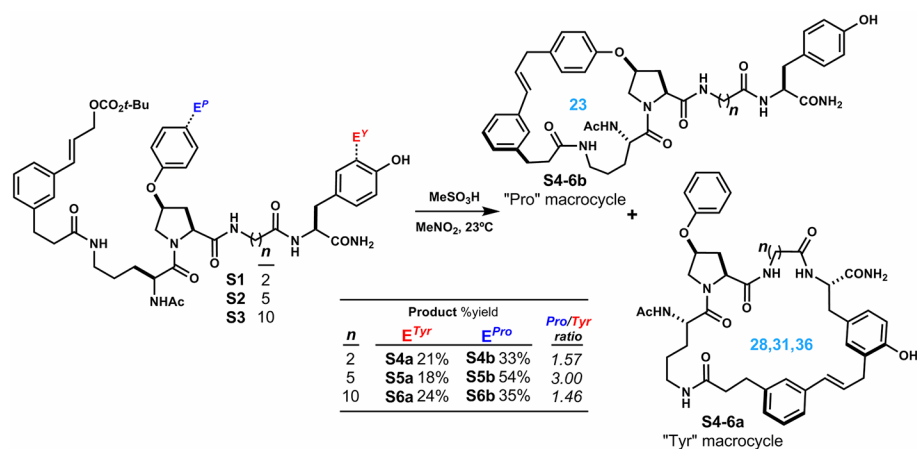


Figure S1. Increasing ring size minimally influences macrocyclization kinetics.

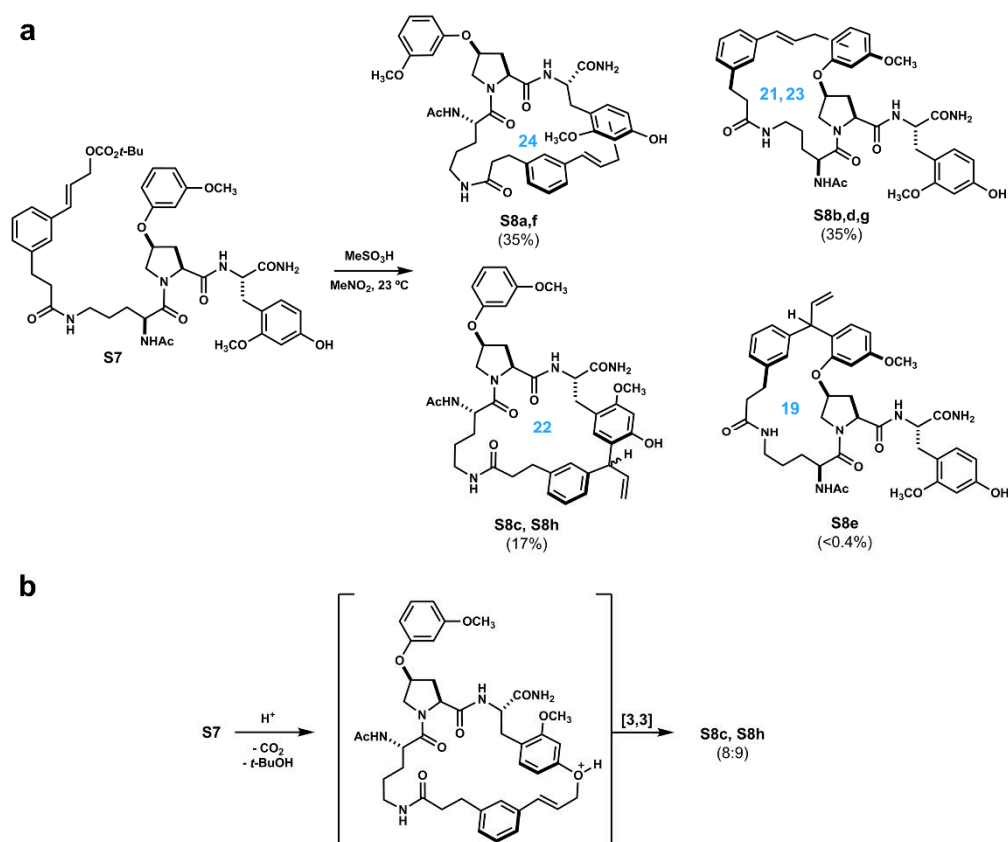


Figure S2. Reaction of (4-hydroxy-2-methoxyphenyl)alanine uniquely yields two branched α -phenylallyl products. **a)** Structural isomers isolated and characterized from the reaction of **S7**. **b)** The formation of products **S8c** and **S8h** may result from initial O-alkylation followed by acid-promoted *ortho*-Claisen rearrangement enabled by *para*-activation by the 2-methoxy group.

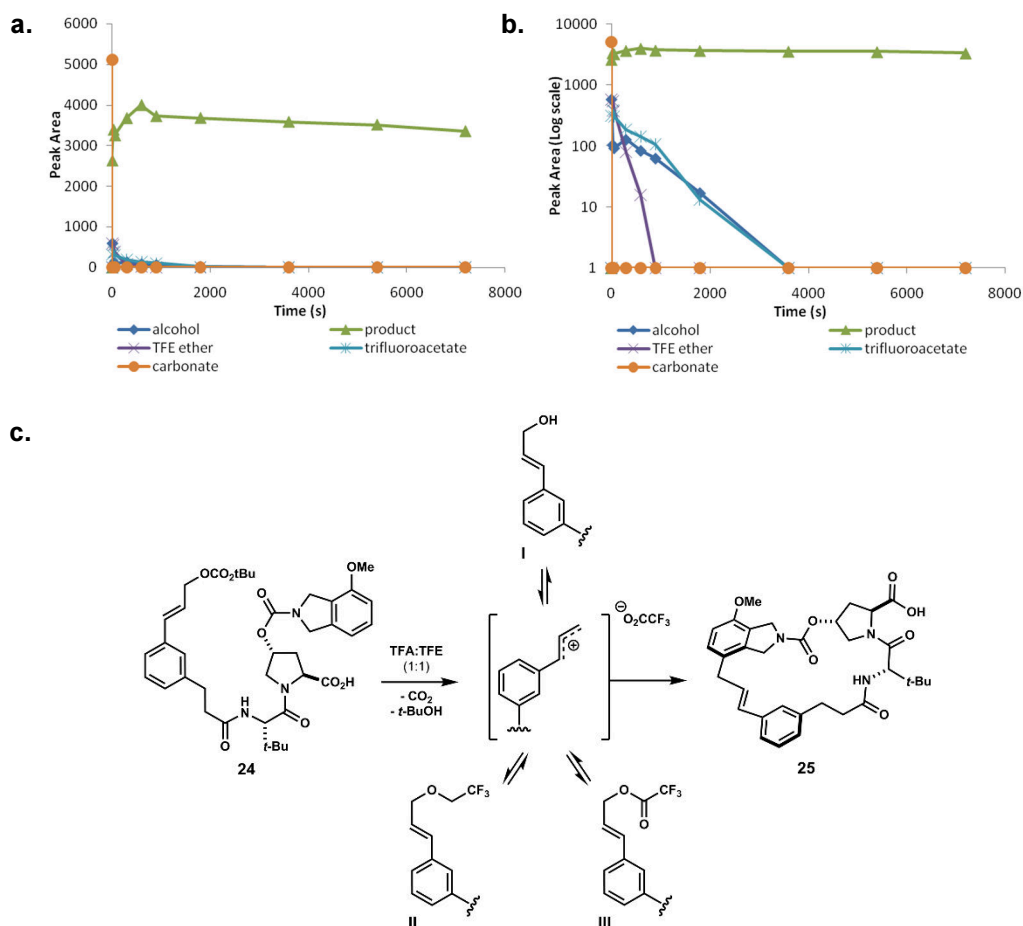


Figure S3. a) Time-course HPLC-UV analysis shows rapid conversion of **24** to product **25**. **b)** Semi-log plot showing the slower conversion of the intermediate cinnamyl alcohol, trifluoroacetate and trifluoroethyl ether to product. **c)** HPLC-MS analysis indicated the reaction of **24** in TFA:TFE (1:1) proceeds directly to macrocycle **25**, and to a lesser extent through the intermediate cinnamyl alcohol, 2,2,2-trifluoroethyl ether, and trifluoroacetate.

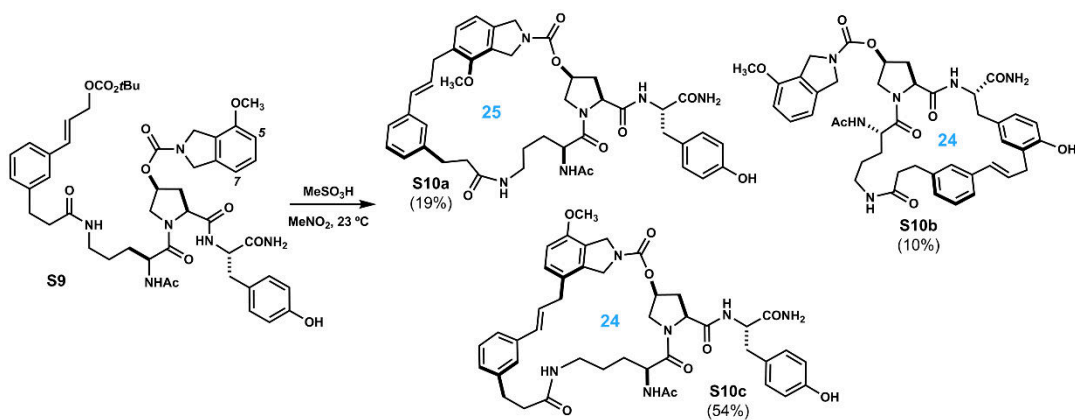
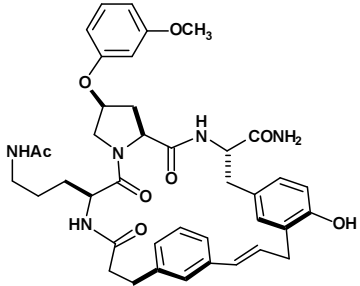
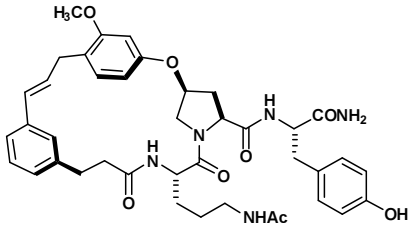
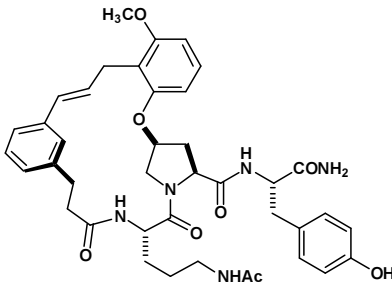
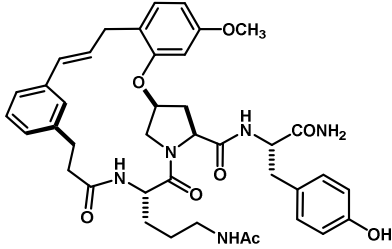
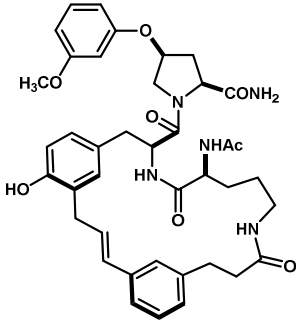
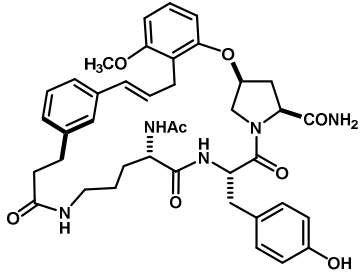
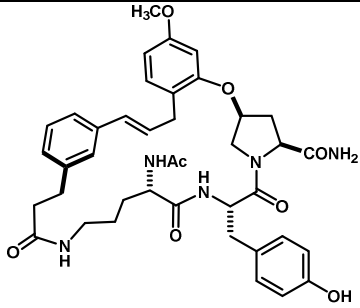
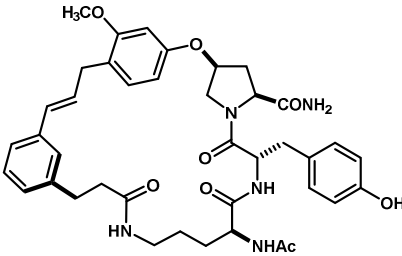
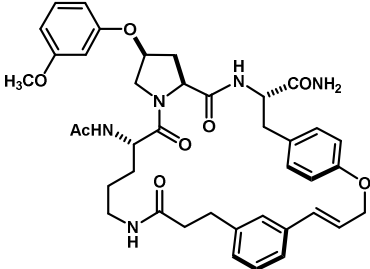
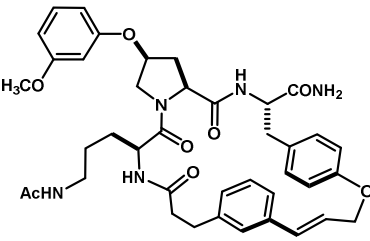
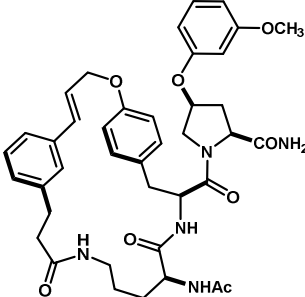
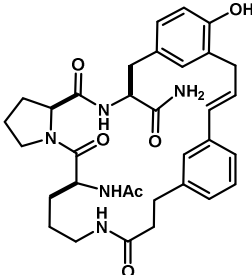


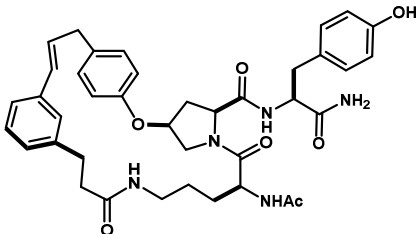
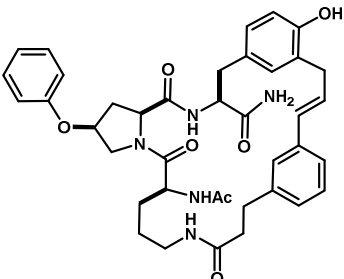
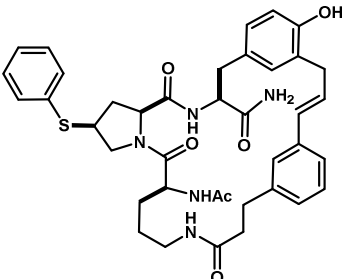
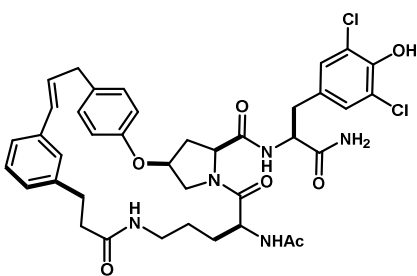
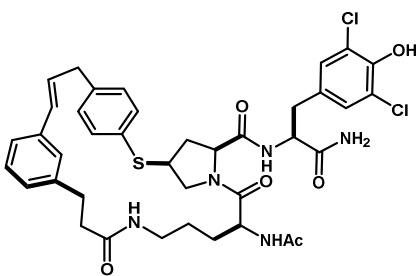
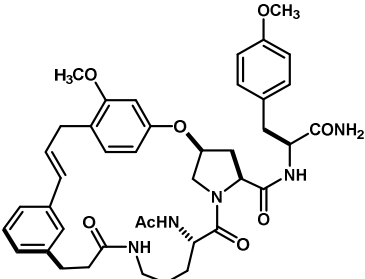
Figure S4. 4-Methoxyisindoline shows inherent reactivity at the 7-position (**S10c**), but also the 5-position (**S10a**).

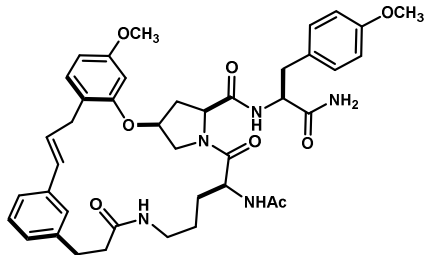
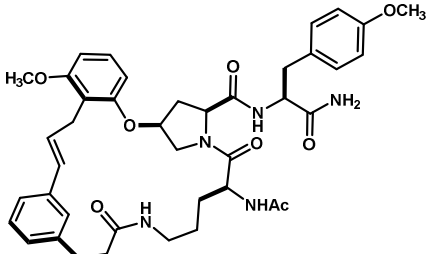
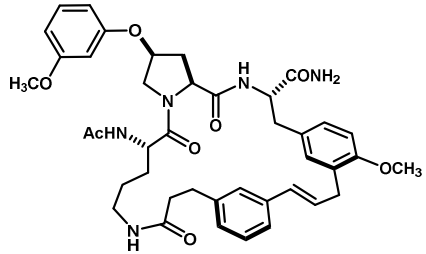
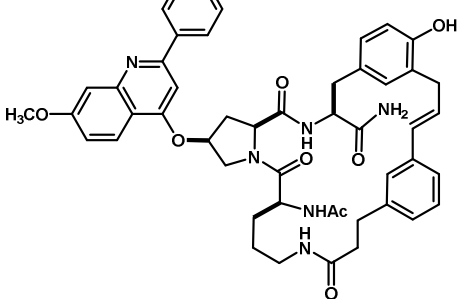
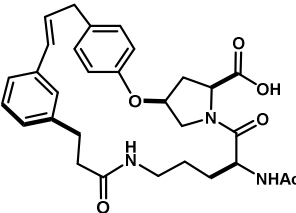
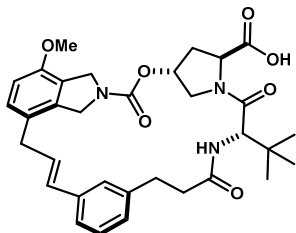
A. List of macrocyclic structures

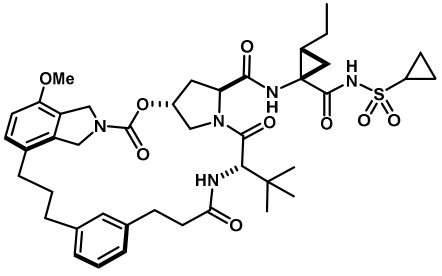
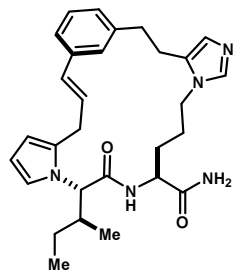
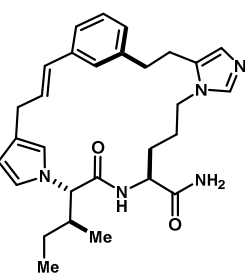
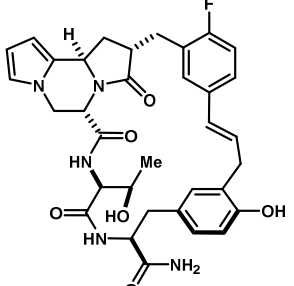
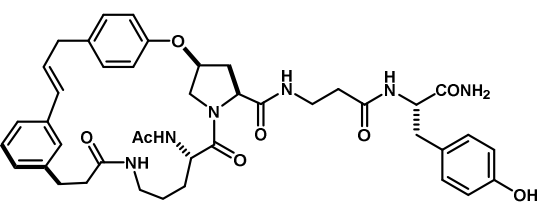
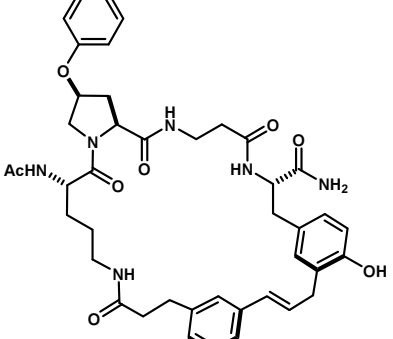
Compound No.	Structure
4	
9a	
9b	
9c	
9d	

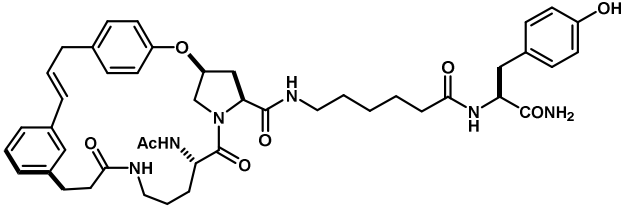
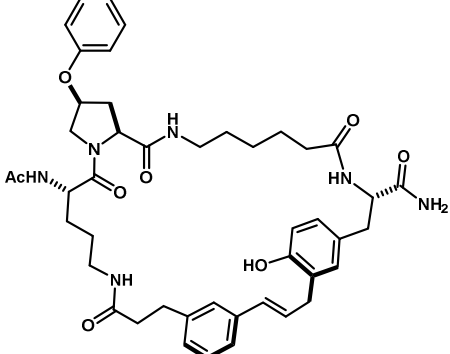
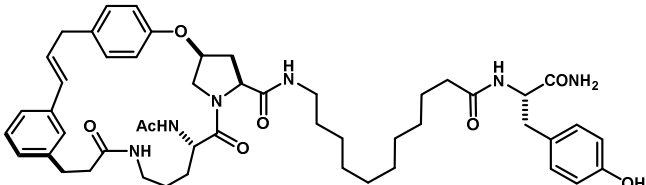
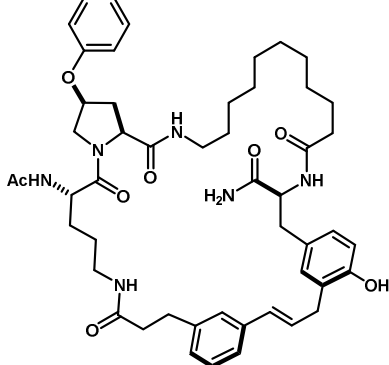
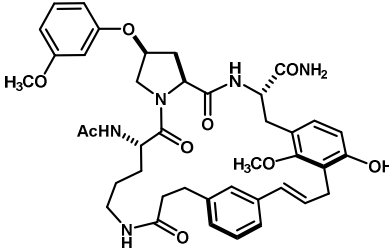
10a	
10b	
10c	
10d	
11a	
11b	

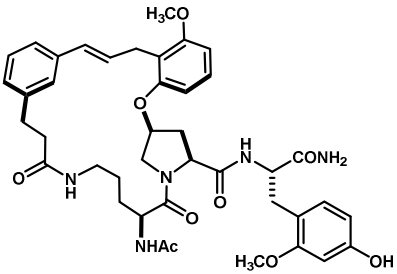
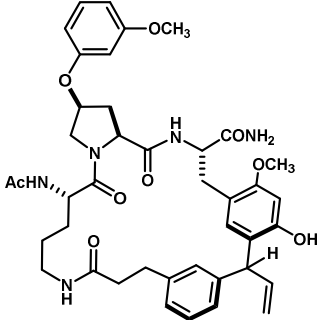
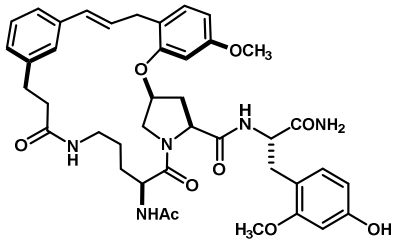
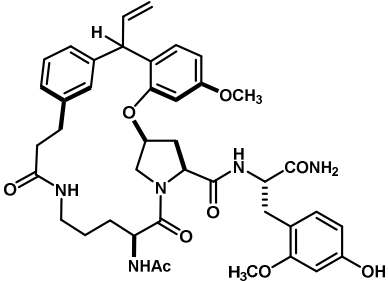
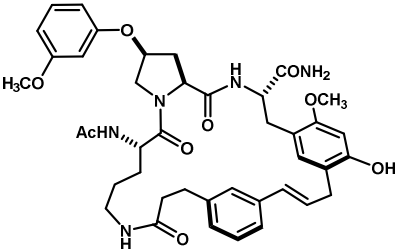
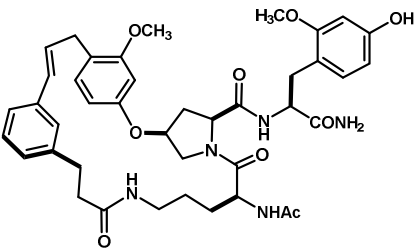
11c	
11d	
12	
13	
14	
15	

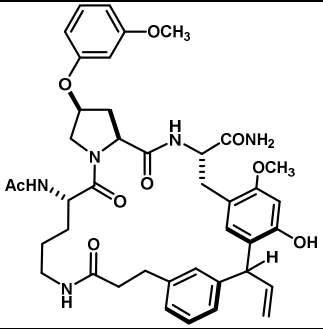
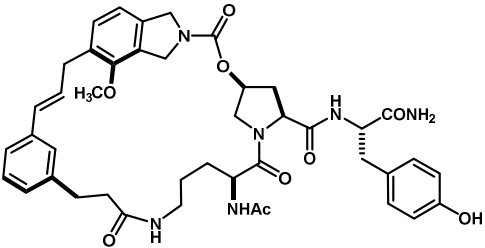
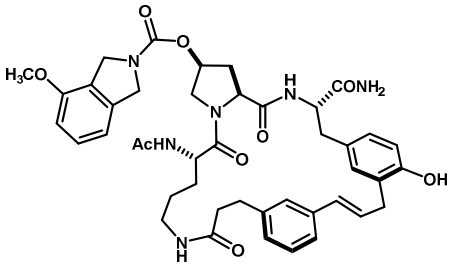
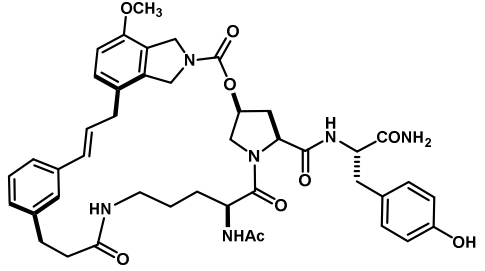
16a	
16b	
17b	
18a	
19a	
20a	

20b	
20c	
20d	
21b	
23	
25	

26	
28a	
28b	
30	
S4a	
S4b	

S5a	
S5b	
S6a	
S6b	
S8a	

S8b	
S8c	
S8d	
S8e	
S8f	
S8g	

S8h	
S10a	
S10b	
S10c	

B. General experimental information.

Unless stated otherwise, reactions were performed under an argon atmosphere in flame-dried glassware. Tetrahydrofuran (THF) was deoxygenated and dried by passing through an activated alumina solvent drying system. Anhydrous *N,N*-dimethylformamide (DMF, EMD DriSolv®) was used without further purification. Nitromethane was dried over 4 Å molecular sieves for at least 24 hr before use. Methanesulfonic acid ($\geq 99.5\%$, Sigma Aldrich), trifluoroacetic acid (TFA) and 2,2,2-trifluoroethanol (TFE) were used without further purification. Column chromatography was performed on silica gel 60 (SiliCycle, 240–400 mesh). Thin layer chromatography (TLC) utilized pre-coated plates (Sorbent Technologies, silica gel 60 PF254, 0.25 mm) visualized with UV 245 nm, iodine, or basic potassium permanganate stain.

Purification of acidolysis products employed an Agilent 1100/1200 HPLC system equipped with G1361A preparative pumps, a G1314A autosampler, a G1314A VWD, and a G1364B automated fraction collector. Analytical HPLC was performed using an identical system, but with a G1312A binary pump. Mass spectra were recorded using an Agilent 6130 LC/MS system equipped with an ESI source.

Melting points were measured using a Barnstead/Electrothermal 9100 apparatus and are uncorrected. Optical rotatory power was measured using a Rudolph Autopol IV. NMR spectra were recorded on Bruker Avance (300, 500 or 600 MHz), DRX (500 MHz) and ARX (400 MHz) spectrometers. Data for ^1H NMR spectra are reported as follows: chemical shift (δ ppm) (multiplicity, coupling constant (Hz), integration), and are referenced to a residual protonated solvent peak.³⁰ Data for ^{13}C NMR spectra are reported in terms of chemical shift (δ ppm) and are referenced to a residual solvent peak.

For mass-limited samples, solvent magnetic susceptibility matched Shigemi tubes were used with a sample volume of $\sim 300\ \mu\text{L}$. Optimization of on-axis shims was accomplished using the TopShim automated tool within Bruker Topspin™ 2.1. Optimization of off-axis shims was performed manually.³¹ ^1H 90° transmitter pulse lengths were calibrated by back calculation from the 360° or 180° null.^{32,33} The pulse width or power level for soft pulses and shaped pulses were calculated using the Shape Tool within TopSpin™ 2.1. ^1H - ^1H COSY spectra were recorded using a phase sensitive, gradient enhanced double-quantum-filtered experiment, using States-TPPI acquisition.^{34,35,36} TOCSY spectra were recorded using a sensitivity improved, phase sensitive experiment using a 60 ms DIPSI-2 pulse train for homonuclear Hartman-Hahn transfer.³⁷ In cases where carbon resonances could not be observed directly, chemical shifts were measured from 2D plots of either $^1J_{\text{CH}}$ (HSQC) for protonated carbons or $^3,4J_{\text{CH}}$ (HMBC) for non-protonated carbons. ^1H - ^{13}C HSQC spectra were recorded using a sensitivity improved, phase sensitive experiment using an adiabatic shape pulse for ^{13}C inversion, and ^{13}C decoupling during acquisition.^{38,39,40} Experimental parameters were optimized for $^1J_{\text{CH}} = 145\text{ Hz}$. ^1H - ^{13}C HMBC spectra were recorded using a gradient selected experiment with a two-fold J-filter optimized for $^1J_{\text{CH}} = 125\text{--}165\text{ Hz}$. Experimental parameters were optimized for long range $^nJ_{\text{CH}} = 8\text{ Hz}$. Correlation data were processed with zero filling and linear prediction.

C. X-ray Crystal Structure of Macrocycle 18a.

Macrocycle **18a** was crystallized by slow evaporation from methanol. Data for this product have been deposited in the Cambridge Crystallographic Data Centre under accession number CCDC 1023942. Disorder was apparent within the macrocycle. For clarity, only the predominant conformation is depicted and lattice solvent has been omitted.

³⁰ H. E. Gottlieb, V. Kotlyar, A. Nudelman, *J. Org. Chem.* 1997, **62**, 7512.

³¹ S. Berger, S. Braun, *200 and More NMR Experiments* (Wiley-VCH, Weinheim, 2004) pp. 6–11.

³² T. D. W. Claridge, *High-Resolution NMR Techniques in Organic Chemistry* (Pergamon, Oxford, 1999) pp. 94–97.

³³ S. Berger, S. Braun, *200 and More NMR Experiments* (Wiley-VCH, Weinheim, 2004) pp. 15–17.

³⁴ R. E. Hurd, *J. Magn. Reson.* 1990, **87**, 422.

³⁵ I. M. Brereton, S. Crozier, J. Field, D. M. Doddrell, *J. Magn. Reson.* 1991, **93**, 54.

³⁶ A. A. Shaw, C. Salaun, J. F. Dauphin, B. Ancian, *J. Magn. Reson. Ser. A.* 1996, **120**, 110.

³⁷ J. Cavanagh, M. Rance, *J. Magn. Reson.* 1990, **88**, 72.

³⁸ A. G. Palmer III, J. Cavanagh, P. E. Wright, M. Rance, *Magn. Reson.* 1991, **93**, 151.

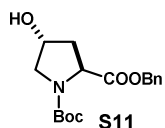
³⁹ L. E. Kay, P. Keifer, T. Saarinen, *J. Am. Chem. Soc.* 1992, **114**, 10663.

⁴⁰ J. Schleucher, *et al.*, *Biomol. NMR* 1994, **4**, 301.

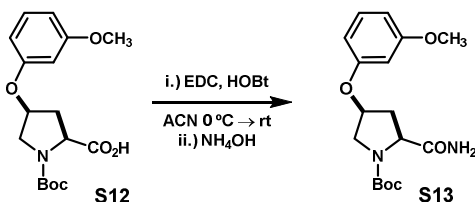
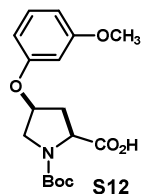
D. Experimental Procedures.

D1. Amino acids and building blocks therefore – Compounds **S11** – **S33**:

N-Boc-*trans*-4-hydroxy-L-proline benzyl ester (S11): Compound **S11** was prepared from *trans*-4-hydroxy-L-proline as described.^{41,42}

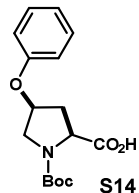


N-Boc-*cis*-4-(3-methoxyphenoxy)-L-proline (S12): Compound **S12** was prepared from **S11** by the Mitsunobu reaction with 3-methoxyphenol as described.^{43,44}



N-Boc-*cis*-4-(3-methoxyphenoxy)-L-proline carboxamide (S13): Compound **S12** (503 mg, 1.5 mmol) and hydroxybenzotriazole monohydrate (274 mg, 1.8 mmol) were dissolved in anhydrous ACN (5 mL), cooled in an ice bath, and treated with EDC (343 mg, 1.8 mmol).⁴⁵ The reaction was allowed to warm to room temperature, and stirred for 3.5h. The mixture was then re-cooled, treated with concentrated ammonium hydroxide (1.5 mL) and stirred cold for 30min, then at room temperature for 30min. The mixture was diluted with water and extracted into EtOAc (x3). The organic phase was dried over MgSO₄ and exchanged for 95:5 CHCl₃:MeOH, filtered through a plug of SiO₂ and again concentrated to give carboxamide **S13** (504mg, 100%). mp 130-132°C. $[\alpha]_D^{20} = +1.8^\circ$ (c = 0.5, MeOH). ¹H NMR (500 MHz, DMSO-*d*₆, major rotamer): δ 1.36 (s, 9H), 1.99-2.11 (m, 1H), 2.43-2.60 (m, 1H), 3.36-3.45 (m, 1H), 3.72 (s, 3H), 3.70-3.79 (m, 1H), 4.07-4.14 (m, 1H), 4.92-5.00 (m, 1H), 6.40-6.46 (m, 1H), 6.46-6.51 (m, 1H), 6.52 (d, J = 8.2 Hz, 1H), 6.95-7.00 (m, 1H), 7.17 (dd, J = 8.2, 8.2 Hz, 1H), 7.23 (br s, 1H). ¹³C NMR (126 MHz, DMSO-*d*₆, major rotamer): δ 173.7, 160.5, 158.1, 153.4, 130.0, 107.6, 106.7, 101.9, 78.9, 74.0, 58.7, 55.1, 51.5, 35.9, 28.0. MS *m/z* 237.2 (calc'd: C₁₇H₂₄N₂O₅, [M-CO₂tBu+2H]⁺, 237.2).

N-Boc-*cis*-4-phenoxy-L-proline (S14): Compound **S14** was prepared analogously to **S12**, as described.⁴³



⁴¹ J. K. Thottathi, J. L. Moniot, *Tetrahedron Lett.* 1986, **27**, 151.

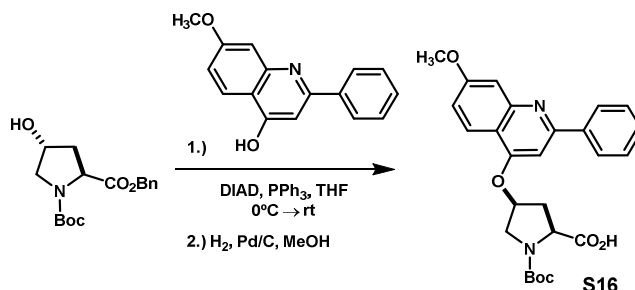
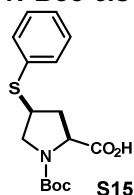
⁴² Q. Xiao-long, Q. Feng-ling, *J. Org. Chem.* 2002, **67**, 7162.

⁴³ J. Krapcho, *et al.*, *J. Med. Chem.* 1988, **31**, 1148.

⁴⁴ A. D. Palkowitz, *et al.*, *J. Med. Chem.* 1994, **37**, 4508.

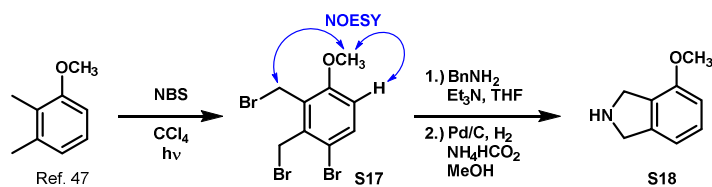
⁴⁵ H. Fukushima, *et al.*, *Bioorg. Med. Chem.* 2004, **12**, 6053.

N-Boc-*cis*-4-phenylthio-L-proline (S15): Compound **S15** was prepared as described.^{48,43}



N-Boc-*cis*-4-((7-methoxy-2-phenylquinolin-4-yl)oxy)-L-proline (S16): Compound **S11** (1.55 g, 4.8 mmol), 4-hydroxy-7-methoxy-2-phenylquinoline⁴⁶ (1.21 g, 4.8 mmol) and triphenylphosphine (2.52 g, 9.6 mmol) were suspended in dry THF (20ml) and cooled in an ice bath. Diisopropyl azodicarboxylate was added dropwise over approximately 1 h to afford a light yellow solution, which was warmed to room temperature and stirred overnight. The reaction mixture was concentrated, diluted with Et₂O, washed with water (x1) and filtered to remove the resulting precipitate. The filtrate was washed with brine, dried over MgSO₄ and directly adsorbed onto silica gel. Flash chromatography on SiO₂ eluted with 0→100% Et₂O in hexanes afforded the intermediate benzyl ester as a light yellow foam. Deprotection with palladium on carbon in methanol under an atmosphere of hydrogen afforded compound **S16** as a light yellow foam (2.04 g, 91% two steps). m.p. softens 91°C melts 116-119°C. $[\alpha]_D^{20} = -16.3^\circ$ (c = 1, MeOH). ¹H NMR (500 MHz, DMSO-*d*₆, major rotamer): δ 1.37 (s, 9H), 2.40-2.45 (m, 1H), 2.72-2.79 (m, 1H), 3.61 (d, J = 12.5 Hz, 1H), 3.84-3.90 (m, 1H), 3.93 (s, 3H), 4.39 (dd, J = 9.6, 1.1 Hz, 1H), 5.55 (apt t, J = 4.4 Hz, 1H), 7.11 (dd, J = 9.2, 2.5 Hz, 1H), 7.37 (d, J = 2.5 Hz, 1H), 7.42 (s, 1H), 7.47-7.58 (m, 3H), 7.91 (d, J = 9.2 Hz, 1H), 8.26-8.30 (m, 2H), 12.55 (br s, 1H). ¹³C NMR (126 MHz, DMSO-*d*₆, mixture of rotamer): δ 173.2, 173.0, 160.8, 160.0, 159.9, 157.8, 156.2, 153.4, 153.3, 150.7, 139.2, 129.5, 128.6, 127.4, 123.3, 117.7, 114.8, 107.3, 97.7, 97.6, 79.1, 78.9, 76.3, 75.2, 57.7, 57.5, 55.4, 52.0, 51.8, 35.9, 35.1, 28.1, 28.0. MS *m/z* 465.2 (calc'd: C₂₆H₂₉N₂O₆, [M+H]⁺, 465.2).

4-methoxyisindoline (S18):



4-bromo-2,3-bis(bromomethyl)anisole (S17): 2,3-dimethylanisole⁴⁷ (18.6 g, 137 mmol) was dissolved in benzene (170 mL), *N*-bromosuccinimide (85.1 g, 478 mmol) and dibenzoyl peroxide (332 mg, 1.37 mmol) were added, and the mixture was heated to reflux under an atmosphere of argon and irradiated with a tungsten lamp for 3.5 h. The reaction was diluted with an equal volume of hexanes, and filtered through a pad of SiO₂ rinsing with DCM. The filtrate was concentrated to give an oil, which solidified upon standing to give **S17**⁴⁸ (39.7 g, 78%) as an off-white solid which was used without further purification. ¹H NMR (300 MHz, DMSO-*d*₆): δ 7.65 (d, J = 8.9 Hz, 1H), 7.05 (d, J = 8.9 Hz, 1H), 4.80 (s, 2H), 4.76 (s, 2H), 3.88 (s, 3H).

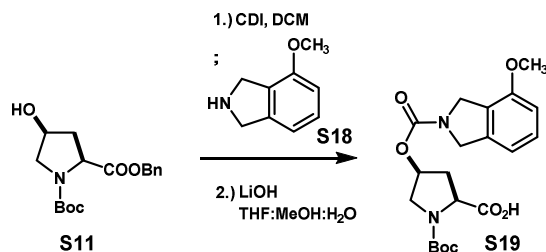
4-methoxyisindoline (S18): Compound **S17** (3.25 g, 8.7 mmol) was dissolved in THF (90 mL), and Et₃N (2.7 mL, 19.2 mmol) and benzylamine (951 μ L, 8.7 mmol) were added. The mixture was refluxed overnight, cooled and adsorbed onto SiO₂. Flash chromatography on SiO₂ eluted with 5→10% EtOAc in hexanes afforded moderately pure *N*-benzyl-4-bromo-7-methoxyisindoline as a viscous oil (1.19 g). Treatment with Pd/C in MeOH (10 mL) and ammonium formate (2.2 g) under an atmosphere of hydrogen at reflux effected debromination and debenzylation. The mixture was concentrated, reconstituted in 1N HCl, and washed with Et₂O (x2). The aqueous phase was basified to pH >10 with 1M NaOH and extracted with DCM (x3). The combined extract was washed with brine, dried over K₂CO₃ and concentrated to give **S18**.

⁴⁶ N. Goudreau, *et al*, *J. Org. Chem.* 2004, **69**, 6185.

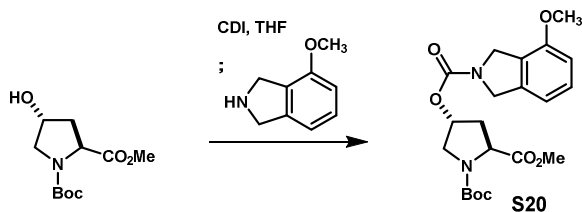
⁴⁷ J. Eskildsen, *et al.*, *Org. Prep. Proc. Int.* 2000, **32**, 4, 398.

⁴⁸ Y. Goldberg, C. Bensimon, H. Alper, *J. Org. Chem.* 1992, **57**, 6374.

(363 mg) as a brown oil, the NMR spectra of which matched reported values.^{49,50} MS m/z 150.2 (calc'd: C₉H₁₂NO, [M+H]⁺, 150.1).



N-Boc-cis-4-((4-methoxyisoindoline-2-carbonyl)oxy)-L-proline (S19): N-Boc-cis-4-hydroxy-L-proline benzyl ester⁵¹ (**S11**) (631 mg, 2.6 mmol) was dissolved in anhydrous DCM (10 mL) and 1,1'-carbonyldiimidazole (459 mg, 2.8 mmol) was added as a solution in DCM (5 mL). The mixture was stirred overnight. 4-methoxyisoindoline (**S18**) (383 mg, 2.6 mmol) was added, and the mixture was stirred for 24 hrs. The reaction was diluted with EtOAc, and washed with 1N HCl (x3), H₂O (x1), brine, dried over MgSO₄ and concentrated to give a red oil which was purified by flash chromatography on SiO₂ eluted with 30→50% EtOAc in hexanes to give the incipient methyl ester as a pink foam. The acid was freed by treatment with LiOH (3 eq) in THF:MeOH:H₂O (3:1:1) at room temperature for 3 hrs. The reaction mixture was diluted with 1M NaOH and washed with Et₂O (x1). The aqueous portion was cooled in an ice bath, DCM was added, and the mixture acidified to pH < 2 with 4N HCl. The organic phase was collected, and the aqueous extracted twice more with DCM. The combined extract was dried over MgSO₄ and concentrated to give compound **S19** as a white foam (421 mg, 40% two steps). [α]_D²⁰ = -10.5° (c = 0.5, MeOH). ¹H NMR (500 MHz, CD₃OD, major rotamer): δ 1.45 (s, 9H), 1.85-1.89 (m, 1H), 2.39-2.45 (m, 1H), 2.47-2.61 (m, 1H), 3.58-3.68 (m, 1H), 3.68-3.75 (m, 1H), 3.84 (s, 3H), 4.42-4.46 (m, 1H), 4.53-4.58 (m, 2H), 4.58-4.66 (m, 2H), 5.21-5.26 (m, 1H), 6.82 (d, J = 7.8 Hz, 1H), 6.84 (d, J = 7.8 Hz, 1H), 7.26 (dd, J = 7.8, 7.8 Hz, 1H). ¹³C NMR (126 MHz, CD₃OD, mixture of rotamers): δ 175.4, 175.3, 175.20, 175.17, 156.3, 156.2, 156.1, 156.0, 155.84, 155.78, 139.7, 139.0, 130.6, 130.5, 125.8, 125.2, 115.7, 115.6, 109.92, 109.85, 81.63, 81.62, 76.0, 75.9, 75.0, 74.9, 68.9, 59.2, 58.9, 55.8, 55.7, 54.1, 53.7, 53.63, 53.62, 53.3, 51.2, 51.0, 37.5, 37.4, 36.7, 36.6, 28.7, 28.6. MS m/z 406.2 (calc'd: C₂₀H₂₅N₂O₇, [M-H]⁻, 406.2).

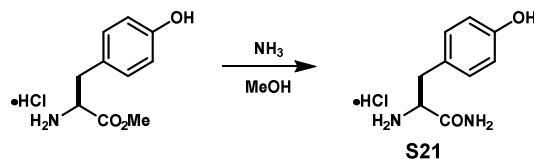


N-Boc-trans-4-((4-methoxyisoindoline-2-carbonyl)oxy)-L-proline methyl ester (S20): N-Boc-trans-4-hydroxy-L-proline methyl ester (809 mg, 3.3 mmol) was dissolved in THF (3.3 mL) and treated with 1,1'-carbonyldiimidazole (511 mg, 3.15 mmol). The mixture was stirred for 3 h at rt, after which HPLC showed complete conversion to the acylimidazole. 4-Methoxyisoindoline (**S18**) (448 mg, 3 mmol) was added as a solution in ACN (15 mL) and the mixture was warmed to reflux for 4 h. The reaction was cooled, diluted with EtOAc and washed with 1N HCl (x3), H₂O, brine, dried over Na₂SO₄, filtered through a pad of SiO₂ and concentrated to give **S20** as a light brown foam (1.10 g, 87%). An analytical sample was obtained by chromatography on SiO₂ eluted with 30→45% EtOAc in hexanes. [α]_D²⁰ = -43.2° (c = 0.5, MeOH). ¹H NMR (400 MHz, CD₃OD, major rotamer): δ 1.43 (s, 9H), 2.17-2.27 (m, 1H), 2.39-2.52 (m, 1H), 2.59-2.66 (m, 1H), 3.74 (s, 3H), 3.83 (s, 3H), 4.34-4.42 (m, 1H), 4.43-4.50 (m, 1H), 4.60 (br s, 2H), 4.72 (br s, 2H), 5.28-5.34 (m, 1H), 6.75 (d, J = 8.2 Hz, 1H), 6.86 (d, J = 7.6 Hz, 1H), 7.22-7.28 (m, 1H). ¹³C NMR (126 MHz, CD₃OD, mixture of rotamers): δ 172.2, 171.6, 171.5, 170.0, 153.7, 153.1, 141.6, 141.2, 136.8, 128.9, 128.73, 128.68, 128.3, 126.4, 126.0, 124.3, 109.4, 74.1, 60.3, 57.3, 55.4, 54.5, 51.5, 51.0, 39.3, 36.7, 36.0, 35.9, 35.3, 35.2, 31.55, 31.46, 30.5, 29.8, 26.9, 23.8, 19.7, 13.8, 6.5, 6.0. MS m/z 321.0 (calc'd: C₁₆H₂₁N₂O₅, [M-Boc+2H]⁺, 321.1).

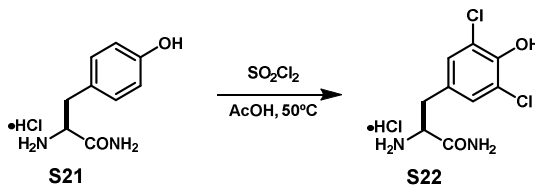
⁴⁹ J. R. Henry, *et al.*, (Eli Lilly and Co.), June 9, 2005. U.S. Patent Appl. No. 10/577,828.

⁵⁰ M. K. Holloway, *et al.*, (Merck and Co., Inc.), June 12, 2006. U.S. Patent Appl. No. 11/484,925.

⁵¹ J. A. Gómez-Vidal, R. B. Silverman, *Org. Lett.* 2001, **3**, 2481.

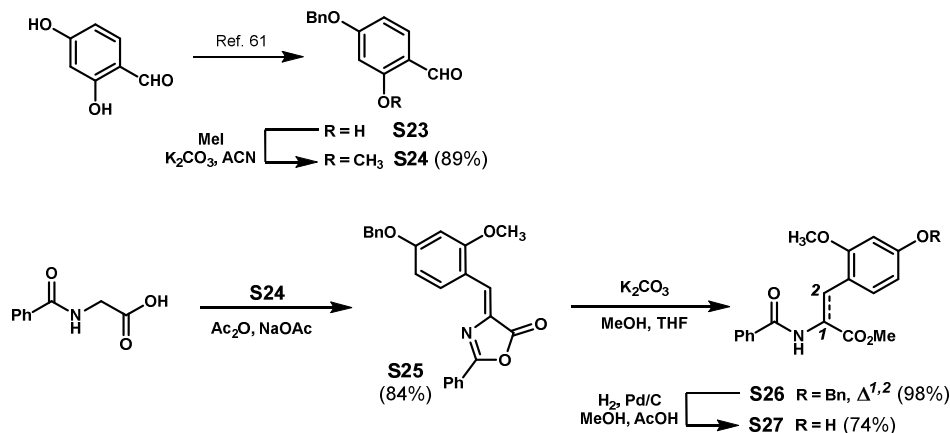


Tyrosine carboxamide hydrochloride (S21): Compound **S21** was prepared by ammoniolysis of tyrosine methyl ester hydrochloride using saturated ammoniacal methanol as described.⁵²



Dichlorotyrosine carboxamide hydrochloride (S22): Compound **S22** was prepared analogously to dichlorotyrosine.⁵³ Compound **S23** (3.0 g, 13.8 mmol) was suspended in glacial acetic acid (60 mL) and treated with sulfuryl chloride (28 mL, 346 mmol). The reaction was warmed to 50°C for 30 min, concentrated to approximately 1/3 the initial volume, cooled in an ice bath and carefully quenched with MeOH. Once gas evolution ceased, the mixture was cooled in a -78 °C bath and diluted with Et₂O to induce precipitation. The precipitate was collected by centrifugation and dried to give compound **S24** as a white solid (2.4g, 91%). m.p. ~190 °C decomposes. $[\alpha]_{20}^D = +14.2^\circ$ (c = 1, MeOH). ¹H NMR (400 MHz, DMSO-*d*₆): δ 2.88 (dd, J = 14.1, 8.1 Hz, 1H), 3.04 (dd, J = 14.1, 5.4 Hz, 1H), 3.89-3.98 (m, 1H), 7.27 (s, 2H), 7.61 (s, 1H), 7.92 (s, 1H), 8.10 (br s, 3H), 10.08 (br s, 1H). ¹³C NMR (126 MHz, DMSO-*d*₆): δ 169.6, 148.2, 129.7, 128.0, 122.0, 53.3, 35.2. MS *m/z* 249.1 (calc'd: C₉H₁₁Cl₂N₂O₂, [M+H]⁺, 249.0).

N-Fmoc-(S)-(2-methoxy-4-hydroxyphenyl)alanine (S30):



4-Benzyloxy-2-methoxybenzaldehyde (S24): 4-Benzyloxy-2-hydroxybenzaldehyde (**S23**) was prepared as described,⁵⁴ and obtained as a light red solid (25.4 g, 89%) of moderate purity following recrystallization from methanol. This material (25 g, 111 mmol) was dissolved in acetonitrile, treated with potassium carbonate (23 g, 167 mmol) and methyl iodide (10.4 mL, 167 mmol), and heated under reflux for 2.5 hrs. The reaction mixture was cooled, filtered and concentrated, and the residue was reconstituted in EtOAc and washed with 1M NaOH (x3), water, brine, dried over Na₂SO₄ and again concentrated. The yellow solid obtained was recrystallized twice from EtOH to give 4-benzyloxy-2-methoxybenzaldehyde (**S24**) in ~93% purity (23.9 g, 89%). An analytical sample was obtained by purification of the mother liquor by flash chromatography on SiO₂ eluted with 5→20% EtOAc in hexanes (1.5 g; combined 25.4 g, 94%). ¹H NMR (400 MHz, CDCl₃): δ 3.88 (s, 3H), 5.13 (s, 2H), 6.54 (d, J = 2.2 Hz, 1H), 6.62 (ddd, J = 8.6, 2.2, 0.4 Hz, 1H), 7.33-7.46 (m, 5H), 7.81 (d, J = 8.7 Hz, 1H), 10.29 (d, J = 0.4 Hz, 1H). ¹³C NMR (101 MHz, CDCl₃): δ 188.3, 165.3, 163.5, 135.9, 130.7, 128.7, 128.4, 127.5, 119.2, 106.4, 98.9, 70.4, 55.6. MS *m/z* 243.0 (calc'd: C₁₅H₁₅O₃, [M+H]⁺, 243.1).

Benzylidene oxazolone (S25): Hippuric acid (5.30 g, 29.6 mmol) and compound **S25** (7.17 g, 29.6 mmol) were treated with acetic anhydride (8.4 mL, 89 mmol) and freshly fused sodium acetate (2.43 g, 29.6 mmol). The mixture was heated

⁵² E. Koenigs, B. Mylo, *Ber. Dtsch. Chem. Ges.* 1908, **41**, 4427.

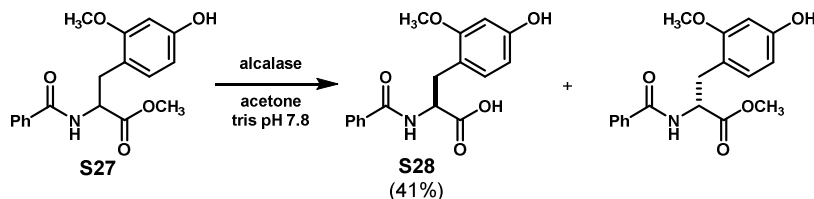
⁵³ T. Golakoti, *et al*, *J. Am. Chem. Soc.* 1995, **117**, 12030.

⁵⁴ W. L. Mendelson, M. Holmes, J. Dougherty, *Synth. Commun.* 1996, **26**, 593.

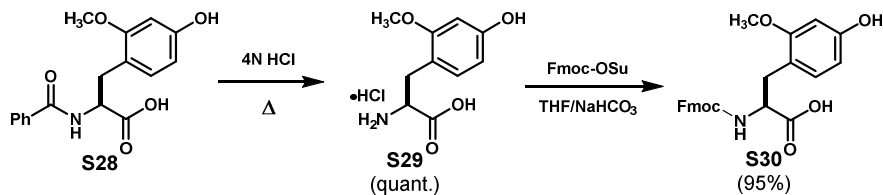
rapidly with a heat gun, which caused near dissolution and then rapid precipitation. This mixture was placed in a pre-heated oil bath at 85°C for 3 hrs, ethanol (~3 mL) was added dropwise, and the mixture was allowed to cool. The resulting solids were collected, rinsed with ethanol and dried in vacuo to give benzylidene oxazolone **S25** as a fluorescent, bright yellow solid (9.59 g, 84%). m.p. 196-199 °C, ¹H NMR (400 MHz, DMSO-*d*₆): δ 3.92 (s, 3H), 5.24 (s, 2H), 6.78 (d, *J* = 2.3 Hz, 1H), 6.83 (dd, *J* = 8.9, 2.3 Hz, 1H), 7.34-7.39 (m, 1H), 7.40-7.45 (m, 2H), 7.47-7.52 (m, 3H), 7.58-7.64 (m, 2H), 7.69 (dddd, *J* = 8.3, 6.4, 1.2, 1.2 Hz, 1H), 8.06-8.10 (m, 2H), 8.77 (d, *J* = 8.8 Hz, 1H). ¹³C NMR (101 MHz, DMSO-*d*₆): δ 167.2, 163.2, 161.5, 160.8, 136.4, 133.6, 133.2, 129.7, 129.3, 128.5, 128.1, 128.0, 127.6, 125.3, 124.2, 115.0, 108.0, 98.8, 69.8, 56.1. MS *m/z* 386.0 (calc'd: C₂₄H₂₀NO₄, [M+H]⁺, 386.1).

Dehydro amino acid methyl ester (S26): Compound **S25** was treated with potassium carbonate (10.4 g, 75 mmol) in THF:MeOH (3:1, 125 mL), and the suspension was stirred for 3 hr, filtered and concentrated. The residual solids were triturated with EtOAc, and the solids collected by filtration and dried in vacuo to give the **S26** (10.2 g, 98%). m.p. 157 °C (decomposes). ¹H NMR (400 MHz, DMSO-*d*₆): δ 3.53 (s, 3H), 3.77 (s, 3H), 5.08 (s, 2H), 6.17 (s, 1H), 6.52 (dd, *J* = 8.4, 2.6 Hz, 1H), 6.54 (d, *J* = 2.6 Hz, 1H), 7.25-7.35 (m, 5H), 7.36-7.41 (m, 2H), 7.43-7.47 (m, 2H), 8.04-8.10 (m, 1H), 8.91 (d, *J* = 8.4 Hz, 1H). ¹³C NMR (101 MHz, DMSO-*d*₆): δ 171.6, 166.6, 156.7, 156.6, 143.7, 142.3, 137.4, 130.7, 128.4, 128.2, 127.7, 127.6, 126.8, 120.9, 105.0, 98.3, 69.2, 55.3, 50.5. MS *m/z* 418.0 (calc'd: C₂₅H₂₄NO₅, [M+H]⁺, 418.2).

Racemic amino acid methyl ester (S27): Compound **S26** was treated with Pd/C (5 wt%, 250 mg) in MeOH (75 mL) and acetic acid (10 mL) under 500 psi hydrogen at room temperature. Upon completion, the mixture was filtered through Celite, rinsing with methanol, and concentrated to ~15 mL, which induced crystallization. Filtered and washed with a small amount of cold EtOAc to give compound **S27** as a white crystalline solid (5.95 g, 74%). m.p. 164-166 °C. ¹H NMR (400 MHz, DMSO-*d*₆): δ 2.87 (dd, *J* = 13.6, 9.6 Hz, 1H), 3.10 (dd, *J* = 13.6, 5.5 Hz, 1H), 3.60 (s, 3H), 3.74 (s, 3H), 4.60 (ddd, *J* = 9.6, 7.7, 5.5 Hz, 1H), 6.23 (dd, *J* = 8.2, 2.3 Hz, 1H), 6.37 (d, *J* = 2.3 Hz, 1H), 6.97 (d, *J* = 8.2 Hz, 1H), 7.43-7.48 (m, 2H), 7.50-7.56 (m, 1H), 7.77-7.81 (m, 2H), 8.65 (d, *J* = 7.7 Hz, 1H), 9.27 (s, 1H). ¹³C NMR (101 MHz, DMSO-*d*₆): δ 172.5, 166.3, 158.1, 157.6, 133.7, 131.4, 131.1, 128.3, 127.3, 115.3, 106.5, 98.9, 55.2, 52.9, 51.7, 30.9. MS *m/z* 330.0 (calc'd: C₁₈H₂₀NO₅, [M+H]⁺, 330.1).



N-Benzoyl-(S)-2-methoxy-4-hydroxyphenylalanine (S28): Racemic amino acid methyl ester **S29** (4.5 g, 14 mmol) was dissolved DMSO (10 mL) and diluted with acetone (120 mL) followed by Tris buffer (80 mM) pH 7.8. The heterogeneous mixture was warmed to 37 °C and Alcalase 2.4 L from *Bacillus licheniformis* (3 mL, >2.4 U/mL, Sigma) was added. The reaction was periodically adjusted to pH 7.8 by the addition of 1M NaOH until conversion ceased by HPLC (2 days). The volatiles were removed in vacuo, solids were removed by filtration, and the aqueous was extracted with EtOAc (x3). This organic extract was back extracted with aqueous NaHCO₃ (x1). The combined aqueous phases were acidified with conc. HCl to pH < 2 and extracted with EtOAc (x3). This organic extract was washed with brine, dried over Na₂SO₄ and concentrated. The resulting solid was recrystallized by dissolving in boiling MeOH diluting with EtOAc (~1:1), and allowing to cool to room temperature, and then chilling to -20 °C. Filtered to give compound (S)-acid **S28** as white needles (1.91 g, 41%). m.p. 216 – 217 °C, [α]_D²⁰ = -97° (c = 0.5, DMF). ¹H NMR (400 MHz, DMSO-*d*₆): δ 2.83 (dd, *J* = 13.6, 10.3 Hz, 1H), 3.14 (dd, *J* = 13.6, 4.6 Hz, 1H), 3.74 (s, 3H), 4.56 (ddd, *J* = 10.3, 8.1, 4.6 Hz, 1H), 6.22 (dd, *J* = 8.1, 2.2 Hz, 1H), 6.36 (d, *J* = 2.2 Hz, 1H), 7.00 (d, *J* = 8.1 Hz, 1H), 7.42-7.47 (m, 2H), 7.49-7.54 (m, 1H), 7.75-7.80 (m, 2H), 8.48 (d, *J* = 8.1 Hz, 1H), 9.23 (br s, 1H), 12.54 (br s, 1H). ¹³C NMR (101 MHz, DMSO-*d*₆): δ 173.5, 166.2, 158.1, 157.4, 134.0, 131.3, 131.1, 128.2, 127.3, 115.9, 106.4, 98.9, 55.2, 52.8, 30.9. MS *m/z* 316.1 (calc'd: C₁₇H₁₈NO₅, [M+H]⁺, 316.1).

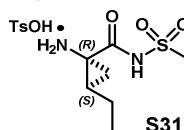


(S)-(2-methoxy-4-hydroxyphenyl)alanine hydrochloride (S29): Compound **S28** (1.21 g, 3.8 mmol) was treated with 4N HCl and refluxed for 6 hrs, after which HPLC showed complete consumption of the starting material. The mixture was cooled, washed with Et₂O (x3) and concentrated to give crude **S29** as a faintly brown solid (964 mg, quant.). [α]_D²⁰ = -15° (c = 0.5, 1N HCl). ¹H NMR (400 MHz, DMSO-*d*₆): δ 2.93 (dd, *J* = 13.9, 6.7 Hz, 1H), 3.00 (dd, *J* = 13.6, 6.8 Hz, 1H), 2.69 (s, 3H), 3.84-3.93 (m, 1H), 6.31 (dd, *J* = 8.1, 2.2 Hz, 1H), 6.42 (d, *J* = 2.2 Hz, 1H), 6.92 (d, *J* = 8.1 Hz, 1H), 8.36 (d, *J* = 4.0 Hz,

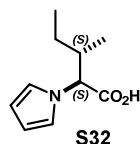
3H). ^{13}C NMR (101 MHz, DMSO- d_6): δ 170.5, 158.5, 158.4, 131.5, 112.7, 106.9, 99.1, 55.1, 52.4, 30.7. MS m/z 212.0 (calc'd: $\text{C}_{10}\text{H}_{13}\text{NO}_4$, $[\text{M}+\text{H}]^+$, 212.1).

Fmoc-(S)-(2-methoxy-4-hydroxyphenyl)alanine (S30): Compound **S29** (964 mg, 3.8 mmol) was dissolved in THF (20 mL) and sat. NaHCO_3 (20 mL), Fmoc-OSu (1.28 g, 3.8 mmol) was added, and the mixture was allowed to stir overnight. The volatiles were removed, and the aqueous remainder was diluted with 5% K_2CO_3 , washed with MTBE (x2). The ethereal wash was back extracted with 5% K_2CO_3 (x1), and the combined aqueous was acidified with 6N HCl to pH < 2 and extracted with EtOAc (x3). The organic extract was washed with water (x1), brine, dried over Na_2SO_4 and concentrated. The resulting brown oil was triturated with hexanes, and the solids collected by filtration to give **S30** as a light brown solid (1.57 g, 95%). m.p. 102 – 106 °C. $[\alpha]_D^{20} = -11.5^\circ$ (c = 0.5, MeOH). ^1H NMR (300 MHz, DMSO- d_6): δ 2.65 (dd, J = 13.5, 10.4 Hz, 1H), 3.04 (dd, J = 13.5, 4.6 Hz, 1H), 3.73 (s, 3H), 4.09-4.17 (m, 1H), 4.16-4.21 (m, 3H), 6.25 (dd, J = 8.1, 1.9 Hz, 1H), 6.38 (d, J = 1.9 Hz, 1H), 6.96 (d, J = 8.1 Hz, 1H), 7.29 (d, J = 7.6 Hz, 1H), 7.34 (d, J = 7.6 Hz, 1H), 7.42 (br dd, J = 8.4, 7.6 Hz, 2H), 7.54 (d, J = 8.4 Hz, 1H), 7.66 (dd, J = 8.4, 7.4 Hz, 2H), 7.88 (d, J = 7.4 Hz, 2H), 9.27 (br s, 1H), 12.54 (br s, 1H). ^{13}C NMR (75 MHz, DMSO- d_6): δ 173.8, 158.1, 157.5, 155.9, 143.8, 140.7, 131.3, 127.6, 127.1, 125.32, 125.26, 120.1, 115.7, 106.4, 98.8, 65.6, 55.2, 54.0, 46.6, 31.1. MS m/z 434.0 (calc'd: $\text{C}_{25}\text{H}_{24}\text{NO}_6$, $[\text{M}+\text{H}]^+$, 434.2).

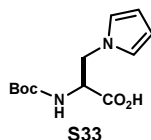
1R,2S-1-Amino-N-(cyclopropylsulfonyl)-2-ethylcyclopropane-1-carboxamide (S31): Tosylate salt **S31** was prepared from (1R,2S)-1-amino-2-vinylcyclopropanecarboxylic acid⁵⁵ and cyclopropanesulfonamide⁵⁶ as described.^{57,58}



α -Pyrrolo isoleucine (S32): Compound **S32**⁵⁹ was prepared as reported.⁶⁰ (3.0 g, 83%) $[\alpha]_D^{20} = +1.8^\circ$ (c = 0.5, CHCl_3). ^1H NMR (500 MHz, CDCl_3): δ 0.87 (t, J = 7.5 Hz, 3H), 0.97-1.04 (m, 1H), 1.05 (d, J = 6.7 Hz, 3H), 1.20-1.29 (m, 1H), 2.19-2.28 (m, 1H), 4.27 (d, J = 10.1 Hz, 1H), 6.20 (t, J = 2.0 Hz, 1H), 6.79 (t, J = 2.0 Hz, 2H), 11.48 (br s, 1H). ^{13}C NMR (126 MHz, CDCl_3): δ 176.9, 120.6, 108.7, 67.5, 37.7, 24.9, 15.7, 10.7. MS m/z 180.2 (calc'd: $\text{C}_{10}\text{H}_{14}\text{NO}_2$, $[\text{M}-\text{H}]^-$, 180.1).



N-Boc- β -(1-pyrrolo)alanine (S33): Compound **S33** was prepared from N^{α} -Boc-Dap analogously to the reported Clauson-Kaas reaction of ornithine.⁶¹ $[\alpha]_D^{20} = +50.3^\circ$ (c = 0.3, CHCl_3). ^1H NMR (500 MHz, DMSO- d_6): δ 1.34 (s, 9H), 4.45 (dd, J = 13.7, 9.5 Hz, 1H), 4.18 (ddd, J = 9.5, 8.2, 4.5 Hz, 1H), 4.25 (dd, J = 13.7, 4.5 Hz, 1H), 5.95 (dd, J = 1.9, 1.9 Hz, 2H), 6.72 (dd, J = 1.9, 1.9 Hz, 2H), 7.16 (d, J = 8.2 Hz, 1H), 12.90 (br s, 1H). ^{13}C NMR (126 MHz, DMSO- d_6 , major rotamer): δ 171.8, 155.4, 121.2, 107.7, 78.3, 55.4, 48.8, 28.2. MS m/z 253.2 (calc'd: $\text{C}_{12}\text{H}_{17}\text{N}_2\text{O}_4$, $[\text{M}-\text{H}]^-$, 253.1).



D2. Peptide synthesis:

Peptides were prepared using standard solution phase techniques and the Boc protection strategy, or standard solid phase synthesis using the Fmoc protection strategy. Couplings were performed with either O-(benzotriazol-1-yl)- N,N,N',N' -tetramethyluronium hexafluorophosphate (HBTU) or O-(benzotriazol-1-yl)- N,N,N',N' -tetramethyluronium tetrafluoroborate (TBTU). Orthogonal protection was accomplished with N^{α} -Boc- N^{δ} -Cbz-ornithine, N^{α} -Cbz- N^{δ} -Boc-ornithine or N^{α} -Fmoc- N^{δ} -Boc-ornithine. Orthogonal protection in compounds containing dichlorotyrosine was accomplished with N^{α} -Fmoc- N^{δ} -Boc-ornithine. Boc deprotection was performed using 4M HCl in dioxane.⁶² Cbz deprotection was performed with palladium on carbon in methanol under an atmosphere of hydrogen. Fmoc deprotection was performed as described using DBU in the

⁵⁵ P. L. Beaulieu, *et al.*, *J. Org. Chem.* 2005, **70**, 5869.

⁵⁶ S. Ny, *et al.*, (Bristol-Myers Squibb Co.) US2006183694 (A1), August 17, 2006.

⁵⁷ Z. J. Song, *et al.*, *J. Org. Chem.* 2011, **76**, 7804.

⁵⁸ N. J. Liverton, *et al.*, (Merck & Co. Inc., USA). WO2008057209 (A1), May 15, 2008.

⁵⁹ J. Gloede, *et al.*, *Collect. Czech. Chem. Commun.* 1968, **33**, 1307.

⁶⁰ C. W. Jefford, F. de Villedon de Naide, K. Sienkiewicz, *Tetrahedron: Asymmetry* 1996, **7**, 1069.

⁶¹ A. M. Doherty, *et al.*, *J. Med. Chem.* 1991, **34**, 1258.

⁶² G. Han, M. Tamaki, V. J. Hruby, *J. Pept. Res.* 2001, **58**, 338.

presence of octyl mercaptan.⁶³ *N*-Acetylation was performed under coupling conditions with acetic acid. Prior to removal of the final protecting group, peptides were purified by flash chromatography on SiO₂ eluted with 2→12% MeOH in CHCl₃. Peptide identities were verified by HPLC-ESI-MS.

D3. Procedures for template couplings, Pd⁰-catalyzed and acid-promoted macrocyclizations:

General Procedure A - Acylation of peptides with template 1:

The peptide (1.5eq) was dissolved in *N,N*-DMF (0.2M), neutralized with Hünig's base (1.5eq) to free the ammonium salt, where necessary, and treated with compound **1**. The reaction was stirred at room temperature until complete by TLC, and was worked up by partitioning between EtOAc and saturated NaHCO₃. The organic phase was washed with saturated NaHCO₃ (x2) and brine, then dried over MgSO₄ and concentrated. Purification was accomplished by flash chromatography on SiO₂ eluted with 0→12% MeOH in CHCl₃.

General Procedure B - Palladium catalyzed macrocyclization:

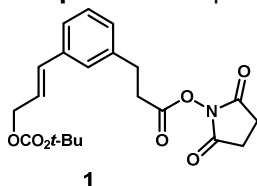
The acyclic cinnamyl carbonate was dissolved in dry *N,N*-DMF (5 mM) and sparged with argon for approximately 15 minutes. The reaction vessel was briefly opened to introduce Pd(PPh₃)₄ (5 mol%) as a solid or stock solution in *N,N*-DMF, and sparging was continued for approximately 5 minutes. All reactions proceeded to completion within 60 minutes at room temperature, and were halted by passing air through the reaction for several minutes, causing the yellow color of the catalyst to fade. The reaction mixture was then concentrated to dryness and promptly purified by flash chromatography on SiO₂ eluted with 0→12% MeOH in CHCl₃.

General Procedure C - Acid promoted macrocyclization / isomerization:

The cyclic cinnamyl tyrosyl ether or acyclic *tert*-butyl carbonate was dissolved or suspended in dry nitromethane (5 mM) under ambient atmosphere, and treated with methanesulfonic acid (15 eq.) at room temperature. After 2 hours, three aliquots (25 µL ea.) were removed, quenched with methanolic Hünig's base (100 µL, 0.5M), concentrated to dryness and reconstituted in the internal standard solution (600 µL, 10.0 mM mesitylene in MeOH) for yield analysis. The remainder of the reaction was worked up by partitioning between EtOAc and saturated NaHCO₃. The organic phase was washed with saturated NaHCO₃ (x2) and brine, then dried over MgSO₄ and concentrated. Alternatively, reactions were quenched with Hünig's base (15 eq.) and concentrated. The product mixture was reconstituted in *N,N*-DMF and purified by semi-preparative RP-HPLC (see individual examples, below). HPLC assay yield was determined by external calibration normalized against the internal standard. Standard solutions of purified products were prepared in internal standard solution at approximately the same concentration as found in the crude reaction mixture samples (~10 µM to ~200 µM). Samples and calibrants were analyzed by RP-HPLC-UV with detection at 254nm (see individual methods, chromatograms, below).

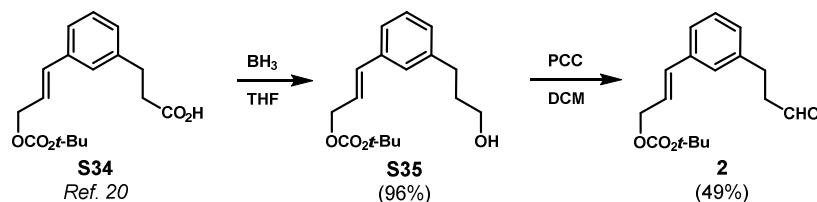
D4. Synthesis of templates 1, 2 and 3:

Template 1: Template 1 was prepared as described.⁽²⁰⁾



⁶³ J. E. Shepbeck II, H. Kar, H. Hong, *Tetrahedron Lett.* 2000, **41**, 5329.

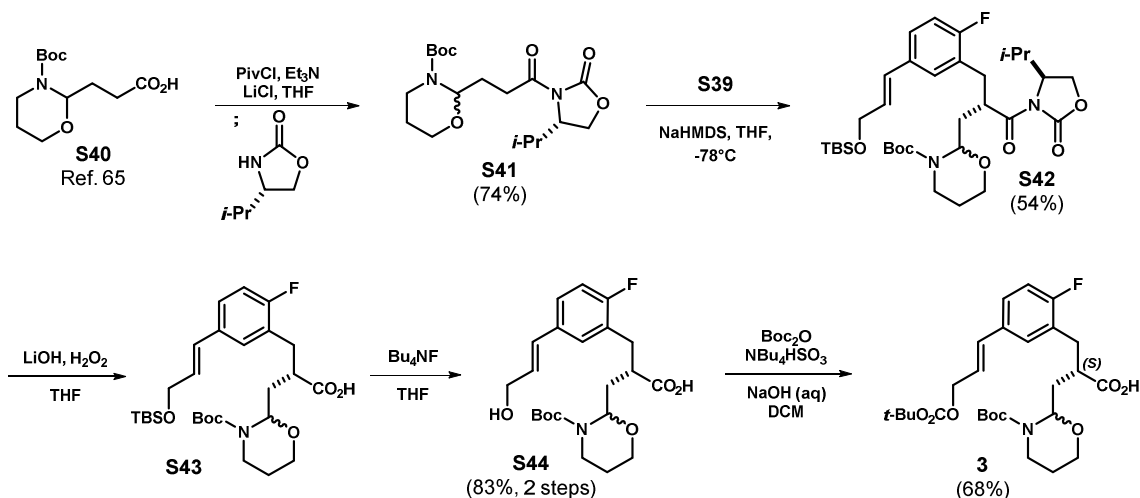
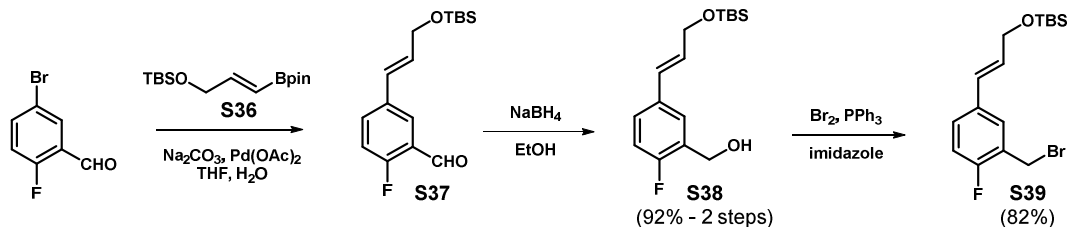
Template 2:



Phenylpropanol (S35): Phenylpropionic acid derivative **S35**²⁰ (700 mg, 2.28 mmol) was dissolved in THF (3.0 mL) and cooled in an ice bath. To this mixture was added $\text{BH}_3 \cdot \text{THF}$ (2.8 mL, 1.0M), and the reaction continued cold for 10 min, then allowed to warm to rt and stirred for 15 h. The reaction was quenched with H_2O , concentrated and partitioned between $\text{EtOAc}:\text{H}_2\text{O}$. The organic phase was washed with sat. NH_4Cl , dried over MgSO_4 and concentrated to give **S35** as a colorless oil (640 mg, 96%). ^1H NMR (CDCl_3 , 500 MHz): δ 1.47 (s, 9H), 1.84 (tt, $J = 7.7, 6.5$ Hz, 2H), 2.64 (t, $J = 7.7$ Hz, 2H), 3.61 (t, $J = 6.5$ Hz, 2H), 3.68 (br s, 1H), 4.67 (br d, $J = 6.5$ Hz, 2H), 6.24 (dt, $J = 15.9, 6.5$ Hz, 1H), 6.60 (br d, $J = 15.9$ Hz, 1H), 7.04-7.08 (m, 1H), 7.16-7.21 (m, 3H). ^{13}C NMR (CDCl_3 , 101 MHz): δ 153.3, 142.1, 136.1, 134.3, 128.5, 128.1, 126.7, 124.1, 122.6, 82.0, 67.4, 61.7, 33.9, 31.8, 27.6. MS m/z 315.1 (calc'd: $\text{C}_{17}\text{H}_{24}\text{NaO}_4$, $[\text{M}+\text{Na}]^+$, 315.2).

Template 2: Alcohol **S35** (85 mg, 0.29 mmol) was dissolved in DCM (2.0 mL), and 4Å molecular sieves (180 mg) were added followed by PCC (108 mg, 0.5 mmol). The mixture was stirred at rt for 2h, filtered through a pad of Celite and filtered. Purification by flash chromatography on SiO_2 eluted with 7:1 hexanes: EtOAc afforded template **2** as a colorless oil (41 mg, 49%). ^1H NMR (CDCl_3 , 400 MHz): δ 1.48 (s, 9H), 2.73 (tt, $J = 7.6, 1.1$ Hz, 2H), 2.91 (t, $J = 7.6$ Hz, 2H), 4.69 (dd, $J = 6.4, 1.2$ Hz, 2H), 6.26 (dt, $J = 15.9, 6.4$ Hz, 1H), 6.61 (dt, $J = 15.9, 1.2$ Hz, 1H), 7.04-7.09 (m, 1H), 7.17-7.23 (m, 3H), 9.77 (t, $J = 1.1$ Hz, 1H). ^{13}C NMR (CDCl_3 , 101 MHz): δ 201.2, 153.3, 140.7, 136.5, 134.1, 128.8, 128.0, 126.6, 124.6, 123.1, 82.1, 67.3, 45.1, 27.9, 27.8. MS m/z 173.1 (calc'd: $\text{C}_{12}\text{H}_{13}\text{O}$, $[\text{M}-\text{OCO}_2t\text{-Bu}]^+$, 173.1).

Template 3:



TBS cinnamyl ether (S37): A round bottom flask fitted with a reflux condenser was charged with 5-bromo-2-fluorobenzaldehyde (5.2 g, 26 mmol), vinylboronate **S36**⁶⁴ (9.2 g, 31 mmol), Na₂CO₃ (8.1 g, 77 mmol), THF (43 mL) and H₂O (9 mL) and sparged with argon for 20 minutes. The vessel was opened briefly to introduce Pd(PPh₃)₄ (296 mg, 0.26 mmol), sparged for an additional 5 minutes, and heated to reflux for two days. The reaction was cooled, diluted with H₂O and partitioned against EtOAc. The aqueous phase was extracted with EtOAc (x2), and the combined organic phase was washed with 10% citric acid (x1), H₂O (x1), brine, dried over Na₂SO₄ and concentrated. The residual oil was reconstituted in 8:2 hexanes:EtOAc and passed through a pad of SiO₂, washing with the same. The filtrate was concentrated to give a yellow oil (9.1 g), which NMR indicated to be a 5:1 mixture of **S37** (NMR assay 24.6 mmol, 96%) and starting boronate **S36**. An analytical sample was obtained by flash chromatography on SiO₂ eluted with 0→10% EtOAc in hexanes. ¹H NMR (CDCl₃, 600 MHz): δ 0.11 (s, 6H), 0.94 (s, 9H), 4.35 (dd, J = 4.7, 1.8 Hz, 2H), 6.30 (dt, J = 15.8, 4.7 Hz, 1H), 6.59 (dt, J = 15.8, 1.8 Hz, 1H), 7.12 (dd, J = 9.8, 8.8 Hz, 1H), 7.60 (ddd, J = 8.7, 5.1, 2.4 Hz, 1H), 7.84 (dd, J = 6.6, 2.4 Hz, 1H), 10.36 (s, 1H). ¹³C NMR (CDCl₃, 101 MHz): δ 187.0 (d, ³J_{CF} = 6.5 Hz), 163.8 (d, ¹J_{CF} = 258.8 Hz), 134.2 (d, ⁴J_{CF} = 3.8 Hz), 133.8 (d, ³J_{CF} = 8.9 Hz), 131.0 (d, ⁵J_{CF} = 1.6 Hz), 126.8, 63.4, 26.0, 18.4, -5.2. MS *m/z* 295.1 (calc'd: C₁₆H₂₄FO₂Si, [M+H]⁺, 295.2).

Benzyl alcohol (S38): Crude aldehyde **S37** (9.1 g, assay 24.6 mmol) was dissolved in EtOH, cooled in an ice bath, and NaBH₄ (540 mg, 14.3 mmol) was added in several portions. The mixture was stirred for 30 min, quenched and diluted with water, and extracted with EtOAc (x2). The organic phase was washed with H₂O (x1), brine, dried over Na₂SO₄ and concentrated. The residue was taken up in 5% EtOAc in hexanes and loaded on a SiO₂ flash chromatography column, eluting with the same to collect the vinyl boronate **S36**. The eluent was changed to 25% EtOAc in hexanes, and **S38** was recovered as a light yellow oil (7.1 g, 92% 2 steps). ¹H NMR (CDCl₃, 300 MHz): δ 0.11 (s, 6H), 0.94 (s, 9H), 4.34 (dd, J = 4.9, 1.5 Hz, 2H), 4.75 (s, 2H), 6.22 (dt, J = 15.8, 4.9 Hz, 1H), 6.56 (dt, J = 15.8, 1.5 Hz, 1H), 6.99 (dd, J = 9.5, 8.7 Hz, 1H), 7.27 (ddd, J = 8.7, 4.9, 2.2 Hz, 1H), 7.43 (dd, J = 7.1, 2.1 Hz, 1H). ¹³C NMR (CDCl₃, 101 MHz): δ 159.9 (d, ¹J_{CF} = 246.7 Hz), 133.5 (d, ⁴J_{CF} = 3.4 Hz), 129.1 (d, ³J_{CF} = 1.9 Hz), 128.4, 127.9 (d, ²J_{CF} = 15.3 Hz), 127.12, 127.05 (d, ³J_{CF} = 4.7 Hz), 115.3 (d, ²J_{CF} = 21.8 Hz), 63.9, 59.1 (d, ³J_{CF} = 4.0 Hz), 26.0, 18.5, -5.1. MS *m/z* 165.0 (calc'd: C₁₀H₁₀FO, [M-OTBS]⁺, 165.1).

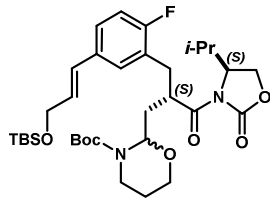
Benzyl bromide (S39): To a solution of triphenylphosphine (4.51 g, 17.2 mmol), imidazole (1.17 g, 17.2 mmol) and benzyl alcohol **S38** (3.40 g, 11.5 mmol) in dichloromethane (100 mL) at 0 °C was added a solution of bromine (881 μL, 17.2 mmol) in dichloromethane (25 mL) dropwise via syringe. After two hours the reaction was diluted with dichloromethane (100 mL) and washed sequentially with Na₂S₂O₃, 1N HCl, water and brine. The organic layer was dried over Na₂SO₄, concentrated and purified by column chromatography (SiO₂, 10→40% EtOAc in hexanes) to provide **S39** as a faintly yellow oil (3.40 g, 82%). ¹H NMR (CDCl₃, 500 MHz): δ 7.37 (dd, J = 7.2, 2.3 Hz, 1H), 7.29 (ddd, J = 8.0, 5.0, 2.3 Hz, 1H), 7.00 (t, J = 9.3 Hz, 1H), 6.53 (br. d, J = 15.7 Hz, 1H), 6.21 (dt, J = 15.7, 5.0 Hz, 1H), 4.56 (s, 2H), 4.33 (dd, J = 4.8, 1.6 Hz, 1H), 0.94 (s, 9H), 0.11 (s, 6H). ¹³C NMR (CDCl₃, 125 MHz): δ 159.8 (d, J = 250.4 Hz), 133.8 (d, J = 3.7 Hz), 129.8 (d, J = 2 Hz), 129 (d, J = 3.3 Hz), 128.3 (d, J = 8.4 Hz), 127.6, 125.1 (d, J = 15 Hz), 115.9 (d, J = 22 Hz), 63.6, 26.0, 25.7, 18.5, 5.2. MS *m/z* 381.1 (calc'd: C₁₆H₂₄BrFOSiNa, [M+Na]⁺, 381.1).

N-Acyloxazolidinone (S41): A solution of carboxylic acid **S40**⁶⁵ (8.66 g, 33.4 mmol) in anhydrous THF (167 mL, 0.2M) was cooled to -10 °C and Et₃N (11.64 mL, 83.5 mmol) was added, followed by dropwise addition of pivaloyl chloride (4.32 mL, 35.1 mmol) via syringe. The reaction mixture was allowed to stir for 1h at -10 °C, then dry LiCl (1.49 g, 35.1 mmol) was added in one portion followed by addition of L-valine derived oxazolidinone (4.53 g, 35.1 mmol). This mixture was stirred at 0 °C for one hour then allowed to warm to room temperature and stir overnight. The reaction mixture was then diluted with EtOAc (200 mL) and transferred to separatory funnel. The organic layer was washed with 1N HCl, brine, and dried over Na₂SO₄. The solvent was removed by rotary evaporation. Purification by column chromatography on SiO₂ eluted with 35% EtOAc in hexanes provided **S41** as a viscous oil (9.13 g, 74%). [α]_D²⁰ = +41.3° (c = 1.8, CHCl₃). ¹H NMR (CDCl₃, 400 MHz, 1:1 mixture of diastereomers): δ 5.54 (ddd, J = 7.0, 7.0, 4.3 Hz, 1H), 4.39-4.45 (m, 1H), 4.26 (ddd, J = 9.0, 8.1, 2.0 Hz, 1H), 4.20 (ddd, J = 9.0, 3.1, 0.5 Hz, 1H), 4.02 (br dd, J = 13.7, 4.7 Hz, 1H), 3.90 (dddd, J = 11.5, 11.5, 3.9, 3.9 Hz, 1H), 3.65-3.72 (m, 1H), 3.13 (ddd, J = 13.0, 13.0, 3.4 Hz, 1H), 3.08 (ddd, J = 8.5, 8.5, 2.5 Hz, 0.5H), 2.93 (dd, J = 8.5, 6.2 Hz, 0.5H), 2.91 (dd, J = 8.6, 6.4 Hz, 0.5H), 2.86 (dd, J = 8.6, 6.5 Hz, 0.5H), 2.32-2.42 (m, 1H), 2.21-2.33 (m, 1H), 2.07-2.20 (m, 1H), 1.86 (dddd, J = 18.3, 12.7, 11.3, 5.5 Hz, 1H), 1.48-1.55 (m, 1H), 1.46 (s, 9H), 0.91 (d, J = 7.1 Hz, 3H), 0.88 (d, J = 7.0 Hz, 1.5H), 0.87 (d, J = 7.0 Hz, 1.5H). ¹³C NMR (CDCl₃, 101 MHz, 1:1 mixture of diastereomers): δ 172.43, 172.39, 154.1, 153.82, 153.78, 81.5, 81.4, 80.2, 63.5, 63.4, 59.83, 59.79, 58.5, 36.8, 31.3, 31.2, 28.5, 28.4, 28.3, 25.2, 23.9, 18.0, 14.8, 14.6. MS *m/z* 393.5 (calc'd: C₁₈H₃₀N₂O₆Na, [M+Na]⁺, 393.2).

⁶⁴ Y. D. Wang, et al., *Tetrahedron Lett.* 2005, **46**, 8777.

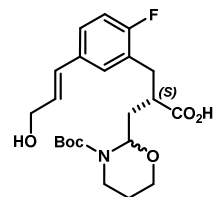
⁶⁵ T. Groth, M. Meldal, *J. Comb. Sci.* 2001, **3**, 34.

N-Acyl oxazolidinone (S42): *N*-Acylloxazolidinone **S41** (3.83 g, 10.3 mmol) was co-evaporated once from dry toluene, dried in vacuo, and dissolved in dry THF (52 mL). Benzyl bromide **S39** (4.83 g, 13.4 mmol) was added, and the mixture cooled to -78°C. A solution of NaHMDS (1.0M/THF, 13.4 mL, 13.4 mmol) was added in one portion. The resulting yellow solution was stirred for 2 h at the same temperature, then warmed to -40°C and stirred an additional 2 h. A saturated solution of NH₄Cl (25 mL) was then added to the cold solution. The mixture was diluted with EtOAc, transferred to a separatory funnel, and washed with water and brine. The organic layer was dried over Na₂SO₄ and evaporated. Purification by column chromatography (SiO₂, 5→30% EtOAc in hexane) gave **S42** (5.29 g, 79%).



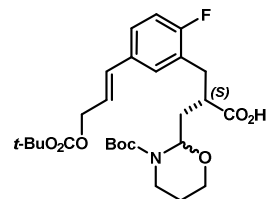
¹H NMR (CDCl₃, 500 MHz, 1:1 mixture of isomers): δ 7.3 (dd, J = 7.1, 2.2 Hz, 1H), 7.23-7.27 (m, 1H), 7.13-7.21 (m, 1H), 6.93 (ddd, J = 9.6, 9.6, 2.4 Hz, 1H), 6.49 (app. dd, J = 15.6, 2.1 Hz, 1H), 6.16 (dq, J = 15.9, 5.1 Hz, 1H), 5.44-5.54 (m, 1H), 4.26-4.41 (m, 4H), 4.18 (ddd, J = 9.0, 5.6, 5.6 Hz, 1H), 4.08 (ddd, J = 8.2, 4.2, 2.4 Hz, 1H), 3.88-3.96 (m, 1H), 3.72-3.82 (m, 1H), 3.61-3.69 (m, 1H), 3.51-3.59 (m, 1H), 2.87-3.09 (m, 3H), 2.43-2.57 (m, 1H), 2.04-2.22 (m, 2H), 1.91 (ddd, J = 10.9, 7.7, 4.1 Hz, 1H), 1.71-1.85 (m, 2H), 1.46 (s, 3H), 1.4 (s, 3H), 0.93 (s, 9H), 0.81 (app. t, J = 7.0 Hz, 3H), 0.58 (d, J = 6.8 Hz, 1.5H), 0.54 (d, J = 6.9 Hz, 1.5H). ¹³C NMR (CDCl₃, 500 MHz, 1:1 mixture of isomers): δ 175.3, 174.5, 174.3, 160.67 (d, J = 243.2 Hz), 154.3, 153.9, 153.8, 153.5, 133.3 (d, J = 3.5 Hz), 133.3 (d, J = 3.5 Hz), 129.2 (d, J = 4.7 Hz), 128.9, 128.9, 128.2, 128.2, 6.32 (d, J = 8.0 Hz), 126.28 (d, J = 8.0 Hz), 125.4, 125.3, 115.4 (d, J = 22.6 Hz), 80.2, 77.3, 77.0, 76.8, 63.8, 63.0, 60.0, 59.9, 58.7, 58.6, 39.5, 32.1, 31.7, 30.4, 28.7, 28.5, 28.4, 28.3, 28.2, 26.0, 25.2, 25.0, 18.5, 18.0, 18.0, 17.9, 14.3, 14.2, 14.1, -5.2. MS *m/z* 517.4 (calc'd: C₂₈H₃₈FN₂O₆, [M-OTBS]⁺, 517.3).

Cinnamyl alcohol (S44): To a solution of **S42** (1.41 g, 2.17 mmol) in THF (15 mL) was added 50 w/w% H₂O₂ (876 μL, 15.19 mmol) followed by LiOH (1.0M/H₂O, 4.34 mL, 4.34 mmol). The reaction was allowed to stir overnight at room temperature. A solution of sodium sulfite (1.91 g, 15.19 mmol) in H₂O (15 mL) and the solution was stirred for 15 minutes, then diluted with EtOAc and transferred to a separation funnel containing 75 mL 1M HCl. The organic layer was separated and washed with water and brine, dried over Na₂SO₄ and evaporated to give crude product which was reconstituted in THF (11 mL) and treated with TBAF (1.0M/THF, 4.10 mL, 4.10 mmol) at room temperature. After 6 hours the reaction was diluted with EtOAc and washed with 1.0N HCl, water and brine. The organic layer was dried over Na₂SO₄, concentrated and purified by column chromatography (SiO₂, 0→10% MeOH in CHCl₃) to give **S44** as a colorless oil



(766 mg, 83%). [α]_D²⁰ = +6.3° (c = 0.75, CHCl₃). ¹H NMR (CDCl₃, 500 MHz, 4:3 mixture of isomers): δ 1.40 (s, 6.8 H), 1.42 (s, 9H), 1.77 (ddd, J = 12.4, 11.3, 5.0 Hz, 0.75H), 1.81 (ddd, J = 12.9, 11.4, 5.7 Hz, 0.75H), 1.86 (ddd, J = 14.1, 5.8, 4.9 Hz, 1.2H), 1.99 (ddd, J = 14.0, 7.5, 4.0 Hz, 1H), 2.25 (ddd, J = 14.2, 9.3, 6.9 Hz, 1H), 2.34 (ddd, J = 14.3, 8.1, 8.1 Hz, 0.75H), 2.70-2.84 (m, 1.75H), 2.84-2.99 (m, 4.25H), 3.03 (td, J = 13.1, 2.9 Hz, 0.75H), 3.60-3.67 (m, 1.75H), 3.70 (td, J = 11.4, 3.1 Hz, 1H), 3.82 (td, J = 11.5, 3.3 Hz, 0.75H), 3.89-3.97 (m, 1.75H), 4.25 (d, J = 5.5 Hz, 3.5H), 5.54 (t, J = 6.9 Hz, 0.75H), 5.57 (t, J = 7.2 Hz, 1H), 6.226 (dt, J = 15.8, 5.7 Hz, 0.75H), 6.230 (dt, J = 15.8, 5.7 Hz, 1H), 6.50 (d, J = 15.8 Hz, 1.75H), 6.92-6.97 (m, 1.75H), 7.16-7.21 (m, 3.5H). ¹³C NMR (CDCl₃, 126 MHz, mixture of isomers): δ 25.1, 25.2, 28.3 (2), 28.4 (2), 30.8, 31.0, 31.6, 31.9, 36.8, 37.0, 41.9, 42.4, 59.9 (2), 63.5 (2), 80.5 (2), 80.9 (2), 115.6 (d, ²J_{CF} = 22.7 Hz), 125.7 (d, ²J_{CF} = 16.2 Hz), 125.8 (d, ²J_{CF} = 16.2 Hz), 126.5 (d, ³J_{CF} = 8.1 Hz) (2), 128.5 (2), 129.3 (d, ³J_{CF} = 4.5 Hz), 129.4 (d, ³J_{CF} = 4.7 Hz), 129.9 (2), 133.05 (d, ⁴J_{CF} = 3.1 Hz), 133.07 (d, ⁴J_{CF} = 3.0 Hz), 154.1 (2), 160.84 (d, ¹J_{CF} = 247 Hz), 160.86 (d, ¹J_{CF} = 247 Hz), 178.5, 178.8. MS *m/z* 446.4 (calc'd: C₂₂H₃₀FN₂O₆Na, [M+Na]⁺, 446.2).

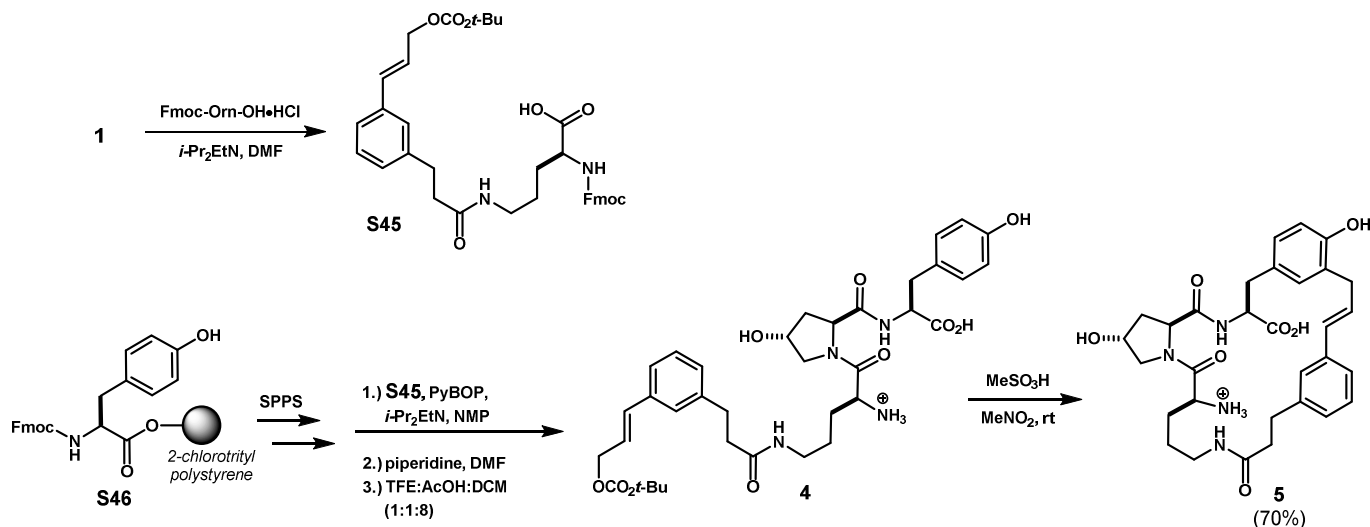
Template 3: To a solution of **S44** (1.0 g, 2.46 mmol) in CH₂Cl₂ (24 mL) at room temperature was added NaOH (15 wt% aqueous, 2.36 mL) followed by tetrabutylammonium bisulfate (24 mg, 0.071 mmol). Di-*tert*-butyl dicarbonate (773 mg, 3.54 mmol) was subsequently added in one portion and the mixture was allowed to stir overnight at room temperature. The reaction mixture was diluted with CH₂Cl₂ (75 mL) and washed with water and brine. The colorless crude oil obtained was purified by column chromatography (SiO₂, gradient 0→10% MeOH in CHCl₃) to afford **3** (876 g, 1.67 mmol, 68%) as a colorless oil. [α]_D²⁰ = +8.9° (c = 0.5, CHCl₃). ¹H NMR (CDCl₃, 500 MHz, 4:3 mixture of isomers): δ 1.40 (s, 9H), 1.43 (s, 12H), 1.49 (s, 21H), 1.74-1.88 (m, 3.2H), 1.98 (ddd, J = 13.9, 7.6, 3.5 Hz, 1H),



2.23 (ddd, J = 14.1, 8.7, 6.8 Hz, 1.2H), 2.34 (ddd, J = 14.1, 8.7, 7.9 Hz, 1.2H), 2.71-2.78 (m, 1H), 2.79-2.94 (m, 4.4H), 2.97-3.06 (m, 3.4H), 3.60-3.70 (m, 3.4H), 3.82 (td, J = 11.4, 3.5 Hz, 1H), 3.90-3.97 (m, 2.2H), 4.68 (dd, J = 6.5, 0.9 Hz, 4.4H), 5.52 (t, J = 6.8 Hz, 1H), 5.56 (t, J = 7.1 Hz, 1.2H), 6.186 (dt, J = 15.7, 6.5 Hz, 1H), 6.191 (dt, J = 15.7, 6.5 Hz, 1.2H), 6.58 (brd, J = 15.7 Hz, 2.2H), 6.968 (dd, J = 9.3, 8.7 Hz, 1H), 6.97 (dd, J = 9.4, 8.6 Hz, 1.2H), 7.19-7.26 (m, 4.4H). ¹³C NMR (CDCl₃, 126 MHz, mixture of isomers): δ 25.1, 25.2, 27.9 (2), 28.36, 28.41, 30.6, 30.9, 31.6, 31.8, 36.8, 36.9, 41.7, 42.3, 60.0 (2), 67.4 (2), 80.5, 80.72, 80.76, 80.9, 82.4 (2), 115.8 (d, ²J_{CF} = 22.9 Hz) (2), 123.0 (2), 125.8 (d, ²J_{CF} = 16.1 Hz), 125.9 (d, ²J_{CF} = 16.2 Hz), 126.73 (d, ³J_{CF} = 8.4 Hz), 126.75 (d, ³J_{CF} = 8.2 Hz), 129.8 (d, ³J_{CF} = 4.7 Hz) (2), 132.56 (d, ⁴J_{CF} = 2.4 Hz), 132.59 (d, ⁴J_{CF} = 2.5 Hz), 133.22, 133.25, 153.5 (2), 154.0 (2), 161.16 (d, ¹J_{CF} = 248 Hz), 161.18 (d, ¹J_{CF} = 248 Hz), 179.0, 179.1. MS *m/z* 546.5 (calc'd: C₂₇H₃₈FN₂O₈Na, [M+Na]⁺, 546.3).

D5. Analysis, purification and structure determination of acidolysis products:

Macrocycle 5:



Fmoc-ornithine-(δ -1)-OH (S45**):** Fmoc-Ornithine hydrochloride (686 mg, 1.75 mmol) was treated with **1** (708 mg, 1.75 mmol) and *i*Pr₂EtN (915 μ L, 5.25 mmol) in DMF (5 mL) for 8 hours. The mixture was partitioned between EtOAc and water, and the organic phase was washed with water, brine, dried over Na₂SO₄ and concentrated. This material was purified by flash chromatography on SiO₂ eluted with 0→15% MeOH in DCM to give **S45** as a vitreous oil (651 mg, 58%). [α]_D²⁰ = +14.2° (*c* = 0.5, CHCl₃). ¹H NMR (500 MHz, DMSO-*d*₆): δ 1.35-1.50 (m, 2H), 1.42 (s, 9H), 1.50-1.60 (m, 1H), 1.65-1.74 (m, 1H), 2.36 (t, *J* = 7.8 Hz, 2H), 2.80 (t, *J* = 7.8 Hz, 2H), 3.03 (dd, *J* = 12.8, 6.7 Hz, 2H), 3.92 (9.2, 8.1, 4.8 Hz, 1H), 4.22 (t, *J* = 7.0 Hz, 1H), 4.28 (d, *J* = 7.0 Hz, 2H), 4.67 (dd, *J* = 6.2, 1.0 Hz, 2H), 6.33 (dt, *J* = 15.9, 6.2 Hz, 1H), 6.63 (d, *J* = 15.9 Hz, 1H), 7.10 (br d, *J* = 7.3 Hz, 1H), 7.26 (br d, *J* = 7.5 Hz, 1H), 7.29 (br s, 1H), 7.33 (dd, *J* = 7.5, 0.8 Hz, 2H), 7.41 (dd, *J* = 7.5, 7.5 Hz, 2H), 7.63 (d, *J* = 8.1 Hz, 1H), 7.73 (d, *J* = 7.5 Hz, 2H), 7.82 (apt t, *J* = 5.4, Hz, 1H), 7.89 (d, *J* = 7.5 Hz, 2H), 12.56 (br s, 1H). ¹³C NMR (126 MHz, DMSO-*d*₆): δ 173.9, 171.1, 156.1, 152.8, 143.9, 143.8, 141.8, 140.7, 135.8, 133.5, 128.6, 128.0, 127.6, 127.1, 126.4, 125.3, 124.2, 123.3, 120.1, 81.5, 66.9, 65.6, 53.7, 46.7, 38.1, 37.0, 31.0, 28.3, 27.4, 26.0. MS *m/z* 641.1 (calc'd: C₃₇H₄₁N₂O₈, [M-H]⁺, 641.3).

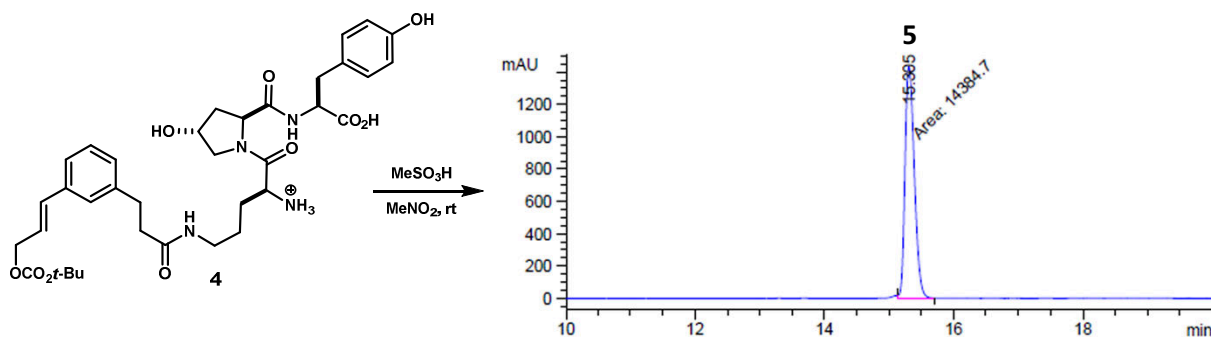
Fmoc-tyrosine 2-chlorotriylpolystyrene ester (S46**):** 2-Chlorotriyl chloride polystyrene resin (595 mg, 0.5 mmol) was swollen in anhydrous DCM and reacted with Fmoc-Tyr-OH (605 mg, 1.5 mmol) and *i*Pr₂EtN (523 μ L, 3 mmol) for 2 h. Methanol was added, and the resin shaken for 15 minutes, filtered and rinsed thoroughly with DMF, DCM and MeOH, and dried *in vacuo* (862 mg). The loading (0.52 mmol/g) was determined by spectrophotometric quantification of the dibenzofulvene released by treatment of an aliquot with DBU in triplicate.⁶⁶

Acyclic carbonate 4: Resin-bound **S46** was deprotected, coupled to Fmoc-*cis*-Hyp-OH using PyBOP, and again deprotected. This material (0.2 mmol) was treated with *i*Pr₂EtN (130 μ L, 0.76 mmol), **S45** (241 mg, 0.38 mmol), and PyBOP (198 mg, 0.38 mmol) for 1h, then deprotected with 20% piperidine in DMF for 1 min, and repeated for 3 min. Resin cleavage was achieved by treating with TFE:AcOH:DCM (1:1:8) for 2h, and the crude residue was purified by preparative HPLC (Sunfire C18, 35→100% ACN + 0.1% TFA) to give **4** (47 mg). ¹H NMR (500 MHz, DMSO-*d*₆, major rotamer): δ 1.43 (s, 9H), 1.47-1.57 (m, 2H), 1.58-1.66 (m, 1H), 1.66-1.74 (m, 1H), 1.82 (ddd, *J* = 13.0, 8.4, 4.5 Hz, 1H), 2.09 (dd, *J* = 13.0, 8.5 Hz, 1H), 2.37 (dd, *J* = 8.4, 7.4 Hz, 2H), 2.76-2.81 (m, 2H), 2.81 (dd, *J* = 7.8, 3.7 Hz, 1H), 2.87 (dd, *J* = 13.9, 5.4 Hz, 1H), 2.98-3.11 (m, 2H), 3.47 (dd, *J* = 10.7, 3.9 Hz, 1H), 3.56 (br d, *J* = 10.7 Hz, 1H), 4.10-4.16 (m, 1H), 4.29 (ddd, *J* = 7.6, 7.6, 5.7 Hz, 1H), 4.32-4.36 (m, 1H), 4.53 (t, *J* = 8.2 Hz, 1H), 4.67 (dd, *J* = 6.2, 1.0 Hz, 1H), 6.33 (dt, *J* = 15.9, 6.2 Hz, 1H), 6.64 (d, *J* = 15.9 Hz, 1H), 6.65 (d, *J* = 8.5 Hz, 2H), 7.06 (d, *J* = 8.5 Hz, 2H), 7.11 (br d, *J* = 7.2 Hz, 1H), 7.25 (apt t, *J* = 7.4 Hz, 1H), 7.26-7.31 (m, 2H), 7.86 (dd, *J* = 5.6, 5.6 Hz, 1H), 8.09 (br d, *J* = 3.8 Hz, 3H), 8.27 (d, *J* = 7.6 Hz, 1H), 9.25 (br s, 1H), 12.65 (br s, 1H). ¹³C NMR (126 MHz, DMSO-*d*₆, major rotamer): δ 172.8, 171.4, 171.0, 167.2, 156.0, 152.8, 141.8, 135.9, 133.5,

⁶⁶ M. Gude, J. Ryf, P. D. White, *Lett. Pept. Sci.* 2002, **9**, 203.

130.2, 128.7, 128.0, 127.4, 126.4, 124.3, 123.3, 115.0, 81.6, 68.9, 66.9, 58.4, 54.1, 50.8, 37.83, 37.79, 37.0, 36.0, 31.0, 27.4, 24.0. MS m/z 697.3 (calc'd: C₃₆H₄₉N₄O₁₀, [M+H]⁺, 697.3).

Macrocycle 5: General procedure B gave **5** as a colorless film (14.4 mg). HPLC analysis and purification was performed using the following methods.



Analytical HPLC method:

Column: Waters Sunfire™ C₁₈, 4.6x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 1.00 ml/min

Time	%B
0	20
2	20
25	45
28	100
35	100
38	20
41	20

Semi-preparative HPLC method:

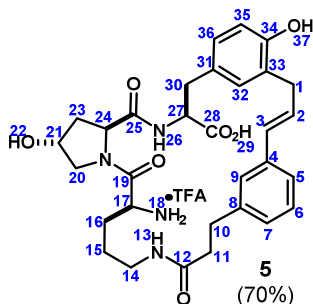
Column: Waters Sunfire™ C₁₈, 10x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 6.00 ml/min

Time	%B
0	23
1	23
20	35
22	23
24	23



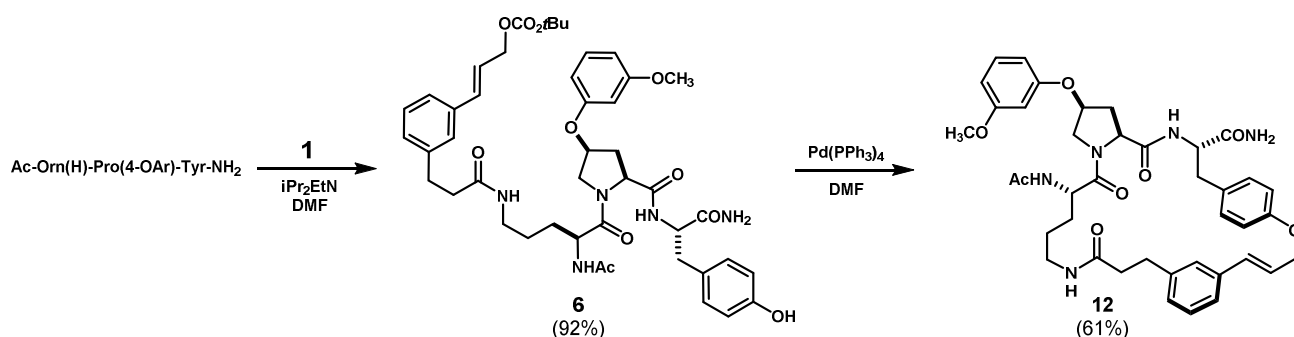
(600MHz, DMSO-d₆, 298K)

	¹³ C	¹ H	key correlations
1	32.0	3.36 (dd, J = 15.6, 6.9 Hz, 1H), 3.49 (dd, J = 15.6, 7.2 Hz, 1H)	HMBC 1→33,34
2	128.5	6.31 (ddd, J = 15.7, 7.2, 6.9 Hz, 1H)	COSY 2→1 HMBC 2→33
3	130.4	6.47 (d, J = 15.7 Hz, 1H)	HMBC 3→4
4	136.9	-	
5	124.0	7.16 (br d, J = 7.6 Hz, 1H) overlap	HMBC 5→3
6	128.2	7.19 (dd, J = 7.6, 6.9 Hz, 1H) overlap	HMBC 6→4,8
7	127.4	7.03 (br d, J = 6.9 Hz, 1H)	
8	141.4	-	
9	124.7	7.29 (br s, 1H)	HMBC 9→5,7
10	30.5	2.75-2.85 (m, 2H) overlap	HMBC 10→8,9,12
11	36.4	2.36-2.48 (m, 2H)	HMBC 11→8,12

12	171.1	-	
13	-	7.70 (dd, J = 5.5, 5.5 Hz, 1H)	HMBC 13→12 COSY 13→14
14	37.5	2.88-2.97 (m, 1H) overlap, 3.00-3.09 (m, 1H)	COSY 14→15
15	23.1	1.29-1.46 (m, 2H)	COSY 15→16
16	26.5	1.57-1.73 (m, 2H)	TOCSY 16→17,18
17	50.3	4.11-4.19 (m, 1H)	HMBC 17→19
18	-	8.08 (m, 3H) overlap	HMBC 18→17
19	167.2	-	
20	54.7	3.49-3.56 (m, 2H) overlap	
21	68.7	4.30-4.34 (m, 1H)	COSY 21→20,23,23' TOCSY 21→22
22	-	8.14 (br s, 1H)	
23	37.5	1.80 (ddd, J = 12.9, 8.5, 4.5 Hz, 1H), 2.04 (br dd, J = 12.9, 7.7 Hz, 1H)	
24	58.4	4.47 (dd, J = 8.5, 7.7 Hz, 1H)	HMBC 24→19
25	171.0	-	
26	-	8.30 (d, J = 7.9 Hz, 1H)	
27	54.4	4.23-4.31 (m, 1H)	HMBC 27→31
28	172.7	-	
29	-	12.66 (br s, 1H)	
30	36.2	2.77 (dd, J = 13.9, 7.3 Hz, 1H) overlap, 2.89 (dd, J = 13.9, 6.7 Hz, 1H)	HMBC 30→31,32,36
31	127.6	-	
32	129.5	6.95 (d, J = 1.8 Hz, 1H)	
33	125.9	-	
34	153.2	-	
35	114.3	6.69 (d, J = 8.1 Hz, 1H)	HMBC 35→33
36	127.7	6.87 (dd, J = 8.1, 1.8 Hz, 1H)	
37	-	9.33 (br s, 1H)	

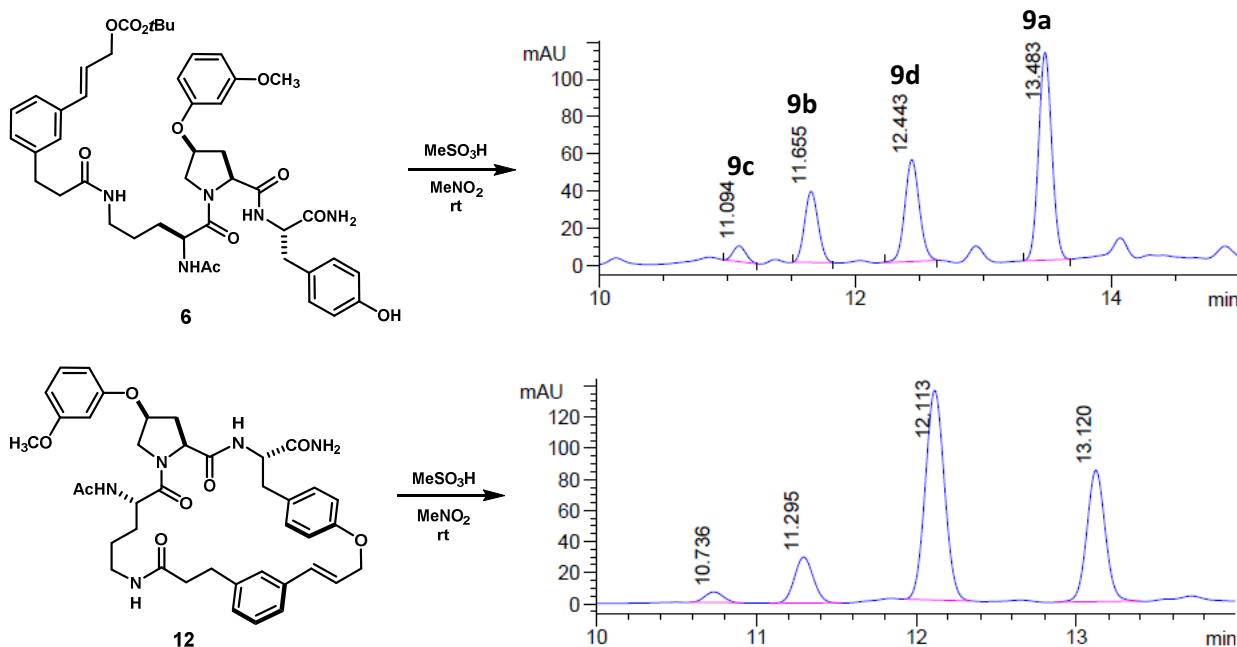
MS m/z 579.3 (calc'd: $C_{31}H_{39}N_4O_7$, $[M+H]^+$, 579.3).

Macrocycles 9a-d and 12:



Acyclic carbonate 6: General procedure A afforded compound **6** as a colorless foam (248 mg, 92%). ¹H NMR (600 MHz, CD₃OD, major rotamer): δ 1.40-1.66 (m, 4H), 1.46 (s, 9H), 1.95 (s, 3H), 2.32 (br d, J = 14.0 Hz, 1H), 2.41-2.52 (m, 3H), 2.88 (t, J = 7.5 Hz, 2H), 2.95 (d, J = 6.4 Hz, 1H), 3.04-3.21 (m, 2H), 3.69 (s, 3H), 3.80 (br d, J = 11.2 Hz, 1H), 4.17 (dd, J = 11.2, 4.8 Hz, 1H), 4.44-4.48 (m, 1H), 4.49-4.54 (m, 2H), 4.65 (d, J = 6.1 Hz, 2H), 5.01-5.07 (m, 1H), 6.28 (dt, J = 15.8, 6.2 Hz, 1H), 6.46-6.55 (m, 3H), 6.61 (d, J = 15.8 Hz, 1H), 6.64 (d, J = 8.4 Hz, 2H), 6.99 (d, J = 8.4 Hz, 2H), 7.06-7.12 (m, 1H), 7.13-7.27 (m, 4H), 7.88 (s, 1H). ¹³C NMR (126 MHz, CD₃OD, major rotamer): δ 175.4, 175.1, 174.1, 173.2, 172.7, 162.4, 159.3, 157.3, 154.9, 142.6, 137.7, 135.0, 131.6, 131.2, 129.8, 129.2, 128.5, 127.8, 125.6, 124.2, 116.2, 108.7, 108.4, 103.4, 82.9, 77.3, 68.4, 68.1, 61.2, 55.7, 54.2, 52.4, 39.7, 38.9, 38.3, 35.1, 32.8, 29.4, 28.0, 26.2, 22.2. MS m/z 844.4 (calc'd: $C_{40}H_{48}N_5O_8$, $[M+H]^+$, 844.4).

Tyrosyl ether 12: General procedure B afforded compound **12** as a colorless film (128 mg, 61%). ¹H NMR (600 MHz, CD₃OD): δ 1.30–1.44 (m, 3H), 1.47–1.54 (m, 1H), 1.95 (s, 3H), 2.37–2.42 (m, 2H), 2.52–2.55 (m, 2H), 2.84–2.96 (m, 2H), 2.98 (dd, J = 14.1, 6.7 Hz, 2H), 3.05–3.12 (m, 2H), 3.71 (s, 3H), 3.74 (d, J = 10.8 Hz, 1H), 4.27 (dd, J = 11.5, 4.9 Hz, 1H), 4.43 (apt t, J = 6.6 Hz, 1H), 4.45 (dd, J = 6.6, 4.1 Hz, 1H), 4.67 (d, J = 6.3 Hz, 1H), 4.78 (d, J = 5.9 Hz, 2H), 5.06–5.10 (m, 1H), 6.27 (ddd, J = 16.1, 5.9, 5.9 Hz, 1H), 6.49–6.57 (m, 3H), 6.64 (d, J = 16.1 Hz, 1H), 6.80 (d, J = 8.5 Hz, 2H), 7.06 (br d, J = 7.6 Hz, 1H), 7.13–7.19 (m, 4H), 7.21 (dd, J = 7.6, 7.6 Hz, 1H), 7.26 (br s, 1H). ¹³C NMR (151 MHz, CD₃OD): δ 175.4, 175.2, 174.2, 173.2, 172.9, 162.5, 159.5, 158.7, 142.5, 138.1, 134.0, 131.7, 131.2, 130.0, 129.8, 129.3, 126.9, 126.5, 126.2, 116.4, 108.9, 108.3, 103.6, 77.6, 71.4, 61.1, 55.7, 55.4, 54.3, 52.2, 39.9, 38.9, 37.9, 35.1, 32.6, 29.5, 26.1, 22.1. MS *m/z* 726.4 (calc'd: C₄₀H₄₈N₅O₈, [M+H]⁺, 726.3).



Compound **6** was subjected to general procedure C. HPLC analysis and purification was performed using the following methods.

Analytical HPLC method:

Column: Waters Sunfire™ C₁₈, 4.6x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 1.00 ml/min

Time	%B
0	35
2	35
22	70
30	100
40	100
45	35
47	35

Semi-preparative HPLC method:

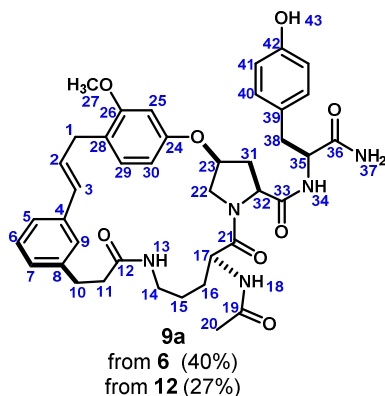
Column: Waters Sunfire™ C₁₈, 10x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 7.50 ml/min

Time	%B
0	30
2	30
22	65
23	30
25	30

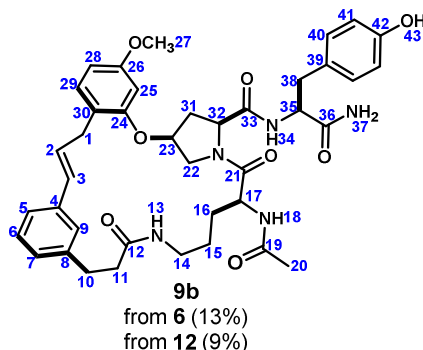


(600MHz, DMSO-*d*₆, 298K)

	¹³ C	¹ H	key correlations
1	32.1	3.48 (dd, J=14.8, 5.5Hz, 1H), 3.27 (dd, J=14.8, 6.5Hz, 1H)	HMBC 1→26
2	129.3	6.17 (ddd, J=15.6, 6.5, 6.5Hz, 1H)	HMBC 2→4
3	128.8	6.26 (d, J=15.6Hz, 1H)	TOCSY 3→1, 2 HMBC 3→5,9
4	137.1	-	
5	124.4	7.07 (d, J=7.9Hz, 1H) overlap	TOCSY 5→6,7,9
6	128.1	7.16 (dd, J=7.5, 7.5Hz, 1H) obscured	HMBC 6→4,8
7	127.1	6.97 (br d, J =7.4Hz, 1H)	
8	141.7	-	
9	123.3	7.10 (br s, 1H)	
10	35.9	2.23-2.28 (m, 2H)	
11	29.7	2.82-2.29 (m, 1H), 2.69-2.75 (m, 1H)obscured	HMBC 11→8, 12
12	171.4	-	
13	-	7.72 (dd, J=5.2, 5.2Hz, 1H)	TOCSY 13→14,15,16,17,18 HMBC 13→12
14	37.9	2.63-2.75 (m, 2H) obscured	
15	24.9	1.19-1.33 (m, 2H)	
16	28.3	1.33-1.47 (m, 2H)	
17	49.6	4.21-4.26 (m, 1H)	COSY 17→18
18	-	8.09 (d, J=8.1Hz, 1H)	HMBC 18→19
19	169.3	-	
20	22.0	1.77 (s, 3H)	HMBC 20→19
21	171.9	-	
22	51.0	3.76 (dd, J=11.4, 3.2Hz, 1H), 3.61 (br d, J=11.4Hz, 1H)	TOCSY 22→22',23,31,32
23	75.9	5.21 (apt dd, J=3.9, 3.9 Hz, 1H)	
24	155.9	-	
25	101.6	6.60 (s, 1H) obscured	
26	157.9	-	
27	55.3	3.72 (s, 3H)	HMBC 27→26
28	121.3	-	
29	130.2	7.06 (d, J=7.9Hz, 1H) overlap	
30	107.3	6.57-6.62 (m, 1H) obscured	
31	34.2	2.53-2.59 (m, 1H), 2.23-2.28 (m, 1H)	HMBC 31→33
32	59.5	4.30 (br d, J=10.8Hz, 1H)	HMBC 32→33
33	169.8	-	
34	-	7.24 (d, J=7.7Hz, 1H)	
35	53.5	4.39 (apt dd, J=13.4, 6.6Hz, 1H)	COSY 35→34,38 HMBC 35→33,36

36	172.5	-	
37	-	7.32 (br s, 1H)	HMBC 37→36
38	37.2	2.96 (dd, J=13.8, 5.9Hz, 1H), 2.83 (dd, J=13.8, 6.6Hz, 1H)	HMBC 38→39
39	127.4	-	
40	130.2	7.00 (d, J=8.3Hz, 2H)	
41	114.5	6.59 (d, J=8.3Hz, 2H)	HMBC 41→39
42	155.9	-	
43	-	9.03 (br s, 1H)	

MS m/z 726.4 (calc'd: C₄₀H₄₈N₅O₈, [M+H]⁺, 726.3).

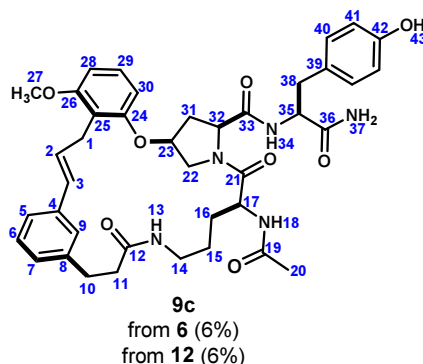


(600MHz, DMSO-*d*₆, 298K)

	¹³ C	¹ H	key correlations
1	33.5	3.63 (dd, J=14.5,6.1Hz, 1H), 3.13 (dd, J=14.5, 7.2Hz, 1H)	HMBC 1→24,30
2	129.0	6.42 (ddd, J=15.8, 7.2, 6.1Hz, 1H)	COSY 2→1 HMBC 2→4,30
3	129.0	6.30 (br d, J=15.8Hz, 1H)	HMBC 3→4
4	137.0	-	
5	124.0	7.03 (br d, J=7.7Hz, 1H)	TOCSY 5→6,7,9
6	128.0	7.12 (dd, J=7.6, 7.6Hz, 1H)	HMBC 6→4,8
7	127.0	6.98 (br d, J=7.7Hz, 1H)	
8	141.2	-	
9	124.6	7.33 (br s, 1H)	
10	30.5	2.74-2.82 (m, 1H) overlap	HMBC 10→7,8
11	36.4	2.41 (ddd, J=14.1, 7.6, 5.6Hz, 1H), 2.34 (ddd, J=14.1, 8.4, 5.5Hz, 1H)	HMBC 11→8,12 COSY 11→10
12	171.1	-	
13	-	7.74 (apt t, J=5.2Hz, 1H) obscured	HMBC 13→12
14	37.7	2.89-2.96 (m, 2H) obscured	COSY 14→13
15	24.5	1.27-1.38 (m, 2H) overlap	COSY 15→14
16	28.1	1.58-1.65 (m, 2H) overlap	COSY 16→15
17	49.3	4.43 (apt dd, J = 13.8, 7.0Hz, 1H)	HMBC 17→19,21 COSY 17→16,18
18	-	8.12 (d, J=7.6Hz, 1H)	HMBC 18→19
19	169.2	-	
20	21.9	1.81 (s, 3H)	HMBC 20→19
21	171.6	-	
22	51.5	4.49 (dd, J=10.2, 6.4Hz, 1H) 3.47 (dd, J=10.2, 6.2Hz, 1H)	
23	73.6	5.08 (apt q, J=6.4Hz, 1H)	HMBC 23→24 COSY 23→22
24	155.8	-	
25	99.5	6.69 (d, J=2.3Hz, 1H)	HMBC 25→24,26
26	159.3	-	
27	54.9	3.76 (s, 3H)	HMBC 27→26

28	105.4	6.49 (dd, J=8.3, 2.3Hz, 1H)	HMBC 28→30
29	130.5	7.10 (d, J=8.3Hz, 1H) overlap	
30	120.6	-	
31	34.1	2.59 (ddd, J=13.0, 8.3, 6.7Hz, 1H), 2.01 (ddd, J=13.0, 7.0, 7.0Hz, 1H)	HMBC 31→33
32	58.1	4.35 (apt t, J=8.0Hz, 1H)	HMBC 32→33
33	170.3	-	
34	-	7.74 (d, J=8.3Hz, 1H) overlap	HMBC 34→33
35	53.8	4.30 (ddd, J=8.3, 8.1, 2.7Hz, 1H)	HMBC 35→36
36	172.6	-	
37	-	7.09 (s, 1H) obscured, 7.02 (s, 1H) obscured	HMBC 37→36
38	36.1	2.88 (dd, J=13.6, 5.3Hz, 1H), 2.74-2.82 (m, 1H) overlap	HMBC 38→36,39
39	127.8	-	
40	130.1	7.01 (d, J=8.4Hz, 2H)	
41	114.5	6.59 (d, J=8.4Hz, 2H)	HMBC 41→39 COSY 41→40
42	155.7	-	
43	-	9.13 (br s, 1H)	

MS m/z 726.4 (calc'd: $C_{40}H_{48}N_5O_8$, $[M+H]^+$, 726.3).

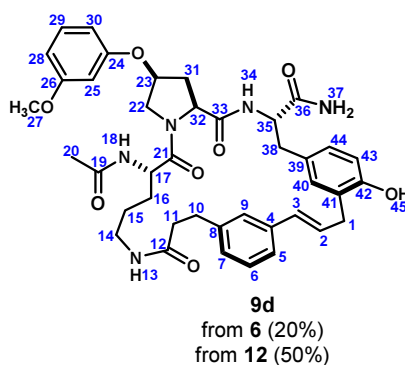


(600MHz, DMSO- d_6 , 298K)

	^{13}C	1H	key correlations
1	25.9	3.43-3.49 (m, 2H) overlap	HMBC 1→24,25,26
2	128.0	6.32(ddd, J=15.8, 6.1, 6.1Hz, 1H)	HMBC 2→1,4,25 COSY 2→1,3
3	129.2	6.27(d, J=15.8Hz, 1H)	HMBC 3→1,4
4	136.9	-	
5	123.7	7.05 (br d, J=7.6Hz, 1H)	
6	128.0	7.11 (dd, J=7.6Hz, 1H)	HMBC 6→4,8
7	127.0	6.96-6.99(m,1H) obscured	
8	141.1	-	
9	124.9	7.26 (br s, 1H)	TOCSY 9→5,6,7
10	30.5	2.80 (apt t, J=6.8Hz, 2H)	COSY 10→11
11	36.3	2.40(ddd, J=14.1, 7.2, 6.0Hz, 1H), 2.33 (ddd, J=14.1, 7.2, 6.0Hz, 1H)	HMBC 11→12
12	171.6	-	
13	-	7.71 (t, J=5.4Hz, 1H)	HMBC 13→12
14	37.8	2.93-2.98 (m, 1H), 2.87-2.92 (m, 1H) overlap	
15	24.6	1.28-1.36 (m, 2H) overlap	HMBC 15→21
16	28.3	1.57-1.63 (m, 1H) 1.28-1.36 (m, 1H) overlap	HMBC 16→21
17	49.2	4.37-4.41 (m, 1H) overlap	
18	-	7.75 (d, J=8.1Hz, 1H)	

19	169.2	-	
20	21.9	1.81 (s, 3H)	
21	171.4	-	
22	51.8	4.37-4.41 (m, 1H) overlap, 3.43-3.49 (m, 1H) overlap	
23	74.1	5.05 (apt p, J=6.5Hz, 1H)	HMBC 23→24,32 COSY 23→22,31
24	155.9	-	
25	116.0	-	
26	157.8	-	
27	55.6	3.78 (s, 3H)	HMBC 27→26
28	104.3	6.67 (d, J=8.3Hz, 1H)	HMBC 28→25,26
29	127.3	7.18 (t, J=8.3Hz, 1H)	HMBC 29→26
30	105.4	6.75 (d, J=8.3Hz, 1H)	HMBC 30→24,25
31	34.1	2.57 (ddd, J=13.0, 8.5, 6.5Hz, 1H), 2.03 (ddd, J=13.0, 6.5, 6.5Hz, 1H)	COSY 31→32
32	58.1	4.35-4.39 (m, 1H) obscured	HMBC 32→33
33	170.2	-	
34	-	7.75 (d, J = 8.1Hz, 1H)	
35	53.9	4.28 (ddd, J=8.1, 8.1, 5.6Hz, 1H)	TOCSY 35→34,38 HMBC 35→33,36
36	172.5	-	
37	-	7.26 (br s, 1H), 7.11 (br s, 1H)	HMBC 37→36
38	36.1	2.86 (dd, J=13.7, 5.6Hz, 1H), 2.76 (dd, J=13.7, 8.1Hz, 1H)	HMBC 38→39, 40
39	127.7	-	
40	130.0	6.98 (d, J=8.5Hz, 2H)	
41	114.6	6.58(d, J=8.5Hz, 2H)	
42	155.7	-	
43	-	9.13 (br s, 1H)	

MS m/z 726.4 (calc'd: C₄₀H₄₈N₅O₈, [M+H]⁺, 726.3).



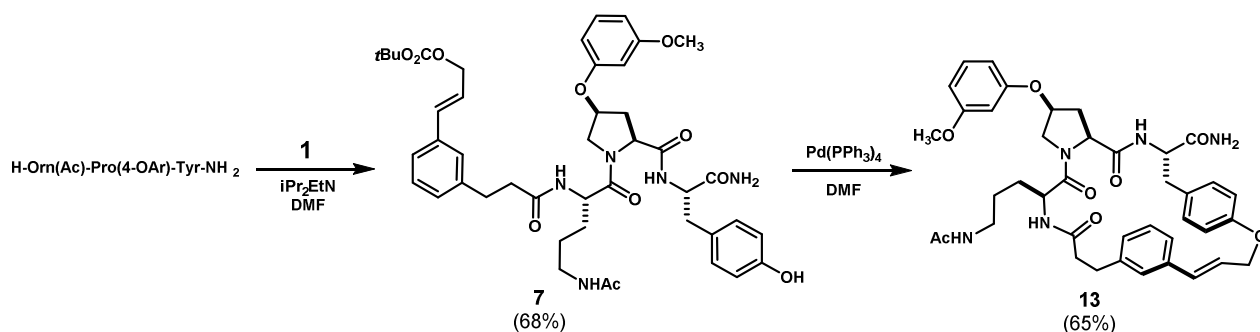
(600MHz, DMSO-*d*₆, 298K)

	¹³ C	¹ H	key correlations
1	31.6	3.46 (dd, J=16.4, 6.3Hz, 1H), 3.28 (dd, J=16.4, 7.7Hz, 1H)	HMC 1→42
2	128.8	6.34 (ddd, J=15.7, 7.7, 6.3Hz, 1H)	COSY 2→1,3 HMBC 2→4
3	130.8	6.46 (br d, J=15.7Hz, 1H)	HMBC 3→4
4	137.2	-	
5	124.4	7.10 (br d, J = 7.7Hz, 1H)	TOCSY 5→6,7,9
6	128.3	7.18 (dd, J=7.7, 7.7Hz, 1H)	HMBC 6→8,4
7	127.2	7.03 (br d, J=7.7Hz, 1H)	
8	141.4	-	

9	124.3	7.43 (br s, 1H)	HMBC 9→10
10	30.8	2.81 (apt t, J=7.5Hz, 2H)	HMBC 10→8
11	37.1	2.43 (apt t, J=7.5Hz, 2H)	HMBC 11→8
12	171.2	-	
13	-	7.58 (t, J=5.5Hz, 1H)	HMBC 13→12
14	37.8	3.00-3.06 (m, 1H), 2.91-2.97 (m, 1H)	COSY 14→13
15	24.6	1.30-1.43 (m, 2H) overlap	
16	28.6	1.55-1.63 (m, 1H), 1.30-1.43 (m, 1H) overlap	HMBC 16→21
17	50.0	4.40-4.45 (m, 1H) obscured	TOCSY 17→14,15,16 COSY 17→16 HMBC17→21
18	-	8.10 (d, J=7.4Hz, 1H)	HMBC 18→19
19	169.2	-	
20	22.2	1.82 (s, 3H)	HMBC 20→19
21	171.8	-	
22	52.2	4.28 (s, J=11.3, 5.6Hz, 1H), 3.69 (d, J=11.3, 3.3Hz, 1H)	
23	75.1	5.04-5.08 (m, 1H)	COSY 23→22
24	158.0	-	
25	101.5	6.48 (br s, 1H)	HMBC 25→24
26	160.5	-	
27	54.7	3.58 (s, 3H)	
28	107.1	6.47-6.52 (m, 1H) obscured	
29	130.1	7.12 (dd, J=8.5, 8.5Hz, 1H)	
30	107.1	6.47-6.52 (m, 1H) obscured	HMBC 30→24
31	33.8	2.45-2.49(m, 1H) obscured, 2.09(ddd, J=13.5, 3.9, 3.9Hz, 1H)	
32	58.8	4.40-4.45 (m, 1H) obscured	
33	170.1	-	
34	-	7.29-7.32 (m, 1H) obscured	TOCSY 34→35,38
35	54.0	4.30 (dd, J=15.1, 7.4Hz, 1H)	HMBC 35→39
36	172.6	-	
37	-	7.31 (br s, 1H) overlap, 7.14 (br s, 1H)	TOCSY 37→37' HMBC 37→36
38	37.4	2.43 (dd, J=7.4, 7.4Hz, 2H)	HMBC 38→35,36,39
39	127.3	-	
40	130.0	6.89 (br s, 1H) overlap	
41	125.8	-	
42	153.3	-	
43	114.4	6.70 (d, J=7.9Hz, 1H)	HMBC 43→39,41 TOCSY 43→40, 44
44	127.4	6.85-6.90 (m, 1H) obscured	
45	-	9.17 (br s, 1H)	

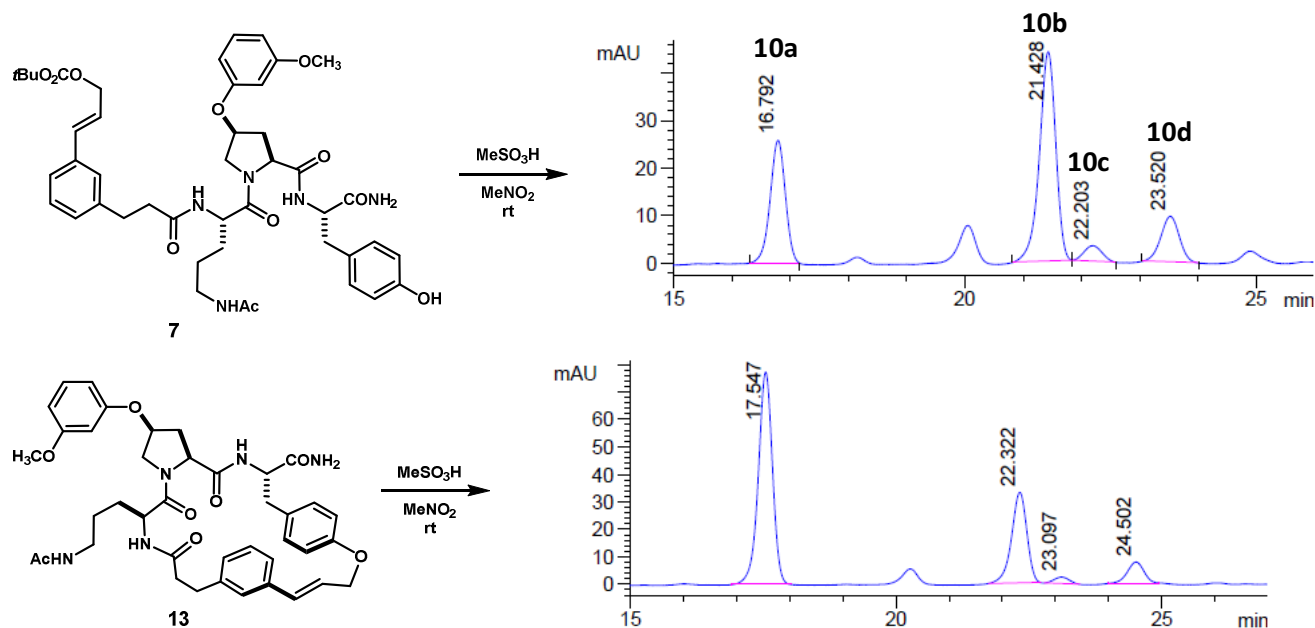
MS m/z 726.4 (calc'd: C₄₀H₄₈N₅O₈, [M+H]⁺, 726.3).

Macrocycles 10a-d, 13:



Acyclic carbonate 7: General procedure A afforded compound **7** as a colorless foam (242 mg, 68%). ^1H NMR (600 MHz, CD_3OD , major rotamer): δ 1.36-1.53 (m, 3H), 1.45 (s, 9H), 1.54-1.64 (m, 1H), 1.91 (s, 3H), 2.32 (br d, $J = 13.6$ Hz, 1H), 2.39-2.46 (m, 1H), 2.50-2.59 (m, 2H), 2.89 (apt t, $J = 7.1$ Hz, 2H), 2.97 (d, $J = 5.9$ Hz, 2H), 3.04-3.11 (m, 2H), 3.71 (s, 3H), 3.78 (d, $J = 11.3$ Hz, 1H), 3.97 (dd, $J = 11.1, 4.2$ Hz, 1H), 4.45-4.51 (m, 1H), 4.54 (apt t, $J = 6.1$ Hz, 1H), 4.65 (d, $J = 5.7$ Hz, 2H), 4.92-4.97 (m, 1H), 6.30 (dt, $J = 16.0, 6.1$ Hz, 1H), 6.47-6.51 (m, 2H), 6.53-6.57 (m, 1H), 6.62 (d, $J = 16.0$ Hz, 1H), 6.65 (d, $J = 8.2$ Hz, 2H), 7.00 (d, $J = 8.2$ Hz, 2H), 7.10 (d, $J = 6.6$ Hz, 1H), 7.16-7.24 (m, 3H), 7.25 (br s, 1H). ^{13}C NMR (151 MHz, CD_3OD , major rotamer): δ 175.3, 174.8, 173.8, 173.2, 172.6, 162.4, 159.2, 157.3, 154.9, 142.4, 137.7, 134.9, 131.6, 131.2, 129.8, 129.2, 128.4, 127.8, 125.6, 124.3, 116.2, 108.7, 108.3, 103.4, 82.9, 77.3, 68.4, 61.2, 55.8, 55.4, 54.0, 52.2, 39.9, 38.1, 37.9, 35.1, 32.4, 29.5, 28.0, 26.2, 22.8. MS m/z 844.4 (calc'd: $\text{C}_{45}\text{H}_{58}\text{N}_5\text{O}_{11}$, $[\text{M}+\text{H}]^+$, 844.4).

Tyrosyl ether 13: General procedure B afforded compound **13** as a light yellow film (18 mg, 65%). ^1H NMR (600 MHz, CD_3OD): δ 1.07-1.21 (m, 2H), 1.22-1.31 (m, 1H), 1.46-1.54 (m, 1H), 1.89 (s, 3H), 2.53-2.63 (m, 1H), 2.64-2.73 (m, 1H), 2.88-3.04 (m, 5H), 3.10 (dd, $J = 14.6, 3.9$ Hz, 1H), 3.40-2.54 (m, 1H), 3.76 (s, 3H), 3.94-4.02 (m, 1H), 4.31-4.41 (m, 1H), 4.46-4.55 (m, 1H), 4.56 (dd, $J = 9.0, 3.9$ Hz, 1H), 4.77-4.87 (m, 3H), 6.39 (dt, $J = 15.8, 5.2$ Hz, 1H), 6.42-6.44 (m, 1H), 6.47 (dd, $J = 8.1, 2.0$ Hz, 1H), 6.55 (dd, $J = 8.3, 2.0$ Hz, 1H), 6.69 (br d, $J = 15.8$ Hz, 1H), 6.89 (d, $J = 8.7$ Hz, 2H), 7.06 (d, $J = 7.2$ Hz, 1H), 7.13 (d, $J = 8.7$ Hz, 2H), 7.15-7.20 (m, 3H), 7.63 (br s, 1H). ^{13}C NMR (151 MHz, CD_3OD): δ 176.3, 174.6, 173.2, 173.0, 172.6, 162.5, 159.5, 158.8, 141.7, 138.1, 134.3, 131.3 (2), 131.2, 129.8, 129.6, 126.7, 125.7, 116.5 (2), 108.9, 108.1, 103.5, 77.0, 69.4, 59.9, 55.8, 55.2, 53.5, 52.2, 40.0, 37.5 (2), 35.2, 31.6, 30.3, 25.5, 22.7. MS m/z 726.3 (calc'd: $\text{C}_{40}\text{H}_{48}\text{N}_5\text{O}_8$, $[\text{M}+\text{H}]^+$, 726.3).



Compounds **7** and **13** were each subjected to general procedure C. HPLC analysis and purification was performed using the following methods.

Analytical HPLC method:Column: Waters Xbridge™ C₁₈, 4.6x250mm, 5μm.Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 1.00 ml/min

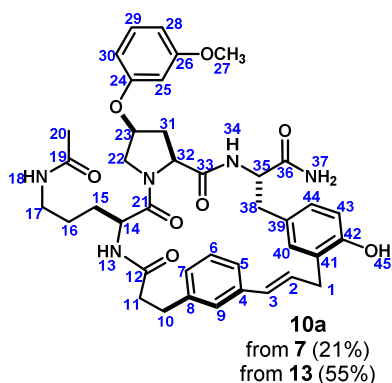
Time	%B
0	30
2	30
42	42
55	100
65	100
70	30
72	30

Semi-preparative HPLC method A:Column: Waters Xbridge™ C₁₈, 10x250mm, 5μm.Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 7.50 ml/min

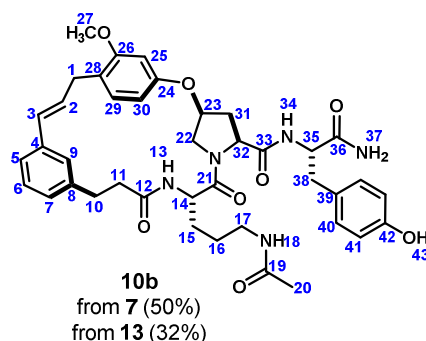
Time	%B
0	25
2	25
42	35.5
44	25
45	25

(600MHz, DMSO-*d*₆, 298K)

	¹³ C	¹ H	key correlations
1	32.8	3.35-.345 (m, 2H)	HMBC 1→2,3,40,41
2	128.5	6.45-6.54 (m, 1H) overlap	HMBC 2→4
3	130.8	6.43-6.54 (m, 1H) overlap	HMBC 3→9
4	137.7	-	
5	122.7	7.24 (br d, J=7.0Hz, 1H)	HMBC 5→3,9
6	127.6	7.12-7.17 (m, 1H) overlap	HMBC 6→4,8
7	127.2	6.94 (d, J=7.2Hz, 1H)	HMBC 7→9,10
8	140.9	-	
9	126.0	7.16 (s, 1H) overlap	HMBC 9→10
10	29.7	2.92-3.00 (m, 1H) overlap, 2.72-2.84 (m, 1H) overlap	HMBC 10→8
11	34.3	2.51-2.58 (m, 1H) overlap, 2.34-2.41 (m, 1H) overlap	
12	171.4	-	
13	-	7.72 (t, J=5.1Hz, 1H)	HMBC 13→12
14	49.8	4.29-4.34 (m, 1H)	HMBC 14→12, 21
15	27.9	1.54-1.61 (m, 1H), 1.38-1.46 (m, 1H) overlap	HMBC 15→21
16	24.9	1.37-1.46 (m, 2H) overlap	
17	37.9	2.92-3.01 (m, 2H) overlap	COSY 17→16
18	-	7.98 (s, J=7.2Hz, 1H)	COSY 18→19
19	169.0	-	
20	22.3	1.75 (s, 3H)	HMBC 20→19
21	169.8	-	
22	51.0	4.16-4.23 (m, 1H), 3.31 (dd, J=9.5, 5.4Hz, 1H)	

23	74.3	4.75-4.81 (m, 1H)	
24	158.3	-	
25	101.5	6.45-6.48 (m, 1H) overlap	
26	160.6	-	
27	54.9	3.74 (s, 3H)	HMBC 27→26
28	106.8	6.53 (d, J=8.2Hz, 1H)	HMBC 28→26
29	129.9	7.16-7.21 (m, 1H) overlap	
30	107.5	6.50 (d, J=8.2Hz, 1H)	
31	34.1	2.56-2.63 (m, 1H) overlap, 1.83 (ddd, J=12.9, 6.5, 6.5Hz, 1H)	HMBC 31→33
32	57.2	4.27 (dd, J=8.3, 6.5Hz, 1H)	HMBC 32→33
33	169.9	-	
34	-	7.52-7.59 (m, 1H)	
35	53.0	4.33-4.38 (m, 1H)	HMBC 35→38,39
36	172.9	-	
37	-	7.19 (br s, 1H) overlap, 7.04 (br s, 1H)	
38	36.0	2.73-2.84 (m, 2H) overlap	
39	127.5	-	
40	131.0	7.13 (br s, 1H) overlap	
41	125.8	-	
42	153.4	-	
43	114.4	6.68 (d, J=7.9Hz, 1H)	COSY 43→44, HMBC 43→39
44	127.6	6.81 (br d, J=7.9Hz, 1H)	HMBC 44→40
45	-	9.13 (br s, 1H)	

MS m/z 726.3 (calc'd: C₄₀H₄₈N₅O₈, [M+H]⁺, 726.3).

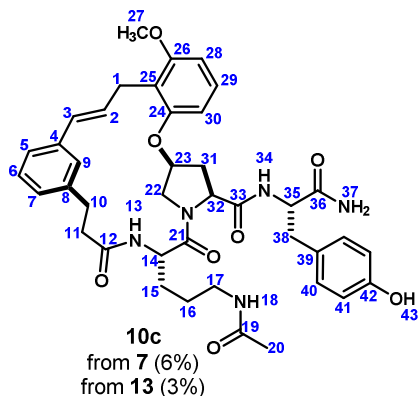


(600MHz, DMSO-*d*₆, 298K)

	¹³ C	¹ H	key correlations
1	30.9	3.43 (dd, J=16.0, 3.2Hz, 1H), 3.43 (br d, J=16.0Hz, 1H)	HMBC 1→26,28,29
2	129.1	6.39 (ddd, J=16.0, 4.6, 4.7Hz, 1H)	COSY 2→1, HMBC 2→4
3	129.7	5.32 (br d, J=16.0Hz, 1H)	HMBC 3→4
4	136.5	-	
5	121.0	7.26 (d, J=7.6Hz, 1H) overlap	HMBC 5→2
6	127.8	7.12 (dd, J=7.6, 7.6Hz, 1H)	HMBC 6→4,8
7	126.8	6.91 (d, J=7.6Hz, 1H)	
8	141.8	-	
9	128.8	6.76 (br s, 1H)	HMBC 9→3
10	29.2	2.66-2.71 (m, 2H)	HMBC 10→8
11	34.8	2.34 (ddd, J=7.5, 7.5, 5.2Hz, 1H), 2.23-2.29 (m, 1H)	HMBC 11→8

12	172.1	-	
13	-	7.96 (d, J=5.2Hz, 1H)	
14	51.2	3.83-3.87 (m, 1H)	HMBC 14→21
15	28.8	1.47-1.54 (m, 1H), 1.36-1.44 (m, 1H)	HMBC 15→21
16	24.9	1.14-1.30 (m, 2H)	
17	38.0	2.89-2.94 (m, 1H) overlap, 2.84-2.89 (m, 1H)	
18	-	7.67 (t, J=5.8Hz, 1H)	HMBC 18→19
19	169.2	-	
20	22.4	1.77 (s, 3H)	HMBC 20→19
21	171.4	-	
22	51.3	3.73-3.78 (m, 1H) obscured, 3.55 (dd, J=9.8, 7.5Hz, 1H)	HMBC 23→24 (24 coincides w/ 26)
23	79.2	4.78 (dddd, J=7.8, 6.8, 6.8, 6.7Hz, 1H)	
24	158.3	-	
25	104.7	6.90 (d, J=2.0Hz, 1H)	HMBC 25→28
26	158.1	-	
27	55.4	3.75 (s, 3H)	HMBC 27→26
28	123.4	-	
29	131.2	7.10 (d, J=8.0Hz, 1H)	
30	112.6	6.78 (dd, J=8.0, 2.0Hz, 1H)	HMBC 30→28, COSY 30→29
31	34.2	2.60 (ddd, J=12.5, 6.8, 6.8Hz, 1H), 1.93 (ddd, J=12.5, 8.9, 8.9Hz, 1H)	
32	57.9	4.20 (dd, J=8.5, 8.5Hz, 1H)	HMBC 32→33
33	170.2	-	
34	-	7.77 (d, J=7.9Hz, 1H)	
35	53.8	4.31 (ddd, J=7.9, 7.9, 5.6Hz, 1H)	HMBC 35→33,36,39
36	172.8	-	
37	-	7.26 (br s, 1H), 7.06 (br s, 1H)	HMBC 37→36
38	36.2	2.93 (dd, J=13.8, 5.4Hz, 1H) overlap, 2.81 (dd, J=13.8, 8.3Hz, 1H)	HMBC 38→39
39	127.9	-	
40	130.0	7.04 (d, J=8.5Hz, 2H)	HMBC 40→42
41	114.5	6.64 (d, J=8.5Hz, 2H)	HMBC 41→39
42	155.8	-	
43	-	9.15 (br s, 1H)	

MS m/z 726.3 (calc'd: C₄₀H₄₈N₅O₈, [M+H]⁺, 726.3).

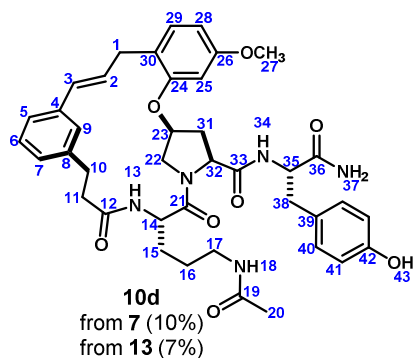


(600MHz, DMSO-*d*₆, 298K)

	¹³ C	¹ H	key correlations
1	25.5	3.59 (dd, J=15.4, 4.2Hz, 1H), 3.33 (dd, J=15.4, 5.9Hz, 1H)	HMBC 1→24,25,26

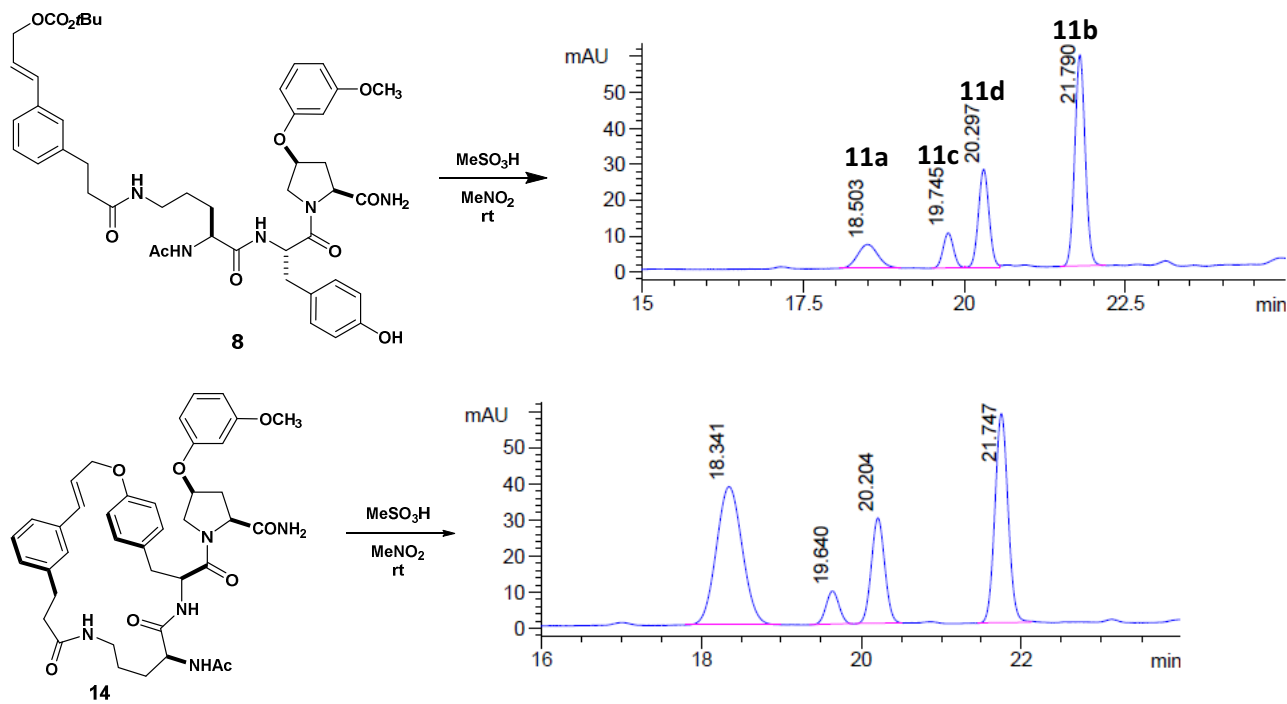
2	128.5	6.30 (ddd, J=15.8, 5.9, 4.2Hz, 1H)	COSY 2→1 HMBC 2→4, 25
3	129.2	6.08 (d, J=15.8Hz, 1H)	HMBC 3→4
4	137.1	-	
5	122.7	7.14 (d, J=7.4Hz, 1H)	HMBC 5→7,9
6	128.6	7.10 (dd, J=8.1, 8.1Hz, 1H) overlap	HMBC 6→4,8
7	127.1	6.96 (d, J=7.4Hz, 1H)	HMBC 7→5,9
8	141.8	-	
9	124.3	7.05 (br s, 1H)	HMBC 9→5,7
10	27.8	3.12-3.19 (m, 1H), 2.58-2.64 (m, 1H) overlap	HMBC 10→8,12 COSY 10→10', 11
11	34.1	2.49-2.52 (m, 2H) obscured	HMBC 11→8,12
12	172.8	-	
13	-	8.29 (d, J=5.8Hz, 1H)	HMBC 13→12,21
14	53.3	4.29-4.35 (m, 1H)	HMBC 14→12,21
15	28.3	1.62-1.69 (m, 1H) overlap, 1.54-1.62 (m, 1H)	HMBC 15→17
16	25.4	1.31-1.47 (m, 2H)	HMBC 16→17
17	38.1	3.00-3.06 (m, 2H) overlap	HMBC 17→19
18	-	7.83 (t, J=5.4Hz, 1H)	HMBC 18→19
19	169.1	-	
20	22.4	1.80 (s, 3H)	HMBC 20→19
21	170.5	-	
22	50.0	3.97 (dd, J=9.1, 7.3Hz, 1H), 3.49 (dd, J=9.1, 9.1Hz, 1H)	HMBC 22→32
23	75.5	4.62 - 4.68 (m, 1H)	
24	156.7	-	
25	117.4	-	
26	157.7	-	
27	55.6	3.80 (s, 3H)	HMBC 27→26
28	105.4	6.76 (d, J=8.3Hz, 1H)	HMBC 28→25
29	127.6	7.21 (dd, J=8.3, 8.3Hz, 1H)	HMBC 29→24,26 COSY 29→28,30
30	108.6	6.78 (d, J=8.3Hz, 1H)	HMBC 30→25
31	34.5	2.57-2.64 (m, 1H) overlap, 1.62-1.69 (m, 1H)	HMBC 31→32,33
32	58.9	4.16-4.21 (m, 1H) overlap	HMBC 32→33
33	169.9	-	
34	-	7.66 (d, J=8.5Hz, 1H)	HMBC 34→33
35	54.1	4.16-4.21 (m, 1H) overlap	
36	172.8	-	
37	-	7.11 (br s, 1H) overlap, 6.98 (br s, 1H)	HMBC 37→36, TOCSY 37→37'
38	35.8	2.97 (dd, J=13.9, 4.0Hz, 1H), 2.55 (dd, J=13.9, 10.3Hz, 1H)	HMBC 38→35,39,40
39	128.3	-	
40	129.8	6.77 (d, J=8.2Hz, 2H)	HMBC 40→42
41	114.6	6.50 (d, J=8.2Hz, 2H)	HMBC 41→39, 42
42	155.6	-	
43	-	9.11 (br s, 1H)	

MS m/z 726.3 (calc'd: $C_{40}H_{48}N_5O_8$, $[M+H]^+$, 726.3).



(600MHz, DMSO-*d*₆, 298K)

	¹³ C	¹ H	key correlations
1	33.4	3.56 (dd, J = 16.0, 6.0Hz, 1H), 3.21 (dd, J = 16.0, 4.6Hz, 1H)	HMBC 1→24,29,30
2	129.4	6.37 (ddd, J = 15.8, 6.0, 4.6Hz, 1H)	HMBC 1→24,29,30
3	129.2	4.09 (br d, J = 15.8Hz, 1H)	HMBC 3→4
4	137.0	-	
5	122.7	7.11-7.15 (m, 1H) overlap	
6	128.3	7.10 (dd, J = 7.6, 7.5Hz, 1H)	HMBC 6→4, 8
7	127.1	6.96 (d, J = 7.5Hz, 1H)	HMBC 7→5,9
8	141.5	-	
9	123.9	7.07 (br s, 1H)	
10	27.6	3.15-3.18 (m, 1H) obscured, 2.61-2.66 (m, 1H)	HMBC 10→12
11	33.7	2.53-2.57 (m, 2H) overlap	HMBC 11→8,12
12	172.9	-	
13	-	8.37 (d, J = 5.9Hz, 1H)	HMBC 13→12, 21
14	53.8	4.29 (ddd, J = 7.3, 7.2, 5.9Hz, 1H)	HMBC 14→12
15	28.0	1.58-1.65 (m, 2H) overlap	
16	25.5	1.38-1.50 (m, 2H)	
17	38.1	3.02-3.07 (m, 2H)	
18	-	7.83 (t, J = 5.5Hz, 1H)	HMBC 18→19 TOCSY 18→13,14,15,16,17
19	168.9	-	
20	22.3	1.80 (s, 3H)	HMBC 20→19
21	170.5	-	
22	50.0	4.03 (dd, J = 10.0, 7.0Hz, 1H), 3.44 (dd, J = 10.0, 8.4Hz, 1H)	
23	74.8	4.73-4.79 (m, 1H)	HMBC 23→24
24	156.4	-	
25	102.1	6.72 (d, J = 2.2Hz, 1H)	HMBC 25→30
26	159.1	-	
27	54.9	3.75 (s, 3H)	HMBC 27→26
28	106.7	6.58 (dd, J = 8.2, 2.2Hz, 1H)	HMBC 28→30
29	131.0	7.14 (d, J = 8.2Hz, 1H)	
30	121.1	-	
31	34.2	2.58 (dd, J = 11.9, 5.9Hz, 1H) overlap, 1.58-1.65 (m, 1H) overlap	HMBC 31→32,33
32	59.0	4.18 (dd, J = 9.4, 7.9Hz, 1H)	HMBC 32→33
33	169.6	-	
34	-	7.59 (d, J = 8.9Hz, 1H)	
35	54.1	4.15 (dd, J = 9.5, 4.1Hz, 1H)	



Compounds **8** and **14** were individually subjected to general procedure C. HPLC analysis and purification was performed using the following methods. The product mixture was first resolved using semi-preparative HPLC method A. Compound **11a** (earliest peak, method A) was re-purified using method B.

Analytical HPLC method:

Column: Waters Sunfire™ C₁₈, 4.6x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 1.00 ml/min

Time	%B
0	30
2	30
30	55
35	100
45	100
50	30
55	30

Semi-preparative HPLC method B:

Column: Waters Xbridge™ C₁₈, 10x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 7.50 ml/min

Time	%B
0	30
2	30
15	46.7
17	30
20	30

Semi-preparative HPLC method A:

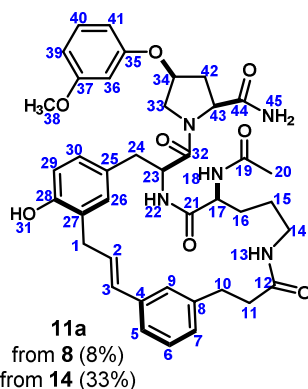
Column: Waters Sunfire™ C₁₈, 10x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 7.50 ml/min

Time	%B
0	30
1	30
14	47
15	70
16	70
17	30
20	30

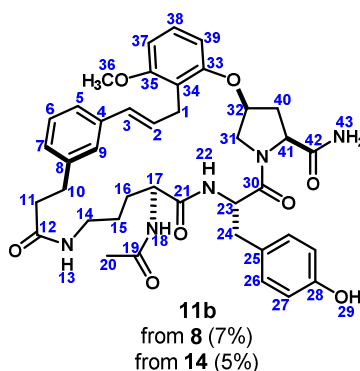


(600MHz, DMSO-*d*₆, 298K, ~2:1 mixture of conformers – data is of major)

	¹³ C	¹ H	key correlations
1	33.0	3.47 (dd, J=14.9, 4.6Hz, 1H), 3.27 (dd, J=14.9, 6.3Hz, 1H)	HMBC 1→27
2	128.6	6.31-6.38 (m, 1H) obscured	HMBC 2→4
3	130.1	6.31-6.38 (m, 1H) obscured	HMBC 3→4,5,9
4	137.2	-	
5	123.9	7.13-7.16 (m, 1H) overlap	
6	128.2	7.182 (dd, J=7.8, 7.8Hz, 1H)	HMBC 6→4,8
7	127.1	7.01 (ddd, J=7.8, 1.2, 1.2Hz, 1H)	HMBC 7→5,6
8	141.4	-	
9	124.9	7.13-7.14 (m, 1H) overlap	
10	30.7	2.79-2.85 (m, 2H) overlap	HMBC 10→8
11	36.7	2.34 (dd, J=7.6, 6.5Hz, 1H), 2.24 (dd, J=13.9, 6.5Hz, 1H)	HMBC 11→8,12
12	171.4	-	
13	-	7.72 (t, J=5.6Hz, 1H)	HMBC 13→12
14	36.5	2.86-2.94 (m, 1H) overlap, 2.79-2.84 (m, 1H) overlap	
15	24.3	1.09-1.16 (m, 1H) overlap, 0.92-1.00 (m, 1H)	
16	27.9	1.25-1.33 (m, 1H), 1.03-1.12 (m, 1H) overlap	
17	52.1	3.95 (dd, J=15.3, 7.7Hz, 1H)	COSY 17→16
18	-	7.75 (d, J=7.7Hz, 1H)	
19	169.2	-	
20	22.3	1.82 (s, 3H)	
21	171.3	-	
22	-	7.47 (d, J=8.3Hz, 1H)	HMBC 22→21
23	51.2	4.70 (ddd, J=8.6, 8.3, 4.6Hz, 1H)	HMBC 23→24, COSY 23→22,24
24	35.5	2.91-3.00 (m, 1H) overlap, 2.72 (dd, J=14.2, 8.7Hz, 1H)	HMBC 24→25,26
25	127.1	-	
26	131.1	6.88 (d, J=1.8Hz, 1H)	COSY 26→30
27	125.3	-	
28	153.6	-	
29	114.4	6.67 (d, J=8.1Hz, 1H)	HMBC 29→25,27,28
30	127.9	6.94 (dd, J=8.1, 1.8Hz, 1H)	COSY 30→29, HMBC 30→28
31	-	9.19 (br s, 1H)	
32	170.1	-	
33	51.7	4.20 (dd, J=11.2, 5.7Hz, 1H), 3.69 (dd, J=11.2, 2.7Hz, 1H)	
34	75.0	5.03 (ddd, J=8.8, 5.4, 3.4Hz, 1H)	
35	158.0	-	

36	101.7	6.48 (dd, J=2.1, 2.1Hz, 1H)	
37	160.6	-	
38	54.9	3.73 (s, 3H)	HMBC 38→37
39	106.6	6.54 (dd, J=8.1, 2.1Hz, 1H)	
40	129.8	7.184 (dd, J=8.4Hz, 1H)	HMBC 40→37
41	107.5	6.52 (dd, J=8.1, 2.1Hz, 1H)	
42	34.1	2.41-2.48 (m, 1H) overlap, 2.08 (ddd, J=13.4, 3.8, 3.5Hz, 1H)	HMBC 42→44
43	58.3	4.34 (dd, J=9.5, 3.8Hz, 1H)	COSY 43→42, HMBC 43→44
44	172.8	-	
45	-	7.09 (s, 1H), 7.03 (s, 1H)	HMBC 45→44, 45'→43

MS m/z 726.3 (calc'd: $C_{40}H_{48}N_5O_8$, $[M+H]^+$, 726.3).

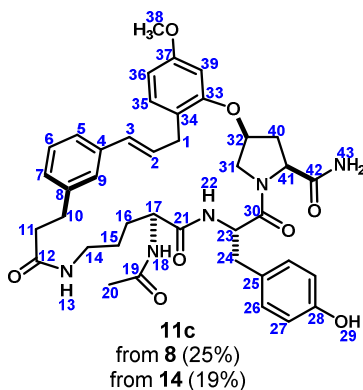


(600MHz, DMSO- d_6 , 298K, ~4:1 mixture of conformers – data is of major)

	^{13}C	1H	key correlations
1	26.0	3.29-3.38 (m, 2H), obscured	HMBC 1→33,34
2	127.8	6.14 (ddd, J=15.8, 7.3, 7.3Hz, 1H)	COSY 2→1,4
3	130.0	6.34 (d, J=15.8Hz, 1H)	HMBC 3→4,5,9
4	137.1	-	
5	123.9	7.08 (br d, J= 7.7Hz, 1H)	
6	128.0	7.12 (dd, J=7.7, 7.7Hz, 1H)	
7	126.3	6.97 (br d, J=7.7, 7.7Hz, 1H)	HMBC 7→10
8	141.2	-	
9	125.3	7.18 (br s, 1H)	HMBC 9→10
10	31.2	2.76 (t, J=7.8Hz, 1H)	HMBC 10→12
11	36.9	2.36 (dd, J=14.4, 7.8Hz, 1H), 2.32 (dd, J=14.4, 7.8 Hz 1H)	HMBC 11→12
12	171.2	-	
13	-	7.61 (t, J=5.8Hz, 1H)	COSY 13→14, HMBC 13→12
14	37.5	2.95-3.07 (m, 2H)	COSY 14→15
15	24.7	1.32-1.42 (m, 2H) overlap	HMBC 15→17
16	28.7	1.49-1.56 (m, 1H), 1.36-1.42 (m, 1H) overlap	
17	51.2	4.35-4.40 (m, 1H) overlap	
18	-	7.89 (d, J=8.1Hz, 1H)	
19	168.9	-	
20	22.2	1.84 (s, 3H)	HMBC 20→19
21	171.6	-	
22	-	8.04 (d, J=6.2Hz, 1H)	
23	52.8	4.35-4.42 (m, 1H)	

24	37.5	2.87 (dd, J=12.9, 5.3Hz, 1H), 2.73 (dd, J=12.9, 8.8Hz, 1H)	HMBC 24→23,29
25	126.3	-	
26	130.0	6.99 (d, J=8.5Hz, 1H)	HMBC 26→28
27	114.9	6.70 (d, J=8.5Hz, 1H)	HMBC 27→25, 28
28	156.0	-	
29	-	9.33 (br s, 1H)	
30	169.9	-	
31	52.0	3.78 (dd, J=9.4, 1.7Hz, 1H), 3.40-3.33 (m, 1H) obscured	
32	73.3	4.72-4.76 (m, 1H)	COSY 32→31
33	155.1	-	
34	115.9	-	
35	157.6	-	
36	55.5	3.76 (s, 3H)	HMBC 36→35
37	103.9	6.61 (d, J=8.3Hz, 1H)	HMBC 37→35
38	126.9	7.11 (dd, J=8.5, 8.3Hz, 1H)	
39	104.8	6.51 (d, J=8.5Hz, 1H)	
40	36.0	2.27 (br d, J=13.5Hz, 1H), 1.92 (ddd, J=13.5, 8.8, 5.1Hz, 1H)	
41	58.4	3.78 (dd, J=9.3, 1.7Hz, 1H)	
42	171.9	-	
43	-	7.71 (br s, 1H), 7.11 (br s, 1H) overlap	

MS m/z 726.3 (calc'd: $C_{40}H_{48}N_5O_8$, $[M+H]^+$, 726.3).

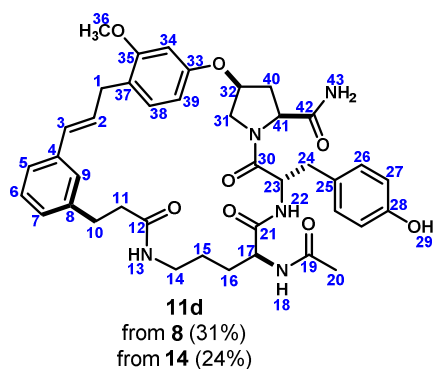


(600MHz, DMSO- d_6 , 298K, ~4:1 mixture of conformers – data is of major)

	¹³ C	¹ H	key correlations
1	33.2	3.41 (dd, J=13.8, 7.5Hz, 1H), 3.07 (dd, J=13.8, 7.3Hz, 1H)	HMBC 1→33,34
2	129.4	6.22 (ddd, J=15.8, 7.3, 7.5Hz, 1H)	HMBC 2→4, 5
3	129.5	6.35 (d, J=15.8Hz, 1H)	
4	137.1	-	
5	123.8	7.06 (br d, J=7.8Hz, 1H)	TOCSY 5→6,7,9
6	128.0	7.14 (dd, J=7.8, 7.8Hz, 1H)	HMBC 6→4, 8
7	126.5	6.97-7.00 (m, 1H) obscured	
8	141.4	-	
9	125.1	7.22 (br s, 1H)	
10	31.1	2.77 (t, J=7.6Hz, 2H)	
11	36.9	2.28-2.41 (m, 2H) overlap	HMBC 11→10
12	171.4	-	

13	-	7.64 (t, J=5.6Hz, 1H)	
14	37.6	2.98-3.04 (m, 2H)	
15	24.8	1.31-1.44 (m, 2H) overlap	HMBC 15→17
16	28.9	1.50-1.57 (m, 1H), 1.37-1.44 (m, 1H) overlap	
17	51.3	4.36-4.42 (m, 1H) overlap	
18	-	7.94 (d, J=8.1Hz, 1H)	HMBC 18→19
19	168.9	-	
20	22.3	1.84 (s, 3H)	HMBC 20→19
21	171.7	-	
22	-	8.10 (d, J=6.1Hz, 1H)	
23	53.0	4.36-4.42 (m, 1H) overlap	
24	37.6	2.87 (dd, J=12.9, 5.5Hz, 1H), 2.73 (dd, J=12.9, 9.1Hz, 1H)	
25	126.5	-	
26	130.0	6.99 (d, J=6.1Hz, 2H)	HMBC 26→28
27	115.0	6.70 (d, J=8.5Hz, 2H)	HMBC 27→25, 28
28	156.1	-	
29	-	9.23 (br s, 1H)	
30	170.1	-	
31	51.9	3.81 (dd, J=13.3, 5.4Hz, 1H), 3.44 (d, J=13.3Hz, 1H)	
32	73.2	4.78-4.82 (m, 1H)	HMBC 32→33
33	155.1	-	
34	120.9	-	
35	130.4	7.04 (d, J=8.3Hz, 1H)	
36	104.8	6.43 (dd, J=8.3, 2.3Hz, 1H)	HMBC 36→35
37	158.8	-	
38	55.0	3.71 (s, 3H)	HMBC 38→37
39	99.4	6.41 (d, J=2.3Hz, 1H)	
40	36.0	2.28 (d, J=13.6Hz, 1H), 1.89 (ddd, J=13.6, 9.0, 5.0Hz, 1H)	
41	58.6	3.76 (d, J=8.5Hz, 1H) overlap	HMBC 41→42
42	171.9	-	
43	-	7.27 (s, 1H), 7.18 (s, 1H)	

MS m/z 726.3 (calc'd: $C_{40}H_{48}N_5O_8$, $[M+H]^+$, 726.3).



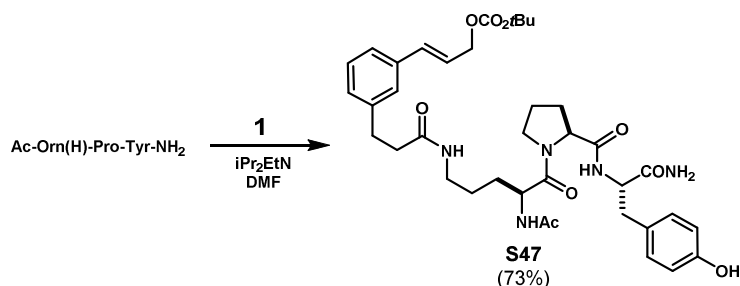
(600MHz, DMSO- d_6 , 298K, ~3:1 mixture of conformers – data is of major)

^{13}C	1H	key correlations
1	31.6	3.34-3.43 (m, 2H) overlap HMBC 1→35,37,38
2	130.1	6.19-6.28 (m, 1H) obscured

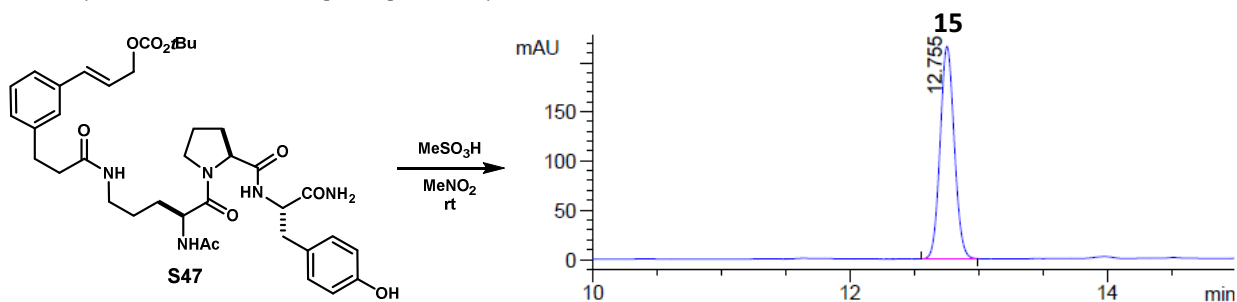
3	128.7	6.19-6.23 (m, 1H) obscured	
4	137.3	-	
5	124.0	7.12 (br d, J=7.9Hz, 1H)	HMBC 5→7,3
6	128.3	7.17 (apt t, J=7.5Hz, 1H)	
7	126.9	7.00 (d, J=7.5Hz, 1H) obscured	
8	141.8	-	
9	125.0	7.21 (br s, 1H)	HMBC 9→3
10	31.2	2.70 (dd, J=9.1,7.1Hz, 1H), 2.68 dd, J=9.1,7.1Hz, 1H)	HMBC 10→8
11	38.1	2.24-2.30 (m, 2H)	COSY 11→10, HMBC 11→8
12	171.1	-	
13	-	7.73 (dd, J=5.5, 5.5Hz, 1H)	HMBC 13→12
14	37.8	2.81-2.92 (m, 2H)	
15	25.2	1.28-1.41 (m, 2H)	
16	29.2	1.56-1.64 (m, 1H), 1.40-1.50 (m, 1H)	COSY 16→15
17	51.4	4.34 (ddd, J=9.8, 8.7, 3.4Hz, 1H)	TOCSY 17→13,14,15,16,18 HMBC 17→21
18	-	7.92 (d, J=8.5Hz, 1H)	
19	169.0	-	
20	22.3	1.77 (s, 3H)	HMBC 20→19
21	172.8	-	
22	-	8.48 (d, J=4.6Hz, 1H)	HMBC 22→21
23	53.9	4.13-4.19 (m, 1H) overlap	
24	36.0	2.81-2.88 (m, 1H) overlap, 2.37-2.80 (m, 1H) overlap	HMBC 24→25,29
25	126.3	-	
26	130.0	7.02 (d, J=8.3Hz, 2H)	HMBC 26→28
27	115.1	6.72 (d, J=8.3Hz, 2H)	HMBC 27→25
28	156.3	-	
29	-	9.39 (br s, 1H)	
30	170.3	-	
31	51.0	3.49 (dd, J=14.0, 3.4Hz, 1H), 3.38-3.43 (m, 1H)	HMBC 31→30
32	72.5	4.94 (dd, J=3.8, 3.8Hz, 1H)	COSY 32→31,40, TOCSY 32→31,40,41
33	155.7	-	
34	99.8	6.37-6.38 (m, 1H) overlap	HMBC 34→33,35,37
35	157.7	-	
36	55.3	3.73 (s, 3H)	HMBC 36→35
37	120.2	-	
38	130.5	7.06 (d, J=8.2Hz, 1H)	HMBC 38→33 COSY 38→39
39	106.9	6.35-6.38 (m, 1H) overlap	
40	36.4	2.45 (d, J=13.4Hz, 1H), 1.71 (ddd, J=13.1, 9.2, 3.8Hz, 1H)	HMBC 40→31,42
41	58.5	3.52 (d, J=8.9Hz, 1H) obscured	
42	172.3	-	
43	-	7.84 (s, 1H), 7.38 (s, 1H)	HMBC 43→42

MS m/z 726.3 (calc'd: $C_{40}H_{48}N_5O_8$, $[M+H]^+$, 726.3).

Macrocycle 15:



Acyclic carbonate (S47): General procedure A afforded compound **S47** as a colorless film (38 mg, 85%). ¹H NMR (600 MHz, CD₃OD, major rotamer): δ 1.47 (s, 9H), 1.47-1.57 (m, 3H), 1.64-1.72 (m, 1H), 1.81-1.88 (m, 1H), 1.90-1.95 (m, 1H), 1.97 (s, 3H), 2.06-2.14 (m, 1H), 2.48 (t, J = 7.6 Hz, 2H), 2.91 (t, J = 7.6 Hz, 2H), 2.89-2.95 (m, 1H), 3.05 (dd, J = 13.9, 5.8 Hz, 1H), 3.09-3.15 (m, 1H), 3.15-3.22 (m, 1H), 3.52-3.57 (m, 1H), 3.78 (dd, J = 16.1, 7.5 Hz, 1H), 4.34-4.38 (m, 1H), 4.43-4.47 (m, 1H), 4.48-4.52 (m, 1H), 4.67 (br d, J = 6.0 Hz, 1H), 6.31 (dt, J = 15.8, 6.2 Hz, 1H), 6.64 (d, J = 15.8 Hz, 1H), 6.70 (d, J = 7.9 Hz, 2H), 7.05 (d, J = 7.9 Hz, 2H), 7.11 (d, J = 6.2 Hz, 1H), 7.21-7.26 (m, 2H), 7.28 (br s, 1H). ¹³C NMR (151 MHz, CD₃OD, major rotamer): δ 175.9, 175.1, 173.9, 173.2, 173.1, 157.3, 155.0, 142.6, 137.8, 135.1, 131.4, 129.8, 129.3, 129.0, 127.7, 125.7, 124.3, 116.2, 82.9, 68.4, 61.9, 56.0, 52.5, 39.9, 38.9, 37.6, 32.8, 30.2, 29.4, 28.0, 26.3, 25.9, 22.3. MS *m/z* 722.4 (calc'd: C₃₈H₅₂N₅O₉, [M+H]⁺, 722.4).



Compound **S47** was subjected to general procedure C. HPLC analysis and purification was performed using the following methods.

Analytical HPLC method:

Column: Waters Sunfire™ C₁₈, 4.6x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 1.00 ml/min

Time	%B
0	25
2	25
27	60
32	100
42	100
44	25
25	30

Semi-preparative HPLC method A:

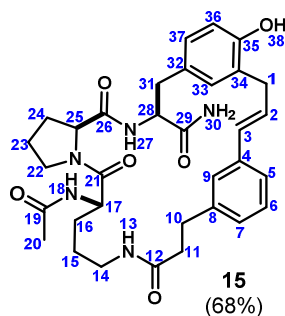
Column: Waters Sunfire™ C₁₈, 10x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 7.50 ml/min

Time	%B
0	20
20	50
22	20
25	20



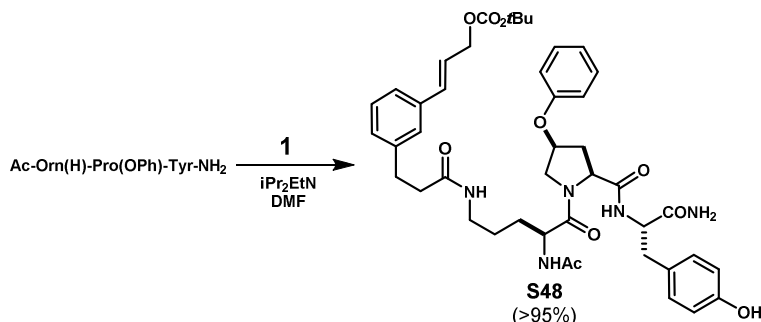
(600MHz, DMSO-*d*₆, 298K)

	¹³ C	¹ H	key correlations
1	31.9	3.44-3.50 (m, 1H) overlap, 3.37 (dd, J=15.9, 7.1Hz, 1H)	HMBC 1→33, 34, 35
2	128.4	6.33 (ddd, J=15.7, 7.1, 7.1Hz, 1H)	HMBC 2→4
3	130.6	6.47 (d, J=15.7Hz, 1H)	
4	137.1	-	
5	124.1	7.13 (ddd, J=7.5, 1.5, 1.5Hz, 1H)	HMBC 5→3
6	128.2	7.18 (dd, J=7.5, 7.5Hz, 1H)	HMBC 6→4, 8
7	127.2	7.03 (ddd, J=7.5, 1.5, 1.5Hz, 1H)	
8	141.4	-	
9	124.5	7.31 (dd, J=1.5, 1.5Hz, 1H)	
10	30.6	2.76-2.86 (m, 2H)	HMBC 10→8
11	36.5	2.37-2.44 (m, 2H)	
12	171.3	-	
13	-	7.64 (t, J=5.3Hz, 1H)	
14	37.6	2.99-3.04 (m, 1H), 2.93-2.98 (m, 1H)	
15	24.4	1.31-1.37 (m, 2H) overlap	
16	28.1	1.56-1.62 (m, 1H), 1.31-1.37 (m, 1H) overlap	
17	49.6	4.38-4.43 (m, 1H) obscured	HMBC 17→19, 21
18	-	7.99 (d, J=7.6Hz, 1H)	
19	169.1	-	
20	22.0	1.81 (s, 3H)	HMBC 20→19
21	170.8	-	
22	46.5	3.58-3.63 (m, 1H), 3.44-3.50 (m, 1H) overlap	COSY 22→23
23	24.0	1.77-1.83 (m, 1H), 1.70-1.76 (m, 1H) overlap	
24	28.6	1.88-1.94 (m, 1H), 1.70-1.76 (m, 1H) overlap	
25	59.4	4.25-4.30 (m, 1H)	
26	171.1	-	
27	-	7.52 (d, J=7.9Hz, 1H)	HMBC 27→26
28	53.9	4.25-4.30 (m, 1H) overlap	HMBC 28→26, 29, 32
29	172.9	-	
30	-	7.28 (br s, 1H), 7.02 (br s, 1H)	HMBC 30→29
31	36.7	2.88 (dd, J=13.8, 6.0Hz, 1H), 2.69 (ss, J=13.8, 8.0Hz, 1H)	HMBC 31→28, 32
32	127.9	-	
33	129.8	6.92 (d, J=2.0Hz, 1H)	
34	125.9	-	
35	153.3	-	
36	114.4	6.69 (d, J=8.2Hz, 1H)	HMBC 36→34

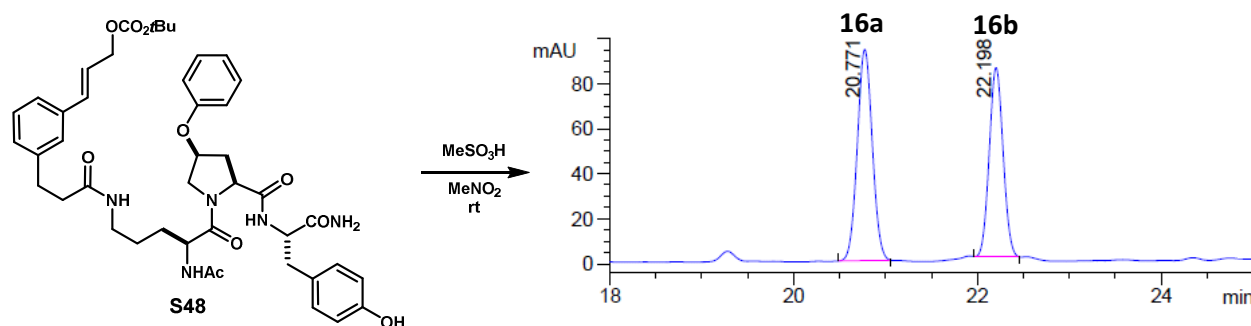
37	127.4	6.85 (dd, J=8.2, 2.1Hz, 1H)	
38	-	9.20 (br s, 1H)	

MS m/z 604.3 (calc'd: C₃₃H₄₂N₅O₆, [M+H]⁺, 604.3).

Macrocycles 16a,b:



Acyclic carbonate (S48): General procedure A afforded compound **S48** as a colorless film (155 mg, quant.). ¹H NMR (500 MHz, CD₃OD, major rotamer): δ 1.40-1.65 (m, 4H), 1.46 (s, 9H), 1.95 (s, 3H), 2.29-2.34 (m, 1H), 2.42-2.54 (m, 3H), 2.85-2.94 (m, 1H), 2.89 (t, J = 7.3 Hz, 2H), 2.95 (d, J = 7.3 Hz, 2H), 3.02-3.21 (m, 2H), 3.80 (d, J = 11.1 Hz, 1H), 4.20 (dd, J = 11.3, 4.9 Hz, 1H), 4.43-4.49 (m, 1H), 4.49-4.56 (m, 2H), 4.66 (dd, J = 6.3, 0.9 Hz, 2H), 5.03-5.08 (m, 1H), 6.29 (dt, J = 15.9, 6.3 Hz, 1H), 6.61 (d, J = 15.9 Hz, 1H), 6.63 (d, J = 8.4 Hz, 2H), 6.91 (d, J = 7.8 Hz, 2H), 6.95 (t, J = 7.4 Hz, 1H), 7.00 (d, J = 8.4 Hz, 2H), 7.08-7.11 (m, 1H), 7.18-7.29 (m, 5H). ¹³C NMR (126 MHz, CD₃OD, major rotamer): δ 175.5, 175.2, 174.1, 173.4, 172.8, 158.1, 157.3, 154.9, 142.6, 137.7, 135.0, 131.6, 130.8, 129.8, 129.3, 128.5, 127.8, 125.6, 124.2, 122.7, 116.8, 116.2, 82.9, 77.2, 68.4, 61.2, 55.7, 54.1, 52.6, 39.8, 39.0, 38.2, 35.1, 32.8, 29.4, 28.0, 26.3, 22.2. MS m/z 814.4 (calc'd: C₃₉H₄₆N₅O₇, [M+H]⁺, 814.4).



Compound **S48** was subjected to general procedure C. HPLC analysis and purification was performed using the following methods.

Analytical HPLC method:

Column: Waters Sunfire™ C₁₈, 4.6x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 1.00 ml/min

Time	%B
0	30
2	30
30	50
38	100
45	100
49	30
50	30

Semi-preparative HPLC method:

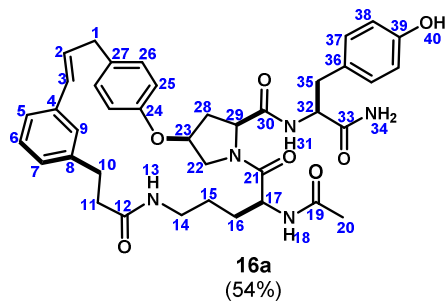
Column: Waters Sunfire™ C₁₈, 10x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 7.50 ml/min

Time	%B
0	30
2	30
25	48
27	30
28	30

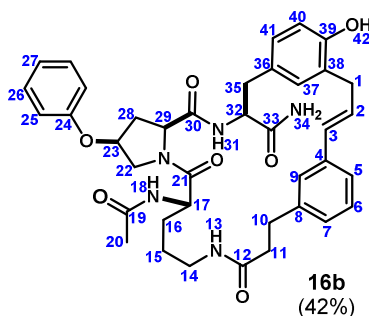


(600MHz, DMSO-*d*₆, 298K)

	¹³ C	¹ H	key correlations
1	37.5	3.42 (br d, J = 6.6Hz, 2H)	HMBC 1→27
2	130.3	6.21 (dt, J = 15.8, 6.6Hz, 1H)	COSY 2→1, HMBC 2→4, 27
3	129.3	6.32 (dd, J = 15.8, 1.3Hz, 1H)	HMBC 3→4
4	136.7	-	
5	124.5	7.09 (ddd, J = 7.7, 1.2, 1.2Hz, 1H)	HMBC 5→3
6	128.3	7.18 (dd, J = 7.7, 7.7Hz, 1H)	HMBC 6→4
7	127.3	6.99 (ddd, J = 7.7, 1.2, 1.2Hz, 1H)	
8	141.4	-	
9	123.3	7.15 (br s, 1H) overlap	
10	29.6	2.86 - 2.91 (m, 1H), 2.71 - 2.76 (m, 1H)	HMBC 10→8,12
11	35.7	2.26 - 2.30 (m, 2H)	HMBC 11→8,10,12
12	171.1	-	
13	-	7.78 (t, J = 5.2Hz, 1H)	COSY 13→14, HMBC 13→12, TOCSY 13→14,15,16,17,18
14	37.9	2.63 - 2.69 (m, 2H)	
15	24.9	1.27 - 1.34 (m, 1H) overlap, 1.19 - 1.26 (m, 1H)	
16	28.4	1.36 - 1.44 (m, 1H), 1.27 - 1.34 (m, 1H) overlap	HMBC 16→21
17	49.6	4.23 (ddd, J = 9.8, 7.6, 4.1Hz, 1H)	HMBC 17→21
18	-	8.10 (d, J = 7.6Hz, 1H)	
19	169.1	-	
20	22.0	1.77 (s, 3H)	HMBC 20→18
21	171.5	-	
22	50.8	3.79 (d, J = 11.5, 3.7Hz, 1H), 3.56 (d, J = 11.5Hz, 1H)	
23	75.7	5.16 (apt t, J = 4.0Hz, 1H)	COSY 23→22,28
24	154.2	-	
25	116.7	6.91 (d, J = 8.5Hz, 1H)	HMBC 25→24,27
26	129.7	7.14 (d, J = 8.5Hz, 1H)	HMBC 26→1, 24
27	132.9	-	
28	34.3	2.53 (ddd, J = 14.2, 10.5, 5.0Hz, 1H), 2.22 (br d, J = 14.2Hz, 1H)	
29	59.1	4.35 (dd, J = 10.5, 2.1Hz, 1H)	
30	169.6	-	
31	-	7.31 (d, J = 7.8Hz, 1H)	
32	53.5	4.34 - 4.38 (m, 1H) overlap	HMBC 32→33,36
33	172.4	-	
34	-	7.24 (br s, 1H), 7.13 (br s, 1H) overlap	TOCSY 34→34', HMBC 34→33
35	36.9	2.93 (dd, J = 14.0, 5.8Hz, 1H), 2.80 (dd, J = 14.0, 7.1Hz, 1H)	HMBC 35→32,36,37
36	127.3	-	
37	130.1	7.01 (d, J = 8.5Hz, 2H)	HMBC 37→39, COSY 37→38

38	114.7	6.60 (d, J = 8.5Hz, 2H)	HMBC 38→36,39
39	155.7	-	
40	-	9.15 (br s, 1H)	

MS m/z 696.3 (calc'd: C₃₉H₄₆N₅O₇, [M+H]⁺, 696.3).



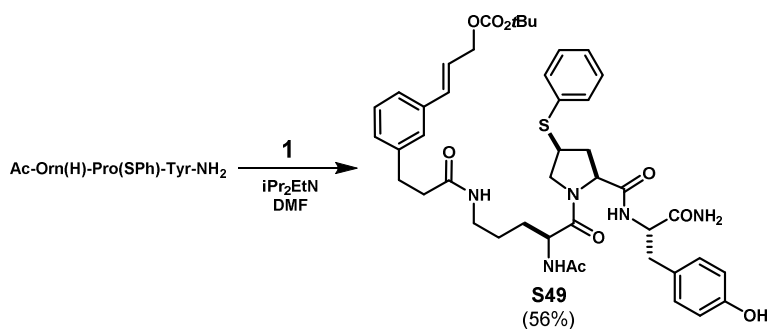
(600MHz, DMSO-*d*₆, 298K)

	¹³ C	¹ H	key correlations
1	31.5	3.45 (dd, J = 16.3, 6.2Hz, 1H), 3.28 (dd, J = 16.3, 7.5Hz, 1H)	HMBC 1→38,39
2	128.5	6.30-6.37 (m, 1H)	HMBC 2→4
3	130.5	6.46 (br d, J = 15.9Hz, 1H)	HMBC 3→4
4	137.1	-	
5	123.4	7.10 (br d, J = 7.6Hz, 1H)	HMBC 5→3, TOCSY 5→6,7,9
6	128.1	7.18 (dd, J = 7.6, 7.7Hz, 1H)	HMBC 6→4,8
7	127.1	7.03 (br d, J = 7.7Hz, 1H)	
8	141.2	-	
9	124.3	7.42 (br s, 1H)	
10	30.6	2.80 (t, J = 7.4Hz, 2H)	HMBC 10→8,12
11	36.8	2.42 (t, J = 7.4Hz, 2H)	HMBC 11→8,12
12	171.1	-	
13	-	7.37 (apt t, J = 6.9Hz, 1H)	HMBC 13→12
14	37.6	2.97-3.04 (m, 1H), 2.90-2.97(m, 1H)	
15	24.6	1.30-1.39 (m, 2H) overlap	HMBC 15→17
16	28.2	1.56-1.63 (m, 1H), 1.34-1.40 (m, 1H) overlap	
17	49.8	4.40-4.45 (m, 1H) overlap	HMBC 17→21
18	-	8.11 (br d, J = 7.4Hz, 1H)	HMBC 18→19
19	169.0	-	
20	21.9	1.82 (s, 3H)	HMBC 20→19
21	171.5	-	
22	51.9	4.27-4.32 (m, 1H) overlap, 3.66-3.70 (m, 1H)	
23	74.9	5.03-5.07 (m, 1H)	
24	156.6	-	
25	115.2	6.90 (d, J = 8.2Hz, 2H) overlap	HMBC 25→24
26	129.2	7.22 (dd, J = 8.2, 7.6Hz, 2H)	HMBC 26→24
27	120.8	6.91 (t, J = 7.6Hz, 1H) overlap	
28	33.6	2.44-2.51 (m, 1H) overlap, 2.08 (ddd, J = 13.4, 4.0, 4.0Hz, 1H)	
29	58.5	4.41-4.45 (m, 1H) overlap	
30	169.9	-	
31	-	7.35-7.40 (m, 1H)	HMBC 31→30
32	53.9	4.27-4.32 (m, 1H) overlap	HMBC 32→36

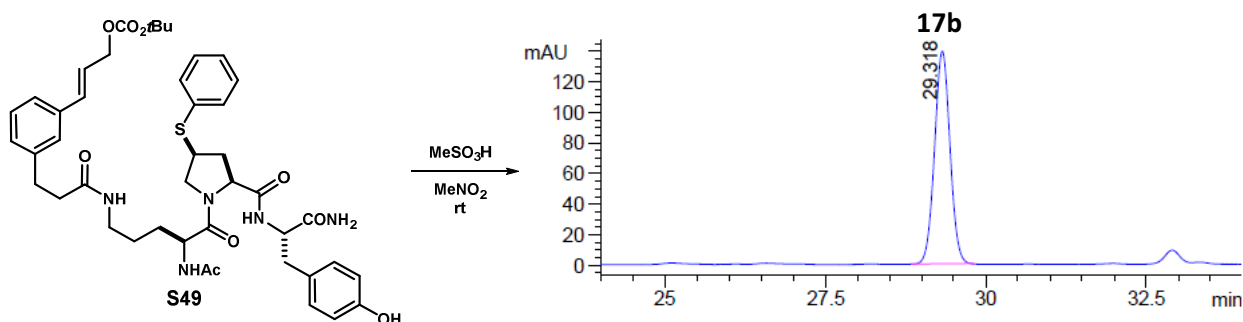
33	172.3	-	
34	-	7.30 (br s, 1H), 7.13 (br s, 1H)	HMBC 34→33
35	37.0	2.74 - 2.79 (m, 2H)	HMBC 35→36
36	127.1	-	
37	129.8	6.89-6.91 (m, 1H) overlap	HMBC 37→1
38	125.7	-	
39	153.2	-	
40	114.3	6.69 (d, J = 8.1Hz, 1H)	HMBC 40→39,38
41	127.3	6.86 (dd, J = 8.1, 1.3Hz, 1H)	HMBC 41→39
42	-	9.23 (br s, 1H)	

MS m/z 696.3 (calc'd: $C_{39}H_{46}N_5O_7$, $[M+H]^+$, 696.3).

Macrocycle 17b:



Acyclic carbonate (S49): General procedure A afforded compound **S49** as a colorless film (168 mg, 56%). ¹H NMR (600 MHz, CD₃OD): δ 1.41-1.56 (m, 3H), 1.46 (s, 9H), 1.61-1.69 (m, 1H), 1.80 (ddd, J = 12.4, 9.6, 9.5 Hz, 1H), 1.95 (s, 3H), 2.47 (t, J = 7.6 Hz, 2H), 2.52-2.58 (m, 1H), 2.90 (t, J = 7.6 Hz, 2H), 2.97 (dd, J = 14.0, 7.7 Hz, 1H), 3.04 (dd, J = 14.0, 6.1 Hz, 1H), 3.07-3.13 (m, 1H), 3.14-3.20 (m, 1H), 3.42 (dd, J = 9.6, 9.6 Hz, 1H), 3.73-3.79 (m, 1H), 4.34 (dd, J = 10.0, 7.2 Hz, 1H), 4.39 (dd, J = 8.2, 8.2 Hz, 1H), 4.42-4.45 (m, 1H), 4.47 (dd, J = 7.3, 6.7 Hz, 1H), 4.65 (dd, J = 6.2, 0.9 Hz, 2H), 6.28 (dt, J = 15.9, 6.3 Hz, 1H), 6.61 (br d, J = 15.9 Hz, 1H), 6.71 (d, J = 8.4 Hz, 2H), 7.06 (d, J = 8.4 Hz, 2H), 7.09-7.13 (m, 1H), 7.19-7.23 (m, 2H), 7.24-7.27 (m, 2H), 7.32 (dd, J = 7.9, 7.9 Hz, 2H), 7.42 (dd, J = 7.9, 1.0 Hz, 2H). ¹³C NMR (151 MHz, CD₃OD): δ 175.7, 175.0, 173.2, 173.1, 172.9, 157.2, 154.9, 142.5, 137.7, 135.1, 135.0, 132.5, 131.4, 130.3, 129.8, 129.2, 128.9, 128.5, 127.7, 125.6, 124.2, 116.3, 82.9, 68.4, 61.7, 56.0, 54.8, 52.7, 45.0, 39.8, 38.9, 37.5, 36.8, 32.8, 29.3, 28.1, 26.1, 22.3. MS m/z 830.2 (calc'd: $C_{44}H_{56}N_5O_9S$, $[M+H]^+$, 830.4).



Compound **S49** was subjected to general procedure C. HPLC analysis and purification was performed using the following methods.

Analytical HPLC method:Column: Waters Sunfire™ C₁₈, 4.6x250mm, 5μm.Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 1.00 ml/min

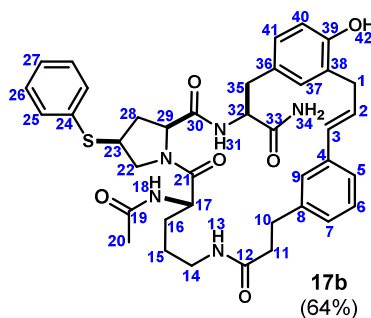
Time	%B
0	30
2	30
37	43
42	100
52	100
54	30
57	30

Semi-preparative HPLC method:Column: Waters Sunfire™ C₁₈, 10x250mm, 5μm.Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 7.00 ml/min

Time	%B
0	30
2	30
25	48
27	30
28	30

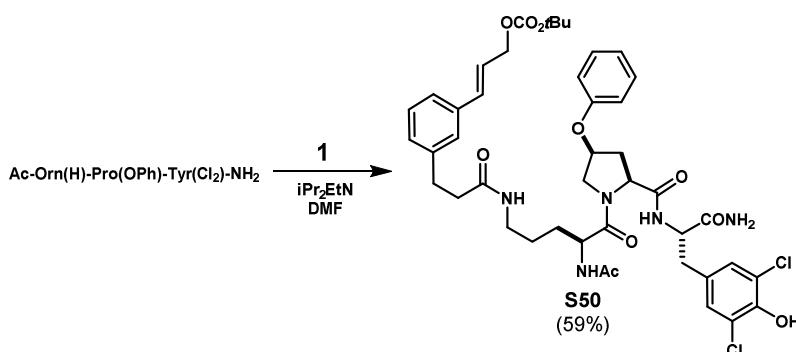
(600MHz, DMSO-d₆, 298K)

	¹³ C	¹ H	key correlations
1	31.6	3.47 (dd, J = 16.0, 6.7Hz, 1H), 3.35 (dd, J = 16.0, 7.3Hz, 1H)	HMBC 1→38
2	128.3	6.37 (ddd, J = 15.7, 7.3, 6.7Hz, 1H)	COSY 2→1 HMBC 2→4
3	130.6	6.45 (d, J = 15.7Hz, 1H)	HMBC 3→5
4	137.0	-	
5	124.1	7.11 (br d, J = 7.6Hz, 1H)	HMBC 5→3
6	128.1	7.18 (dd, J = 7.6, 7.6Hz, 1H)	TOCSY 6→5,7,9 HMBC 6→4,8
7	127.2	7.03 (br d, J = 7.6Hz, 1H)	
8	141.3	-	
9	124.5	7.38 (br s, 1H)	
10	30.5	2.82 (t, J = 7.1Hz, 2H)	HMBC 10→8,12
11	36.6	2.42 (t, J = 7.1Hz, 2H)	HMBC 11→8,12
12	171.2	-	
13	-	7.64 (t, J = 5.4Hz, 1H)	TOCSY 13→14,15,16,17,18 HMBC 13→12
14	37.6	3.00-3.07 (m, 1H), 2.91-2.97 (m, 1H)	
15	28.0	1.55-1.62 (m, 1H), 1.33-1.41 (m, 1H)	
16	24.4	1.28-1.41 (m, 2H) overlap	HMBC 16→17,21
17	49.6	4.40 (ddd, J = 7.6, 7.2, 7.1Hz, 1H)	HMBC 17→19,21
18	-	8.06 (d, J = 7.6Hz, 1H)	
19	169.1	-	
20	21.9	1.81 (s, 3H)	
21	170.5	-	
22	52.8	4.41 (apt t, J = 8.2Hz, 1H), 3.33 (apt t, J = 9.8Hz, 1H)	
23	42.3	3.80-3.86 (m, 1H)	COSY 23→22 HMBC 23→24
24	134.3	-	

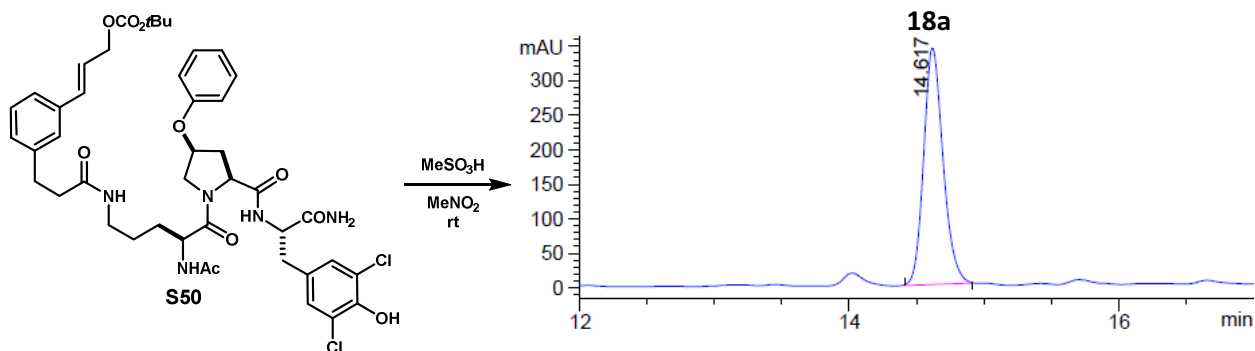
25	129.7	7.41 (dd, J = 8.1, 1.0Hz, 2H)	
26	128.9	7.34 (dd, J = 8.1, 7.4Hz, 2H)	HMBC 26→24
27	126.4	7.26 (dd, J = 7.4, 1.0Hz, 1H)	
28	35.3	2.52 (ddd, J = 12.5, 7.6, 7.1Hz, 1H), 1.68 (ddd, J = 12.5, 10.1, 8.7Hz, 1H)	COSY 28→23
29	59.0	4.34 (dd, J = 8.7, 7.6Hz, 1H)	COSY 29→28
30	170.1	-	
31	-	7.72 (d, J = 7.7Hz, 1H)	TOCSY 31→32,35
32	54.1	4.26 (ddd, J = 7.7, 7.7, 6.6Hz, 1H)	HMBC 32→30,33,36
33	172.6	-	
34	-	7.29 (br s, 1H), 7.05 (br s, 1H)	HMBC 34→33
35	36.5	2.88 (dd, J = 13.7, 6.6Hz, 1H), 2.73 (dd, J = 13.7, 7.7Hz, 1H)	HMBC 35→36
36	127.6	-	
37	129.6	6.93 (d, J = 1.8Hz, 1H)	
38	125.8	-	
39	153.3	-	
40	114.2	6.70 (d, J = 8.1Hz, 1H)	HMBC 40→36,38
41	127.2	6.85 (dd, J = 8.1, 1.8Hz, 1H)	HMBC 41→39
42	-	9.23 (br s, 1H)	

MS m/z 712.3 (calc'd: C₃₉H₄₆N₅O₆S, [M+H]⁺, 712.3).

Macrocycle 18a:



Acyclic carbonate (S50): General procedure A afforded compound **S50** as a colorless film (110 mg, 59%). ¹H NMR (500 MHz, CD₃OD, major rotamer): δ 1.44-1.70 (m, 4H), 1.46 (s, 9H), 1.96 (s, 3H), 2.36 (br d, J = 13.9 Hz, 1H), 2.47 (br t, J = 7.1 Hz, 2H), 2.46-2.55 (m, 1H), 2.82-2.93 (m, 3H), 2.99 (dd, J = 14.1, 5.7 Hz, 1H), 3.05-3.19 (m, 2H), 3.86 (br d, J = 10.8 Hz, 1H), 4.19 (dd, J = 11.3, 4.7 Hz, 1H), 4.47 (dd, J = 7.0, 6.7 Hz, 1H), 4.50-4.55 (m, 2H), 4.66 (d, J = 6.3 Hz, 2H), 5.06-5.11 (m, 1H), 6.29 (dt, J = 15.9, 6.4 Hz, 1H), 6.62 (d, J = 15.9 Hz, 1H), 6.89 (d, J = 8.4 Hz, 2H), 6.95 (dd, J = 7.4, 7.4 Hz, 1H), 7.08 (s, 2H), 7.18-7.31 (m, 6H). ¹³C NMR (126 MHz, CD₃OD, major rotamer): δ 175.1, 174.7, 174.1, 173.3, 172.9, 158.1, 155.0, 149.4, 142.6, 137.8, 135.1, 130.8, 130.5, 129.8, 129.3, 127.8, 125.6, 124.2, 123.0, 122.7, 116.8, 82.9, 77.3, 68.4, 61.3, 55.2, 54.2, 52.7, 49.8, 39.7, 39.0, 37.9, 34.9, 32.8, 29.4, 28.0, 26.3, 22.2. MS m/z 764.2 (calc'd: C₃₉H₄₄Cl₂N₅O₇, [M-OCO₂tBu]⁺, 764.3).



Compound **S50** was subjected to general procedure C. HPLC analysis and purification was performed using the following methods.

Analytical HPLC method:

Column: Waters Sunfire™ C₁₈, 4.6x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 1.00 ml/min

Time	%B
0	35
2	35
20	65
23	100
25	100
28	35
30	35

Semi-preparative HPLC method:

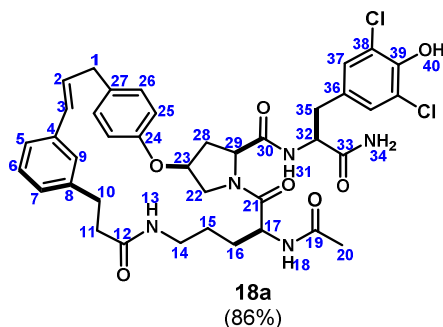
Column: Waters Sunfire™ C₁₈, 10x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 7.50 ml/min

Time	%B
0	35
2	35
20	57
22	35
23	35



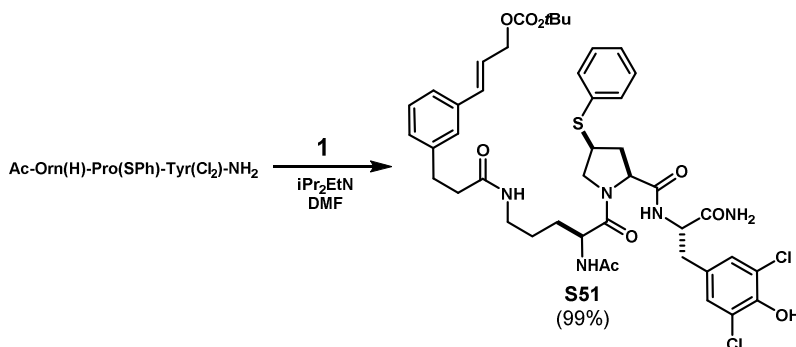
(600MHz, DMSO-*d*₆, 298K)

	¹³ C	¹ H	key correlations
1	37.4	3.42 (br d, J = 6.6Hz, 2H)	HMBC 1→27
2	130.1	6.21 (dt, J = 15.6, 6.6Hz, 1H)	HMBC 2→4, 27
3	129.1	6.32 (br d, J = 15.6Hz, 1H)	HMBC 3→4
4	136.6	-	
5	124.5	7.09 (br d, J = 7.7Hz, 1H)	HMBC 5→3 TOCSY 5→6, 7, 9
6	128.1	7.18 (dd, J = 7.7, 7.7Hz, 1H)	HMBC 6→4, 8
7	127.3	6.99 (br d, J = 7.7Hz, 1H)	
8	141.3	-	
9	123.2	7.14 (br s, 1H)	
10	29.6	2.86 - 2.92 (m, 1H), 2.70 - 2.76 (m, 1H)	HMBC 10→8, 12
11	35.6	2.26 - 2.30 (m, 2H)	HMBC 11→8, 12
12	171.0	-	
13	-	7.76 (t, J = 5.2Hz, 1H)	

14	37.9	2.60 - 2.72 (m, 2H) overlap	COSY 13→14 HMBC 13→12
15	25.0	1.26 - 1.35 (m, 1H) overlap, 1.18 - 1.26 (m, 1H)	
16	28.3	1.37 - 1.45 (m, 1H), 1.26 - 1.35 (m, 1H) overlap	HMBC 16→21
17	49.6	4.23 (ddd, J = 10.0, 7.7, 4.1Hz, 1H)	HMBC 17→21
18	-	8.10 (d, J = 7.7Hz, 1H)	HMBC 18→19
19	169.0	-	
20	21.9	1.77 (s, 3H)	HMBC 20→19
21	171.5	-	
22	50.8	3.77 (dd, J = 11.5, 3.7Hz, 1H), 3.59 (br d, J = 11.5Hz, 1H)	
23	75.6	5.17 (apt t, J = 4.0Hz, 1H)	
24	154.2	-	
25	116.5	6.89 (d, J = 8.6Hz, 2H)	HMBC 25→24
26	129.5	7.13 (d, J = 8.6Hz, 2H)	HMBC 26→1, 24
27	132.8	-	
28	34.1	2.56 (ddd, J = 14.1, 10.6, 4.8Hz, 1H), 2.19 (br d, J = 14.1Hz, 1H)	
29	59.3	4.31 (dd, J = 10.6, 2.0Hz, 1H)	HMBC 29→30
30	169.7	-	
31	-	7.31 (d, J = 7.8Hz, 1H)	HMBC 31→30
32	52.8	4.41 (ddd, J = 7.8, 7.5, 5.3Hz, 1H)	HMBC 32→36
33	171.9	-	
34	-	7.41 (br s, 1H), 7.28 (br s, 1H)	TOCSY 34→34'
35	36.5	2.99 (dd, J = 13.9, 5.3Hz, 1H), 2.78 (dd, J = 13.9, 7.5Hz, 1H)	HMBC 35→36
36	130.1	-	
37	129.1	7.18 (s, 2H)	
38	121.5	-	
39	147.2	-	
40	-	9.84 (br s, 1H)	

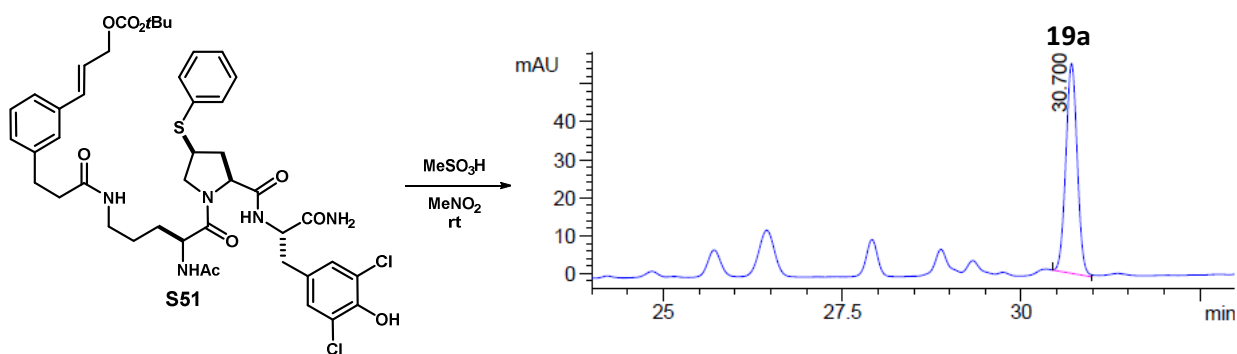
MS m/z 764.2 (calc'd: $C_{39}H_{44}Cl_2N_5O_7$, $[M+H]^+$, 764.3).

Macrocycle 19a:



Acyclic carbonate (S51): General procedure A afforded compound **S51** as a colorless foam (250 mg, 99%). ¹H NMR (500 MHz, CD₃OD, major rotamer): δ 1.42-1.57 (m, 3H), 1.46 (s, 9H), 1.64-1.72 (m, 1H), 1.83 (ddd, J = 12.5, 9.5, 9.5 Hz, 1H), 1.96 (s, 3H), 2.48 (t, J = 7.6 Hz, 2H), 2.56 (ddd, J = 13.0, 7.1, 6.9 Hz, 1H), 2.91 (t, J = 7.6 Hz, 2H), 2.94 (dd, J = 14.0, 5.5 Hz, 1H), 3.07 (dd, J = 14.0, 5.9 Hz, 1H), 3.08-3.13 (m, 1H), 3.14-3.22 (m, 1H), 3.44 (dd, J = 9.9, 9.9 Hz, 1H), 3.79 (ddd, J = 16.6, 9.3, 6.8 Hz, 1H), 4.34 (dd, J = 10.3, 7.1 Hz, 1H), 4.37 (dd, J = 8.5, 8.5 Hz, 1H), 4.40-4.45 (m, 2H), 4.65 (dd, J = 6.3, 0.9 Hz, 2H), 6.29 (dd, J = 16.0, 6.3 Hz, 1H), 6.62 (br d, J = 16.0 Hz, 1H), 7.09-7.13 (m, 1H), 7.18 (s, 2H), 7.20-7.24 (m, 2H), 7.25-7.28 (m, 2H), 7.32 (dd, J = 7.6, 7.6 Hz, 2H), 7.40-7.43 (m, 2H). ¹³C NMR (126 MHz, CD₃OD, major rotamer): δ 175.21,

175.16, 173.25, 173.22, 173.0, 154.9, 149.4, 142.6, 137.8, 135.2, 135.1, 132.6, 131.3, 130.4, 130.3, 129.8, 129.3, 128.5, 127.8, 125.6, 124.2, 123.1, 82.9, 68.4, 61.8, 55.9, 54.8, 52.9, 45.1, 39.8, 39.0, 36.9, 36.8, 32.9, 29.2, 28.0, 26.1, 22.3. MS m/z 780.2 (calc'd: $C_{39}H_{44}Cl_2N_5O_6S$, $[M-OCO_2tBu]^+$, 780.2).



Compound **S51** was subjected to general procedure C. HPLC analysis and purification was performed using the following methods.

Analytical HPLC method:

Column: Waters XSelect™ C₁₈, 4.6x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 1.00 ml/min

Time	%B
0	30
2	30
30	50
37	100
45	100
48	30
50	30

Semi-preparative HPLC method A:

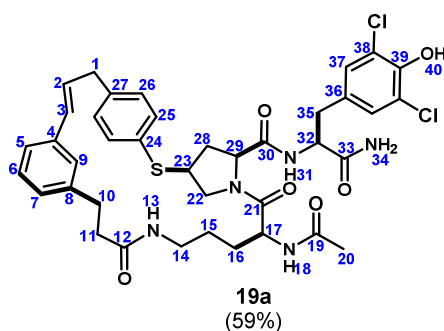
Column: Waters Sunfire™ C₁₈, 10x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 7.50 ml/min

Time	%B
0	35
2	35
25	52
27	35
28	35



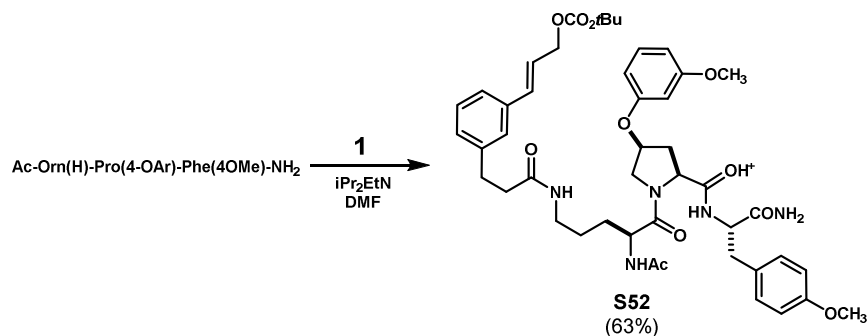
(600MHz, DMSO-*d*₆, 298K, ~6:1 mixture of rotamers, data is of major)

	¹³ C	¹ H	key correlations
1	37.5	3.50 (br d, J = 7.0Hz, 2H)	HMBC 1→27
2	128.9	6.27 (dt, J = 15.9, 6.9Hz, 1H)	HMBC 2→27, 4
3	130.4	6.38 (br d, J = 15.9Hz, 1H)	
4	136.4	-	
5	124.5	7.11 (br d, J = 7.6Hz, 1H)	HMBC 5→3, TOCSY 5→6,7,9
6	128.1	7.17-7.21 (m, 1H) overlap	HMBC 6→4,8
7	127.4	7.02 (br d, J = 7.7Hz, 1H)	
8	141.4	-	
9	123.7	7.20 (br s, 1H)	

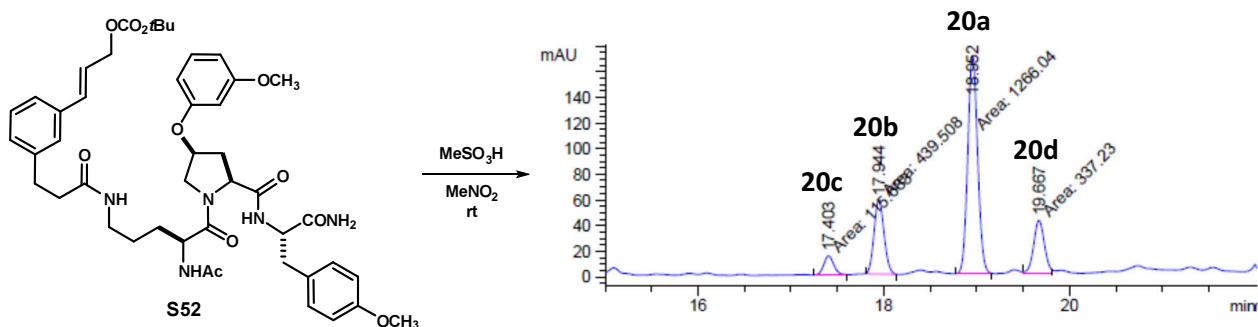
10	29.8	2.83-2.89 (m, 1H) overlap, 2.75-2.80 (m, 1H) overlap	HMBC 10→8,12
11	35.7	2.30-2.35 (m, 2H)	HMBC 11→8,12
12	170.9	-	
13	-	7.79 (t, J = 5.7Hz, 1H)	HMBC 13→12,14
14	37.6	2.82-2.88 (m, 1H) overlap, 2.69-2.76 (m, 1H) overlap	
15	25.0	1.29-1.35 (m, 1H), 1.20-1.27 (m, 1H)	
16	27.7	1.37-1.43 (m, 2H)	HMBC 16→21
17	49.6	4.18 (ddd, J = 8.2, 8.0, 6.8Hz, 1H)	HMBC 17→19, 21
18	-	8.12 (d, J = 8.0Hz, 1H)	HMBC 18→19
19	169.3	-	
20	21.9	1.79 (s, 3H)	HMBC 20→19
21	171.2	-	
22	52.6	3.95 (dd, J = 10.6, 6.3Hz, 1H), 3.21 (dd, J = 10.6, 6.8Hz, 1H)	TOCSY 22→23, 28, 29
23	41.8	4.00 (ddd, J = 14.0, 6.9, 6.9Hz, 1H)	HMBC 23→24
24	130.4	-	
25	131.4	7.38 (d, J = 8.3Hz, 2H)	HMBC 25→27
26	129.2	7.24 (d, J = 8.3Hz, 2H)	HMBC 26→1
27	139.3	-	
28	33.1	2.49 - 2.55 (m, 1H) overlap, 1.77-1.85 (m, 1H) overlap	HMBC 28→30
29	59.6	4.32 - 4.36 (m, 1H) overlap	HMBC 29→30
30	170.0	-	
31	-	7.71 (d, J = 8.3Hz, 1H)	TOCSY 31→32,35
32	53.1	4.31-4.36 (m, 1H) overlap	HMBC 32→36
33	171.9	-	
34	-	7.29 (br s, 1H), 7.17 (br s, 1H)	TOCSY 34→34', HMBC 34→33
35	35.4	2.92 (dd, J = 14.2, 5.4Hz, 1H), 2.81 (dd, J = 14.2, 8.6Hz, 1H)	HMBC 35→36,37
36	130.4	-	
37	128.9	7.19 (s, 2H)	HMBC 37→38,39
38	121.6	-	
39	147.3	-	
40	-	9.92 (br s, 1H)	

MS m/z 780.2 (calc'd: $C_{39}H_{44}Cl_2N_5O_6S$, $[M+H]^+$, 780.2).

Macrocycles 20a-d:



Acyclic carbonate (S52): General procedure A afforded compound **S52** as a colorless glass (113 mg, 63%). ¹H NMR (500 MHz, CD₃OD, major rotamer): δ 1.46 (s, 9H), 1.46-1.61 (m, 3H), 1.61-1.70 (m, 1H), 1.95 (s, 3H), 2.30 (dt, J = 13.9, 3.1 Hz, 1H), 2.46 (t, J = 7.6 Hz, 2H), 2.50 (ddd, J = 13.9, 9.9, 5.1 Hz, 1H), 2.88 (t, J = 7.6 Hz, 2H), 2.94 (dd, J = 13.8, 7.0 Hz, 1H), 3.02 (dd, J = 13.8, 5.9 Hz, 1H), 3.04-3.11 (m, 1H), 3.11-3.21 (m, 1H), 3.66 (s, 3H), 3.69 (s, 3H), 3.81 (br d, J = 11.4 Hz, 1H), 4.18 (dd, J = 11.4, 5.0 Hz, 1H), 4.47 (dd, J = 7.5, 6.1 Hz, 1H), 4.50-4.54 (m, 2H), 4.65 (dd, J = 6.2, 1.1 Hz, 2H), 5.02-5.07 (m, 1H), 6.28 (dt, J = 15.9, 6.2 Hz, 1H), 6.48-6.55 (m, 3H), 6.61 (br d, J = 15.9 Hz, 1H), 6.70 (d, J = 8.6 Hz, 2H), 7.06 (d, J = 8.6 Hz, 2H), 7.08-7.11 (m, 1H), 7.14-7.24 (m, 2H), 7.25 (br s, 1H). ¹³C NMR (126 MHz, CD₃OD, major rotamer): δ 175.3, 175.0, 174.0, 173.2, 172.8, 162.5, 159.9, 159.3, 154.9, 142.6, 137.8, 135.1, 131.5, 131.2, 129.85, 129.80, 129.3, 127.8, 125.6, 124.2, 114.8, 108.7, 108.4, 103.5, 82.9, 77.3, 68.4, 61.2, 55.7, 55.61, 55.59, 54.2, 52.5, 39.7, 38.9, 38.3, 35.1, 32.8, 29.5, 28.0, 26.3, 22.2. MS *m/z* 858.0 (calc'd: C₄₆H₆₀N₅O₁₁, [M+H]⁺, 858.4).



Compound **S52** was subjected to general procedure C. HPLC analysis and purification was performed using the following methods.

Analytical HPLC method:

Column: Waters Sunfire™ C₁₈, 4.6x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 1.00 ml/min

Time	%B
0	35
2	35
22	70
30	100
40	100
45	35
47	35

Semi-preparative HPLC method:

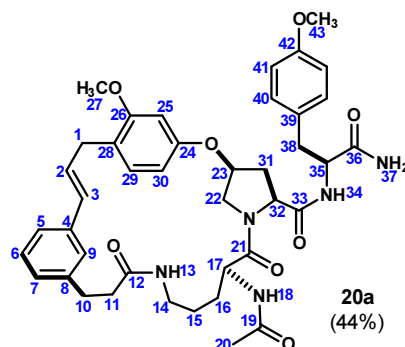
Column: Waters Sunfire™ C₁₈, 10x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 6.50 ml/min

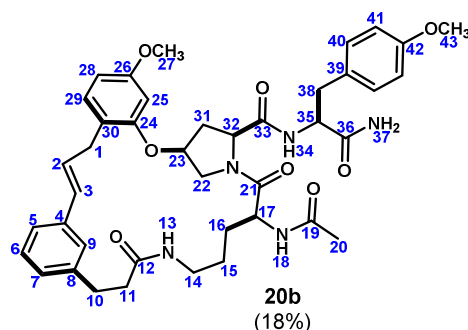
Time	%B
0	40
2	40
16	49.1
17	75
18	75
19	40
20	40



	¹³ C	¹ H	key correlations
1	32.3	3.28 (dd, J = 14.9, 6.9 Hz, 1H), 3.47 (dd, J = 14.9, 5.3 Hz, 1H)	HMBC 1→26,28,29
2	129.10	6.17 (ddd, J = 15.9, 6.9, 5.3 Hz, 1H)	
3	129.50	6.27 (d, J = 15.9 Hz, 1H)	HMBC 3→4
4	137.0	-	
5	124.6	7.07 (d, J = 7.6 Hz, 1H)	HMBC 5→3,9

6	128.4	7.16 (dd, J = 7.6, 7.6 Hz, 1H)	HMBC 6→4,8
7	127.4	6.97 (d, J = 7.6 Hz, 1H)	HMBC 7→9
8	141.6	-	
9	123.6	7.10 (br s, 1H)	
10	30.0	2.85-2.92 (m, 1H) overlap, 2.69-2.76 (m, 1H) overlap	HMBC 10→12
11	36.1	2.23-2.28 (m, 2H) overlap	HMBC 11→12
12	171.2	-	
13	-	7.70 (t, J = 4.9 Hz, 1H)	HMBC 13→12
14	38.2	2.63-2.73 (m, 2H) overlap	
15	25.2	1.20-1.33 (m, 2H)	
16	28.5	1.33-1.49 (m, 2H)	
17	49.9	4.21-4.27 (m, 1H)	
18	-	8.09 (d, J = 7.6 Hz, 1H)	HMBC 18→19
19	162.2	-	
20	22.2	1.78 (s, 3H)	HMBC 20→19
21	171.8	-	
22	51.2	3.75 (dd, J = 11.4, 2.9 Hz, 1H), 3.57-3.61 (m, 1H) overlap	
23	76.3	5.19-5.23 (m, 1H)	
24	155.8	-	
25	102.0	6.55 (d, J = 1.6 Hz, 1H)	
26	157.7	-	
27	55.5	3.69 (s, 3H)	HBC 27→26
28	121.3	-	
29	130.3	7.06 (d, J = 8.1 Hz, 1H)	COSY 29→30
30	107.7	6.57 (dd, J = 8.1, 1.6 Hz, 1H)	HMBC 30→25
31	34.3	2.56 (ddd, J = 14.4, 10.5, 4.3 Hz, 1H), 2.24 (br d, J = 14.4 Hz, 1H) overlap	
32	59.7	4.31 (dd, J = 10.5, 1.0 Hz, 1H)	HMBC 32→33
33	169.8	-	
34	-	7.25 (d, J = 7.6 Hz, 1H)	HMBC 34→36
35	53.5	4.40-4.46 (m, 1H)	COSY 35→34,38
36	172.2	-	
37	-	7.40 (br s, 1H), 7.21 (br s, 1H)	HMBC 37→36
38	37.3	3.02 (dd, J = 13.7, 5.6 Hz, 1H), 2.88 (dd, J = 13.7, 6.0 Hz, 1H) overlap	
39	129.1	-	
40	130.4	7.12 (d, J = 8.5 Hz, 2H)	HMBC 40→39,42
41	113.4	6.71 (d, J = 8.5 Hz, 2H)	HMBC 41→39,42
42	157.8	-	
43	54.8	3.58 (s, 3H)	HMBC 43→42

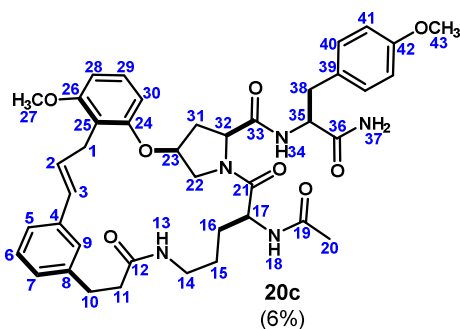
MS m/z 740.0 (calc'd: $C_{41}H_{50}N_5O_8$, $[M+H]^+$, 740.4).



	¹³ C	¹ H	key correlations
1	33.5	3.14 (dd, J = 14.5, 7.3 Hz, 1H), 3.61 (dd, J = 14.5, 5.7 Hz, 1H)	HMBC 1→24,29,30
2	129.02	6.41 (ddd, J = 15.7, 7.3, 5.7 Hz, 1H)	COSY 2→1 HMBC 2→4
3	128.95	6.30 (d, J = 15.7 Hz, 1H)	
4	137.0	-	
5	124.0	7.04 (d, J = 7.6 Hz, 1H)	
6	128.0	7.12 (dd, J = 7.6, 7.6 Hz, 1H) overlap	HMBC 6→4,8
7	127.3	6.98 (d, J = 7.6 Hz, 1H)	HMBC 7→10
8	141.2	-	
9	125.0	7.33 (br s, 1H)	HMBC 9→10
10	30.7	2.78-2.83 (m, 2H) overlap	
11	36.4	2.32-2.43 (m, 2H)	HMBC 11→12
12	171.7	-	
13	-	7.74 (t, J = 5.3 Hz, 1H)	HMBC 13→12
14	37.7	2.91-2.95 (m, 2H)	
15	24.5	1.28-1.35 (m, 2H) overlap	
16	28.1	1.32-1.37 (m, 1H) overlap, 1.58-1.65 (m, 1H)	
17	49.3	4.43 (ddd, J = 7.3, 7.0, 6.8 Hz, 1H)	HMBC 17→21
18	-	8.12 (d, J = 7.3 Hz, 1H)	HMBC 18→19
19	169.2	-	
20	21.9	1.82 (s, 3H)	HMBC 20→19
21	171.6	-	
22	51.6	4.47 (dd, J = 10.3, 6.5 Hz, 1H), 3.50 (dd, J = 10.3, 5.9 Hz, 1H)	
23	73.7	5.05-5.11 (m, 1H)	HMBC 23→24
24	153.9	-	
25	99.6	6.68 (d, J = 1.9 Hz, 1H)	HMBC 25→24,26
26	159.2	-	
27	54.9	3.75 (s, 3H)	HMBC 27→26
28	105.4	6.49 (dd, J = 8.3, 1.9 Hz, 1H)	
29	130.6	7.10 (d, J = 8.3 Hz, 1H) overlap	
30	120.8	-	
31	34.0	1.95-2.01 (m, 1H), 2.55-2.61 (m, 1H)	
32	58.1	4.35 (dd, J = 8.1, 8.1 Hz, 1H)	
33	170.3	-	
34	-	7.77 (d, J = 8.1 Hz, 1H)	HMBC 34→33
35	53.9	4.32 (ddd, J = 8.1, 7.9, 5.6 Hz, 1H)	HMBC 35→36
36	172.5	-	
37	-	7.05 (br s, 1H), 7.14 (br s, 1H)	TOCSY 37→37'

38	36.0	2.92 (dd, J = 12.9, 5.6 Hz, 1H) overlap, 2.81 (dd, J = 12.9, 7.9 Hz, 1H) overlap	HMBC 38→39
39	130.4	-	
40	129.2	7.11 (d, J = 8.4 Hz, 2H)	HMBC 40→42
41	113.0	6.72 (d, J = 8.4 Hz, 2H)	HMBC 41→42
42	157.8	-	
43	54.5	3.65 (s, 3H)	HMBC 43→42

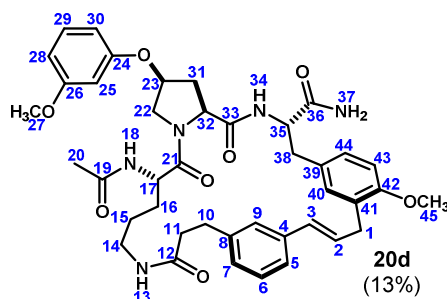
MS m/z 740.0 (calc'd: $C_{41}H_{50}N_5O_8$, $[M+H]^+$, 740.4).



	^{13}C	1H	key correlations
1	25.9	3.41-3.46 (m, 2H)	HMBC 1→24,25,26
2	127.9	6.32 (ddd, J = 15.8, 6.0, 6.0 Hz, 1H)	HMBC 2→4
3	129.1	6.27 (d, J = 15.8 Hz, 1H)	TOCSY 3→2,1 HMBC 3→4,5,9
4	136.7	-	
5	123.6	6.97 (d, J = 7.6 Hz, 1H)	
6	128.0	7.11 (dd, J = 7.6, 7.6 Hz, 1H)	HMBC 6→4,9
7	127.0	7.05 (d, J = 7.6 Hz, 1H) overlap	HMBC 7→10
8	140.9	-	
9	124.8	7.25 (br s, 1H)	HMBC 9→10
10	30.6	2.77-2.83 (m, 2H) overlap	HMBC 10→12
11	36.3	2.30-2.42 (m, 2H)	HMBC 11→12
12	171.3	-	
13	-	7.71 (apt t, J = 5.5 Hz, 1H)	HMBC 13→12
14	37.8	2.86-3.00 (m, 2H) overlap	
15	24.5	1.27-1.37 (m, 2H) overlap	TOCSY 15→13,14,16,17,18
16	28.3	1.30-1.36 (m, 1H) overlap, 1.57-1.63 (m, 1H)	HMBC 16→17,21
17	49.4	4.37-4.41 (m, 1H) overlap	
18	-	8.11 (d, J = 8.1 Hz, 1H)	HMBC 18→19
19	168.9	-	
20	21.9	1.81 (s, 3H)	HMBC 20→19
21	171.3	-	
22	52.0	3.47-3.52 (m, 1H), 4.35-4.40 (m, 1H) overlap	
23	74.2	5.03-5.09 (m, 1H)	HMBC 23→24 COSY 23→22,31
24	155.6	-	
25	115.9	-	
26	157.6	-	
27	55.6	3.78 (s, 3H)	HMBC 27→26
28	105.4	6.74 (d, J = 8.3 Hz, 1H)	HMBC 28→25,26
29	127.3	7.18 (ddd, J = 8.3, 8.3 Hz, 1H)	

30	104.3	6.67 (d, J = 8.3 Hz, 1H)	HMBC 30→24,25
31	34.1	1.97-2.03 (m, 1H), 2.53-2.60 (m, 1H)	HMBC 31→33 COSY 31→32
32	58.1	4.35-4.40 (m, 1H) overlap	HMBC 32→33
33	170.1	-	
34	-	7.77 (d, J = 8.1 Hz, 1H)	
35	53.8	4.30 (ddd, J = 8.1, 8.0, 5.7 Hz, 1H)	COSY 35→38
36	172.2	-	
37	-	7.05 (br s, 1H) overlap, 7.16 (br s, 1H)	HMBC 37→36
38	36.1	2.78-2.82 (m, 1H) overlap, 2.89-2.94 (m, 1H) overlap	HMBC 38→39, 40
39	129.3	-	
40	130.0	7.08 (d, J = 7.8 Hz, 2H)	HMBC 40→42
41	113.0	6.70 (d, J = 8.6 Hz, 2H)	HMBC 41→42,39
42	157.5	-	
43	54.6	3.65 (s, 3H)	HMBC 43→42

MS m/z 740.0 (calc'd: $C_{41}H_{50}N_5O_8$, $[M+H]^+$, 740.4).

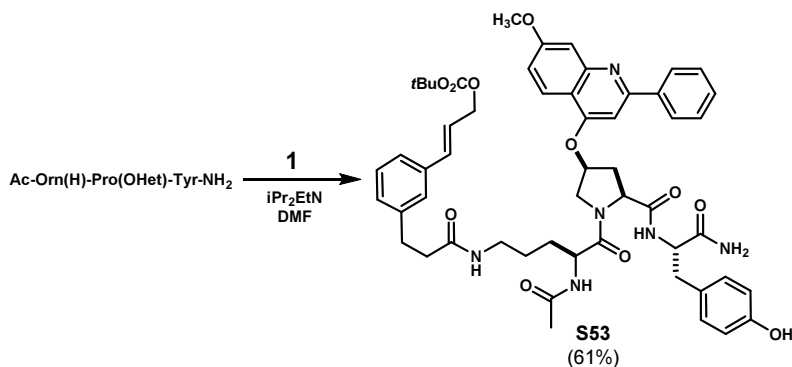


	^{13}C	1H	key correlations
1	31.4	3.47 (dd, J = 16.6, 6.3 Hz, 1H), 3.30 (dd, J = 16.6, 7.7 Hz, 1H)	HMBC 1→40,42
2	128.10	6.33 (ddd, J = 15.8, 7.7, 6.3 Hz, 1H)	HMBC 2→4,41
3	130.70	6.46 (d, J = 15.8 Hz, 1H)	HMBC 3→4
4	136.9	-	
5	127.1	7.03 (br d, J = 7.5 Hz, 1H)	HMBC 5→4
6	128.1	7.18 (dd, J = 7.5, 7.5 Hz, 1H)	HMBC 6→4,8
7	124.5	7.10 (br d, J = 7.5 Hz, 1H)	HMBC 7→8
8	141.2	-	
9	124.4	7.44 (br s, 1H)	
10	30.7	2.79-2.83 (m, 2H) overlap	HMBC 10→8,12
11	36.9	2.42 (t, J = 7.4 Hz, 2H)	HMBC 11→8,12
12	171.0	-	
13	-	7.59 (apt t, J = 5.5 Hz, 1H)	HMBC 13→12
14	37.6	2.89-2.96 (m, 1H), 2.98-3.04 (m, 1H)	
15	24.5	1.30-1.37 (m, 2H) overlap	HMBC 15→17
16	28.3	1.34-1.42 (m, 1H) overlap, 1.57-1.63 (m, 1H)	HMBC 16→17,21
17	49.7	4.41-4.45 (m, 1H) overlap	HMBC 17→21
18	-	8.11 (d, J = 7.4 Hz, 1H)	HMBC 18→19
19	169.0	-	
20	21.9	1.82 (s, 3H)	HMBC 20→19
21	171.5	-	
22	52.0	4.29 (dd, J = 11.3, 5.5 Hz, 1H), 3.69-3.73 (m, 1H)	

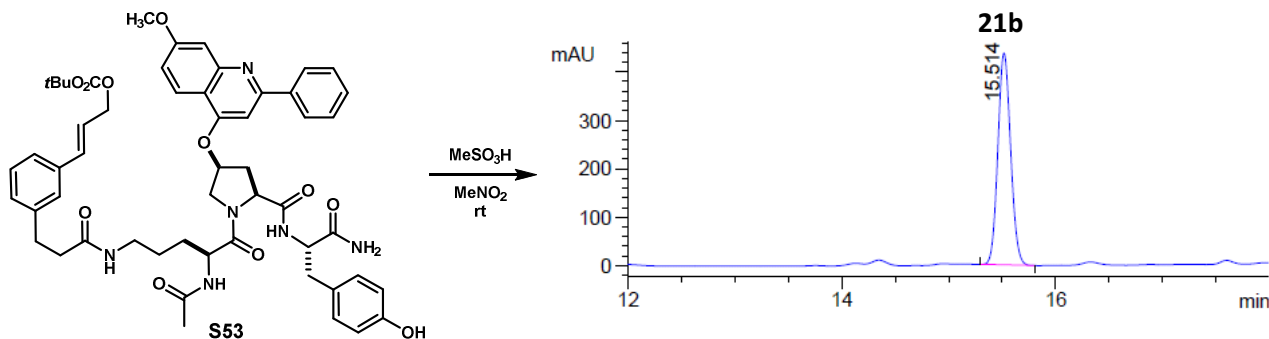
23	74.9	5.03-5.08 (m, 1H)	COSY 23→22 HMBC 23→24
24	157.7	-	
25	101.3	6.46 (dd, J = 2.3, 2.3 Hz, 1H)	
26	160.2	-	
27	54.6	3.57 (s, 3H)	HMBC 27→26
28	106.9	6.47-6.51 (m, 1H) overlap	HMBC 28→25,26,30
29	129.8	7.12 (dd, J = 8.2, 8.2 Hz, 1H)	
30	106.9	6.47-6.51 (m, 1H) overlap	HMBC 30→24,25
31	33.6	2.45-2.48 (m, 1H), 2.08 (ddd, J = 13.4, 4.0, 4.0 Hz, 1H)	COSY 31→32
32	58.5	4.40-4.44 (m, 1H) overlap	
33	169.9	-	
34	-	7.37 (d, J = 7.9 Hz, 1H)	HMBC 34→33
35	53.8	4.30-4.35 (m, 1H)	HMBC 35→38,39
36	172.3	-	
37	-	7.35 (br s, 1H), 7.17 (br s, 1H)	HMBC 37→36
38	36.9	2.79-2.84 (m, 2H)	HMBC 38→39
39	128.6	-	
40	129.6	6.97 (br d, J = 1.7 Hz, 1H)	HMBC 40→44
41	127.3	-	
42	155.1	-	
43	110.0	6.85 (d, J = 8.1 Hz, 1H)	HMBC 43→41,39
44	127.7	7.04 (dd, J = 8.1, 1.7 Hz, 1H)	
45	55.0	3.75 (s, 3H)	HMBC 45→42

MS m/z 740.0 (calc'd: $C_{41}H_{50}N_5O_8$, $[M+H]^+$, 740.4).

Macrocycle 21b:



Acyclic carbonate (S53): General procedure A afforded compound **S53** as a colorless film (89 mg, 61%). 1H NMR (500 MHz, DMSO- d_6 , major rotamer): δ 1.61-1.31 (m, 2H), 1.42 (s, 9H), 1.42-1.69 (m, 2H), 1.96 (s, 3H), 2.30-2.37 (m, 1H), 2.61-2.68 (m, 1H), 2.72-2.80 (m, 2H), 2.82-2.96 (m, 2H), 2.98-3.05 (m, 1H), 3.07-3.17 (m, 1H), 3.88 (s, 3H), 3.89-3.96 (m, 1H), 4.37-4.43 (m, 1H), 4.44-4.51 (m, 2H), 4.56-4.61 (m, 2H), 4.56-4.61 (m, 2H), 4.61-4.66 (m, 2H), 4.66-4.72 (m, 1H), 5.43-5.48 (m, 1H), 6.15-6.23 (m, 1H), 6.48-6.56 (m, 3H), 6.83-6.88 (m, 2H), 6.92-6.96 (m, 1H), 7.05-7.14 (m, 3H), 7.16-7.22 (m, 2H), 7.43-7.57 (m, 2H), 7.87 (br s, 1H), 8.01-8.06 (m, 2H). ^{13}C NMR (126 MHz, DMSO- d_6 , mixture of rotamers): δ 173.2, 172.9, 171.4, 171.3, 171.2, 171.1, 170.8, 170.03, 169.98, 169.4, 158.5, 158.2, 158.0, 157.7, 155.8, 155.1, 152.8, 141.8, 141.7, 135.9, 135.8, 133.5, 133.4, 130.0, 129.9, 129.13, 129.06, 128.8, 128.7, 128.5, 128.2, 128.1, 127.9, 127.7, 126.4, 126.3, 124.3, 124.1, 123.4, 123.3, 123.2, 117.6, 115.2, 114.84, 114.78, 114.4, 114.2, 81.6, 66.9, 61.5, 59.4, 58.5, 56.5, 56.1, 56.0, 55.1, 54.2, 52.3, 51.7, 51.6, 49.9, 48.6, 38.1, 37.8, 37.0, 36.91, 36.85, 35.4, 35.2, 34.1, 31.1, 31.0, 28.4, 27.7, 27.4, 25.6, 25.1, 22.3, 22.2. MS m/z 971.4 (calc'd: $C_{54}H_{62}N_6O_{11}$, $[M+H]^+$, 971.4).



Compound **S53** was subjected to general procedure C. HPLC analysis and purification was performed using the following methods.

Analytical HPLC method:

Column: Waters Sunfire™ C₁₈, 4.6x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 1.00 ml/min

Time	%B
0	25
2	25
30	50
38	100
45	100
49	25
50	25

Semi-preparative HPLC method:

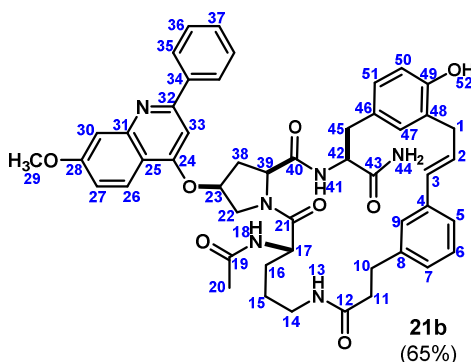
Column: Waters Sunfire™ C₁₈, 10x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 7.50 ml/min

Time	%B
0	20
2	20
22	50
24	20
25	20



(600MHz, DMSO-d₆, 298K)

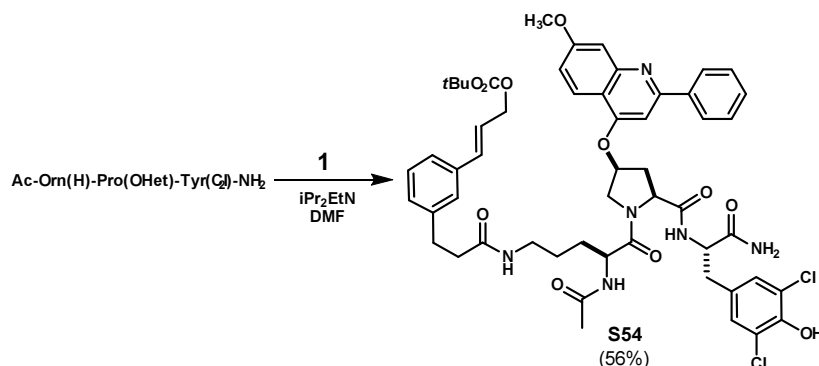
	¹³ C	¹ H	key correlations
1	31.7	3.44 (dd, J = 15.8, 6.1Hz, 1H), 3.25 (dd, J = 15.8, 7.5Hz, 1H)	HMBC 1→48, 49
2	128.4	6.31 (ddd, J = 15.7, 7.5, 6.1Hz, 1H)	HMBC 2→4
3	130.5	6.42 (br d, J = 15.7Hz, 1H)	
4	137.0	-	
5	124.0	7.08 (br d, J = 7.7Hz, 1H)	HMBC 5→3
6	128.0	7.14 (dd, J = 7.7, 7.6Hz, 1H)	HMBC 6→4,8 COSY 6→5,7 TOCSY 6→5,7,9
7	127.0	6.97 (br d, J = 7.6Hz, 1H)	
8	141.1	-	
9	129.3	7.33 (br s, 1H)	
10	30.6	2.60-2.69 (m, 2H) overlap	HMBC 10→8, 12
11	36.7	2.29-2.35 (m, 1H), 2.22-2.27 (m, 1H)	HMBC 11→8, 12
12	171.2	-	

13	-	7.54 (t, J = 5.7Hz, 1H)	HMBC 13→12
14	37.4	2.98-3.05 (m, 1H), 2.81-2.87 (m, 1H)	
15	24.5	1.23-1.35 (m, 2H)	HMBC 15→17
16	28.1	1.57-1.64 (m, 1H), 1.37-1.42 (m, 1H)	
17	49.4	4.48-4.53 (m, 1H) overlap	HMBC 17→19,21
18	-	8.12 (d, J = 7.7Hz, 1H)	HMBC 18→19
19	169.1	-	
20	21.9	1.84 (s, 3H)	HMBC 20→19
21	171.1	-	
22	51.9	4.48-4.53 (m, 1H) overlap, 4.02 (br d, J = 11.7Hz, 1H)	COSY 22→22'
23	78.1	5.77 (br s, 1H)	COSY 23→22 TOCSY 23→38, 39
24	not observed [†]	-	
25	114.1	-	
26	124.4	8.07 (d, J = 9.1Hz, 1H)	HMBC 26→28 TOCSY 26→27,30
27	118.8	7.20 (br d, J = 9.1Hz, 1H)	HMBC 27→25
28	162.8	-	
29	55.5	3.93 (s, 2H)	HMBC 29→28
30	not observed [†]	7.52 (br s, 1H)	HMBC 30→25
31	not observed [†]	-	
32	not observed [†]	-	
33	99.8	7.64 (br s, 1H)	HMBC 33→25
34	131.6	-	
35	128.7	7.66-7.71 (m, 2H) overlap	
36	128.2	8.18-8.21 (m, 2H)	HMBC 36→34
37	131.2	7.66-7.71 (m, 1H) overlap	
38	34.0	2.59-2.66 (m, 1H), 2.46-2.51 (m, 1H)	HMBC 38→40
39	58.0	4.69 (dd, J=9.2, 2.5Hz, 1H)	HMBC 39→40
40	170.0	-	
41	-	7.81 (br d, J=7.6Hz, 1H)	COSY 41→42
42	53.7	4.40 (ddd, J = 8.1, 8.1, 6.8Hz, 1H)	HMBC 42→43
43	173.0	-	
44	-	7.39 (br s, 1H), 7.02 (br s, 1H)	TOCSY 44→44' HMBC 44→43
45	37.1	2.75 (dd, J = 14.0, 6.7Hz, 1H), 2.67 (dd, J = 14.0, 8.4Hz, 1H) overlap	HMBC 45→43
46	129.2	-	
47	129.3	6.94-6.95 (m, 1H)	HMBC 47→49
48	125.9	-	
49	153.1	-	
50	114.0	6.64 (d, J = 8.1Hz, 1H)	HMBC 50→49
51	127.3	6.81 (dd, J = 8.1, 2.0Hz, 1H)	HMBC 51→46,47,49
52	-	9.19 (br s, 1H)	

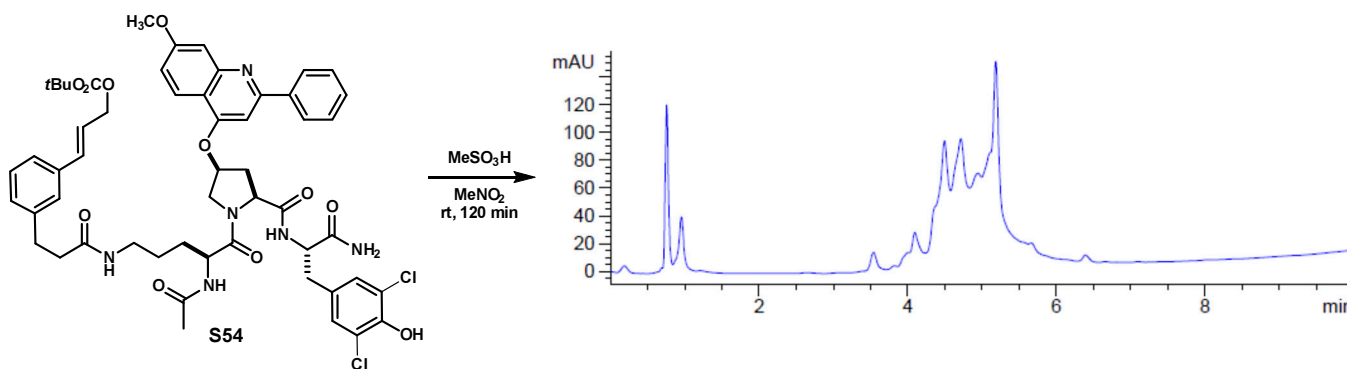
[†]Not observed in HMBC optimized for ³J_{CH} = 8.0Hz

MS *m/z* 853.3 (calc'd: C₄₉H₅₃N₆O₈, [M+H]⁺, 853.4).

Acidolysis of substrate **S56** (entry 9, Table 1):



Acyclic carbonate (S54**):** General procedure A afforded compound **S54** as a colorless film (88 mg, 56%). ¹H NMR (500 MHz, CD₃OD, major rotamer): δ 1.45 (s, 9H), 1.47-1.59 (m, 2H), 1.59-1.71 (m, 2H), 1.98 (s, 3H), 2.35-2.40 (m, 2H), 2.61 (br d, J = 14.1 Hz, 1H), 2.71 (dd, J = 14.1, 7.5 Hz, 1H), 2.79 (t, J = 7.7 Hz, 2H), 2.89-2.93 (m, 1H), 3.00-3.07 (m, 1H), 3.07-3.20 (m, 2H), 3.89 (s, 3H), 4.00 (br d, J = 11.7 Hz, 1H), 4.43 (dd, J = 11.7, 5.0 Hz, 1H), 4.49-4.54 (m, 1H), 4.61 (br d, J = 6.4 Hz, 2H), 4.65 (dd, J = 6.3, 0.9 Hz, 1H), 4.71 (dd, J = 9.4, 3.3 Hz, 1H), 5.47-5.51 (m, 1H), 6.22 (dt, J = 15.9, 6.4 Hz, 1H), 6.53 (br d, J = 15.9 Hz, 1H), 6.86 (s, 2H), 6.96-6.99 (m, 1H), 7.03 (s, 1H), 7.09-7.16 (m, 3H), 7.19-7.24 (m, 2H), 7.46-7.56 (m, 4H), 7.96-7.99 (m, 1H), 8.03-8.07 (m, 2H). ¹³C NMR (126 MHz, CD₃OD, major rotamer): δ 175.1, 174.8, 174.1, 173.3, 172.6, 163.1, 162.0, 161.3, 154.9, 152.1, 149.3, 142.5, 141.3, 137.7, 135.1, 130.6, 130.2, 129.8, 129.7, 129.2, 129.1, 127.7, 125.5, 124.8, 124.1, 122.9, 122.4, 119.4, 116.2, 107.4, 100.1, 82.9, 78.1, 68.4, 61.0, 56.0, 55.2, 54.0, 52.4, 39.6, 38.9, 37.8, 35.1, 32.7, 29.4, 28.0, 26.2, 22.2. MS *m/z* 1039.3 (calc'd: C₅₄H₆₁Cl₂N₆O₁₁, [M+H]⁺, 1039.4).



Compound **S54** was subjected to general procedure C. HPLC analysis was performed using the following method. Complete decomposition of starting **S54** was observed, but no potentially cyclic products were detected by MS.

Analytical HPLC method:

Column: Phenomenex Gemini C18, 3x100mm, 5μm.

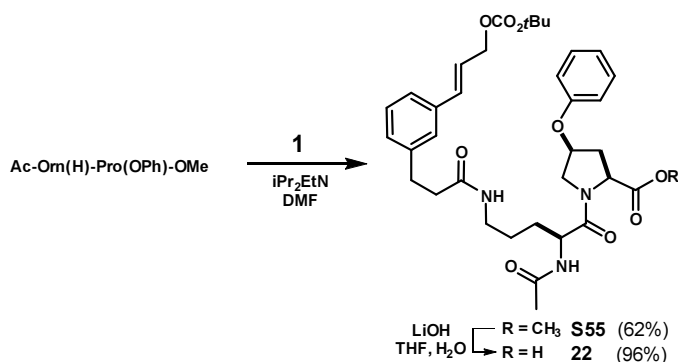
Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

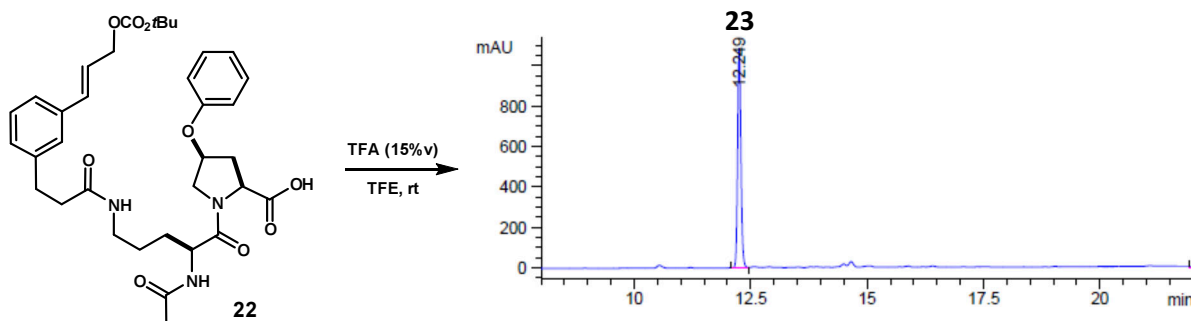
Flow rate: 1.00 ml/min

Time	%B
0	20
0.5	20
8	100
10	100

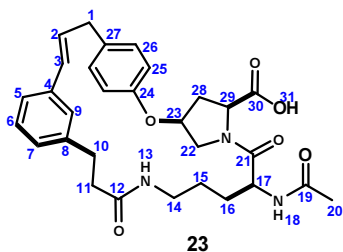
Macrocycle 23:



Acyclic carbonate (22): Methyl ester **S55** (1.71 g, 62%) was prepared analogously to compound **S56** and purified by chromatography on SiO₂ eluted with 2→9% MeOH in CHCl₃. Saponification analogously to compound **22** afforded free acid **22** as a white foam (1.34 g, 96%). (**S55**) ¹H NMR (500 MHz, DMSO-*d*₆, major rotamer): δ 1.25-1.51 (m, 2H), 1.43 (s, 9H), 1.54-1.66 (m, 1H), 1.83 (s, 3H), 2.16 (br d, *J* = 13.7 Hz, 1H), 2.34 (t, *J* = 7.7 Hz, 2H), 2.48 (ddd, *J* = 13.7, 9.4, 4.8 Hz, 1H), 2.78 (t, *J* = 7.7 Hz, 2H), 2.97-3.04 (m, 1H), 3.58 (s, 3H), 3.66 (br d, *J* = 11.4 Hz, 1H), 4.18 (dd, *J* = 11.5, 5.3 Hz, 1H), 4.40-4.46 (m, 1H), 4.61 (dd, *J* = 9.2, 2.4 Hz, 1H), 4.67 (br d, *J* = 6.2 Hz, 2H), 5.13-5.17 (m, 1H), 6.32 (dt, *J* = 15.9, 6.2 Hz, 2H), 6.62 (br d, *J* = 15.9 Hz, 1H), 6.87 (d, *J* = 7.9 Hz, 2H), 6.94 (dd, *J* = 7.3, 7.3 Hz, 1H), 7.09 (d, *J* = 7.3 Hz, 1H), 7.21-7.31 (m, 5H), 7.80 (t, *J* = 5.4 Hz, 1H), 8.17 (d, *J* = 7.8 Hz, 1H). ¹³C NMR (126 MHz, DMSO-*d*₆, major rotamer): δ 171.2, 171.1, 170.7, 169.1, 156.3, 152.8, 141.8, 135.8, 133.5, 129.6, 128.6, 128.0, 126.4, 124.2, 123.3, 121.2, 115.7, 81.5, 75.4, 66.9, 56.8, 51.9, 51.8, 49.8, 38.1, 37.0, 33.9, 31.1, 28.6, 27.4, 25.2, 22.2. MS *m/z* 666.1 (calc'd: C₃₆H₄₇N₃O₉, [M+H]⁺, 665.3). (**22**) ¹H NMR (500 MHz, DMSO-*d*₆, major rotamer): δ 1.28-1.51 (m, 3H), 1.43 (s, 9H), 1.54-1.56 (m, 1H), 1.83 (s, 3H), 2.13 (dt, *J* = 13.7, 2.5 Hz, 1H), 2.33 (t, *J* = 8.0 Hz, 2H), 2.45-2.53 (m, 1H), 2.78 (t, *J* = 8.0 Hz, 2H), 2.96-3.03 (m, 2H), 3.63 (dd, *J* = 11.3, 1.8 Hz, 1H), 4.19 (dd, *J* = 11.4, 5.5 Hz, 1H), 4.41-4.46 (m, 1H), 4.48 (dd, *J* = 9.5, 3.1 Hz, 1H), 4.66 (dd, *J* = 6.2, 1.0 Hz, 2H), 5.09-5.13 (m, 1H), 6.32 (dd, *J* = 15.9, 6.3 Hz, 1H), 6.62 (br d, *J* = 15.9 Hz, 1H), 6.90 (d, *J* = 7.9 Hz, 2H), 6.94 (t, *J* = 7.3 Hz, 1H), 7.09 (d, *J* = 7.3 Hz, 1H), 7.21-7.31 (m, 5H), 7.78 (t, *J* = 5.6 Hz, 1H), 8.15 (d, *J* = 8.1 Hz, 1H), 12.52 (br s, 1H). ¹³C NMR (126 MHz, DMSO-*d*₆, major rotamer): δ 172.2, 171.1, 170.5, 169.1, 156.6, 152.8, 141.8, 135.8, 133.5, 129.6, 128.6, 128.0, 126.4, 124.2, 123.3, 121.1, 115.7, 81.5, 75.5, 66.9, 56.9, 51.8, 49.8, 38.0, 37.0, 33.9, 31.1, 28.5, 27.4, 25.2, 22.3. MS *m/z* 652.0 (calc'd: C₃₅H₄₆N₃O₉, [M+H]⁺, 652.3).



Macrocycle (23): To a stirred solution of **22** (1.89 g, 2.90 mmol) in trifluoroethanol (247 mL) was added TFA (43.5 mL) via syringe in a single portion. The reaction was allowed to stir at room temperature for 16 hours at which point the reaction was concentrated under reduced pressure at room temperature. The crude residue was purified by column chromatography on SiO₂ eluted with 0→10% MeOH in CHCl₃ to afford **23** as an off-white solid (1.30 g, 84%).

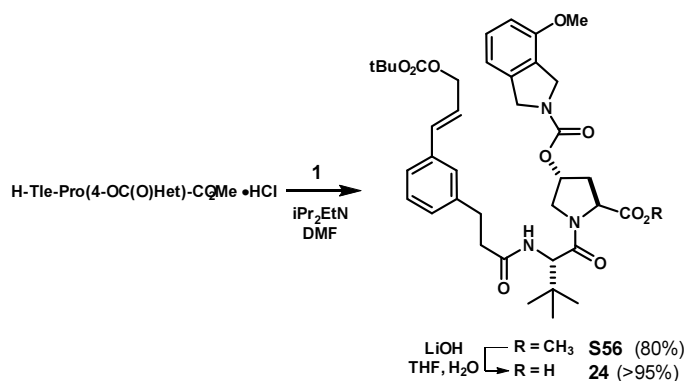


	¹³ C	¹ H	key correlation
1	37.9	3.42 (br d, <i>J</i> = 6.6 Hz, 2H)	HMBC 1→3,27
2	130.5	6.18 (dd, <i>J</i> = 15.6, 6.6 Hz, 1H)	TOCSY 2→1,3

3	129.4	6.33 (br d, J = 15.6 Hz, 1H)	HMBC 3→5
4	136.9	-	
5	125.1	7.07 (br d, J = 7.6 Hz, 1H)	
6	128.5	7.18 (dd, J = 7.6, 7.5 Hz, 1H)	HMBC 6→4,8
7	127.6	6.99 (br d, J = 7.5 Hz, 1H)	
8	141.6	-	
9	123.4	7.14 (br s, 1H)	
10	30.0	2.70-2.77 (m, 1H), 2.84-2.91 (m, 1H)	HMBC 10→8,12
11	36.0	2.24-2.29 (m, 2H)	HMBC 11→8,12
12	171.3	-	
13	-	7.76 (t, J = 4.9 Hz, 1H)	TOCSY 13→14,15,16,17,18
14	38.0	2.58-2.66 (m, 2H)	
15	24.7	1.24-1.33 (m, 2H)	
16	28.6	1.31-1.47 (m, 2H)	HMBC 16→21
17	49.6	4.22 (ddd, J = 8.4, 7.6, 6.2 Hz, 1H)	HMBC 17→21
18	-	8.13 (d, J = 7.6 Hz, 1H)	HMBC 18→19
19	169.1	-	
20	22.3	1.78 (s, 3H)	HMBC 20→19
21	170.7	-	
22	50.4	3.52 (d, J = 11.6 Hz, 1H), 3.80 (dd, J = 11.6, 3.3 Hz, 1H)	
23	76.2	5.18 (apt t, J = 3.5 Hz, 1H)	TOCSY 23→22,28,29
24	154.3	-	
25	117.4	6.87 (d, J = 8.4 Hz, 2H)	HMBC 25→24,27
26	129.9	7.16 (d, J = 8.4 Hz, 2H)	HMBC 26→1,24
27	133.3	-	
28	34.7	2.44-2.52 (m, 1H), 2.34 (br d, J = 13.9 Hz, 1H)	
29	57.1	4.53 (d, J = 9.7 Hz, 1H)	
30	172.0	-	
31	-	not observed.	

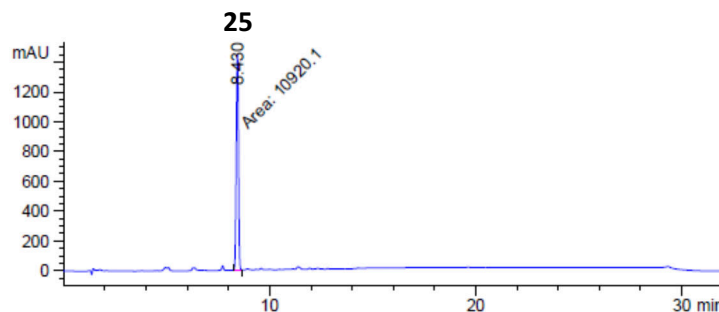
MS m/z 534.0 (calc'd: $C_{30}H_{36}N_3O_6$, $[M+H]^+$, 534.3).

Macrocycle 25:



Methyl ester (S56): General procedure A and purification by flash chromatography on SiO₂ eluted with 0→10% acetone in DCM afforded compound **S56** as a light brown foam (1.50 g, 80%). ¹H NMR (500 MHz, DMSO-*d*₆, mixture of rotamers): δ 0.99 (s, 9H), 1.46 (s, 9H), 2.16 (ddd, *J* = 13.6, 9.7, 3.9 Hz, 1H), 2.30-2.39 (m, 1H), 2.41-2.45 (m, 2H), 2.58-2.68 (m, 2H), 3.61 (s, 1.5H), 3.72 (s, 3H), 3.76 (s, 1.5H), 3.78-3.85 (m, 1H), 4.32 (d, *J* = 11.6 Hz, 1H), 4.37 (d, *J* = 14.7 Hz, 0.5H), 4.46 (d, *J* = 14.7 Hz, 1H), 4.47-4.54 (m, 2H), 4.54-4.63 (m, 2H), 4.63-4.68 (m, 2H), 4.70 (d, *J* = 14.7 Hz, 1H), 5.28-5.34 (m, 1H), 6.23 (ddd, *J* = 16.0, 5.7, 5.7 Hz, 0.5H), 6.24 (ddd, *J* = 16.1, 5.5, 5.5 Hz, 0.5H), 6.55 (d, *J* = 16.0 Hz, 0.5H), 6.57 (d, *J* = 16.1 Hz, 0.5H), 6.68 (d, *J* = 7.4 Hz, 0.5H), 6.69 (d, *J* = 7.4 Hz, 0.5H), 6.74 (d, *J* = 8.2 Hz, 0.5H), 6.83 (d, *J* = 7.5 Hz, 0.5H), 6.93 (br d, *J* = 6.7 Hz, 1H), 7.06 (br s, 1H), 7.09-7.17 (m, 2H), 7.17-7.22 (m, 1H), 7.80 (d, *J* = 8.3 Hz, 0.5H), 7.85 (d, *J* = 8.5 Hz, 0.5H). ¹³C NMR (126 MHz, DMSO-*d*₆, mixture of rotamers): δ 174.77, 174.76, 173.4, 172.7, 156.1, 155.9, 155.54, 155.46, 154.9, 142.6, 142.5, 139.6, 139.1, 137.6, 135.1, 135.0, 130.48, 130.46, 129.6, 129.1, 127.64, 127.60, 125.7, 125.45, 125.43, 125.3, 124.1, 115.7, 115.6, 109.8, 82.8, 75.4, 75.3, 68.37, 68.35, 59.34, 59.27, 59.21, 59.15, 55.8, 55.6, 55.41, 55.38, 53.7, 53.5, 52.7, 51.4, 51.1, 37.9, 37.7, 35.9, 35.69, 35.66, 32.5, 32.3, 28.1, 26.9. MS *m/z* 744.0 (calc'd: C₃₉H₅₁N₃O₁₀Na, [M+Na]⁺, 744.4).

Acyclic precursor carboxylic acid (24): Methyl ester **S56** (244 mg, 0.34 mmol) was dissolved in THF:H₂O (1:1, 3 mL), treated with LiOH·H₂O (42 mg, 1.0 mmol), and stirred for 2.5 hr. The mixture was acidified with 1N HCl and extracted with EtOAc (x3). The combined organic phase was washed with H₂O (x1), brine, dried over Na₂SO₄ and concentrated to give **24** as a white foam (242 mg, quant.). ¹H NMR (500 MHz, DMSO-*d*₆, mixture of rotamers): δ 0.92 (s, 9H), 1.43 (s, 9H), 2.08-2.15 (m, 1H), 2.15-2.22 (m, 1H), 2.36-2.59 (m, 4H), 3.65 (s, 1.5H), 3.71-3.78 (m, 1H), 3.76 (s, 1.5H), 4.15 (apt t, *J* = 10.0 Hz, 1H), 4.37 (apt t, *J* = 8.4 Hz, 1H), 4.39 (apt t, *J* = 8.7 Hz, 1H), 4.45 (br s, 1.2H), 4.48 (br d, *J* = 15.0 Hz, 0.8H), 4.54 (br s, 0.8H), 4.56 (d, *J* = 15.0 Hz, 0.8H), 4.60 (br s, 0.4H), 4.66 (d, *J* = 6.2 Hz, 2H), 5.21-5.28 (m, 1H), 6.29 (dt, *J* = 16.0, 6.2 Hz, 1H), 6.58 (d, *J* = 16.0 Hz, 0.5H), 6.59 (d, *J* = 16.0, 0.5H), 6.78 (d, *J* = 7.7 Hz, 0.5H), 6.80 (d, *J* = 7.7 Hz, 0.5H), 6.83 (d, *J* = 8.3 Hz, 0.5H), 6.90 (d, *J* = 7.4 Hz, 1H), 6.92 (d, *J* = 7.4 Hz, 0.5H), 7.08 (br s, 0.5H), 7.10 (br s, 0.5H), 7.13-7.18 (m, 1H), 7.19-7.25 (m, 2H), 7.89(d, *J* = 8.9 Hz, 0.5H), 7.92 (d, *J* = 8.8 Hz, 0.5H), 12.59 (br s, 1H). ¹³C NMR (151 MHz, DMSO-*d*₆, mixture of rotamers): δ 172.9, 171.7, 170.23, 170.16, 154.4, 154.2, 153.45, 153.39, 152.8, 141.61, 141.6, 138.5, 138.0, 135.73, 135.71, 133.48, 133.46, 129.3, 129.2, 128.4, 127.9, 126.2, 124.3, 124.1, 123.9, 123.2, 114.8, 114.7, 109.1, 109.0, 81.5, 73.53, 73.51, 66.9, 57.4, 57.0, 56.9, 55.2, 55.0, 53.8, 53.7, 52.5, 52.1, 50.1, 49.7, 35.9, 35.7, 34.4, 34.3, 34.2, 30.7, 30.6, 27.4, 27.3, 26.3. MS *m/z* 706.0 (calc'd: C₃₈H₄₈N₃O₁₀, [M-H]⁻, 706.3).



Macrocycle 25: Compound **24** (246 mg, 0.35 mmol) was dissolved in TFE (3.0 mL) and added dropwise over ~5min to a stirred solution of TFA (17.4 mL) in TFE (14.4 mL). The reaction was stirred at room temperature for 25 min, concentrated by rotary evaporation (bath 35 °C), dried in vacuo, and purified by flash chromatography on SiO₂ eluted with 0→6% MeOH in DCM to give **25** as a white foam (149 mg, 73%). HPLC analysis was performed using the following method.

Analytical HPLC method:

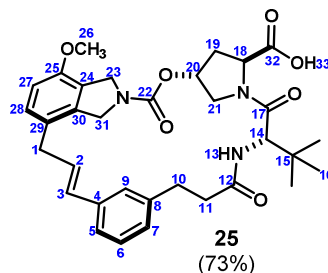
Column: Waters Sunfire™ C₁₈, 4.6x250mm, 5µm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 1.00 ml/min

Time	%B
0	50
1	50
10	100
25	100
27	50
32	50



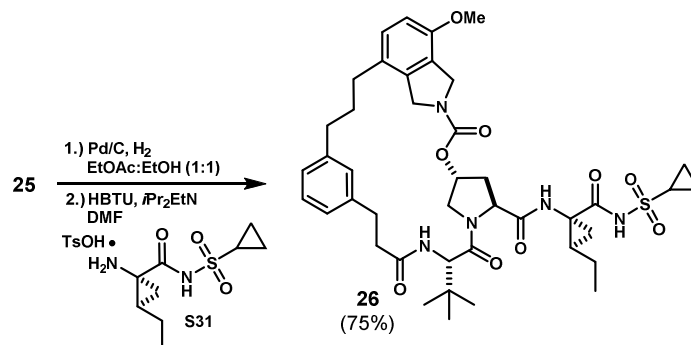
(600MHz, DMSO-*d*₆, 298K)

	¹³ C	¹ H	key correlations
1	36.3	3.44 (d, J = 3.8 Hz, 2H)	COSY 1→2,3 HMBC 1→2,3,29,30
2	127.20	6.17-6.21 (m, 1H) overlap	
3	130.40	6.17-6.21 (m, 1H) overlap	
4	136.1	-	
5	121.8	7.23 (br d, J = 7.8 Hz, 1H)	HMBC 5→3
6	129.7	7.15 (dd, J = 7.8, 7.6 Hz, 1H)	HMBC 6→4,8
7	127.2	7.03 (br d, J = 7.6 Hz, 1H)	HMBC 7→10
8	141.7	-	
9	126.8	6.97 (br s, 1H)	HMBC 9→3,10
10	28.8	2.97 (ddd, J = 14.7, 11.8, 2.3 Hz, 1H), 2.64 (ddd, J = 14.7, 6.6, 1.8 Hz, 1H)	
11	33.9	2.75 (ddd, J = 16.2, 11.8, 1.8 Hz, 1H), 2.47 (ddd, J = 16.2, 6.6, 2.3 Hz, 1H)	
12	170.9	-	
13	-	7.83 (d, J = 9.4 Hz, 1H)	HMBC 13→12
14	55.9	4.52 (d, J = 9.4 Hz, 1H)	HMBC 14→12,15,16,17
15	35.8	-	
16	26.3	0.94 (s, 9H)	
17	169.4	-	
18	57.7	4.35 (t, J = 7.7 Hz, 1H)	HMBC 18→32
19	34.9	2.14-2.20 (m, 2H)	
20	73.0	5.32-5.36 (m, 1H)	
21	53.1	3.93 (dd, J = 11.4, 5.5 Hz, 1H), 3.51 (br d, J = 11.4 Hz, 1H)	
22	153.3	-	
23	50.0	4.49-4.51 (m, 2H)	HMBC 23→24,25,30
24	124.0	-	
25	153.1	-	
26	55.1	3.79 (s, 3H)	HMBC 26→25

27	109.6	6.87 (d, J = 8.3 Hz, 1H)	HMBC 27→23,24,25,29
28	127.9	7.16 (d, J = 8.3 Hz, 1H)	HMBC 28→25,30
29	126.0	-	
30	137.5	-	
31	50.8	4.58 (br d, J = 14.6 Hz, 1H), 4.47 (br d, J = 14.6 Hz, 1H)	NOESY 31→1 HMBC 31→24,30
32	173.3	-	
33	-	not observed	

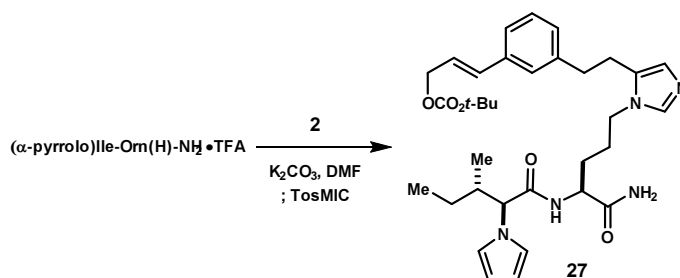
MS m/z 588.0 (calc'd: $C_{33}H_{38}N_3O_7$, $[M-H]^-$, 588.3), $[\alpha]_D^{20} = -37.2^\circ$ ($c = 0.5$, $CHCl_3$).

Vaniprevir analog 26:

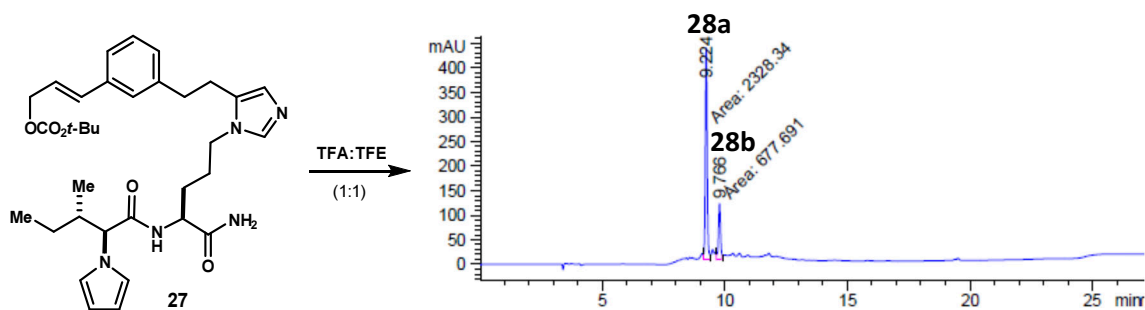


Vaniprevir analog (26): Compound **25** (149 mg, 0.25 mmol) was dissolved in EtOAc:EtOH (1:1, 3 mL), Pd/C (10wt%, 10 mg) was added and the mixture was stirred under 500 psi H_2 for 1h after which 1H NMR indicated complete reduction of the olefin. The mixture was filtered through Celite and concentrated to give a tan foam (143 mg), which was dissolved in DMF (1.5 mL) and used directly in the next reaction. Tosylate salt **S31** (98 mg, 0.24mmol) and iPr_2EtN (93 μL , 0.53mmol), were added and the mixture was cooled in an ice bath before adding HBTU (101 mg, 0.27 μmol). The reaction was allowed to warm to room temperature and stirred for 3 h. The mixture was diluted with EtOAc and washed with sat. NH_4Cl (x2), brine, dried over $MgSO_4$, and concentrated. Purification by flash chromatography on SiO_2 eluted with 0→4% MeOH in DCM afforded **26** as a colorless film (145 mg, 75% over 2 steps). 1H NMR (500 MHz, $CDCl_3$): δ 0.96 (t, J = 7.3 Hz, 3H), 1.02-1.10 (m, 2H), 1.05 (s, 9H), 1.31-1.36 (m, 2H), 1.38-1.47 (m, 2 H), 1.56-1.73 (m, 2H), 1.69 (ddd, J = 7.8, 7.8, 6.0 Hz, 1H), 1.83-2.00 (m, 2H), 2.25 (ddd, J = 13.7, 10.8, 4.0 Hz, 1H), 2.43 (dd, J = 11.4, 7.2 Hz, 1H), 2.45 (t, J = 7.7 Hz, 2H), 2.62-2.67 (m, 2H), 2.67-2.73 (m, 1H), 2.74-2.81 (m, 1H), 2.93 (dddd, J = 8.4, 8.4, 4.9, 4.4 Hz, 1H), 3.14 (ddd, J = 14.0, 10.5, 2.4 Hz, 1H), 3.83 (s, 3H), 3.89 (dd, J = 12.0, 4.2 Hz, 1H), 4.06 (d, J = 12.0 Hz, 1H), 4.25 (dd, J = 10.8, 6.6 Hz, 1H), 4.61 (d, J = 9.5 Hz, 1H), 4.61 (d, J = 15.1 Hz, 1H), 4.69 (d, J = 15.1 Hz, 1H), 5.42 (apt dd, J = 3.6, 3.6 Hz, 1H), 6.38 (d, J = 9.5 Hz, 1H), 6.74 (d, J = 8.3 Hz, 1H), 6.94 (d, J = 7.5 Hz, 1H), 7.08 (d, J = 7.5 Hz, 1H), 7.10 (d, J = 8.3 Hz, 1H), 7.18 (dd, J = 7.5, 7.5 Hz, 1H), 7.27 (s, 1H), 10.34 (s, 1H). ^{13}C NMR (151 MHz, $CDCl_3$): δ 172.2, 171.6, 171.5, 170.0, 153.7, 153.1, 141.6, 141.2, 136.8, 128.9, 128.73, 128.68, 128.3, 126.4, 126.0, 124.3, 109.4, 74.1, 60.3, 57.3, 55.4, 54.5, 51.5, 51.0, 39.3, 36.7, 36.0, 35.9, 35.3, 35.2, 31.55, 31.46, 30.5, 29.8, 26.9, 23.8, 19.7, 13.8, 6.5, 6.0. MS m/z 806.0 (calc'd: $C_{42}H_{56}N_5O_9S$, $[M+H]^+$, 806.4).

Macrocycles 28a,b:



Acyclic carbonate 27: The peptide (56 mg, 0.14 mmol) was dissolved in dry DMF (1.2 mL), template **2** (41 mg, 0.14 mmol) and anhydrous K_2CO_3 (55 mg, 0.40 mmol) were added, and the mixture was stirred for 2 hr. Tosylmethylisocyanide (27 mg, 0.14 mmol) was added, and stirring was continued for 17 hr. The mixture was diluted with H_2O and purified by preparative HPLC (35→100% ACN + 0.1%TFA, 17min, Waters Sunfire C18 19x250mm) to give **27** (17 mg, 20%). 1H NMR (600 MHz, $DMSO-d_6$): δ 0.73 (t, J = 7.3 Hz, 3H), 0.78-0.83 (m, 1H), 0.84 (d, J = 6.6 Hz, 3H), 0.94-1.02 (m, 1H), 1.43 (s, 9H), 1.43-1.64 (m, 4H), 2.07-2.17 (m, 1H), 2.84-2.89 (m, 2H), 2.90-2.95 (m, 2H), 3.97-4.08 (m, 2H), 4.29 (ddd, J = 8.3, 8.0, 5.5 Hz, 1H), 4.36 (d, J = 11.0 Hz, 1H), 4.68 (dd, J = 6.2, 0.8 Hz, 2H), 5.87 (dd, J = 2.0, 2.0 Hz, 1H), 6.38 (dt, J = 15.9, 6.2 Hz, 1H), 6.66 (br d, J = 15.9 Hz, 1H), 6.71 (dd, J = 2.0, 2.0 Hz, 2H), 7.13 (br s, 1H), 7.20 (br d, J = 7.4 Hz, 1H), 7.29 (dd, J = 7.6, 7.4 Hz, 1H), 7.33 (br d, J = 7.6 Hz, 1H), 7.41 (br s, 1H), 7.47 (s, 1H), 7.49 (br s, 1H), 8.42 (s, 1H). ^{13}C NMR (126 MHz, $DMSO-d_6$): δ 173.2, 170.0, 153.3, 141.0, 136.5, 135.2, 134.2, 133.7, 129.2, 128.7, 127.1, 125.2, 124.0, 120.2, 117.2, 107.8, 82.0, 67.3, 66.4, 51.6, 45.8, 36.5, 33.0, 29.5, 27.8, 25.9, 24.6, 24.5, 15.7, 10.6. MS m/z 606.3 (calc'd: $C_{34}H_{48}N_5O_5$, $[M+H]^+$, 606.4).



Compounds 28a,b: Compound **27** (11.5 mg, 16 μ mol) was dissolved in TFE (1.6 mL) and treated with TFA (1.6 mL). The reaction was stirred at room temperature for 50 min then concentrated to dryness. HPLC analysis and purification was performed using the following methods.

Analytical HPLC method:

Column: Waters XBridge™ PFP, 4.6x250mm, 5 μ m.

Solvent A: H_2O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 1.00 ml/min

Time	%B
0	10
0.5	10
2	40
17	80
18	100
21	100
22	10
27	10

Preparative HPLC method A:

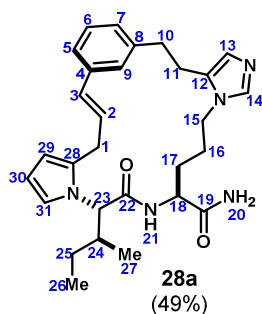
Column: Waters XBridge™ PFP, 19x250mm, 5 μ m.

Solvent A: H_2O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

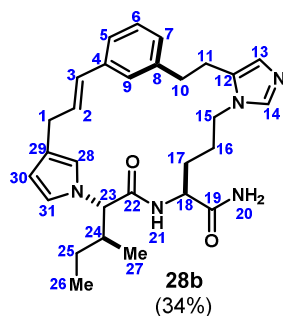
Flow rate: 6.00 ml/min

Time	%B
0	10
0.5	10
2	40
7	42
7.5	100
8.5	100
9	10



	¹³ C	¹ H	key correlations
1	30.2	3.46 (br dd, J = 17.7, 5.9 Hz, 1H), 3.54 (ddd, J = 17.7, 4.9, 1.8 Hz, 1H)	HMBC 1→2,28,29
2	131.0	6.25 (ddd, J = 15.9, 5.9, 4.9 Hz, 1H)	COSY 2→1,3 HMBC 2→4,29
3	131.2	6.02 (br d, J = 15.9 Hz, 1H)	HMBC 3→4
4	139.4	-	
5	126.8	7.20 (br d, J = 7.8 Hz, 1H)	HMBC 5→7,9
6	130.4	7.24 (dd, J = 7.8, 7.2 Hz, 1H)	COSY 6→5,7 HMBC 6→4,8
7	129.0	7.05 (br d, J = 7.2 Hz, 1H)	HMBC 7→5,9
8	141.6	-	
9	126.5	6.92 (br s, 1H)	
10	26.0	2.96-3.03 (m, 1H) overlap, 3.10-3.16 (m, 1H)	HMBC 10→8,12
11	37.1	2.90-2.95 (m, 1H), 2.99-3.05 (m, 1H) overlap	HMBC 11→8,12
12	136.5	-	
13	118.7	7.42 (d, J = 1.0 Hz, 1H)	HMBC 13→14
14	134.9	8.62 (d, J = 1.0 Hz, 1H)	HMBC 14→12
15	47.0	3.37 (ddd, J = 14.0, 8.5, 6.0 Hz, 1H), 3.66 (ddd, J = 14.0, 7.9, 6.4 Hz, 1H)	HMBC 15→12,14
16	26.1	1.19-1.30 (m, 1H), 1.36-1.45 (m, 1H)	
17	30.4	0.93-1.02 (m, 1H), 1.36-1.45 (m, 1H)	
18	53.4	4.17 (ddd, J = 7.7, 7.7, 6.8 Hz, 1H)	HMBC 18→19,22
19	175.2	-	
20	-	not observed	
21	-	7.92 (d, J = 7.7 Hz, 1H)	HMBC 21→22
22	172.7	-	
23	64.5	4.25 (d, J = 10.7 Hz, 1H)	COSY 23→24
24	40.4	2.11-2.19 (m, 1H)	COSY 24→25,27
25	26.0	0.89-0.96 (m, 1H) overlap, 0.97-1.06 (m, 1H) overlap	COSY 25→26
26	11.2	0.81 (dd, J = 7.4, 7.4 Hz, 3H)	HMBC 26→24
27	16.0	0.98 (d, J = 6.7 Hz, 3H)	HMBC 27→24
28	131.70	-	
29	108.4	5.90 (dd, J = 3.3, 1.7 Hz, 1H)	HMBC 29→28,31 COSY 29→30
30	108.5	6.07 (dd, J = 3.3, 2.8 Hz, 1H)	HMBC 30→31 COSY 30→31
31	120.5	7.01 (dd, J = 2.8, 1.7 Hz, 1H)	HMBC 31→28,29,30

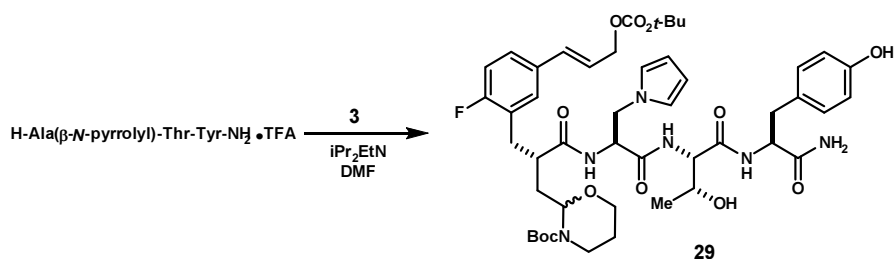
MS *m/z* 488.2 (calc'd: C₂₉H₃₈N₅O₂, [M+H]⁺, 488.3).



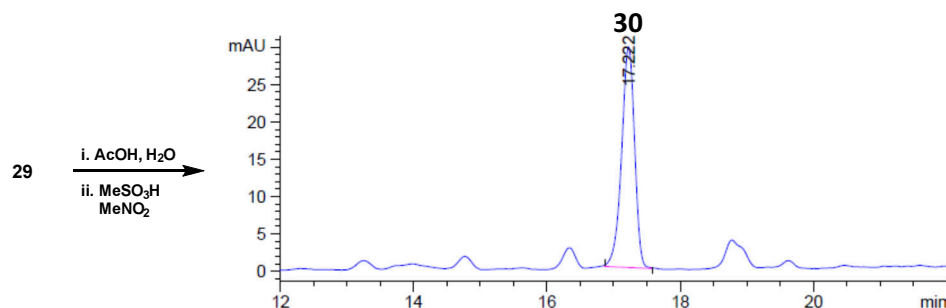
	¹³ C	¹ H	key correlations
1	31.0	3.25 (d, J = 6.6 Hz, 2H)	HMBC 1→2,3,28,29,30
2	133.6	6.11 (dt, J = 16.0, 6.6 Hz, 1H)	COSY 2→1 HMBC 2→1,4,29
3	128.9	6.25(d, J = 16.0 Hz, 1H)	HMBC 3→4
4	139.6	-	
5	125.8	7.10 (br s, 1H)	
6	129.7	7.18 (dd, J = 7.6, 7.3 Hz, 1H)	HMBC 6→4,8
7	128.0	6.96 (br d, J = 7.3 Hz, 1H)	
8	140.9	-	
9	125.7	7.01 (br s, 1H)	
10	25.3	3.03-3.08 (m, 2H)	HMBC 10→8,12
11	34.9	2.91-3.02 (m, 2H)	HMBC 11→8,12
12	135.8	-	
13	118.2	7.20 (s, 1H)	HMBC 13→14
14	135.2	8.57 (s, 1H)	HMBC 14→13,12
15	46.7	3.72-3.79 (m, 1H), 3.84-3.91 (m, 1H)	HMBC 15→14,16 COSY 15→16
16	26.6	1.58-1.72 (m, 2H) overlap	
17	30.4	1.47-1.56 (m, 1H), 1.68-1.77 (m, 1H)	HMBC 17→16 COSY 17→18
18	52.8	4.41-4.45 (m, 1H)	HMBC 18→17,19,22
19	175.1	-	
20	-	not observed	
21	-	8.38 (d, J = 8.1 Hz, 1H)	
22	172.2	-	
23	68.5	4.23 (d, J = 10.9 Hz, 1H)	HMBC 23→22,28 COSY 23→24
24	36.4	2.25-2.35 (m, 1H)	COSY 24→25,27
25	25.5	1.01-1.06 (m 1H) overlap, 1.27-1.33 (m, 1H)	COSY 25→26
26	15.6	0.86 (dd, J = 7.4, 7.4 Hz, 3H)	
27	10.7	0.96 (d, J = 6.5 Hz, 3H)	
28	119.1	6.57-6.59 (m, 1H)	HMBC 28→29,30,31
29	123.2	-	
30	109.8	5.95-5.97 (m, 1H)	HMBC 30→29,31
31	120.2	6.74-6.76 (m, 1H)	HMBC 31→28,29,30

MS *m/z* 488.2 (calc'd: C₂₉H₃₈N₅O₂, [M+H]⁺, 488.3).

Macrocycle 30:



Acyclic carbonate 29:



Macrocycle 30: To a flask charged with **29** (5.8 mg, 6.3 μmol) was added 2:1 AcOH/H₂O (1.0 ml). The reaction was allowed to stir overnight and then concentrated. The resulting residue was reconstituted in nitromethane (1.25 ml) and methanesulfonic acid (6.1 μL , 0.095 mmol, 15 equiv.) was added. After one hour *i*Pr₂NEt (6.1 μL , 18 equiv) was added and reaction was concentrated, reconstituted in DMF and purified by reverse phase preparative HPLC (35→50% ACN+0.1% TFA, 17min, Waters Sunfire C18 19x250mm) to afford macrocycle **30** as a white solid (2.9 mg, 73%).

Analytical HPLC method:

Column: Waters XBridge™ C18, 4.6x250mm, 5 μm .

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 1.00 ml/min

Time	%B
0	30
2	30
30	60
35	60
36	30
40	30

Preparative HPLC method A:

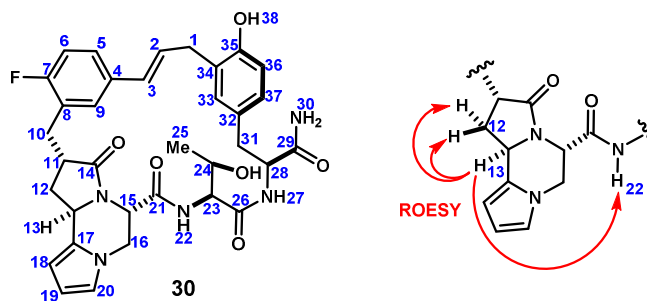
Column: Waters Sunfire™ C18, 19x250mm, 5 μm .

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 6.00 ml/min

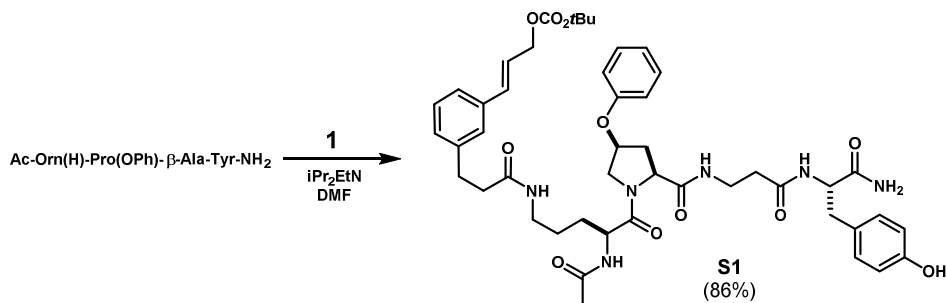
Time	%B
0	35
1	35
18	50



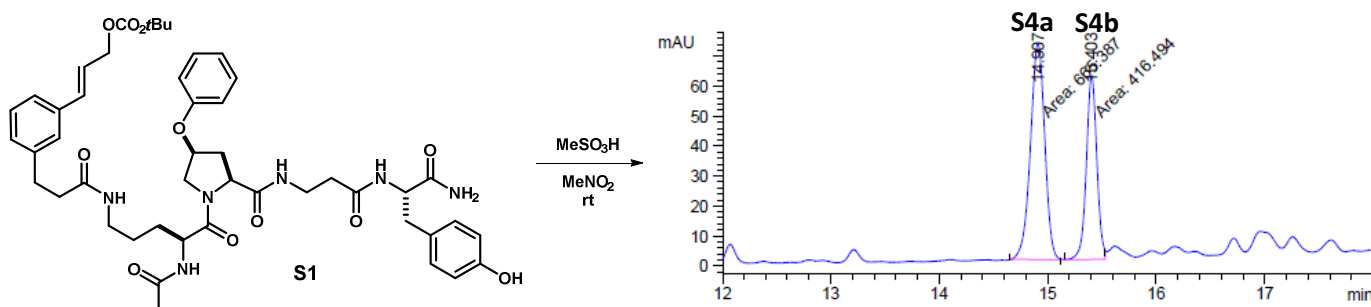
	¹³ C	¹ H	key correlations
1	30.7	3.45 (br dd, J = 16.9, 6.8 Hz, 1H), 3.32 (br dd, J = 16.9, 5.0 Hz, 1H)	HMBC 1→2,3,33,34,35
2	128.5	6.34 (ddd, J = 16.0, 6.8, 5.0 Hz, 1H)	HMBC 2→4,5
3	129.1	6.05 (br d, J = 16.0 Hz, 1H)	HMBC 3→5,9
4	133.0	-	
5	125.0	7.29 (ddd, J = 8.2, 5.1, 2.4 Hz, 1H)	HMBC 5→3,7 TOCSY 5→6,9
6	114.5	7.06 (d, J = 8.2 Hz, 1H) overlap	COSY 6→5 HMBC 6→7,8
7	159.8	-	
8	125.0	-	
9	130.4	7.34-7.37 (m, 1H)	HMBC 9→7,3
10	31.7	3.17 (br d, J = 9.3 Hz, 1H), 2.72 (dd, J = 12.0, 9.3 Hz, 1H)	HMBC 10→8,9,11,14
11	41.0	2.71-2.76 (m, 1H)	
12	33.7	2.45 (apt dd, J = 12.5, 6.9 Hz, 1H), 2.18-2.25 (m, 1H)	COSY 12→11 HMBC 12→10,11,14
13	49.1	5.00 (dd, J = 8.2, 6.9 Hz, 1H)	HMBC 13→17 ROESY 13→12,12',22
14	174.0	-	
15	50.1	4.79 (dd, J = 5.6, 3.4 Hz, 1H)	HMBC 15→14,21
16	43.3	4.36 (dd, J = 12.6, 3.4 Hz, 1H), 3.94 (dd, J = 12.6, 5.6 Hz, 1H)	HMBC 16→21
17	127.6	-	
18	102.2	5.84-5.86 (m, 1H)	HMBC 18→17 TOCSY 18→19,20
19	107.5	5.98 (dd, J = 3.5, 2.6 Hz, 1H)	HMBC 19→17
20	119.4	6.67 (dd, J = 2.6, 1.7 Hz, 1H)	
21	166.8	-	
22	-	7.08 (d, J = 6.4 Hz, 1H) overlap	HMBC 22→21
23	58.2	3.99 (dd, J = 6.4, 5.2 Hz, 1H)	TOCSY 23→21,22,24,25
24	66.5	3.78-3.83 (m, 1H)	
25	18.7	0.75 (d, J = 6.4 Hz, 3H)	COSY 25→24
26	168.2	-	
27	-	8.14 (d, J = 9.2 Hz, 1H)	HMBC 27→26
28	54.1	4.47 (ddd, J = 11.4, 9.2, 2.9 Hz, 1H)	HMBC 28→29
29	172.9	-	
30	-	7.34 (br s, 1H), 7.16 (br s, 1H)	HMBC 30→29 TOCSY 29→29'
31	36.5	3.01 (dd, J = 13.7, 2.9 Hz, 1H), 2.55 (dd, J = 13.7, 11.4 Hz, 1H)	HMBC 31→32
32	128.1	-	
33	130.7	7.01 (d, J = 2.1 Hz, 1H)	TOCSY 33→36,37
34	124.8	-	
35	152.8	-	
36	114.5	6.64 (d, J = 8.1 Hz, 1H)	HMBC 36→32,34
37	127.5	6.83 (dd, J = 8.1, 2.1 Hz, 1H)	
38	-	9.08 (br s, 1H)	

MS m/z 630.0 (calc'd: $C_{34}H_{37}FN_5O_6$, $[M+H]^+$, 630.3).

Macrocycles S4a,b:



Acyclic carbonate (S1): General procedure A afforded compound **S1** as a colorless film (191 mg, 86%). ¹H NMR (500 MHz, CD₃OD, major rotamer): δ 1.48 (s, 9H), 1.52-1.64 (m, 3H), 1.76-1.86 (m, 1H), 1.96 (s, 3H), 2.22-2.33 (m, 2H), 2.37-2.56 (m, 4H), 2.81 (dd, *J* = 14.0, 9.3 Hz, 1H), 2.89 (t, *J* = 76. Hz, 2H), 3.04 (dd, *J* = 14.0, 5.4 Hz, 1H), 3.09-3.18 (m, 1H), 3.22 (dd, *J* = 14.8, 7.4 Hz, 1H), 3.39-3.49 (m, 1H), 3.77 (dd, *J* = 11.0, 3.2 Hz, 1H), 4.27 (dd, *J* = 11.0, 5.5 Hz, 1H), 4.47-4.56 (m, 3H), 4.67 (dd, *J* = 6.3, 1.1 Hz, 1H), 5.03-5.09 (m, 1H), 6.29 (dd, *J* = 15.9, 6.3 Hz, 1H), 6.91 (d, *J* = 7.9 Hz, 2H), 6.95 (dd, *J* = 7.3, 7.3 Hz, 1H), 7.07 (d, *J* = 8.3 Hz, 1H), 7.09 (d, *J* = 8.5 Hz, 2H), 7.21 (dd, *J* = 7.4, 7.4 Hz, 1H), 7.22 (br s, 1H), 7.24-7.29 (m, 3H), 7.92 (t, *J* = 6.0 Hz, 1H), 7.93 (t, *J* = 5.3 Hz, 1H), 8.04 (d, *J* = 7.9 Hz, 1H), 8.25 (d, *J* = 7.0 Hz, 1H). ¹³C NMR (125 MHz, CD₃OD, major rotamer): δ 176.6, 175.2, 173.9, 173.5, 173.40, 173.39, 158.3, 157.2, 155.0, 142.6, 137.8, 135.1, 131.3, 130.7, 129.8, 129.3, 129.2, 127.8, 125.6, 124.2, 122.6, 116.8, 116.2, 82.9, 76.6, 68.4, 60.7, 56.5, 53.7, 52.7, 40.0, 39.0, 38.2, 37.1, 36.4, 35.5, 32.8, 29.4, 28.0, 26.4, 22.3. MS m/z 885.0 (calc'd: $C_{47}H_{61}N_6O_{11}$, $[M+H]^+$, 885.4).



Compound **S1** was subjected to general procedure C. HPLC analysis and purification was performed using the following methods.

Analytical HPLC method:

Column: Waters XBridge™ Phenyl, 4.6x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 1.00 ml/min

Time	%B
0	30
2	30
20	70
25	100
35	100
38	30
41	30

Semi-preparative HPLC method A:

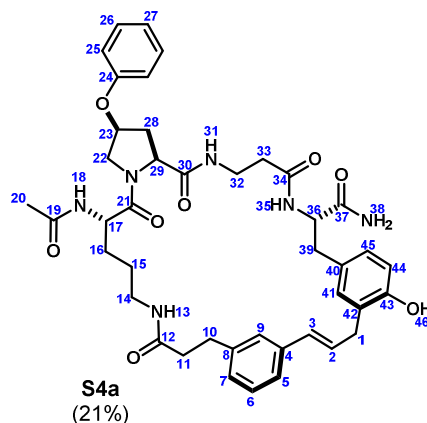
Column: Waters XBridge™ Phenyl, 10x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 6.00 ml/min

Time	%B
0	30
2	30
20	65
22	30
25	30

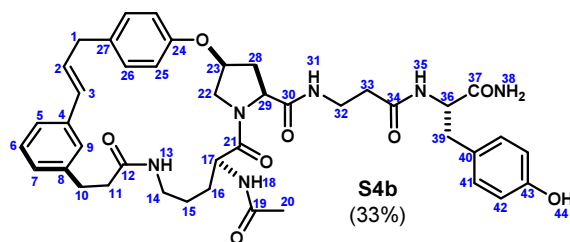


(600MHz, DMSO-*d*₆, 298K, ~6:1 mixture of rotamers, data is of major)

	¹³ C	¹ H	key correlations
1	32.5	3.34-3.45 (m, 2H)	HMBC 1→43,42
2	128.9	6.32-6.35 (m, 1H) overlap	
3	130.0	6.32-6.35 (m, 1H) overlap	HMBC 3→4,5
4	137.2	-	
5	124.1	7.15 (br d, J = 7.4 Hz, 1H)	
6	128.4	7.19 (dd, J = 7.4, 7.4 Hz, 1H)	HMBC 6→4,8
7	127.1	7.02 (br d, J = 7.4 Hz, 1H)	
8	141.6	-	
9	125.3	7.22 (br s, 1H)	HMBC 9→5,7
10	31.1	2.78 (t, J = 7.6 Hz, 2H)	HMBC 10→8,12
11	37.3	2.31-2.38 (m, 2H)	HMBC 11→8,12
12	171.4	-	
13	-	7.68 (dd, J = 5.8, 5.8 Hz, 1H)	HMBC 13→12
14	37.9	2.94-3.00 (m, 1H), 3.00-3.07 (m, 1H)	
15	24.7	1.35-1.41 (m, 2H)	
16	28.2	1.42-1.50 (m, 1H), 1.64-1.72 (m, 1H)	
17	50.0	4.46 (ddd, J = 7.9, 7.1, 6.1 Hz, 1H)	HMBC 17→19,21
18	-	8.07 (d, J = 7.9 Hz, 1H)	HMBC 18→19
19	169.2	-	
20	22.1	1.82 (s, 3H)	HMBC 20→19
21	171.0	-	
22	51.9	4.19 (dd, J = 11.1, 5.7 Hz, 1H), 3.66 (dd, J = 11.1, 3.1 Hz, 1H)	HMBC 22→21,29
23	74.8	5.00-5.05 (m, 1H)	HMBC 23→24
24	156.8	-	
25	115.4	6.87 (d, J = 8.3 Hz, 2H) overlap	
26	129.6	7.26 (dd, J = 8.3, 7.4 Hz, 2H)	
27	121.0	6.93 (dd, J = 7.4, 7.4 Hz, 1H)	
28	34.1	2.04 (ddd, J = 13.5, 3.8, 3.8 Hz, 1H), 2.43 (ddd, J = 13.5, 9.1, 5.4 Hz, 1H)	HMBC 28→30
29	58.5	4.34-4.39 (m, 1H) overlap	
30	170.7	-	
31	-	7.67 (t, J = 5.8 Hz, 1H)	COSY 31→32
32	35.4	3.12-3.17 (m, 2H)	COSY 32→33
33	35.4	2.06-2.12 (m, 1H), 2.21-2.27 (m, 1H)	HMBC 33→34

34	170.4	-	
35	-	7.97 (d, J = 8.5Hz, 1H)	
36	53.9	4.34-4.39 (m, 1H) overlap	HMBC 36→37,40
37	173.6	-	
38	-	7.03 (br s, 1H), 7.39 (br s, 1H)	HMBC 38→37 TOCSY 38→38'
39	36.7	2.62 (dd, J = 14.0, 10.6 Hz, 1H), 2.91 (dd, J = 14.0, 3.5 Hz, 1H)	HMBC 39→40
40	128.3	-	
41	130.3	6.98 (d, J = 1.8 Hz, 1H)	HMBC 41→45
42	125.5	-	
43	153.3	-	
44	114.5	6.69 (d, J = 8.1 Hz, 1H)	HMBC 44→40,42
45	127.6	6.89 (dd, J = 8.1, 1.8 Hz, 1H) overlap	HMBC 45→41
46	-	9.16 (br s, 1H)	

MS m/z 767.0 (calc'd: $C_{42}H_{51}N_6O_8$, $[M+H]^+$, 767.4).



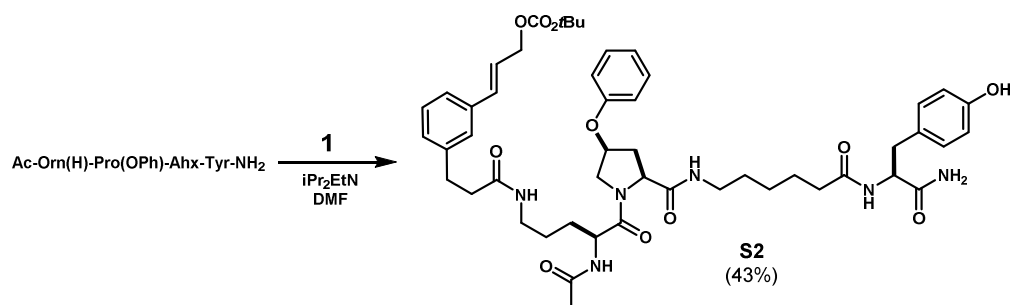
(600MHz, DMSO- d_6 , 298K)

	^{13}C	1H	key correlations
1	37.4	3.40 (dd, J = 15.9, 6.2 Hz, 1H), 3.43 (dd, J = 15.9, 6.6 Hz, 1H)	HMBC 1→27
2	130.30	6.22 (ddd, J = 15.8, 6.6, 6.2 Hz, 1H)	COSY 2→1 HMBC 2→27,4
3	129.10	6.29 (d, J = 15.8 Hz, 1H)	HMBC 3→4,5,9
4	136.7	-	
5	124.5	7.10 (br d, J = 7.7 Hz, 1H) overlap	TOCSY 5→4,6,7,9
6	128.2	7.18 (dd, J = 7.7, 7.7 Hz, 1H)	HMBC 6→4,8 COSY 6→7
7	127.4	6.99 (br d, J = 7.7 Hz, 1H)	HMBC 7→10
8	141.5	-	
9	123.7	7.11 (br s, 1H) overlap	HMBC 9→10
10	29.8	2.70-2.76 (m, 1H) overlap, 2.86-2.91 (m, 1H) overlap	HMBC 10→11,12
11	36.0	2.26-2.30 (m, 2H) overlap	HMBC 11→10,12
12	171.1	-	
13	-	7.76 (t, J = 5.2 Hz, 1H)	COSY 13→14
14	37.8	2.70-2.76 (m, 2H) overlap	
15	24.8	1.20-1.29 (m, 1H), 1.33-1.40 (m, 1H)	HMBC 15→14
16	28.4	1.40-1.52 (m, 2H)	
17	49.4	4.25 (ddd, J = 9.1, 7.6, 5.0 Hz, 1H)	HMBC 17→19
18	-	7.62 (d, J = 7.6 Hz, 1H)	
19	169.0	-	
20	21.8	1.78 (s, 3H)	HMBC 20→19
21	171.2	-	
22	50.7	3.49 (d, J = 11.4 Hz, 1H), 3.85 (dd, J = 11.4, 4.1 Hz, 1H)	HMBC 22→28
23	75.7	5.10-5.14 (m, 1H)	COSY 23→22,22'

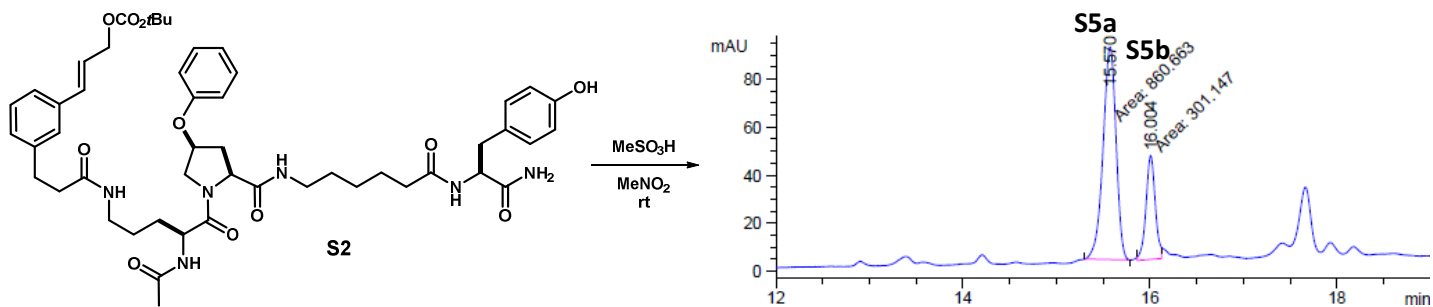
24	154.4	-	
25	116.8	6.91 (d, J = 8.5 Hz, 2H)	HMBC 25→27
26	129.6	7.16 (d, J = 8.5 Hz, 2H)	
27	132.8	-	
28	34.8	2.21-2.25 (m, 1H) overlap, 2.46 (ddd, J = 13.8, 9.9, 5.1 Hz, 1H)	
29	58.6	4.40 (dd, J = 9.9, 1.5 Hz, 1H)	HMBC 29→30
30	169.9	-	
31	-	7.51 (t, J = 5.8 Hz, 1H)	HMBC 31→30
32	35.2	3.17-3.26 (m, 2H)	HMBC 32→30,33,34
33	34.6	2.18-2.23 (m, 1H) overlap, 2.29-2.34 (m, 1H) overlap	
34	170.2	-	
35	-	8.00 (d, J = 8.5 Hz, 1H)	HMBC 35→34
36	53.9	4.37 (ddd, J = 9.5, 8.5, 4.9 Hz, 1H)	
37	173.3	-	
38	-	7.42 (br s, 1H), 7.02 (br s, 1H) overlap	HMBC 38→37
39	36.7	2.65 (dd, J = 13.8, 9.5 Hz, 1H), 2.88 (dd, J = 13.8, 4.8 Hz, 1H)	
40	128.0	-	
41	129.8	7.02 (d, J = 8.4 Hz, 2H) overlap	
42	114.6	6.63 (d, J = 8.4 Hz, 2H)	HMBC 42→40
43	155.5	-	
44	-	9.15 (br s, 1H)	

MS m/z 767.0 (calc'd: $C_{42}H_{51}N_6O_8$, $[M+H]^+$, 767.4).

Macrocycles S5a,b:



Acyclic carbonate (S2): General procedure A afforded compound **S2** as a white foam (150 mg, 43%). ^1H NMR (500 MHz, CD_3OD , major rotamer): δ 1.09-1.17 (m, 2H), 1.35-1.46 (m, 4H), 1.47 (s, 9H), 1.51-1.65 (m, 3H), 1.74-1.82 (m, 1H), 1.96 (s, 3H), 2.11 (t, J = 7.3 Hz, 2H), 2.25 (ddd, J = 13.6, 3.9, 3.9 Hz, 1H), 2.45 (t, J = 7.6 Hz, 2H), 2.54 (ddd, J = 13.6, 9.3, 5.4 Hz, 1H), 2.76 (dd, J = 14.0, 9.5 Hz, 1H), 2.88 (t, J = 7.6 Hz, 2H), 3.05 (dd, J = 14.0, 5.4 Hz, 1H), 3.08-3.12 (m, 1H), 3.13 (t, J = 7.3 Hz, 2H), 3.20 (dd, J = 13.6, 6.9 Hz, 1H), 3.77 (dd, J = 11.0, 3.2 Hz, 1H), 4.27 (dd, J = 11.2, 5.6 Hz, 1H), 4.52 (dd, J = 7.8, 7.8 Hz, 1H), 4.55 (dd, J = 9.1, 3.9 Hz, 1H), 4.57 (dd, J = 9.5, 5.4 Hz, 1H), 4.66 (dd, J = 6.3, 1.1 Hz, 2H), 5.03-5.07 (m, 1H), 6.28 (dt, J = 15.9, 6.3 Hz, 1H), 6.61 (br d, J = 15.9 Hz, 1H), 6.71 (d, J = 8.5 Hz, 2H), 6.90 (d, J = 7.9 Hz, 1H), 6.94 (apt t, J = 7.4 Hz, 1H), 7.06 (d, J = 8.5 Hz, 2H), 7.07-7.10 (m, 1H), 7.20 (apt t, J = 7.5 Hz, 1H), 7.21 (br s, 1H), 7.23-7.28 (m, 3H), 7.89 (s, 1H). ^{13}C NMR (125 MHz, CD_3OD , major rotamer): δ 176.5, 175.8, 175.1, 173.30, 173.27, 173.1, 158.3, 157.2, 155.0, 142.6, 137.8, 135.1, 131.3, 130.7, 129.8, 129.24, 129.23, 127.7, 125.6, 124.2, 122.5, 116.7, 116.2, 82.9, 76.6, 68.4, 60.5, 55.8, 53.8, 52.6, 40.4, 39.8, 38.9, 38.3, 36.7, 35.8, 32.8, 30.0, 29.3, 28.0, 27.2, 26.4, 26.3, 22.2. MS m/z 927.0 (calc'd: $C_{50}H_{67}N_6O_{11}$, $[M+H]^+$, 927.5).



Compound **S2** was subjected to general procedure C. HPLC analysis and purification was performed using the following methods.

Analytical HPLC method:

Column: Waters X-Bridge™ C₁₈, 4.6x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 1.00 ml/min

Time	%B
0	30
2	30
30	100
40	10
50	30
51	30

Preparative HPLC method A:

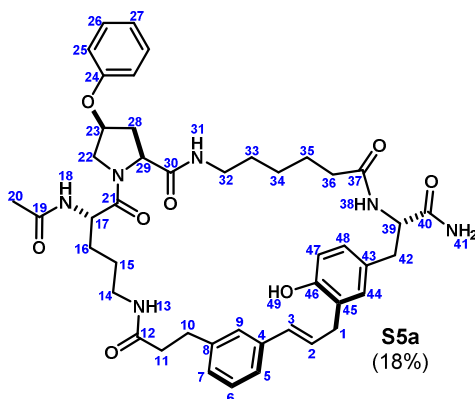
Column: Waters Sunfire™ C₁₈, 19x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 18.0 ml/min

Time	%B
0	35
2	35
20	75

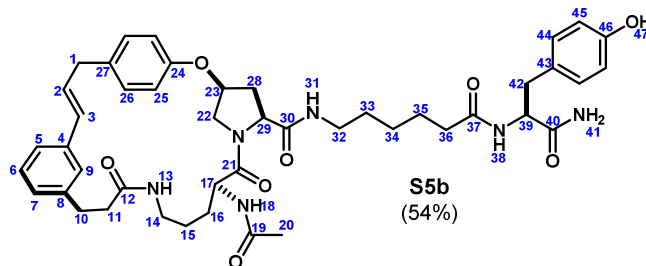


(600MHz, DMSO-*d*₆, 298K, ~8:1 mixture of rotamers, data is of major)

	¹³ C	¹ H	key correlations
1	32.8	3.36 (dd, J = 15.6, 6.2 Hz, 1H), 3.40 (dd, J = 15.6, 6.2 Hz, 1H)	HMBC 1→2,3,44,45,46
2	128.90	6.37 (ddd, J = 15.7, 6.2, 6.2 Hz, 1H)	HMBC 2→4
3	130.00	6.32 (d, J = 15.7 Hz, 1H)	HMBC 3→4
4	137.3	-	
5	123.7	7.17-7.21 (m, 1H) overlap	TOCSY 5→6,7,8,9
6	128.5	7.18-7.21 (m, 1H) overlap	HMBC 6→4,9
7	126.8	7.01-7.04 (m, 1H)	
8	141.6	-	
9	125.5	7.18 (br s, 1H) overlap	
10	31.2	2.78 (t, J = 7.8 Hz, 2H)	HMBC 10→8,12
11	37.2	2.32-2.37 (m, 2H)	HMBC 11→8,12
12	171.5	-	

13	-	7.78 (dd, J = 5.7, 5.7 Hz, 1H)	HMBC 13→12 COSY 13→14
14	37.9	2.96-3.03 (m, 1H) overlap, 3.03-3.10 (m, 1H)	
15	24.9	1.39-1.46 (m, 2H)	
16	28.4	1.46-1.53 (m, 1H), 1.67-1.74 (m, 1H)	
17	49.9	4.52 (apt dd, J = 14.0, 7.0 Hz, 1H)	HMBC 17→19,21
18	-	8.13 (d, J = 7.9 Hz, 1H)	HMBC 18→19
19	169.2	-	
20	22.1	1.84 (s, 3H)	HMBC 20→19
21	171.0	-	
22	51.9	3.74 (dd, J = 11.1, 2.7 Hz, 1H), 4.21 (dd, J = 11.1, 5.6 Hz, 1H)	
23	75.1	5.02-5.07 (m, 1H)	
24	156.8	-	
25	115.4	6.87 (d, J = 8.4 Hz, 2H) overlap	TOCSY 25→26,27
26	129.5	7.26 (dd, J = 8.4 Hz, 2H)	HMBC 26→24
27	120.9	6.92 (t, J = 7.3 Hz, 1H)	
28	34.3	2.06 (ddd, J = 13.6, 3.6, 3.1 Hz, 1H), 2.45 (ddd, J = 13.6, 9.4, 5.8 Hz, 1H)	HMBC 28→30
29	58.5	4.39 (dd, J = 9.4, 3.6 Hz, 1H)	
30	170.5	-	
31	-	7.44 (t, J = 5.9 Hz, 1H)	HMBC 31→30 COSY 31→32
32	38.6	2.87-2.93 (m, 1H) overlap, 2.95-3.01 (m, 1H) overlap	COSY 32→33, HMBC 32→33,34
33	28.9	1.20-1.27 (m, 2H) overlap	
34	25.7	0.92-1.01 (m, 2H)	
35	24.8	1.22-1.30 (m, 2H)	
36	35.1	1.86-1.98 (m, 2H)	HMBC 36→34,35
37	171.9	-	
38	-	7.76 (d, J = 8.7 Hz, 1H)	
39	53.8	4.34 (ddd, J = 10.0, 8.7, 4.0 Hz, 1H)	HMBC 39→37,40,43
40	173.6	-	
41	-	7.00 (br s, 1H), 7.35 (br s, 1H)	HMBC 41→40
42	36.9	2.61 (dd, J = 13.7, 10.0 Hz, 1H), 2.87 (dd, J = 13.7, 4.0 Hz, 1H)	HMBC 42→43,44,48
43	128.5	-	
44	130.6	6.96 (d, J = 1.5 Hz, 1H)	
45	125.4	-	
46	153.2	-	
47	114.6	6.69 (d, J = 8.1 Hz, 1H)	HMBC 47→45
48	127.8	6.87 (br d, J = 8.1 Hz, 1H) overlap	
49	-	9.14 (br s, 1H)	

MS m/z 809.0 (calc'd: $C_{45}H_{57}N_6O_8$, $[M+H]^+$, 809.4).



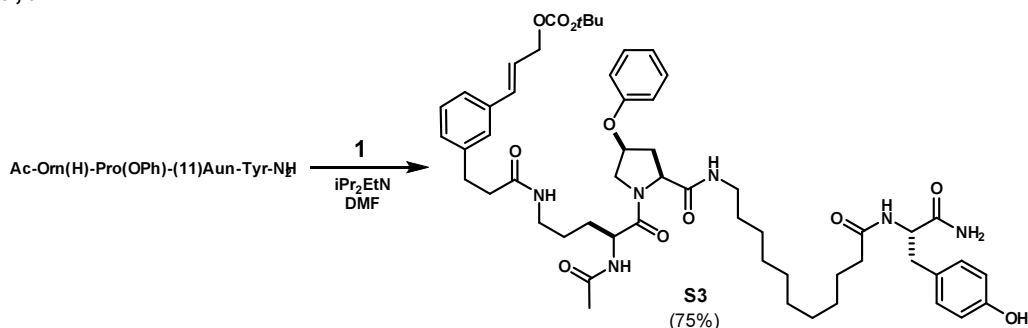
(600MHz, DMSO-*d*₆, 298K)

	¹³ C	¹ H	key correlations
1	37.3	3.40 (dd, J = 15.5, 6.4 Hz, 1H), 3.43 (dd, J = 15.5, 6.4 Hz, 1H)	HMBC 1→27
2	130.40	6.21 (ddd, J = 15.7, 6.4, 6.4 Hz, 1H)	COSY 2→1 HMBC 2→4
3	128.90	6.27 (d, J = 15.7 Hz, 1H)	HMBC 3→4
4	136.8	-	
5	124.6	7.10 (d, J = 7.6 Hz, 1H) overlap	HMBC 5→7
6	128.3	7.18 (dd, J = 7.6, 7.6 Hz, 1H) overlap	HMBC 6→4,8
7	127.5	6.98 (d, J = 7.6 Hz, 1H) overlap	HMBC 7→5
8	141.7	-	
9	123.9	7.10 (br s, 1H) overlap	HMBC 9→7,5
10	29.8	2.69-2.75 (m, 1H) overlap, 2.85-2.91 (m, 1H)	HMBC 10→8,12
11	35.9	2.25-2.29 (m, 2H)	HMBC 1→8,12
12	171.2	-	
13	-	7.75 (t, J = 5.3 Hz, 1H)	HMBC 13→12 COSY 13→14
14	37.8	2.65-2.78 (m, 2H)	HMBC14→15
15	25.0	1.22-1.29 (m, 1H), 1.33-1.39 (m, 1H) overlap	HMBC 15→16
16	28.4	1.39-1.45 (m, 1H) overlap, 1.45-1.51 (m, 1H)	TOCSY 16→13,14,15,17,18 HMBC 16→21
17	49.4	4.26 (ddd, J = 9.0, 7.7, 4.9 Hz, 1H)	
18	-	8.07 (d, J = 7.7 Hz, 1H)	HMBC 18→19
19	169.2	-	
20	22.1	1.79 (s, 3H)	HMBC 20→19
21	171.8	-	
22	50.8	3.50 (d, J = 11.3 Hz, 1H), 3.89 (dd, J = 11.3, 4.4 Hz, 1H)	
23	75.6	5.12-5.15 (m, 1H)	
24	155.7	-	
25	116.7	6.88 (d, J = 8.5 Hz, 2H)	HMBC 25→24
26	129.8	7.16 (d, J = 8.5 Hz, 2H)	HMBC 26→1,24 COSY 26→25
27	132.8	-	
28	35.1	2.24 (br d, J = 14.0 Hz, 1H), 2.45-2.51 (m, 1H)	
29	58.6	4.42 (dd, J = 9.7, 1.6 Hz, 1H)	HMBC 29→30
30	170.0	-	
31	-	7.41 (dd, J = 5.6, 5.6 Hz, 1H)	
32	38.5	2.96-3.03 (m, 1H), 3.06-3.13 (m, 1H)	TOCSY 32→31,33,34,35,36
33	28.9	1.34-1.41 (m, 2H) overlap	HMBC 33→32,34
34	25.8	1.13-1.20 (m, 2H)	HMBC 34→35,36
35	24.9	1.37-1.43 (m, 2H) overlap	HMBC 35→36
36	35.1	2.00-2.06 (m, 2H)	HMBC 36→35,37
37	171.9	-	

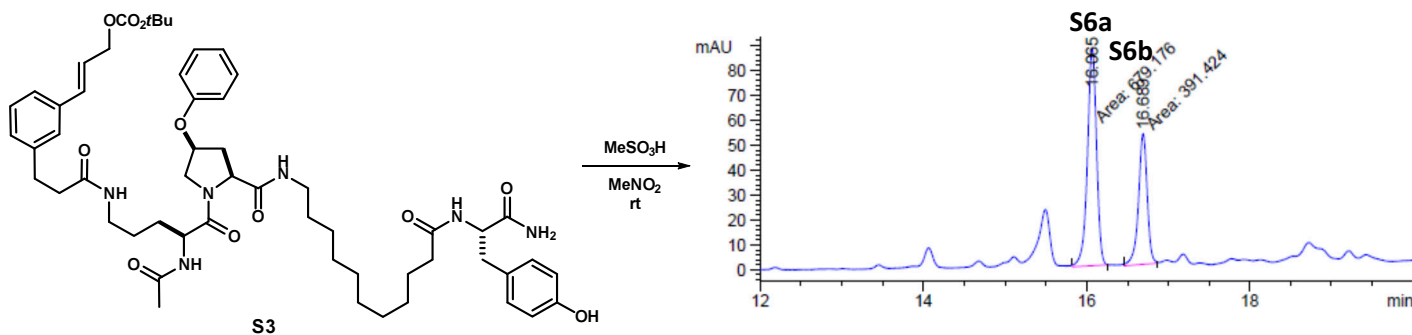
38	-	7.82 (d, J = 8.5 Hz, 1H)	
39	53.9	4.34 (ddd, J = 9.6, 8.5, 4.7 Hz, 1H)	HMBC 39→37, 40
40	173.5	-	
41	-	6.97 (br s, 1H), 7.34 (br s, 1H)	HMBC 41→40
42	36.7	2.61 (dd, J = 13.8, 9.6 Hz, 1H), 2.85 (dd, J = 13.8, 4.7 Hz, 1H)	
43	128.3	-	
44	130.1	7.00 (d, J = 8.4 Hz, 2H)	HMBC 44→46
45	114.7	6.62 (d, J = 8.4 Hz, 2H)	HMBC 45→46
46	155.7	-	
47	-	9.14 (s, 1H)	

MS m/z 809.0 (calc'd: $C_{45}H_{57}N_6O_8$, $[M+H]^+$, 809.4).

Macrocycles S6a,b:



Acyclic carbonate (S3): General procedure A afforded compound **S3** as a colorless film (396 mg, 75%). 1H NMR (600 MHz, CD_3OD , major rotamer): δ 1.11-1.19 (m, 3H), 1.81-1.31 (m, 12H), 1.42-1.49 (m, 5H), 1.47 (s, 9H), 1.50-1.65 (m, 4H), 1.75-1.81 (m, 1H), 1.96 (s, 3H), 2.14 (t, J = 7.6 Hz, 2H), 2.27 (ddd, J = 13.9, 3.5, 3.5 Hz, 1H), 2.43-2.49 (m, 2H), 2.54 (ddd, J = 13.5, 9.3, 5.4 Hz, 1H), 2.77 (dd, J = 13.9, 9.3 Hz, 1H), 2.87-2.93 (m, 2H), 3.05 (dd, J = 13.9, 5.3 Hz, 1H), 3.08-3.15 (m, 2H), 3.15-3.24 (m, 1H), 3.78 (dd, J = 11.0, 2.7 Hz, 1H), 4.27 (dd, J = 11.1, 5.5 Hz, 1H), 4.50-4.59 (m, 3H), 4.66 (br d, J = 6.2 Hz, 2H), 5.04-5.08 (m, 1H), 6.29 (dt, J = 15.8, 6.2 Hz, 1H), 6.62 (br d, J = 15.8 Hz, 1H), 6.69 (d, J = 8.3 Hz, 2H), 6.90 (d, J = 8.1 Hz, 2H), 6.94 (apt t, J = 7.6 Hz, 1H), 7.06 (d, J = 8.3 Hz, 2H), 7.10 (d, J = 7.4 Hz, 1H), 7.21 (apt t, J = 7.6 Hz, 1H), 7.22 (br s, 1H), 7.23-7.29 (m, 5H), 7.74 (t, J = 5.7 Hz, 1H), 7.92 (d, J = 8.1 Hz, 1H), 7.95 (t, J = 5.4 Hz, 1H). ^{13}C NMR (151 MHz, CD_3OD , major rotamer): δ 176.6, 176.0, 175.1, 173.4, 173.3, 173.2, 158.3, 157.3, 155.0, 142.6, 137.8, 135.1, 131.2, 130.7, 129.8, 129.2, 129.2, 127.8, 125.6, 124.3, 122.5, 116.8, 116.2, 82.9, 76.8, 68.4, 60.6, 55.8, 53.8, 52.6, 40.7, 39.8, 38.9, 38.3, 36.9, 35.8, 32.9, 30.6, 30.5, 30.44, 30.39, 30.4, 30.1, 29.3, 28.1, 27.9, 26.8, 26.3, 22.2. MS m/z 997.1 (calc'd: $C_{55}H_{77}N_6O_{11}$, $[M+H]^+$, 997.6).



Compound **S3** was subjected to general procedure C. HPLC analysis and purification was performed using the following methods.

Analytical HPLC method:

Column: Waters X-Bridge™ C₁₈, 4.6x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 1.00 ml/min

Time	%B
0	30
2	30
30	100
35	100
38	30
41	30

Preparative HPLC method A:

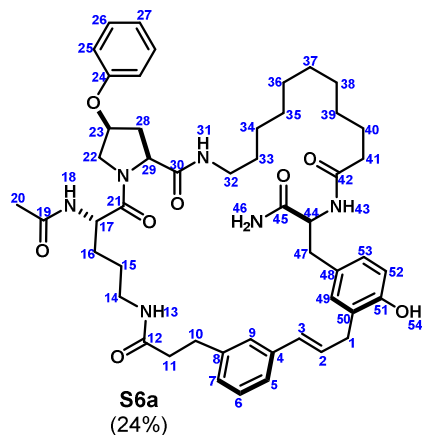
Column: Waters Sunfire™ C₁₈, 19x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 18.0 ml/min

Time	%B
0	35
2	35
14	60
17	35

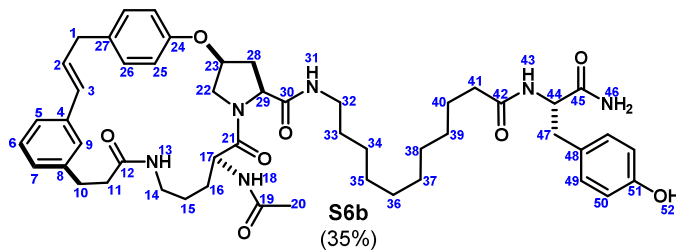


(600MHz, DMSO-*d*₆, 298K, ~9:1 mixture of rotamers, data is of major)

	¹³ C	¹ H	key correlations
1	32.7	3.34-3.44 (m, 1H)	HMBC 1→49,50,51
2	128.8	6.38 (dt, J = 15.9, 6.3 Hz, 1H)	COSY 2→1 HMBC 2→4,50
3	129.8	6.31 (d, J = 15.9 Hz, 1H)	HMBC 3→4,5,9
4	137.2	-	
5	125.7	7.15-7.21 (m, 1H)	
6	128.2	7.15-7.20 (m, 1H) overlap	HMBC 6→4,8
7	126.5	6.99-7.03 (m, 1H)	
8	141.4	-	
9	123.4	7.19 (br s, 1H) overlap	
10	31.0	2.77 (t, J = 7.7 Hz, 2H)	
11	37.0	2.34 (br t, J = 7.7 Hz, 2H)	
12	171.2	-	
13	-	7.79 (t, J = 4.8 Hz, 1H)	HMBC 13→12,14
14	38.0	2.95-3.31 (m, 2H) overlap	
15	24.9	1.39-1.46 (m, 2H)	HMBC 15→14,16
16	28.3	1.46-1.54 (m, 1H), 1.68-1.75 (m, 1H)	HMBC 16→14
17	49.8	4.53 (ddd, J = 7.9, 6.4, 6.4 Hz, 1H)	HMBC 17→16,15
18	-	8.14 (d, J = 7.9 Hz, 1H)	
19	169.1	-	
20	22.0	1.84 (s, 3H)	HMBC 20→19
21	171.0	-	
22	51.9	3.77 (br d, J = 11.1 Hz, 1H), 4.19 (dd, J = 11.1, 5.2 Hz, 1H)	
23	75.0	5.02-5.08 (m, 1H)	

24	156.7	-	
25	115.4	6.87 (d, J = 8.1 Hz, 2H)	
26	129.4	7.26 (dd, J = 8.1, 7.2 Hz, 1H)	HMBC 26→24
27	120.8	6.93 (t, J = 7.2 Hz, 1H)	
28	34.1	2.09 (br d, J = 13.3 Hz, 1H), 2.44 (ddd, J = 13.3, 9.4, 5.5 Hz, 1H)	HMBC 28→29,30
29	58.6	4.37-4.42 (m, 1H) overlap	HMBC 29→30
30	170.4	-	
31	-	7.40 (dd, J = 5.6, 5.6 Hz, 1H)	HMBC 31→30
32	38.5	2.92-3.01 (m, 1H) overlap, 3.06-3.15 (m, 1H) overlap	
33	28.9	1.30-1.37 (m, 2H)	HMBC 33→32
34	26.0	1.13-1.20 (m, 2H) overlap	HMBC 34→35
35	28.7	1.13-1.20 (m, 2H) overlap	HMBC 35→36
36	28.6	1.06-1.14 (m, 2H) overlap	
37	28.6	1.01-1.08 (m, 2H) overlap	
38	28.6	1.01-1.08 (m, 2H) overlap	
39	28.4	0.90-1.01 (m, 2H)	HMBC 39→38
40	25.0	1.23-1.30 (m, 2H)	HMBC 40→39
41	35.2	1.93→1.99 (m, 2H)	HMBC 41→40
42	171.9	-	
43	-	7.75 (d, J = 8.3 Hz, 1H)	COSY 43→44
44	53.7	4.34-4.40 (m, 1H) overlap	
45	173.5	-	
46	-	7.00 (br s, 1H) overlap, 7.36 (br s, 1H)	HMBC 46→45
47	36.8	2.62 (dd, J = 13.2, 10.7 Hz, 1H), 2.89 (dd, J = 13.2, 2.7 Hz, 1H)	HMBC 47→44,48,49,53
48	128.3	-	
49	130.6	6.97 (br s, 1H)	HMBC 49→1
50	125.2	-	
51	153.2	-	
52	114.4	6.69 (d, J = 8.1 Hz, 1H)	HMBC 52→48,50,51
53	127.6	6.88 (d, J = 8.1 Hz, 1H) overlap	
54	-	9.12 (br s, 1H)	

MS m/z 879.0 (calc'd: $C_{50}H_{67}N_6O_8$, $[M+H]^+$, 879.5).



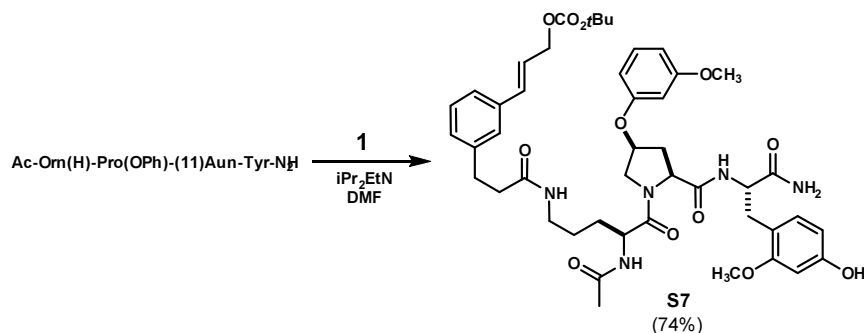
	^{13}C	1H	key correlation
1	37.5	3.39 (dd, J = 15.0, 5.7 Hz, 1H), 3.43 (dd, J = 15.0, 6.6 Hz, 1H)	HMBC 1→27
2	130.50	6.21 (ddd, J = 15.8, 6.6, 5.7 Hz, 1H)	COS 2→1 HMBC 2→27
3	129.40	6.27 (d, J = 15.8 Hz, 1H)	HMBC 3→5,9
4	136.9	-	
5	124.7	7.09-7.11 (m, 1H) overlap	
6	128.4	7.18 (dd, J = 7.8, 7.8 Hz, 1H)	TOCSY 6→5,7,9 HMBC 6→4,8

7	127.6	6.99 (d, J = 7.8 Hz, 1H)	
8	141.7	-	
9	124.0	7.10 (br s, 1H) overlap	
10	29.8	2.70-2.75 (m, 1H) overlap, 2.85-2.91 (m, 1H) overlap	HMBC 10→8,12
11	36.1	2.25-2.29 (m, 2H)	
12	171.3	-	
13	-	7.75 (t, J = 5.2 Hz, 1H)	COSY 13→14
14	37.9	2.66-2.76 (m, 2H) overlap	
15	25.0	1.23-1.30 (m, 1H) overlap, 1.32-1.39 (m, 1H) overlap	
16	28.7	1.41-1.52 (m, 2H) overlap	
17	49.4	4.27 (ddd, J = 8.9, 7.7, 5.2 Hz, 1H)	HMBC 17→19,21
18	-	8.08 (d, J = 7.7 Hz, 1H)	HMBC 18→19
19	169.3	-	
20	22.2	1.79 (s, 3H)	HMBC 20→19
21	171.2	-	
22	50.9	3.51 (d, J = 11.4 Hz, 1H), 3.89 (dd, J = 11.4, 4.3 Hz, 1H)	
23	75.7	5.11-5.15 (m, 1H)	TOCSY 23→22,28,29
24	154.6	-	
25	116.9	6.88 (d, J = 8.5 Hz, 2H)	HMBC 25→24,27
26	129.9	7.15 (d, J = 8.5 Hz, 2H)	HMBC 26→24
27	132.9	-	
28	35.3	2.23-2.28 (m, 1H) overlap, 2.45-2.51 (m, 1H)	
29	58.6	4.43 (dd, J = 9.8, 1.4 Hz, 1H)	HMBC 29→30
30	170.0	-	
31	-	7.38 (dd, J = 5.6, 5.6 Hz, 1H)	HMBC 31→30 COSY 31→32
32	38.5	2.98-3.05 (m, 1H), 3.13-3.19 (m, 1H)	HMBC 32→33,34
33	29.2	1.38-1.45 (m, 2H) overlap	
34	26.3	1.23-1.30 (m, 2H) overlap	
35	28.8	1.20-1.27 (m, 2H) overlap	
36	28.8	1.13-1.22 (m, 2H) overlap	
37	28.8	1.13-1.22 (m, 2H) overlap	
38	28.9	1.13-1.22 (m, 2H) overlap	
39	28.5	1.05-1.12 (m, 2H)	
40	25.2	1.32-1.39 (m, 2H)	HMBC 40→42
41	35.3	2.01 (t, J = 7.4 Hz, 2H)	HMBC 41→39,40,42
42	172.0	-	
43	-	7.81 (d, J = 8.5 Hz, 1H)	
44	53.9	4.35 (ddd, J = 9.7, 8.5, 4.8 Hz, 1H)	HMBC 44→42,45
45	173.6	-	
46	-	6.97 (br s, 1H), 7.34 (br s, 1H)	
47	36.9	2.62 (dd, J = 13.7, 9.7 Hz, 1H), 2.86 (dd, J = 13.7, 4.8 Hz, 1H) overlap	HMBC 47→48,49
48	128.4	-	
49	130.0	7.00 (d, J = 8.5 Hz, 2H)	
50	114.7	6.62 (d, J = 8.5 Hz, 2H)	COSY 50→49 HMBC 50→48
51	155.8	-	

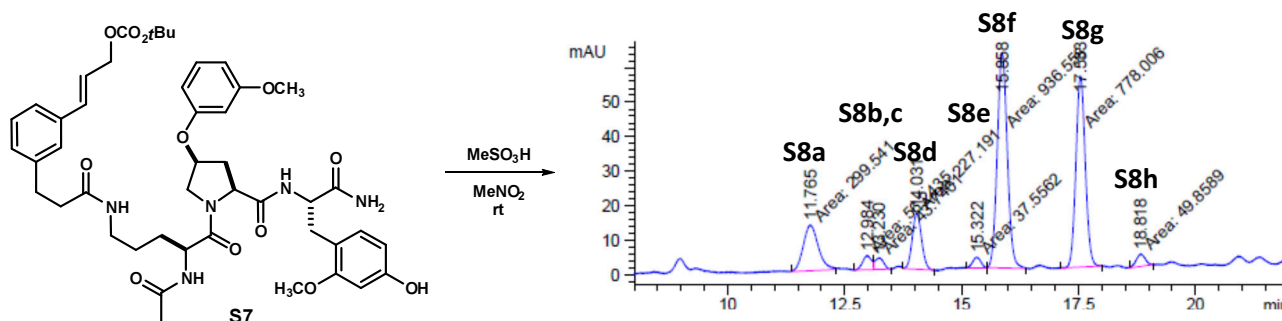
52	-	9.12 (br s, 1H)	
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MS m/z 879.0 (calc'd: $C_{50}H_{67}N_6O_8$, $[M+H]^+$, 879.5).

Macrocycles S8a–h:



Acyclic carbonate (S7): General procedure A afforded compound **S7** as a white foam (323 mg, 74%). 1H NMR (500 MHz, DMSO- d_6 , 323K, major rotamer): δ 1.39-1.54 (m, 3H), 1.44 (s, 9H), 1.55-1.66 (m, 1H), 1.84 (s, 3H), 1.97 (ddd, J = 13.4, 4.8, 4.8 Hz, 1H), 2.37 (t, J = 7.8 Hz, 2H), 2.48-2.54 (m, 1H), 2.74 (dd, J = 14.0, 8.2 Hz, 1H), 2.80 (t, J = 7.8 Hz, 2H), 2.93 (dd, J = 14.0, 6.0 Hz, 1H), 2.99-3.10 (m, 2H), 3.61 (dd, J = 10.9, 3.9 Hz, 1H), 3.71 (s, 6H), 4.21 (dd, J = 11.0, 5.6 Hz, 1H), 4.30 (ddd, J = 8.2, 7.9, 6.0 Hz, 1H), 4.34 (dd, J = 9.5, 5.1 Hz, 1H), 4.45 (ddd, J = 7.7, 7.7, 5.8 Hz, 1H), 4.67 (d, J = 6.3 Hz, 2H), 4.99-5.05 (m, 1H), 6.20 (dd, J = 8.2, 2.2 Hz, 1H), 6.31 (dt, J = 16.0, 6.3 Hz, 1H), 6.35 (d, J = 2.2 Hz, 1H), 6.46-6.49 (m, 1H), 6.49 (d, J = 1.0 Hz, 1H), 6.51-6.55 (m, 1H), 6.63 (d, J = 16.0 Hz, 1H), 6.84 (d, J = 8.2 Hz, 1H), 6.87 (br s, 2H), 7.08-7.11 (m, 1H), 7.16 (apt t, J = 8.4 Hz, 1H), 7.23 (dd, J = 7.5, 7.5 Hz, 1H), 7.24-7.30 (m, 2H), 7.28 (d, J = 7.9 Hz, 1H), 7.67 (dd, J = 5.2, 5.2 Hz, 1H), 8.08 (d, J = 7.5 Hz, 1H), 9.08 (s, 1H). ^{13}C NMR (126 MHz, DMSO- d_6 , 323K, major rotamer): δ 172.9, 171.4, 171.0, 169.9, 169.1, 160.4, 158.0, 157.9, 157.1, 152.6, 141.7, 135.7, 133.3, 130.5, 129.8, 128.4, 127.8, 126.2, 124.0, 123.2, 115.8, 107.6, 106.9, 106.5, 101.7, 98.9, 81.3, 74.9, 66.7, 58.9, 55.1, 54.9, 52.9, 51.7, 50.4, 38.0, 36.8, 33.7, 31.0, 30.8, 28.2, 27.3, 25.2, 22.0. MS m/z 874.0 (calc'd: $C_{46}H_{60}N_5O_{12}$, $[M+H]^+$, 874.4).



Compound **S7** was subjected to general procedure C. HPLC analysis and purification was performed using the following methods.

Analytical HPLC method:

Column: Waters Sunfire™ C₁₈, 4.6x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 1.00 ml/min

Time	%B
0	45
2	45
25	56.4
30	100
35	100
38	45
41	45

Semi-preparative HPLC method A:

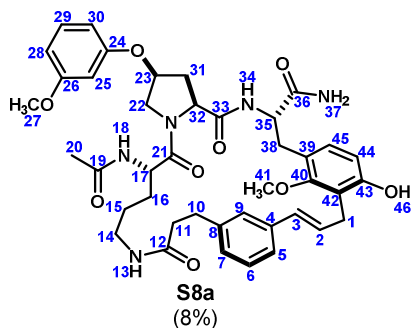
Column: Waters Sunfire™ C₁₈, 10x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 6.00 ml/min

Time	%B
0	37
1	37
16.2	39
17	37
20	37

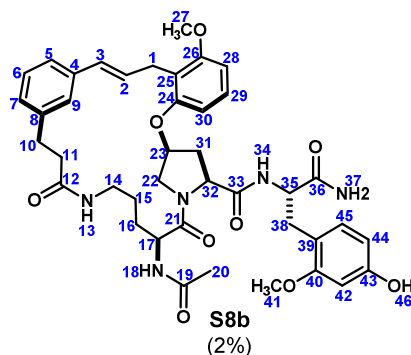


(600MHz, DMSO-*d*₆, 298K)

	¹³ C	¹ H	key correlation
1	27.0	3.44 (br d, J = 6.5 Hz, 2H)	HMBC 1→40,42,43
2	128.6	6.24 (dt, J = 15.8 Hz, 1H)	COSY 2→1 HMBC 2→4
3	129.3	6.41 (d, J = 15.8 Hz, 1H)	HMBC 3→4
4	137.0	-	
5	123.6	7.11 (br d, J = 7.7 Hz, 1H) overlap	HMBC 5→3
6	128.2	7.15 (dd, J = 7.7, 7.7 Hz, 1H) overlap	HMBC 6→4,8
7	127.0	6.98 (br d, J = 7.7 Hz, 1H)	
8	141.2	-	
9	124.7	7.14 (br s, 1H) overlap	HMBC 9→3
10	30.5	2.76 (dd, J = 7.2, 7.2 Hz, 2H)	HMBC 10→8,12
11	36.6	2.23-2.34 (m, 2H)	HMBC 11→8,12
12	171.1	-	
13	-	7.63 (dd, J = 5.5, 5.5 Hz, 1H)	
14	37.8	2.81-2.93 (m, 2H)	
15	24.8	1.24-1.37 (m, 2H) overlap	
16	28.3	1.30-1.37 (m, 1H) overlap, 1.45-1.53 (m, 1H)	COSY 16→17
17	49.7	4.48 (ddd, J = 8.1, 8.0, 5.3 Hz, 1H)	HMBC 17→19,21
18	-	8.14 (d, J = 8.0 Hz, 1H)	HMBC 18→19
19	169.0	-	
20	22.0	1.84 (s, 3H)	HMBC 20→19
21	171.4	-	
22	51.9	3.54 (dd, J = 11.1, 2.9 Hz, 1H), 4.20 (dd, J = 11.1, 5.9 Hz, 1H)	
23	74.8	5.01-5.05 (m, 1H)	
24	157.8	-	
25	101.3	6.36 (dd, J = 2.1, 2.1 Hz, 1H)	HMBC 25→24,26
26	160.3	-	
27	54.8	3.68 (s, 3H)	HMBC 27→26
28	106.5	6.50 (dd, J = 8.2, 2.1 Hz, 1H)	HMBC 28→26
29	129.7	7.12-7.15 (m, 1H) overlap	HMBC 29→24,26
30	107.1	6.38 (dd, J = 8.3, 2.1 Hz, 1H)	
31	32.9	2.21 (ddd, J = 13.5, 3.7, 3.0 Hz, 1H), 2.41 (ddd, J = 13.5, 9.3, 5.6 Hz, 1H)	
32	58.3	4.52 (dd, J = 9.3, 3.7 Hz, 1H)	HMBC 32→33
33	170.1	-	
34	-	7.65 (d, J = 7.7 Hz, 1H)	HMBC 34→33
35	53.4	4.28 (ddd, J = 7.9, 7.7, 5.7 Hz, 1H)	HMBC 35→33,36
36	172.9	-	

37	-	7.06 (br s, 1H), 7.19 (br s, 1H)	HMBC 37→36
38	31.0	2.76-2.80 (m, 1H) overlap, 2.90-2.95 (m, 1H) overlap	HMBC 38→39,40,45
39	120.5	-	
40	157.5	-	
41	60.9	3.63 (s, 3H)	HMBC 41→40
42	119.1	-	
43	154.8	-	
44	110.6	6.55 (d, J = 8.3 Hz, 1H)	HMBC 44→43
45	127.9	6.94 (d, J = 8.3 Hz, 1H)	HMBC 45→40,43
46	-	9.33 (br s, 1H)	

MS m/z 756.0 (calc'd: $C_{41}H_{50}N_5O_9$, $[M+H]^+$, 756.4).

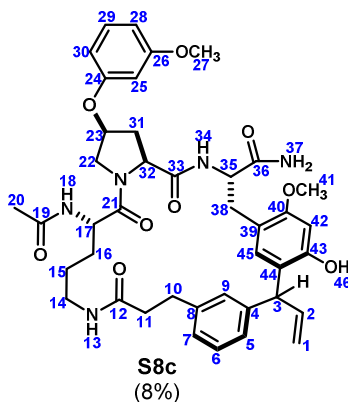


(600MHz, DMSO- d_6 , 298K) *Note: This compound was characterized within a 1:2 mixture of S8b:S8c.*

	^{13}C	1H	key correlation
1	25.8	3.41-3.51 (m, 2H) obscured	HMBC 1→2,3,24,25,26
2	128.1	6.26 (d, J = 16.0 Hz, 1H) overlap	HMBC 2→4
3	129.2	6.30-6.36 (m, 1H) overlap	HMBC 3→4
4	136.7	-	
5	123.7	7.05 (br d, J = 7.7 Hz, 1H)	HMBC 5→3,7,9
6	128.0	7.11 (dd, J = 7.7, 7.7 Hz, 1H) overlap	
7	127.1	6.95-6.98 (m, 1H) overlap	HMBC 7→5,9
8	140.9	-	
9	125.0	7.25 (br s, 1H)	HMBC 9→5,7
10	30.5	2.76-2.83 (m, 2H) overlap	
11	36.3	2.31-2.42 (m, 2H) overlap	
12	171.3	-	
13	-	7.72-7.76 (m, 1H) overlap	HMBC 13→12
14	37.8	2.84-2.95 (m, 2H) overlap	
15	24.6	1.23-1.36 (m, 2H) overlap	
16	28.2	1.28-1.35 (m, 1H) overlap, 1.54-1.61 (m, 1H)	
17	49.3	4.33-4.37 (m, 1H) overlap	HMBC 17→19,21
18	-	8.12 (d, J = 7.3 Hz, 1H)	HMBC 18→19
19	169.1	-	
20	21.9	1.81 (s, 3H)	HMBC 20→19
21	172.6	-	
22	51.7	3.41-3.46 (m, 1H), 4.43 (dd, J = 10.3, 6.9 Hz, 1H)	
23	74.0	5.02-5.06 (m, 1H) overlap	HMBC 23→24 TOCSY 23→22,31,32
24	155.7	-	

25	115.9	-	
26	157.5	-	
27	55.6	3.78 (s, 3H)	HMBC 27→26
28	104.3	6.67 (d, J = 8.4 Hz, 1H)	HMBC 28→25,26
29	127.4	7.18 (dd, J = 8.4, 8.4 Hz, 1H) overlap	HMBC 29→24,26
30	105.5	6.75 (d, J = 8.4 Hz, 1H)	HMBC 30→24,25
31	34.1	1.94-2.02 (m, 1H), 2.52-2.60 (m, 1H) overlap	
32	58.2	4.28 (dd, J = 7.9, 7.9 Hz, 1H) overlap	
33	170.0	-	
34	-	7.72-7.75 (m, 1H) overlap	HMBC 34→33
35	52.5	4.23 (ddd, J = 9.0, 8.3, 5.4 Hz, 1H)	HMBC 35→33,36
36	172.8	-	
37	-	6.89 (br s, 1H) overlap, 6.96 (br s, 1H) overlap	TOCSY 37→37'
38	30.5	2.70 (dd, J = 13.8, 9.0 Hz, 1H), 2.94 (dd, J = 13.8, 5.4 Hz, 1H)	HMBC 38→39
39	115.8	-	
40	157.9	-	
41	54.8	3.69 (s, 3H)	HMBC 41→40
42	98.5	6.32 (br s, 1H) overlap	HMBC 42→40,43
43	156.9	-	
44	106.0	6.13-6.16 (m, 1H) overlap	TOCSY 44→42,45 HMBC 44→42
45	130.7	6.85-6.88 (m, 1H) overlap	HMBC 45→40,43
46	-	9.22 (br s, 1H)	

MS m/z 756.0 (calc'd: $C_{41}H_{50}N_5O_9$, $[M+H]^+$, 756.4).

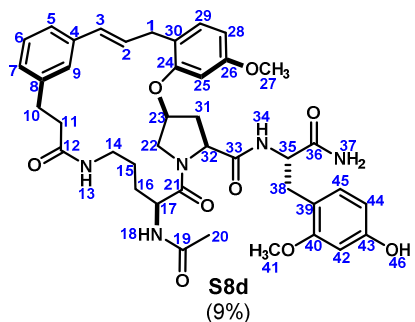


(600MHz, DMSO- d_6 , 298K) *Note: This compound was characterized within a 1:2 mixture of S8b:S8c.*

	^{13}C	1H	key correlation
1	114.4	4.79 (d, J = 17.0 Hz, 1H), 5.02 (d, J = 10.2 Hz, 1H)	HMBC 1→2
2	140.8	6.12 (ddd, J = 17.0, 10.2, 6.8 Hz, 1H)	HMBC 2→4,44
3	46.1	4.90 (d, J = 6.8 Hz, 1H)	HMBC 3→2,4,44,45
4	142.7	-	
5	126.7	6.99 (br d, J = 7.6 Hz, 1H)	HMBC 5→3,7,9
6	128.0	7.15 (dd, J = 7.6, 7.6 Hz, 1H)	HMBC 6→4,8
7	125.9	7.00 (br d, J = 7.6 Hz, 1H)	HMBC 7→5,9
8	141.0	-	
9	128.2	7.12 (br s, 1H)	HMBC 9→3,5,7
10	31.8	2.73-2.78 (m, 2H) overlap	HMBC 10→8,12
11	38.4	2.30-2.43 (m, 2H)	HMBC 11→8,12

12	171.2	-	
13	-	7.56 (dd, J = 5.5, 5.5 Hz, 1H)	HMBC 13→12 COSY 13→14
14	37.7	2.85-2.91 (m, 1H), 3.14-3.20 (m, 1H)	COSY 14→15
15	24.7	1.35-1.42 (m, 2H) overlap	COSY 15→16
16	29.0	1.36-1.41 (m, 1H) overlap, 1.66-1.73 (m, 1H)	
17	50.1	4.37-4.42 (m, 1H) overlap	HMBC 17→19,21
18	-	8.17 (d, J = 7.0 Hz, 1H)	
19	169.2	-	
20	21.9	1.81 (s, 3H)	HMBC 20→19
21	172.3	-	
22	52.5	3.76 (br d, J = 11.6 Hz, 1H), 4.13 (dd, J = 11.6, 4.7 Hz, 1H)	HMBC 22→21
23	75.4	5.07-5.10 (m, 1H)	
24	157.4	-	
25	100.9	6.40-6.41 (m, 1H) overlap	HMBC 25→24,26
26	160.2	-	
27	54.7	3.53 (s, 3H)	HMBC 27→26
28	106.5	6.40-6.43 (m, 1H) overlap	HMBC 28→26
29	129.9	6.84 (dd, J = 8.1, 8.1 Hz, 1H)	HMBC 29→24,26
30	107.7	6.25 (dd, J = 8.1, 1.6 Hz, 1H)	HMBC 30→24
31	33.4	2.22 (br d, J = 13.6 Hz, 1H), 2.47 (ddd, J = 13.6, 10.1, 4.9 Hz, 1H)	HMBC 31→33
32	59.2	4.37-4.41 (m, 1H) overlap	HMBC 32→33
33	169.3	-	
34	-	6.88 (d, J = 7.9 Hz, 1H)	
35	52.6	4.36 (ddd, J = 7.9, 7.9 Hz, 5.1 Hz, 1H) overlap	HMBC 35→33,36
36	172.7	-	
37	-	7.31 (br s, 1H), 7.51 (br s, 1H)	HMBC 37→36
38	31.8	2.62 (dd, J = 13.2, 8.2 Hz, 1H), 2.83 (dd, J = 13.2, 4.7 Hz, 1H)	HMBC 38→39,40
39	113.8	-	
40	156.1	-	
41	55.0	3.63 (s, 3H)	HMBC 41→40
42	98.3	6.33 (s, 1H)	HMBC 42→39,40,43,44
43	153.9	-	
44	119.7	-	
45	130.8	6.63 (s, 1H)	HMBC 45→40,43
46	-	9.20 (br s, 1H)	

MS *m/z* 756.0 (calc'd: C₄₁H₅₀N₅O₉, [M+H]⁺, 756.4).

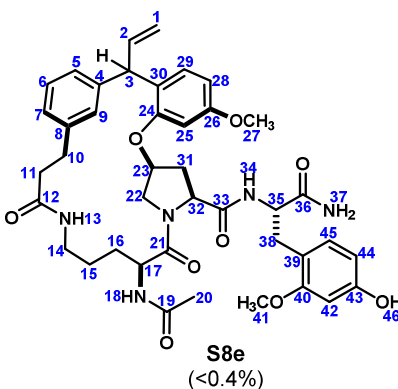


(600MHz, DMSO-*d*₆, 298K)

	¹³ C	¹ H	key correlation
1	33.5	3.14 (dd, J = 14.5, 7.0 Hz, 1H), 3.63 (dd, J = 14.5, 6.0 Hz, 1H)	HMBC 1→24,29,30
2	129.0	6.42 (ddd, J = 15.8, 7.0, 6.0 Hz, 1H)	HMBC 2→4,30
3	128.9	6.30 (br d, J = 15.8 Hz, 1H)	HMBC 3→4
4	136.8	-	
5	123.9	7.03 (br d, J = 7.7 Hz, 1H)	HMBC 5→3
6	128.0	7.12 (dd, J = 7.7, 7.7 Hz, 1H)	HMBC 6→4,8
7	127.1	6.98 (br d, J = 7.7 Hz, 1H)	
8	141.0	-	
9	124.7	7.32 (br s, 1H)	HMBC 9→3,5,7 TOCSY 9→5,6,7
10	30.4	2.74-2.85 (m, 2H)	
11	36.3	2.32-2.43 (m, 2H)	
12	171.4	-	
13	-	7.78 (dd, J = 5.3, 5.3 Hz, 1H)	HMBC 13→14
14	37.7	2.85-2.96 (m, 2H)	
15	24.5	1.23-1.33 (m, 2H) overlap	
16	28.1	1.28-1.37 (m, 1H) overlap, 1.57-1.64 (m, 1H)	
17	49.2	4.41 (dd, J = 13.9, 7.1 Hz, 1H)	
18	-	8.13 (d, J = 7.1 Hz, 1H)	HMBC 18→19
19	169.0	-	
20	21.8	1.81 (s, 3H)	HMBc 20→19
21	171.5	-	
22	51.3	3.44 (dd, J = 10.0, 6.7 Hz, 1H), 4.52 (dd, J = 10.0, 6.6 Hz, 1H)	
23	73.5	5.04-5.09 (m, 1H)	HMBC 23→24
24	155.6	-	
25	99.5	6.69 (d, J = 2.2 Hz, 1H)	HMBC 25→24,26,30
26	159.1	-	
27	54.9	3.76 (s, 3H)	HMBC 27→26
28	105.6	6.49 (dd, J = 8.3, 2.2 Hz, 1H)	HMBC 28→30
29	130.6	7.10 (d, J = 8.3 Hz, 1H) overlap	HMBC 29→1
30	120.5	-	
31	34.1	2.57 (ddd, J = 12.7, 7.6, 6.7 Hz, 1H), 1.98 (ddd, J = 12.7, 7.8, 7.6 Hz, 1H)	HMBC 31→32,33
32	58.3	4.25-4.39 (m, 1H) overlap	HMBC 32→33
33	170.1	-	
34	-	7.73 (d, J = 8.1 Hz, 1H)	
35	52.3	4.26-4.31 (m, 1H) overlap	HMBC 35→33,36,39
36	172.8	-	

37	-	6.86 (br s, 1H), 6.96 (br s, 1H)	
38	30.4	2.70 (dd, J = 13.8, 9.3 Hz, 1H), 2.97 (dd, J = 13.8, 5.5 Hz, 1H)	HMBC 38→39
39	115.8	-	
40	157.9	-	
41	54.8	3.70 (s, 3H)	HMBC 41→40
42	98.5	6.33 (d, J = 1.8 Hz, 1H)	HMBC 42→40,43
43	157.0	-	
44	106.0	6.17 (dd, J = 8.1, 1.8 Hz, 1H)	
45	130.7	6.93 (d, J = 8.1 Hz, 1H)	HMBC 45→40,43
46	-	9.21 (br s, 1H)	

MS m/z 756.0 (calc'd: $C_{41}H_{50}N_5O_9$, $[M+H]^+$, 756.4).

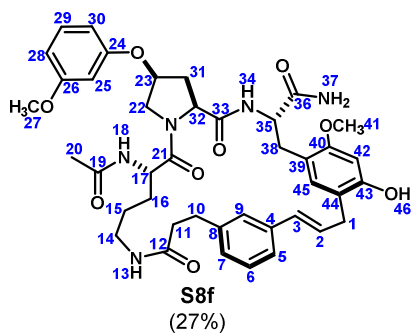


(600MHz, DMSO- d_6 , 298K)

	^{13}C	1H	key correlation
1	115.5	5.03 (d, J = 17.1 Hz, 1H), 5.13 (d, J = 10.0 Hz, 1H)	TOCSY 1→1',2,3
2	139.8	6.44 (dd, J = 17.1, 10.0, 8.3 Hz, 1H)	
3	51.0	4.62 (d, J = 8.3 Hz, 1H)	HMBC 3→4,24,30
4	143.0	-	
5	124.5	6.74 (br d, J = 7.8 Hz, 1H)	HMBC 5→3,7
6	127.4	7.06 (dd, J = 7.8, 7.8 Hz, 1H) overlap	
7	125.3	6.94 (br d, J = 7.8 Hz, 1H)	HMBC 7→5
8	140.8	-	
9	128.1	7.16 (br s, 1H) overlap	HMBC 9→3,5,7
10	30.8	2.68-2.79 (m, 1H) overlap, 2.80-2.91 (m, 1H) overlap	HMBC 10→11,12
11	36.8	2.33-2.44 (m, 2H) overlap	HMBC 11→10,12
12	171.6	-	
13	-	7.76-7.79 (m, 1H)	TOCSY 13→14,15
14	37.4	2.80-2.89 (m, 1H) overlap, 3.15-3.22 (m, 1H)	
15	23.2	1.37-1.49 (m, 2H) overlap	
16	26.7	1.36-1.44 (m, 1H) overlap, 1.61-1.69 (m, 1H)	
17	49.7	4.48-4.53 (m, 1H)	HMBC 17→21 TOCSY 17→15,16,18
18	-	7.98 (d, J = 7.5 Hz, 1H)	
19	168.8	-	
20	22.0	1.82 (s, 3H)	HMBC 20→19
21	170.4	-	
22	50.5	2.96-3.01 (m, 1H), 4.05-4.09 (m, 1H)	COSY 22→23 TOCSY 22→23,31,32 NOESY 22→17
23	72.8	4.93-4.99 (m, 1H)	NOESY 23→25

24	155.1	-	
25	100.2	6.62 (d, J = 2.3 Hz, 1H)	HMBC 25→24,26,28,30
26	159.1	-	
27	55.0	3.74 (s, 3H)	HMBC 27→26 NOESY 27→25
28	105.0	6.53 (dd, J = 8.3, 2.3 Hz, 1H)	HMBC 28→30
29	127.4	7.23 (d, J = 8.3 Hz, 1H)	NOESY 29→3 HMBC 29→3,24,26
30	123.9	-	
31	33.5	1.35-1.44 (m, 1H) overlap, 2.51-2.58 (m, 1H) overlap	
32	57.9	4.22 (dd, J = 9.5, 7.8 Hz, 1H)	
33	170.3	-	
34	-	7.95 (d, J = 7.5 Hz, 1H)	TOCSY 34→35,38
35	53.0	4.14-4.19 (m, 1H)	HMBC 35→26 NOESY 35→37,37'
36	172.7	-	
37	-	6.91 (br s, 1H) overlap, 6.97 (br s, 1H) overlap	
38	29.7	2.69-2.76 (m, 1H) overlap, 2.83-2.90 (m, 1H) overlap	HMBC 38→35,39
39	115.7	-	
40	157.8	-	
41	54.8	2.68 (s, 3H)	HMBC 41→40
42	98.4	6.32 (d, J = 2.3 Hz, 1H)	
43	156.9	-	
44	106.2	6.12 (dd, J = 8.1, 2.3 Hz, 1H)	HMBC 44→42
45	130.6	6.77 (d, J = 8.1 Hz, 1H)	TOCSY 45→42,44
46	-	9.17 (br s, 1H) overlap	

MS m/z 756.0 (calc'd: $C_{41}H_{50}N_5O_9$, $[M+H]^+$, 756.4).

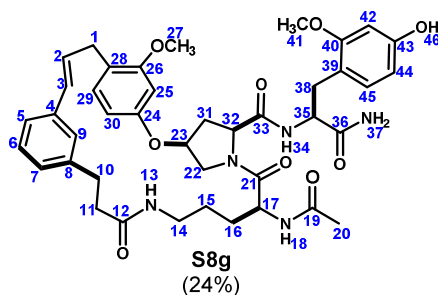


(600MHz, DMSO- d_6 , 298K)

	^{13}C	1H	key correlation
1	30.8	3.21 (dd, J = 16.5, 7.4 Hz, 1H), 3.28 (dd, J = 16.5, 6.4 Hz, 1H)	HMBC 1→2,3,43,44,45
2	128.9	6.33 (ddd, J = 15.6, 7.4, 6.4 Hz, 1H)	COSY 2→1,3 HMBC 2→4
3	130.8	6.45 (d, J = 15.6 Hz, 1H) overlap	
4	137.3	-	
5	124.7	7.09 (br d, J = 7.6 Hz, 1H) overlap	HMBC 5→3
6	128.1	7.18 (dd, J = 7.6 Hz, 1H)	HMBC 6→4,8 TOCSY 6→5,7,9
7	127.4	7.03 (br d, J = 7.6 Hz, 1H)	
8	141.5	-	
9	124.8	7.47 (br s, 1H)	HMBC 9→3,5,7
10	30.9	2.79-2.84 (m, 2H) overlap	HMBC 10→8,12
11	37.2	2.44 (br t, J = 7.5 Hz, 2H)	HMBC 11→8,12
12	171.4	-	

13	-	7.63 (dd, J = 5.4, 5.4 Hz, 1H)	HMBC 13→12 COSY 13→14
14	37.7	2.90-2.97 (m, 1H), 3.09-3.15 (m, 1H)	
15	24.8	1.34-1.44 (m, 2H) overlap	
16	28.3	1.37-1.44 (m, 1H) overlap, 1.61-1.68 (m, 1H)	
17	49.9	4.43-4.49 (m, 1H)	HMBC 17→21
18	-	8.11 (d, J = 7.4 Hz, 1H)	
19	169.3	-	
20	22.2	1.83 (s, 3H)	HMBC 20→19
21	171.9	-	
22	52.1	3.69-3.73 (m, 1H) overlap, 4.26 (dd, J = 11.0, 5.4 Hz, 1H)	HMBC 22→21
23	74.9	5.03-5.07 (m, 1H)	
24	158.0	-	
25	101.5	6.46 (s, 1H) overlap	HMBC 25→28,30
26	160.5	-	
27	54.9	3.57 (s, 3H)	HMBC 27→26
28	107.2	6.50 (dd, J = 8.3, 1.9 Hz, 1H)	HMBC 28→26
29	130.1	7.11 (dd, J = 8.3, 8.3 Hz, 1H)	HMBC 29→24,26
30	107.2	6.48 (dd, J = 8.3, 1.9 Hz, 1H)	
31	34.1	1.96-2.01 (m, 1H), 2.44-2.49 (m, 1H) overlap	
32	59.1	4.30 (dd, J = 9.0, 5.4 Hz, 1H)	HMBC 32→33
33	170.1	-	
34	-	7.31 (br s, 1H)	TOCSY 34→35,38
35	52.6	4.30-4.35 (m, 1H) overlap	HMBC 35→36
36	173.2	-	
37	-	7.07 (br s, 1H) overlap	HMBC 37→36
38	31.9	2.73 (dd, J = 13.1, 7.2 Hz, 1H), 2.80-2.85 (m, 1H) overlap	HMBC 38→39
39	130.5	-	
40	156.2	-	
41	55.3	3.71 (s, 3H)	HMBC 41→40
42	98.7	6.43 (s, 1H)	HMBC 42→40,43
43	154.2	-	
44	117.3	-	
45	130.6	6.73 (s, 1H)	HMBC 45→1,38,40,43
46	-	9.25 (br s, 1H)	

MS m/z 756.0 (calc'd: $C_{41}H_{50}N_5O_9$, $[M+H]^+$, 756.4).

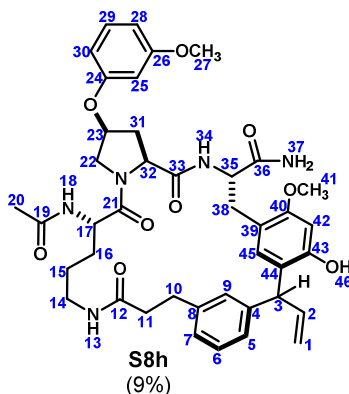


(600MHz, DMSO- d_6 , 298K)

	^{13}C	1H	key correlation
1	31.9	3.28 (dd, J = 14.9, 6.7 Hz, 1H), 3.48 (dd, J = 14.9, 5.2 Hz, 1H)	HMBC 1→26,28

2	129.4	6.18 (ddd, J = 15.8, 6.7, 5.2 Hz, 1H)	HMBC 2→4,28
3	128.7	6.25 (d, J = 15.8 Hz, 1H)	HMBC 3→4 TOCSY 3→2,1
4	136.8	-	
5	127.1	6.97 (br d, J = 7.7 Hz, 1H)	HMBC 5→4,3,9,7
6	128.1	7.16 (dd, J = 7.7, 7.7 Hz, 1H)	HMBC 6→4,8 TOCSY 6→5,7,9
7	124.3	7.07 (br d, J = 7.7 Hz, 1H) overlap	
8	141.5	-	
9	123.5	7.08 (br s, 1H) overlap	
10	29.7	2.69-2.75 (m, 1H) overlap, 2.86-2.92 (m, 1H)	HMBC 10→8,12
11	35.9	2.23-2.29 (m, 2H)	HMBC 11→8,12
12	171.1	-	
13	-	7.74 (t, 5.0 Hz, 1H)	HMBC 13→12
14	37.8	2.67-2.76 (m, 2H) overlap	
15	24.8	1.22-1.35 (m, 2H)	
16	28.2	1.36-1.50 (m, 2H)	
17	49.5	4.24 (ddd, J = 8.9, 7.6, 5.9 Hz, 1H)	HMBC 17→19,21
18	-	8.11 (d, J = 7.6 Hz, 1H)	
19	169.0	-	
20	21.9	1.78 (s, 3H)	HMBC 20→19
21	171.6	-	
22	50.9	3.59 (d, J = 11.4 Hz, 1H), 3.79 (dd, J = 11.4, 3.2 Hz, 1H) overlap	
23	75.8	5.18-5.22 (m, 1H)	
24	155.7	-	
25	101.4	6.68 (d, J = 1.8 Hz, 1H)	HMBC 25→24,26,28,30
26	157.6	-	
27	55.3	3.77 (s, 3H)	HMBC 27→26
28	121.0	-	
29	130.4	7.07 (d, J = 8.2 Hz, 1H) overlap	HMBC 29→24,26
30	107.4	6.59 (dd, J = 8.2, 1.8 Hz, 1H)	HMBC 30→28
31	34.2	2.19 (br d, J = 14.0 Hz, 1H)	
32	59.2	2.48-2.54 (m, 1H) overlap	HMBC 32→33
33	169.5	-	
34	-	7.27 (d, J = 8.0 Hz, 1H)	HMBC 34→33
35	52.3	4.40 (ddd, J = 8.0, 7.4, 6.4 Hz, 1H)	HMBC 35→33,36
36	172.8	-	
37	-	7.08 (br s, 2H) overlap	HMBC 37→36
38	31.6	2.77 (dd, J = 13.8, 7.4 Hz, 1H), 2.95 (dd, J = 13.8, 6.4 Hz, 1H)	HMBC 38→39
39	115.4	-	
40	158.0	-	
41	54.8	3.68 (s, 3H)	HMBC 41→40
42	98.5	6.33 (d, J = 2.0 Hz, 1H)	HMBC 42→39,40,43
43	157.0	-	
44	106.2	6.21 (dd, J = 8.1, 2.0 Hz, 1H)	HMBC 44→39
45	130.6	6.91 (d, J = 8.1 Hz, 1H)	
46	-	9.20 (br s, 1H)	

MS m/z 756.0 (calc'd: $C_{41}H_{50}N_5O_9$, $[M+H]^+$, 756.4).



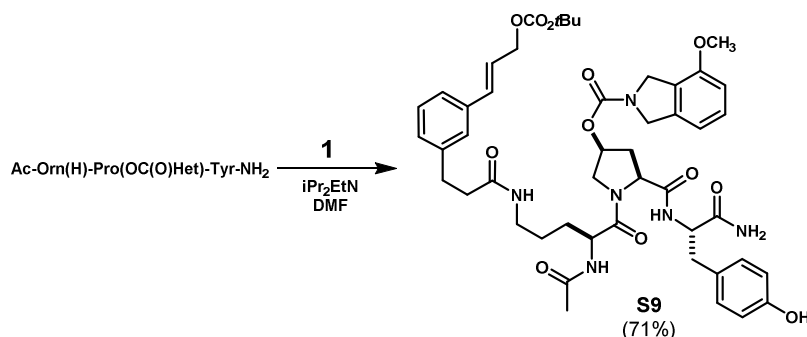
(600MHz, DMSO-*d*₆, 298K)

	¹³ C	¹ H	key correlation
1	114.2	4.73 (br d, J = 17.0 Hz, 1H), 4.98 (br d, J = 10.1 Hz, 1H)	TOCSY 1→1',2,3 HMBC 2→44
2	141.4	6.10 (ddd, J = 17.0, 10.1, 6.6 Hz, 1H)	HMBC 2→4
3	45.5	4.92 (br d, J = 6.6 Hz, 1H)	HMBC 3→43,44,45
4	142.6	-	
5	126.5	7.05 (br d, J = 7.5 Hz, 1H) overlap	HMBC 5→3
6	127.6	7.15 (dd, J = 7.5, 7.5 Hz, 1H) overlap	HMBC 6→8,12
7	125.7	6.99 (br d, J = 7.5 Hz, 1H)	HMBC 7→5,10
8	141.1	-	
9	127.0	7.04 (br s, 1H) overlap	HMBC 9→3
10	31.3	2.71 (ddd, J = 13.3, 11.1, 5.9 Hz, 1H), 2.81 (ddd, J = 13.3, 11.4, 5.3 Hz, 1H)	HMBC 10→8,12
11	37.8	2.32 (ddd, J = 13.8, 11.4, 5.9 Hz, 1H), 2.43 (ddd, J = 13.8, 11.1, 5.3 Hz, 1H)	HMBC 11→8,12
12	171.4	-	
13	-	7.75-7.78 (m, 1H)	COSY 13→14
14	38.2	2.85-2.91 (m, 1H), 3.21-3.29 (m, 1H)	COSY 14→15
15	24.4	1.38-1.47 (m, 2H) overlap	
16	28.9	1.41-1.49 (m, 1H) overlap, 1.71-1.78 (m, 1H)	
17	50.0	4.42-4.47 (m, 1H)	HMBC 17→19,21
18	-	8.19 (d, J = 7.0 Hz, 1H)	
19	169.1	-	
20	21.8	1.82 (s, 3H)	HMBC 20→19
21	171.9	-	
22	52.5	3.88 (br d, J = 11.5 Hz, 1H), 4.21 (dd, J = 11.5, 4.8 Hz, 1H)	HMBC 22→21
23	75.5	5.12-5.16 (m, 1H)	COSY 23→22,31
24	157.6	-	
25	101.4	6.53 (s, 1H) overlap	HMBC 25→24,26
26	160.3	-	
27	54.7	3.63 (s, 3H)	HMBC 27→26
28	106.9	6.51-6.54 (m, 1H) overlap	HMBC 28→26
29	129.9	7.12-7.16 (m, 1H) overlap	HMBC 29→24,26
30	107.1	6.53-6.56 (m, 1H) overlap	
31	33.8	2.18 (br d, J = 13.7 Hz, 1H), 2.46-2.52 (m, 1H)	
32	59.1	4.41 (dd, J = 9.9, 2.9 Hz, 1H)	HMBC 32→33
33	169.6	-	
34	-	6.99 (br d, J = 7.4 Hz, 1H) overlap	

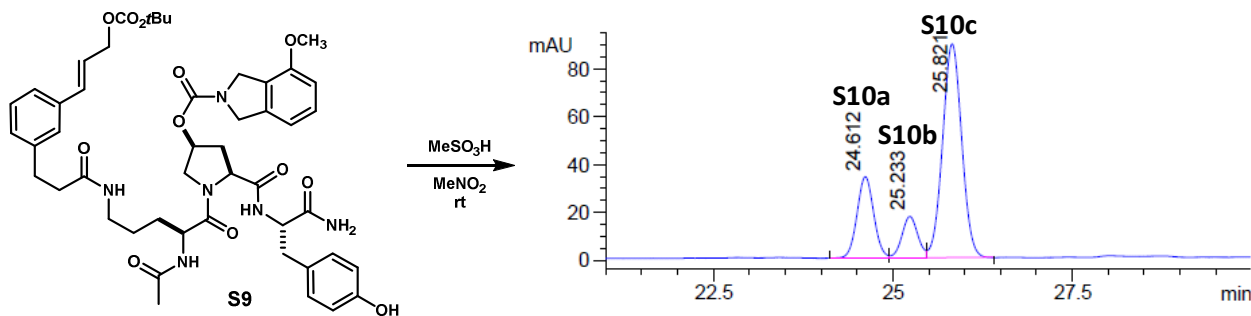
35	51.7	4.53-4.59 (m, 1H)	HMBC 35→33 TOCSY 35→34,38
36	127.5	-	
37	-	6.73 (br s, 1H), 7.27 (br s, 1H)	HMBC 37→36
38	34.1	2.50-2.56 (m, 1H), 3.01 (dd, J = 13.0, 6.8 Hz, 1H)	HMBC 38→39
39	114.6	-	
40	156.2	-	
41	54.9	3.71 (s, 3H)	HMBC 41→40
42	98.3	6.39 (s, 1H)	HMBC 42→3,39,40,43,44
43	153.9	-	
44	119.5	-	
45	131.2	6.81 (s, 1H)	HMBC 45→3,40,43
46	-	9.27 (br s, 1H)	

MS m/z 756.0 (calc'd: $C_{41}H_{50}N_5O_9$, $[M+H]^+$, 756.4).

Macrocycles S10a-c:



Acyclic carbonate (S9): General procedure A afforded compound **S9** as a colorless film (221 mg, 71%). ¹H NMR (600 MHz, DMSO-*d*₆, major rotamer): δ 1.37-1.48 (m, 2H), 1.42 (s, 9H), 1.48-1.65 (m, 2H), 1.84 (s, 3H), 2.07-2.14 (m, 1H), 2.30-2.44 (m, 2H), 2.71-2.83 (m, 2H), 2.93-3.08 (m, 3H), 3.57-3.66 (m, 1H), 3.69 (s, 1.5H), 3.79 (s, 1.5H), 3.99-4.17 (m, 2H), 4.26-4.32 (m, 1H), 4.38-4.54 (m, 5H), 4.59 (br s, 1H), 4.62-4.70 (m, 3H), 5.13-5.19 (m, 1H), 6.27-6.38 (m, 1H), 6.57-6.63 (m, 2H), 6.80-6.92 (m, 2H), 6.93-7.03 (m, 3H), 7.04-7.08 (m, 1H), 7.09-7.15 (m, 1H), 7.16-7.33 (m, 6H), 7.76-7.80 (m, 1H), 8.15-8.20 (m, 1H), 9.12 (br s, 1H). ¹³C NMR (151 MHz, DMSO-*d*₆, mixture of rotamers): δ 173.6, 173.3, 173.1, 171.8, 171.70, 171.67, 171.64, 171.57, 171.4, 171.03, 170.98, 170.5, 170.4, 169.72, 169.69, 158.8, 158.6, 156.23, 156.21, 156.1, 156.0, 154.9, 154.82, 154.78, 154.7, 153.9, 153.8, 153.6, 153.3, 142.3, 142.2, 139.0, 138.4, 138.3, 136.33, 136.27, 133.9, 130.54, 130.50, 130.4, 129.73, 129.67, 129.1, 129.03, 128.96, 128.9, 128.5, 128.4, 128.2, 128.1, 126.9, 126.4, 125.1, 124.8, 124.7, 124.6, 124.3, 124.2, 123.8, 123.7, 115.3, 115.2, 115.0, 109.5, 109.4, 82.0, 73.54, 73.52, 72.4, 72.2, 69.4, 67.4, 62.0, 59.54, 59.45, 58.9, 58.8, 56.9, 56.7, 55.74, 55.69, 55.55, 55.53, 54.7, 54.6, 52.92, 52.85, 52.8, 52.64, 52.56, 52.4, 51.9, 51.70, 51.67, 50.58, 50.55, 50.4, 50.2, 50.1, 49.8, 49.1, 38.6, 38.5, 37.45, 37.43, 37.2, 37.0, 36.1, 34.6, 34.5, 31.54, 31.49, 28.99, 28.96, 28.9, 28.5, 28.4, 27.8, 26.02, 25.97, 25.75, 25.72, 22.69, 22.67. MS m/z 913.2 (calc'd: $C_{48}H_{61}N_6O_{12}$, $[M+H]^+$, 913.4).



Compound **S9** was subjected to general procedure C. HPLC analysis and purification was performed using the following methods. The product mixture was first purified by semi-preparative HPLC method A to isolate minor product **S10b**, which was re-purified by the same method. Subsequently, co-eluting products **S10a** and **S10c** were resolved using method B.

Analytical HPLC method:

Column: Waters Sunfire™ C₁₈, 4.6x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 1.00 ml/min

Time	%B
0	30
2	30
37	43
42	100
52	100
54	30
57	30

Semi-preparative HPLC method B:

Column: Waters XBridge™ phenyl, 10x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 7.50 ml/min

Time	%B
0	30
2	30
18	40.3
20	30
23	30

Semi-preparative HPLC method A:

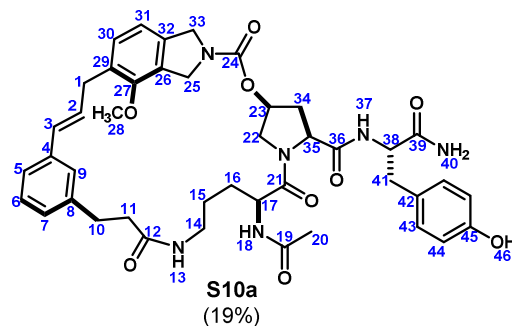
Column: Waters XBridge™ C₁₈, 10x250mm, 5μm.

Solvent A: H₂O + 0.1%v TFA

Solvent B: ACN + 0.1%v TFA

Flow rate: 7.50 ml/min

Time	%B
0	27
2	27
36.5	37
39	27
42	27

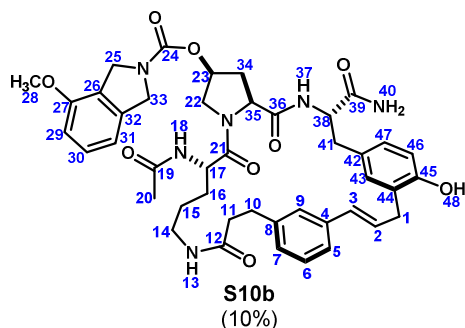


(600MHz, DMSO-*d*₆, 298K, ~3:1 mixture of conformers, data is of major)

	¹³ C	¹ H	key correlations
1	33.6	3.70 (dd, J = 14.4, 5.1Hz, 1H) overlap, 3.19 (dd, J = 14.4, 6.2Hz, 1H)	HMBC 1→27,29
2	129.2	6.23 (ddd, J = 15.9, 6.2, 5.1Hz, 1H)	HMBC 2→4

3	129.0	6.18 (br d, J = 15.9Hz, 1H)	HMBC 3→5,9
4	136.9	-	
5	123.5	7.11 (d, J = 7.5Hz, 1H) overlap	HMBC 5→3,7
6	128.1	7.15 (dd, J = 7.5, 7.5Hz, 1H)	HMBC 6→4,8
7	127.0	6.97 (d, J = 7.5Hz, 1H)	
8	141.7	-	
9	124.4	7.02 (br s, 1H) overlap	HMBC 9→3,7
10	29.9	2.71 (ddd, J = 13.9, 6.8, 6.8Hz, 1H), 2.70 - 2.82 (m, 1H) overlap	HMBC 10→8,12
11	36.3	2.23 - 2.29 (m, 2H) overlap	HMBC 11→8 COSY 11→10
12	171.1	-	
13	-	7.68 - 7.71 (m, 1H) overlap	HMBC 13→12 COSY 13→14
14	38.3	2.99 - 3.06 (m, 1H), 2.82 - 2.89 (m, 1H) overlap	HMBC 14→12
15	24.4	1.49 - 1.57 (m, 1H), 1.37 - 1.47 (m, 1H) overlap	
16	29.2	1.60 - 1.68 (m, 1H), 1.41 - 1.49 (m, 1H) overlap	
17	50.0	4.36 (ddd, J = 14.1, 7.6, 6.2Hz, 1H)	HMBC 17→19,21
18	-	8.09 (d, J = 7.6Hz, 1H)	
19	168.9	-	
20	21.9	1.79 (s, 3H)	HMBC 20→19
21	170.5	-	
22	53.8	3.85 (dd, J = 12.0, 4.3Hz, 1H), 3.67 (br d, J = 12.0Hz, 1H) overlap	
23	72.8	5.36 (apt dd, J = 4.2, 4.2Hz, 1H)	COSY 23→22 TOCSY 23→22,34,35
24	153.3	-	
25	50.2	4.97 (dd, J = 15.5, 1.3Hz, 1H), 4.52 (br d, J = 15.5Hz, 1H)	HMBC 25→26,32
26	127.0	-	
27	152.9	-	
28	59.1	3.83 (s, 3H)	HMBC 28→27
29	130.0	-	
30	129.8	7.12 (d, J = 7.7Hz, 1H) overlap	HMBC 30→27,32 COSY 30→31
31	116.9	6.95 (d, J = 7.7Hz, 1H)	HMBC 31→26,29
32	137.3	-	
33	51.0	4.68 (dd, J = 15.4, 1.3Hz, 1H), 4.48 (br d, J = 15.4Hz, 1H)	HMBC 33→32,26
34	34.5	2.46 (ddd, J = 14.4, 10.3, 5.0Hz, 1H), 2.18 (br d, J = 14.4Hz, 1H)	
35	58.1	4.43 (dd, J = 10.3, 1.7Hz, 1H)	HMBC 35→36
36	169.7	-	
37	-	7.69 (d, J = 7.6Hz, 1H) overlap	
38	54.3	4.25 (ddd, J = 7.7, 7.6, 5.6Hz, 1H)	HMBC 38→36,39,42
39	172.8	-	
40	-	7.21 (br s, 1H), 7.03 (br s, 1H) overlap	TOCSY 40→40' HMBC 40→39
41	36.4	2.89 (dd, J = 13.9, 5.6Hz, 1H), 2.77 (dd, J = 13.9, 7.7Hz, 1H)	HMBC 41→42
42	127.7	-	
43	130.0	7.02 (d, J = 8.3Hz, 2H)	HMBC 43→45
44	114.5	6.62 (d, J = 8.3Hz, 2H)	HMBC 44→42
45	155.6	-	
46	-	9.15 (br s, 1H)	

MS m/z 795.3 (calc'd: C₄₃H₅₁N₆O₉, [M+H]⁺, 795.4).

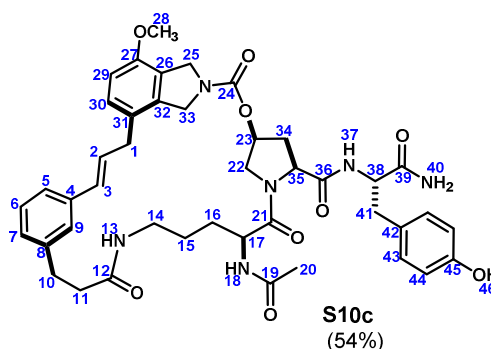


(600MHz, DMSO-*d*₆, 298K, ~3:1:1 mixture of conformers, data is of major)

	¹³ C	¹ H	key correlations
1	31.6	3.45 - 3.51 (m, 1H) overlap, 3.31 (dd, J = 15.8, 6.7Hz, 1H)	HMBC 1→44,45
2	128.3	6.32 (ddd, J = 15.5, 12.7, 6.8Hz, 1H)	COSY 2→1,3 HMBC 2→4,44
3	130.5	6.44 (br d, J = 15.5Hz, 1H)	
4	137.0	-	
5	124.1	7.11 (d, J = 7.6Hz, 1H) overlap	HMBC 5→3
6	128.0	7.16 (dd, J = 7.6, 7.6Hz, 1H)	HMBC 6→4,8
7	127.0	7.00 (d, J = 7.6Hz, 1H) overlap	HMBC 7→10
8	141.2	-	
9	124.5	7.34 (br s, 1H)	TOCSY 9→5,6,7 HMBC 9→10
10	30.7	2.76 - 2.82 (m, 2H) overlap	HMBC 10→8,12
11	36.6	2.34 - 2.41 (m, 1H) overlap	HMBC 11→8,12
12	171.0	-	
13	-	7.61 - 7.65 (m, 1H) overlap	HMBC 13→12 TOCSY 13→14,15,16,17,18
14	37.8	2.90 - 3.07 (m, 2H)	
15	24.5	1.33 - 1.41 (m, 2H) overlap	COSY 14→15
16	28.3	1.58 - 1.65 (m, 1H), 1.35 - 1.43 (m, 1H)	
17	49.6	4.41 - 4.46 (m, 1H) overlap	HMBC 17→19,21
18	-	8.08 (d, J = 7.6Hz, 1H) overlap	HMBC 18→19 COSY 18→17
19	169.0	-	
20	21.9	1.82 (s, 3H)	HMBC 20→19
21	170.9	-	
22	52.3	4.15 (ddd, J = 11.3, 11.2, 5.7Hz, 1H), 3.66 (br d, J = 11.3Hz, 1H)	
23	72.9	5.13 - 5.18 (m, 1H)	COSY 23→22,34
24	?	-	
25	49.6	4.47 (s, 2H) overlap	HMBC 25→27,32
26	123.5	-	
27	154.1	-	
28	55.0	3.78 (s, 3H)	HMBC 28→27
29	108.8	6.79 (d, J = 8.1Hz, 1H)	HMBC 29→26
30	128.8	7.23 (dd, J = 8.1, 7.6Hz, 1H)	HMBC 30→32 COSY 30→31,29
31	114.5	6.87 (d, J = 7.6Hz, 1H)	HMBC 31→26
32	137.5	-	
33	49.4	4.48 (s, 2H) overlap	HMBC 33→26
34	33.9	2.37 - 2.43 (m, 1H) overlap, 2.16 (dddd, J = 13.4, 13.4, 3.2, 3.2Hz, 1H)	HMBC 34→35,36
35	58.0	4.46 - 4.50 (m, 1H) overlap	
36	170.0	-	

37	-	7.67 (d, J = 8.5Hz, 1H)	HMBC 37→36
38	54.1	4.30 - 4.35 (m, 1H)	HMBC 38→36,39,42
39	172.9	-	
40	-	7.34 (br s, 1H) overlap, 7.04 (br s, 1H)	TOCSY 40→40' HMBC 40→39,38
41	37.0	2.72 - 2.83 (m, 2H) overlap	HMBC 41→39,42
42	127.4	-	
43	129.6	6.91 (d, J = 1.5Hz, 1H)	HMBC 43→1,41,45
44	125.9	-	
45	153.1	-	
46	114.2	6.68 (d, J = 8.1Hz, 1H)	HMBC 46→44,45
47	127.2	6.82 - 6.85 (m, 1H) overlap	HMBC 47→45
48	-	9.21 (br s, 1H)	

MS m/z 795.3 (calc'd: C₄₃H₅₁N₆O₉, [M+H]⁺, 795.4).



(600MHz, DMSO-*d*₆, 298K, ~10:7 mixture of conformers, data is of major)

	¹³ C	¹ H	key correlations
1	35.6	3.44 (d, J = 6.4Hz, 1H), 3.42 (d, J = 6.7Hz, 1H)	HMBC 1→31,32
2	128.0	6.26 (ddd, J = 15.8, 6.6, 6.4Hz, 1H)	HMBC 2→4,31
3	129.8	6.32 (d, J = 15.8Hz, 1H)	HMBC 3→5,9
4	136.6	-	
5	124.0	7.06 (d, J = 8.1Hz, 1H) overlap	
6	128.1	7.15 (dd, J = 8.1, 8.1Hz, 1H) overlap	HMBC 6→4,8
7	127.1	7.01 (d, J = 8.1Hz, 1H) overlap	
8	141.3	-	
9	124.5	7.27 (br s, 1H)	HMBC 9→7
10	30.7	2.74-2.82 (m, 2H) overlap	HMBC 10→8,11,12
11	36.6	2.30-2.39 (m, 2H)	HMBC 11→8,10,12
12	171.5	-	
13	-	7.69-7.72 (m, 1H) overlap	TOCSY 13→14,15,16,17,18
14	37.8	2.99-3.06 (m, 2H)	
15	24.4	1.37-1.50 (m, 2H) overlap	HMBC 15→17
16	28.2	1.62-1.71 (m, 1H), 1.43-1.49 (m, 1H) overlap	HMBC 16→21
17	49.6	4.41-4.45 (m, 1H)	HMBC 17→21
18	-	8.12 (d, J = 7.4Hz, 1H) overlap	HMBC 18→19
19	169.1	-	
20	21.9	1.81 (s, 3H)	HMBC 20→19
21	170.8	-	

22	51.8	4.10 (dd, J = 10.8, 6.0Hz, 1H), 3.55-3.60 (m, 1H) overlap	
23	71.9	5.25 (ddd, J = 11.0, 5.6, 5.3Hz, 1H)	HMBC 23→24 COSY 23→22,34
24	153.2	-	
25	50.0	4.67 (s, 2H)	HMBC 25→27
26	123.8	-	
27	152.8	-	
28	55.0	3.78 (s, 3H)	HMBC 28→27
29	109.5	6.87 (d, J = 7.7Hz, 1H) overlap	HMBC 29→26,27,31
30	123.8	7.15 (d, J = 7.7Hz, 1H) overlap	HMBC 30→38,32
31	126.4	-	
32	136.8	-	
33	50.7	4.55 (d, J = 14.8Hz, 1H), 4.51 (d, J = 14.8Hz, 1H)	
34	34.0	2.45-2.51 (m, 1H) overlap, 1.96-2.02 (m, 1H)	HMBC 34→35
35	58.0	4.34 (ddd, J = 7.6, 7.5, 6.2Hz, 1H)	
36	170.1	-	
37	-	7.78-7.72 (m, 1H) overlap	HMBC 37→36
38	53.9	4.28 (ddd, J = 7.6, 7.5Hz, 6.2Hz, 1H)	COSY 38→41 HMBC 38→41,36,42
39	172.5	-	
40	-	7.22 (br s, 1H), 7.01 (br s, 1H)	TOCSY 40→40' HMBC 40→39
41	36.4	2.79-2.85 (m, 1H) overlap, 2.71-2.76 (m, 1H) overlap	HMBC 41→40,42
42	127.5	-	
43	129.9	6.94 (d, J = 8.3Hz, 2H)	HMBC 43→45
44	114.5	6.59 (d, J = 8.3Hz, 2H)	HMBC 44→42
45	155.6	-	
46	-	9.15 (br s, 1H)	

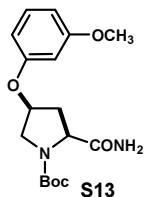
MS *m/z* 795.3 (calc'd: C₄₃H₅₁N₆O₉, [M+H]⁺, 795.4).

***D.* Spectroscopic data for new substances:**

Amino acids and building blocks therefore
(Compounds **S13** – **S33**)

Current Data Parameters
 NAME TR4-54_prep
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20121029
 Time_ 9.59
 INSTRUM drx500
 PROBHD 5 mm bb-Z Z800
 PULPROG zg30
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 128
 DW 50.000 usec
 DE 6.00 usec
 TE 296.9 K
 D1 2.00000000 sec
 TD0 1

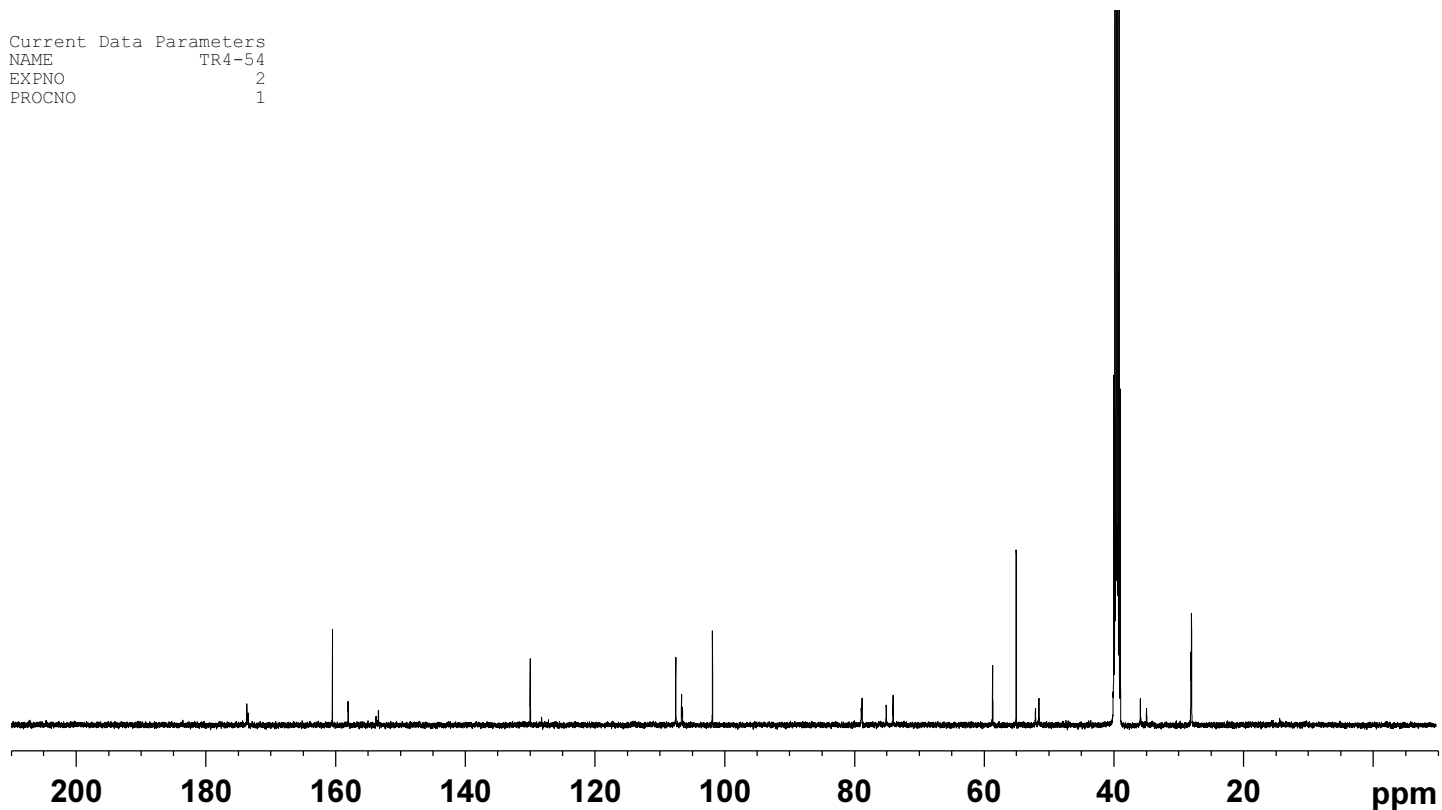


===== CHANNEL f1 =====
 NUC1 1H
 P1 13.30 usec
 PL1 0 dB
 SFO1 500.3330020 MHz

F2 - Processing parameters
 SI 32768
 SF 500.3300038 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



Current Data Parameters
 NAME TR4-54
 EXPNO 2
 PROCNO 1

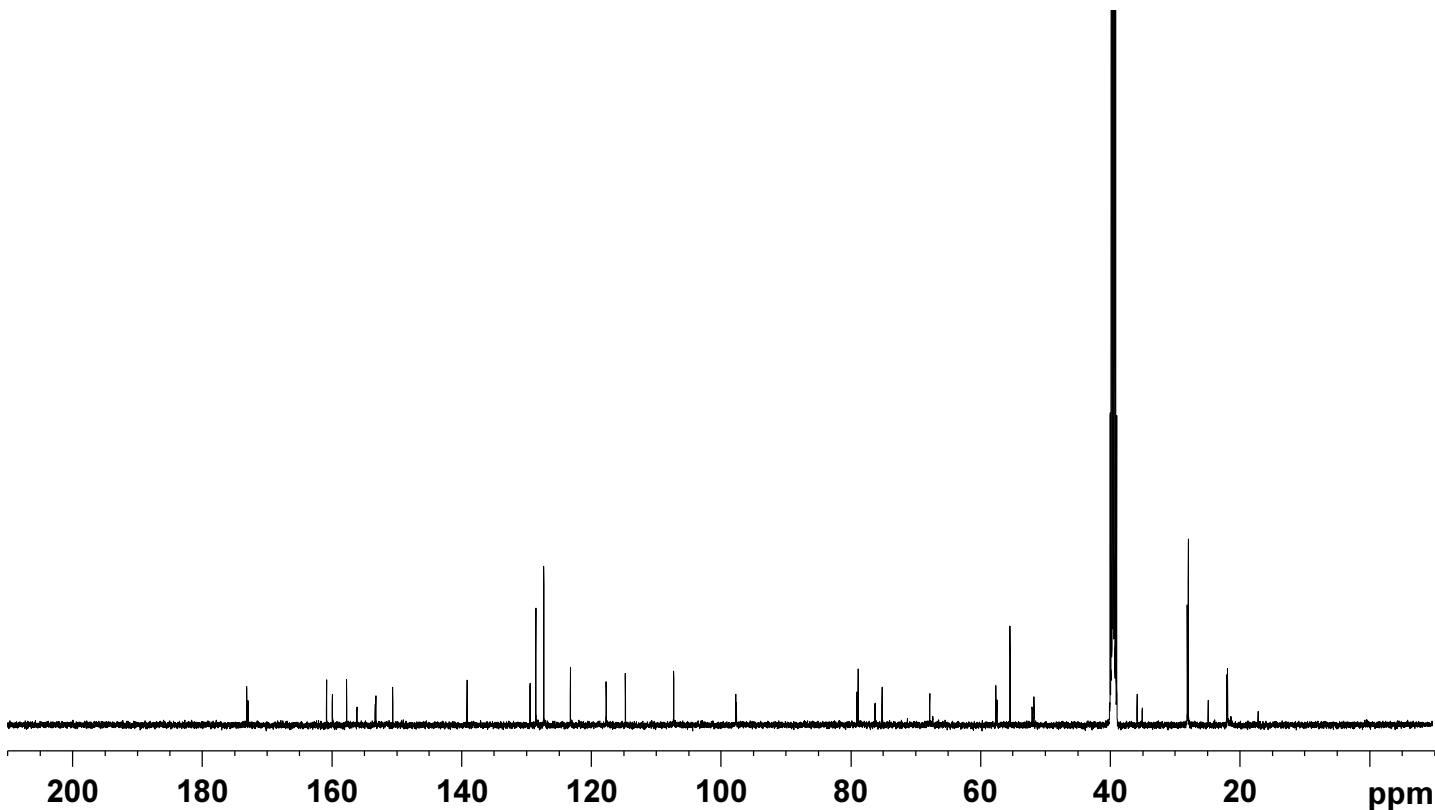
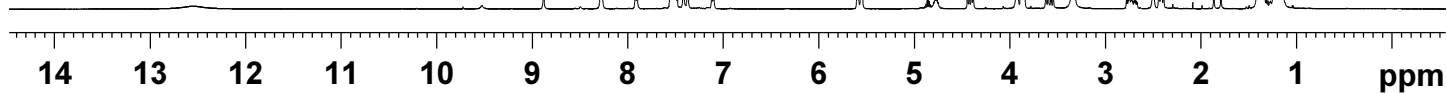
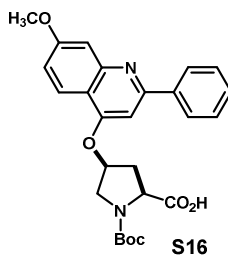


Current Data Parameters
 NAME TR3-148
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120929
 Time_ 17.59
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zg30
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 28.6
 DW 50.000 usec
 DE 10.00 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 1H
 P1 10.00 usec
 PLW1 13.50000000 W
 SFO1 500.1330008 MHz

F2 - Processing parameters
 SI 65536
 SF 500.1300054 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

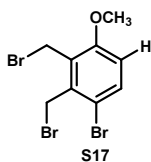


Current Data Parameters

NAME TR3-204on
EXPNO 1
PROCNO 1

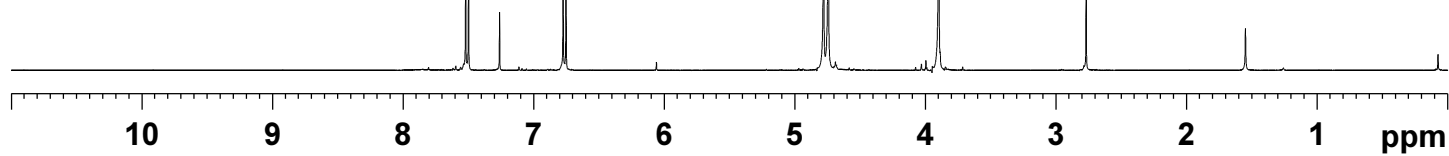
F2 - Acquisition Parameters

Date_ 20120527
Time_ 12.20
INSTRUM arx400
PROBHD 5 mm QNP 1H
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 8
DS 0
SWH 8064.516 Hz
FIDRES 0.123055 Hz
AQ 4.0632820 sec
RG 1024
DW 62.000 usec
DE 88.57 usec
TE 300.0 K
D1 2.00000000 sec
P1 9.00 usec
SFO1 400.1324008 MHz
NUCLEUS 1H



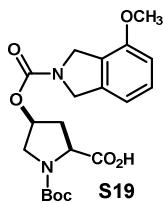
F2 - Processing parameters

SI 65536
SF 400.1300173 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



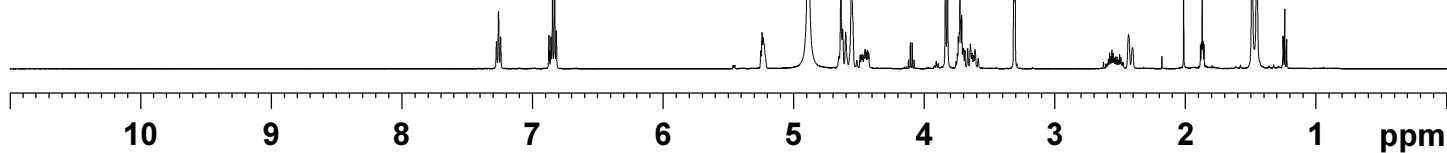
Current Data Parameters
 NAME TR3-216
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120612
 Time_ 14.35
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zg30
 TD 65536
 SOLVENT MeOD
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 11
 DW 50.000 usec
 DE 10.00 usec
 TE 296.0 K
 D1 2.00000000 sec
 TD0 1

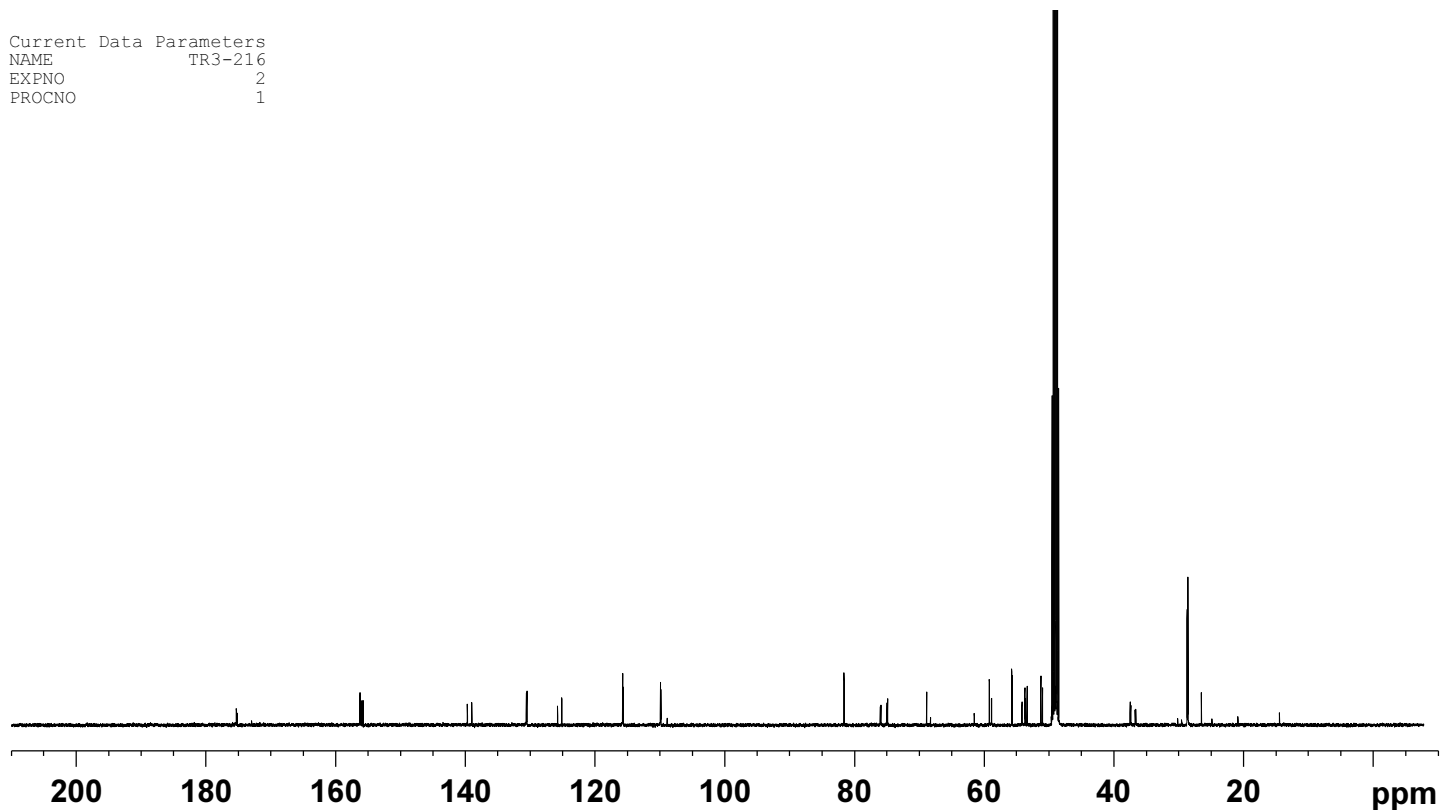


===== CHANNEL f1 =====
 NUC1 1H
 P1 10.00 usec
 PLW1 13.50000000 W
 SFO1 500.1330008 MHz

F2 - Processing parameters
 SI 65536
 SF 500.1300111 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

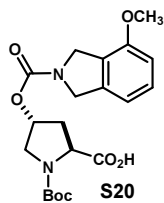


Current Data Parameters
 NAME TR3-216
 EXPNO 2
 PROCNO 1



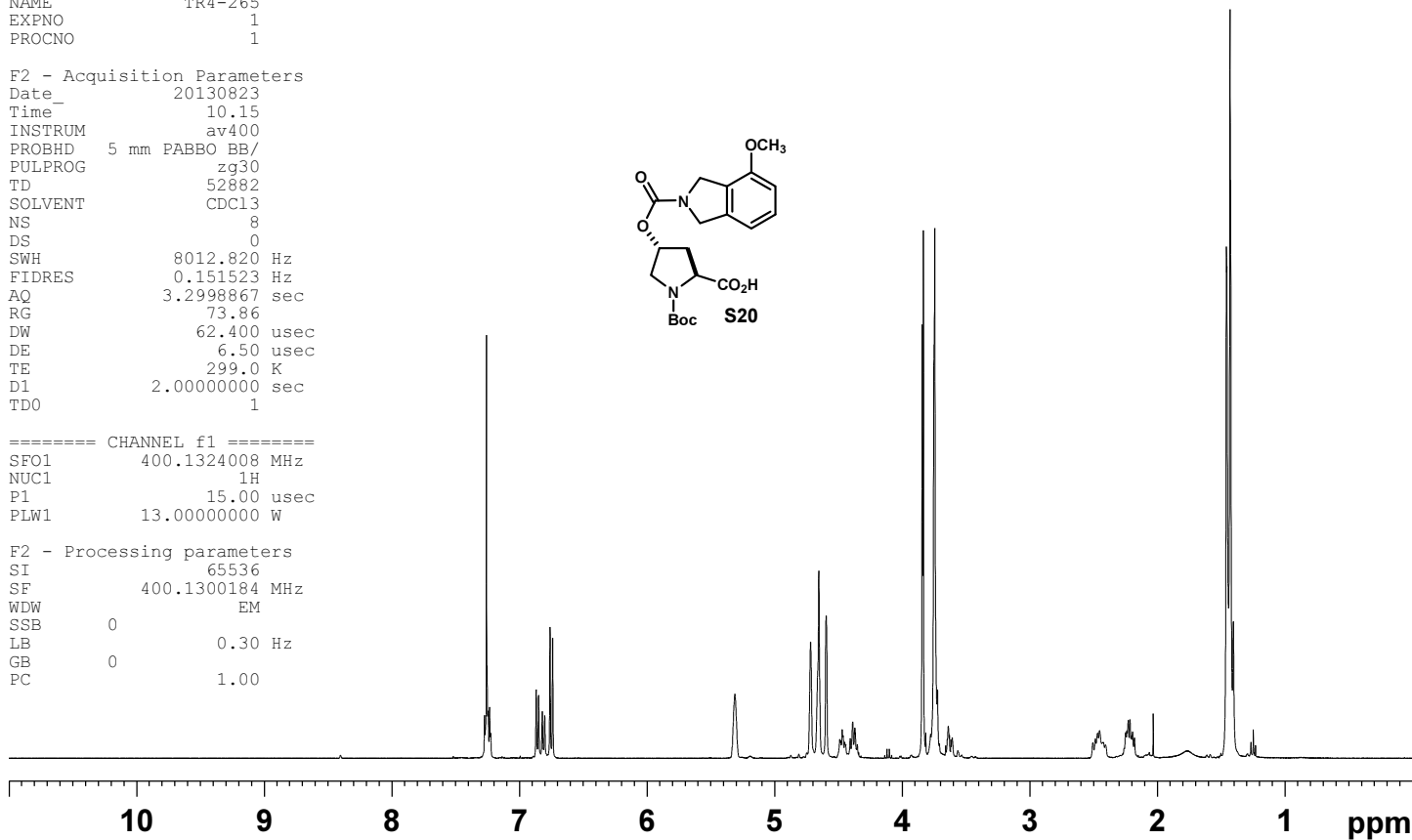
Current Data Parameters
 NAME TR4-265
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20130823
 Time_ 10.15
 INSTRUM av400
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 52882
 SOLVENT CDCl3
 NS 8
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.151523 Hz
 AQ 3.2998867 sec
 RG 73.86
 DW 62.400 usec
 DE 6.50 usec
 TE 299.0 K
 D1 2.00000000 sec
 TD0 1

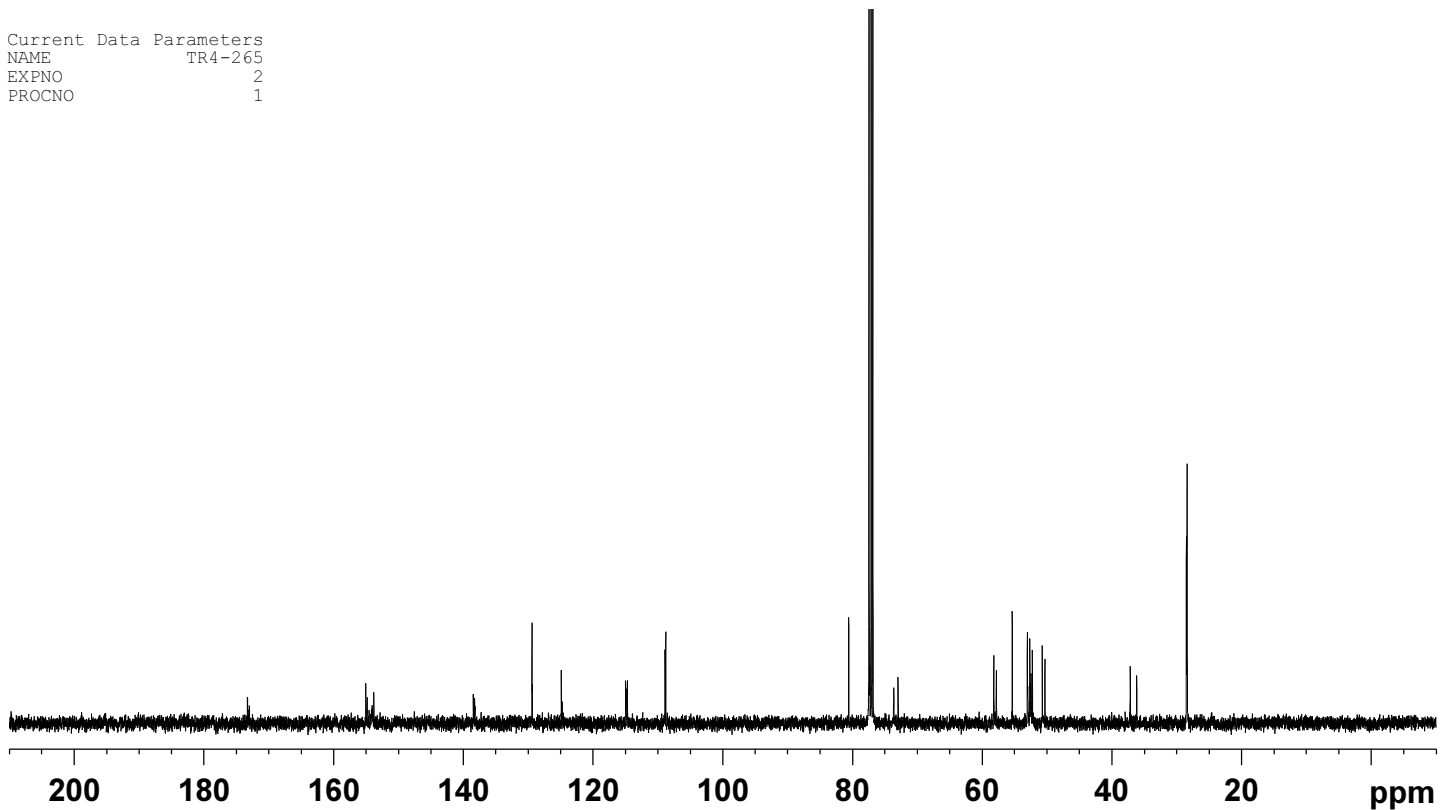


===== CHANNEL f1 =====
 SF01 400.1324008 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 13.00000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300184 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



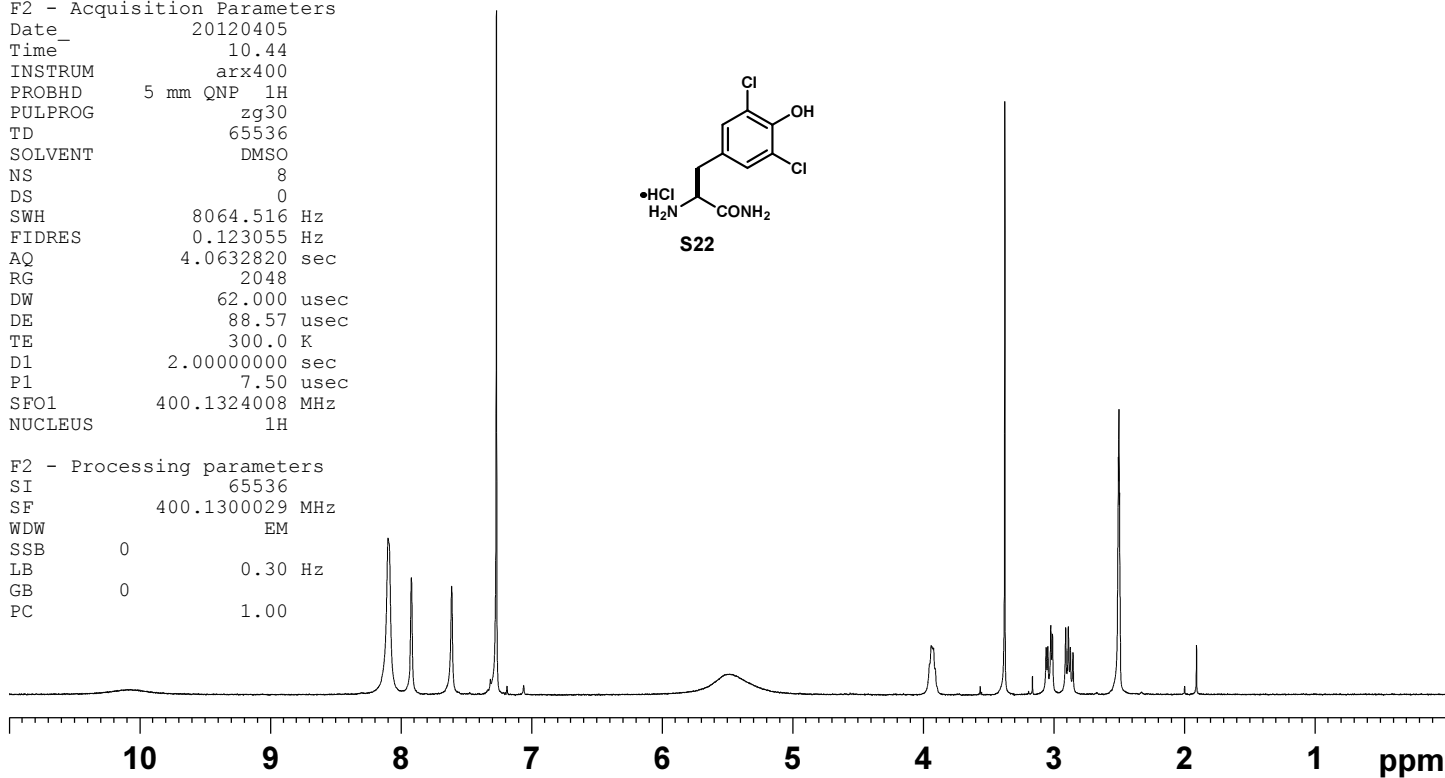
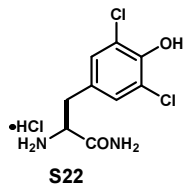
Current Data Parameters
 NAME TR4-265
 EXPNO 2
 PROCNO 1



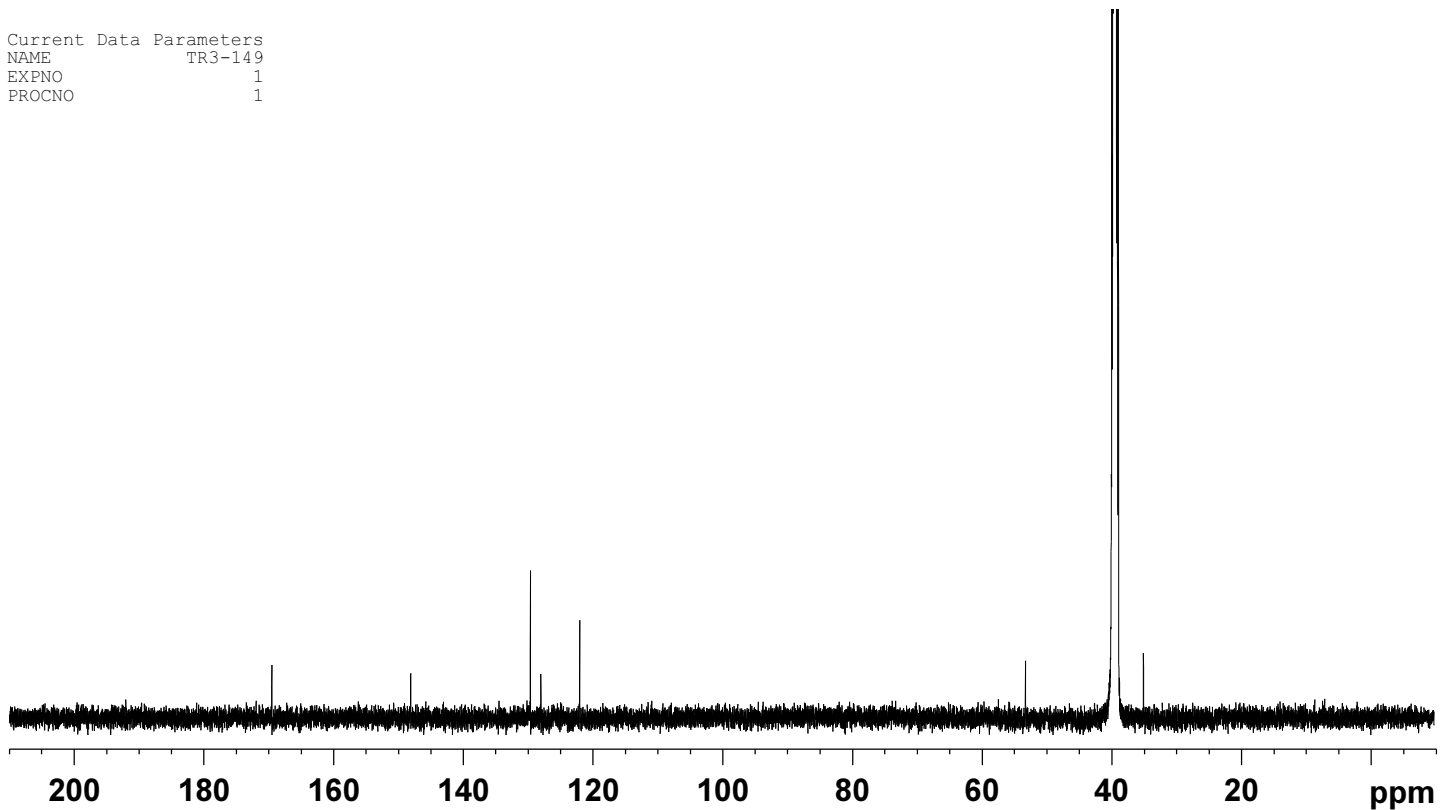
Current Data Parameters
NAME TR3-149B
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters

Date_ 20120405
Time_ 10.44
INSTRUM arx400
PROBHD 5 mm QNP 1H
PULPROG zg30
TD 65536
SOLVENT DMSO
NS 8
DS 0
SWH 8064.516 Hz
FIDRES 0.123055 Hz
AQ 4.0632820 sec
RG 2048
DW 62.000 usec
DE 88.57 usec
TE 300.0 K
D1 2.00000000 sec
P1 7.50 usec
SFO1 400.1324008 MHz
NUCLEUS 1H

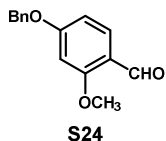


Current Data Parameters
NAME TR3-149
EXPNO 1
PROCNO 1



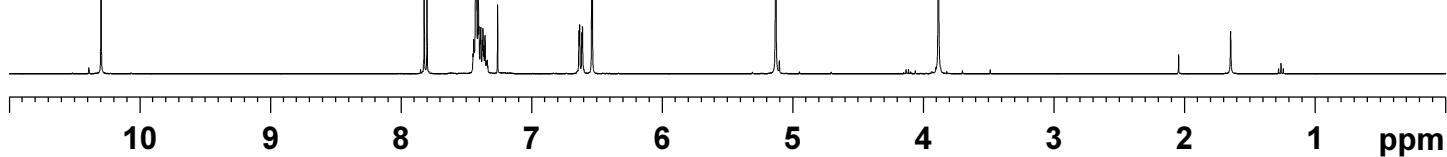
Current Data Parameters
 NAME TR4-290B
 EXPNO 827
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20130924
 Time_ 20.21
 INSTRUM av400
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 52882
 SOLVENT CDCl3
 NS 8
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.151523 Hz
 AQ 3.2998867 sec
 RG 94.6
 DW 62.400 usec
 DE 6.50 usec
 TE 299.0 K
 D1 2.00000000 sec
 TD0 1

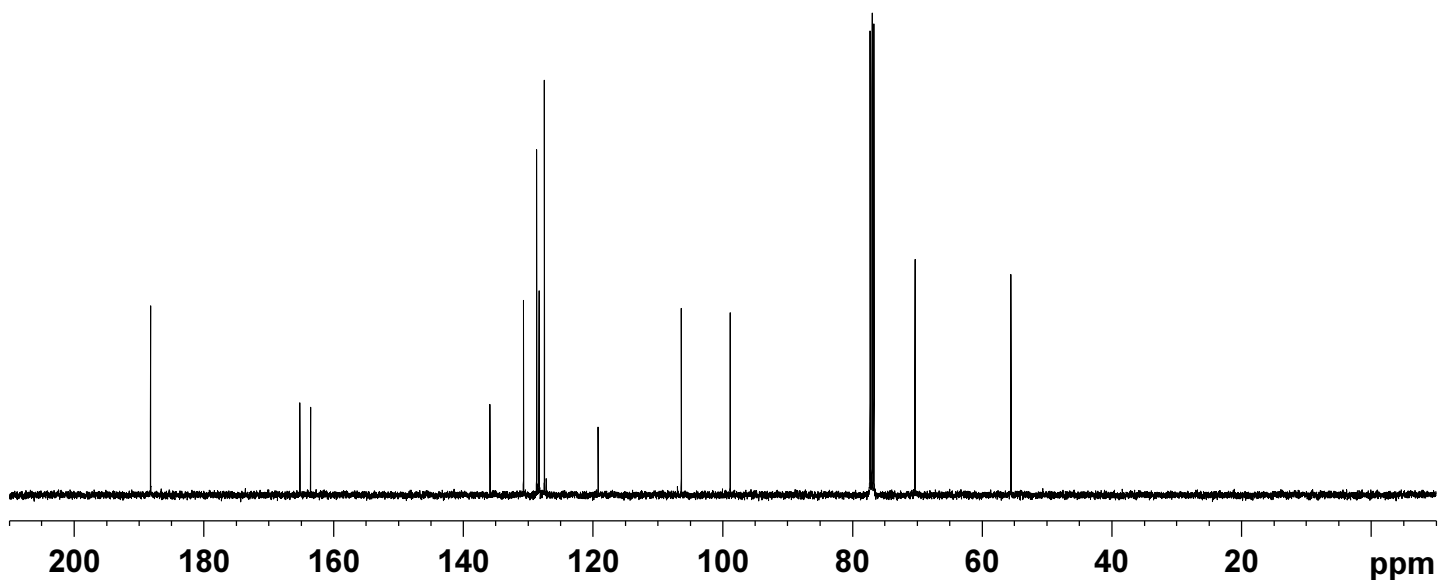


===== CHANNEL f1 =====
 SF01 400.1324008 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 13.00000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300175 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

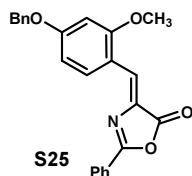


Current Data Parameters
 NAME TR4-290B
 EXPNO 828
 PROCNO 1



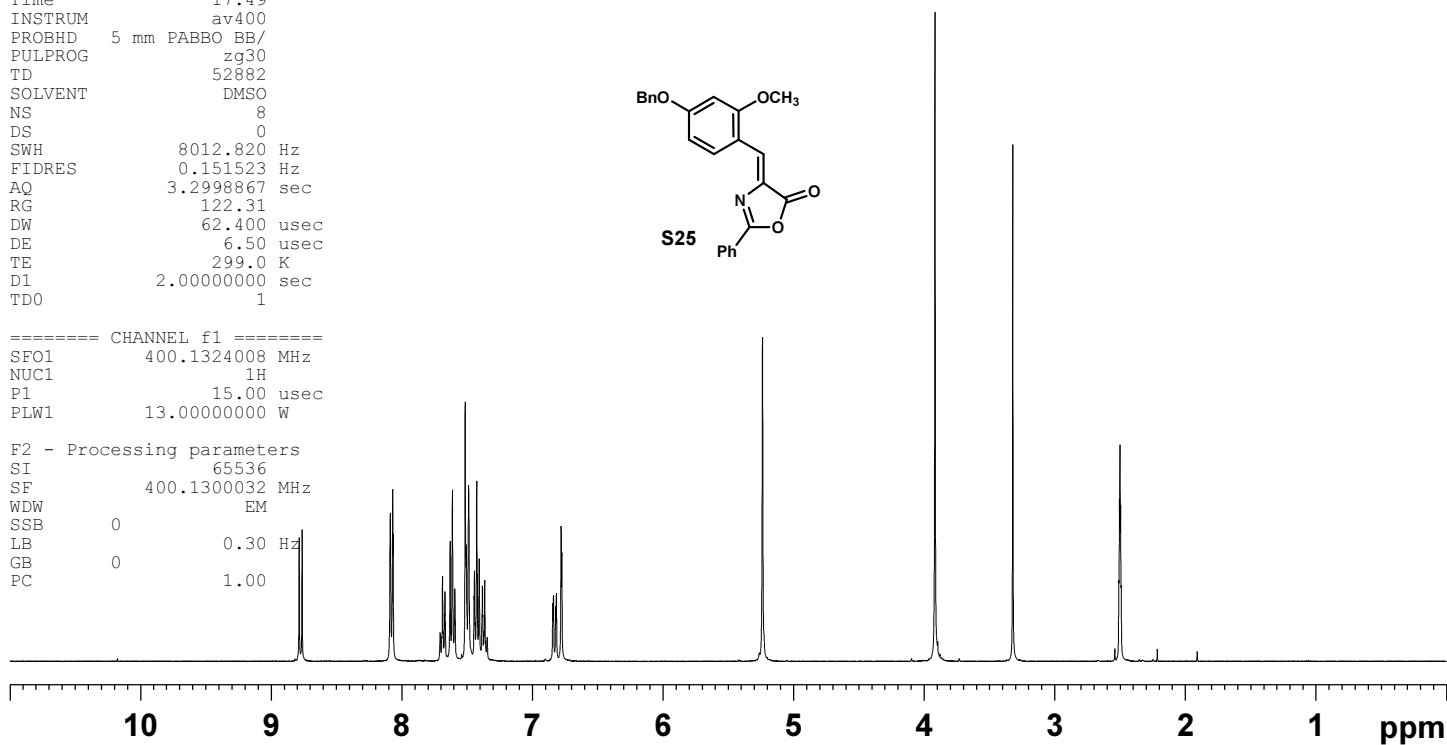
Current Data Parameters
 NAME TR4-298
 EXPNO 107
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131013
 Time_ 17.49
 INSTRUM av400
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 52882
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.151523 Hz
 AQ 3.2998867 sec
 RG 122.31
 DW 62.400 usec
 DE 6.50 usec
 TE 299.0 K
 D1 2.00000000 sec
 TD0 1

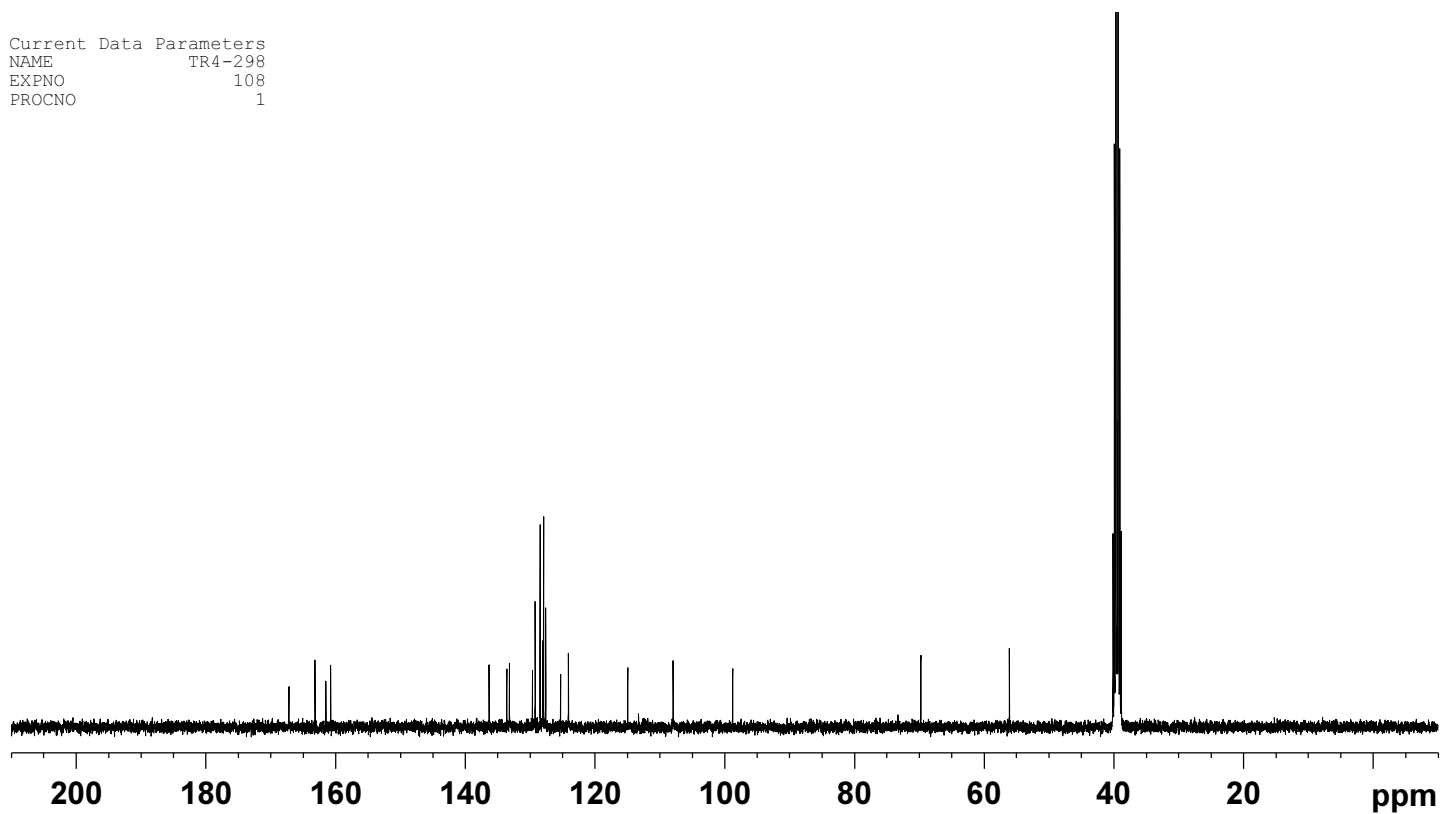


===== CHANNEL f1 =====
 SF01 400.1324008 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 13.00000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300032 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

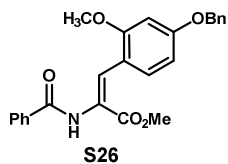


Current Data Parameters
 NAME TR4-298
 EXPNO 108
 PROCNO 1



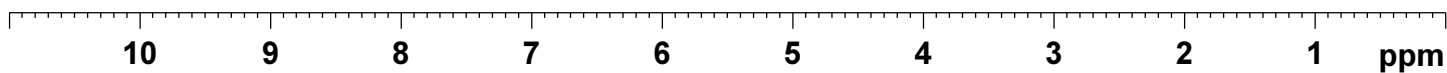
Current Data Parameters
 NAME TR4-298B
 EXPNO 137
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131014
 Time_ 12.48
 INSTRUM av400
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 52882
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.151523 Hz
 AQ 3.2998867 sec
 RG 83.63
 DW 62.400 usec
 DE 6.50 usec
 TE 299.0 K
 D1 2.00000000 sec
 TD0 1

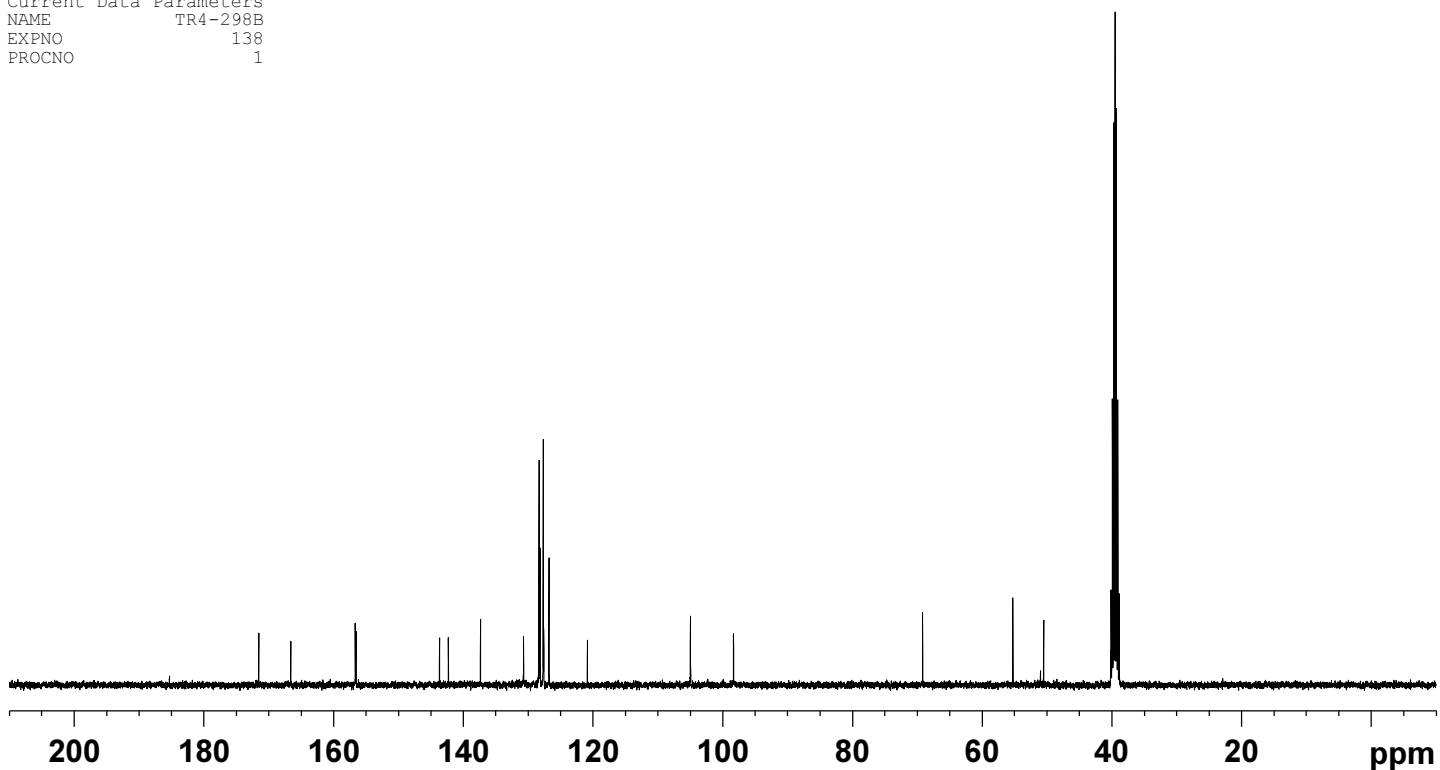


===== CHANNEL f1 =====
 SF01 400.1324008 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 13.00000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300032 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

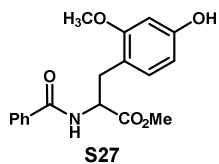


Current Data Parameters
 NAME TR4-298B
 EXPNO 138
 PROCNO 1



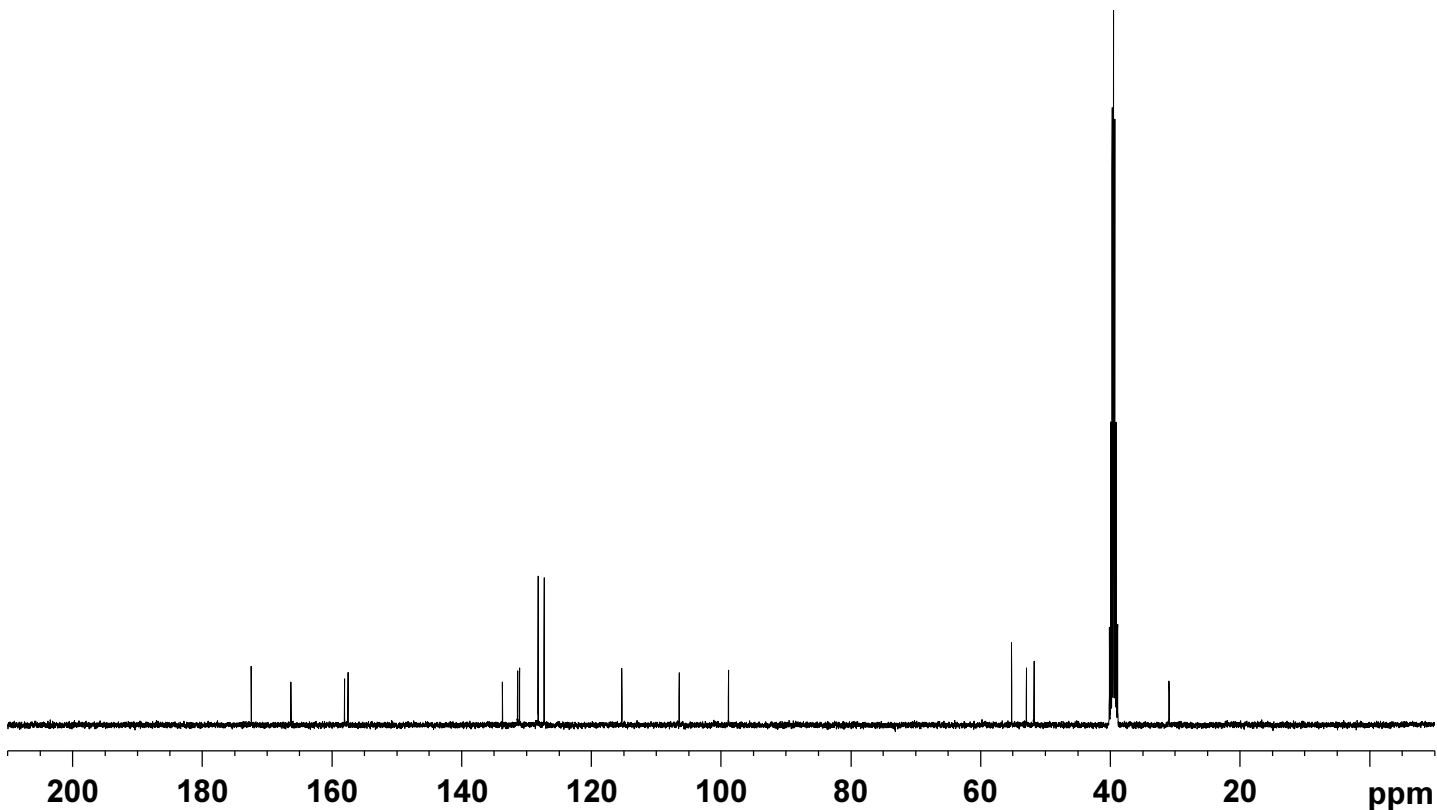
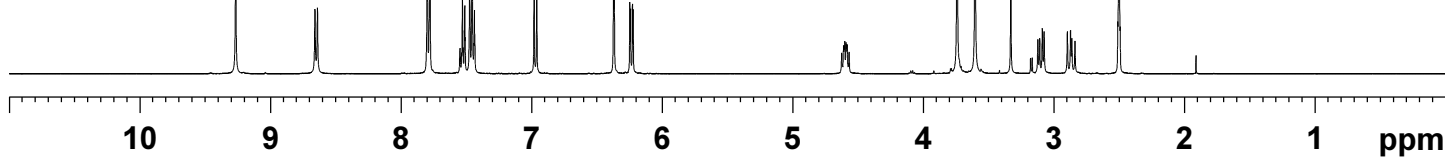
Current Data Parameters
 NAME TR4-304C
 EXPNO 167
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131020
 Time_ 18.25
 INSTRUM av400
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 52882
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.151523 Hz
 AQ 3.2998867 sec
 RG 107.83
 DW 62.400 usec
 DE 6.50 usec
 TE 299.0 K
 D1 2.00000000 sec
 TD0 1



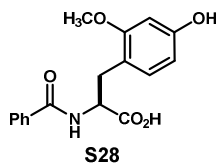
===== CHANNEL f1 =====
 SF01 400.1324008 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 13.00000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300032 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



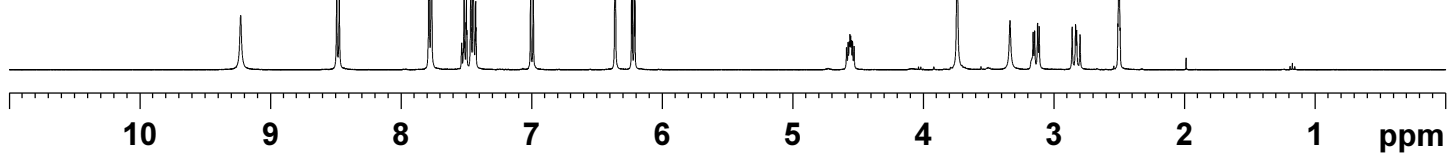
Current Data Parameters
 NAME TR5-6-S
 EXPNO 157
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131104
 Time_ 12.50
 INSTRUM av400
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 52882
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.151523 Hz
 AQ 3.2998867 sec
 RG 107.83
 DW 62.400 usec
 DE 6.50 usec
 TE 299.0 K
 D1 2.00000000 sec
 TD0 1

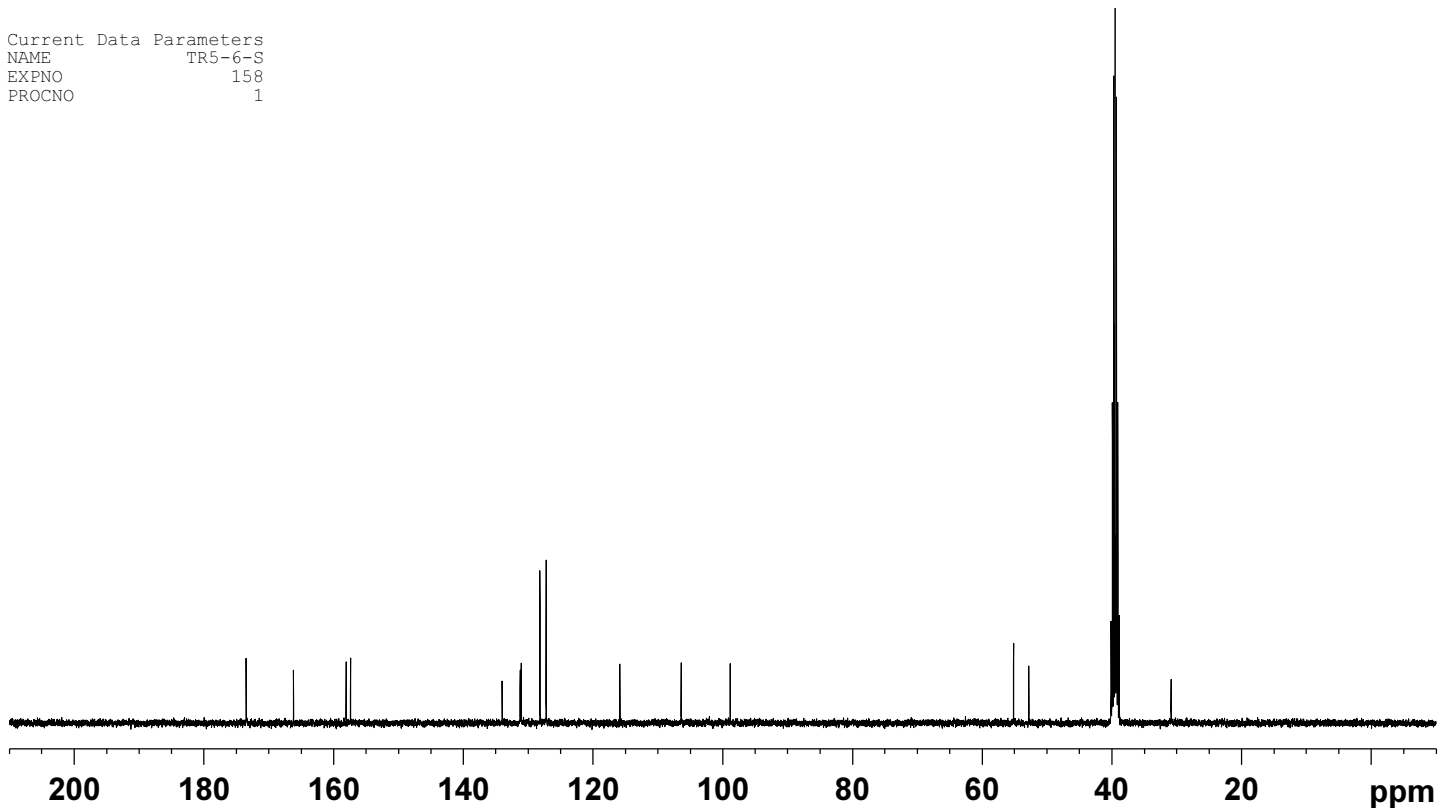


===== CHANNEL f1 =====
 SF01 400.1324008 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 13.00000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300032 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

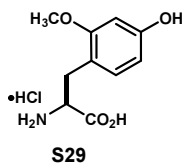


Current Data Parameters
 NAME TR5-6-S
 EXPNO 158
 PROCNO 1



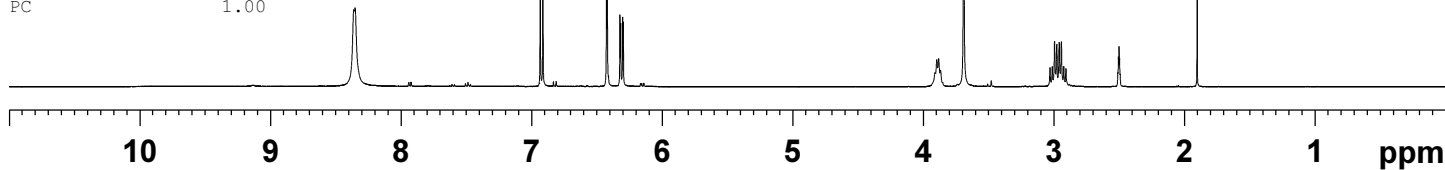
Current Data Parameters
 NAME TR5-13
 EXPNO 157
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131108
 Time_ 13.22
 INSTRUM av400
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 52882
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.151523 Hz
 AQ 3.2998867 sec
 RG 60.34
 DW 62.400 usec
 DE 6.50 usec
 TE 299.0 K
 D1 2.00000000 sec
 TD0 1

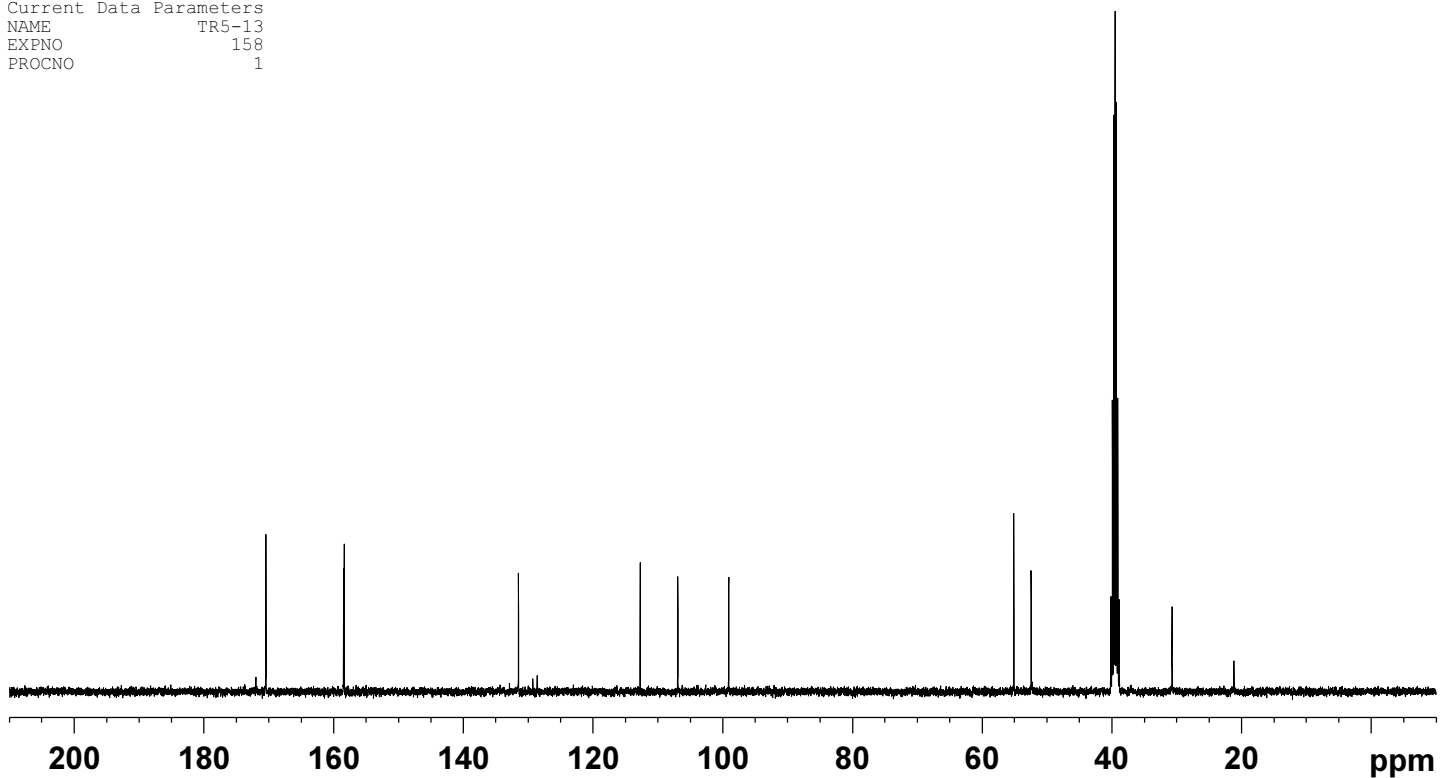


===== CHANNEL f1 =====
 SF01 400.1324008 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 13.00000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300034 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

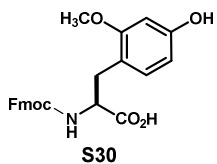


Current Data Parameters
 NAME TR5-13
 EXPNO 158
 PROCNO 1



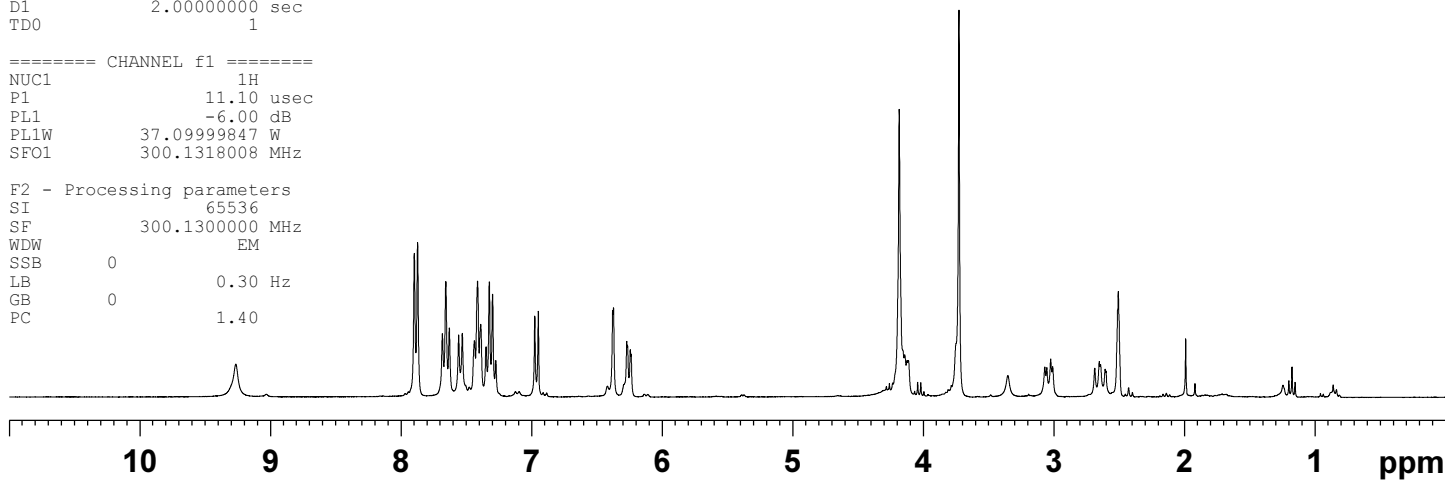
Current Data Parameters
 NAME TR5-15
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131111
 Time 9.40
 INSTRUM av300
 PROBHD 5 mm PABBO BB-
 PULPROG zg30
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 5995.204 Hz
 FIDRES 0.091480 Hz
 AQ 5.4657526 sec
 RG 128
 DW 83.400 usec
 DE 6.00 usec
 TE 297.8 K
 D1 2.00000000 sec
 TD0 1

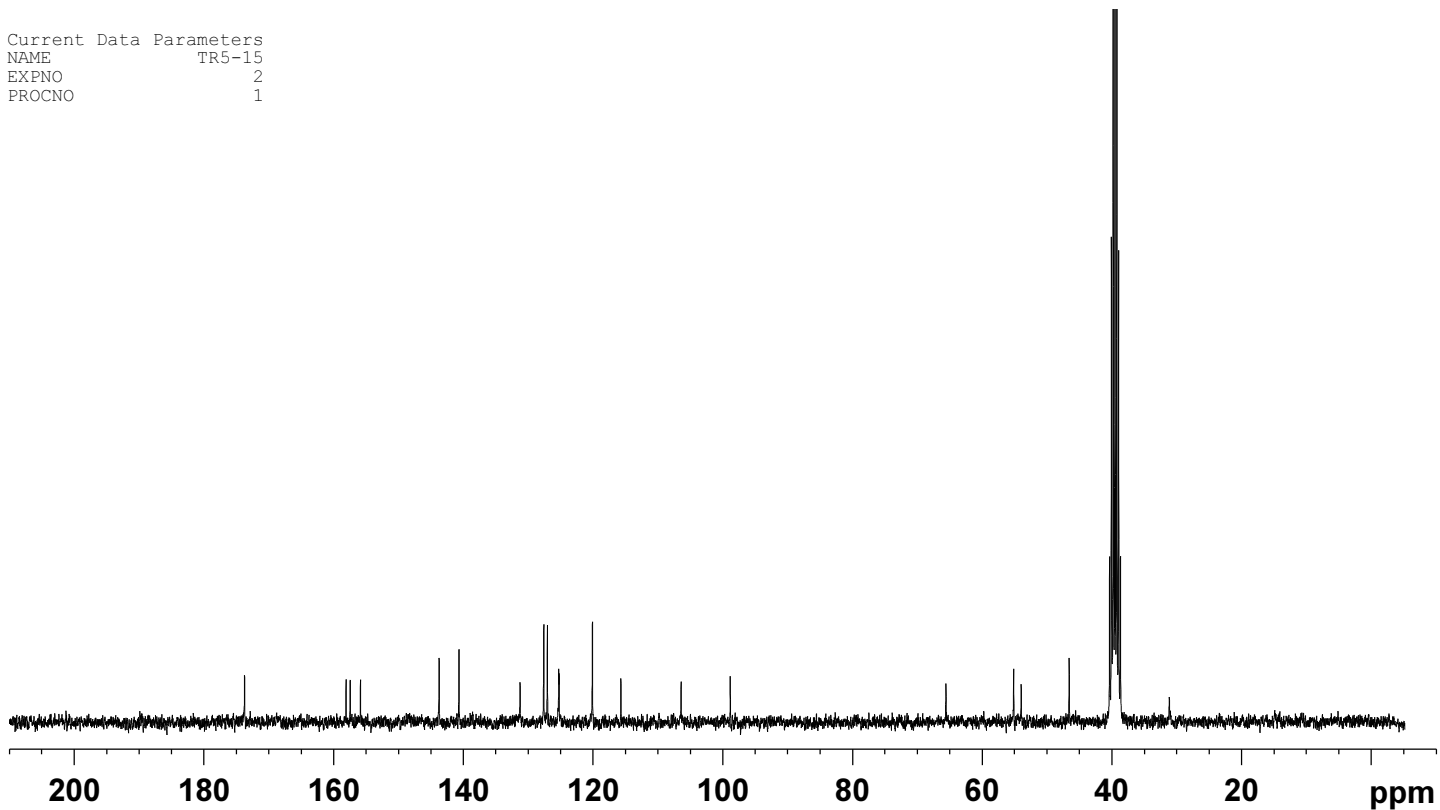


===== CHANNEL f1 =====
 NUC1 1H
 P1 11.10 usec
 PL1 -6.00 dB
 PL1W 37.09999847 W
 SFO1 300.1318008 MHz

F2 - Processing parameters
 SI 65536
 SF 300.1300000 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.40

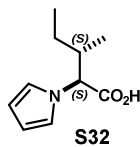


Current Data Parameters
 NAME TR5-15
 EXPNO 2
 PROCNO 1



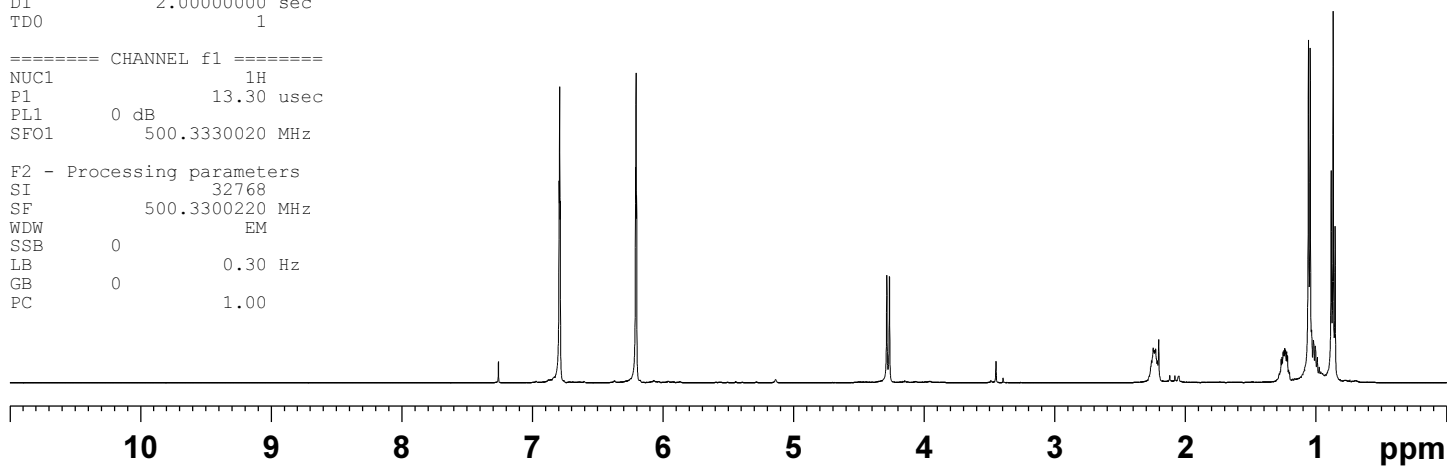
Current Data Parameters
 NAME TR_pyrrolo-Ile
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140804
 Time_ 12.18
 INSTRUM drx500
 PROBHD 5 mm bb-Z Z800
 PULPROG zg30
 TD 65536
 SOLVENT CDCl3
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 40.3
 DW 50.000 usec
 DE 6.00 usec
 TE 297.3 K
 D1 2.00000000 sec
 TD0 1

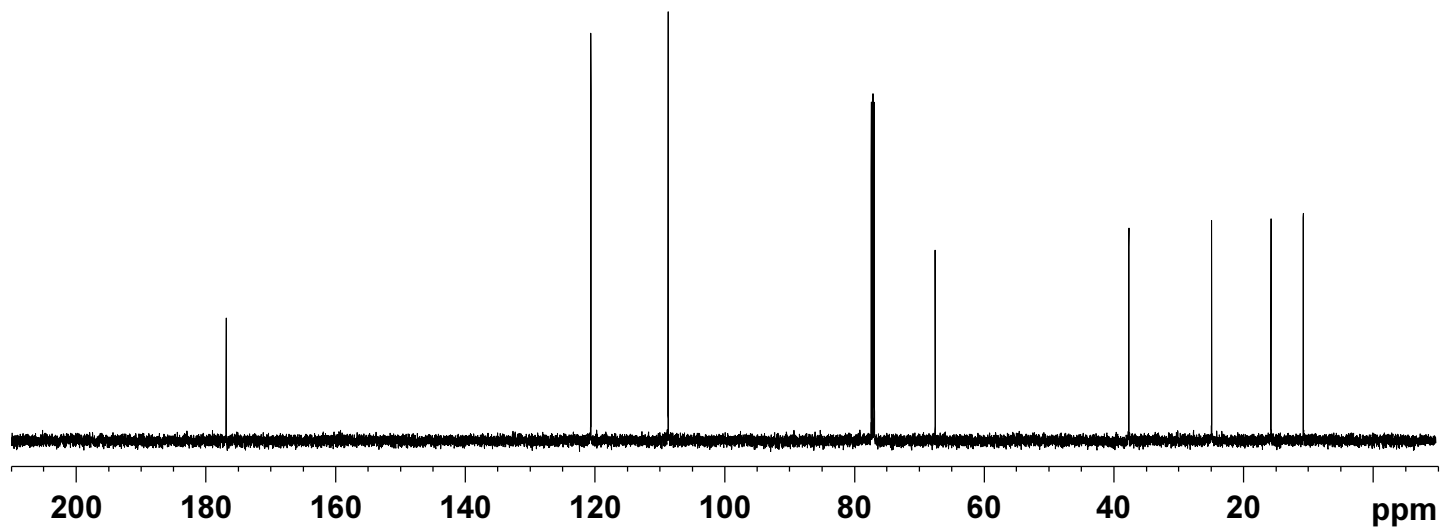


===== CHANNEL f1 =====
 NUC1 1H
 P1 13.30 usec
 PL1 0 dB
 SFO1 500.3330020 MHz

F2 - Processing parameters
 SI 32768
 SF 500.3300220 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

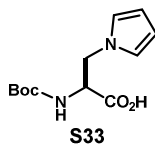


Current Data Parameters
 NAME TR_pyrrolo-Ile
 EXPNO 2
 PROCNO 1



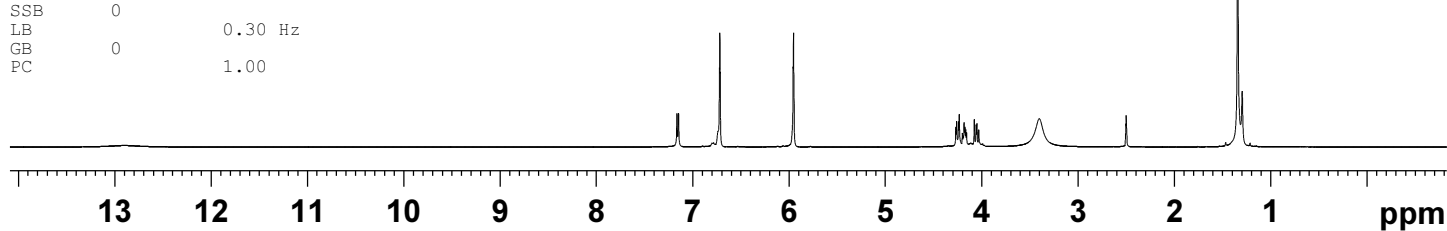
Current Data Parameters
 NAME TR5-178
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140911
 Time_ 11.38
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 5.74
 DW 50.000 usec
 DE 10.00 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1

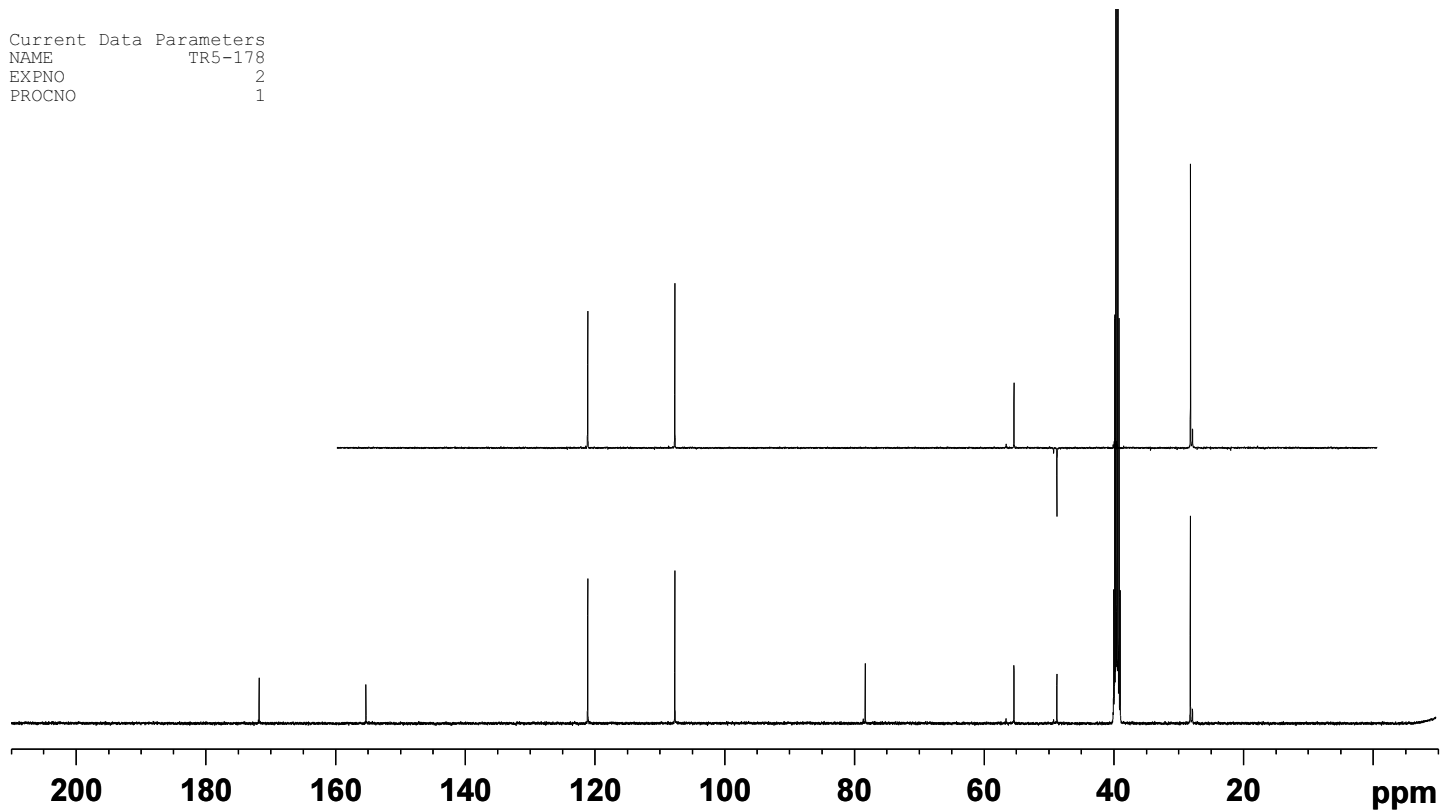


===== CHANNEL f1 =====
 SF01 500.1330008 MHz
 NUC1 1H
 P1 10.00 usec
 PLW1 13.50000000 W

F2 - Processing parameters
 SI 65536
 SF 500.1300043 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



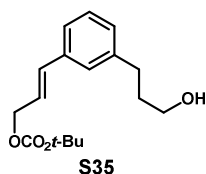
Current Data Parameters
 NAME TR5-178
 EXPNO 2
 PROCNO 1



Templates 2 and 3
(Compounds 2, 3, S35 – S44)

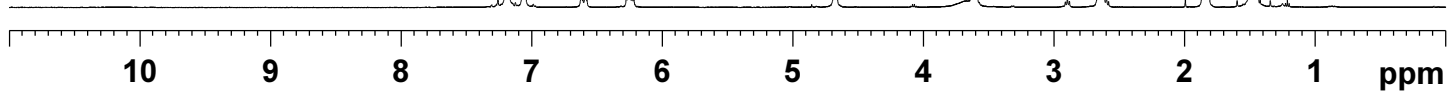
Current Data Parameters
 NAME TR_phenylpropanol
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140804
 Time_ 11.21
 INSTRUM drx500
 PROBHD 5 mm bb-Z Z800
 PULPROG zg30
 TD 65536
 SOLVENT CDCl3
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 11.3
 DW 50.000 usec
 DE 6.00 usec
 TE 297.2 K
 D1 2.00000000 sec
 TD0 1

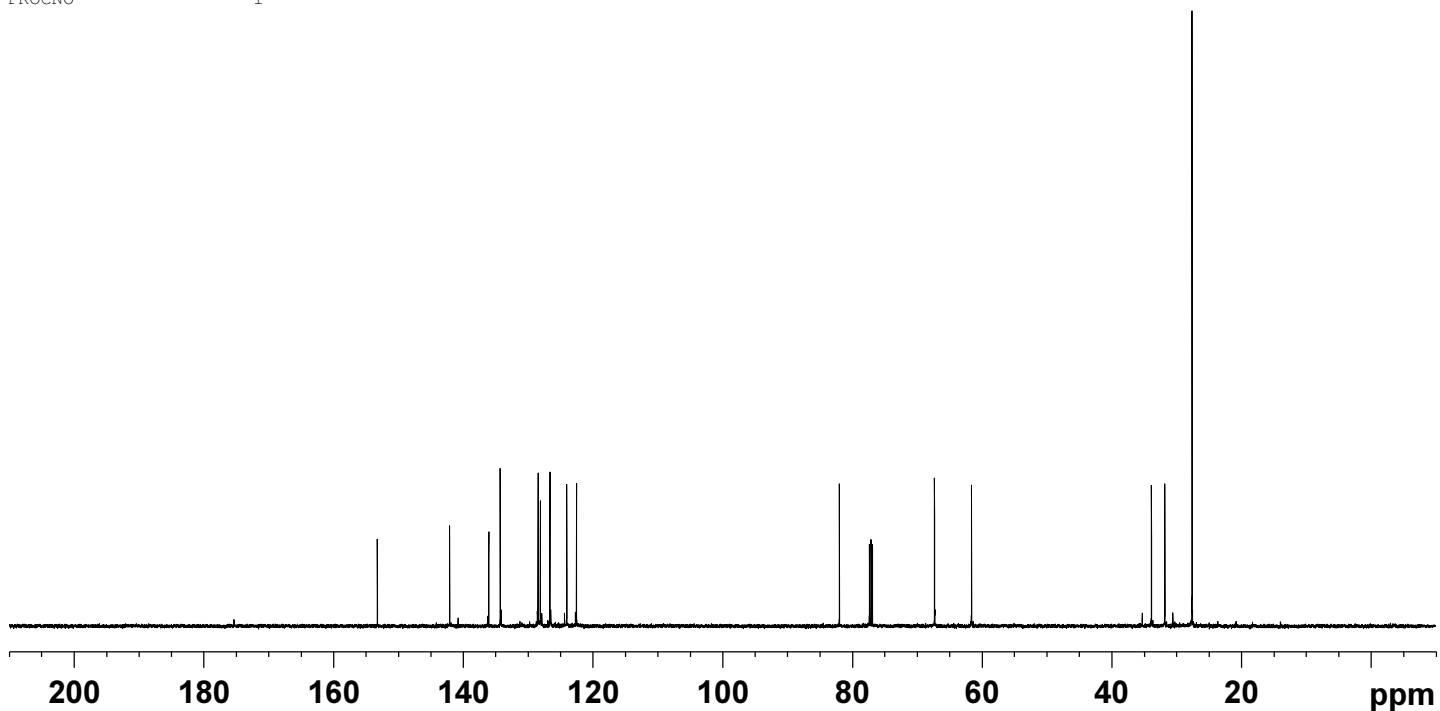


===== CHANNEL f1 =====
 NUC1 1H
 P1 13.30 usec
 PL1 0 dB
 SF01 500.3330020 MHz

F2 - Processing parameters
 SI 32768
 SF 500.3300220 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

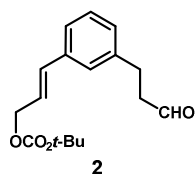


Current Data Parameters
 NAME TR_phenylpropanol
 EXPNO 2
 PROCNO 1



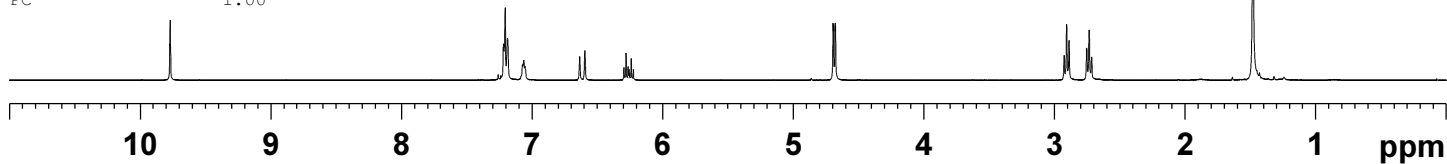
Current Data Parameters
 NAME Phenylpropionaldehyde
 EXPNO 287
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140808
 Time_ 12.03
 INSTRUM av400
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 52882
 SOLVENT CDCl3
 NS 8
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.151523 Hz
 AQ 3.2998867 sec
 RG 13.94
 DW 62.400 usec
 DE 6.50 usec
 TE 299.0 K
 D1 2.00000000 sec
 TD0 1

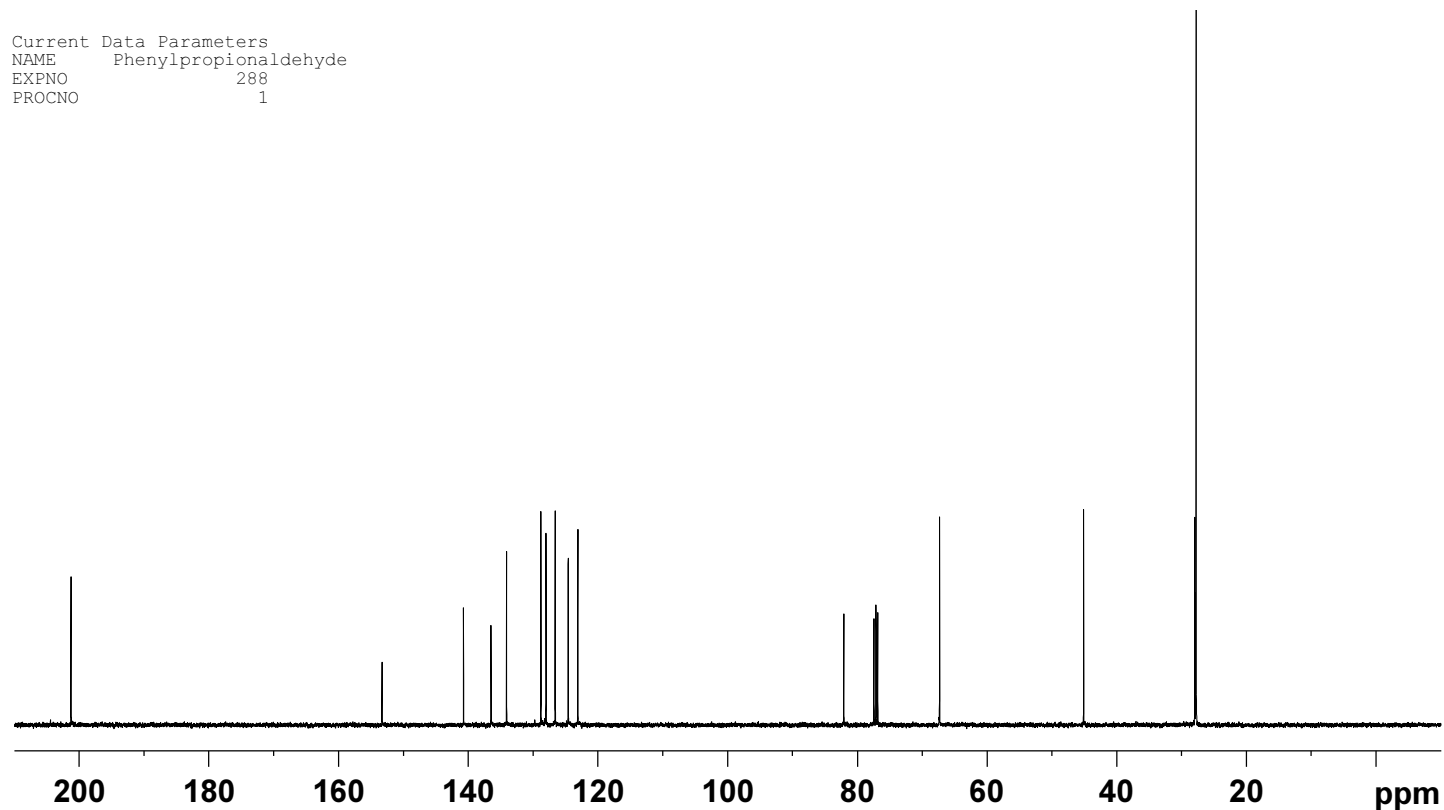


===== CHANNEL f1 =====
 SFO1 400.1324008 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 13.00000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300184 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

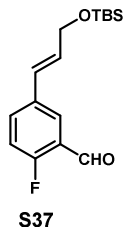


Current Data Parameters
 NAME Phenylpropionaldehyde
 EXPNO 288
 PROCNO 1



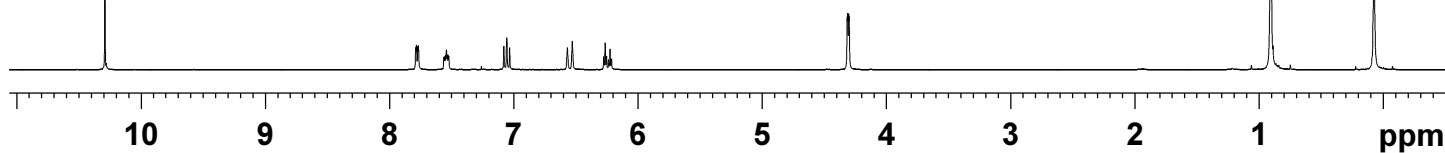
Current Data Parameters
 NAME TR4-184
 EXPNO 137
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140811
 Time_ 10.59
 INSTRUM av400
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 52882
 SOLVENT CDCl3
 NS 8
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.151523 Hz
 AQ 3.2998867 sec
 RG 11.03
 DW 62.400 usec
 DE 6.50 usec
 TE 299.0 K
 D1 2.00000000 sec
 TD0 1

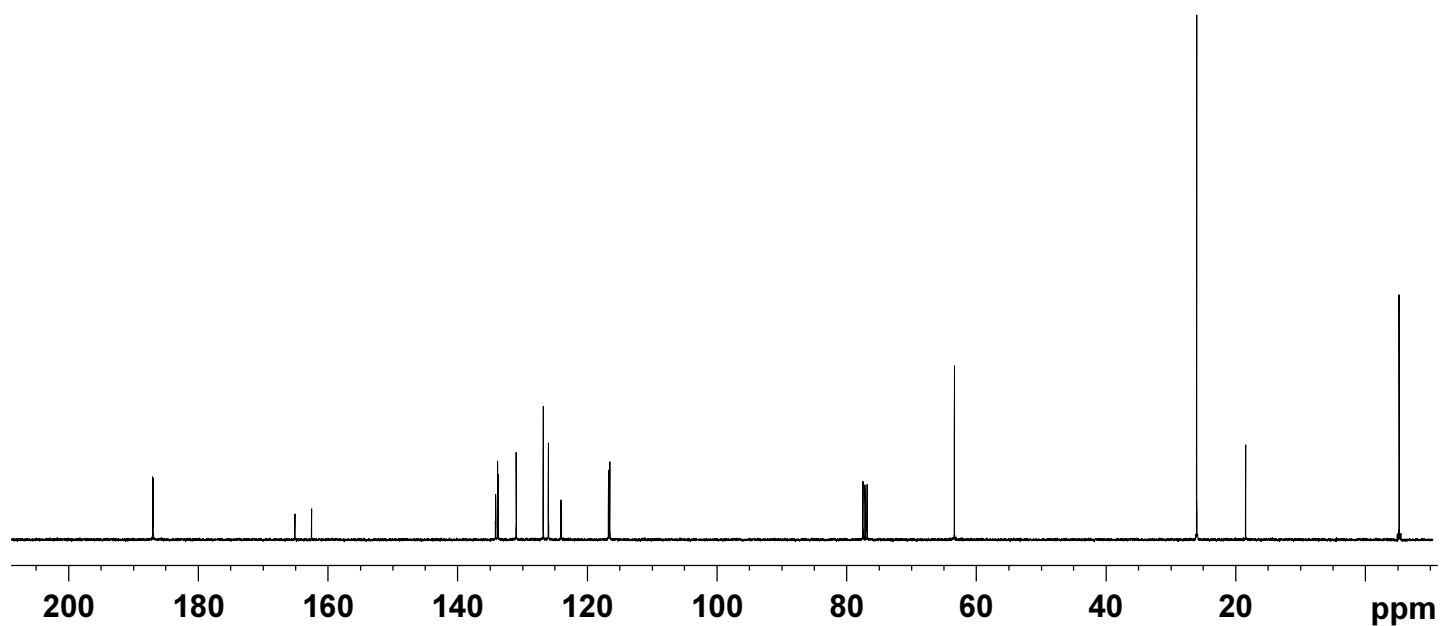


===== CHANNEL f1 =====
 SF01 400.1324008 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 13.00000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300177 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

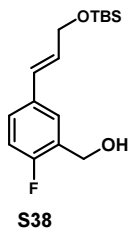


Current Data Parameters
 NAME TR4-184
 EXPNO 138
 PROCNO 1



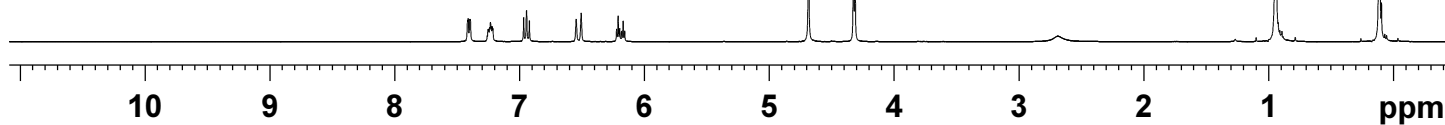
Current Data Parameters
 NAME TR4-184B
 EXPNO 147
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140811
 Time_ 11.07
 INSTRUM av400
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 52882
 SOLVENT CDCl3
 NS 8
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.151523 Hz
 AQ 3.2998867 sec
 RG 13.94
 DW 62.400 usec
 DE 6.50 usec
 TE 299.0 K
 D1 2.00000000 sec
 TD0 1

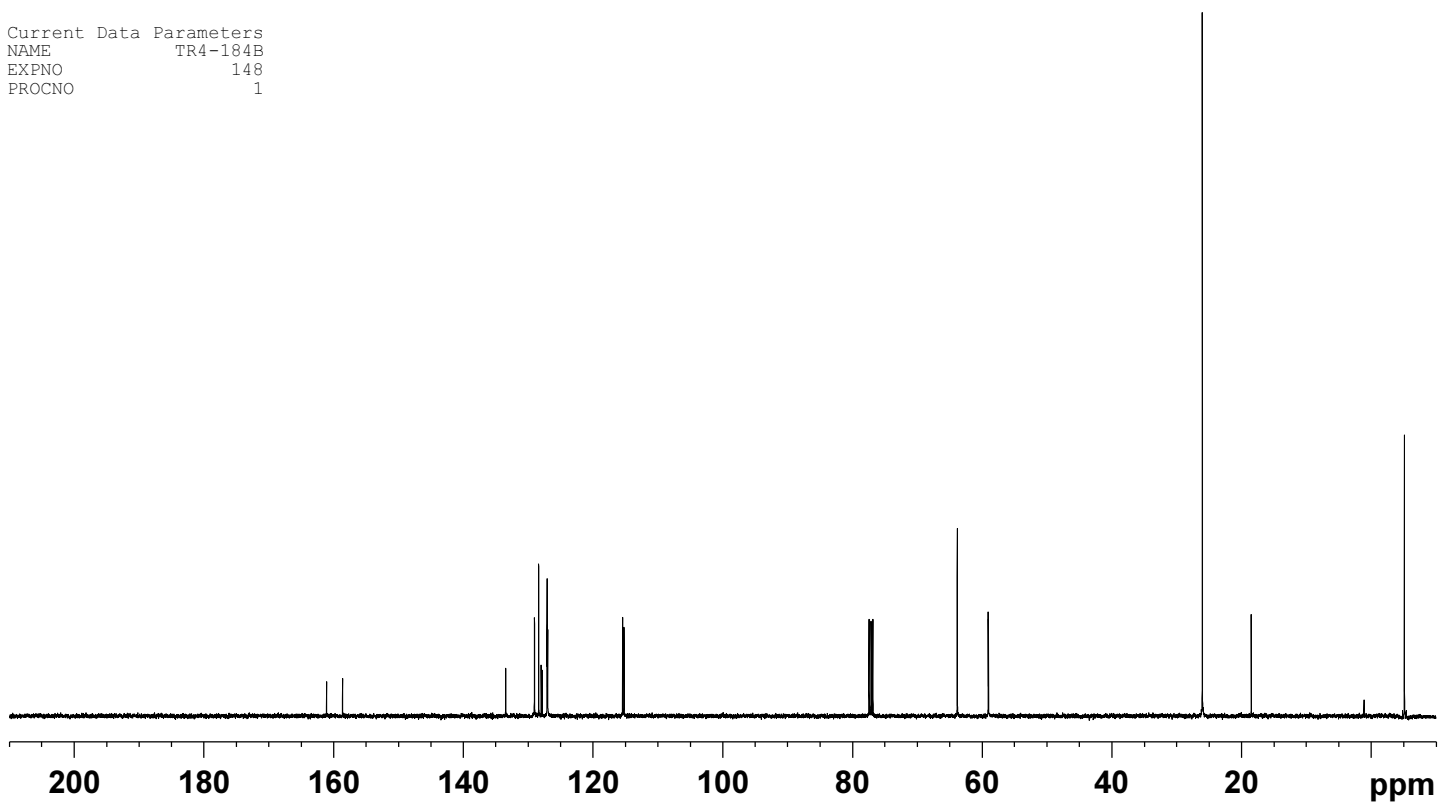


===== CHANNEL f1 =====
 SF01 400.1324008 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 13.00000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300184 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



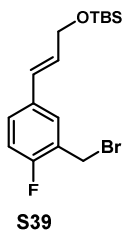
Current Data Parameters
 NAME TR4-184B
 EXPNO 148
 PROCNO 1



Current Data Parameters
 NAME TR4-193
 EXPNO 1
 PROCNO 1

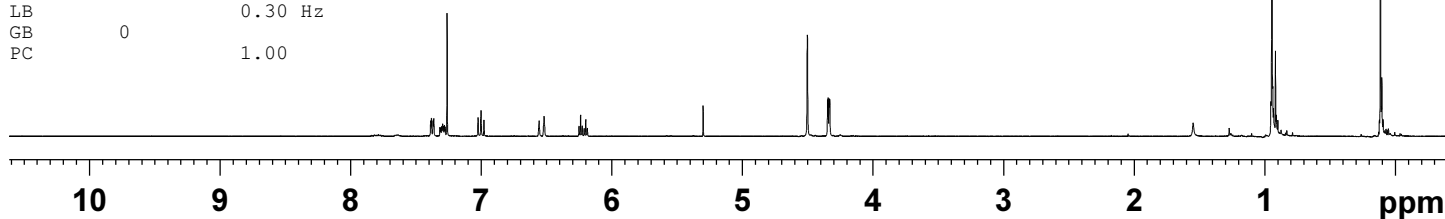
F2 - Acquisition Parameters

Date_ 20130531
 Time_ 9.57
 INSTRUM arx400
 PROBHD 5 mm QNP 1H
 PULPROG zg30
 TD 65536
 SOLVENT CDCl3
 NS 8
 DS 0
 SWH 8064.516 Hz
 FIDRES 0.123055 Hz
 AQ 4.0632820 sec
 RG 2048
 DW 62.000 usec
 DE 88.57 usec
 TE 300.0 K
 D1 2.00000000 sec
 P1 8.80 usec
 SFO1 400.1324008 MHz
 NUCLEUS 1H

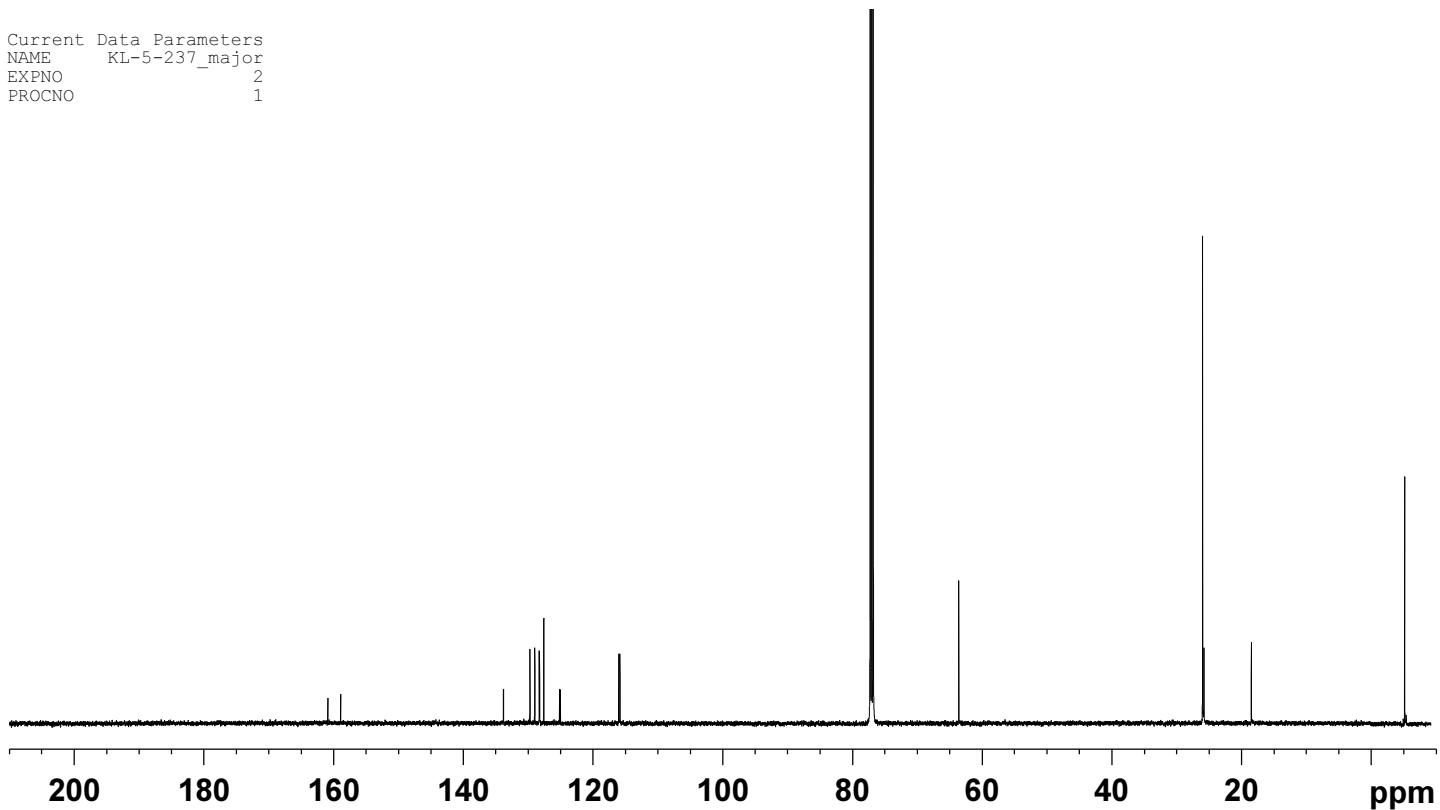


F2 - Processing parameters

SI 65536
 SF 400.1300173 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

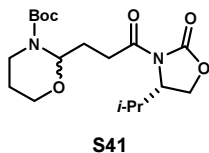


Current Data Parameters
 NAME KL-5-237_major
 EXPNO 2
 PROCNO 1



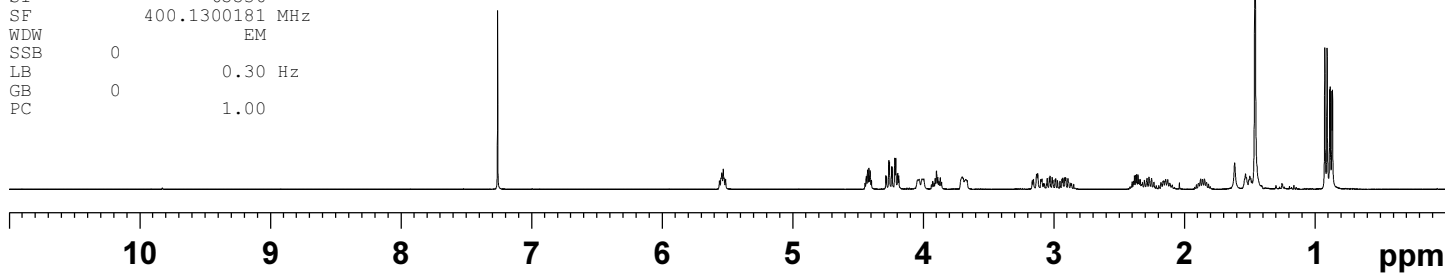
Current Data Parameters
 NAME AA1-50
 EXPNO 697
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140811
 Time_ 22.11
 INSTRUM av400
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 52882
 SOLVENT CDCl3
 NS 8
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.151523 Hz
 AQ 3.2998867 sec
 RG 155.85
 DW 62.400 usec
 DE 6.50 usec
 TE 299.0 K
 D1 2.00000000 sec
 TD0 1

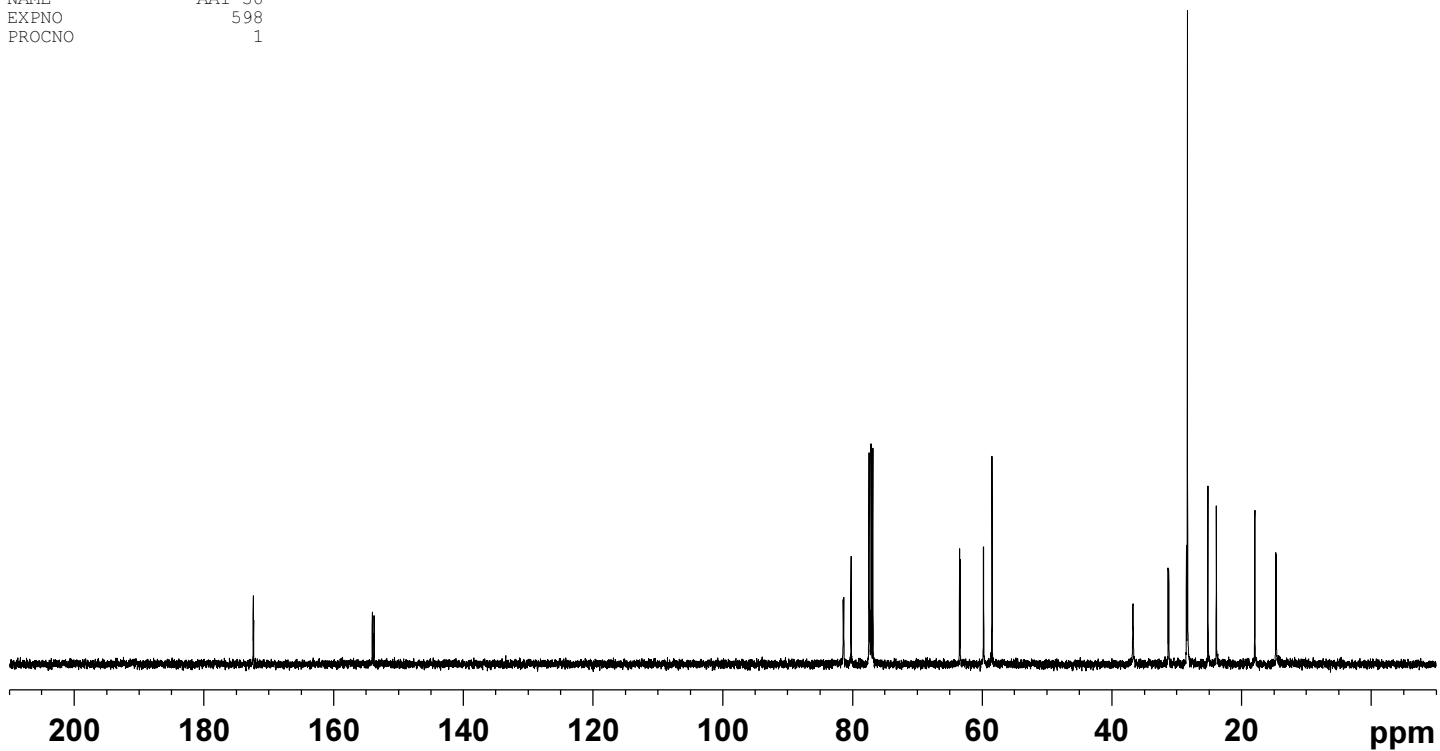


===== CHANNEL f1 =====
 SF01 400.1324008 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 13.00000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300181 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

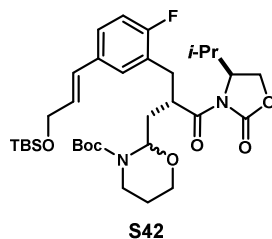


Current Data Parameters
 NAME AA1-50
 EXPNO 598
 PROCNO 1



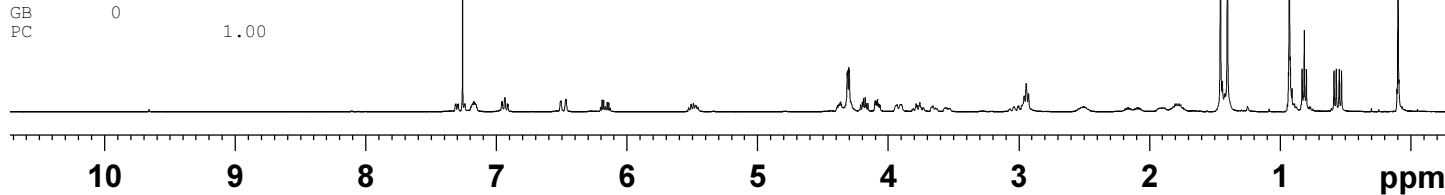
Current Data Parameters
 NAME KL-5-238_pHPLC
 EXPNO 50
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140125
 Time_ 14.49
 INSTRUM av400
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 52882
 SOLVENT CDCl3
 NS 8
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.151523 Hz
 AQ 3.2998867 sec
 RG 73.86
 DW 62.400 usec
 DE 6.50 usec
 TE 299.0 K
 D1 2.00000000 sec
 TD0 1

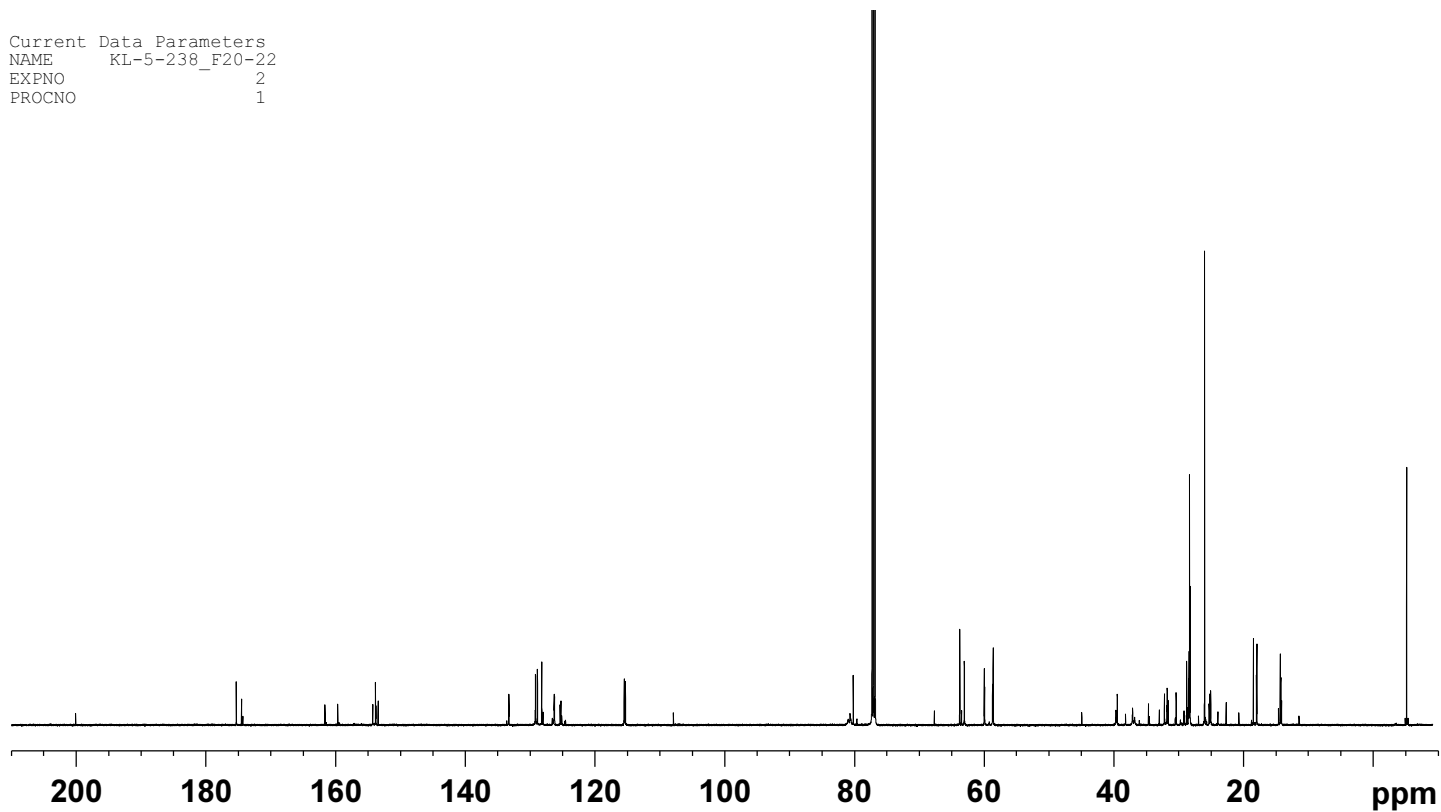


===== CHANNEL f1 =====
 SF01 400.1324008 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 13.00000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300184 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

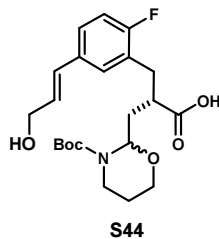


Current Data Parameters
 NAME KL-5-238_F20-22
 EXPNO 2
 PROCNO 1



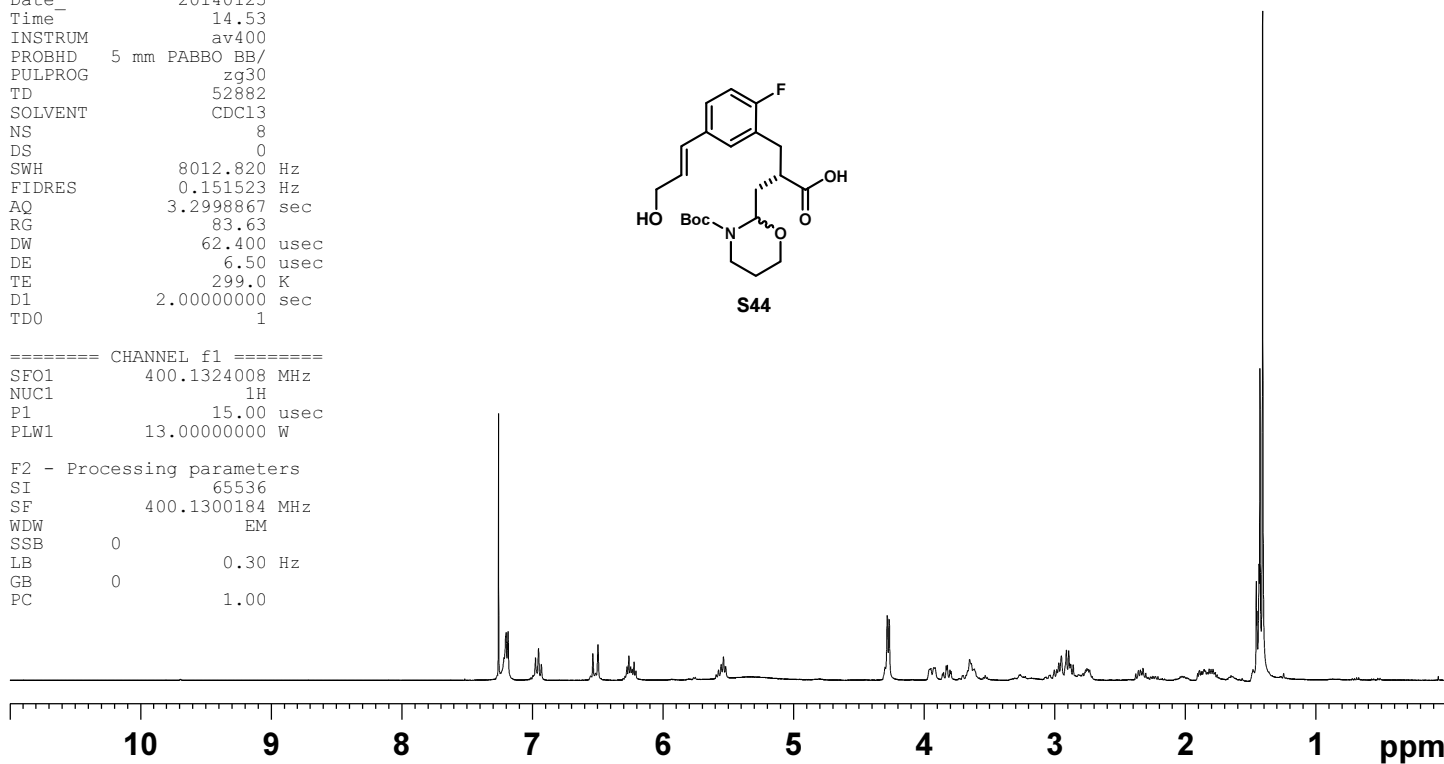
Current Data Parameters
 NAME KL-5-241C_pHPLC
 EXPNO 60
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140125
 Time_ 14.53
 INSTRUM av400
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 52882
 SOLVENT CDCl3
 NS 8
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.151523 Hz
 AQ 3.2998867 sec
 RG 83.63
 DW 62.400 usec
 DE 6.50 usec
 TE 299.0 K
 D1 2.00000000 sec
 TD0 1

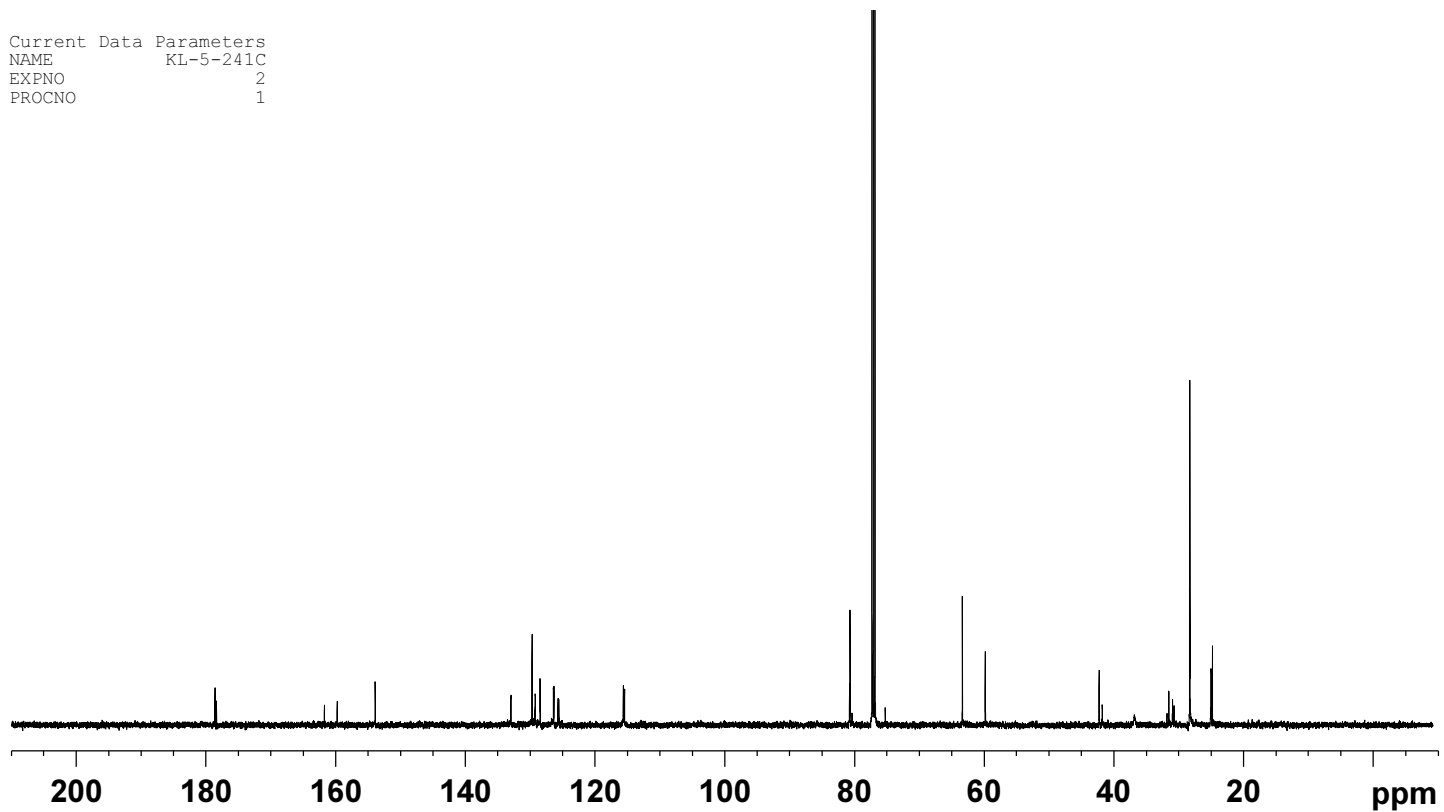


===== CHANNEL f1 =====
 SF01 400.1324008 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 13.00000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300184 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

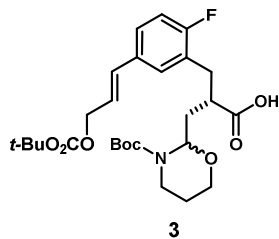


Current Data Parameters
 NAME KL-5-241C
 EXPNO 2
 PROCNO 1



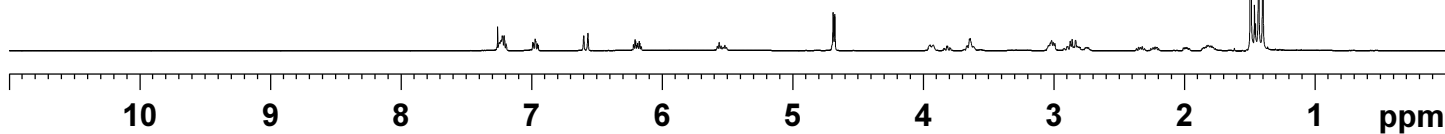
Current Data Parameters
 NAME KL_Template3
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140609
 Time_ 12.46
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zg
 TD 65536
 SOLVENT CDCl3
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 12.14
 DW 50.000 usec
 DE 10.00 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1

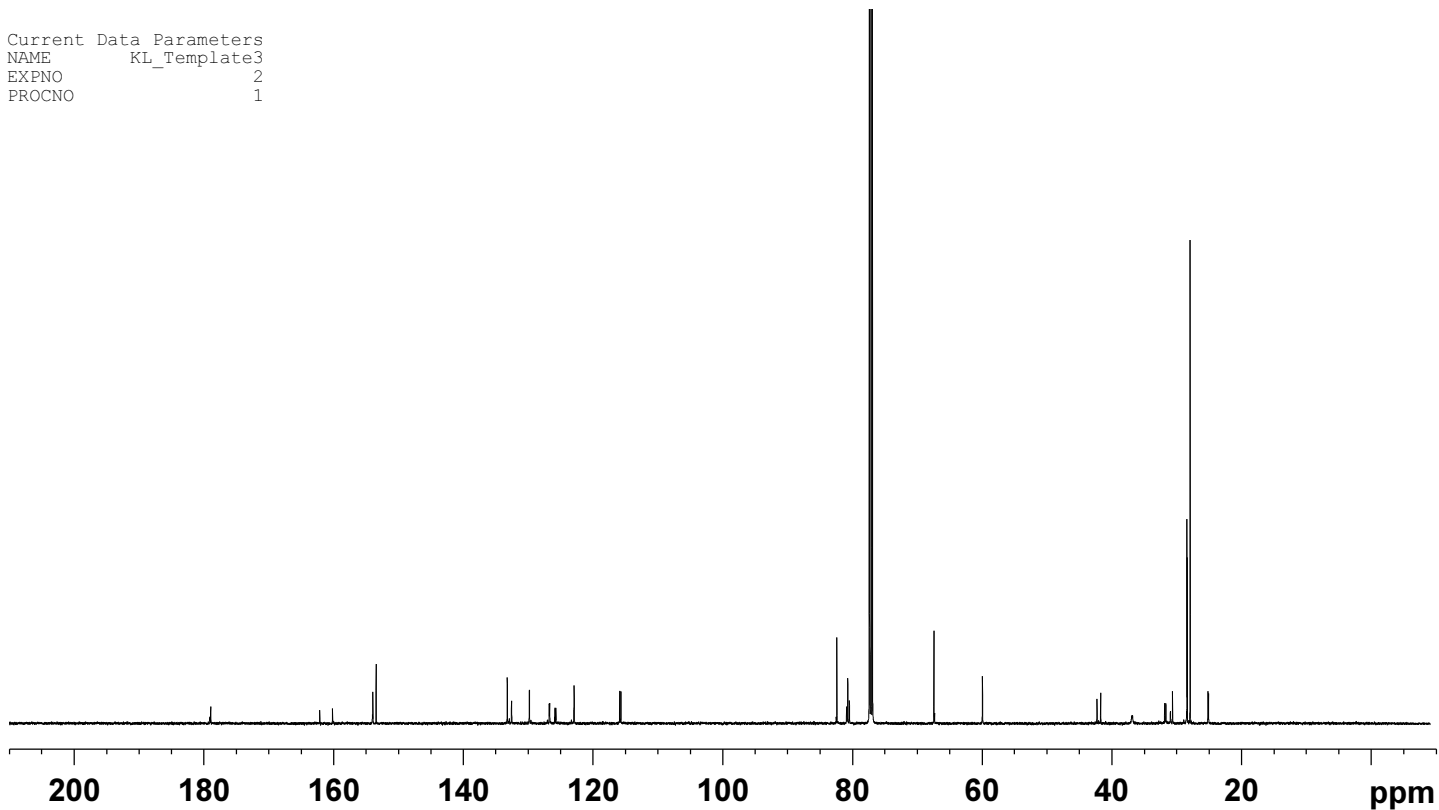


===== CHANNEL f1 =====
 SF01 500.1330008 MHz
 NUC1 1H
 P1 9.73 usec
 PLW1 13.50000000 W

F2 - Processing parameters
 SI 65536
 SF 500.1300123 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



Current Data Parameters
 NAME KL_Template3
 EXPNO 2
 PROCNO 1



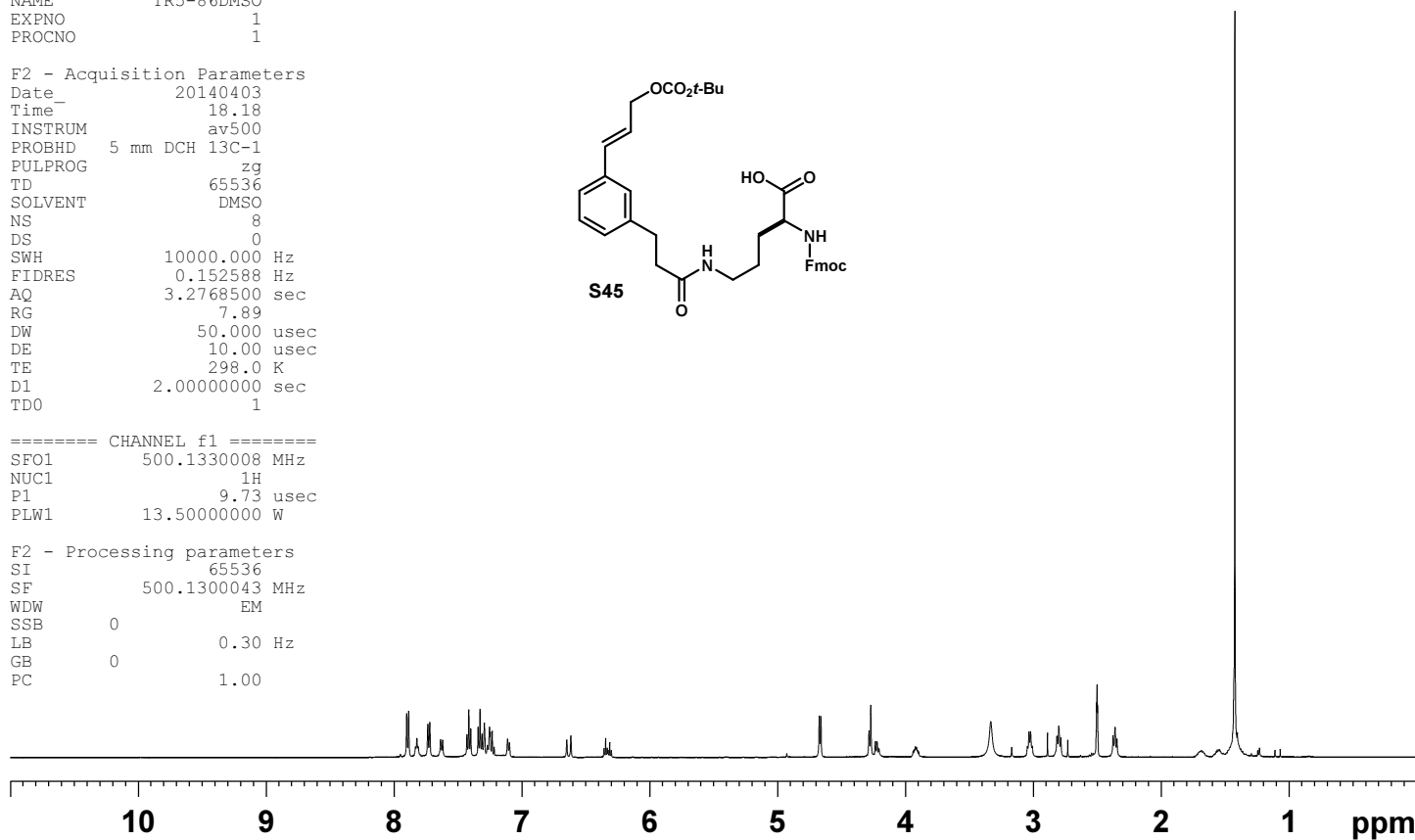
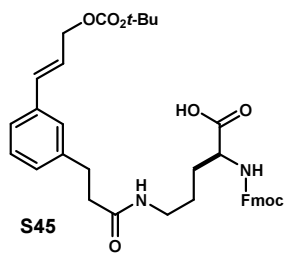
Macrocycles and acyclic precursors
(Compounds **4-30**, **S45 – S56**)

Current Data Parameters
 NAME TR5-86DMSO
 EXPNO 1
 PROCNO 1

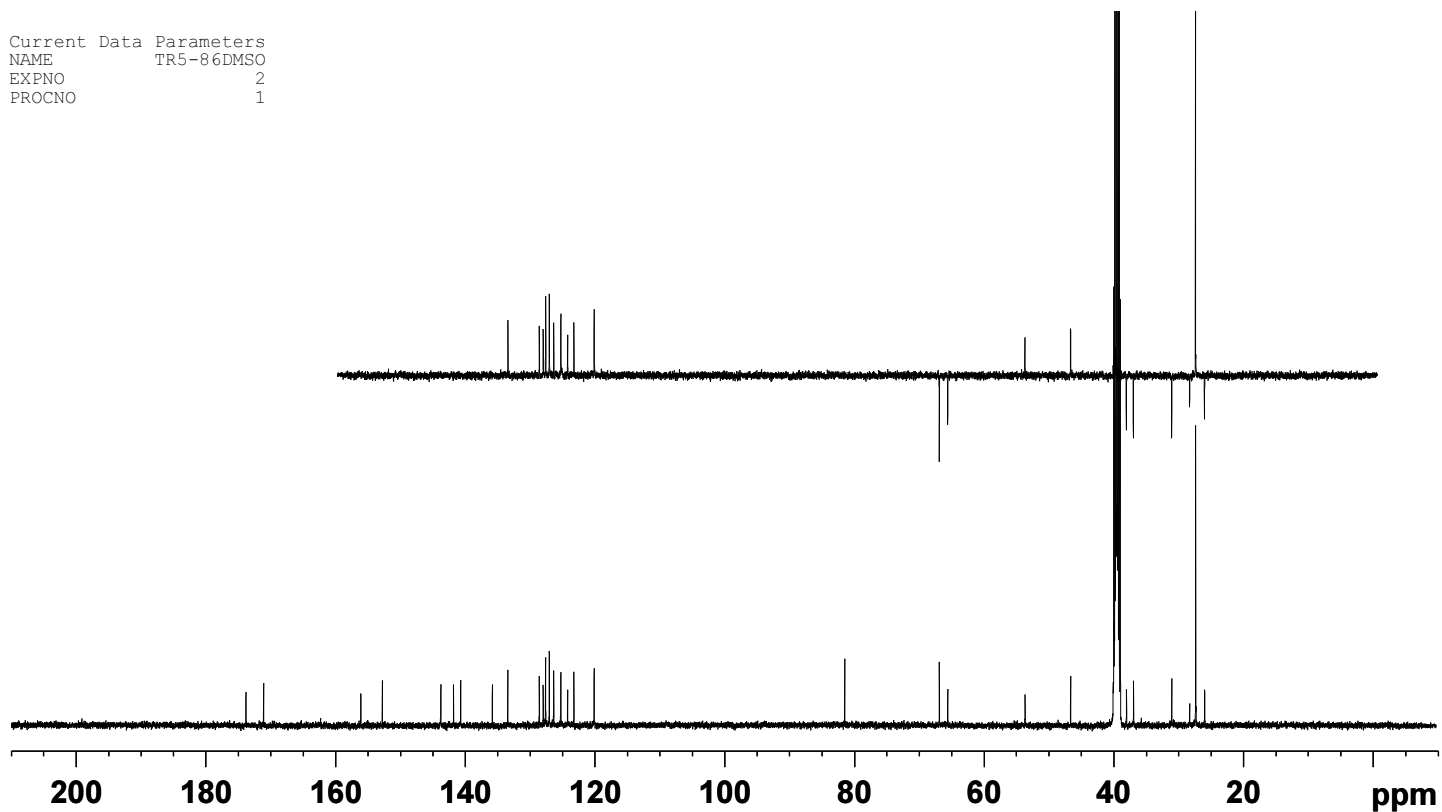
F2 - Acquisition Parameters
 Date_ 20140403
 Time_ 18.18
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 7.89
 DW 50.000 usec
 DE 10.00 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 SF01 500.1330008 MHz
 NUC1 1H
 P1 9.73 usec
 PLW1 13.50000000 W

F2 - Processing parameters
 SI 65536
 SF 500.1300043 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

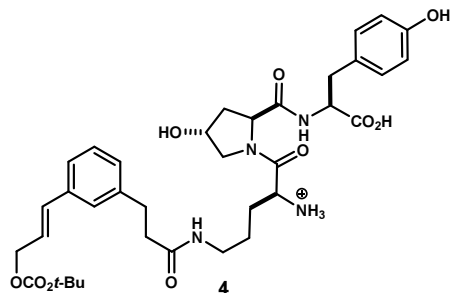


Current Data Parameters
 NAME TR5-86DMSO
 EXPNO 2
 PROCNO 1



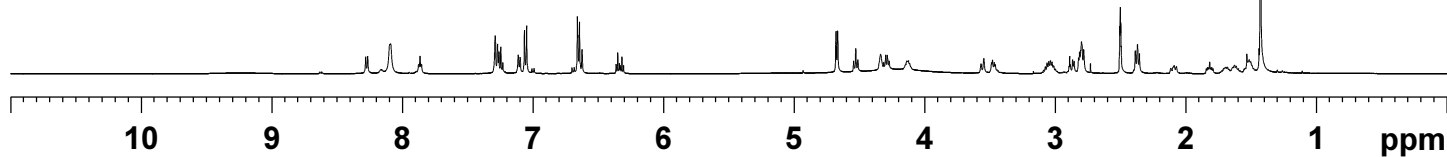
Current Data Parameters
 NAME TR5-78_AV500
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140311
 Time_ 17.56
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 7.89
 DW 50.000 usec
 DE 10.00 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1

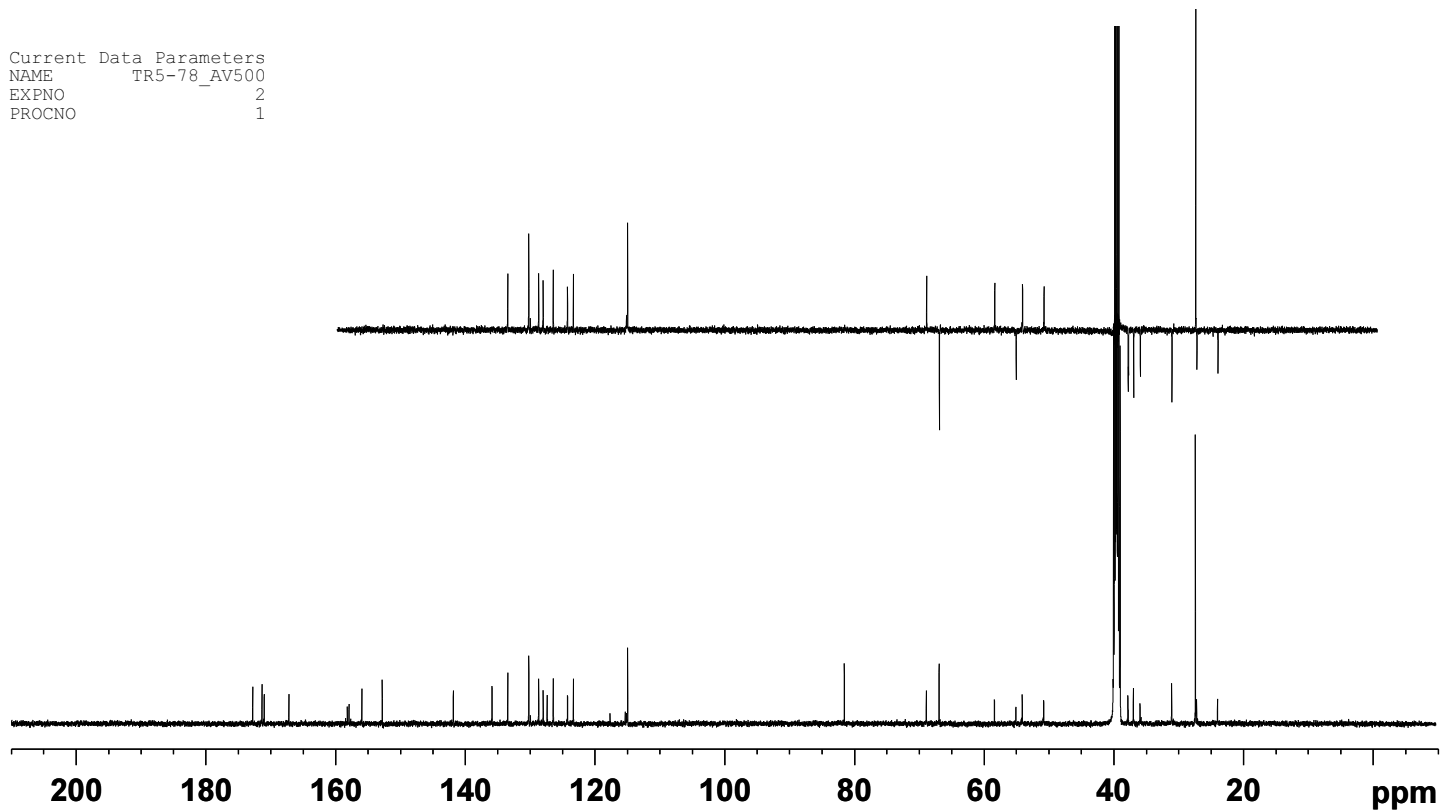


===== CHANNEL f1 =====
 SF01 500.1330008 MHz
 NUC1 1H
 P1 9.73 usec
 PLW1 13.50000000 W

F2 - Processing parameters
 SI 65536
 SF 500.1300040 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

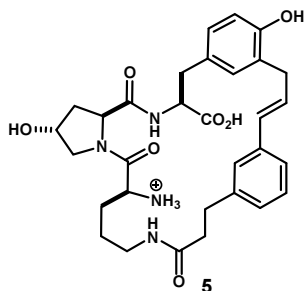


Current Data Parameters
 NAME TR5-78_AV500
 EXPNO 2
 PROCNO 1



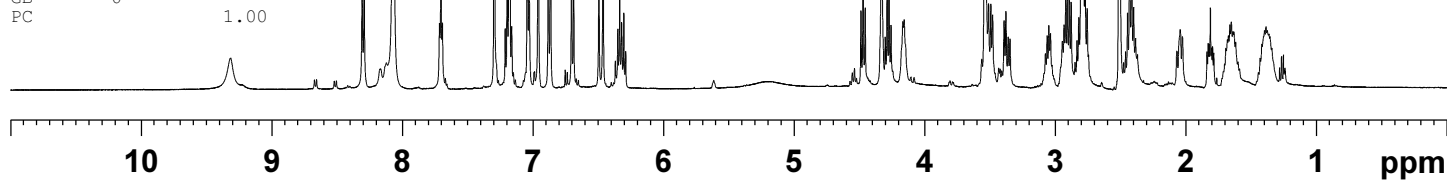
Current Data Parameters
 NAME TR5-92
 EXPNO 9
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140316
 Time_ 20.01
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 7.35
 DW 50.000 usec
 DE 10.00 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1

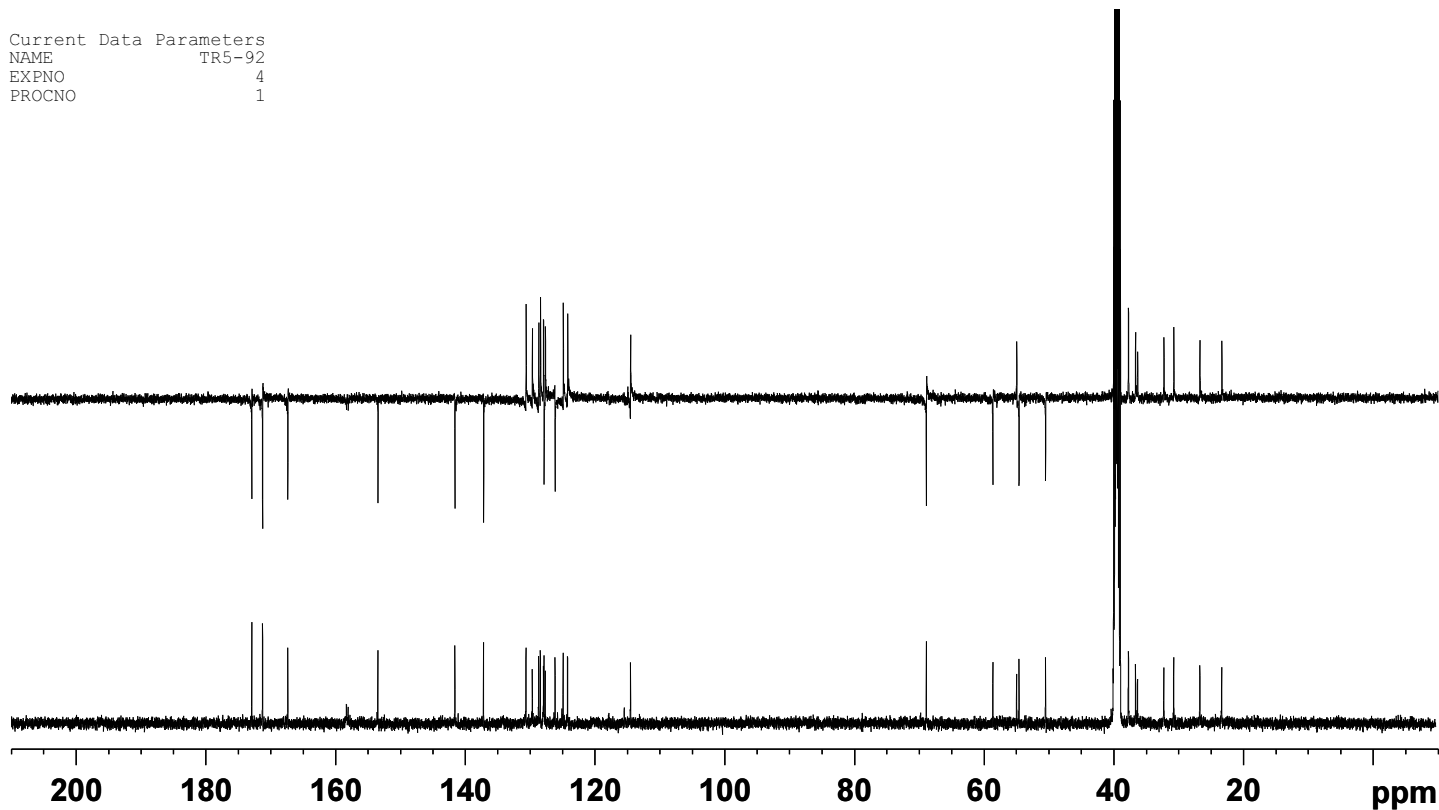


===== CHANNEL f1 =====
 SF01 500.1330008 MHz
 NUC1 1H
 P1 9.75 usec
 PLW1 13.50000000 W

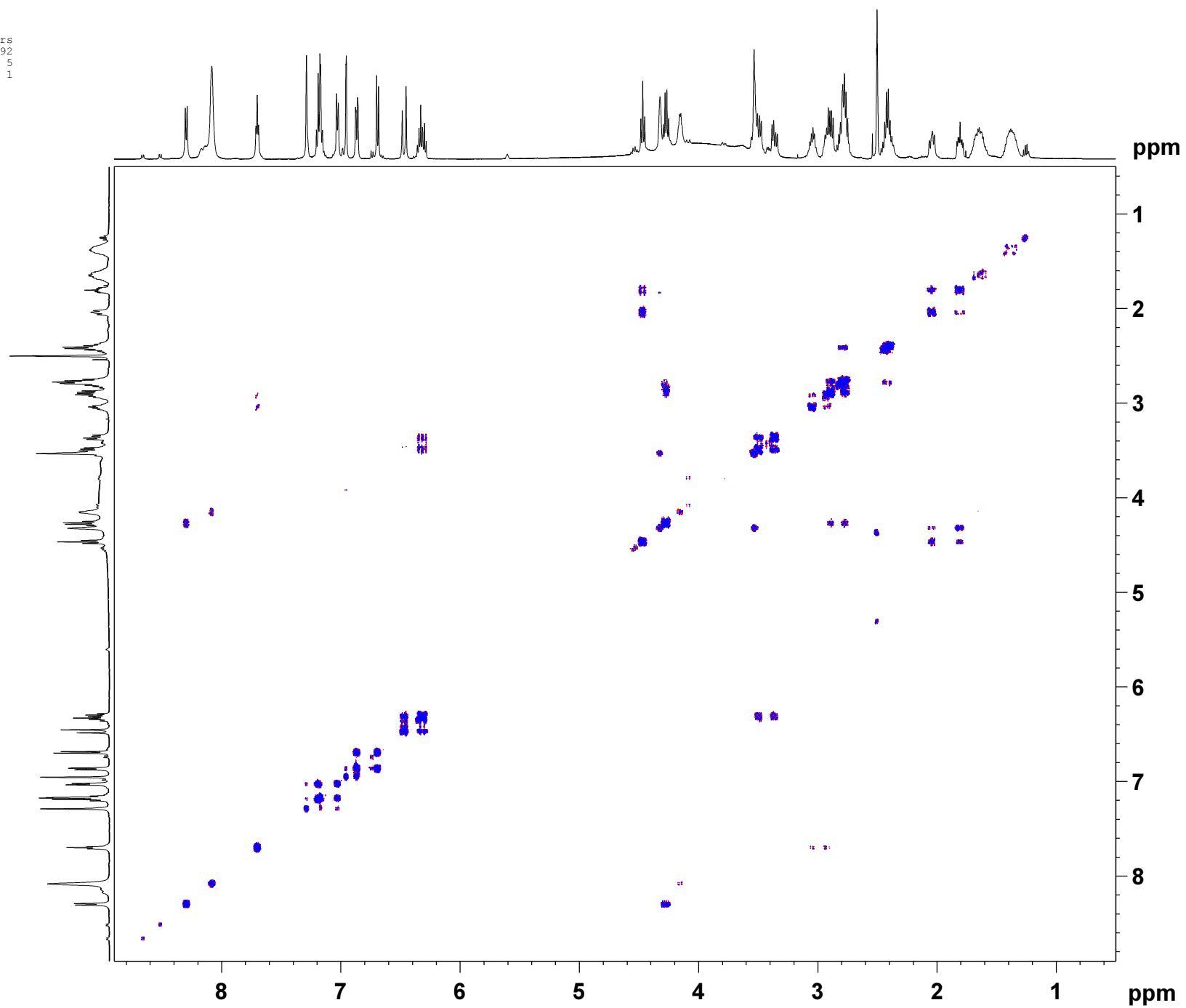
F2 - Processing parameters
 SI 65536
 SF 500.1330000 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



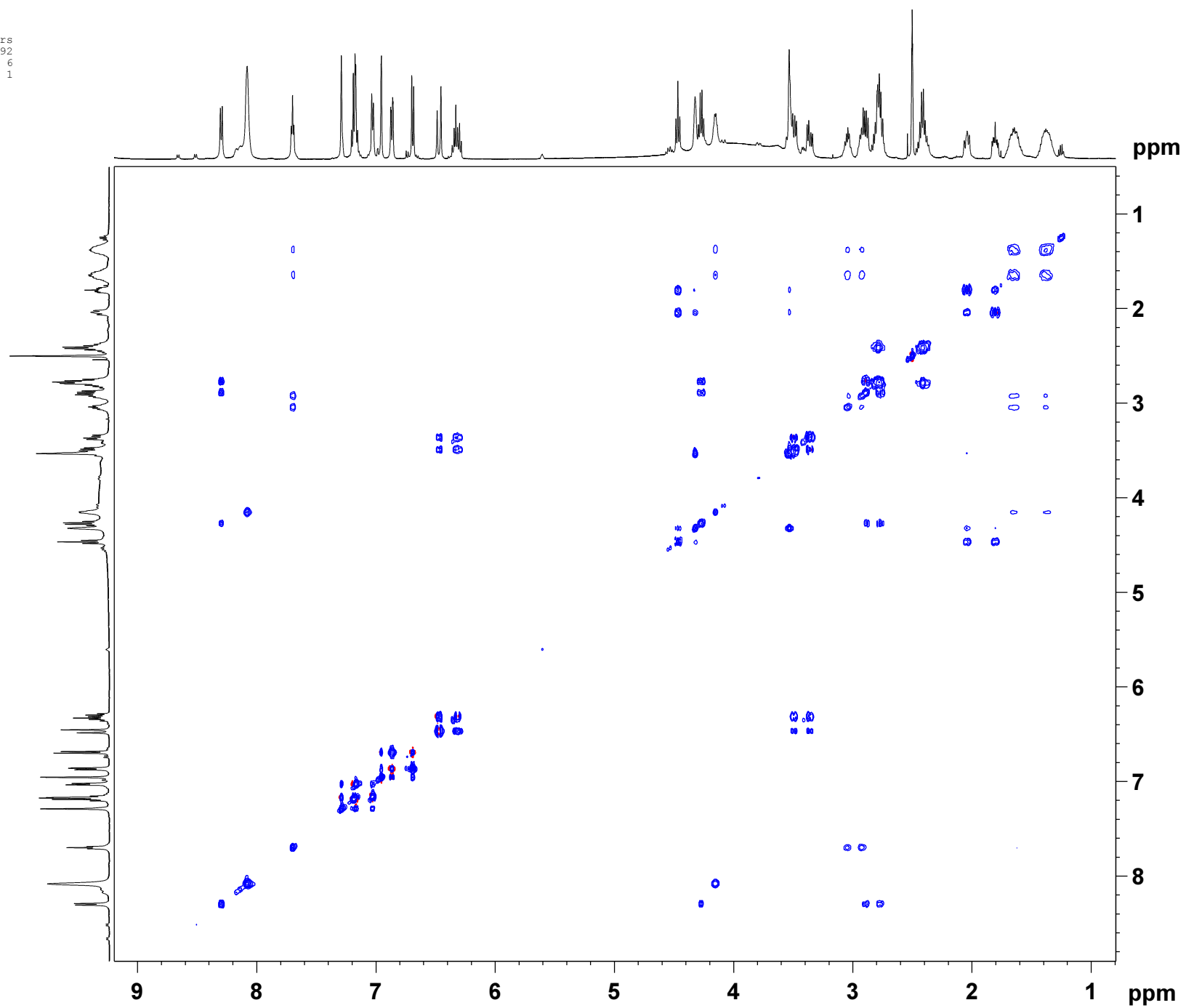
Current Data Parameters
 NAME TR5-92
 EXPNO 4
 PROCNO 1



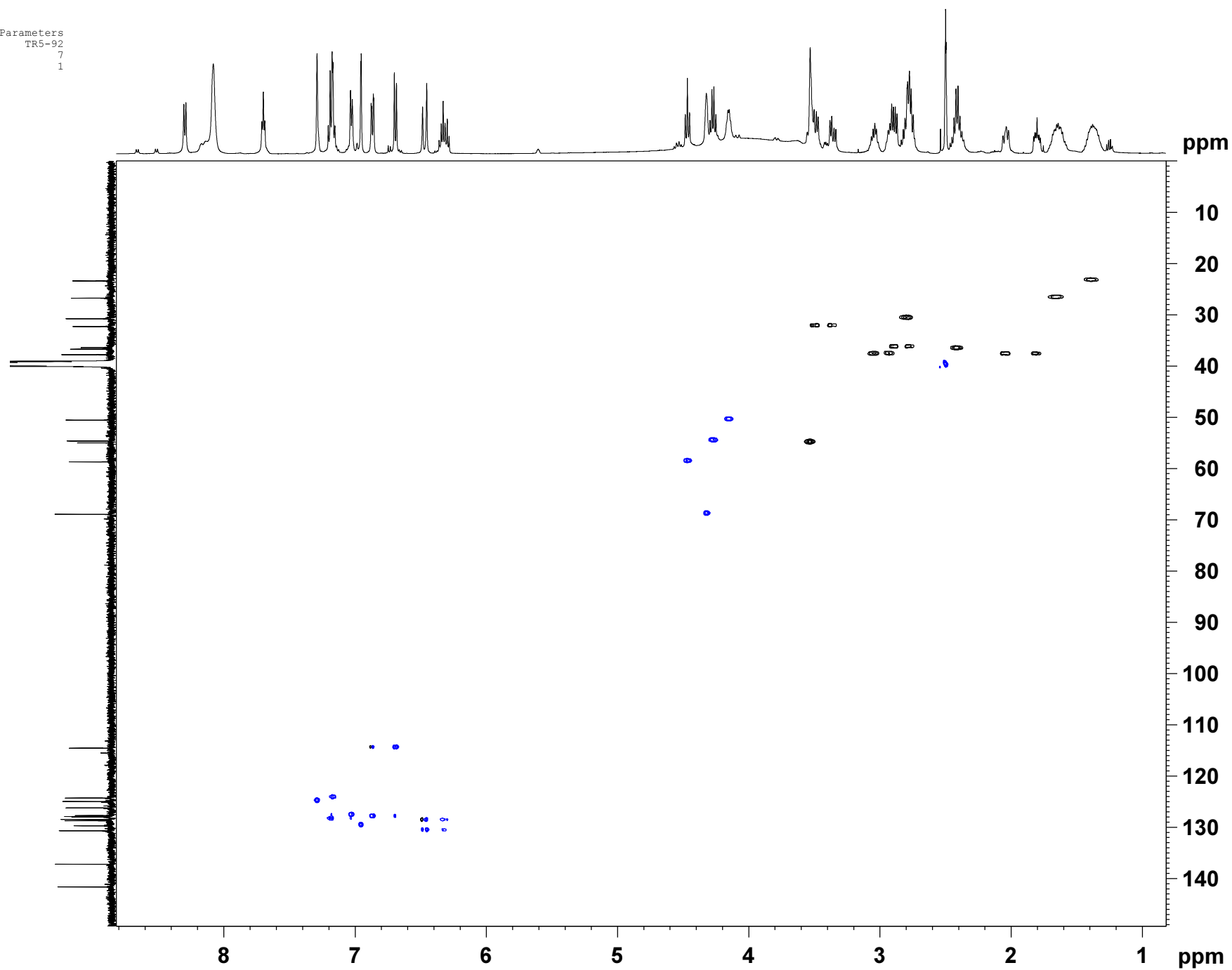
Current Data Parameters
NAME TR5-92
EXPNO 5
PROCNO 1



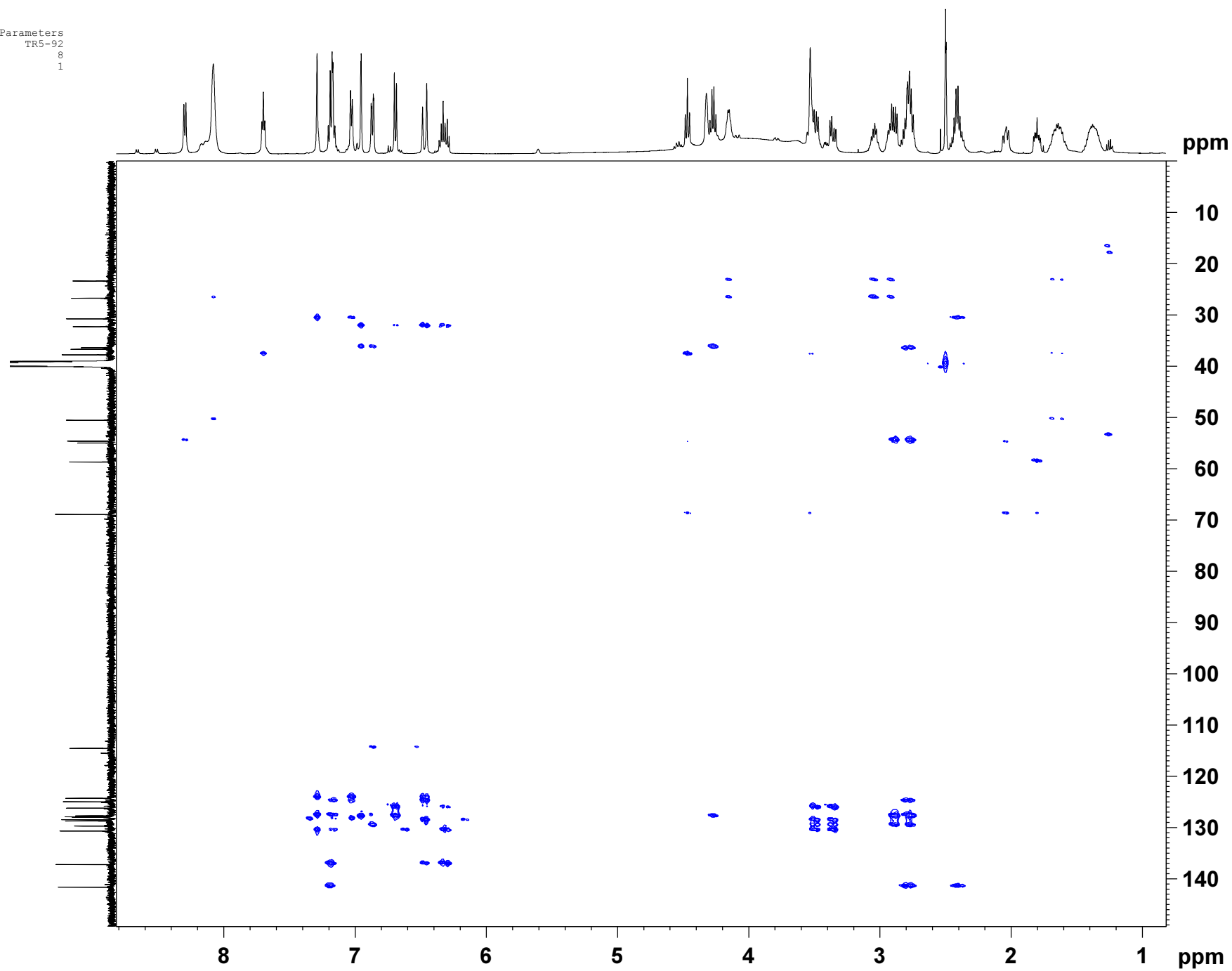
Current Data Parameters
NAME TR5-92
EXPNO 6
PROCNO 1



Current Data Parameters
NAME TR5-92
EXPNO 7
PROCNO 1

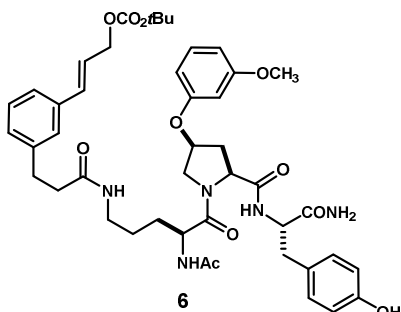


Current Data Parameters
NAME TR5-92
EXPNO 8
PROCNO 1



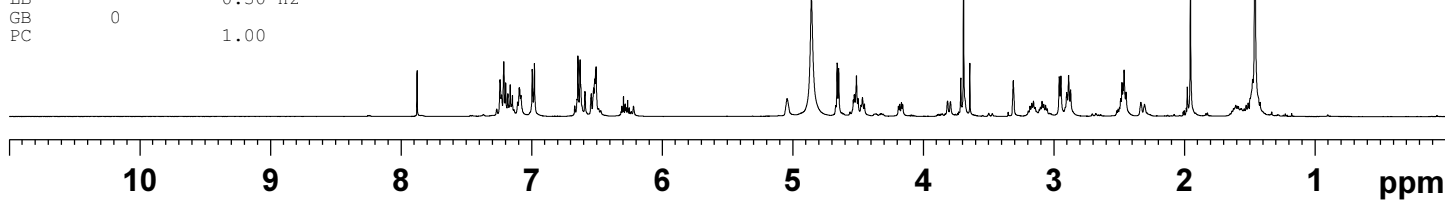
Current Data Parameters
 NAME TR3-48
 EXPNO 4
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20111220
 Time_ 10.37
 INSTRUM drx500
 PROBHD 5 mm bb-Z Z800
 PULPROG zg30
 TD 65536
 SOLVENT MeOD
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 18
 DW 50.000 usec
 DE 6.00 usec
 TE 296.6 K
 D1 2.00000000 sec
 TD0 1

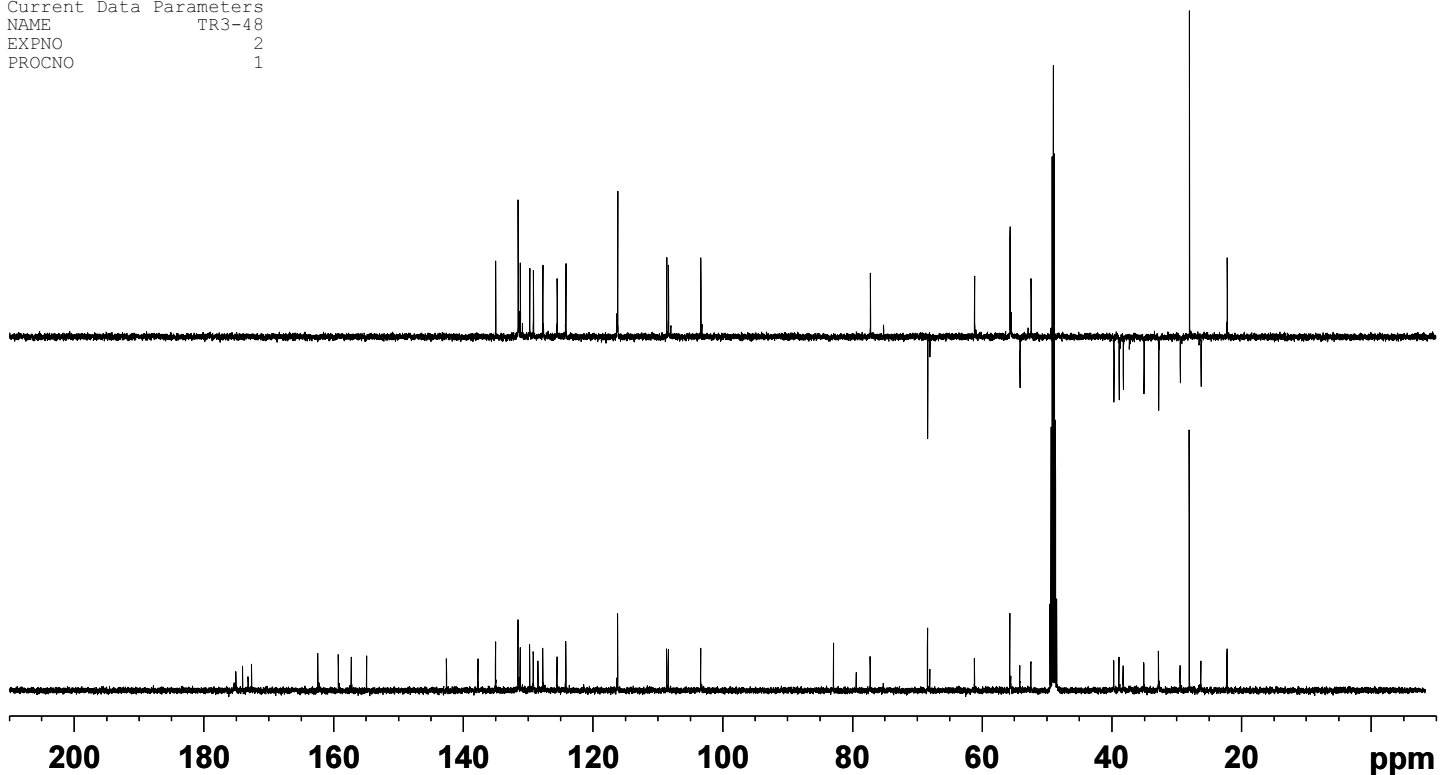


===== CHANNEL f1 =====
 NUC1 1H
 P1 12.25 usec
 PL1 0 dB
 SF01 500.3330020 MHz

F2 - Processing parameters
 SI 32768
 SF 500.3300093 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



Current Data Parameters
 NAME TR3-48
 EXPNO 2
 PROCNO 1

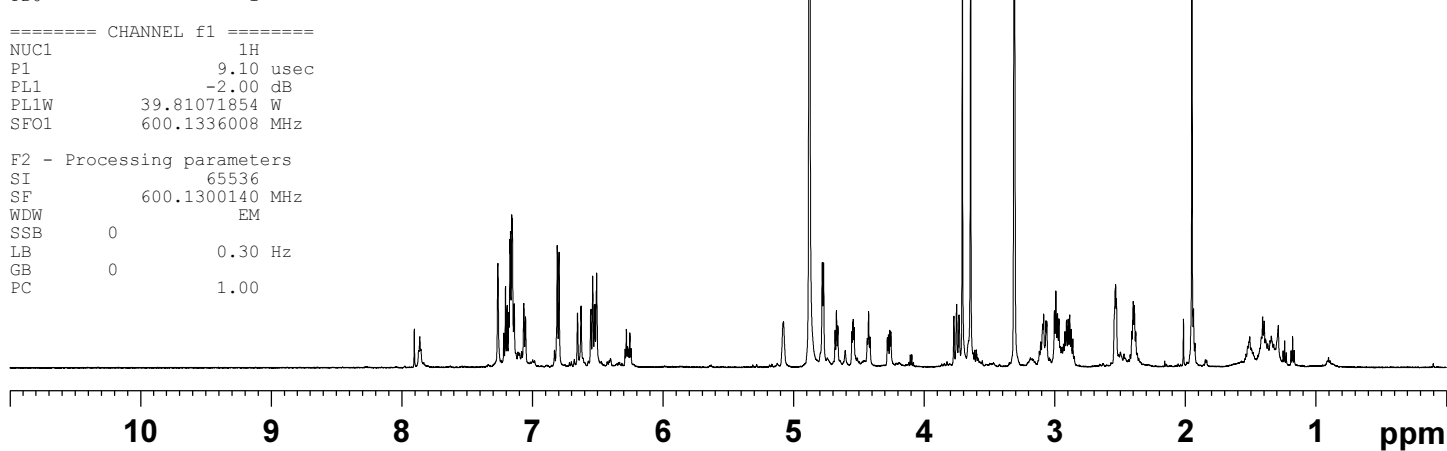
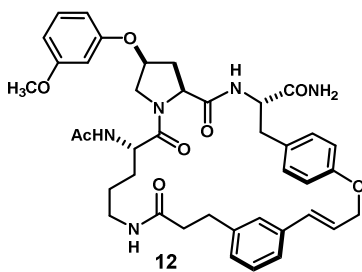


Current Data Parameters
 NAME TR3-50_PTLCL
 EXPNO 1
 PROCNO 1

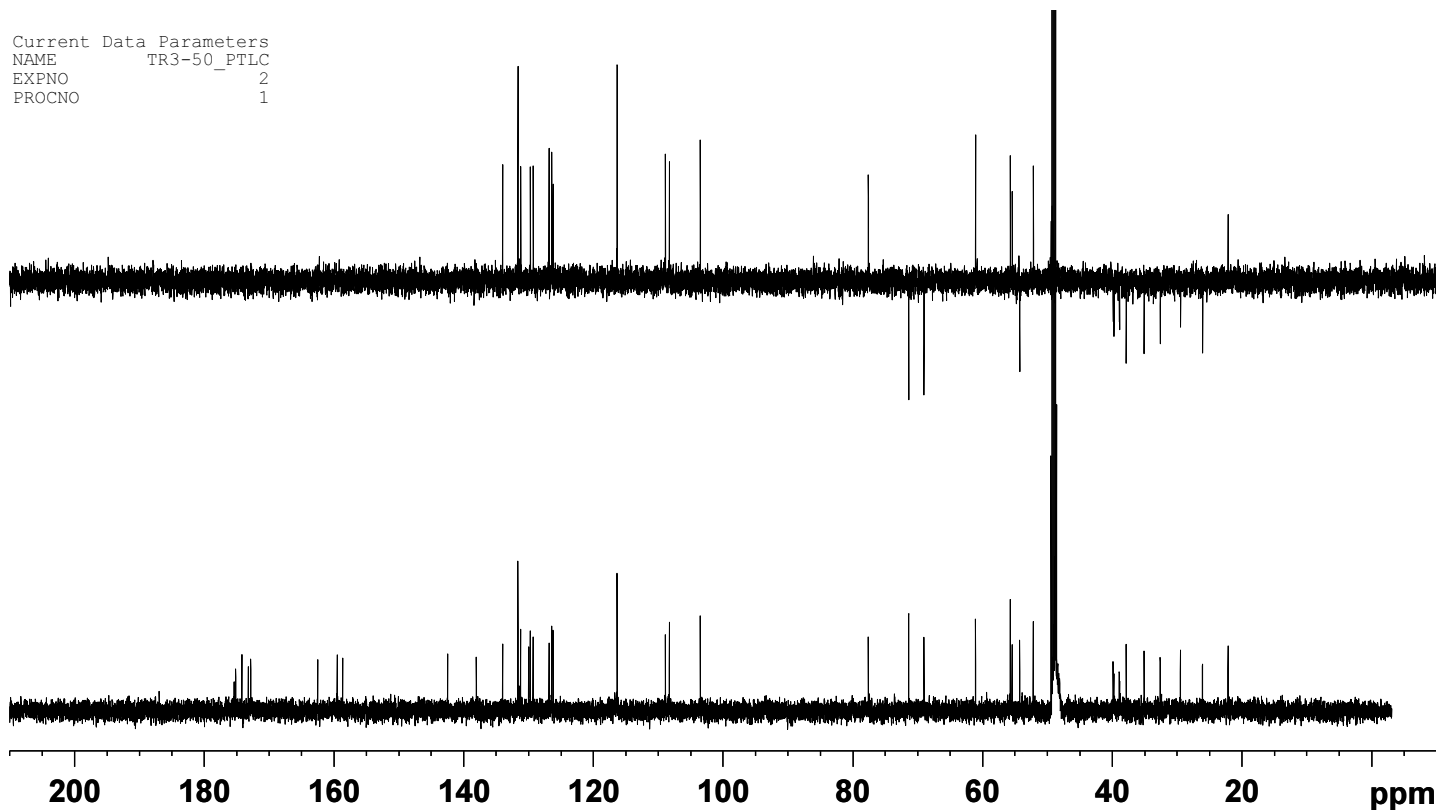
F2 - Acquisition Parameters
 Date_ 20120103
 Time 15.43
 INSTRUM av600
 PROBHD 5 mm BB5
 PULPROG zg30
 TD 65536
 SOLVENT MeOD
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 181
 DW 40.400 usec
 DE 6.50 usec
 TE 294.8 K
 D1 2.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 1H
 P1 9.10 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300140 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

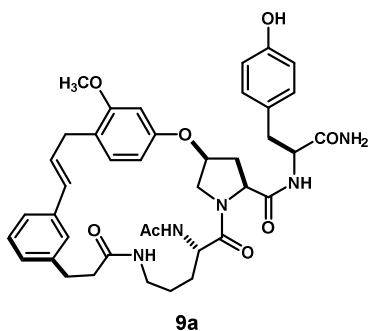


Current Data Parameters
 NAME TR3-50_PTLCL
 EXPNO 2
 PROCNO 1



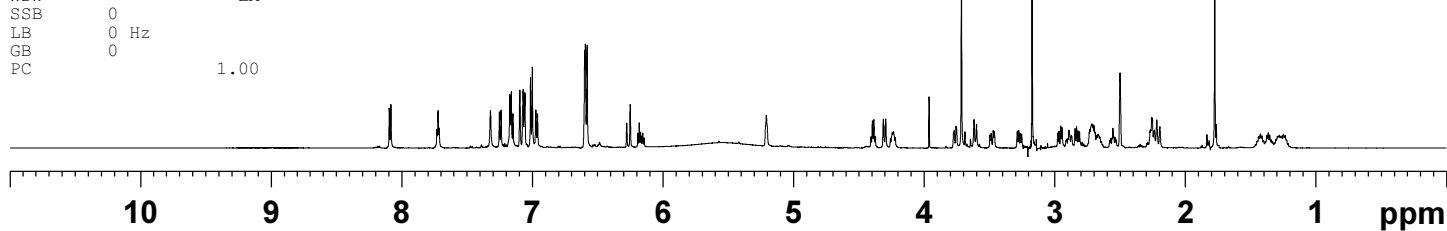
Current Data Parameters
 NAME TR3-61E
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120111
 Time_ 17.29
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 35.9
 DW 40.400 usec
 DE 6.50 usec
 TE 298.0 K
 D1 3.00000000 sec
 TD0 1



===== CHANNEL f1 =====
 NUC1 1H
 P1 9.57 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300074 MHz
 WDW EM
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME TR3-61E
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120111
Time 17.41
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 35.9
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00008062 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
INO 0.00018560 sec

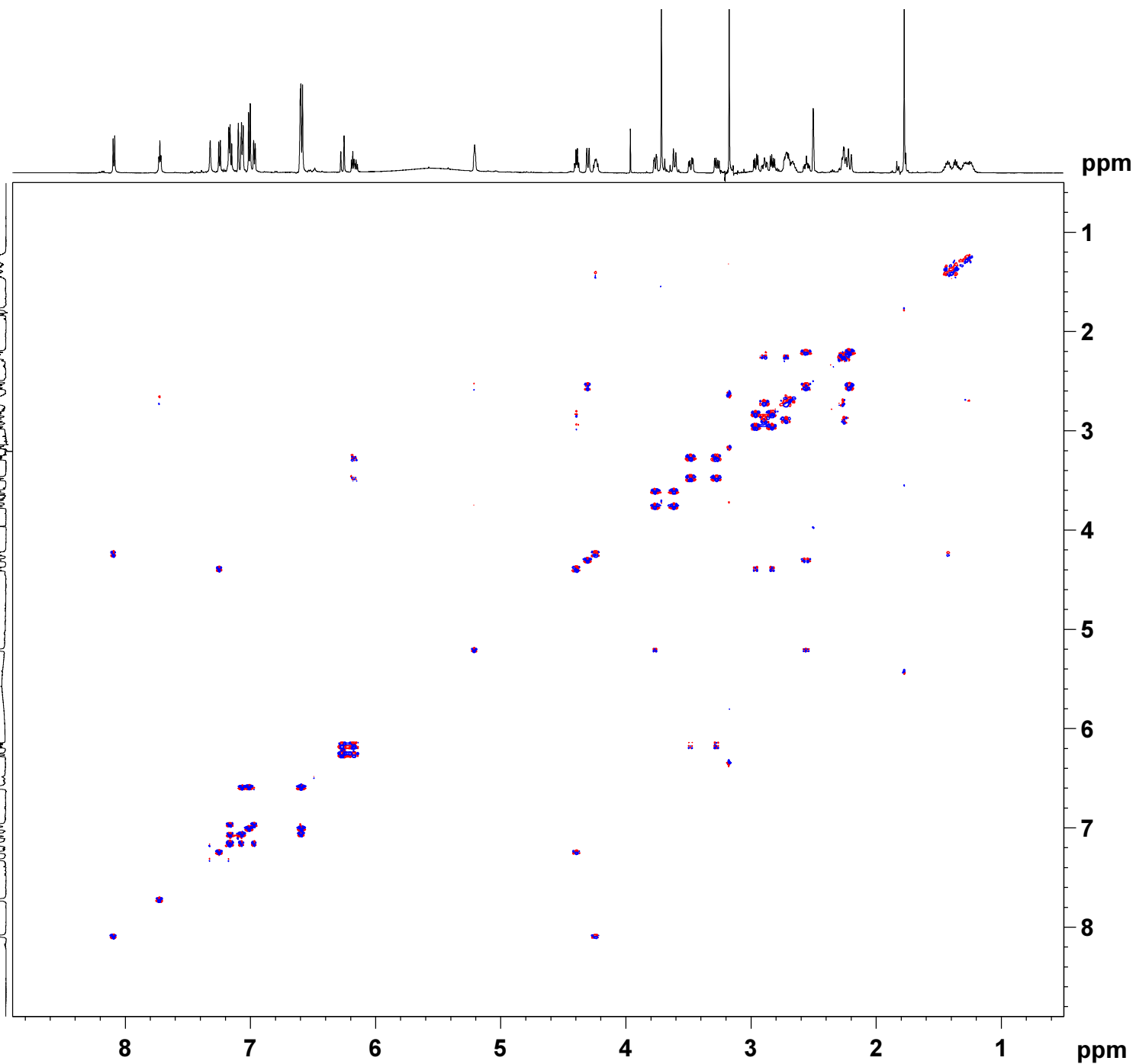
===== CHANNEL f1 =====
NUC1 1H
P1 9.57 usec
P2 19.14 usec
PL1 -2.00 dB
PL1W 39.81071857 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.1327 MHz
FIDRES 10.523297 Hz
SW 8.978 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300054 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300062 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-61E
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters

Date_ 20120111
Time 18.12
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG dipsi2etgpsi
TD 2048
SOLVENT DMSO
NS 8
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 35.9
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00000300 sec
D1 1.50000000 sec
D9 0.06000000 sec
D11 0.03000000 sec
D16 0.00020000 sec
D20 0.00001000 sec
D21 0.00001000 sec
IN0 0.00018560 sec
L1 14

===== CHANNEL f1 =====

NUC1 1H
P1 10.42 usec
P2 20.84 usec
P6 40.00 usec
PL1 -2.00 dB
PL10 9.61 dB
PL1W 39.81071854 W
PL10W 2.74789429 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====

GPNAME1 SINE.100
GPNAME2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 30.00 %
GPZ2 30.00 %
P16 1000.00 usec

F1 - Acquisition parameters

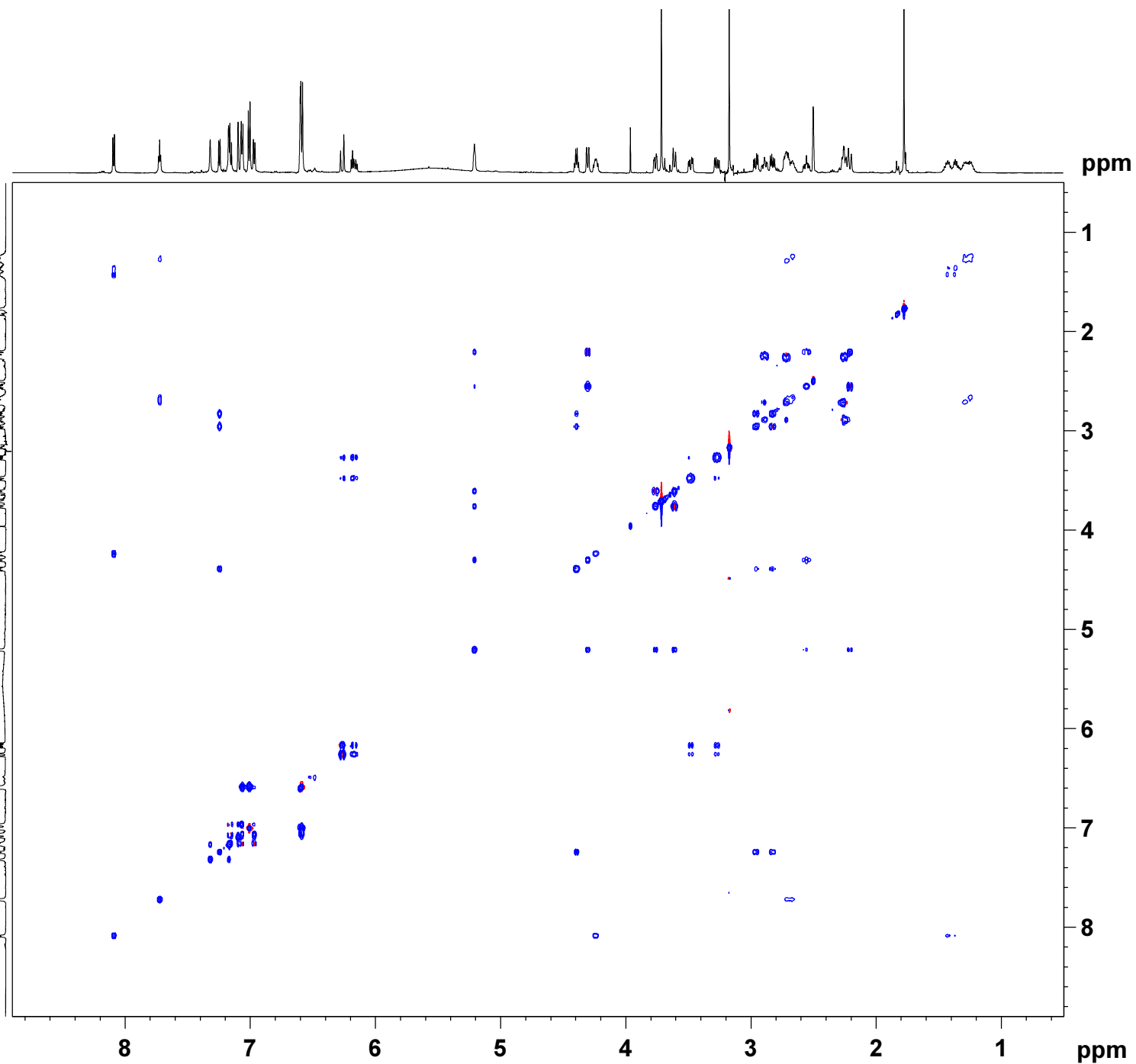
TD 256
SFO1 600.1327 MHz
FIDRES 21.046606 Hz
SW 8.978 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters

SI 4096
SF 600.1300082 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters

SI 4096
MC2 echo-antiecho
SF 600.1300088 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-61E
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120111
Time_ 19.14
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hsqcetgpsisp
TD 2048
SOLVENT DMSO
NS 8
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 5792.6
DW 83.200 usec
DE 6.00 usec
TE 298.2 K
CNST2 145.0000000
D0 0.00000300 sec
D1 1.00000000 sec
D4 0.00172414 sec
D11 0.03000000 sec
D16 0.00020000 sec
D24 0.00086200 sec
IN0 0.00002070 sec
ZGOPTNS

===== CHANNEL f1 =====
NUC1 1H
P1 9.57 usec
P2 19.14 usec
P28 1000.00 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

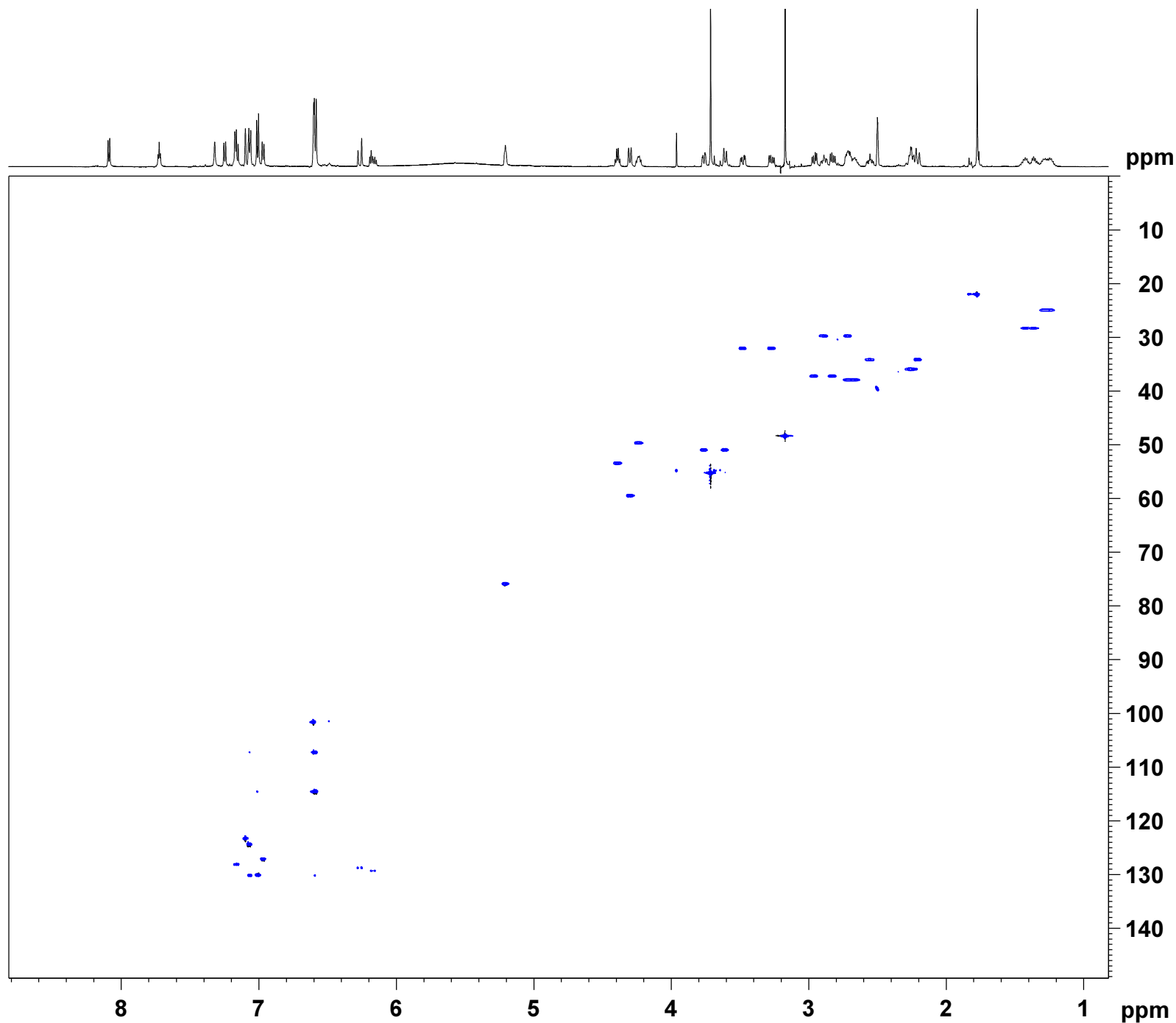
===== CHANNEL f2 =====
CPDPRG2 garp
NUC2 13C
P3 18.50 usec
P4 37.00 usec
P14 1000.00 usec
PCPD2 65.00 usec
PL0 120.00 dB
PL2 -3.00 dB
PL12 7.91 dB
PL0W 0 W
PL2W 150.35617065 W
PL12W 12.19330025 W
SFO2 150.9133722 MHz
SP3 4.59 dB
SPNAM3 Crp80,0.5,20.1
SPOAL3 0.500
SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 80.00 %
GPZ2 20.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 150.9134 MHz
FIDRES 47.160427 Hz
SW 160.000 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 600.1300049 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 echo-antiecho
SF 150.9029166 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-61E
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120111
Time 20.36
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hmbcgp12ndqf
TD 2048
SOLVENT DMSO
NS 20
DS 24
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 297.8 K
CNST6 125.0000000
CNST7 165.0000000
CNST13 8.0000000
D0 0.00000300 sec
D1 1.20000005 sec
D6 0.06250000 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 9.57 usec
P2 19.14 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

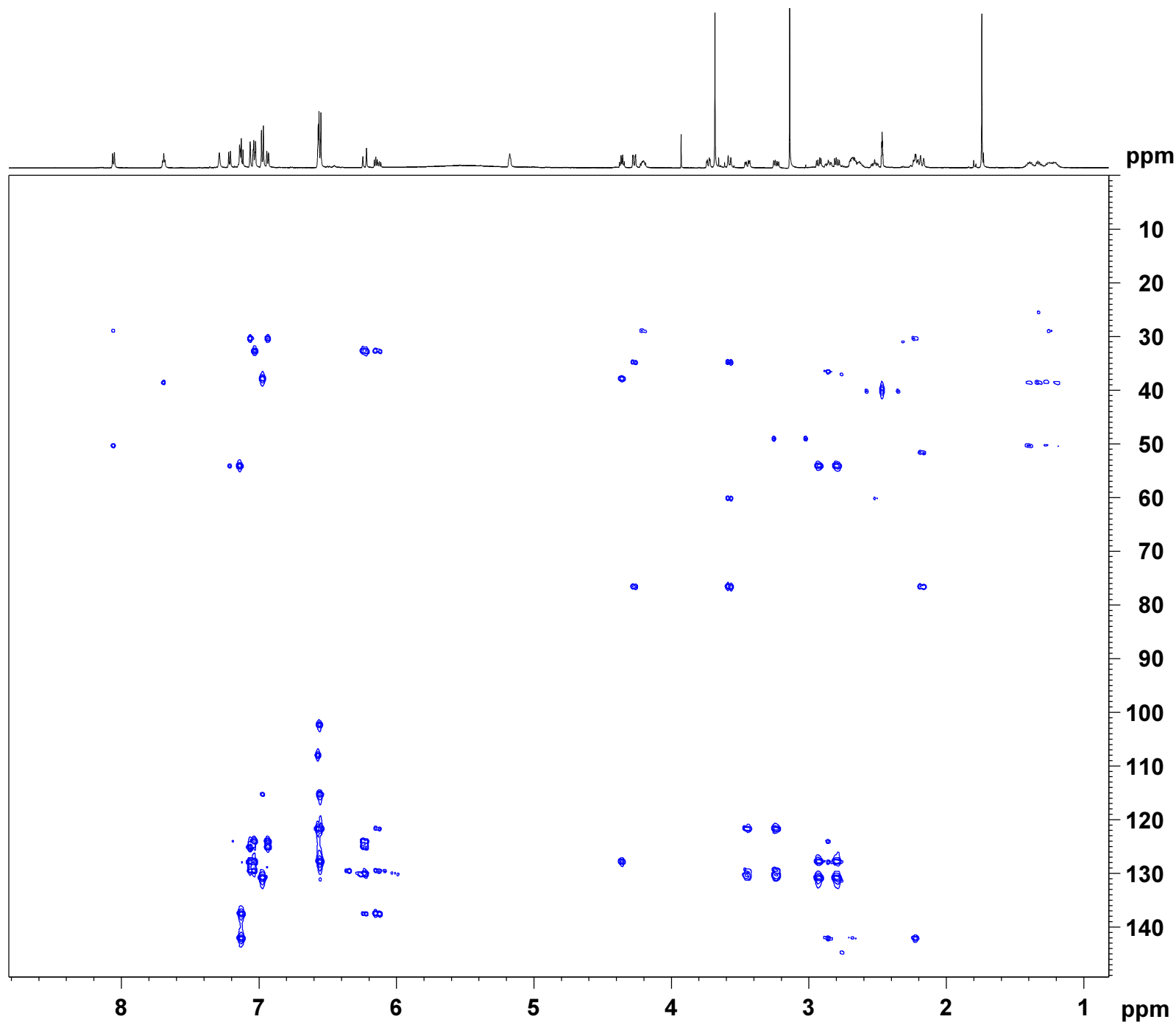
===== CHANNEL f2 =====
NUC2 13C
P3 18.50 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPNAM4 SINE.100
GPNAM5 SINE.100
GPNAM6 SINE.100
GFX1 0 %
GFX2 0 %
GFX3 0 %
GFX4 0 %
GFX5 0 %
GFX6 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPY4 0 %
GPY5 0 %
GPY6 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
GPZ4 15.00 %
GPZ5 -10.00 %
GPZ6 -5.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 150.9156 MHz
FIDRES 112.007698 Hz
SW 190.000 ppm
FnMODE QF

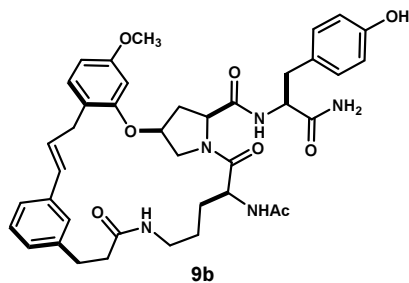
F2 - Processing parameters
SI 4096
SF 600.1300273 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9028090 MHz
WDW
SSB 2
LB 0 Hz
GB 0



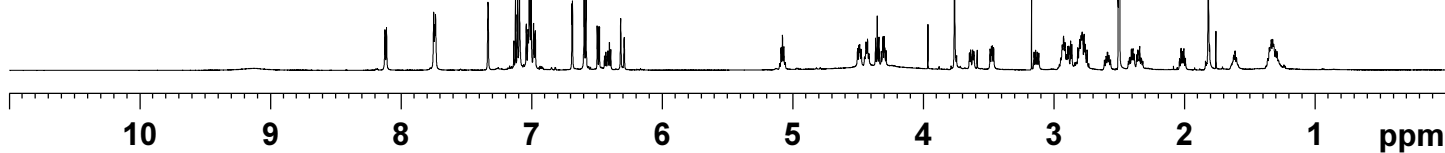
Current Data Parameters
NAME TR3-61C
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120111
Time_ 22.56
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG zg
TD 65536
SOLVENT DMSO
NS 8
DS 0
SWH 12376.237 Hz
FIDRES 0.188846 Hz
AQ 2.6477044 sec
RG 45.3
DW 40.400 usec
DE 6.50 usec
TE 298.0 K
D1 3.00000000 sec
TD0 1



===== CHANNEL f1 =====
NUC1 1H
P1 9.35 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1336008 MHz

F2 - Processing parameters
SI 65536
SF 600.1300078 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00



Current Data Parameters
NAME TR3-61C
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120111
Time_ 23.04
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 35.9
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00008090 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00018560 sec

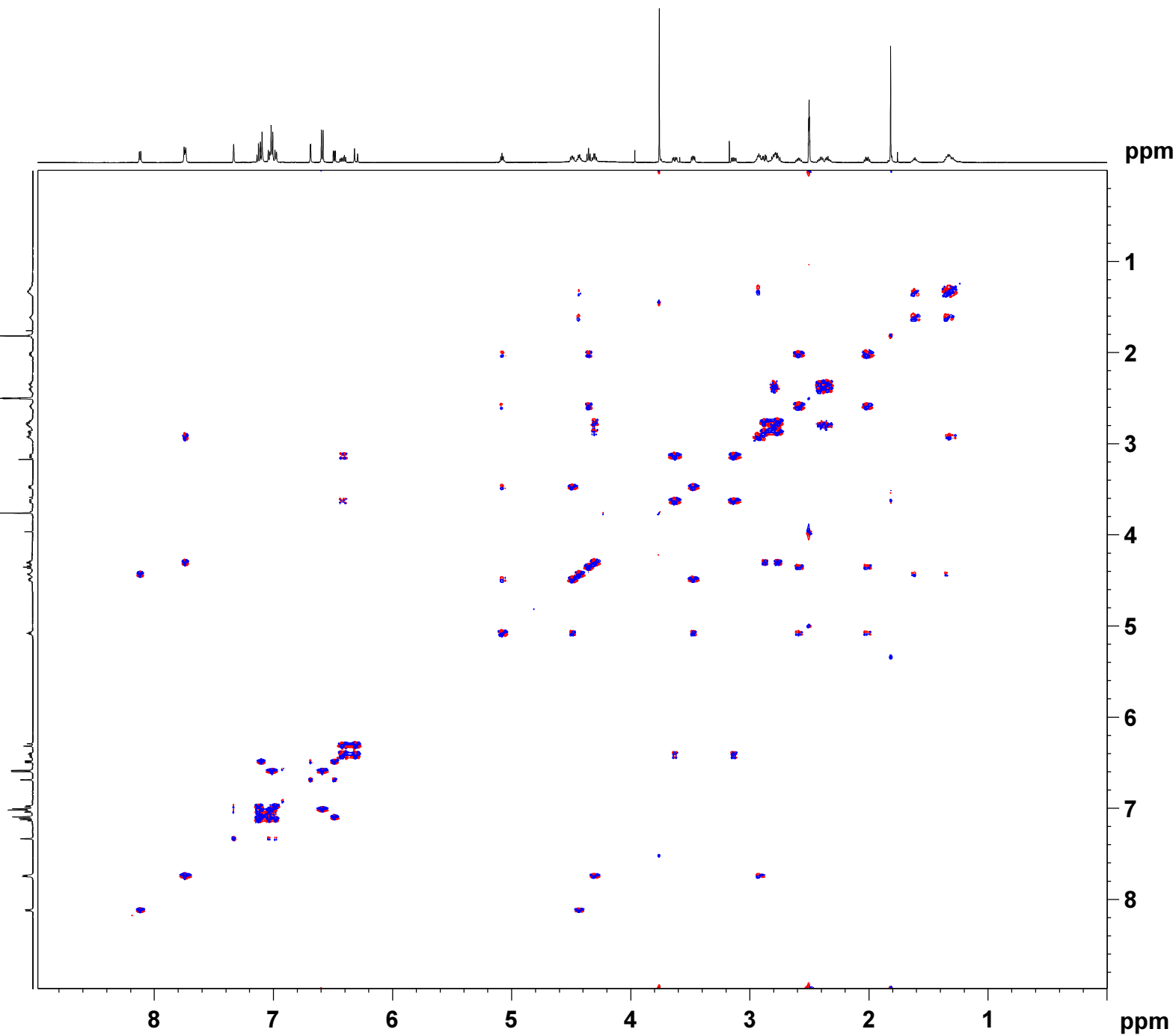
===== CHANNEL f1 =====
NUC1 1H
P1 9.35 usec
P2 18.70 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.1327 MHz
FIDRES 10.523297 Hz
SW 8.978 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300073 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300064 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-61C
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120111
Time_ 23.34
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG dipsi2etgpsi
TD 2048
SOLVENT DMSO
NS 8
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 35.9
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00000300 sec
D1 1.50000000 sec
D9 0.06000000 sec
D11 0.03000000 sec
D16 0.00020000 sec
D20 0.00001000 sec
D21 0.00001000 sec
IN0 0.00018560 sec
L1 14

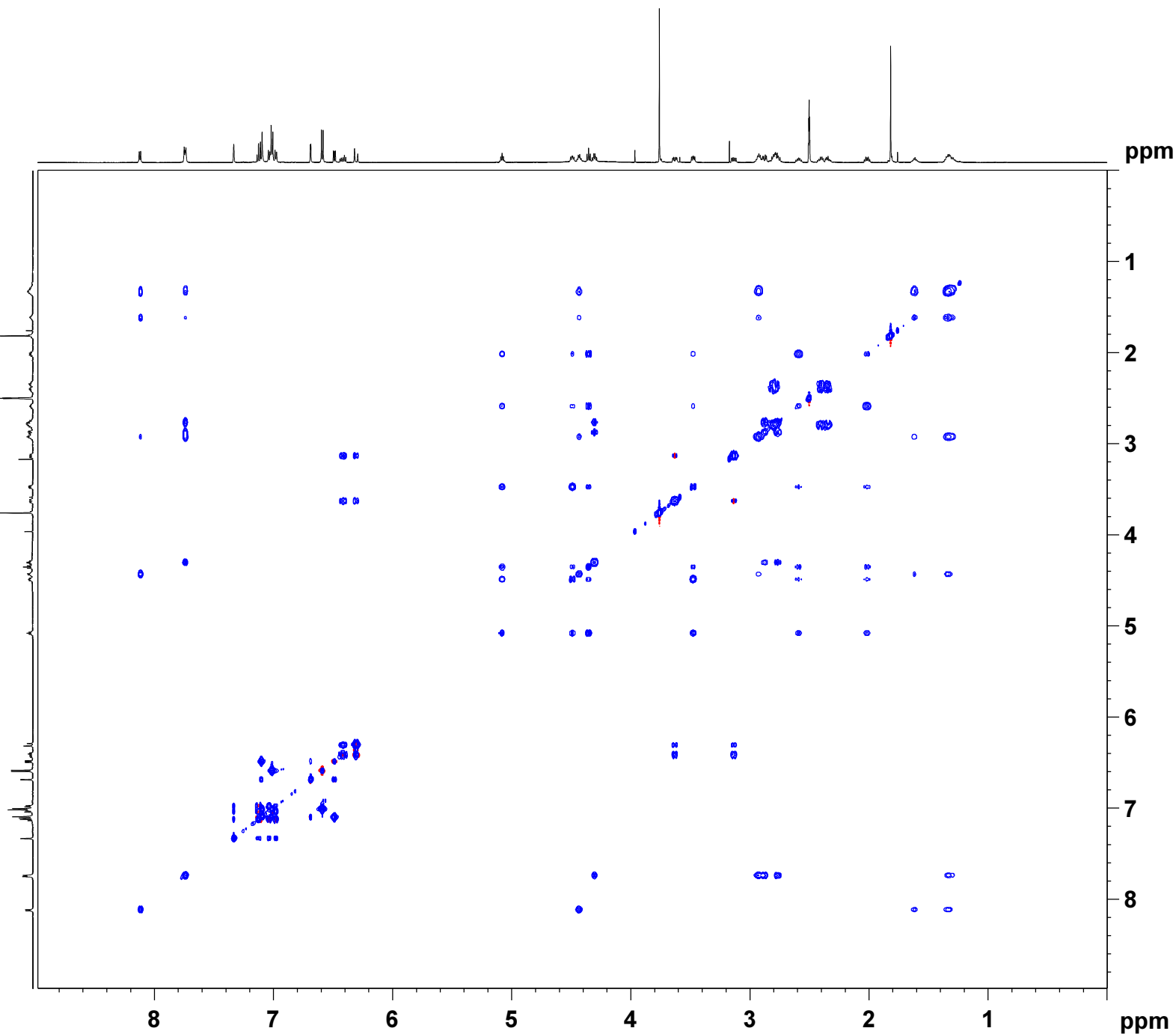
===== CHANNEL f1 =====
NUC1 1H
P1 9.35 usec
P2 18.70 usec
P6 40.00 usec
PL1 -2.00 dB
PL10 10.62 dB
PL1W 39.81071854 W
PL10W 2.17770982 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 30.00 %
GPZ2 30.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.1327 MHz
FIDRES 21.046606 Hz
SW 8.978 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 600.1300070 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 echo-antiecho
SF 600.1300067 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-61C
EXFNO 5
PROCNO 1

F2 - Acquisition Parameters
Date 20120112
Time 0.36
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hsqcetgpsisp
TD 2048
SOLVENT DMSO
NS 20
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 14596.5
DW 83.200 usec
DE 6.00 usec
TE 298.2 K
CNST2 145.0000000
D0 0.00000300 sec
D1 1.00000000 sec
D4 0.00172414 sec
D11 0.03000000 sec
D16 0.00020000 sec
D24 0.00086200 sec
IN0 0.00002070 sec
ZGPTNS

===== CHANNEL f1 =====
NUC1 1H
P1 9.35 usec
P2 18.70 usec
P28 1000.00 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

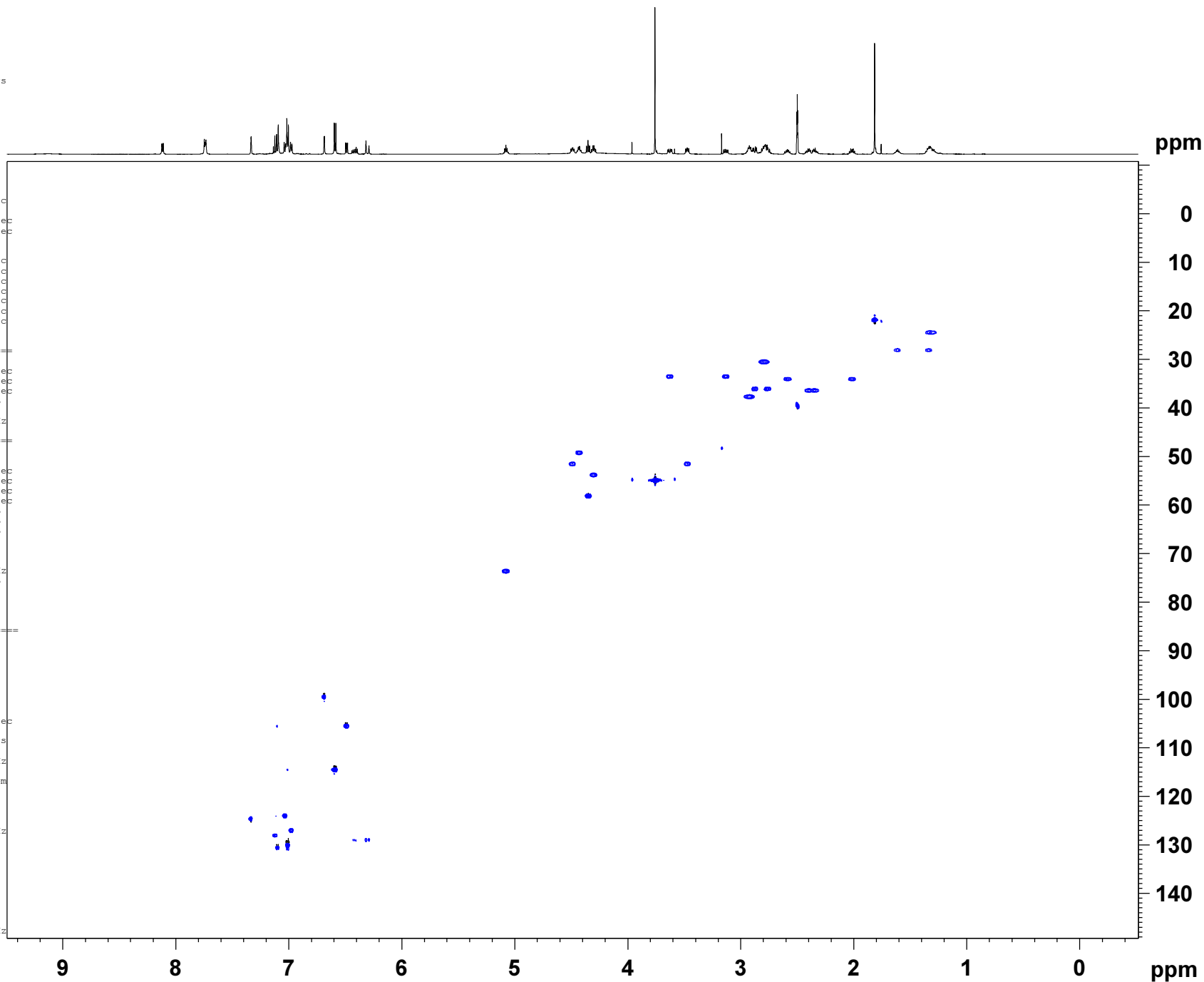
===== CHANNEL f2 =====
CPDPRG2 garp
NUC2 13C
P3 18.50 usec
P4 37.00 usec
P14 1000.00 usec
PCPD2 65.00 usec
PL0 120.00 dB
PL2 -3.00 dB
PL12 7.91 dB
PLOW 0 W
PL2W 150.35617065 W
PL12W 12.19330025 W
SFO2 150.9133722 MHz
SP3 4.59 dB
SPNAM3 Crp80,0.5,20.1
SPOAL3 0.500
SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 80.00 %
GPZ2 20.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 150.9134 MHz
FIDRES 47.160427 Hz
SW 160.000 ppm
FhMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 600.1300070 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 2048
MC2 echo-antiecho
SF 150.9029191 MHz
WDW
SSB
LB 0 Hz
GB 0



```

Current Data Parameters
NAME      TR3-61C
EXPNO     6
PROCNO    1

F2 - Acquisition Parameters
Date_     20120112
Time      4.01
INSTRUM   av600
PROBHD    5 mm TB15
PULPROG   hmbcpgl2ndqf
TD         2048
SOLVENT   DMSO
NS         50
DS         24
SWH        6009.615 Hz
FIDRES     2.934382 Hz
AQ         0.1704436 sec
RG         26008
DW         83.200 usec
DE         6.00 usec
TE         297.9 K
CNST6     125.0000000
CNST7     165.0000000
CNST13    8.0000000
D0         0.00000300 sec
D1         1.20000005 sec
D6         0.06250000 sec
D16        0.00020000 sec
IN0        0.00001745 sec

===== CHANNEL f1 =====
NUC1       1H
P1         9.35 usec
P2         18.70 usec
PL1        -2.00 dB
PL1W       39.81071854 W
SFO1       600.1327006 MHz

===== CHANNEL f2 =====
NUC2       13C
P3         18.50 usec
PL2        -3.00 dB
PL2W       150.35617065 W
SFO2       150.9156357 MHz

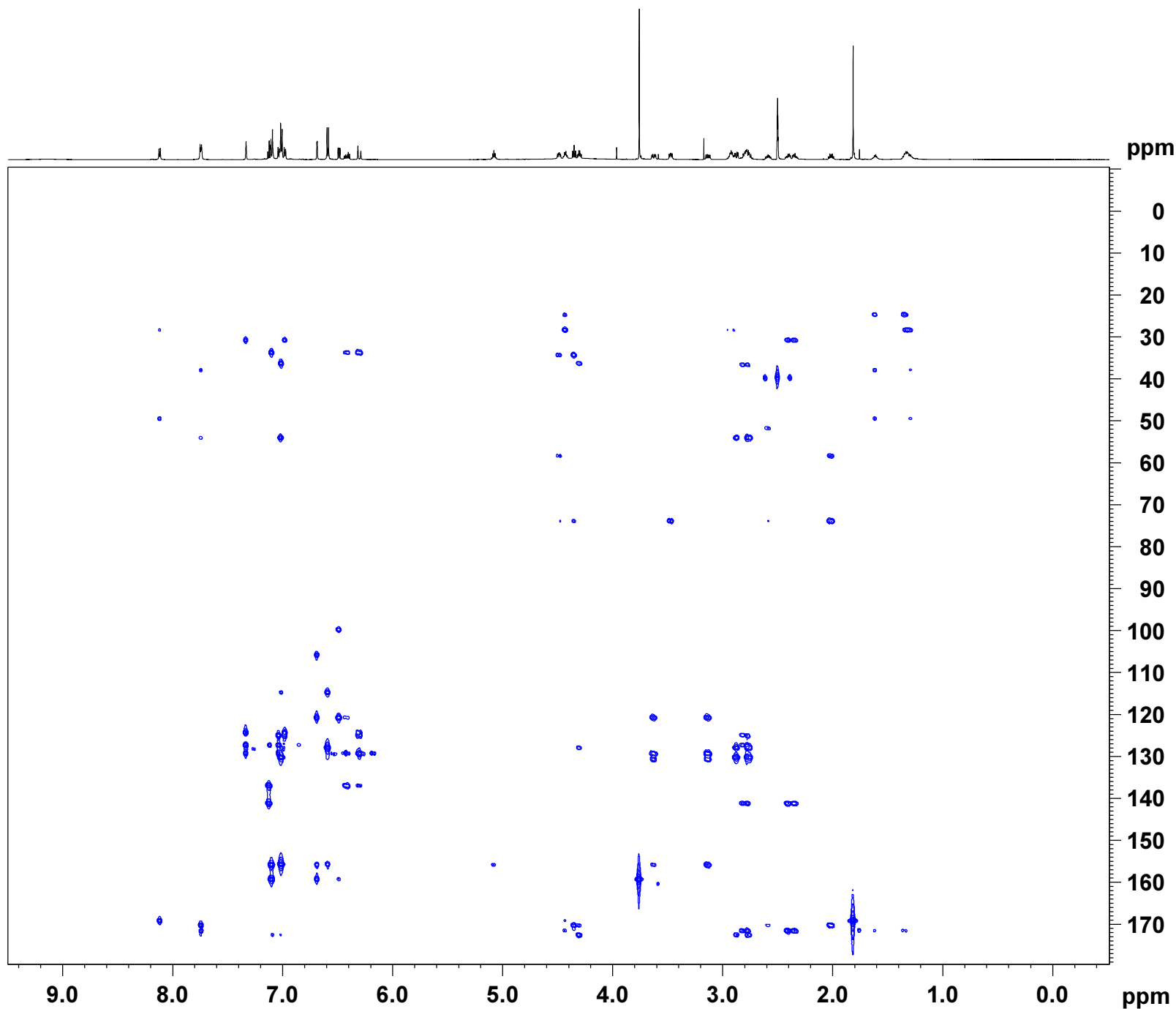
===== GRADIENT CHANNEL =====
GPNAM1     SINE.100
GPNAM2     SINE.100
GPNAM3     SINE.100
GPNAM4     SINE.100
GPNAM5     SINE.100
GPNAM6     SINE.100
GPX1        0 %
GPX2        0 %
GPX3        0 %
GPX4        0 %
GPX5        0 %
GPX6        0 %
GPY1        0 %
GPY2        0 %
GPY3        0 %
GPY4        0 %
GPY5        0 %
GPY6        0 %
GPZ1        50.00 %
GPZ2        30.00 %
GPZ3        40.10 %
GPZ4        15.00 %
GPZ5        -10.00 %
GPZ6        -5.00 %
P16         1000.00 usec

F1 - Acquisition parameters
TD         256
SFO1       150.9156 MHz
FIDRES     112.007698 Hz
SW         190.000 ppm
FnMODE     QF

F2 - Processing parameters
SI         4096
SF         600.1300062 MHz
WDW        QSINE
SSB        2
LB          0 Hz
GB          0
PC         1.40

F1 - Processing parameters
SI         4096
MC2        QF
SF         150.9028783 MHz
WDW        SSB
SSB        2
LB          0 Hz
GB          0

```

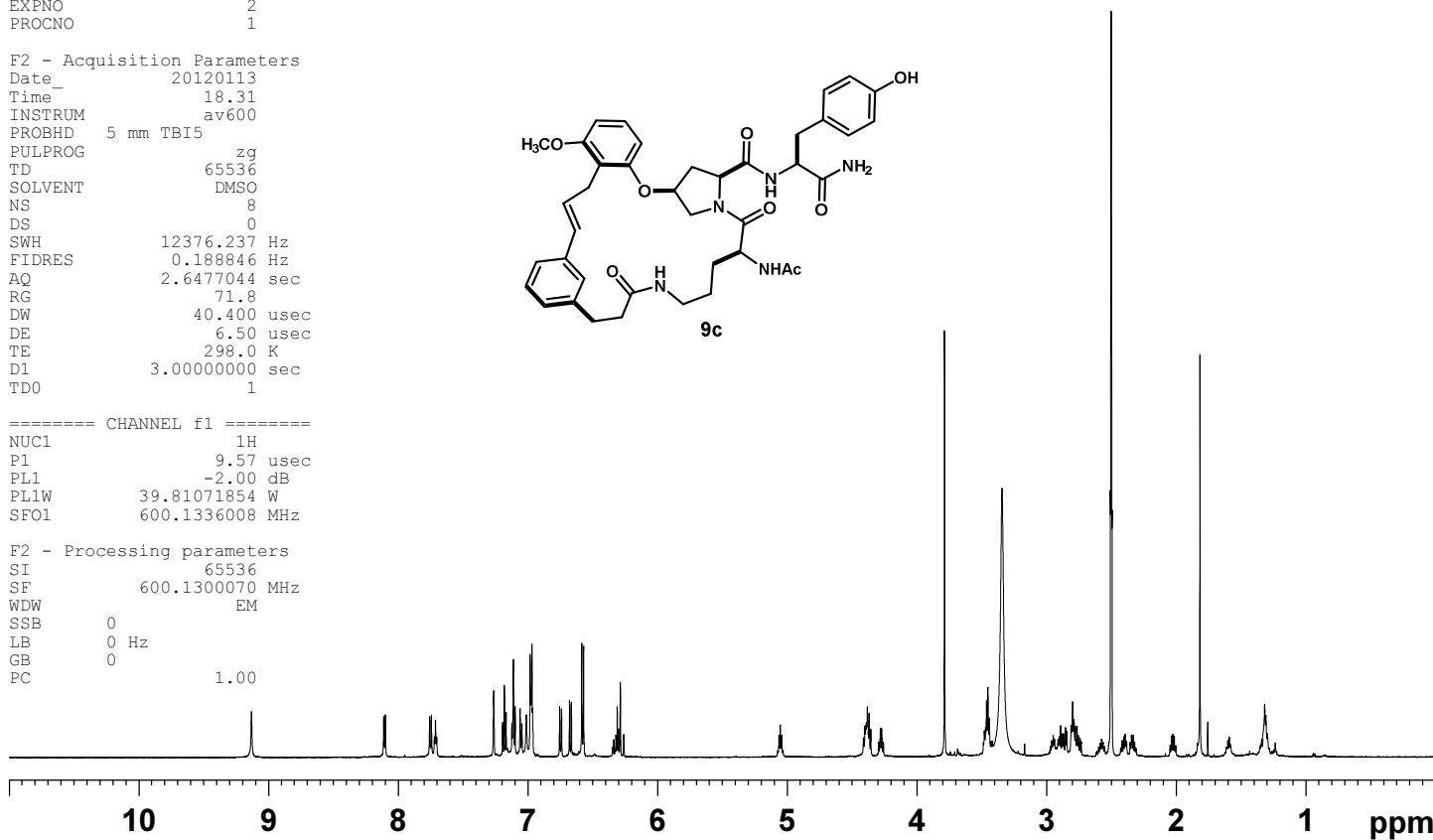
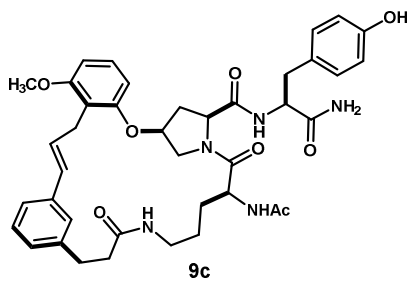


Current Data Parameters
NAME TR3-61B
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120113
Time 18.31
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG zg
TD 65536
SOLVENT DMSO
NS 8
DS 0
SWH 12376.237 Hz
FIDRES 0.188846 Hz
AQ 2.6477044 sec
RG 71.8
DW 40.400 usec
DE 6.50 usec
TE 298.0 K
D1 3.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 9.57 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1336008 MHz

F2 - Processing parameters
SI 65536
SF 600.1300070 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00



Current Data Parameters
NAME TR3-61B
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120113
Time 18.35
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 4
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 71.8
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00008062 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00018560 sec

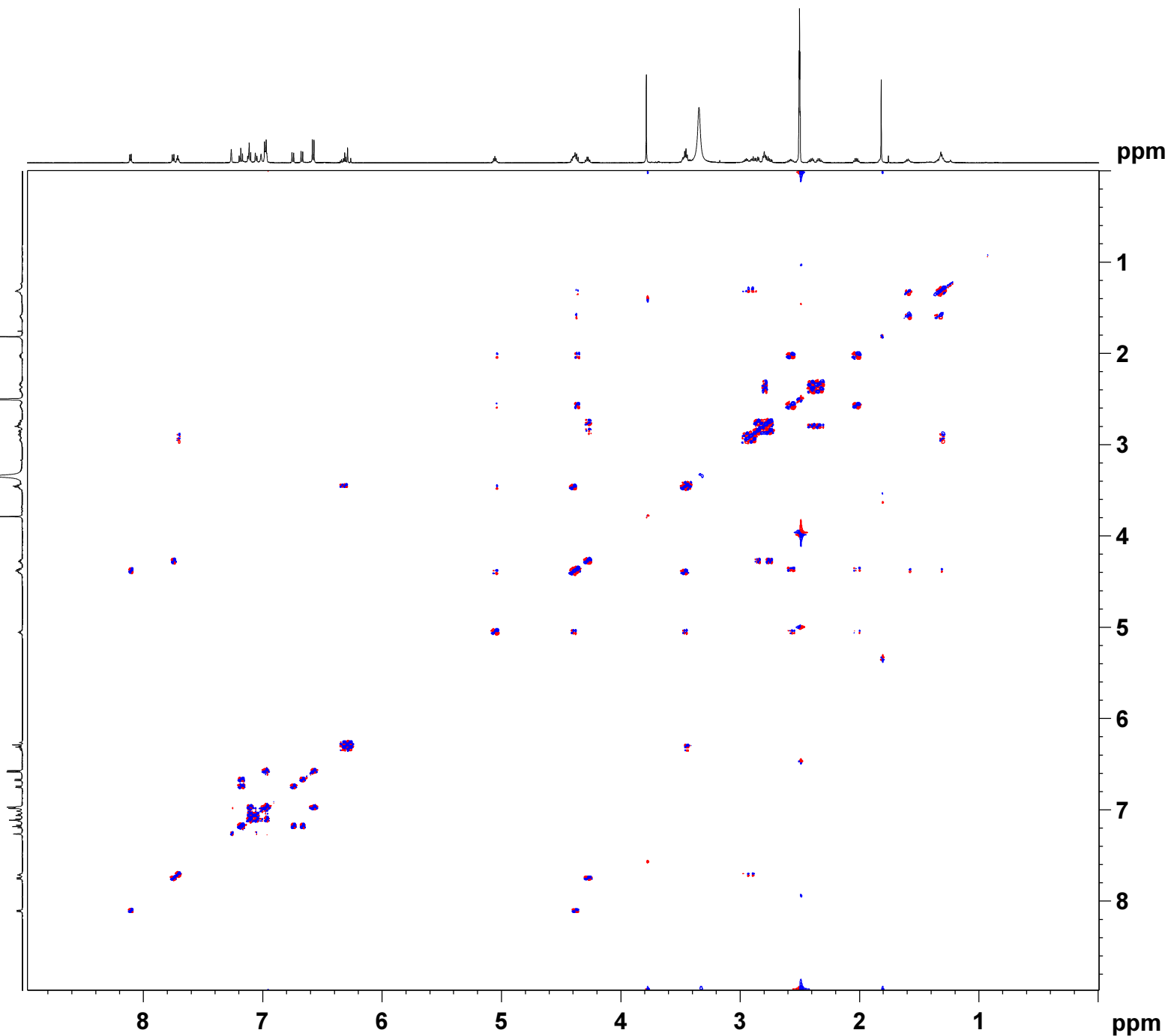
===== CHANNEL f1 =====
NUC1 1H
P1 9.57 usec
P2 19.14 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.1327 MHz
FIDRES 10.523297 Hz
SW 8.978 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 2048
SF 600.1300112 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 2048
MC2 States-TPPI
SF 600.1300077 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-61B
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters

Date_ 20120113
Time_ 19.34
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG dipsi2etgpsi
TD 2048
SOLVENT DMSO
NS 8
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 256
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00000300 sec
D1 1.50000000 sec
D9 0.06000000 sec
D11 0.03000000 sec
D16 0.00020000 sec
D20 0.00001000 sec
D21 0.00001000 sec
IN0 0.00018560 sec
L1 14

===== CHANNEL f1 =====

NUC1 1H
P1 9.57 usec
P2 19.14 usec
P6 40.00 usec
PL1 -2.00 dB
PL10 10.42 dB
PL1W 39.81071854 W
PL10W 2.28034210 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====

GPAM1 SINE.100
GPAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 30.00 %
GPZ2 30.00 %
P16 1000.00 usec

F1 - Acquisition parameters

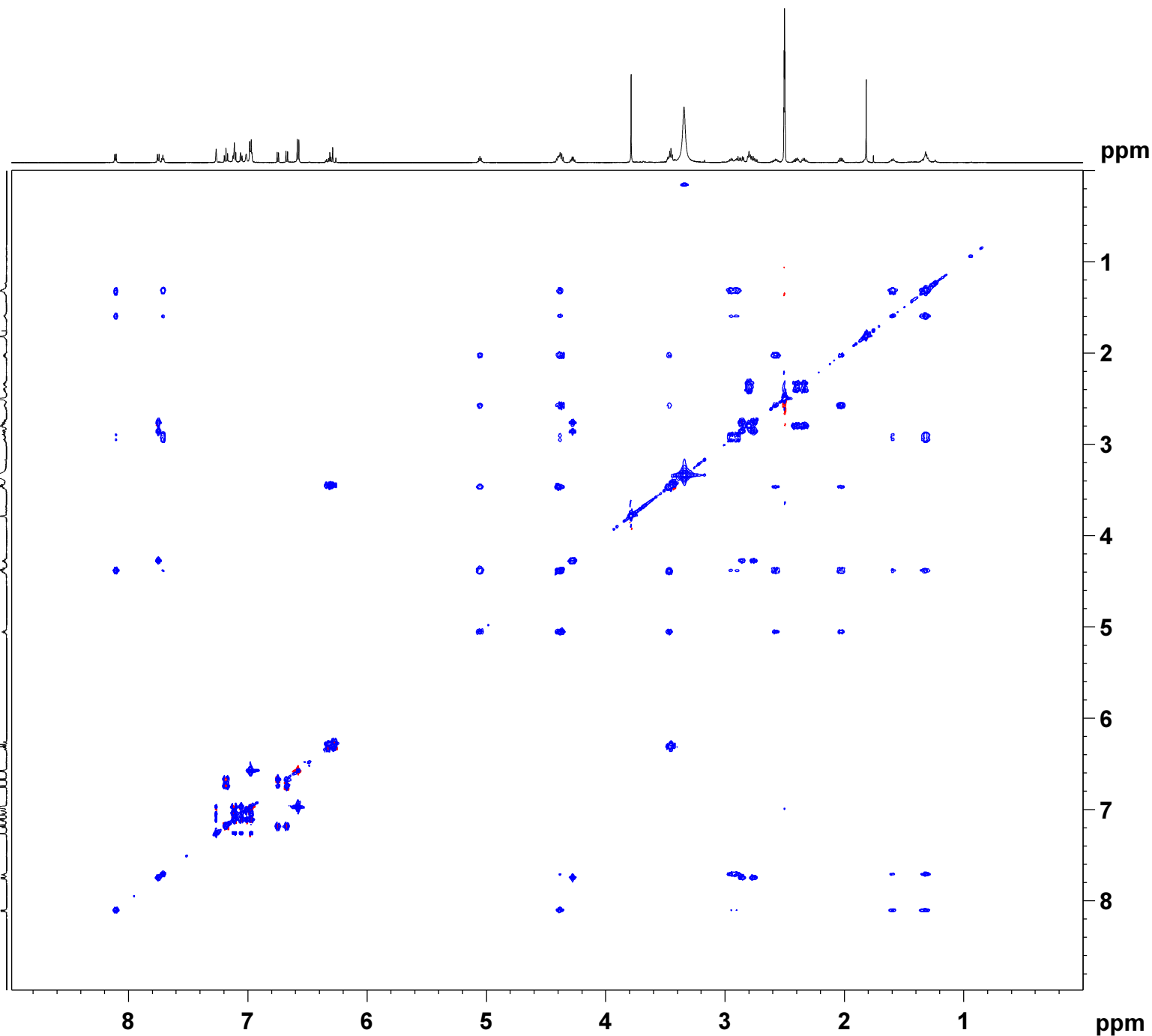
TD 256
SFO1 600.1327 MHz
FIDRES 21.046606 Hz
SW 8.978 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters

SI 4096
SF 600.1300066 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters

SI 4096
MC2 echo-antiecho
SF 600.1300071 MHz
WDW
SSB 2
LB 0 Hz
GB 0



```

Current Data Parameters
NAME      TR3-61B
EXPNO     5
PROCNO    1

F2 - Acquisition Parameters
Date_     20120113
Time      20.36
INSTRUM   av600
PROBHD    5 mm TBI5
PULPROG   hsqcetgpsiisp
TD         2048
SOLVENT    DMSO
NS         22
DS         16
SWH        6009.615 Hz
FIDRES     2.934382 Hz
AQ         0.1704436 sec
RG         23170.5
DW         83.200 usec
DE         6.00 usec
TE         298.2 K
CNST2     145.0000000
D0         0.00000300 sec
D1         1.00000000 sec
D4         0.00172414 sec
D11        0.03000000 sec
D16        0.00020000 sec
D24        0.00086200 sec
IN0        0.00002070 sec
ZGOPTNS

===== CHANNEL f1 =====
NUC1       1H
P1         9.57 usec
P2         19.14 usec
P28        1000.00 usec
PL1        -2.00 dB
PL1W       39.81071854 W
SFO1       600.1327006 MHz

===== CHANNEL f2 =====
CPDPRG2    garp
NUC2       13C
P3         18.50 usec
P4         37.00 usec
P14        1000.00 usec
PCPD2      65.00 usec
PL0        120.00 dB
PL2        -3.00 dB
PL12       7.91 dB
PLOW       0 W
PL2W       150.35617065 W
PL12W      12.19330025 W
SFO2       150.9133722 MHz
SP3        4.59 dB
SPNAM3     Crp80,0.5,20.1
SPOAL3     0.500
SPOFFS3    0 Hz

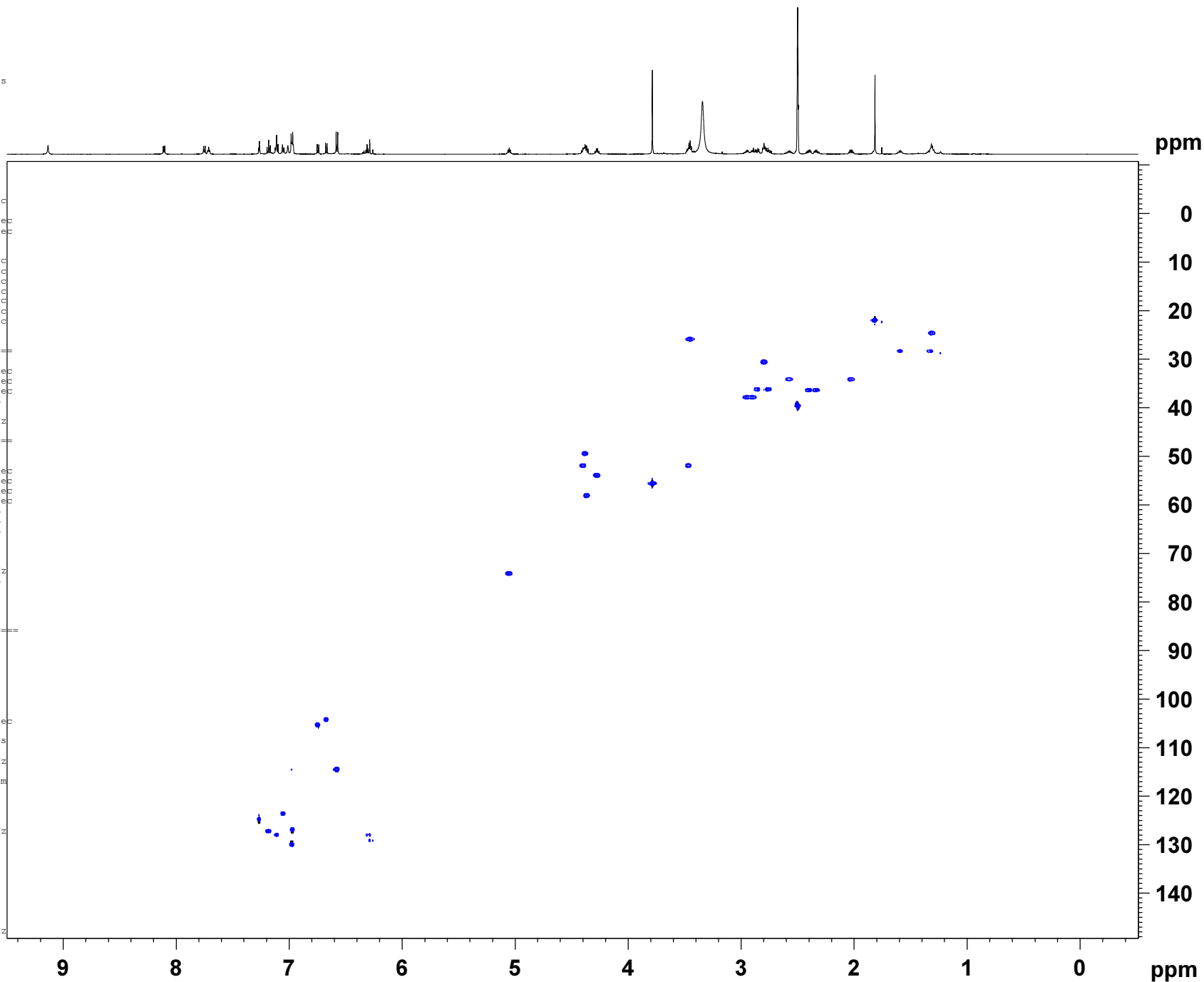
===== GRADIENT CHANNEL =====
GPNAM1     SINE.100
GPNAM2     SINE.100
GPX1       0 %
GPX2       0 %
GPY1       0 %
GPY2       0 %
GPZ1       80.00 %
GPZ2       20.10 %
P16        1000.00 usec

F1 - Acquisition parameters
TD         512
SFO1       150.9134 MHz
FIDRES     47.160427 Hz
SW         160.000 ppm
FhMODE     Echo-Antiecho

F2 - Processing parameters
SI         4096
SF         600.1300050 MHz
WDW        EM
SSB        0
LB         1.00 Hz
GB         0
PC         1.40

F1 - Processing parameters
SI         2048
MC2        echo-antiecho
SF         150.9029144 MHz
WDW        2
SSB        0
LB         0 Hz
GB         0

```




```

Current Data Parameters
NAME      TR3-61B
EXPNO     6
PROCNO    1

F2 - Acquisition Parameters
Date_     20120114
Time      0.23
INSTRUM   av600
PROBHD    5 mm TBI5
PULPROG   hmbcgp12ndqf
TD         2048
SOLVENT   DMSO
NS         80
DS         24
SWH        6009.615 Hz
FIDRES     2.934382 Hz
AQ         0.1704436 sec
RG         26008
DW         83.200 usec
DE         6.00 usec
TE         297.9 K
CNST6     125.0000000
CNST7     165.0000000
CNST13    8.0000000
D0         0.00000300 sec
D1         1.20000005 sec
D6         0.06250000 sec
D16        0.00020000 sec
IN0        0.00001745 sec

===== CHANNEL f1 =====
NUC1       1H
P1         9.57 usec
P2         19.14 usec
PL1        -2.00 dB
PL1W       39.81071854 W
SFO1       600.1327006 MHz

===== CHANNEL f2 =====
NUC2       13C
P3         18.50 usec
PL2        -3.00 dB
PL2W       150.35617065 W
SFO2       150.9156357 MHz

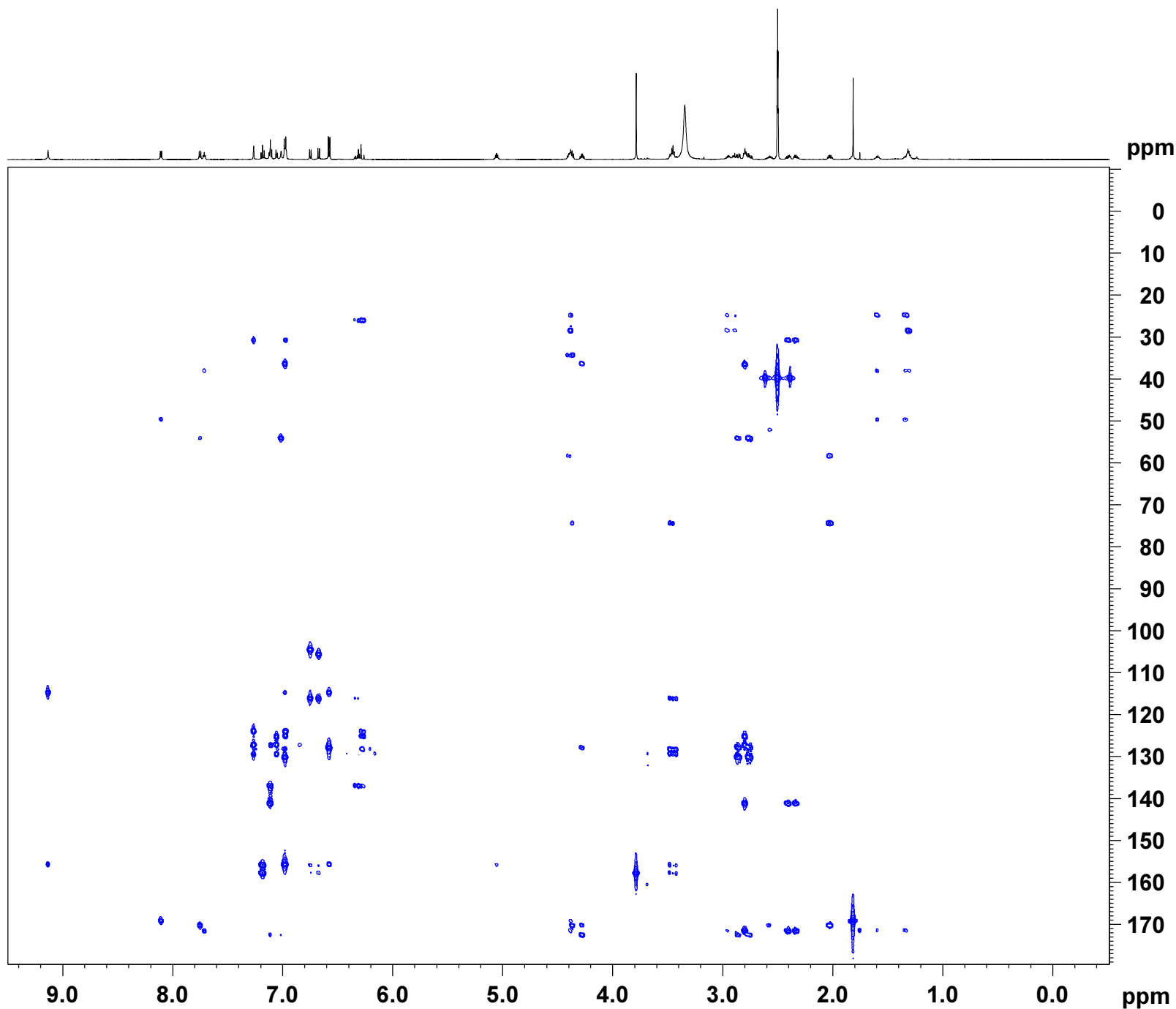
===== GRADIENT CHANNEL =====
GPNAM1     SINE.100
GPNAM2     SINE.100
GPNAM3     SINE.100
GPNAM4     SINE.100
GPNAM5     SINE.100
GPNAM6     SINE.100
GPX1       0 %
GPX2       0 %
GPX3       0 %
GPX4       0 %
GPX5       0 %
GPX6       0 %
GPY1       0 %
GPY2       0 %
GPY3       0 %
GPY4       0 %
GPY5       0 %
GPY6       0 %
GPZ1       50.00 %
GPZ2       30.00 %
GPZ3       40.10 %
GPZ4       15.00 %
GPZ5       -10.00 %
GPZ6       -5.00 %
P16        1000.00 usec

F1 - Acquisition parameters
TD         256
SFO1       150.9156 MHz
FIDRES     112.007698 Hz
SW         190.000 ppm
FnMODE     QF

F2 - Processing parameters
SI         4096
SF         600.1300059 MHz
WDW        QSINE
SSB        2
LB         0 Hz
GB         0
PC         1.40

F1 - Processing parameters
SI         2048
MC2        QF
SF         150.9028825 MHz
WDW        SSB
SSB        2
LB         0 Hz
GB         0

```

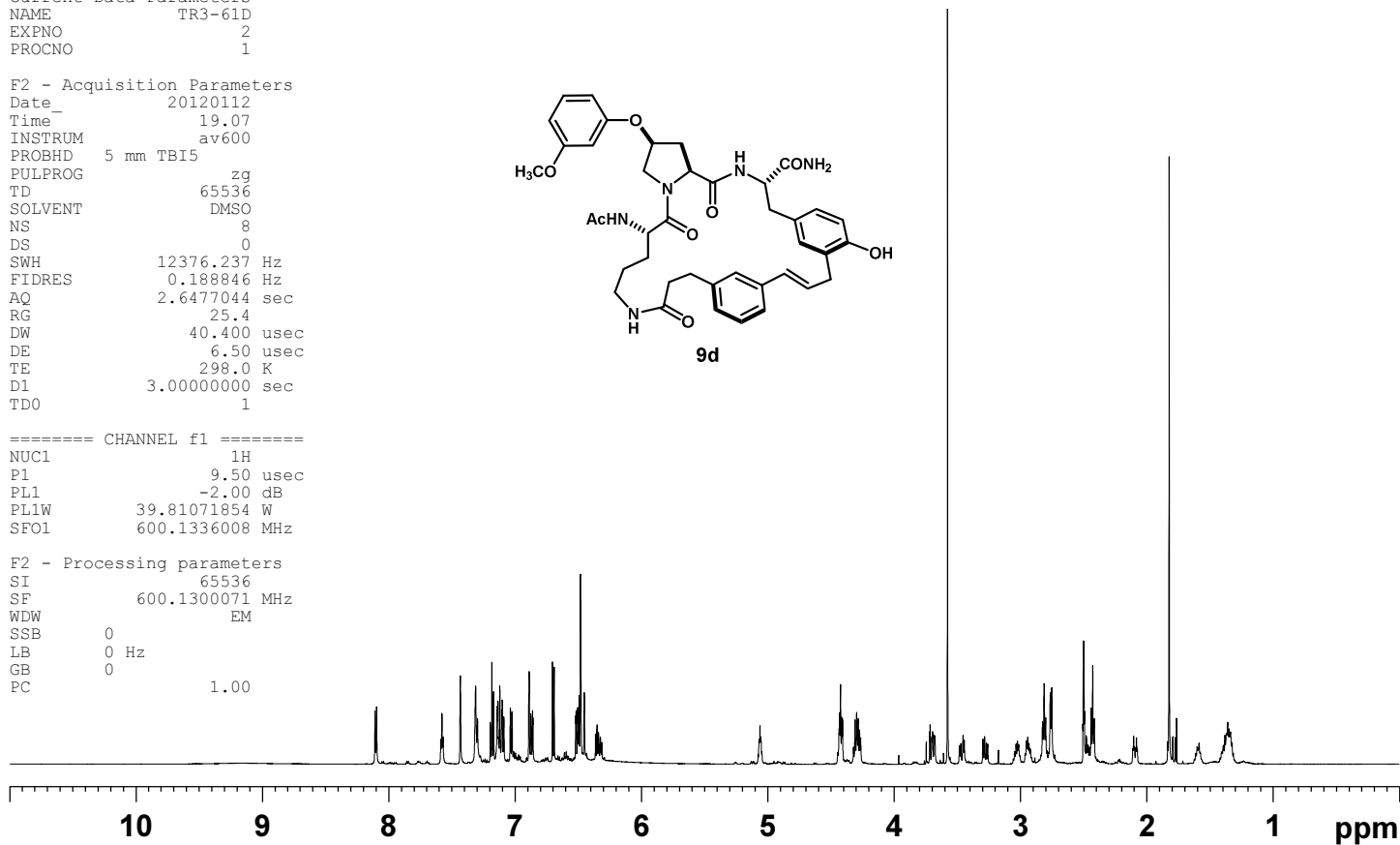
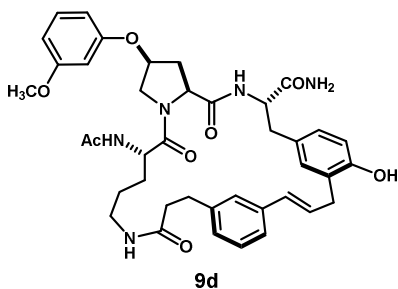


Current Data Parameters
 NAME TR3-61D
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120112
 Time_ 19.07
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 25.4
 DW 40.400 usec
 DE 6.50 usec
 TE 298.0 K
 D1 3.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 1H
 P1 9.50 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300071 MHz
 WDW EM
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME TR3-61D
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120112
Time_ 19.08
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 1
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 25.4
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00008070 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00018560 sec

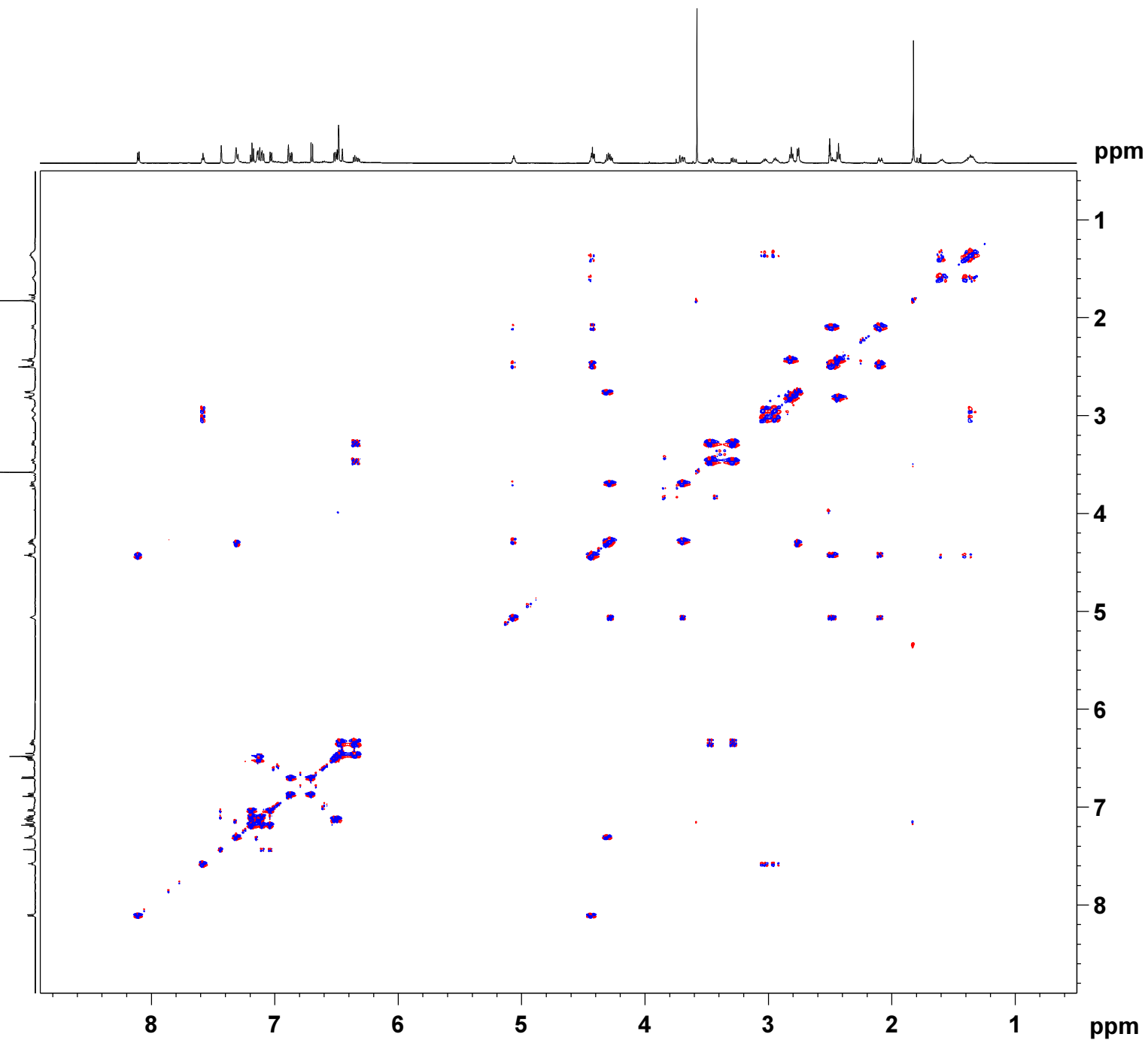
===== CHANNEL f1 =====
NUC1 1H
P1 9.50 usec
P2 19.00 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.1327 MHz
FIDRES 10.523297 Hz
SW 8.978 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300026 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300044 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-61D
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters

Date_ 20120112
Time 20.32
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG dipsi2etgpsi
TD 2048
SOLVENT DMSO
NS 8
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 57
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00000300 sec
D1 1.50000000 sec
D9 0.06000000 sec
D11 0.03000000 sec
D16 0.00020000 sec
D20 0.00001000 sec
D21 0.00001000 sec
IN0 0.00018560 sec
L1 14

===== CHANNEL f1 =====

NUC1 1H
P1 9.50 usec
P2 19.00 usec
P6 40.00 usec
PL1 -2.00 dB
PL10 10.49 dB
PL1W 39.81071854 W
PL10W 2.24388194 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====

GPNAME1 SINE.100
GPNAME2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 30.00 %
GPZ2 30.00 %
P16 1000.00 usec

F1 - Acquisition parameters

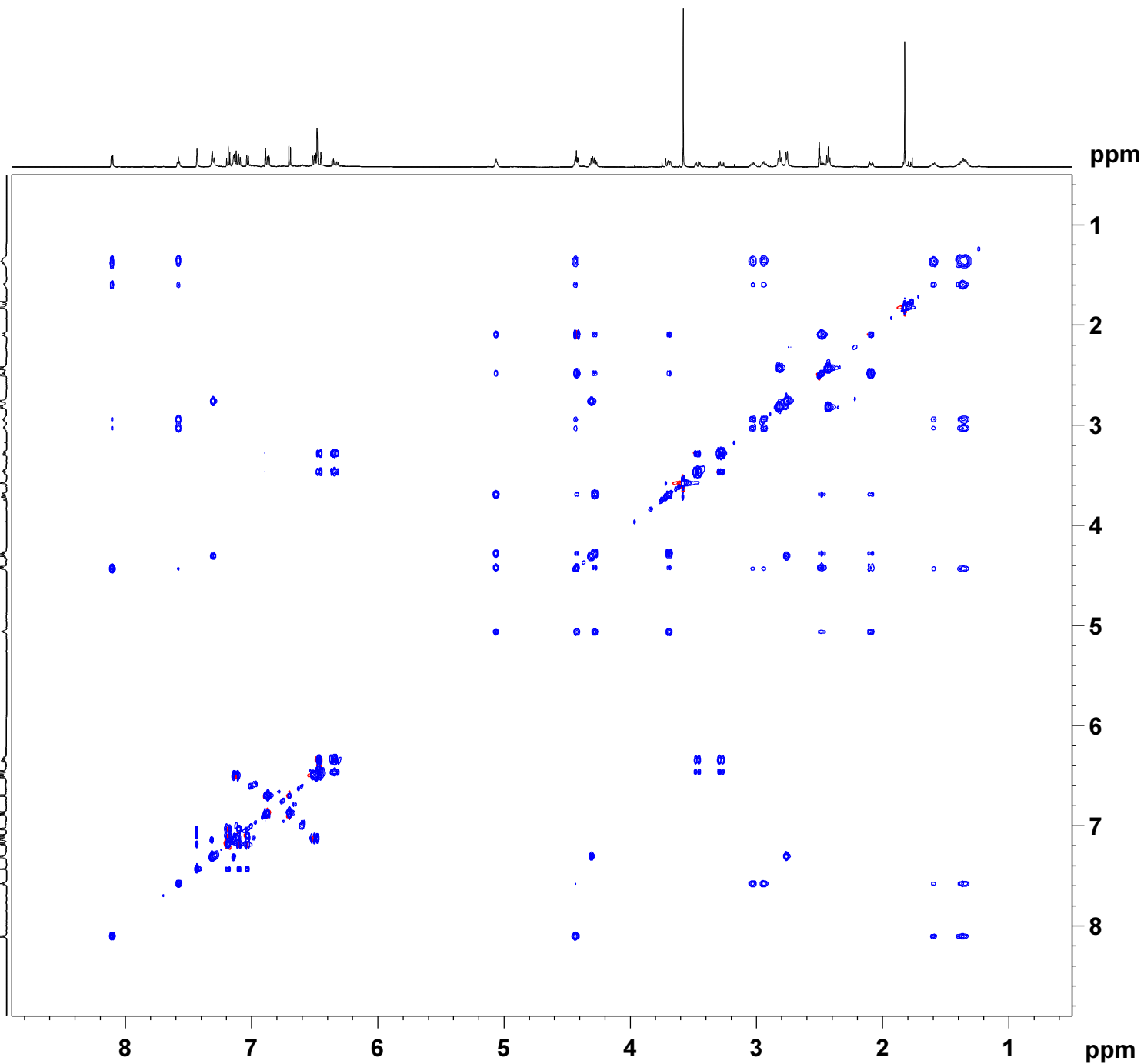
TD 256
SFO1 600.1327 MHz
FIDRES 21.046606 Hz
SW 8.978 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters

SI 4096
SF 600.1300047 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters

SI 4096
MC2 echo-antiecho
SF 600.1300051 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
 NAME TR3-61D
 EXPNO 6
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120112
 Time 21.34
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG hsqcetgpgpsisp
 TD 2048
 SOLVENT DMSO
 NS 2
 DS 16
 SWH 6009.615 Hz
 FIDRES 2.934382 Hz
 AQ 0.1704436 sec
 RG 9195.2
 DW 83.200 usec
 DE 6.00 usec
 TE 298.2 K
 CNST2 145.0000000
 D0 0.00000300 sec
 D1 1.00000000 sec
 D4 0.00172414 sec
 D11 0.03000000 sec
 D16 0.00020000 sec
 D24 0.00086200 sec
 IN0 0.00002070 sec
 ZGPTNS

===== CHANNEL f1 =====
 NUC1 1H
 P1 9.35 usec
 P2 18.70 usec
 P28 1000.00 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1327006 MHz

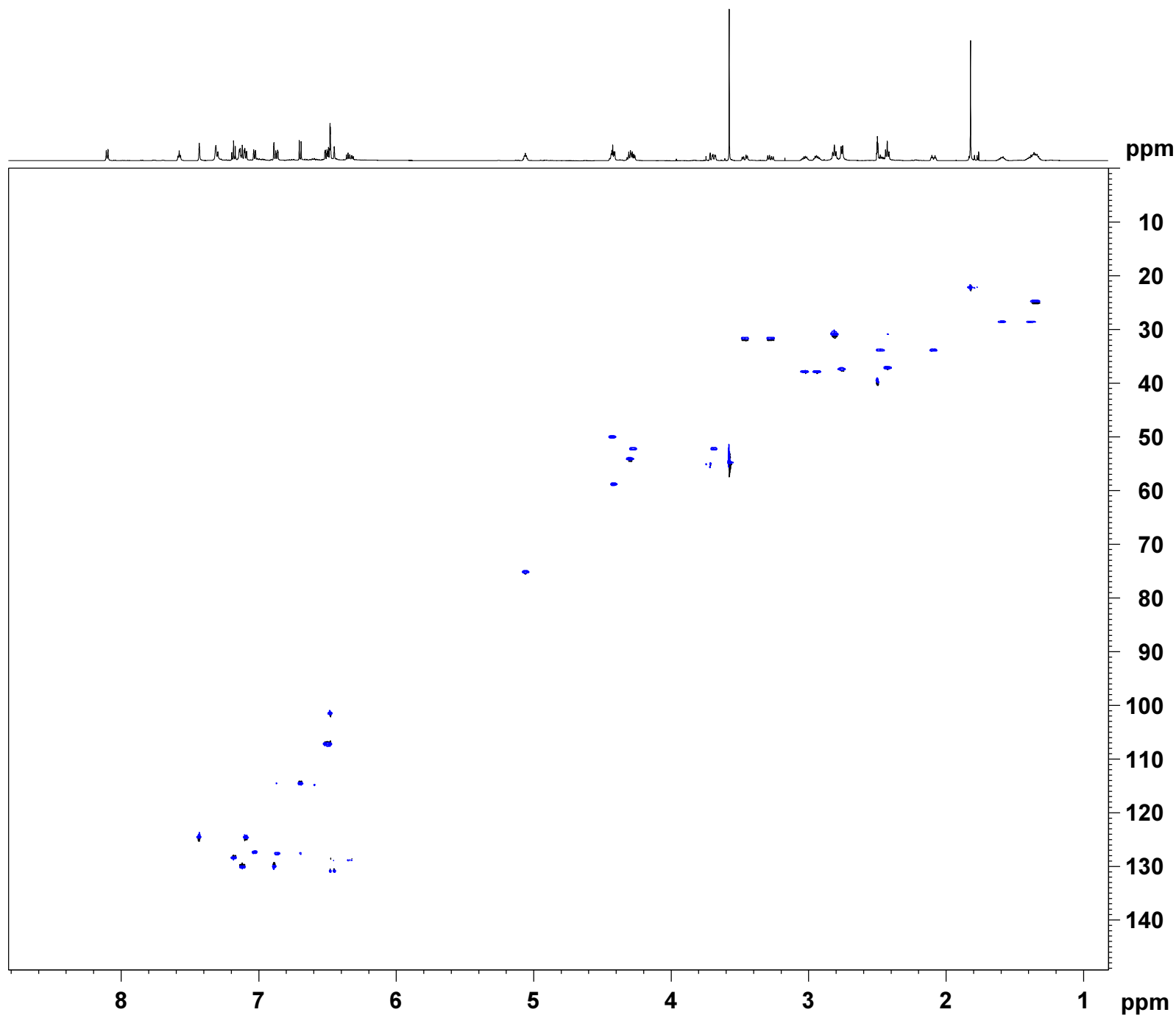
===== CHANNEL f2 =====
 CPDPRG2 garp
 NUC2 13C
 P3 18.50 usec
 P4 37.00 usec
 P14 1000.00 usec
 PCPD2 65.00 usec
 PL0 120.00 dB
 PL2 -3.00 dB
 PL12 7.91 dB
 PL0W 0 W
 PL2W 150.35617065 W
 PL12W 12.19330025 W
 SFO2 150.9133722 MHz
 SP3 4.59 dB
 SPNAM3 Crp80,0.5,20.1
 SPOAL3 0.500
 SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
 GPNAM1 SINE.100
 GPNAM2 SINE.100
 GPX1 0 %
 GPX2 0 %
 GPY1 0 %
 GPY2 0 %
 GPZ1 80.00 %
 GPZ2 20.10 %
 P16 1000.00 usec

F1 - Acquisition parameters
 TD 512
 SFO1 150.9134 MHz
 FIDRES 47.160427 Hz
 SW 160.000 ppm
 FhMODE Echo-Antiecho

F2 - Processing parameters
 SI 4096
 SF 600.1300055 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

F1 - Processing parameters
 SI 4096
 MC2 echo-antiecho
 SF 150.9028805 MHz
 WDW
 SSB 2
 LB 0 Hz
 GB 0



Current Data Parameters
NAME TR3-61D
EXPNO 7
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120112
Time 21.55
INSTRUM av600

PROBHD 5 mm TB15
PULPROG hmbcgp12ndqf
TD 2048
SOLVENT DMSO
NS 10
DS 24
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 297.8 K
CNST6 125.0000000
CNST7 165.0000000
CNST13 8.0000000
D0 0.00000300 sec
D1 1.20000005 sec
D6 0.06250000 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 9.35 usec
P2 18.70 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

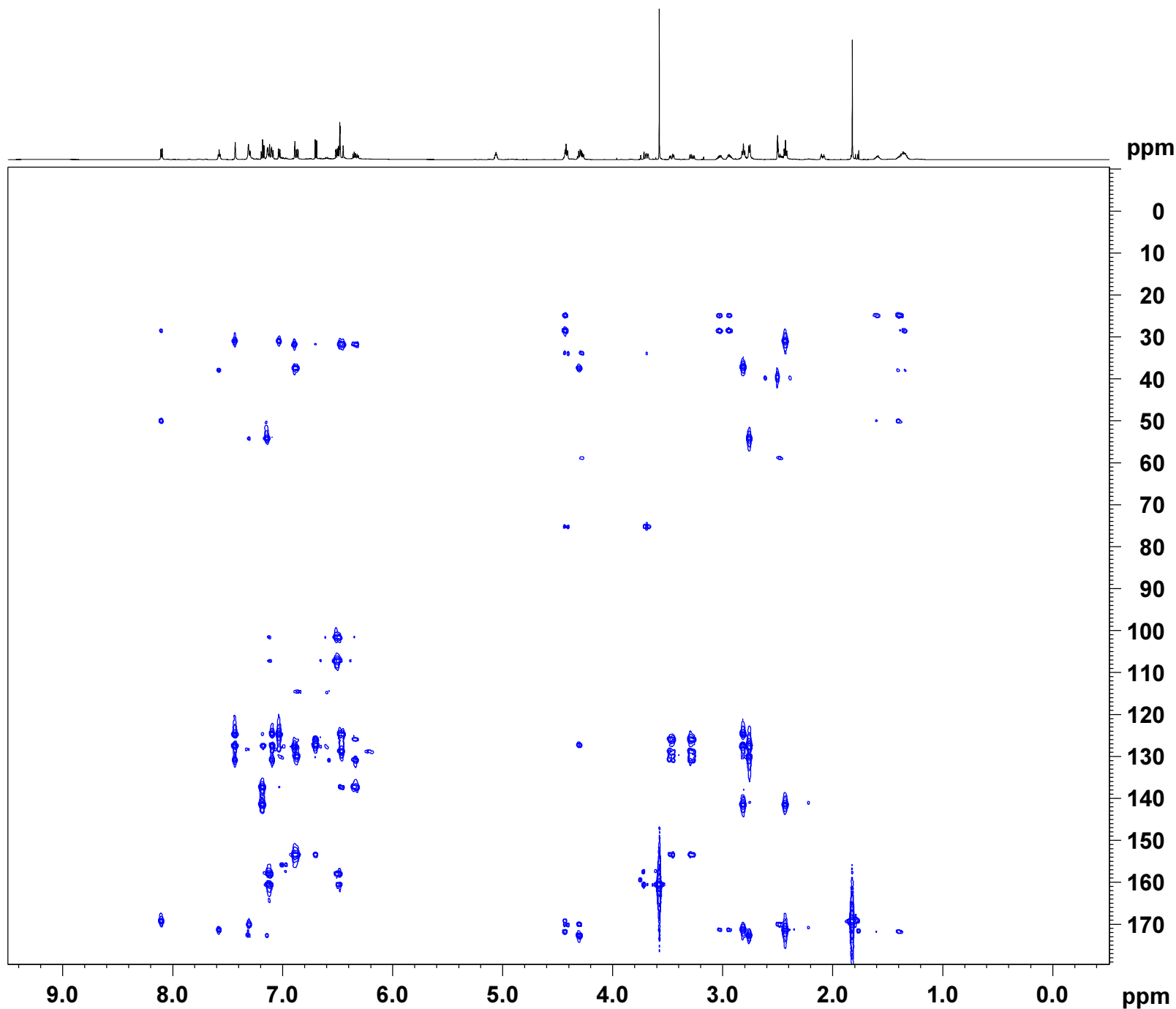
===== CHANNEL f2 =====
NUC2 13C
P3 18.50 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPNAM4 SINE.100
GPNAM5 SINE.100
GPNAM6 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPX4 0 %
GPX5 0 %
GPX6 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPY4 0 %
GPY5 0 %
GPY6 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
GPZ4 15.00 %
GPZ5 -10.00 %
GPZ6 -5.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 150.9156 MHz
FIDRES 112.007698 Hz
SW 190.000 ppm
FnMODE QF

F2 - Processing parameters
SI 4096
SF 600.1300068 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
FC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9028759 MHz
WDW
SSB 2
LB 0 Hz
GB 0

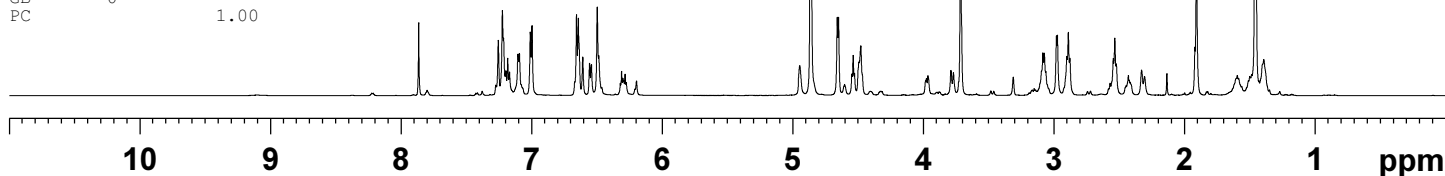
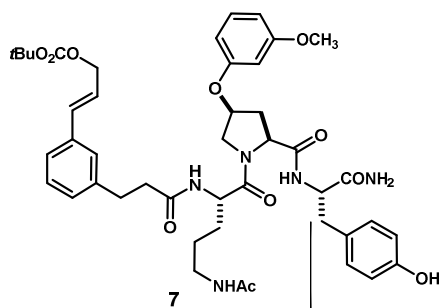


Current Data Parameters
NAME TR3-110
EXPNO 1
PROCNO 1

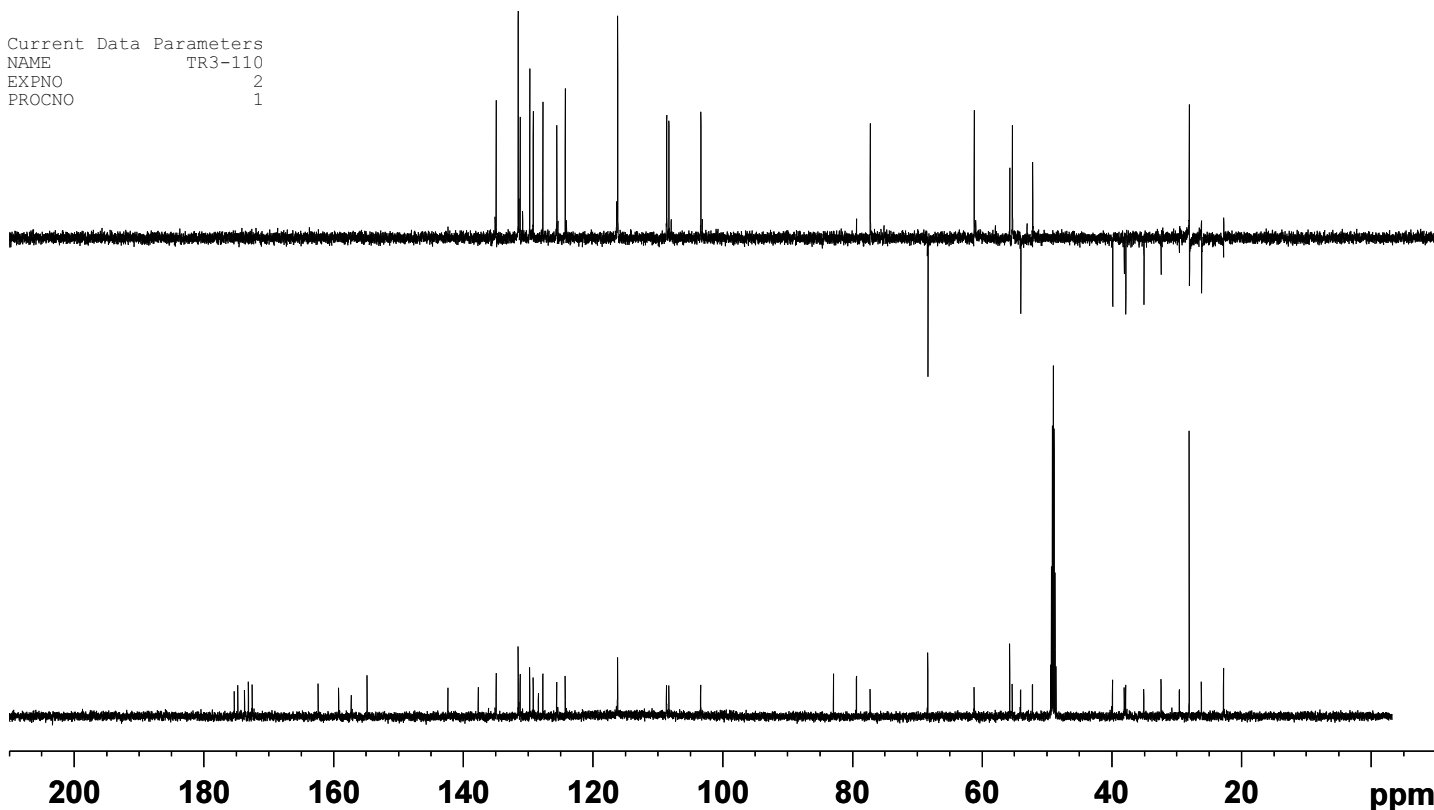
F2 - Acquisition Parameters
Date_ 20120223
Time_ 14.37
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG zg30
TD 65536
SOLVENT MeOD
NS 8
DS 0
SWH 12376.237 Hz
FIDRES 0.188846 Hz
AQ 2.6477044 sec
RG 16
DW 40.400 usec
DE 6.50 usec
TE 294.6 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 9.10 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1336008 MHz

F2 - Processing parameters
SI 65536
SF 600.1300134 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

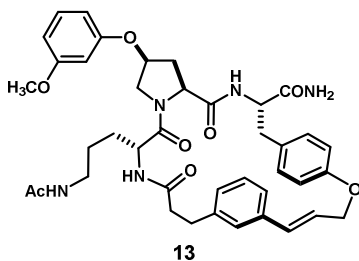


Current Data Parameters
NAME TR3-110
EXPNO 2
PROCNO 1



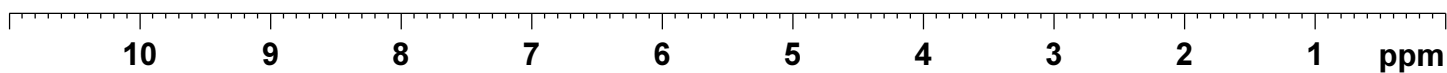
Current Data Parameters
 NAME TR3-282
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120721
 Time_ 16.38
 INSTRUM av600
 PROBHD 5 mm BB5
 PULPROG zg
 TD 65536
 SOLVENT MeOD
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 57
 DW 40.400 usec
 DE 6.50 usec
 TE 294.5 K
 D1 2.00000000 sec
 TD0 1

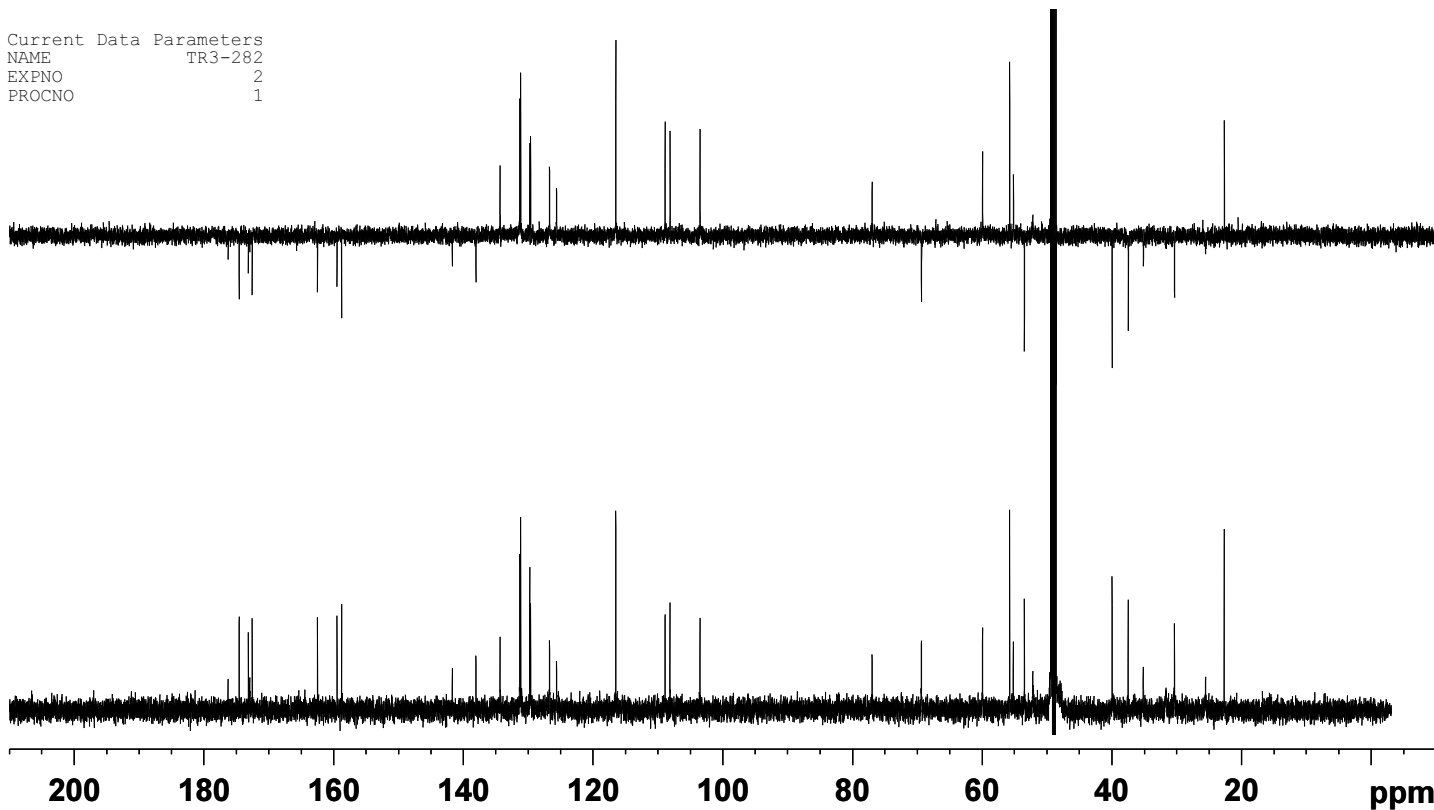


===== CHANNEL f1 =====
 NUC1 1H
 P1 14.40 usec
 PL1 -1.00 dB
 PL1W 31.62277603 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300000 MHz
 WDW EM
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00

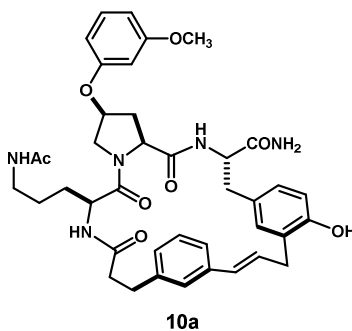


Current Data Parameters
 NAME TR3-282
 EXPNO 2
 PROCNO 1



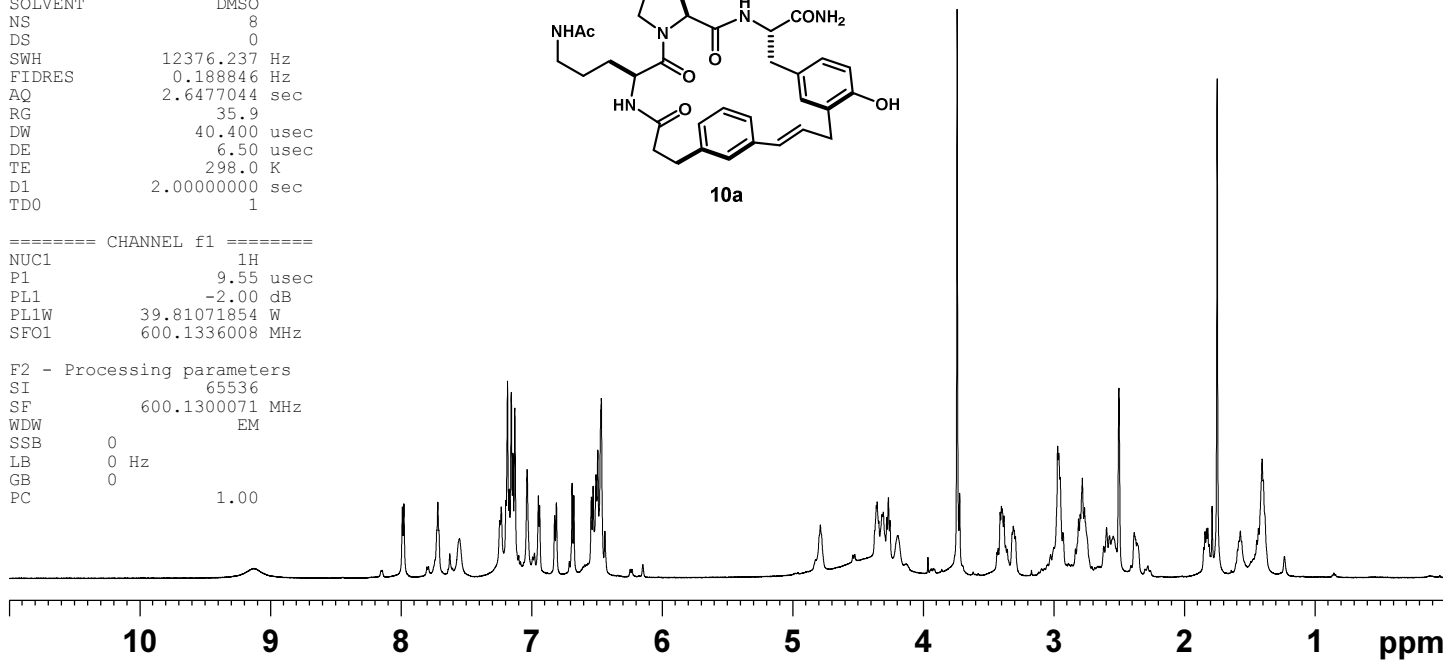
Current Data Parameters
 NAME TR3-127A
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120316
 Time_ 19.07
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 35.9
 DW 40.400 usec
 DE 6.50 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1



===== CHANNEL f1 =====
 NUC1 1H
 P1 9.55 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300071 MHz
 WDW EM
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME TR3-127A
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120316
Time_ 19.12
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 35.9
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00008064 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00018560 sec

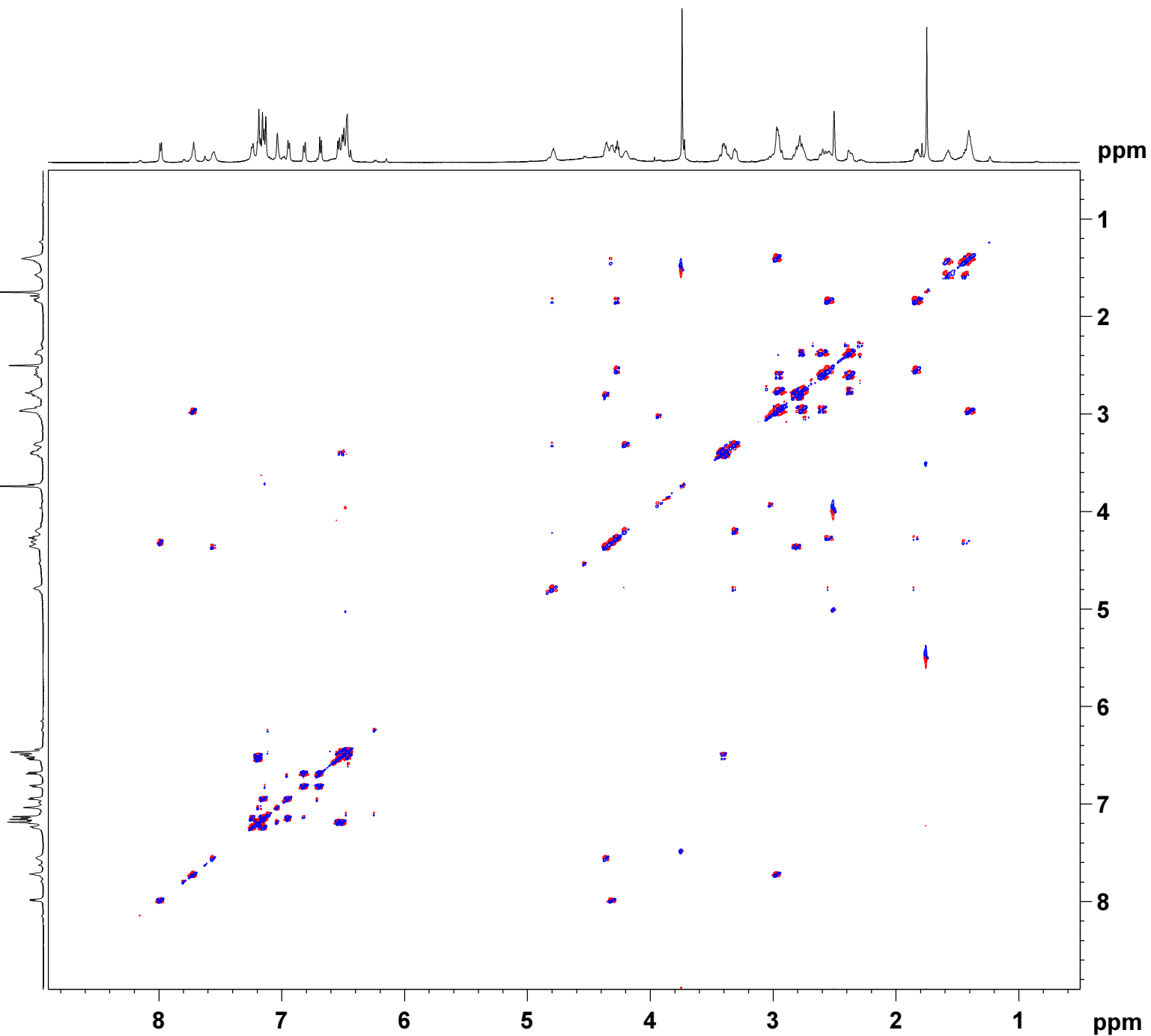
===== CHANNEL f1 =====
NUC1 1H
P1 9.55 usec
P2 19.10 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0
GPX2 0
GPY1 0
GPY2 0
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.1327 MHz
FIDRES 10.523297 Hz
SW 8.978 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300019 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300032 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-127A
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters

Date_ 20120316
Time 19.42
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG dipsi2etgpsi
TD 2048
SOLVENT DMSO
NS 8
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 128
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00000300 sec
D1 1.50000000 sec
D9 0.06000000 sec
D11 0.03000000 sec
D16 0.00020000 sec
D20 0.00001000 sec
D21 0.00001000 sec
IN0 0.00018560 sec
L1 14

===== CHANNEL f1 =====

NUC1 1H
P1 9.55 usec
P2 19.10 usec
P6 40.00 usec
PL1 -2.00 dB
PL10 10.44 dB
PL1W 39.81071854 W
PL10W 2.26986504 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====

GPAM1 SINE.100
GPAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 30.00 %
GPZ2 30.00 %
P16 1000.00 usec

F1 - Acquisition parameters

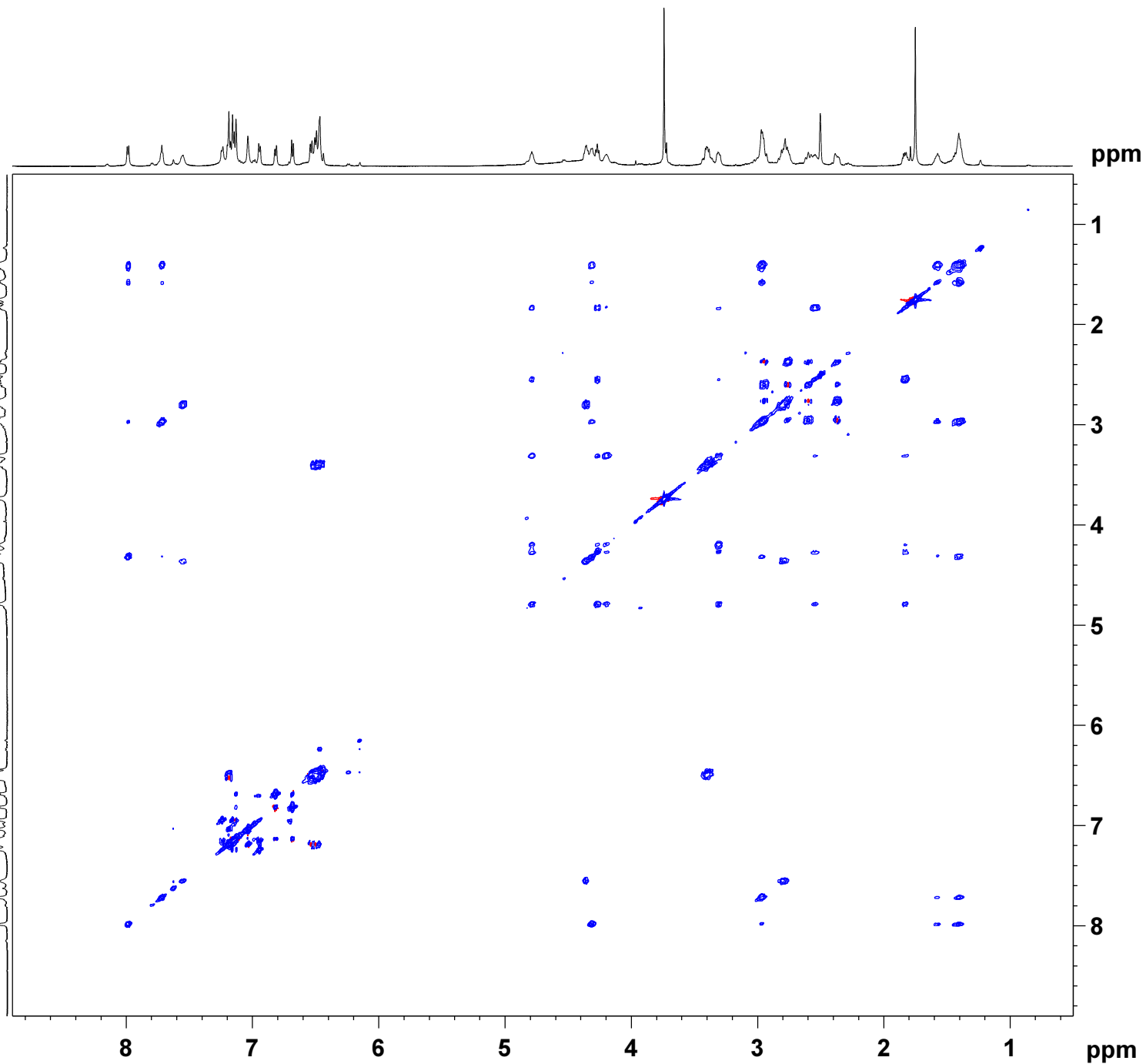
TD 256
SFO1 600.1327 MHz
FIDRES 21.046606 Hz
SW 8.978 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters

SI 4096
SF 600.1300059 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters

SI 4096
MC2 echo-antiecho
SF 600.1300046 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-127A
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120316
Time 20.44
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hsqcetgpsisp
TD 2048
SOLVENT DMSO
NS 12
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 23170.5
DW 83.200 usec
DE 6.00 usec
TE 298.2 K
CNST2 145.0000000
D0 0.00000300 sec
D1 1.00000000 sec
D4 0.00172414 sec
D11 0.03000000 sec
D16 0.00020000 sec
D24 0.00086200 sec
IN0 0.00002070 sec
ZGPTNS

===== CHANNEL f1 =====
NUC1 1H
P1 9.55 usec
P2 19.10 usec
P28 1000.00 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

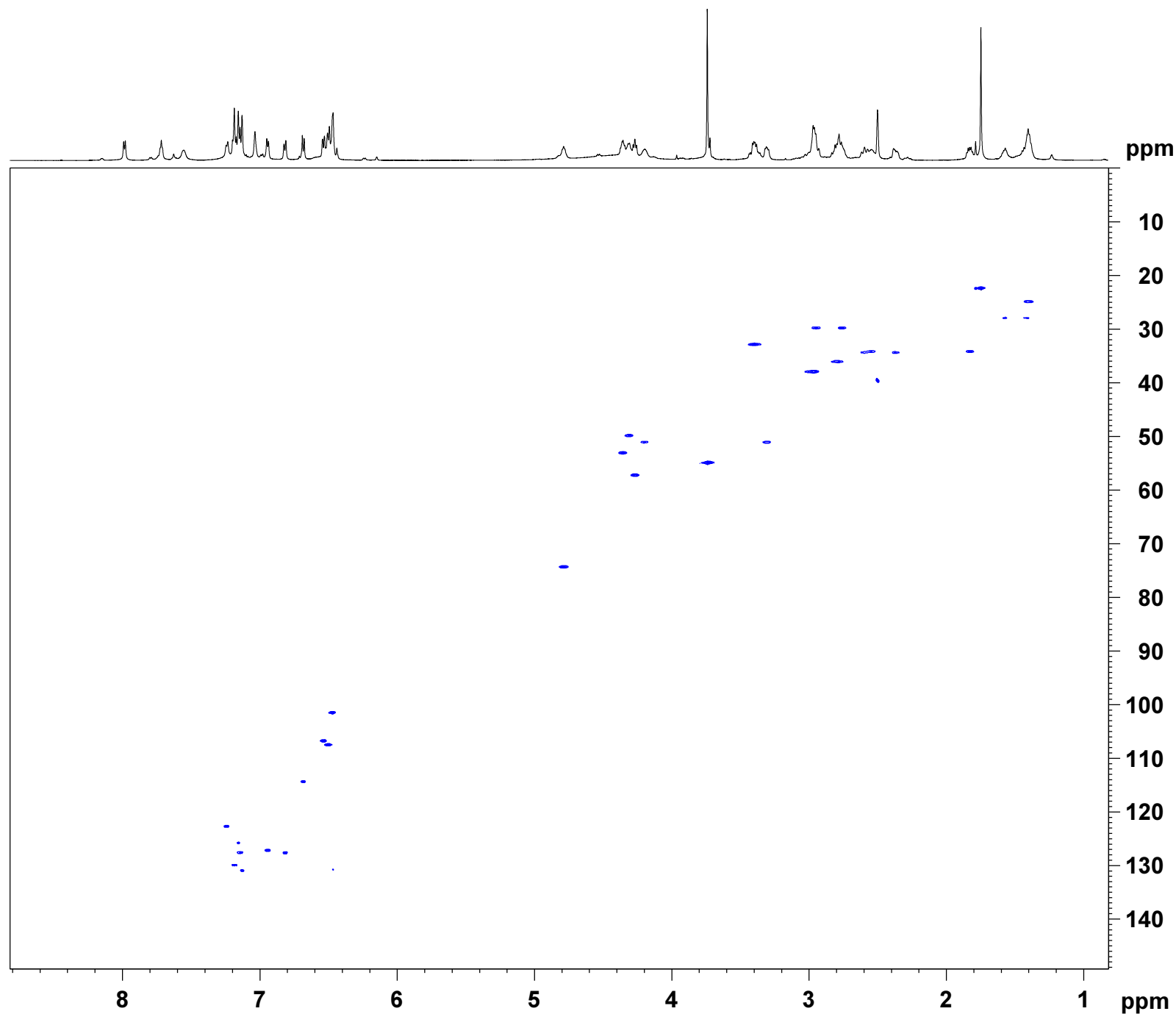
===== CHANNEL f2 =====
CPDPRG2 garp
NUC2 13C
P3 18.50 usec
P4 37.00 usec
P14 1000.00 usec
PCPD2 65.00 usec
PL0 120.00 dB
PL2 -3.00 dB
PL12 7.91 dB
PL0W 0 W
PL2W 150.35617065 W
PL12W 12.19330025 W
SFO2 150.9133722 MHz
SP3 4.59 dB
SPNAM3 Crp80,0.5,20.1
SFOAL3 0.500
SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 80.00 %
GPZ2 20.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 150.9134 MHz
FIDRES 47.160427 Hz
SW 160.000 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 600.1300050 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 echo-antiecho
SF 150.9029084 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-127A
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120316
Time 22.48
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hmbcgp12ndqf
TD 2048
SOLVENT DMSO
NS 48
DS 24
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 297.9 K
CNST6 125.0000000
CNST7 165.0000000
CNST13 8.0000000
D0 0.00000300 sec
D1 1.20000005 sec
D6 0.06250000 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 9.55 usec
P2 19.10 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

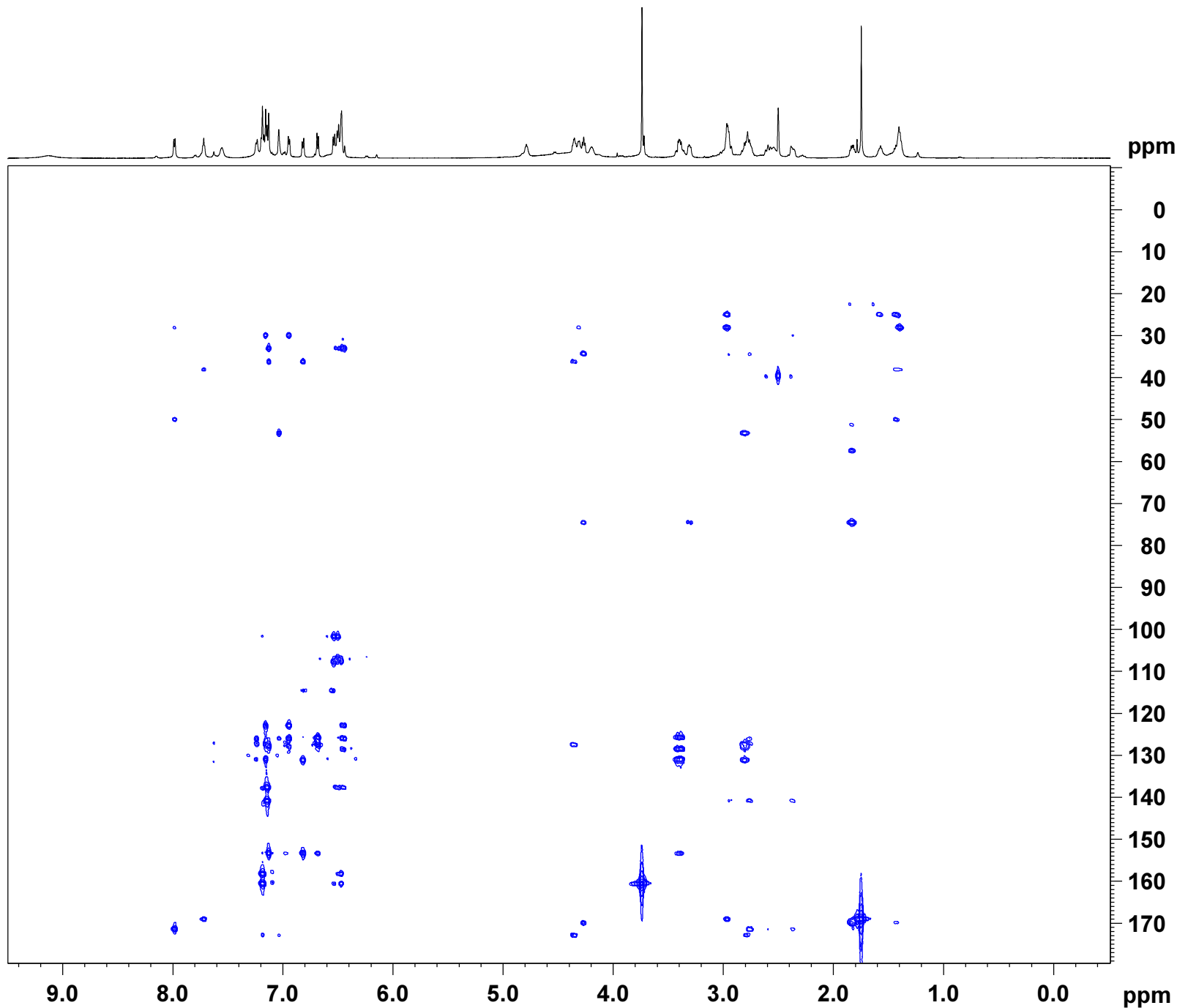
===== CHANNEL f2 =====
NUC2 13C
P3 18.50 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPNAM4 SINE.100
GPNAM5 SINE.100
GPNAM6 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPX4 0 %
GPX5 0 %
GPX6 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPY4 0 %
GPY5 0 %
GPY6 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
GPZ4 15.00 %
GPZ5 -10.00 %
GPZ6 -5.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 150.9156 MHz
FIDRES 112.007698 Hz
SW 190.000 ppm
FnMODE QF

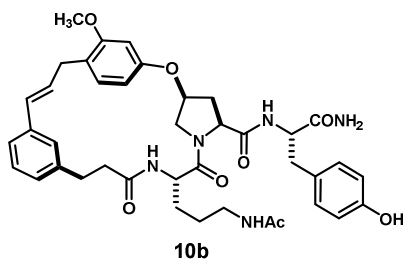
F2 - Processing parameters
SI 4096
SF 600.1300075 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9028781 MHz
WDW
SSB 2
LB 0 Hz
GB 0



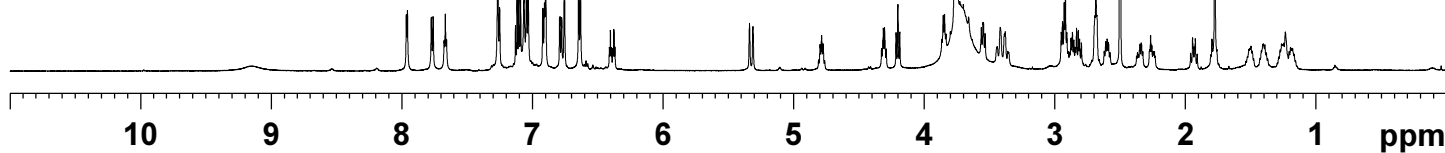
Current Data Parameters
 NAME TR3-127B
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120317
 Time_ 12.23
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 71.8
 DW 40.400 usec
 DE 6.50 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1



===== CHANNEL f1 =====
 NUC1 1H
 P1 9.52 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300070 MHz
 WDW EM
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME TR3-127B
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120317
Time_ 12.26
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 1
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 71.8
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
DO 0.00008068 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
INO 0.00018560 sec

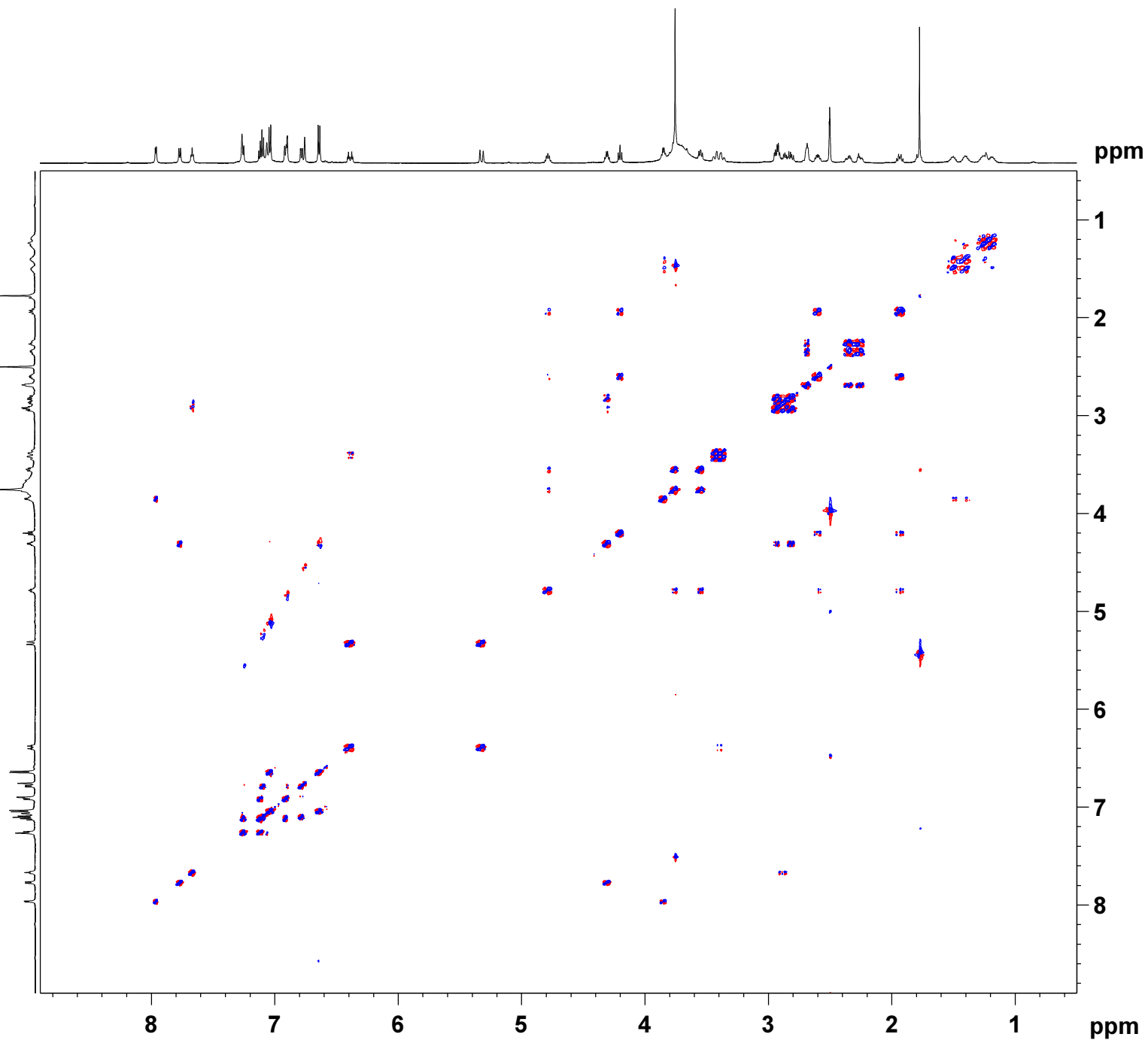
===== CHANNEL f1 =====
NUC1 1H
P1 9.52 usec
P2 19.04 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.1327 MHz
FIDRES 10.523297 Hz
SW 8.978 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300079 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300040 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
 NAME TR3-127B
 EXPNO 4
 PROCNO 1

F2 - Acquisition Parameters

Date_ 20120317
 Time 12.42
 INSTRUM av600
 PROBD 5 mm TBI5
 PULPROG dipsi2etgpsi
 TD 2048
 SOLVENT DMSO
 NS 8
 DS 16
 SWH 5387.931 Hz
 FIDRES 2.630826 Hz
 AQ 0.1901044 sec
 RG 128
 DW 92.800 usec
 DE 6.50 usec
 TE 298.0 K
 D0 0.00000300 sec
 D1 1.50000000 sec
 D9 0.06000000 sec
 D11 0.03000000 sec
 D16 0.00020000 sec
 D20 0.00001000 sec
 D21 0.00001000 sec
 IN0 0.00018560 sec
 L1 14

===== CHANNEL f1 =====

NUC1 1H
 P1 9.52 usec
 P2 19.04 usec
 P6 40.00 usec
 PL1 -2.00 dB
 PL10 10.47 dB
 PL1W 39.81071854 W
 PL10W 2.25423908 W
 SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====

GPAM1 SINE.100
 GPAM2 SINE.100
 GPX1 0 %
 GPX2 0 %
 GPY1 0 %
 GPY2 0 %
 GPZ1 30.00 %
 GPZ2 30.00 %
 P16 1000.00 usec

F1 - Acquisition parameters

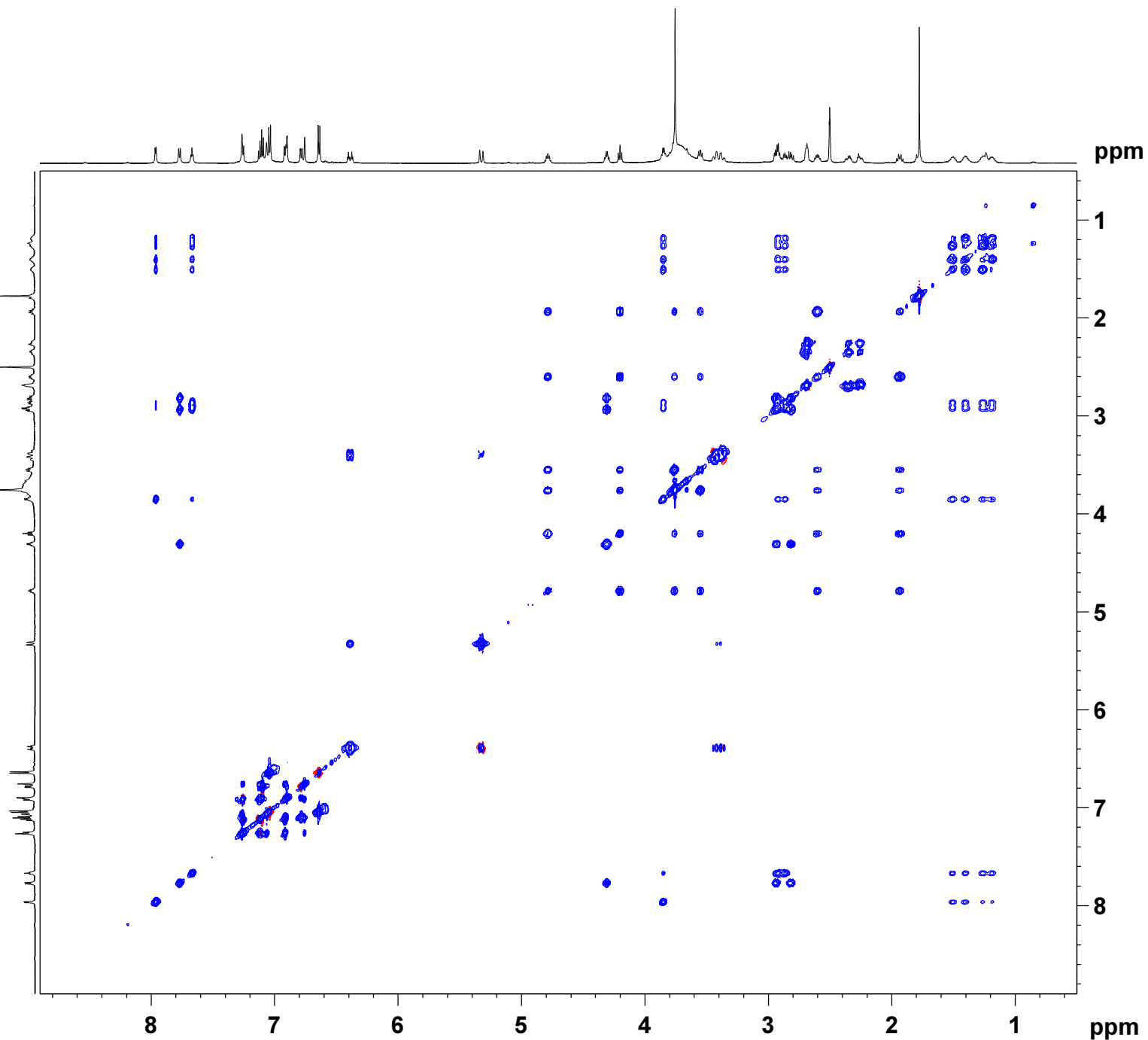
TD 256
 SFO1 600.1327 MHz
 FIDRES 21.046606 Hz
 SW 8.978 ppm
 FMODE Echo-Antiecho

F2 - Processing parameters

SI 4096
 SF 600.1300065 MHz
 WDW QSINE
 SSB 2
 LB 0 Hz
 GB 0
 PC 1.00

F1 - Processing parameters

SI 4096
 MC2 echo-antiecho
 SF 600.1300067 MHz
 WDW
 SSB 2
 LB 0 Hz
 GB 0



Current Data Parameters
NAME TR3-127B
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120317
Time 13.44
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hsqcetgpsisp
TD 2048
SOLVENT DMSO
NS 10
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 23170.5
DW 83.200 usec
DE 6.00 usec
TE 298.2 K
CNST2 145.0000000
D0 0.00000300 sec
D1 1.00000000 sec
D4 0.00172414 sec
D11 0.03000000 sec
D16 0.00020000 sec
D24 0.00086200 sec
IN0 0.00002070 sec
ZGPTNS

===== CHANNEL f1 =====
NUC1 1H
P1 9.52 usec
P2 19.04 usec
P28 1000.00 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

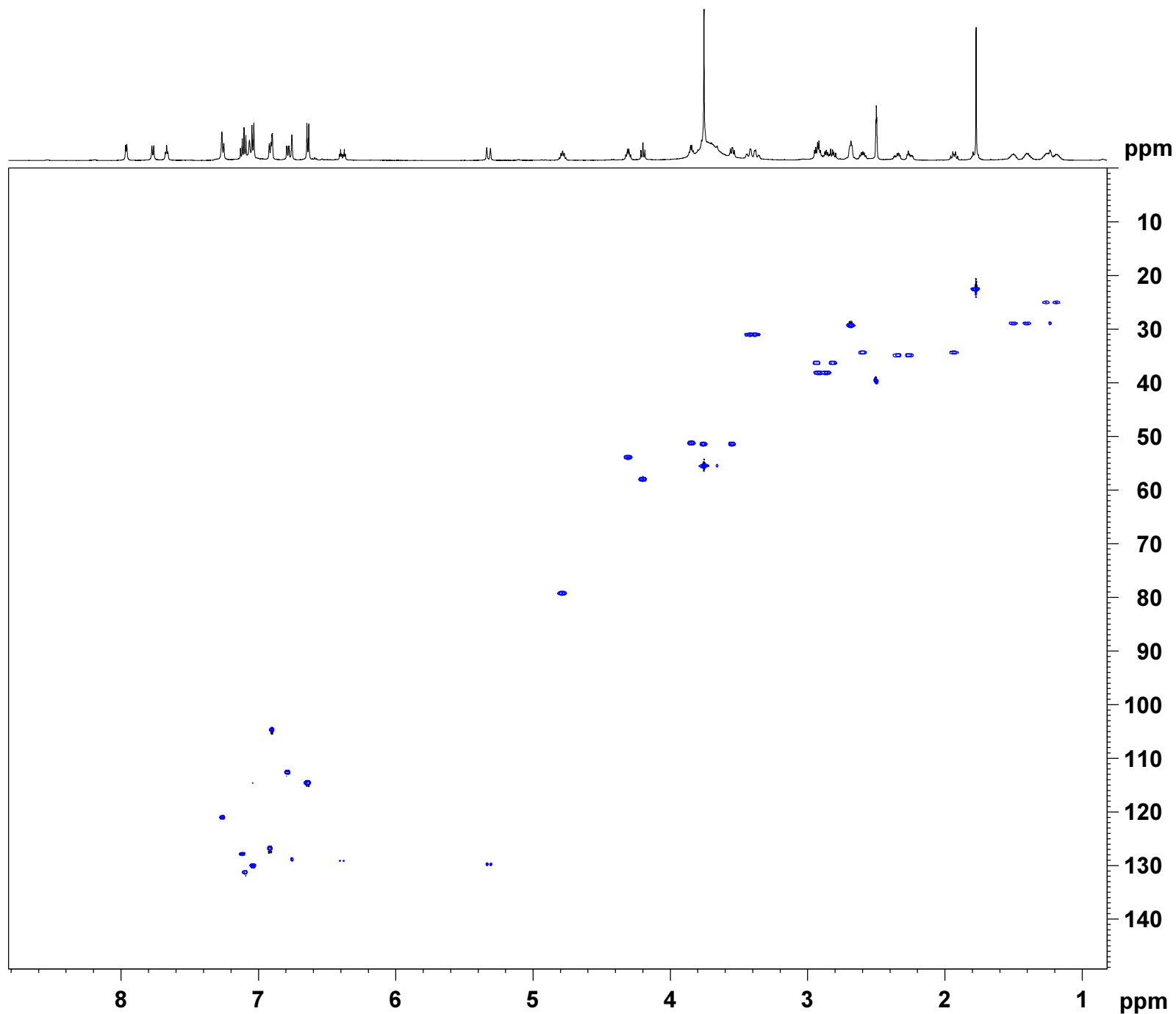
===== CHANNEL f2 =====
CPDPRG2 garp
NUC2 13C
P3 18.50 usec
P4 37.00 usec
P14 1000.00 usec
PCPD2 65.00 usec
PL0 120.00 dB
PL2 -3.00 dB
PL12 7.91 dB
PL0W 0 W
PL2W 150.35617065 W
PL12W 12.19330025 W
SFO2 150.9133722 MHz
SP3 4.59 dB
SPNAM3 Crp80,0.5,20.1
SFOAL3 0.500
SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 80.00 %
GPZ2 20.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 150.9134 MHz
FIDRES 47.160427 Hz
SW 160.000 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 600.1300049 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 2048
MC2 echo-antiecho
SF 150.9029069 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-127B
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters

Date_ 20120317
Time 15.27
INSTRUM av600
PROBHD 5 mm TB15
PULPROG hmbcgp12ndqf
TD 2048
SOLVENT DMSO
NS 40
DS 24
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 297.8 K
CNST6 125.0000000
CNST7 165.0000000
CNST13 8.0000000
D0 0.00000300 sec
D1 1.20000005 sec
D6 0.06250000 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 9.52 usec
P2 19.04 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

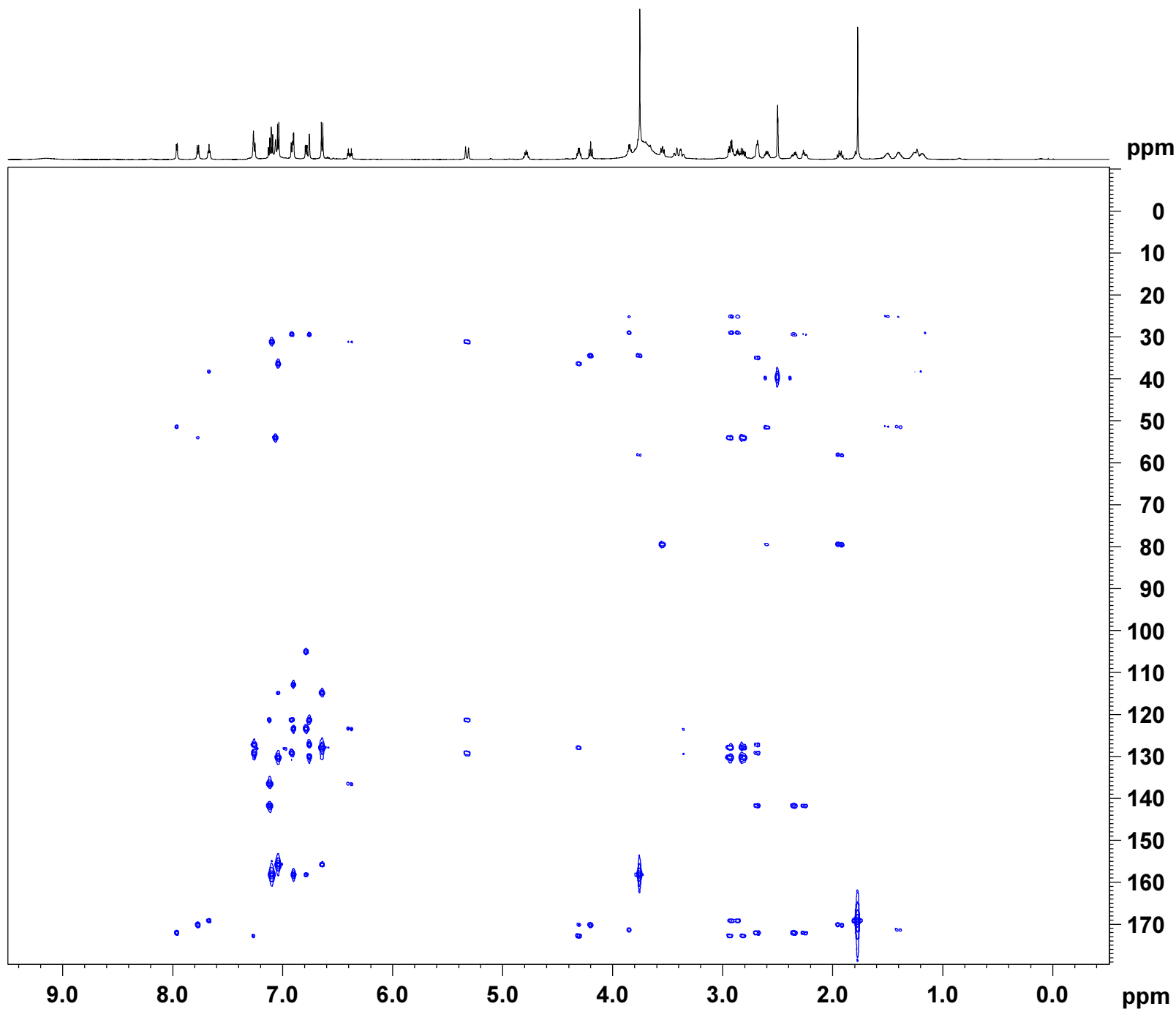
===== CHANNEL f2 =====
NUC2 13C
P3 18.50 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPNAM4 SINE.100
GPNAM5 SINE.100
GPNAM6 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPX4 0 %
GPX5 0 %
GPX6 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPY4 0 %
GPY5 0 %
GPY6 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
GPZ4 15.00 %
GPZ5 -10.00 %
GPZ6 -5.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 150.9156 MHz
FIDRES 112.007698 Hz
SW 190.000 ppm
FnMODE QF

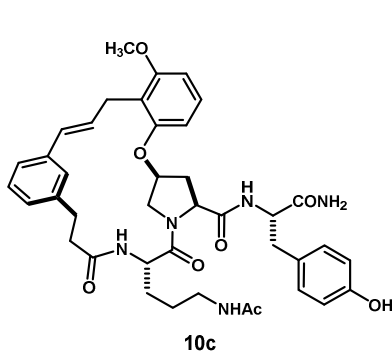
F2 - Processing parameters
SI 4096
SF 600.1300057 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9028746 MHz
WDW
SSB 2
LB 0 Hz
GB 0



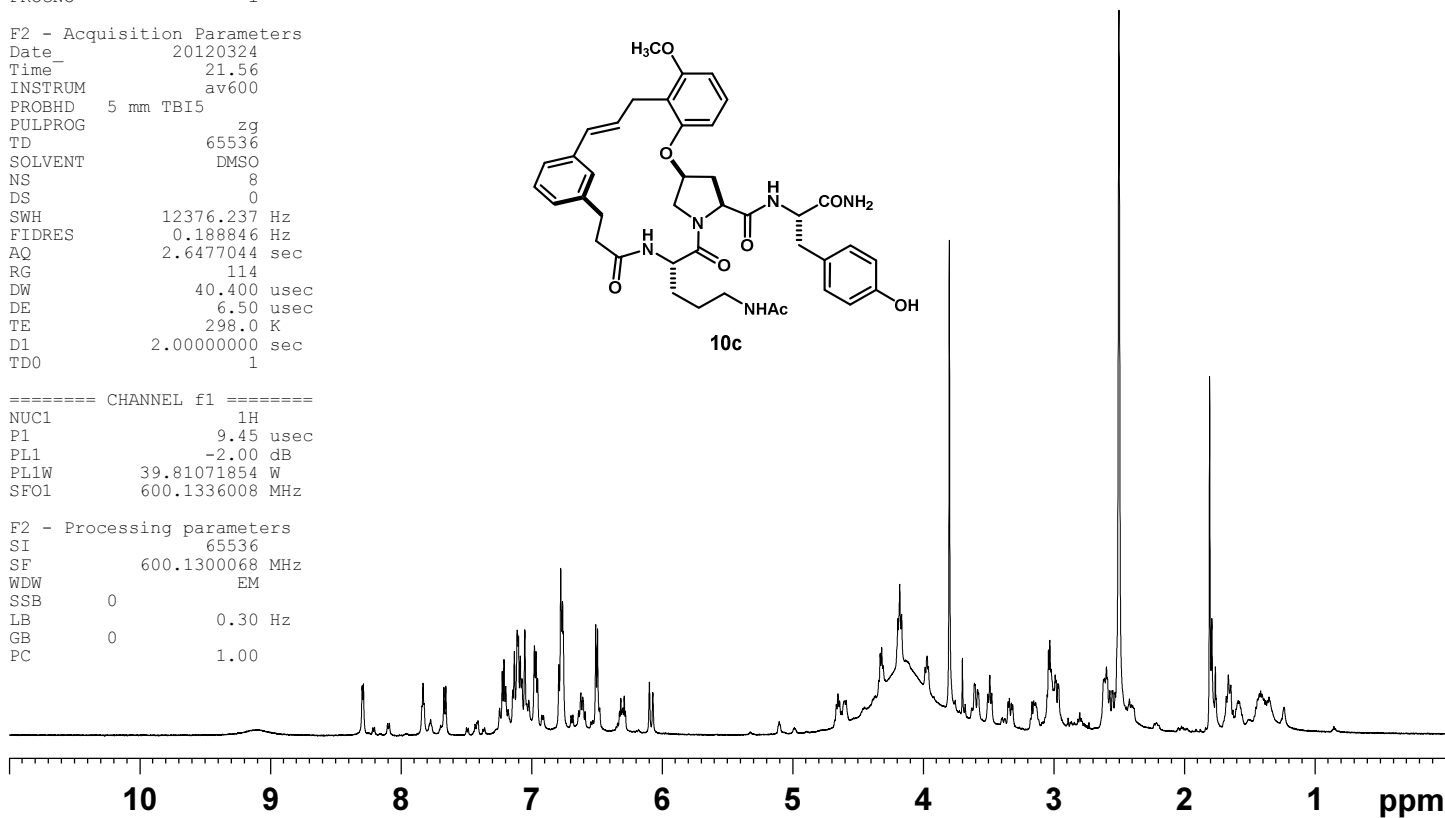
Current Data Parameters
 NAME TR3-132C
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120324
 Time_ 21.56
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 114
 DW 40.400 usec
 DE 6.50 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1



===== CHANNEL f1 =====
 NUC1 1H
 P1 9.45 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300068 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME TR3-132C
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120324
Time_ 22.00
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 71.8
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00008077 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00018560 sec

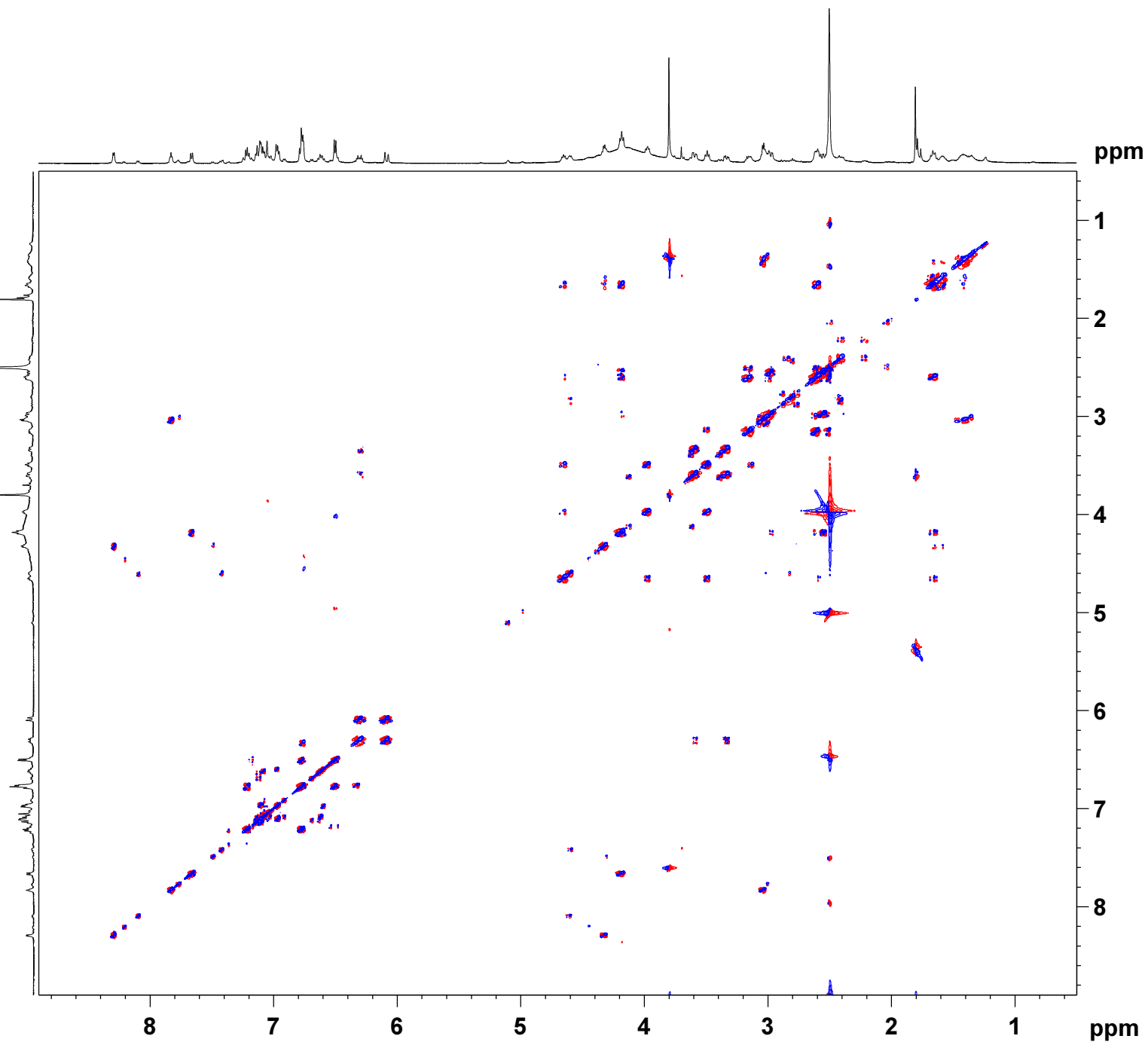
===== CHANNEL f1 =====
NUC1 1H
P1 9.45 usec
P2 18.90 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.1327 MHz
FIDRES 10.523297 Hz
SW 8.978 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300076 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300068 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-132C
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters

Date_ 20120324
Time 22.30
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG dipsi2etgpsi
TD 2048
SOLVENT DMSO
NS 8
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 128
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00000300 sec
D1 1.50000000 sec
D9 0.06000000 sec
D11 0.03000000 sec
D16 0.00020000 sec
D20 0.00001000 sec
D21 0.00001000 sec
IN0 0.00018560 sec
L1 14

===== CHANNEL f1 =====

NUC1 1H
P1 9.45 usec
P2 18.90 usec
P6 40.00 usec
PL1 -2.00 dB
PL10 10.53 dB
PL1W 39.81071854 W
PL10W 2.22330999 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====

GP1AM1 SINE.100
GP1AM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 30.00 %
GPZ2 30.00 %
P16 1000.00 usec

F1 - Acquisition parameters

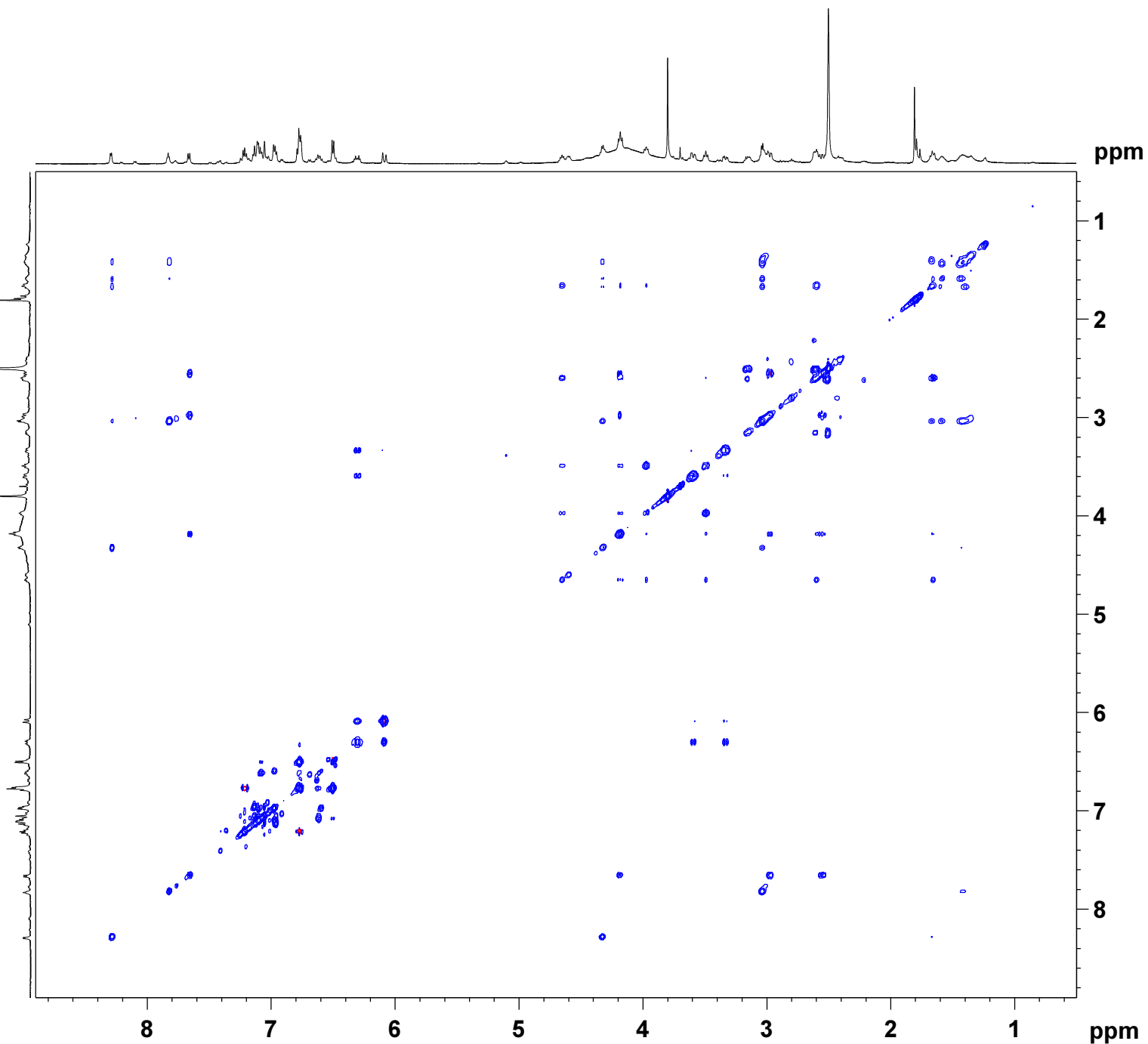
TD 256
SFO1 600.1327 MHz
FIDRES 21.046606 Hz
SW 8.978 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters

SI 4096
SF 600.1300072 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters

SI 4096
MC2 echo-antiecho
SF 600.1300078 MHz
WDW
SSB 2
LB 0 Hz
GB 0



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Current Data Parameters
NAME      TR3-132C
EXPNO     5
PROCNO    1

F2 - Acquisition Parameters
Date_     20120324
Time      23.33
INSTRUM   av600
PROBHD    5 mm TB15
PULPROG   hsqcetgpsisp
TD         2048
SOLVENT   DMSO
NS         18
DS         16
SWH        6009.615 Hz
FIDRES     2.934382 Hz
AQ         0.1704436 sec
RG         23170.5
DW         83.200 usec
DE         6.00 usec
TE         298.2 K
CNST2     145.0000000
D0         0.00000300 sec
D1         1.00000000 sec
D4         0.00172414 sec
D11        0.03000000 sec
D16        0.00020000 sec
D24        0.00086200 sec
IN0        0.00002070 sec
ZGOPTNS

===== CHANNEL f1 =====
NUC1       1H
P1         9.45 usec
P2         18.90 usec
P28        1000.00 usec
PL1        -2.00 dB
PL1W       39.81071854 W
SFO1       600.1327006 MHz

===== CHANNEL f2 =====
CPDPRG2    garp
NUC2       13C
P3         18.50 usec
P4         37.00 usec
P14        1000.00 usec
PCPD2      65.00 usec
PL0        120.00 dB
PL2        -3.00 dB
PL12       7.91 dB
PL0W       0 W
PL2W       150.35617065 W
PL12W      12.19330025 W
SFO2       150.9133722 MHz
SP3        4.59 dB
SPNAM3     Crp80,0.5,20.1
SFOAL3     0.500
SFOFFS3    0 Hz

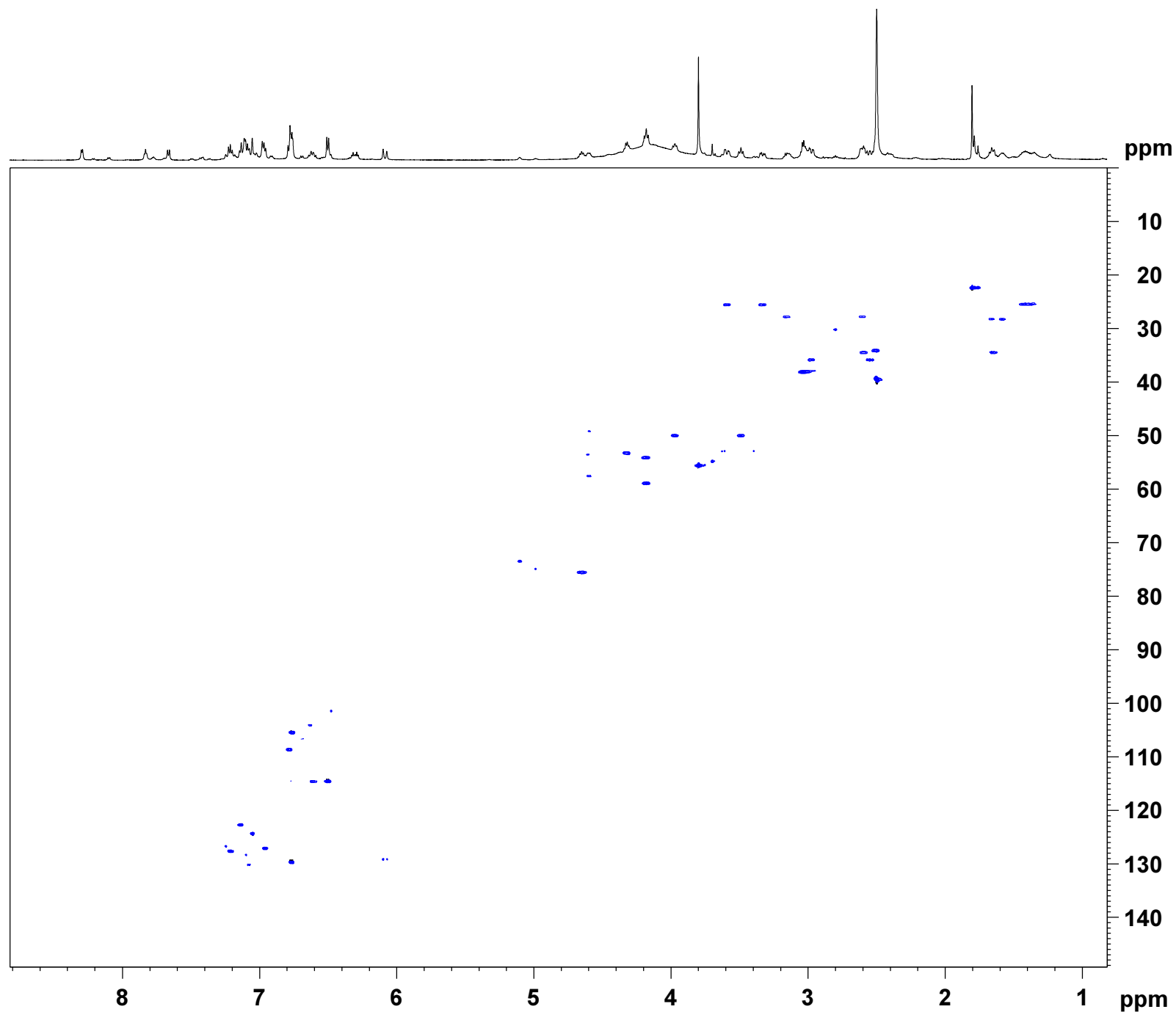
===== GRADIENT CHANNEL =====
GPNAM1     SINE.100
GPNAM2     SINE.100
GPX1       0 %
GPX2       0 %
GPY1       0 %
GPY2       0 %
GPZ1       80.00 %
GPZ2       20.10 %
P16        1000.00 usec

F1 - Acquisition parameters
TD         512
SFO1       150.9134 MHz
FIDRES     47.160427 Hz
SW         160.000 ppm
FnMODE     Echo-Antiecho

F2 - Processing parameters
SI         4096
SF         600.1300069 MHz
WDW        EM
SSB        0
LB         1.00 Hz
GB         0
PC         1.40

F1 - Processing parameters
SI         4096
MC2        echo-antiecho
SF         150.9029121 MHz
WDW        EM
SSB        2
LB         0 Hz
GB         0

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Current Data Parameters
NAME      TR3-132C
EXPNO     6
PROCNO    1

F2 - Acquisition Parameters
Date_     20120325
Time      2.38
INSTRUM   av600
PROBHD    5 mm TBI5
PULPROG   hmbcgp12ndqf
TD         2048
SOLVENT   DMSO
NS         74
DS         24
SWH        6009.615 Hz
FIDRES     2.934382 Hz
AQ         0.1704436 sec
RG         26008
DW         83.200 usec
DE         6.00 usec
TE         298.0 K
CNST6     125.0000000
CNST7     165.0000000
CNST13    8.0000000
D0         0.00000300 sec
D1         1.20000005 sec
D6         0.06250000 sec
D16        0.00020000 sec
IN0        0.00001745 sec

===== CHANNEL f1 =====
NUC1       1H
P1         9.45 usec
P2         18.90 usec
PL1        -2.00 dB
PL1W       39.81071854 W
SFO1       600.1327006 MHz

===== CHANNEL f2 =====
NUC2       13C
P3         18.50 usec
PL2        -3.00 dB
PL2W       150.35617065 W
SFO2       150.9156357 MHz

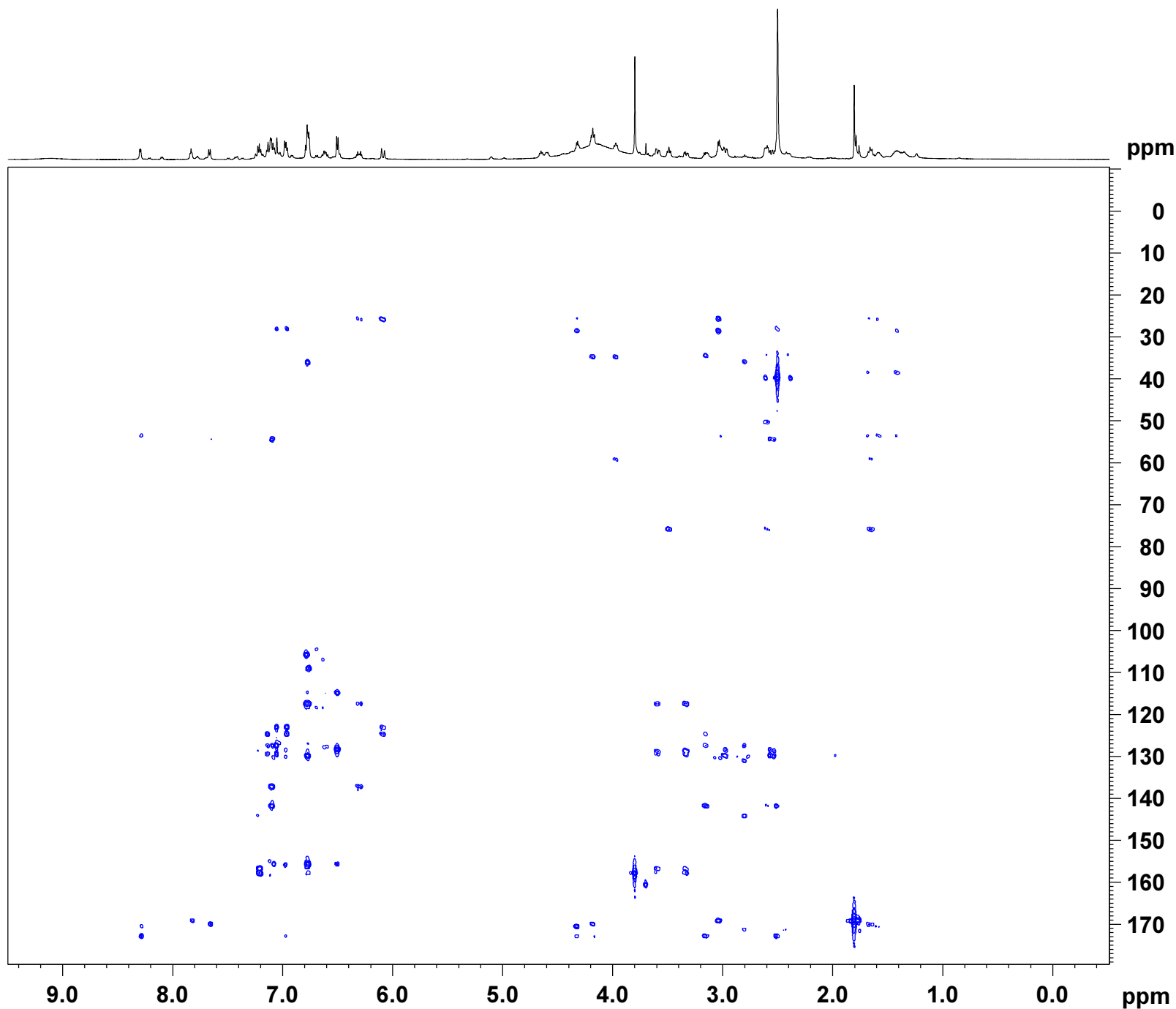
===== GRADIENT CHANNEL =====
GPNAM1     SINE.100
GPNAM2     SINE.100
GPNAM3     SINE.100
GPNAM4     SINE.100
GPNAM5     SINE.100
GPNAM6     SINE.100
GPX1        0 %
GPX2        0 %
GPX3        0 %
GPX4        0 %
GPX5        0 %
GPX6        0 %
GPY1        0 %
GPY2        0 %
GPY3        0 %
GPY4        0 %
GPY5        0 %
GPY6        0 %
GPZ1        50.00 %
GPZ2        30.00 %
GPZ3        40.10 %
GPZ4        15.00 %
GPZ5        -10.00 %
GPZ6        -5.00 %
P16         1000.00 usec

F1 - Acquisition parameters
TD         256
SFO1       150.9156 MHz
FIDRES     112.007698 Hz
SW         190.000 ppm
FnMODE     QF

F2 - Processing parameters
SI         4096
SF         600.1300070 MHz
WDW        QSINE
SSB         2
LB          0 Hz
GB          0
PC          1.40

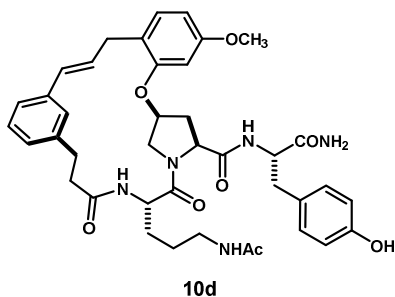
F1 - Processing parameters
SI         4096
MC2        QF
SF         150.9028774 MHz
WDW        QF
SSB         2
LB          0 Hz
GB          0

```



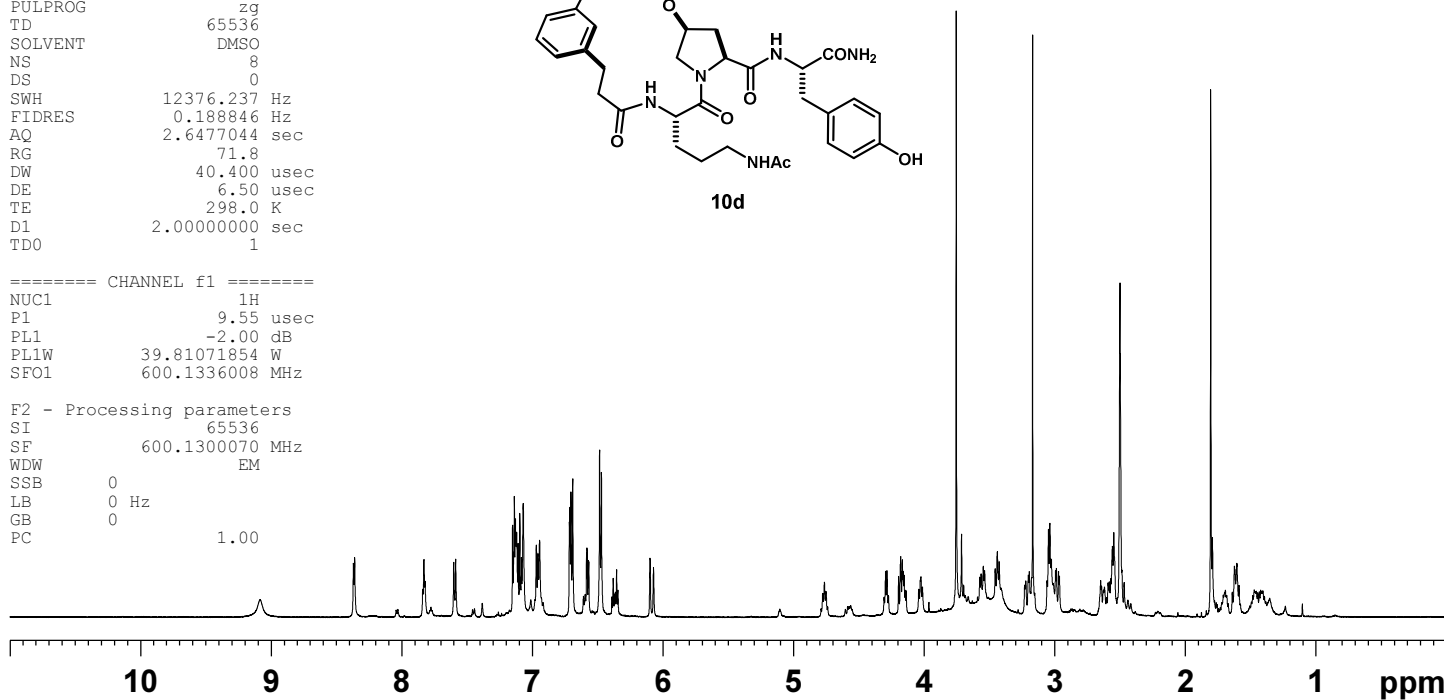
Current Data Parameters
 NAME TR3-132D
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120329
 Time_ 19.42
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 71.8
 DW 40.400 usec
 DE 6.50 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1



===== CHANNEL f1 =====
 NUC1 1H
 P1 9.55 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300070 MHz
 WDW EM
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME TR3-132D
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120329
Time_ 19.48
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 71.8
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00008064 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00018560 sec

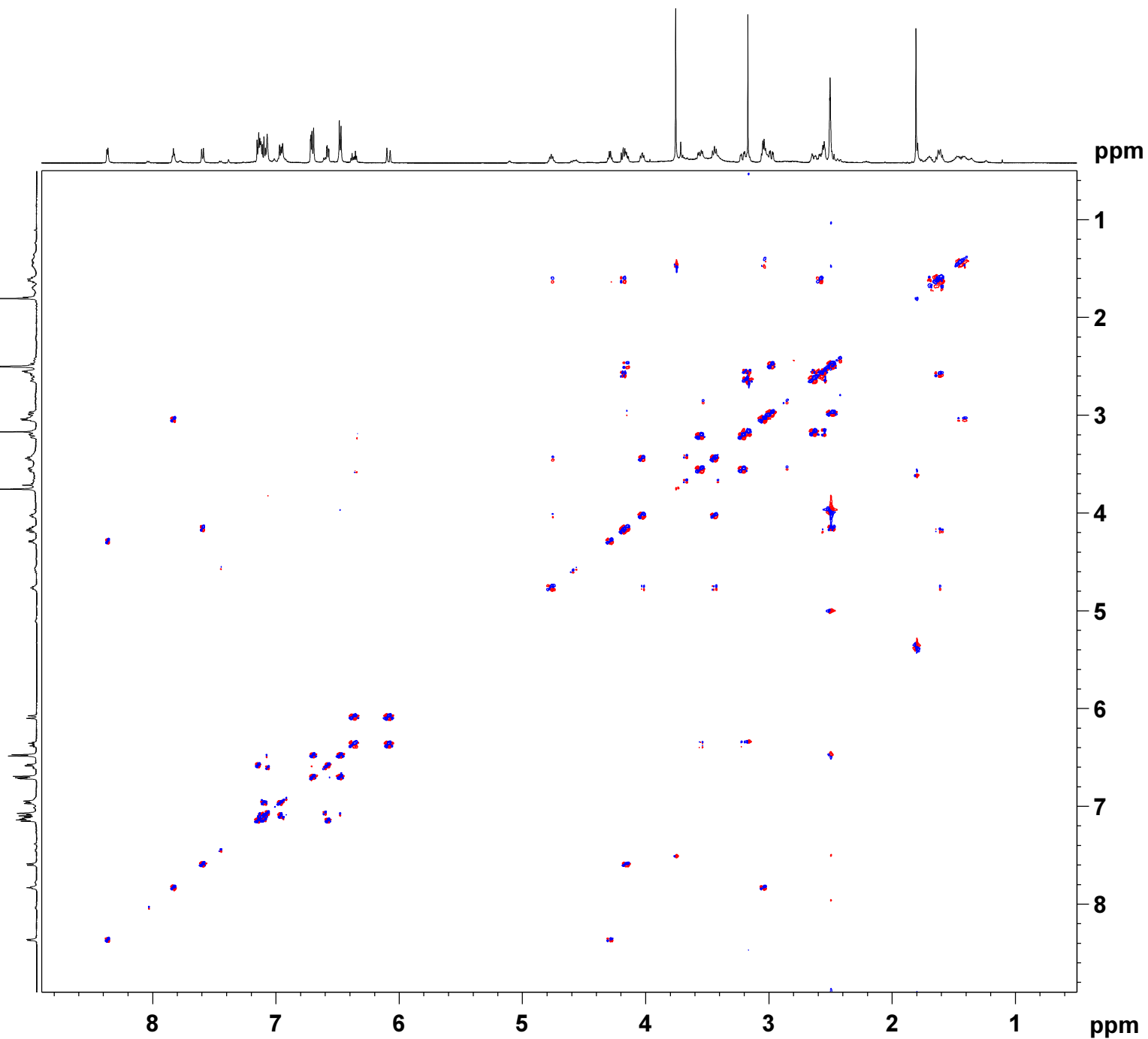
===== CHANNEL f1 =====
NUC1 1H
P1 9.55 usec
P2 19.10 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.1327 MHz
FIDRES 10.523297 Hz
SW 8.978 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300096 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300063 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-132D
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters

Date_ 20120329
Time 20.18
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG dipsi2etgpsi
TD 2048
SOLVENT DMSO
NS 8
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 128
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00000300 sec
D1 1.50000000 sec
D9 0.06000000 sec
D11 0.03000000 sec
D16 0.00020000 sec
D20 0.00001000 sec
D21 0.00001000 sec
IN0 0.00018560 sec
L1 14

===== CHANNEL f1 =====

NUC1 1H
P1 9.55 usec
P2 19.10 usec
P6 40.00 usec
PL1 -2.00 dB
PL10 10.44 dB
PL1W 39.81071854 W
PL10W 2.26986504 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====

GPAM1 SINE.100
GPAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 30.00 %
GPZ2 30.00 %
P16 1000.00 usec

F1 - Acquisition parameters

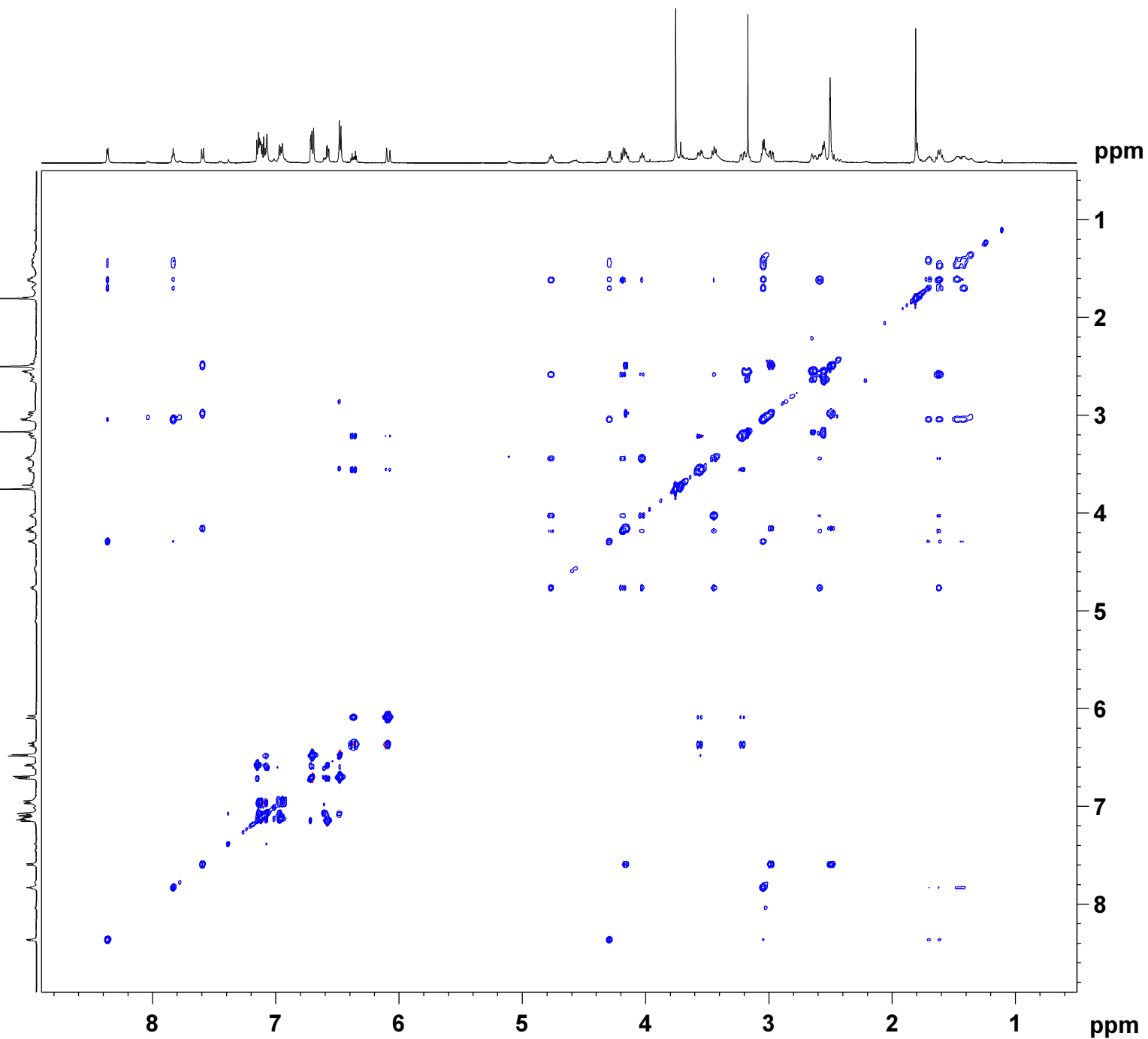
TD 256
SFO1 600.1327 MHz
FIDRES 21.046606 Hz
SW 8.978 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters

SI 4096
SF 600.1300054 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters

SI 4096
MC2 echo-antiecho
SF 600.1300058 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
 NAME TR3-132D
 EXPNO 5
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120329
 Time 21.20
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG hsqcetgpsisp
 TD 2048
 SOLVENT DMSO
 NS 12
 DS 16
 SWH 6009.615 Hz
 FIDRES 2.934382 Hz
 AQ 0.1704436 sec
 RG 23170.5
 DW 83.200 usec
 DE 6.00 usec
 TE 298.1 K
 CNST2 145.0000000
 D0 0.00000300 sec
 D1 1.00000000 sec
 D4 0.00172414 sec
 D11 0.03000000 sec
 D16 0.00020000 sec
 D24 0.00086200 sec
 IN0 0.00002070 sec
 ZGPTNS

===== CHANNEL f1 =====
 NUC1 1H
 P1 9.55 usec
 P2 19.10 usec
 P28 1000.00 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1327006 MHz

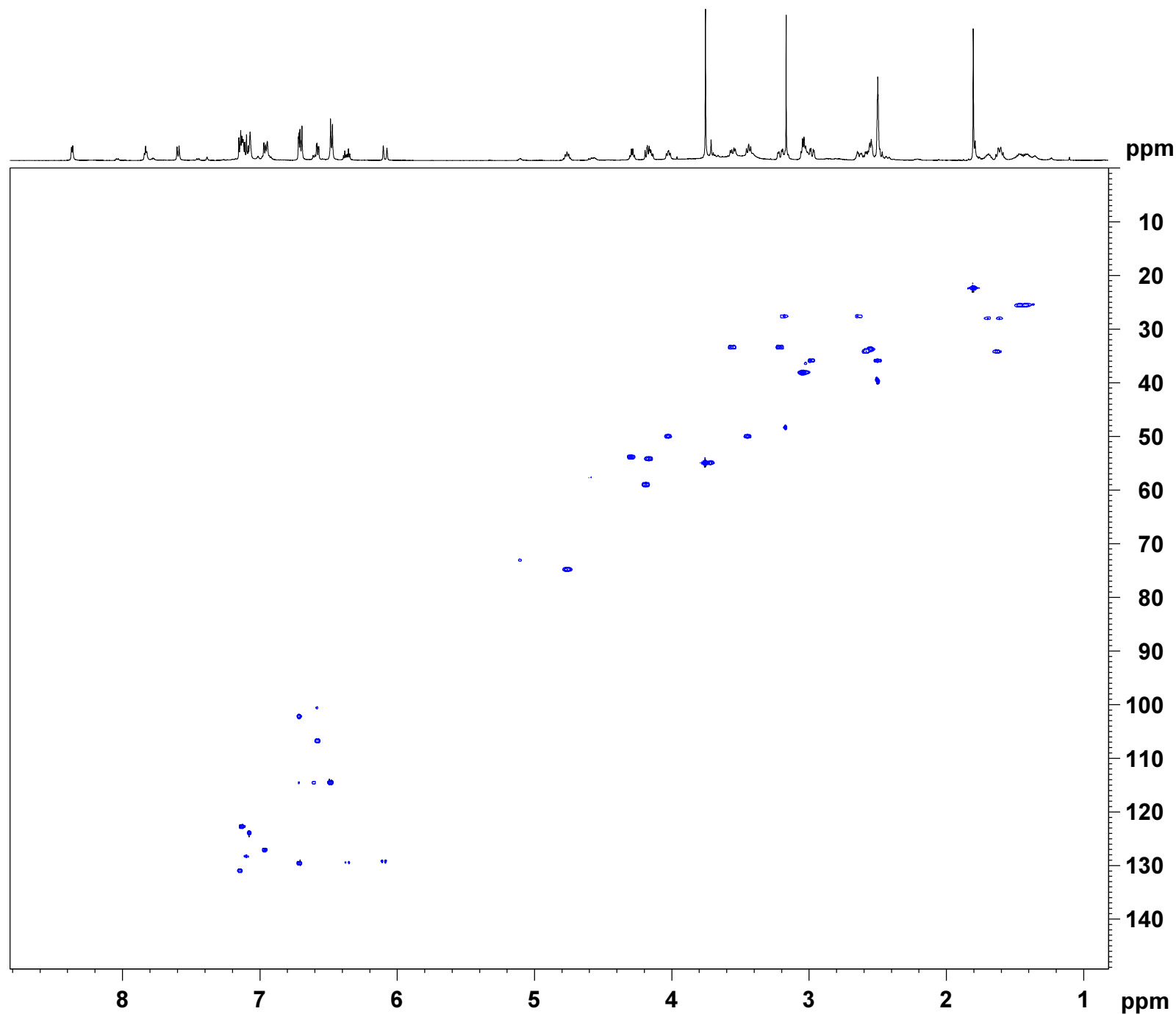
===== CHANNEL f2 =====
 CPDPRG2 garp
 NUC2 13C
 P3 18.50 usec
 P4 37.00 usec
 P14 1000.00 usec
 PCPD2 65.00 usec
 PL0 120.00 dB
 PL2 -3.00 dB
 PL12 7.91 dB
 PL0W 0 W
 PL2W 150.35617065 W
 PL12W 12.19330025 W
 SFO2 150.9133722 MHz
 SP3 4.59 dB
 SPNAM3 Crp80,0.5,20.1
 SPOAL3 0.500
 SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
 GPNAM1 SINE.100
 GPNAM2 SINE.100
 GPX1 0 %
 GPX2 0 %
 GPY1 0 %
 GPY2 0 %
 GPZ1 80.00 %
 GPZ2 20.10 %
 P16 1000.00 usec

F1 - Acquisition parameters
 TD 512
 SFO1 150.9134 MHz
 FIDRES 47.160427 Hz
 SW 160.000 ppm
 FhMODE Echo-Antiecho

F2 - Processing parameters
 SI 4096
 SF 600.1300048 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

F1 - Processing parameters
 SI 2048
 MC2 echo-antiecho
 SF 150.9029186 MHz
 WDW
 SSB 2
 LB 0 Hz
 GB 0



Current Data Parameters
NAME TR3-132D
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120329
Time 23.24
INSTRUM av600
PROBHD 5 mm TB15
PULPROG hmbcgp12ndqf
TD 2048
SOLVENT DMSO
NS 40
DS 24
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST6 125.0000000
CNST7 165.0000000
CNST13 8.0000000
D0 0.00000300 sec
D1 1.20000005 sec
D6 0.06250000 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 9.55 usec
P2 19.10 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

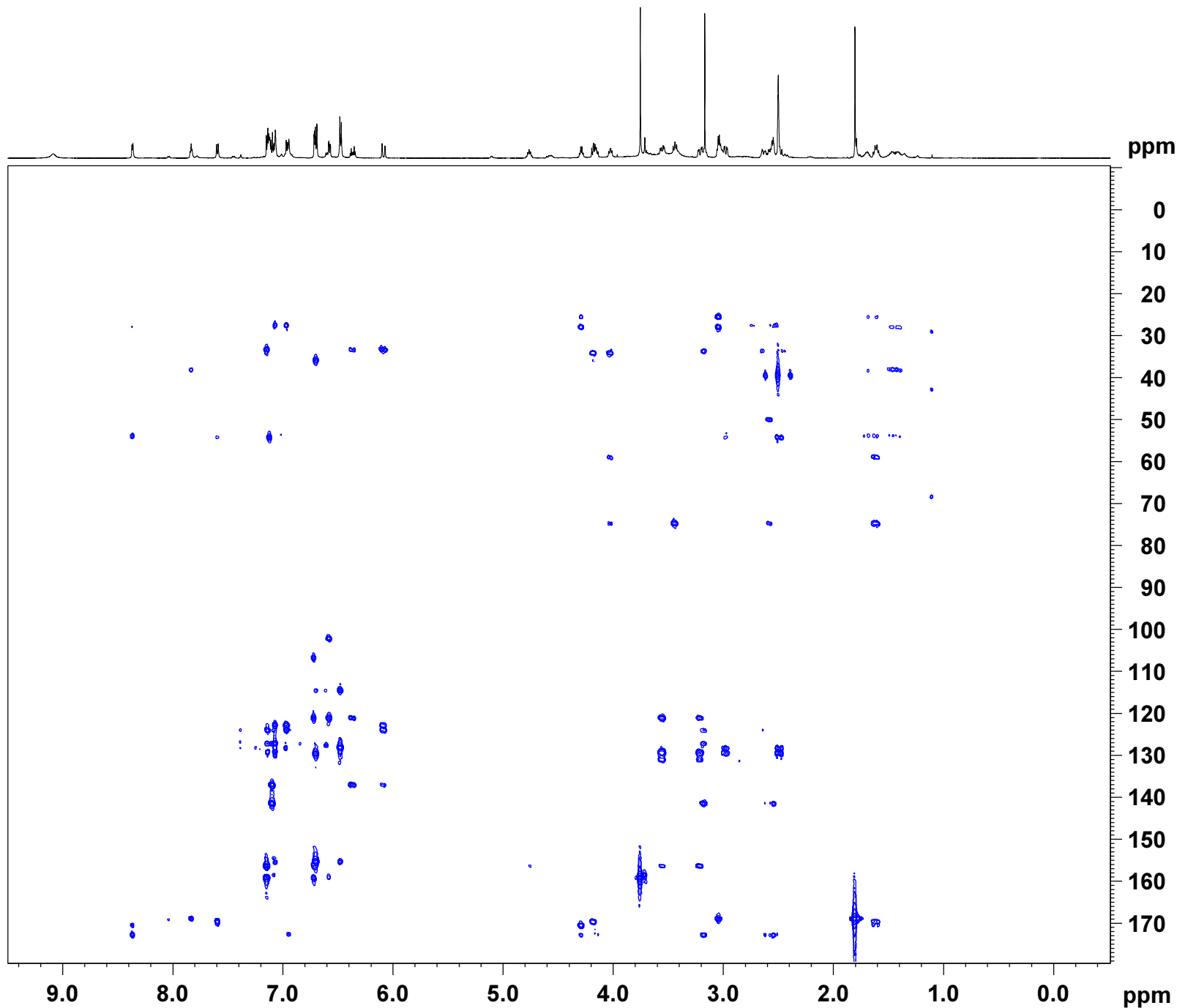
===== CHANNEL f2 =====
NUC2 13C
P3 18.50 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPNAM4 SINE.100
GPNAM5 SINE.100
GPNAM6 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPX4 0 %
GPX5 0 %
GPX6 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPY4 0 %
GPY5 0 %
GPY6 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
GPZ4 15.00 %
GPZ5 -10.00 %
GPZ6 -5.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 150.9156 MHz
FIDRES 112.007698 Hz
SW 190.000 ppm
FnMODE QF

F2 - Processing parameters
SI 4096
SF 600.1300052 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9029088 MHz
WDW
SSB 2
LB 0 Hz
GB 0

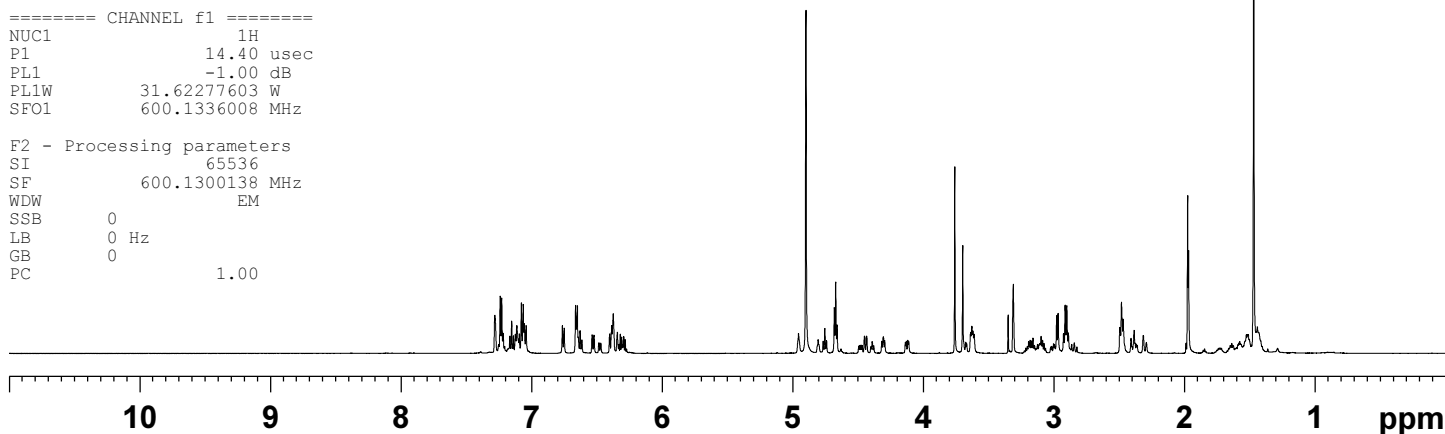
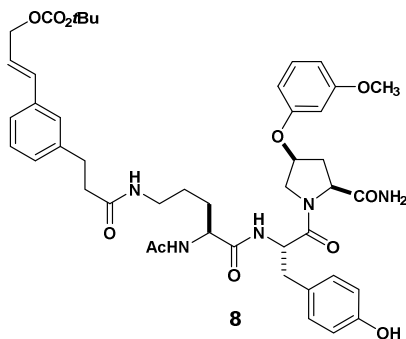


Current Data Parameters
 NAME TR3-86
 EXPNO 1
 PROCNO 1

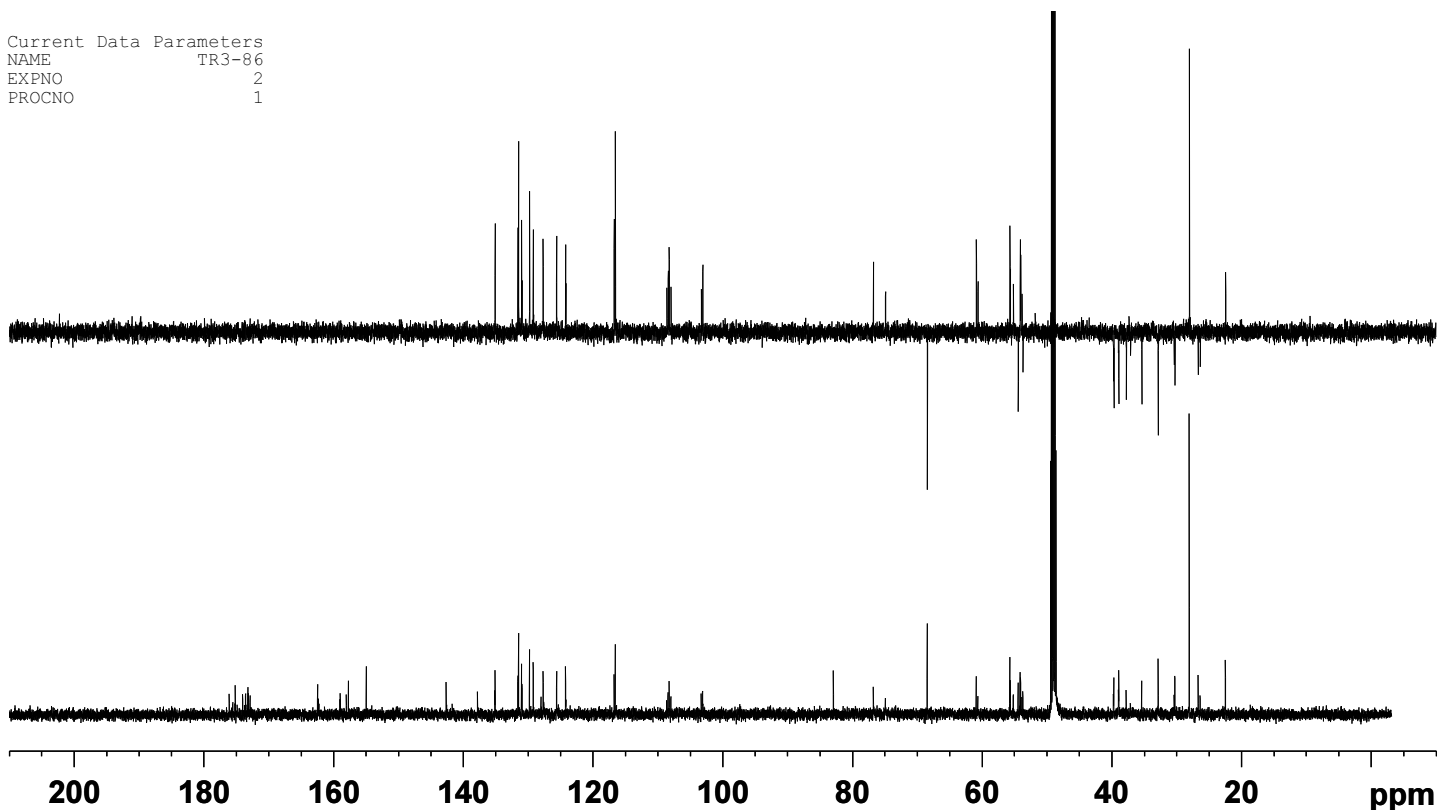
F2 - Acquisition Parameters
 Date_ 20120202
 Time 10.51
 INSTRUM av600
 PROBHD 5 mm BB5
 PULPROG zg
 TD 65536
 SOLVENT MeOD
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 35.9
 DW 40.400 usec
 DE 6.50 usec
 TE 291.9 K
 D1 3.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 1H
 P1 14.40 usec
 PL1 -1.00 dB
 PL1W 31.62277603 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300138 MHz
 WDW EM
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00

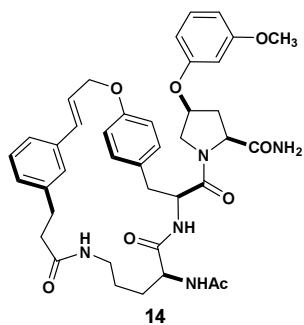


Current Data Parameters
 NAME TR3-86
 EXPNO 2
 PROCNO 1



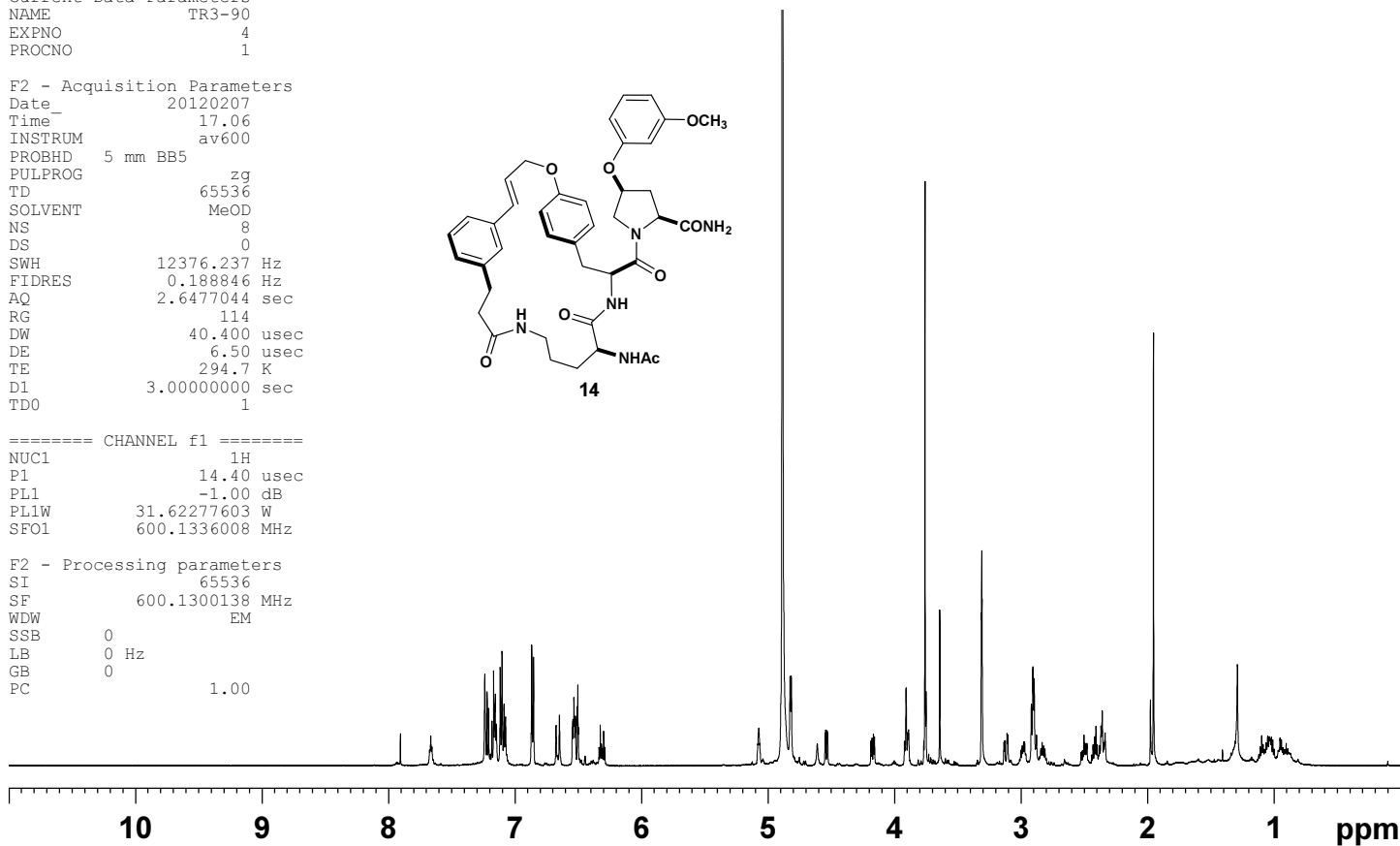
Current Data Parameters
NAME TR3-90
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120207
Time 17.06
INSTRUM av600
PROBHD 5 mm BB5
PULPROG zg
TD 65536
SOLVENT MeOD
NS 8
DS 0
SWH 12376.237 Hz
FIDRES 0.188846 Hz
AQ 2.6477044 sec
RG 114
DW 40.400 usec
DE 6.50 usec
TE 294.7 K
D1 3.00000000 sec
TD0 1

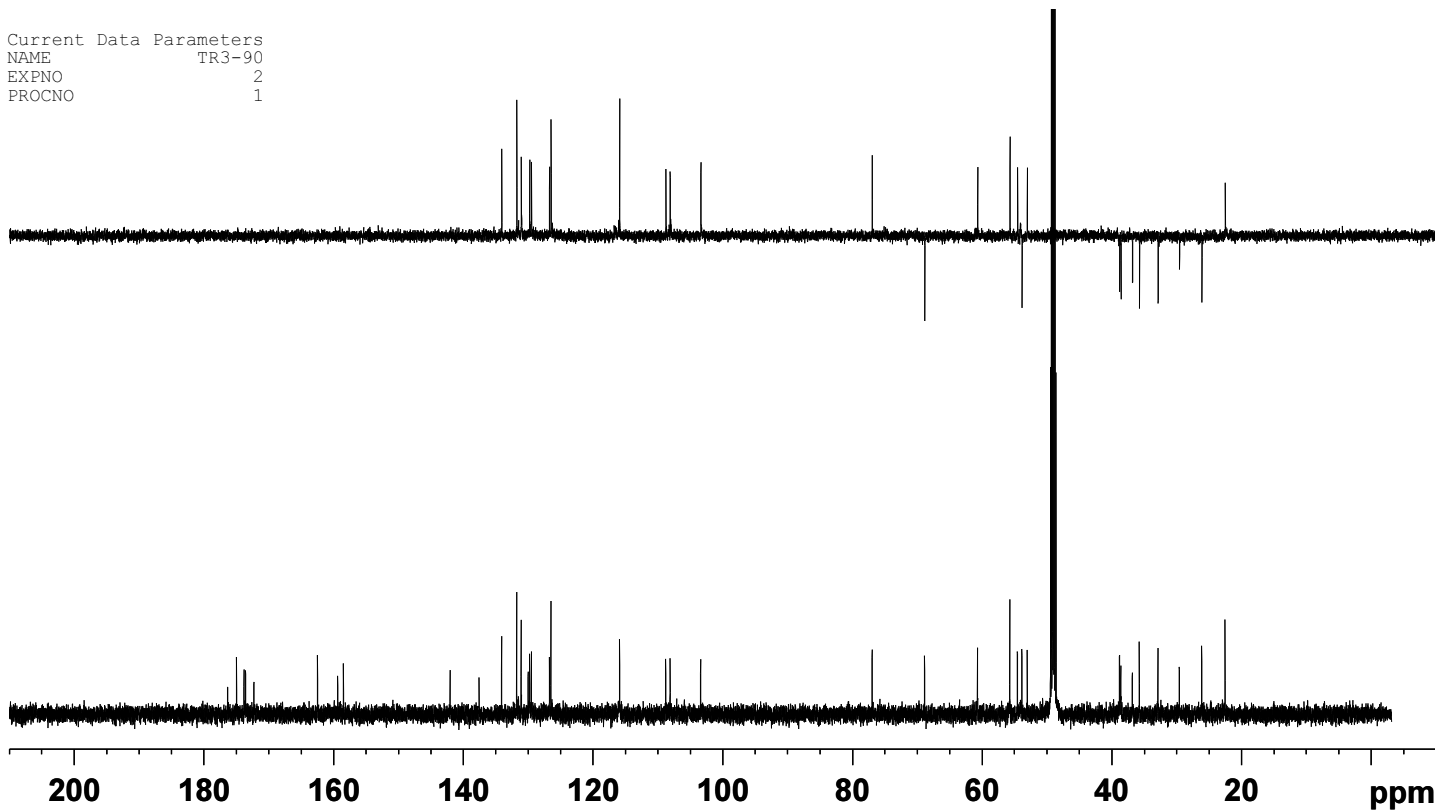


===== CHANNEL f1 =====
NUC1 1H
P1 14.40 usec
PL1 -1.00 dB
PL1W 31.62277603 W
SFO1 600.1336008 MHz

F2 - Processing parameters
SI 65536
SF 600.1300138 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00

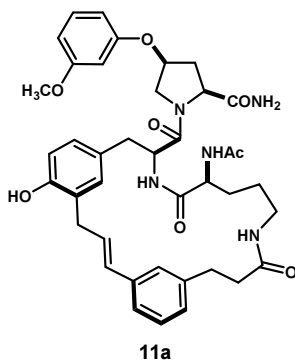


Current Data Parameters
NAME TR3-90
EXPNO 2
PROCNO 1



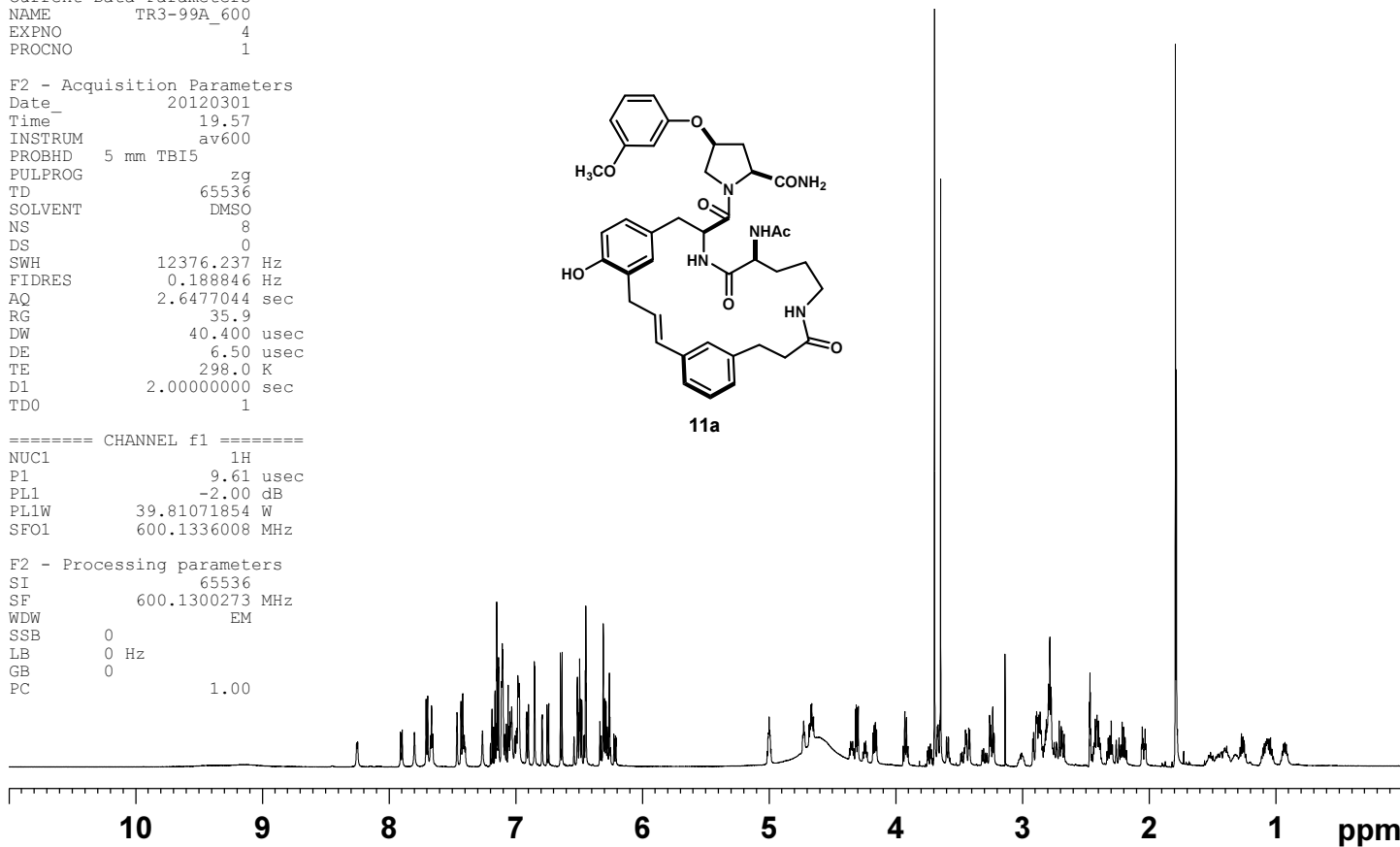
Current Data Parameters
NAME TR3-99A_600
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120301
Time 19.57
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG zg
TD 65536
SOLVENT DMSO
NS 8
DS 0
SWH 12376.237 Hz
FIDRES 0.188846 Hz
AQ 2.6477044 sec
RG 35.9
DW 40.400 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1



===== CHANNEL f1 =====
NUC1 1H
P1 9.61 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1336008 MHz

F2 - Processing parameters
SI 65536
SF 600.1300273 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00



Current Data Parameters
NAME TR3-99A_500
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120217
Time_ 19.34
INSTRUM dirx500
PROBHD 5 mm bb-Z Z800
PULPROG cosygmph
TD 2048
SOLVENT DMSO
NS 1
DS 8
SWH 5000.000 Hz
FIDRES 2.441406 Hz
AQ 0.2048500 sec
RG 45.3
DW 100.000 usec
DE 6.00 usec
TE 297.4 K
d0 0.00008326 sec
D1 1.50000000 sec
d13 0.00000400 sec
D16 0.00010000 sec
d20 0.00160400 sec
IN0 0.00020000 sec
ST1CNT 0

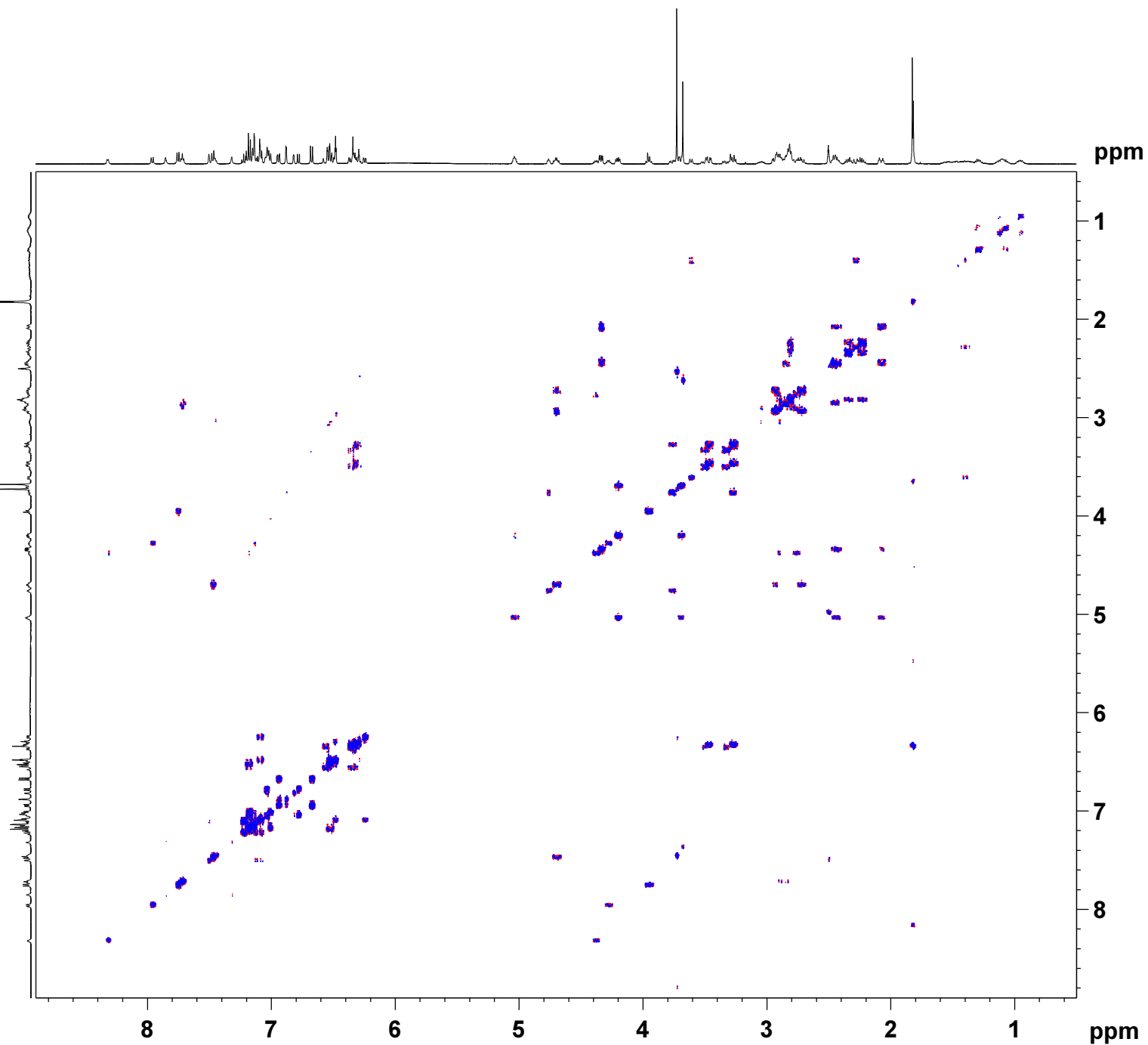
===== CHANNEL f1 =====
NUC1 1H
P1 13.15 usec
p2 26.30 usec
PL1 0 dB
SFO1 500.3325016 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPZ1 10.00 %
GPZ2 20.00 %
P16 1500.00 usec

F1 - Acquisition parameters
TD 512
SFO1 500.3325 MHz
FIDRES 9.765625 Hz
SW 9.993 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 500.3300062 MHz
WDW SINE
SSB 1
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 500.3300040 MHz
WDW SINE
SSB 1
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-99A_500
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters

Date_ 20120217
Time 19.50
INSTRUM drx500
PROBHD 5 mm bb-Z Z800
PULPROG dipsi2etgpsi
TD 2048
SOLVENT DMSO
NS 8
DS 16
SWH 5000.000 Hz
FIDRES 2.441406 Hz
AQ 0.2048500 sec
RG 322.5
DW 100.000 usec
DE 6.00 usec
TE 297.5 K
d0 0.00000300 sec
D1 1.50000000 sec
D9 0.07000000 sec
d11 0.03000000 sec
D16 0.00010000 sec
D20 0.00001000 sec
D21 0.00001000 sec
DELTA 0.00160300 sec
DELTA1 0.00160800 sec
FACTOR1 8
IN0 0.00020000 sec
l1 16
STICNT -0

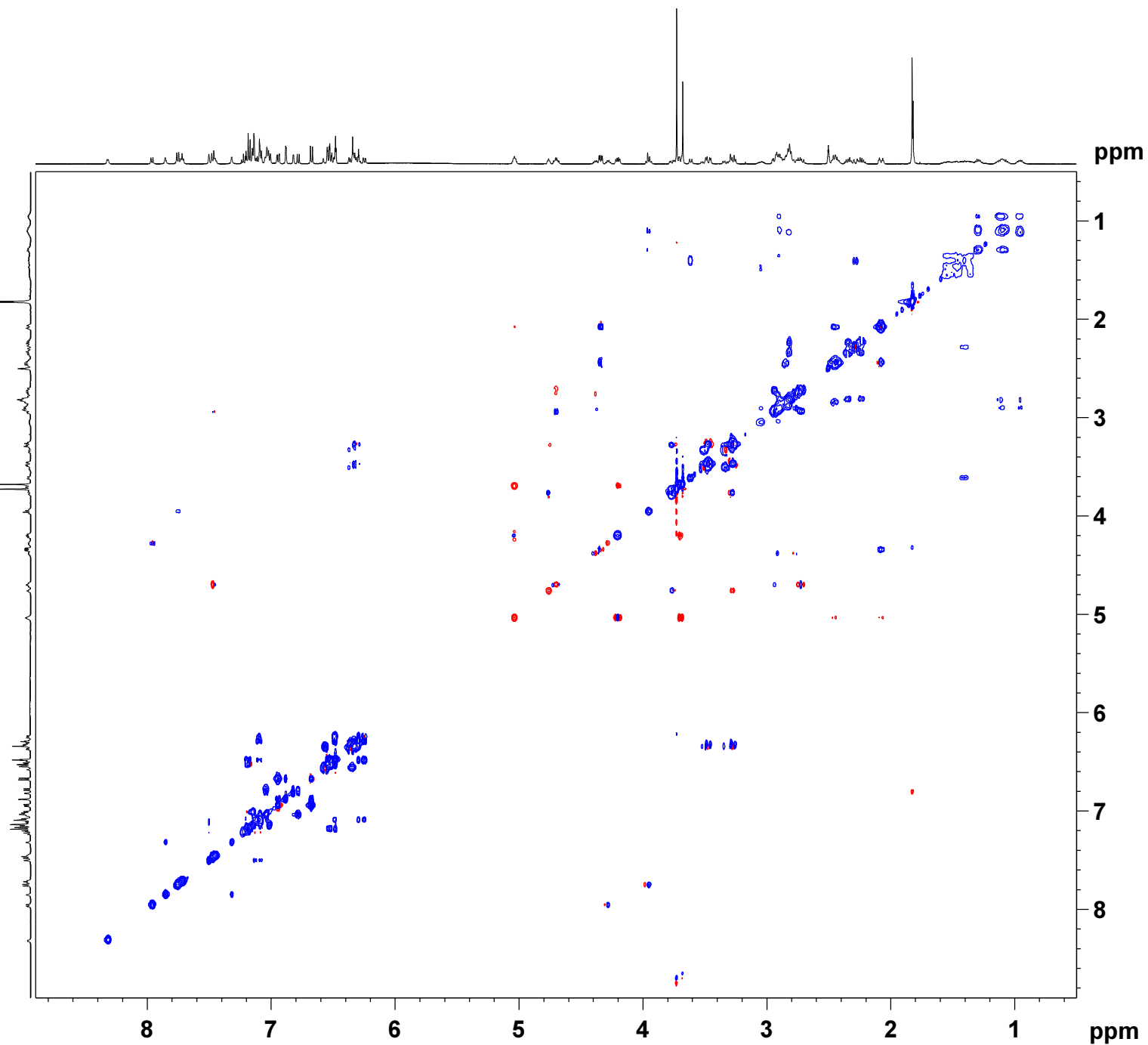
===== CHANNEL f1 =====
NUC1 1H
P1 13.15 usec
p2 26.30 usec
P6 40.00 usec
PL1 0 dB
PL10 7.16 dB
SFO1 500.3325016 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPZ1 30.00 %
GPZ2 30.00 %
P16 1500.00 usec

F1 - Acquisition parameters
TD 256
SFO1 500.3325 MHz
FIDRES 19.531250 Hz
SW 9.993 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 500.3300031 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 echo-antiecho
SF 500.3300039 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-99A_500
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120217
Time 20.53
INSTRUM drx500
PROBHD 5 mm bb-Z Z800
PULPROG hsqcetgpsisp
TD 2048
SOLVENT DMSO
NS 8
DS 16
SWH 5000.000 Hz
FIDRES 2.441406 Hz
AQ 0.2048500 sec
RG 13004
DW 100.000 usec
DE 6.00 usec
TE 297.9 K
CNST2 145.0000000
d0 0.00000300 sec
D1 1.00000000 sec
d4 0.00172414 sec
d11 0.03000000 sec
D16 0.00010000 sec
D24 0.00086200 sec
DELTA 0.00168230 sec
DELTA1 0.00160800 sec
DELTA2 0.00147414 sec
IN0 0.00002650 sec
ST1CNT 0
ZGPTNS

===== CHANNEL f1 =====
NUC1 1H
P1 13.15 usec
p2 26.30 usec
P28 2000.00 usec
PL1 0 dB
SFO1 500.3325016 MHz

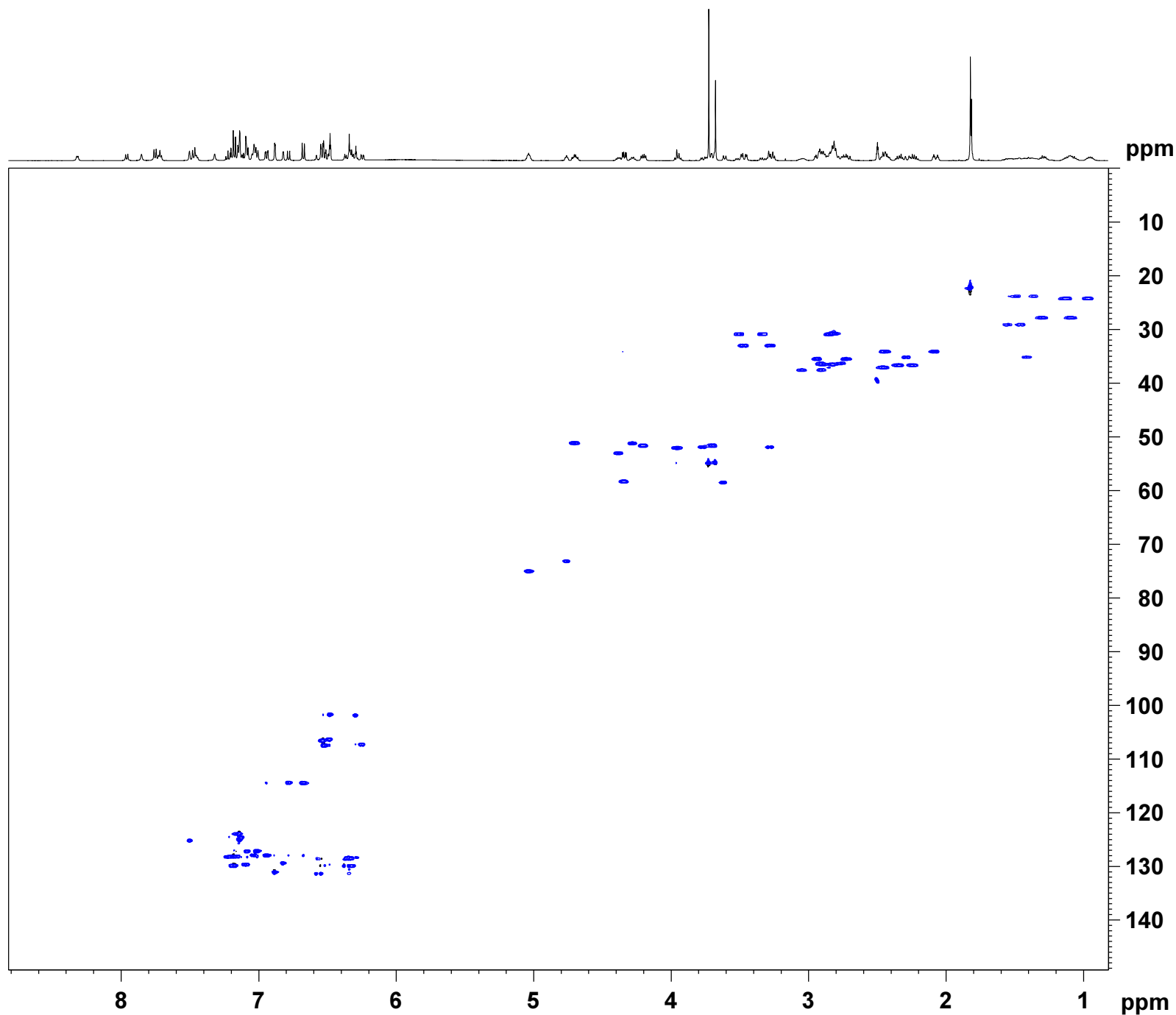
===== CHANNEL f2 =====
CPDPRG2 garp
NUC2 13C
P3 6.20 usec
p4 12.40 usec
P14 500.00 usec
PCPD2 65.00 usec
PL0 120.00 dB
PL2 0 dB
PL12 20.41 dB
SFO2 125.8174646 MHz
SP3 7.39 dB
SPNAM3 Crp80,0.5,20.1
SPOAL3 0.500
SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
CPNAM1 SINE.100
CPNAM2 SINE.100
GPZ1 80.00 %
GPZ2 20.10 %
P16 1500.00 usec

F1 - Acquisition parameters
TD 512
SFO1 125.8175 MHz
FIDRES 36.851414 Hz
SW 149.963 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 2048
SF 500.3300027 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 2048
MC2 echo-antiecho
SF 125.8081606 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
 NAME TR3-99A_500
 EXPNO 6
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120217
 Time 22.18
 INSTRUM drx500
 PROBHD 5 mm bb-Z Z800
 FULPROG hmbcgp12ndqf
 TD 2048
 SOLVENT DMSO
 NS 20
 DS 16
 SWH 5000.000 Hz
 FIDRES 2.441406 Hz
 AQ 0.2048500 sec
 RG 20642.5
 DW 100.000 usec
 DE 6.00 usec
 TE 297.7 K
 CNST6 125.0000000
 CNST7 165.0000000
 CNST13 8.0000000
 d0 0.00000300 sec
 D1 1.20000005 sec
 d6 0.06250000 sec
 D16 0.00010000 sec
 DELTA1 0.00240000 sec
 DELTA2 0.00143030 sec
 DELTA3 0.06089600 sec
 IN0 0.00002090 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 13.15 usec
 P2 26.30 usec
 PL1 0 dB
 SFO1 500.3325016 MHz

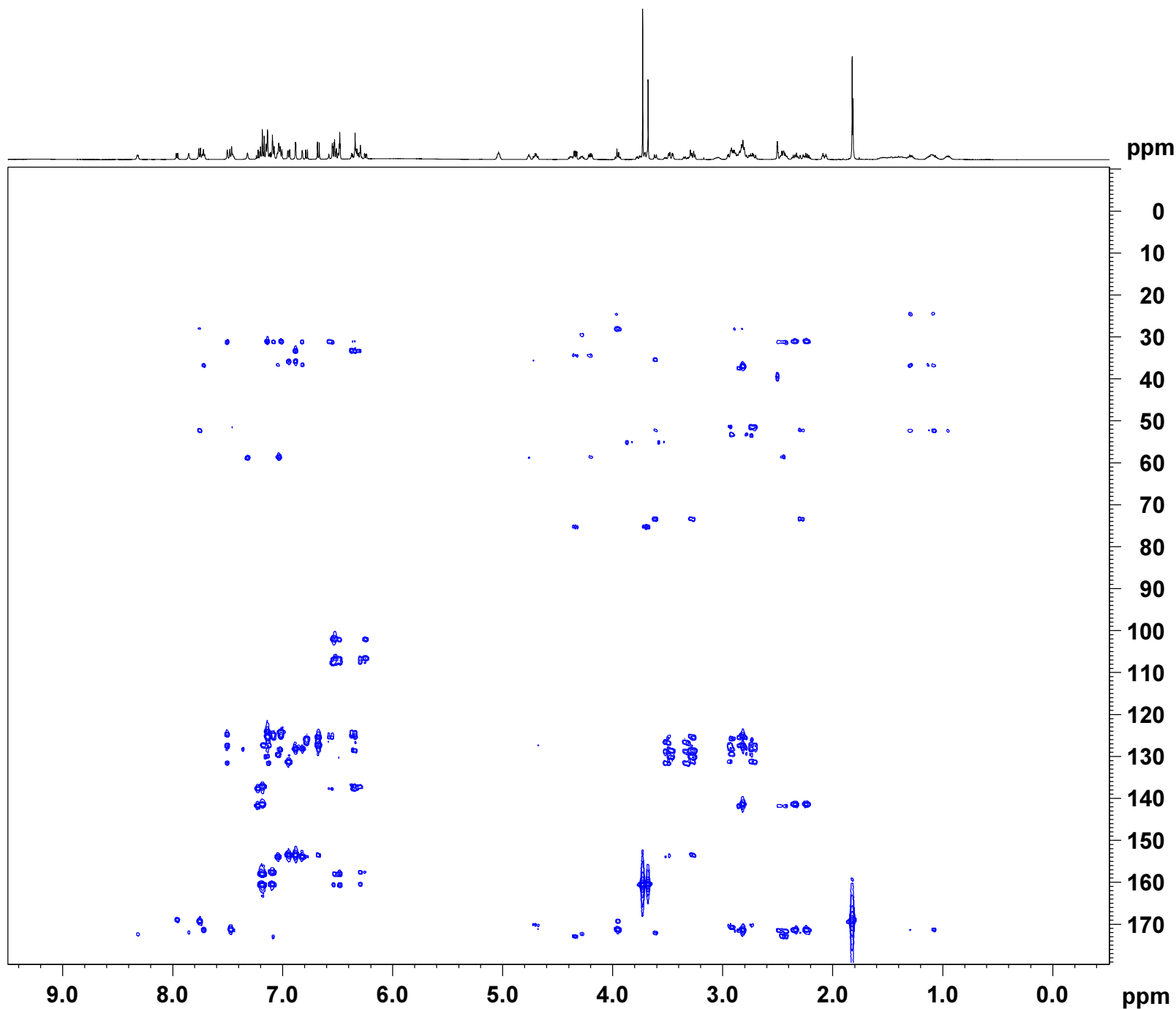
===== CHANNEL f2 =====
 NUC2 13C
 P3 6.20 usec
 PL2 0 dB
 SFO2 125.8187227 MHz

===== GRADIENT CHANNEL =====
 GPNAM1 SINE.100
 GPNAM2 SINE.100
 GPNAM3 SINE.100
 GPNAM4 SINE.100
 GPNAM5 SINE.100
 GPNAM6 SINE.100
 GPZ1 50.00 %
 GPZ2 30.00 %
 GPZ3 40.10 %
 GPZ4 15.00 %
 GPZ5 -10.00 %
 GPZ6 -5.00 %
 P16 1500.00 usec

F1 - Acquisition parameters
 TD 256
 SFO1 125.8187 MHz
 FIDRES 93.450958 Hz
 SW 190.142 ppm
 FhMODE QF

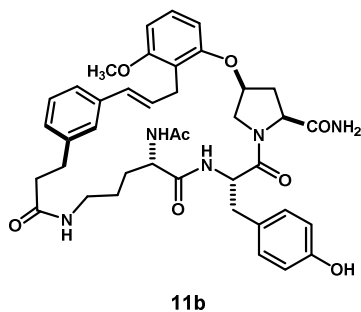
F2 - Processing parameters
 SI 4096
 SF 500.3300043 MHz
 WDW QSINE
 SSB 2
 LB 0 Hz
 GB 0
 PC 1.00

F1 - Processing parameters
 SI 4096
 MC2 QF
 SF 125.8081307 MHz
 WDW
 SSB 2
 LB 0 Hz
 GB 0



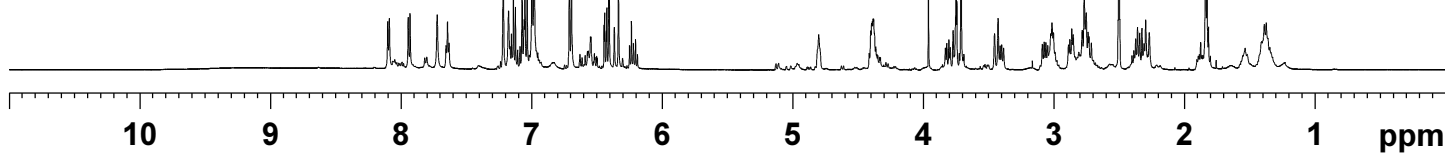
Current Data Parameters
 NAME TR3-99D
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120216
 Time_ 20.35
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 9.65
 DW 50.000 usec
 DE 10.00 usec
 TE 296.0 K
 D1 2.00000000 sec
 TD0 1



===== CHANNEL f1 =====
 NUC1 1H
 P1 10.00 usec
 PLW1 13.50000000 W
 SFO1 500.1330008 MHz

F2 - Processing parameters
 SI 65536
 SF 500.1300055 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME TR3-99D
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120216
Time_ 20.37
INSTRUM av500
PROBHD 5 mm DCH 13C-1
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 2
DS 8
SWH 5000.000 Hz
FIDRES 2.441406 Hz
AQ 0.2048500 sec
RG 9.65
DW 100.000 usec
DE 10.00 usec
TE 296.0 K
D0 0.00008835 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00020000 sec

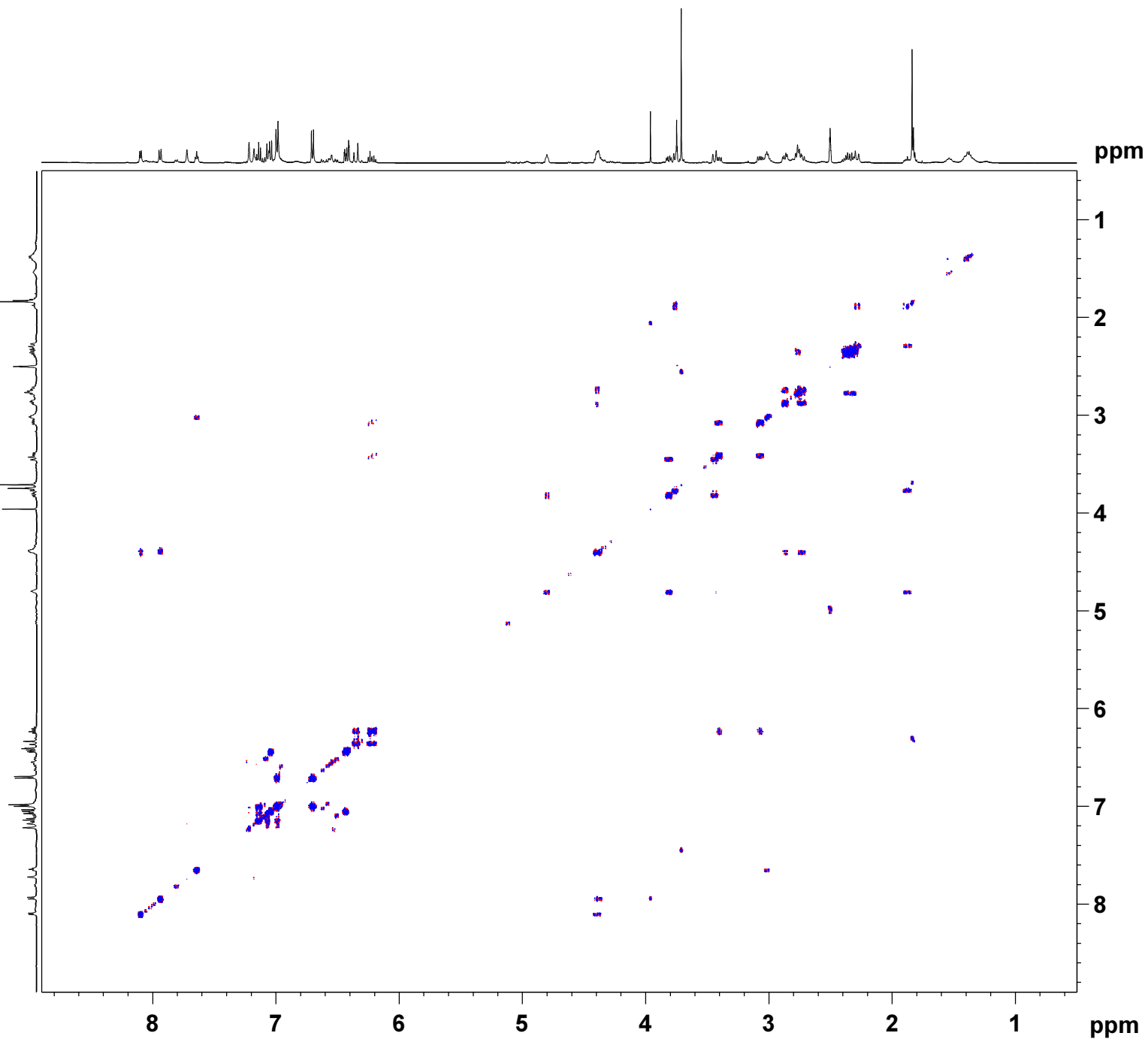
===== CHANNEL f1 =====
NUC1 1H
P1 9.15 usec
P2 18.30 usec
PLW1 13.50000000 W
SFO1 500.1325007 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SMSQ10.100
GPNAM2 SMSQ10.100
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 500.1325 MHz
FIDRES 9.765625 Hz
SW 9.997 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 500.1300072 MHz
WDW SINE
SSB 1
LB 0 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 500.1300001 MHz
WDW SINE
SSB 1
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-99D
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120216
Time_ 21.46
INSTRUM av500
PROBHD 5 mm DCH 13C-1
PULPROG mlevetgp.js
TD 2048
SOLVENT DMSO
NS 2
DS 8
SWH 5000.000 Hz
FIDRES 2.441406 Hz
AQ 0.2048500 sec
RG 202.91
DW 100.000 usec
DE 10.00 usec
TE 296.0 K
D0 0.00000300 sec
D1 1.50000000 sec
D9 0.06000000 sec
D11 0.03000000 sec
D12 0.00002000 sec
D16 0.00020000 sec
IN0 0.00020000 sec
L1 24

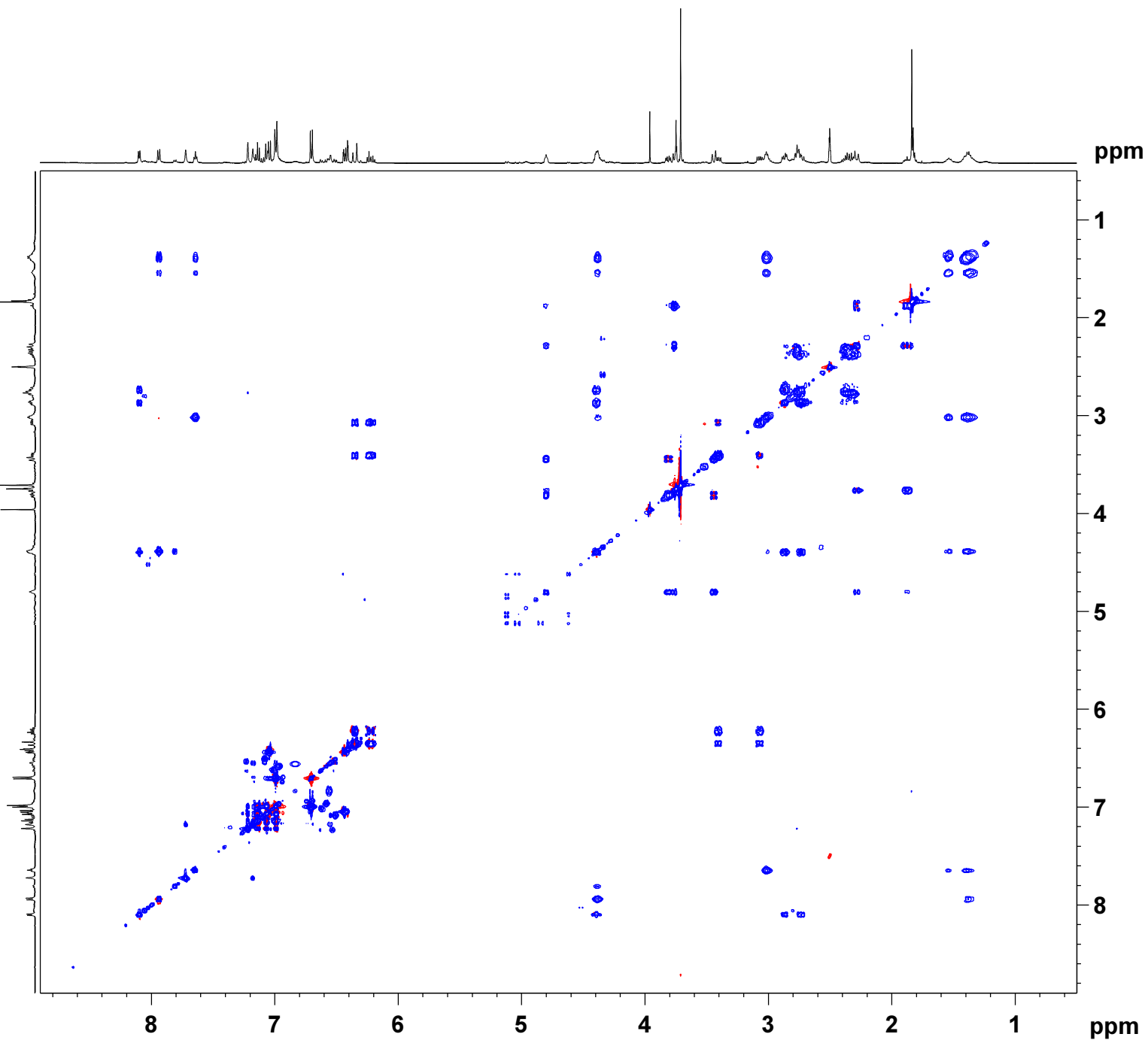
===== CHANNEL f1 =====
NUC1 1H
P1 9.15 usec
P2 18.30 usec
P5 26.68 usec
P6 40.00 usec
P7 80.00 usec
P17 2500.00 usec
PLW1 13.50000000 W
PLW10 0.70631748 W
SFO1 500.1325007 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPZ1 30.00 %
GPZ2 30.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 500.1325 MHz
FIDRES 9.765625 Hz
SW 9.997 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 500.1300049 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 echo-antiecho
SF 500.1300047 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-99D
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120216
Time 22.18
INSTRUM av500
PROBHD 5 mm DCH 13C-1
PULPROG hsqcetgpsisp
TD 2048
SOLVENT DMSO
NS 24
DS 16
SWH 5000.000 Hz
FIDRES 2.441406 Hz
AQ 0.2048500 sec
RG 202.91
DW 100.000 usec
DE 10.00 usec
TE 296.0 K
CNST2 145.0000000
D0 0.00000300 sec
D1 1.20000005 sec
D4 0.00172414 sec
D11 0.03000000 sec
D16 0.00020000 sec
D24 0.00345000 sec
INO 0.00002485 sec
ZGPTNS

===== CHANNEL f1 =====
NUC1 1H
P1 9.15 usec
P2 18.30 usec
P28 0 usec
PLW1 13.50000000 W
SFO1 500.1325007 MHz

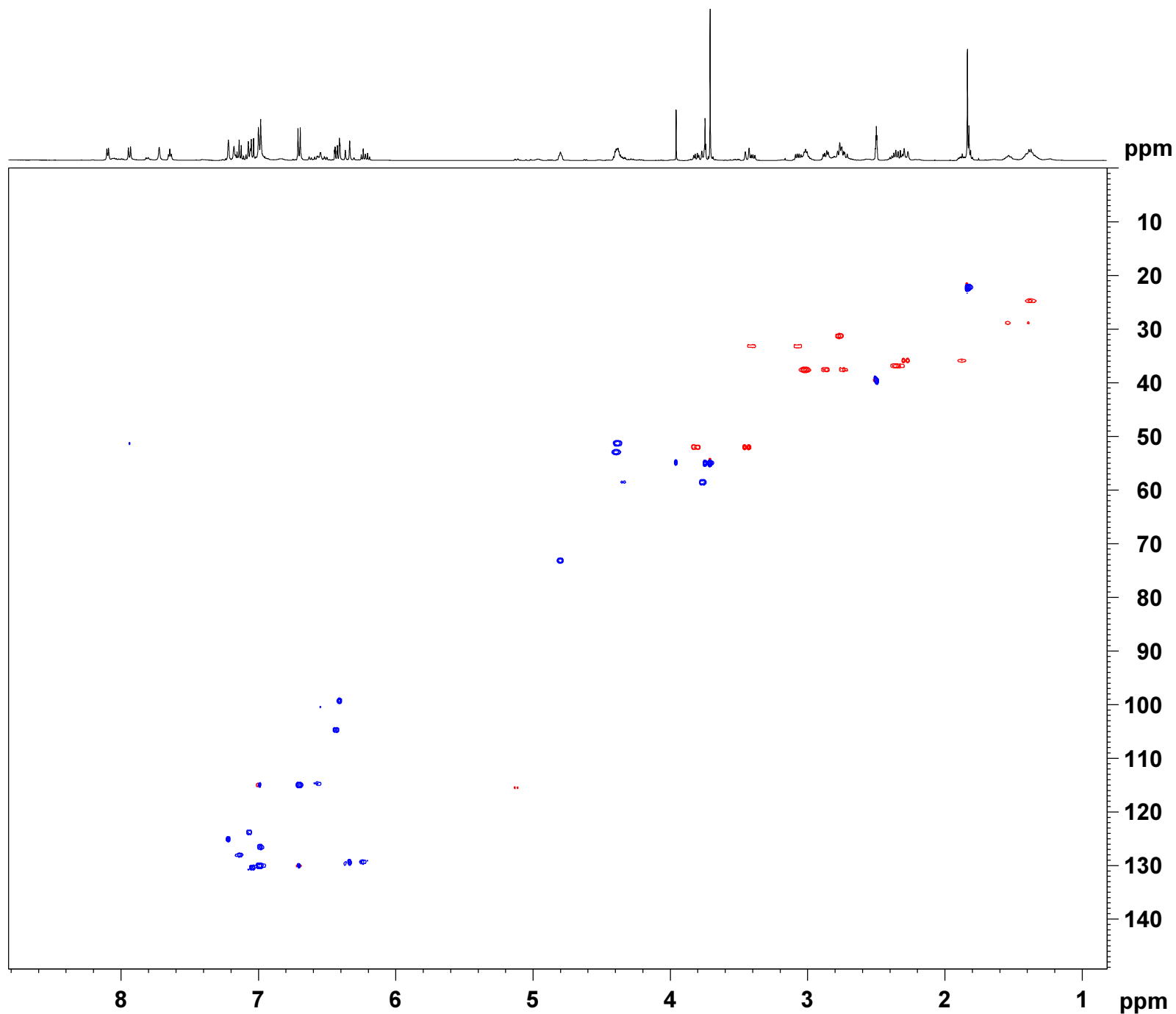
===== CHANNEL f2 =====
CPDPRG2 garp
NUC2 13C
P3 9.63 usec
P4 19.26 usec
P14 500.00 usec
PCPD2 70.00 usec
PLW0 0 W
PLW2 23.01399994 W
PLW12 0.43557000 W
SFO2 125.7672208 MHz
SFOAM3 Crp60,0.5,20.1
SFOAL3 0.500
SPOFES3 0 Hz
SPW3 3.26090002 W

===== GRADIENT CHANNEL =====
GPNAM1 SMSQ10.100
GPNAM2 SMSQ10.100
GP21 80.00 %
GP22 20.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 125.7672 MHz
FIDRES 78.604706 Hz
SW 160.000 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 500.1300049 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 echo-antiecho
SF 125.7578697 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
 NAME TR3-99D
 EXPNO 6
 PROCNO 1

F2 - Acquisition Parameters

Date_ 20120217
 Time 0.46
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG hmbcgp12ndqf
 TD 2048
 SOLVENT DMSO
 NS 48
 DS 16
 SWH 5000.000 Hz
 FIDRES 2.441406 Hz
 AQ 0.2048500 sec
 RG 202.91
 DW 100.000 usec
 DE 10.00 usec
 TE 296.0 K
 CNST6 125.0000000
 CNST7 165.0000000
 CNST13 8.0000000
 D0 0.00000300 sec
 D1 1.20000005 sec
 D6 0.06250000 sec
 D16 0.00020000 sec
 IN0 0.00002090 sec

===== CHANNEL f1 =====

NUC1 1H
 P1 9.15 usec
 P2 18.30 usec
 PLW1 13.50000000 W
 SFO1 500.1325007 MHz

===== CHANNEL f2 =====

NUC2 13C
 P3 9.63 usec
 PLW2 23.01399994 W
 SFO2 125.7684784 MHz

===== GRADIENT CHANNEL =====

GFNAM1 SMSQ10.100
 GFNAM2 SMSQ10.100
 GFNAM3 SMSQ10.100
 GFNAM4 SMSQ10.100
 GFNAM5 SMSQ10.100
 GFNAM6 SMSQ10.100
 GFZ1 50.00 %
 GFZ2 30.00 %
 GFZ3 40.10 %
 GFZ4 15.00 %
 GFZ5 -10.00 %
 GFZ6 -5.00 %
 P16 1000.00 usec

F1 - Acquisition parameters

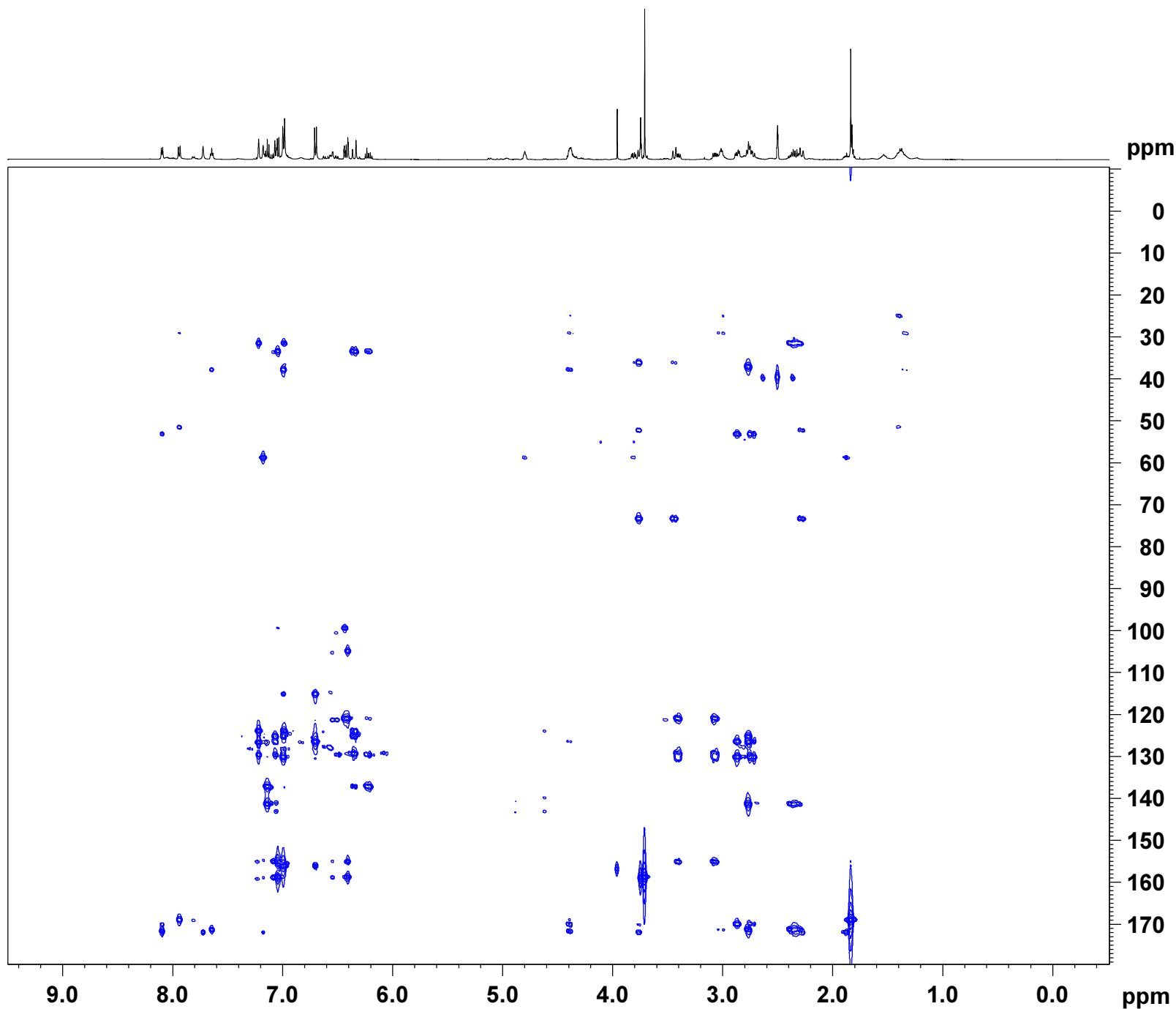
TD 256
 SFO1 125.7685 MHz
 FIDRES 93.343796 Hz
 SW 190.000 ppm
 FhMODE QF

F2 - Processing parameters

SI 4096
 SF 500.1300063 MHz
 WDW QSINE
 SSB 2
 LB 0 Hz
 GB 0
 PC 1.40

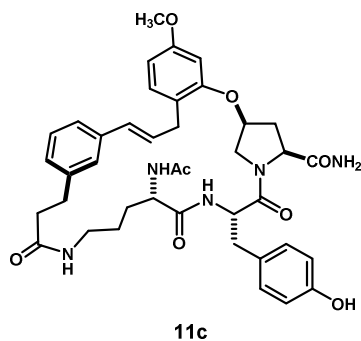
F1 - Processing parameters

SI 4096
 MC2 QF
 SF 125.7578528 MHz
 WDW
 SSB 2
 LB 0 Hz
 GB 0



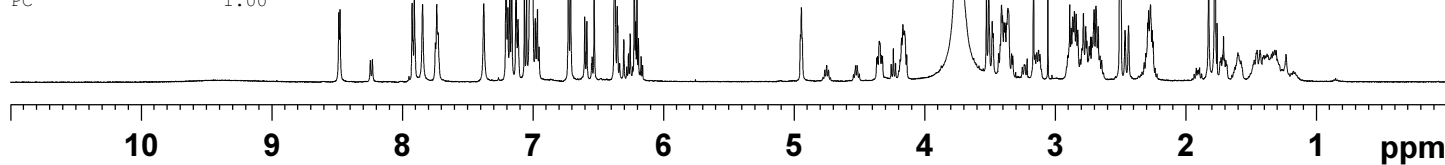
Current Data Parameters
NAME TR3-99E
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120216
Time_ 19.47
INSTRUM drx500
PROBHD 5 mm bb-Z Z800
PULPROG zg
TD 65536
SOLVENT DMSO
NS 8
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2768500 sec
RG 50.8
DW 50.000 usec
DE 6.00 usec
TE 297.5 K
D1 2.00000000 sec
TD0 1



===== CHANNEL f1 =====
NUC1 1H
P1 13.10 usec
PL1 0 dB
SFO1 500.3330020 MHz

F2 - Processing parameters
SI 32768
SF 500.3300038 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00



Current Data Parameters
NAME TR3-99E
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120216
Time_ 19.50
INSTRUM dirx500
PROBHD 5 mm bb-Z Z800
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 2
DS 8
SWH 5000.000 Hz
FIDRES 2.441406 Hz
AQ 0.2048500 sec
RG 45.3
DW 100.000 usec
DE 6.00 usec
TE 297.5 K
d0 0.00008332 sec
D1 1.50000000 sec
d13 0.00000400 sec
D16 0.00010000 sec
d20 0.00160400 sec
IN0 0.00020000 sec
ST1CNT 0

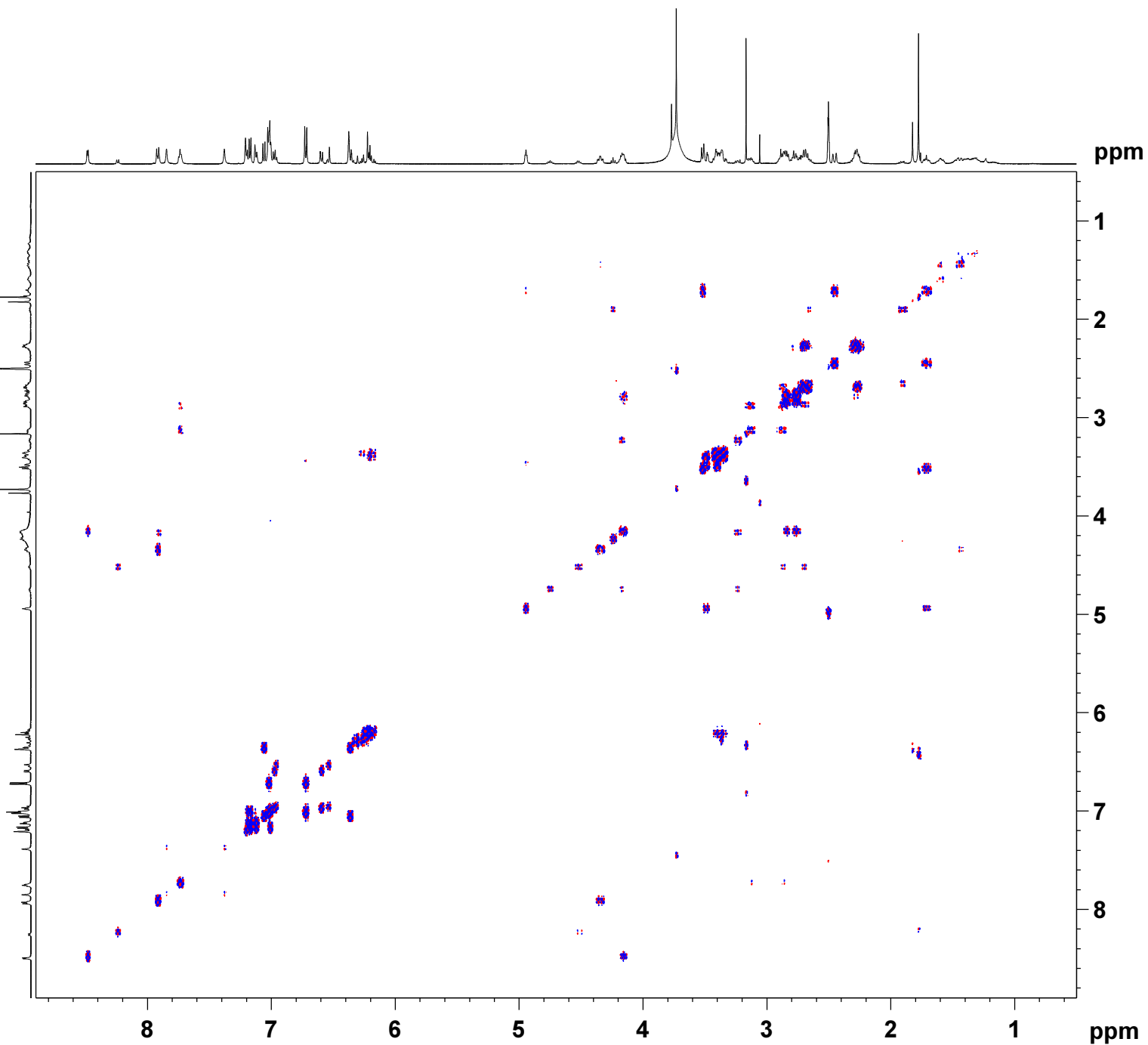
===== CHANNEL f1 =====
NUC1 1H
P1 13.10 usec
p2 26.20 usec
PL1 0 dB
SFO1 500.3325016 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPZ1 10.00 %
GPZ2 20.00 %
P16 1500.00 usec

F1 - Acquisition parameters
TD 512
SFO1 500.3325 MHz
FIDRES 9.765625 Hz
SW 9.993 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 2048
SF 500.3300046 MHz
WDW SINE
SSB 1
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 2048
MC2 States-TPPI
SF 500.3300042 MHz
WDW
SSB 1
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-99E
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters

Date_ 20120216
Time 20.24
INSTRUM drx500
PROBHD 5 mm bb-Z Z800
PULPROG dipsi2etgpsi
TD 2048
SOLVENT DMSO
NS 8
DS 16
SWH 5000.000 Hz
FIDRES 2.441406 Hz
AQ 0.2048500 sec
RG 161.3
DW 100.000 usec
DE 6.00 usec
TE 297.6 K
d0 0.00000300 sec
D1 1.50000000 sec
D9 0.07000000 sec
d11 0.03000000 sec
D16 0.00010000 sec
D20 0.00001000 sec
D21 0.00001000 sec
DELTA 0.00160300 sec
DELTA1 0.00160800 sec
FACTOR1 8
IN0 0.00020000 sec
l1 16
STICNT 0

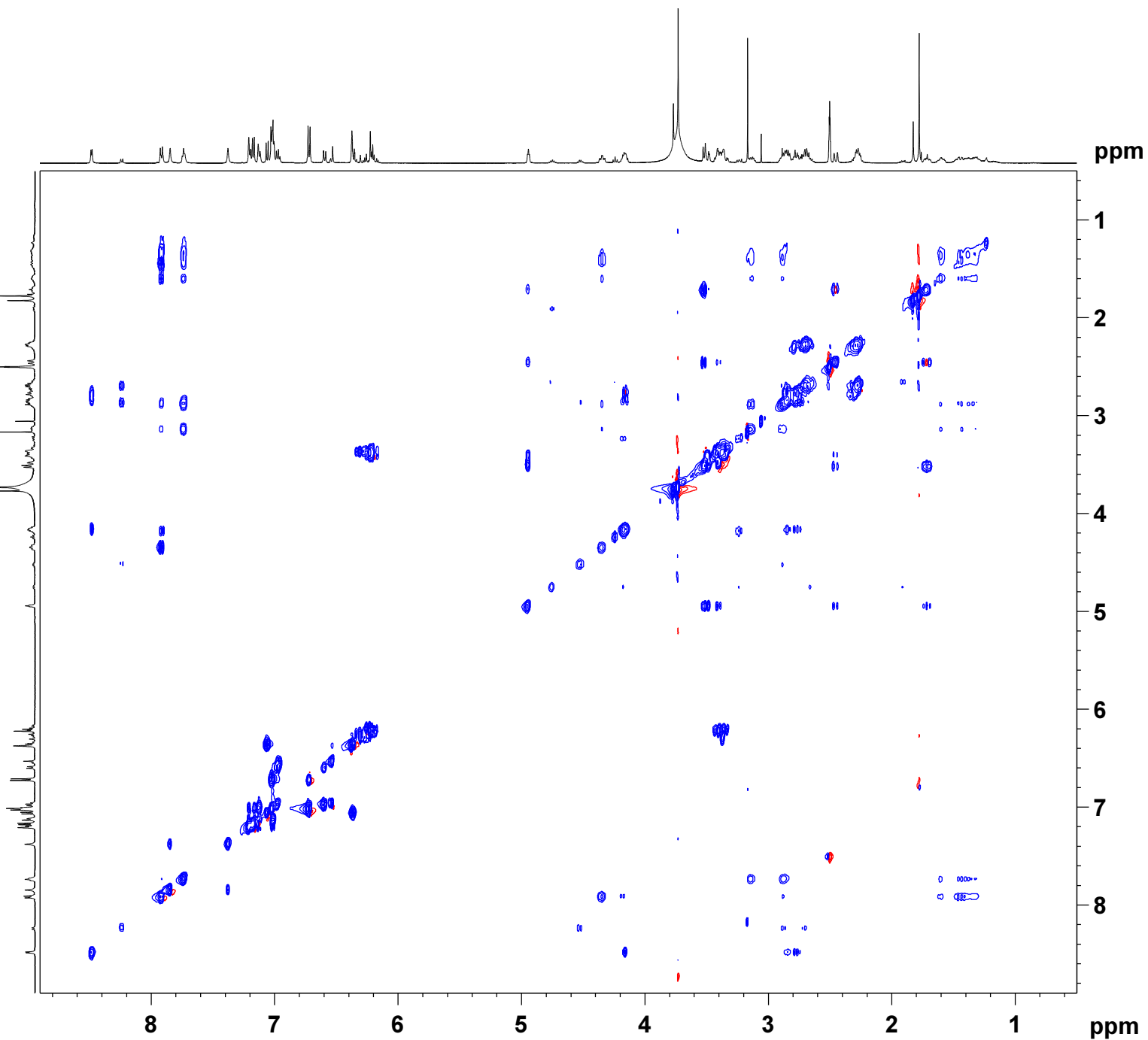
===== CHANNEL f1 =====
NUC1 1H
P1 13.10 usec
p2 26.20 usec
P6 40.00 usec
PL1 0 dB
PL10 9.70 dB
SFO1 500.3325016 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPZ1 30.00 %
GPZ2 30.00 %
P16 1500.00 usec

F1 - Acquisition parameters
TD 256
SFO1 500.3325 MHz
FIDRES 19.531250 Hz
SW 9.993 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 500.3300027 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 echo-antiecho
SF 500.3300030 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-99E
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120216
Time 21.32
INSTRUM drx500
PROBHD 5 mm bb-Z Z800
PULPROG hsqcetgpsisp
TD 2048
SOLVENT DMSO
NS 24
DS 16
SWH 5000.000 Hz
FIDRES 2.441406 Hz
AQ 0.2048500 sec
RG 20642.5
DW 100.000 usec
DE 6.00 usec
TE 571.1 K
CNST2 145.0000000
d0 0.00000300 sec
D1 1.00000000 sec
d4 0.00172414 sec
d11 0.03000000 sec
D16 0.00010000 sec
D24 0.00086200 sec
DELTA 0.00168220 sec
DELTA1 0.00160800 sec
DELTA2 0.00147414 sec
IN0 0.00002650 sec
ST1CNT 0
ZGPTNS

===== CHANNEL f1 =====
NUC1 1H
P1 13.10 usec
p2 26.20 usec
P28 2000.00 usec
PL1 0 dB
SFO1 500.3325016 MHz

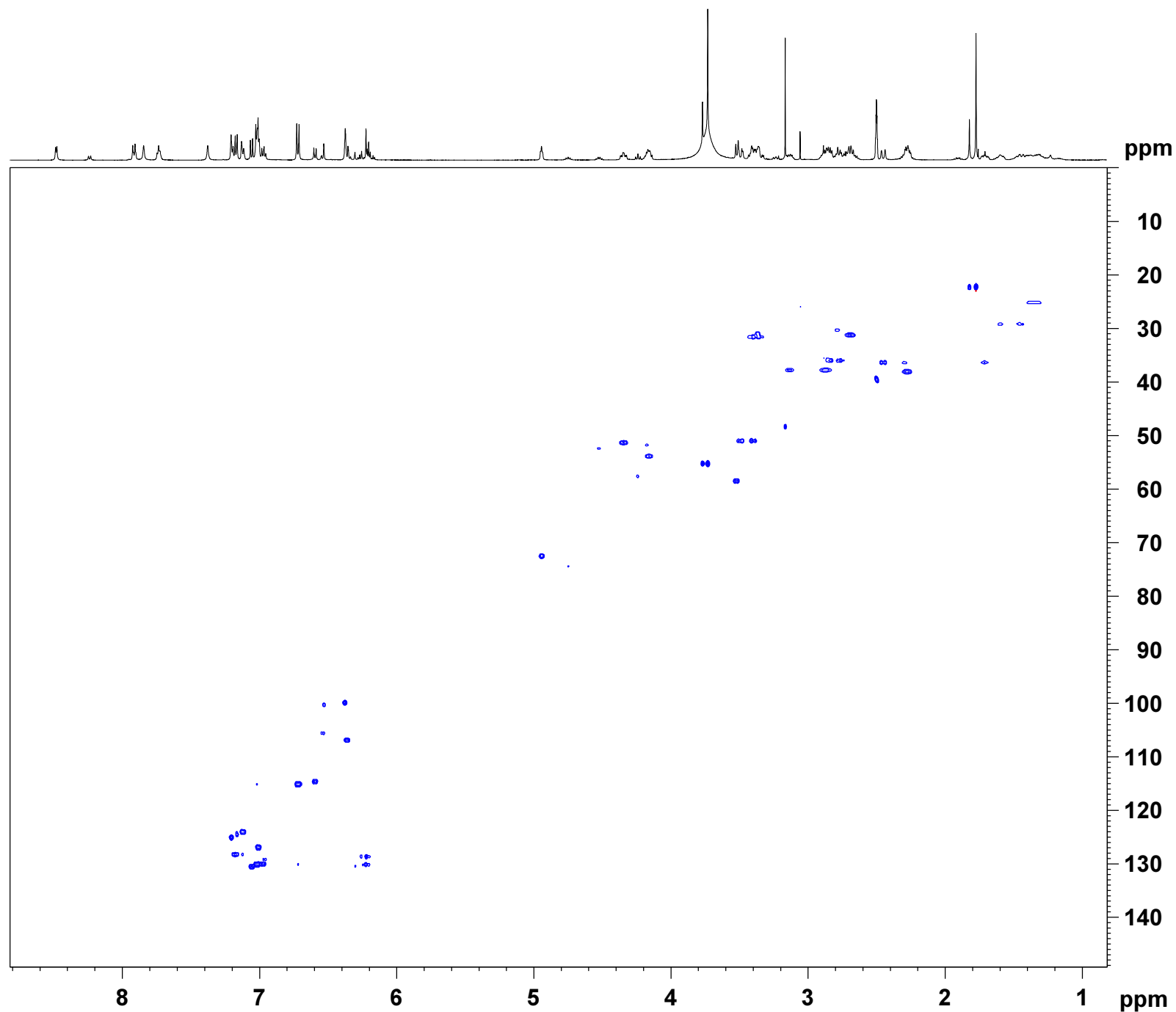
===== CHANNEL f2 =====
CPDPRG2 garp
NUC2 13C
P3 6.20 usec
p4 12.40 usec
P14 500.00 usec
PCPD2 65.00 usec
PL0 120.00 dB
PL2 0 dB
PL12 20.41 dB
SFO2 125.8174646 MHz
SP3 7.39 dB
SPNAM3 Crp80,0.5,20.1
SPOAL3 0.500
SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
CPNAM1 SINE.100
CPNAM2 SINE.100
GPZ1 80.00 %
GPZ2 20.10 %
P16 1500.00 usec

F1 - Acquisition parameters
TD 512
SFO1 125.8175 MHz
FIDRES 36.851414 Hz
SW 149.963 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 2048
SF 500.3300031 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 2048
MC2 echo-antiecho
SF 125.8081608 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-99E
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters

Date_ 20120217
Time 1.46
INSTRUM drx500
PROBHD 5 mm bb-Z Z800
FULPROG hmbcgp12ndqf
TD 2048
SOLVENT DMSO
NS 56
DS 16
SWH 5000.000 Hz
FIDRES 2.441406 Hz
AQ 0.2048500 sec
RG 20642.5
DW 100.000 usec
DE 6.00 usec
TE 297.8 K
CNST6 125.0000000
CNST7 165.0000000
CNST13 8.0000000
d0 0.00000300 sec
D1 1.20000005 sec
d6 0.06250000 sec
D16 0.00010000 sec
DELTA1 0.00240000 sec
DELTA2 0.00143030 sec
DELTA3 0.06089600 sec
IN0 0.00002090 sec

===== CHANNEL f1 =====
NUC1 1H
P1 13.10 usec
P2 26.20 usec
PL1 0 dB
SFO1 500.3325016 MHz

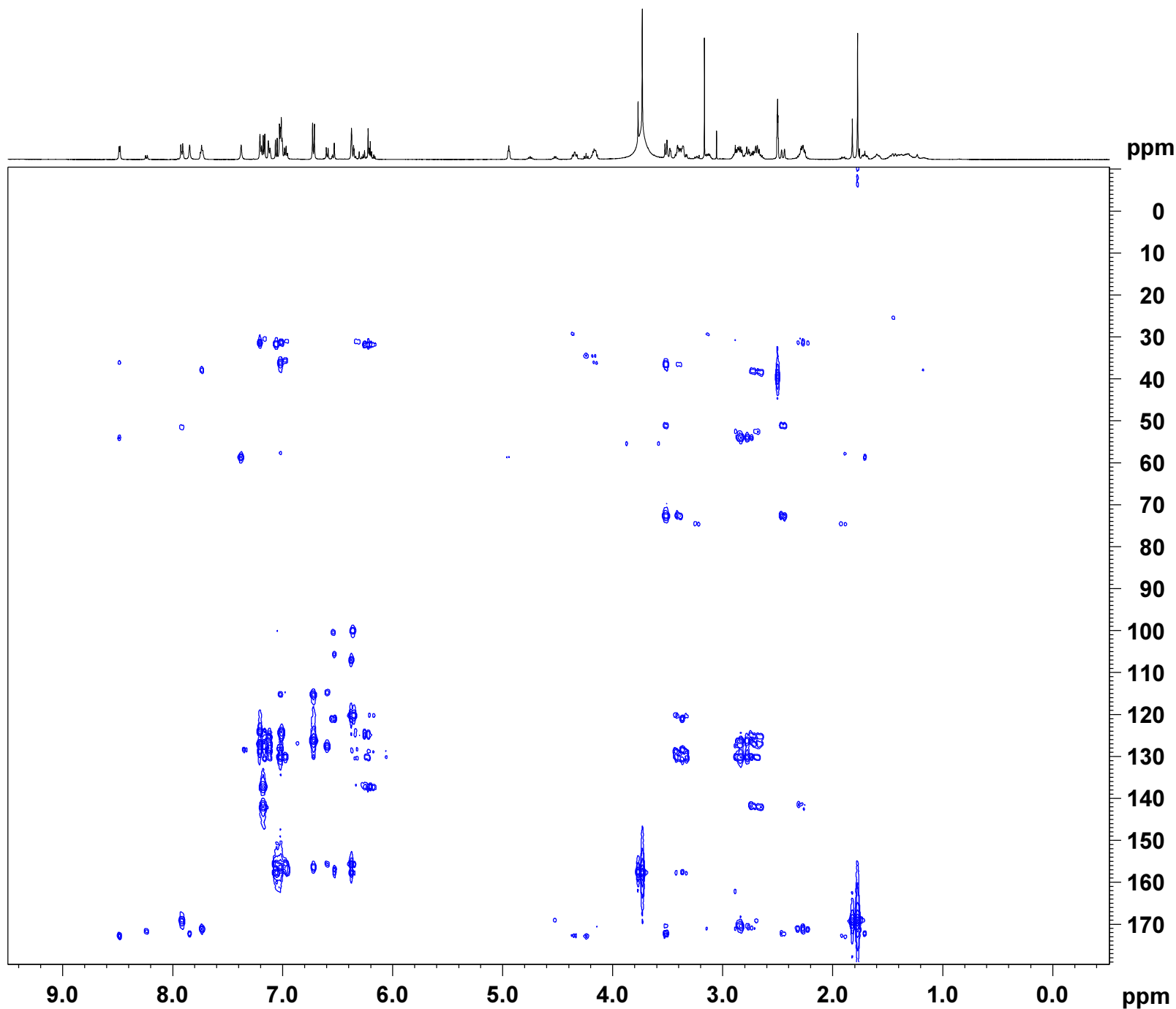
===== CHANNEL f2 =====
NUC2 13C
P3 6.20 usec
PL2 0 dB
SFO2 125.8187227 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPNAM4 SINE.100
GPNAM5 SINE.100
GPNAM6 SINE.100
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
GPZ4 15.00 %
GPZ5 -10.00 %
GPZ6 -5.00 %
P16 1500.00 usec

F1 - Acquisition parameters
TD 256
SFO1 125.8187 MHz
FIDRES 93.450958 Hz
SW 190.142 ppm
FhMODE QF

F2 - Processing parameters
SI 4096
SF 500.3300040 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

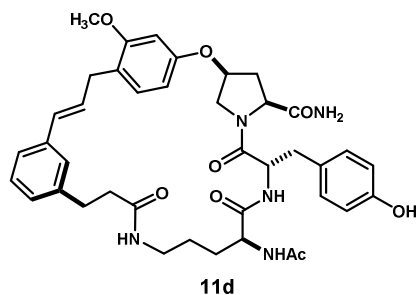
F1 - Processing parameters
SI 4096
MC2 QF
SF 125.8081453 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
 NAME TR3-116B
 EXPNO 5
 PROCNO 1

F2 - Acquisition Parameters

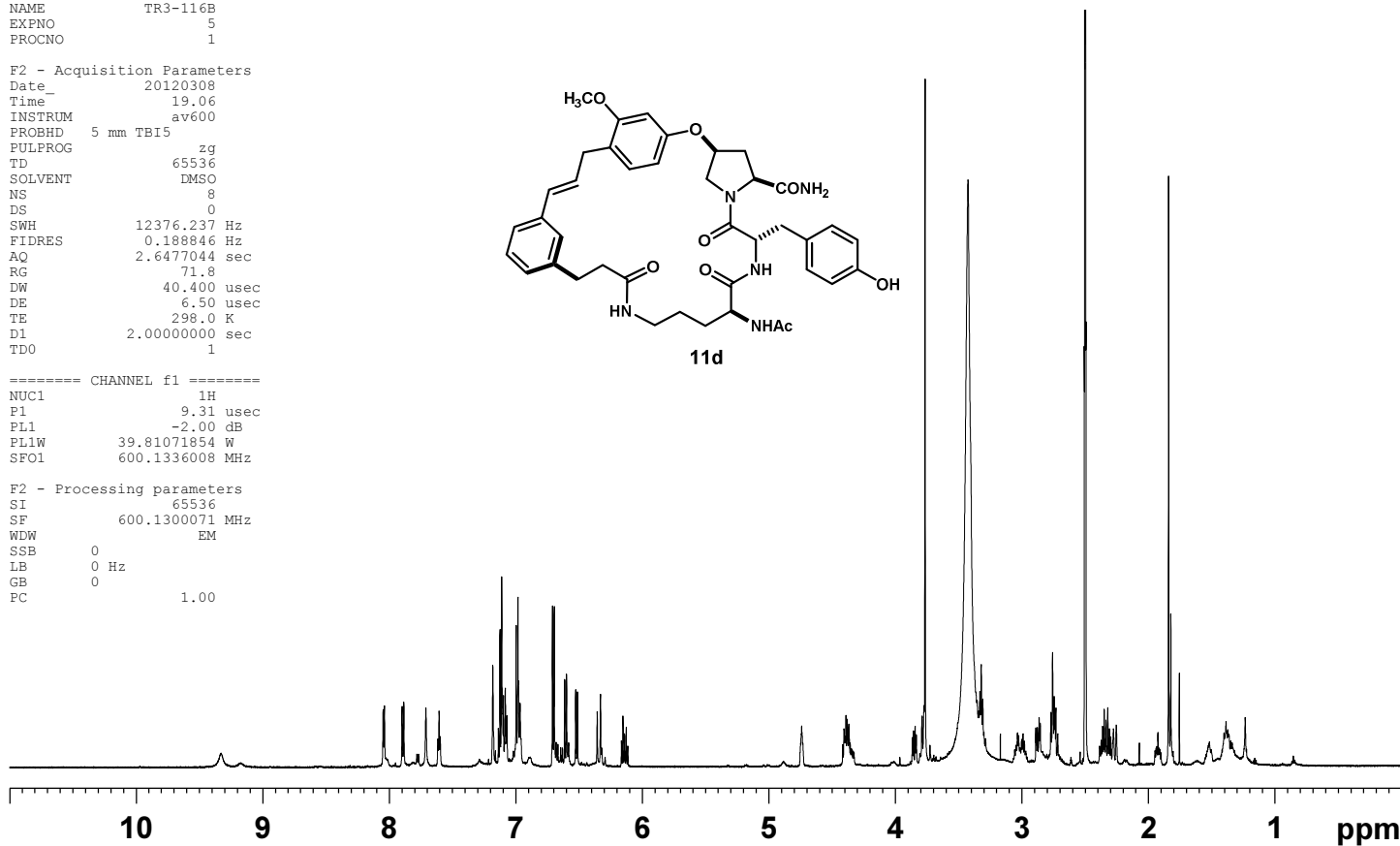
Date_ 20120308
 Time 19.06
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 71.8
 DW 40.400 usec
 DE 6.50 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1



===== CHANNEL f1 =====
 NUC1 1H
 P1 9.31 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1336008 MHz

F2 - Processing parameters

SI 65536
 SF 600.1300071 MHz
 WDW EM
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME TR3-116B
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120308
Time 19.14
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygmph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 71.8
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00008095 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00018560 sec

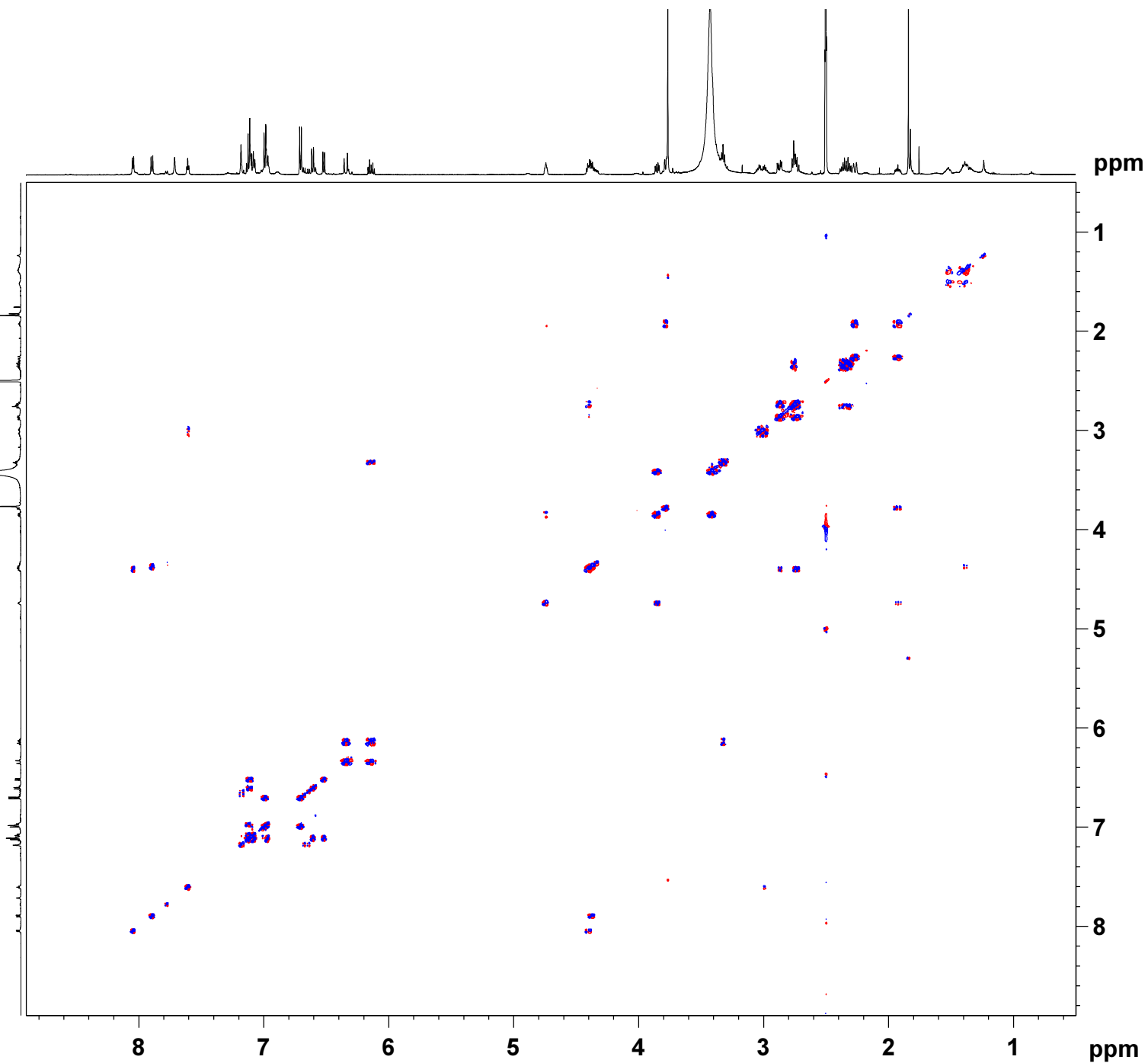
===== CHANNEL f1 =====
NUC1 1H
P1 9.31 usec
P2 18.62 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.1327 MHz
FIDRES 10.523297 Hz
SW 8.978 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300082 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300068 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-116B
EXPNO 7
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120308
Time 19.44
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG dipsi2etgpsi
TD 2048
SOLVENT DMSO
NS 8
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 256
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00000300 sec
D1 1.50000000 sec
D9 0.06000000 sec
D11 0.03000000 sec
D16 0.00020000 sec
D20 0.00001000 sec
D21 0.00001000 sec
IN0 0.00018560 sec
L1 14

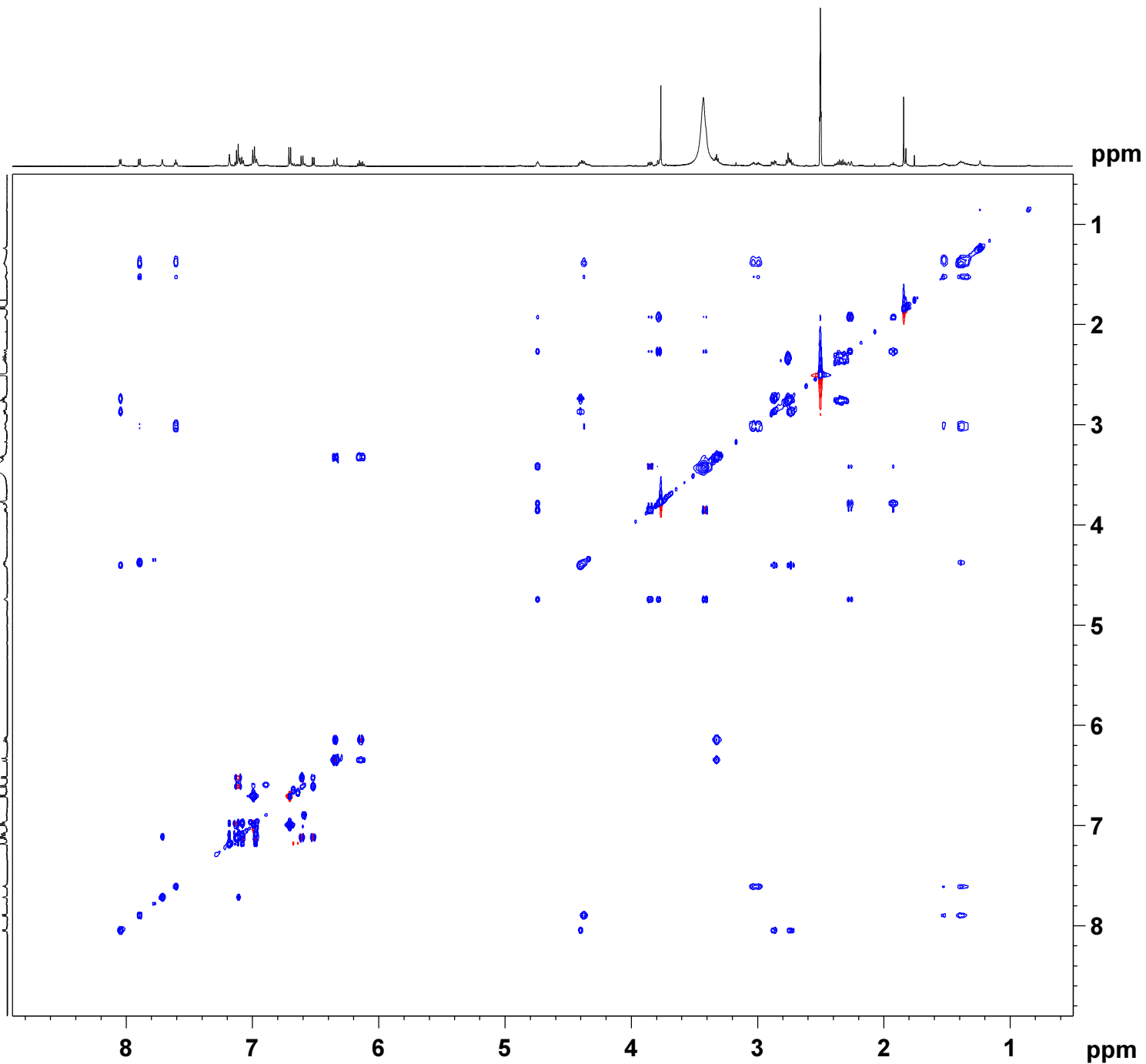
===== CHANNEL f1 =====
NUC1 1H
P1 9.31 usec
P2 18.62 usec
P6 40.00 usec
PL1 -2.00 dB
PL10 10.66 dB
PL1W 39.81071854 W
PL10W 2.15774441 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 30.00 %
GPZ2 30.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.1327 MHz
FIDRES 21.046606 Hz
SW 8.978 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 600.1300062 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 echo-antiecho
SF 600.1300055 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-116B
EXPNO 8
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120308
Time 20.46
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hsqcetgpsisp
TD 2048
SOLVENT DMSO
NS 16
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 23170.5
DW 83.200 usec
DE 6.00 usec
TE 298.2 K
CNST2 145.0000000
D0 0.00000300 sec
D1 1.00000000 sec
D4 0.00172414 sec
D11 0.03000000 sec
D16 0.00020000 sec
D24 0.00086200 sec
IN0 0.00002070 sec
ZGPTNS

===== CHANNEL f1 =====
NUC1 1H
P1 9.31 usec
P2 18.62 usec
P28 1000.00 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

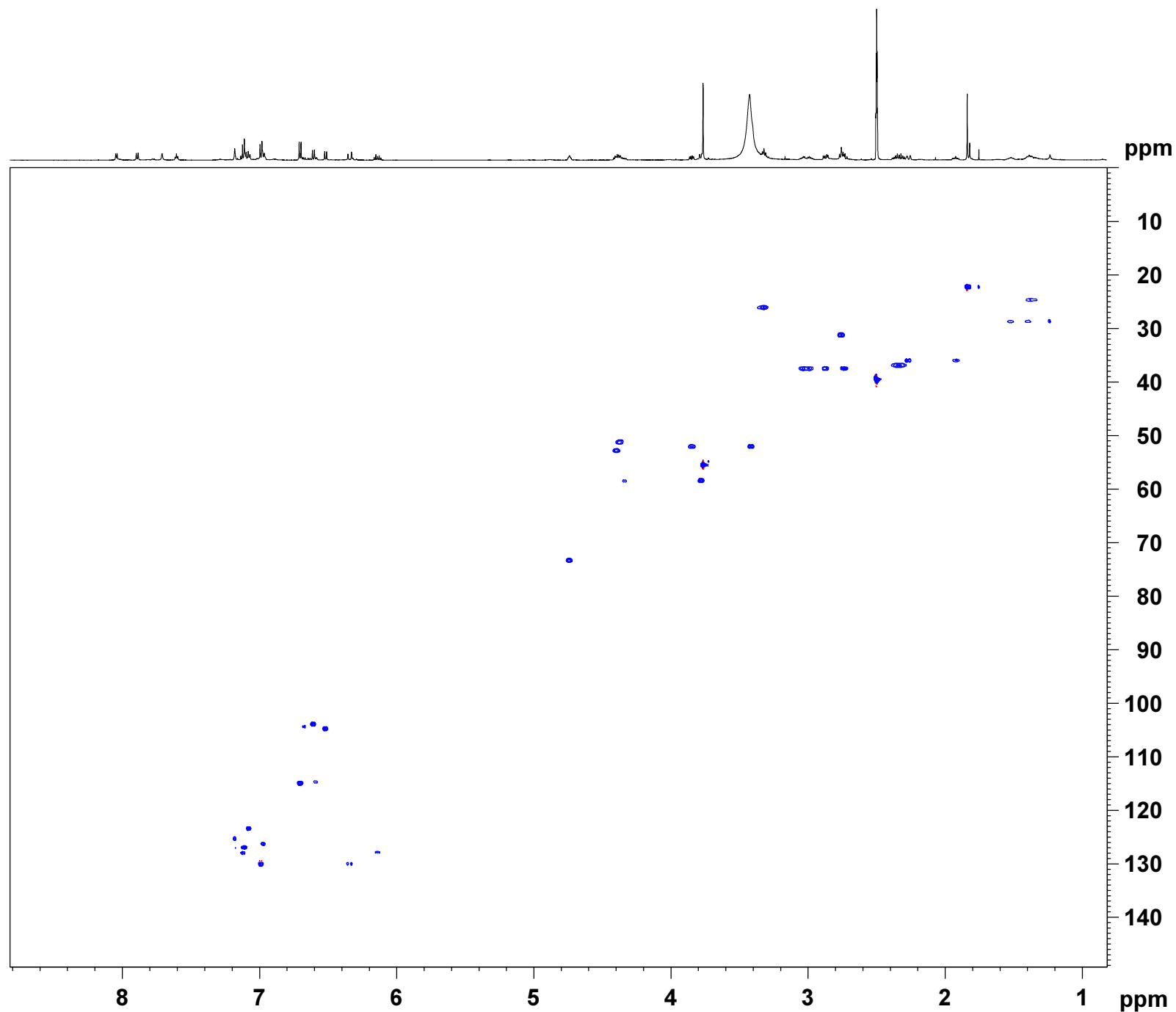
===== CHANNEL f2 =====
CPDPRG2 garp
NUC2 13C
P3 18.50 usec
P4 37.00 usec
P14 1000.00 usec
PCPD2 65.00 usec
PL0 120.00 dB
PL2 -3.00 dB
PL12 7.91 dB
PL0W 0 W
PL2W 150.35617065 W
PL12W 12.19330025 W
SFO2 150.9133722 MHz
SP3 4.59 dB
SPNAM3 Crp80,0.5,20.1
SFOAL3 0.500
SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 80.00 %
GPZ2 20.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 150.9134 MHz
FIDRES 47.160427 Hz
SW 160.000 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 600.1300051 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 2048
MC2 echo-antiecho
SF 150.9029155 MHz
WDW
SSB 2
LB 0 Hz
GB 0



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Current Data Parameters
NAME      TR3-116B
EXPNO     9
PROCNO    1

F2 - Acquisition Parameters
Date_     20120308
Time      23.31
INSTRUM   av600
PROBHD    5 mm TBI5
PULPROG   hmbcgp12ndqf
TD         2048
SOLVENT   DMSO
NS         60
DS         24
SWH        6009.615 Hz
FIDRES     2.934382 Hz
AQ         0.1704436 sec
RG         26008
DW         83.200 usec
DE         6.00 usec
TE         297.9 K
CNST6     125.0000000
CNST7     165.0000000
CNST13    8.0000000
D0         0.00000300 sec
D1         1.20000005 sec
D6         0.06250000 sec
D16        0.00020000 sec
IN0        0.00001745 sec

===== CHANNEL f1 =====
NUC1       1H
P1         9.31 usec
P2         18.62 usec
PL1        -2.00 dB
PL1W       39.81071854 W
SFO1       600.1327006 MHz

===== CHANNEL f2 =====
NUC2       13C
P3         18.50 usec
PL2        -3.00 dB
PL2W       150.35617065 W
SFO2       150.9156357 MHz

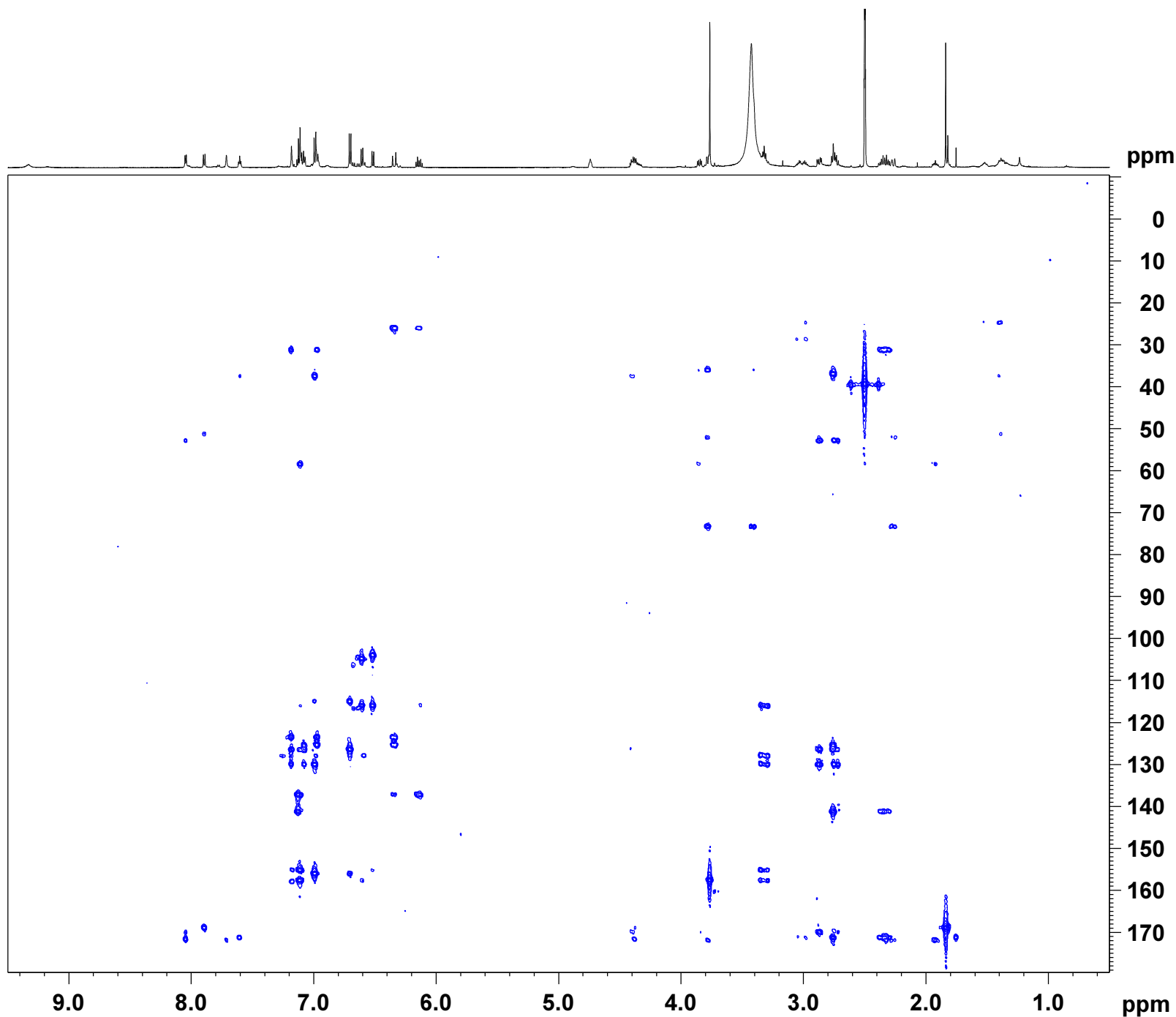
===== GRADIENT CHANNEL =====
GPNAM1     SINE.100
GPNAM2     SINE.100
GPNAM3     SINE.100
GPNAM4     SINE.100
GPNAM5     SINE.100
GPNAM6     SINE.100
GPX1       0 %
GPX2       0 %
GPX3       0 %
GPX4       0 %
GPX5       0 %
GPX6       0 %
GPY1       0 %
GPY2       0 %
GPY3       0 %
GPY4       0 %
GPY5       0 %
GPY6       0 %
GPZ1       50.00 %
GPZ2       30.00 %
GPZ3       40.10 %
GPZ4       15.00 %
GPZ5       -10.00 %
GPZ6       -5.00 %
P16        1000.00 usec

F1 - Acquisition parameters
TD         256
SFO1       150.9156 MHz
FIDRES     112.007698 Hz
SW         190.000 ppm
FnMODE     QF

F2 - Processing parameters
SI         4096
SF         600.1300059 MHz
WDW        QSINE
SSB        2
LB         0 Hz
GB         0
PC         1.40

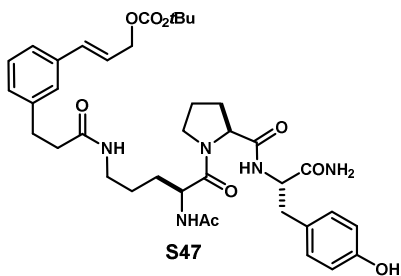
F1 - Processing parameters
SI         4096
MC2        QF
SF         150.9029169 MHz
WDW        2
SSB        0 Hz
GB         0

```



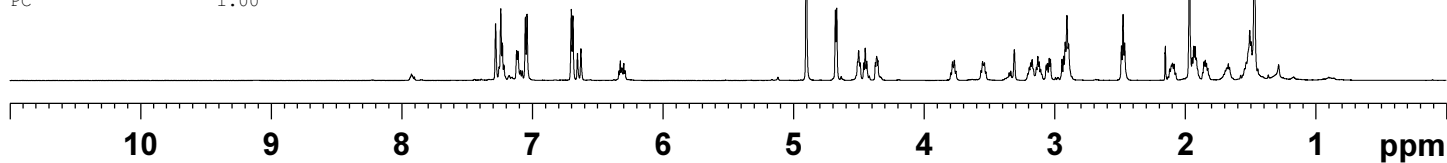
Current Data Parameters
NAME TR3-85
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date 20120202
Time 10.41
INSTRUM av600
PROBHD 5 mm BB5
PULPROG zg
TD 65536
SOLVENT MeOD
NS 8
DS 0
SWH 12376.237 Hz
FIDRES 0.188846 Hz
AQ 2.6477044 sec
RG 35.9
DW 40.400 usec
DE 6.50 usec
TE 291.3 K
D1 3.00000000 sec
TD0 1

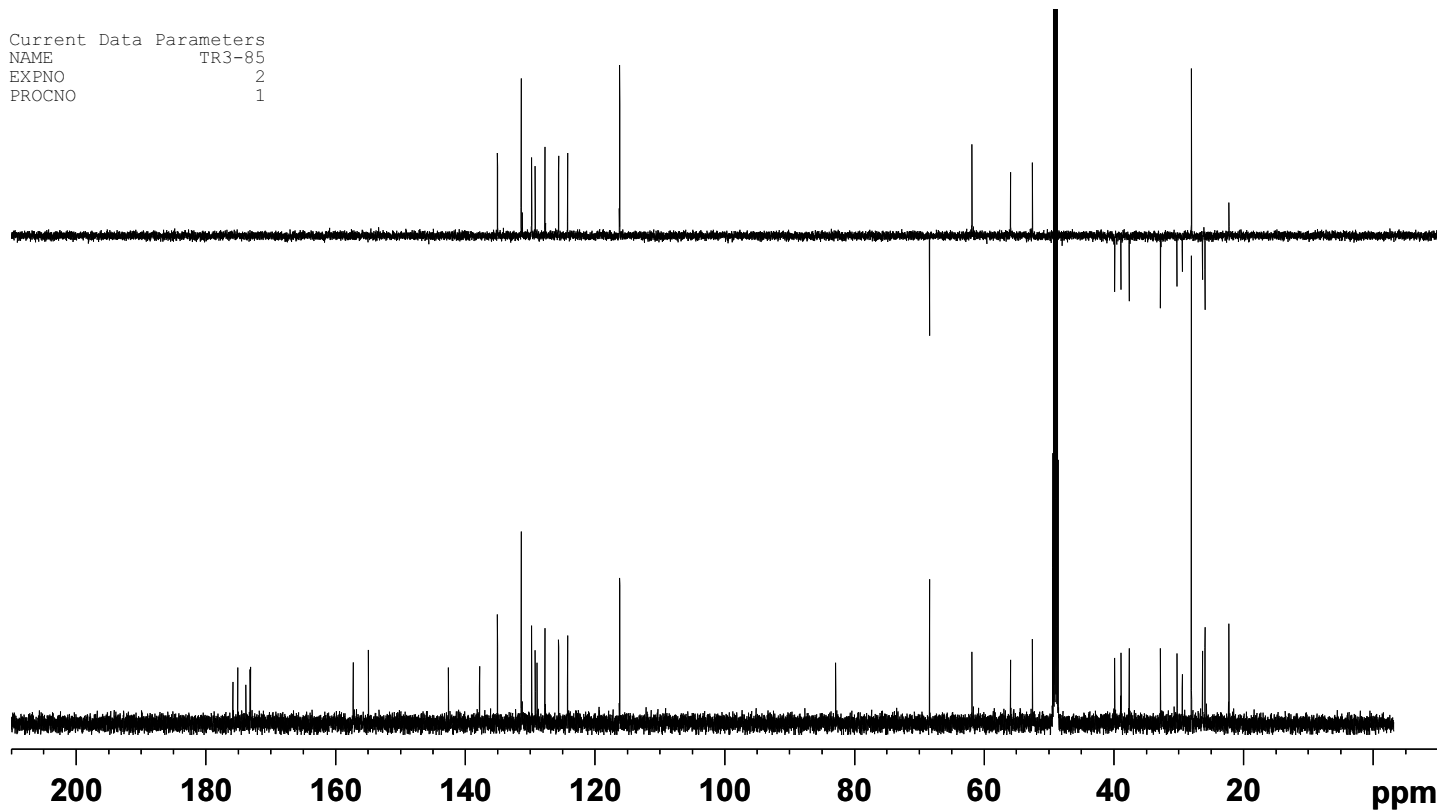


===== CHANNEL f1 =====
NUC1 1H
P1 14.40 usec
PL1 -1.00 dB
PL1W 31.62277603 W
SFO1 600.1336008 MHz

F2 - Processing parameters
SI 65536
SF 600.1300139 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00

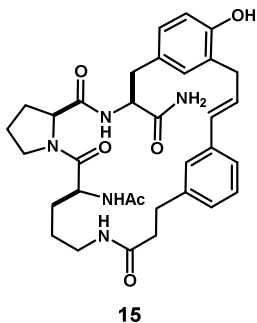


Current Data Parameters
NAME TR3-85
EXPNO 2
PROCNO 1



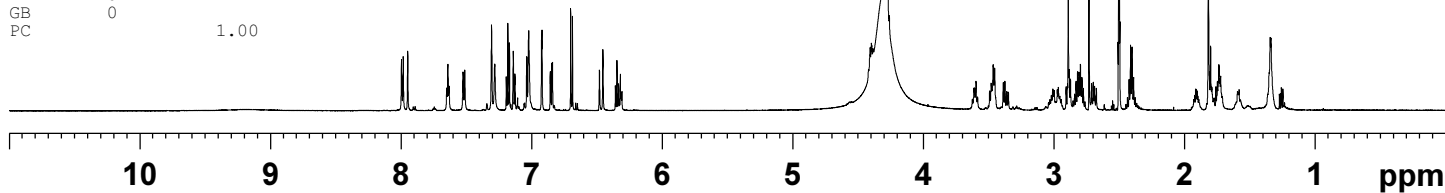
Current Data Parameters
NAME TR3-97
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120210
Time_ 20.30
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG zg
TD 65536
SOLVENT DMSO
NS 8
DS 0
SWH 12376.237 Hz
FIDRES 0.188846 Hz
AQ 2.6477044 sec
RG 45.3
DW 40.400 usec
DE 6.50 usec
TE 298.0 K
D1 3.00000000 sec
TD0 1



===== CHANNEL f1 =====
NUC1 1H
P1 9.25 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1336008 MHz

F2 - Processing parameters
SI 65536
SF 600.1300071 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00



Current Data Parameters
NAME TR3-97
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120210
Time_ 20.35
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 45.3
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
DO 0.00008102 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
INO 0.00018560 sec

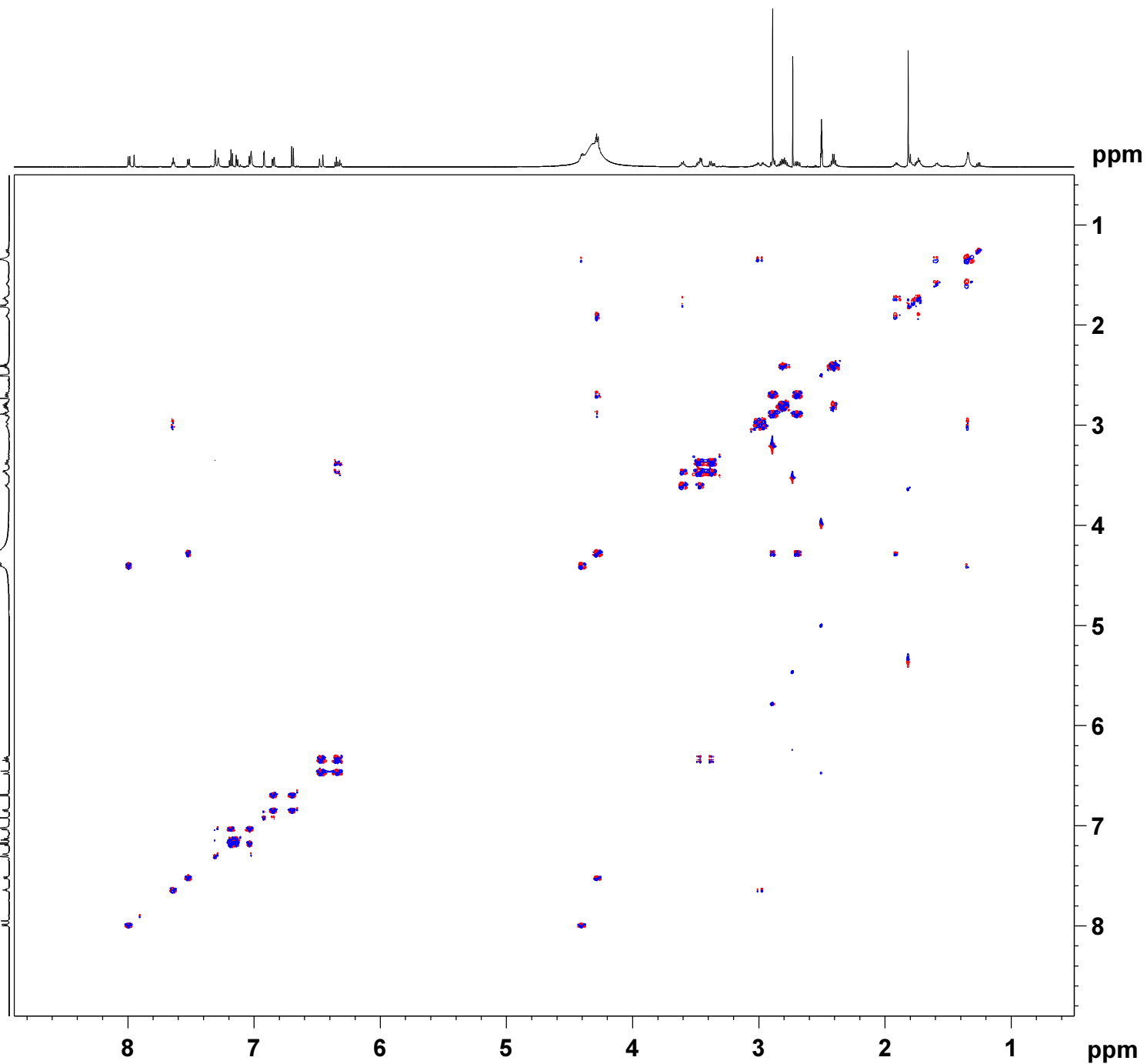
===== CHANNEL f1 =====
NUC1 1H
P1 9.25 usec
P2 18.50 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.1327 MHz
FIDRES 10.523297 Hz
SW 8.978 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300049 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300053 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
 NAME TR3-97
 EXPNO 4
 PROCNO 1

F2 - Acquisition Parameters

Date_ 20120210
 Time 21.05
 INSTRUM av600
 PROBD 5 mm TBI5
 PULPROG dipsi2etgpsi
 TD 2048
 SOLVENT DMSO
 NS 8
 DS 16
 SWH 5387.931 Hz
 FIDRES 2.630826 Hz
 AQ 0.1901044 sec
 RG 256
 DW 92.800 usec
 DE 6.50 usec
 TE 298.0 K
 D0 0.00000300 sec
 D1 1.50000000 sec
 D9 0.06000000 sec
 D11 0.03000000 sec
 D16 0.00020000 sec
 D20 0.00001000 sec
 D21 0.00001000 sec
 IN0 0.00018560 sec
 L1 14

===== CHANNEL f1 =====

NUC1 1H
 P1 9.57 usec
 P2 19.14 usec
 P6 40.00 usec
 PL1 -2.00 dB
 PL10 10.75 dB
 PL1W 39.81071854 W
 PL10W 2.11348915 W
 SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====

GP1AM1 SINE.100
 GP1AM2 SINE.100
 GPX1 0 %
 GPX2 0 %
 GPY1 0 %
 GPY2 0 %
 GPZ1 30.00 %
 GPZ2 30.00 %
 P16 1000.00 usec

F1 - Acquisition parameters

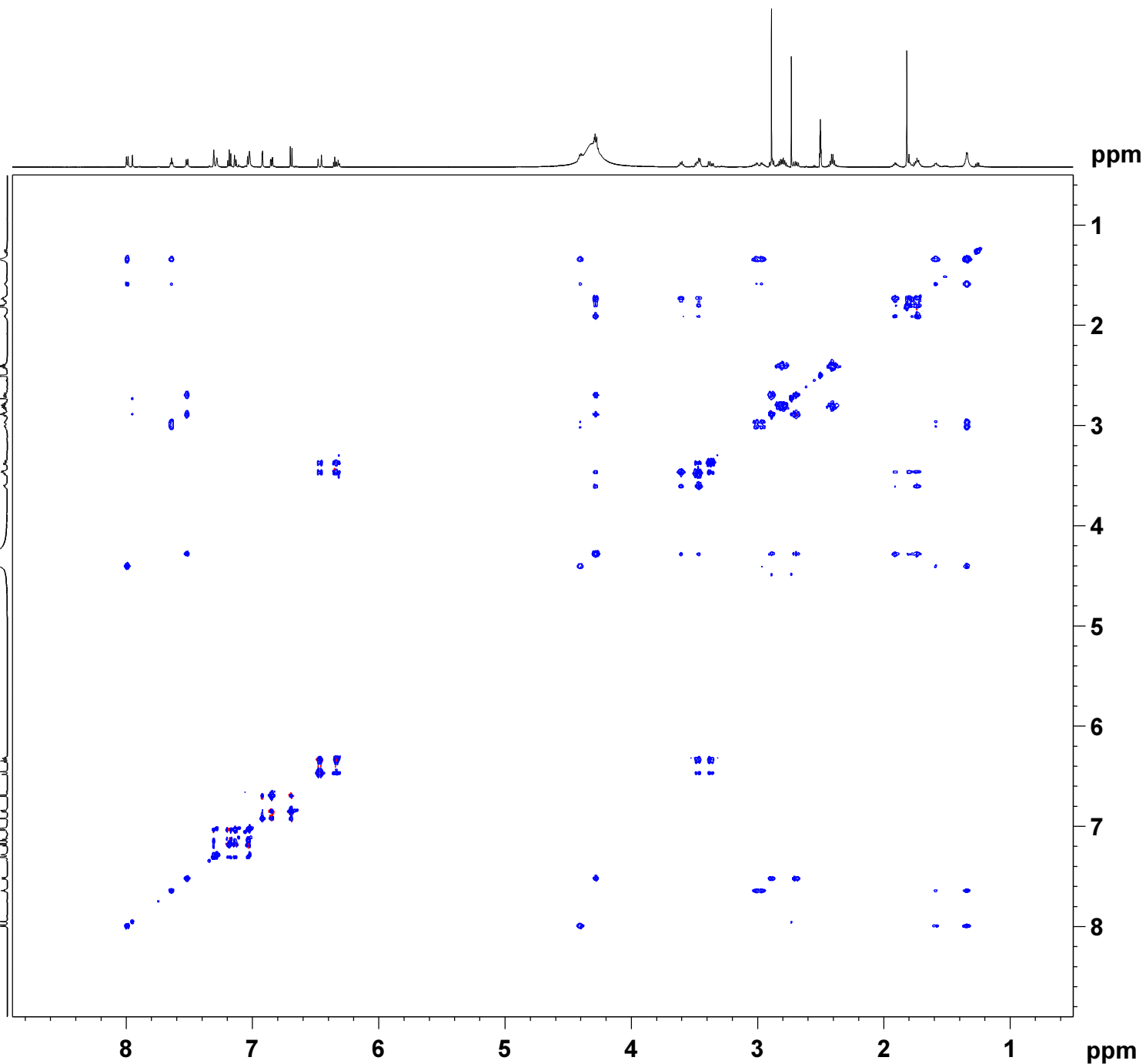
TD 256
 SFO1 600.1327 MHz
 FIDRES 21.046606 Hz
 SW 8.978 ppm
 FMODE Echo-Antiecho

F2 - Processing parameters

SI 4096
 SF 600.1300066 MHz
 WDW QSINE
 SSB 2
 LB 0 Hz
 GB 0
 PC 1.00

F1 - Processing parameters

SI 4096
 MC2 echo-antiecho
 SF 600.1300070 MHz
 WDW
 SSB 2
 LB 0 Hz
 GB 0



Current Data Parameters
 NAME TR3-97
 EXPNO 5
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120210
 Time 22.07
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG hsqcetgpsisp
 TD 2048
 SOLVENT DMSO
 NS 22
 DS 16
 SWH 6009.615 Hz
 FIDRES 2.934382 Hz
 AQ 0.1704436 sec
 RG 23170.5
 DW 83.200 usec
 DE 6.00 usec
 TE 298.2 K
 CNST2 145.0000000
 D0 0.00000300 sec
 D1 1.00000000 sec
 D4 0.00172414 sec
 D11 0.03000000 sec
 D16 0.00020000 sec
 D24 0.00086200 sec
 IN0 0.00002070 sec
 ZGPTNS

===== CHANNEL f1 =====
 NUC1 1H
 P1 9.25 usec
 P2 18.50 usec
 P28 1000.00 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1327006 MHz

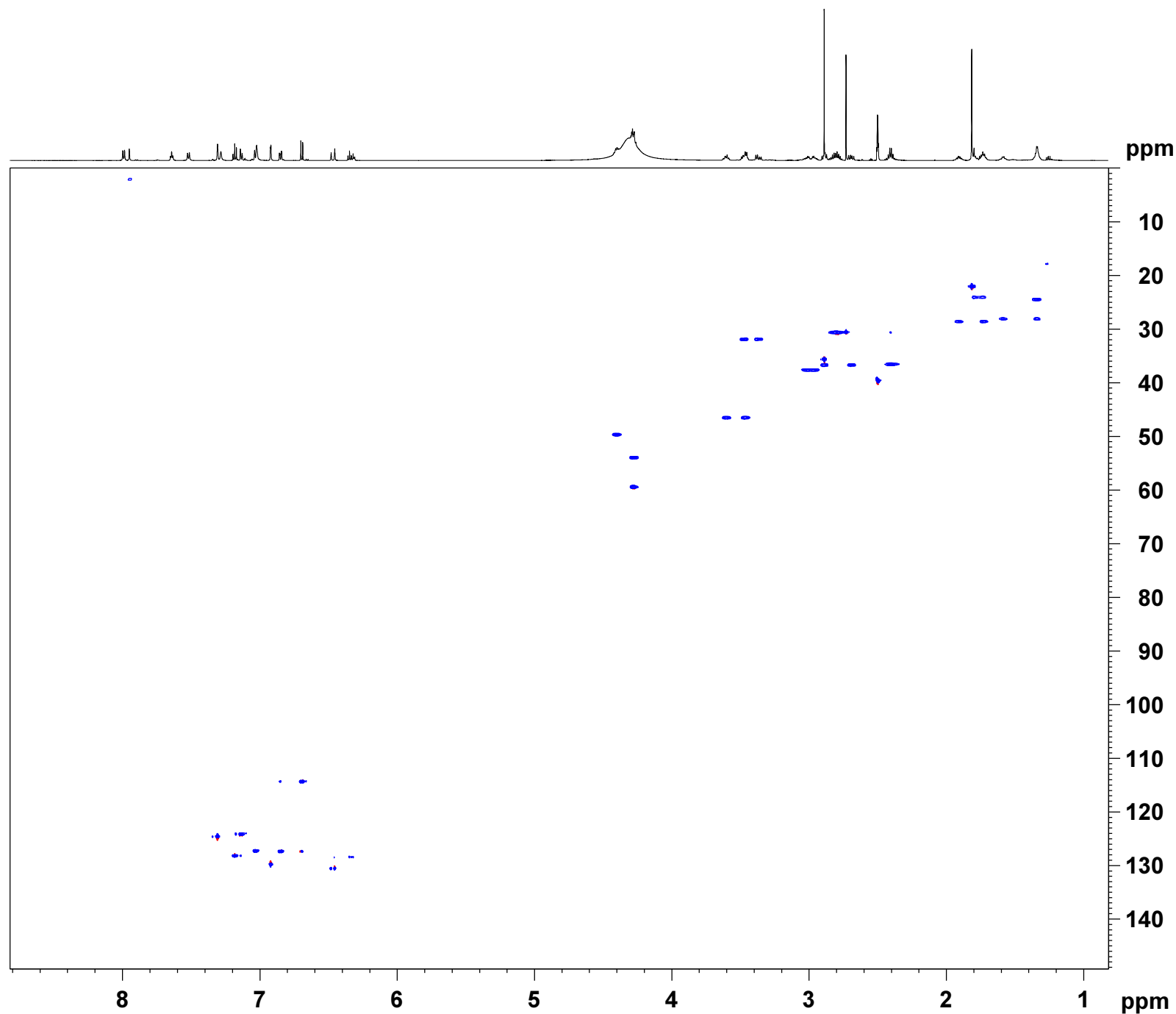
===== CHANNEL f2 =====
 CPDPRG2 garp
 NUC2 13C
 P3 18.50 usec
 P4 37.00 usec
 P14 1000.00 usec
 PCPD2 65.00 usec
 PL0 120.00 dB
 PL2 -3.00 dB
 PL12 7.91 dB
 PL0W 0 W
 PL2W 150.35617065 W
 PL12W 12.19330025 W
 SFO2 150.9133722 MHz
 SP3 4.59 dB
 SPNAM3 Crp80,0.5,20.1
 SFOAL3 0.500
 SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
 GPNAM1 SINE.100
 GPNAM2 SINE.100
 GPX1 0 %
 GPX2 0 %
 GPY1 0 %
 GPY2 0 %
 GPZ1 80.00 %
 GPZ2 20.10 %
 P16 1000.00 usec

F1 - Acquisition parameters
 TD 512
 SFO1 150.9134 MHz
 FIDRES 47.160427 Hz
 SW 160.000 ppm
 FhMODE Echo-Antiecho

F2 - Processing parameters
 SI 4096
 SF 600.1300049 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

F1 - Processing parameters
 SI 4096
 MC2 echo-antiecho
 SF 150.9029104 MHz
 WDW
 SSB 2
 LB 0 Hz
 GB 0



Current Data Parameters
NAME TR3-97
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters

Date_ 20120211
Time 1.54
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hmbcgp12ndqf
TD 2048
SOLVENT DMSO
NS 80
DS 24
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 297.9 K
CNST6 125.0000000
CNST7 165.0000000
CNST13 8.0000000
D0 0.00000300 sec
D1 1.20000005 sec
D6 0.06250000 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 9.25 usec
P2 18.50 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

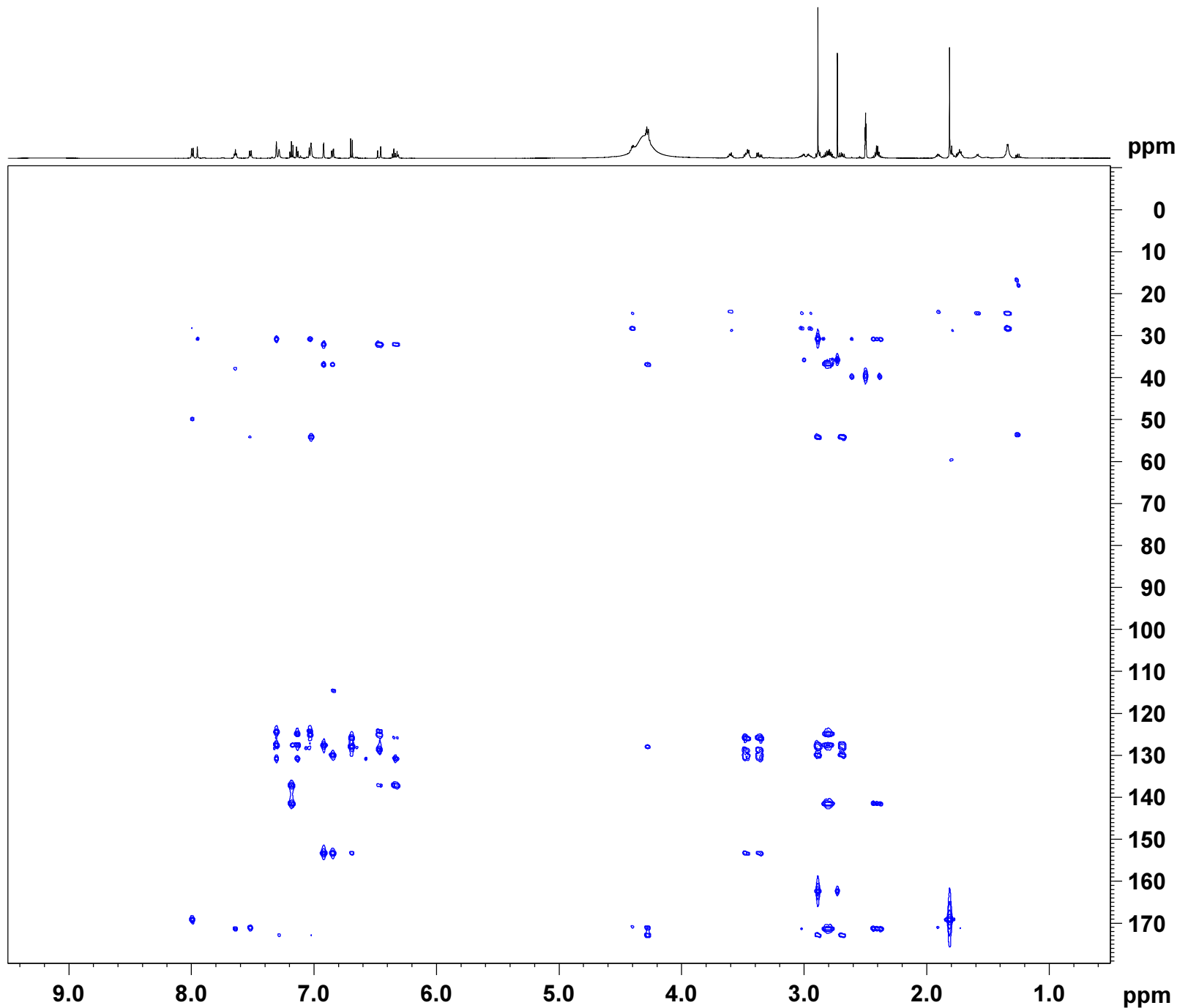
===== CHANNEL f2 =====
NUC2 13C
P3 18.50 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPNAM4 SINE.100
GPNAM5 SINE.100
GPNAM6 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPX4 0 %
GPX5 0 %
GPX6 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPY4 0 %
GPY5 0 %
GPY6 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
GPZ4 15.00 %
GPZ5 -10.00 %
GPZ6 -5.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 233
SFO1 150.9156 MHz
FIDRES 123.064255 Hz
SW 190.000 ppm
FnMODE QF

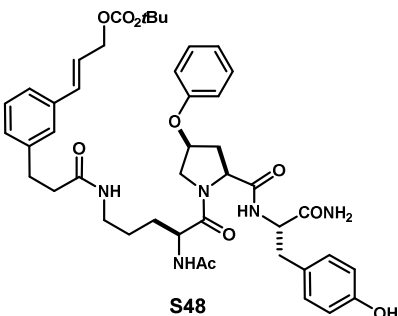
F2 - Processing parameters
SI 4096
SF 600.1300067 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9028772 MHz
WDW
SSB 2
LB 0 Hz
GB 0



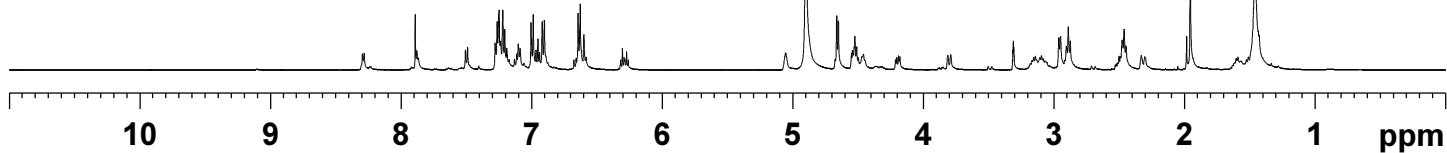
Current Data Parameters
 NAME TR3-154
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120407
 Time_ 17.05
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zg30
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 7.73
 DW 50.000 usec
 DE 10.00 usec
 TE 296.0 K
 D1 2.00000000 sec
 TD0 1

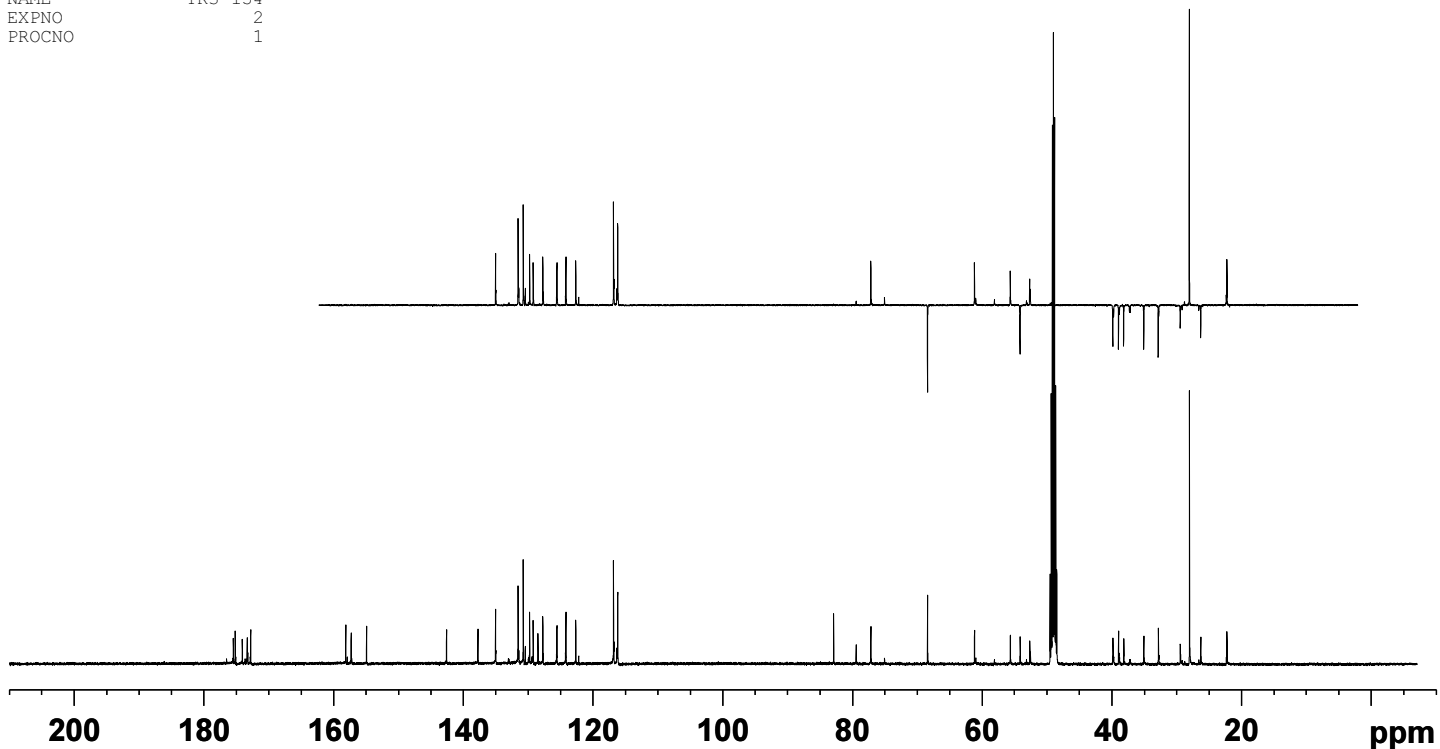


===== CHANNEL f1 =====
 NUC1 1H
 P1 10.00 usec
 PLW1 13.5000000 W
 SFO1 500.1330008 MHz

F2 - Processing parameters
 SI 65536
 SF 500.1296059 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

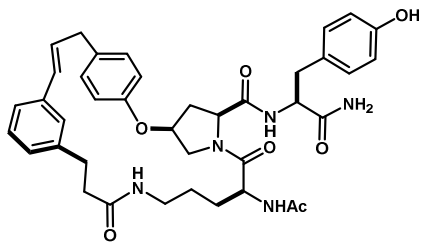


Current Data Parameters
 NAME TR3-154
 EXPNO 2
 PROCNO 1



Current Data Parameters
 NAME TR3-172A
 EXPNO 2
 PROCNO 1

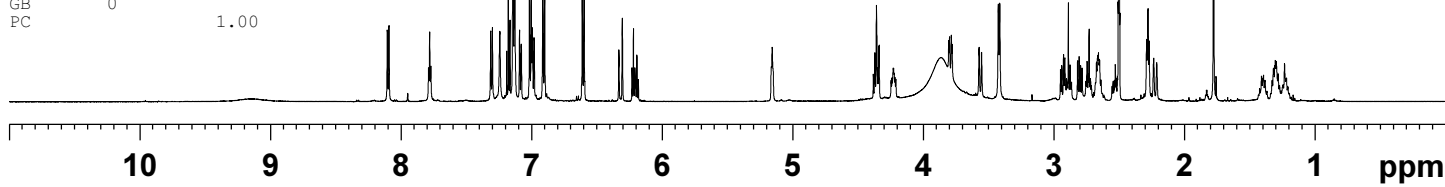
F2 - Acquisition Parameters
 Date_ 20120424
 Time_ 18.25
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 45.3
 DW 40.400 usec
 DE 6.50 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1



16a

===== CHANNEL f1 =====
 NUC1 1H
 P1 9.91 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300070 MHz
 WDW EM
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME TR3-172A
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120424
Time_ 18.29
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 45.3
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00008018 sec
D1 1.50000000 sec
D13 0.0000400 sec
D16 0.00020000 sec
IN0 0.00018560 sec

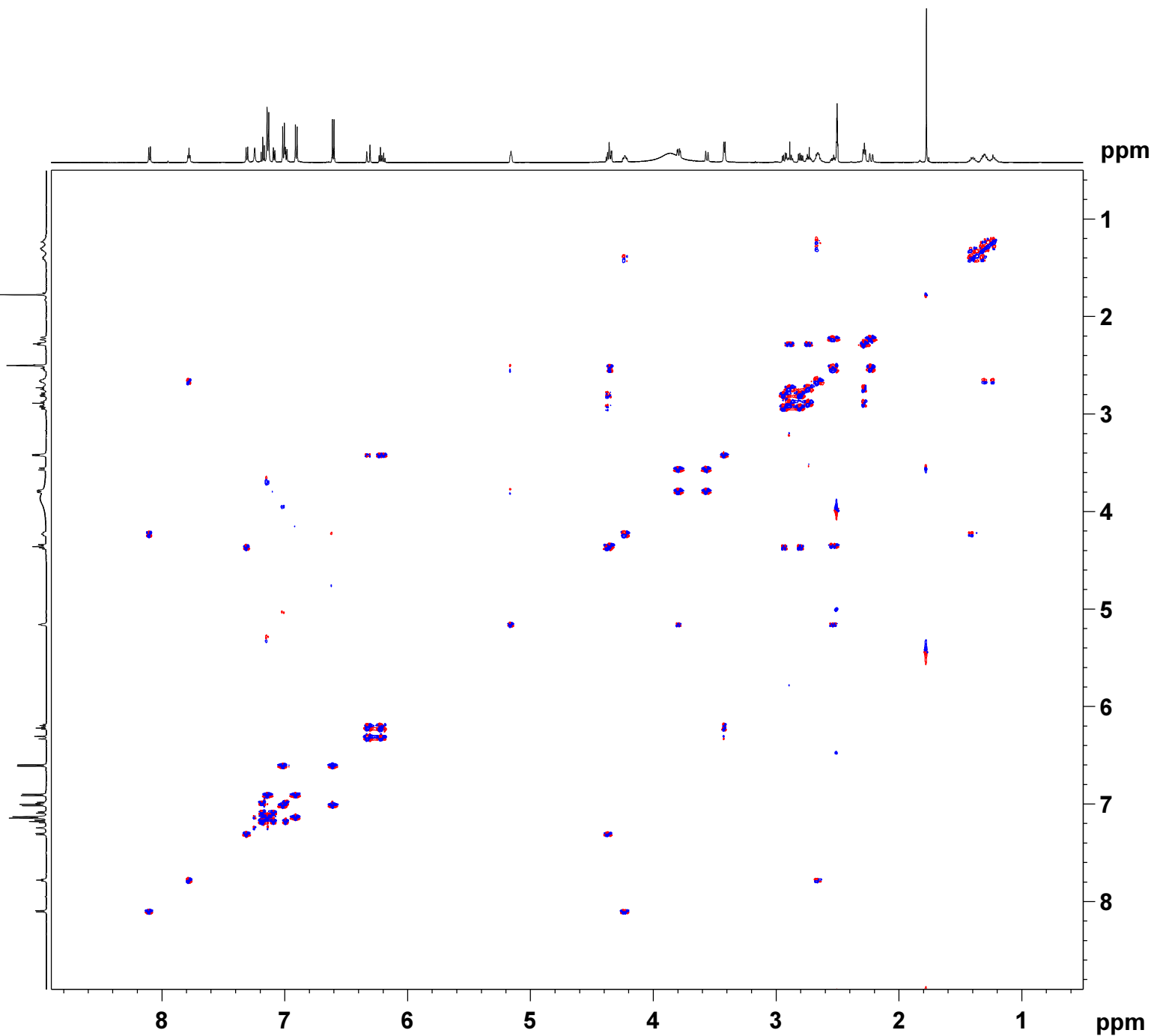
===== CHANNEL f1 =====
NUC1 1H
P1 9.91 usec
P2 19.82 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.1327 MHz
FIDRES 10.523297 Hz
SW 8.978 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.130038 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.130037 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
 NAME TR3-172A
 EXPNO 4
 PROCNO 1

F2 - Acquisition Parameters

Date_ 20120424
 Time 18.59
 INSTRUM av600
 PROBD 5 mm TBI5
 PULPROG dipsi2etgpsi
 TD 2048
 SOLVENT DMSO
 NS 8
 DS 16
 SWH 5387.931 Hz
 FIDRES 2.630826 Hz
 AQ 0.1901044 sec
 RG 128
 DW 92.800 usec
 DE 6.50 usec
 TE 298.0 K
 D0 0.00000300 sec
 D1 1.50000000 sec
 D9 0.06000000 sec
 D11 0.03000000 sec
 D16 0.00020000 sec
 D20 0.00001000 sec
 D21 0.00001000 sec
 IN0 0.00018560 sec
 L1 14

===== CHANNEL f1 =====

NUC1 1H
 P1 9.91 usec
 P2 19.82 usec
 P6 40.00 usec
 PL1 -2.00 dB
 PL10 10.12 dB
 PL1W 39.81071854 W
 PL10W 2.44343066 W
 SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====

GPNAM1 SINE.100
 GPNAM2 SINE.100
 GPX1 0 %
 GPX2 0 %
 GPY1 0 %
 GPY2 0 %
 GPZ1 30.00 %
 GPZ2 30.00 %
 P16 1000.00 usec

F1 - Acquisition parameters

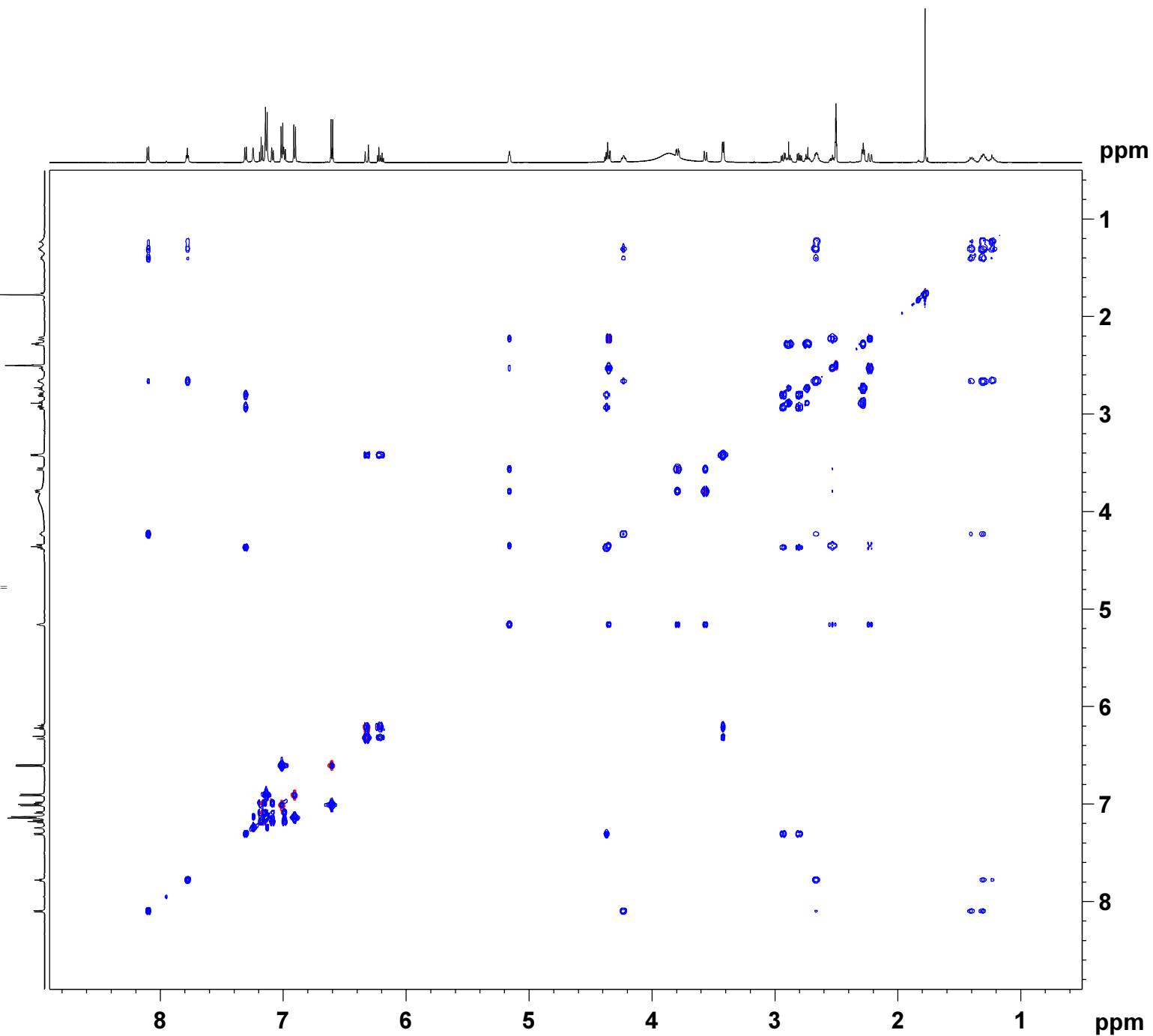
TD 256
 SFO1 600.1327 MHz
 FIDRES 21.046606 Hz
 SW 8.978 ppm
 FnmODE Echo-Antiecho

F2 - Processing parameters

SI 4096
 SF 600.1300069 MHz
 WDW QSINE
 SSB 2
 LB 0 Hz
 GB 0
 PC 1.00

F1 - Processing parameters

SI 4096
 MC2 echo-antiecho
 SF 600.1300068 MHz
 WDW
 SSB 2
 LB 0 Hz
 GB 0



Current Data Parameters
 NAME TR3-172A
 EXPNO 5
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120424
 Time 20.01
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG hsqcetgpsisp
 TD 2048
 SOLVENT DMSO
 NS 6
 DS 16
 SWH 6009.615 Hz
 FIDRES 2.934382 Hz
 AQ 0.1704436 sec
 RG 18390.4
 DW 83.200 usec
 DE 6.00 usec
 TE 298.0 K
 CNST2 145.0000000
 D0 0.00000300 sec
 D1 1.00000000 sec
 D4 0.00172414 sec
 D11 0.03000000 sec
 D16 0.00020000 sec
 D24 0.00086200 sec
 IN0 0.00002070 sec
 ZGPTNS

===== CHANNEL f1 =====
 NUC1 1H
 P1 9.91 usec
 P2 19.82 usec
 P28 1000.00 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1327006 MHz

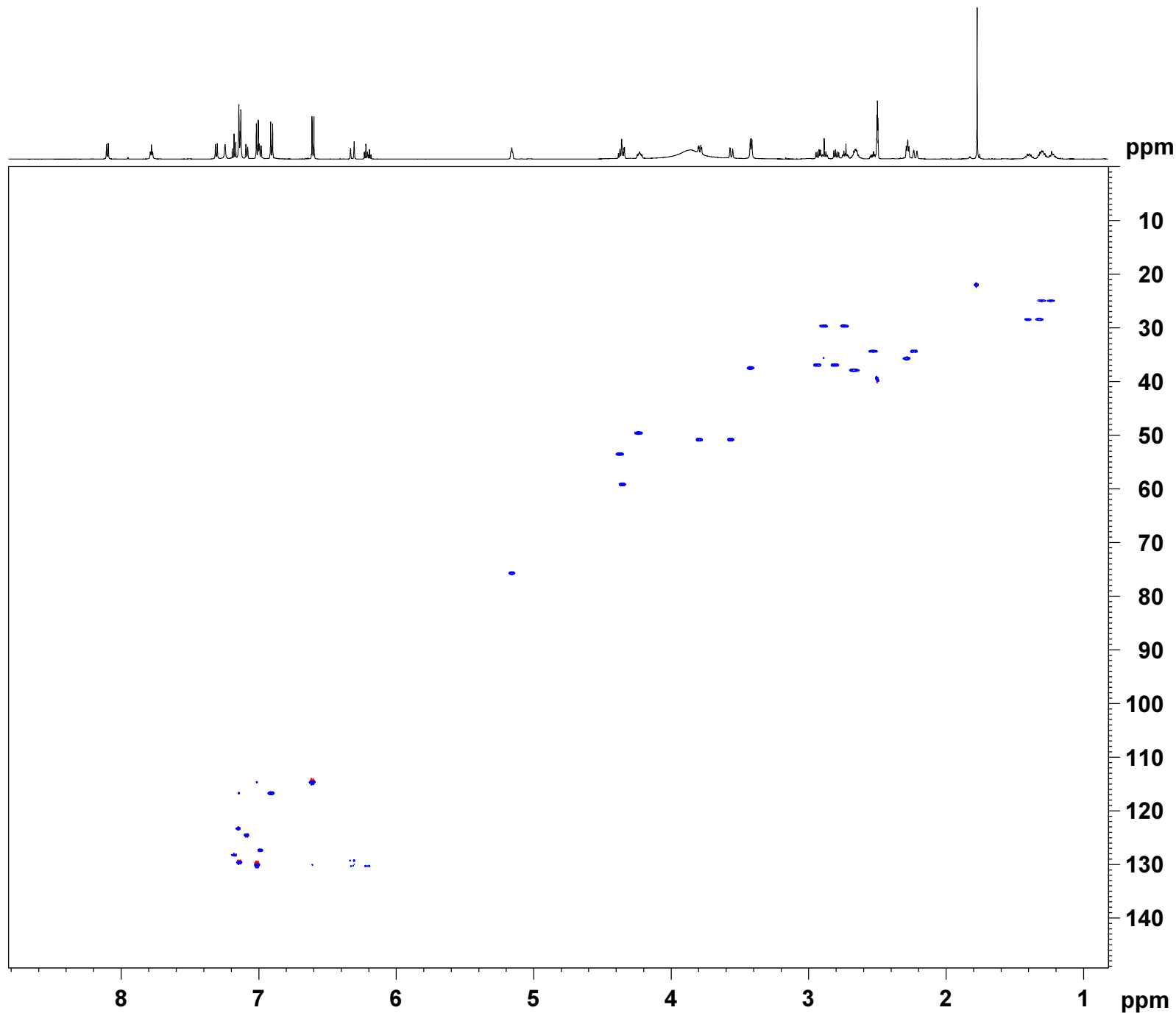
===== CHANNEL f2 =====
 CPDPRG2 garp
 NUC2 13C
 P3 18.50 usec
 P4 37.00 usec
 P14 1000.00 usec
 PCPD2 65.00 usec
 PL0 120.00 dB
 PL2 -3.00 dB
 PL12 7.91 dB
 PL0W 0 W
 PL2W 150.35617065 W
 PL12W 12.19330025 W
 SFO2 150.9133722 MHz
 SP3 4.59 dB
 SPNAM3 Crp80,0.5,20.1
 SPOAL3 0.500
 SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
 GPNAM1 SINE.100
 GPNAM2 SINE.100
 GPX1 0 %
 GPX2 0 %
 GPY1 0 %
 GPY2 0 %
 GPZ1 80.00 %
 GPZ2 20.10 %
 P16 1000.00 usec

F1 - Acquisition parameters
 TD 512
 SFO1 150.9134 MHz
 FIDRES 47.160427 Hz
 SW 160.000 ppm
 FhMODE Echo-Antiecho

F2 - Processing parameters
 SI 4096
 SF 600.1300046 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

F1 - Processing parameters
 SI 4096
 MC2 echo-antiecho
 SF 150.9029104 MHz
 WDW
 SSB 2
 LB 0 Hz
 GB 0



```

Current Data Parameters
NAME      TR3-172A
EXPNO     6
PROCNO    1

F2 - Acquisition Parameters
Date_     20120424
Time      21.03
INSTRUM   av600
PROBHD    5 mm TB15
PULPROG   hmbcgp12ndqf
TD        2048
SOLVENT   DMSO
NS         28
DS         24
SWH        6009.615 Hz
FIDRES     2.934382 Hz
AQ         0.1704436 sec
RG         26008
DW         83.200 usec
DE         6.00 usec
TE         298.0 K
CNST6     125.0000000
CNST7     165.0000000
CNST13    8.0000000
D0         0.0000300 sec
D1         1.20000005 sec
D6         0.06250000 sec
D16        0.00020000 sec
IN0        0.00001745 sec

===== CHANNEL f1 =====
NUC1       1H
P1         9.91 usec
P2         19.82 usec
PL1        -2.00 dB
PL1W       39.81071854 W
SFO1       600.1327006 MHz

===== CHANNEL f2 =====
NUC2       13C
P3         18.50 usec
PL2        -3.00 dB
PL2W       150.35617065 W
SFO2       150.9156357 MHz

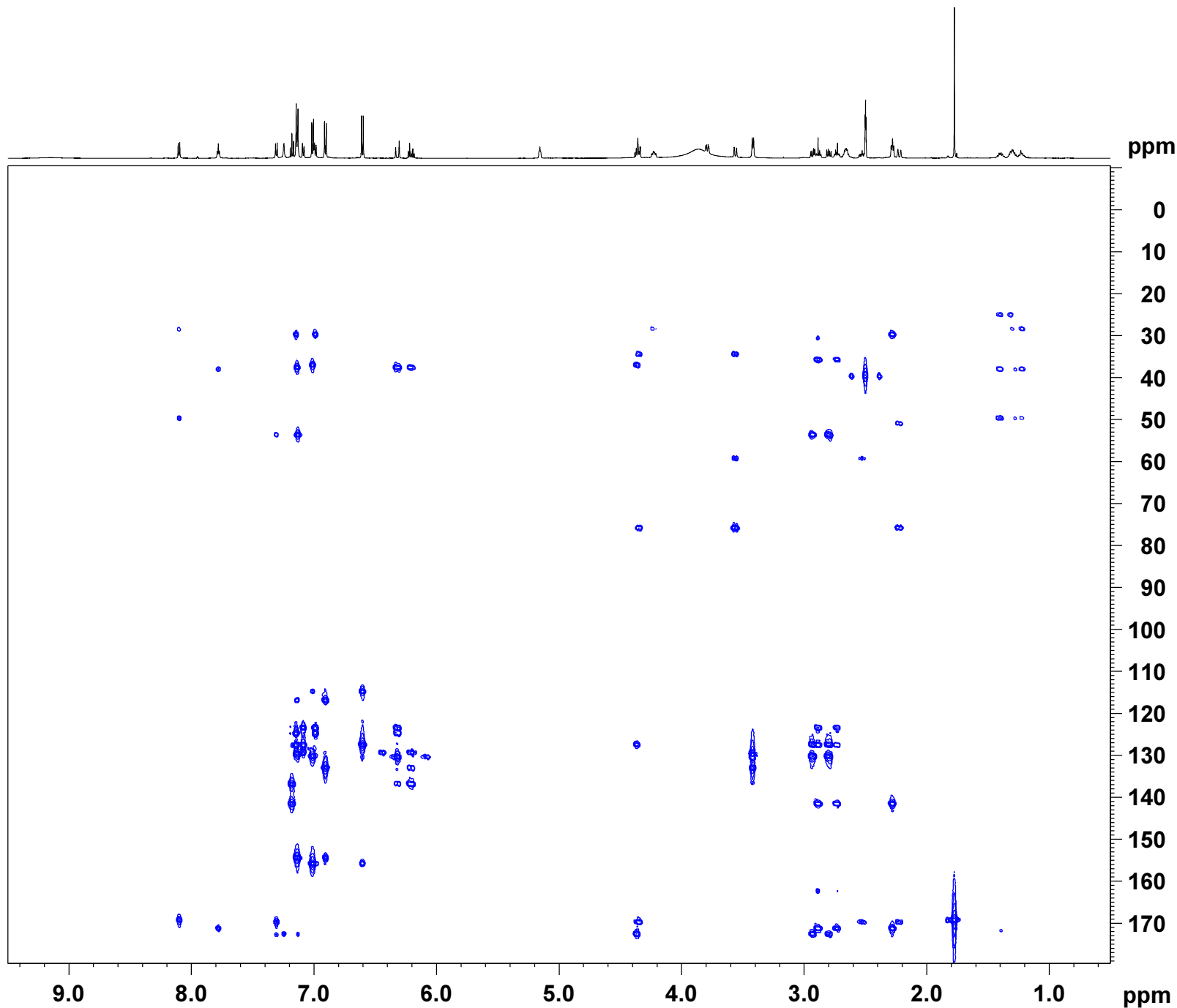
===== GRADIENT CHANNEL =====
GPNAM1     SINE.100
GPNAM2     SINE.100
GPNAM3     SINE.100
GPNAM4     SINE.100
GPNAM5     SINE.100
GPNAM6     SINE.100
GPX1       0 %
GPX2       0 %
GPX3       0 %
GPX4       0 %
GPX5       0 %
GPX6       0 %
GPY1       0 %
GPY2       0 %
GPY3       0 %
GPY4       0 %
GPY5       0 %
GPY6       0 %
GPZ1       50.00 %
GPZ2       30.00 %
GPZ3       40.10 %
GPZ4       15.00 %
GPZ5       -10.00 %
GPZ6       -5.00 %
P16        1000.00 usec

F1 - Acquisition parameters
TD         256
SFO1       150.9156 MHz
FIDRES     112.007698 Hz
SW         190.000 ppm
FnMODE     QF

F2 - Processing parameters
SI         4096
SF         600.1300065 MHz
WDW        QSINE
SSB        2
LB         0 Hz
GB         0
PC         1.40

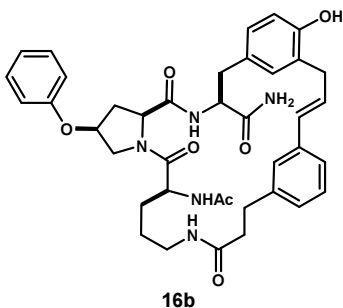
F1 - Processing parameters
SI         4096
MC2        QF
SF         150.9028998 MHz
WDW        QF
SSB        2
LB         0 Hz
GB         0

```



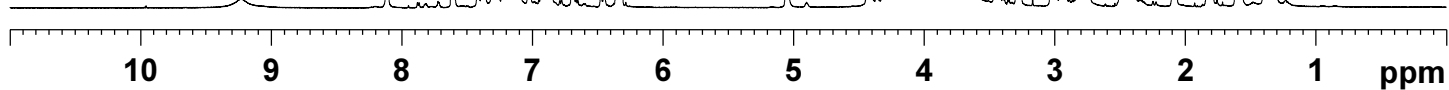
Current Data Parameters
 NAME TR3-172B
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120423
 Time 18.44
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 35.9
 DW 40.400 usec
 DE 6.50 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1



===== CHANNEL f1 =====
 NUC1 1H
 P1 10.15 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300071 MHz
 WDW EM
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME TR3-172B
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120423
Time_ 18.49
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 35.9
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00007988 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00018560 sec

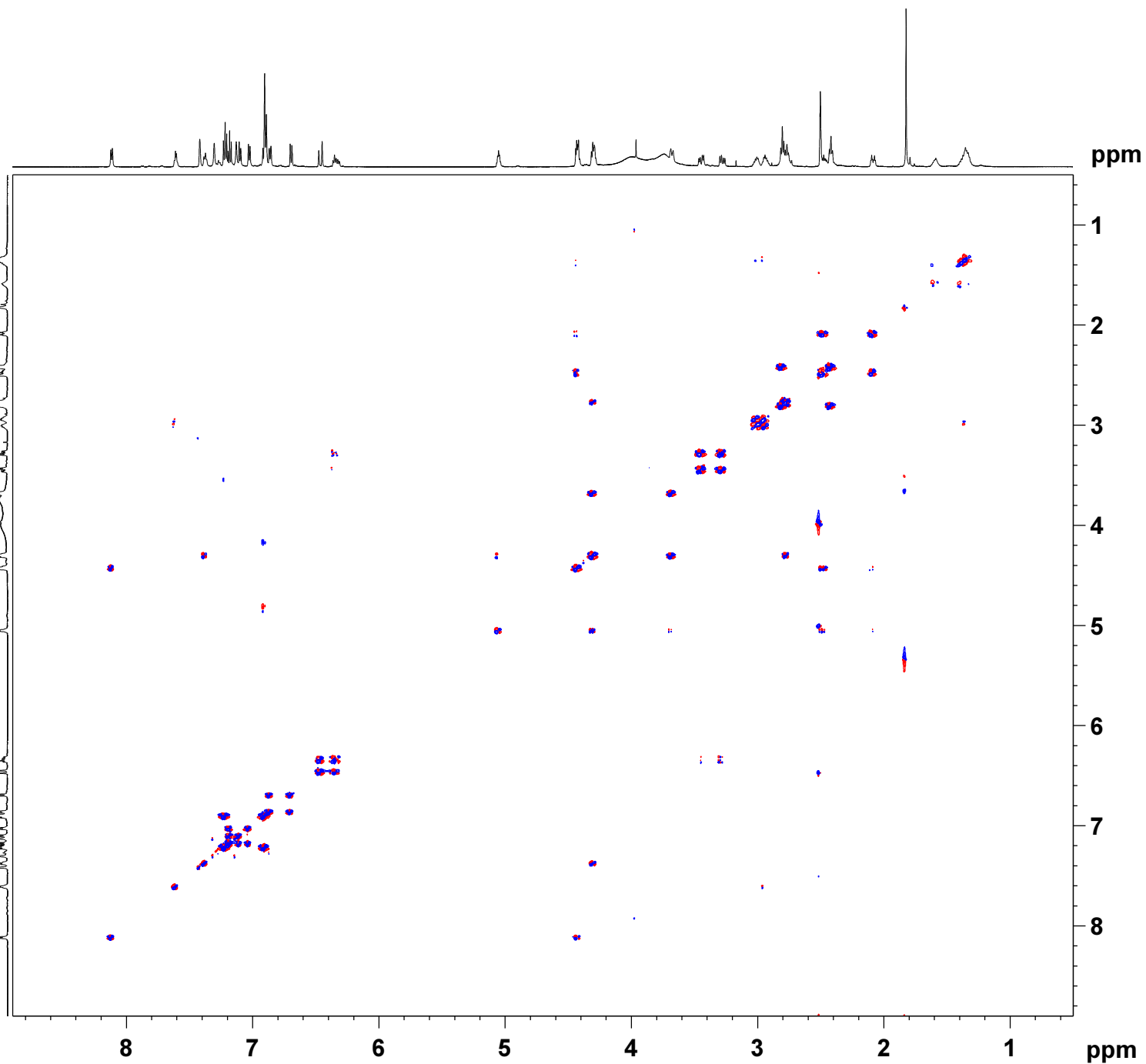
===== CHANNEL f1 =====
NUC1 1H
P1 10.15 usec
P2 20.30 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.1327 MHz
FIDRES 10.523297 Hz
SW 8.978 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300004 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300051 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-172B
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters

Date_ 20120423
Time 19.19
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG dipsi2etgpsi
TD 2048
SOLVENT DMSO
NS 8
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 128
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00000300 sec
D1 1.50000000 sec
D9 0.06000000 sec
D11 0.03000000 sec
D16 0.00020000 sec
D20 0.00001000 sec
D21 0.00001000 sec
IN0 0.00018560 sec
L1 14

===== CHANNEL f1 =====

NUC1 1H
P1 10.15 usec
P2 20.30 usec
P6 40.00 usec
PL1 -2.00 dB
PL10 9.91 dB
PL1W 39.81071854 W
PL10W 2.56448412 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====

GPNAME1 SINE.100
GPNAME2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 30.00 %
GPZ2 30.00 %
P16 1000.00 usec

F1 - Acquisition parameters

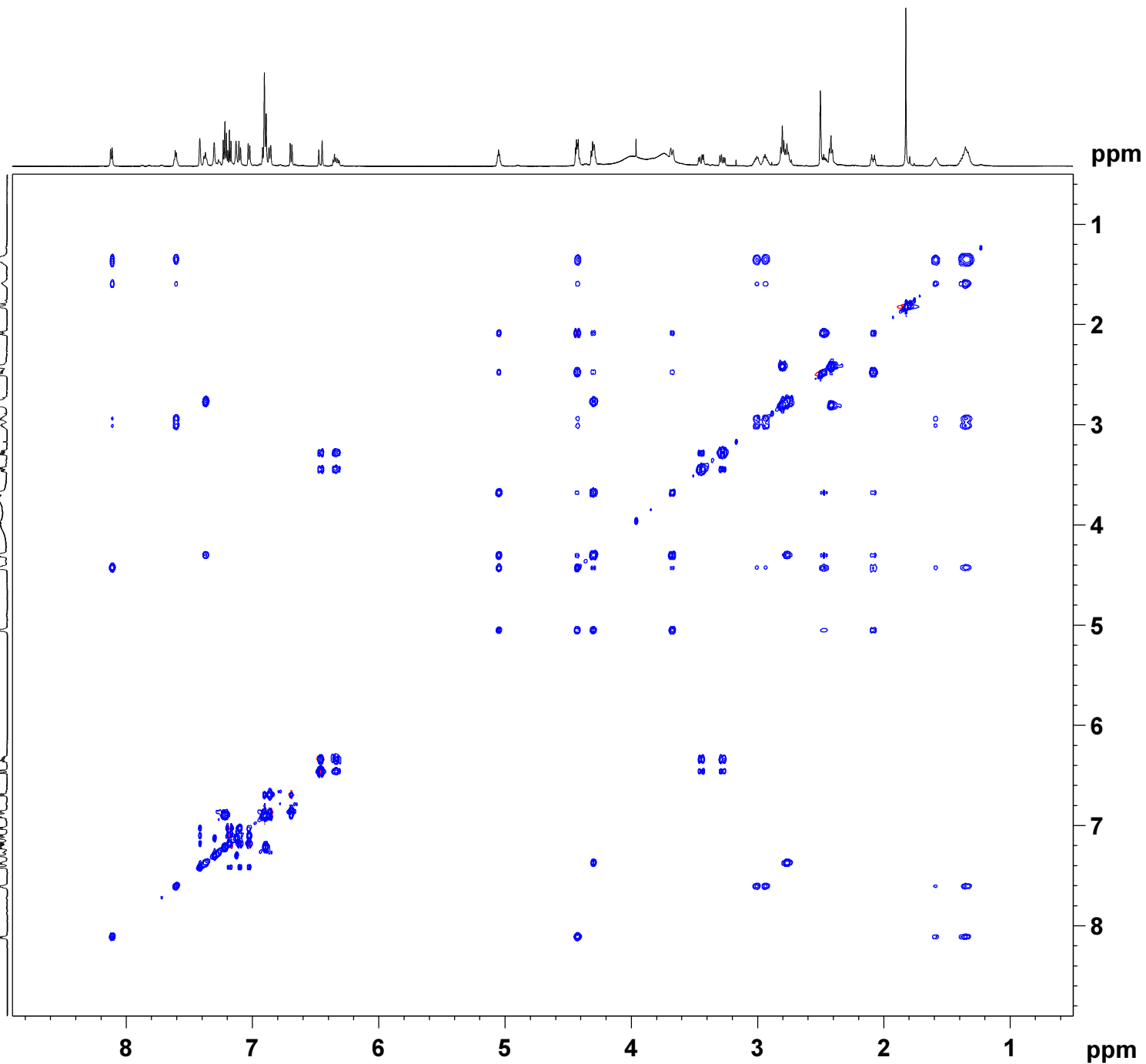
TD 256
SFO1 600.1327 MHz
FIDRES 21.046606 Hz
SW 8.978 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters

SI 4096
SF 600.1300077 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters

SI 4096
MC2 echo-antiecho
SF 600.1300063 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
 NAME TR3-172B
 EXPNO 5
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120423
 Time 20.21
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG hsqcetgpsisp
 TD 2048
 SOLVENT DMSO
 NS 8
 DS 16
 SWH 6009.615 Hz
 FIDRES 2.934382 Hz
 AQ 0.1704436 sec
 RG 18390.4
 DW 83.200 usec
 DE 6.00 usec
 TE 298.0 K
 CNST2 145.0000000
 D0 0.00000300 sec
 D1 1.00000000 sec
 D4 0.00172414 sec
 D11 0.03000000 sec
 D16 0.00020000 sec
 D24 0.00086200 sec
 IN0 0.00002070 sec
 ZGPTNS

===== CHANNEL f1 =====
 NUC1 1H
 P1 10.15 usec
 P2 20.30 usec
 P28 1000.00 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1327006 MHz

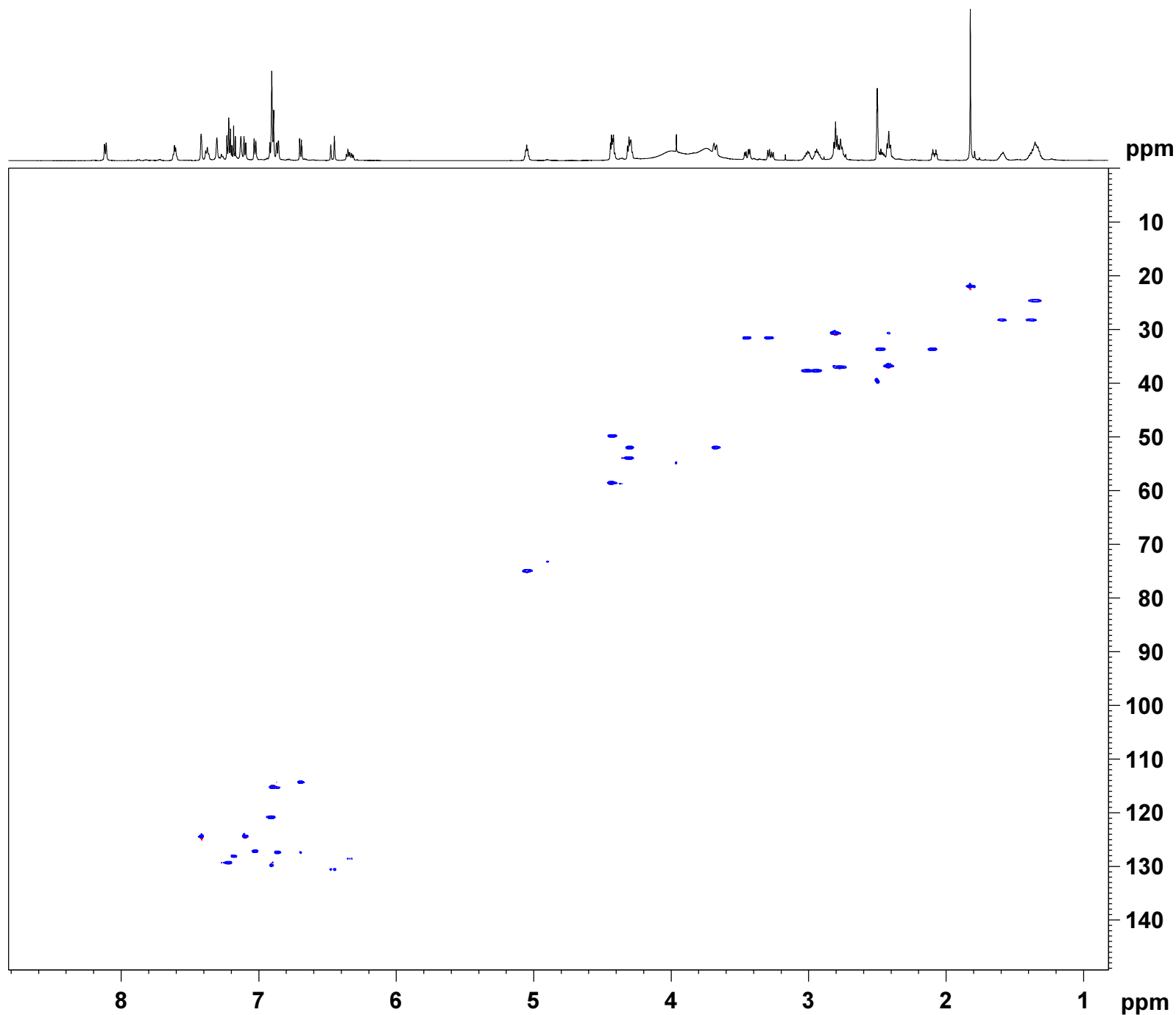
===== CHANNEL f2 =====
 CPDPRG2 garp
 NUC2 13C
 P3 18.50 usec
 P4 37.00 usec
 P14 1000.00 usec
 PCPD2 65.00 usec
 PL0 120.00 dB
 PL2 -3.00 dB
 PL12 7.91 dB
 PL0W 0 W
 PL2W 150.35617065 W
 PL12W 12.19330025 W
 SFO2 150.9133722 MHz
 SP3 4.59 dB
 SPNAM3 Crp80,0.5,20.1
 SPOAL3 0.500
 SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
 GPNAM1 SINE.100
 GPNAM2 SINE.100
 GPX1 0 %
 GPX2 0 %
 GPY1 0 %
 GPY2 0 %
 GPZ1 80.00 %
 GPZ2 20.10 %
 P16 1000.00 usec

F1 - Acquisition parameters
 TD 512
 SFO1 150.9134 MHz
 FIDRES 47.160427 Hz
 SW 160.000 ppm
 FhMODE Echo-Antiecho

F2 - Processing parameters
 SI 4096
 SF 600.1300049 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

F1 - Processing parameters
 SI 4096
 MC2 echo-antiecho
 SF 150.9029166 MHz
 WDW
 SSB 2
 LB 0 Hz
 GB 0



Current Data Parameters
NAME TR3-172B
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120423
Time 21.44
INSTRUM av600
PROBHD 5 mm TB15
PULPROG hmbcgp12ndqf
TD 2048
SOLVENT DMSO
NS 32
DS 24
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST6 125.0000000
CNST7 165.0000000
CNST13 8.0000000
D0 0.00000300 sec
D1 1.20000005 sec
D6 0.06250000 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 10.15 usec
P2 20.30 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

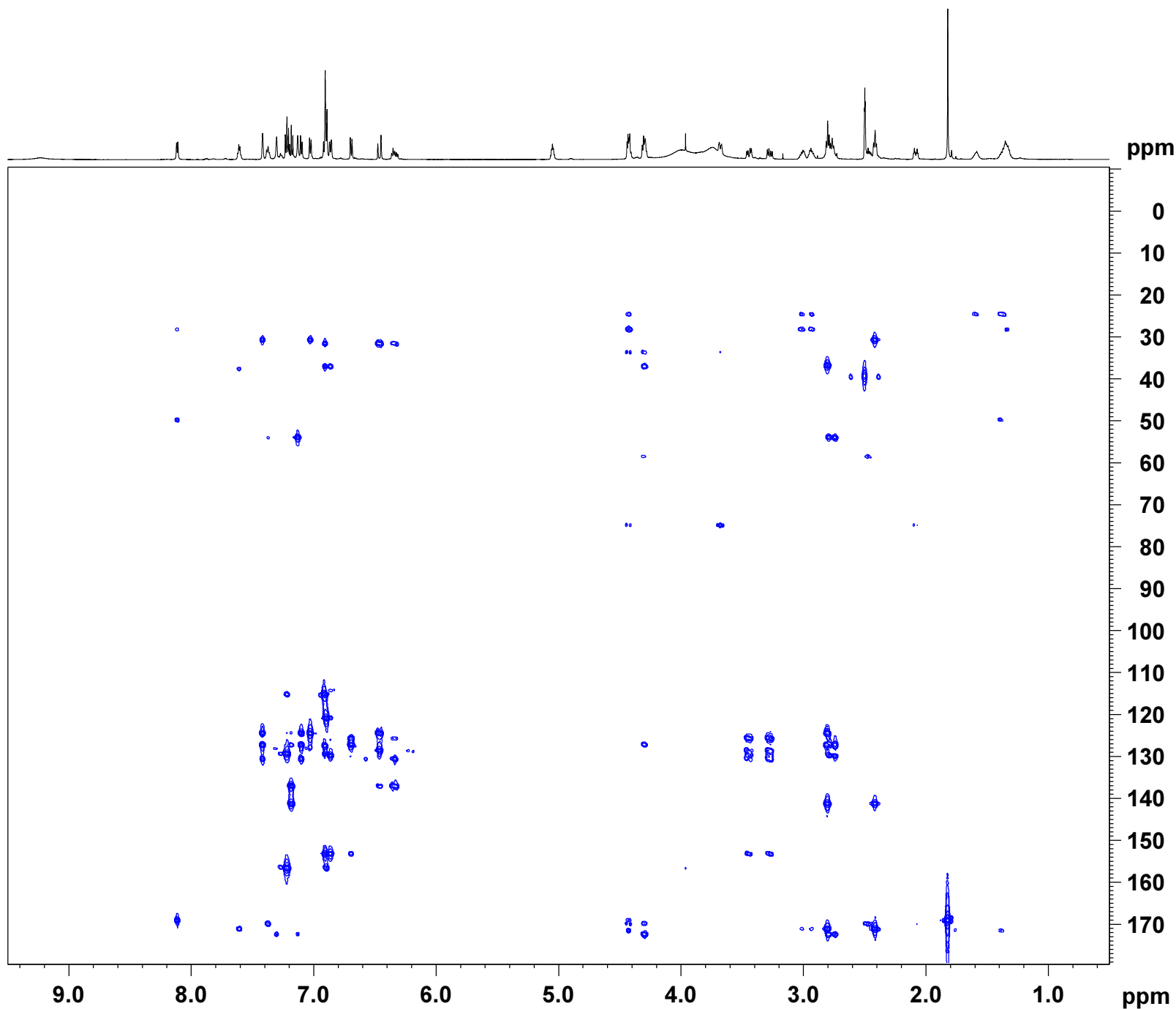
===== CHANNEL f2 =====
NUC2 13C
P3 18.50 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPNAM4 SINE.100
GPNAM5 SINE.100
GPNAM6 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPX4 0 %
GPX5 0 %
GPX6 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPY4 0 %
GPY5 0 %
GPY6 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
GPZ4 15.00 %
GPZ5 -10.00 %
GPZ6 -5.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 150.9156 MHz
FIDRES 112.007698 Hz
SW 190.000 ppm
FnMODE QF

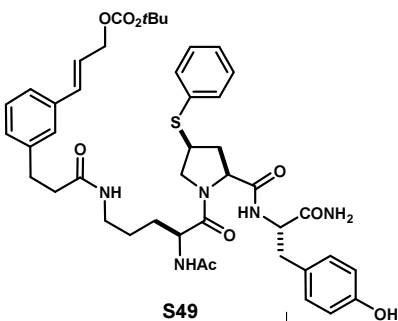
F2 - Processing parameters
SI 4096
SF 600.1300060 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9029074 MHz
WDW
SSB 2
LB 0 Hz
GB 0



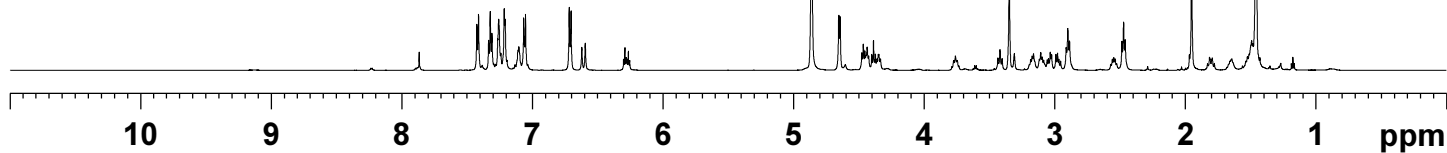
Current Data Parameters
 NAME TR3-270
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120712
 Time 18.04
 INSTRUM av600
 PROBHD 5 mm BB5
 PULPROG zg
 TD 65536
 SOLVENT MeOD
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 12.7
 DW 40.400 usec
 DE 6.50 usec
 TE 295.2 K
 D1 2.00000000 sec
 TD0 1

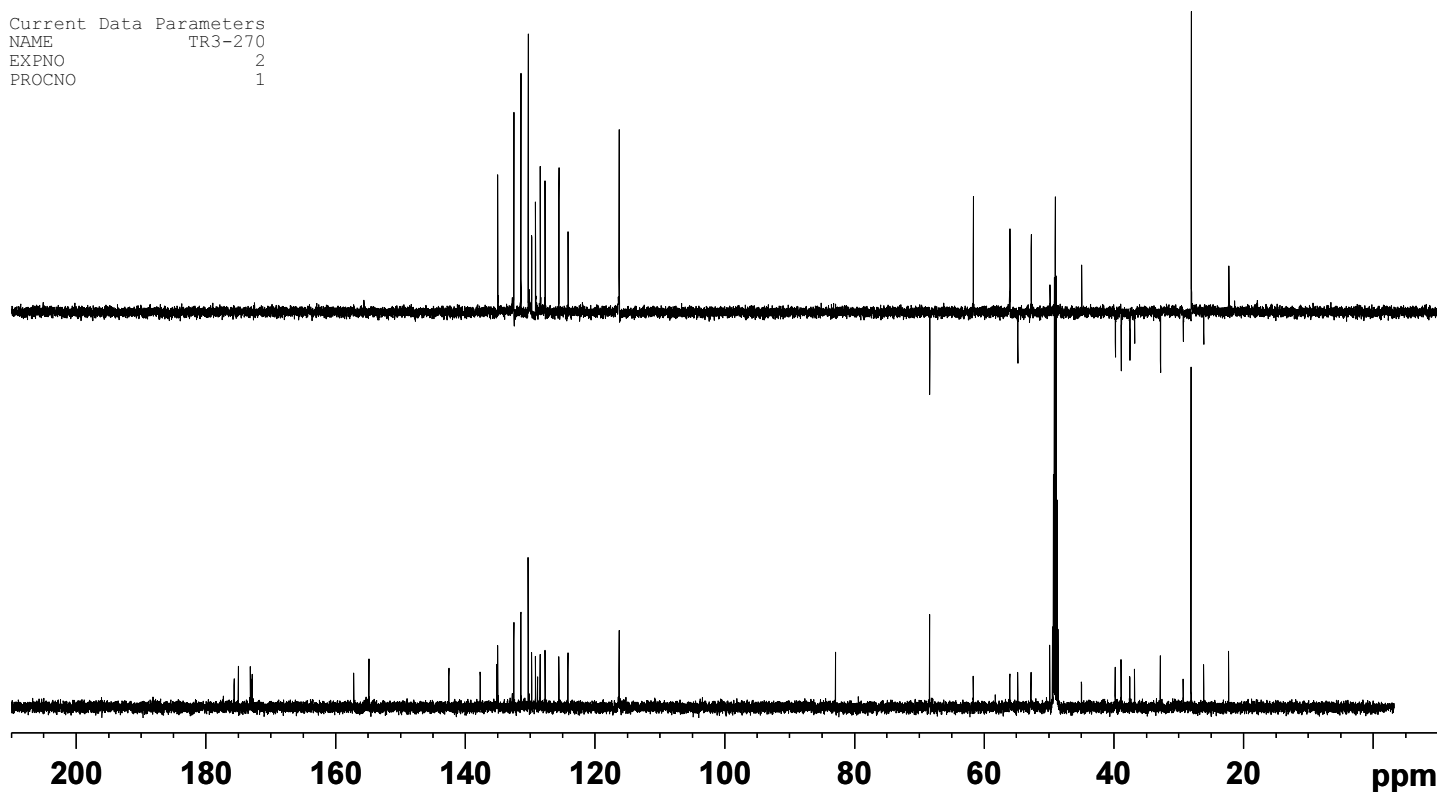


===== CHANNEL f1 =====
 NUC1 1H
 P1 9.66 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300136 MHz
 WDW EM
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00

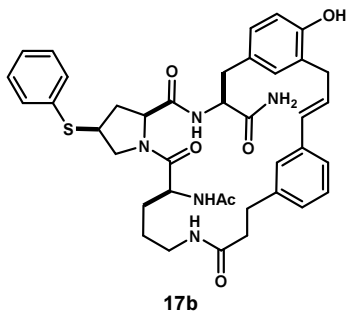


Current Data Parameters
 NAME TR3-270
 EXPNO 2
 PROCNO 1



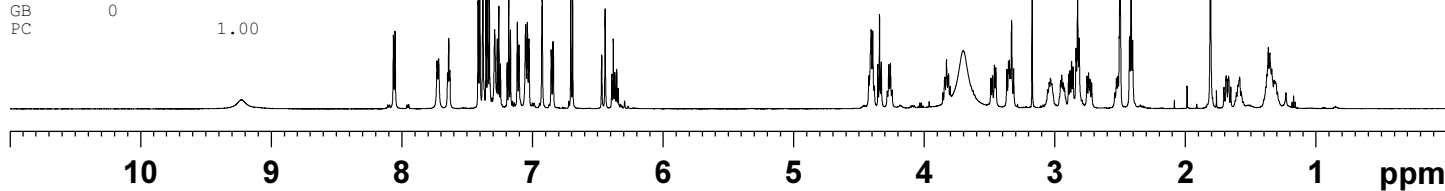
Current Data Parameters
NAME TR3-272
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120719
Time_ 18.45
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG zg
TD 65536
SOLVENT DMSO
NS 8
DS 0
SWH 12376.237 Hz
FIDRES 0.188846 Hz
AQ 2.6477044 sec
RG 25.4
DW 40.400 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1



===== CHANNEL f1 =====
NUC1 1H
P1 9.76 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1336008 MHz

F2 - Processing parameters
SI 65536
SF 600.1300070 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00



Current Data Parameters
NAME TR3-272
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120719
Time_ 18.47
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 25.4
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00008037 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00018560 sec

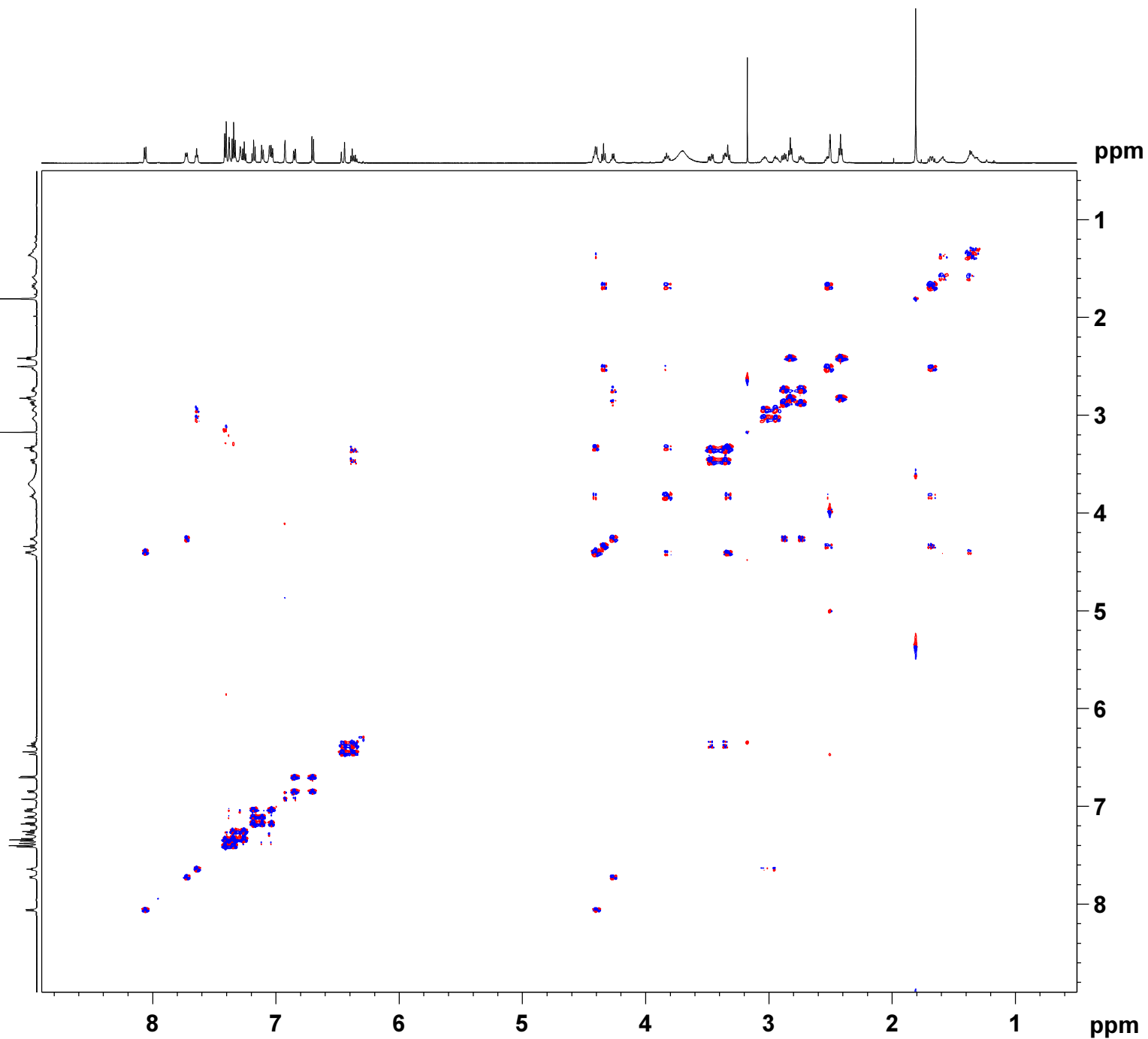
===== CHANNEL f1 =====
NUC1 1H
P1 9.76 usec
P2 19.52 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.1327 MHz
FIDRES 10.523297 Hz
SW 8.978 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.130058 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.130064 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-272
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters

Date_ 20120719
Time 19.18
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG dipsi2etgpsi
TD 2048
SOLVENT DMSO
NS 8
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 57
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00000300 sec
D1 1.50000000 sec
D9 0.06000000 sec
D11 0.03000000 sec
D16 0.00020000 sec
D20 0.00001000 sec
D21 0.00001000 sec
IN0 0.00018560 sec
L1 14

===== CHANNEL f1 =====

NUC1 1H
P1 9.76 usec
P2 19.52 usec
P6 40.00 usec
PL1 -2.00 dB
PL10 10.25 dB
PL1W 39.81071854 W
PL10W 2.37137365 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====

GPNAME1 SINE.100
GPNAME2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 30.00 %
GPZ2 30.00 %
P16 1000.00 usec

F1 - Acquisition parameters

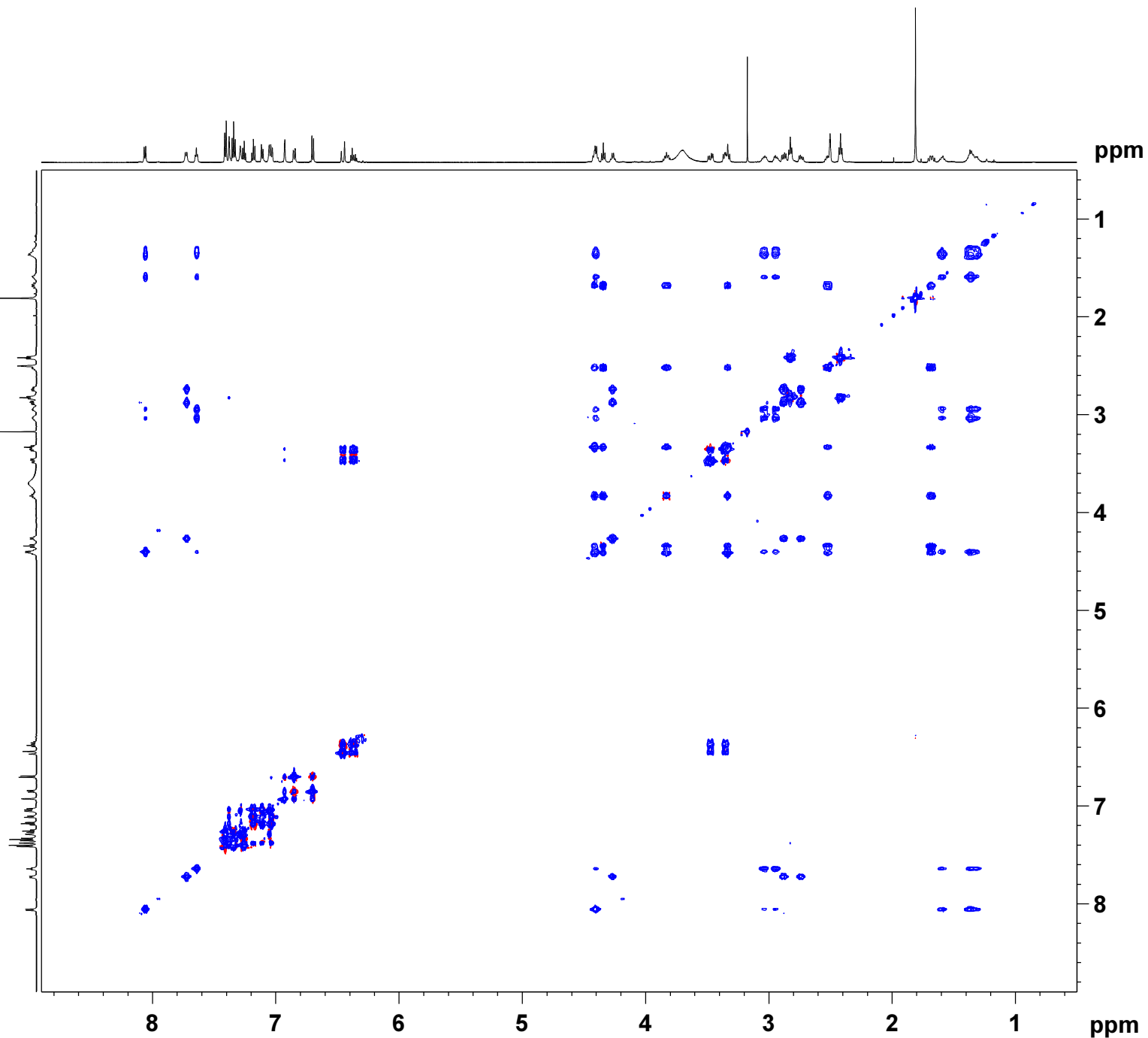
TD 256
SFO1 600.1327 MHz
FIDRES 21.046606 Hz
SW 8.978 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters

SI 4096
SF 600.1300069 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters

SI 4096
MC2 echo-antiecho
SF 600.1300069 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
 NAME TR3-272
 EXPNO 6
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120719
 Time 20.20
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG hsqcetgpsisp
 TD 2048
 SOLVENT DMSO
 NS 4
 DS 16
 SWH 6009.615 Hz
 FIDRES 2.934382 Hz
 AQ 0.1704436 sec
 RG 18390.4
 DW 83.200 usec
 DE 6.00 usec
 TE 298.0 K
 CNST2 145.0000000
 D0 0.00000300 sec
 D1 1.00000000 sec
 D4 0.00172414 sec
 D11 0.03000000 sec
 D16 0.00020000 sec
 D24 0.00086200 sec
 IN0 0.00002070 sec
 ZGPTNS

===== CHANNEL f1 =====
 NUC1 1H
 P1 9.76 usec
 P2 19.52 usec
 P28 1000.00 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1327006 MHz

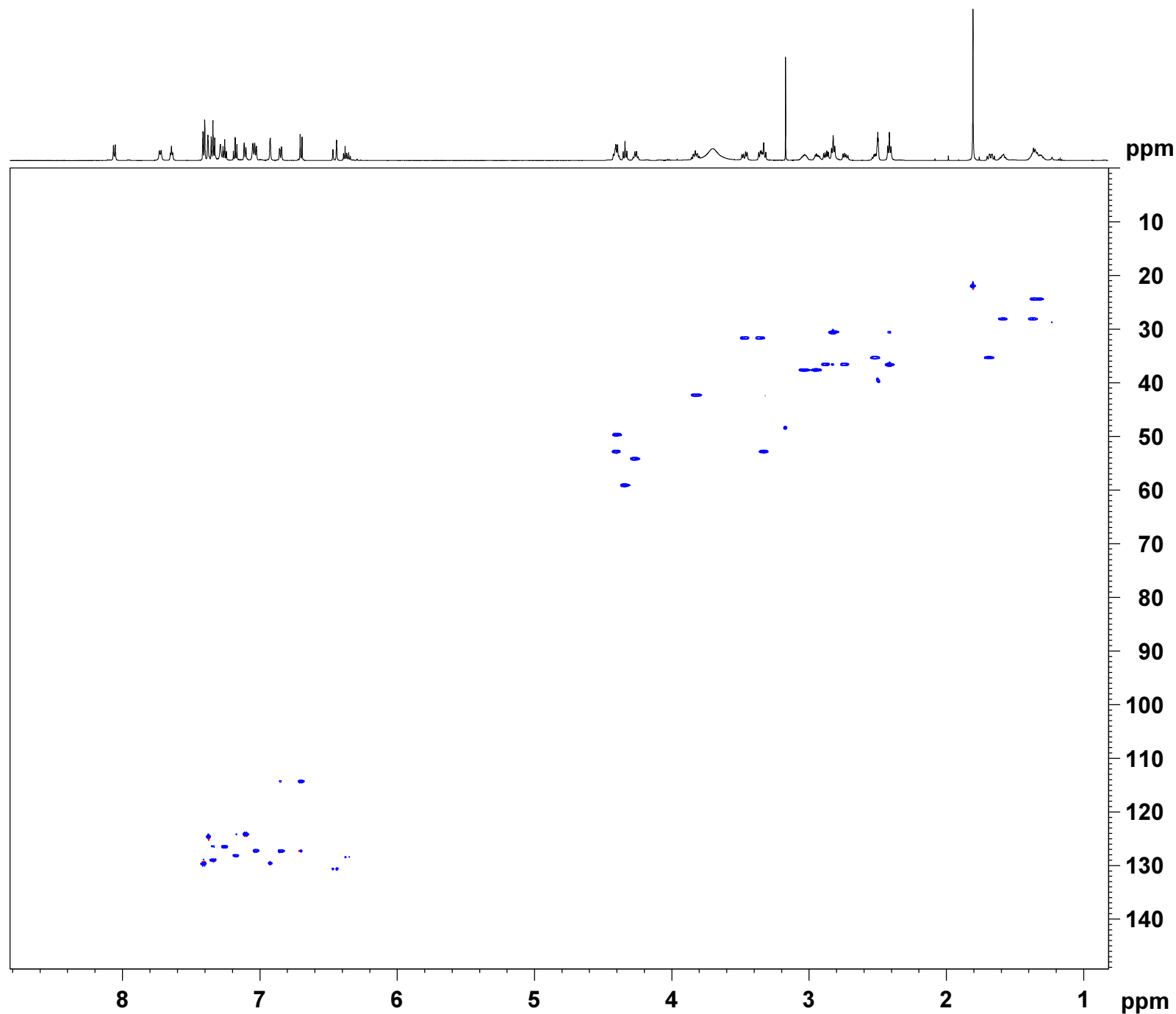
===== CHANNEL f2 =====
 CPDPRG2 garp
 NUC2 13C
 P3 18.50 usec
 P4 37.00 usec
 P14 1000.00 usec
 PCPD2 65.00 usec
 PL0 120.00 dB
 PL2 -3.00 dB
 PL12 7.91 dB
 PL0W 0 W
 PL2W 150.35617065 W
 PL12W 12.19330025 W
 SFO2 150.9133722 MHz
 SP3 4.59 dB
 SPNAM3 Crp80,0.5,20.1
 SPOAL3 0.500
 SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
 GPNAM1 SINE.100
 GPNAM2 SINE.100
 GPX1 0 %
 GPX2 0 %
 GPY1 0 %
 GPY2 0 %
 GPZ1 80.00 %
 GPZ2 20.10 %
 P16 1000.00 usec

F1 - Acquisition parameters
 TD 512
 SFO1 150.9134 MHz
 FIDRES 47.160427 Hz
 SW 160.000 ppm
 FhMODE Echo-Antiecho

F2 - Processing parameters
 SI 4096
 SF 600.1300064 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

F1 - Processing parameters
 SI 4096
 MC2 echo-antiecho
 SF 150.9029168 MHz
 WDW
 SSB 2
 LB 0 Hz
 GB 0



Current Data Parameters
NAME TR3-272
EXPNO 7
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120719
Time 21.01
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hmbcgp12ndqf
TD 2048
SOLVENT DMSO
NS 12
DS 24
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 23170.5
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST6 125.0000000
CNST7 165.0000000
CNST13 8.0000000
D0 0.00000300 sec
D1 1.20000005 sec
D6 0.06250000 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 9.76 usec
P2 19.52 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

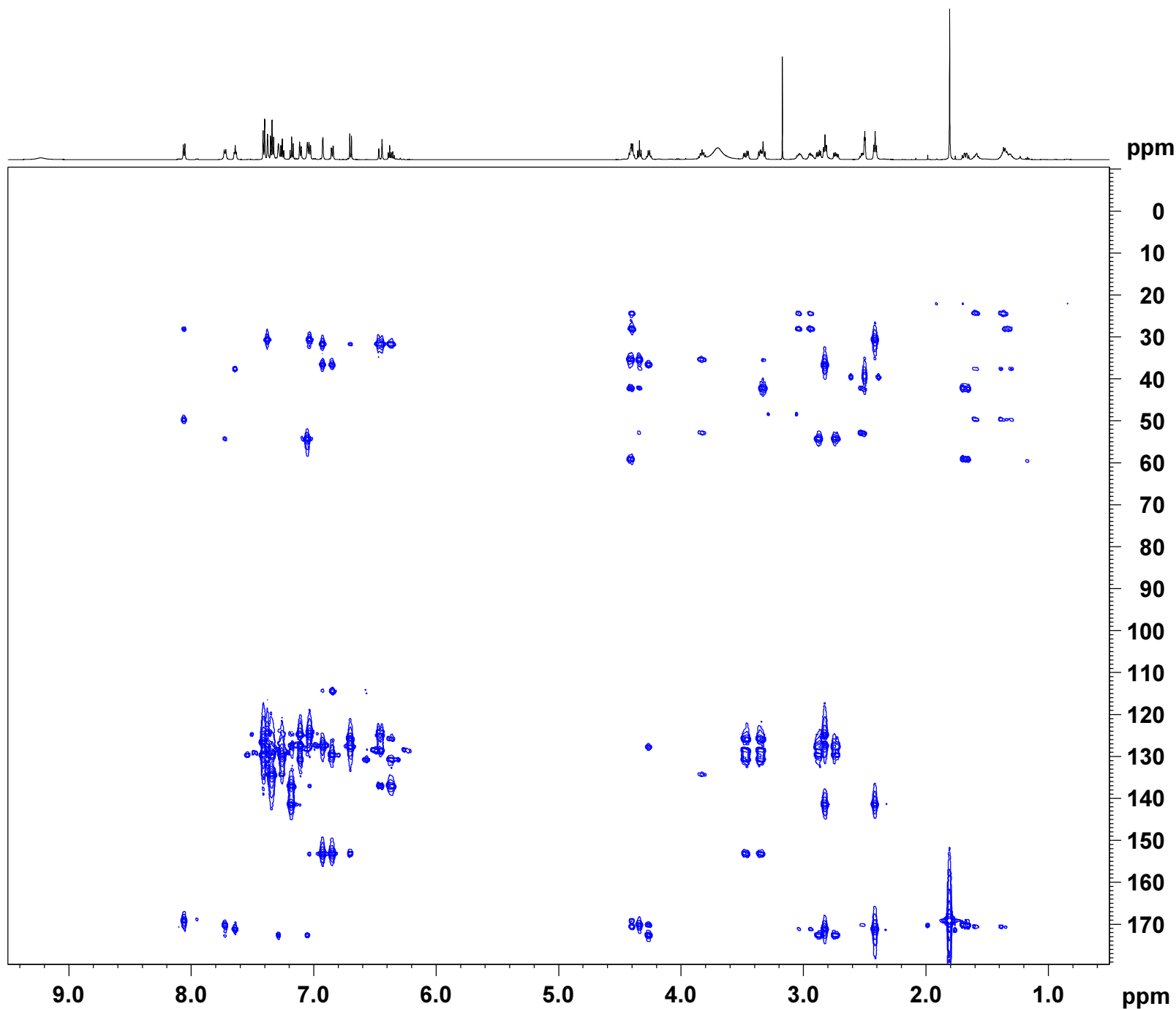
===== CHANNEL f2 =====
NUC2 13C
P3 18.50 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPNAM4 SINE.100
GPNAM5 SINE.100
GPNAM6 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPX4 0 %
GPX5 0 %
GPX6 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPY4 0 %
GPY5 0 %
GPY6 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
GPZ4 15.00 %
GPZ5 -10.00 %
GPZ6 -5.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 150.9156 MHz
FIDRES 112.007698 Hz
SW 190.000 ppm
FnMODE QF

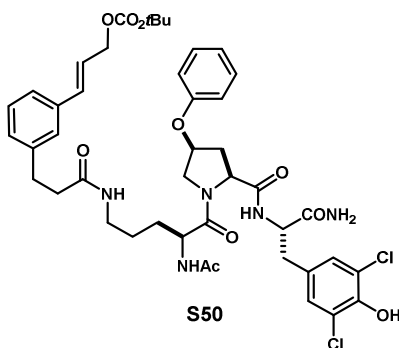
F2 - Processing parameters
SI 4096
SF 600.1300062 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9029016 MHz
WDW
SSB 2
LB 0 Hz
GB 0



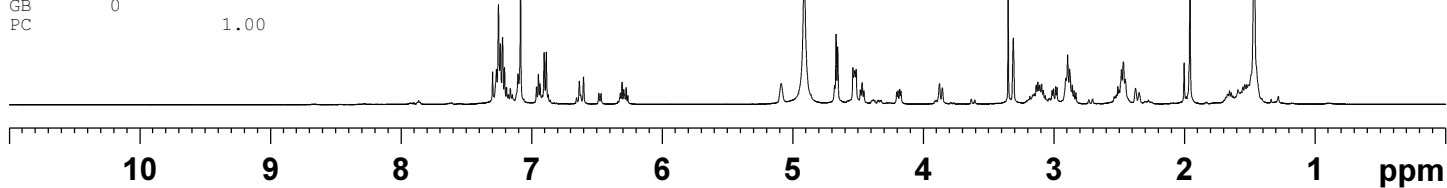
Current Data Parameters
 NAME TR3-161
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120410
 Time_ 13.43
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zg30
 TD 65536
 SOLVENT MeOD
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 7.73
 DW 50.000 usec
 DE 10.00 usec
 TE 296.0 K
 D1 2.0000000 sec
 TD0 1

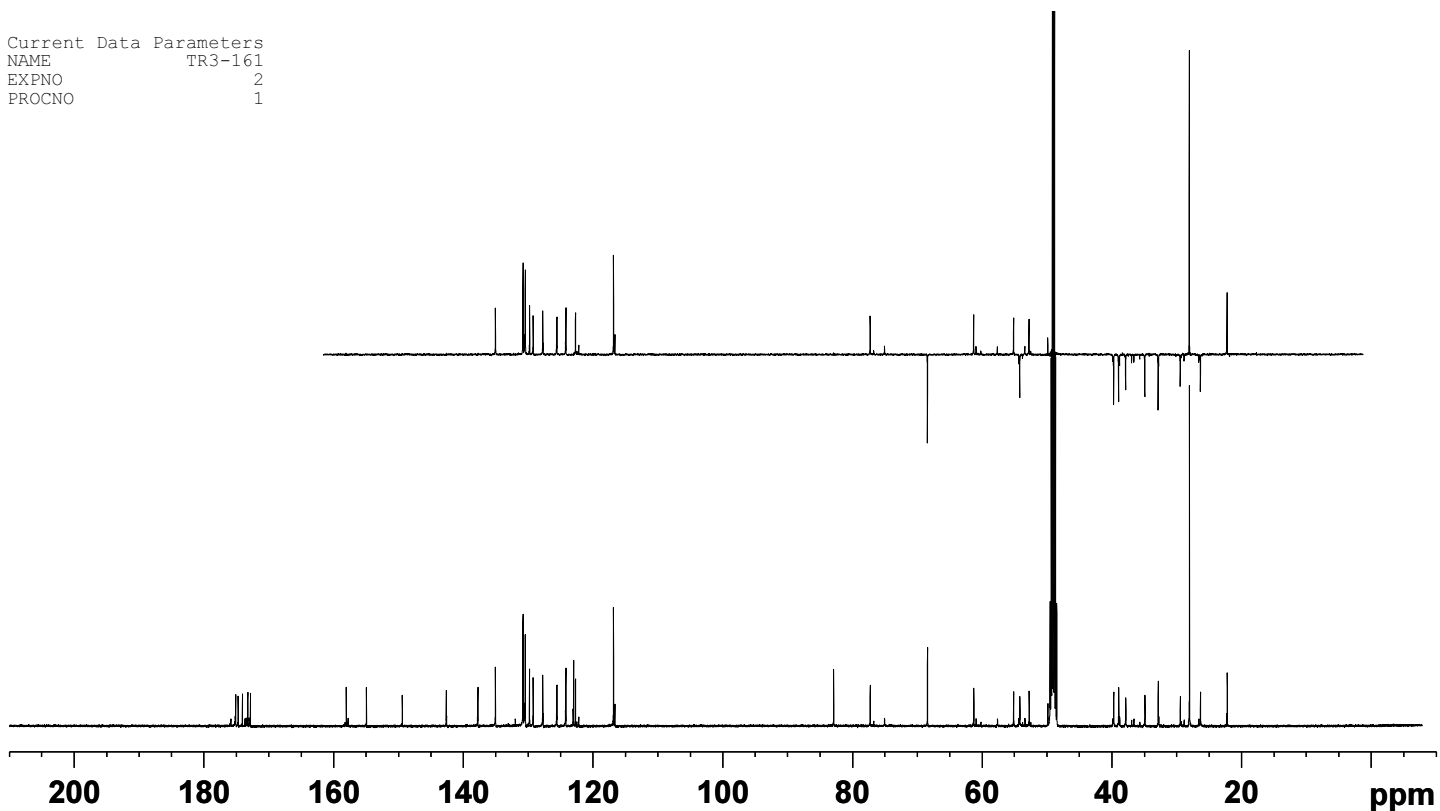


===== CHANNEL f1 =====
 NUC1 1H
 P1 10.00 usec
 PLW1 13.5000000 W
 SFO1 500.1330008 MHz

F2 - Processing parameters
 SI 65536
 SF 500.1300116 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



Current Data Parameters
 NAME TR3-161
 EXPNO 2
 PROCNO 1

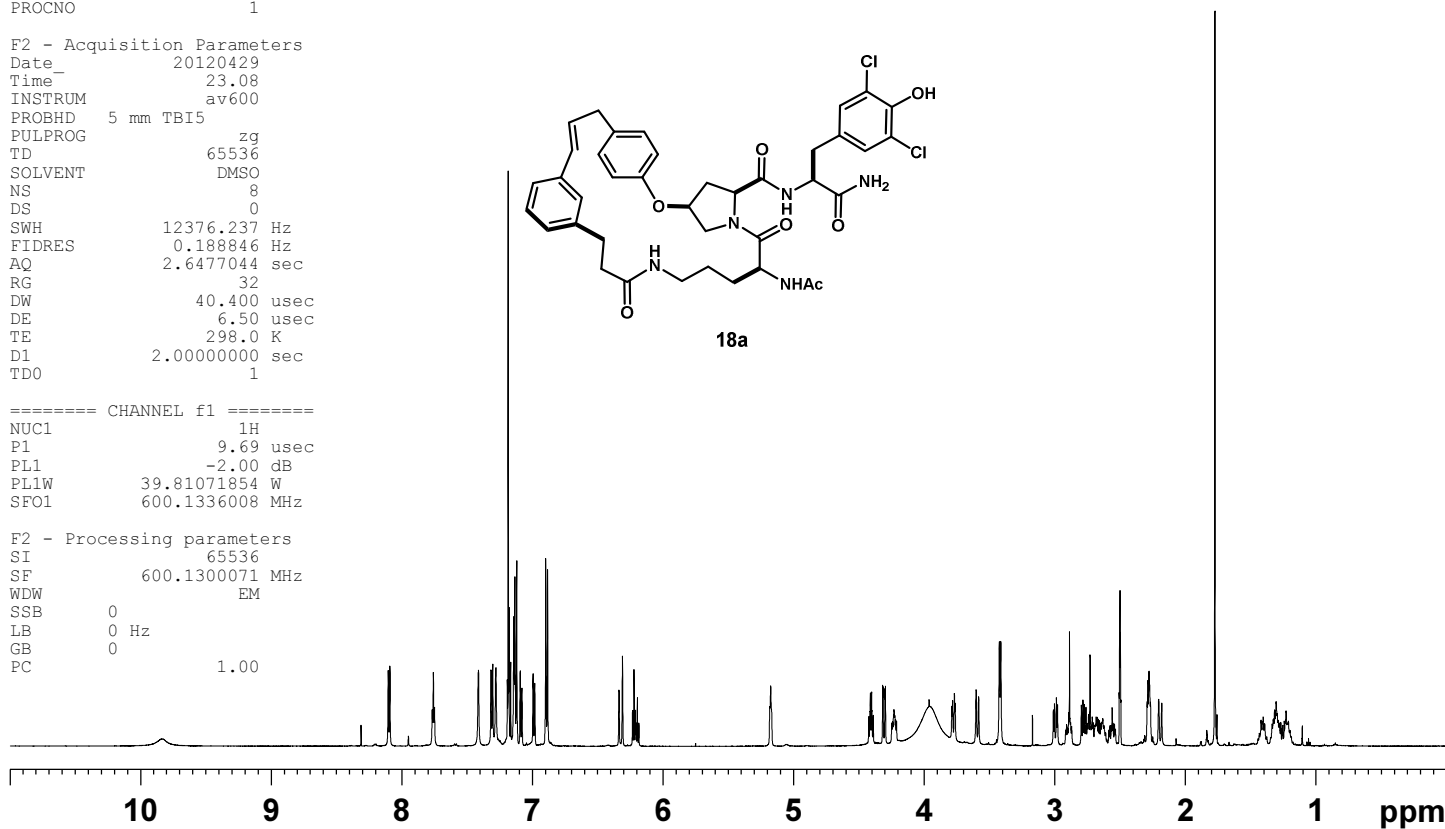
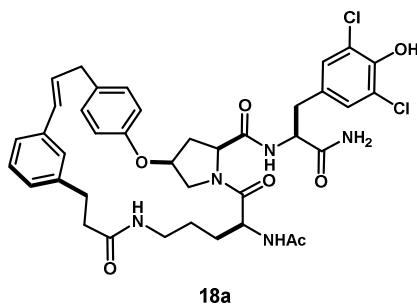


Current Data Parameters
NAME TR3-179B
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date 20120429
Time 23.08
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG zg
TD 65536
SOLVENT DMSO
NS 8
DS 0
SWH 12376.237 Hz
FIDRES 0.188846 Hz
AQ 2.6477044 sec
RG 32
DW 40.400 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 9.69 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1336008 MHz

F2 - Processing parameters
SI 65536
SF 600.1300071 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00



Current Data Parameters
NAME TR3-179B
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120429
Time_ 23.22
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmph
TD 2048
SOLVENT DMSO
NS 1
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 32
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00008046 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00018560 sec

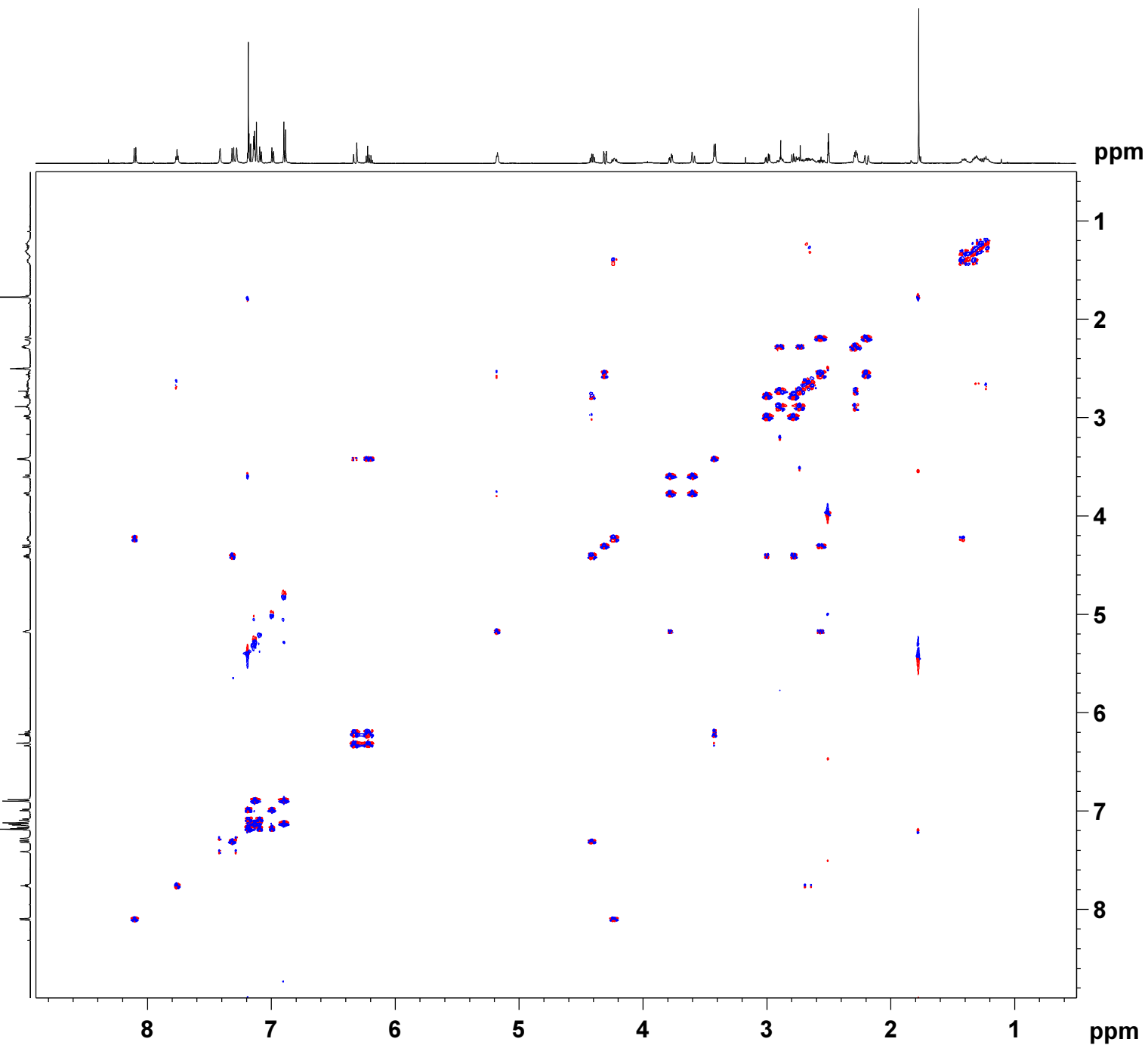
===== CHANNEL f1 =====
NUC1 1H
P1 9.69 usec
P2 19.38 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.1327 MHz
FIDRES 10.523297 Hz
SW 8.978 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300040 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300069 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-179B
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters

Date_ 20120429
Time 23.37
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG dipsi2etgpsi
TD 2048
SOLVENT DMSO
NS 8
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 114
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00000300 sec
D1 1.50000000 sec
D9 0.06000000 sec
D11 0.03000000 sec
D16 0.00020000 sec
D20 0.00001000 sec
D21 0.00001000 sec
IN0 0.00018560 sec
L1 14

===== CHANNEL f1 =====

NUC1 1H
P1 9.69 usec
P2 19.38 usec
P6 40.00 usec
PL1 -2.00 dB
PL10 10.31 dB
PL1W 39.81071854 W
PL10W 2.33883691 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====

GP1AM1 SINE.100
GP1AM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 30.00 %
GPZ2 30.00 %
P16 1000.00 usec

F1 - Acquisition parameters

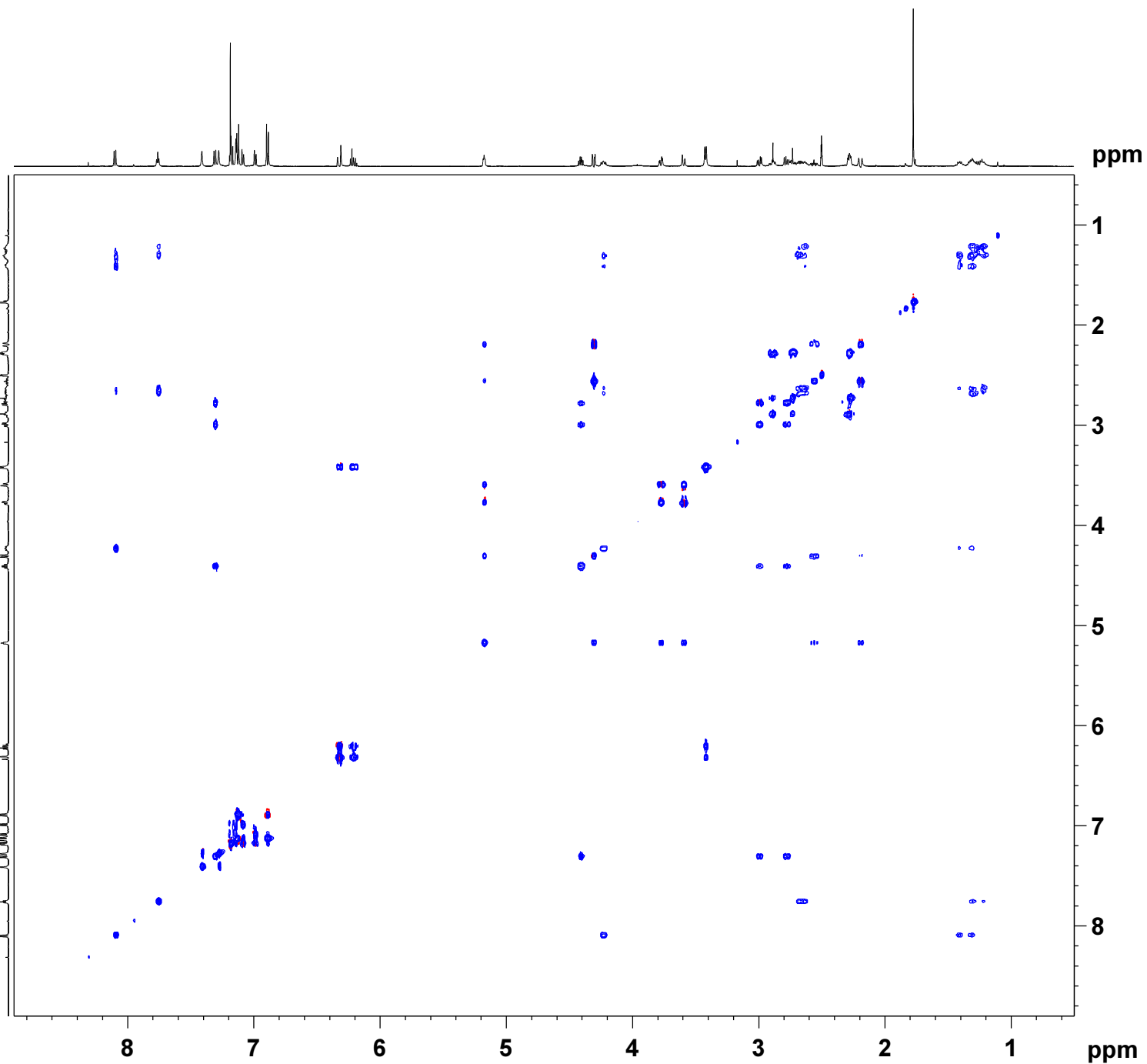
TD 128
SFO1 600.1327 MHz
FIDRES 42.093212 Hz
SW 8.978 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters

SI 4096
SF 600.1300084 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters

SI 4096
MC2 echo-antiecho
SF 600.1300078 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-179B
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120430
Time 0.08
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hsqcetgpgpsisp
TD 2048
SOLVENT DMSO
NS 4
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 16384
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
D0 0.00000300 sec
D1 1.00000000 sec
D4 0.00172414 sec
D11 0.03000000 sec
D16 0.00020000 sec
D24 0.00086200 sec
IN0 0.00002070 sec
ZGPTNS

===== CHANNEL f1 =====
NUC1 1H
P1 9.69 usec
P2 19.38 usec
P28 1000.00 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

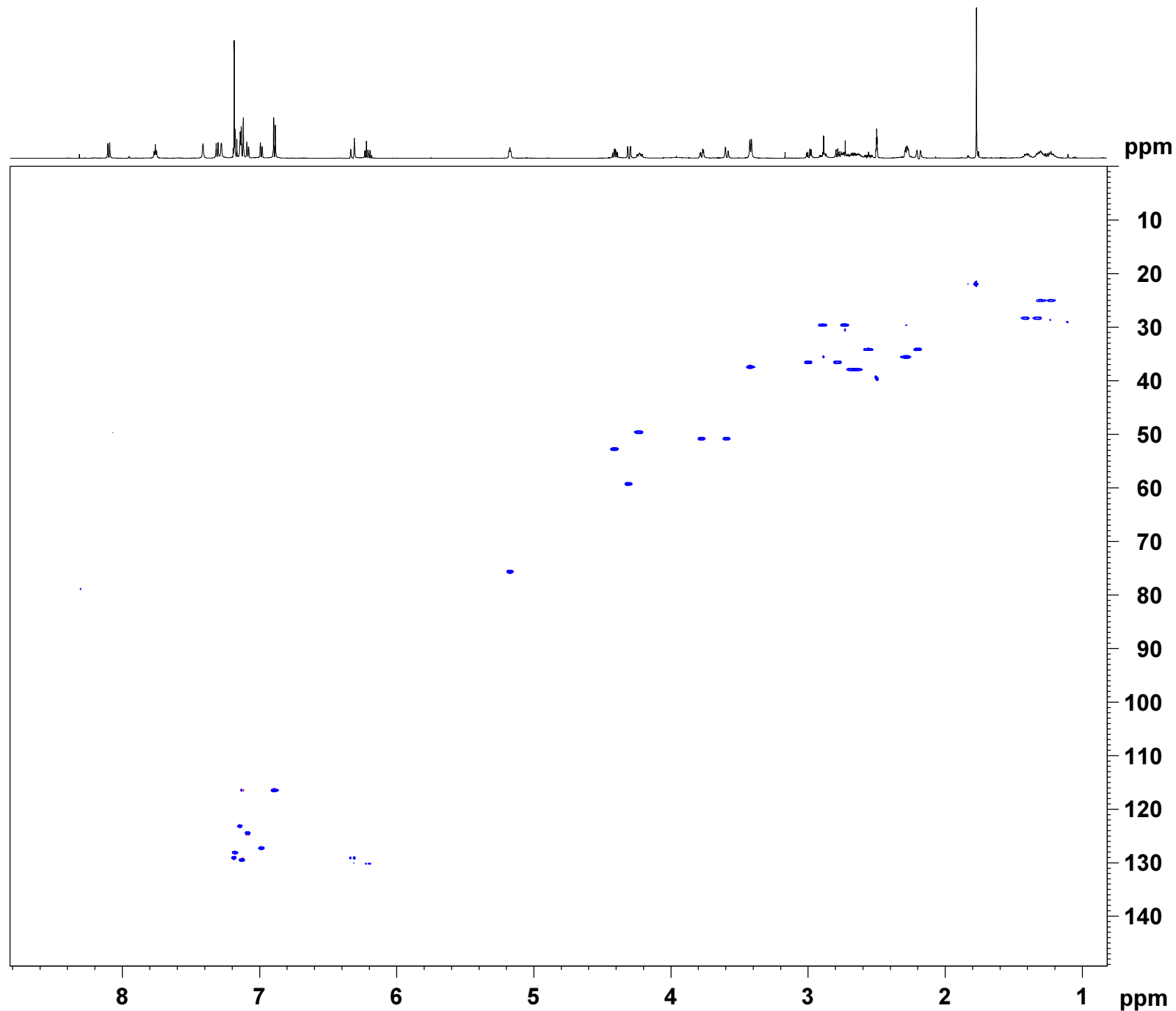
===== CHANNEL f2 =====
CPDPRG2 garp
NUC2 13C
P3 18.50 usec
P4 37.00 usec
P14 1000.00 usec
PCPD2 65.00 usec
PL0 120.00 dB
PL2 -3.00 dB
PL12 7.91 dB
PL0W 0 W
PL2W 150.35617065 W
PL12W 12.19330025 W
SFO2 150.9133722 MHz
SP3 4.59 dB
SPNAM3 Crp80,0.5,20.1
SFOAL3 0.500
SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 80.00 %
GPZ2 20.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 150.9134 MHz
FIDRES 47.160427 Hz
SW 160.000 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 600.1300051 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 echo-antiecho
SF 150.9029223 MHz
WDW
SSB 2
LB 0 Hz
GB 0



```

Current Data Parameters
NAME      TR3-179B
EXPNO     6
PROCNO    1

F2 - Acquisition Parameters
Date_     20120430
Time      0.50
INSTRUM   av600
PROBHD    5 mm TBI5
PULPROG   hmbcgp12ndqf
TD         2048
SOLVENT    DMSO
NS         16
DS         24
SWH        6009.615 Hz
FIDRES     2.934382 Hz
AQ         0.1704436 sec
RG         26008
DW         83.200 usec
DE         6.00 usec
TE         298.0 K
CNST6      125.0000000
CNST7      165.0000000
CNST13     8.0000000
D0         0.00000300 sec
D1         1.20000005 sec
D6         0.06250000 sec
D16        0.00020000 sec
IN0        0.00001745 sec

===== CHANNEL f1 =====
NUC1       1H
P1         9.69 usec
P2         19.38 usec
PL1        -2.00 dB
PL1W       39.81071854 W
SFO1       600.1327006 MHz

===== CHANNEL f2 =====
NUC2       13C
P3         18.50 usec
PL2        -3.00 dB
PL2W       150.35617065 W
SFO2       150.9156357 MHz

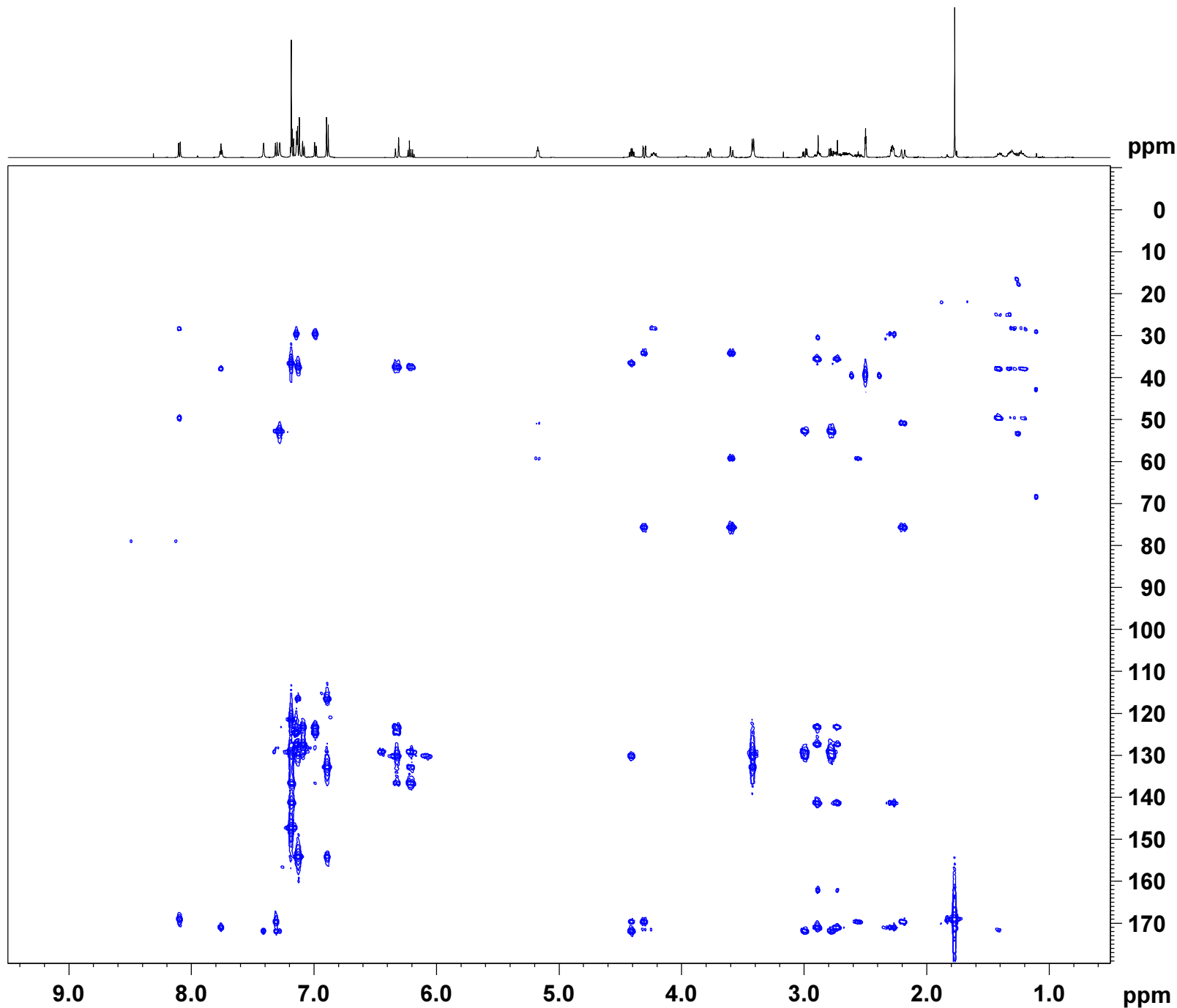
===== GRADIENT CHANNEL =====
GPNAM1     SINE.100
GPNAM2     SINE.100
GPNAM3     SINE.100
GPNAM4     SINE.100
GPNAM5     SINE.100
GPNAM6     SINE.100
GPX1       0 %
GPX2       0 %
GPX3       0 %
GPX4       0 %
GPX5       0 %
GPX6       0 %
GPY1       0 %
GPY2       0 %
GPY3       0 %
GPY4       0 %
GPY5       0 %
GPY6       0 %
GPZ1       50.00 %
GPZ2       30.00 %
GPZ3       40.10 %
GPZ4       15.00 %
GPZ5       -10.00 %
GPZ6       -5.00 %
P16        1000.00 usec

F1 - Acquisition parameters
TD         256
SFO1       150.9156 MHz
FIDRES     112.007698 Hz
SW         190.000 ppm
FnMODE     QF

F2 - Processing parameters
SI         4096
SF         600.1300062 MHz
WDW        QSINE
SSB        2
LB         0 Hz
GB         0
PC         1.40

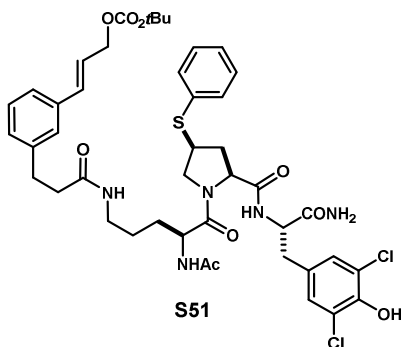
F1 - Processing parameters
SI         4096
MC2        QF
SF         150.9029073 MHz
WDW        QF
SSB        2
LB         0 Hz
GB         0

```



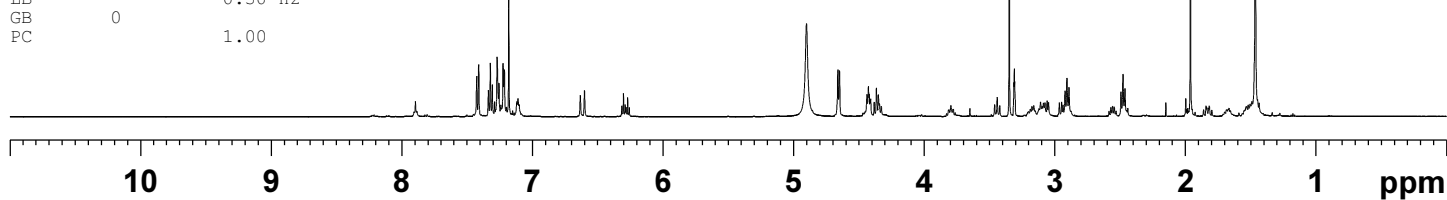
Current Data Parameters
 NAME TR3-166
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120413
 Time_ 10.45
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zg30
 TD 65536
 SOLVENT MeOD
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 7.73
 DW 50.000 usec
 DE 10.00 usec
 TE 296.0 K
 D1 2.00000000 sec
 TD0 1

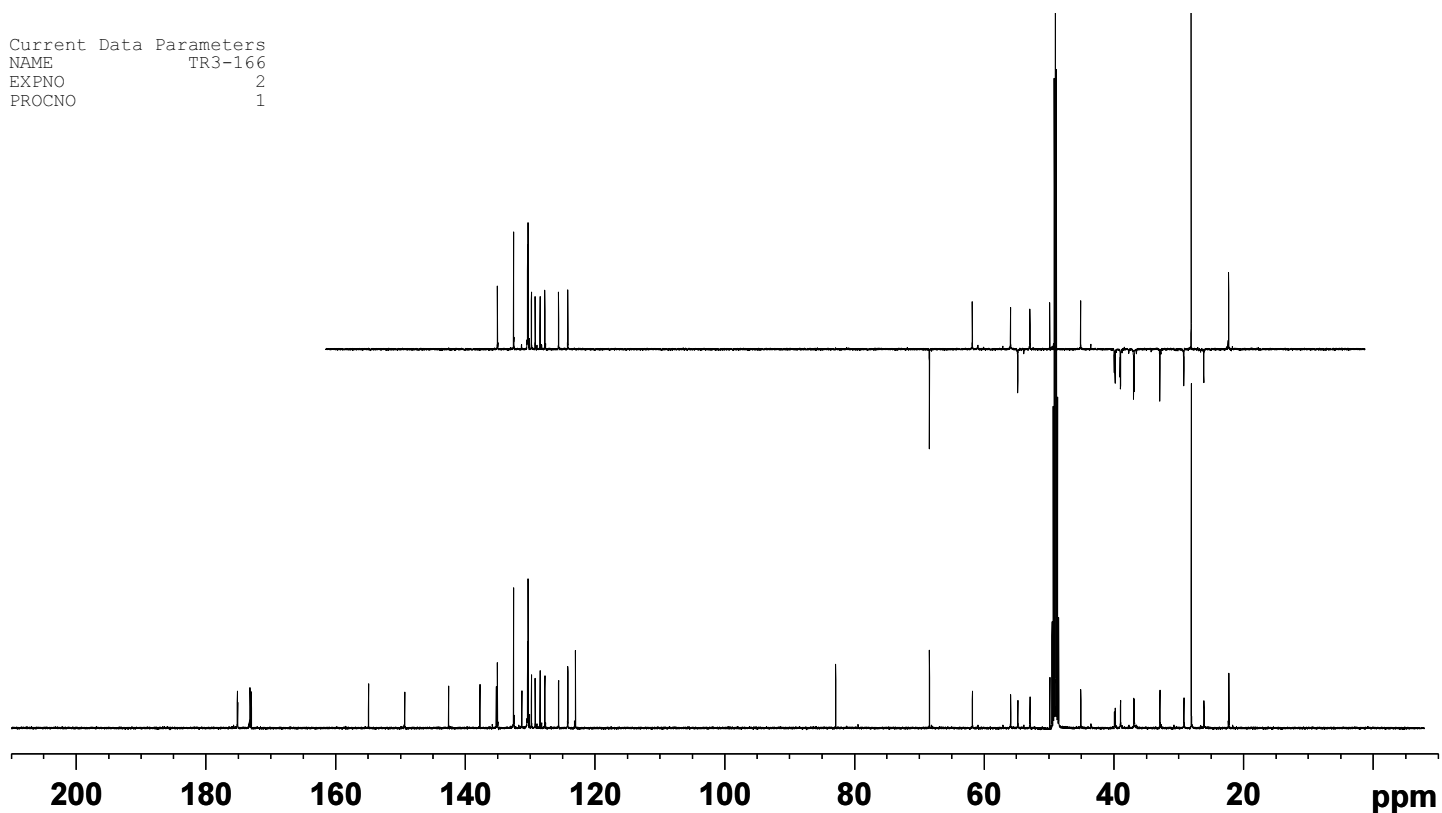


===== CHANNEL f1 =====
 NUC1 1H
 P1 10.00 usec
 PLW1 13.50000000 W
 SFO1 500.1330008 MHz

F2 - Processing parameters
 SI 65536
 SF 500.1300112 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

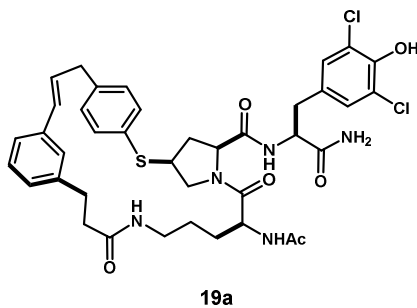


Current Data Parameters
 NAME TR3-166
 EXPNO 2
 PROCNO 1



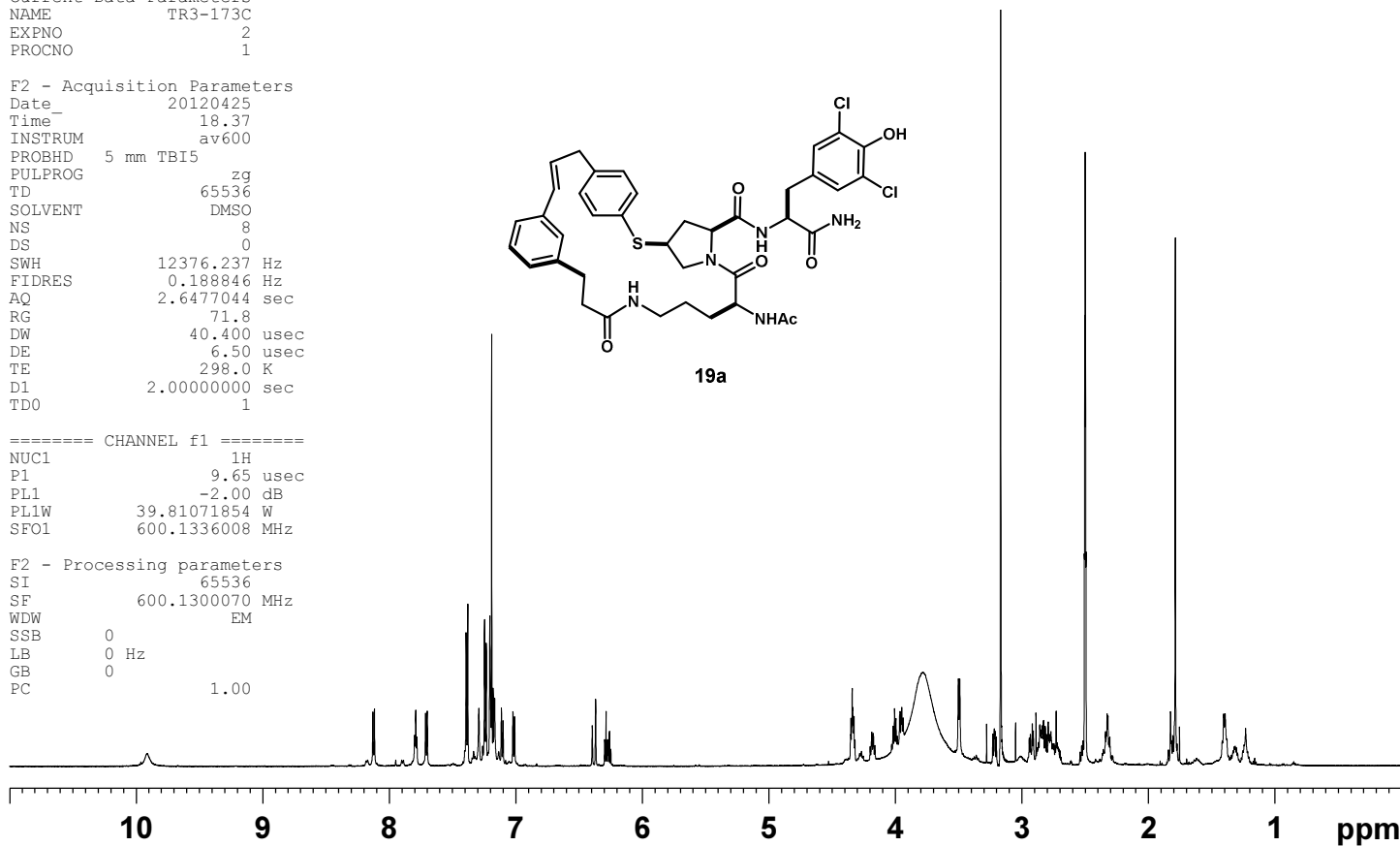
Current Data Parameters
 NAME TR3-173C
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date 20120425
 Time 18.37
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 71.8
 DW 40.400 usec
 DE 6.50 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1



===== CHANNEL f1 =====
 NUC1 1H
 P1 9.65 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300070 MHz
 WDW EM
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME TR3-173C
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120425
Time 18.54
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 71.8
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00008018 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00018560 sec

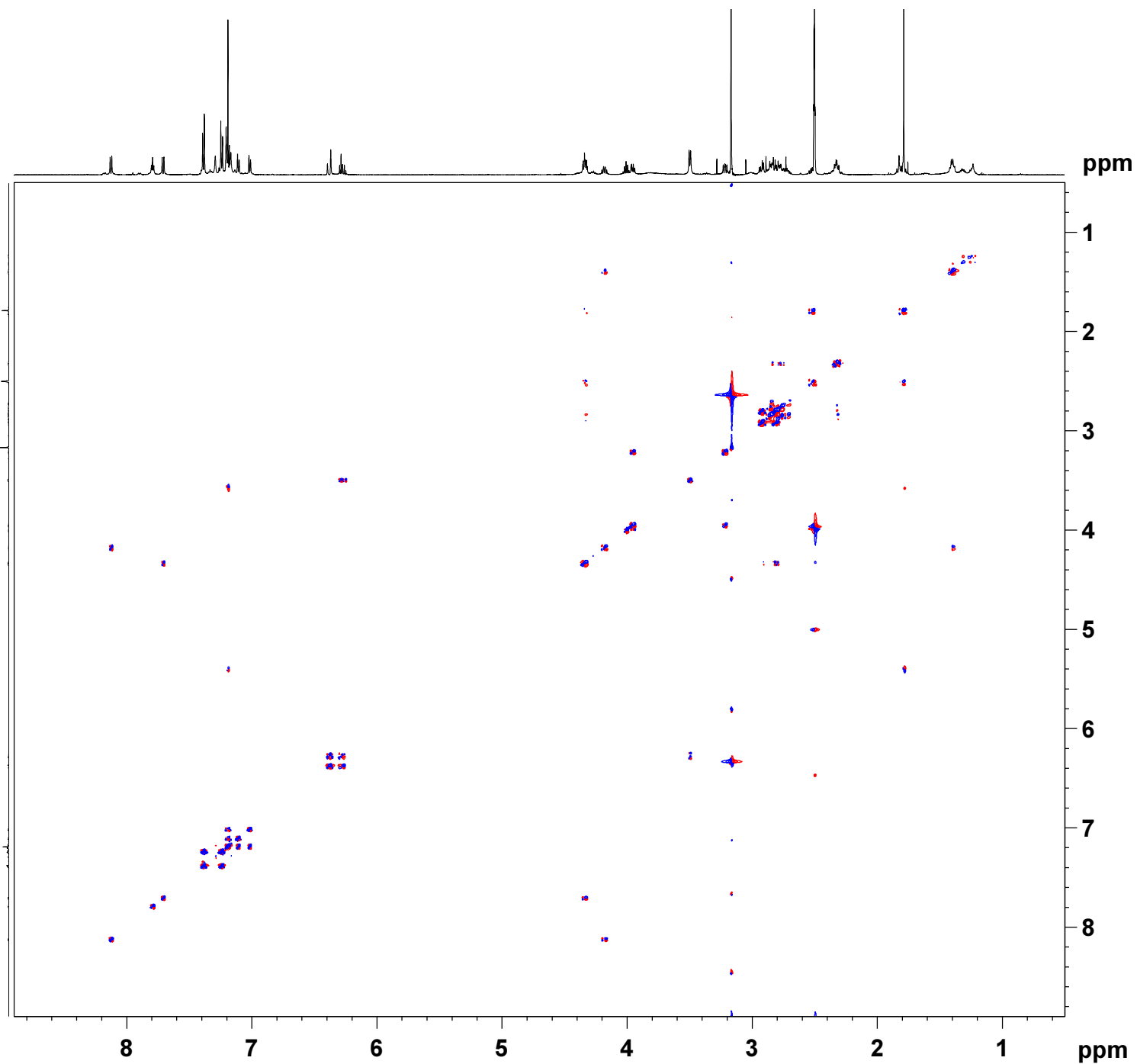
===== CHANNEL f1 =====
NUC1 1H
P1 9.91 usec
P2 19.82 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.1327 MHz
FIDRES 10.523297 Hz
SW 8.978 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300086 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300064 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
 NAME TR3-173C
 EXPNO 4
 PROCNO 1

F2 - Acquisition Parameters

Date_ 20120425
 Time 19.24
 INSTRUM av600
 PROBD 5 mm TBI5
 PULPROG dipsi2etgpsi
 TD 2048
 SOLVENT DMSO
 NS 8
 DS 16
 SWH 5387.931 Hz
 FIDRES 2.630826 Hz
 AQ 0.1901044 sec
 RG 128
 DW 92.800 usec
 DE 6.50 usec
 TE 298.0 K
 D0 0.00000300 sec
 D1 1.50000000 sec
 D9 0.06000000 sec
 D11 0.03000000 sec
 D16 0.00020000 sec
 D20 0.00001000 sec
 D21 0.00001000 sec
 IN0 0.00018560 sec
 L1 14

===== CHANNEL f1 =====

NUC1 1H
 P1 9.91 usec
 P2 19.82 usec
 P6 40.00 usec
 PL1 -2.00 dB
 PL10 10.12 dB
 PL1W 39.81071854 W
 PL10W 2.44343066 W
 SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====

GPAM1 SINE.100
 GPAM2 SINE.100
 GPX1 0 %
 GPX2 0 %
 GPY1 0 %
 GPY2 0 %
 GPZ1 30.00 %
 GPZ2 30.00 %
 P16 1000.00 usec

F1 - Acquisition parameters

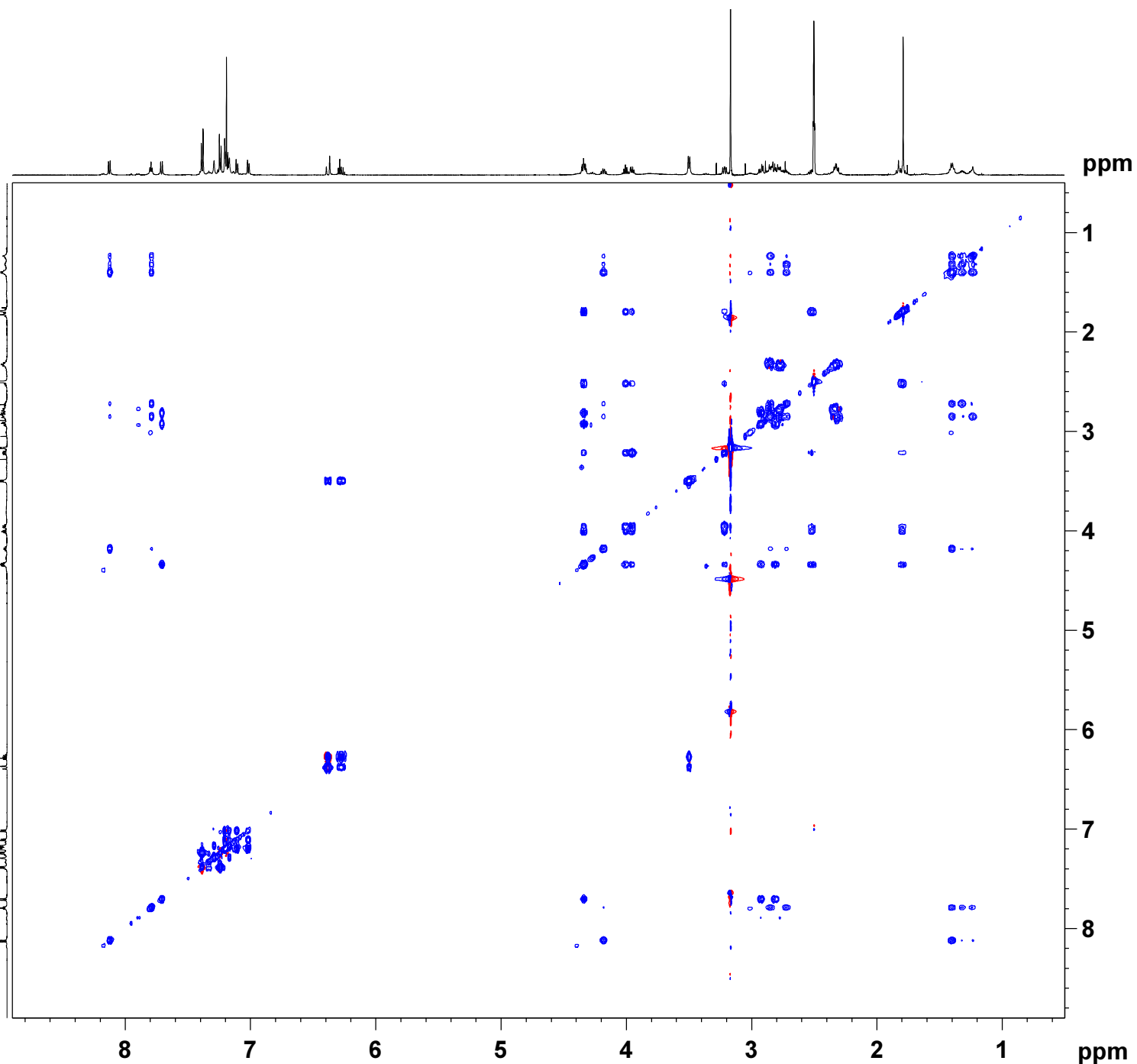
TD 256
 SFO1 600.1327 MHz
 FIDRES 21.046606 Hz
 SW 8.978 ppm
 FnmODE Echo-Antiecho

F2 - Processing parameters

SI 4096
 SF 600.1300062 MHz
 WDW QSINE
 SSB 2
 LB 0 Hz
 GB 0
 PC 1.00

F1 - Processing parameters

SI 4096
 MC2 echo-antiecho
 SF 600.1300062 MHz
 WDW
 SSB 2
 LB 0 Hz
 GB 0



Current Data Parameters
 NAME TR3-173C
 EXPNO 5
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120425
 Time 20.26
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG hsqcetgpsisp
 TD 2048
 SOLVENT DMSO
 NS 8
 DS 16
 SWH 6009.615 Hz
 FIDRES 2.934382 Hz
 AQ 0.1704436 sec
 RG 18390.4
 DW 83.200 usec
 DE 6.00 usec
 TE 298.0 K
 CNST2 145.0000000
 D0 0.00000300 sec
 D1 1.00000000 sec
 D4 0.00172414 sec
 D11 0.03000000 sec
 D16 0.00020000 sec
 D24 0.00086200 sec
 IN0 0.00002070 sec
 ZGOPTNS

===== CHANNEL f1 =====
 NUC1 1H
 P1 9.91 usec
 P2 19.82 usec
 P28 1000.00 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1327006 MHz

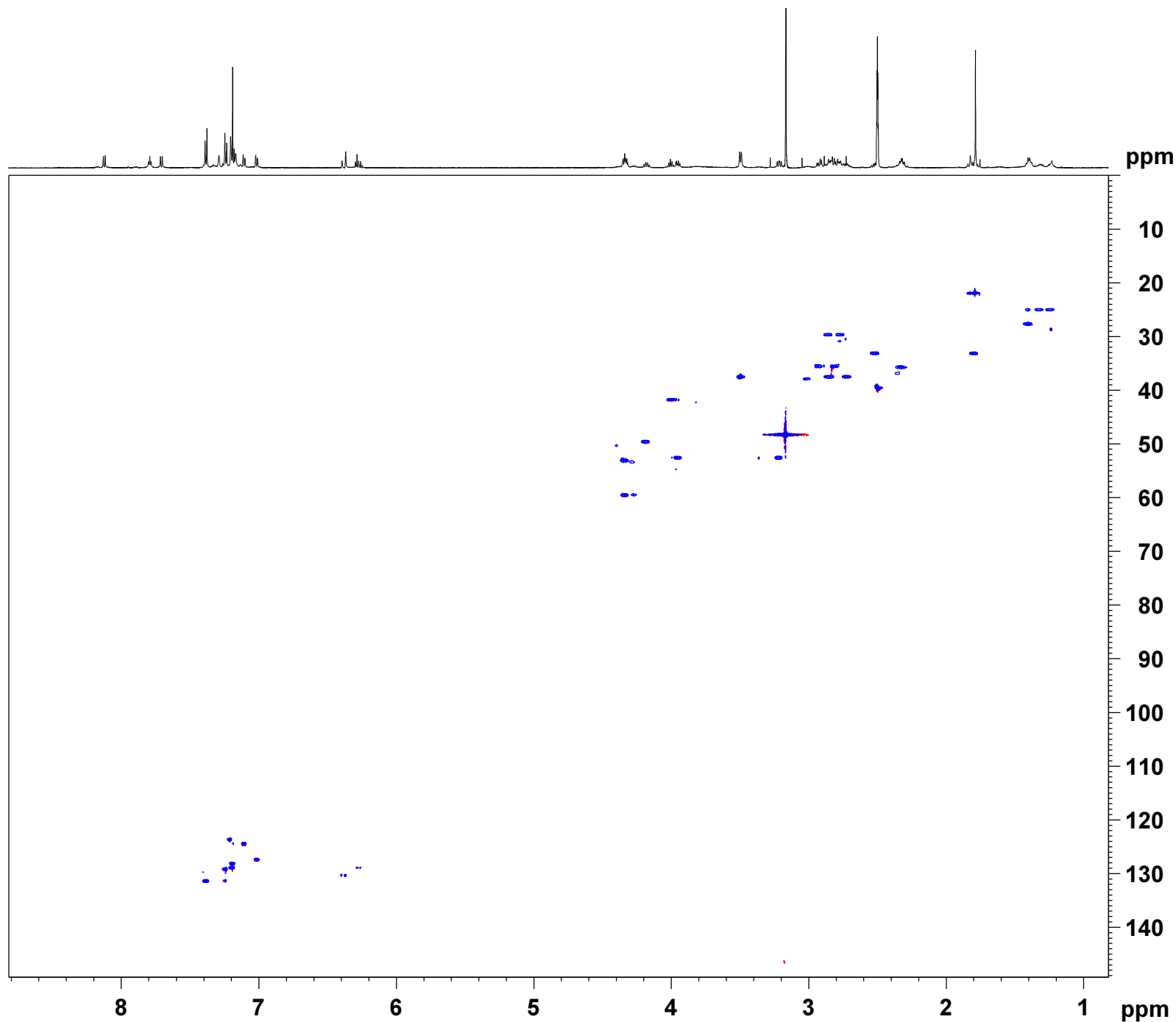
===== CHANNEL f2 =====
 CPDPRG2 garp
 NUC2 13C
 P3 18.50 usec
 P4 37.00 usec
 P14 1000.00 usec
 PCPD2 65.00 usec
 PL0 120.00 dB
 PL2 -3.00 dB
 PL12 7.91 dB
 PL0W 0 W
 PL2W 150.35617065 W
 PL12W 12.19330025 W
 SFO2 150.9133722 MHz
 SP3 4.59 dB
 SPNAM3 Crp80,0.5,20.1
 SPOAL3 0.500
 SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
 GPNAM1 SINE.100
 GPNAM2 SINE.100
 GPX1 0 %
 GPX2 0 %
 GPY1 0 %
 GPY2 0 %
 GPZ1 80.00 %
 GPZ2 20.10 %
 P16 1000.00 usec

F1 - Acquisition parameters
 TD 512
 SFO1 150.9134 MHz
 FIDRES 47.160427 Hz
 SW 160.000 ppm
 FnMODE Echo-Antiecho

F2 - Processing parameters
 SI 4096
 SF 600.1300046 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

F1 - Processing parameters
 SI 4096
 MC2 echo-antiecho
 SF 150.9029195 MHz
 WDW
 SSB 2
 LB 0 Hz
 GB 0



Current Data Parameters
NAME TR3-173C
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120425
Time_ 21.49
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hmbcgp12ndqf
TD 2048
SOLVENT DMSO
NS 34
DS 24
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST6 125.0000000
CNST7 165.0000000
CNST13 8.0000000
D0 0.00000300 sec
D1 1.20000005 sec
D6 0.06250000 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 9.91 usec
P2 19.82 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

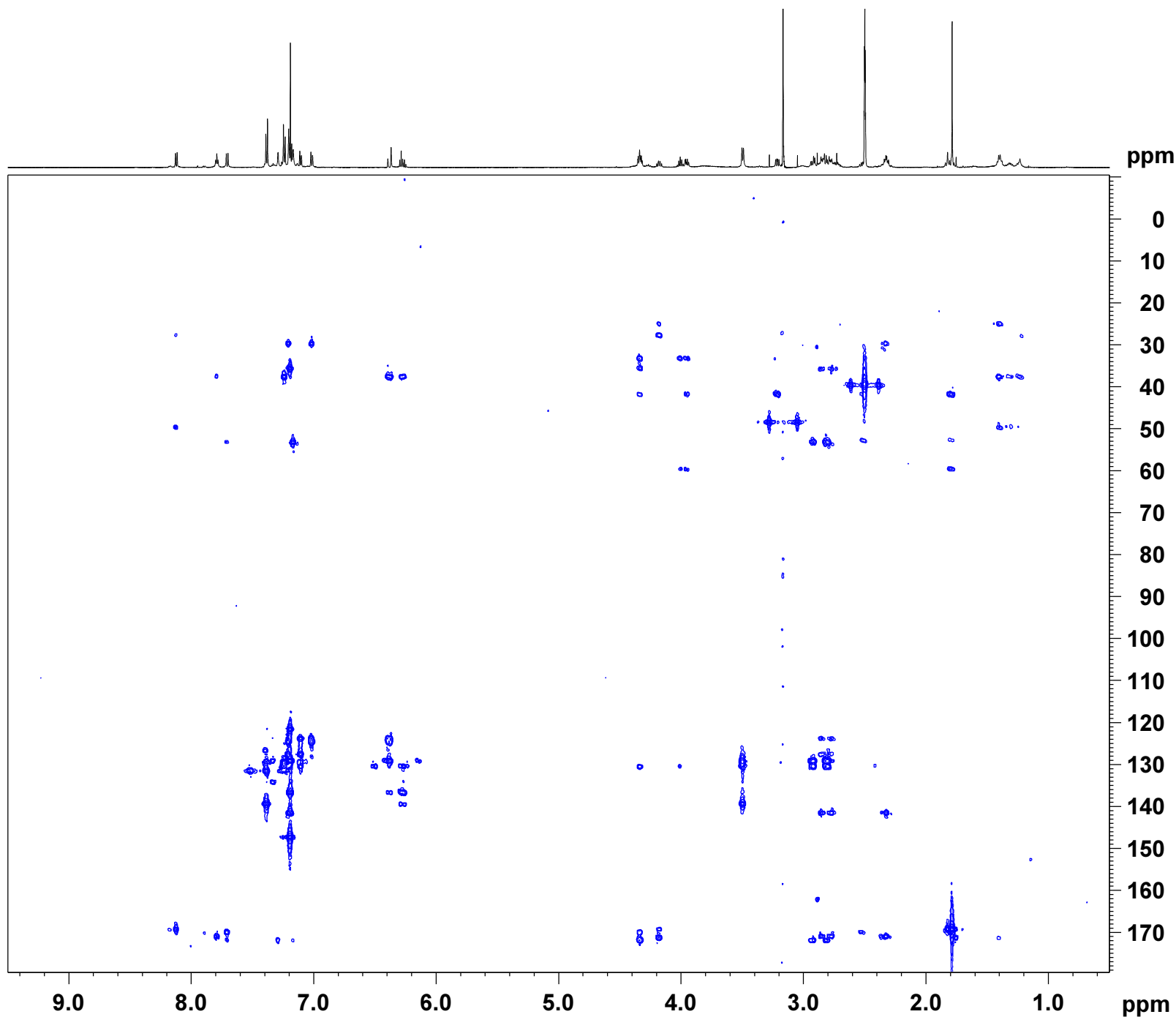
===== CHANNEL f2 =====
NUC2 13C
P3 18.50 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPNAM4 SINE.100
GPNAM5 SINE.100
GPNAM6 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPX4 0 %
GPX5 0 %
GPX6 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPY4 0 %
GPY5 0 %
GPY6 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
GPZ4 15.00 %
GPZ5 -10.00 %
GPZ6 -5.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 150.9156 MHz
FIDRES 112.007698 Hz
SW 190.000 ppm
FnMODE QF

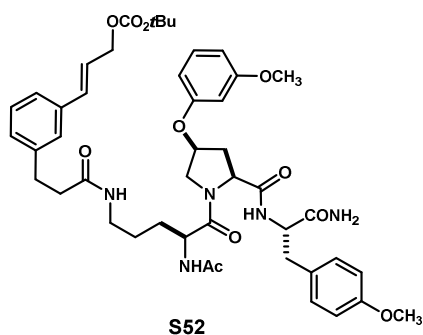
F2 - Processing parameters
SI 4096
SF 600.1300059 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9029068 MHz
WDW
SSB
LB 0 Hz
GB 0



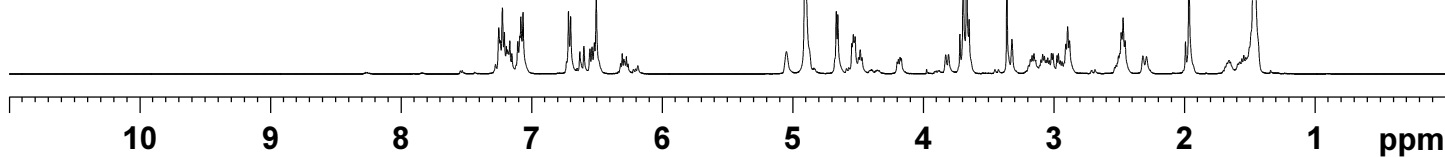
Current Data Parameters
 NAME TR4-236B
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20130801
 Time_ 17.08
 INSTRUM drx500
 PROBHD 5 mm bb-Z Z800
 PULPROG zg30
 TD 65536
 SOLVENT MeOD
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 25.4
 DW 50.000 usec
 DE 6.00 usec
 TE 296.7 K
 D1 2.00000000 sec
 TD0 1

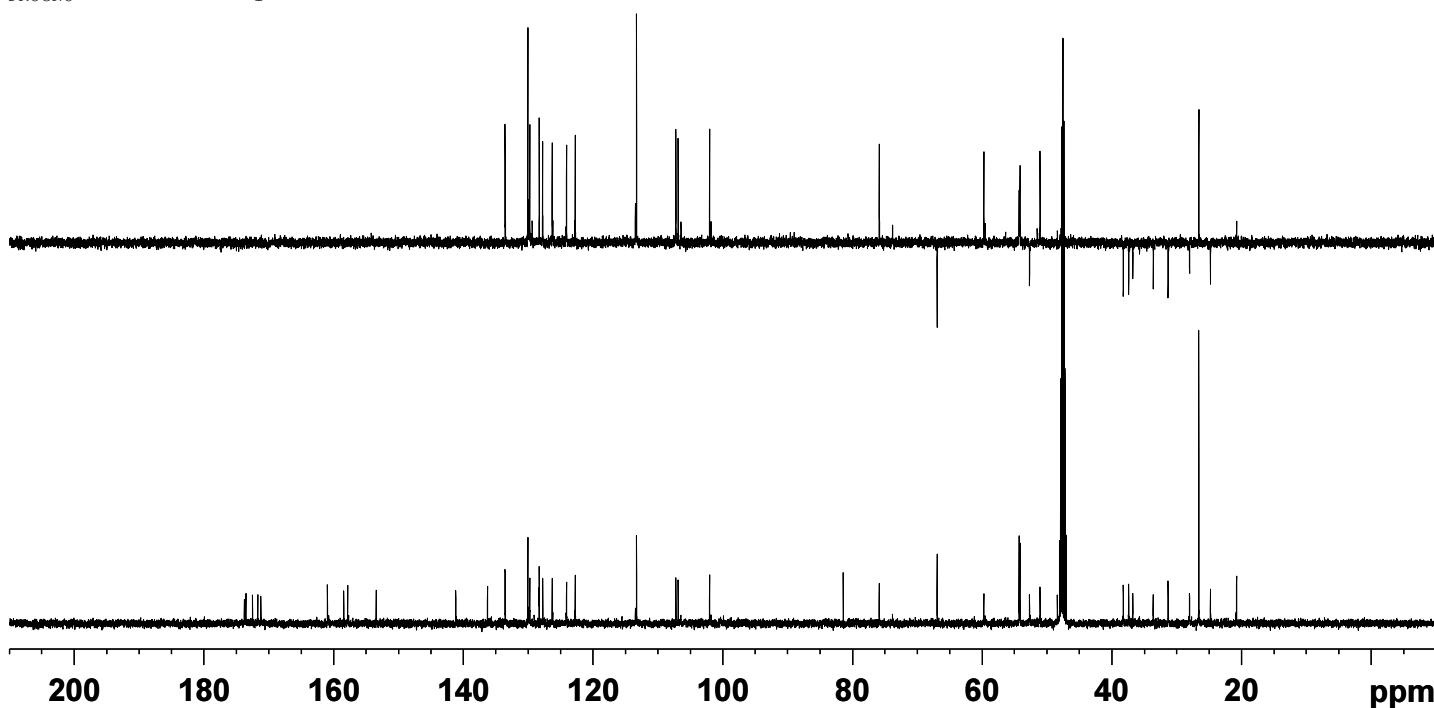


===== CHANNEL f1 =====
 NUC1 1H
 P1 13.30 usec
 PL1 0 dB
 SFO1 500.3330020 MHz

F2 - Processing parameters
 SI 32768
 SF 500.3300041 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

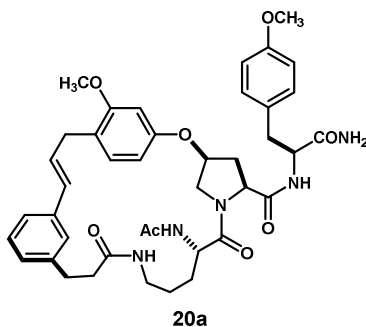


Current Data Parameters
 NAME TR4-236B
 EXPNO 2
 PROCNO 1



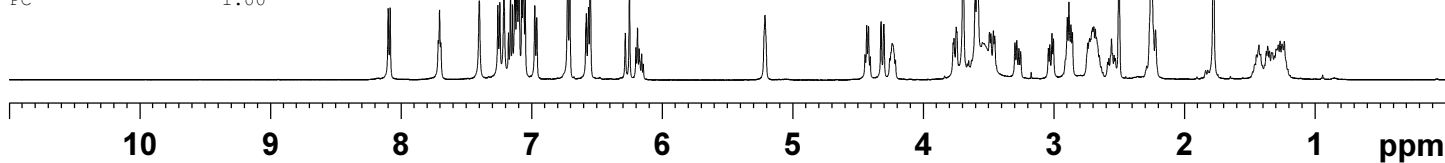
Current Data Parameters
 NAME TR4-252C
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20130812
 Time_ 19.25
 INSTRUM drx500
 PROBHD 5 mm bb-Z Z800
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 32
 DW 50.000 usec
 DE 6.00 usec
 TE 300.0 K
 D1 2.00000000 sec
 TD0 1

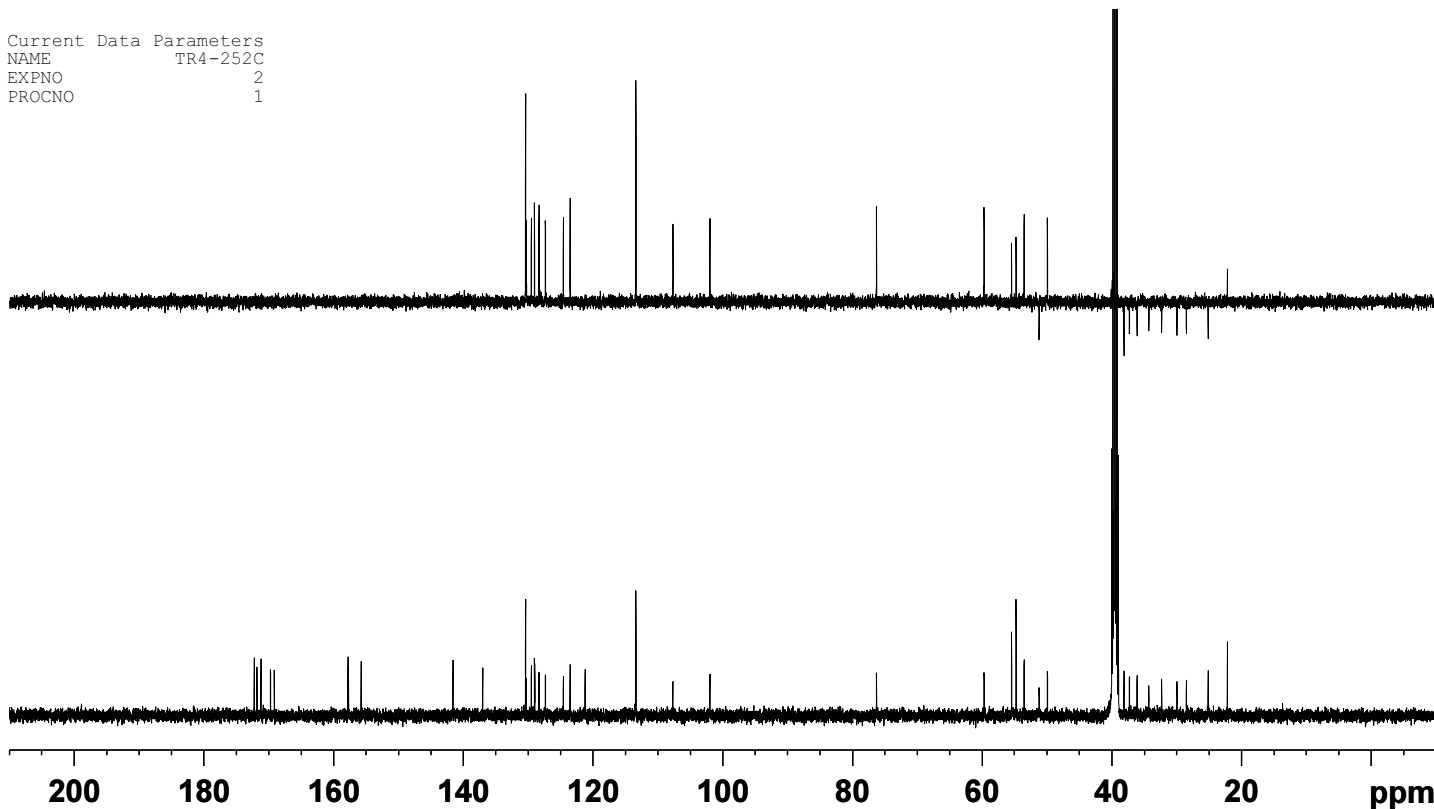


===== CHANNEL f1 =====
 NUC1 1H
 P1 13.35 usec
 PL1 0 dB
 SF01 500.3330020 MHz

F2 - Processing parameters
 SI 32768
 SF 500.3300040 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



Current Data Parameters
 NAME TR4-252C
 EXPNO 2
 PROCNO 1



Current Data Parameters
NAME TR4-252C
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130812
Time_ 19.43
INSTRUM dirx500
PROBHD 5 mm bb-Z Z800
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 2
DS 8
SWH 5000.000 Hz
FIDRES 2.441406 Hz
AQ 0.2048500 sec
RG 32
DW 100.000 usec
DE 6.00 usec
TE 300.0 K
d0 0.00008300 sec
D1 1.20000005 sec
d13 0.00000400 sec
D16 0.00010000 sec
d20 0.00160400 sec
IN0 0.00020000 sec
ST1CNT 0

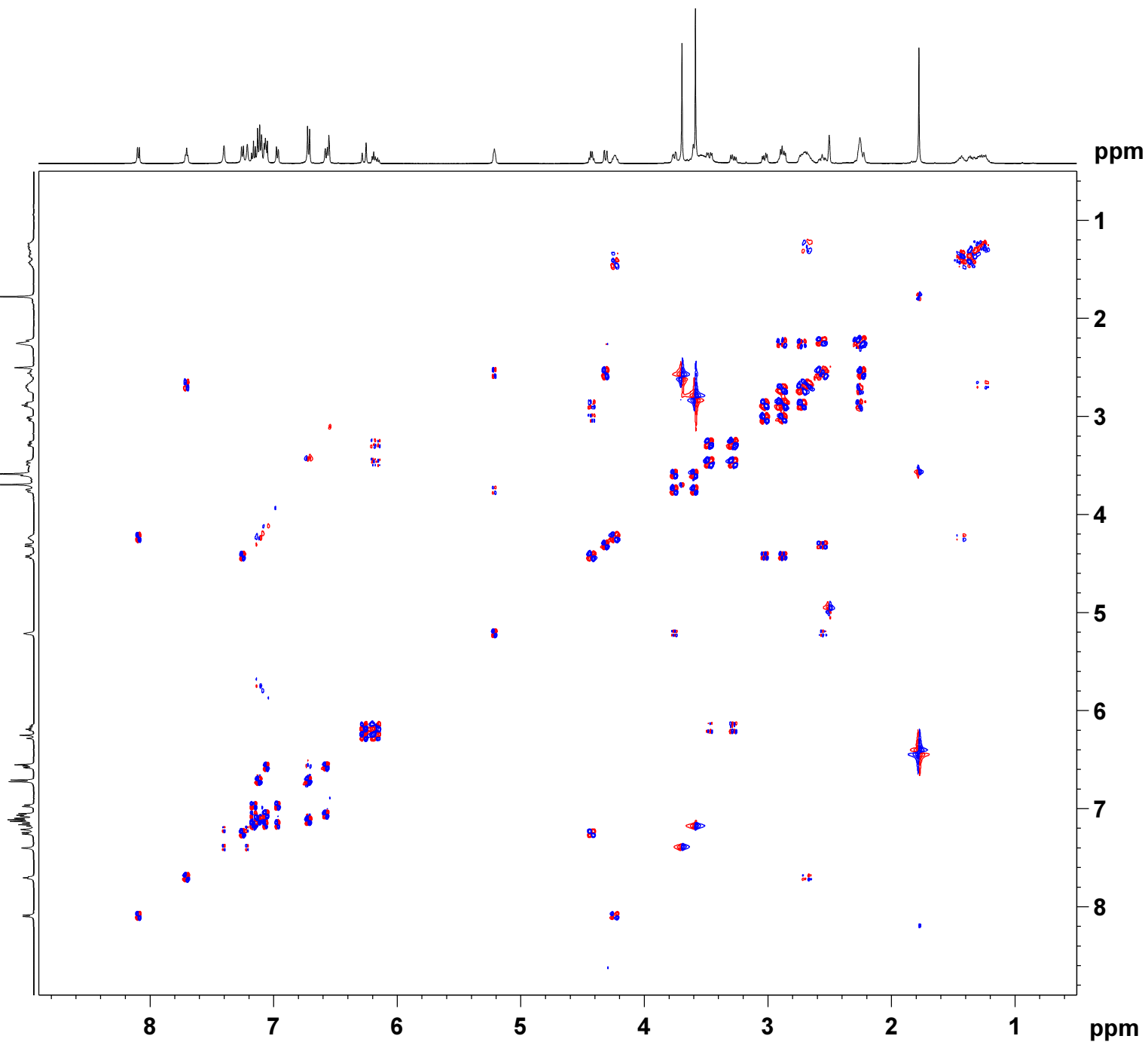
===== CHANNEL f1 =====
NUC1 1H
P1 13.35 usec
p2 26.70 usec
PL1 0 dB
SFO1 500.3325016 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPZ1 10.00 %
GPZ2 20.00 %
P16 1500.00 usec

F1 - Acquisition parameters
TD 512
SFO1 500.3325 MHz
FIDRES 9.765625 Hz
SW 9.993 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 500.3300038 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 500.3300041 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
 NAME TR4-252A
 EXPNO 6
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20130814
 Time 19.34
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG hsqcetgpsisp
 TD 2048
 SOLVENT DMSO
 NS 6
 DS 16
 SWH 6009.615 Hz
 FIDRES 2.934382 Hz
 AQ 0.1704436 sec
 RG 16384
 DW 83.200 usec
 DE 6.00 usec
 TE 298.1 K
 CNST2 145.0000000
 D0 0.00000300 sec
 D1 1.00000000 sec
 D4 0.00172414 sec
 D11 0.03000000 sec
 D16 0.00020000 sec
 D24 0.00086200 sec
 IN0 0.00002070 sec
 ZGOPTNS

===== CHANNEL f1 =====
 NUC1 1H
 P1 9.75 usec
 P2 19.50 usec
 P28 1000.00 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1330006 MHz

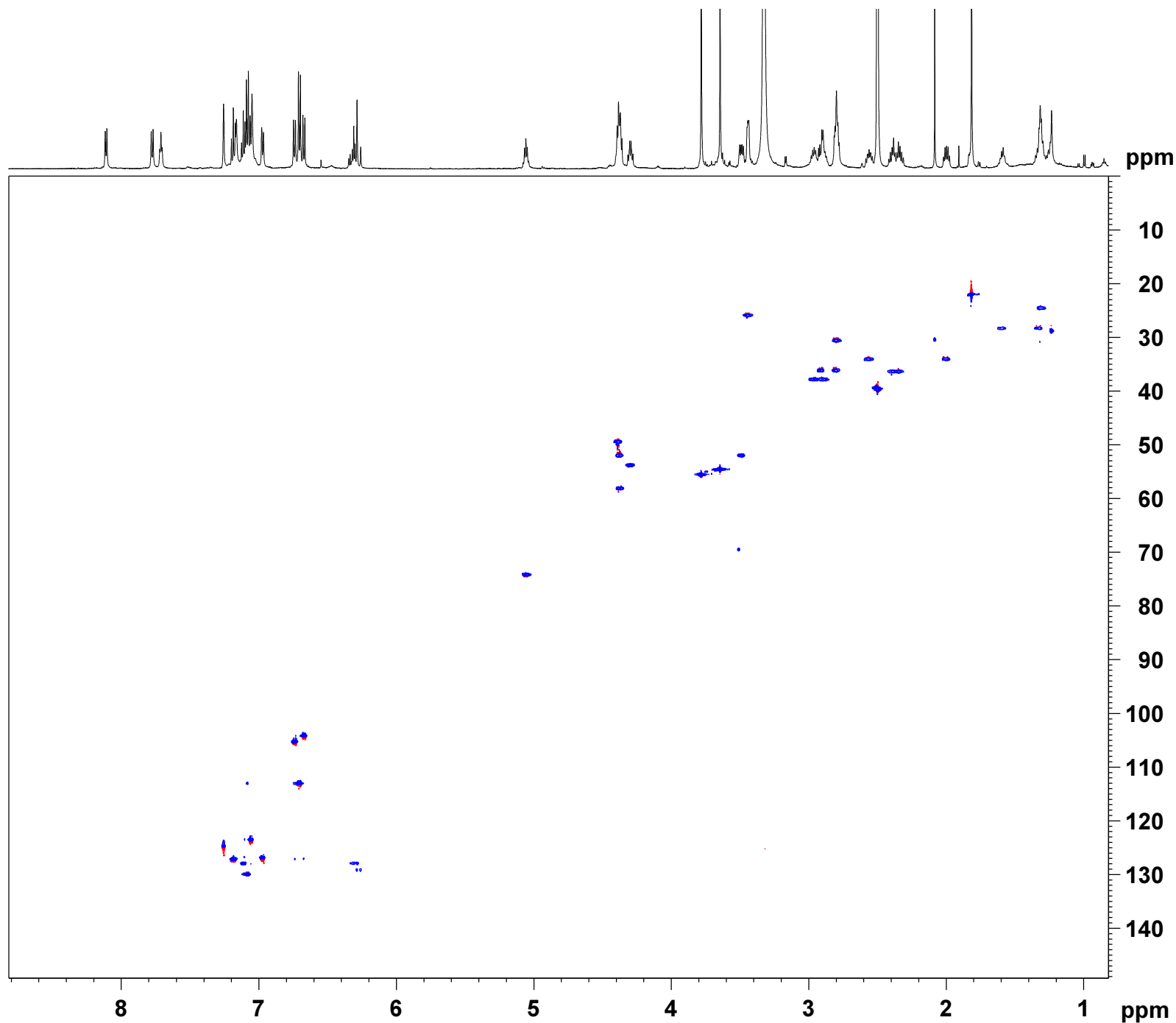
===== CHANNEL f2 =====
 CPDPRG2 garp
 NUC2 13C
 P3 19.52 usec
 P4 39.04 usec
 P14 1000.00 usec
 PCPD2 65.00 usec
 PL0 120.00 dB
 PL2 -3.00 dB
 PL12 7.45 dB
 PL0W 0 W
 PL2W 150.35617065 W
 PL12W 13.55567932 W
 SFO2 150.9133722 MHz
 SP3 4.12 dB
 SPNAM3 Crp80,0.5,20.1
 SPOAL3 0.500
 SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
 GPNAM1 SINE.100
 GPNAM2 SINE.100
 GPX1 0 %
 GPX2 0 %
 GPY1 0 %
 GPY2 0 %
 GPZ1 80.00 %
 GPZ2 20.10 %
 P16 1000.00 usec

F1 - Acquisition parameters
 TD 512
 SFO1 150.9134 MHz
 FIDRES 47.160427 Hz
 SW 160.000 ppm
 FnMODE Echo-Antiecho

F2 - Processing parameters
 SI 4096
 SF 600.1300051 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

F1 - Processing parameters
 SI 4096
 MC2 echo-antiecho
 SF 150.9029231 MHz
 WDW
 SSB 2
 LB 0 Hz
 GB 0



Current Data Parameters
NAME TR4-252A
EXPNO 7
PROCNO 1

F2 - Acquisition Parameters

Date_ 20130814
Time_ 20.37
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hmbcgp1pndqf
TD 2048
SOLVENT DMSO
NS 16
DS 64
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
CNST13 7.0000000
D0 0.00000300 sec
D1 1.50000000 sec
D2 0.00344828 sec
D6 0.07142857 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 9.75 usec
P2 19.50 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

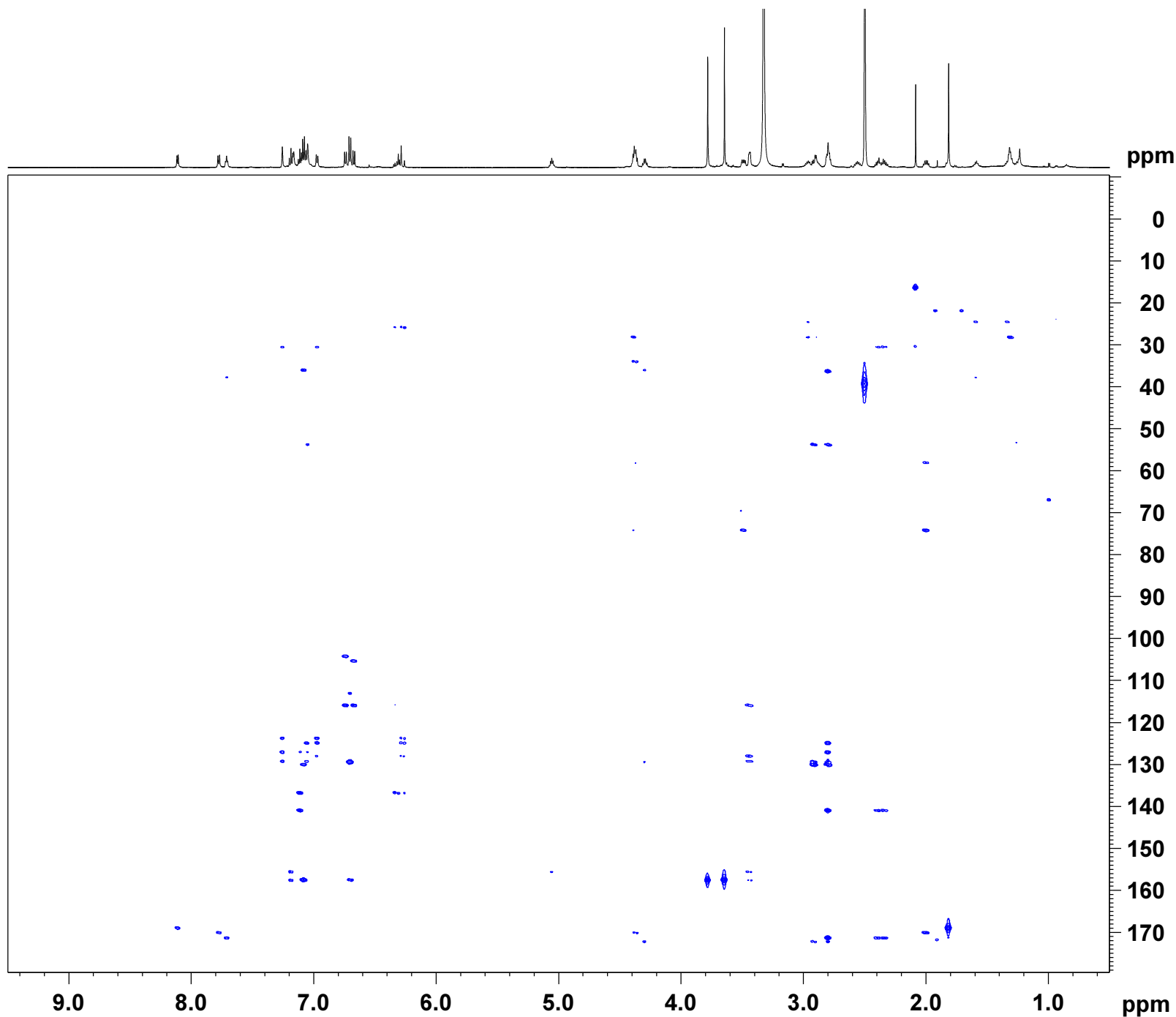
===== CHANNEL f2 =====
NUC2 13C
P3 19.52 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 150.9156 MHz
FIDRES 56.003849 Hz
SW 190.000 ppm
FnMODE QF

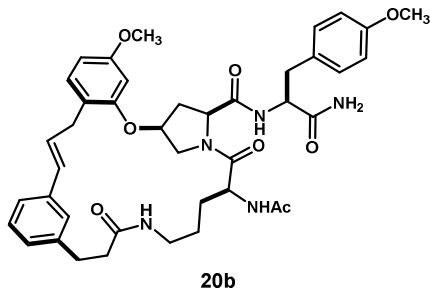
F2 - Processing parameters
SI 4096
SF 600.1300066 MHz
WDW QSINE
SSB 0
LB 0 Hz
GB 0
FC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9029181 MHz
WDW
SSB 2
LB 0 Hz
GB 0



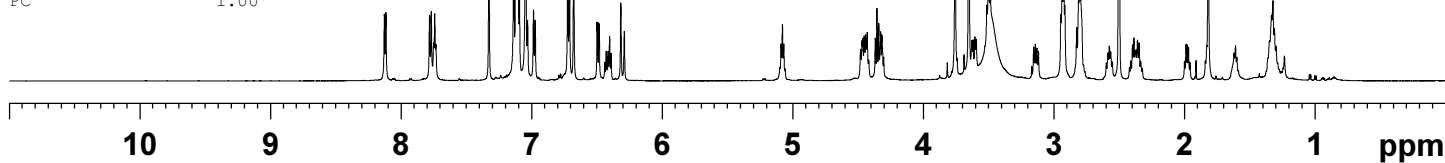
Current Data Parameters
NAME TR4-252B
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130812
Time_ 20.33
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG zg
TD 65536
SOLVENT DMSO
NS 8
DS 0
SWH 12376.237 Hz
FIDRES 0.188846 Hz
AQ 2.6477044 sec
RG 35.9
DW 40.400 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1



===== CHANNEL f1 =====
NUC1 1H
P1 9.98 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1336008 MHz

F2 - Processing parameters
SI 65536
SF 600.1300064 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



Current Data Parameters
NAME TR4-252B
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130812
Time_ 20.37
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 1
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 3251
DW 83.200 usec
DE 6.50 usec
TE 298.0 K
DO 0.00007049 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
INO 0.00016640 sec

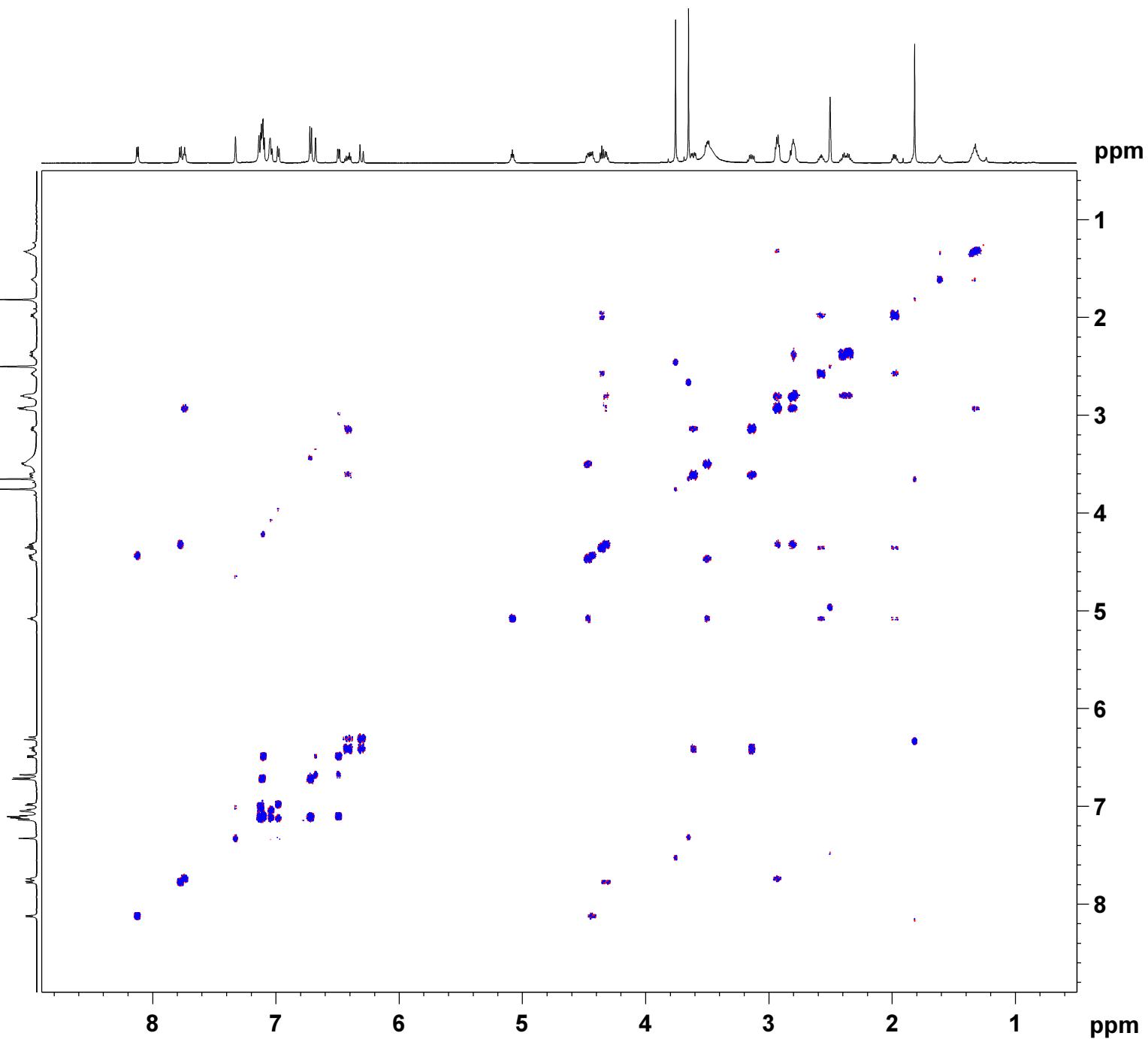
===== CHANNEL f1 =====
NUC1 1H
P1 9.98 usec
P2 19.96 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.133 MHz
FIDRES 11.737530 Hz
SW 10.014 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300045 MHz
WDW QSINE
SSB 1.8
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300050 MHz
WDW
SSB 1.8
LB 0 Hz
GB 0



Current Data Parameters
 NAME TR4-252B
 EXPNO 5
 PROCNO 1

F2 - Acquisition Parameters

Date_ 20130812
 Time 20.53
 INSTRUM av600
 PROBD 5 mm TBI5
 PULPROG dipsi2etgpsi
 TD 2048
 SOLVENT DMSO
 NS 8
 DS 16
 SWH 6009.615 Hz
 FIDRES 2.934382 Hz
 AQ 0.1704436 sec
 RG 114
 DW 83.200 usec
 DE 6.50 usec
 TE 298.0 K
 D0 0.00000300 sec
 D1 1.50000000 sec
 D9 0.06000000 sec
 D11 0.03000000 sec
 D16 0.00020000 sec
 D20 0.00001000 sec
 D21 0.00001000 sec
 IN0 0.00016640 sec
 L1 14

===== CHANNEL f1 =====

NUC1 1H
 P1 9.98 usec
 P2 19.96 usec
 P6 40.00 usec
 PL1 -2.00 dB
 PL10 10.17 dB
 PL1W 39.81071854 W
 PL10W 2.41546082 W
 SFO1 600.1330006 MHz

===== GRADIENT CHANNEL =====

GPNAME1 SINE.100
 GPNAME2 SINE.100
 GPX1 0 %
 GPX2 0 %
 GPY1 0 %
 GPY2 0 %
 GPZ1 30.00 %
 GPZ2 30.00 %
 P16 1000.00 usec

F1 - Acquisition parameters

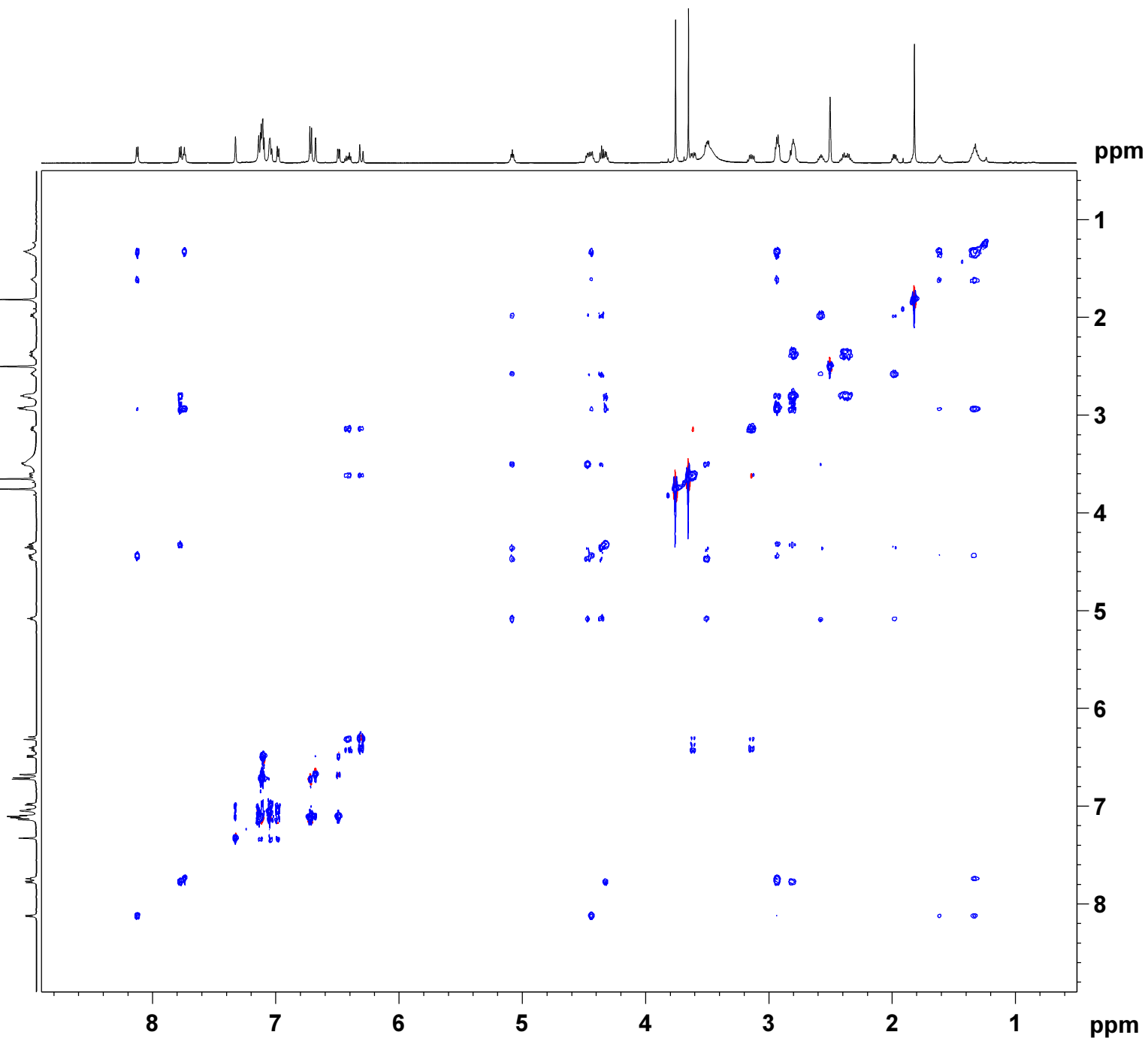
TD 128
 SFO1 600.133 MHz
 FIDRES 46.950073 Hz
 SW 10.014 ppm
 FMODE Echo-Antiecho

F2 - Processing parameters

SI 4096
 SF 600.1300039 MHz
 WDW QSINE
 SSB 2
 LB 0 Hz
 GB 0
 PC 1.00

F1 - Processing parameters

SI 4096
 MC2 echo-antiecho
 SF 600.1300040 MHz
 WDW
 SSB 2
 LB 0 Hz
 GB 0



Current Data Parameters
NAME TR4-252B
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130812
Time 21.24
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hsqcetgpgsisp
TD 2048
SOLVENT DMSO
NS 4
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 16384
DW 83.200 usec
DE 6.00 usec
TE 298.1 K
CNST2 145.0000000
D0 0.00000300 sec
D1 1.00000000 sec
D4 0.00172414 sec
D11 0.03000000 sec
D16 0.00020000 sec
D24 0.00086200 sec
IN0 0.00002070 sec
ZGPTNS

===== CHANNEL f1 =====
NUC1 1H
P1 9.98 usec
P2 19.96 usec
P28 1000.00 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

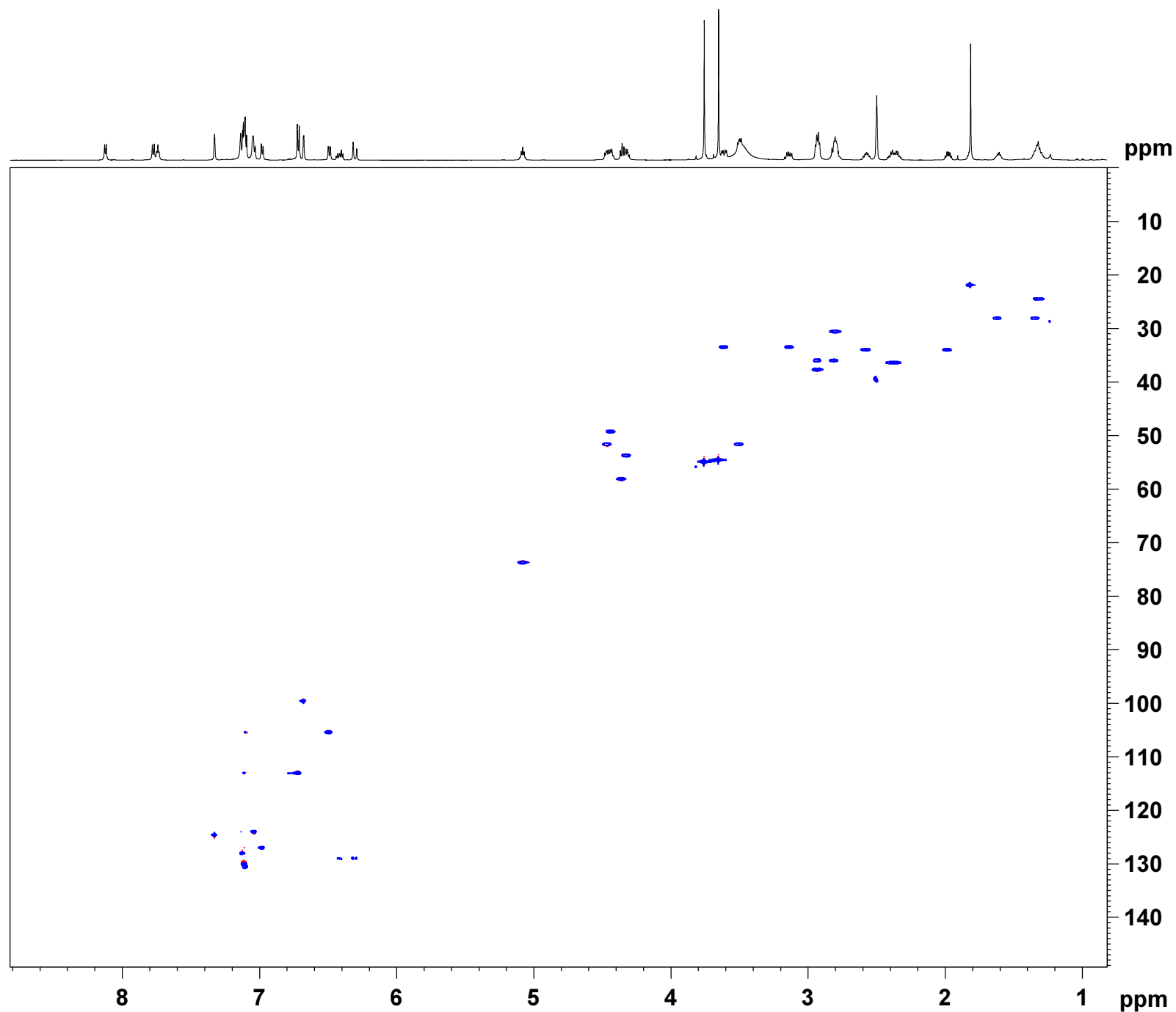
===== CHANNEL f2 =====
CPDPRG2 garp
NUC2 13C
P3 19.52 usec
P4 39.04 usec
P14 1000.00 usec
PCPD2 65.00 usec
PL0 120.00 dB
PL2 -3.00 dB
PL12 7.45 dB
PL0W 0 W
PL2W 150.35617065 W
PL12W 13.55567932 W
SFO2 150.9133722 MHz
SP3 4.12 dB
SPNAM3 Crp80,0.5,20.1
SFOAL3 0.500
SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 80.00 %
GPZ2 20.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 150.9134 MHz
FIDRES 47.160427 Hz
SW 160.000 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 600.1300031 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 echo-antiecho
SF 150.9029233 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR4-252B
EXPNO 7
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130812
Time 22.06
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hmbcgp1pndqf
TD 2048
SOLVENT DMSO
NS 8
DS 64
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
CNST13 7.0000000
D0 0.00000300 sec
D1 1.50000000 sec
D2 0.00344828 sec
D6 0.07142857 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 9.98 usec
P2 19.96 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

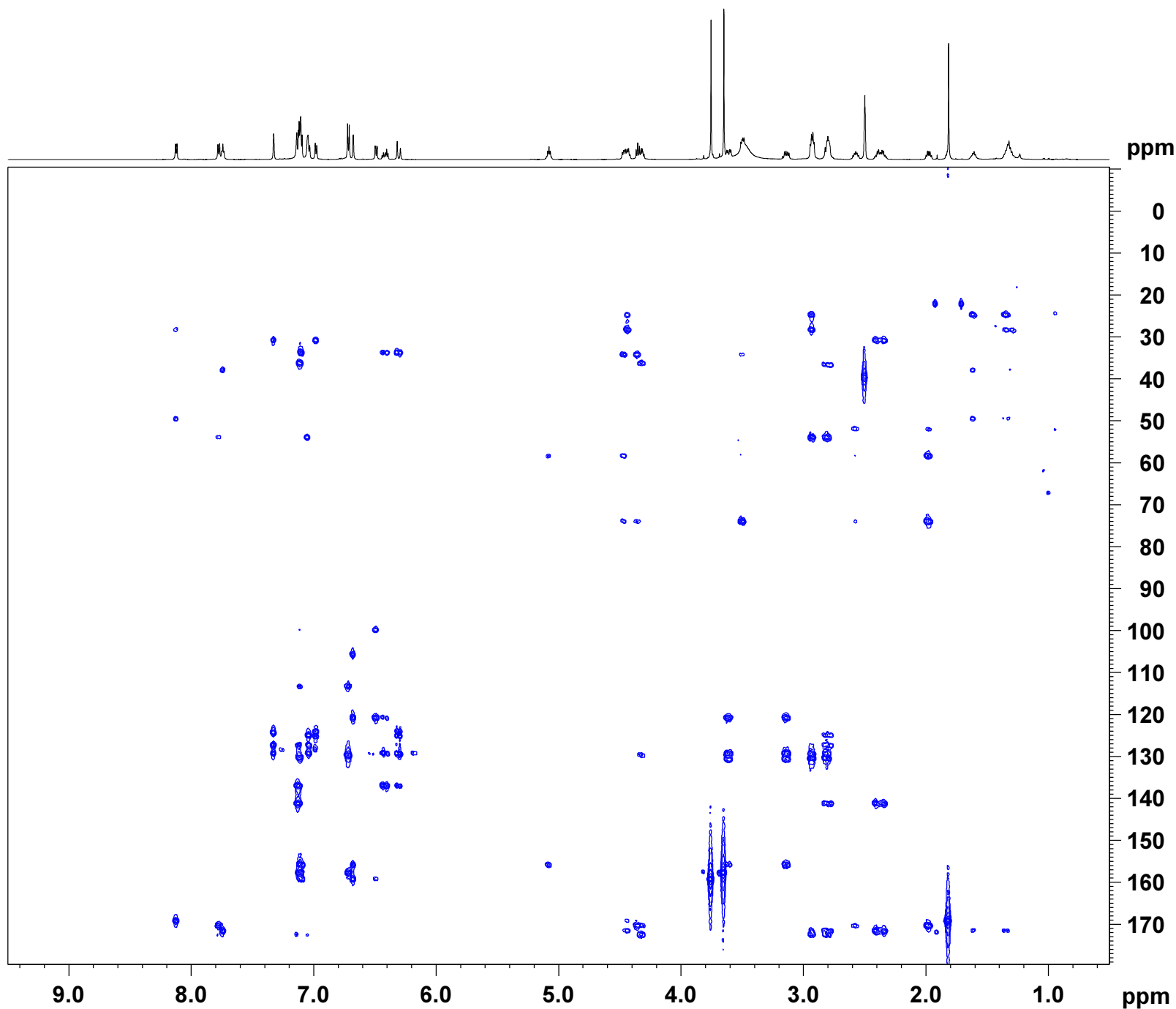
===== CHANNEL f2 =====
NUC2 13C
P3 19.52 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 198
SFO1 150.9156 MHz
FIDRES 144.818039 Hz
SW 190.000 ppm
FnMODE QF

F2 - Processing parameters
SI 4096
SF 600.1300036 MHz
WDW QSINE
SSB 0
LB 0 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9028823 MHz
WDW
SSB 2
LB 0 Hz
GB 0

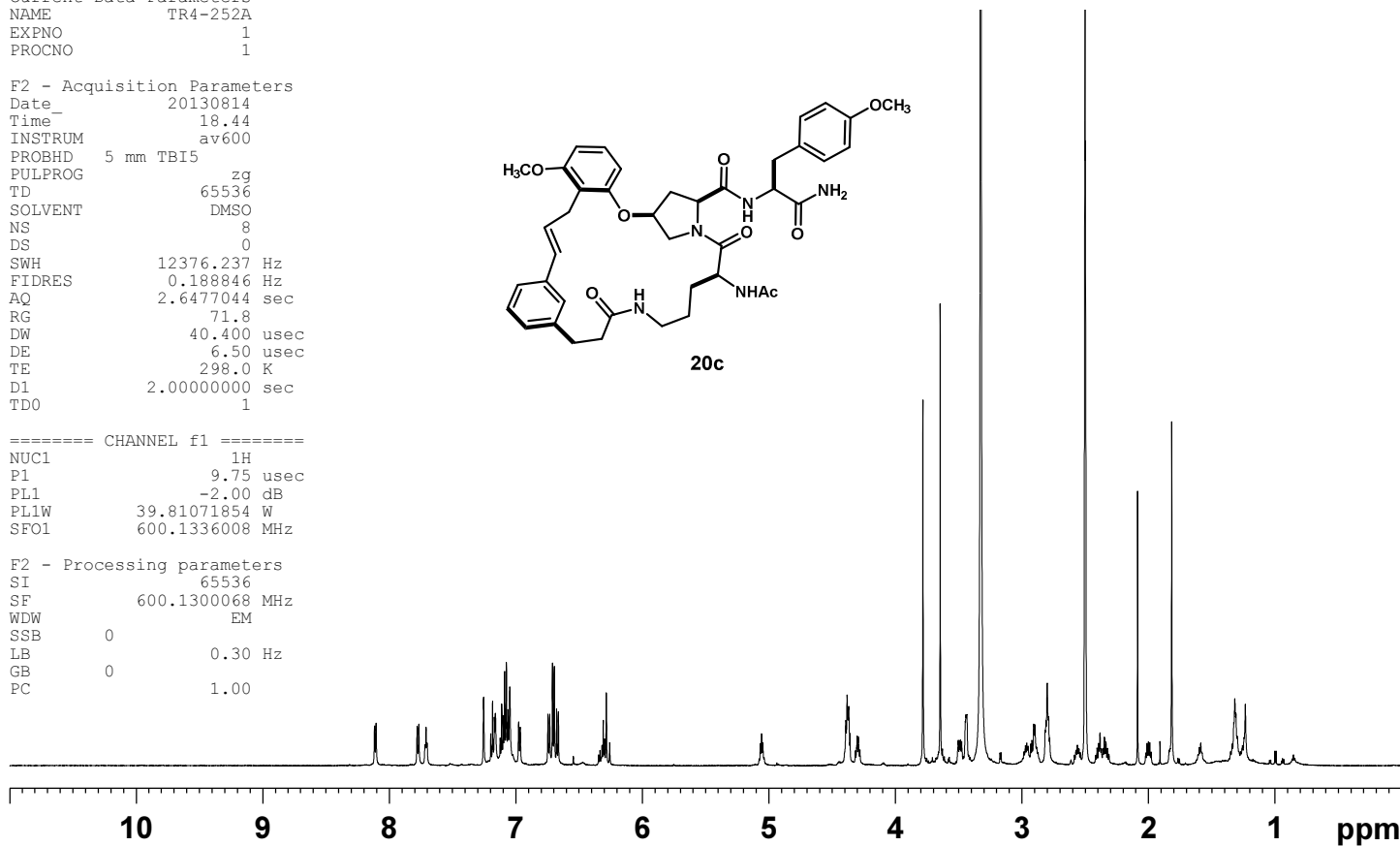
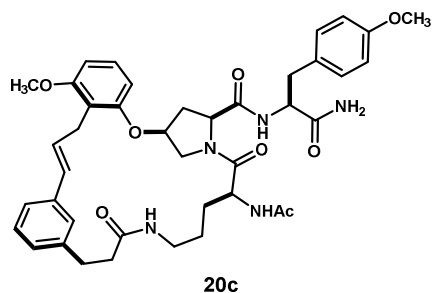


Current Data Parameters
NAME TR4-252A
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130814
Time_ 18.44
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG zg
TD 65536
SOLVENT DMSO
NS 8
DS 0
SWH 12376.237 Hz
FIDRES 0.188846 Hz
AQ 2.6477044 sec
RG 71.8
DW 40.400 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 9.75 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1336008 MHz

F2 - Processing parameters
SI 65536
SF 600.1300068 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



Current Data Parameters
NAME TR4-252A
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130814
Time 18.48
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygmph
TD 2048
SOLVENT DMSO
NS 1
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 8192
DW 83.200 usec
DE 6.50 usec
TE 298.0 K
D0 0.00007079 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00016640 sec

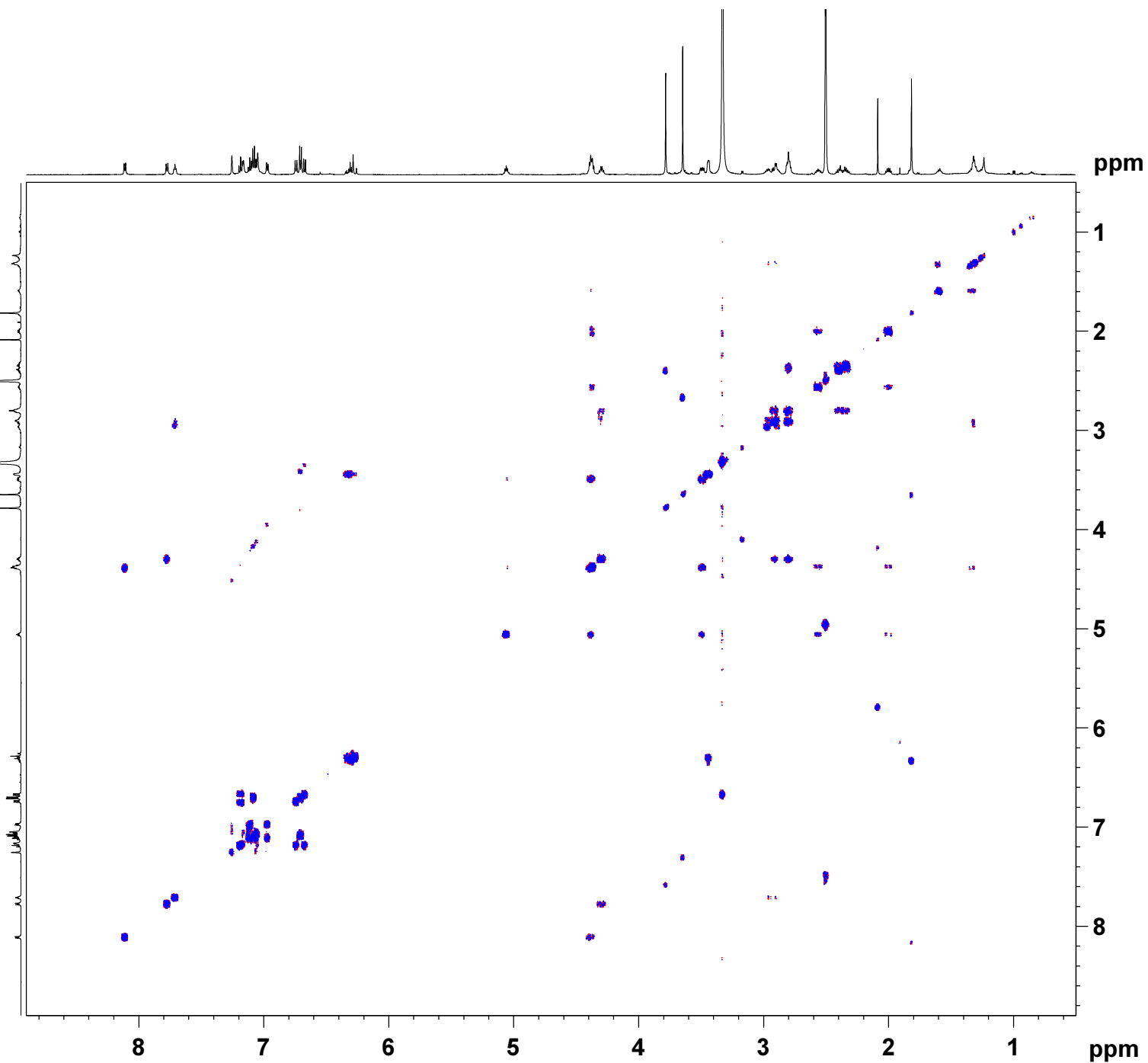
===== CHANNEL f1 =====
NUC1 1H
P1 9.75 usec
P2 19.50 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.133 MHz
FIDRES 11.737530 Hz
SW 10.014 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300050 MHz
WDW QSINE
SSB 1.8
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300052 MHz
WDW
SSB 1.8
LB 0 Hz
GB 0



Current Data Parameters
NAME TR4-252A
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters

Date_ 20130814
Time 19.03
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG dipsi2etgpsi
TD 2048
SOLVENT DMSO
NS 8
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 181
DW 83.200 usec
DE 6.50 usec
TE 298.0 K
D0 0.00000300 sec
D1 1.50000000 sec
D9 0.06000000 sec
D11 0.03000000 sec
D16 0.00020000 sec
D20 0.00001000 sec
D21 0.00001000 sec
IN0 0.00016640 sec
L1 14

===== CHANNEL f1 =====

NUC1 1H
P1 9.75 usec
P2 19.50 usec
P6 40.00 usec
PL1 -2.00 dB
PL10 10.26 dB
PL1W 39.81071854 W
PL10W 2.36591959 W
SFO1 600.1330006 MHz

===== GRADIENT CHANNEL =====

GPNAME1 SINE.100
GPNAME2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 30.00 %
GPZ2 30.00 %
P16 1000.00 usec

F1 - Acquisition parameters

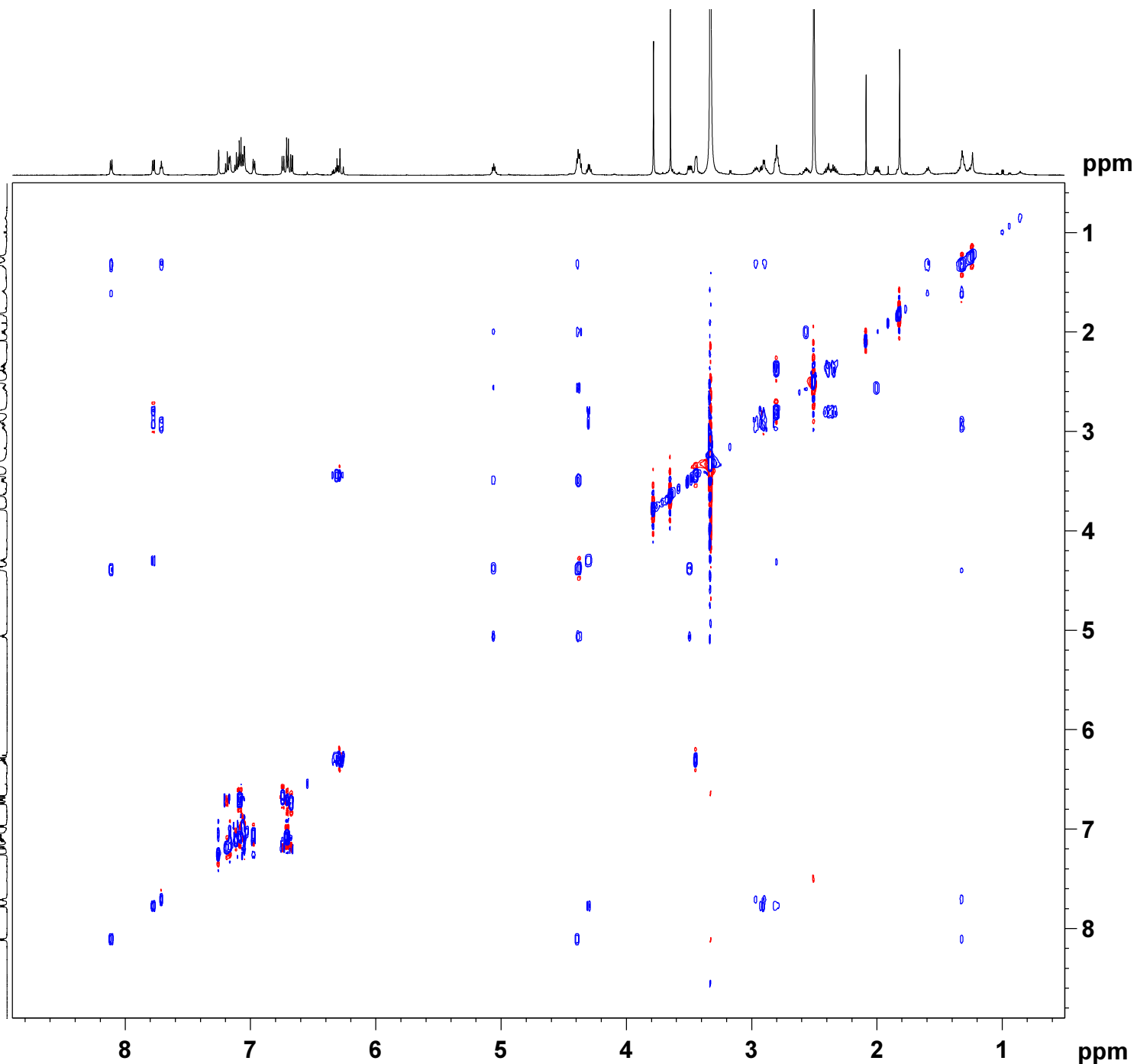
TD 128
SFO1 600.133 MHz
FIDRES 46.950073 Hz
SW 10.014 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters

SI 4096
SF 600.1300040 MHz
WDW QSINE
SSB 2.5
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters

SI 4096
MC2 echo-antiecho
SF 600.1300051 MHz
WDW
SSB 2.5
LB 0 Hz
GB 0



Current Data Parameters
 NAME TR4-252A
 EXPNO 6
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20130814
 Time 19.34
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG hsqcetgpsisp
 TD 2048
 SOLVENT DMSO
 NS 6
 DS 16
 SWH 6009.615 Hz
 FIDRES 2.934382 Hz
 AQ 0.1704436 sec
 RG 16384
 DW 83.200 usec
 DE 6.00 usec
 TE 298.1 K
 CNST2 145.0000000
 D0 0.00000300 sec
 D1 1.00000000 sec
 D4 0.00172414 sec
 D11 0.03000000 sec
 D16 0.00020000 sec
 D24 0.00086200 sec
 INO 0.00002070 sec
 ZGOPTNS

===== CHANNEL f1 =====
 NUC1 1H
 P1 9.75 usec
 P2 19.50 usec
 P28 1000.00 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1330006 MHz

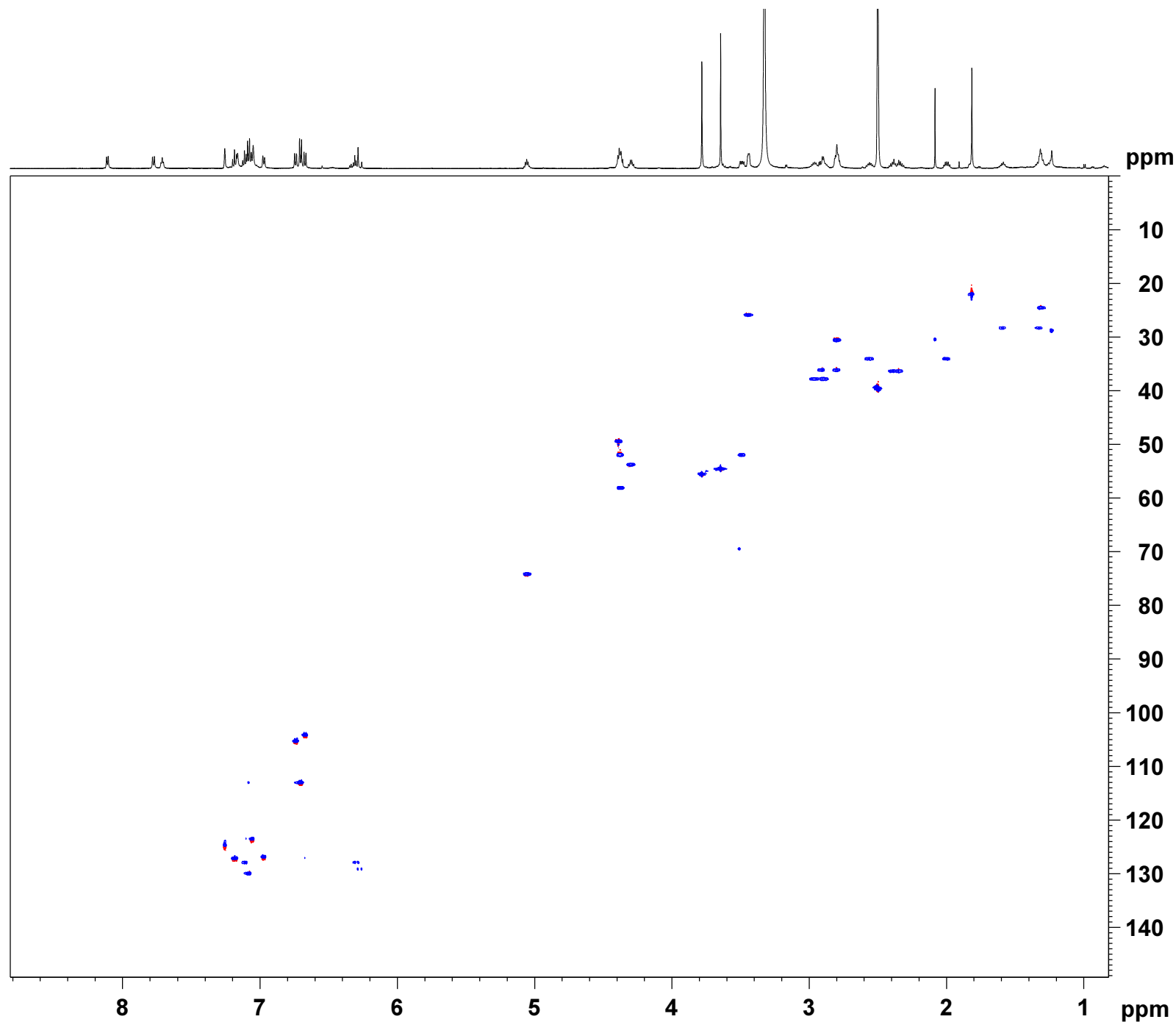
===== CHANNEL f2 =====
 CPDPRG2 garp
 NUC2 13C
 P3 19.52 usec
 P4 39.04 usec
 P14 1000.00 usec
 PCPD2 65.00 usec
 PL0 120.00 dB
 PL2 -3.00 dB
 PL12 7.45 dB
 PL0W 0 W
 PL2W 150.35617065 W
 PL12W 13.55567932 W
 SFO2 150.9133722 MHz
 SP3 4.12 dB
 SPNAM3 Crp80,0.5,20.1
 SPOAL3 0.500
 SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
 GPNAM1 SINE.100
 GPNAM2 SINE.100
 GPX1 0 %
 GPX2 0 %
 GPY1 0 %
 GPY2 0 %
 GPZ1 80.00 %
 GPZ2 20.10 %
 P16 1000.00 usec

F1 - Acquisition parameters
 TD 512
 SFO1 150.9134 MHz
 FIDRES 47.160427 Hz
 SW 160.000 ppm
 FnmODE Echo-Antiecho

F2 - Processing parameters
 SI 4096
 SF 600.1300051 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

F1 - Processing parameters
 SI 4096
 MC2 echo-antiecho
 SF 150.9029231 MHz
 WDW
 SSB 2
 LB 0 Hz
 GB 0



Current Data Parameters
NAME TR4-252A
EXPNO 7
PROCNO 1

F2 - Acquisition Parameters

Date_ 20130814
Time 20.37
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hmbcgp1pndqf
TD 2048
SOLVENT DMSO
NS 16
DS 64
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
CNST13 7.0000000
D0 0.00000300 sec
D1 1.50000000 sec
D2 0.00344828 sec
D6 0.07142857 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 9.75 usec
P2 19.50 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

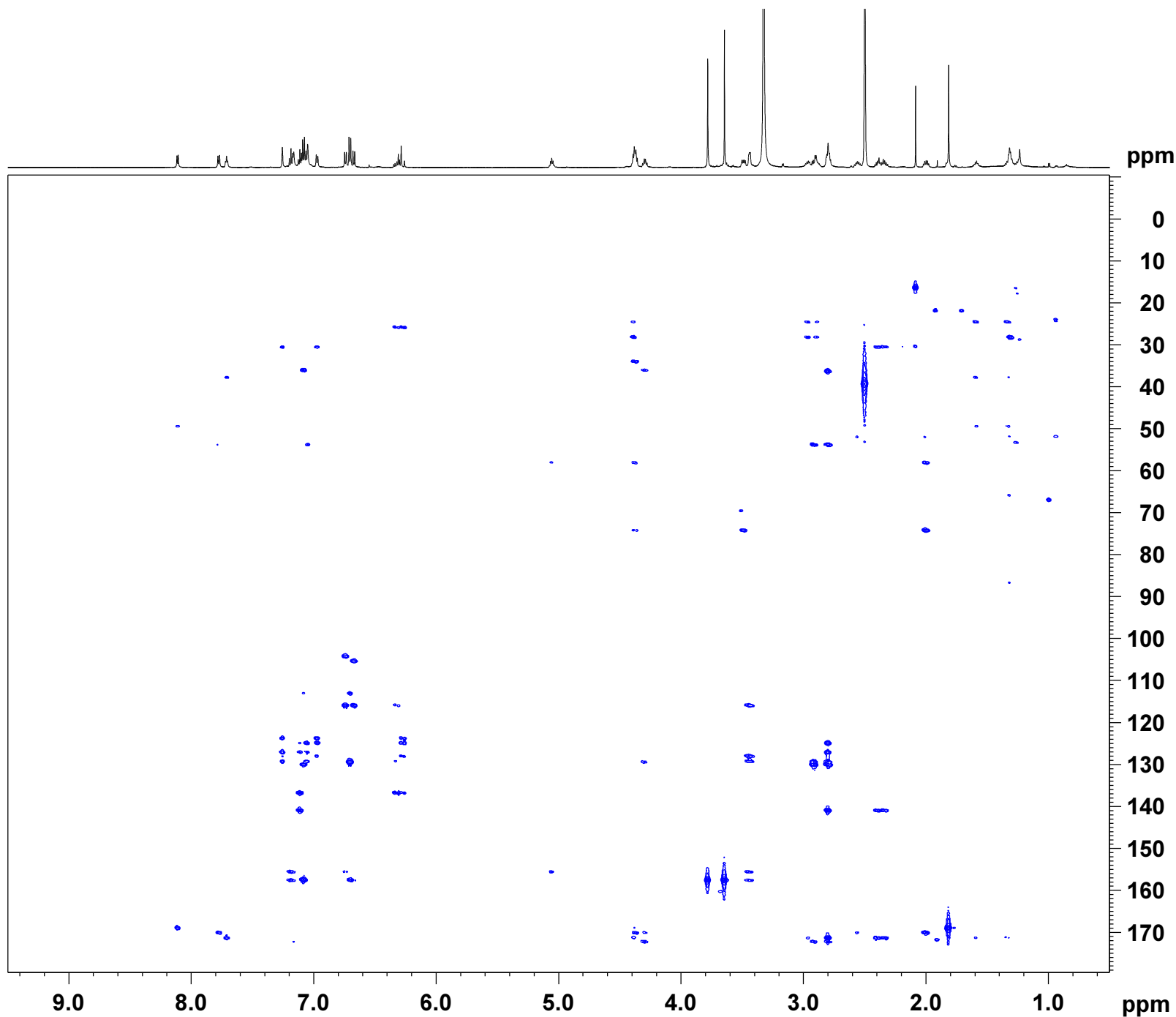
===== CHANNEL f2 =====
NUC2 13C
P3 19.52 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 150.9156 MHz
FIDRES 56.003849 Hz
SW 190.000 ppm
FnMODE QF

F2 - Processing parameters
SI 4096
SF 600.1300066 MHz
WDW QSINE
SSB 0
LB 0 Hz
GB 0
FC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9029181 MHz
WDW
SSB 2
LB 0 Hz
GB 0

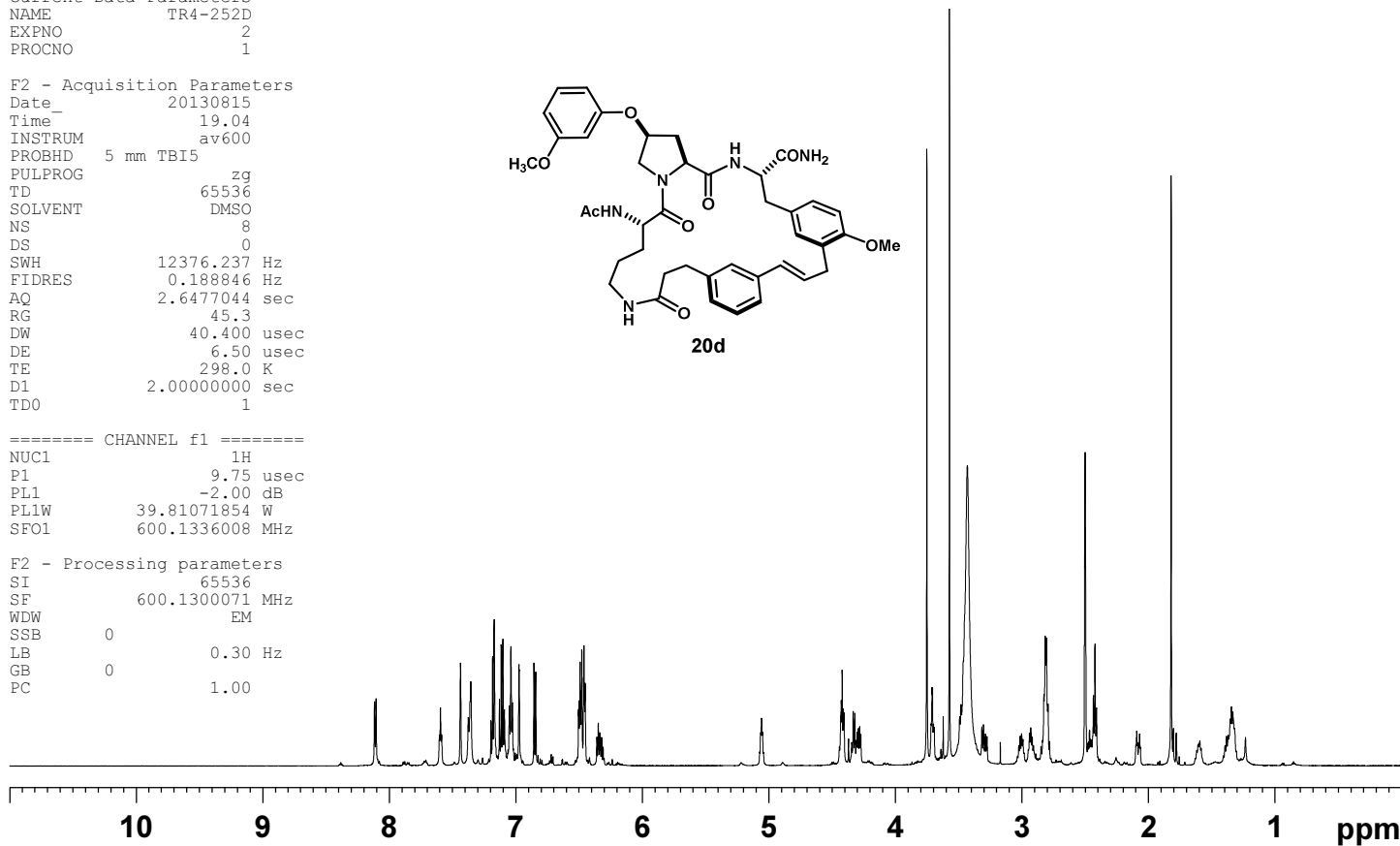
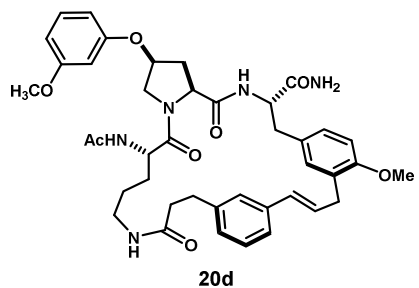


Current Data Parameters
NAME TR4-252D
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130815
Time 19.04
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG zg
TD 65536
SOLVENT DMSO
NS 8
DS 0
SWH 12376.237 Hz
FIDRES 0.188846 Hz
AQ 2.6477044 sec
RG 45.3
DW 40.400 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 9.75 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1336008 MHz

F2 - Processing parameters
SI 65536
SF 600.1300071 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



Current Data Parameters
NAME TR4-252D
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130815
Time_ 19.06
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 1
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 6502
DW 83.200 usec
DE 6.50 usec
TE 298.0 K
D0 0.00007079 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
INO 0.00016640 sec

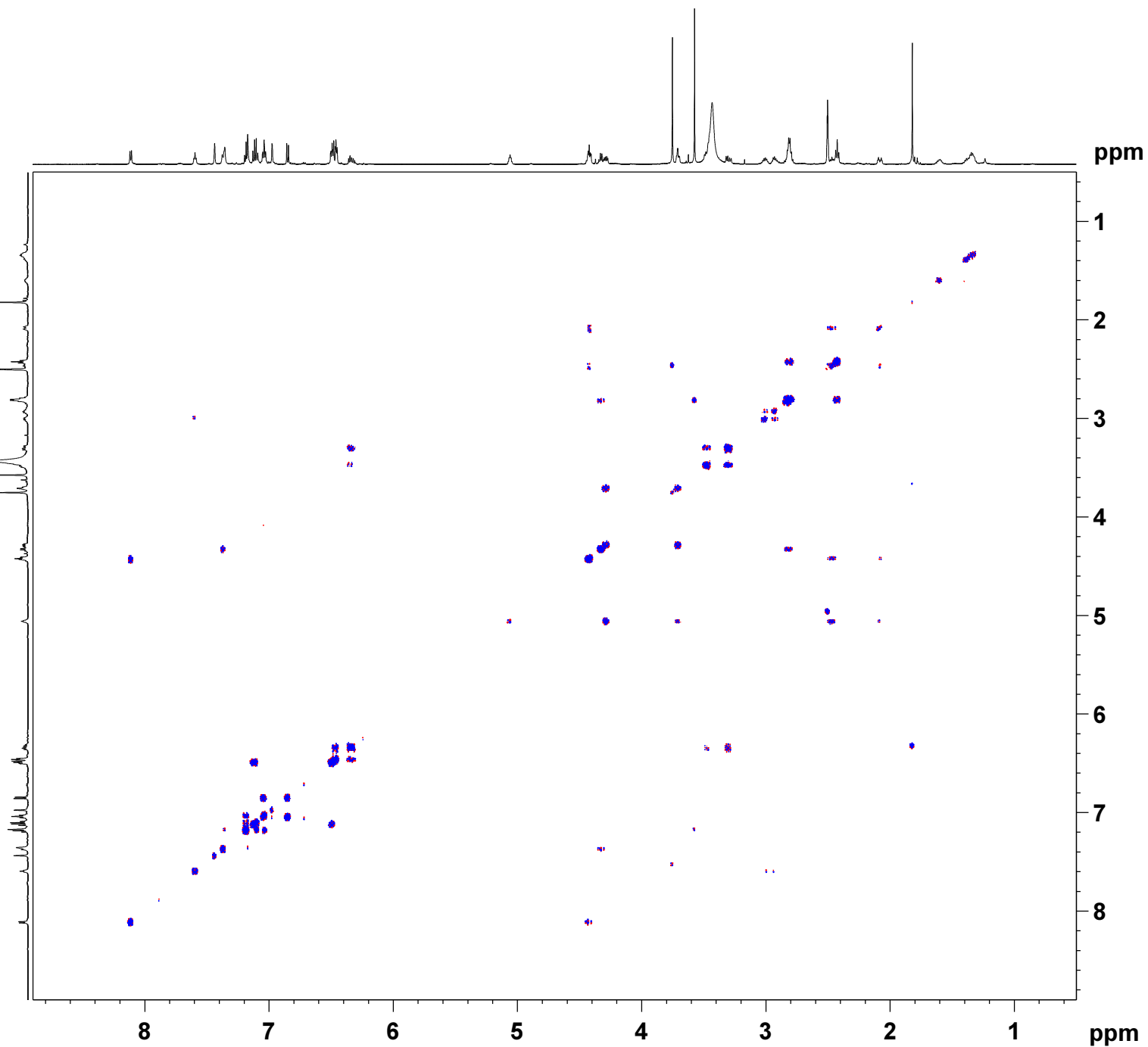
===== CHANNEL f1 =====
NUC1 1H
P1 9.75 usec
P2 19.50 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.133 MHz
FIDRES 11.737530 Hz
SW 10.014 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300050 MHz
WDW QSINE
SSB 1.8
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300052 MHz
WDW
SSB 1.8
LB 0 Hz
GB 0



Current Data Parameters
 NAME TR4-252D
 EXPNO 5
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20130815
 Time 19.22
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG mlevessgpph
 TD 2048
 SOLVENT DMSO
 NS 4
 DS 16
 SWH 7183.908 Hz
 FIDRES 3.507768 Hz
 AQ 0.1425908 sec
 RG 362
 DW 69.600 usec
 DE 6.50 usec
 TE 298.0 K
 D0 0.00004339 sec
 D1 1.00000000 sec
 D9 0.06000000 sec
 D12 0.00002000 sec
 D16 0.00020000 sec
 IN0 0.00013920 sec
 L1 24

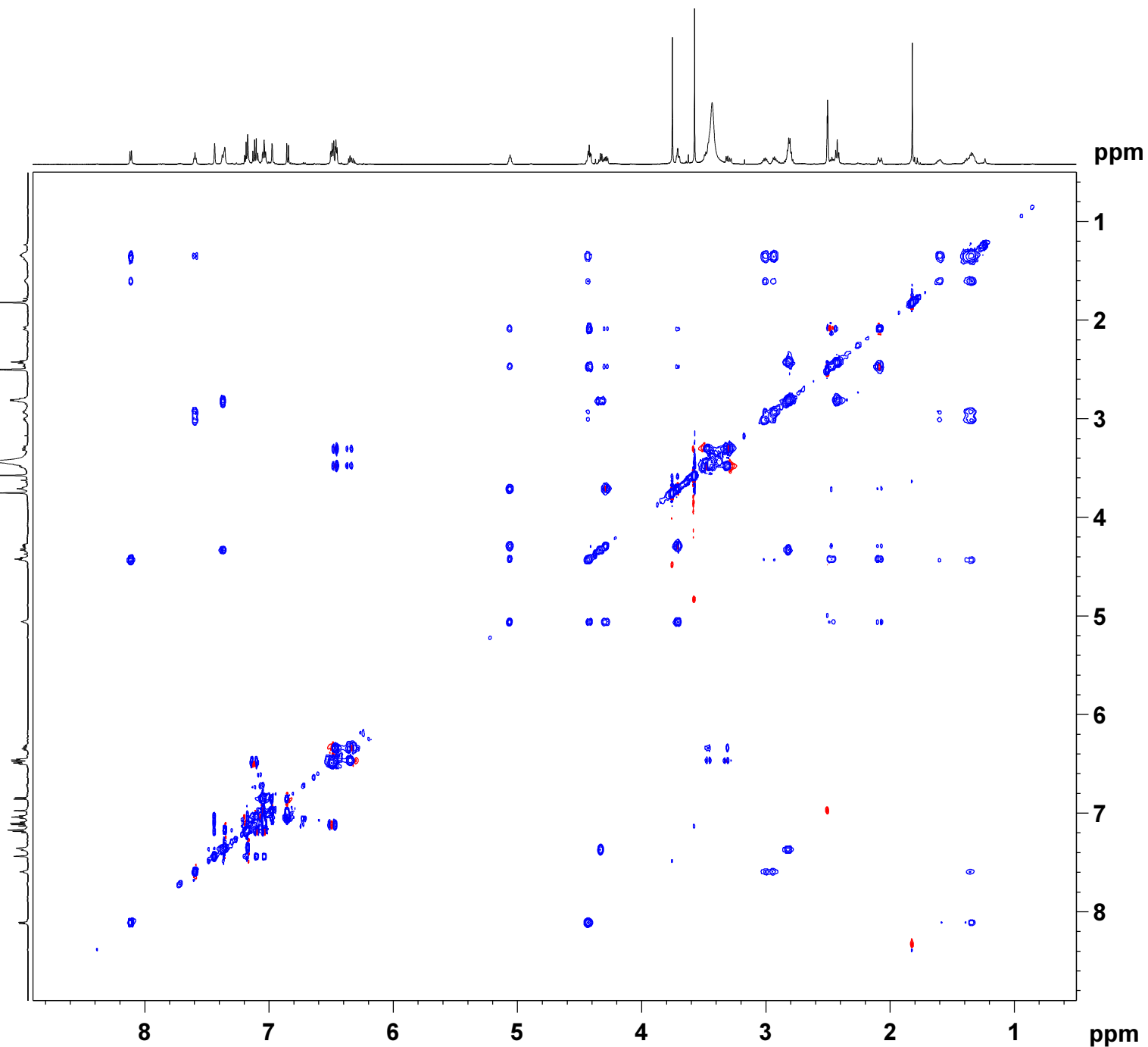
===== CHANNEL f1 =====
 NUC1 1H
 P1 9.75 usec
 P2 19.50 usec
 P5 26.68 usec
 P6 40.00 usec
 P7 80.00 usec
 P12 3000.00 usec
 P17 2500.00 usec
 PL0 120.00 dB
 PL1 -2.00 dB
 PL10 10.26 dB
 PLOW 0 W
 PL1W 39.81071854 W
 PL10W 2.36591959 W
 SFO1 600.1336008 MHz
 SF1 120.00 dB
 SFNAM1 Squal00.1000
 SFOAL1 1.000
 SPOFFS1 -1551.78 Hz

===== GRADIENT CHANNEL =====
 GPNAM1 SINE.100
 GPNAM2 SINE.100
 GPX1 0
 GPX2 0
 GPY1 0
 GPY2 0
 GPZ1 31.00 %
 GPZ2 11.00 %
 P16 1000.00 usec

F1 - Acquisition parameters
 TD 256
 SFO1 600.1336 MHz
 FIDRES 28.062170 Hz
 SW 11.971 ppm
 FhMODE States-TPPI

F2 - Processing parameters
 SI 4096
 SF 600.1300042 MHz
 WDW QSINE
 SSB 2
 LB 0 Hz
 GB 0
 PC 1.00

F1 - Processing parameters
 SI 4096
 MC2 States-TPPI
 SF 600.1300036 MHz
 WDW
 SSB 2
 LB 0 Hz
 GB 0



Current Data Parameters
NAME TR4-252D
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130815
Time 19.43
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hsqcetgpsisp
TD 2048
SOLVENT DMSO
NS 6
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 16384
DW 83.200 usec
DE 6.00 usec
TE 298.1 K
CNST2 145.0000000
D0 0.00000300 sec
D1 1.00000000 sec
D4 0.00172414 sec
D11 0.03000000 sec
D16 0.00020000 sec
D24 0.00086200 sec
IN0 0.00002070 sec
ZGPTNS

===== CHANNEL f1 =====
NUC1 1H
P1 9.75 usec
P2 19.50 usec
P28 1000.00 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

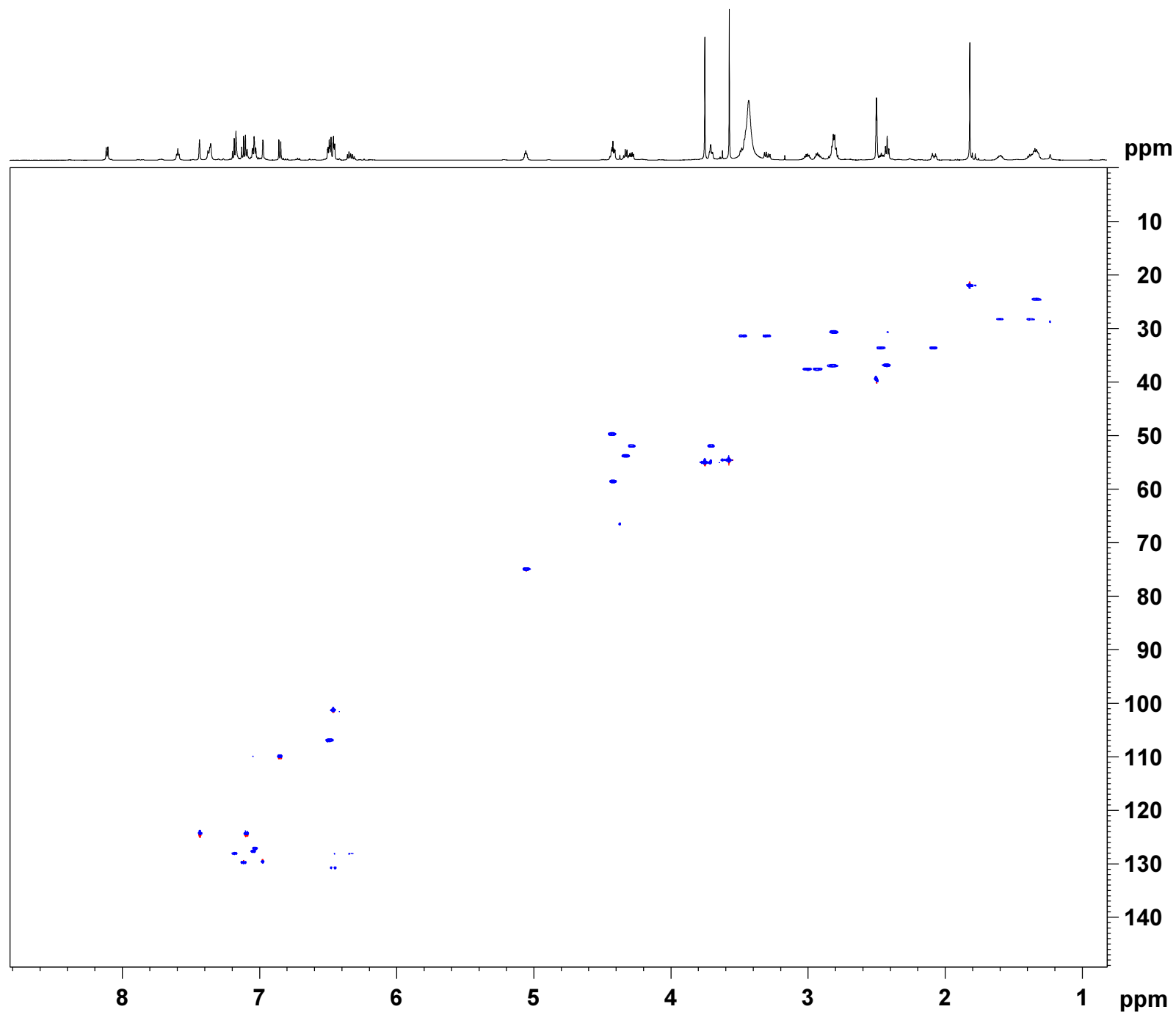
===== CHANNEL f2 =====
CPDPRG2 garp
NUC2 13C
P3 19.52 usec
P4 39.04 usec
P14 1000.00 usec
PCPD2 65.00 usec
PL0 120.00 dB
PL2 -3.00 dB
PL12 7.45 dB
PL0W 0 W
PL2W 150.35617065 W
PL12W 13.55567932 W
SFO2 150.9133722 MHz
SP3 4.12 dB
SPNAM3 Crp80,0.5,20.1
SFOAL3 0.500
SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 80.00 %
GPZ2 20.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 150.9134 MHz
FIDRES 47.160427 Hz
SW 160.000 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 600.1300051 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 echo-antiecho
SF 150.9029210 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR4-252D
EXPNO 7
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130815
Time 20.47
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hmbcgp1pndqf
TD 2048
SOLVENT DMSO
NS 12
DS 64
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
CNST13 7.0000000
D0 0.00000300 sec
D1 1.50000000 sec
D2 0.00344828 sec
D6 0.07142857 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 9.75 usec
P2 19.50 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

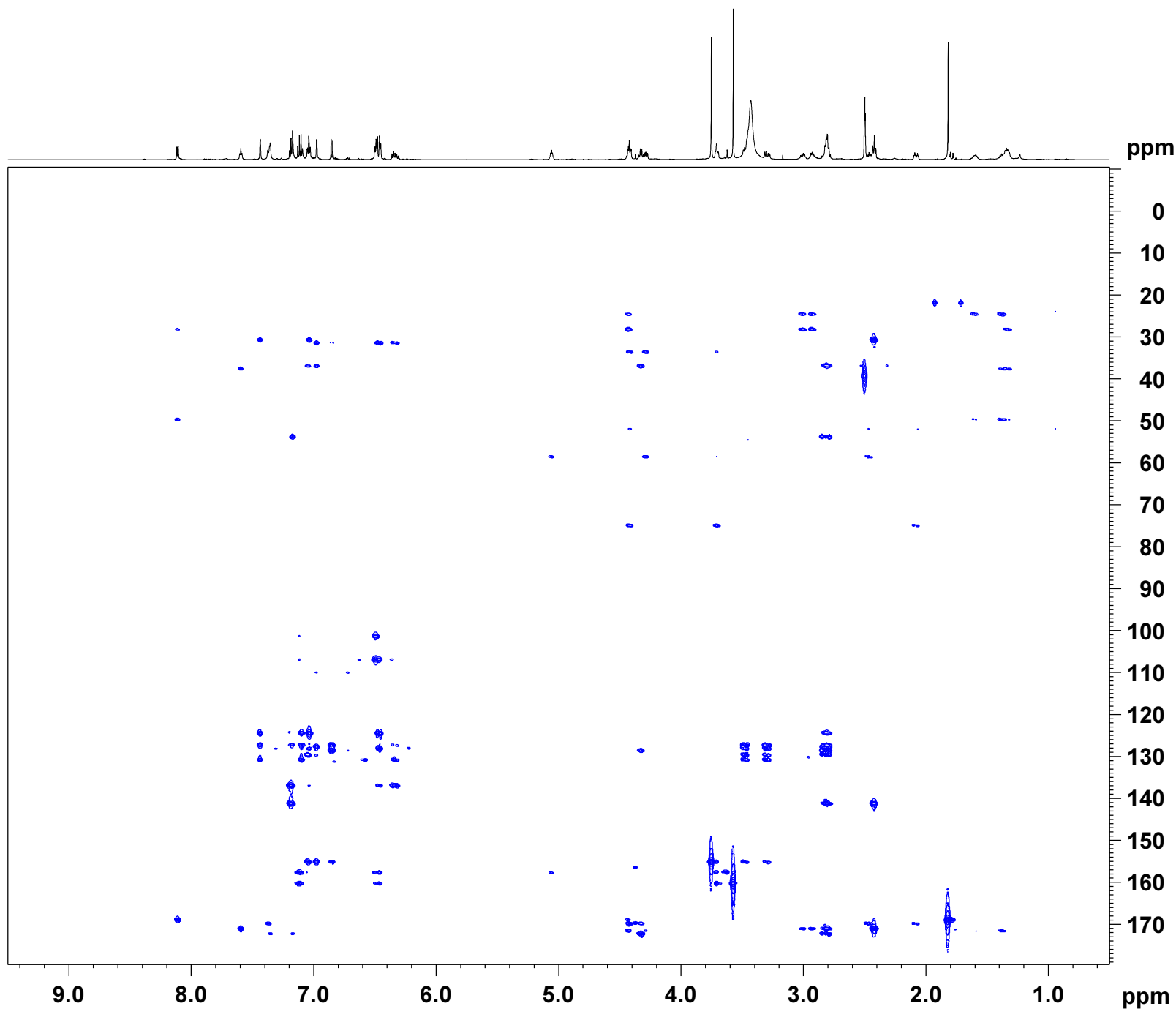
===== CHANNEL f2 =====
NUC2 13C
P3 19.52 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 150.9156 MHz
FIDRES 56.003849 Hz
SW 190.000 ppm
FnMODE QF

F2 - Processing parameters
SI 4096
SF 600.1300066 MHz
WDW QSINE
SSB 0
LB 0 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9029181 MHz
WDW
SSB 2
LB 0 Hz
GB 0

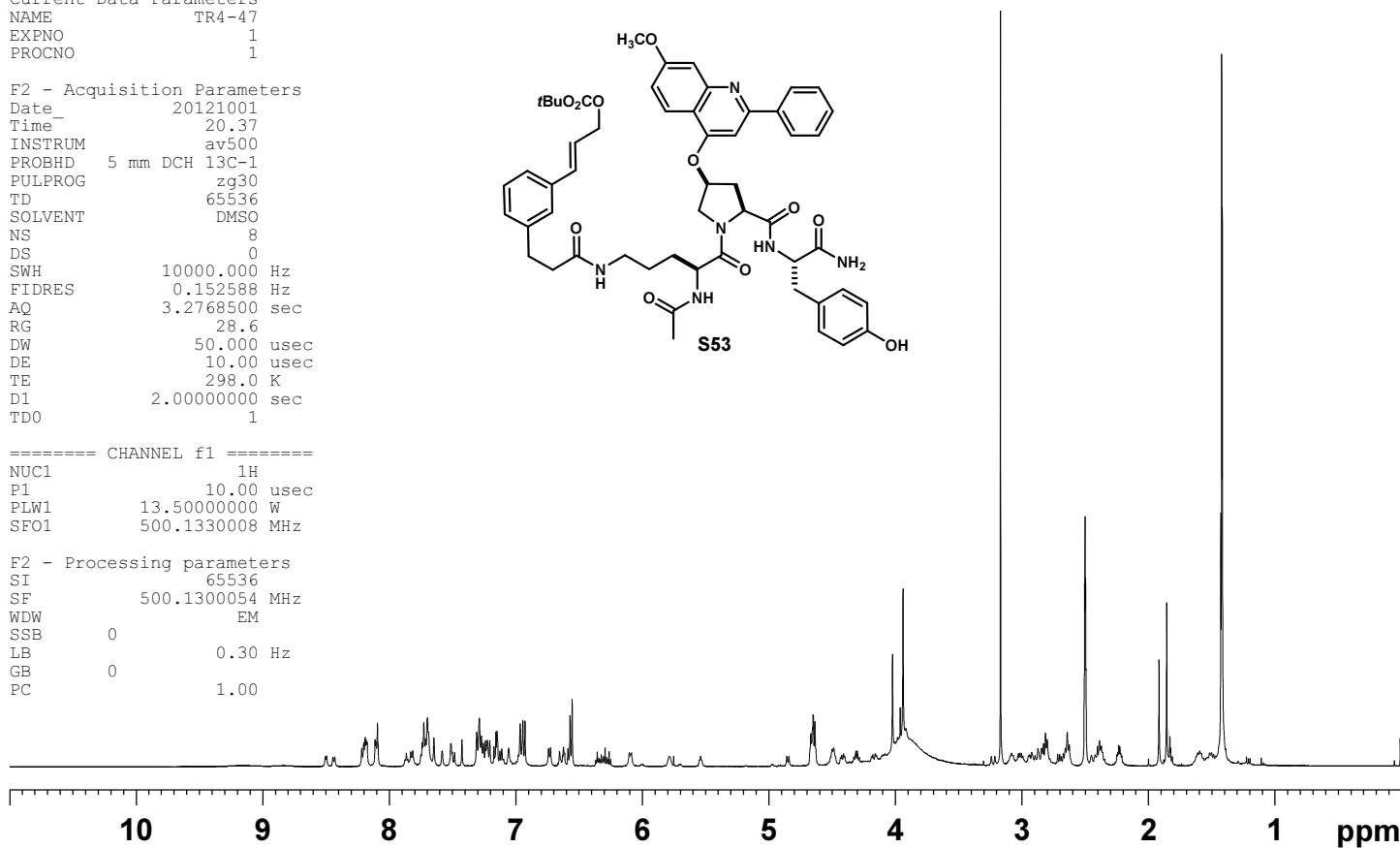
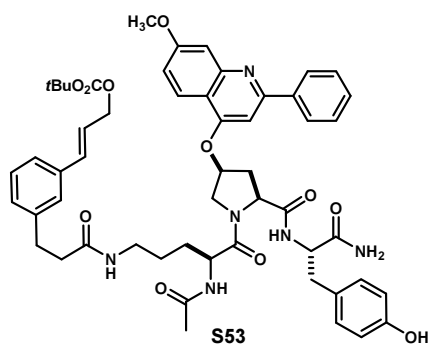


Current Data Parameters
 NAME TR4-47
 EXPNO 1
 PROCNO 1

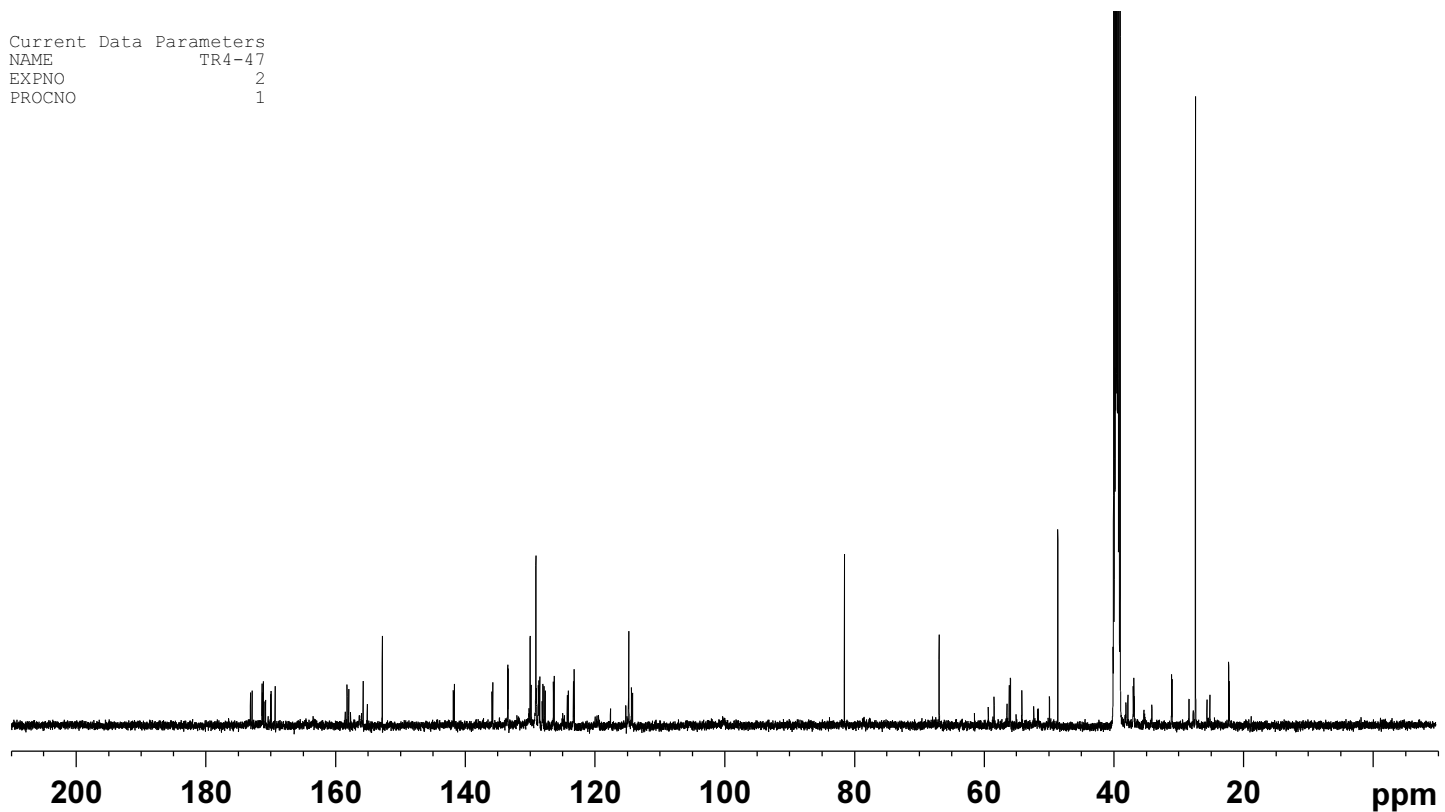
F2 - Acquisition Parameters
 Date_ 20121001
 Time_ 20.37
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zg30
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 28.6
 DW 50.000 usec
 DE 10.00 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 1H
 P1 10.00 usec
 PLW1 13.50000000 W
 SFO1 500.1330008 MHz

F2 - Processing parameters
 SI 65536
 SF 500.1300054 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

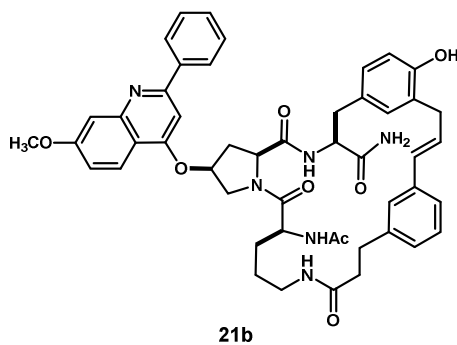


Current Data Parameters
 NAME TR4-47
 EXPNO 2
 PROCNO 1



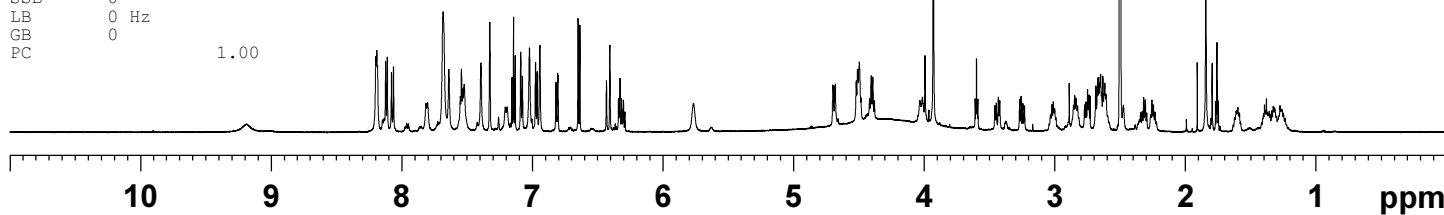
Current Data Parameters
 NAME TR3-139
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date 20120402
 Time 19.34
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 114
 DW 40.400 usec
 DE 6.50 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1



===== CHANNEL f1 =====
 NUC1 1H
 P1 9.66 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300070 MHz
 WDW EM
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME TR3-139
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120402
Time_ 19.36
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 71.8
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
DO 0.00008050 sec
D1 1.50000000 sec
D13 0.0000400 sec
D16 0.00020000 sec
INO 0.00018560 sec

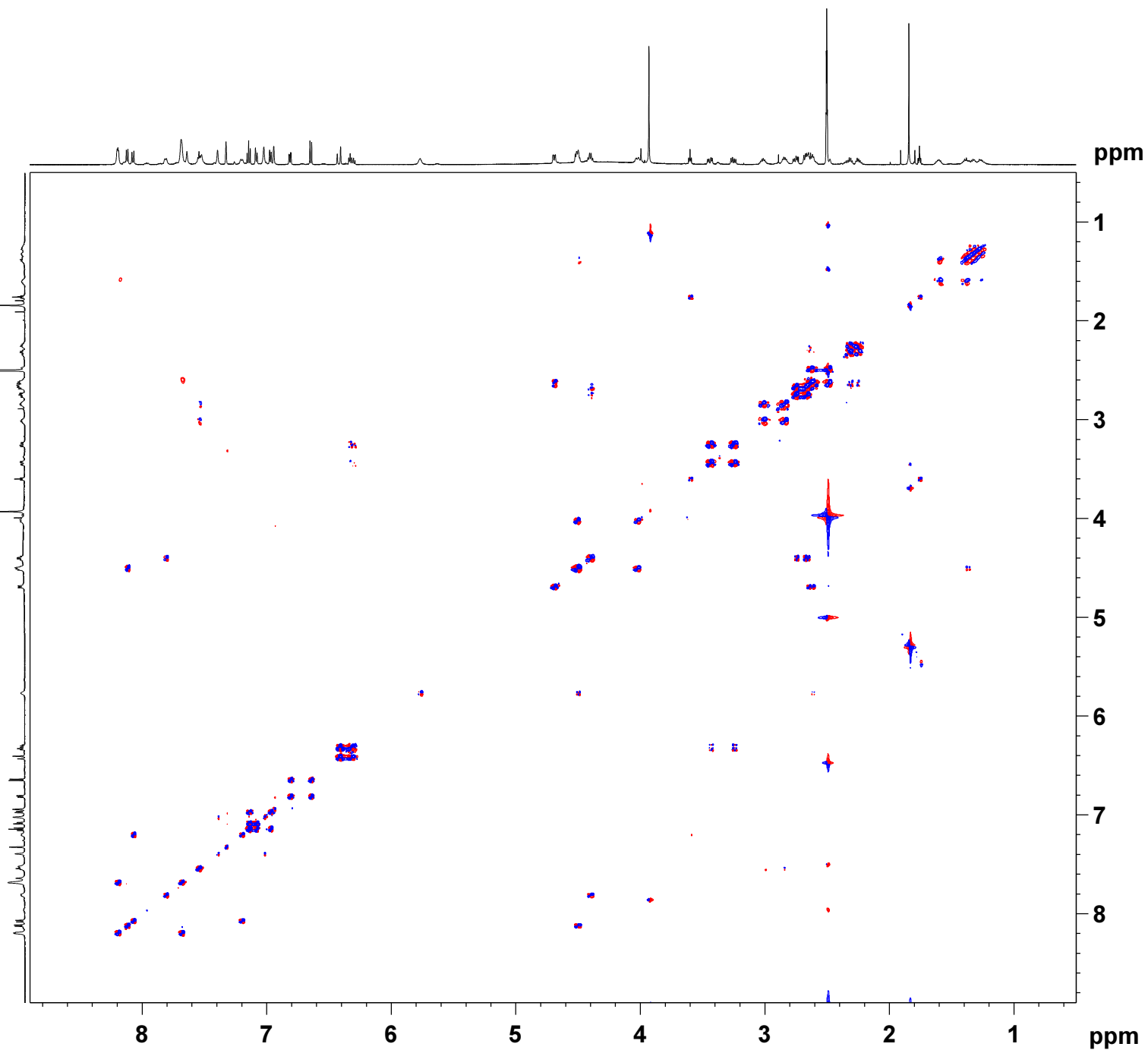
===== CHANNEL f1 =====
NUC1 1H
P1 9.66 usec
P2 19.32 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.1327 MHz
FIDRES 10.523297 Hz
SW 8.978 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300111 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300050 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-139
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters

Date_ 20120402
Time 20.06
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG dipsi2etgpsi
TD 2048
SOLVENT DMSO
NS 8
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 128
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00000300 sec
D1 1.50000000 sec
D9 0.06000000 sec
D11 0.03000000 sec
D16 0.00020000 sec
D20 0.00001000 sec
D21 0.00001000 sec
IN0 0.00018560 sec
L1 14

===== CHANNEL f1 =====

NUC1 1H
P1 9.66 usec
P2 19.32 usec
P6 40.00 usec
PL1 -2.00 dB
PL10 10.34 dB
PL1W 39.81071854 W
PL10W 2.32273674 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====

GP1AM1 SINE.100
GP1AM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 30.00 %
GPZ2 30.00 %
P16 1000.00 usec

F1 - Acquisition parameters

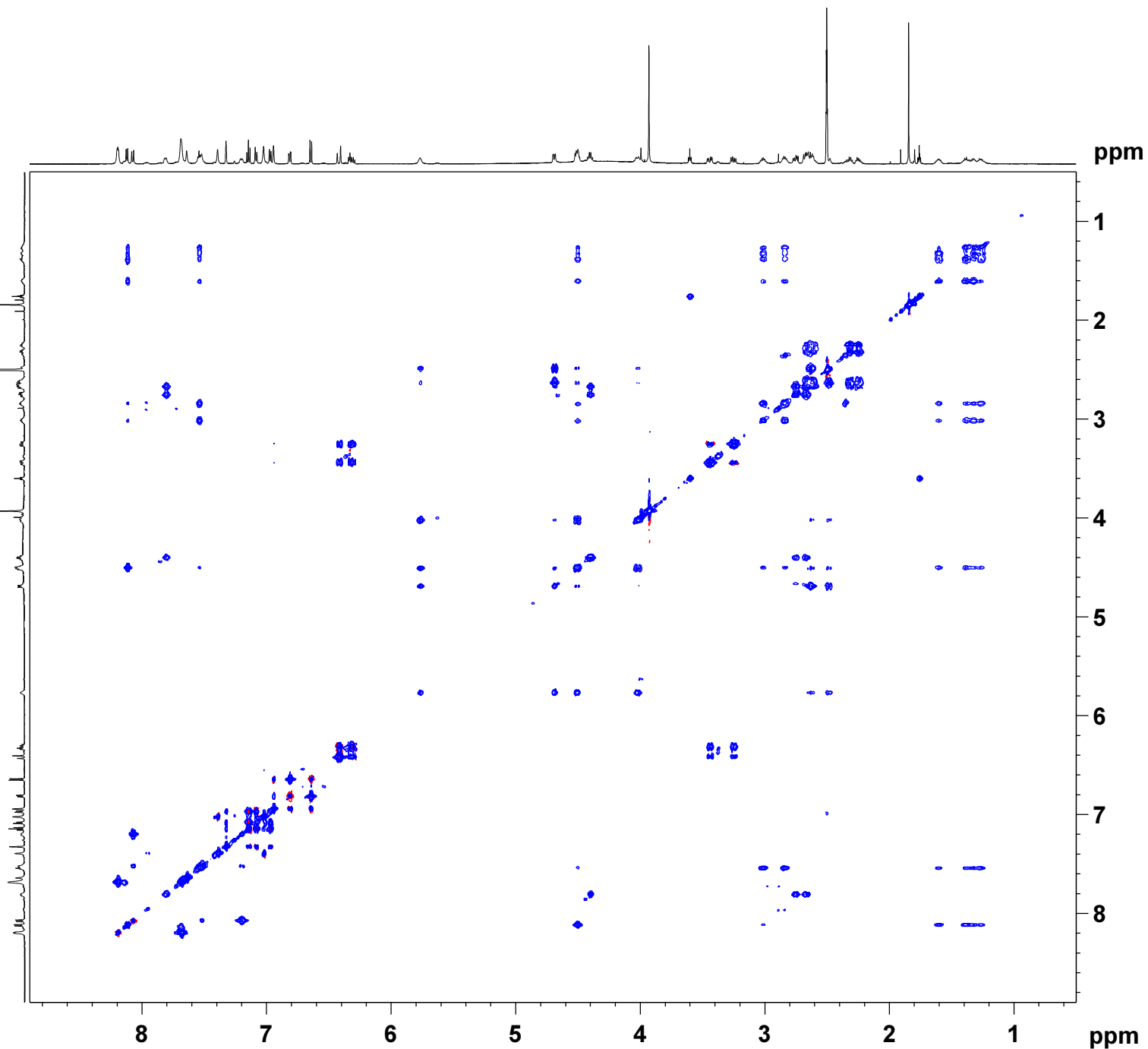
TD 256
SFO1 600.1327 MHz
FIDRES 21.046606 Hz
SW 8.978 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters

SI 4096
SF 600.1300087 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters

SI 4096
MC2 echo-antiecho
SF 600.1300065 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
 NAME TR3-139
 EXPNO 5
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120402
 Time 21.08
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG hsqcetgpsisp
 TD 2048
 SOLVENT DMSO
 NS 8
 DS 16
 SWH 6009.615 Hz
 FIDRES 2.934382 Hz
 AQ 0.1704436 sec
 RG 23170.5
 DW 83.200 usec
 DE 6.00 usec
 TE 298.0 K
 CNST2 145.0000000
 D0 0.00000300 sec
 D1 1.00000000 sec
 D4 0.00172414 sec
 D11 0.03000000 sec
 D16 0.00020000 sec
 D24 0.00086200 sec
 IN0 0.00002070 sec
 ZGPTNS

===== CHANNEL f1 =====
 NUC1 1H
 P1 9.66 usec
 P2 19.32 usec
 P28 1000.00 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1327006 MHz

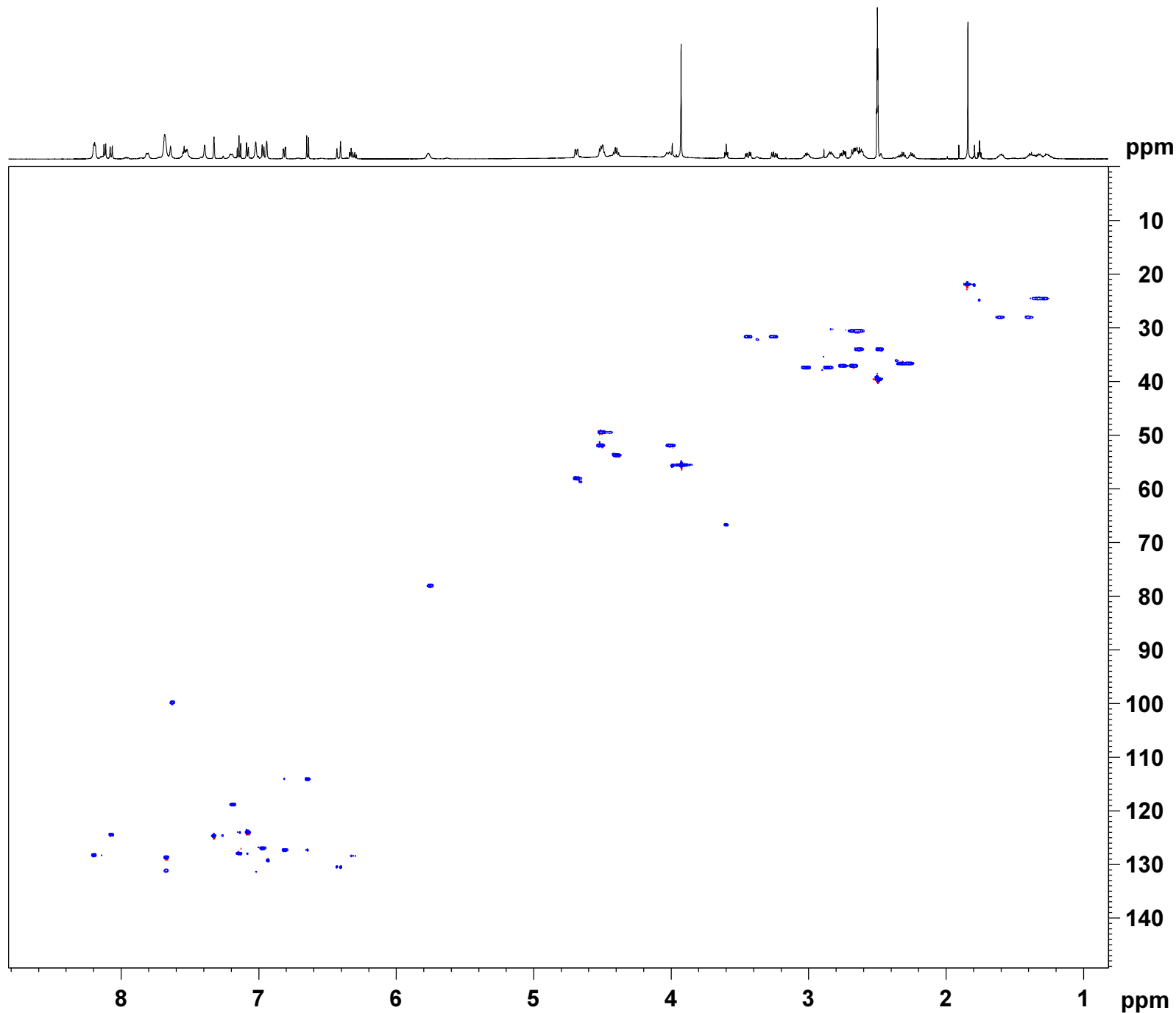
===== CHANNEL f2 =====
 CPDPRG2 garp
 NUC2 13C
 P3 18.50 usec
 P4 37.00 usec
 P14 1000.00 usec
 PCPD2 65.00 usec
 PL0 120.00 dB
 PL2 -3.00 dB
 PL12 7.91 dB
 PL0W 0 W
 PL2W 150.35617065 W
 PL12W 12.19330025 W
 SFO2 150.9133722 MHz
 SP3 4.59 dB
 SPNAM3 Crp80,0.5,20.1
 SPOAL3 0.500
 SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
 GPNAM1 SINE.100
 GPNAM2 SINE.100
 GPX1 0 %
 GPX2 0 %
 GPY1 0 %
 GPY2 0 %
 GPZ1 80.00 %
 GPZ2 20.10 %
 P16 1000.00 usec

F1 - Acquisition parameters
 TD 512
 SFO1 150.9134 MHz
 FIDRES 47.160427 Hz
 SW 160.000 ppm
 FhMODE Echo-Antiecho

F2 - Processing parameters
 SI 4096
 SF 600.1300057 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

F1 - Processing parameters
 SI 4096
 MC2 echo-antiecho
 SF 150.9029251 MHz
 WDW
 SSB 2
 LB 0 Hz
 GB 0



Current Data Parameters
NAME TR3-139
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120402
Time 22.31
INSTRUM av600

PROBHD 5 mm TBI5
PULPROG hmbcgp12ndqf
TD 2048
SOLVENT DMSO
NS 40
DS 24
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST6 125.0000000
CNST7 165.0000000
CNST13 8.0000000
D0 0.00000300 sec
D1 1.20000005 sec
D6 0.06250000 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 9.66 usec
P2 19.32 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

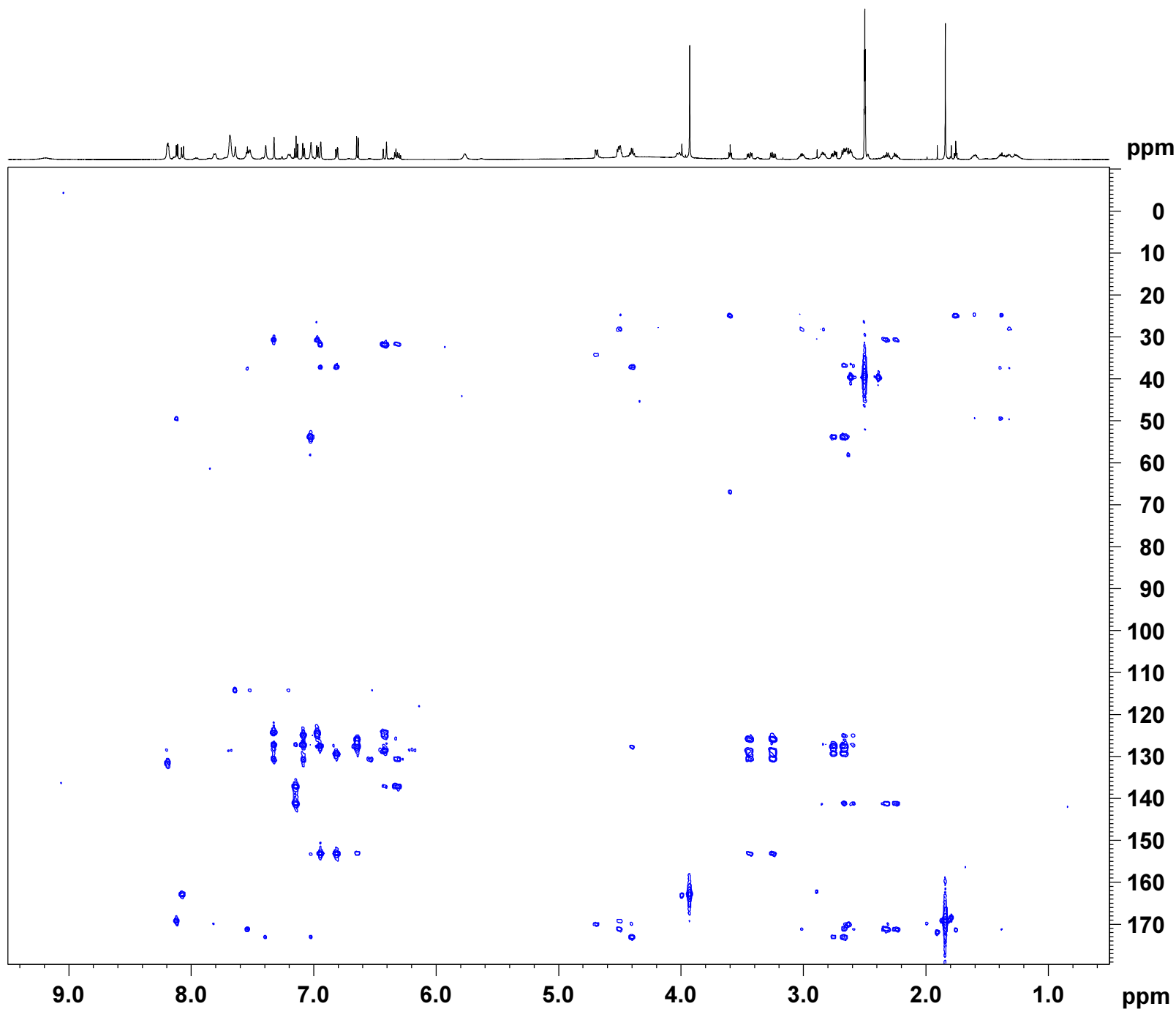
===== CHANNEL f2 =====
NUC2 13C
P3 18.50 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPNAM4 SINE.100
GPNAM5 SINE.100
GPNAM6 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPX4 0 %
GPX5 0 %
GPX6 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPY4 0 %
GPY5 0 %
GPY6 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
GPZ4 15.00 %
GPZ5 -10.00 %
GPZ6 -5.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 150.9156 MHz
FIDRES 112.007698 Hz
SW 190.000 ppm
FnMODE QF

F2 - Processing parameters
SI 4096
SF 600.1300062 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9029013 MHz
WDW
SSB 2
LB 0 Hz
GB 0

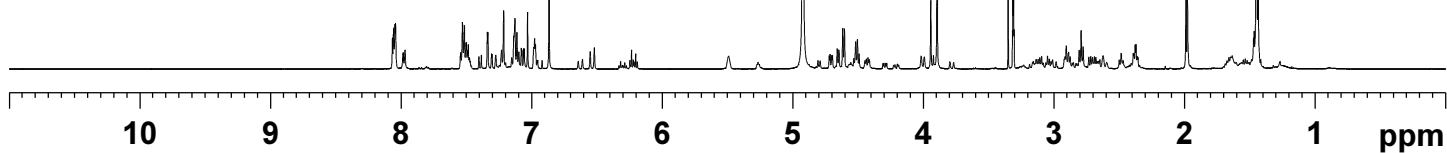
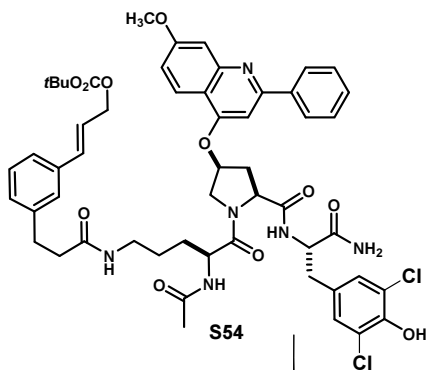


Current Data Parameters
 NAME TR3-160
 EXPNO 1
 PROCNO 1

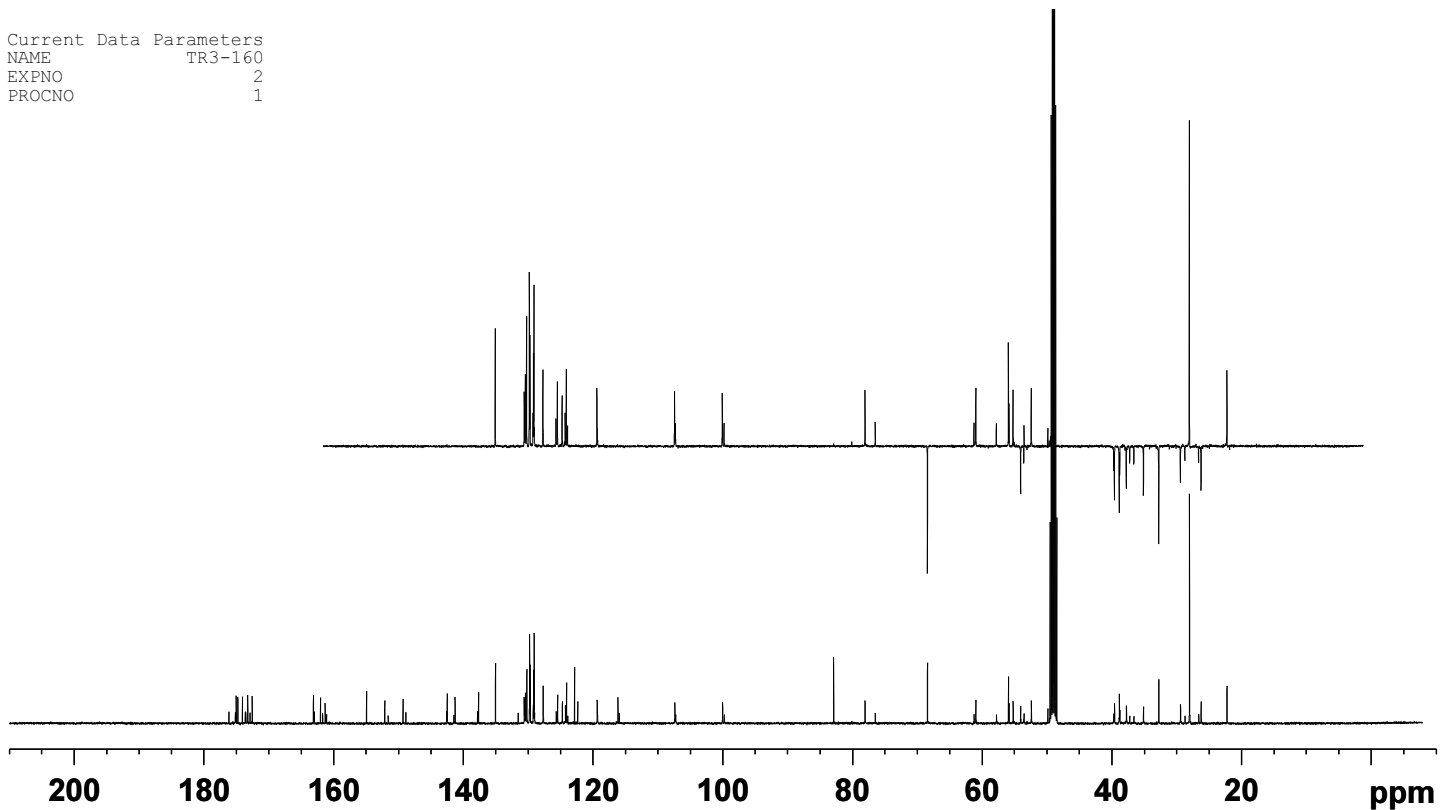
F2 - Acquisition Parameters
 Date_ 20120410
 Time_ 10.49
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zg30
 TD 65536
 SOLVENT MeOD
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 7.73
 DW 50.000 usec
 DE 10.00 usec
 TE 296.0 K
 D1 2.00000000 sec
 TDO 1

===== CHANNEL f1 =====
 NUC1 1H
 P1 10.00 usec
 PLW1 13.50000000 W
 SFO1 500.1330008 MHz

F2 - Processing parameters
 SI 65536
 SF 500.1300109 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

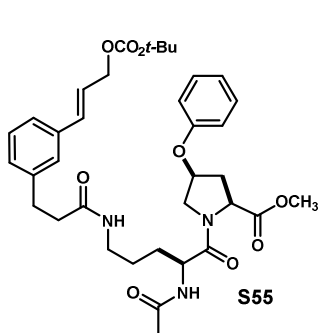


Current Data Parameters
 NAME TR3-160
 EXPNO 2
 PROCNO 1



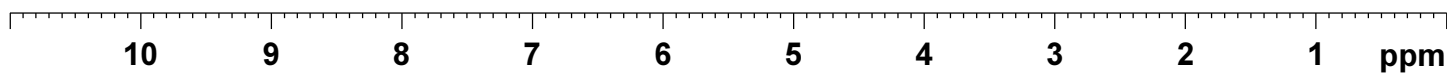
Current Data Parameters
NAME TR4-216A
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130705
Time_ 21.32
INSTRUM av500
PROBHD 5 mm DCH 13C-1
PULPROG zg30
TD 65536
SOLVENT DMSO
NS 8
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2768500 sec
RG 11
DW 50.000 usec
DE 10.00 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

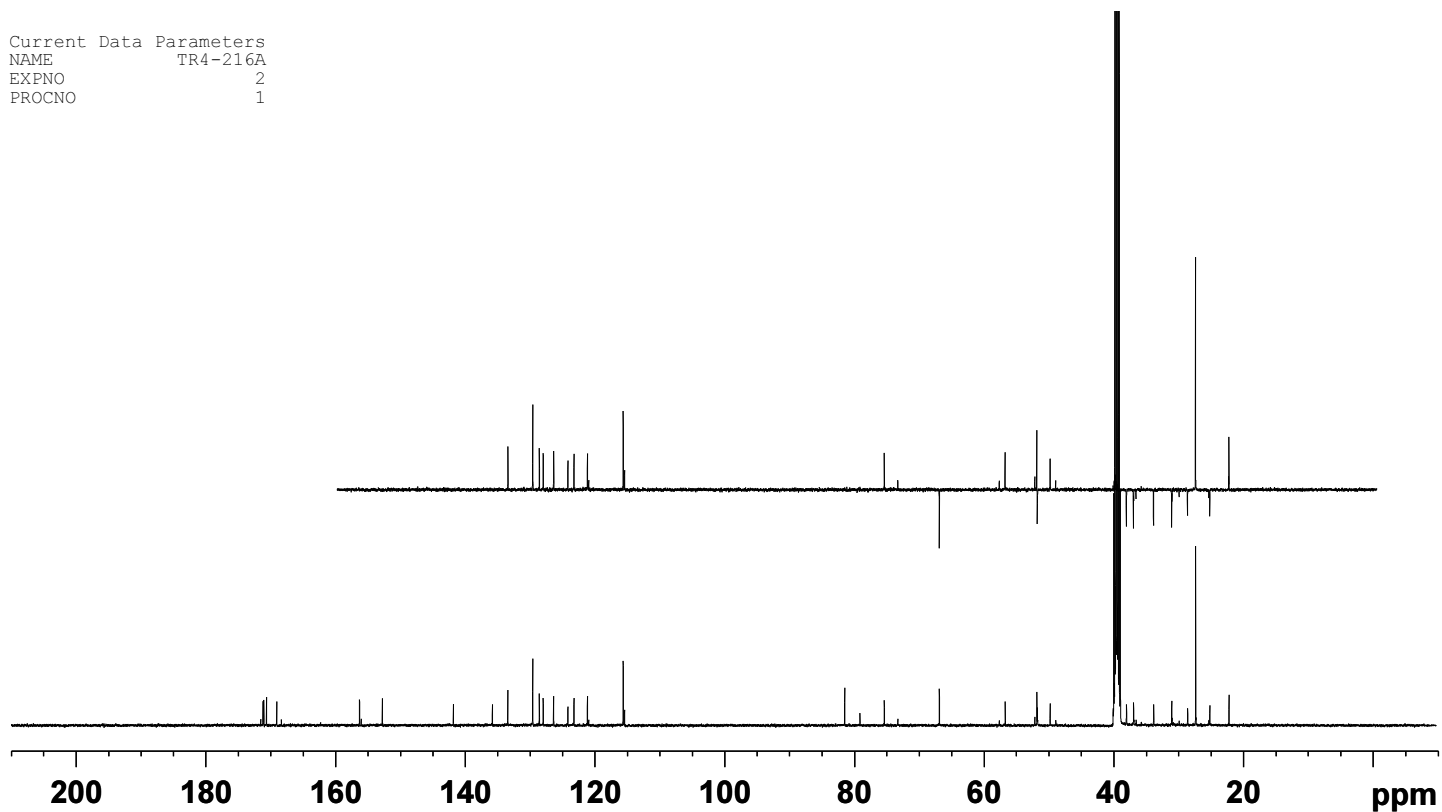


===== CHANNEL f1 =====
SF01 500.1330008 MHz
NUC1 1H
P1 10.00 usec
PLW1 13.50000000 W

F2 - Processing parameters
SI 65536
SF 500.1300056 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

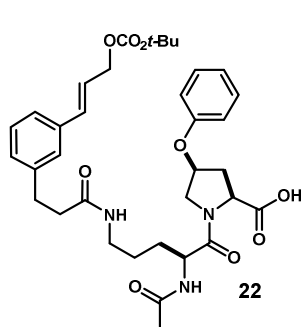


Current Data Parameters
NAME TR4-216A
EXPNO 2
PROCNO 1



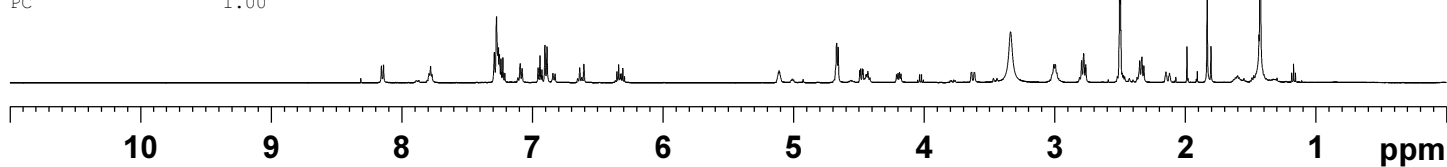
Current Data Parameters
 NAME KL-5-179_acyclic
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20130709
 Time_ 18.40
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zg30
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 11
 DW 50.000 usec
 DE 10.00 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1

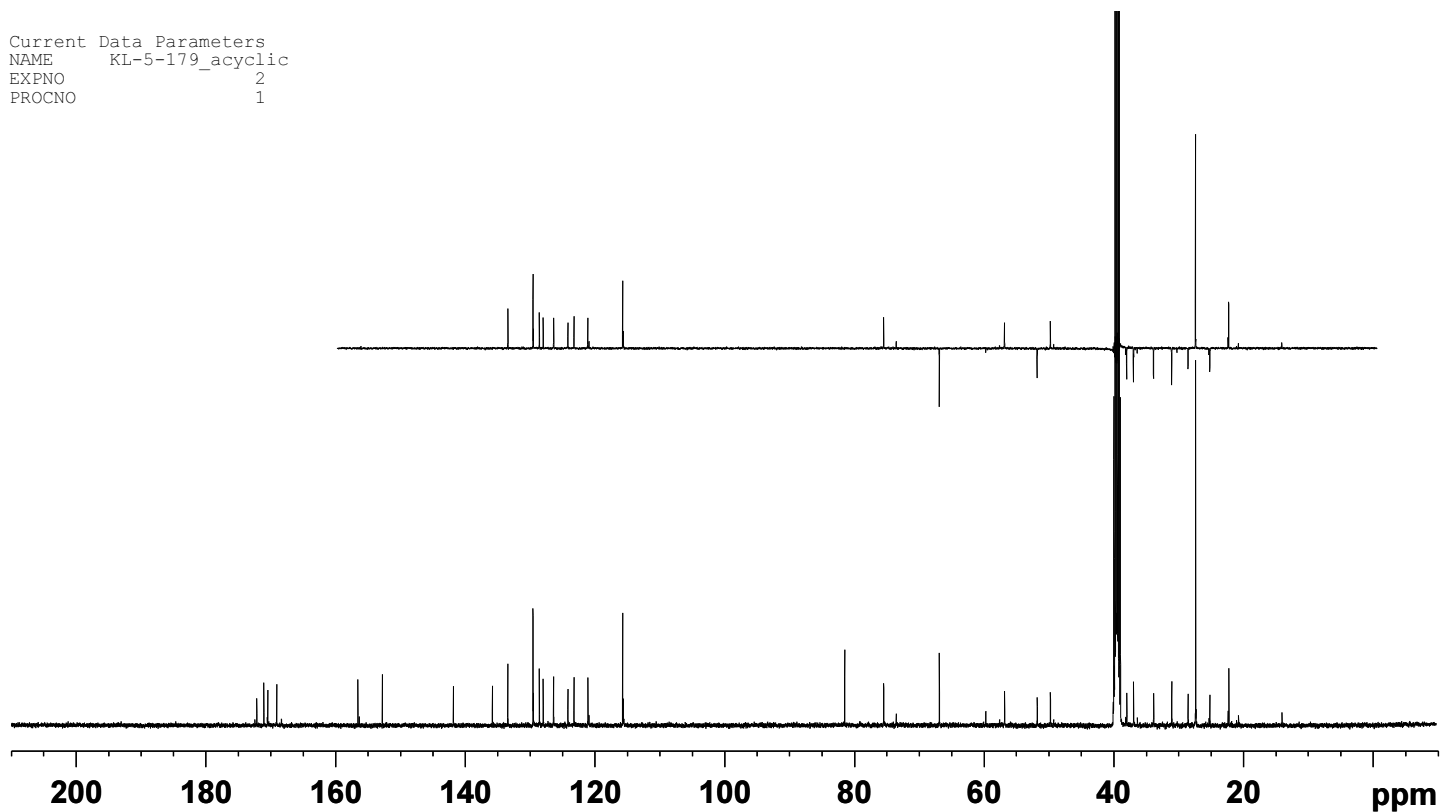


===== CHANNEL f1 =====
 SF01 500.1330008 MHz
 NUC1 1H
 P1 10.00 usec
 PLW1 13.50000000 W

F2 - Processing parameters
 SI 65536
 SF 500.1300043 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



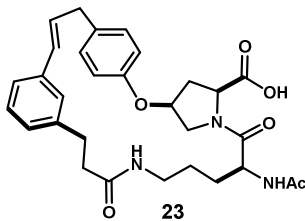
Current Data Parameters
 NAME KL-5-179_acyclic
 EXPNO 2
 PROCNO 1



Current Data Parameters
 NAME KL-5-179
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters

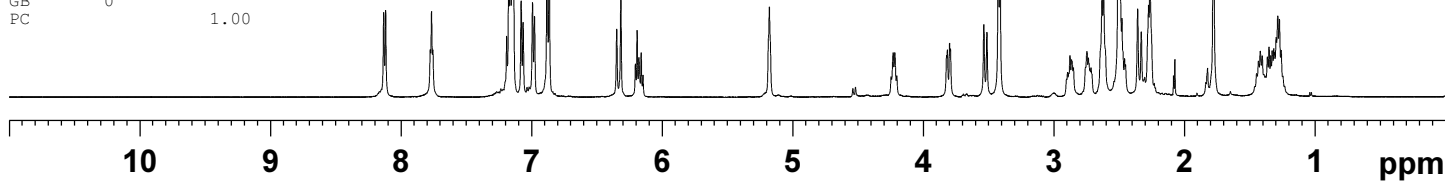
Date_ 20130701
 Time 18.08
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zgpr
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 11
 DW 50.000 usec
 DE 10.00 usec
 TE 295.0 K
 D1 2.00000000 sec
 D12 0.00002000 sec
 TD0 1



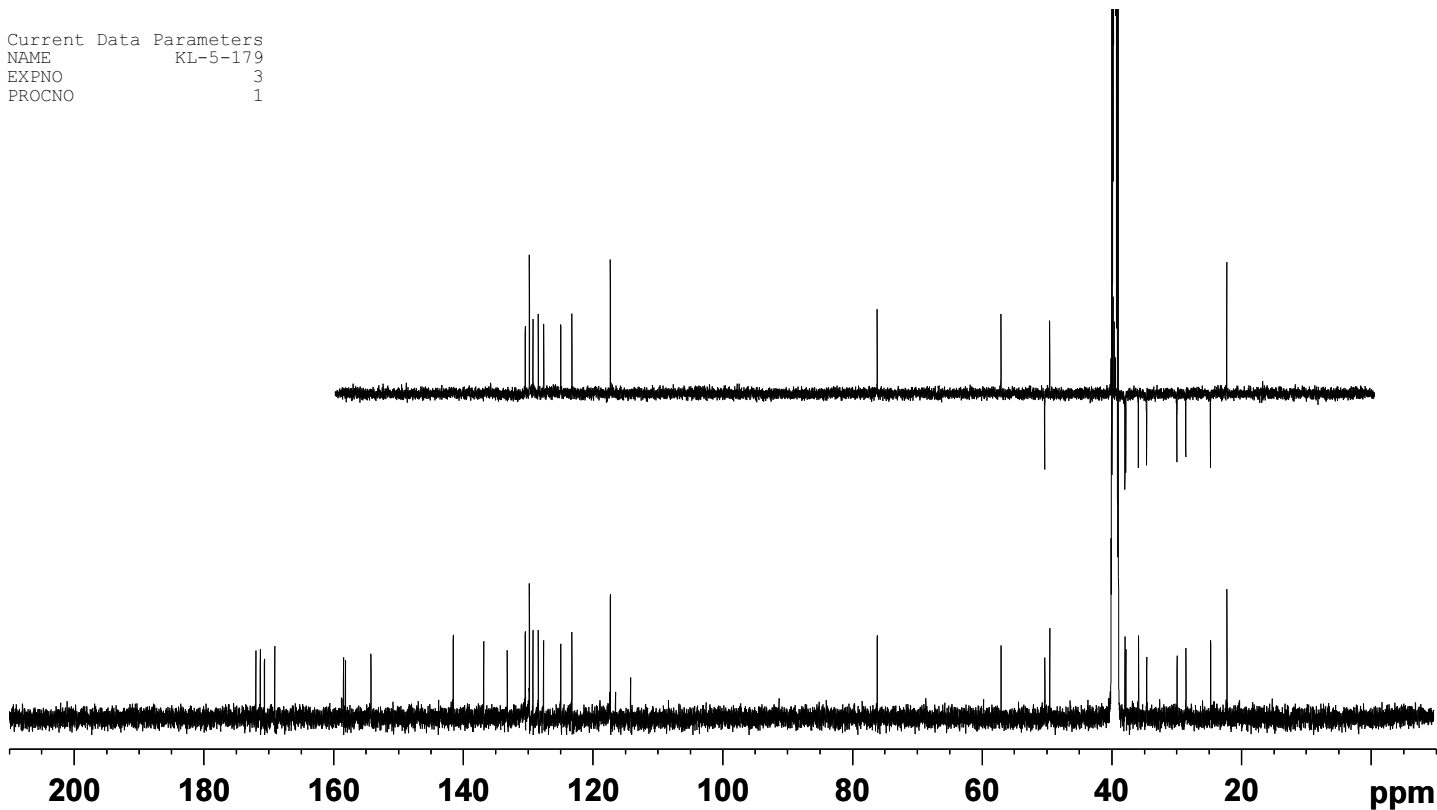
===== CHANNEL f1 =====
 SFO1 500.1322951 MHz
 NUC1 1H
 P1 10.00 usec
 PLW1 13.50000000 W
 PLW9 0.00005400 W

F2 - Processing parameters

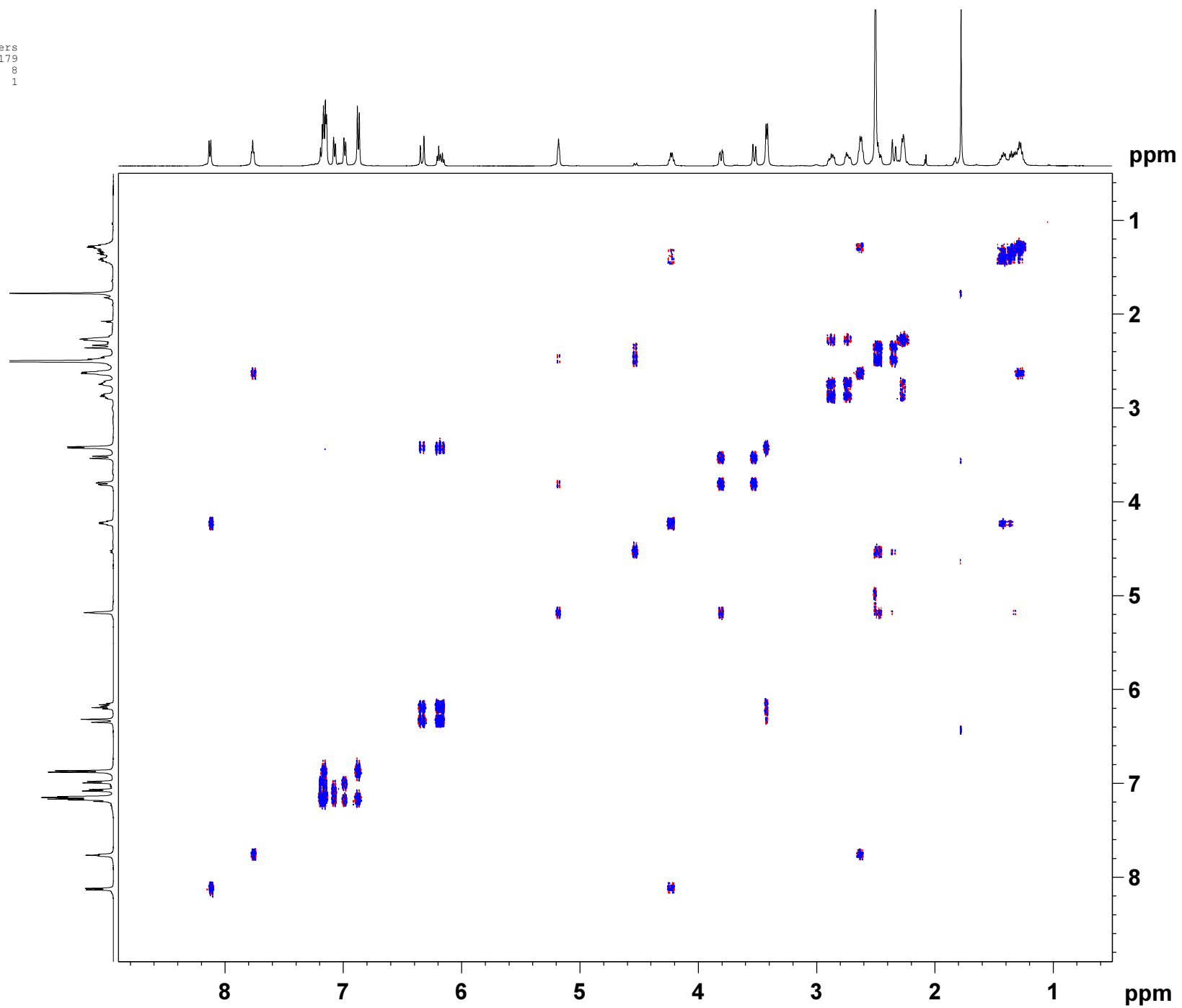
SI 65536
 SF 500.1300056 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



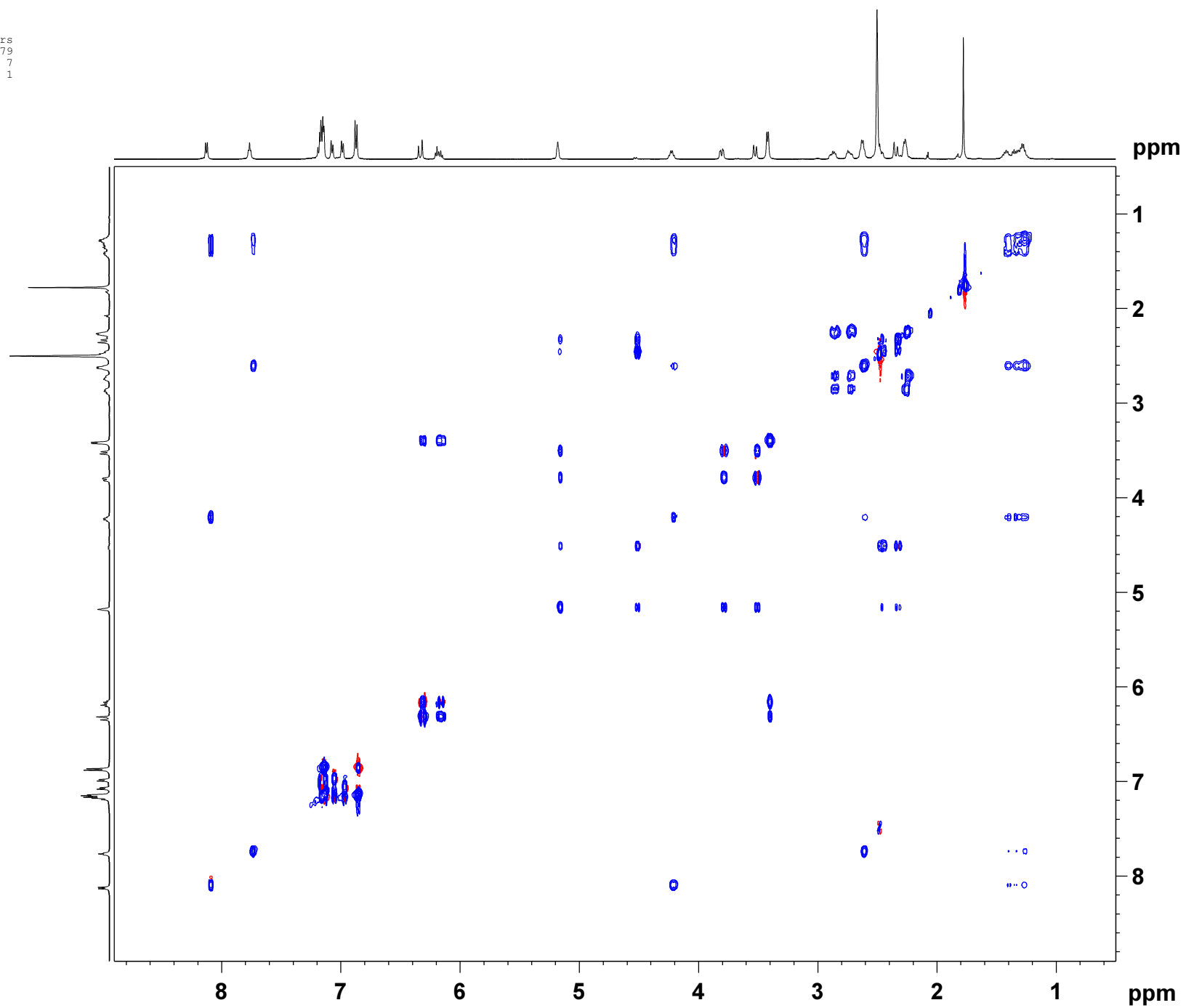
Current Data Parameters
 NAME KL-5-179
 EXPNO 3
 PROCNO 1



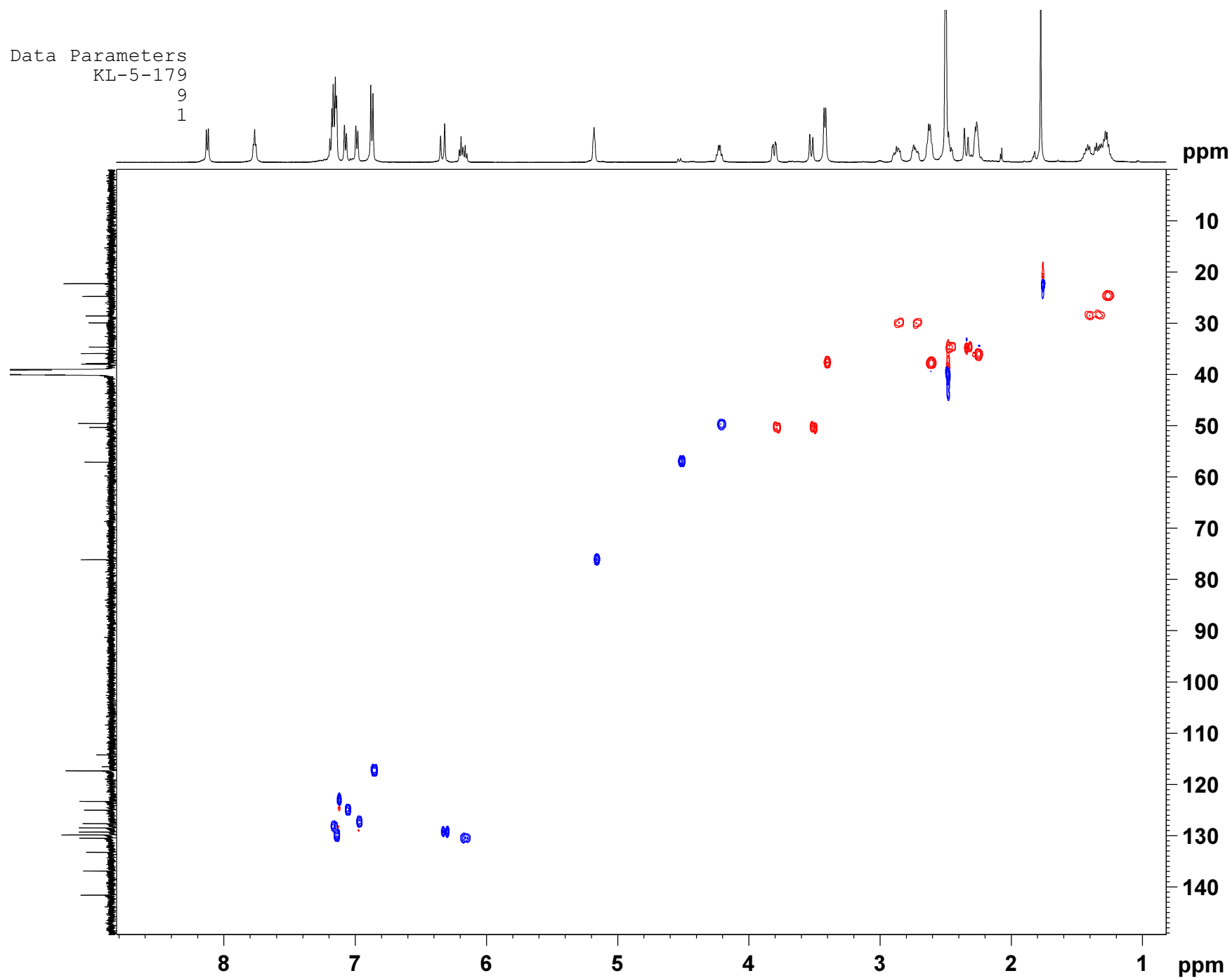
Current Data Parameters
NAME KL-5-179
EXPNO 8
PROCNO 1



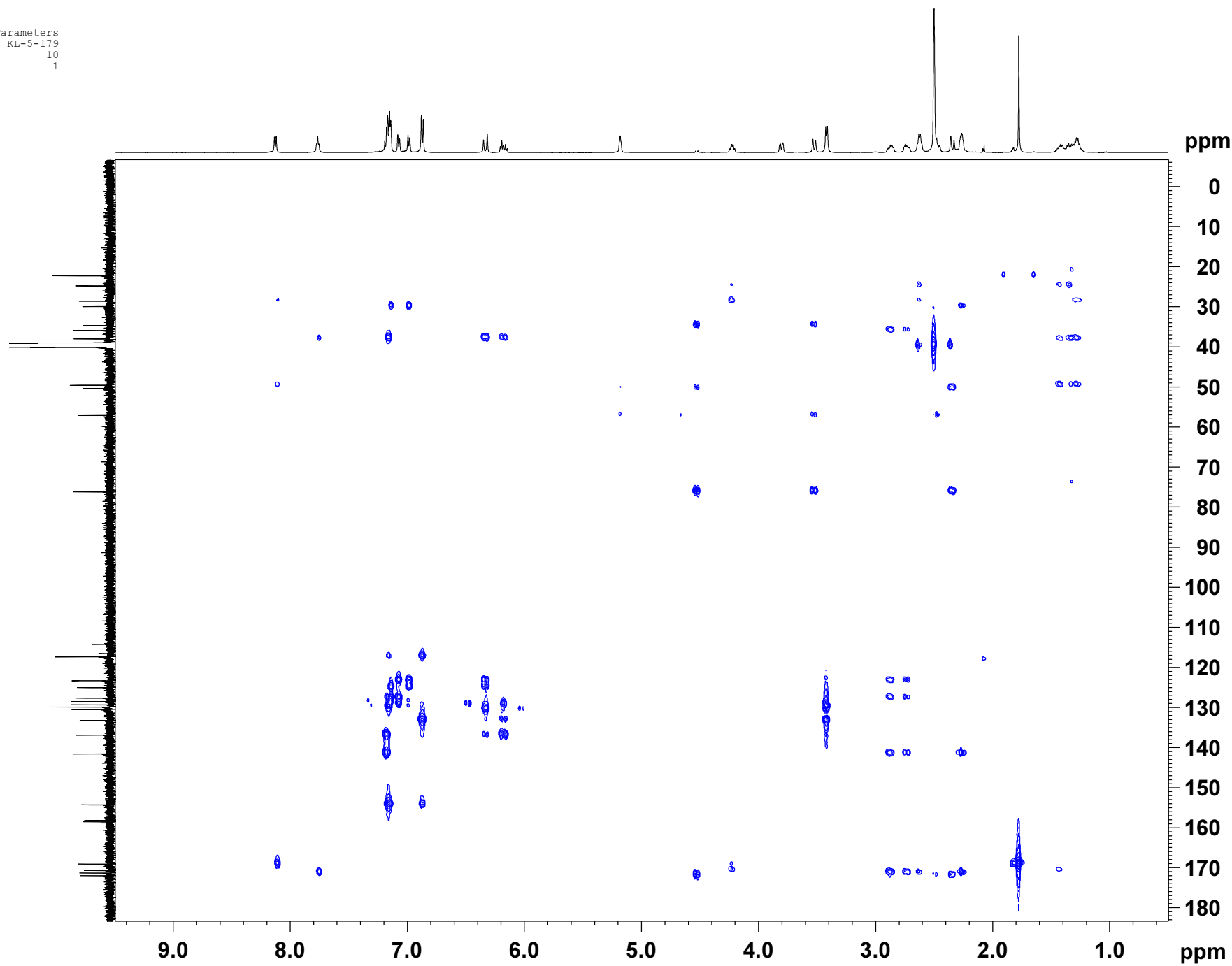
Current Data Parameters
NAME KL-5-179
EXPNO 7
PROCNO 1



Current Data Parameters
NAME KL-5-179
EXPNO 9
PROCNO 1

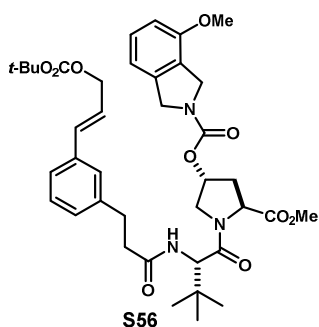


Current Data Parameters
NAME KL-5-179
EXPNO 10
PROCNO 1



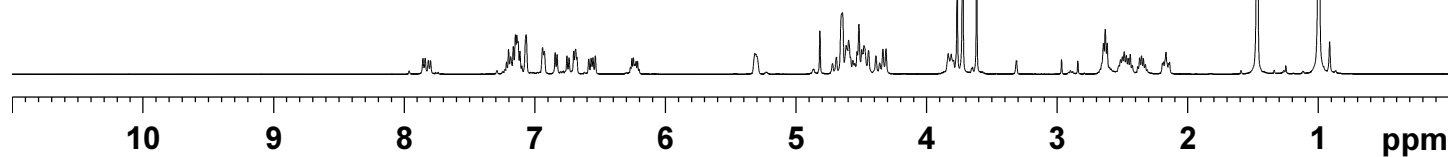
Current Data Parameters
NAME TR4-266
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130826
Time_ 20.22
INSTRUM drx500
PROBHD 5 mm bb-Z Z800
PULPROG zg
TD 65536
SOLVENT MeOD
NS 8
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2768500 sec
RG 10.1
DW 50.000 usec
DE 6.00 usec
TE 296.6 K
D1 2.00000000 sec
TD0 1

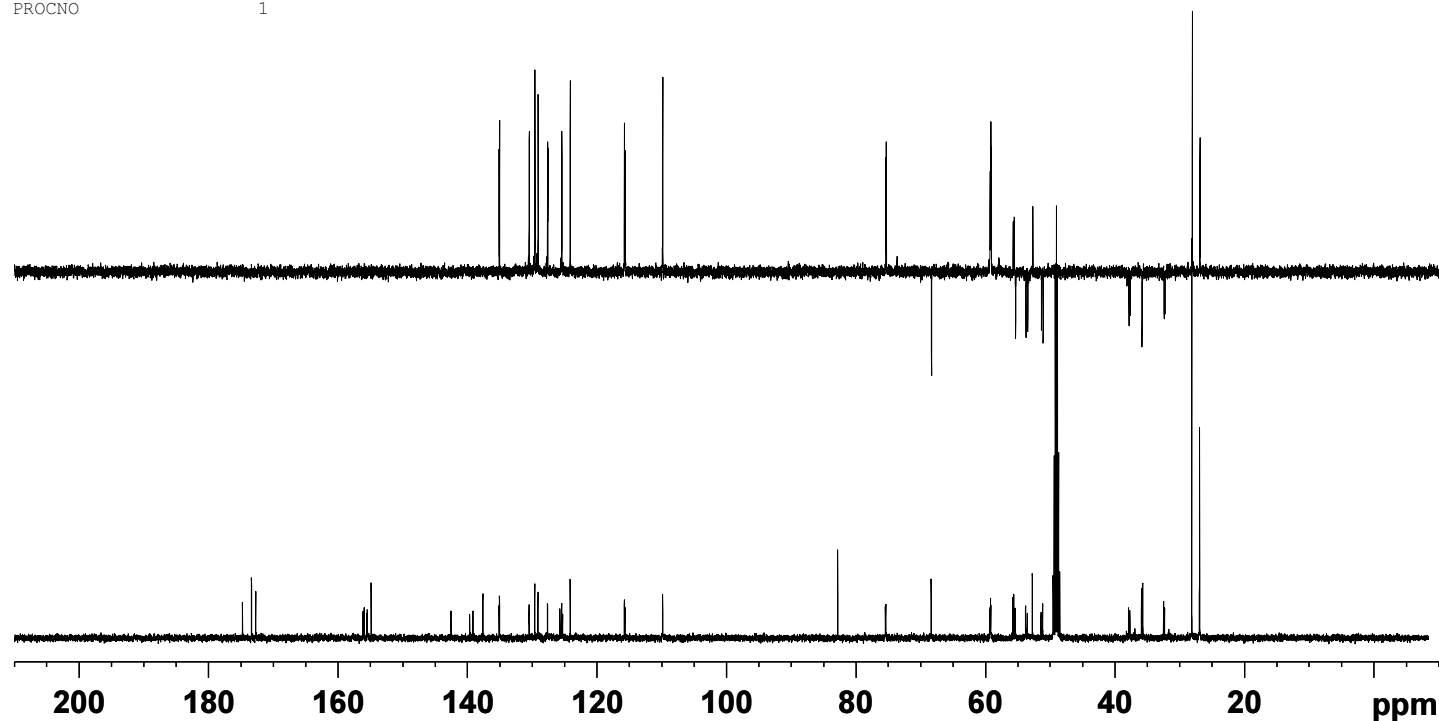


===== CHANNEL f1 =====
NUC1 1H
P1 13.35 usec
PL1 0 dB
SFO1 500.3330020 MHz

F2 - Processing parameters
SI 32768
SF 500.3300089 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

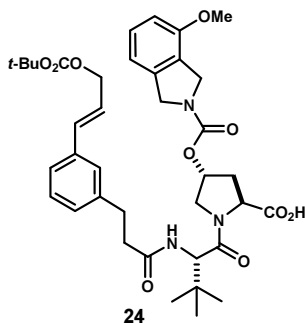


Current Data Parameters
NAME TR4-266
EXPNO 2
PROCNO 1



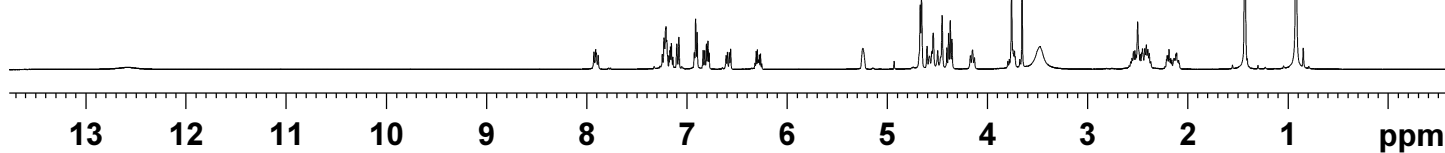
Current Data Parameters
 NAME TR4-267_AV500
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140407
 Time_ 22.15
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 5.74
 DW 50.000 usec
 DE 10.00 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1

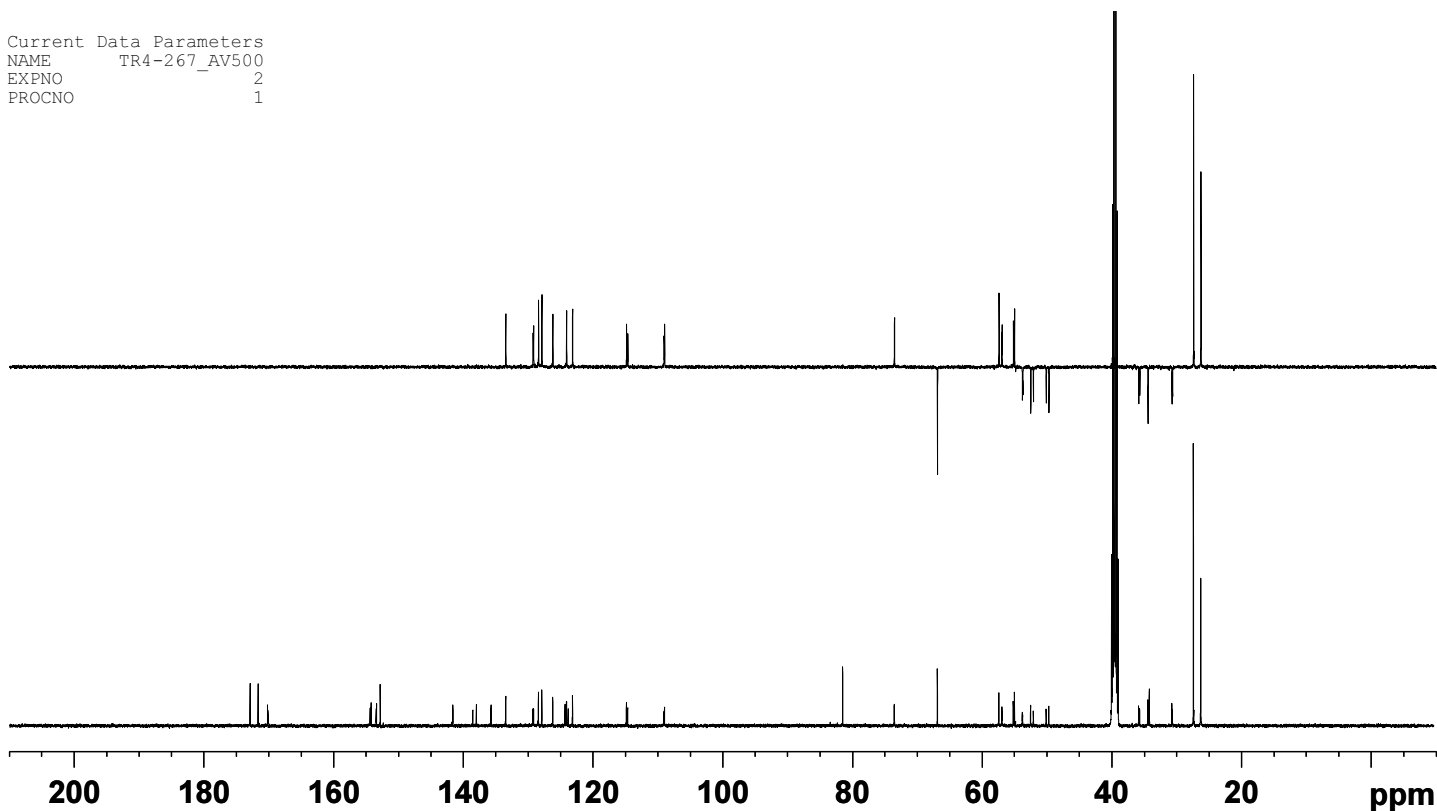


===== CHANNEL f1 =====
 SF01 500.1330008 MHz
 NUC1 1H
 P1 9.73 usec
 PLW1 13.50000000 W

F2 - Processing parameters
 SI 65536
 SF 500.1300047 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

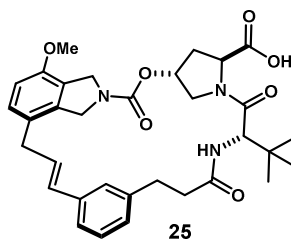


Current Data Parameters
 NAME TR4-267_AV500
 EXPNO 2
 PROCNO 1



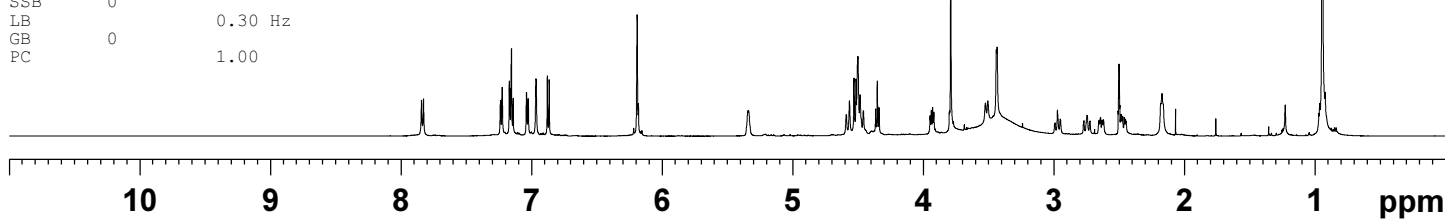
Current Data Parameters
 NAME TR4-270
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20130903
 Time_ 20.52
 INSTRUM av600
 PROBHD 5 mm BB5
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 35.9
 DW 40.400 usec
 DE 6.50 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1



===== CHANNEL f1 =====
 NUC1 1H
 P1 15.32 usec
 PL1 -1.00 dB
 PL1W 31.62277603 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300071 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME TR4-270
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130903
Time 21.11
INSTRUM av600
PROBHD 5 mm BB5
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 1
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 6502
DW 83.200 usec
DE 6.50 usec
TE 298.0 K
DO 0.00006369 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00016640 sec

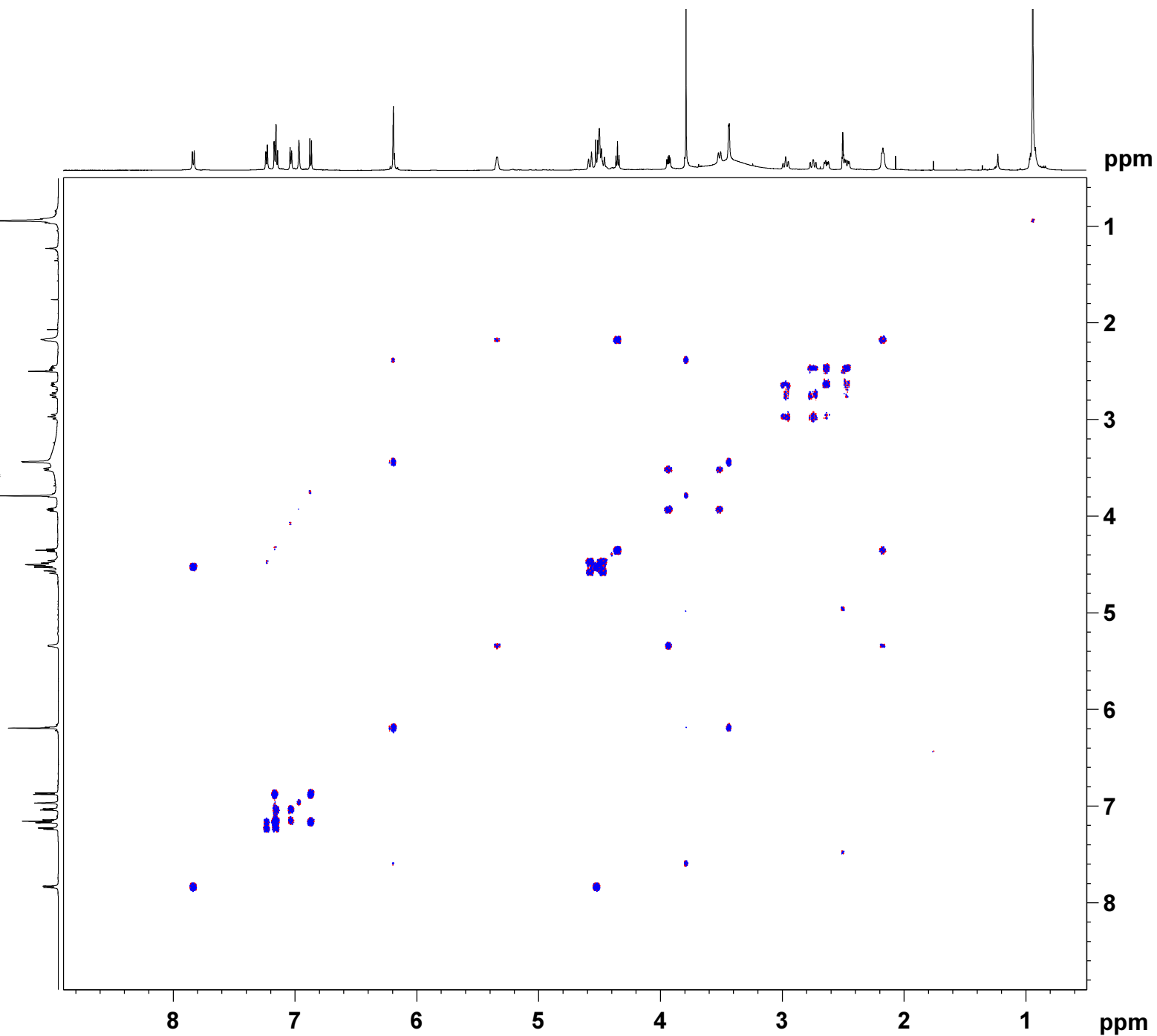
===== CHANNEL f1 =====
NUC1 1H
P1 15.32 usec
P2 30.64 usec
PL1 -1.00 dB
PL1W 31.62277603 W
SFO1 600.1330006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.133 MHz
FIDRES 11.737530 Hz
SW 10.014 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300063 MHz
WDW QSINE
SSB 1
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300056 MHz
WDW
SSB 1
LB 0 Hz
GB 0



Current Data Parameters
NAME TR4-270
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters

Date_ 20130903
Time 21.26
INSTRUM av600
PROBHD 5 mm BB5
PULPROG mlevessgpph
TD 2048
SOLVENT DMSO
NS 4
DS 16
SWH 7183.908 Hz
FIDRES 3.507768 Hz
AQ 0.1425908 sec
RG 322.5
DW 69.600 usec
DE 6.50 usec
TE 298.0 K
D0 0.00003985 sec
D1 1.00000000 sec
D9 0.06000000 sec
D12 0.00002000 sec
D16 0.00020000 sec
IN0 0.00013920 sec
L1 24

===== CHANNEL f1 =====

NUC1 1H
P1 15.32 usec
P2 30.64 usec
P5 26.68 usec
P6 40.00 usec
P7 80.00 usec
P12 2000.00 usec
P17 2500.00 usec
PL0 120.00 dB
PL1 -1.00 dB
PL10 7.34 dB
PL0W 0 W
PL1W 31.62277603 W
PL10W 4.63446903 W
SFO1 600.1336008 MHz
SP1 120.00 dB
SPNAM1 Squal00.1000
SPOAL1 0.500
SPOFFS1 -1551.78 Hz

===== GRADIENT CHANNEL =====

GPAM1 SINE.100
GPAM2 SINE.100
GPZ1 31.00 %
GPZ2 11.00 %
P16 1000.00 usec

F1 - Acquisition parameters

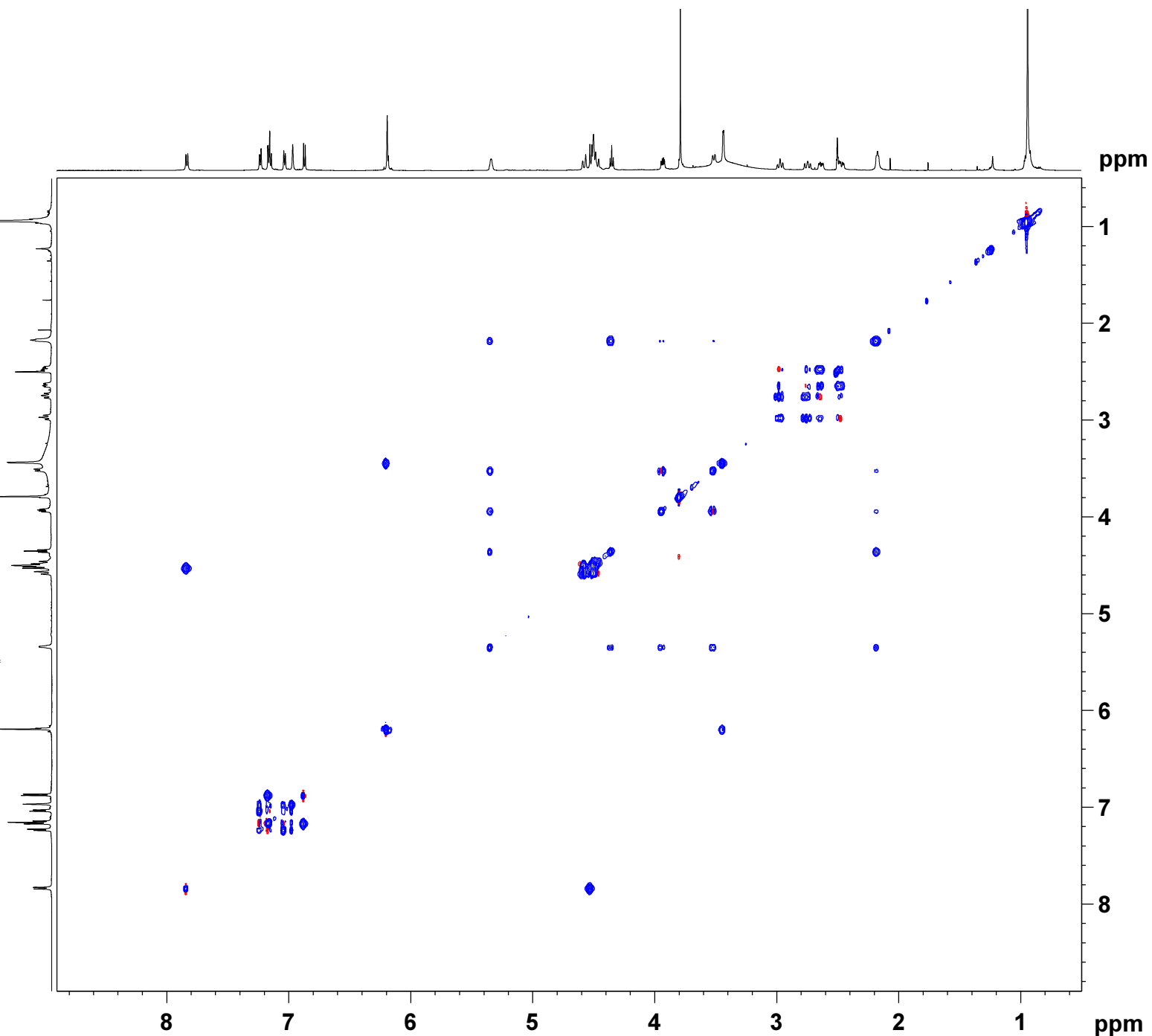
TD 256
SFO1 600.1336 MHz
FIDRES 28.062170 Hz
SW 11.971 ppm
FnMODE States-TPPI

F2 - Processing parameters

SI 4096
SF 600.1300000 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters

SI 4096
MC2 States-TPPI
SF 600.1300000 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR4-270
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130903
Time_ 21.47
INSTRUM av600
PROBHD 5 mm BB5
PULPROG hsqcetgpsisp
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 16384
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
D0 0.00000300 sec
D1 1.00000000 sec
D4 0.00172414 sec
D11 0.03000000 sec
D16 0.00020000 sec
D24 0.00086200 sec
IN0 0.00002070 sec
ZGPTNS

===== CHANNEL f1 =====
NUC1 1H
P1 15.32 usec
P2 30.64 usec
P28 1000.00 usec
PL1 -1.00 dB
PL1W 31.62277603 W
SFO1 600.1330006 MHz

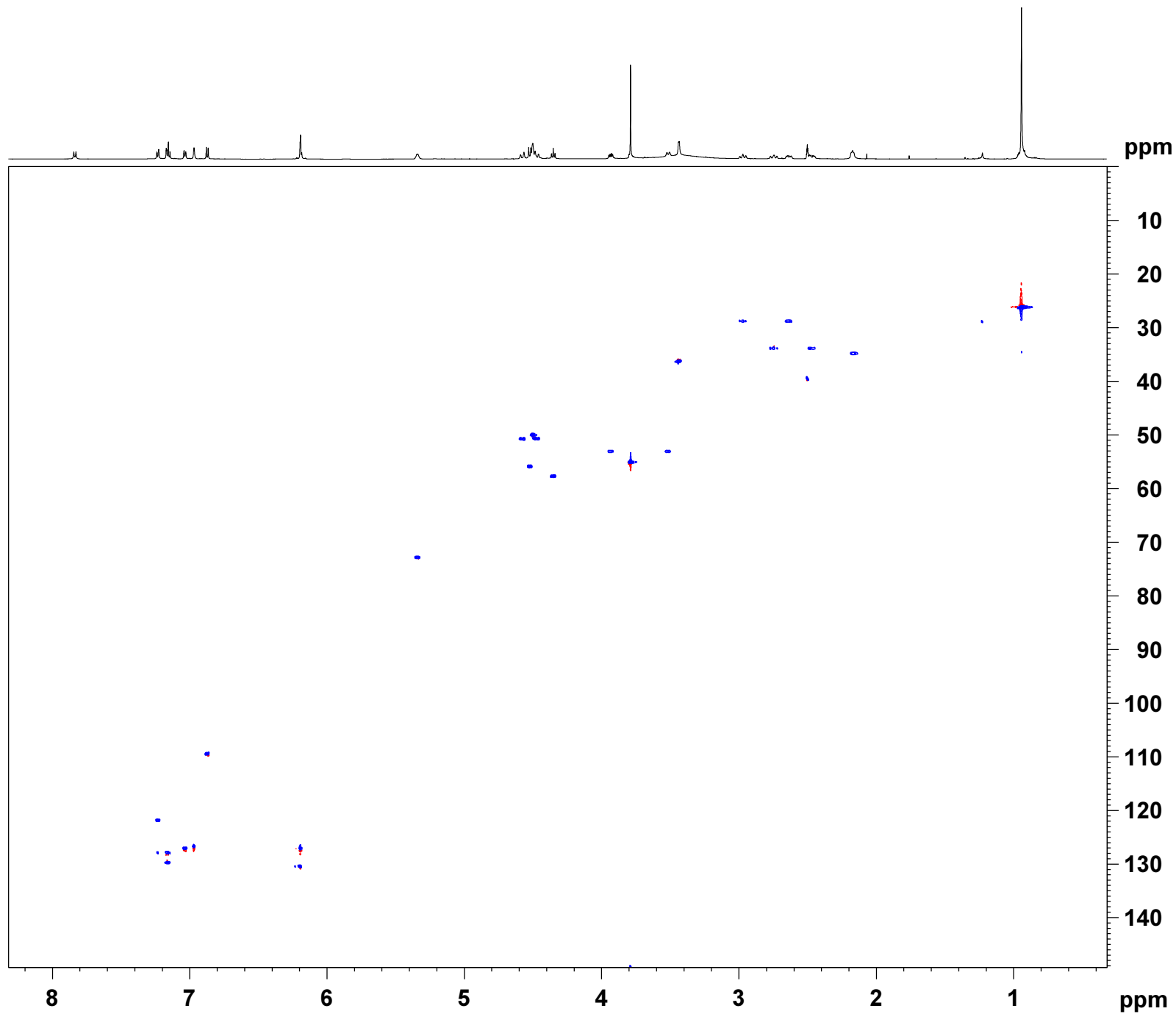
===== CHANNEL f2 =====
CPDPRG2 garp
NUC2 13C
P3 10.26 usec
P4 20.51 usec
P14 200.00 usec
PCPD2 65.00 usec
PL0 120.00 dB
PL2 0 dB
PL12 16.04 dB
PL0W 0 W
PL2W 75.35659027 W
PL12W 1.87551773 W
SFO2 150.9133722 MHz
SP3 12.71 dB
SPNAM3 Crp80,0.5,20.1
SPOAL3 0.500
SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
CPNAM1 SINE.100
CPNAM2 SINE.100
GPZ1 80.00 %
GPZ2 20.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 150.9134 MHz
FIDRES 47.160427 Hz
SW 160.000 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 600.1300062 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 echo-antiecho
SF 150.9029099 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR4-270
EXPNO 7
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130903
Time 22.10
INSTRUM av600
PROBHD 5 mm BB5
PULPROG hmbcgp1pndqf
TD 2048
SOLVENT DMSO
NS 6
DS 64
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
CNST13 7.0000000
D0 0.00000300 sec
D1 1.50000000 sec
D2 0.00344828 sec
D6 0.07142857 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 15.32 usec
P2 30.64 usec
PL1 -1.00 dB
PL1W 31.62277603 W
SFO1 600.1330006 MHz

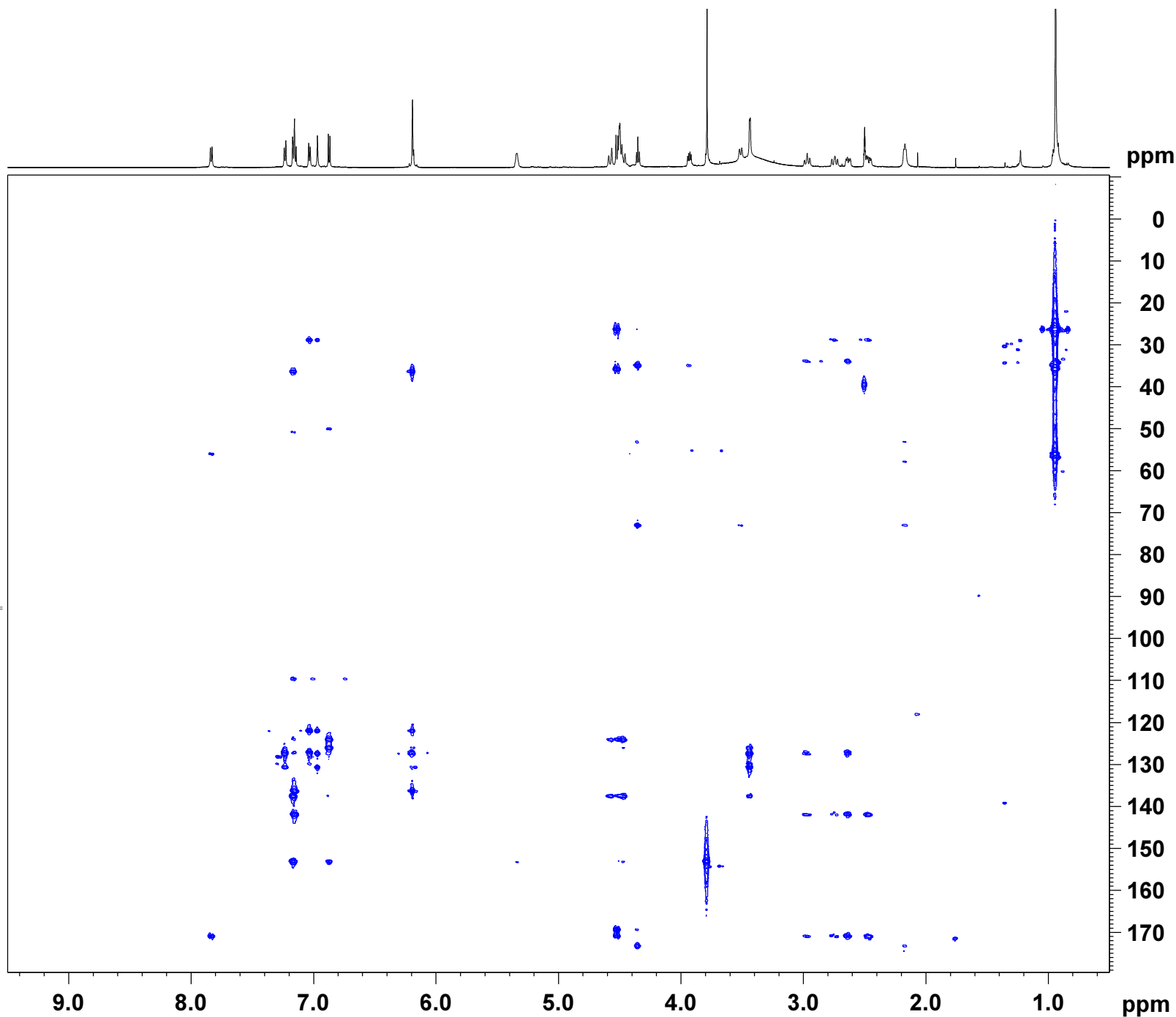
===== CHANNEL f2 =====
NUC2 13C
P3 10.26 usec
PL2 0 dB
PL2W 75.35659027 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 150.9156 MHz
FIDRES 56.003849 Hz
SW 190.000 ppm
FnMODE QF

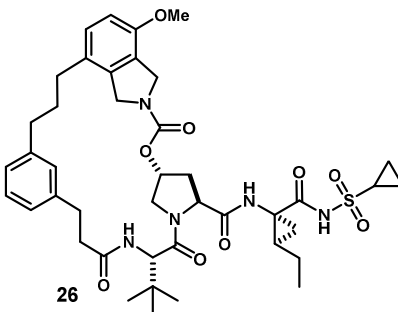
F2 - Processing parameters
SI 4096
SF 600.1300066 MHz
WDW QSINE
SSB 0
LB 0 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9028828 MHz
WDW
SSB 2
LB 0 Hz
GB 0



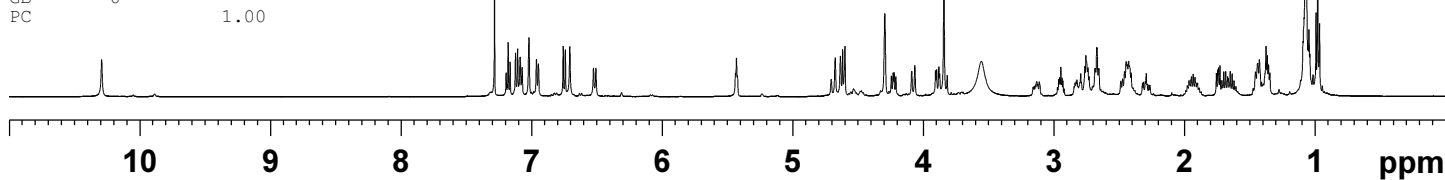
Current Data Parameters
 NAME TR5-50B_AV500
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140210
 Time_ 11.22
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zg
 TD 65536
 SOLVENT CDC13
 NS 32
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 7.89
 DW 50.000 usec
 DE 10.00 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1

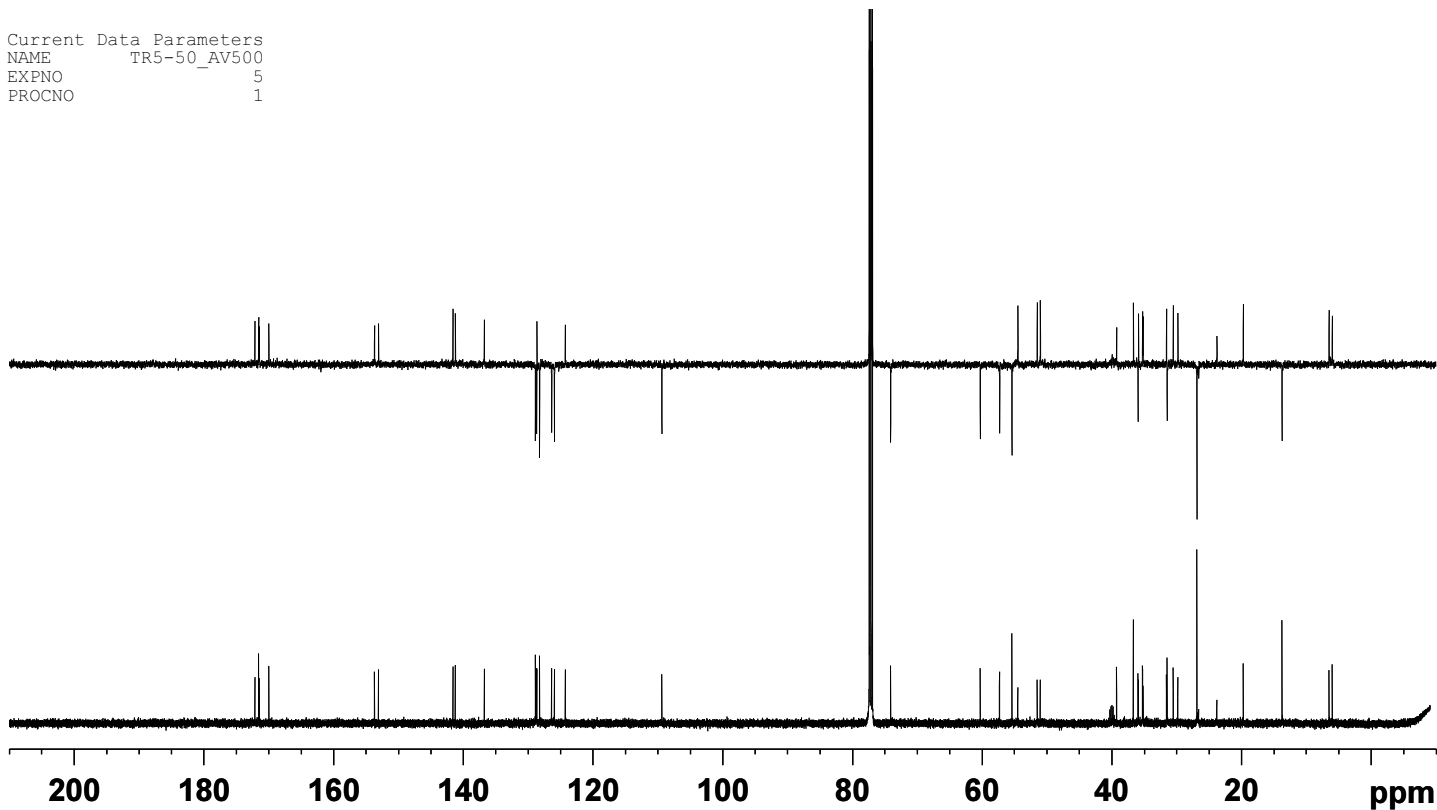


===== CHANNEL f1 =====
 SF01 500.1330008 MHz
 NUC1 1H
 P1 9.73 usec
 PLW1 13.50000000 W

F2 - Processing parameters
 SI 65536
 SF 500.1300000 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

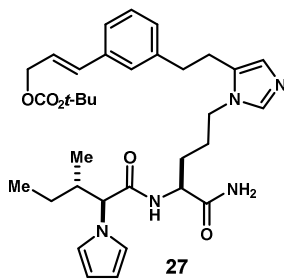


Current Data Parameters
 NAME TR5-50_AV500
 EXPNO 5
 PROCNO 1



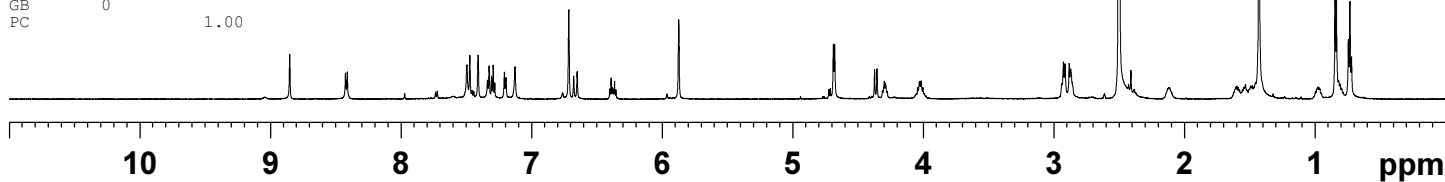
Current Data Parameters
 NAME TR_pyrroleVanLeusen2
 EXPNO 3
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140820
 Time_ 11.40
 INSTRUM av600
 PROBHD 5 mm BB5
 PULPROG zgpr
 TD 65536
 SOLVENT DMSO
 NS 40
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 256
 DW 40.400 usec
 DE 6.50 usec
 TE 294.8 K
 D1 2.00000000 sec
 D12 0.00002000 sec
 TD0 1

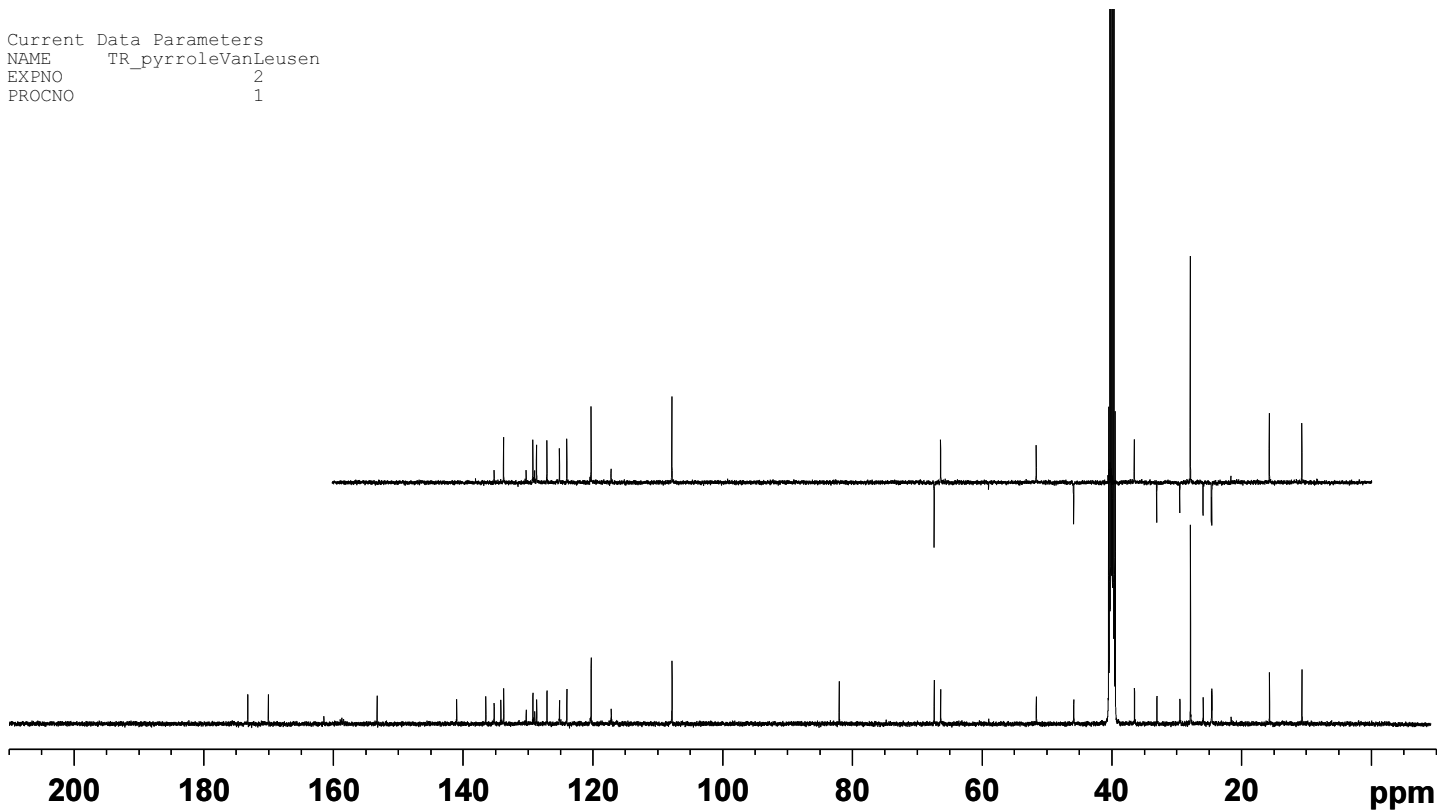


===== CHANNEL f1 =====
 NUC1 1H
 P1 16.00 usec
 PL1 -1.00 dB
 PL9 48.89 dB
 PL1W 31.62277603 W
 PL9W 0.00032434 W
 SFO1 600.1322492 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300077 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

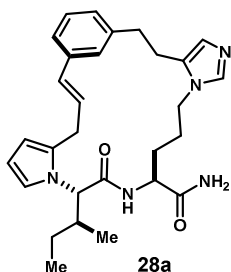


Current Data Parameters
 NAME TR_pyrroleVanLeusen
 EXPNO 2
 PROCNO 1



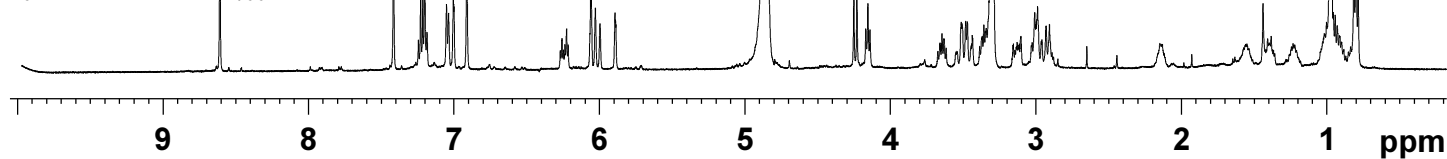
Current Data Parameters
 NAME HD6-162-1-cosy
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131125
 Time_ 18.28
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zg
 TD 65536
 SOLVENT MeOD
 NS 16
 DS 0
 SWH 5000.000 Hz
 FIDRES 0.076294 Hz
 AQ 6.5536499 sec
 RG 7
 DW 100.000 usec
 DE 10.00 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1

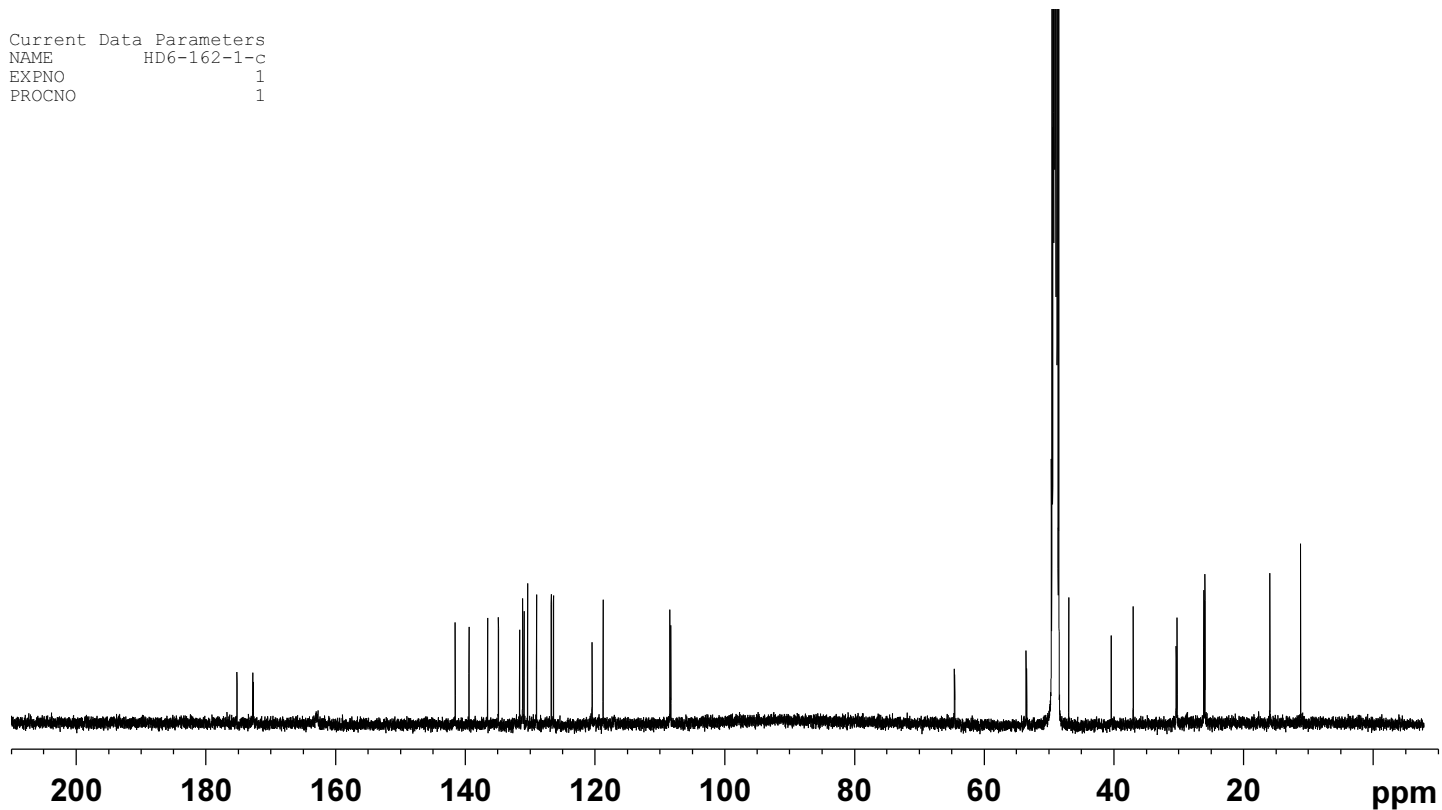


===== CHANNEL f1 =====
 SF01 500.1325007 MHz
 NUC1 1H
 P1 10.00 usec
 PLW1 13.50000000 W

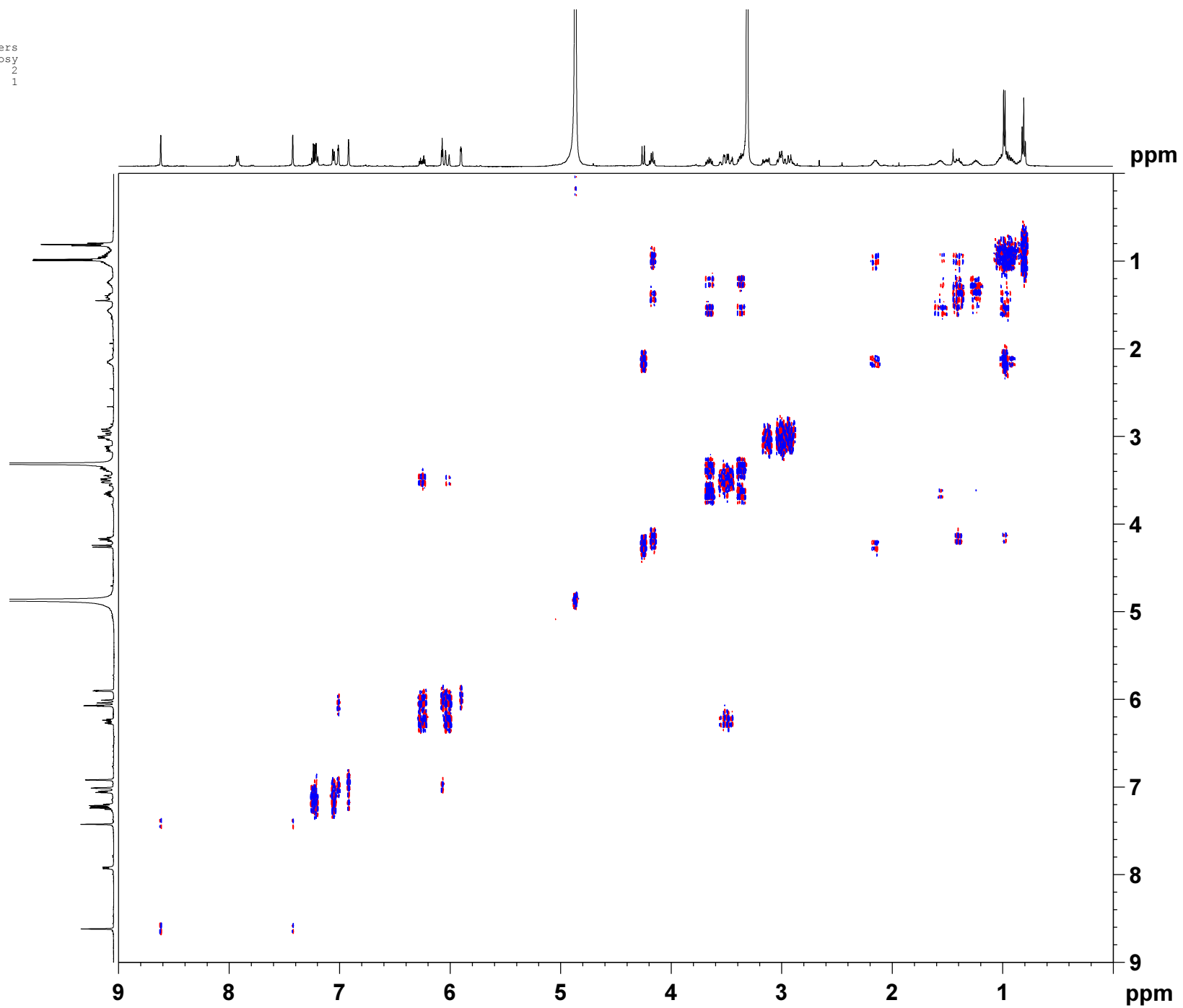
F2 - Processing parameters
 SI 65536
 SF 500.1300146 MHz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00



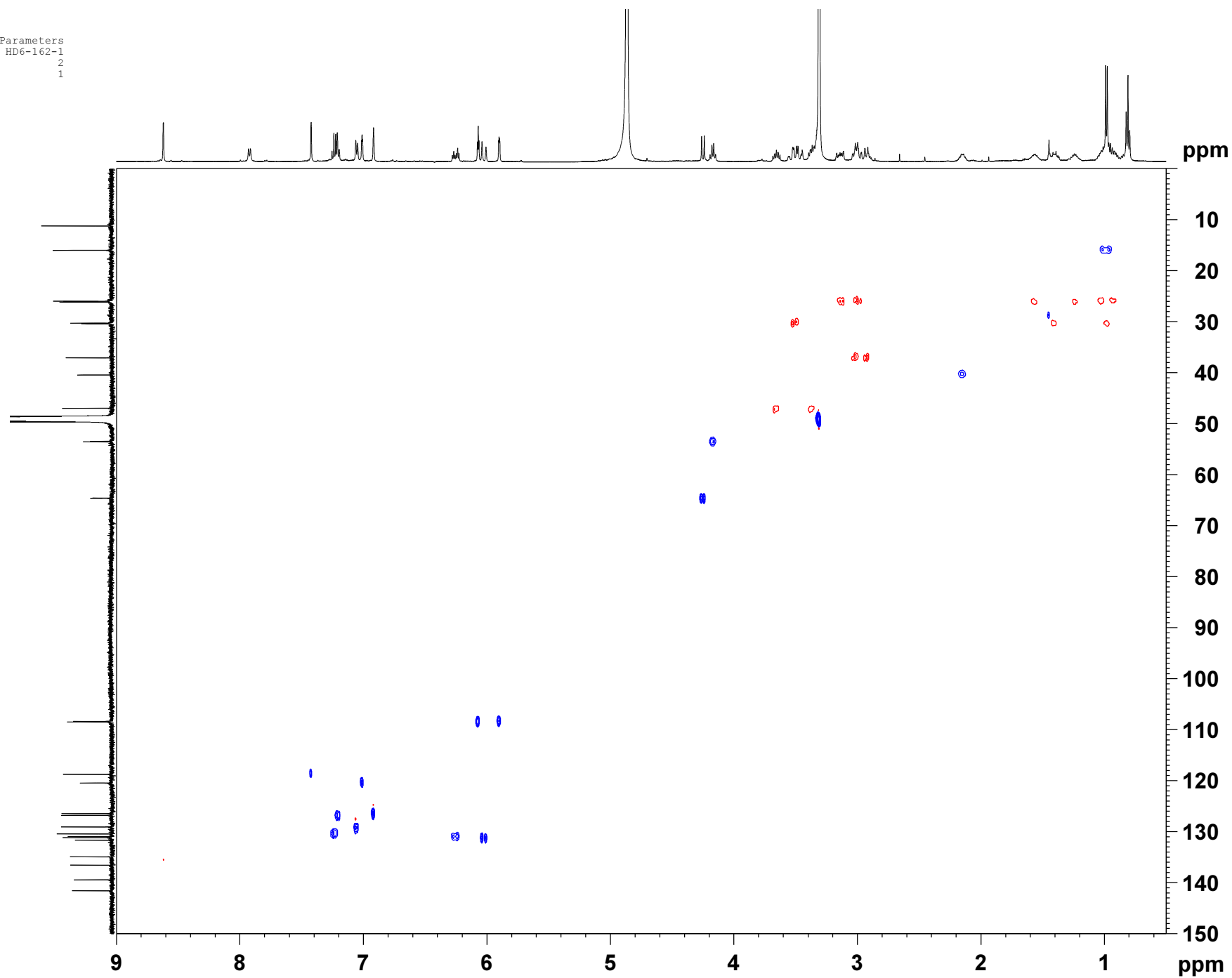
Current Data Parameters
 NAME HD6-162-1-c
 EXPNO 1
 PROCNO 1



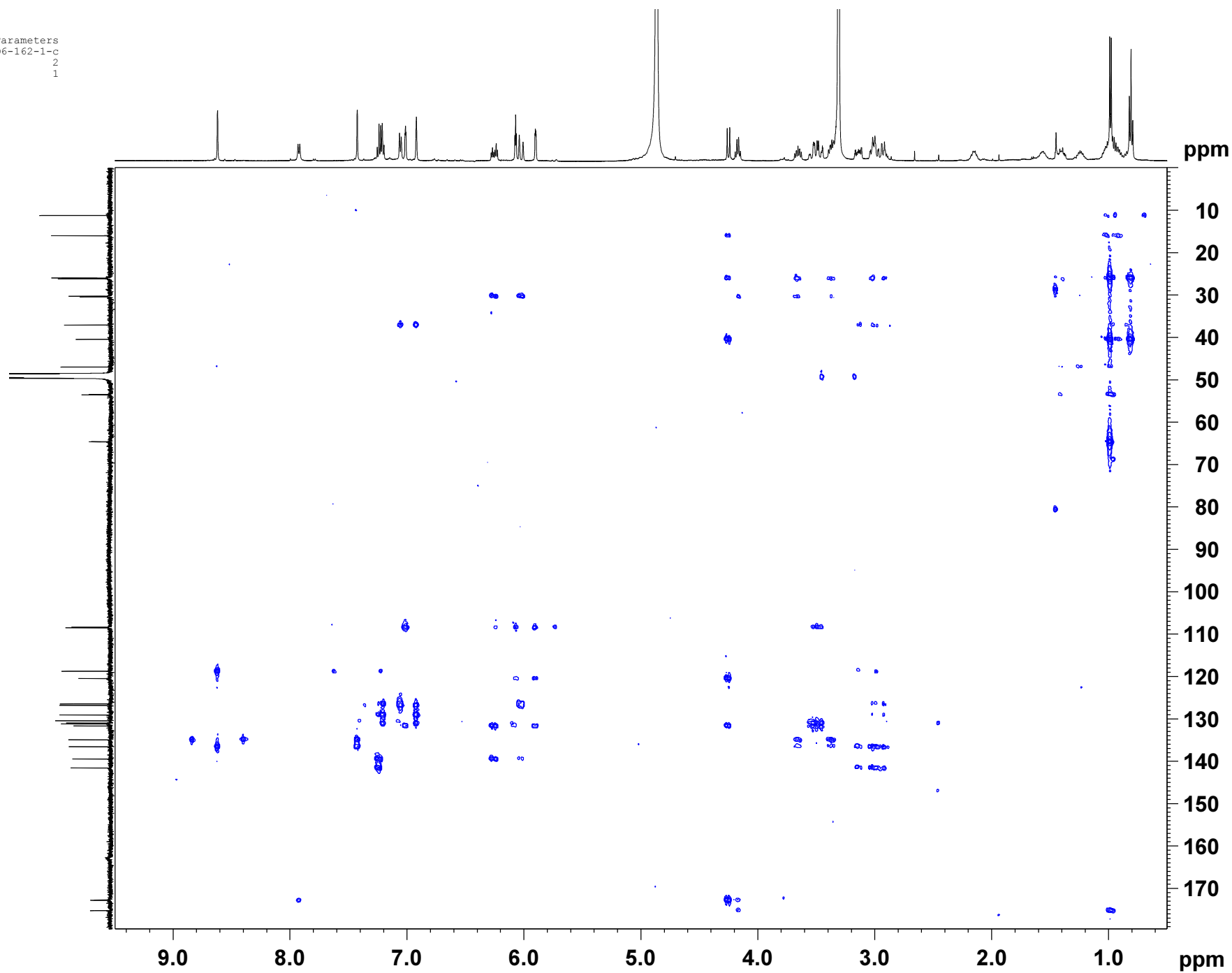
Current Data Parameters
NAME HD6-162-1-cosy
EXPNO 2
PROCNO 1



Current Data Parameters
NAME HD6-162-1
EXPNO 2
PROCNO 1



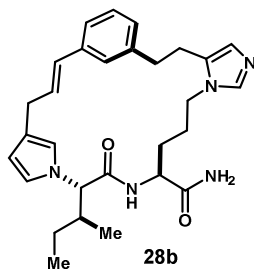
Current Data Parameters
NAME HD6-162-1-c
EXPNO 2
PROCNO 1



Current Data Parameters
NAME HD6-162-2r
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters

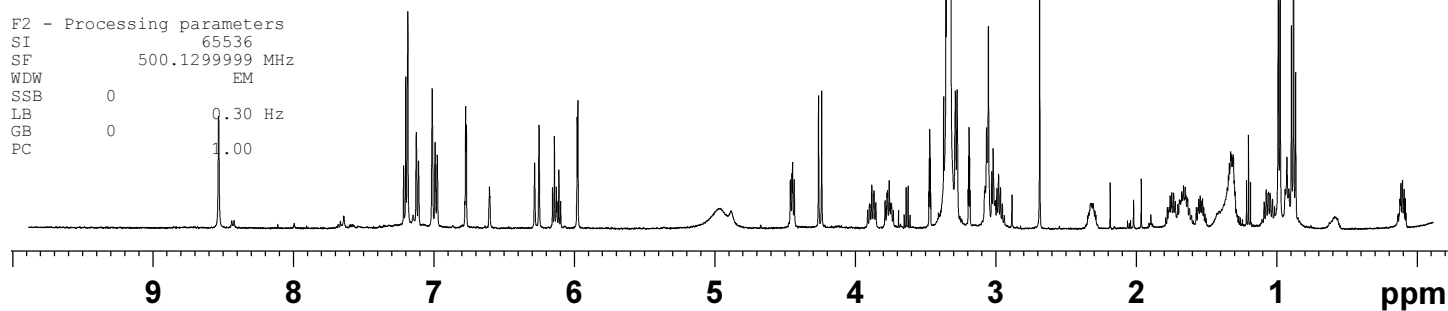
Date_ 20140826
Time 21.22
INSTRUM av500
PROBHD 5 mm DCH 13C-1
PULPROG zgpr
TD 65536
SOLVENT MeOD
NS 32
DS 0
SWH 5000.000 Hz
FIDRES 0.076294 Hz
AQ 6.5536499 sec
RG 5.74
DW 100.000 usec
DE 10.00 usec
TE 298.0 K
D1 2.00000000 sec
D12 0.00002000 sec
TD0 1



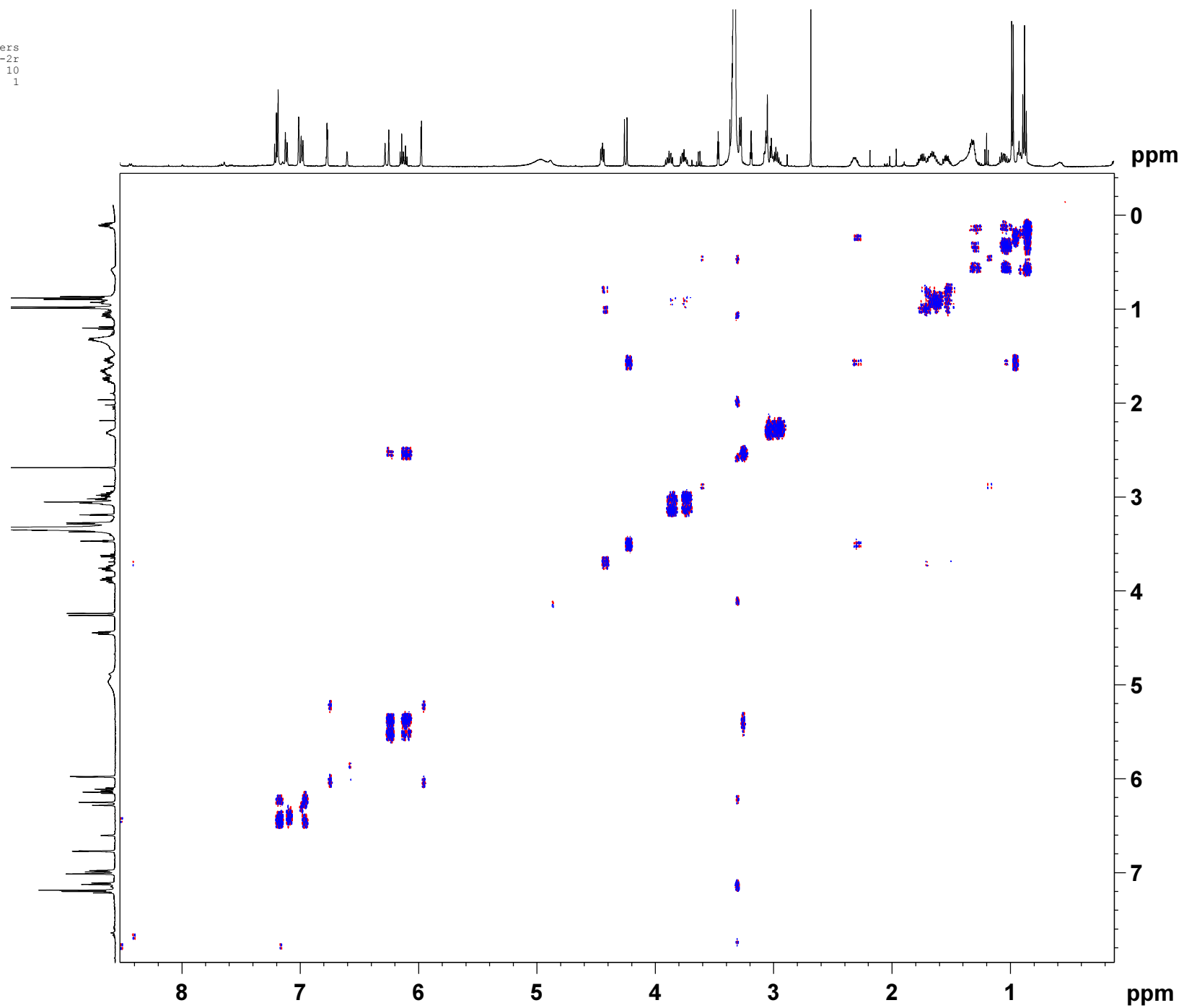
===== CHANNEL f1 =====
SFO1 500.1324417 MHz
NUC1 1H
P1 10.14 usec
PLW1 13.50000000 W
PLW9 0.00005400 W

F2 - Processing parameters

SI 65536
SF 500.1299999 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



Current Data Parameters
NAME HD6-162-2r
EXPNO 10
PROCNO 1



Current Data Parameters
NAME HD6-162-2r
EXPNO 7
PROCNO 1

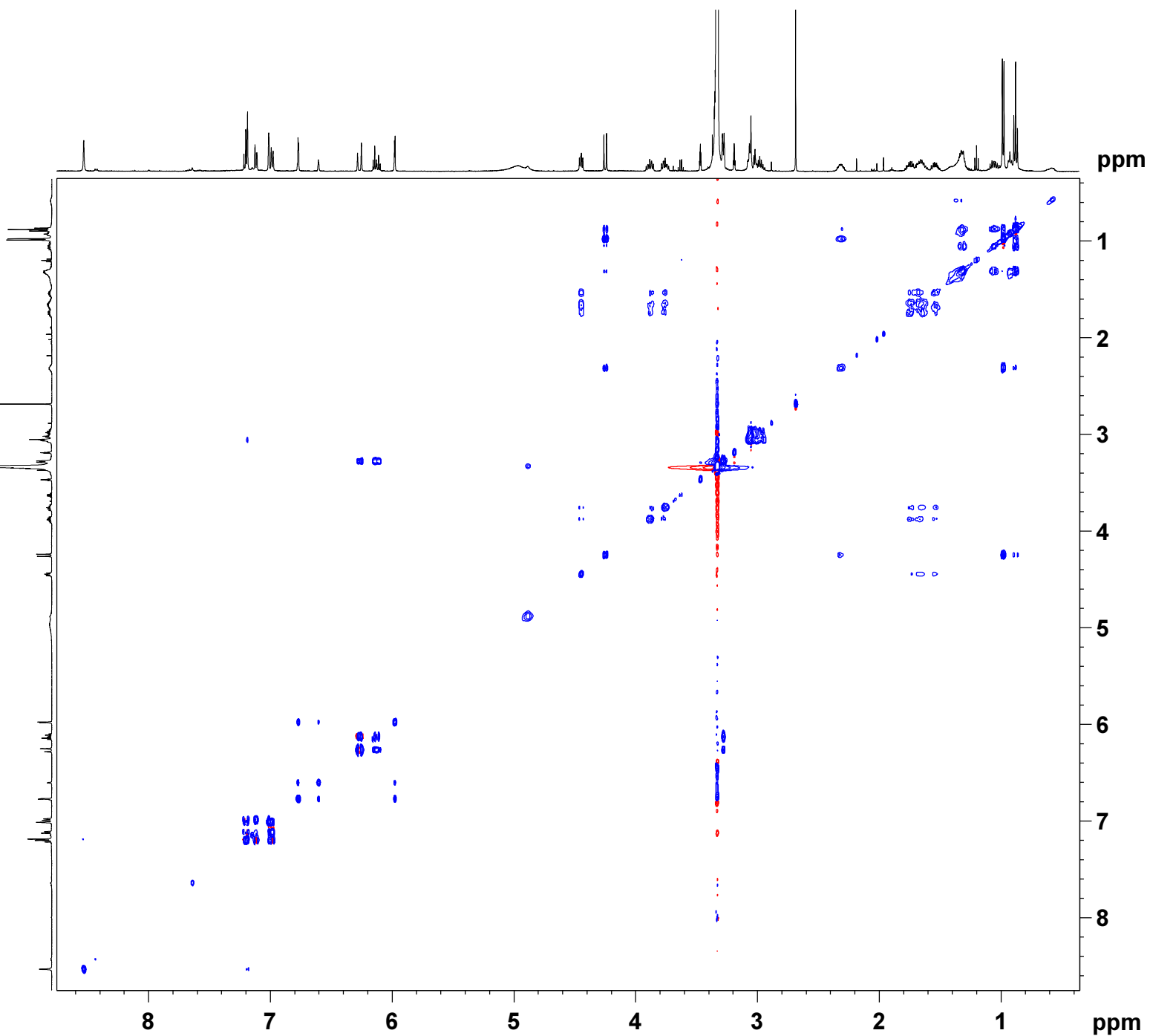
F2 - Acquisition Parameters
Date_ 20140826
Time 21.44
INSTRUM av500
PROBHD 5 mm DCH 13C-1
PULPROG mlevphpr
TD 2048
SOLVENT MeOD
NS 8
DS 16
SWH 5000.000 Hz
FIDRES 2.441406 Hz
AQ 0.2048500 sec
RG 204.54
DW 100.000 usec
DE 10.00 usec
TE 298.0 K
D0 0.00008954 sec
D1 1.20000005 sec
D9 0.06000000 sec
D11 0.03000000 sec
D12 0.00002000 sec
D13 0.00000400 sec
IN0 0.00020000 sec
L1 24

===== CHANNEL f1 =====
SFO1 500.1324417 MHz
NUC1 1H
P1 10.14 usec
P5 26.68 usec
P6 40.00 usec
P7 80.00 usec
P17 2500.00 usec
PLW1 13.50000000 W
PLW9 0.00005546 W
PLW10 0.86696190 W

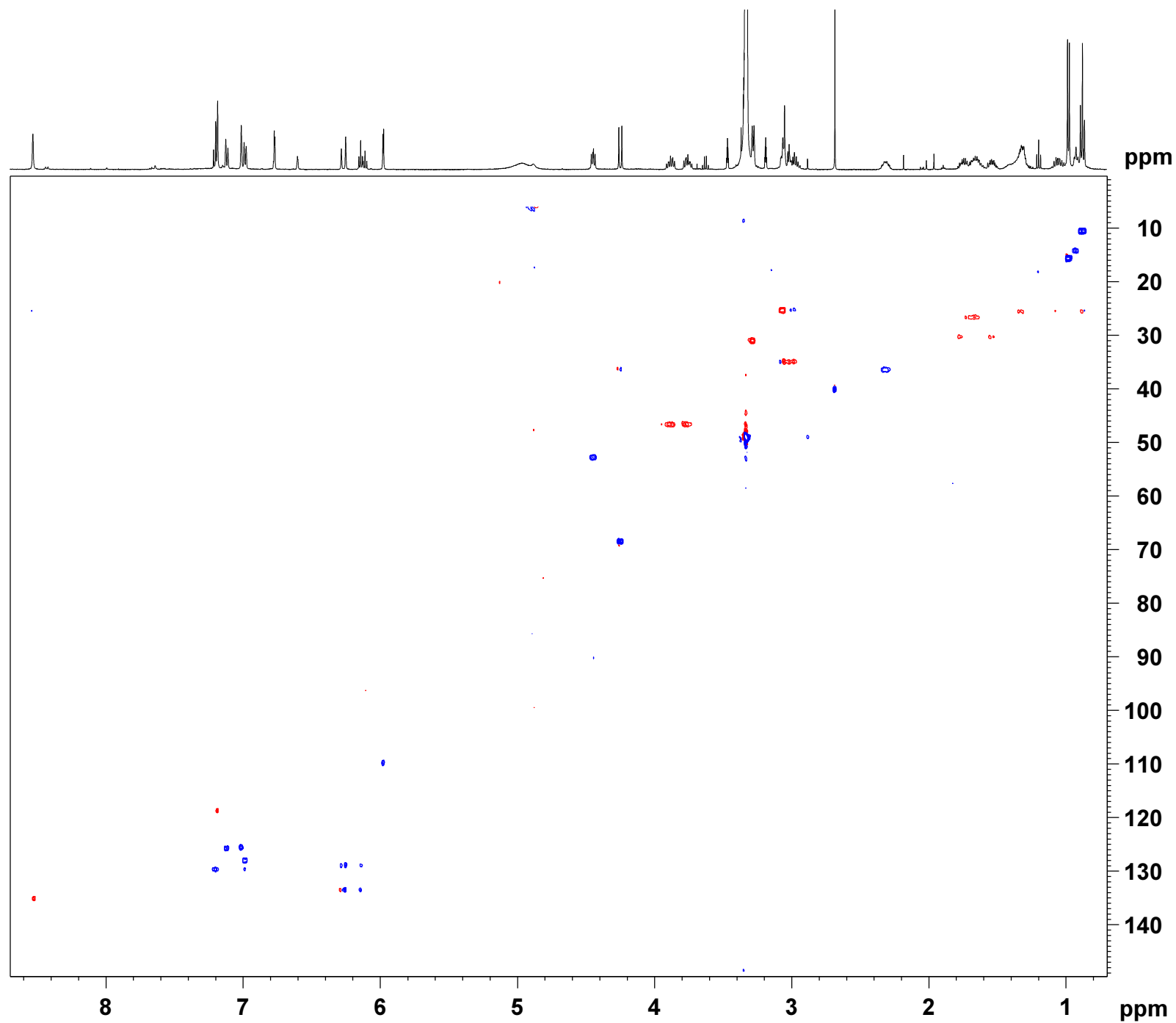
F1 - Acquisition parameters
TD 279
SFO1 500.1324 MHz
FIDRES 17.921146 Hz
SW 9.997 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 500.1300000 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

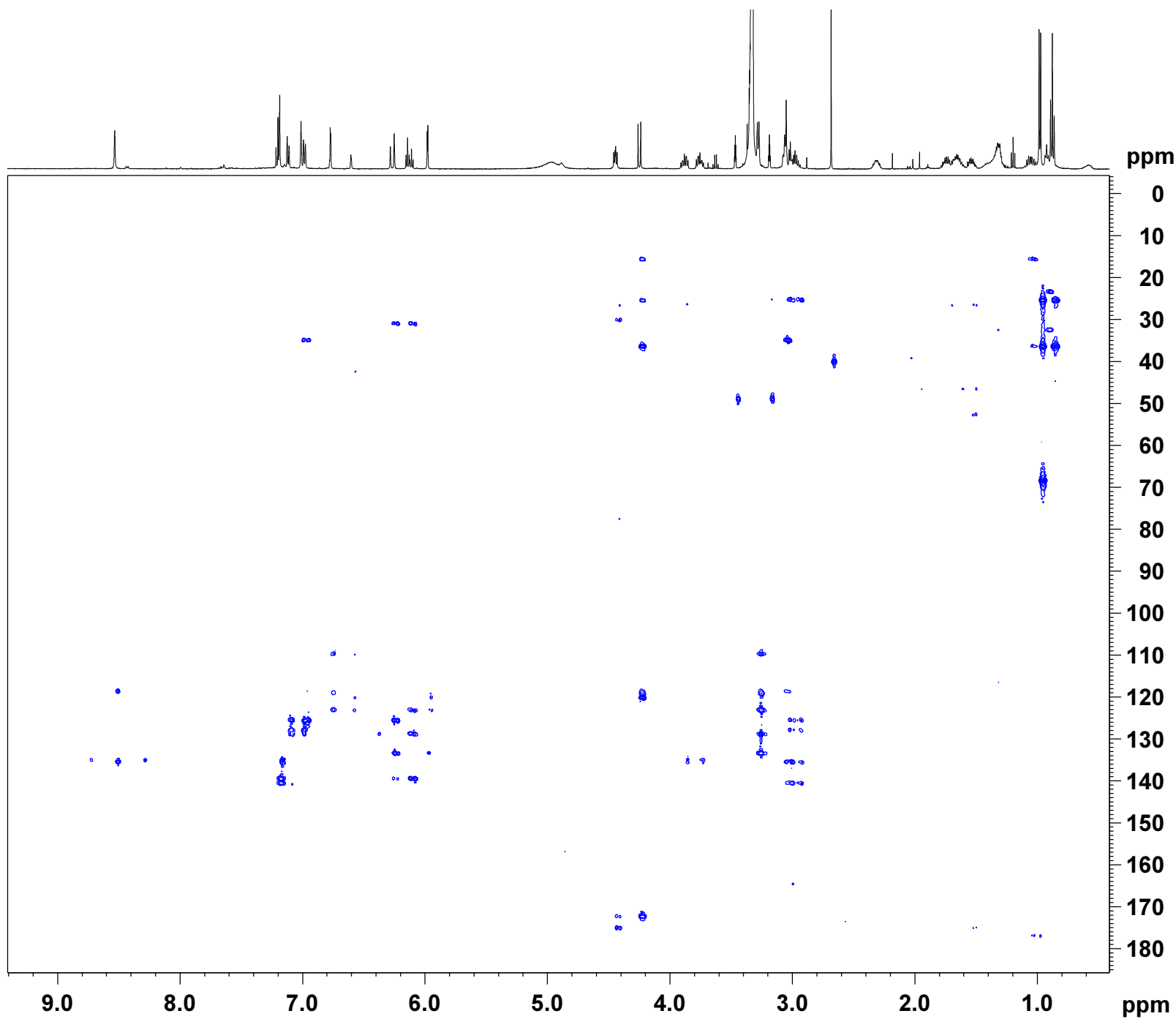
F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 500.1300000 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME HD6-162-2r
EXPNO 8
PROCNO 1



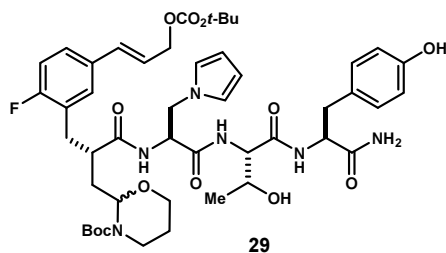
Current Data Parameters
NAME HD6-162-2r
EXPNO 9
PROCNO 1



Current Data Parameters
 NAME TR5-184
 EXPNO 4
 PROCNO 1

F2 - Acquisition Parameters

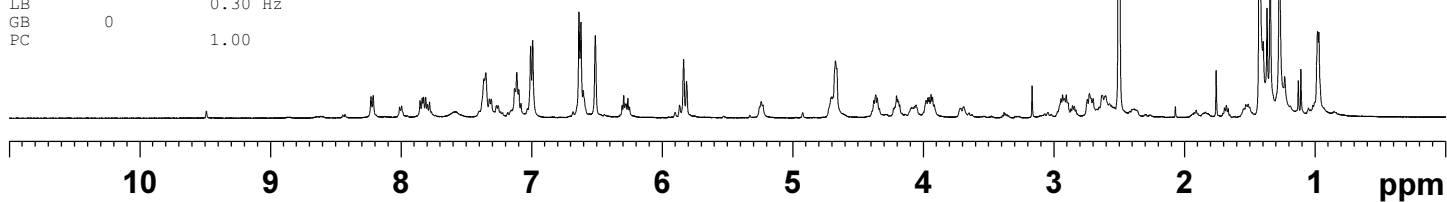
Date_ 20140917
 Time 10.36
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zgpr
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 5.74
 DW 50.000 usec
 DE 10.00 usec
 TE 298.0 K
 D1 2.00000000 sec
 D12 0.00002000 sec
 TD0 1



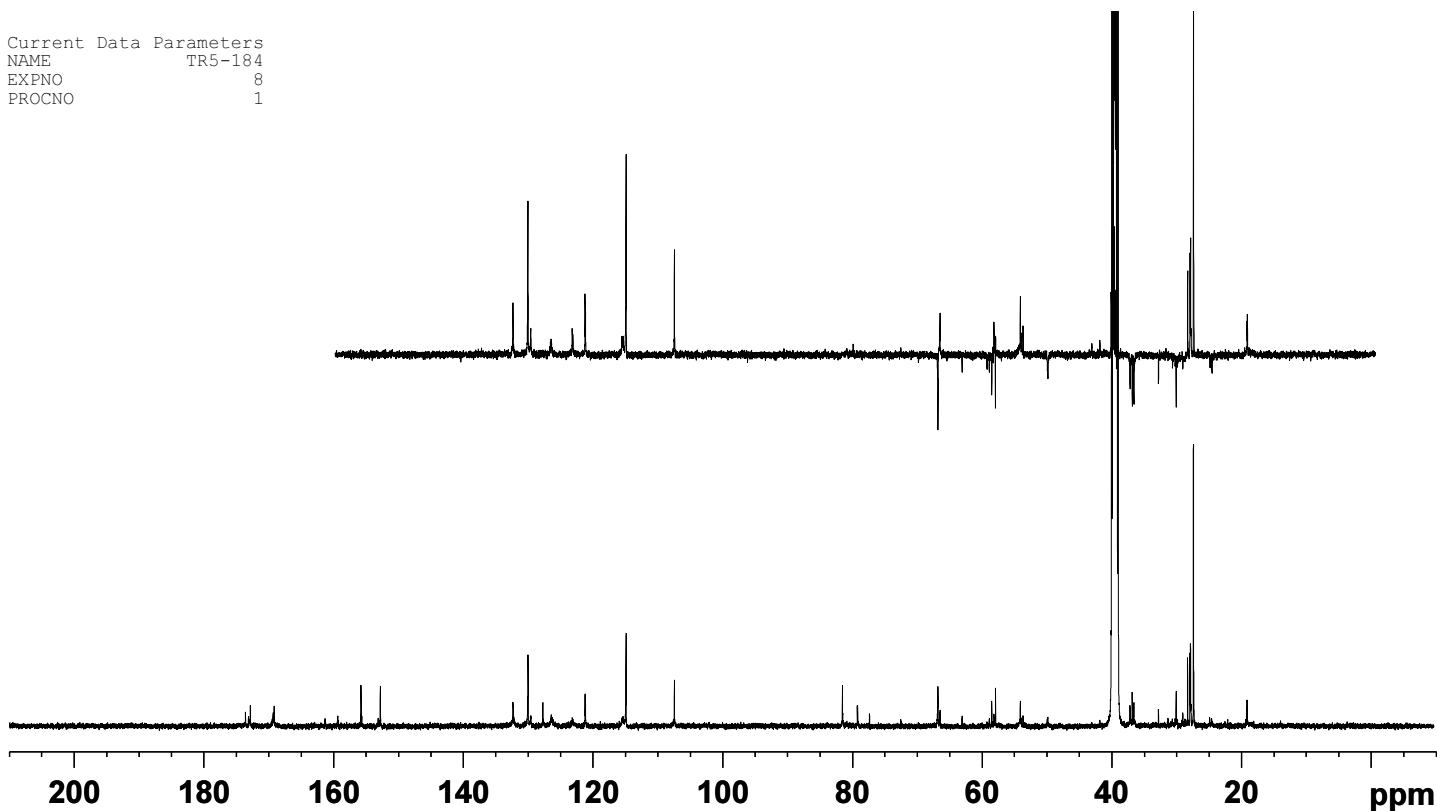
===== CHANNEL f1 =====
 SFO1 500.1317590 MHz
 NUC1 1H
 P1 10.00 usec
 PLW1 13.50000000 W
 PLW9 0.00005400 W

F2 - Processing parameters

SI 65536
 SF 500.1300040 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

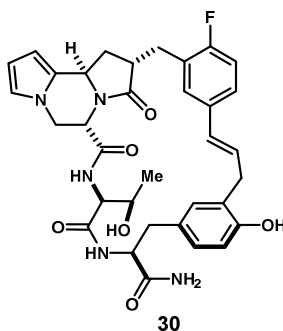


Current Data Parameters
 NAME TR5-184
 EXPNO 8
 PROCNO 1



Current Data Parameters
 NAME KL-5-253
 EXPNO 4
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140120
 Time_ 20.14
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 93.43
 DW 50.000 usec
 DE 10.00 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1



===== CHANNEL f1 =====
 SFO1 500.1330008 MHz
 NUC1 1H
 P1 9.90 usec
 PLW1 13.50000000 W

F2 - Processing parameters
 SI 65536
 SF 500.1300146 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



Current Data Parameters
 NAME 10 KL-5-253
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140120
 Time_ 10.57
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zgpr
 TD 65536
 SOLVENT DMSO
 NS 25
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 12.14
 DW 50.000 usec
 DE 10.00 usec
 TE 298.0 K
 D1 2.00000000 sec
 D12 0.00002000 sec
 TD0 1

===== CHANNEL f1 =====
 SFO1 500.1317680 MHz
 NUC1 1H
 P1 10.00 usec
 PLW1 13.50000000 W
 PLW9 0.00005400 W

F2 - Processing parameters
 SI 65536
 SF 500.1300040 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



10 9 8 7 6 5 4 3 2 1 ppm

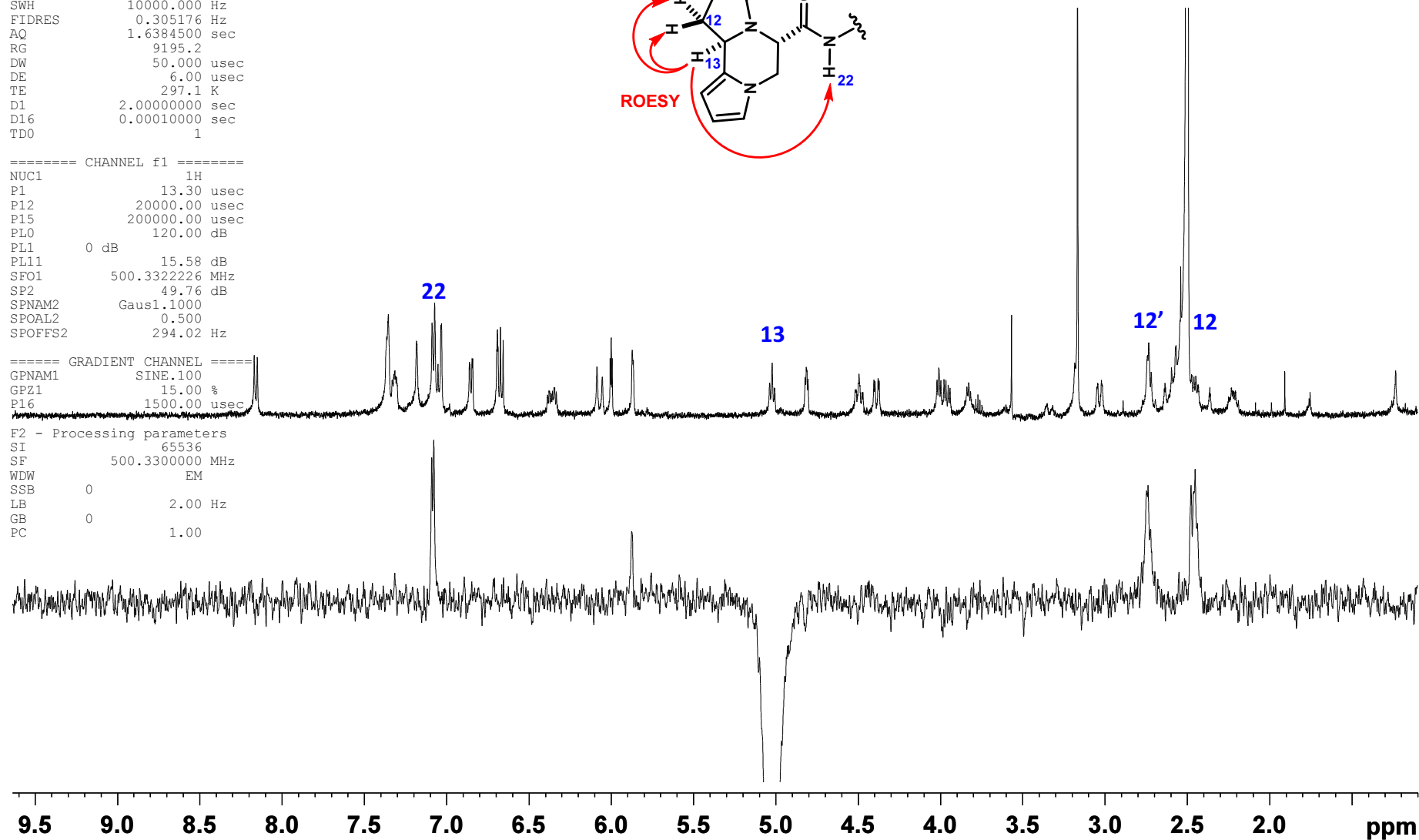
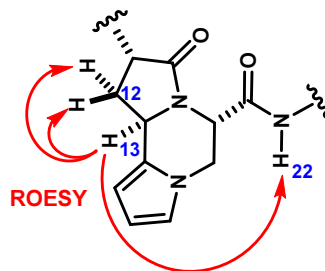
Current Data Parameters
NAME KL5-253
EXPNO 10
PROCNO 1

F2 - Acquisition Parameters
Date_ 20140818
Time_ 20.46
INSTRUM drx500
PROBHD 5 mm bb-Z Z800
PULPROG selrogp
TD 32768
SOLVENT CDC13
NS 1024
DS 2
SWH 10000.000 Hz
FIDRES 0.305176 Hz
AQ 1.6384500 sec
RG 9195.2
DW 50.000 usec
DE 6.00 usec
TE 297.1 K
D1 2.00000000 sec
D16 0.00010000 sec
TD0 1

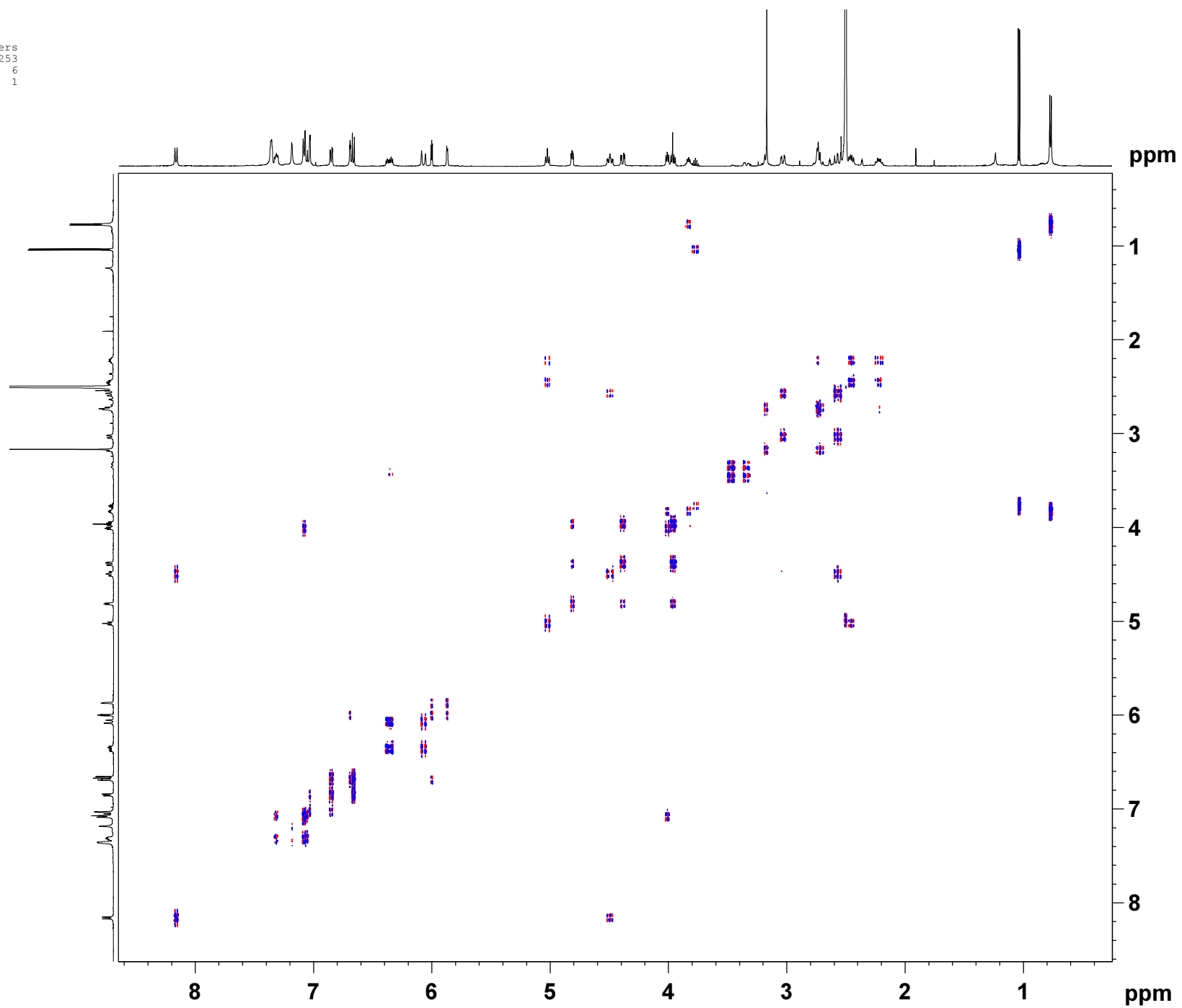
===== CHANNEL f1 =====
NUC1 1H
P1 13.30 usec
P12 20000.00 usec
P15 200000.00 usec
PL0 120.00 dB
PL1 0 dB
PL11 15.58 dB
SFO1 500.3322226 MHz
SP2 49.76 dB
SPNAM2 Gaus1.1000
SPOAL2 0.500
SPOFFS2 294.02 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPZ1 15.00 %
P16 1500.00 usec

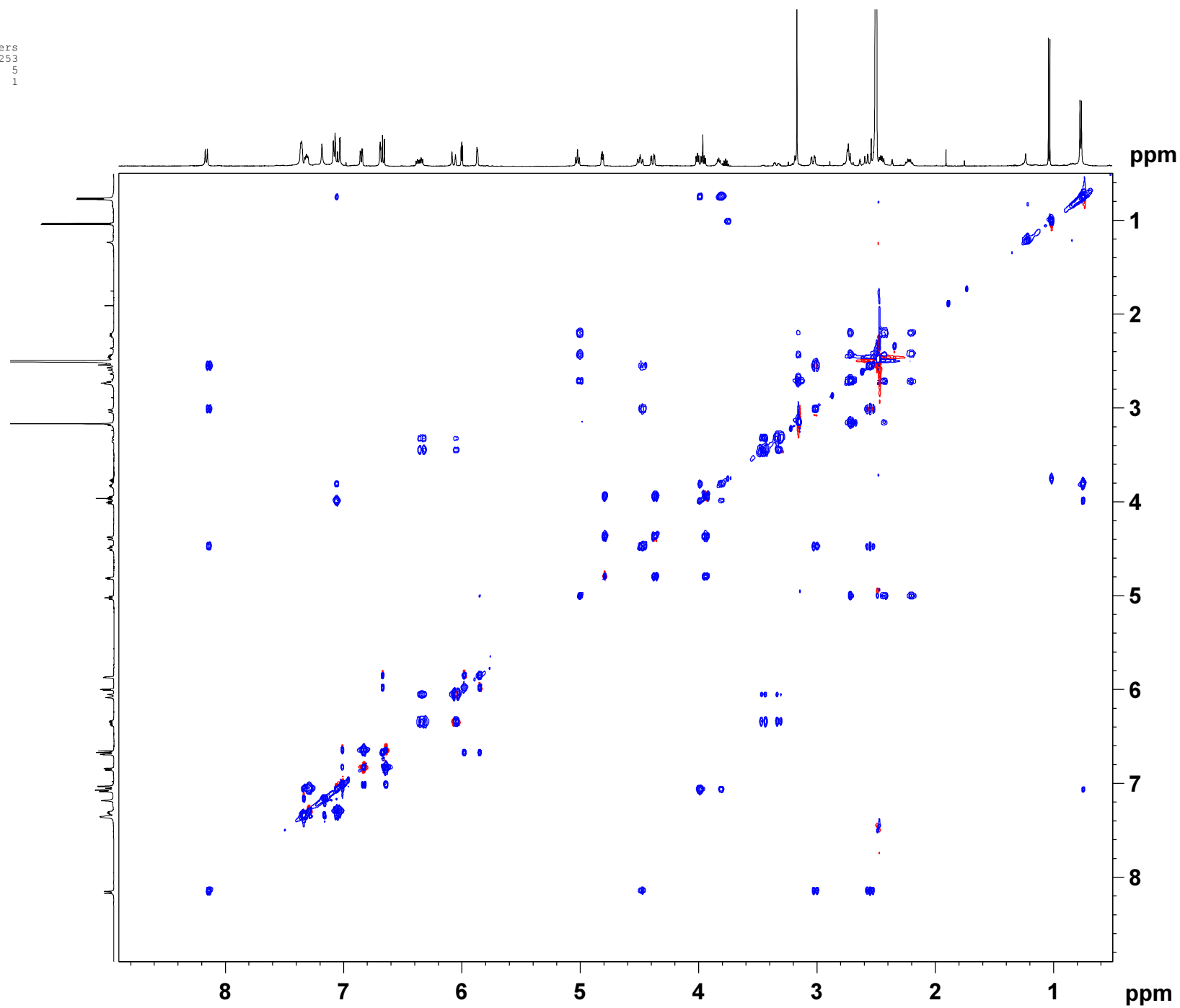
F2 - Processing parameters
SI 65536
SF 500.3300000 MHz
WDW EM
SSB 0
LB 2.00 Hz
GB 0
PC 1.00



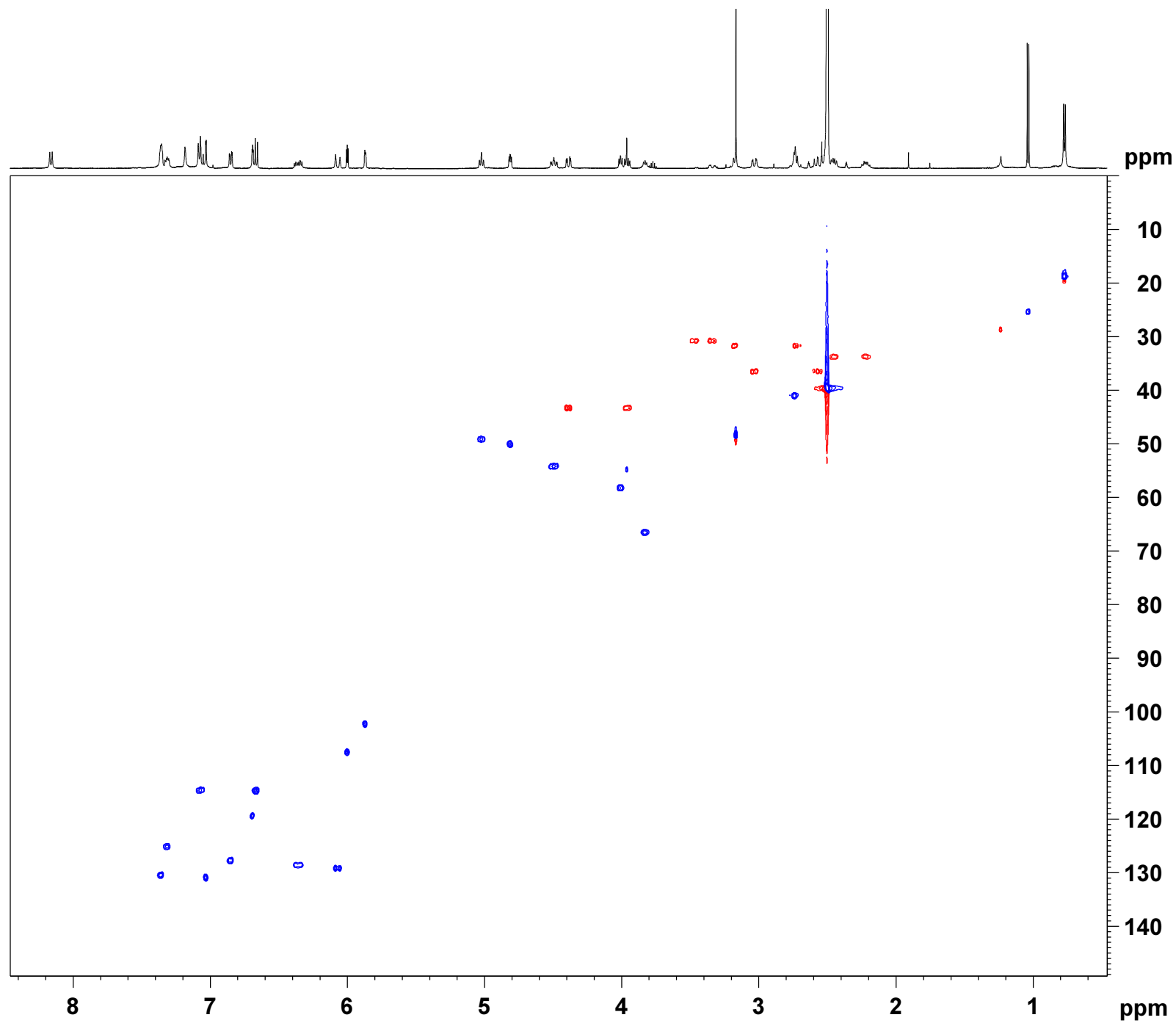
Current Data Parameters
NAME KL-5-253
EXPNO 6
PROCNO 1



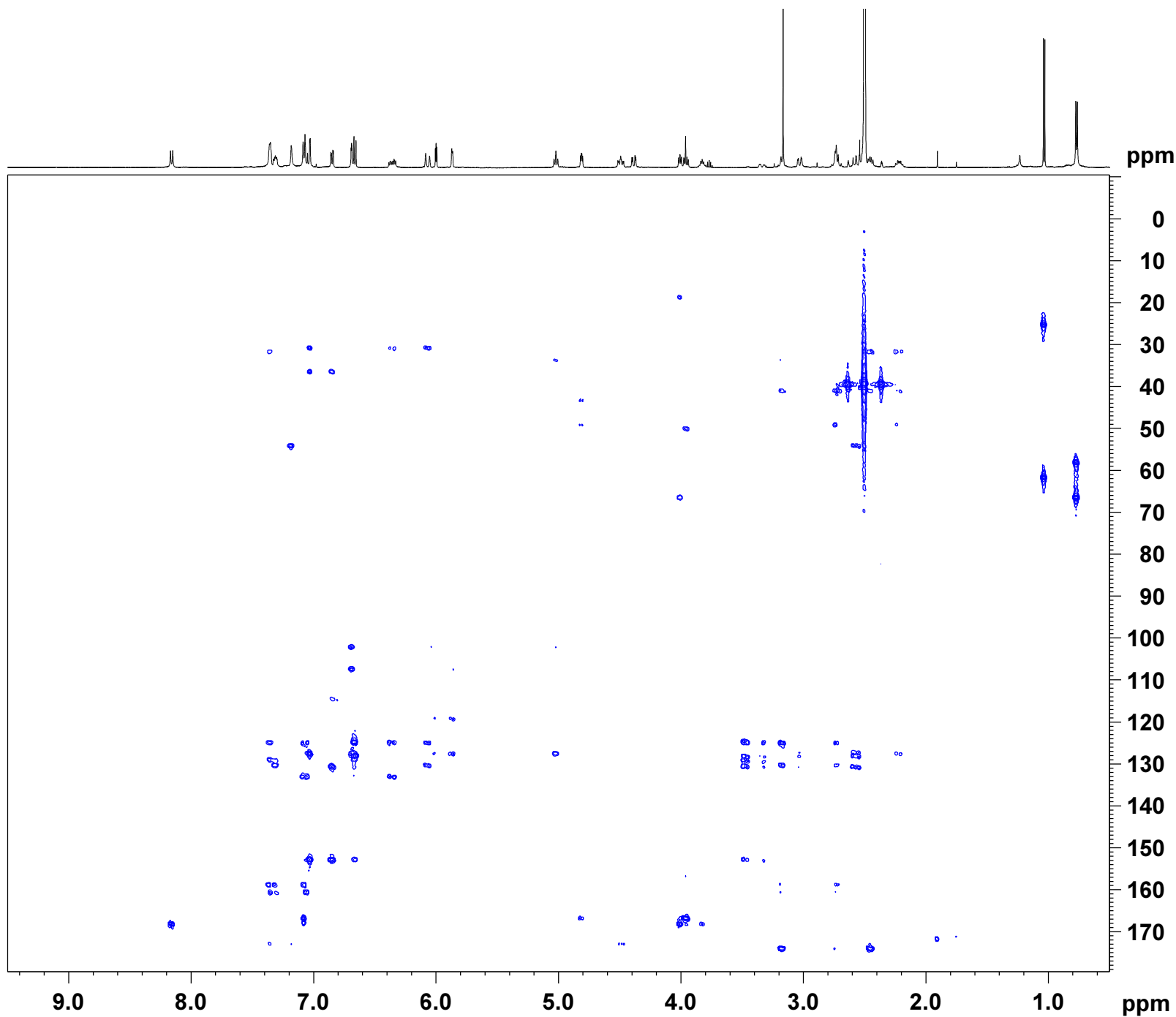
Current Data Parameters
NAME KL-5-253
EXPNO 5
PROCNO 1



Current Data Parameters
NAME KL-5-253
EXPNO 7
PROCNO 1



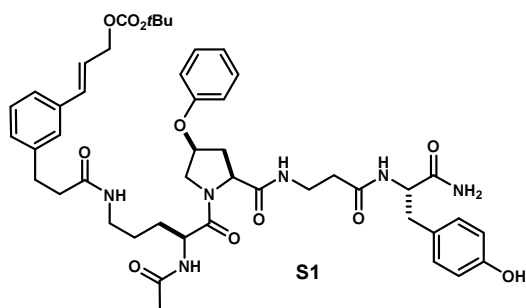
Current Data Parameters
NAME KL-5-253
EXPNO 8
PROCNO 1




```

F2 - Acquisition Parameters
Date_                20131009
Time_                20.26
INSTRUM              av500
PROBHD               5 mm DCH 13C-1
PULPROG              zg30
TD                   65536
SOLVENT              MeOD
NS                     8
DS                     0
SWH                 10000.000 Hz
FIDRES              0.152588 Hz
AQ                  3.2768500 sec
RG                   10.72
DW                   50.000 usec
DE                   10.00 usec
TE                   298.0 K
D1                   2.00000000 sec
TD0                  1

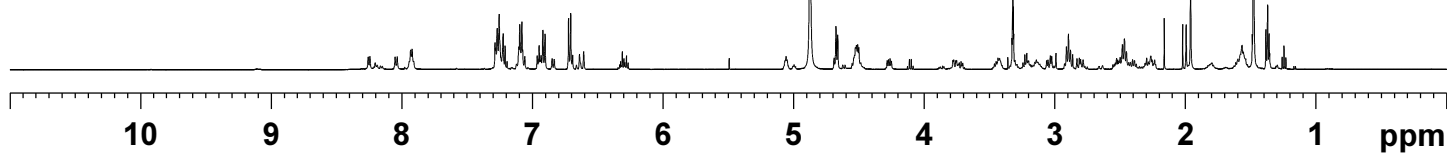
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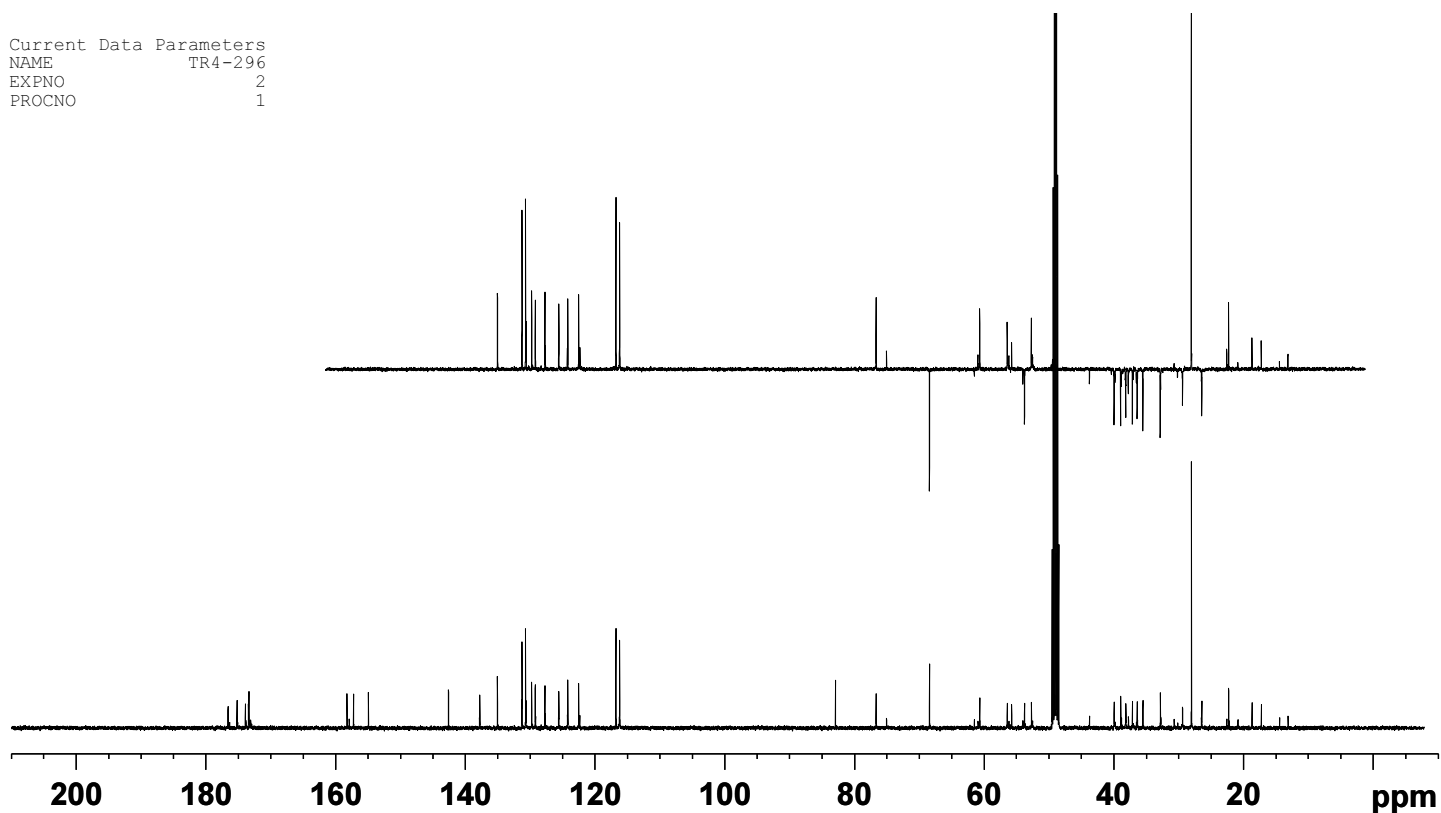
```

F2 - Processing parameters
SI                      65536
SF                      500.1300039 MHz
WDW                      EM
SSB      0
LB                      0.30 Hz
GB      0
PC                      1.00

```



```
Current Data Parameters
NAME          TR4-296
EXPNO          2
PROCNO         1
```

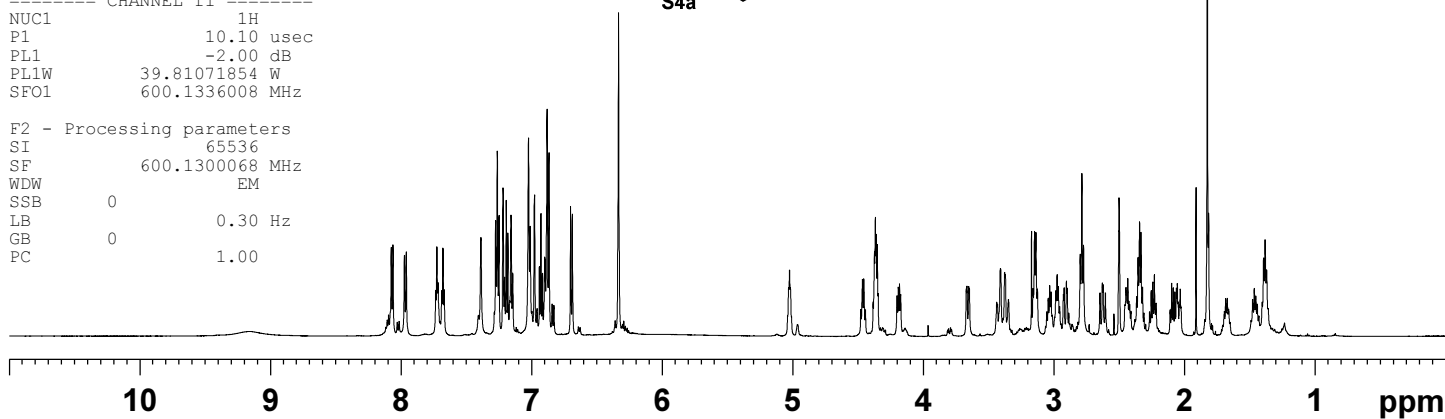
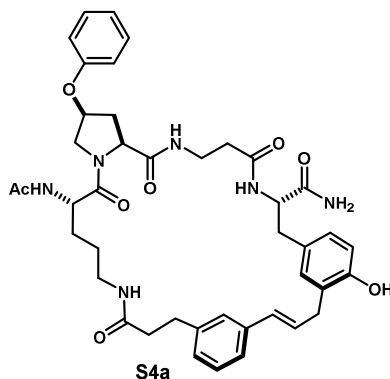


Current Data Parameters
NAME TR4-299A
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131015
Time_ 19.24
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG zg
TD 65536
SOLVENT DMSO
NS 8
DS 0
SWH 12376.237 Hz
FIDRES 0.188846 Hz
AQ 2.6477044 sec
RG 25.4
DW 40.400 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 10.10 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1336008 MHz

F2 - Processing parameters
SI 65536
SF 600.1300068 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



Current Data Parameters
NAME TR4-299A
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131015
Time_ 19.27
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 1625.5
DW 83.200 usec
DE 6.50 usec
TE 298.0 K
D0 0.00007034 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00016640 sec

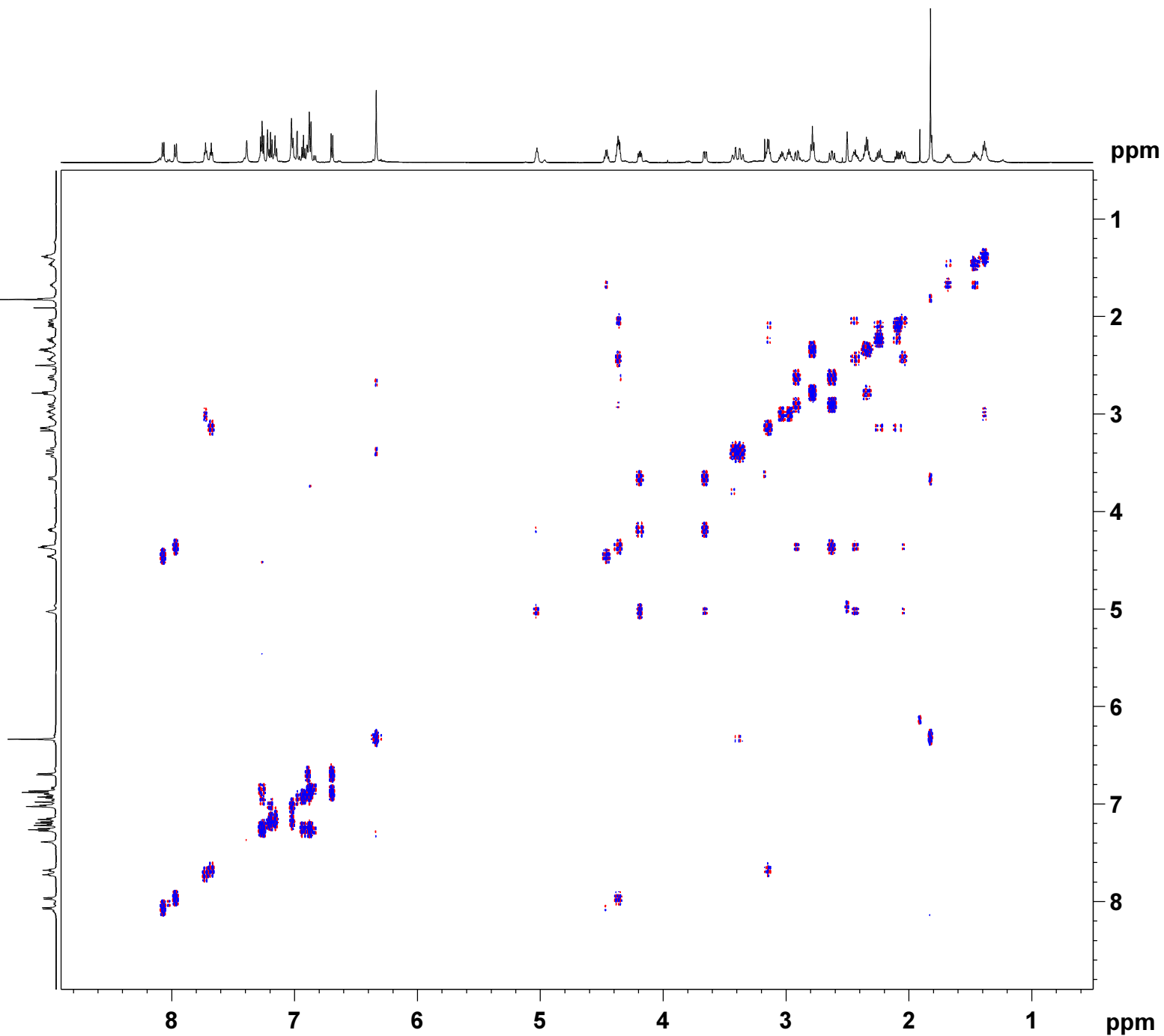
===== CHANNEL f1 =====
NUC1 1H
P1 10.10 usec
P2 20.20 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.133 MHz
FIDRES 23.475060 Hz
SW 10.014 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300045 MHz
WDW QSINE
SSB 1.8
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300072 MHz
WDW
SSB 1.8
LB 0 Hz
GB 0



Current Data Parameters
NAME TR4-299A
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131015
Time 19.42
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG mlevsgpph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 7183.908 Hz
FIDRES 3.507768 Hz
AQ 0.1425908 sec
RG 228.1
DW 69.600 usec
DE 6.50 usec
TE 298.0 K
D0 0.00004317 sec
D1 1.00000000 sec
D9 0.06000000 sec
D12 0.00002000 sec
D16 0.00020000 sec
IN0 0.00013920 sec
L1 24

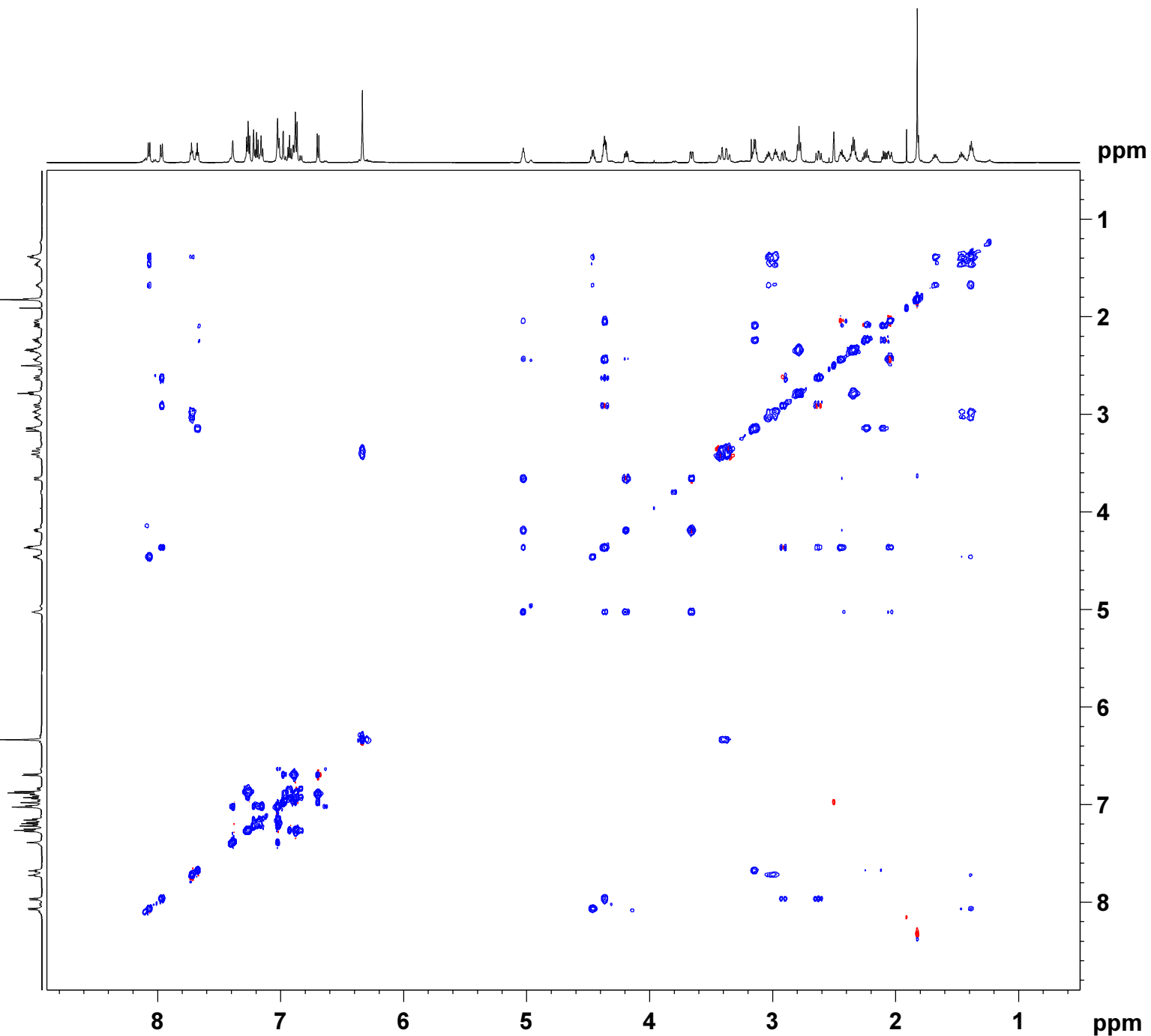
===== CHANNEL f1 =====
NUC1 1H
P1 10.10 usec
P2 20.20 usec
P5 26.68 usec
P6 40.00 usec
P7 80.00 usec
P12 3000.00 usec
P17 2500.00 usec
PL0 120.00 dB
PL1 -2.00 dB
PL10 9.95 dB
PL0W 0 W
PL1W 39.81071854 W
PL10W 2.54097271 W
SFO1 600.1336008 MHz
SF1 120.00 dB
SFNAM1 Squal00.1000
SFOAL1 1.000
SPOFFS1 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0
GPX2 0
GPY1 0
GPY2 0
GPZ1 31.00 %
GPZ2 11.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.1336 MHz
FIDRES 28.062170 Hz
SW 11.971 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300052 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300060 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR4-299A
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131015
Time 19.53
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hsqcetgpsisp
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 8192
DW 83.200 usec
DE 6.00 usec
TE 298.1 K
CNST2 145.0000000
D0 0.00000300 sec
D1 1.20000005 sec
D4 0.00172414 sec
D11 0.03000000 sec
D16 0.00020000 sec
D24 0.00086200 sec
IN0 0.00002070 sec
ZGPTNS

===== CHANNEL f1 =====
NUC1 1H
P1 10.10 usec
P2 20.20 usec
P28 1000.00 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

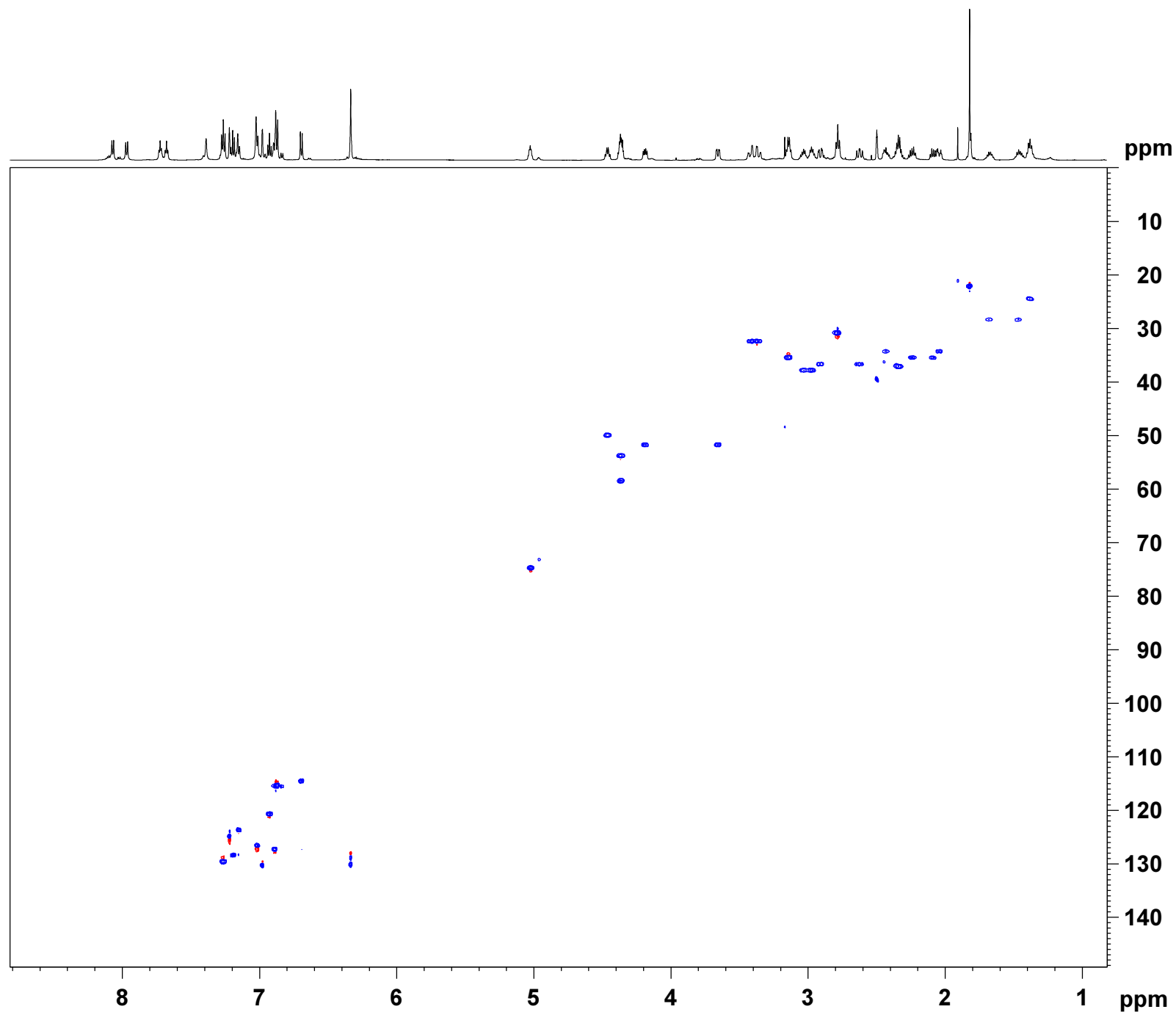
===== CHANNEL f2 =====
CPDPRG2 garp
NUC2 13C
P3 18.75 usec
P4 37.50 usec
P14 1000.00 usec
PCPD2 65.00 usec
PL0 120.00 dB
PL2 -3.00 dB
PL12 7.80 dB
PL0W 0 W
PL2W 150.35617065 W
PL12W 12.50608063 W
SFO2 150.9133722 MHz
SP3 4.47 dB
SPNAM3 Crp80,0.5,20.1
SFOAL3 0.500
SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 80.00 %
GPZ2 20.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 150.9134 MHz
FIDRES 94.320854 Hz
SW 160.000 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 600.1300051 MHz
WDW EM
SSB 0
LB 2.00 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 echo-antiecho
SF 150.9029001 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR4-299A
EXPNO 7
PROCNO 1

F2 - Acquisition Parameters

Date_ 20131015
Time 20.07
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hmbcgp1pndqf
TD 2048
SOLVENT DMSO
NS 4
DS 64
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
CNST13 7.0000000
D0 0.00000300 sec
D1 1.50000000 sec
D2 0.00344828 sec
D6 0.07142857 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====

NUC1 1H
P1 10.10 usec
P2 20.20 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

===== CHANNEL f2 =====

NUC2 13C
P3 18.75 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====

GP1AM1 SINE.100
GP1AM2 SINE.100
GP1AM3 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
P16 1000.00 usec

F1 - Acquisition parameters

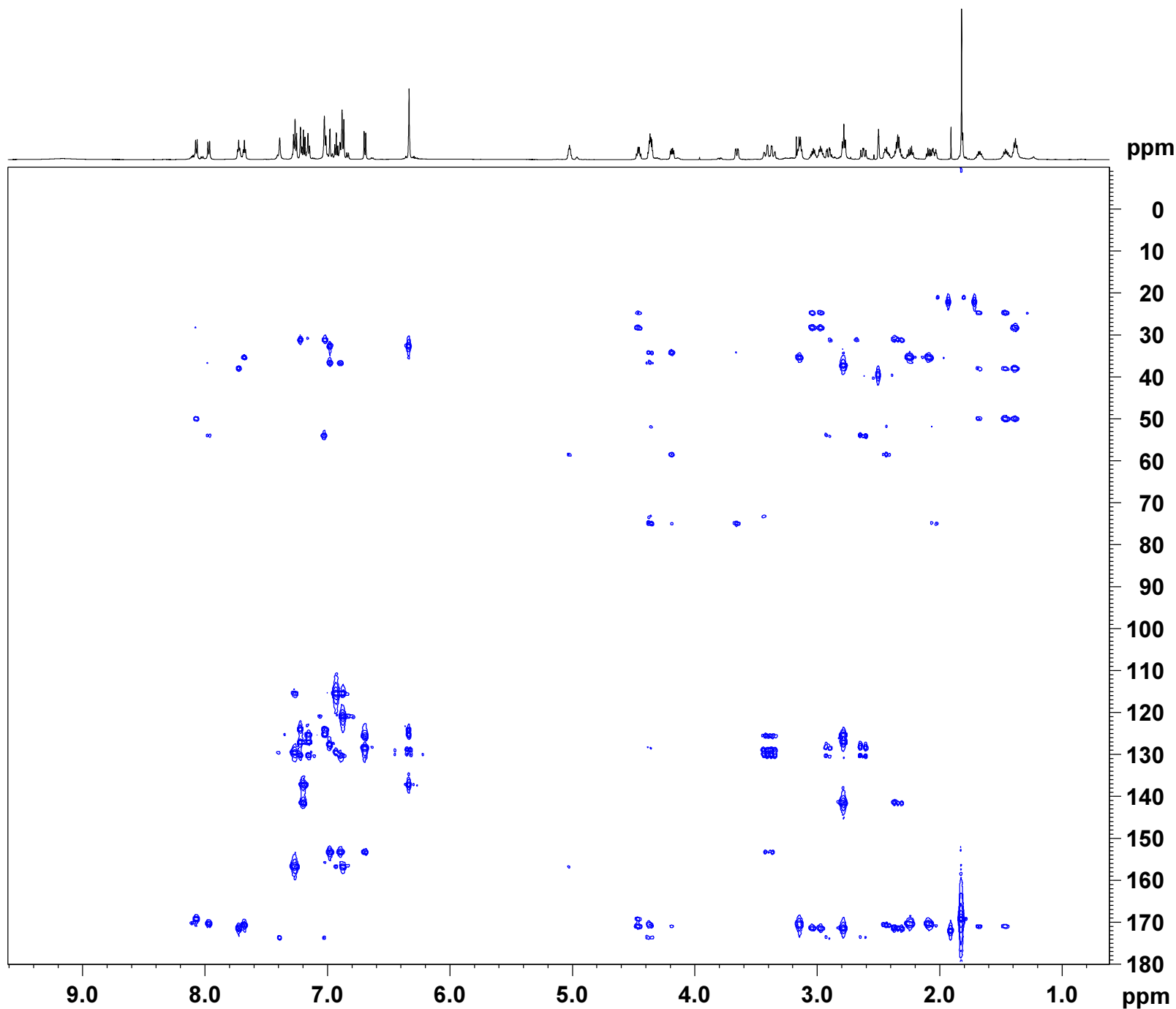
TD 240
SFO1 150.9156 MHz
FIDRES 119.474876 Hz
SW 190.000 ppm
FnMODE QF

F2 - Processing parameters

SI 4096
SF 600.1300043 MHz
WDW QSINE
SSB 0
LB 0 Hz
GB 0
PC 1.40

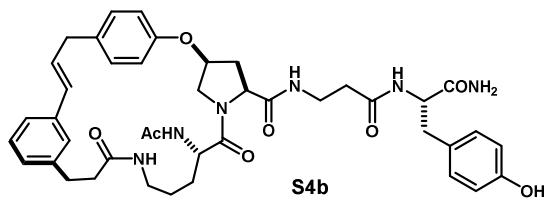
F1 - Processing parameters

SI 4096
MC2 QF
SF 150.9028802 MHz
WDW
SSB 2
LB 0 Hz
GB 0



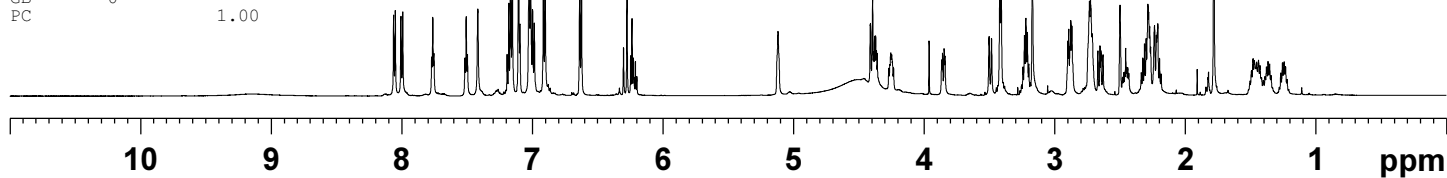
Current Data Parameters
 NAME TR4-299B
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131015
 Time_ 20.46
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 28.5
 DW 40.400 usec
 DE 6.50 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1



===== CHANNEL f1 =====
 NUC1 1H
 P1 9.86 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300064 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME TR4-299B
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131015
Time 20.48
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 28.5
DW 83.200 usec
DE 6.50 usec
TE 298.0 K
D0 0.00007065 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00016640 sec

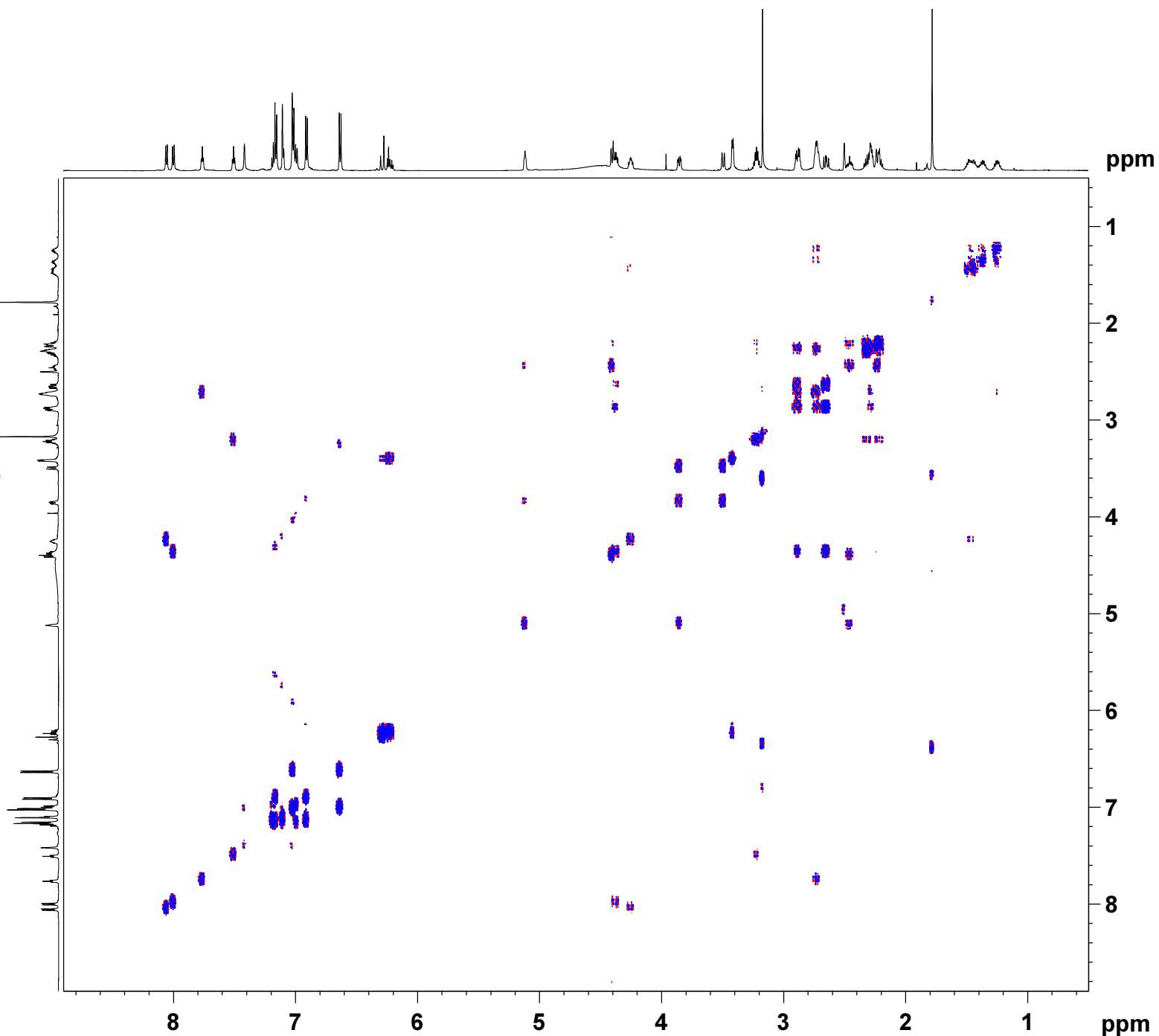
===== CHANNEL f1 =====
NUC1 1H
P1 9.86 usec
P2 19.72 usec
PL1 -2.00 dB
PL1W 39.81071857 W
SFO1 600.1330006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.133 MHz
FIDRES 23.475060 Hz
SW 10.014 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300014 MHz
WDW QSINE
SSB 1.8
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300177 MHz
WDW
SSB 1.8
LB 0 Hz
GB 0



Current Data Parameters
NAME TR4-299B
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131015
Time_ 21.03
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG mlevsgpph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 7183.908 Hz
FIDRES 3.507768 Hz
AQ 0.1425908 sec
RG 362
DW 69.600 usec
DE 6.50 usec
TE 298.0 K
D0 0.00004332 sec
D1 1.00000000 sec
D9 0.06000000 sec
D12 0.00002000 sec
D16 0.00020000 sec
IN0 0.00013920 sec
LI 24

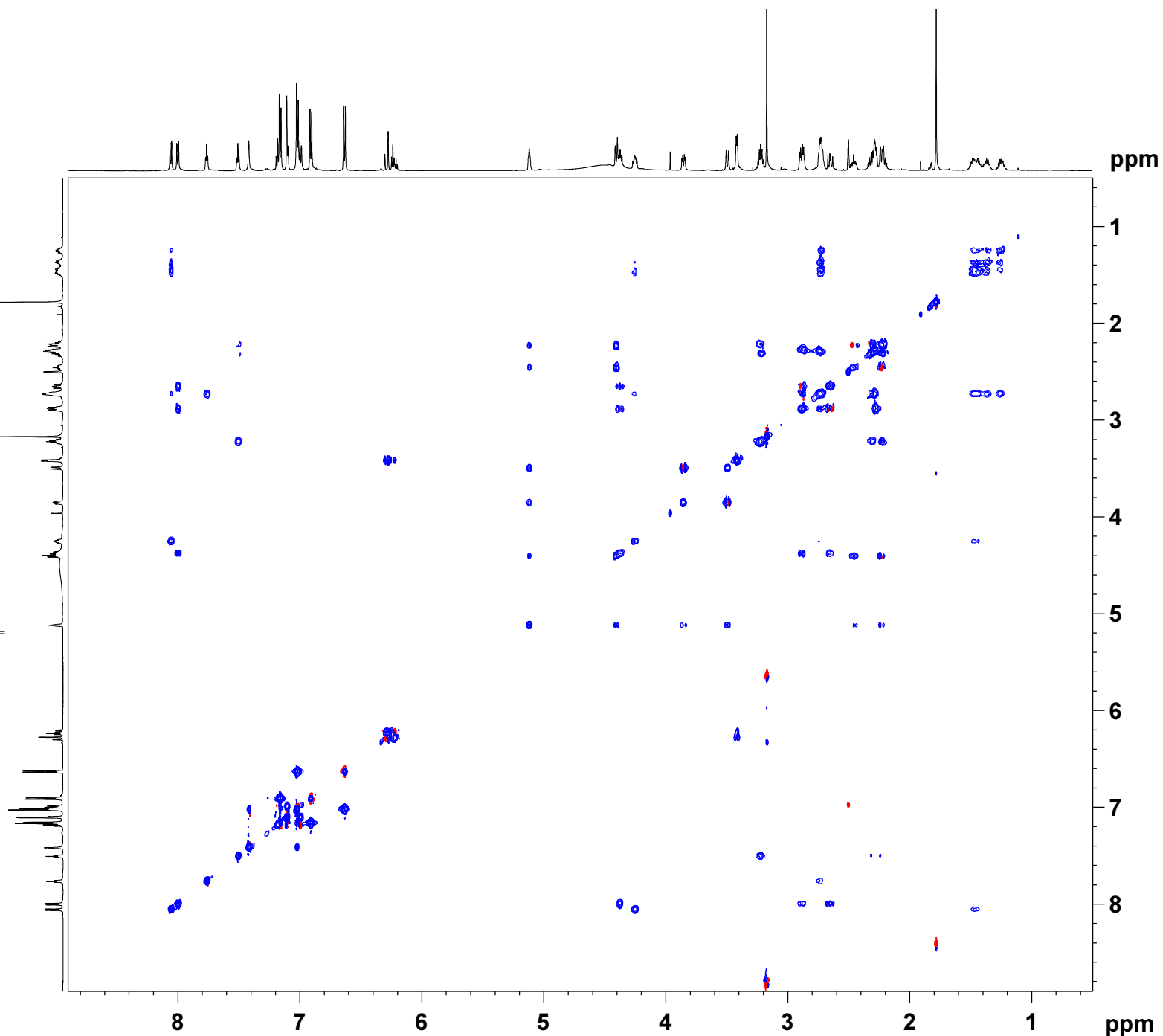
===== CHANNEL f1 =====
NUC1 1H
P1 9.86 usec
P2 19.72 usec
P5 26.68 usec
P6 40.00 usec
P7 80.00 usec
P12 3000.00 usec
P17 2500.00 usec
PL0 120.00 dB
PL1 -2.00 dB
PL10 10.16 dB
PLOW 0 W
PL1W 39.81071854 W
PL10W 2.42102909 W
SFO1 600.1336008 MHz
SP1 120.00 dB
SPNAM1 Squa100.1000
SPOAL1 1.000
SPOFFS1 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 31.00 %
GPZ2 11.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.1336 MHz
FIDRES 28.062170 Hz
SW 11.971 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300052 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300056 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR4-299B
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131015
Time_ 21.14
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hsqcetgpsisp
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 8192
DW 83.200 usec
DE 6.00 usec
TE 298.1 K
CNST2 145.0000000
D0 0.00000300 sec
D1 1.20000005 sec
D4 0.00172414 sec
D11 0.03000000 sec
D16 0.00020000 sec
D24 0.00086200 sec
IN0 0.00002070 sec
ZGOPTNS

===== CHANNEL f1 =====
NUC1 1H
P1 9.86 usec
P2 19.72 usec
P28 1000.00 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

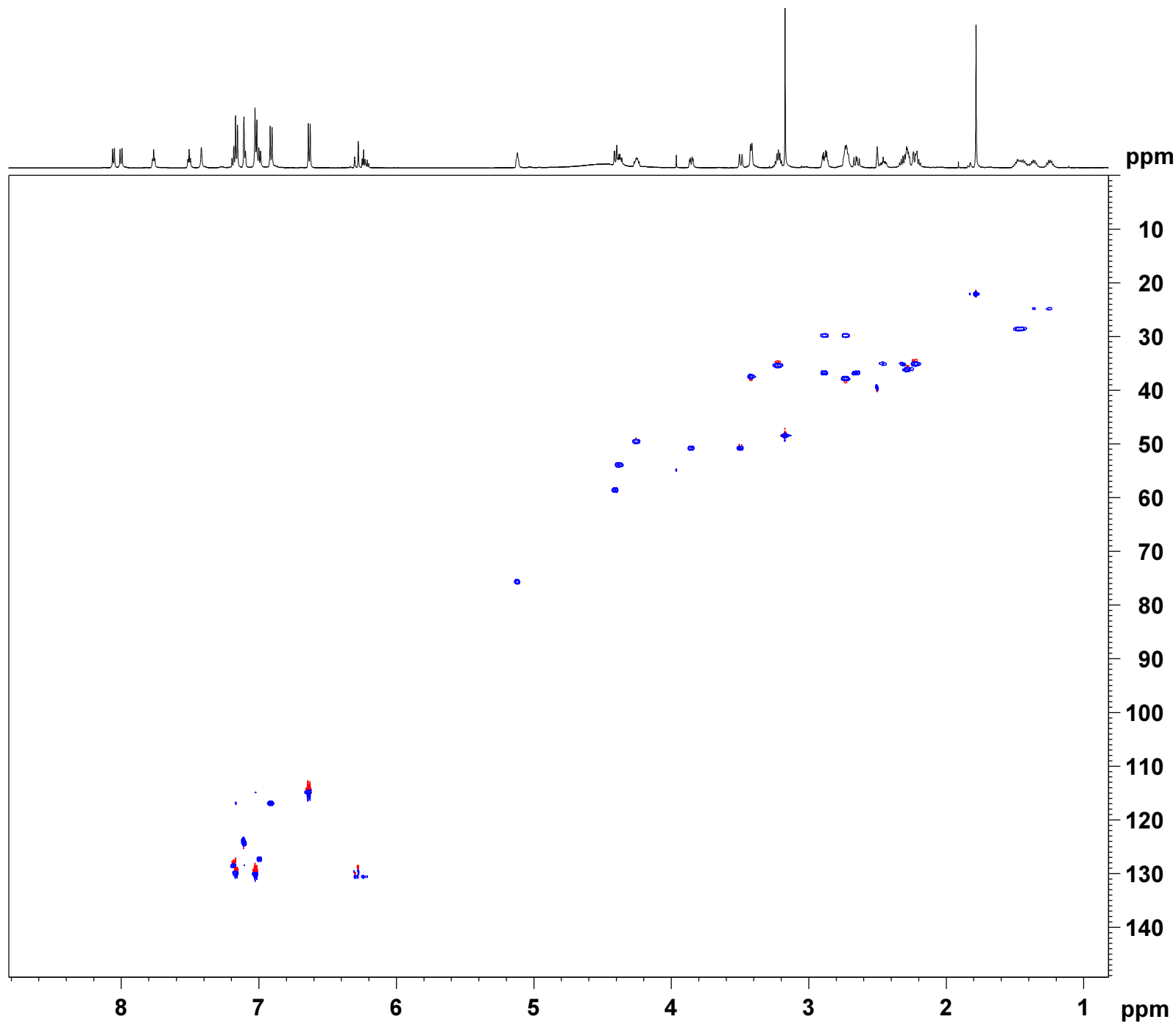
===== CHANNEL f2 =====
CPDPRG2 garp
NUC2 13C
P3 18.75 usec
P4 37.50 usec
P14 1000.00 usec
PCPD2 65.00 usec
PL0 120.00 dB
PL2 -3.00 dB
PL12 7.80 dB
PL0W 0 W
PL2W 150.35617065 W
PL12W 12.50608063 W
SFO2 150.9133722 MHz
SP3 4.47 dB
SPNAM3 Crp80,0.5,20.1
SPOAL3 0.500
SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 80.00 %
GPZ2 20.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 150.9134 MHz
FIDRES 94.320854 Hz
SW 160.000 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 600.1300032 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 echo-antiecho
SF 150.9029022 MHz
WDW
SSB 2
LB 0 Hz
GB 0

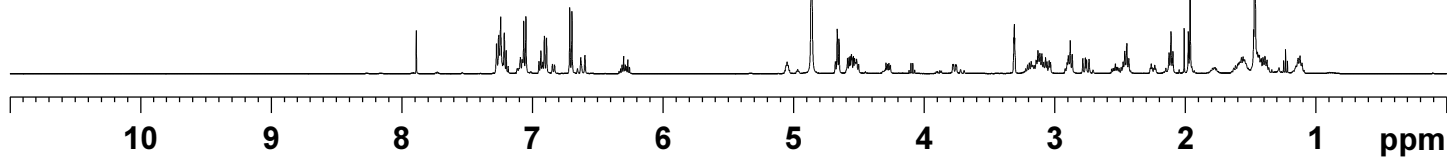
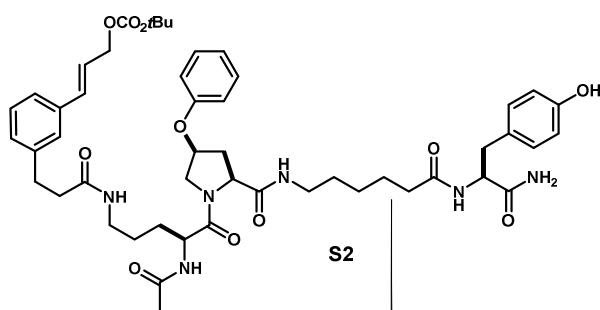


Current Data Parameters
NAME TR4-277
EXPNO 1
PROCNO 1

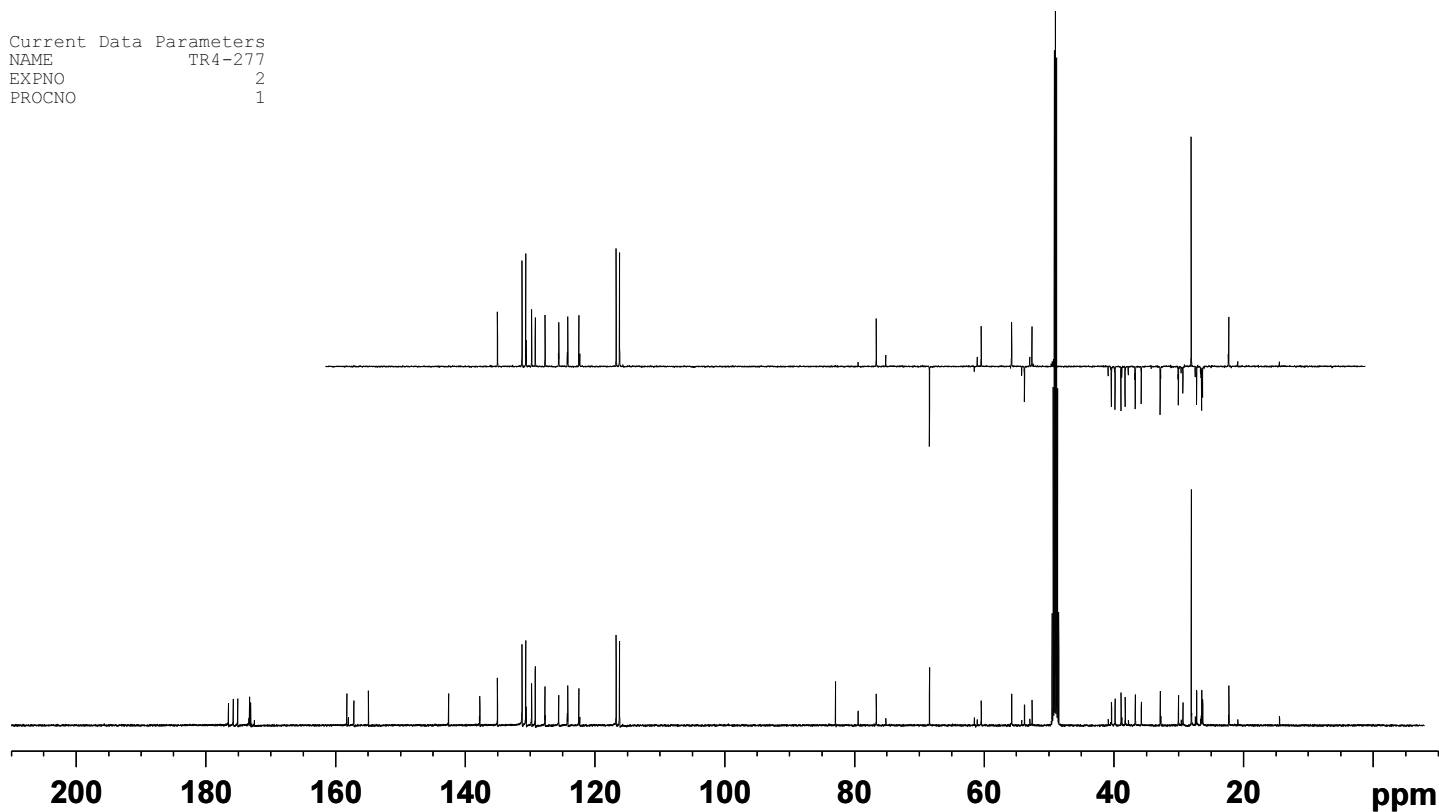
F2 - Acquisition Parameters
Date_ 20130913
Time_ 16.04
INSTRUM av500
PROBHD 5 mm DCH 13C-1
PULPROG zg30
TD 65536
SOLVENT MeOD
NS 8
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2768500 sec
RG 12.14
DW 50.000 usec
DE 10.00 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SF01 500.1330008 MHz
NUC1 1H
P1 10.00 usec
PLW1 13.50000000 W

F2 - Processing parameters
SI 65536
SF 500.1300094 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

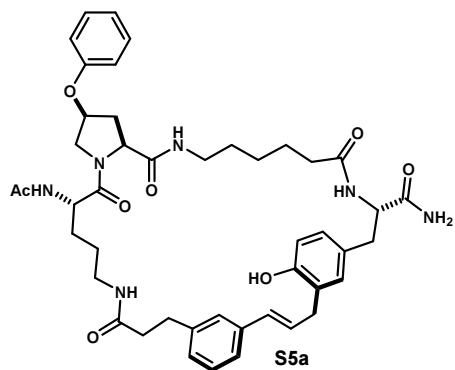


Current Data Parameters
NAME TR4-277
EXPNO 2
PROCNO 1



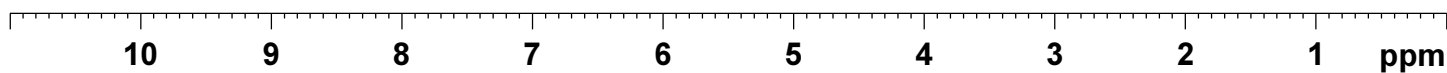
Current Data Parameters
 NAME TR4-281A
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20130916
 Time_ 20.09
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 25.4
 DW 40.400 usec
 DE 6.50 usec
 TE 298.0 K
 D1 2.00000000 sec
 TDO 1



===== CHANNEL f1 =====
 NUC1 1H
 P1 10.25 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300068 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME TR4-281A
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130916
Time 20.17
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 4597.6
DW 83.200 usec
DE 6.50 usec
TE 298.0 K
D0 0.00007015 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00016640 sec

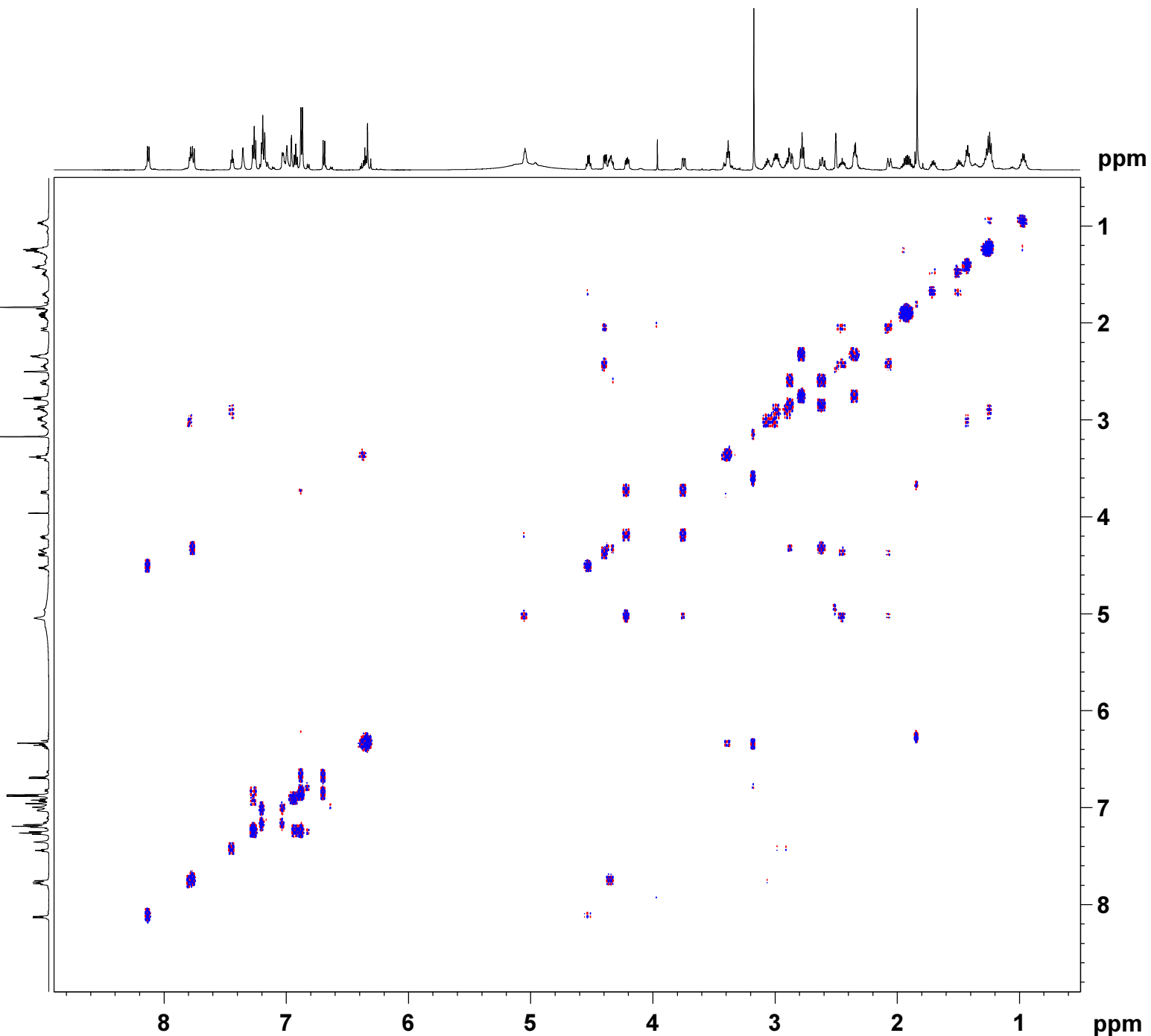
===== CHANNEL f1 =====
NUC1 1H
P1 10.25 usec
P2 20.50 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.133 MHz
FIDRES 23.475060 Hz
SW 10.014 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300014 MHz
WDW QSINE
SSB 1.8
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300177 MHz
WDW
SSB 1.8
LB 0 Hz
GB 0



Current Data Parameters
NAME TR4-281A
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130916
Time_ 20.32
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG mlevsgpph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 7183.908 Hz
FIDRES 3.507768 Hz
AQ 0.1425908 sec
RG 256
DW 69.600 usec
DE 6.50 usec
TE 298.0 K
D0 0.00004307 sec
D1 1.00000000 sec
D9 0.06000000 sec
D12 0.00002000 sec
D16 0.00020000 sec
IN0 0.00013920 sec
L1 24

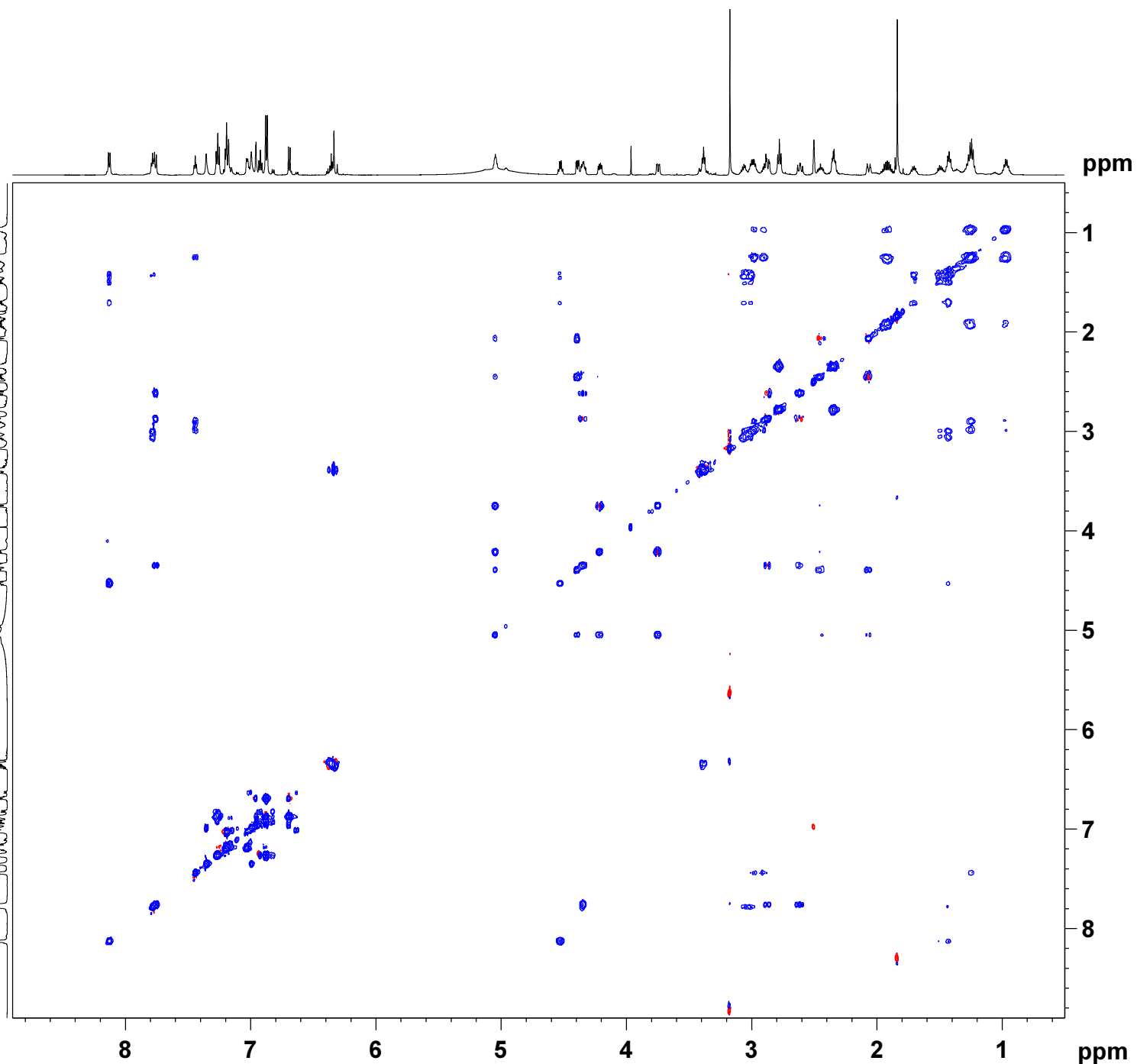
===== CHANNEL f1 =====
NUC1 1H
P1 10.25 usec
P2 20.50 usec
P5 26.68 usec
P6 40.00 usec
P7 80.00 usec
P12 3000.00 usec
P17 2500.00 usec
PL0 120.00 dB
PL1 -2.00 dB
PL10 9.83 dB
PLOW 0 W
PL1W 39.81071854 W
PL10W 2.61216140 W
SFO1 600.1336008 MHz
SP1 120.00 dB
SPNAM1 Squal00.1000
SPOAL1 1.000
SPOFFS1 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 31.00 %
GPZ2 11.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.1336 MHz
FIDRES 28.062170 Hz
SW 11.971 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300029 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300042 MHz
WDW
SSB
LB 0 Hz
GB 0



Current Data Parameters
NAME TR4-281A
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130916
Time 20.43
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hsqcetgpsisp
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 16384
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
D0 0.00000300 sec
D1 1.00000000 sec
D4 0.00172414 sec
D11 0.03000000 sec
D16 0.00020000 sec
D24 0.00086200 sec
INO 0.00002070 sec
ZGOPTNS

===== CHANNEL f1 =====
NUC1 1H
P1 10.25 usec
P2 20.50 usec
P28 1000.00 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

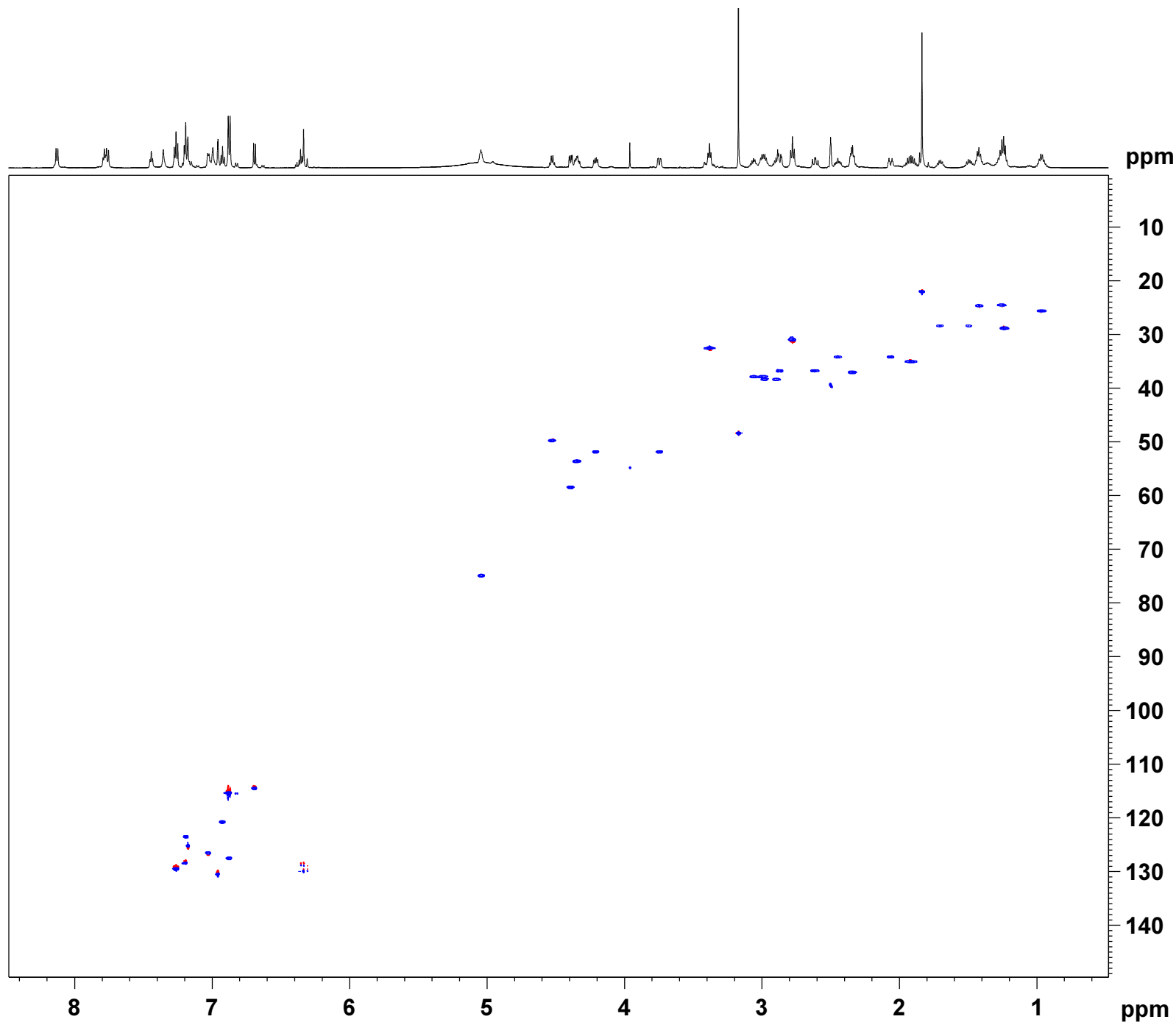
===== CHANNEL f2 =====
CPDPRG2 garp
NUC2 13C
P3 18.75 usec
P4 37.50 usec
P14 1000.00 usec
PCPD2 65.00 usec
PL0 120.00 dB
PL2 -3.00 dB
PL12 7.80 dB
PL0W 0 W
PL2W 150.35617065 W
PL12W 12.50608063 W
SFO2 150.9133722 MHz
SP3 4.47 dB
SPNAM3 Crp80,0.5,20.1
SPOAL3 0.500
SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 80.00 %
GPZ2 20.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 150.9134 MHz
FIDRES 47.160427 Hz
SW 160.000 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 600.1300051 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 echo-antiecho
SF 150.9029082 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR4-281A
EXPNO 7
PROCNO 1

F2 - Acquisition Parameters

Date_ 20130916
Time 21.06
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hmbcgp1pndqf
TD 2048
SOLVENT DMSO
NS 4
DS 64
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
CNST13 7.0000000
D0 0.00000300 sec
D1 1.50000000 sec
D2 0.00344828 sec
D6 0.07142857 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 9.98 usec
P2 19.96 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

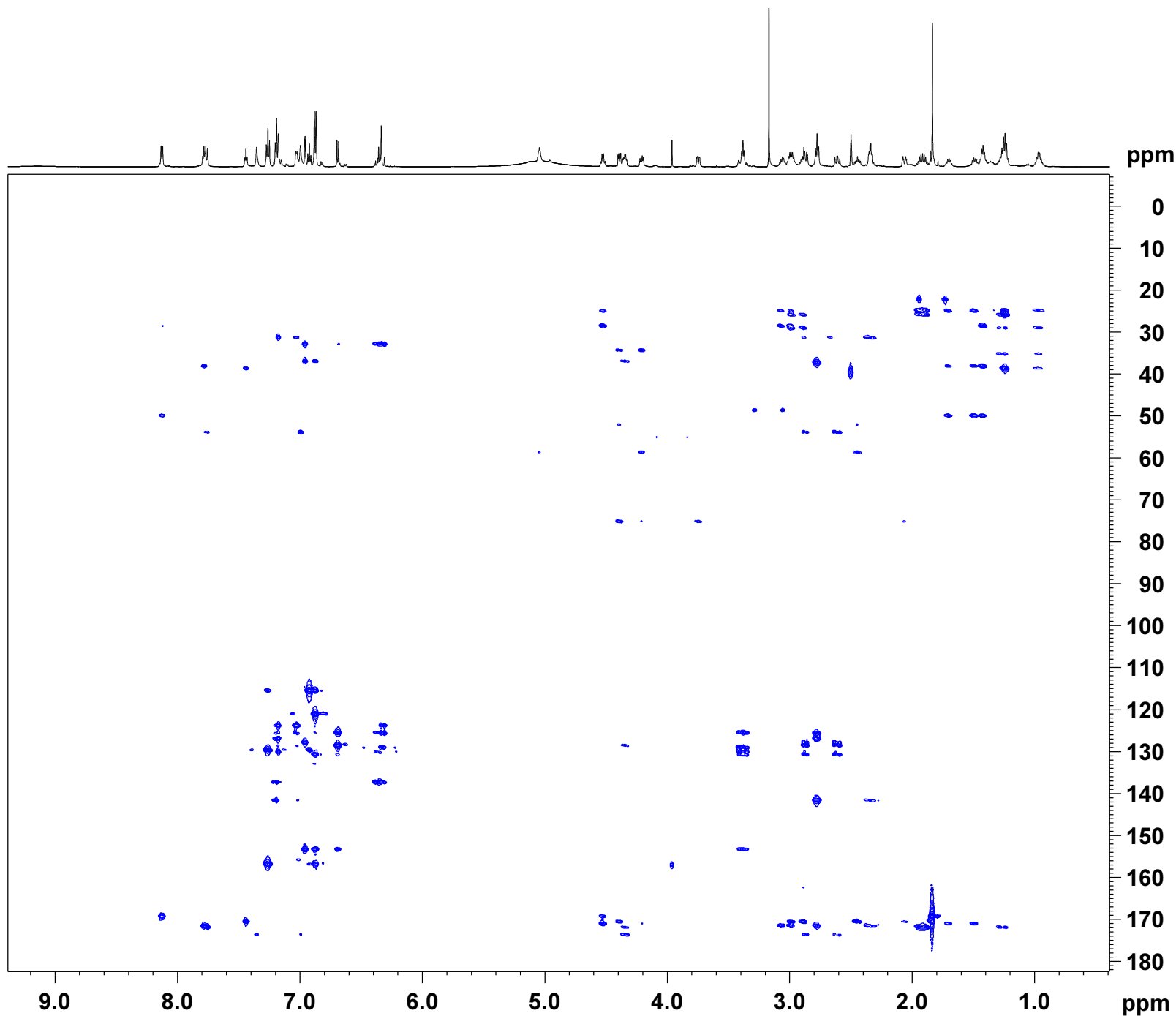
===== CHANNEL f2 =====
NUC2 13C
P3 18.75 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 150.9156 MHz
FIDRES 56.003849 Hz
SW 190.000 ppm
FnMODE QF

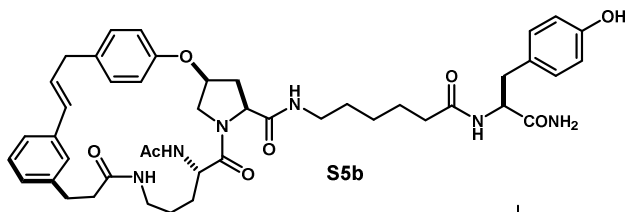
F2 - Processing parameters
SI 4096
SF 600.1300059 MHz
WDW QSINE
SSB 0
LB 0 Hz
GB 0
FC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9028748 MHz
WDW
SSB 2
LB 0 Hz
GB 0



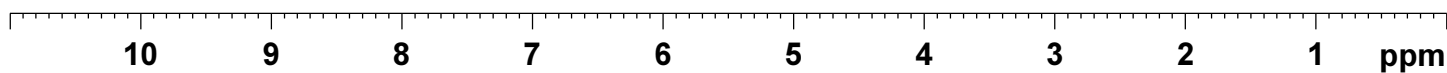
Current Data Parameters
NAME TR4-281B1
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date 20130917
Time 20.31
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG zg
TD 65536
SOLVENT DMSO
NS 8
DS 0
SWH 12376.237 Hz
FIDRES 0.188846 Hz
AQ 2.6477044 sec
RG 181
DW 40.400 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1



===== CHANNEL f1 =====
NUC1 1H
P1 10.57 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1336008 MHz

F2 - Processing parameters
SI 65536
SF 600.1300068 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



Current Data Parameters
NAME TR4-281B1
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130917
Time 20.33
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 4597.6
DW 83.200 usec
DE 6.50 usec
TE 298.0 K
D0 0.00006974 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00016640 sec

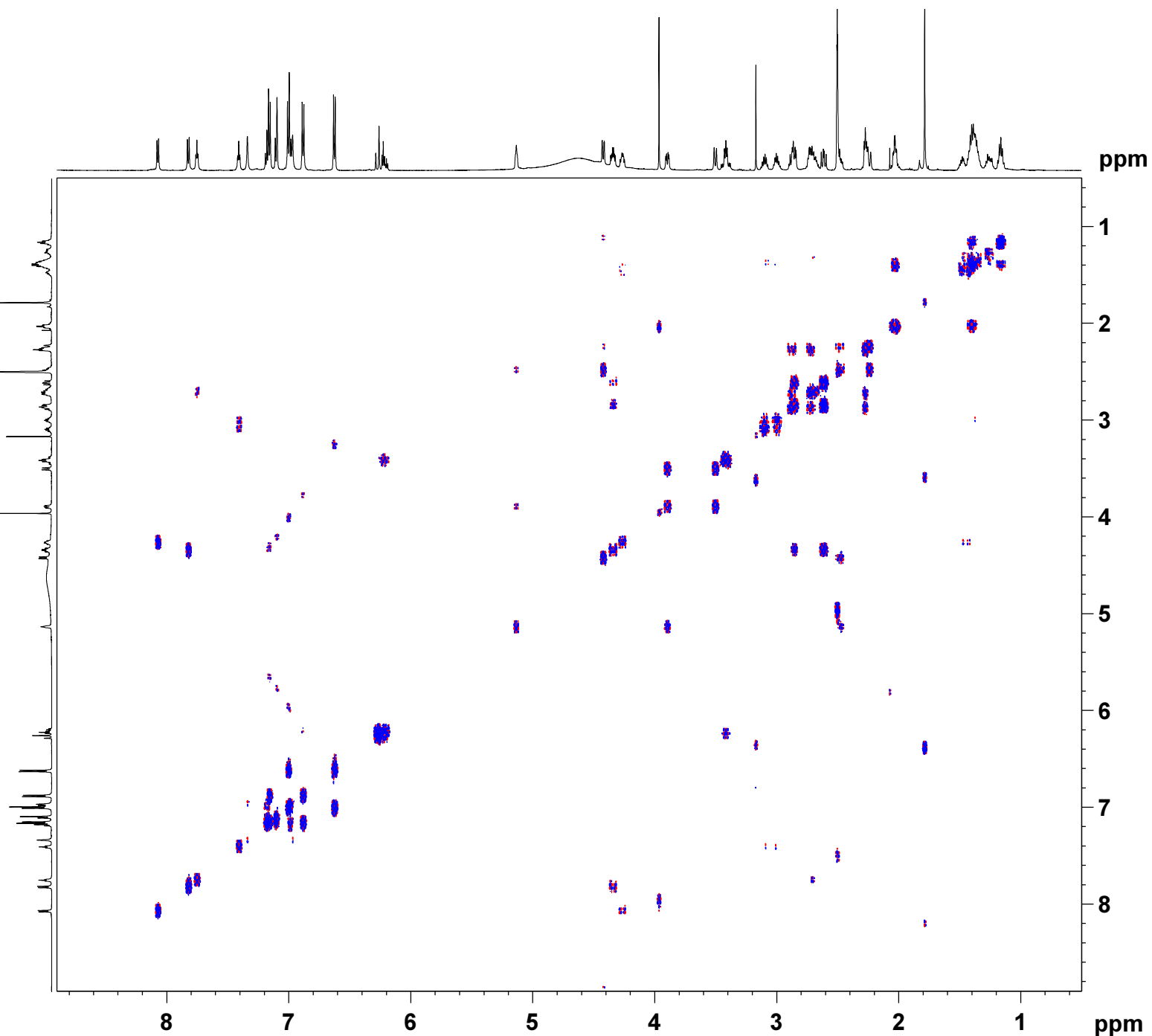
===== CHANNEL f1 =====
NUC1 1H
P1 10.57 usec
P2 21.14 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.133 MHz
FIDRES 23.475060 Hz
SW 10.014 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300076 MHz
WDW QSINE
SSB 1.8
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300063 MHz
WDW
SSB 1.8
LB 0 Hz
GB 0



Current Data Parameters
NAME TR4-281B1
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130917
Time 20.48
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG mlevsgpph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 7183.908 Hz
FIDRES 3.507768 Hz
AQ 0.1425908 sec
RG 256
DW 69.600 usec
DE 6.50 usec
TE 298.0 K
D0 0.00004287 sec
D1 1.00000000 sec
D9 0.06000000 sec
D12 0.00002000 sec
D16 0.00020000 sec
IN0 0.00013920 sec
L1 24

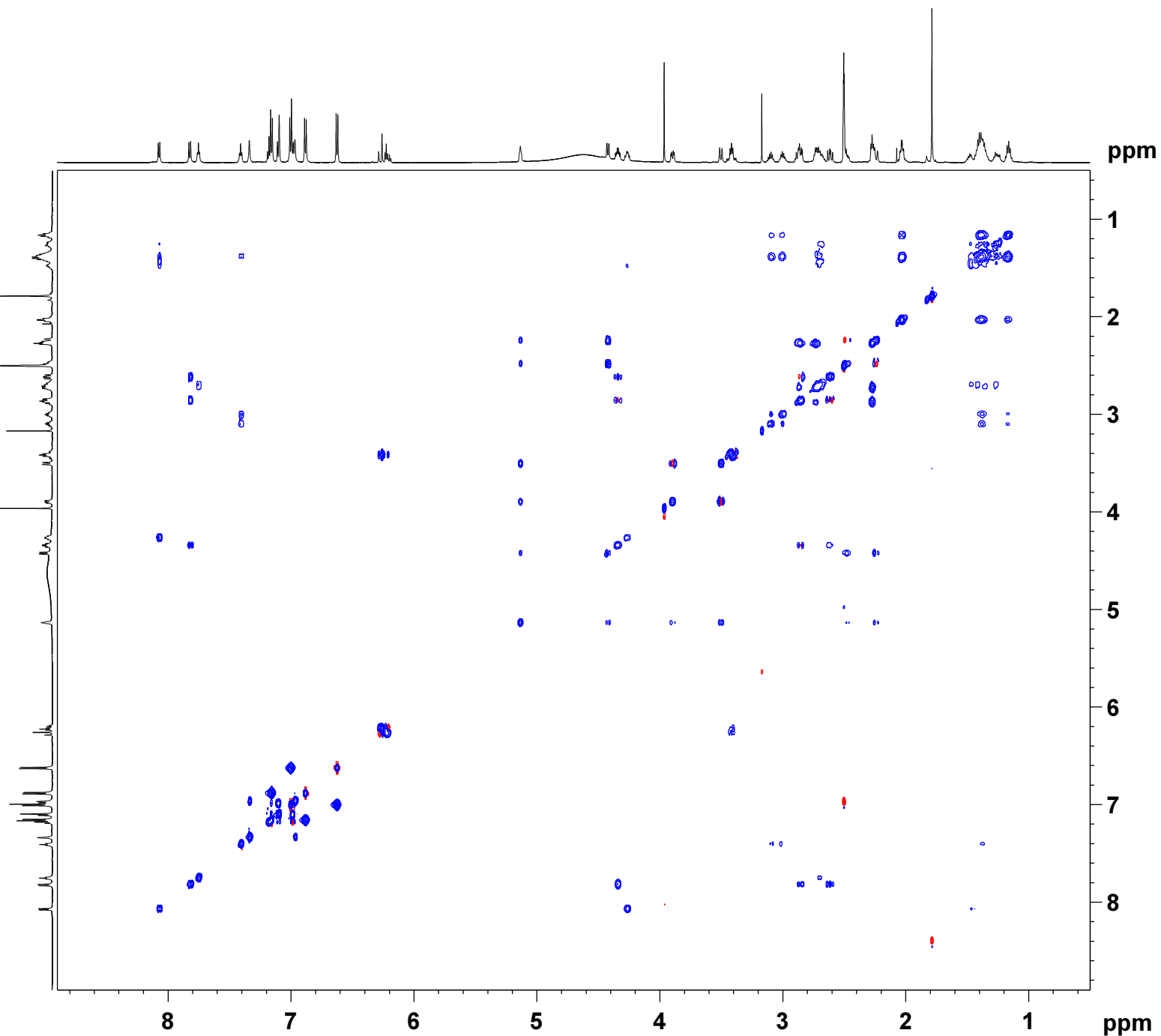
===== CHANNEL f1 =====
NUC1 1H
P1 10.57 usec
P2 21.14 usec
P5 26.68 usec
P6 40.00 usec
P7 80.00 usec
P12 3000.00 usec
P17 2500.00 usec
PL0 120.00 dB
PL1 -2.00 dB
PL10 9.56 dB
PL0W 0 W
PL1W 39.81071854 W
PL10W 2.77971292 W
SFO1 600.1336008 MHz
SF1 120.00 dB
SFNAM1 Squal00.1000
SFOAL1 1.000
SPOFFS1 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0
GPX2 0
GPY1 0
GPY2 0
GPZ1 31.00 %
GPZ2 11.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.1336 MHz
FIDRES 28.062170 Hz
SW 11.971 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300069 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300060 MHz
WDW
SSB 2
LB 0 Hz
GB 0



```

Current Data Parameters
NAME      TR4-281B1
EXPNO     6
PROCNO    1

F2 - Acquisition Parameters
Date_     20130917
Time      20.59
INSTRUM   av600
PROBHD    5 mm TBI5
PULPROG   hsqcetgpsisp
TD         2048
SOLVENT   DMSO
NS         4
DS         16
SWH        6009.615 Hz
FIDRES     2.934382 Hz
AQ         0.1704436 sec
RG         16384
DW         83.200 usec
DE         6.00 usec
TE         298.1 K
CNST2     145.0000000
D0         0.00000300 sec
D1         1.00000000 sec
D4         0.00172414 sec
D11        0.03000000 sec
D16        0.00020000 sec
D24        0.00086200 sec
IN0        0.00002070 sec
ZGPTNS

===== CHANNEL f1 =====
NUC1       1H
P1         10.57 usec
P2         21.14 usec
P28        1000.00 usec
PL1        -2.00 dB
PL1W       39.81071854 W
SFO1       600.1330006 MHz

===== CHANNEL f2 =====
CPDPRG2    garp
NUC2       13C
P3         18.75 usec
P4         37.50 usec
P14        1000.00 usec
PCPD2      65.00 usec
PL0        120.00 dB
PL2        -3.00 dB
PL12       7.80 dB
PL0W       0 W
PL2W       150.35617065 W
PL12W      12.50608063 W
SFO2       150.9133722 MHz
SP3        4.47 dB
SPNAM3     Crp80,0.5,20.1
SPOAL3     0.500
SPOFFS3    0 Hz

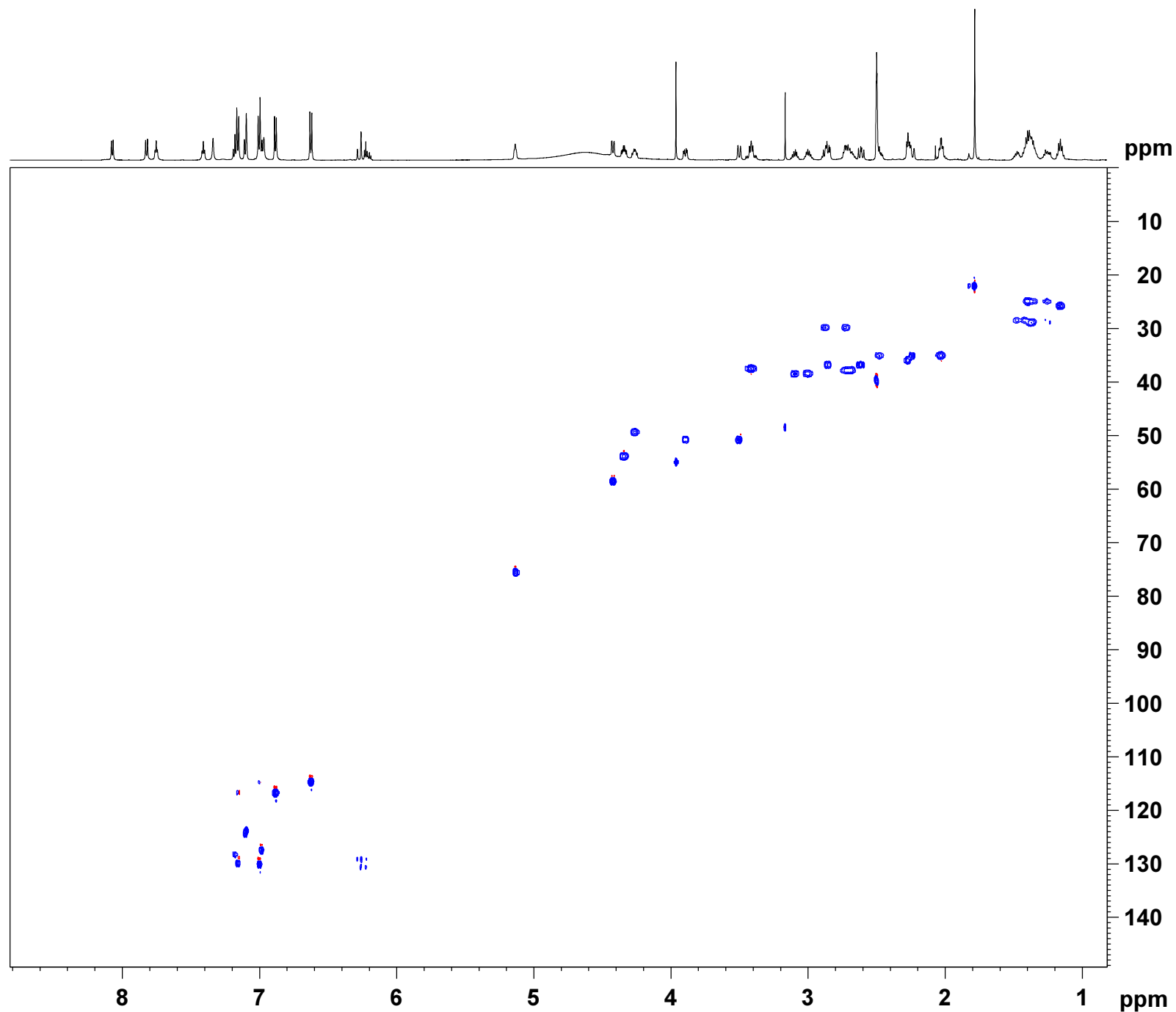
===== GRADIENT CHANNEL =====
GPNAM1     SINE.100
GPNAM2     SINE.100
GPX1       0 %
GPX2       0 %
GPY1       0 %
GPY2       0 %
GPZ1       80.00 %
GPZ2       20.10 %
P16        1000.00 usec

F1 - Acquisition parameters
TD         256
SFO1       150.9134 MHz
FIDRES     94.320854 Hz
SW         160.000 ppm
FnMODE     Echo-Antiecho

F2 - Processing parameters
SI         4096
SF         600.1300051 MHz
WDW        EM
SSB        0
LB         1.00 Hz
GB         0
PC         1.40

F1 - Processing parameters
SI         4096
MC2        echo-antiecho
SF         150.9028992 MHz
WDW        EM
SSB        2
LB         0 Hz
GB         0

```



Current Data Parameters
NAME TR4-281B1
EXPNO 7
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130917
Time 21.21
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hmbcgp1pndqf
TD 2048
SOLVENT DMSO
NS 4
DS 64
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
CNST13 7.0000000
D0 0.00000300 sec
D1 1.50000000 sec
D2 0.00344828 sec
D6 0.07142857 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 10.57 usec
P2 21.14 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

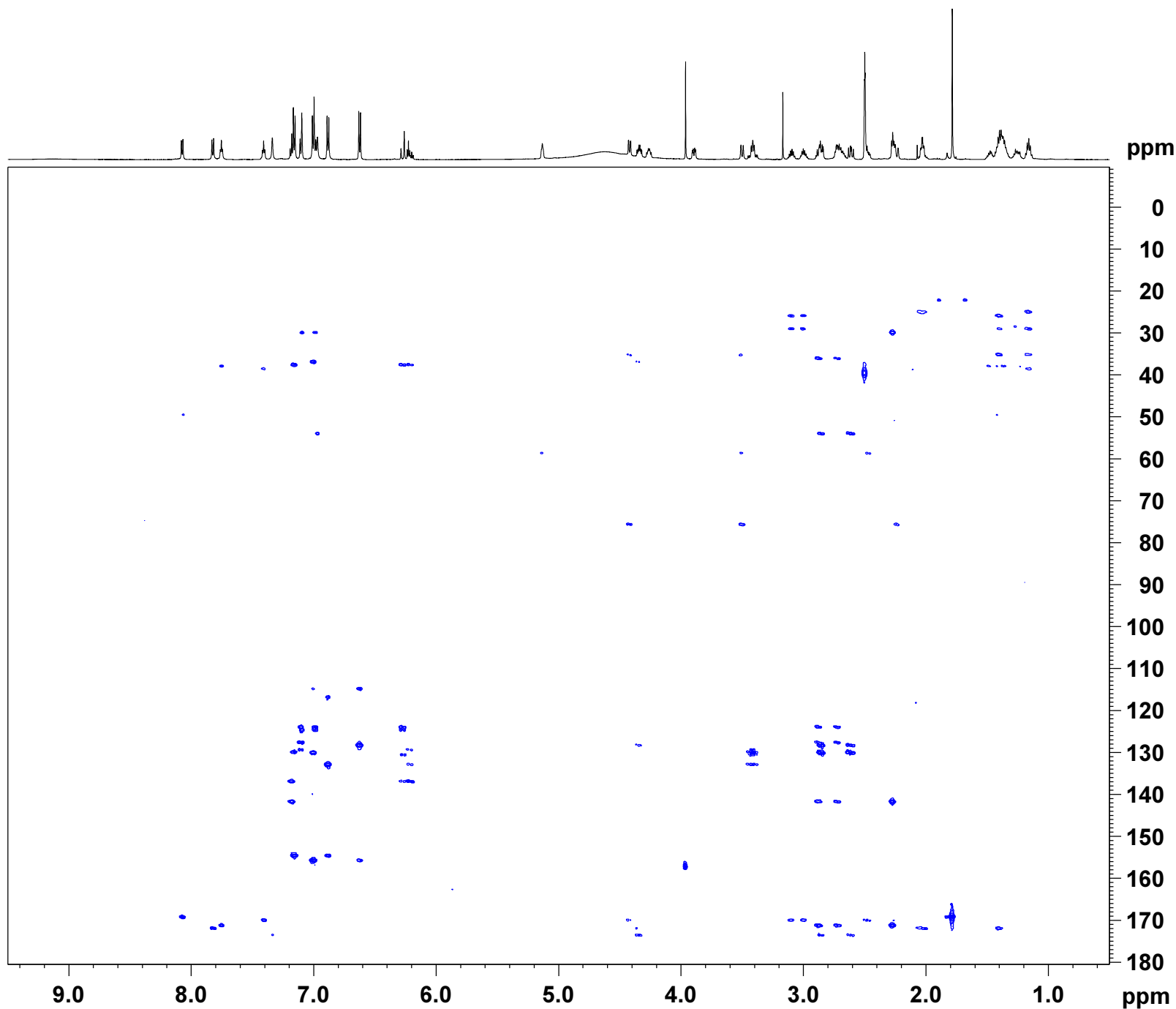
===== CHANNEL f2 =====
NUC2 13C
P3 18.75 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 150.9156 MHz
FIDRES 56.003849 Hz
SW 190.000 ppm
FnMODE QF

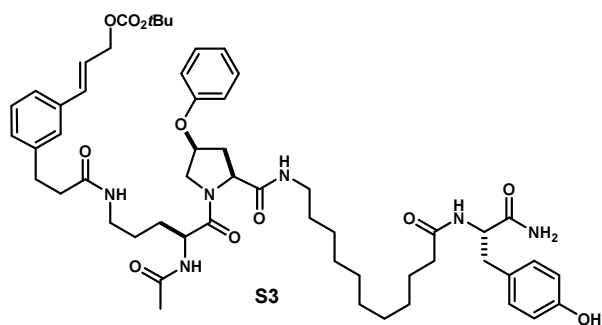
F2 - Processing parameters
SI 4096
SF 600.1300065 MHz
WDW QSINE
SSB 0
LB 0 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9028793 MHz
WDW
SSB 2
LB 0 Hz
GB 0



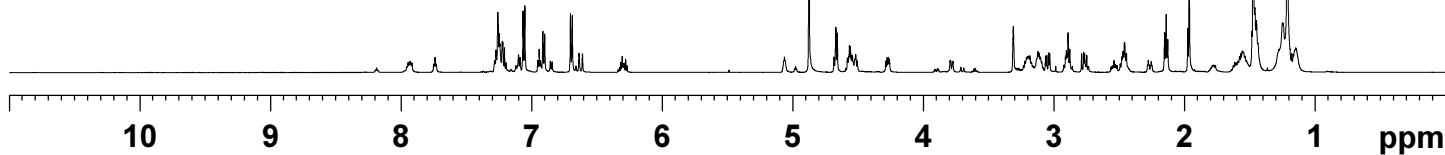
Current Data Parameters
 NAME TR4-285
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20130920
 Time_ 22.36
 INSTRUM av600
 PROBHD 5 mm BB5
 PULPROG zg
 TD 65536
 SOLVENT MeOD
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 40.3
 DW 40.400 usec
 DE 6.50 usec
 TE 295.3 K
 D1 2.00000000 sec
 TD0 1

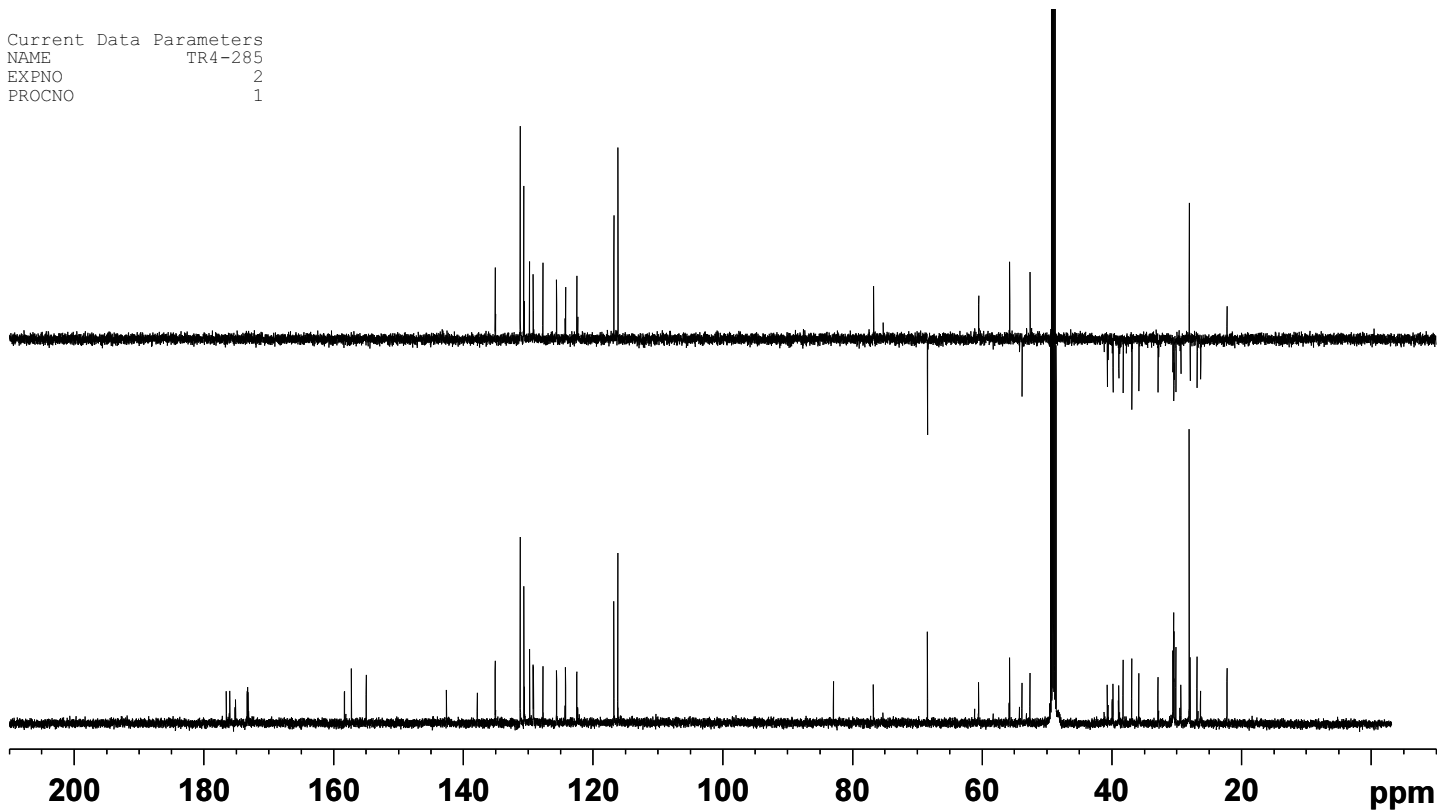


===== CHANNEL f1 =====
 NUC1 1H
 P1 15.38 usec
 PL1 -1.00 dB
 PL1W 31.62277603 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300139 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



Current Data Parameters
 NAME TR4-285
 EXPNO 2
 PROCNO 1

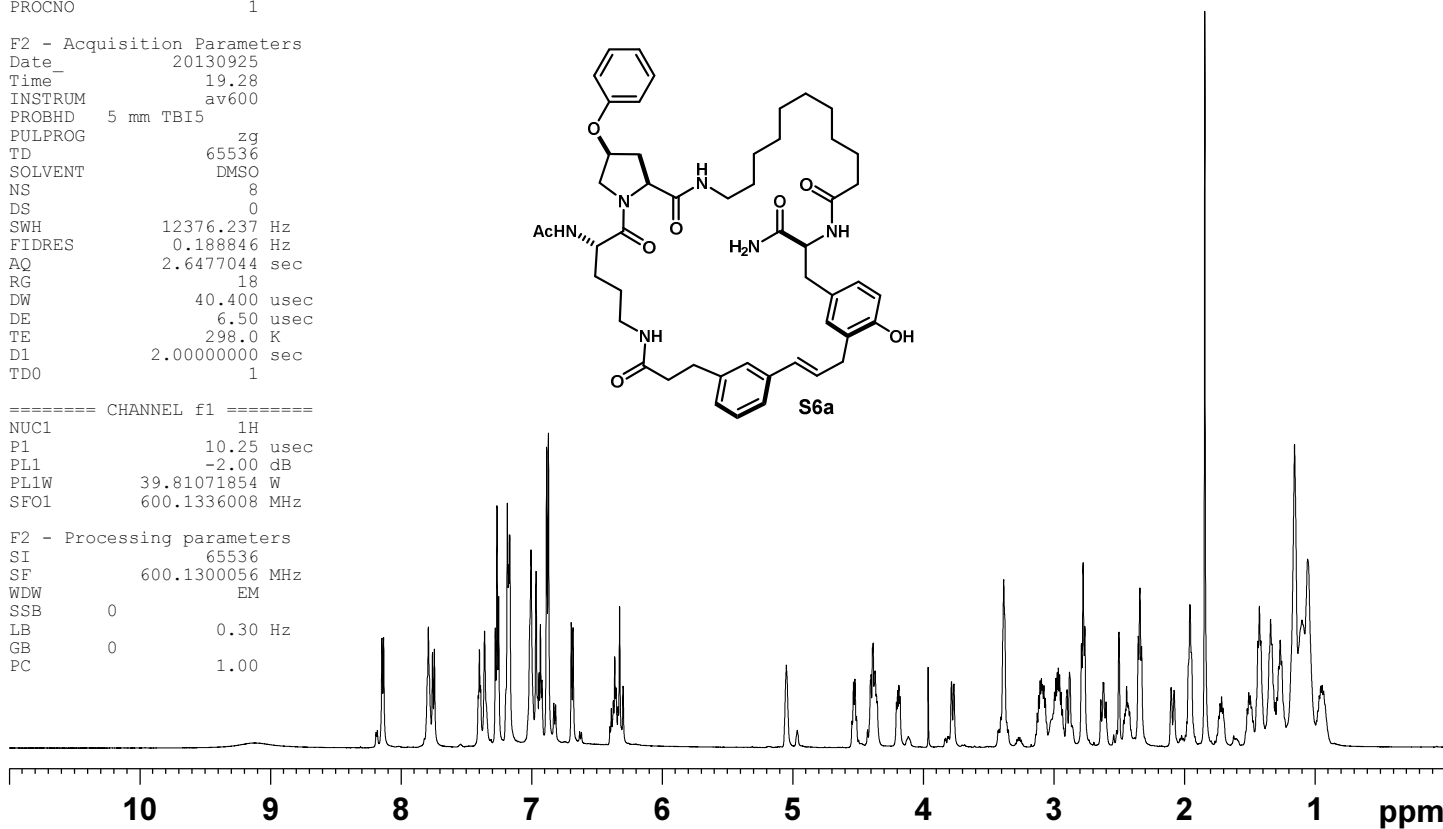
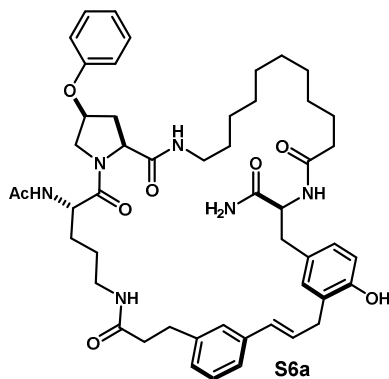


Current Data Parameters
 NAME TR4-291A
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20130925
 Time 19.28
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 18
 DW 40.400 usec
 DE 6.50 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 1H
 P1 10.25 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300056 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME TR4-291A
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130925
Time_ 19.32
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 1625.5
DW 83.200 usec
DE 6.50 usec
TE 298.0 K
D0 0.00007015 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00016640 sec

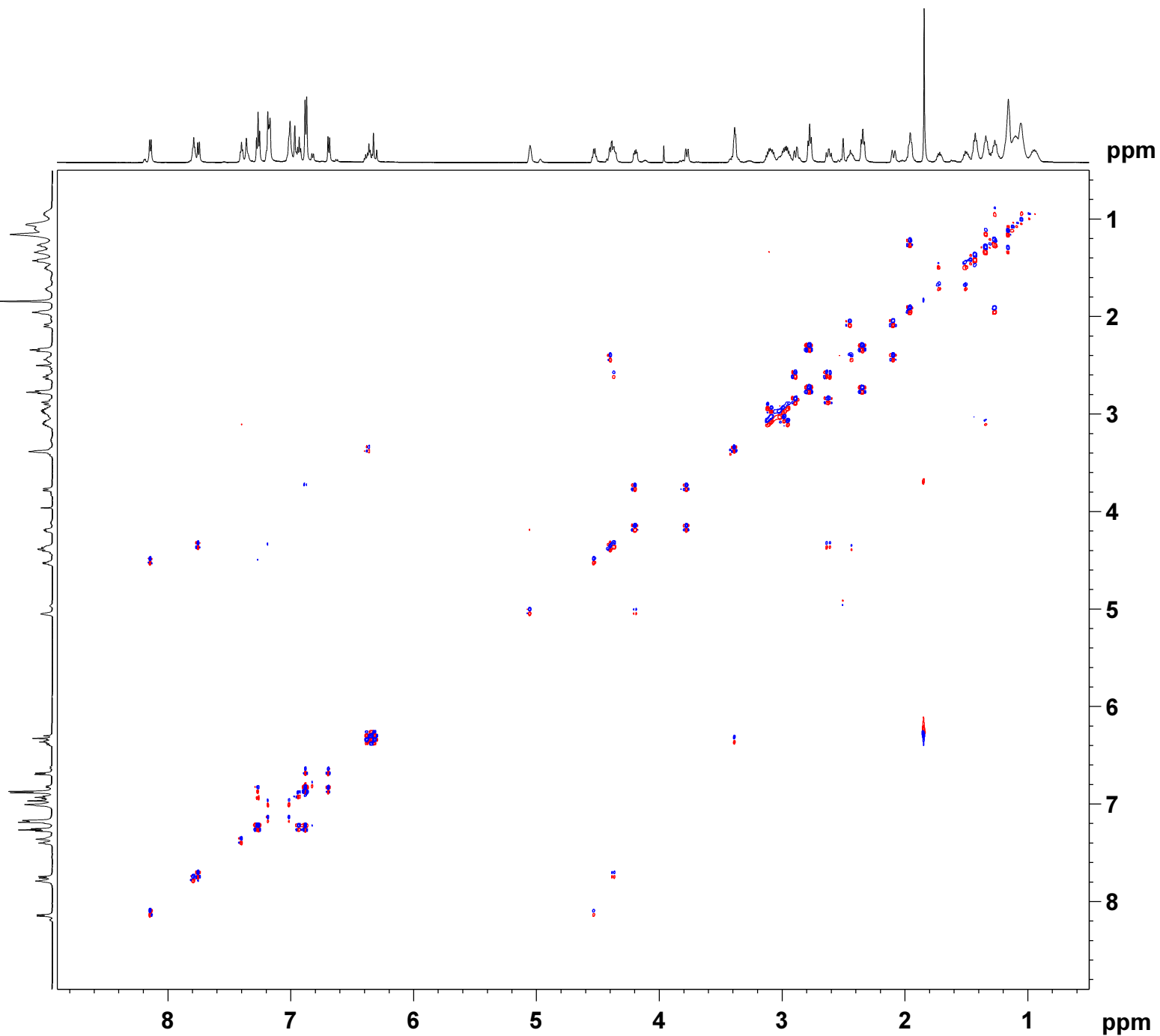
===== CHANNEL f1 =====
NUC1 1H
P1 10.25 usec
P2 20.50 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.133 MHz
FIDRES 23.475060 Hz
SW 10.014 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300014 MHz
WDW SINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300177 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR4-291A
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130925
Time 19.46
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG mlevessgpph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 7183.908 Hz
FIDRES 3.507768 Hz
AQ 0.1425908 sec
RG 90.5
DW 69.600 usec
DE 6.50 usec
TE 298.0 K
D0 0.00004307 sec
D1 1.00000000 sec
D9 0.06000000 sec
D12 0.00002000 sec
D16 0.00020000 sec
IN0 0.00013920 sec
L1 24

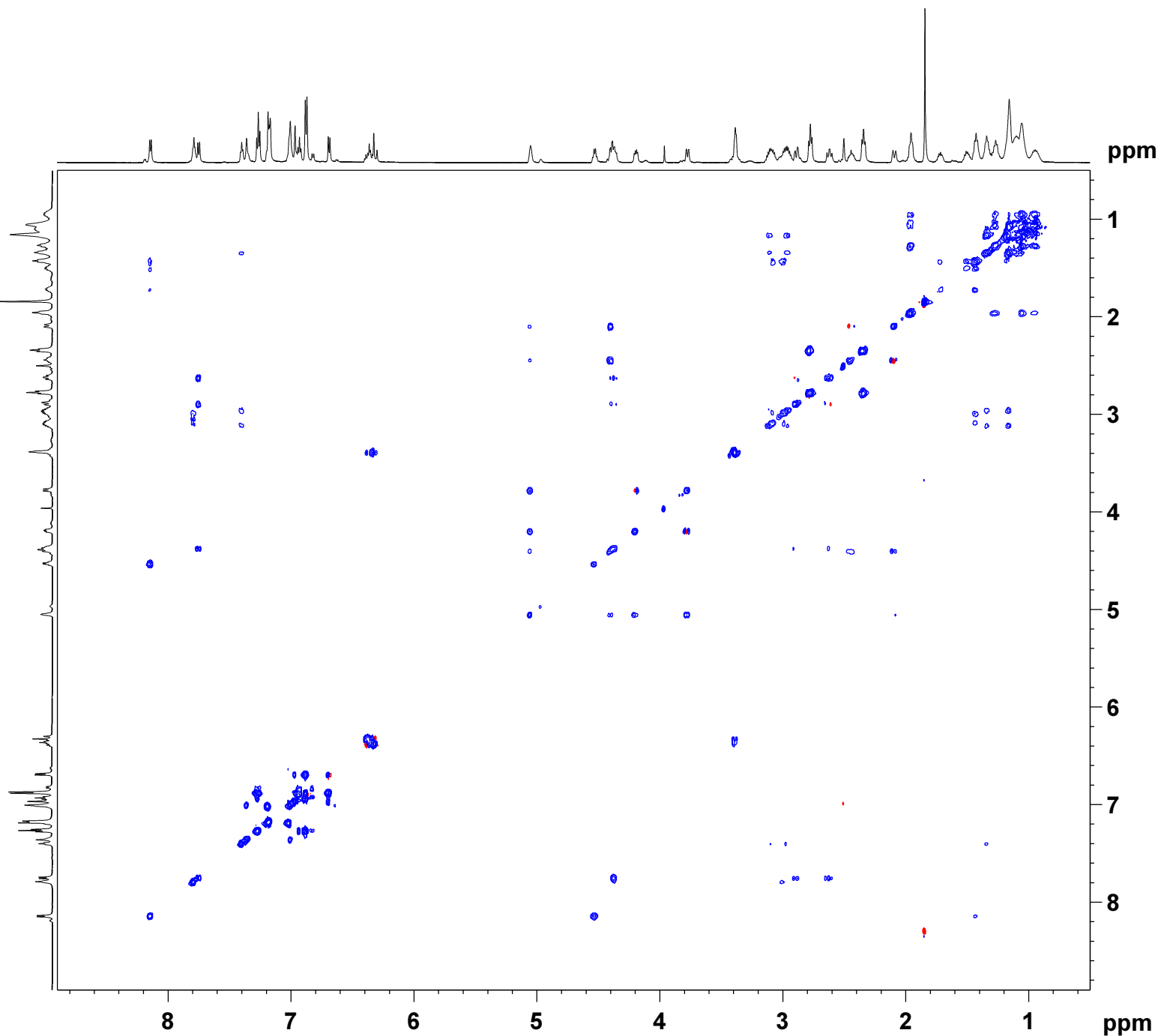
===== CHANNEL f1 =====
NUC1 1H
P1 10.25 usec
P2 20.50 usec
P5 26.68 usec
P6 40.00 usec
P7 80.00 usec
P12 3000.00 usec
P17 2500.00 usec
PL0 120.00 dB
PL1 -2.00 dB
PL10 9.83 dB
PL0W 0 W
PL1W 39.81071854 W
PL10W 2.61216140 W
SFO1 600.1336008 MHz
SF1 120.00 dB
SFNAM1 Squal00.1000
SFOAL1 1.000
SPOFFS1 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0
GPX2 0
GPY1 0
GPY2 0
GPZ1 31.00 %
GPZ2 11.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.1336 MHz
FIDRES 28.062170 Hz
SW 11.971 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300000 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300000 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR4-291A
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130925
Time 19.58
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hsqcetgpsisp
TD 2048
SOLVENT DMSO
NS 4
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 8192
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
D0 0.00000300 sec
D1 1.20000005 sec
D4 0.00172414 sec
D11 0.03000000 sec
D16 0.00020000 sec
D24 0.00086200 sec
IN0 0.00002070 sec
ZGPTNS

===== CHANNEL f1 =====
NUC1 1H
P1 10.25 usec
P2 20.50 usec
P28 1000.00 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

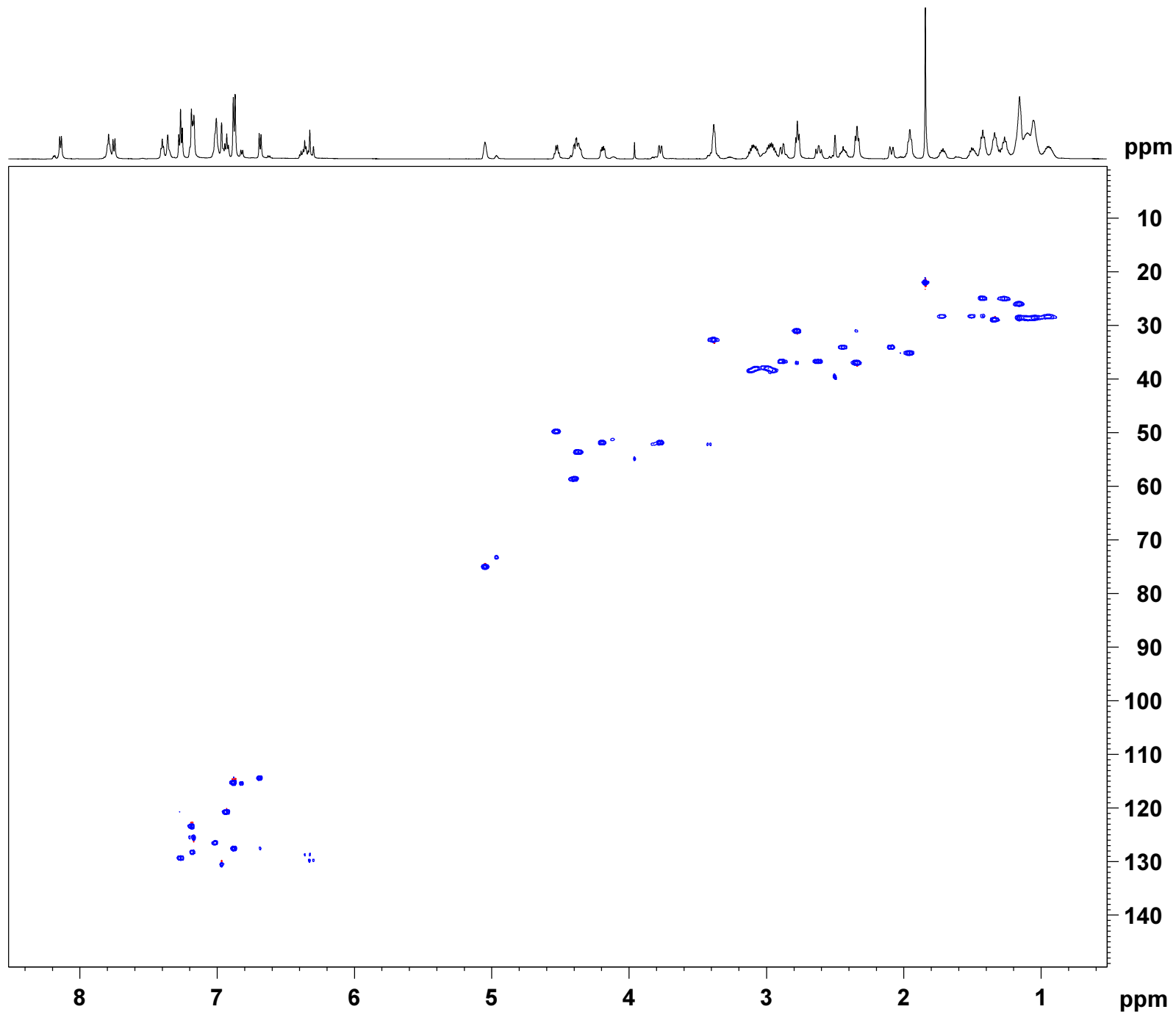
===== CHANNEL f2 =====
CPDPRG2 garp
NUC2 13C
P3 18.75 usec
P4 37.50 usec
P14 1000.00 usec
PCPD2 65.00 usec
PL0 120.00 dB
PL2 -3.00 dB
PL12 7.80 dB
PL0W 0 W
PL2W 150.35617065 W
PL12W 12.50608063 W
SFO2 150.9133722 MHz
SP3 4.47 dB
SPNAM3 Crp80,0.5,20.1
SPOAL3 0.500
SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 80.00 %
GPZ2 20.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 150.9134 MHz
FIDRES 94.320854 Hz
SW 160.000 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 600.1300024 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 echo-antiecho
SF 150.9029103 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR4-291A
EXPNO 7
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130925
Time_ 20.23
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hmbcgp1pndqf
TD 2048
SOLVENT DMSO
NS 4
DS 64
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
CNST13 7.0000000
D0 0.00000300 sec
D1 1.50000000 sec
D2 0.00344828 sec
D6 0.07142857 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 10.25 usec
P2 20.50 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

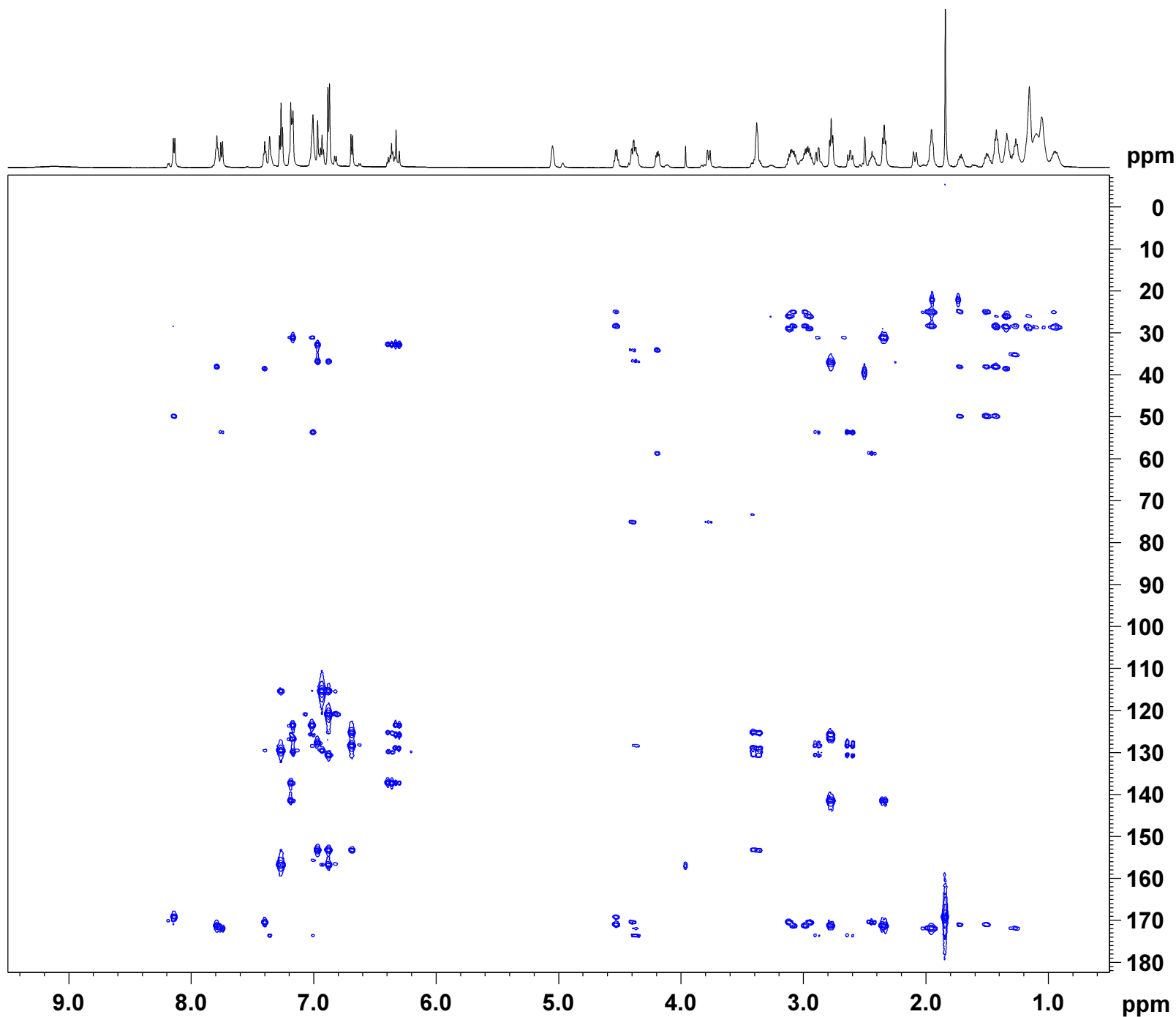
===== CHANNEL f2 =====
NUC2 13C
P3 18.75 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 462
SFO1 150.9156 MHz
FIDRES 62.064873 Hz
SW 190.000 ppm
FnMODE QF

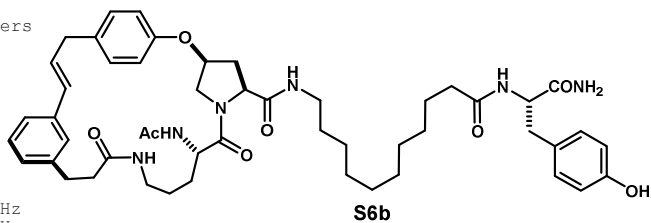
F2 - Processing parameters
SI 4096
SF 600.1300028 MHz
WDW QSINE
SSB 0
LB 0 Hz
GB 0
FC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9028918 MHz
WDW
SSB 2
LB 0 Hz
GB 0



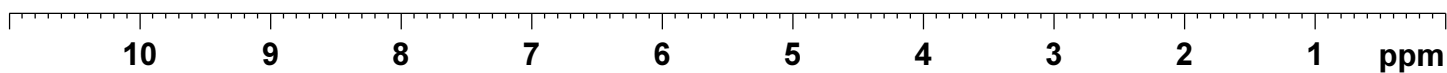
Current Data Parameters
 NAME TR4-291B
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20130925
 Time_ 21.42
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 22.6
 DW 40.400 usec
 DE 6.50 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1



===== CHANNEL f1 =====
 NUC1 1H
 P1 10.25 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300068 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME TR4-291B
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130925
Time 21.43
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 4597.6
DW 83.200 usec
DE 6.50 usec
TE 298.0 K
DO 0.00007015 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
INO 0.00016640 sec

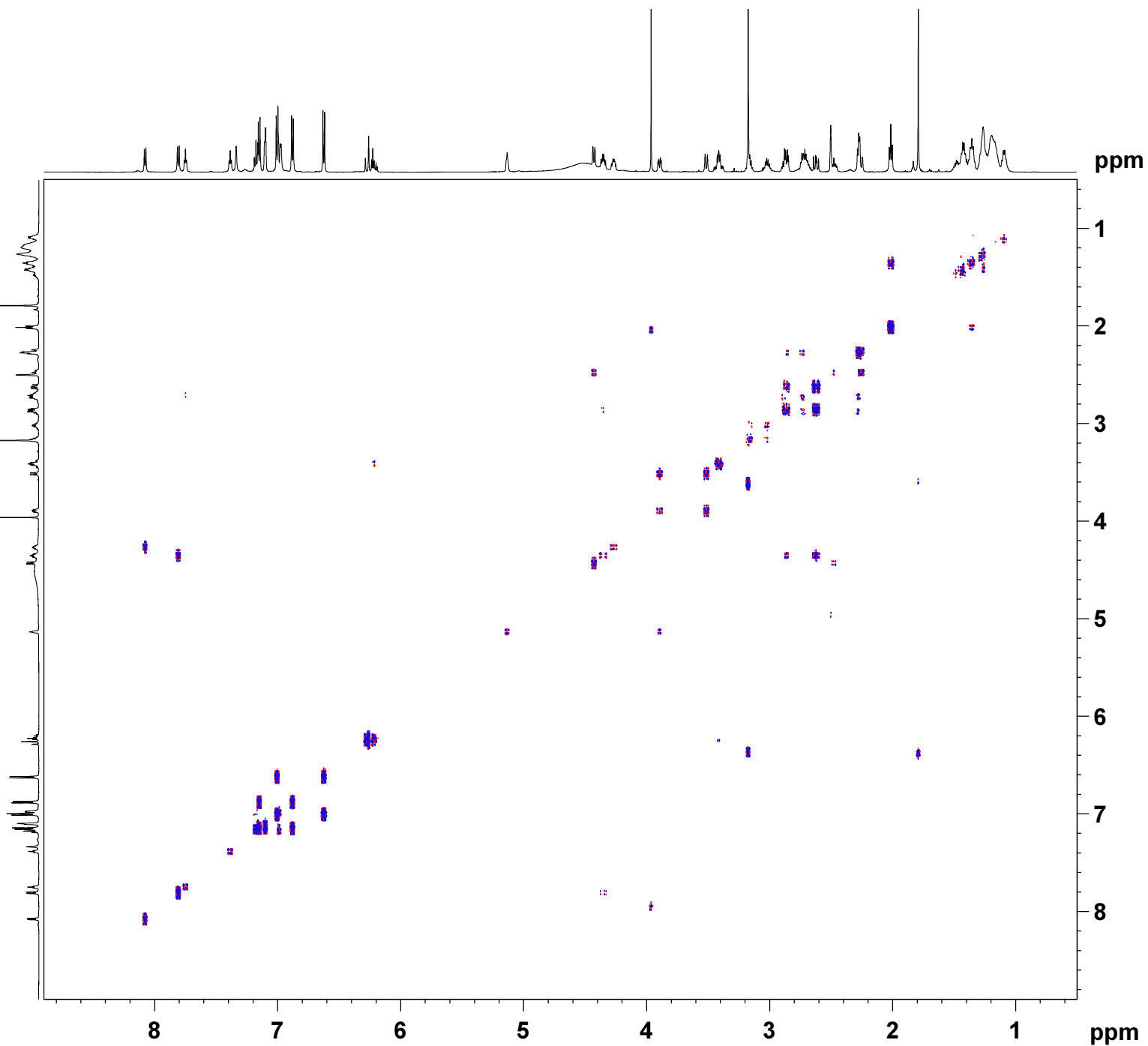
===== CHANNEL f1 =====
NUC1 1H
P1 10.25 usec
P2 20.50 usec
PL1 -2.00 dB
PL1W 39.81071857 W
SFO1 600.1330006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.133 MHz
FIDRES 23.475060 Hz
SW 10.014 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300054 MHz
WDW QSINE
SSB 1
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300055 MHz
WDW
SSB 1
LB 0 Hz
GB 0



Current Data Parameters
NAME TR4-291B
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130925
Time_ 21.58
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG mlevsgpph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 7183.908 Hz
FIDRES 3.507768 Hz
AQ 0.1425908 sec
RG 90.5
DW 69.600 usec
DE 6.50 usec
TE 298.0 K
D0 0.00004307 sec
D1 1.00000000 sec
D9 0.06000000 sec
D12 0.00002000 sec
D16 0.00020000 sec
IN0 0.00013920 sec
LI 24

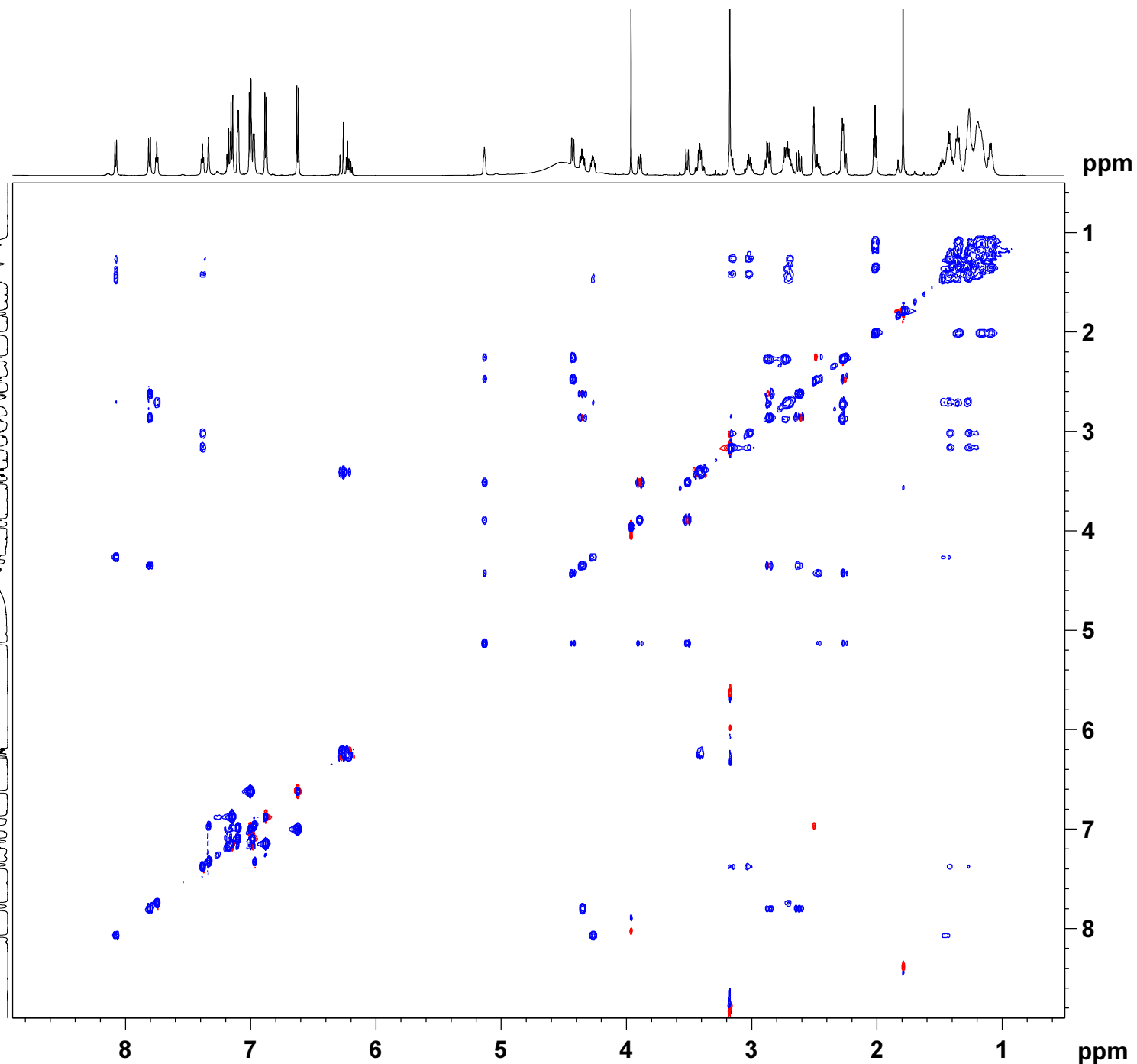
----- CHANNEL f1 -----
NUC1 1H
P1 10.25 usec
P2 20.50 usec
P5 26.60 usec
P6 40.00 usec
P7 80.00 usec
P12 3000.00 usec
P17 2500.00 usec
PL0 120.00 dB
PL1 -2.00 dB
PL10 9.83 dB
PLOW 0 W
PL1W 39.81071854 W
PL10W 2.61216140 W
SFO1 600.1336008 MHz
SP1 120.00 dB
SPNAM1 Squa100.1000
SPOAL1 1.000
SPOFFS1 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 31.00 %
GPZ2 11.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.1336 MHz
FIDRES 28.062170 Hz
SW 11.971 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300066 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300067 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR4-291B
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130925
Time_ 22.10
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hsqcetgpsisp
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 8192
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
D0 0.00000300 sec
D1 1.20000005 sec
D4 0.00172414 sec
D11 0.03000000 sec
D16 0.00020000 sec
D24 0.00086200 sec
IN0 0.00002070 sec
ZGOPTNS

===== CHANNEL f1 =====
NUC1 1H
P1 10.25 usec
P2 20.50 usec
P28 1000.00 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

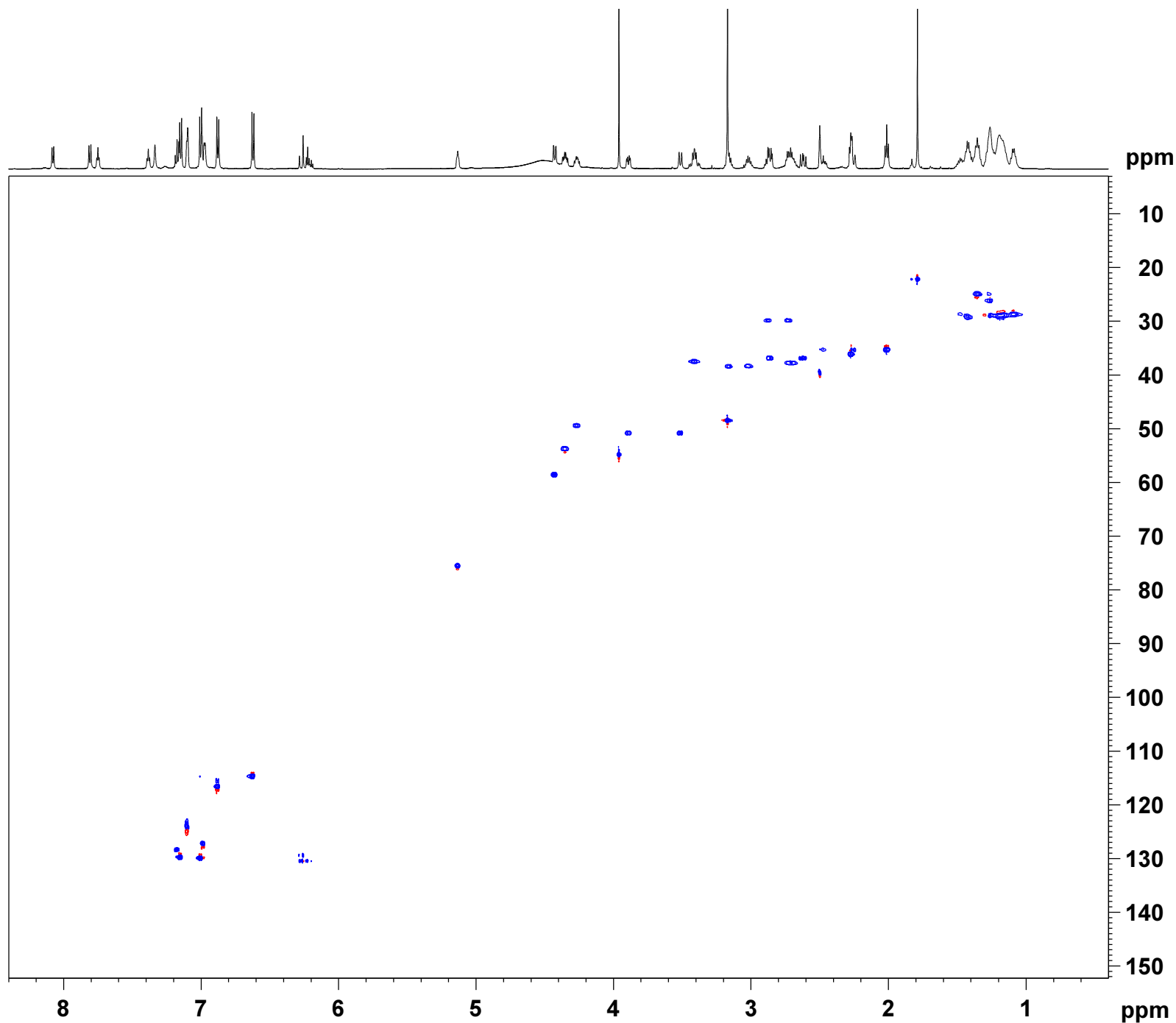
===== CHANNEL f2 =====
CPDPRG2 garp
NUC2 13C
P3 18.75 usec
P4 37.50 usec
P14 1000.00 usec
PCPD2 65.00 usec
PL0 120.00 dB
PL2 -3.00 dB
PL12 7.80 dB
PL0W 0 W
PL2W 150.35617065 W
PL12W 12.50608063 W
SFO2 150.9133722 MHz
SP3 4.47 dB
SPNAM3 Crp80,0.5,20.1
SPOAL3 0.500
SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 80.00 %
GPZ2 20.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 150.9134 MHz
FIDRES 94.320854 Hz
SW 160.000 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 600.1300051 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 echo-antiecho
SF 150.9028956 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR4-291B
EXPNO 7
PROCNO 1

F2 - Acquisition Parameters

Date_ 20130925
Time 22.24
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hmbcgp1pndqf
TD 2048
SOLVENT DMSO
NS 4
DS 64
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
CNST13 7.0000000
D0 0.00000300 sec
D1 1.50000000 sec
D2 0.00344828 sec
D6 0.07142857 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 10.25 usec
P2 20.50 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

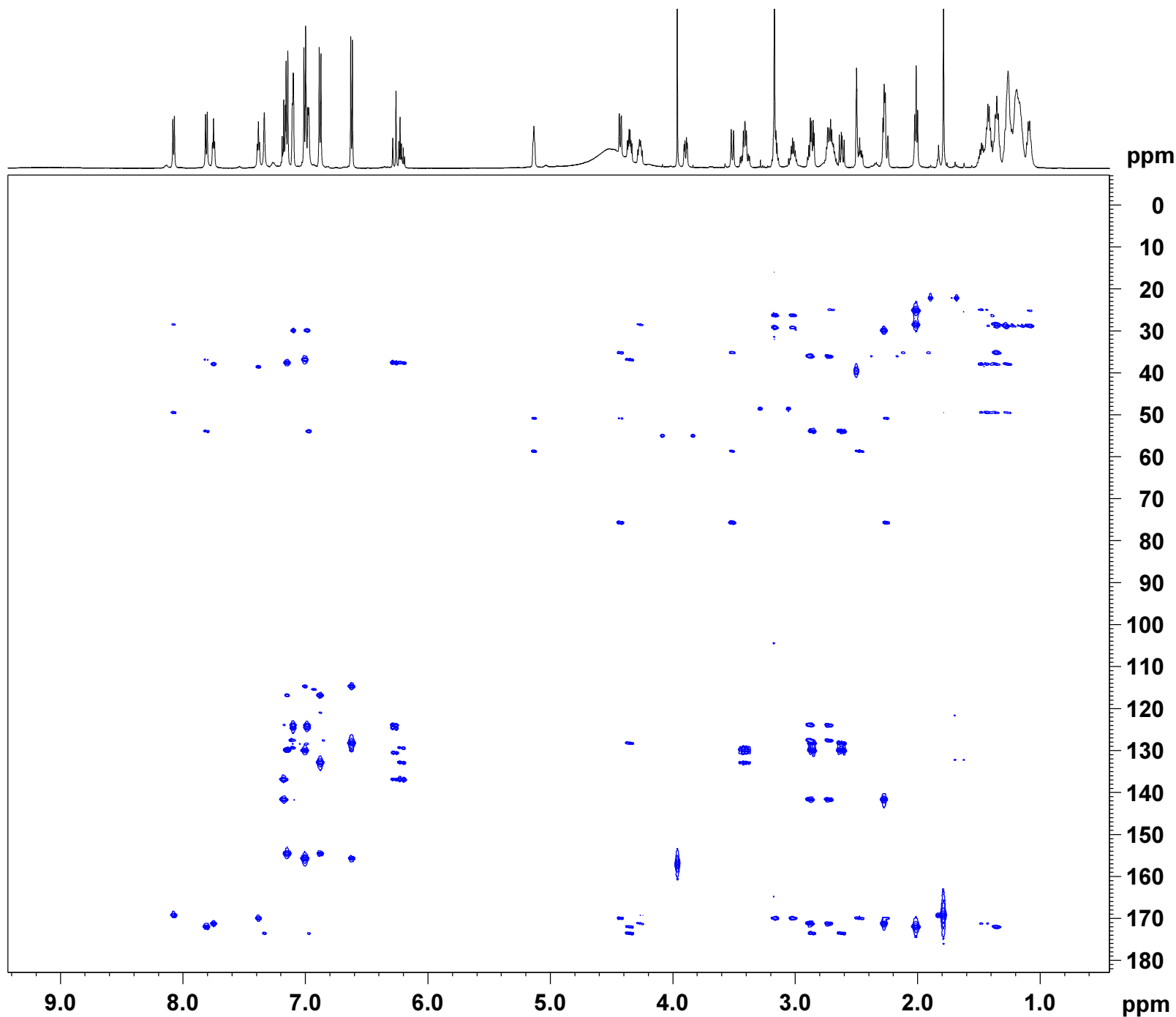
===== CHANNEL f2 =====
NUC2 13C
P3 18.75 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 150.9156 MHz
FIDRES 56.003849 Hz
SW 190.000 ppm
FhMODE QF

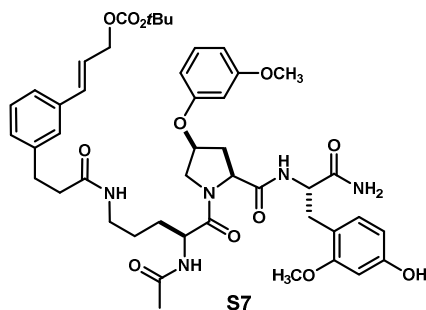
F2 - Processing parameters
SI 4096
SF 600.1300066 MHz
WDW QSINE
SSB 0
LB 0 Hz
GB 0
FC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9028749 MHz
WDW
SSB 2
LB 0 Hz
GB 0



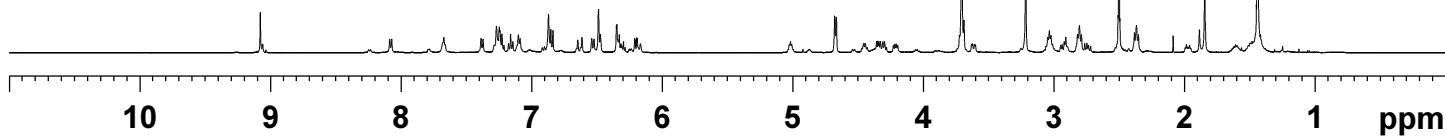
Current Data Parameters
 NAME TR5-22
 EXPNO 4
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140404
 Time_ 20.48
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 7.89
 DW 50.000 usec
 DE 10.00 usec
 TE 323.0 K
 D1 2.00000000 sec
 TD0 1

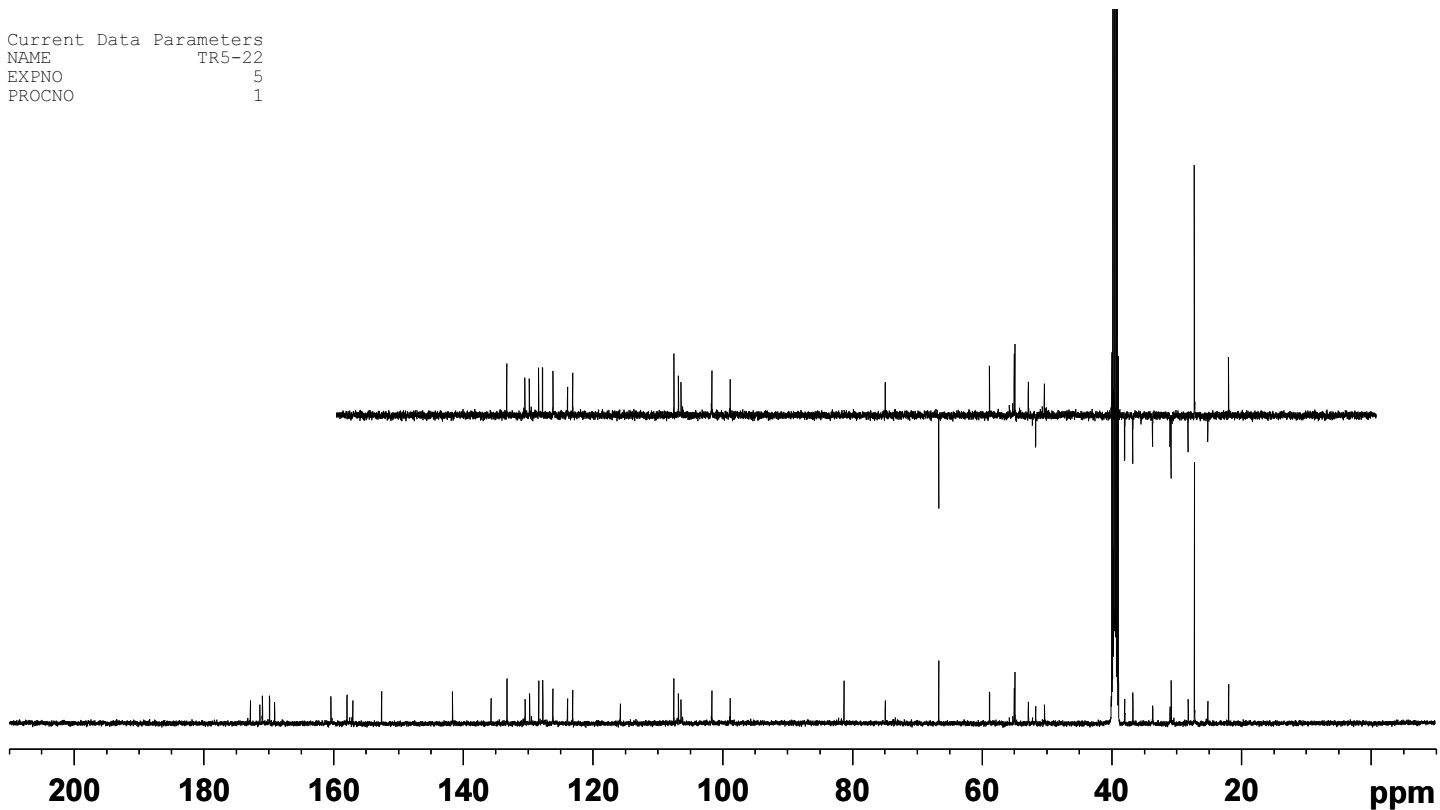


===== CHANNEL f1 =====
 SF01 500.1330008 MHz
 NUC1 1H
 P1 9.73 usec
 PLW1 13.50000000 W

F2 - Processing parameters
 SI 65536
 SF 500.1300042 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

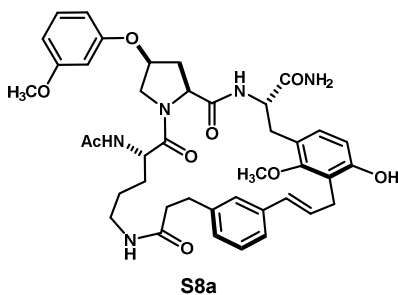


Current Data Parameters
 NAME TR5-22
 EXPNO 5
 PROCNO 1



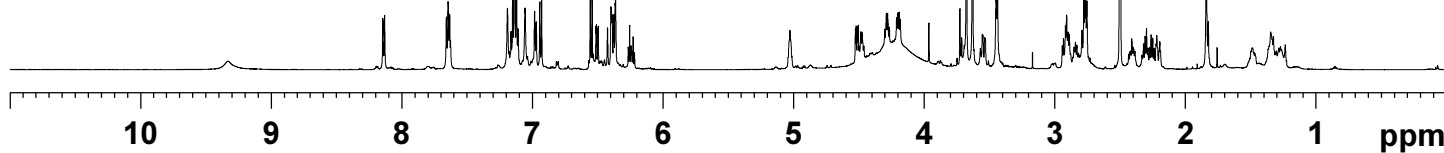
Current Data Parameters
NAME TR5-32A1
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131205
Time_ 20.53
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG zg
TD 65536
SOLVENT DMSO
NS 8
DS 0
SWH 12376.237 Hz
FIDRES 0.188846 Hz
AQ 2.6477044 sec
RG 90.5
DW 40.400 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1



===== CHANNEL f1 =====
NUC1 1H
P1 9.73 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1336008 MHz

F2 - Processing parameters
SI 65536
SF 600.1300080 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



Current Data Parameters
NAME TR5-32A1
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131205
Time_ 20.56
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 90.5
DW 83.200 usec
DE 6.50 usec
TE 298.0 K
D0 0.00007081 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00016640 sec

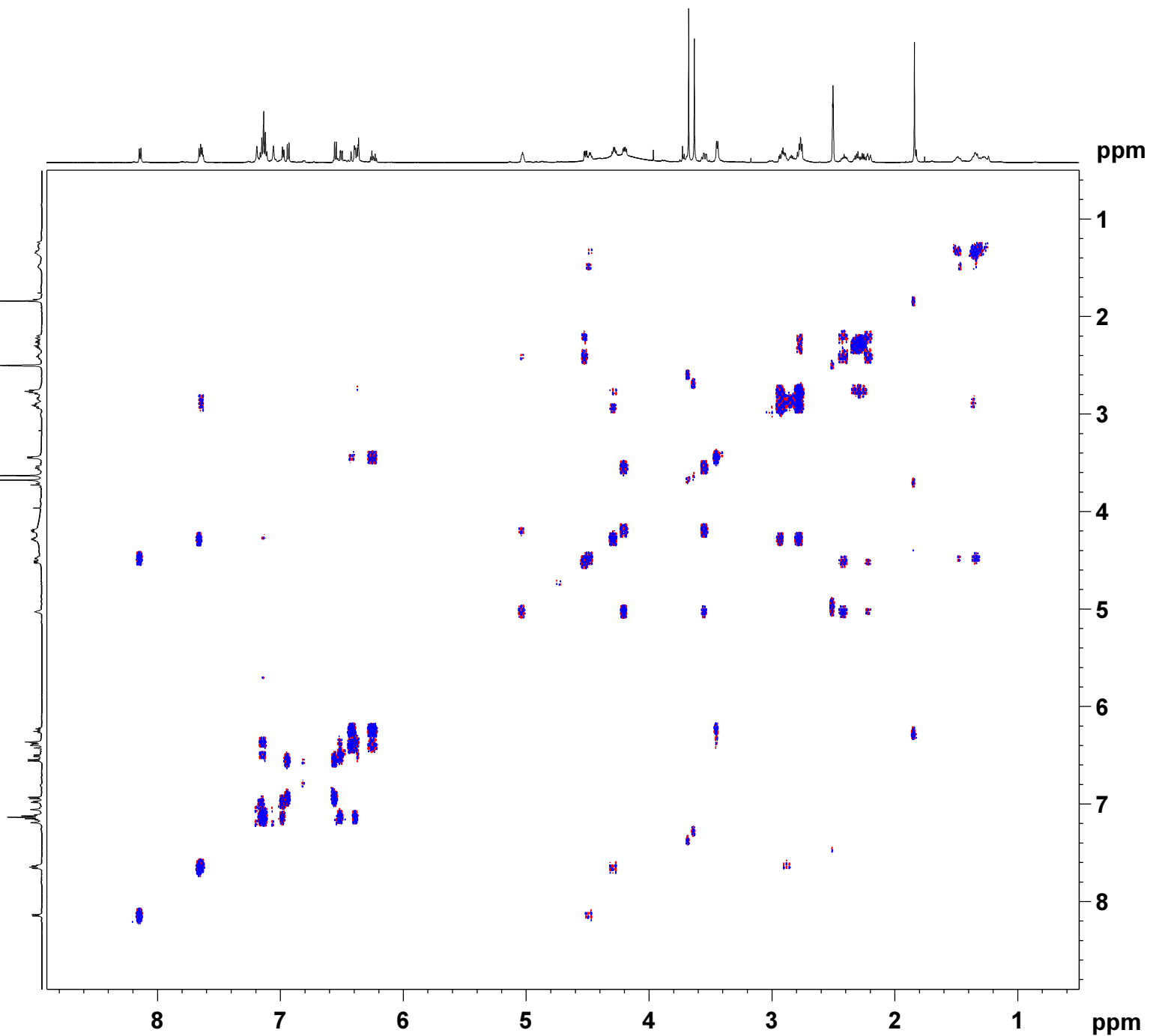
===== CHANNEL f1 =====
NUC1 1H
P1 9.73 usec
P2 19.46 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.133 MHz
FIDRES 23.475060 Hz
SW 10.014 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300046 MHz
WDW QSINE
SSB 1.8
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300066 MHz
WDW
SSB 1.8
LB 0 Hz
GB 0



Current Data Parameters
 NAME TR5-32A1
 EXPNO 5
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131205
 Time 21.11
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG mlevsgpph
 TD 2048
 SOLVENT DMSO
 NS 2
 DS 16
 SWH 7183.908 Hz
 FIDRES 3.507768 Hz
 AQ 0.1425908 sec
 RG 322.5
 DW 69.600 usec
 DE 6.50 usec
 TE 298.0 K
 D0 0.00004341 sec
 D1 1.00000000 sec
 D9 0.06000000 sec
 D12 0.00002000 sec
 D16 0.00020000 sec
 IN0 0.00013920 sec
 L1 24

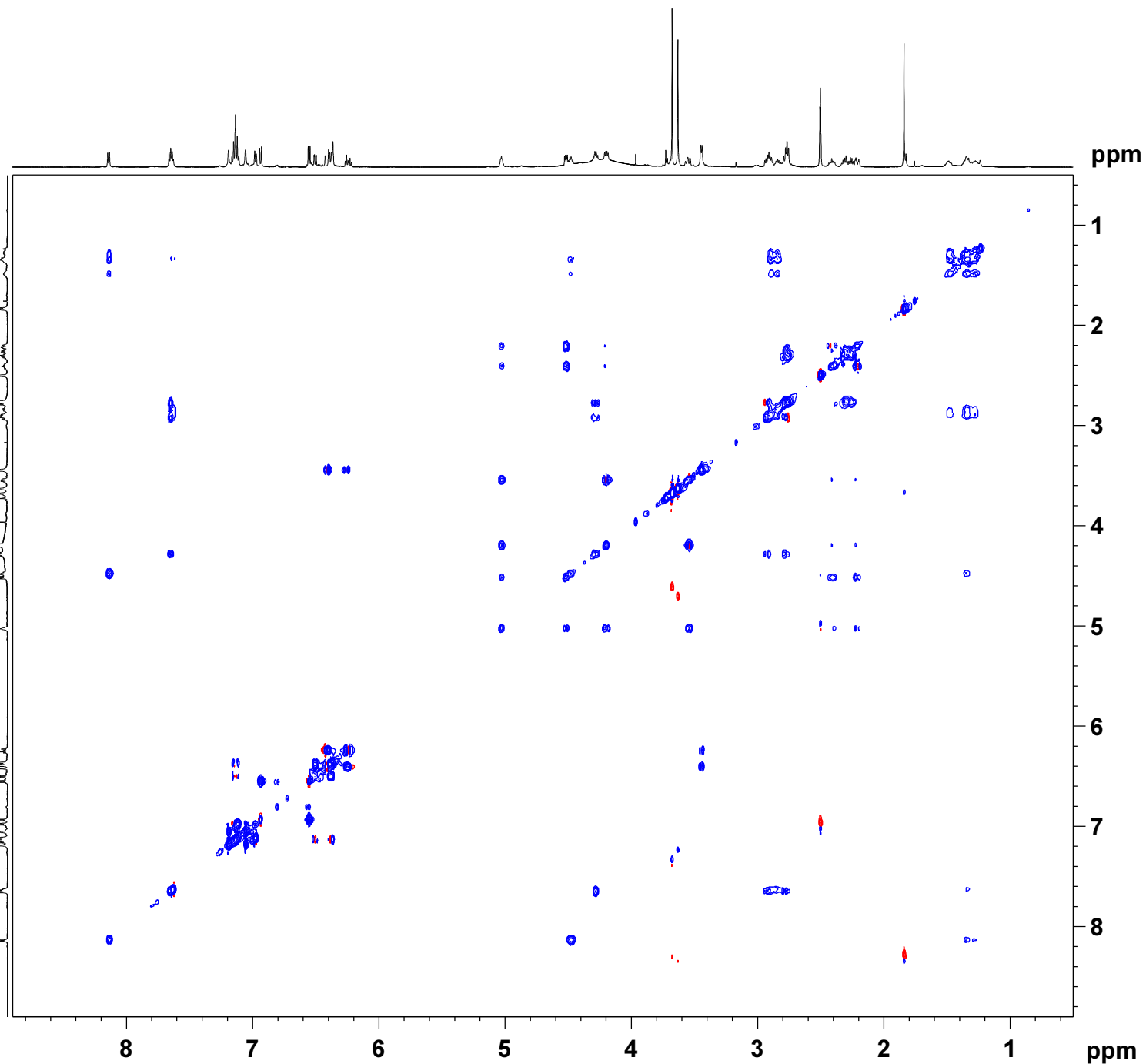
===== CHANNEL f1 =====
 NUC1 1H
 P1 9.73 usec
 P2 19.46 usec
 P5 26.68 usec
 P6 40.00 usec
 P7 80.00 usec
 P12 3000.00 usec
 P17 2500.00 usec
 PL0 120.00 dB
 PL1 -2.00 dB
 PL10 10.28 dB
 PL0W 0 W
 PL1W 39.81071854 W
 PL10W 2.35504937 W
 SFO1 600.1336008 MHz
 SF1 120.00 dB
 SFNAM1 Squal00.1000
 SFOAL1 1.000
 SPOFFS1 0 Hz

===== GRADIENT CHANNEL =====
 GPNAM1 SINE.100
 GPNAM2 SINE.100
 GPX1 0
 GPX2 0
 GPY1 0
 GPY2 0
 GPZ1 31.00 %
 GPZ2 11.00 %
 P16 1000.00 usec

F1 - Acquisition parameters
 TD 256
 SFO1 600.1336 MHz
 FIDRES 28.062170 Hz
 SW 11.971 ppm
 FhMODE States-TPPI

F2 - Processing parameters
 SI 4096
 SF 600.1300085 MHz
 WDW QSINE
 SSB 2
 LB 0 Hz
 GB 0
 PC 1.00

F1 - Processing parameters
 SI 4096
 MC2 States-TPPI
 SF 600.1300079 MHz
 WDW
 SSB 2
 LB 0 Hz
 GB 0



Current Data Parameters
NAME TR5-32A1
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131205
Time 21.22
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hsqcetgpgpsisp
TD 2048
SOLVENT DMSO
NS 4
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 8192
DW 83.200 usec
DE 6.00 usec
TE 298.1 K
CNST2 145.0000000
D0 0.00000300 sec
D1 1.20000005 sec
D4 0.00172414 sec
D11 0.03000000 sec
D16 0.00020000 sec
D24 0.00086200 sec
IN0 0.00002070 sec
ZGPTNS

===== CHANNEL f1 =====
NUC1 1H
P1 9.73 usec
P2 19.46 usec
P28 1000.00 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

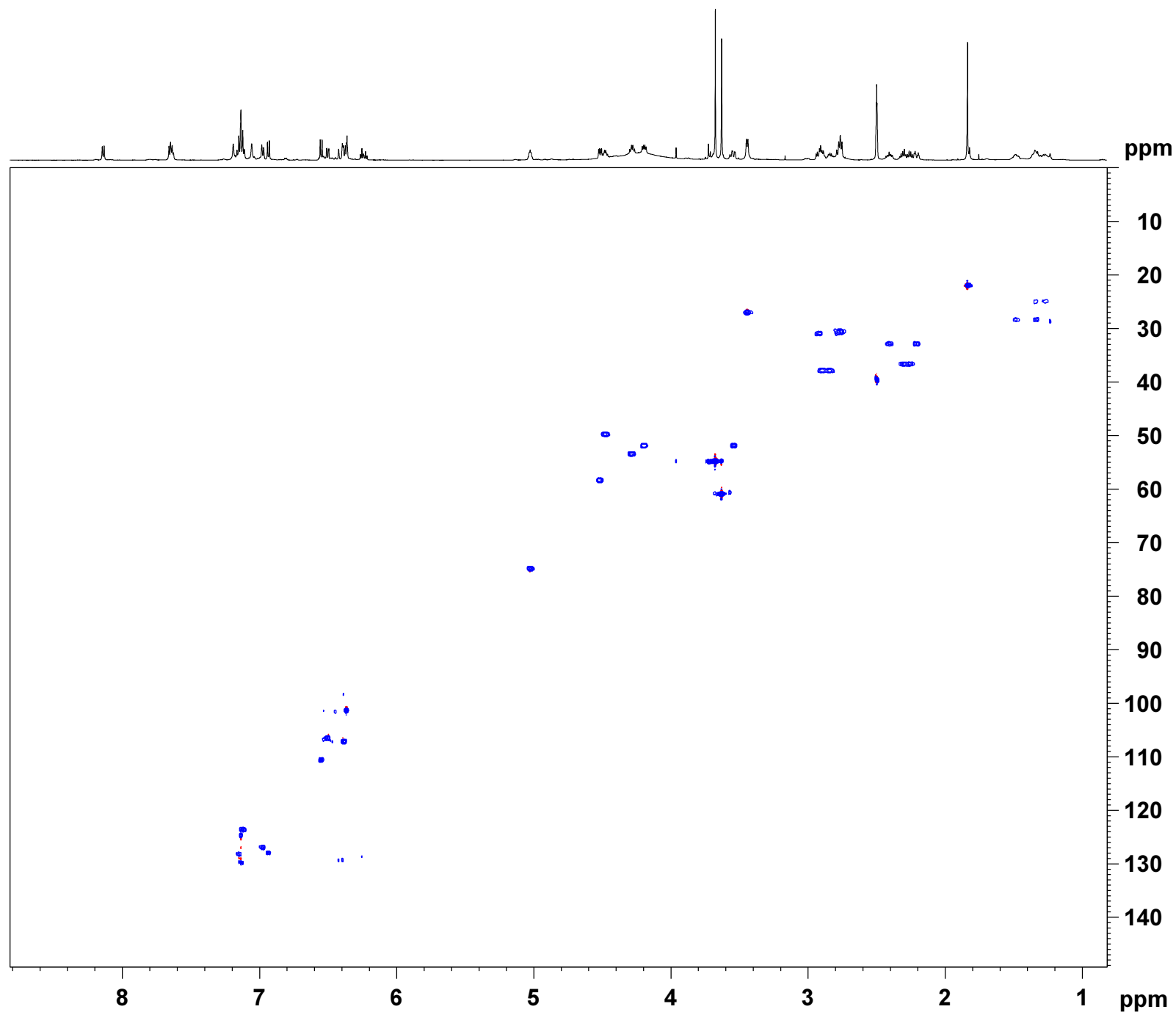
===== CHANNEL f2 =====
CPDPRG2 garp
NUC2 13C
P3 19.62 usec
P4 39.24 usec
P14 1000.00 usec
PCPD2 65.00 usec
PL0 120.00 dB
PL2 -3.00 dB
PL12 7.40 dB
PL0W 0 W
PL2W 150.35617065 W
PL12W 13.71264553 W
SFO2 150.9133722 MHz
SP3 4.08 dB
SPNAM3 Crp80,0.5,20.1
SFOAL3 0.500
SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 80.00 %
GPZ2 20.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 150.9134 MHz
FIDRES 94.320854 Hz
SW 160.000 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 600.1300079 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 echo-antiecho
SF 150.9029231 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR5-32A1
EXPNO 7
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131205
Time 21.48
INSTRUM av600

PROBHD 5 mm TBI5
PULPROG hmbcgp1pndqf
TD 2048
SOLVENT DMSO
NS 8
DS 64
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
CNST13 7.0000000
D0 0.00000300 sec
D1 1.50000000 sec
D2 0.00344828 sec
D6 0.07142857 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 9.73 usec
P2 19.46 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

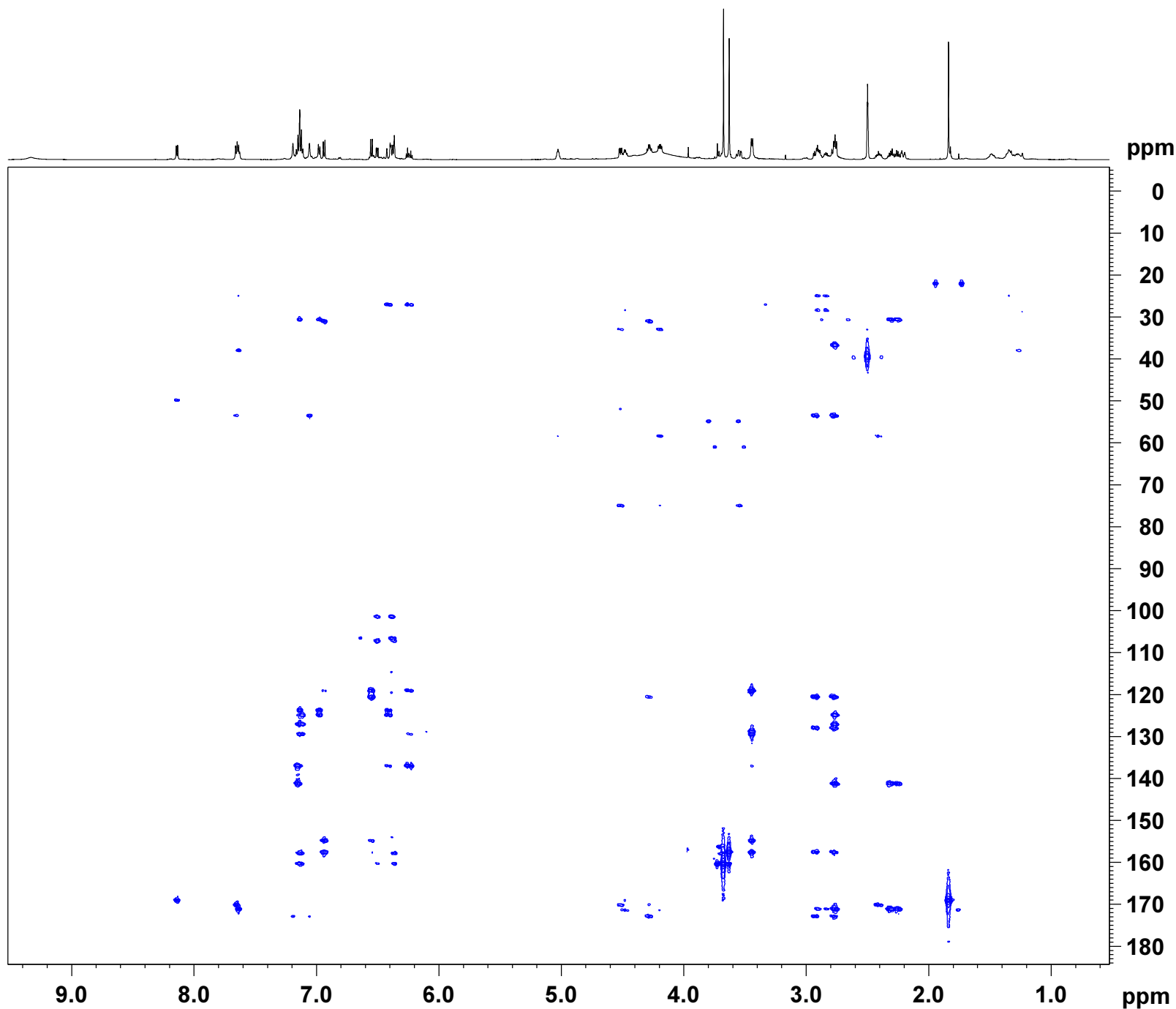
===== CHANNEL f2 =====
NUC2 13C
P3 18.75 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 150.9156 MHz
FIDRES 56.003849 Hz
SW 190.000 ppm
FnMODE QF

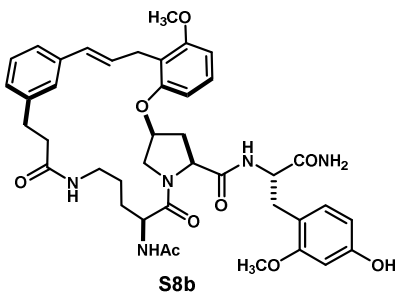
F2 - Processing parameters
SI 4096
SF 600.1300105 MHz
WDW QSINE
SSB 0
LB 0 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9029104 MHz
WDW
SSB 2
LB 0 Hz
GB 0



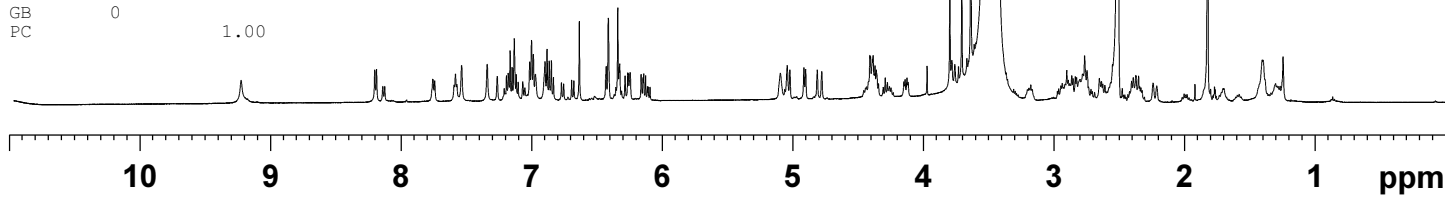
Current Data Parameters
 NAME TR5-32B2
 EXPNO 3
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131212
 Time_ 19.24
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 16
 DS 0
 SWH 7500.000 Hz
 FIDRES 0.114441 Hz
 AQ 4.3691168 sec
 RG 12.14
 DW 66.667 usec
 DE 10.00 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1

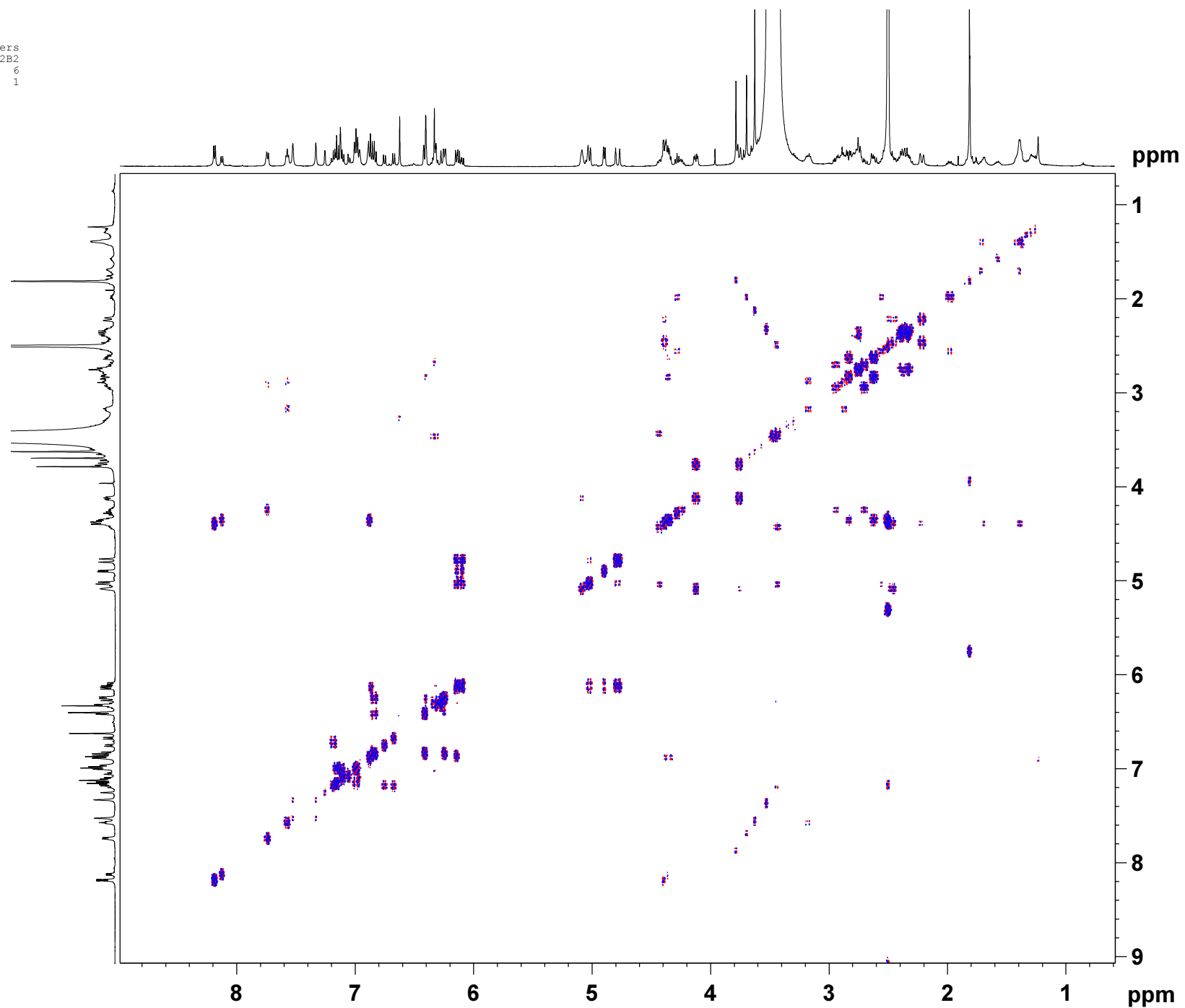


===== CHANNEL f1 =====
 SF01 500.1317340 MHz
 NUC1 1H
 P1 9.73 usec
 PLW1 13.50000000 W

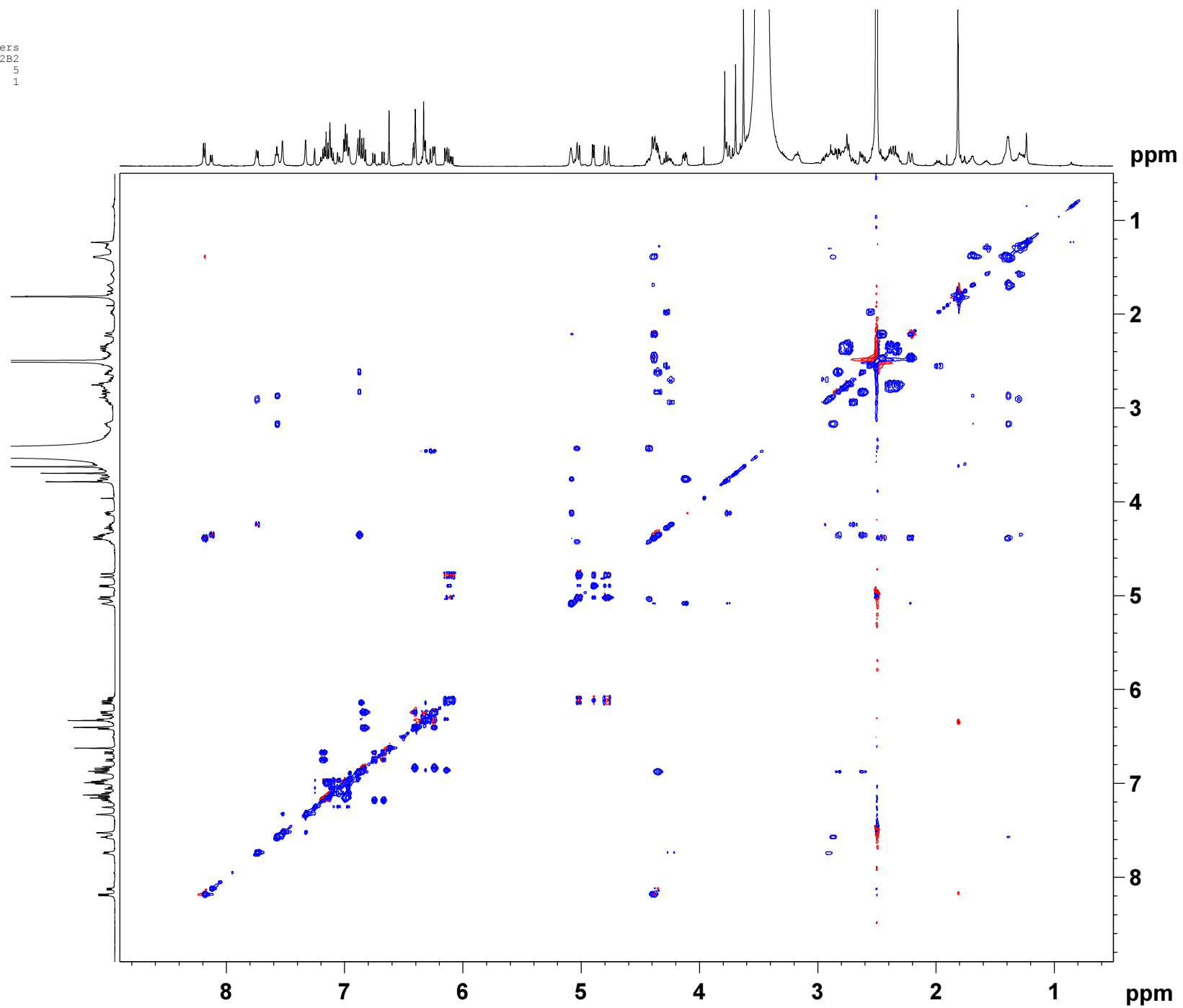
F2 - Processing parameters
 SI 65536
 SF 500.1300000 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME TR5-32B2
EXPNO 6
PROCNO 1

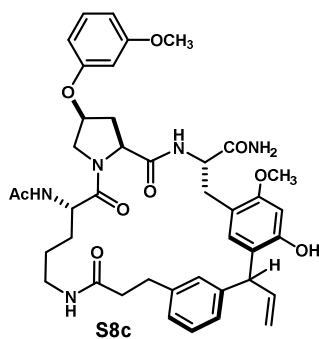


Current Data Parameters
NAME TR5-32B2
EXPNO 5
PROCNO 1



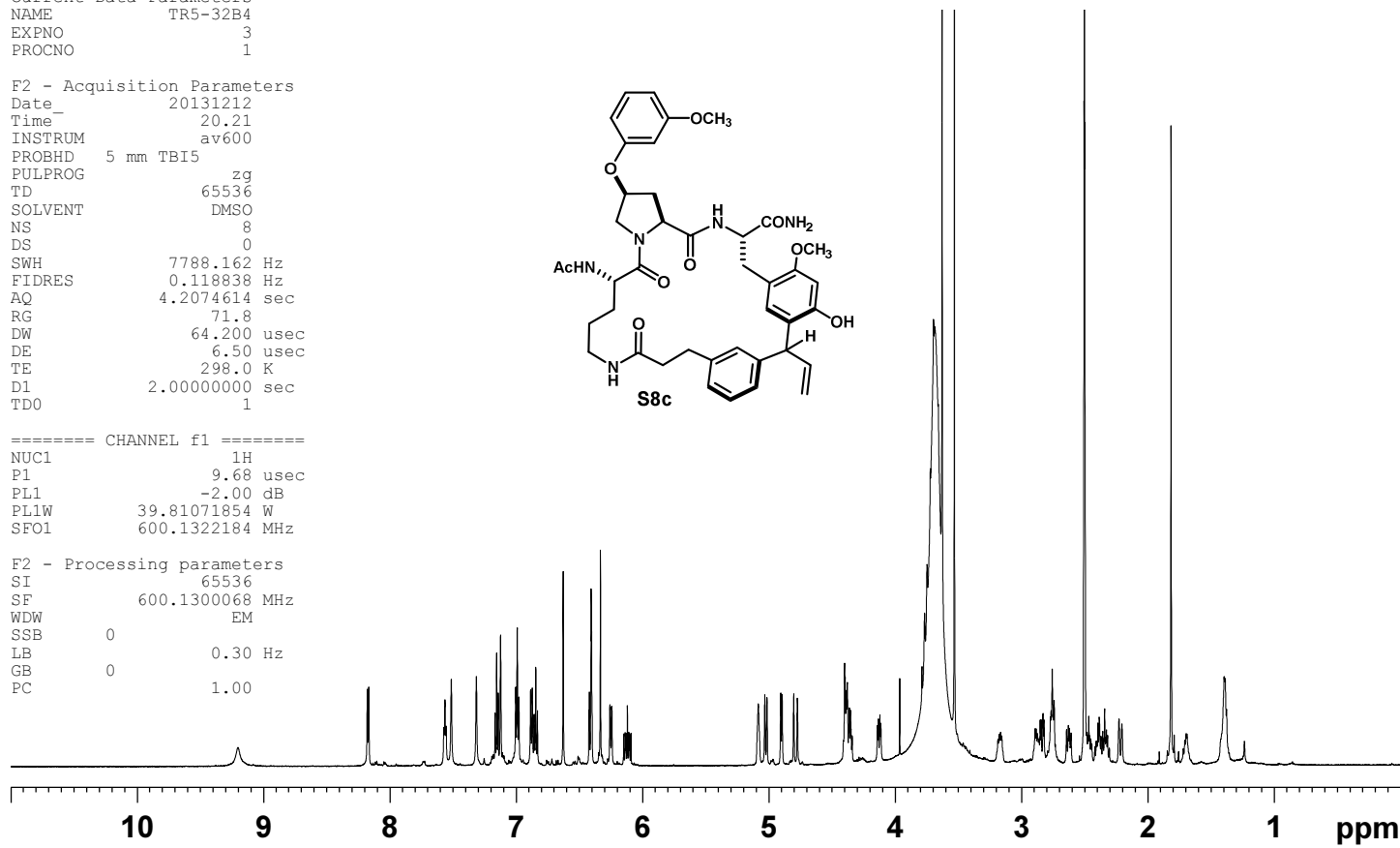
Current Data Parameters
NAME TR5-32B4
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131212
Time_ 20.21
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG zg
TD 65536
SOLVENT DMSO
NS 8
DS 0
SWH 7788.162 Hz
FIDRES 0.118838 Hz
AQ 4.2074614 sec
RG 71.8
DW 64.200 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1



===== CHANNEL f1 =====
NUC1 1H
P1 9.68 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1322184 MHz

F2 - Processing parameters
SI 65536
SF 600.1300068 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



Current Data Parameters
NAME TR5-32B4
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131212
Time 20.25
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpprgf
TD 2048
SOLVENT DMSO
NS 1
DS 16
SWH 7788.162 Hz
FIDRES 3.802814 Hz
AQ 0.1315316 sec
RG 90.5
DW 64.200 usec
DE 6.50 usec
TE 298.0 K
DO 0.00000300 sec
D1 1.00000000 sec
D11 0.03000000 sec
D12 0.00002000 sec
D16 0.00020000 sec
INO 0.00012840 sec

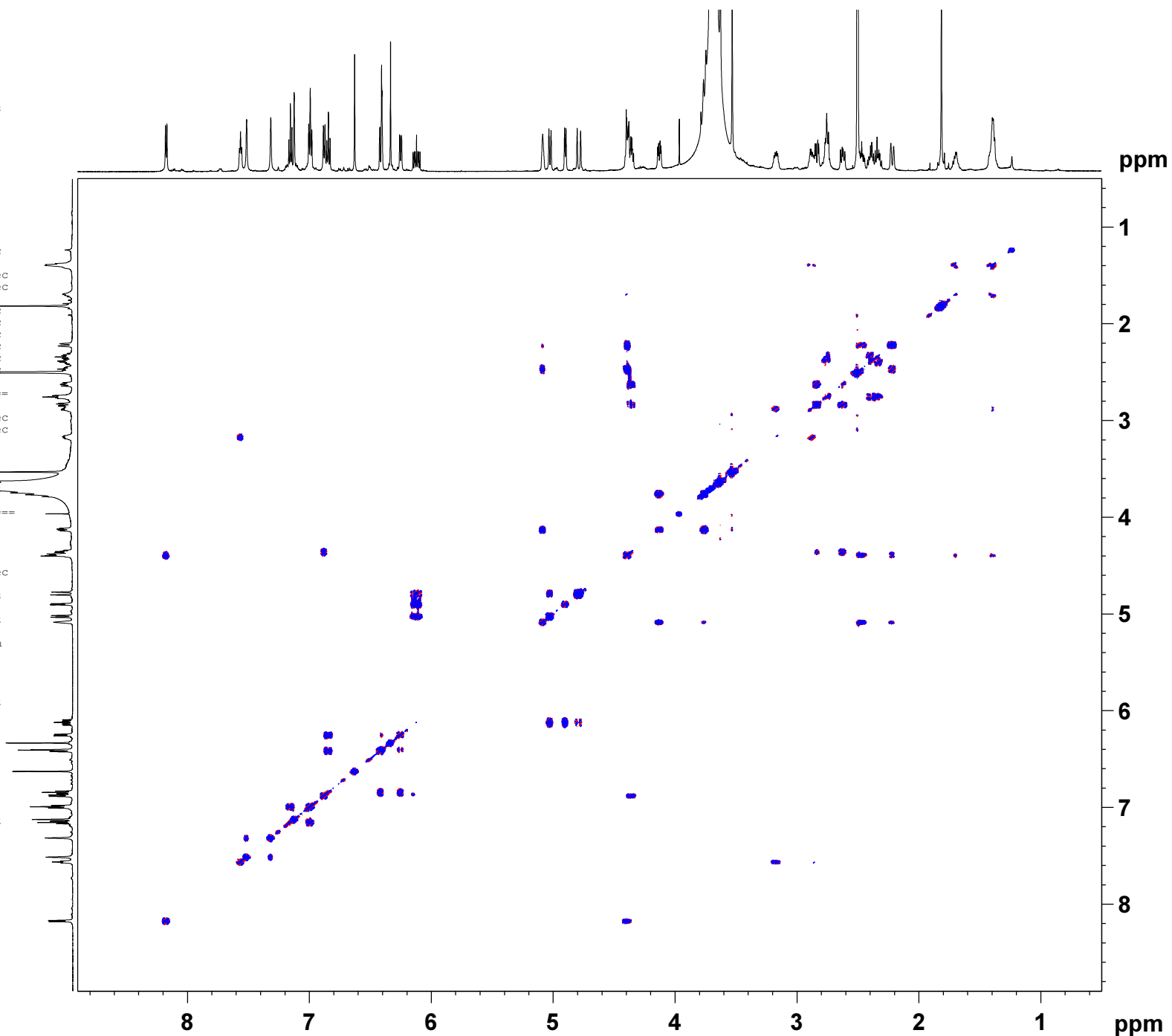
===== CHANNEL f1 =====
NUC1 1H
P0 9.62 usec
P1 9.62 usec
PL1 -2.00 dB
PL9 52.32 dB
PL1W 39.81071854 W
PL9W 0.00014723 W
SFO1 600.1335660 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPX1 0 %
GPY1 0 %
GPZ1 10.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.1336 MHz
FIDRES 15.211276 Hz
SW 12.977 ppm
FnMODE QF

F2 - Processing parameters
SI 4096
SF 600.1300052 MHz
WDW QSINE
SSB 1
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 QF
SF 600.1300052 MHz
WDW
SSB 1
LB 0 Hz
GB 0



Current Data Parameters
NAME TR5-32B4
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131212
Time_ 20.38
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG mlevsgpph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 1625.5
DW 83.200 usec
DE 6.50 usec
TE 298.0 K
DO 0.00005704 sec
D1 1.00000000 sec
D9 0.06000000 sec
D12 0.00002000 sec
D16 0.00020000 sec
IN0 0.00016640 sec
L1 24

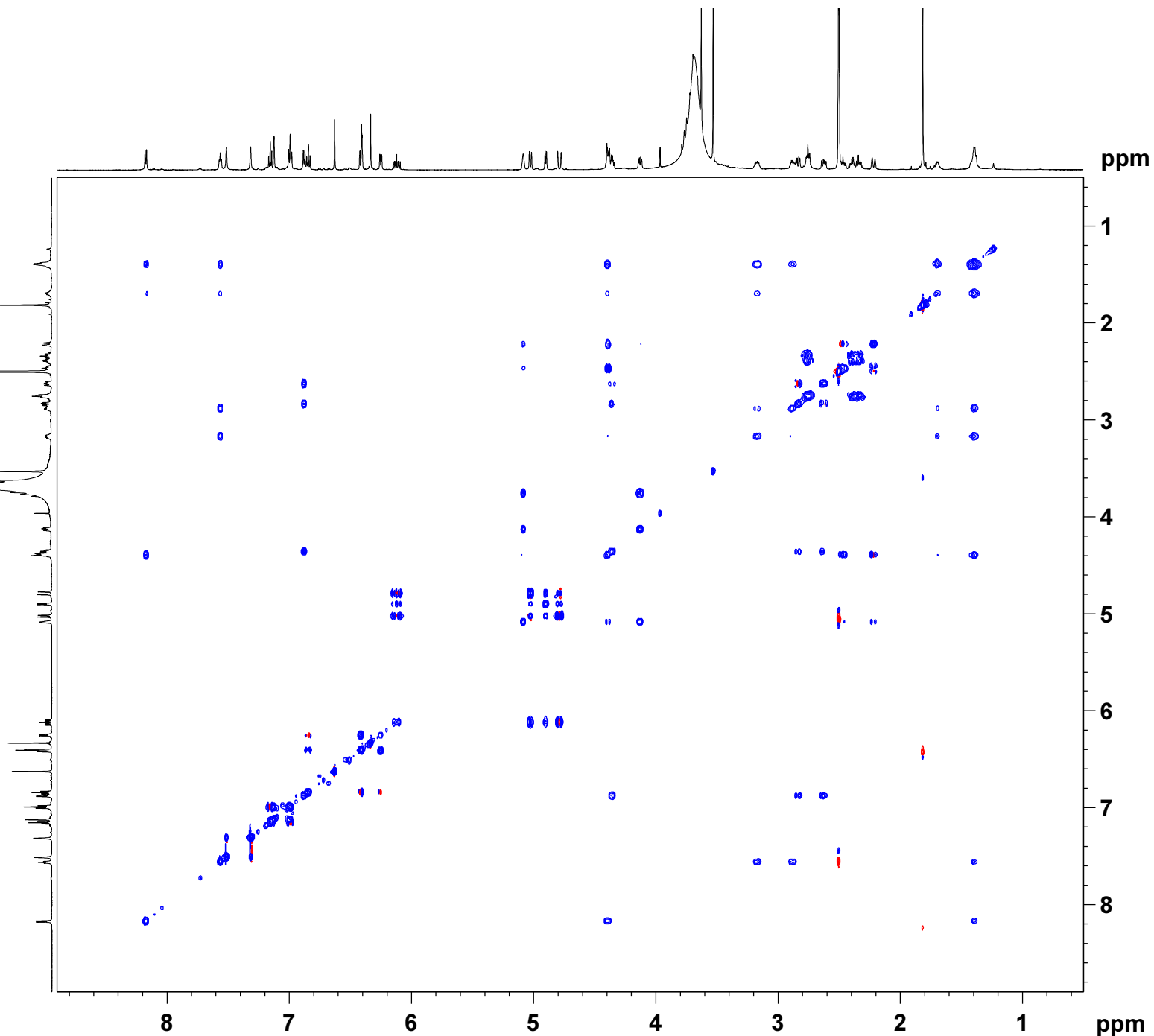
===== CHANNEL f1 =====
NUC1 1H
P1 9.68 usec
P2 19.36 usec
P5 26.68 usec
P6 40.00 usec
P7 80.00 usec
P12 3000.00 usec
P17 2500.00 usec
PL0 120.00 dB
PL1 -2.00 dB
PL10 10.32 dB
PLOW 0 W
PL1W 39.81071854 W
PL10W 2.33345819 W
SFO1 600.1330227 MHz
SP1 41.80 dB
SPNAM1 Squa100.1000
SPOAL1 1.000
SPOFFS1 -812.49 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 31.00 %
GPZ2 11.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.133 MHz
FIDRES 11.737524 Hz
SW 10.014 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300076 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300067 MHz
WDW
SSB 2
LB 0 Hz
GB 0



```

Current Data Parameters
NAME      TR5-32B4
EXPNO     6
PROCNO    1

F2 - Acquisition Parameters
Date_     20131212
Time      21.00
INSTRUM   av600
PROBHD    5 mm TBI5
PULPROG   hsqcetgpsiap
TD         2048
SOLVENT   DMSO
NS         12
DS         16
SWH        6009.615 Hz
FIDRES     2.934382 Hz
AQ         0.1704436 sec
RG         8192
DW         83.200 usec
DE         6.00 usec
TE         298.1 K
CNST2     145.0000000
D0         0.00000300 sec
D1         1.20000005 sec
D4         0.00172414 sec
D11        0.03000000 sec
D16        0.00020000 sec
D24        0.00086200 sec
IN0        0.00002070 sec
ZGOPTNS

===== CHANNEL f1 =====
NUC1       1H
P1         10.15 usec
P2         20.30 usec
P28        1000.00 usec
PL1        -2.00 dB
PL1W       39.81071854 W
SFO1       600.1330006 MHz

===== CHANNEL f2 =====
CPDPRG2    garp
NUC2       13C
P3         19.62 usec
P4         39.24 usec
P14        1000.00 usec
PCPD2      65.00 usec
PL0        120.00 dB
PL2        -3.00 dB
PL12       7.40 dB
PL0W       0 W
PL2W       150.35617065 W
PL12W      13.71264553 W
SFO2       150.9133722 MHz
SP3        4.08 dB
SPNAM3     Crp80,0.5,20.1
SFOAL3     0.500
SPOFFS3    0 Hz

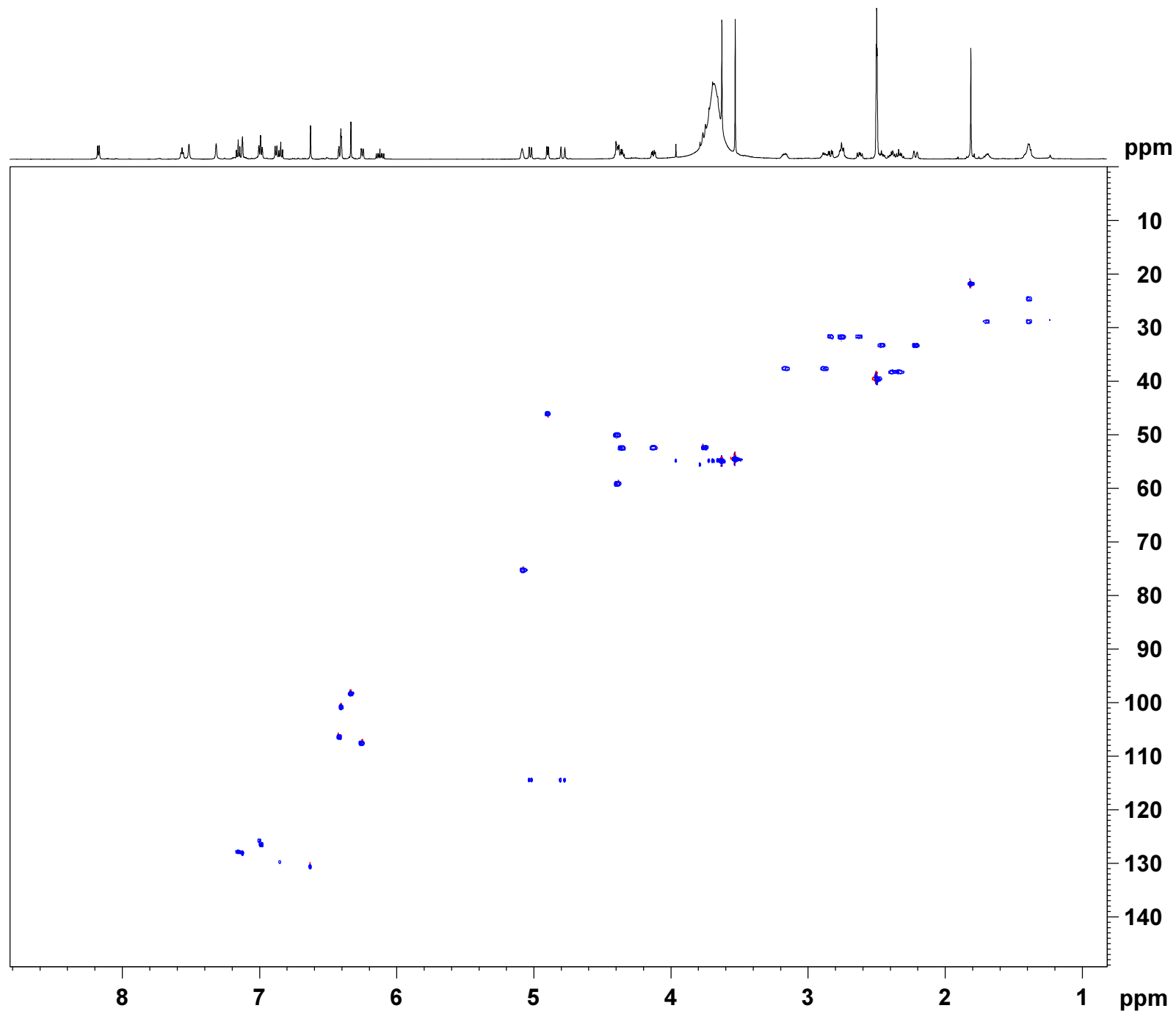
===== GRADIENT CHANNEL =====
GPNAM1     SINE.100
GPNAM2     SINE.100
GPX1       0 %
GPX2       0 %
GPY1       0 %
GPY2       0 %
GPZ1       80.00 %
GPZ2       20.10 %
P16        1000.00 usec

F1 - Acquisition parameters
TD         256
SFO1       150.9134 MHz
FIDRES     94.320854 Hz
SW         160.000 ppm
FnMODE     Echo-Antiecho

F2 - Processing parameters
SI         4096
SF         600.1300051 MHz
WDW        EM
SSB        0
LB         1.00 Hz
GB         0
PC         1.40

F1 - Processing parameters
SI         4096
MC2        echo-antiecho
SF         150.9029231 MHz
WDW        EM
SSB        2
LB         0 Hz
GB         0

```



Current Data Parameters
NAME TR5-32B4
EXPNO 7
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131212
Time 22.14
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hmbcgp1pndqf
TD 2048
SOLVENT DMSO
NS 18
DS 64
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
CNST13 7.0000000
D0 0.00000300 sec
D1 1.50000000 sec
D2 0.00344828 sec
D6 0.07142857 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 10.15 usec
P2 20.30 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

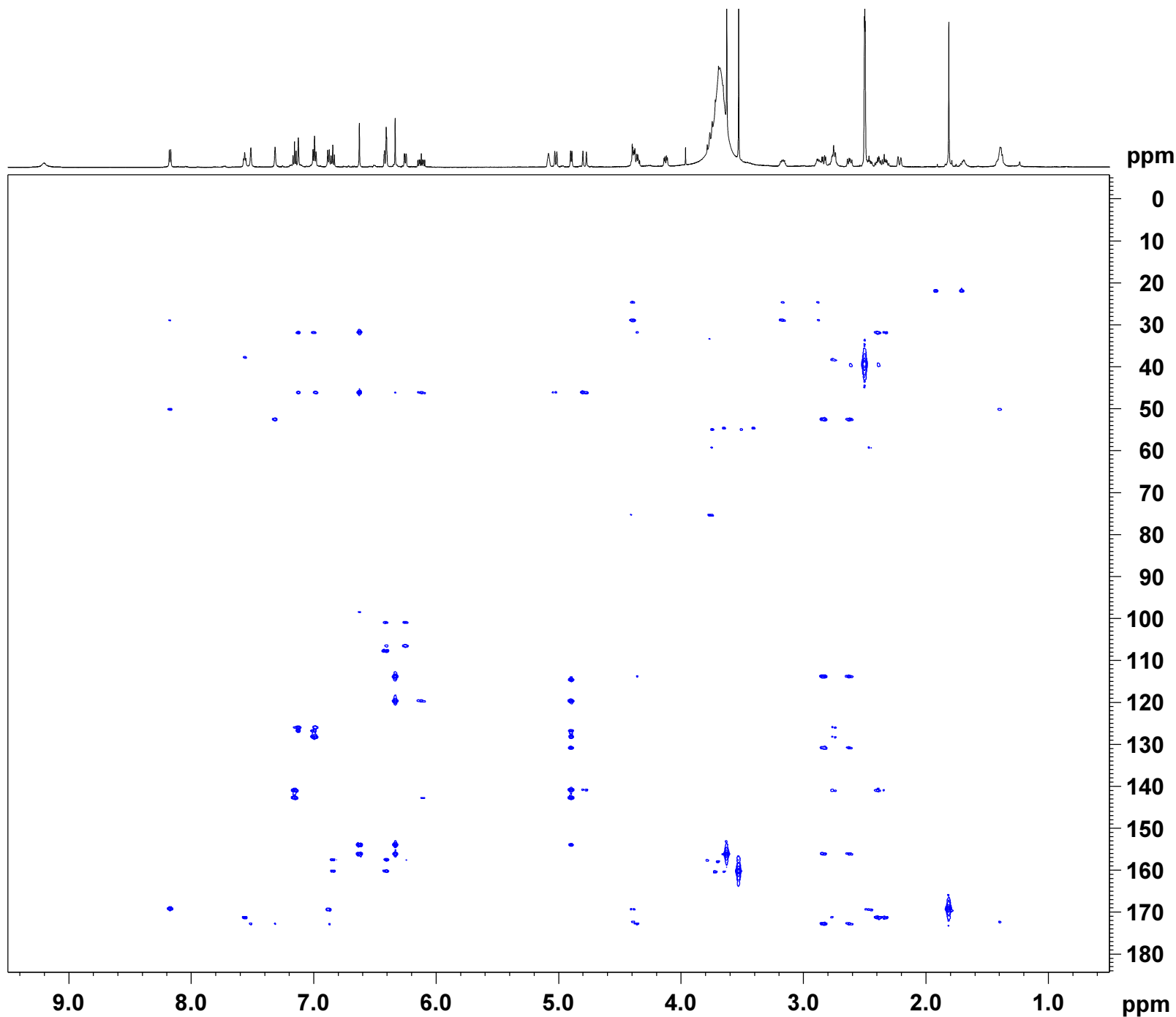
===== CHANNEL f2 =====
NUC2 13C
P3 18.75 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 150.9156 MHz
FIDRES 56.003849 Hz
SW 190.000 ppm
FnMODE QF

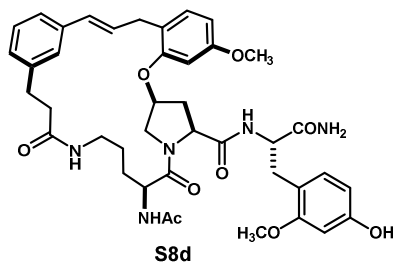
F2 - Processing parameters
SI 4096
SF 600.1300084 MHz
WDW QSINE
SSB 0
LB 0 Hz
GB 0
FC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9029068 MHz
WDW
SSB 2
LB 0 Hz
GB 0



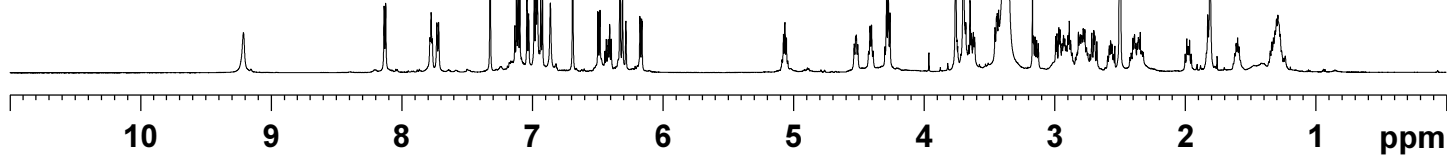
Current Data Parameters
NAME TR5-32C
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131204
Time_ 19.31
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG zg
TD 65536
SOLVENT DMSO
NS 8
DS 0
SWH 12376.237 Hz
FIDRES 0.188846 Hz
AQ 2.6477044 sec
RG 40.3
DW 40.400 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1



===== CHANNEL f1 =====
NUC1 1H
P1 9.95 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1336008 MHz

F2 - Processing parameters
SI 65536
SF 600.1300068 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



Current Data Parameters
NAME TR5-32C
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131204
Time_ 19.35
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygmph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 40.3
DW 83.200 usec
DE 6.50 usec
TE 298.0 K
DO 0.00007053 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
INO 0.00016640 sec

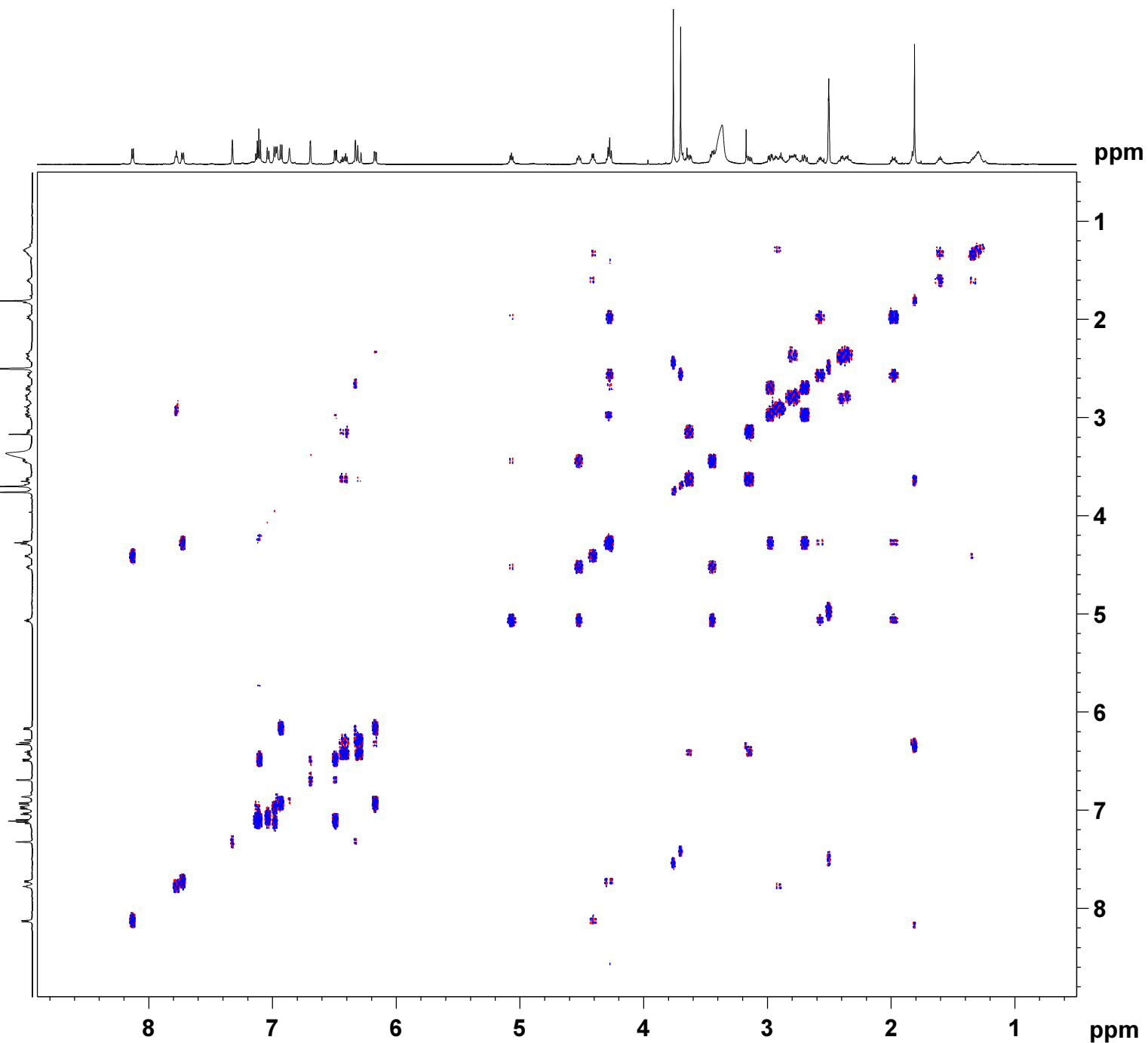
===== CHANNEL f1 =====
NUC1 1H
P1 9.95 usec
P2 19.90 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0
GPX2 0
GPY1 0
GPY2 0
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.133 MHz
FIDRES 23.475060 Hz
SW 10.014 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300065 MHz
WDW QSINE
SSB 1.8
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300064 MHz
WDW
SSB 1.8
LB 0 Hz
GB 0



Current Data Parameters
NAME TR5-32C
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131204
Time_ 19.50
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG mlevsgpph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 7183.908 Hz
FIDRES 3.507768 Hz
AQ 0.1425908 sec
RG 322.5
DW 69.600 usec
DE 6.50 usec
TE 298.0 K
DO 0.00004327 sec
D1 1.00000000 sec
D9 0.06000000 sec
D12 0.00002000 sec
D16 0.00020000 sec
IN0 0.00013920 sec
LI 24

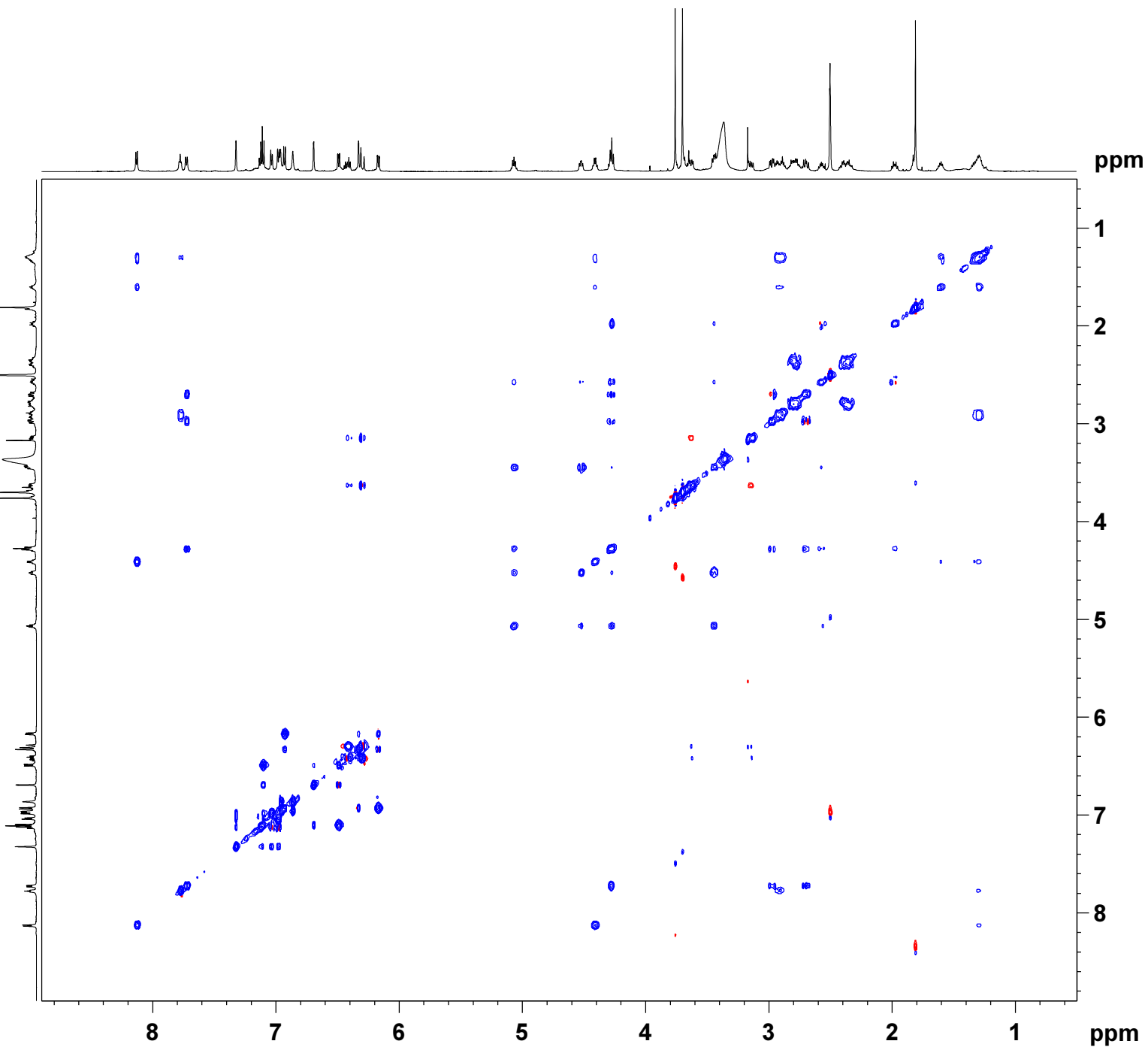
===== CHANNEL f1 =====
NUC1 1H
P1 9.95 usec
P2 19.90 usec
P5 26.68 usec
P6 40.00 usec
P7 80.00 usec
P12 3000.00 usec
P17 2500.00 usec
PL0 120.00 dB
PL1 -2.00 dB
PL10 10.08 dB
PLOW 0 W
PL1W 39.81071854 W
PL10W 2.46603942 W
SFO1 600.1336008 MHz
SP1 120.00 dB
SPNAM1 Squa100.1000
SPOAL1 1.000
SPOFFS1 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 31.00 %
GPZ2 11.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.1336 MHz
FIDRES 28.062170 Hz
SW 11.971 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300072 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300058 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR5-32C
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131204
Time 20.01
INSTRUM av600
PROBHD 5 mm TB15
PULPROG hsqcetgpsiap
TD 2048
SOLVENT DMSO
NS 4
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 8192
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
D0 0.00000300 sec
D1 1.20000005 sec
D4 0.00172414 sec
D11 0.03000000 sec
D16 0.00020000 sec
D24 0.00086200 sec
IN0 0.00002070 sec
ZGPTNS

===== CHANNEL f1 =====
NUC1 1H
P1 9.95 usec
P2 19.90 usec
P28 1000.00 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

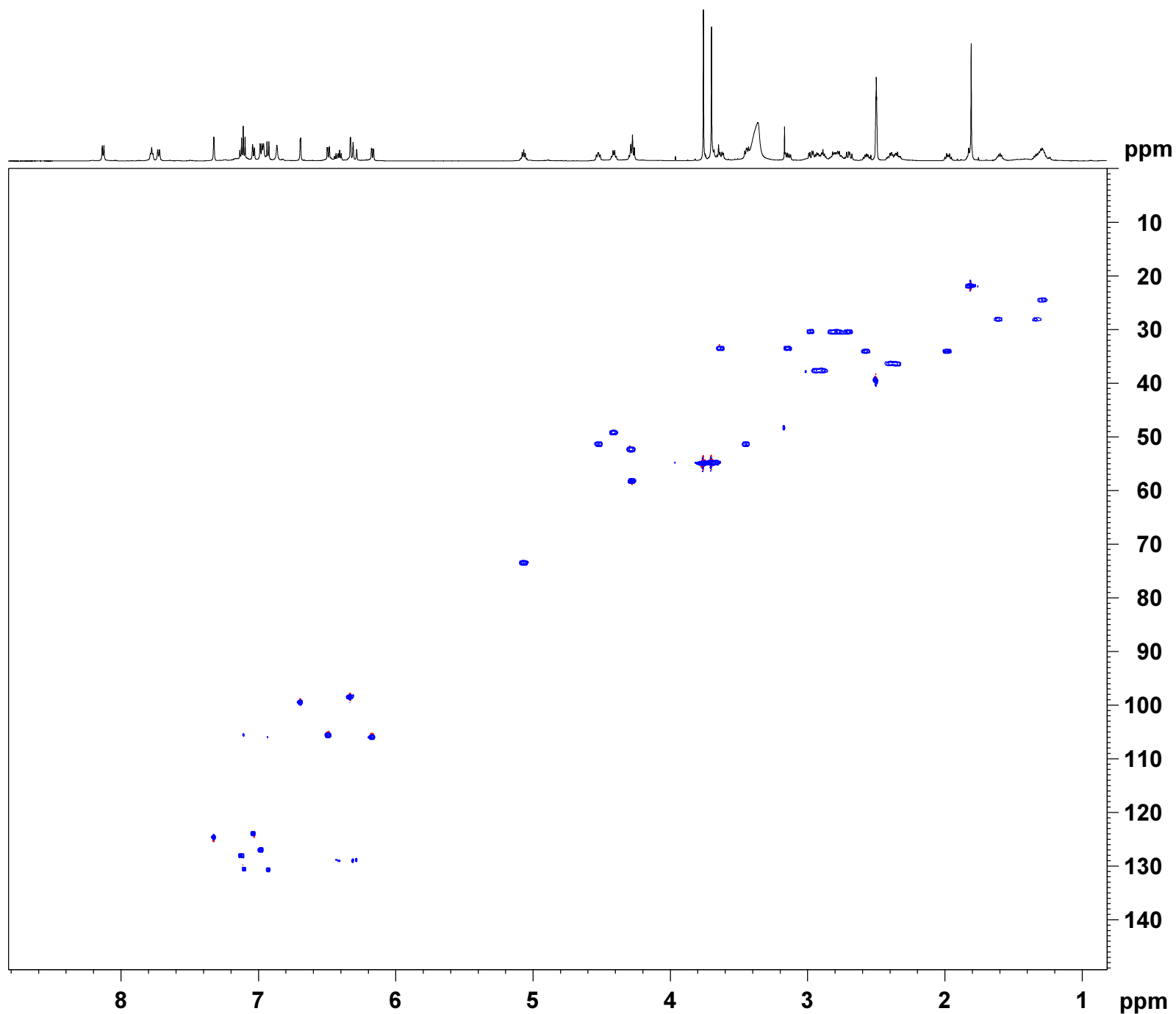
===== CHANNEL f2 =====
CPDPRG2 garp
NUC2 13C
P3 19.62 usec
P4 39.24 usec
P14 1000.00 usec
PCPD2 65.00 usec
PL0 120.00 dB
PL2 -3.00 dB
PL12 7.40 dB
PL0W 0 W
PL2W 150.35617065 W
PL12W 13.71264553 W
SFO2 150.9133722 MHz
SP3 4.08 dB
SPNAM3 Crp80,0.5,20.1
SPOAL3 0.500
SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 80.00 %
GPZ2 20.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 150.9134 MHz
FIDRES 94.320854 Hz
SW 160.000 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 600.1300047 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 echo-antiecho
SF 150.9029248 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR5-32C
EXPNO 7
PROCNO 1

F2 - Acquisition Parameters

Date_ 20131204
Time_ 20.27
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hmbcgp1pndqf
TD 2048
SOLVENT DMSO
NS 8
DS 64
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
CNST13 7.0000000
D0 0.00000300 sec
D1 1.50000000 sec
D2 0.00344828 sec
D6 0.07142857 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 9.95 usec
P2 19.90 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

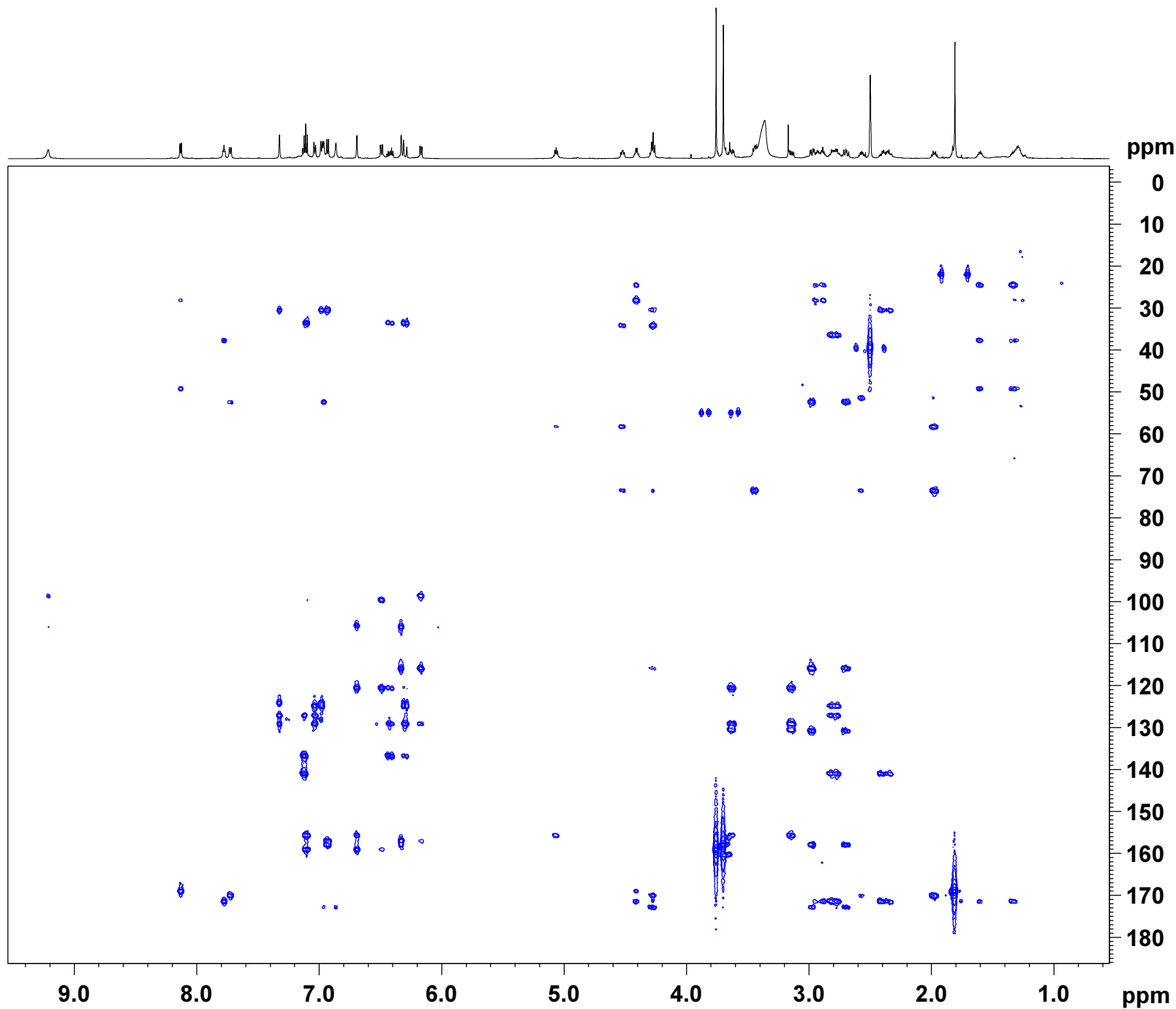
===== CHANNEL f2 =====
NUC2 13C
P3 18.75 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 307
SFO1 150.9156 MHz
FIDRES 93.400558 Hz
SW 190.000 ppm
FnMODE QF

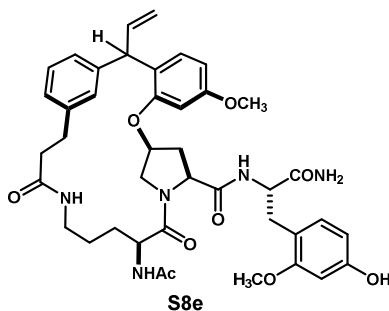
F2 - Processing parameters
SI 4096
SF 600.1300066 MHz
WDW QSINE
SSB 0
LB 0 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9029108 MHz
WDW
SSB 2
LB 0 Hz
GB 0



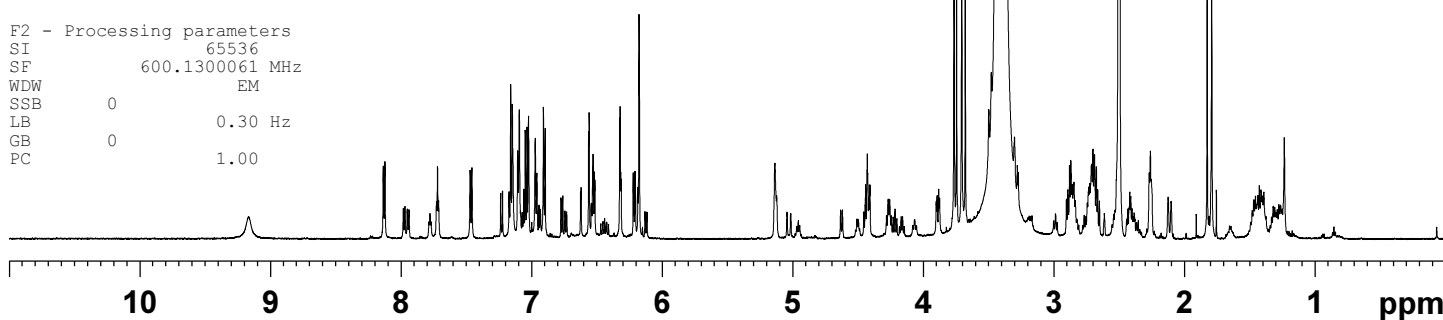
Current Data Parameters
NAME TR5-32E1_av600
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131207
Time_ 18.24
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG zg
TD 65536
SOLVENT DMSO
NS 40
DS 0
SWH 12376.237 Hz
FIDRES 0.188846 Hz
AQ 2.6477044 sec
RG 90.5
DW 40.400 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1



===== CHANNEL f1 =====
NUC1 1H
P1 9.63 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1336008 MHz

F2 - Processing parameters
SI 65536
SF 600.1300061 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



Current Data Parameters
NAME TR5-32E1_av600
EXPNO 8
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131207
Time 18.36
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpprgf
TD 2048
SOLVENT DMSO
NS 1
DS 16
SWH 7788.162 Hz
FIDRES 3.802814 Hz
AQ 0.1315316 sec
RG 90.5
DW 64.200 usec
DE 6.50 usec
TE 298.0 K
D0 0.00000300 sec
D1 1.00000000 sec
D11 0.03000000 sec
D12 0.00002000 sec
D16 0.00020000 sec
IN0 0.00012840 sec

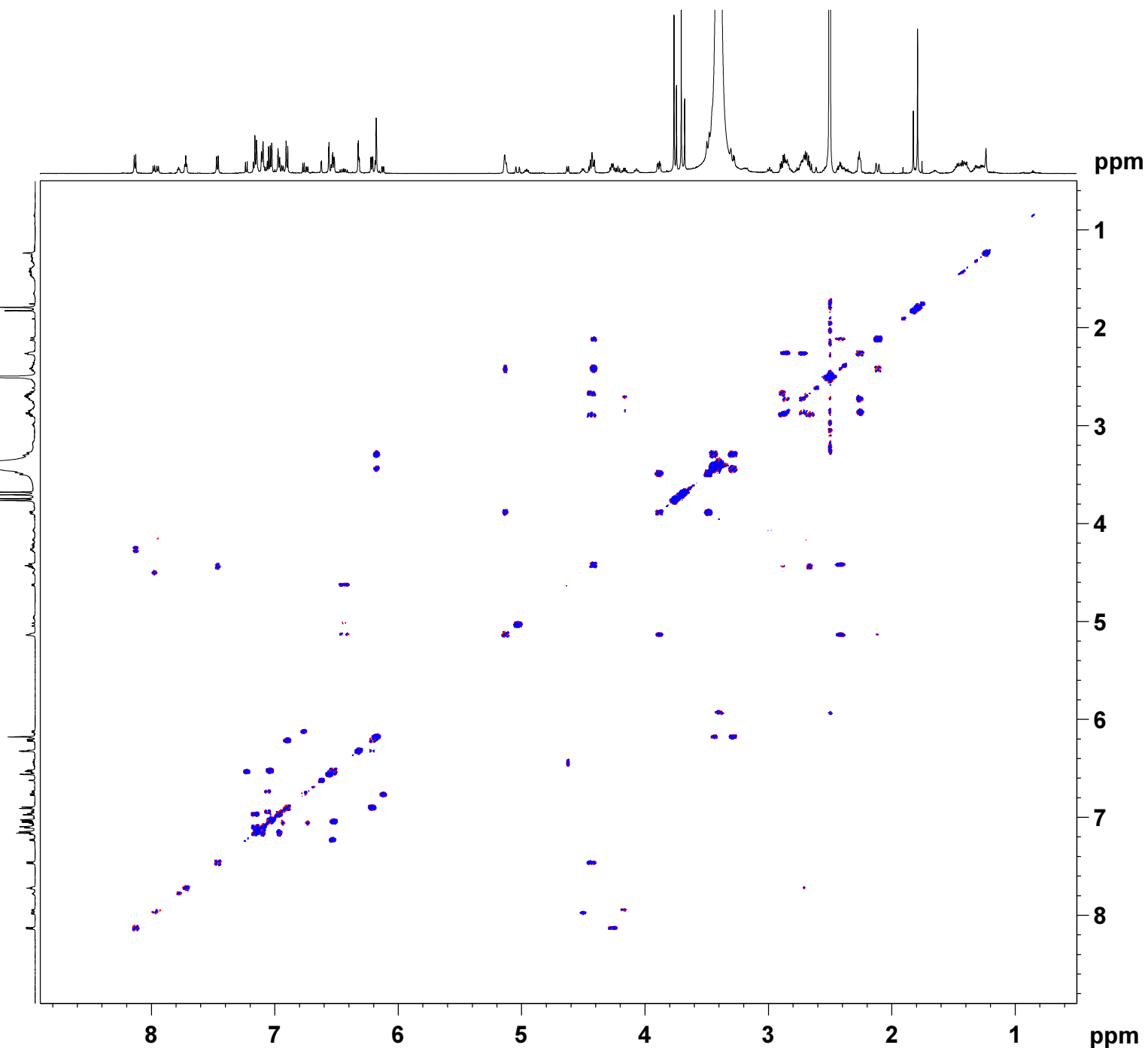
===== CHANNEL f1 =====
NUC1 1H
P0 9.62 usec
P1 9.62 usec
PL1 -2.00 dB
PL9 52.32 dB
PL1W 39.81071854 W
PL9W 0.00014723 W
SFO1 600.1335660 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPX1 0 %
GPY1 0 %
GPZ1 10.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.1336 MHz
FIDRES 15.211276 Hz
SW 12.977 ppm
FnMODE QF

F2 - Processing parameters
SI 4096
SF 600.130052 MHz
WDW QSINE
SSB 1
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 QF
SF 600.130052 MHz
WDW
SSB 1
LB 0 Hz
GB 0



Current Data Parameters
NAME TR5-32E1_av600
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131207
Time_ 18.52
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG mlevsgpph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 6613.757 Hz
FIDRES 3.229373 Hz
AQ 0.1548788 sec
RG 2896.3
DW 75.600 usec
DE 6.50 usec
TE 298.0 K
D0 0.00004948 sec
D1 1.00000000 sec
D9 0.06000000 sec
D12 0.00002000 sec
D16 0.00020000 sec
IN0 0.00015120 sec
L1 24

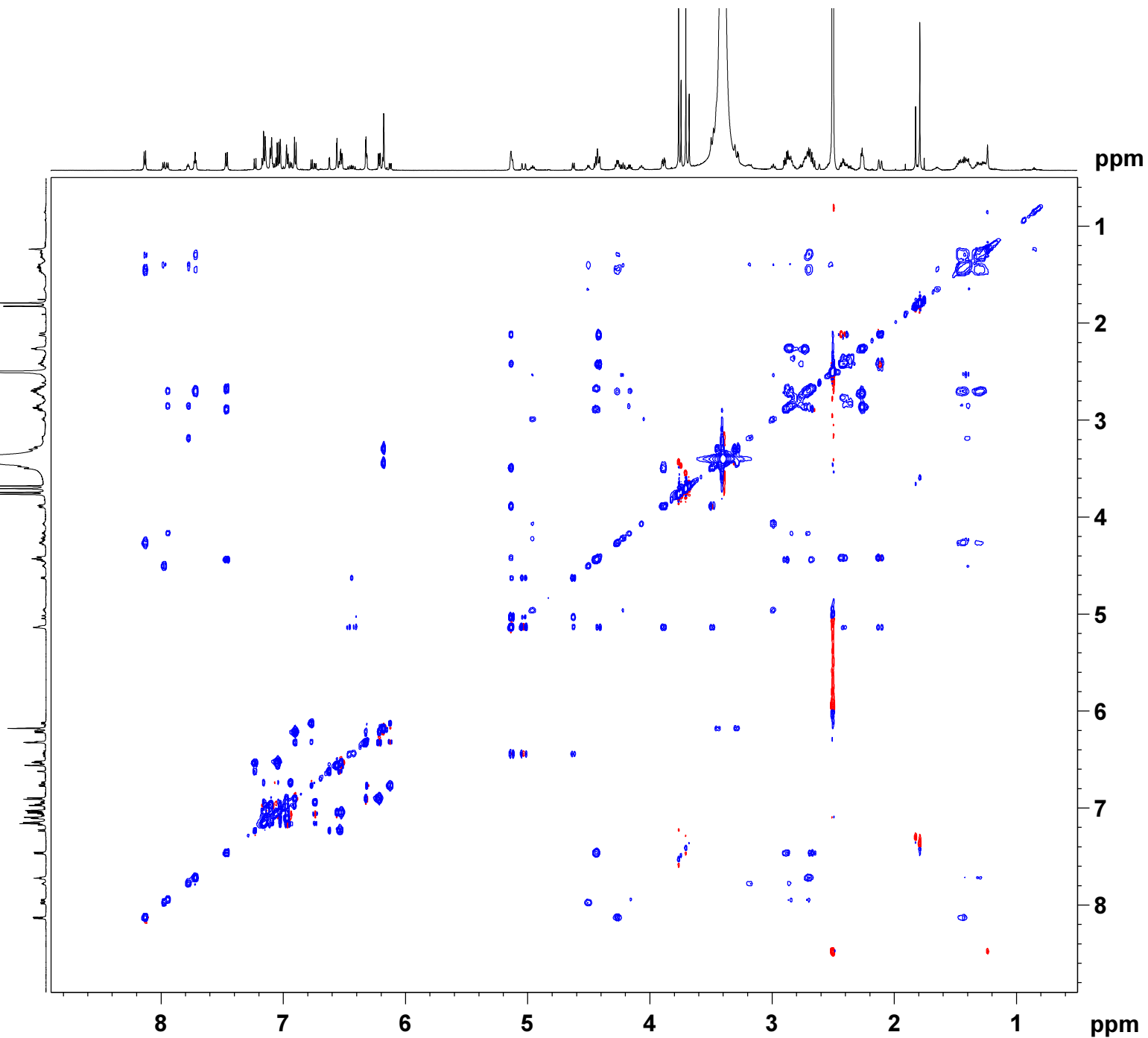
===== CHANNEL f1 =====
NUC1 1H
P1 9.62 usec
P2 19.24 usec
P5 26.68 usec
P6 40.00 usec
P7 80.00 usec
P12 3000.00 usec
P17 2500.00 usec
PL0 120.00 dB
PL1 -2.00 dB
PL10 10.38 dB
PLOW 0 W
PL1W 39.81071854 W
PL10W 2.30144167 W
SFO1 600.1333007 MHz
SP1 38.34 dB
SPNAM1 Squa100.1000
SPOAL1 1.000
SPOFFS1 -1254.02 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 31.00 %
GPZ2 11.00 %
P16 1000.00 usec

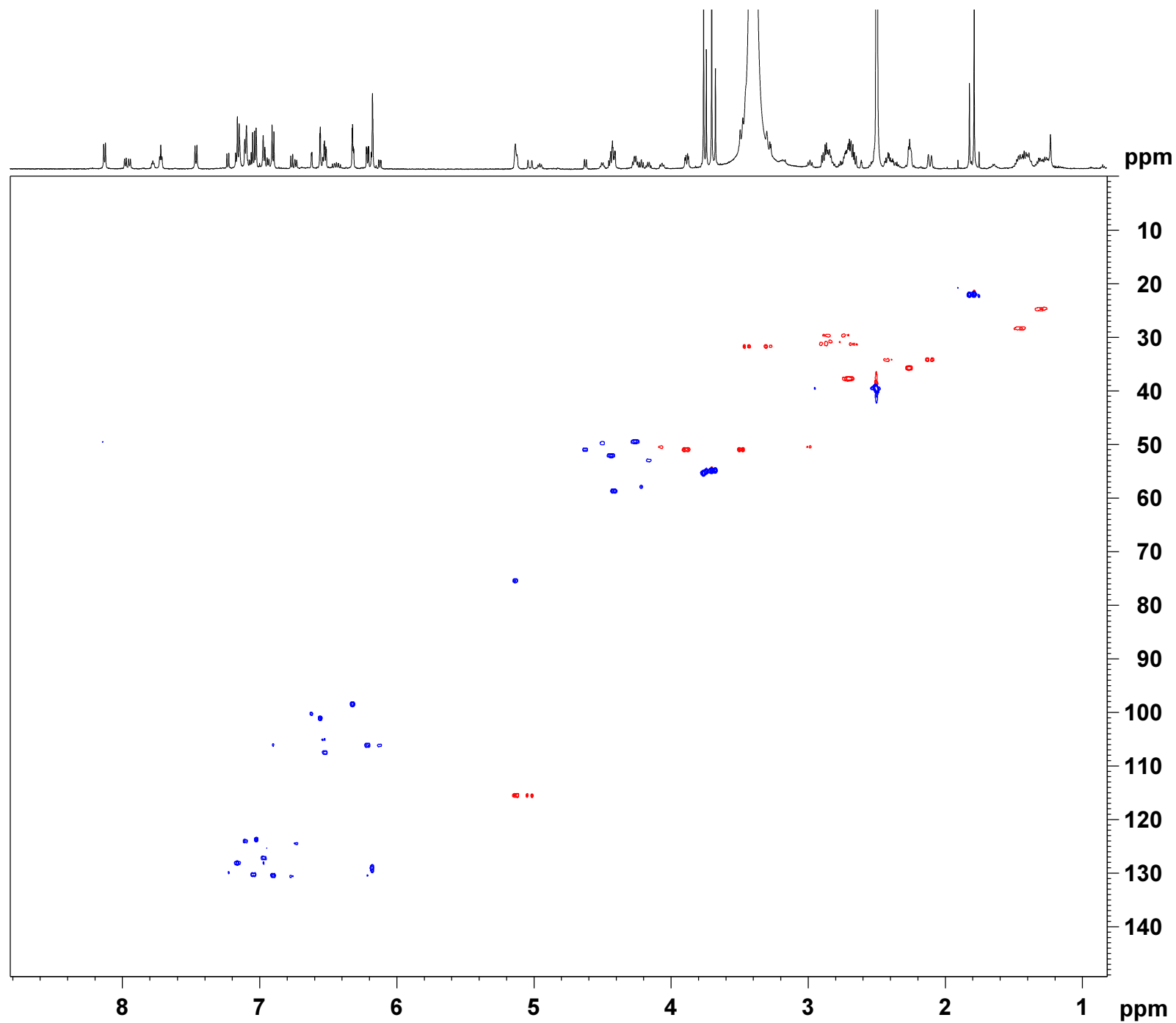
F1 - Acquisition parameters
TD 256
SFO1 600.1333 MHz
FIDRES 25.834974 Hz
SW 11.020 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300051 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

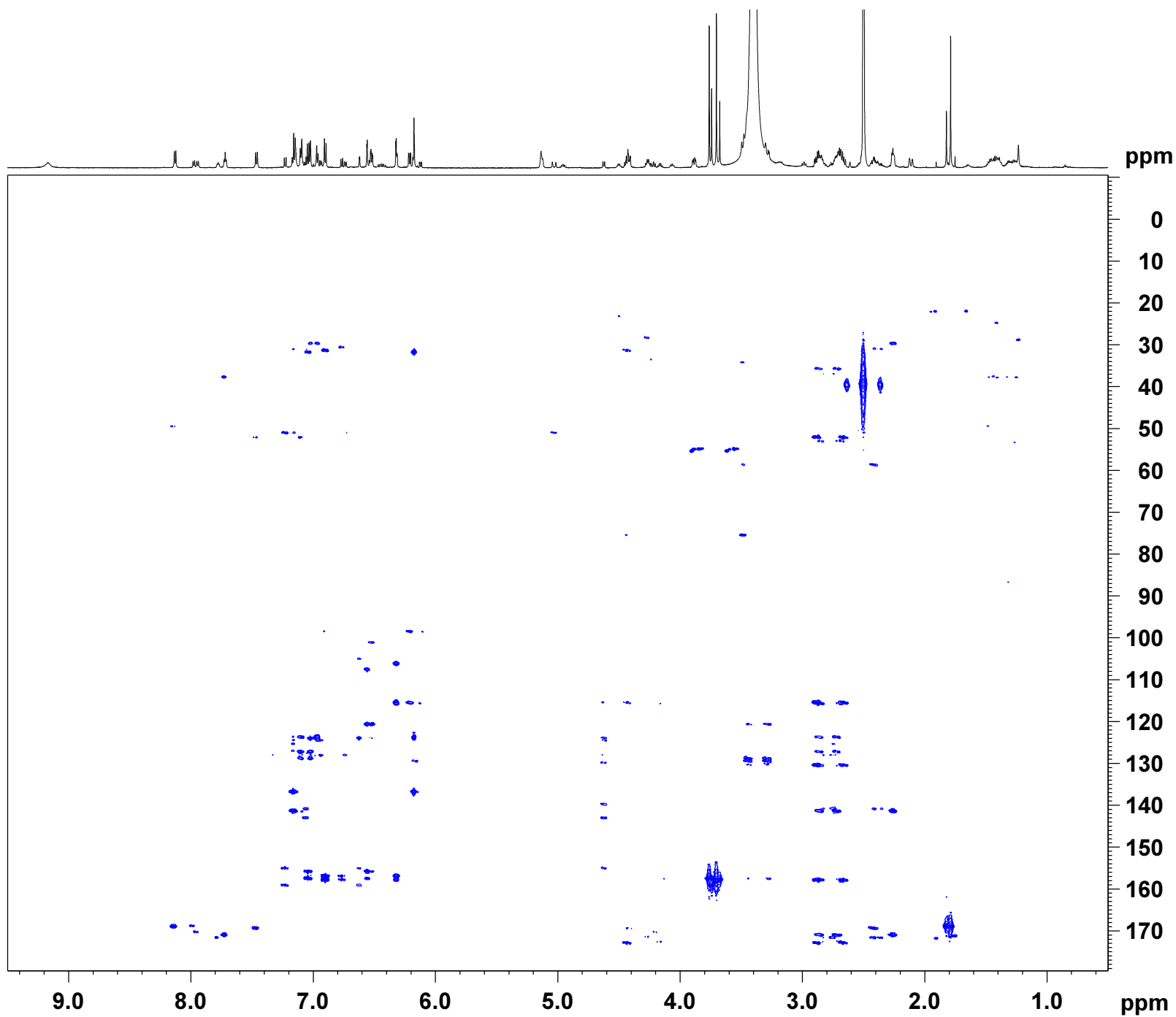
F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300036 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR5-32E1
EXPNO 3
PROCNO 1



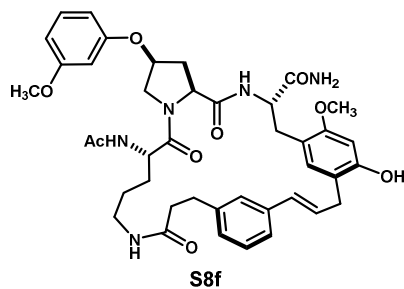
Current Data Parameters
NAME TR5-32E1
EXPNO 4
PROCNO 1




```

F2 - Acquisition Parameters
Date_          20131126
Time           17.27
INSTRUM        av600
PROBHD         5 mm TBI5
PULPROG                zg
TD                   65536
SOLVENT            DMSO
NS                      8
DS                      0
SWH       12376.237   Hz
FIDRES           0.188846   Hz
AQ       2.6477044   sec
RG              28.5
DW       40.400   usec
DE       6.50   usec
TE       298.0   K
D1       2.00000000   sec
TD0              1

```

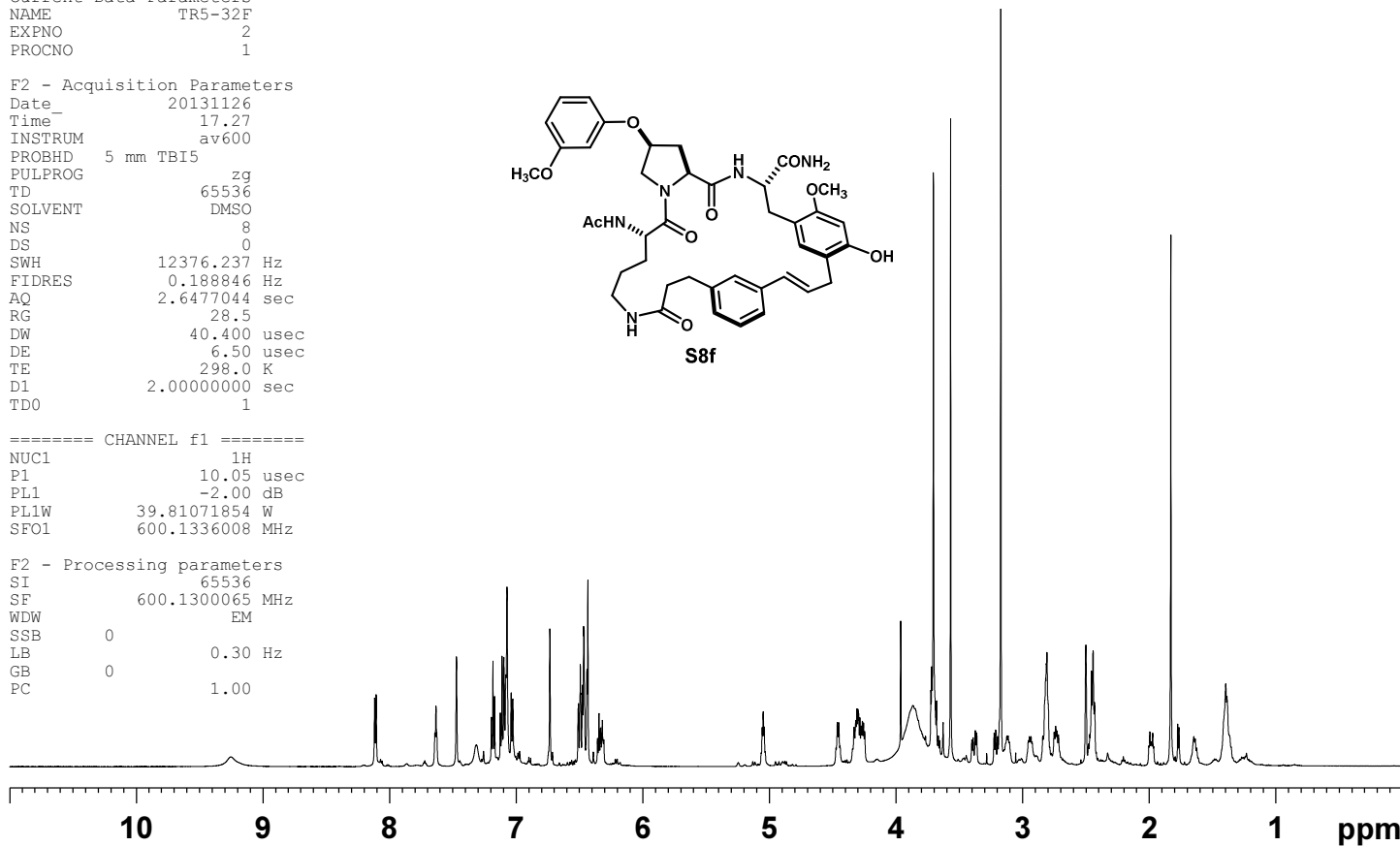


```
===== CHANNEL f1 =====
NUC1                1H
P1                  10.05 usec
PL1                 -2.00 dB
PL1W                39.81071854 W
SF01                600.1336008 Mhz
```

```

F2 - Processing parameters
SI                      65536
SF                      600.1300065 MHz
WDW                      EM
SSB      0
LB                      0.30 Hz
GB      0
PC                      1.00

```



Current Data Parameters
NAME TR5-32F
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131126
Time 17.30
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 28.5
DW 83.200 usec
DE 6.50 usec
TE 298.0 K
D0 0.00007040 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00016640 sec

===== CHANNEL f1 =====

NUC1 1H
P1 10.05 usec
P2 20.10 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

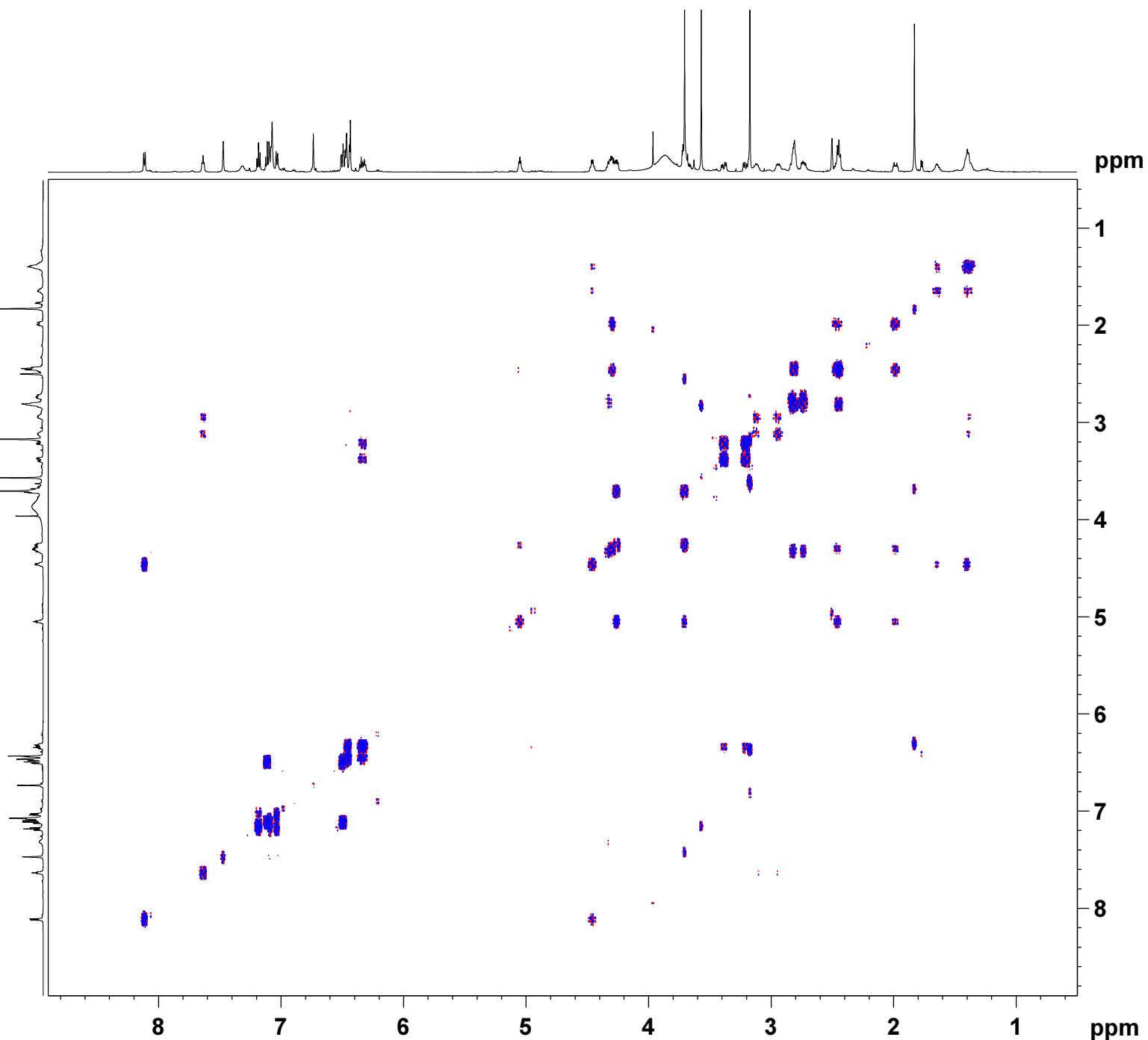
===== GRADIENT CHANNEL =====

GP1AM1 SINE.100
GP1AM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.133 MHz
FIDRES 23.475060 Hz
SW 10.014 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300046 MHz
WDW QSINE
SSB 1.8
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300037 MHz
WDW
SSB 1.8
LB 0 Hz
GB 0



Current Data Parameters
NAME TR5-32F
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131126
Time_ 17.45
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG mlevsgpph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 7183.908 Hz
FIDRES 3.507768 Hz
AQ 0.1425908 sec
RG 256
DW 69.600 usec
DE 6.50 usec
TE 298.0 K
DO 0.00004320 sec
D1 1.00000000 sec
D9 0.06000000 sec
D12 0.00002000 sec
D16 0.00020000 sec
IN0 0.00013920 sec
L1 24

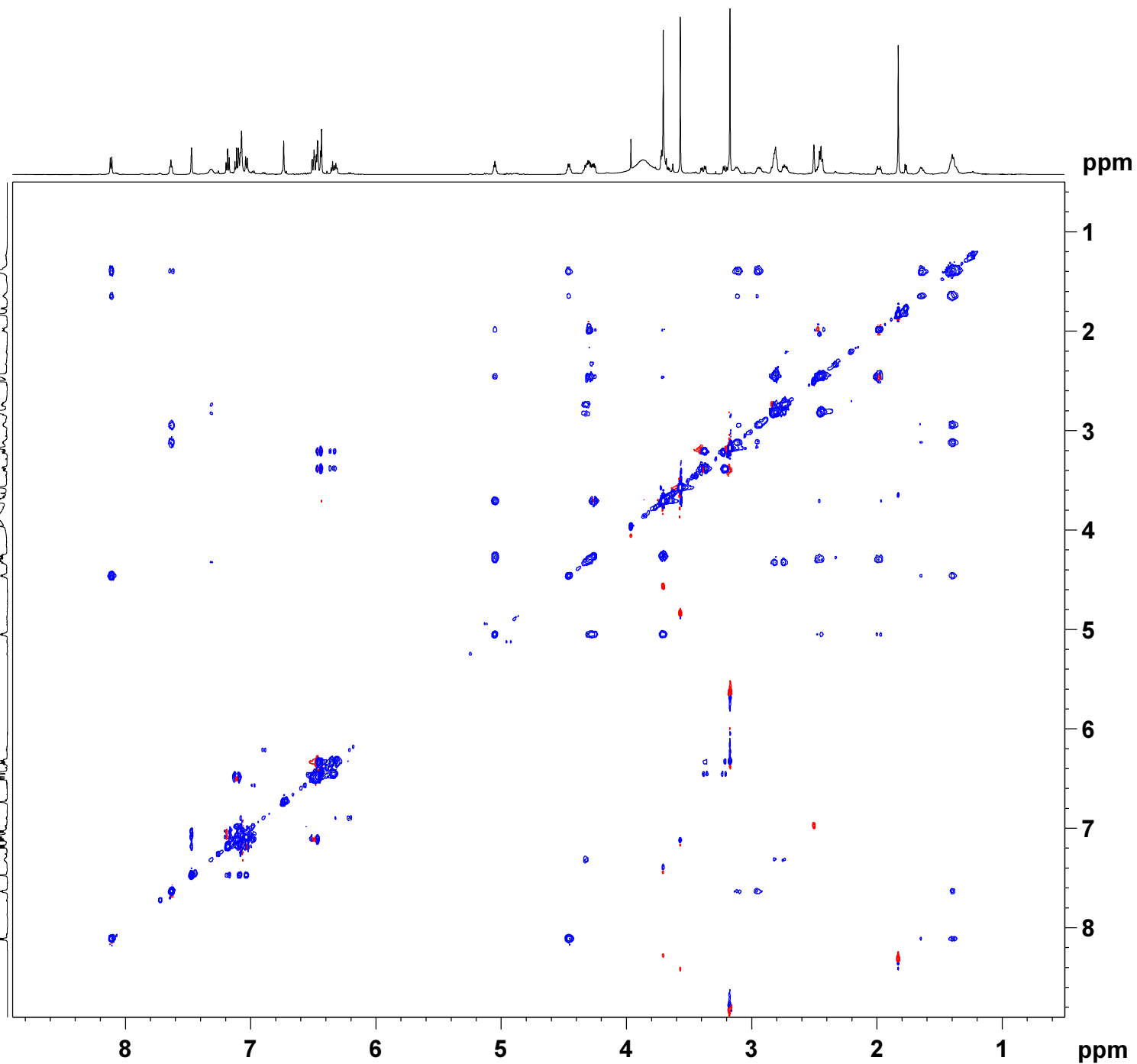
===== CHANNEL f1 =====
NUC1 1H
P1 10.05 usec
P2 20.10 usec
P5 26.60 usec
P6 40.00 usec
P7 80.00 usec
P12 3000.00 usec
P17 2500.00 usec
PL0 120.00 dB
PL1 -2.00 dB
PL10 10.16 dB
PLOW 0 W
PL1W 39.81071854 W
PL10W 2.42102909 W
SFO1 600.1336008 MHz
SP1 120.00 dB
SPNAM1 Squa100.1000
SPOAL1 1.000
SPOFFS1 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 31.00 %
GPZ2 11.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.1336 MHz
FIDRES 28.062170 Hz
SW 11.971 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300048 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300048 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
 NAME TR5-32F
 EXPNO 6
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131126
 Time_ 17.56
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG hsqcetgpsisp
 TD 2048
 SOLVENT DMSO
 NS 4
 DS 16
 SWH 6009.615 Hz
 FIDRES 2.934382 Hz
 AQ 0.1704436 sec
 RG 8192
 DW 83.200 usec
 DE 6.00 usec
 TE 298.1 K
 CNST2 145.0000000
 D0 0.00000300 sec
 D1 1.20000005 sec
 D4 0.00172414 sec
 D11 0.03000000 sec
 D16 0.00020000 sec
 D24 0.00086200 sec
 INO 0.00002070 sec
 ZGOPTNS

===== CHANNEL f1 =====
 NUC1 1H
 P1 10.05 usec
 P2 20.10 usec
 P28 1000.00 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1330006 MHz

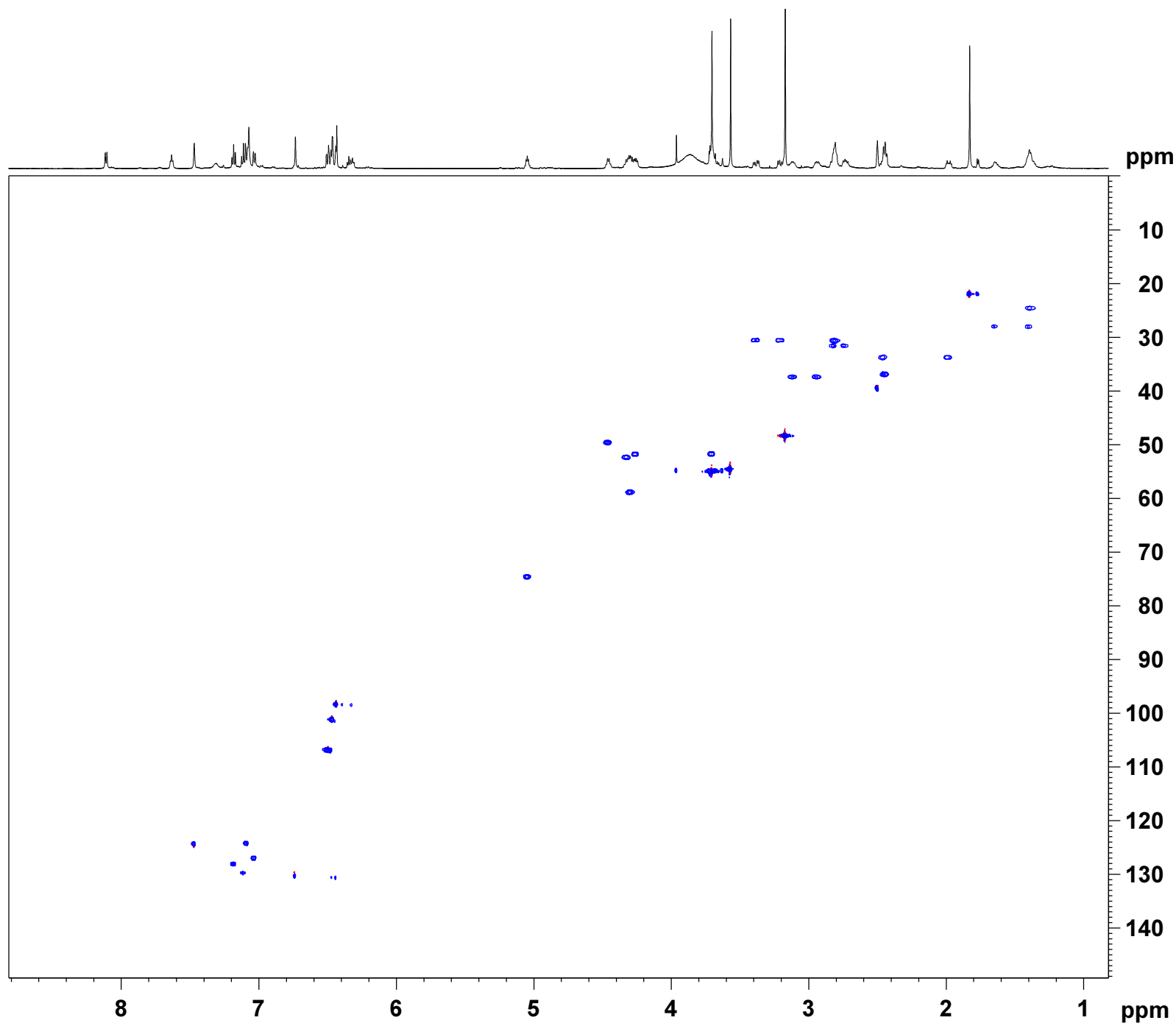
===== CHANNEL f2 =====
 CPDPRG2 garp
 NUC2 13C
 P3 18.75 usec
 P4 37.50 usec
 P14 1000.00 usec
 PCPD2 65.00 usec
 PL0 120.00 dB
 PL2 -3.00 dB
 PL12 7.80 dB
 PL0W 0 W
 PL2W 150.35617065 W
 PL12W 12.50608063 W
 SFO2 150.9133722 MHz
 SP3 4.47 dB
 SPNAM3 Crp80,0.5,20.1
 SPOAL3 0.500
 SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
 GPNAM1 SINE.100
 GPNAM2 SINE.100
 GPX1 0 %
 GPX2 0 %
 GPY1 0 %
 GPY2 0 %
 GPZ1 80.00 %
 GPZ2 20.10 %
 P16 1000.00 usec

F1 - Acquisition parameters
 TD 256
 SFO1 150.9134 MHz
 FIDRES 94.320854 Hz
 SW 160.000 ppm
 FnmODE Echo-Antiecho

F2 - Processing parameters
 SI 4096
 SF 600.1300026 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

F1 - Processing parameters
 SI 4096
 MC2 echo-antiecho
 SF 150.9029177 MHz
 WDW
 SSB 2
 LB 0 Hz
 GB 0



Current Data Parameters
NAME TR5-32F
EXPNO 7
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131126
Time 18.22
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hmbcgp1pndqf
TD 2048
SOLVENT DMSO
NS 4
DS 64
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
CNST13 7.0000000
D0 0.00000300 sec
D1 1.50000000 sec
D2 0.00344828 sec
D6 0.07142857 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 10.05 usec
P2 20.10 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

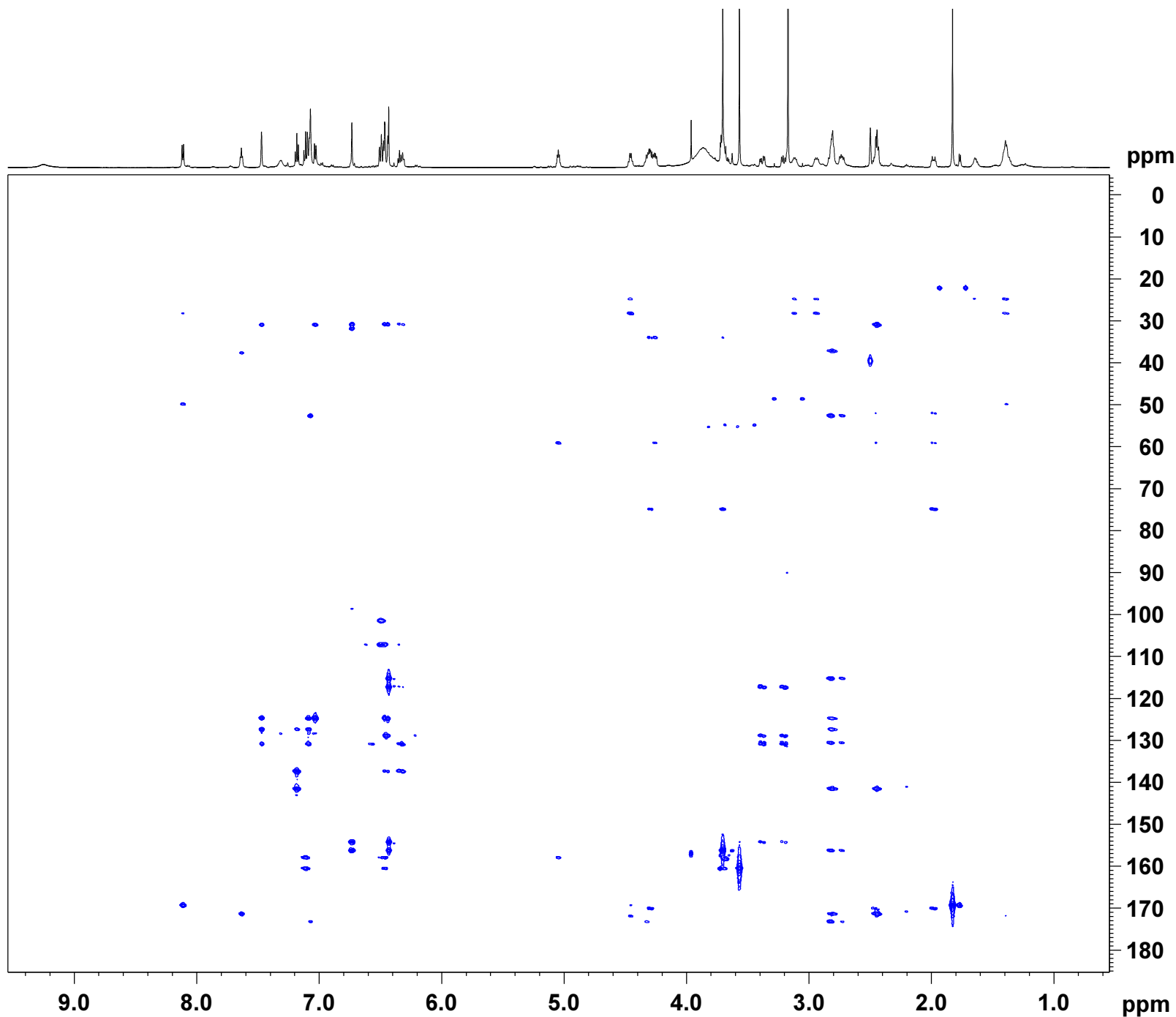
===== CHANNEL f2 =====
NUC2 13C
P3 18.75 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 150.9156 MHz
FIDRES 56.003849 Hz
SW 190.000 ppm
FnMODE QF

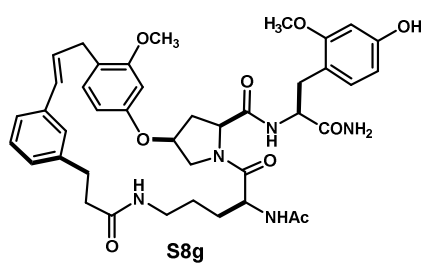
F2 - Processing parameters
SI 4096
SF 600.1300066 MHz
WDW QSINE
SSB 0
LB 0 Hz
GB 0
FC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9028733 MHz
WDW
SSB 2
LB 0 Hz
GB 0



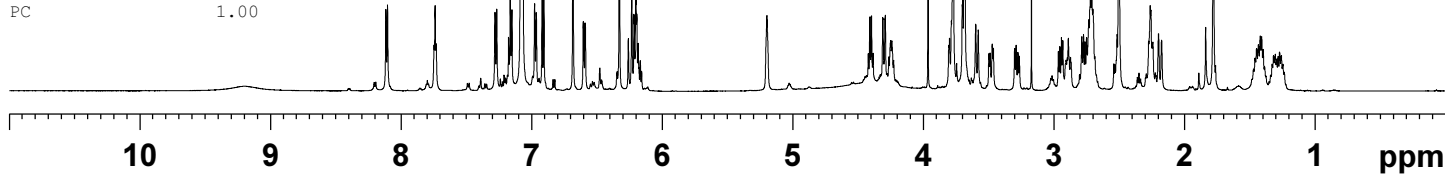
Current Data Parameters
 NAME TR5-32G
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131204
 Time_ 17.18
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 32
 DW 40.400 usec
 DE 6.50 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1



===== CHANNEL f1 =====
 NUC1 1H
 P1 10.15 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300068 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME TR5-32G
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131204
Time_ 17.21
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygmph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 32
DW 83.200 usec
DE 6.50 usec
TE 298.0 K
DO 0.00007028 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
INO 0.00016640 sec

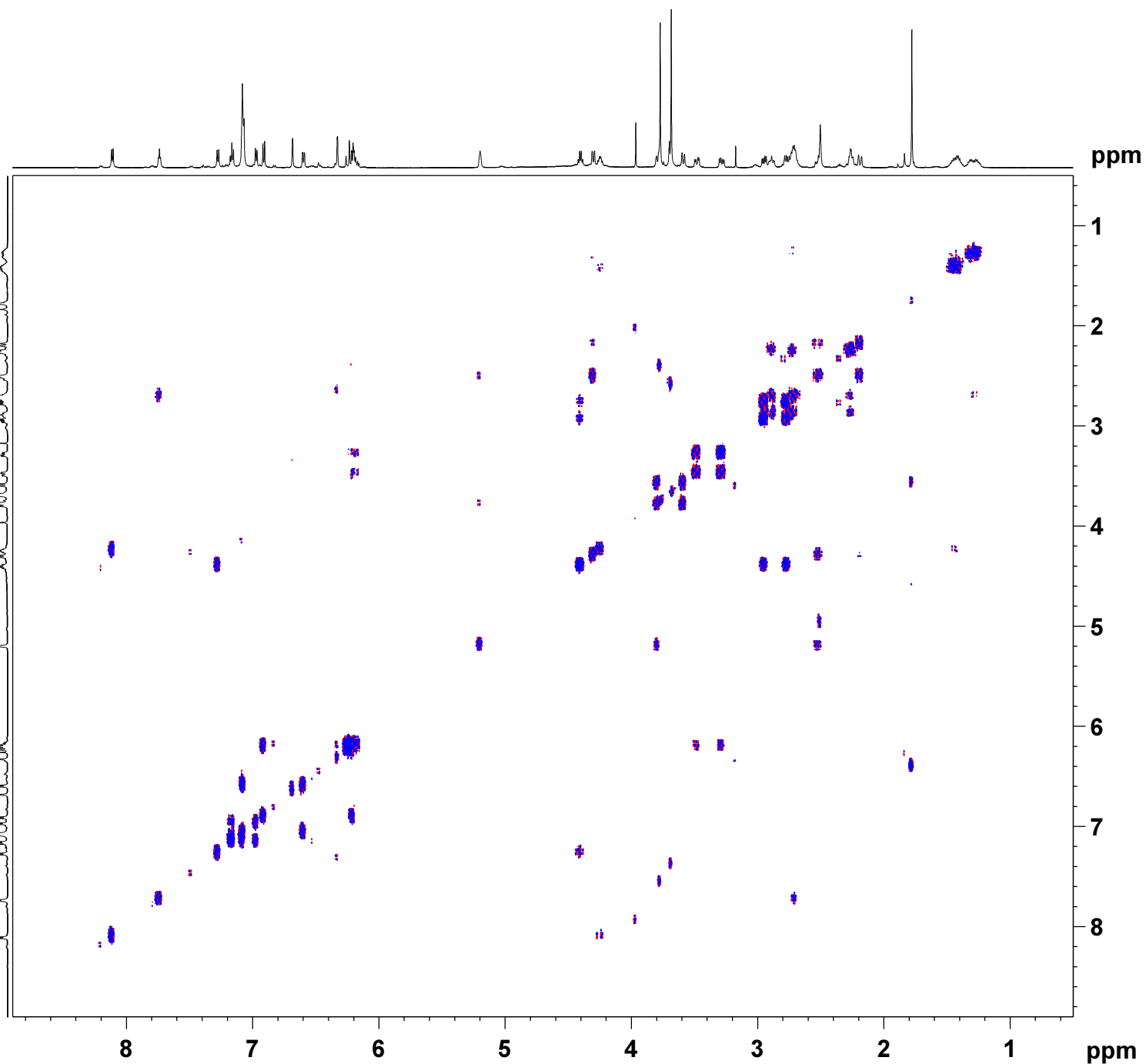
===== CHANNEL f1 =====
NUC1 1H
P1 10.15 usec
P2 20.30 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0
GPX2 0
GPY1 0
GPY2 0
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.133 MHz
FIDRES 23.475060 Hz
SW 10.014 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300014 MHz
WDW QSINE
SSB 1.8
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300177 MHz
WDW
SSB 1.8
LB 0 Hz
GB 0



Current Data Parameters
NAME TR5-32G
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131204
Time_ 17.36
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG mlevsgpph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 7183.908 Hz
FIDRES 3.507768 Hz
AQ 0.1425908 sec
RG 322.5
DW 69.600 usec
DE 6.50 usec
TE 298.0 K
DO 0.00004314 sec
D1 1.00000000 sec
D9 0.06000000 sec
D12 0.00002000 sec
D16 0.00020000 sec
IN0 0.00013920 sec
L1 24

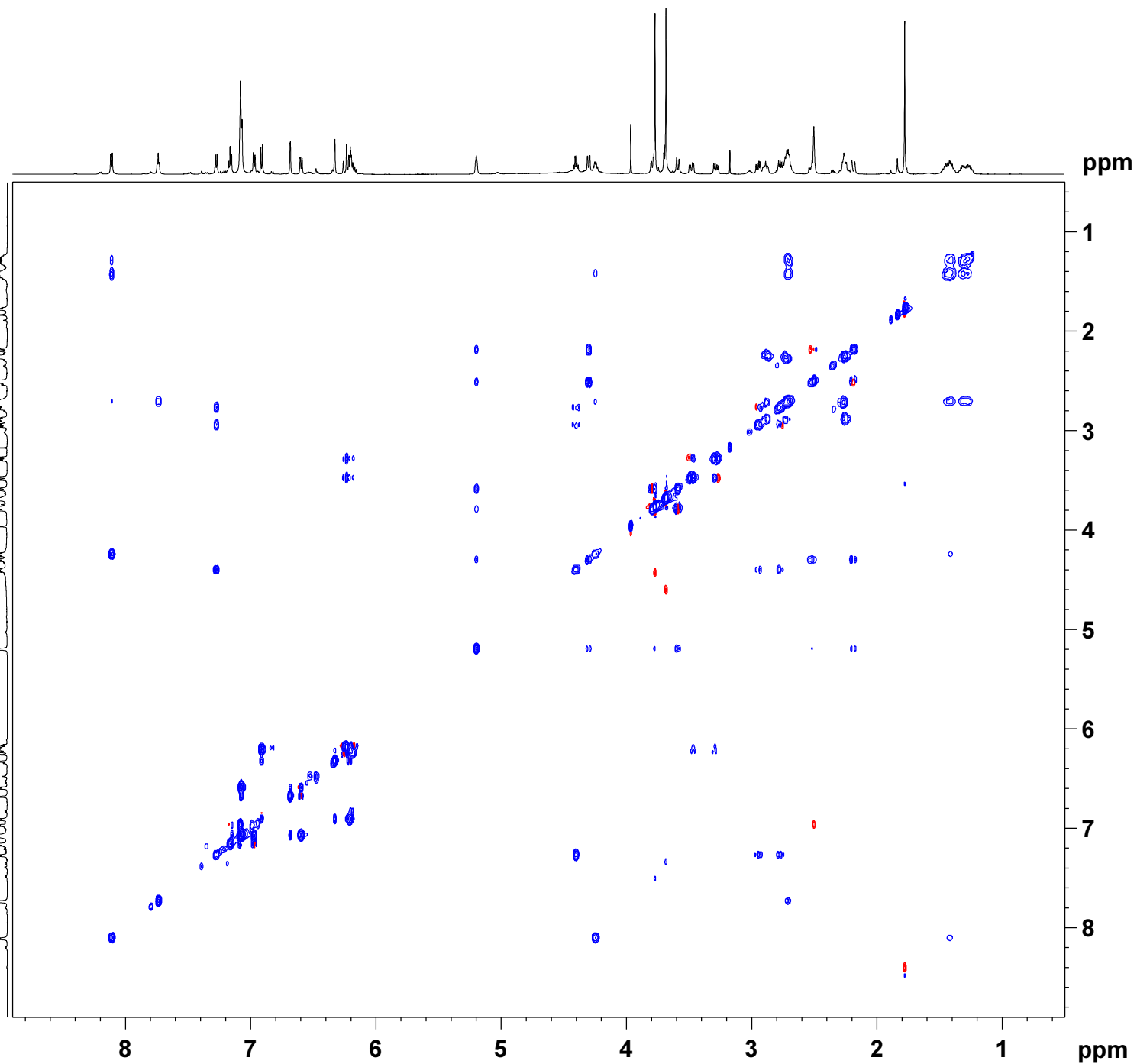
===== CHANNEL f1 =====
NUC1 1H
P1 10.15 usec
P2 20.30 usec
P5 26.68 usec
P6 40.00 usec
P7 80.00 usec
P12 3000.00 usec
P17 2500.00 usec
PL0 120.00 dB
PL1 -2.00 dB
PL10 9.91 dB
PLOW 0 W
PL1W 39.81071854 W
PL10W 2.56448412 W
SFO1 600.1336008 MHz
SP1 120.00 dB
SPNAM1 Squa100.1000
SPOAL1 1.000
SPOFFS1 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 31.00 %
GPZ2 11.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.1336 MHz
FIDRES 28.062170 Hz
SW 11.971 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300058 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300084 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR5-32G
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131204
Time 17.47
INSTRUM av600
PROBHD 5 mm TB15
PULPROG hsqcetgpsisp
TD 2048
SOLVENT DMSO
NS 4
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 8192
DW 83.200 usec
DE 6.00 usec
TE 298.1 K
CNST2 145.0000000
D0 0.00000300 sec
D1 1.20000005 sec
D4 0.00172414 sec
D11 0.03000000 sec
D16 0.00020000 sec
D24 0.00086200 sec
IN0 0.00002070 sec
ZGPTNS

===== CHANNEL f1 =====
NUC1 1H
P1 10.15 usec
P2 20.30 usec
P28 1000.00 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

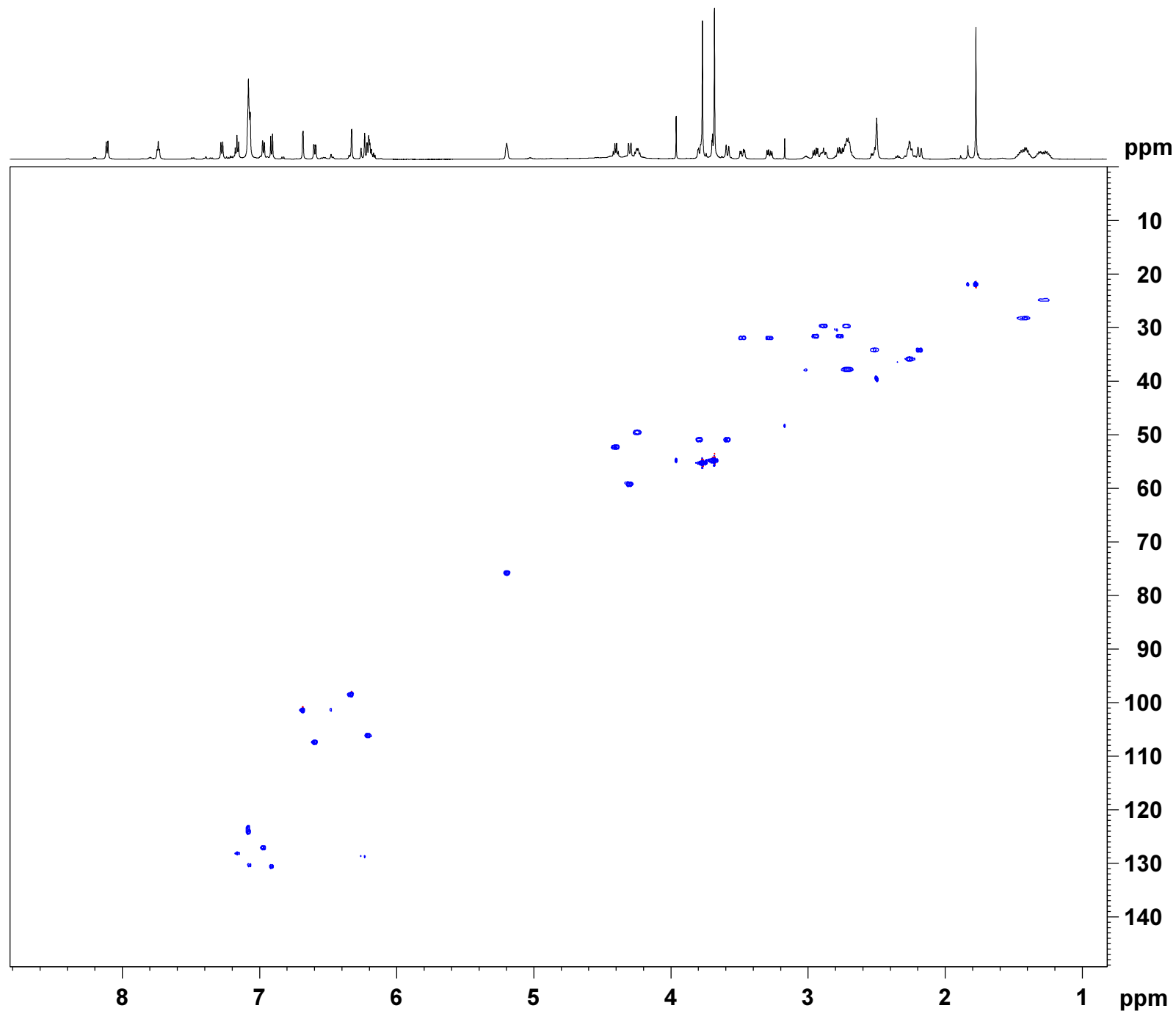
===== CHANNEL f2 =====
CPDPRG2 garp
NUC2 13C
P3 19.62 usec
P4 39.24 usec
P14 1000.00 usec
PCPD2 65.00 usec
PL0 120.00 dB
PL2 -3.00 dB
PL12 7.40 dB
PL0W 0 W
PL2W 150.35617065 W
PL12W 13.71264553 W
SFO2 150.9133722 MHz
SP3 4.08 dB
SPNAM3 Crp80,0.5,20.1
SPOAL3 0.500
SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 80.00 %
GPZ2 20.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 150.9134 MHz
FIDRES 94.320854 Hz
SW 160.000 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 600.1300051 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 echo-antiecho
SF 150.9029215 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR5-32G
EXPNO 7
PROCNO 1

F2 - Acquisition Parameters

Date_ 20131204
Time 18.13
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hmbcgp1pndqf
TD 2048
SOLVENT DMSO
NS 4
DS 64
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
CNST13 7.0000000
D0 0.00000300 sec
D1 1.50000000 sec
D2 0.00344828 sec
D6 0.07142857 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====

NUC1 1H
P1 10.15 usec
P2 20.30 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

===== CHANNEL f2 =====

NUC2 13C
P3 18.75 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====

GP1AM1 SINE.100
GP1AM2 SINE.100
GP1AM3 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
P16 1000.00 usec

F1 - Acquisition parameters

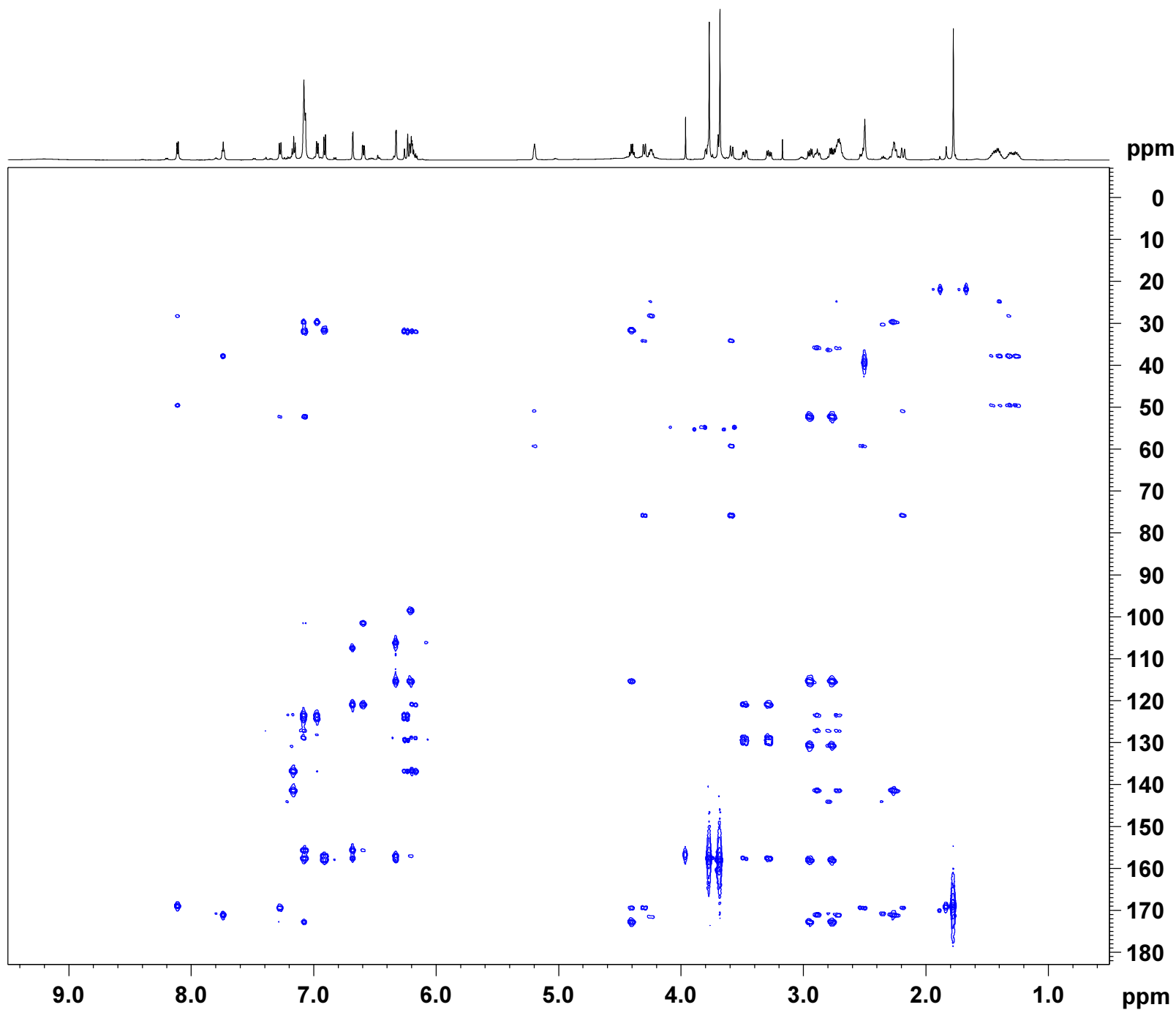
TD 512
SFO1 150.9156 MHz
FIDRES 56.003849 Hz
SW 190.000 ppm
FnMODE QF

F2 - Processing parameters

SI 4096
SF 600.1300066 MHz
WDW QSINE
SSB 0
LB 0 Hz
GB 0
PC 1.40

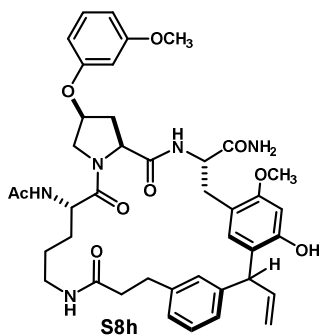
F1 - Processing parameters

SI 4096
MC2 QF
SF 150.9029112 MHz
WDW
SSB 2
LB 0 Hz
GB 0



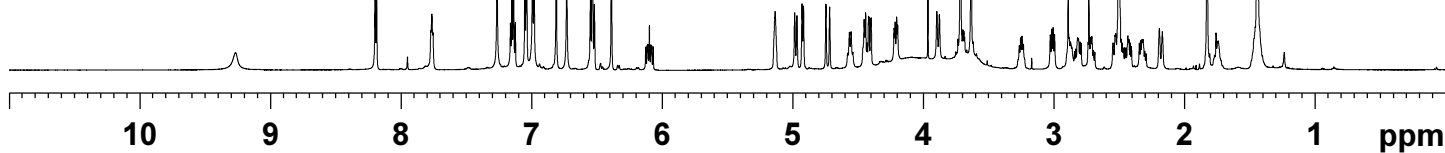
Current Data Parameters
 NAME TR5-32H1
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131204
 Time_ 22.22
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 40.3
 DW 40.400 usec
 DE 6.50 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1



===== CHANNEL f1 =====
 NUC1 1H
 P1 9.77 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300068 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME TR5-32H1
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131204
Time_ 22.24
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygmph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 40.3
DW 83.200 usec
DE 6.50 usec
TE 298.0 K
DO 0.00007076 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
INO 0.00016640 sec

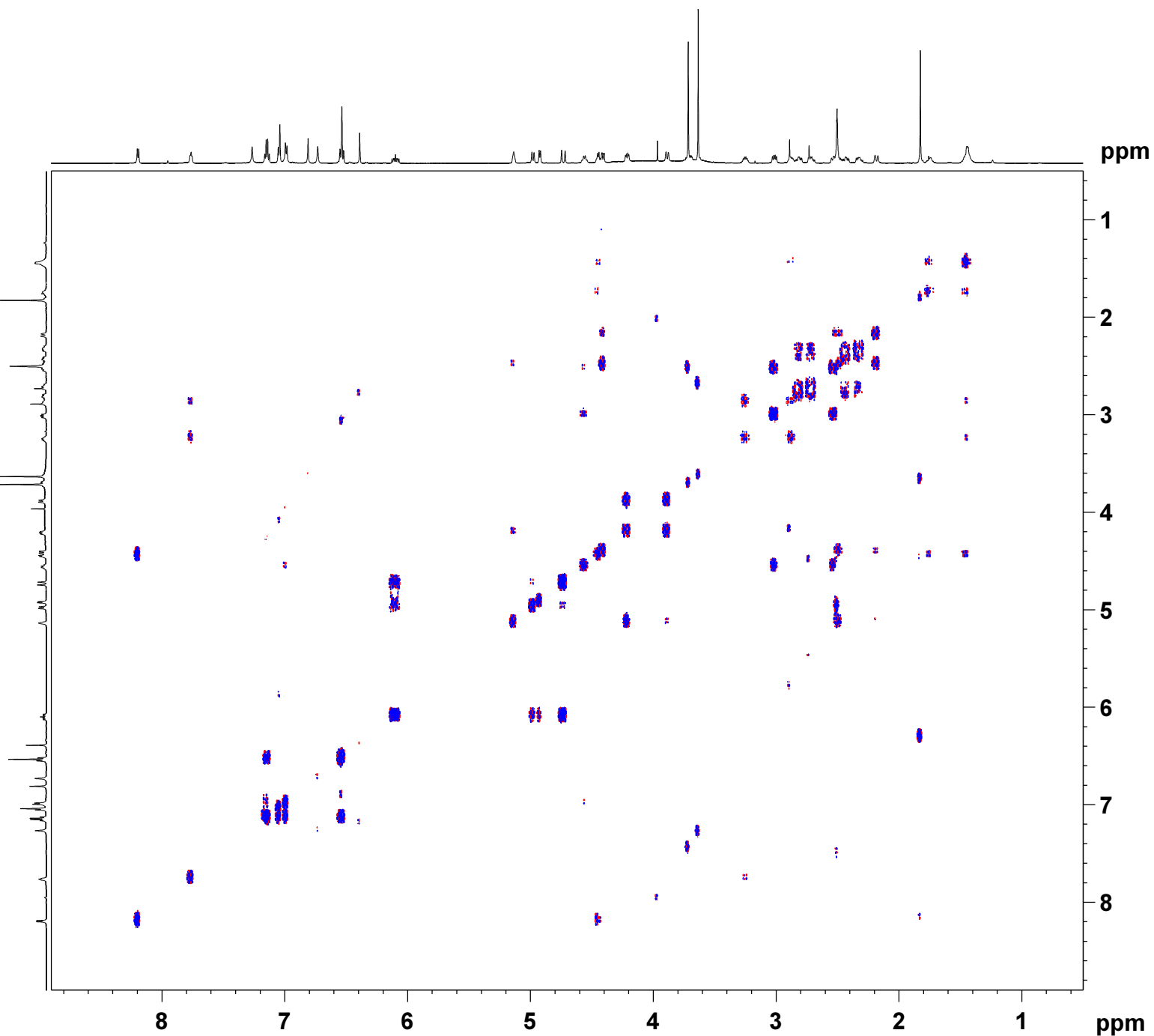
===== CHANNEL f1 =====
NUC1 1H
P1 9.77 usec
P2 19.54 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0
GPX2 0
GPY1 0
GPY2 0
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.133 MHz
FIDRES 23.475060 Hz
SW 10.014 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300014 MHz
WDW QSINE
SSB 1.8
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300177 MHz
WDW
SSB 1.8
LB 0 Hz
GB 0



Current Data Parameters
NAME TR5-32H1
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131204
Time_ 22.39
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG mlevsgpph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 7183.908 Hz
FIDRES 3.507768 Hz
AQ 0.1425908 sec
RG 322.5
DW 69.600 usec
DE 6.50 usec
TE 298.0 K
DO 0.00004338 sec
D1 1.00000000 sec
D9 0.06000000 sec
D12 0.00002000 sec
D16 0.00020000 sec
IN0 0.00013920 sec
L1 24

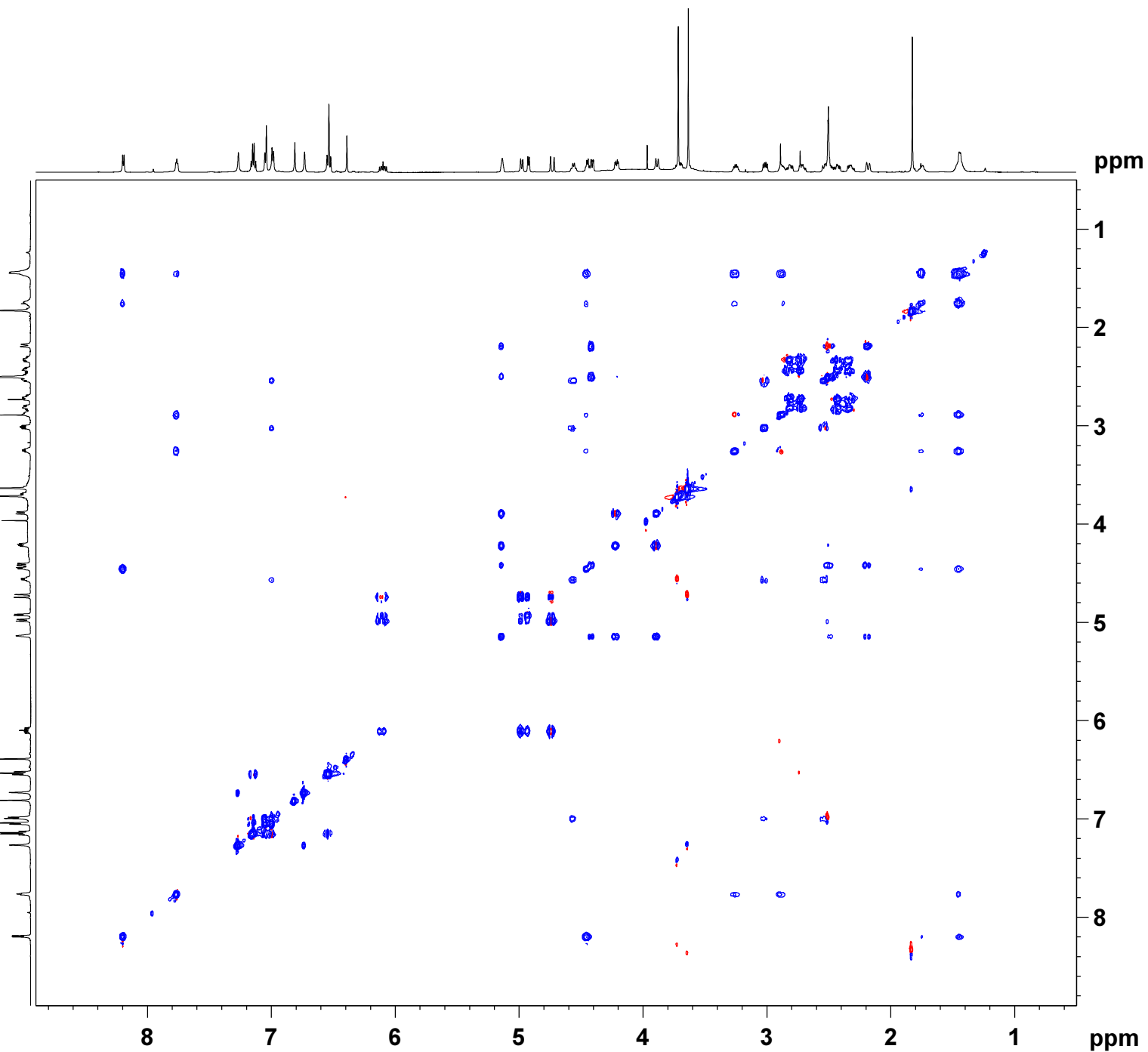
===== CHANNEL f1 =====
NUC1 1H
P1 9.77 usec
P2 19.54 usec
P5 26.68 usec
P6 40.00 usec
P7 80.00 usec
P12 3000.00 usec
P17 2500.00 usec
PL0 120.00 dB
PL1 -2.00 dB
PL10 10.24 dB
PLOW 0 W
PL1W 39.81071854 W
PL10W 2.37684035 W
SFO1 600.1336008 MHz
SP1 120.00 dB
SPNAM1 Squa100.1000
SPOAL1 1.000
SPOFFS1 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 31.00 %
GPZ2 11.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 600.1336 MHz
FIDRES 28.062170 Hz
SW 11.971 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300000 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300000 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR5-32H1
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131204
Time 22.50
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hsqcetgpsisp
TD 2048
SOLVENT DMSO
NS 4
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 8192
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
D0 0.00000300 sec
D1 1.20000005 sec
D4 0.00172414 sec
D11 0.03000000 sec
D16 0.00020000 sec
D24 0.00086200 sec
IN0 0.00002070 sec
ZGPTNS

===== CHANNEL f1 =====
NUC1 1H
P1 9.77 usec
P2 19.54 usec
P28 1000.00 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

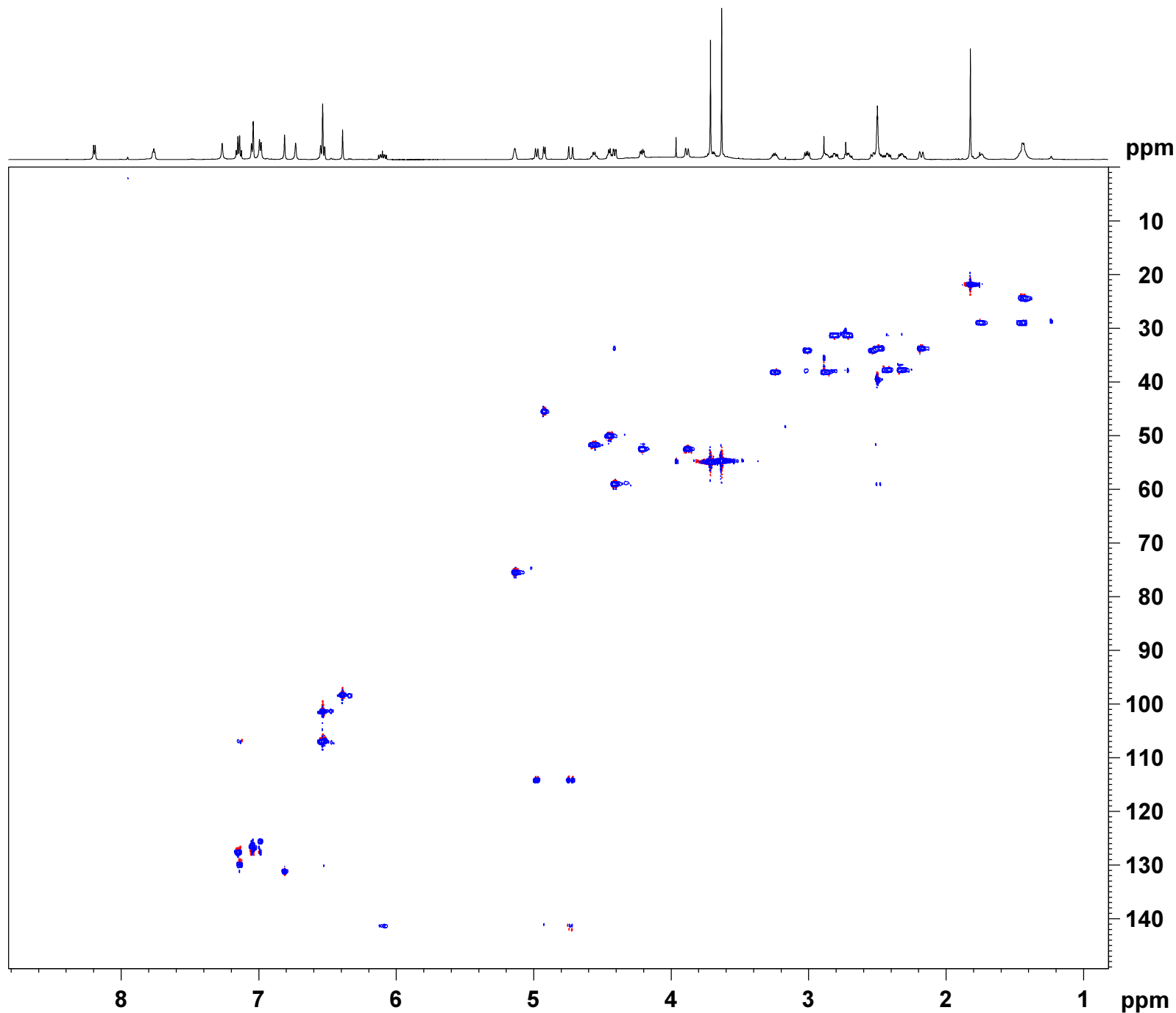
===== CHANNEL f2 =====
CPDPRG2 garp
NUC2 13C
P3 19.62 usec
P4 39.24 usec
P14 1000.00 usec
PCPD2 65.00 usec
PL0 120.00 dB
PL2 -3.00 dB
PL12 7.40 dB
PL0W 0 W
PL2W 150.35617065 W
PL12W 13.71264553 W
SFO2 150.9133722 MHz
SP3 4.08 dB
SPNAM3 Crp80,0.5,20.1
SFOAL3 0.500
SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 80.00 %
GPZ2 20.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 256
SFO1 150.9134 MHz
FIDRES 94.320854 Hz
SW 160.000 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 600.1300051 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 echo-antiecho
SF 150.9029221 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR5-32H1
EXPNO 7
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131204
Time 23.16
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG hmbcgp1pndqf
TD 2048
SOLVENT DMSO
NS 8
DS 64
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 26008
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
CNST13 7.0000000
D0 0.00000300 sec
D1 1.50000000 sec
D2 0.00344828 sec
D6 0.07142857 sec
D16 0.00020000 sec
IN0 0.00001745 sec

===== CHANNEL f1 =====
NUC1 1H
P1 9.77 usec
P2 19.54 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1330006 MHz

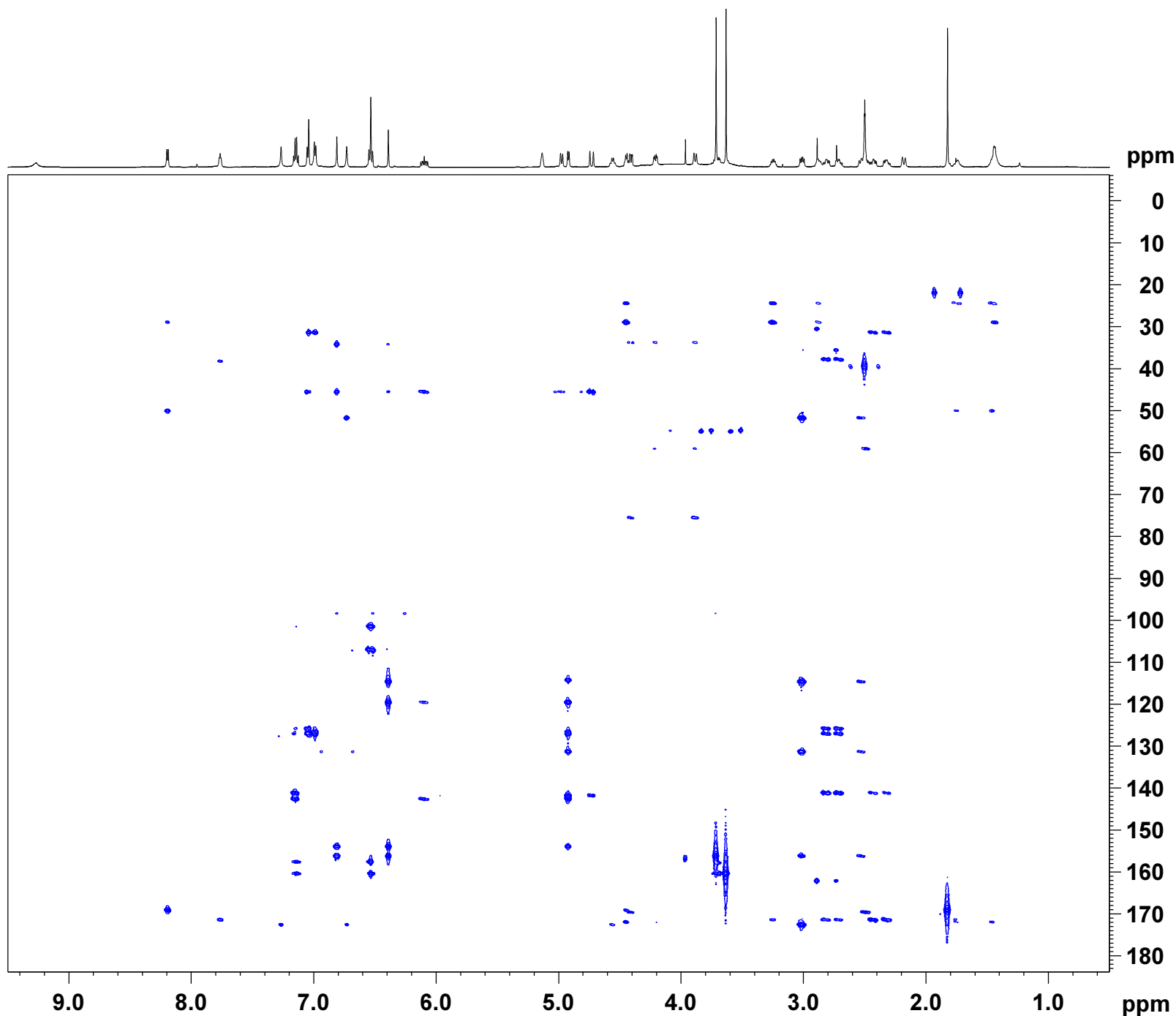
===== CHANNEL f2 =====
NUC2 13C
P3 18.75 usec
PL2 -3.00 dB
PL2W 150.35617065 W
SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPNAM3 SINE.100
GPX1 0 %
GPX2 0 %
GPX3 0 %
GPY1 0 %
GPY2 0 %
GPY3 0 %
GPZ1 50.00 %
GPZ2 30.00 %
GPZ3 40.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 150.9156 MHz
FIDRES 56.003849 Hz
SW 190.000 ppm
FnMODE QF

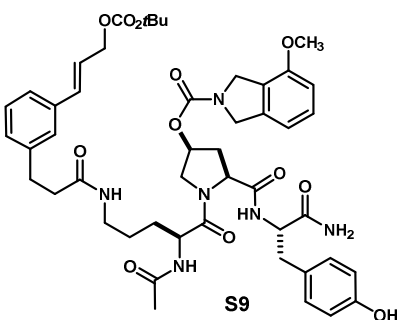
F2 - Processing parameters
SI 4096
SF 600.1300066 MHz
WDW QSINE
SSB 0
LB 0 Hz
GB 0
FC 1.40

F1 - Processing parameters
SI 4096
MC2 QF
SF 150.9029168 MHz
WDW
SSB 2
LB 0 Hz
GB 0



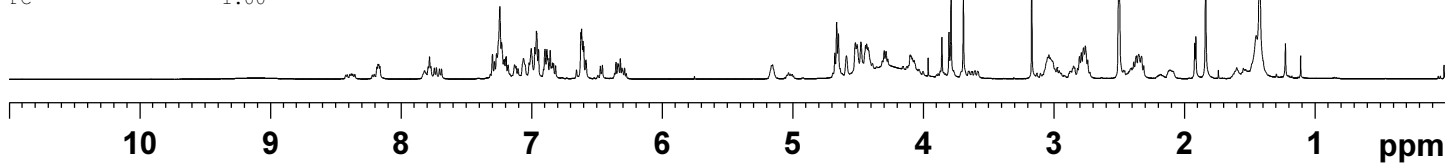
Current Data Parameters
 NAME TR4-46
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20121001
 Time_ 20.20
 INSTRUM av500
 PROBHD 5 mm DCH 13C-1
 PULPROG zg30
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2768500 sec
 RG 28.6
 DW 50.000 usec
 DE 10.00 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1

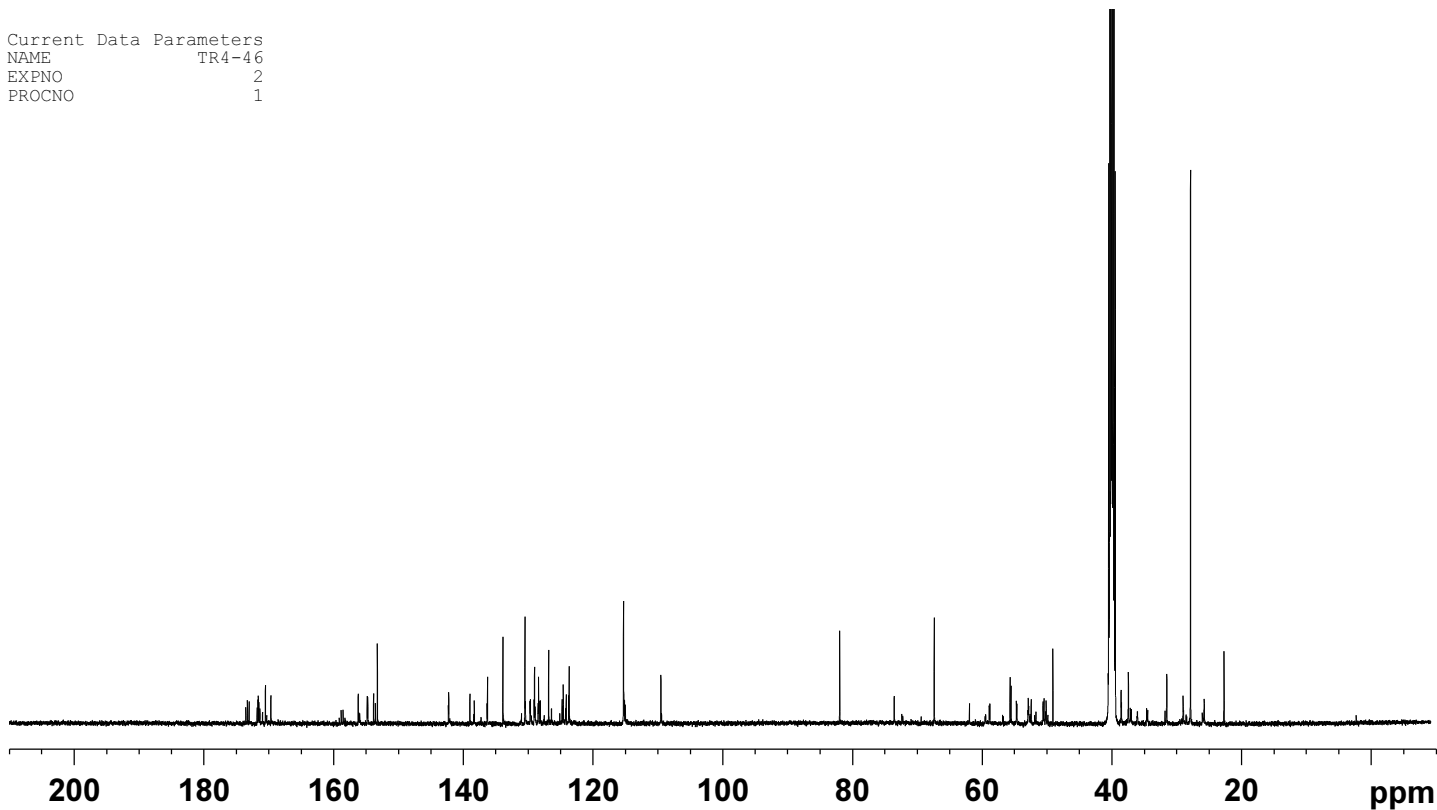


===== CHANNEL f1 =====
 NUC1 1H
 P1 10.00 usec
 PLW1 13.50000000 W
 SFO1 500.1330008 MHz

F2 - Processing parameters
 SI 65536
 SF 500.1300054 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

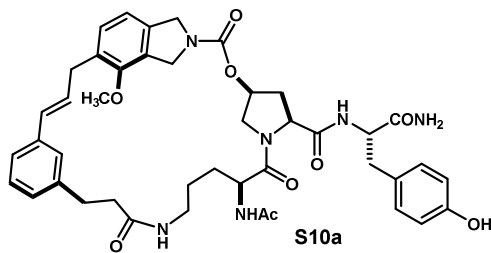


Current Data Parameters
 NAME TR4-46
 EXPNO 2
 PROCNO 1



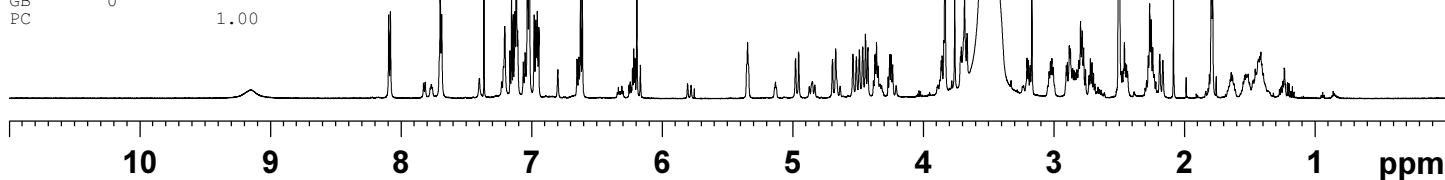
Current Data Parameters
NAME TR3-242A
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120701
Time_ 17.52
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG zg
TD 65536
SOLVENT DMSO
NS 16
DS 0
SWH 12376.237 Hz
FIDRES 0.188846 Hz
AQ 2.6477044 sec
RG 40.3
DW 40.400 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1



===== CHANNEL f1 =====
NUC1 1H
P1 9.81 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1336008 MHz

F2 - Processing parameters
SI 65536
SF 600.1300070 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00



Current Data Parameters
NAME TR3-242A
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120701
Time_ 17.56
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygmph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 40.3
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
DO 0.00008031 sec
D1 1.50000000 sec
D13 0.00004000 sec
D16 0.00020000 sec
INO 0.00018560 sec

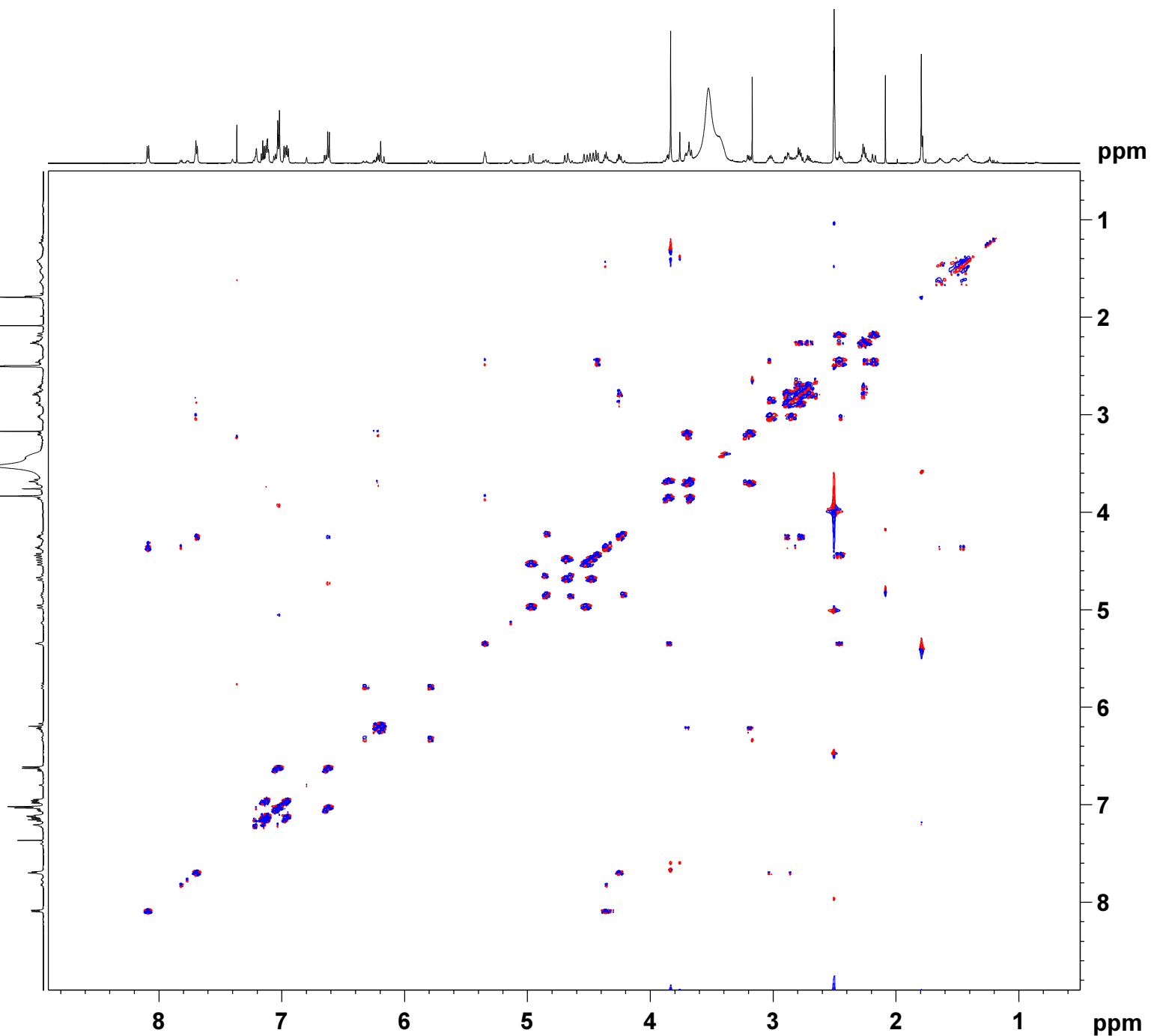
===== CHANNEL f1 =====
NUC1 1H
P1 9.81 usec
P2 19.62 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0
GPX2 0
GPY1 0
GPY2 0
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.1327 MHz
FIDRES 10.523297 Hz
SW 8.978 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300060 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300057 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-242A
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters

Date_ 20120701
Time 18.27
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG dipsi2etgpsi
TD 2048
SOLVENT DMSO
NS 8
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 128
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00000300 sec
D1 1.50000000 sec
D9 0.06000000 sec
D11 0.03000000 sec
D16 0.00020000 sec
D20 0.00001000 sec
D21 0.00001000 sec
IN0 0.00018560 sec
L1 14

===== CHANNEL f1 =====

NUC1 1H
P1 9.81 usec
P2 19.62 usec
P6 40.00 usec
PL1 -2.00 dB
PL10 10.21 dB
PL1W 39.81071854 W
PL10W 2.39331579 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====

GPAM1 SINE.100
GPAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 30.00 %
GPZ2 30.00 %
P16 1000.00 usec

F1 - Acquisition parameters

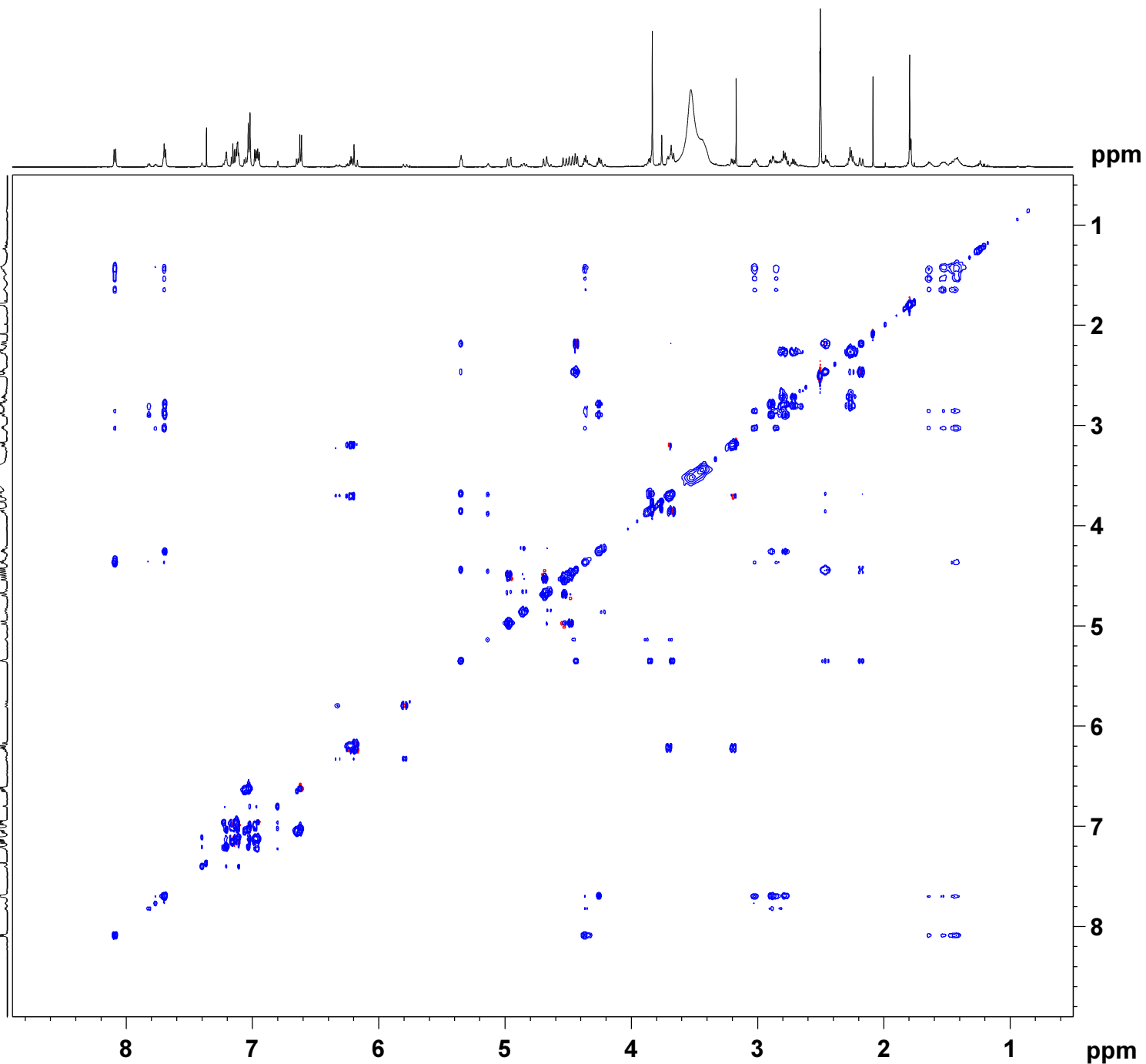
TD 256
SFO1 600.1327 MHz
FIDRES 21.046606 Hz
SW 8.978 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters

SI 4096
SF 600.1300046 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters

SI 4096
MC2 echo-antiecho
SF 600.1300037 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-242A
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120701
Time 19.29
INSTRUM av600
PROBHD 5 mm TB15
PULPROG hsqcetgpsisp
TD 2048
SOLVENT DMSO
NS 16
DS 16
SWH 6009.615 Hz
FIDRES 2.934382 Hz
AQ 0.1704436 sec
RG 18390.4
DW 83.200 usec
DE 6.00 usec
TE 298.0 K
CNST2 145.0000000
D0 0.00000300 sec
D1 1.00000000 sec
D4 0.00172414 sec
D11 0.03000000 sec
D16 0.00020000 sec
D24 0.00086200 sec
IN0 0.00002070 sec
ZGPTNS

===== CHANNEL f1 =====
NUC1 1H
P1 9.81 usec
P2 19.62 usec
P28 1000.00 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

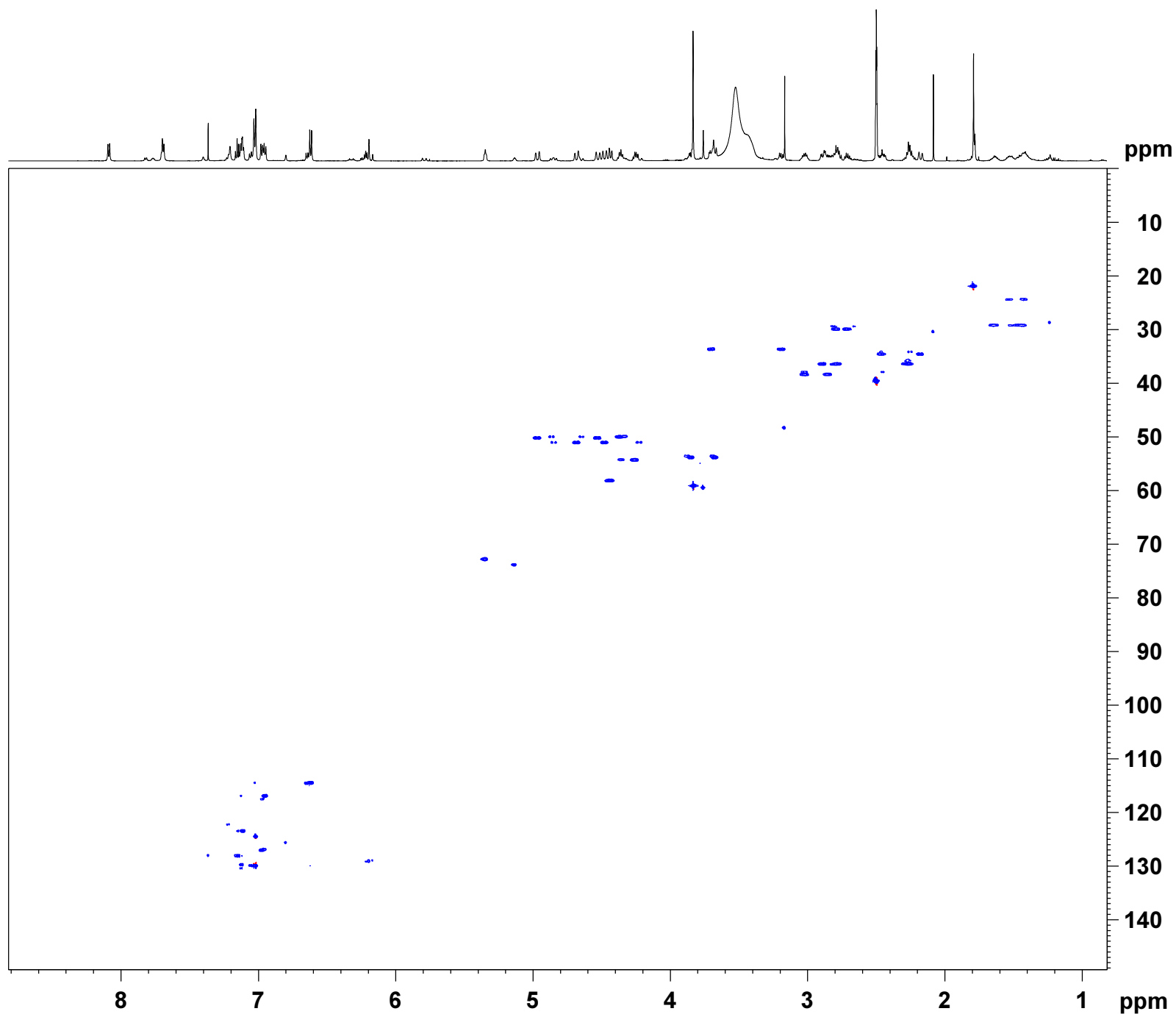
===== CHANNEL f2 =====
CPDPRG2 garp
NUC2 13C
P3 18.50 usec
P4 37.00 usec
P14 1000.00 usec
PCPD2 65.00 usec
PL0 120.00 dB
PL2 -3.00 dB
PL12 7.91 dB
PL0W 0 W
PL2W 150.35617065 W
PL12W 12.19330025 W
SFO2 150.9133722 MHz
SP3 4.59 dB
SPNAM3 Crp80,0.5,20.1
SFOAL3 0.500
SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 80.00 %
GPZ2 20.10 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 150.9134 MHz
FIDRES 47.160427 Hz
SW 160.000 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters
SI 4096
SF 600.1300048 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 4096
MC2 echo-antiecho
SF 150.9029207 MHz
WDW
SSB 2
LB 0 Hz
GB 0



```

Current Data Parameters
NAME      TR3-242A
EXPNO     6
PROCNO    1

F2 - Acquisition Parameters
Date_     20120701
Time      22.14
INSTRUM   av600
PROBHD    5 mm TBI5
PULPROG   hmbcgp12ndqf
TD         2048
SOLVENT   DMSO
NS         56
DS         24
SWH        6009.615 Hz
FIDRES     2.934382 Hz
AQ         0.1704436 sec
RG         26008
DW         83.200 usec
DE         6.00 usec
TE         298.0 K
CNST6     125.0000000
CNST7     165.0000000
CNST13    8.0000000
D0         0.00000300 sec
D1         1.20000005 sec
D6         0.06250000 sec
D16        0.00020000 sec
IN0        0.00001745 sec

===== CHANNEL f1 =====
NUC1       1H
P1         9.81 usec
P2         19.62 usec
PL1        -2.00 dB
PL1W       39.81071854 W
SFO1       600.1327006 MHz

===== CHANNEL f2 =====
NUC2       13C
P3         18.50 usec
PL2        -3.00 dB
PL2W       150.35617065 W
SFO2       150.9156357 MHz

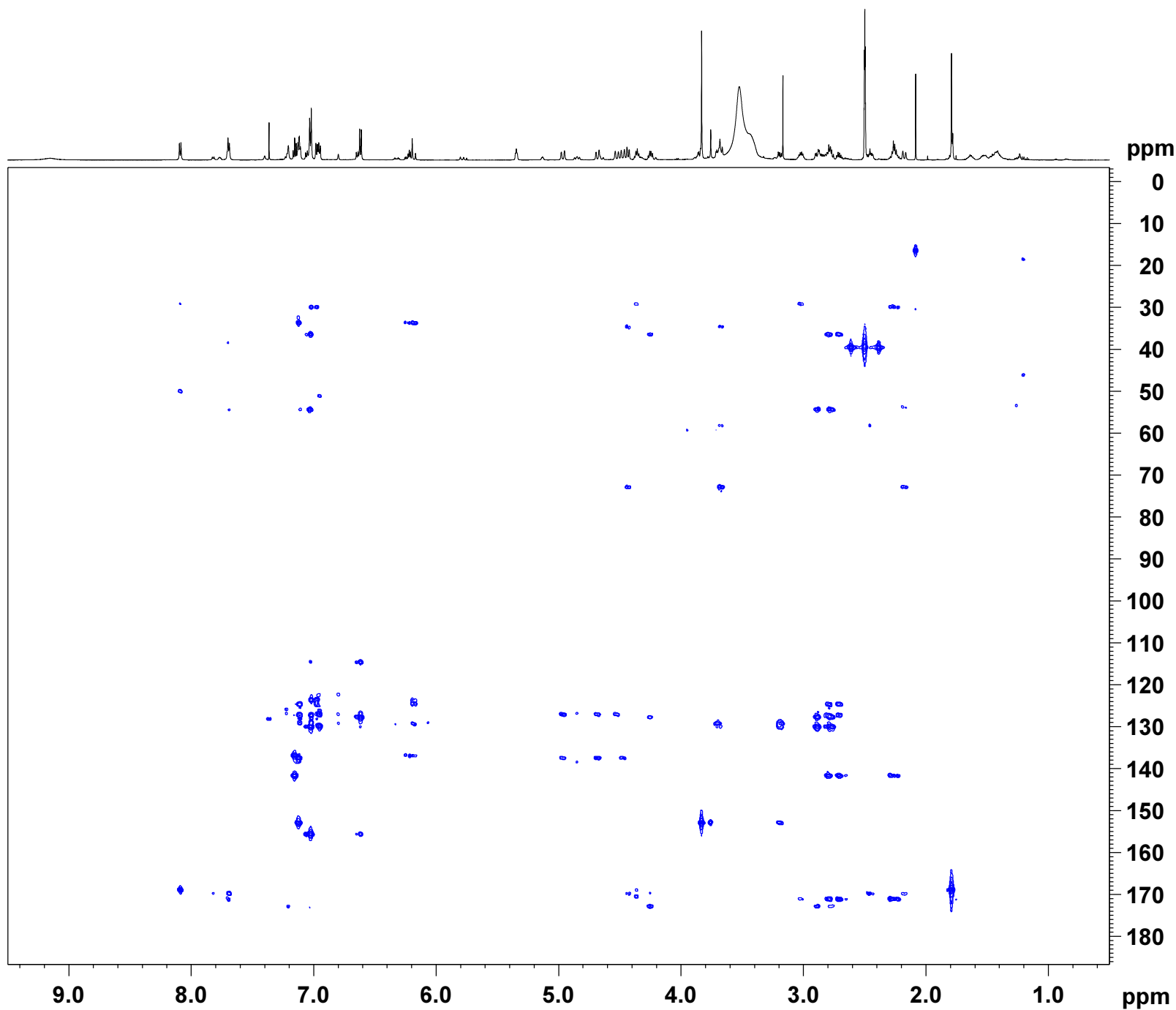
===== GRADIENT CHANNEL =====
GPNAM1     SINE.100
GPNAM2     SINE.100
GPNAM3     SINE.100
GPNAM4     SINE.100
GPNAM5     SINE.100
GPNAM6     SINE.100
GPX1       0 %
GPX2       0 %
GPX3       0 %
GPX4       0 %
GPX5       0 %
GPX6       0 %
GPY1       0 %
GPY2       0 %
GPY3       0 %
GPY4       0 %
GPY5       0 %
GPY6       0 %
GPZ1       50.00 %
GPZ2       30.00 %
GPZ3       40.10 %
GPZ4       15.00 %
GPZ5       -10.00 %
GPZ6       -5.00 %
P16        1000.00 usec

F1 - Acquisition parameters
TD         256
SFO1       150.9156 MHz
FIDRES     112.007698 Hz
SW         190.000 ppm
FnMODE     QF

F2 - Processing parameters
SI         4096
SF         600.1300060 MHz
WDW        QSINE
SSB        2
LB         0 Hz
GB         0
PC         1.40

F1 - Processing parameters
SI         4096
MC2        QF
SF         150.9029059 MHz
WDW        2
SSB        0 Hz
LB         0
GB         0

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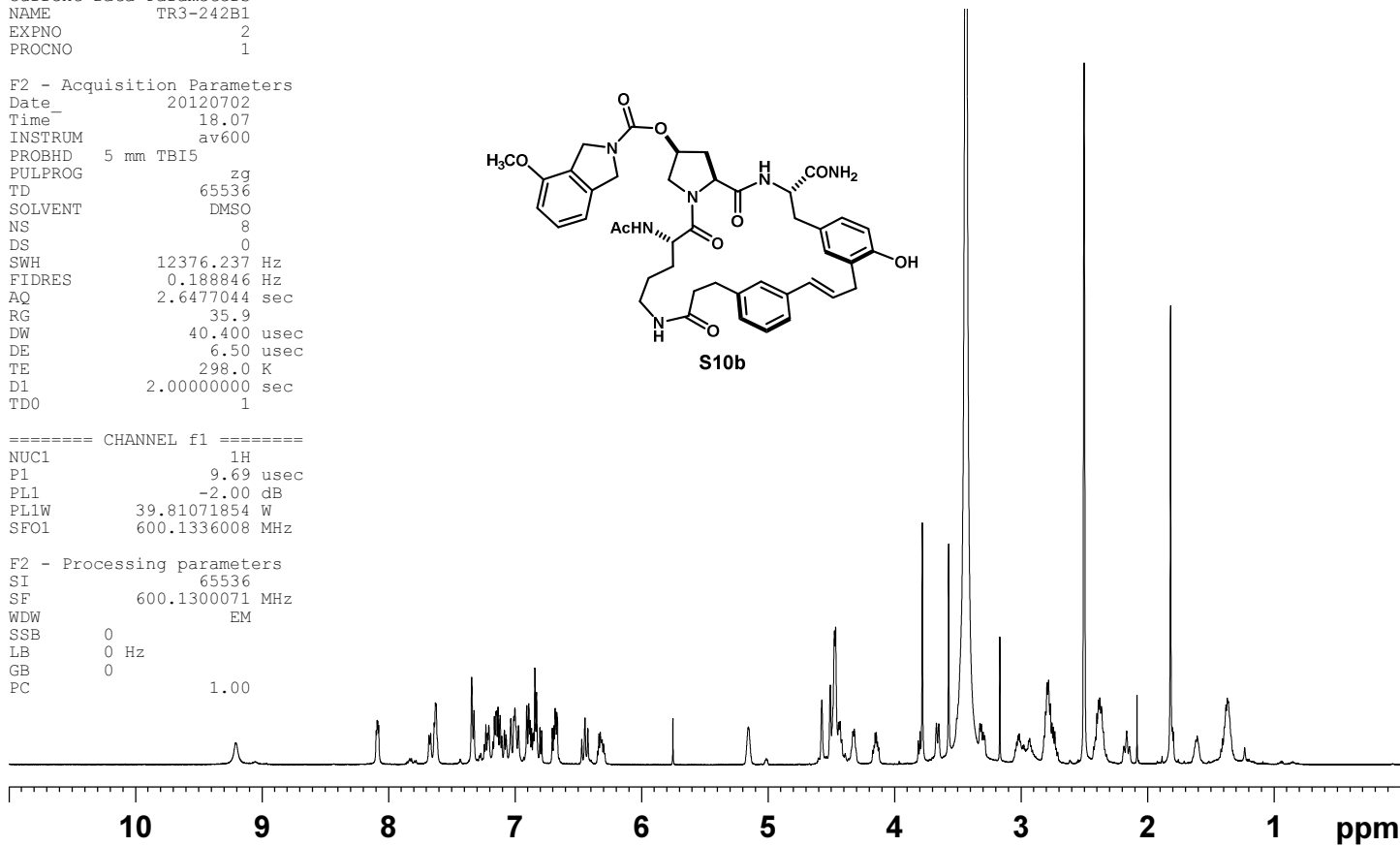
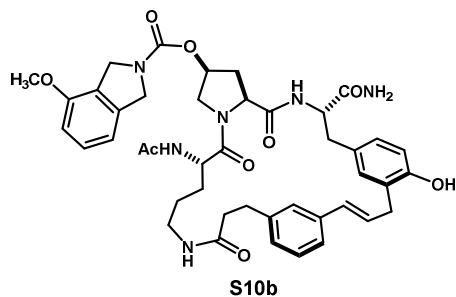


Current Data Parameters
 NAME TR3-242B1
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120702
 Time_ 18.07
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG zg
 TD 65536
 SOLVENT DMSO
 NS 8
 DS 0
 SWH 12376.237 Hz
 FIDRES 0.188846 Hz
 AQ 2.6477044 sec
 RG 35.9
 DW 40.400 usec
 DE 6.50 usec
 TE 298.0 K
 D1 2.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 1H
 P1 9.69 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1336008 MHz

F2 - Processing parameters
 SI 65536
 SF 600.1300071 MHz
 WDW EM
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME TR3-242B1
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120702
Time 18.13
INSTRUM av600
PROBHD 5 mm TB15
PULPROG cosygpmfph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 35.9
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00008046 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00018560 sec

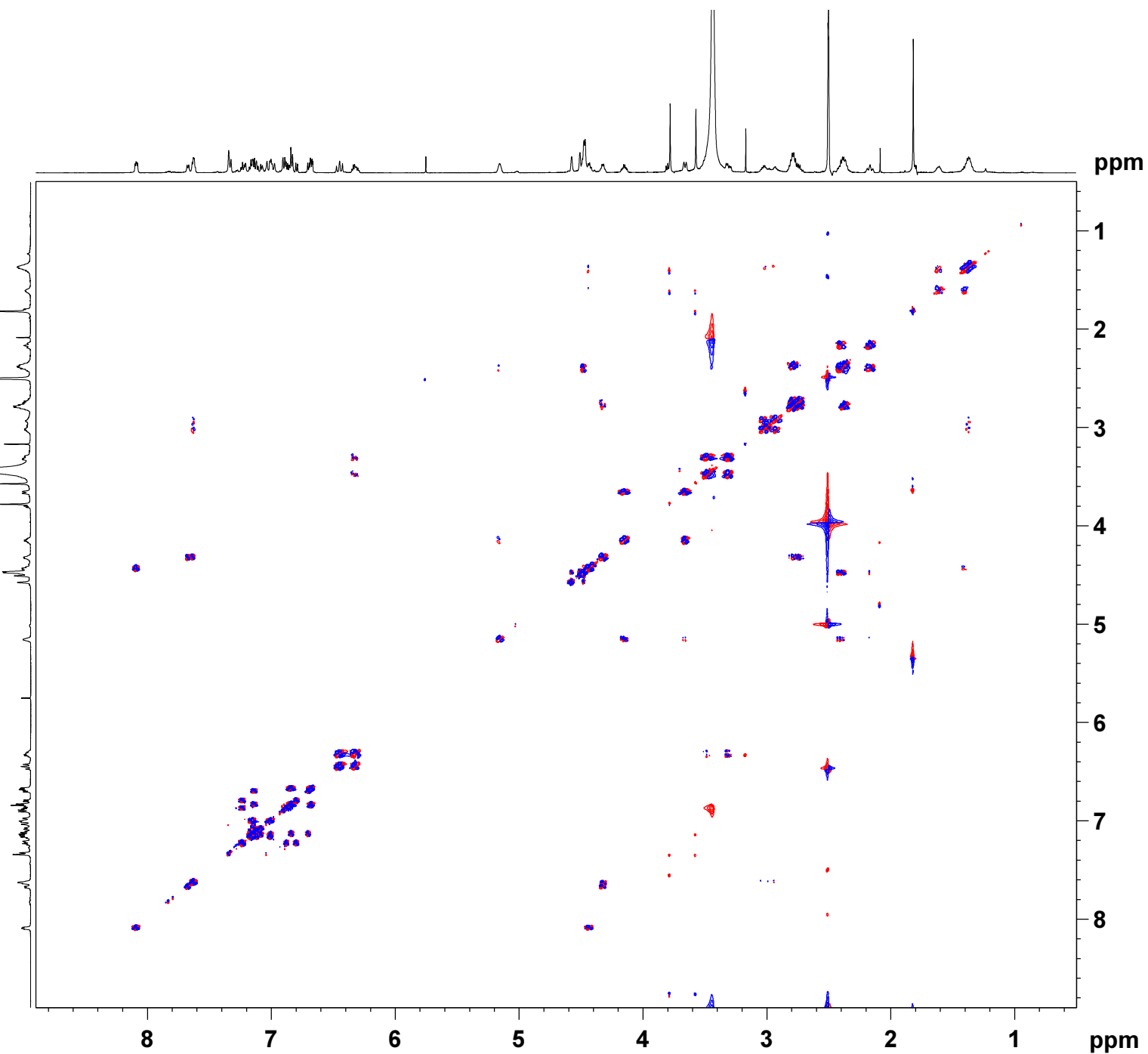
===== CHANNEL f1 =====
NUC1 1H
P1 9.69 usec
P2 19.38 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.1327 MHz
FIDRES 10.523297 Hz
SW 8.978 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300036 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300090 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-242B1
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters

Date_ 20120702
Time 18.44
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG dipsi2etgpsi
TD 2048
SOLVENT DMSO
NS 8
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 128
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00000300 sec
D1 1.50000000 sec
D9 0.06000000 sec
D11 0.03000000 sec
D16 0.00020000 sec
D20 0.00001000 sec
D21 0.00001000 sec
IN0 0.00018560 sec
LI 14

===== CHANNEL f1 =====

NUC1 ¹H
P1 9.69 usec
P2 19.38 usec
P6 40.00 usec
PL1 -2.00 dB
PL10 10.31 dB
PL1W 39.81071854 W
PL10W 2.33883691 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====

GPNAME1 SINE.100
GPNAME2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 30.00 %
GPZ2 30.00 %
P16 1000.00 usec

F1 - Acquisition parameters

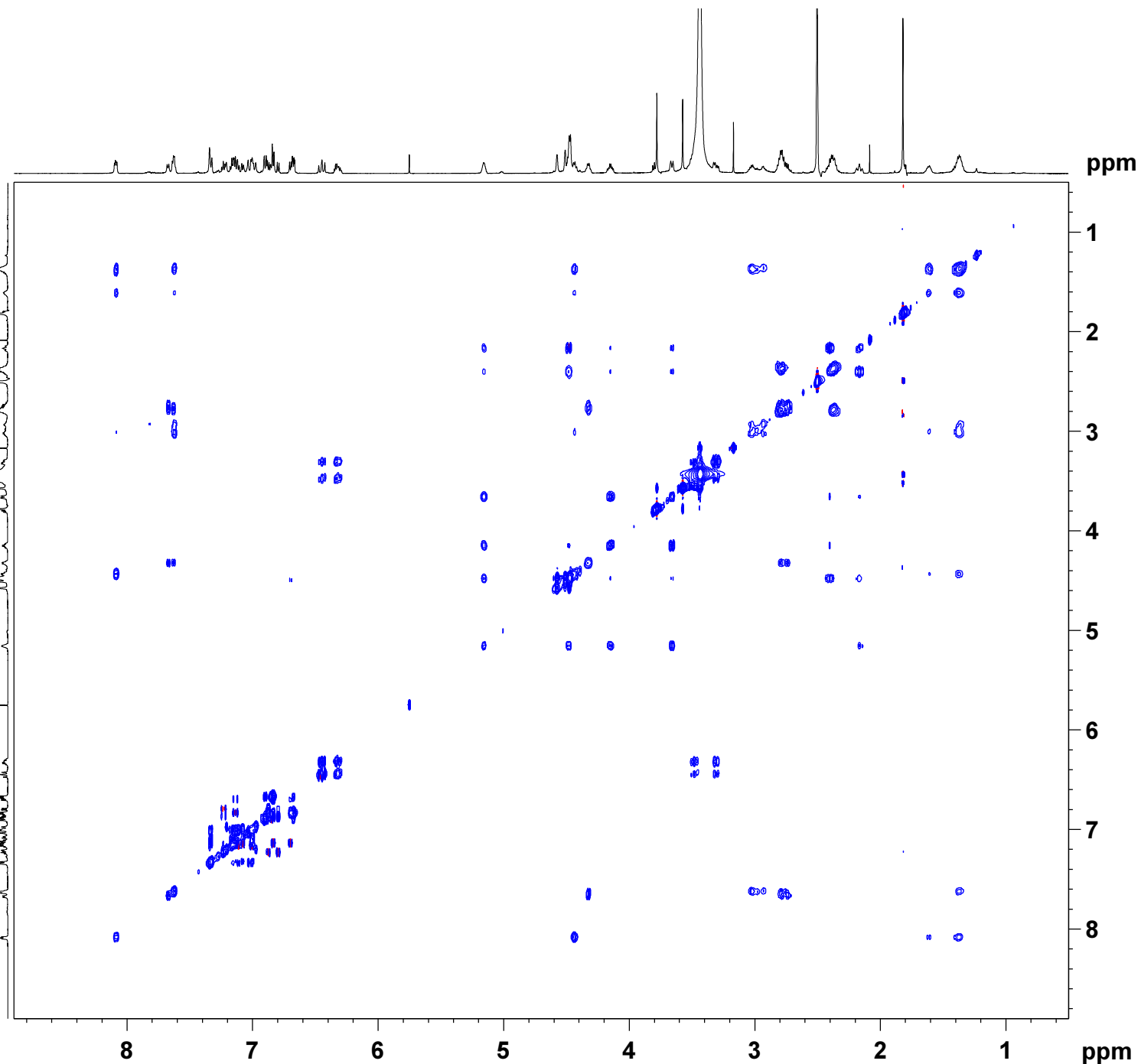
TD 256
SFO1 600.1327 MHz
FIDRES 21.046606 Hz
SW 8.978 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters

SI 4096
SF 600.1300070 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters

SI 4096
MC2 echo-antiecho
SF 600.1300075 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
 NAME TR3-242B1
 EXPNO 5
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120702
 Time_ 19.46
 INSTRUM av600
 PROBHD 5 mm TBI5
 PULPROG hsqcetgpsisp
 TD 2048
 SOLVENT DMSO
 NS 16
 DS 16
 SWH 6009.615 Hz
 FIDRES 2.934382 Hz
 AQ 0.1704436 sec
 RG 18390.4
 DW 83.200 usec
 DE 6.00 usec
 TE 298.0 K
 CNST2 145.0000000
 D0 0.00000300 sec
 D1 1.00000000 sec
 D4 0.00172414 sec
 D11 0.03000000 sec
 D16 0.00020000 sec
 D24 0.00086200 sec
 INU 0.00002070 sec
 ZGPTNS

===== CHANNEL f1 =====
 NUC1 1H
 P1 9.69 usec
 P2 19.38 usec
 P28 1000.00 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1327006 MHz

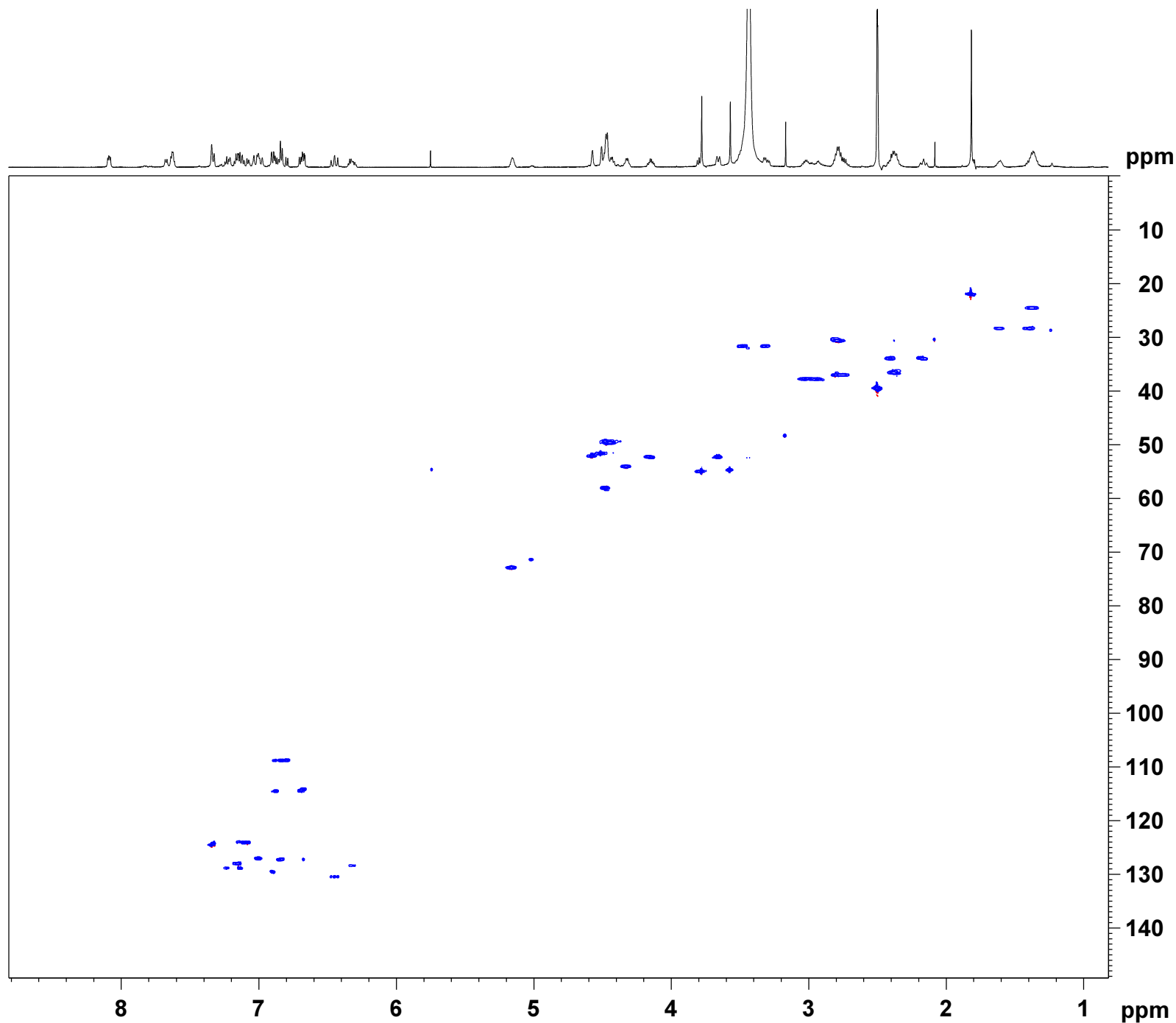
===== CHANNEL f2 =====
 CPDPRG2 garp
 NUC2 13C
 P3 18.50 usec
 P4 37.00 usec
 P14 1000.00 usec
 PCPD2 65.00 usec
 PL0 120.00 dB
 PL2 -3.00 dB
 PL12 7.91 dB
 PL0W 0 W
 PL2W 150.35617065 W
 PL12W 12.19330025 W
 SFO2 150.9133722 MHz
 SP3 4.59 dB
 SPNAM3 Crp80,0.5,20.1
 SPOAL3 0.500
 SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
 GPNAM1 SINE.100
 GPNAM2 SINE.100
 GPX1 0 %
 GPX2 0 %
 GPY1 0 %
 GPY2 0 %
 GPZ1 80.00 %
 GPZ2 20.10 %
 P16 1000.00 usec

F1 - Acquisition parameters
 TD 512
 SFO1 150.9134 MHz
 FIDRES 47.160427 Hz
 SW 160.000 ppm
 FnMODE Echo-Antiecho

F2 - Processing parameters
 SI 4096
 SF 600.1300053 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

F1 - Processing parameters
 SI 4096
 MC2 echo-antiecho
 SF 150.9029188 MHz
 WDW
 SSB 2
 LB 0 Hz
 GB 0



Current Data Parameters
 NAME TR3-242B1
 EXPNO 6
 PROCNO 1

F2 - Acquisition Parameters
 Date 20120702
 Time 22.30
 INSTRUM av600
 PROBHD 5 mm TB15
 PULPROG hmbcgp12ndqf
 TD 2048
 SOLVENT DMSO
 NS 24
 DS 24
 SWH 6009.615 Hz
 FIDRES 2.934382 Hz
 AQ 0.1704436 sec
 RG 26008
 DW 83.200 usec
 DE 6.00 usec
 TE 298.0 K
 CNST6 125.0000000
 CNST7 165.0000000
 CNST13 8.0000000
 D0 0.00000300 sec
 D1 1.20000005 sec
 D6 0.06250000 sec
 D16 0.00020000 sec
 IN0 0.00001745 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 9.69 usec
 P2 19.38 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1327006 MHz

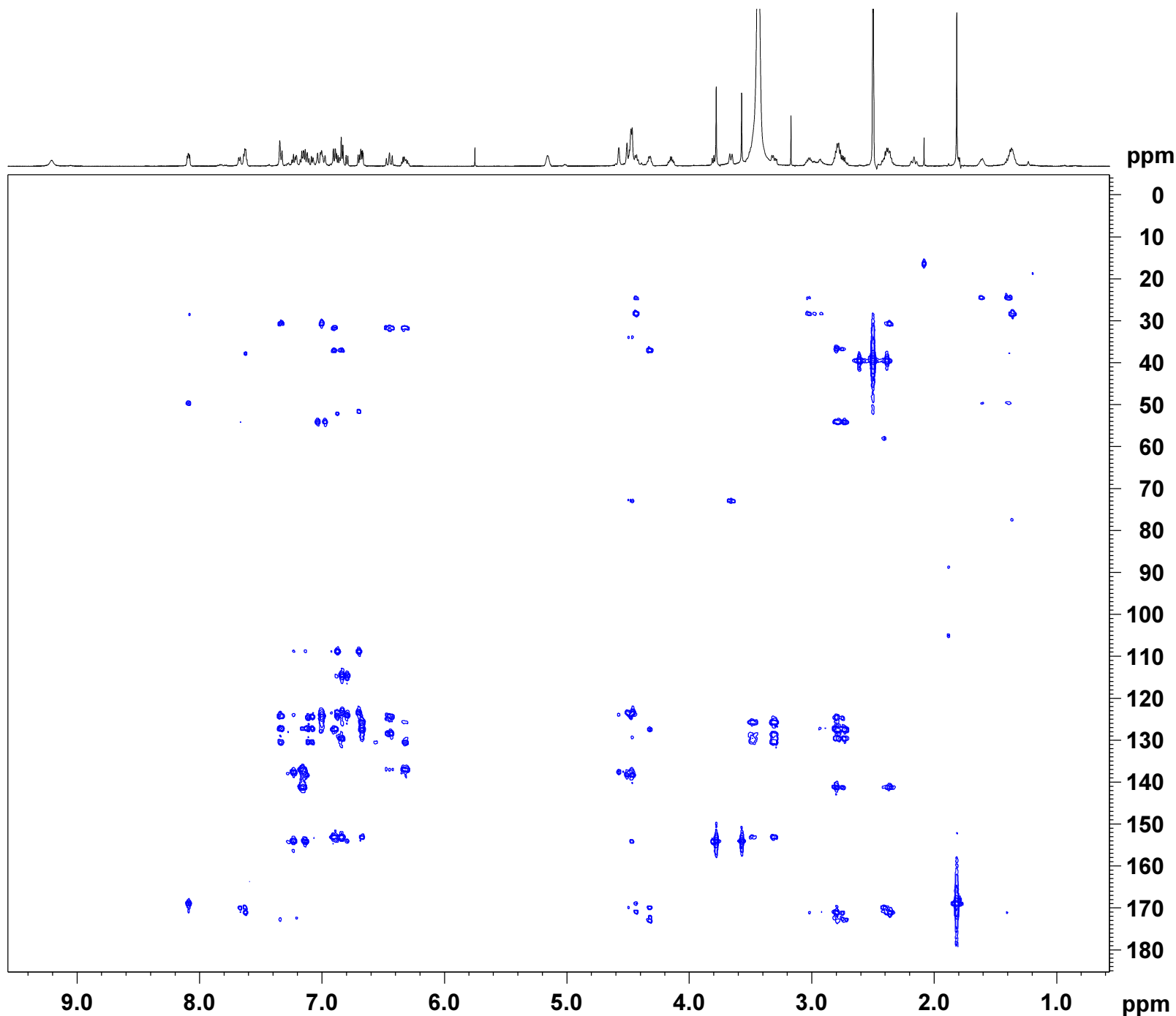
===== CHANNEL f2 =====
 NUC2 13C
 P3 18.50 usec
 PL2 -3.00 dB
 PL2W 150.35617065 W
 SFO2 150.9156357 MHz

===== GRADIENT CHANNEL =====
 GPNAM1 SINE.100
 GPNAM2 SINE.100
 GPNAM3 SINE.100
 GPNAM4 SINE.100
 GPNAM5 SINE.100
 GPNAM6 SINE.100
 GPX1 0 %
 GPX2 0 %
 GPX3 0 %
 GPX4 0 %
 GPX5 0 %
 GPX6 0 %
 GPY1 0 %
 GPY2 0 %
 GPY3 0 %
 GPY4 0 %
 GPY5 0 %
 GPY6 0 %
 GPZ1 50.00 %
 GPZ2 30.00 %
 GPZ3 40.10 %
 GPZ4 15.00 %
 GPZ5 -10.00 %
 GPZ6 -5.00 %
 P16 1000.00 usec

F1 - Acquisition parameters
 TD 256
 SFO1 150.9156 MHz
 FIDRES 112.007698 Hz
 SW 190.000 ppm
 FhMODE QF

F2 - Processing parameters
 SI 4096
 SF 600.1300065 MHz
 WDW QSINE
 SSB 2
 LB 0 Hz
 GB 0
 PC 1.40

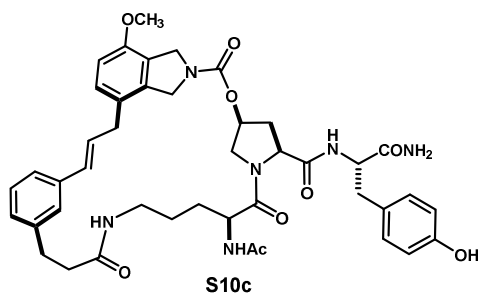
F1 - Processing parameters
 SI 4096
 MC2 QF
 SF 150.9029086 MHz
 WDW
 SSB
 LB 0 Hz
 GB 0



```

F2 - Acquisition Parameters
Date_          20120703
Time_          18.36
INSTRUM        av600
PROBHD         5 mm TBI5
PULPROG        zg
TD             65536
SOLVENT        DMSO
NS             8
DS             0
SWH           12376.237 Hz
FIDRES        0.188846 Hz
AQ            2.6477044 sec
RG            35.9
DW            40.400 usec
DE            6.50 usec
TE            298.0 K
D1            2.00000000 sec
TD0           1

```

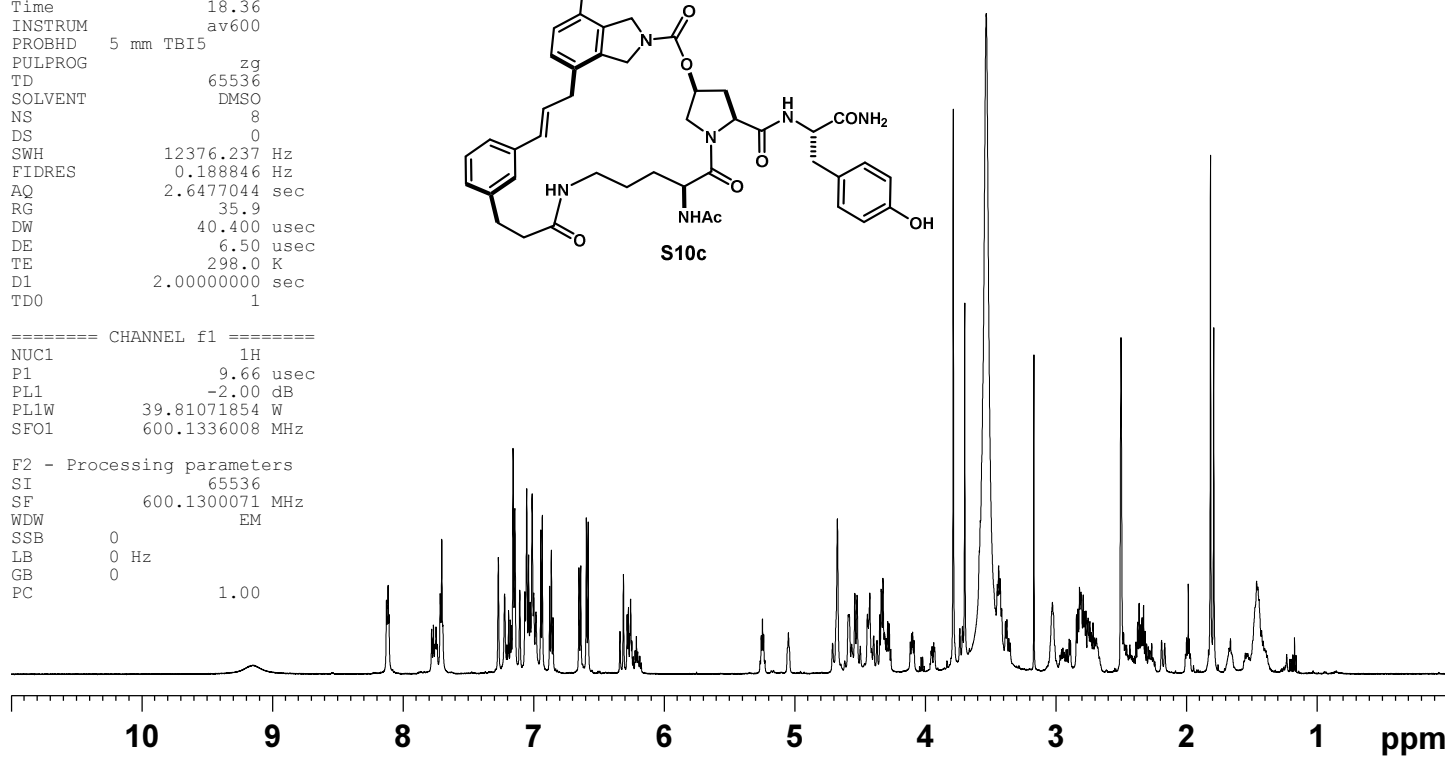


```
===== CHANNEL f1 =====
NUC1                1H
P1                   9.66 usec
PL1                  -2.00 dB
PL1W                 39.81071854 W
SFO1                 600.1336008 MHz
```

```

F2 - Processing parameters
SI                      65536
SF                      600.1300071 MHz
WDW                      EM
SSB                      0
LB                      0 Hz
GB                      0
PC                      1.00

```



Current Data Parameters
NAME TR3-242B2
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120703
Time_ 18.43
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG cosygmph
TD 2048
SOLVENT DMSO
NS 2
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 35.9
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
DO 0.00008050 sec
D1 1.50000000 sec
D13 0.00000400 sec
D16 0.00020000 sec
IN0 0.00018560 sec

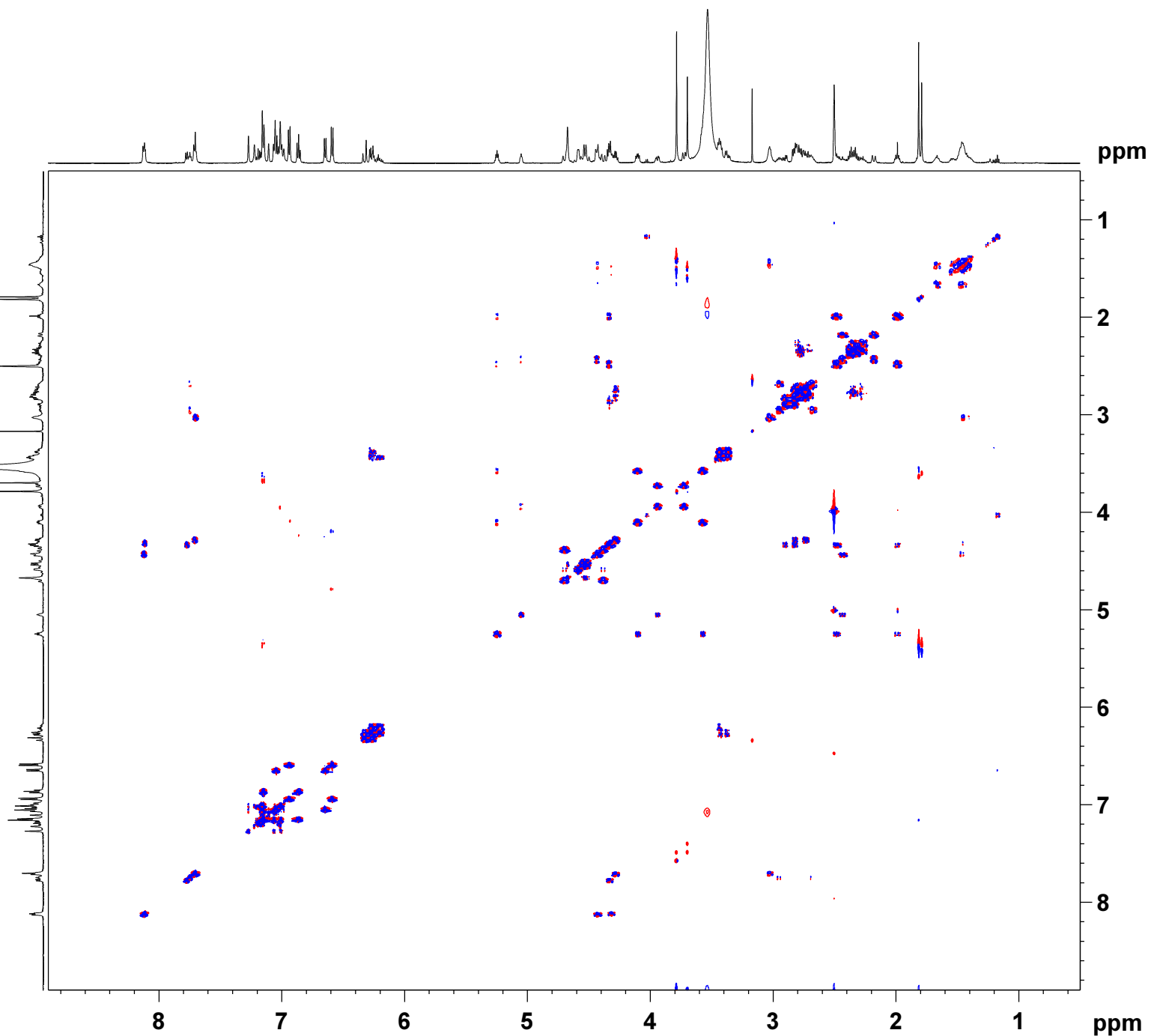
===== CHANNEL f1 =====
NUC1 1H
P1 9.66 usec
P2 19.32 usec
PL1 -2.00 dB
PL1W 39.81071854 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPX1 0
GPX2 0
GPY1 0
GPY2 0
GPZ1 10.00 %
GPZ2 20.00 %
P16 1000.00 usec

F1 - Acquisition parameters
TD 512
SFO1 600.1327 MHz
FIDRES 10.523297 Hz
SW 8.978 ppm
FnMODE States-TPPI

F2 - Processing parameters
SI 4096
SF 600.1300061 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters
SI 4096
MC2 States-TPPI
SF 600.1300055 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
NAME TR3-242B2
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters

Date_ 20120703
Time 19.14
INSTRUM av600
PROBHD 5 mm TBI5
PULPROG dipsi2etgpsi
TD 2048
SOLVENT DMSO
NS 8
DS 16
SWH 5387.931 Hz
FIDRES 2.630826 Hz
AQ 0.1901044 sec
RG 128
DW 92.800 usec
DE 6.50 usec
TE 298.0 K
D0 0.00000300 sec
D1 1.50000000 sec
D9 0.06000000 sec
D11 0.03000000 sec
D16 0.00020000 sec
D20 0.00001000 sec
D21 0.00001000 sec
IN0 0.00018560 sec
L1 14

===== CHANNEL f1 =====

NUC1 1H
P1 9.66 usec
P2 19.32 usec
P6 40.00 usec
PL1 -2.00 dB
PL10 10.34 dB
PL1W 39.81071854 W
PL10W 2.32273674 W
SFO1 600.1327006 MHz

===== GRADIENT CHANNEL =====

GPAM1 SINE.100
GPAM2 SINE.100
GPX1 0 %
GPX2 0 %
GPY1 0 %
GPY2 0 %
GPZ1 30.00 %
GPZ2 30.00 %
P16 1000.00 usec

F1 - Acquisition parameters

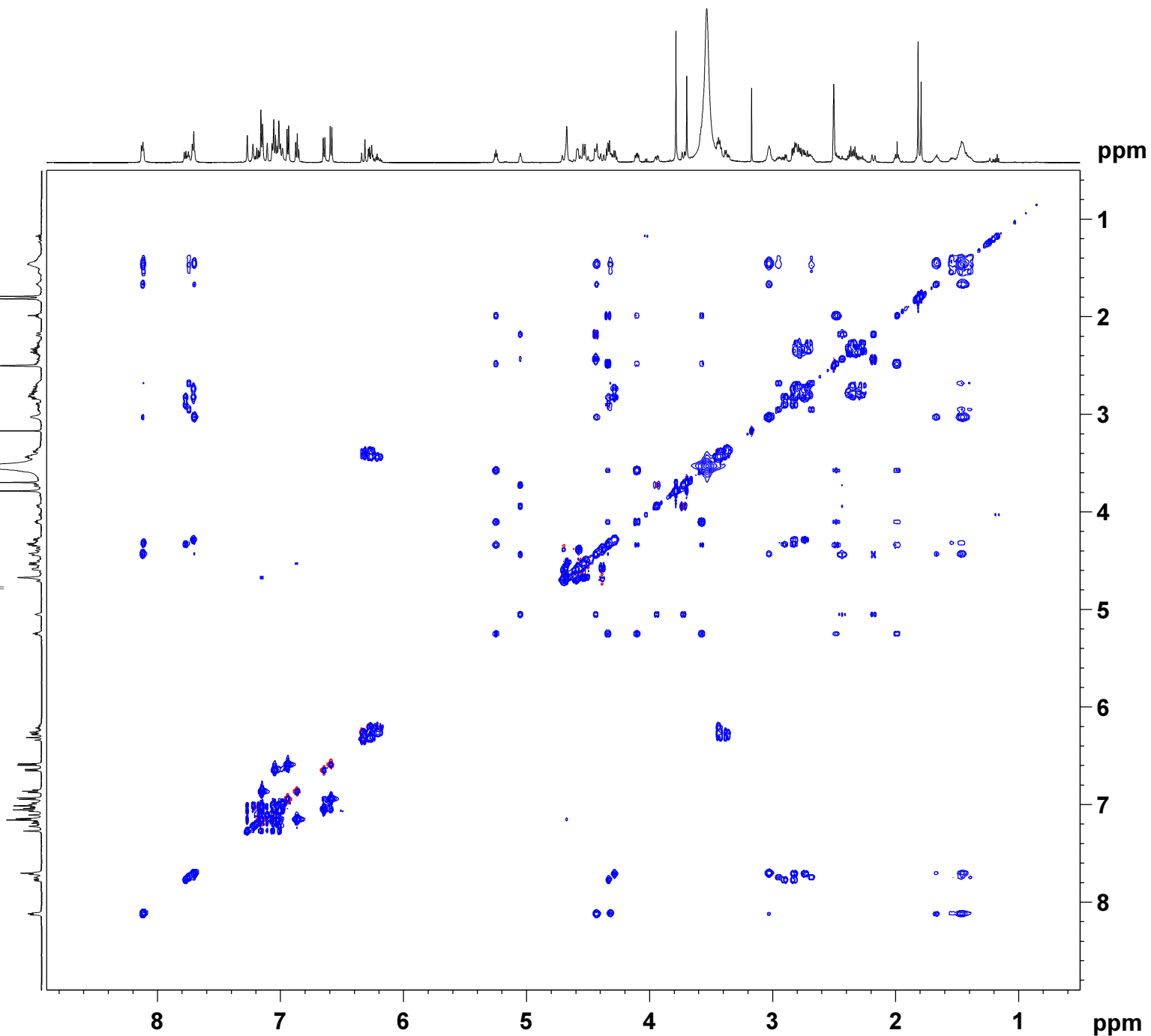
TD 256
SFO1 600.1327 MHz
FIDRES 21.046606 Hz
SW 8.978 ppm
FnMODE Echo-Antiecho

F2 - Processing parameters

SI 4096
SF 600.1300065 MHz
WDW QSINE
SSB 2
LB 0 Hz
GB 0
PC 1.00

F1 - Processing parameters

SI 4096
MC2 echo-antiecho
SF 600.1300070 MHz
WDW
SSB 2
LB 0 Hz
GB 0



Current Data Parameters
 NAME TR3-242B2
 EXPNO 5
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120703
 Time 20.16
 INSTRUM av600
 PROBHD 5 mm TB15
 PULPROG hsqcetgpgisip
 TD 2048
 SOLVENT DMSO
 NS 8
 DS 16
 SWH 6009.615 Hz
 FIDRES 2.934382 Hz
 AQ 0.1704436 sec
 RG 18390.4
 DW 83.200 usec
 DE 6.00 usec
 TE 298.1 K
 CNST2 145.0000000
 D0 0.00000300 sec
 D1 1.00000000 sec
 D4 0.00172414 sec
 D11 0.03000000 sec
 D16 0.00020000 sec
 D24 0.00086200 sec
 IN0 0.00002070 sec
 ZGPTNS

===== CHANNEL f1 =====
 NUC1 1H
 P1 9.66 usec
 P2 19.32 usec
 P28 1000.00 usec
 PL1 -2.00 dB
 PL1W 39.81071854 W
 SFO1 600.1327006 MHz

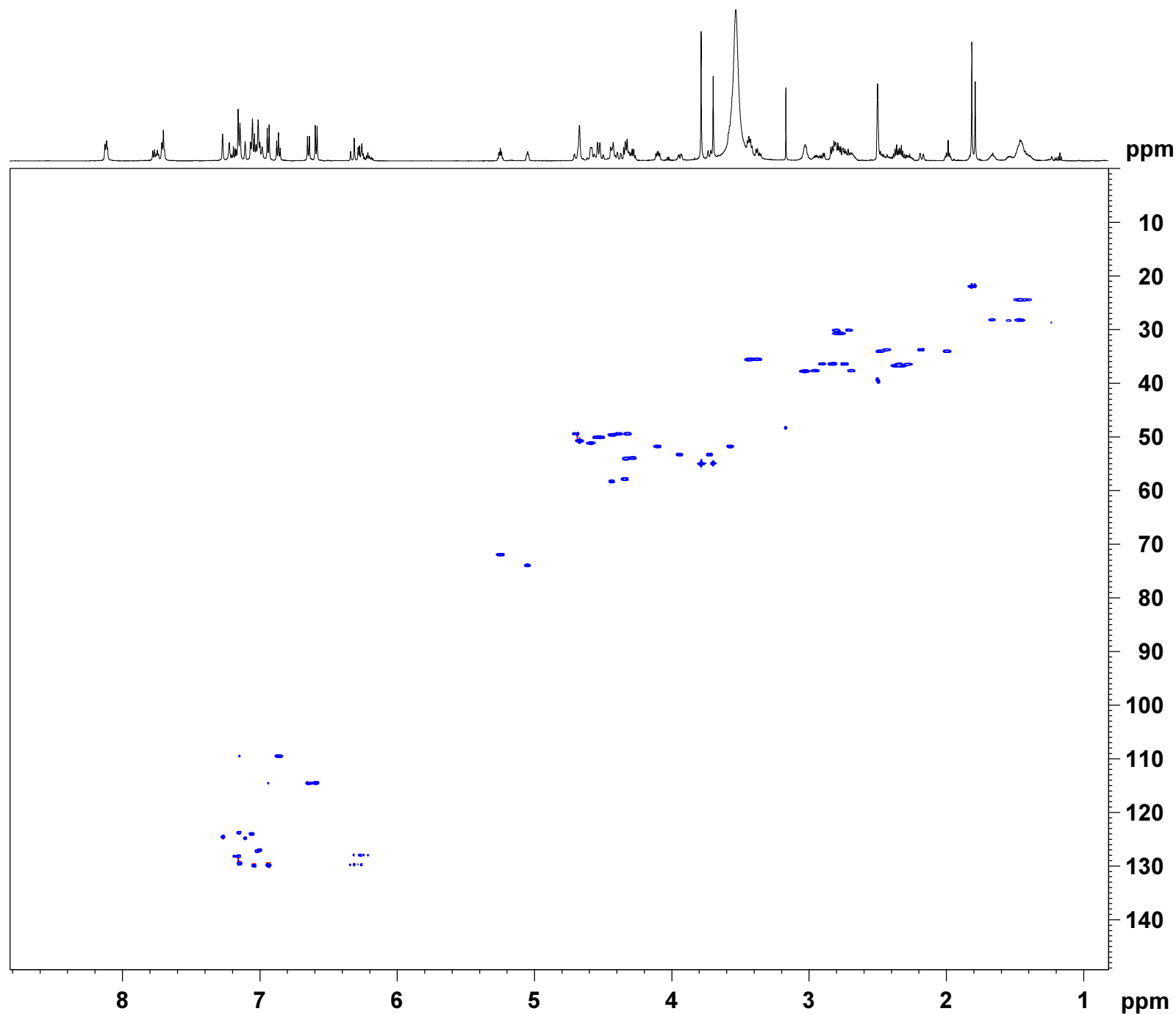
===== CHANNEL f2 =====
 CPDPRG2 garp
 NUC2 13C
 P3 18.50 usec
 P4 37.00 usec
 P14 1000.00 usec
 PCPD2 65.00 usec
 PL0 120.00 dB
 PL2 -3.00 dB
 PL12 7.91 dB
 PL0W 0 W
 PL2W 150.35617065 W
 PL12W 12.19330025 W
 SFO2 150.9133722 MHz
 SP3 4.59 dB
 SPNAM3 Crp80,0.5,20.1
 SPOAL3 0.500
 SPOFFS3 0 Hz

===== GRADIENT CHANNEL =====
 GPNAM1 SINE.100
 GPNAM2 SINE.100
 GPX1 0 %
 GPX2 0 %
 GPY1 0 %
 GPY2 0 %
 GPZ1 80.00 %
 GPZ2 20.10 %
 P16 1000.00 usec

F1 - Acquisition parameters
 TD 512
 SFO1 150.9134 MHz
 FIDRES 47.160427 Hz
 SW 160.000 ppm
 FhMODE Echo-Antiecho

F2 - Processing parameters
 SI 4096
 SF 600.1300067 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

F1 - Processing parameters
 SI 4096
 MC2 echo-antiecho
 SF 150.9029192 MHz
 WDW
 SSB 2
 LB 0 Hz
 GB 0



```

Current Data Parameters
NAME      TR3-242B2
EXPNO     6
PROCNO    1

F2 - Acquisition Parameters
Date_     20120703
Time      21.38
INSTRUM   av600
PROBHD    5 mm TB15
PULPROG   hmbcgp12ndqf
TD         2048
SOLVENT   DMSO
NS         24
DS         24
SWH        6009.615 Hz
FIDRES     2.934382 Hz
AQ         0.1704436 sec
RG         23170.5
DW         83.200 usec
DE         6.00 usec
TE         298.0 K
CNST6      125.0000000
CNST7      165.0000000
CNST13     8.0000000
D0         0.00000300 sec
D1         1.20000005 sec
D6         0.06250000 sec
D16        0.00020000 sec
IN0        0.00001745 sec

===== CHANNEL f1 =====
NUC1       1H
P1         9.66 usec
P2         19.32 usec
PL1        -2.00 dB
PL1W       39.81071854 W
SFO1       600.1327006 MHz

===== CHANNEL f2 =====
NUC2       13C
P3         18.50 usec
PL2        -3.00 dB
PL2W       150.35617065 W
SFO2       150.9156357 MHz

===== GRADIENT CHANNEL =====
GPNAM1     SINE.100
GPNAM2     SINE.100
GPNAM3     SINE.100
GPNAM4     SINE.100
GPNAM5     SINE.100
GPNAM6     SINE.100
GPX1       0 %
GPX2       0 %
GPX3       0 %
GPX4       0 %
GPX5       0 %
GPX6       0 %
GPY1       0 %
GPY2       0 %
GPY3       0 %
GPY4       0 %
GPY5       0 %
GPY6       0 %
GPZ1       50.00 %
GPZ2       30.00 %
GPZ3       40.10 %
GPZ4       15.00 %
GPZ5       -10.00 %
GPZ6       -5.00 %
P16        1000.00 usec

F1 - Acquisition parameters
TD         256
SFO1       150.9156 MHz
FIDRES     112.007698 Hz
SW         190.000 ppm
FnMODE     QF

F2 - Processing parameters
SI         4096
SF         600.1300058 MHz
WDW        QSINE
SSB        2
LB         0 Hz
GB         0
FC         1.40

F1 - Processing parameters
SI         4096
MC2        QF
SF         150.9028986 MHz
WDW        2
SSB        2
LB         0 Hz
GB         0

```

