**Synthesis of Novel Pyridine and Pyrimidine Thioglycoside Phosphoramidates for the Treatment of COVID-19 and Influenza A Viruses**

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s1

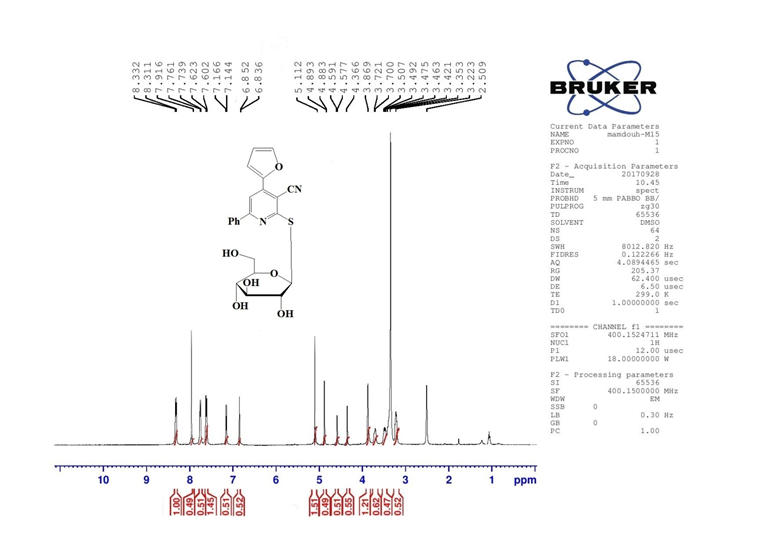


Figure s1: 1H-NMR spectrum of compound **4a**

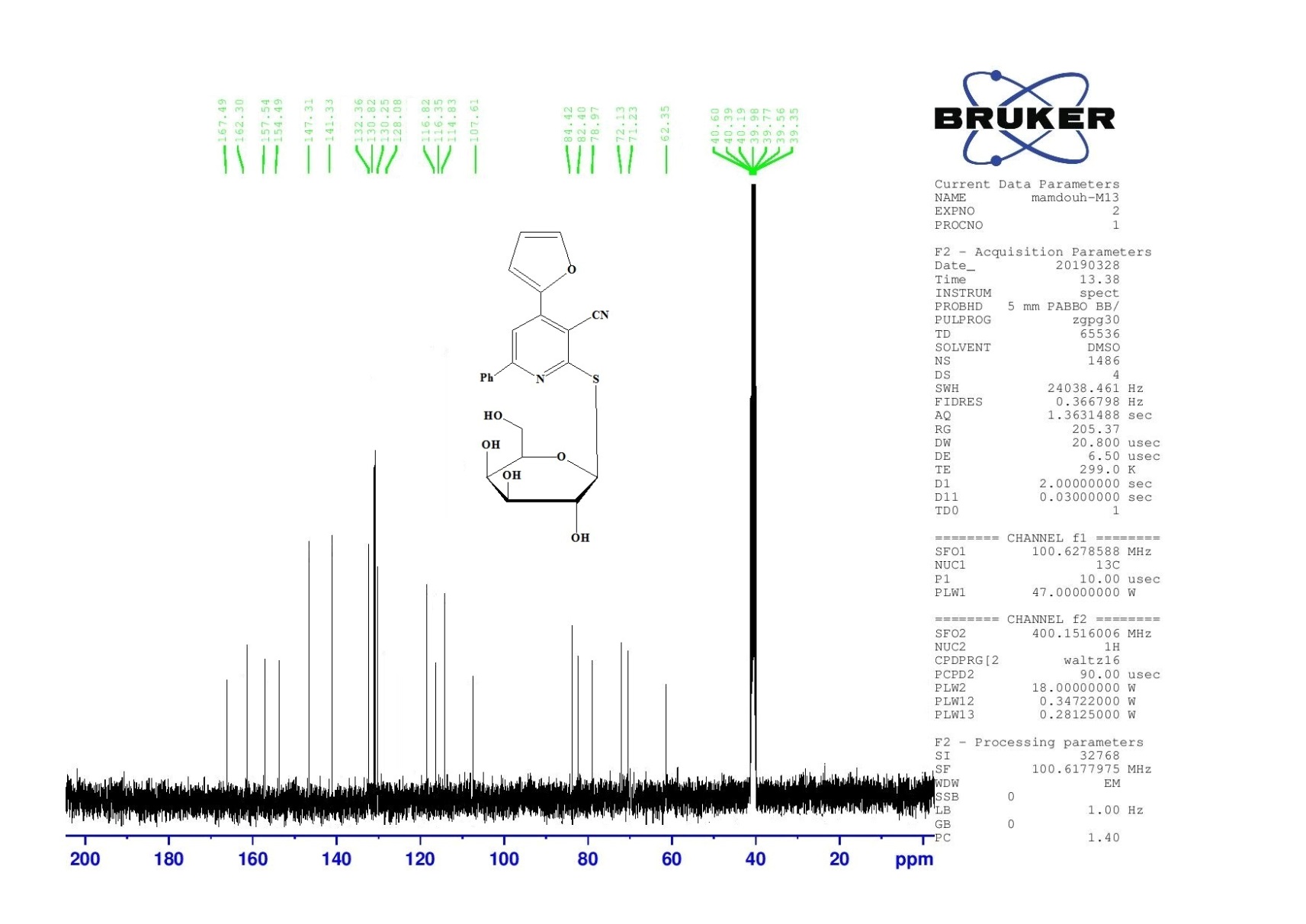
s2

figure s2:13C NMR of compound 4b

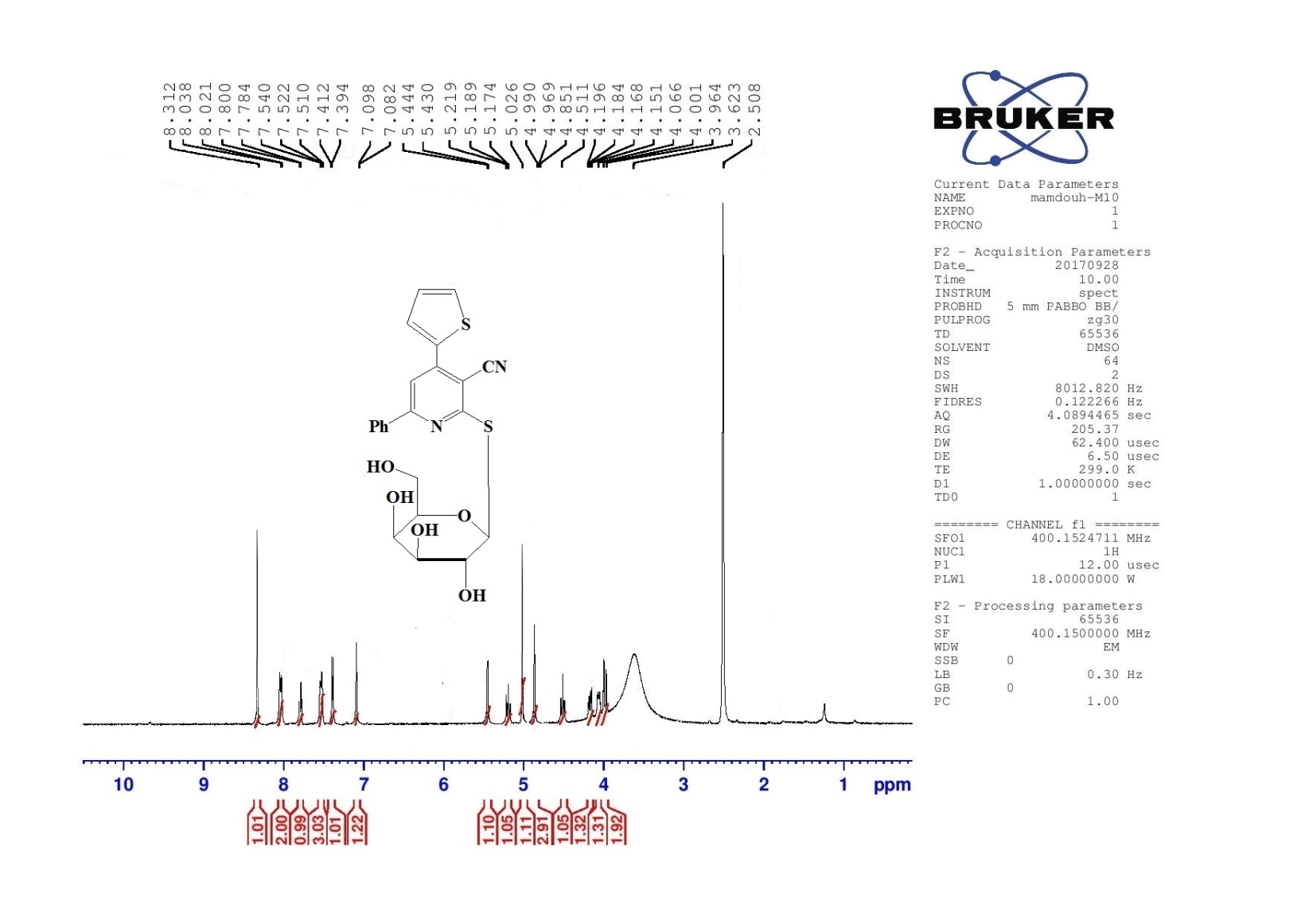
s3

figure s3: 1H NMR of compound 4c

s4

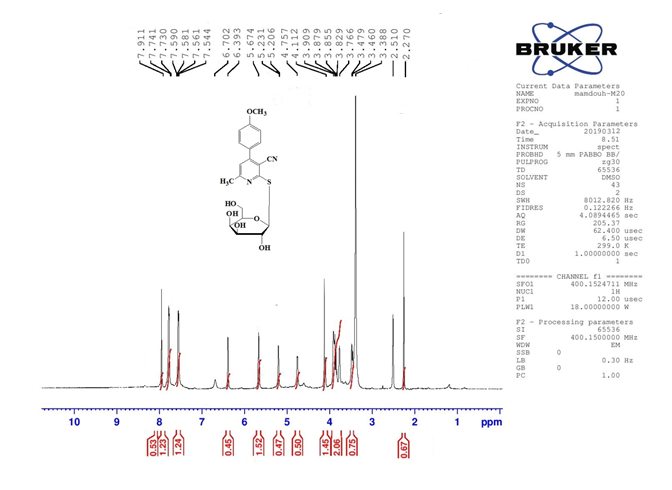
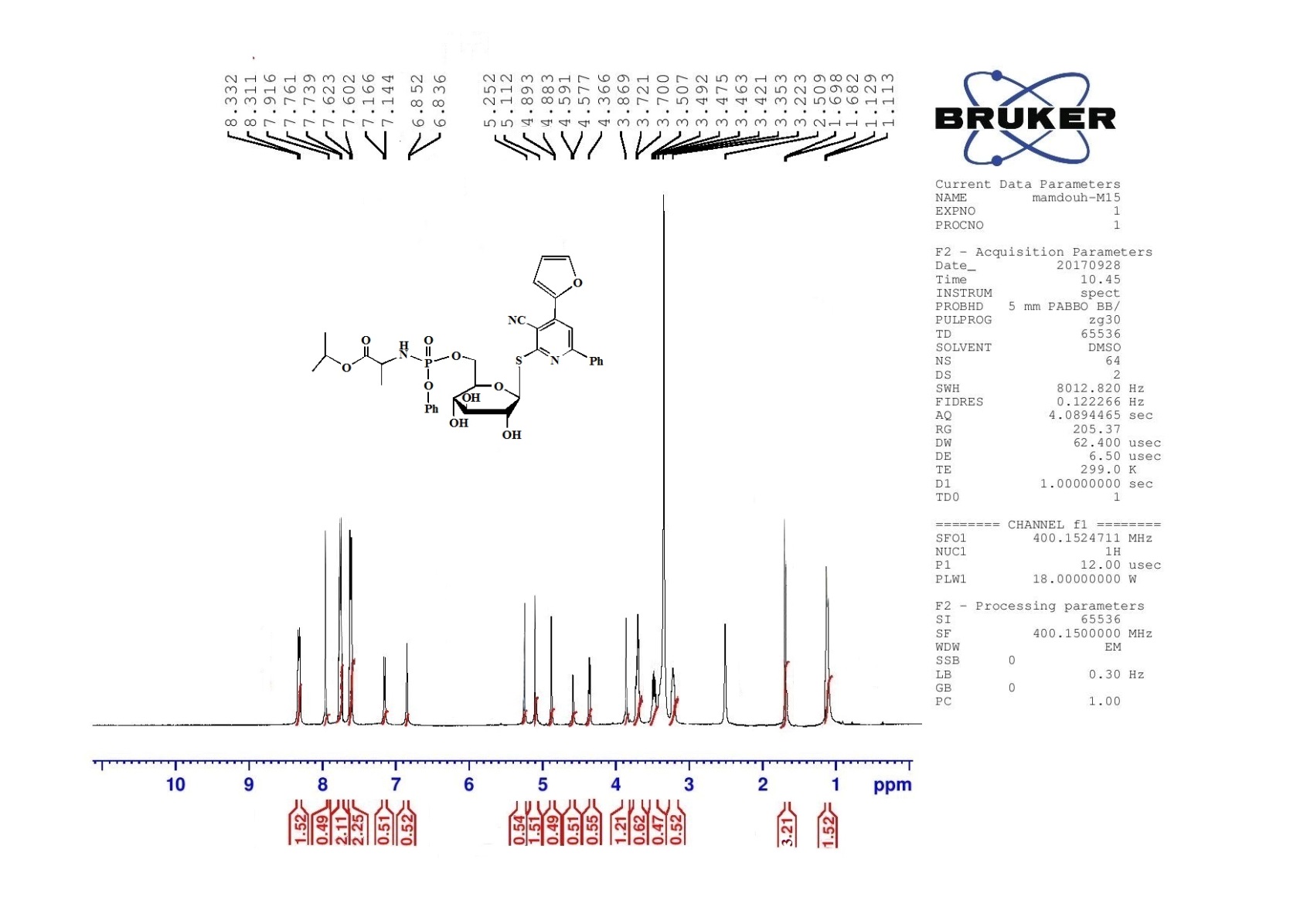


Figure s4: 1H NMR of compound 4e

s5

 figure s5: 1HNMR of compound 6a

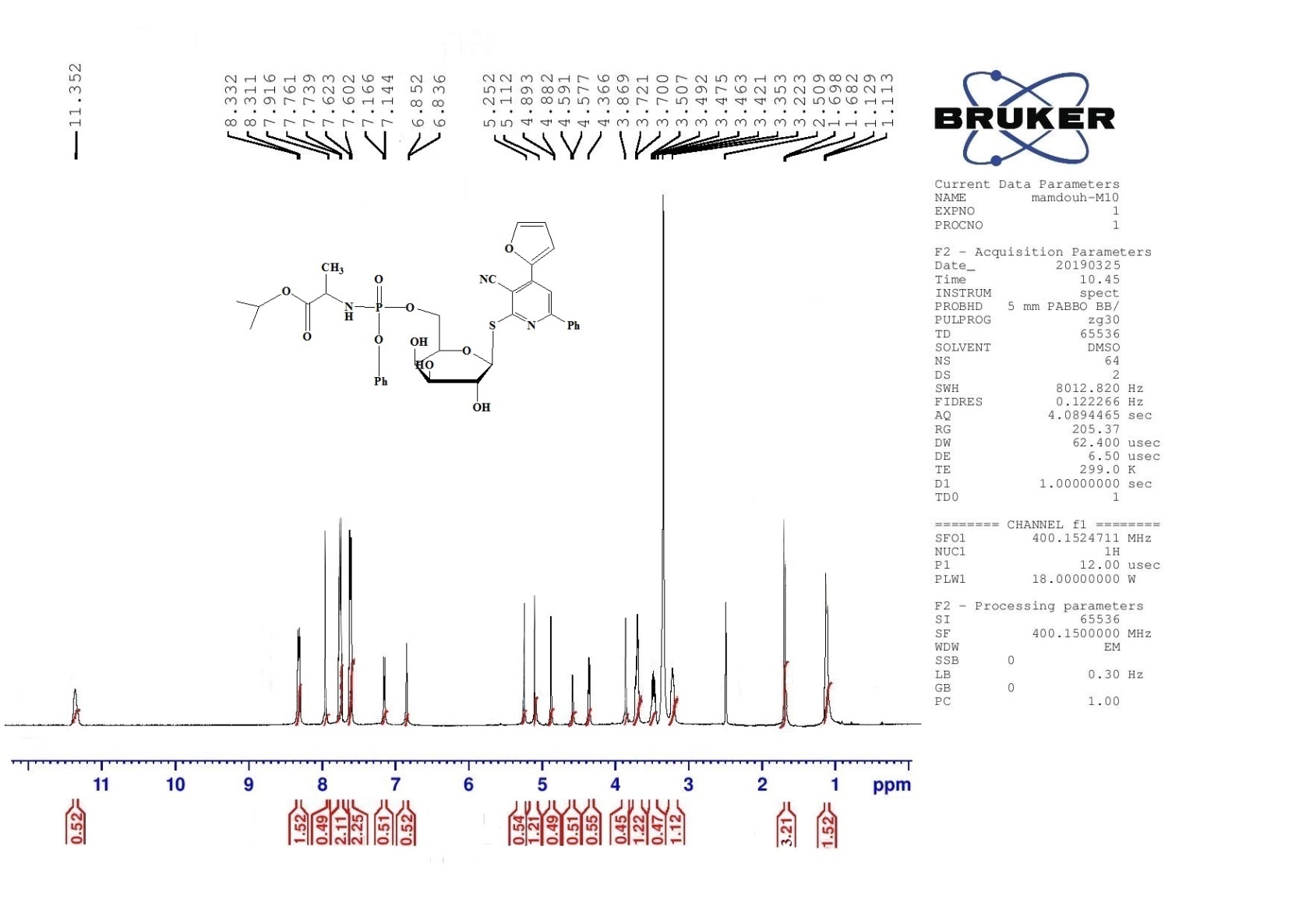
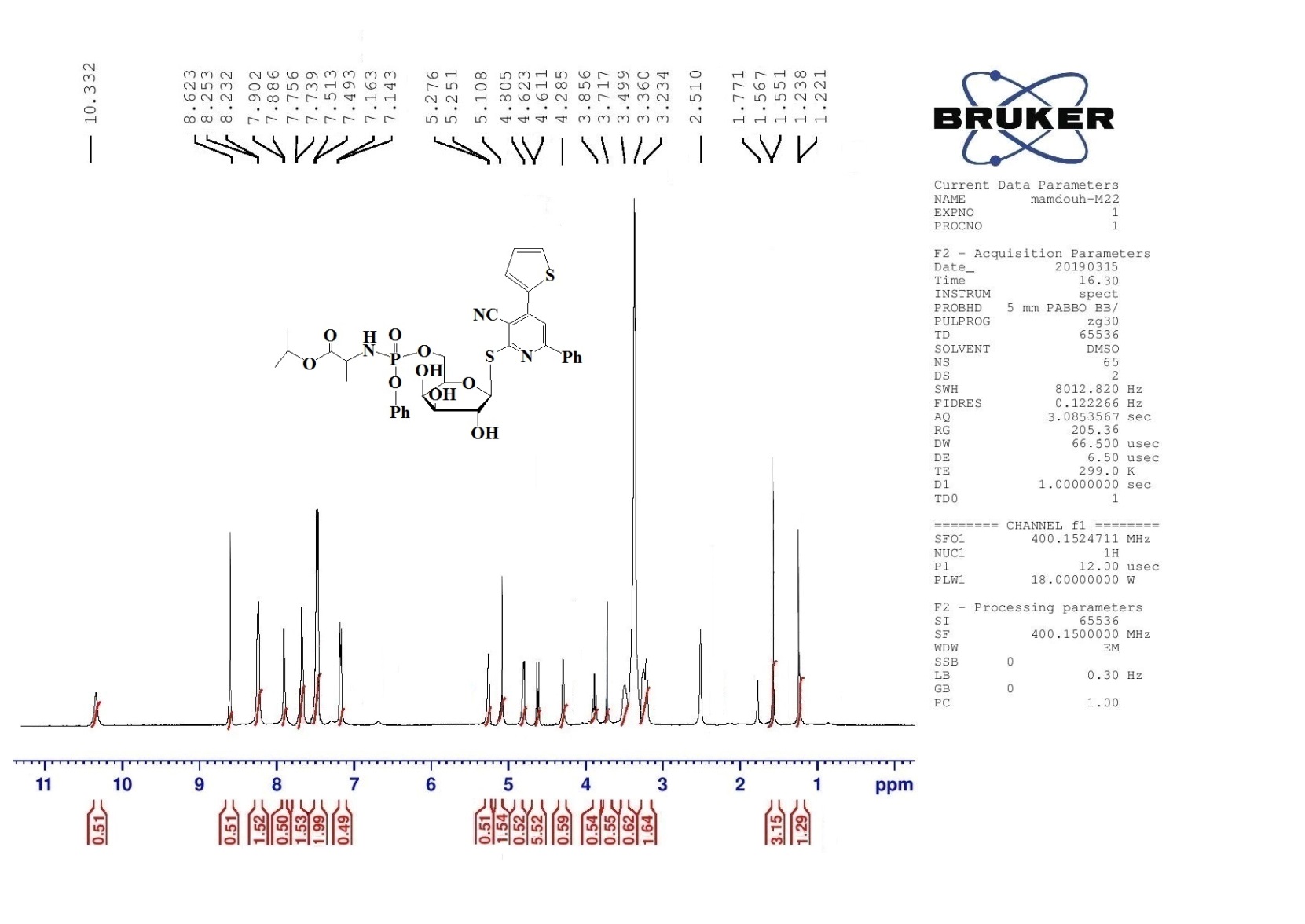
s6

figure s6: 1HNMR of compound 6b

s7

 figure s7: 1HNMR of compound 6c

S8

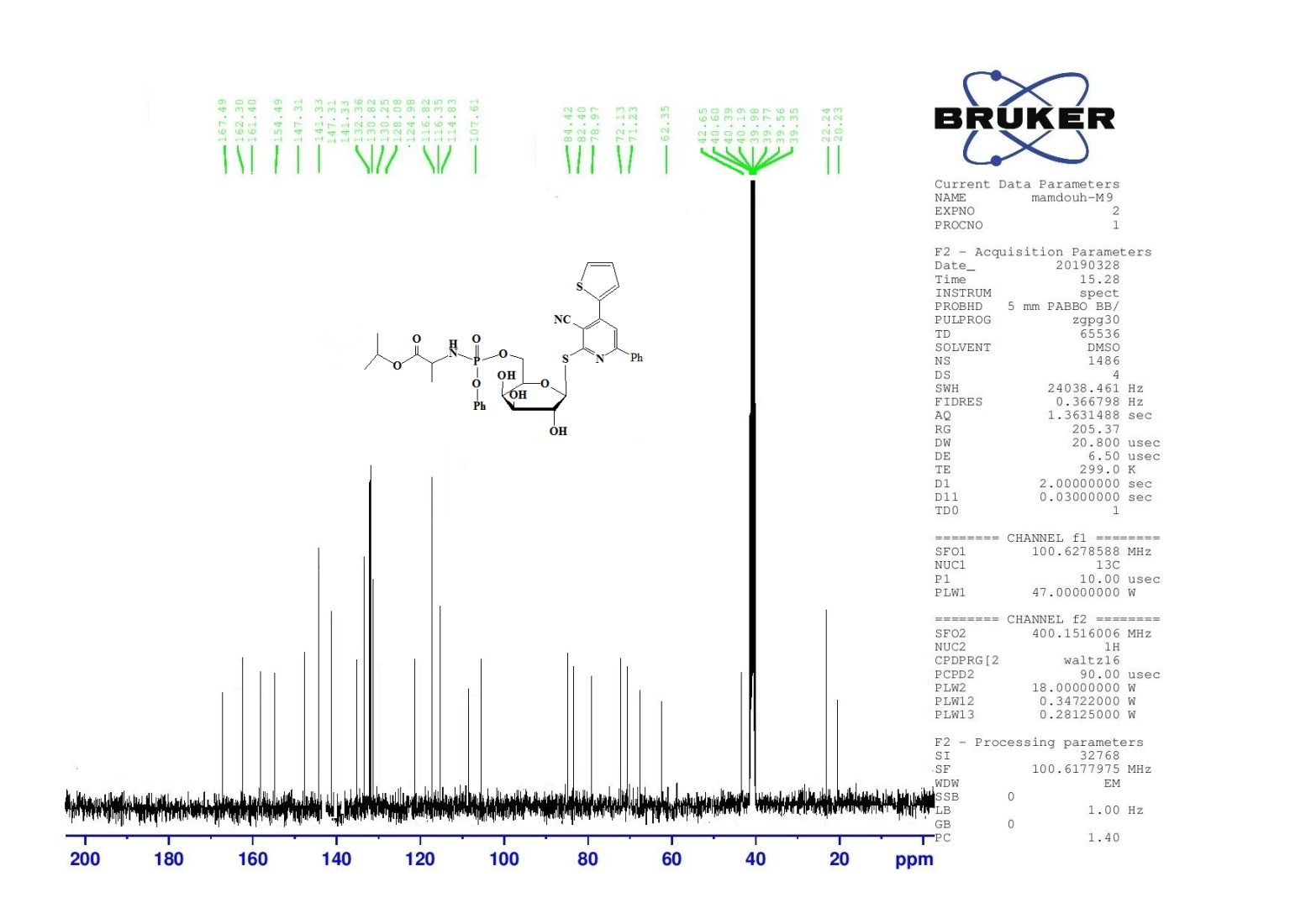
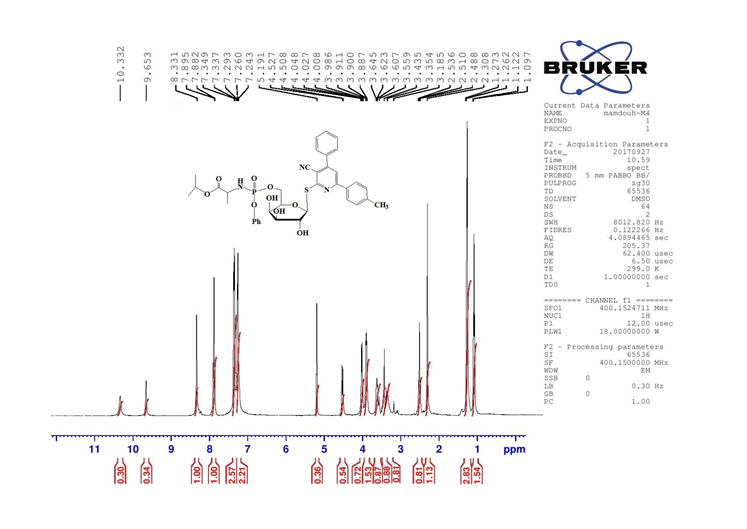
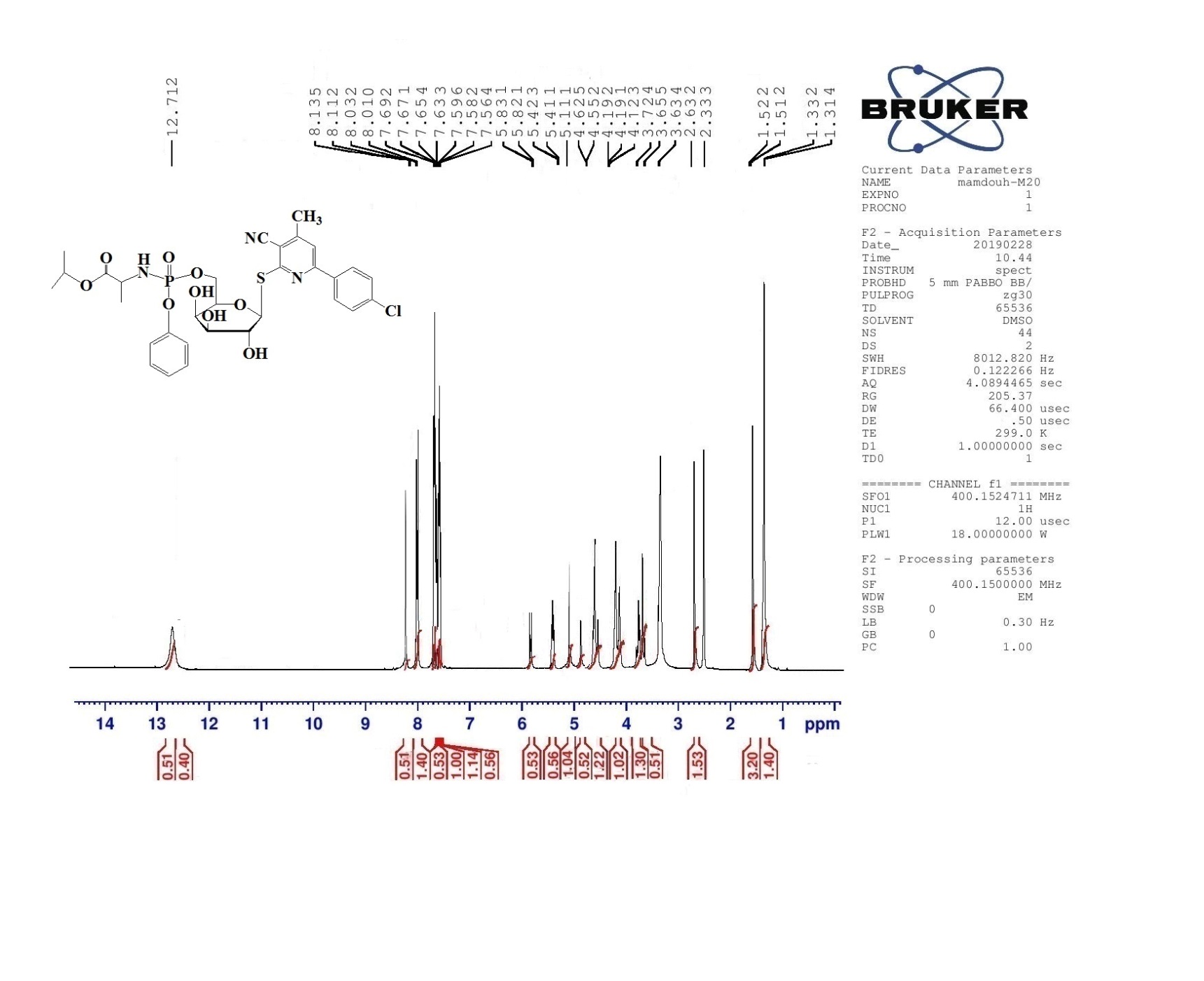


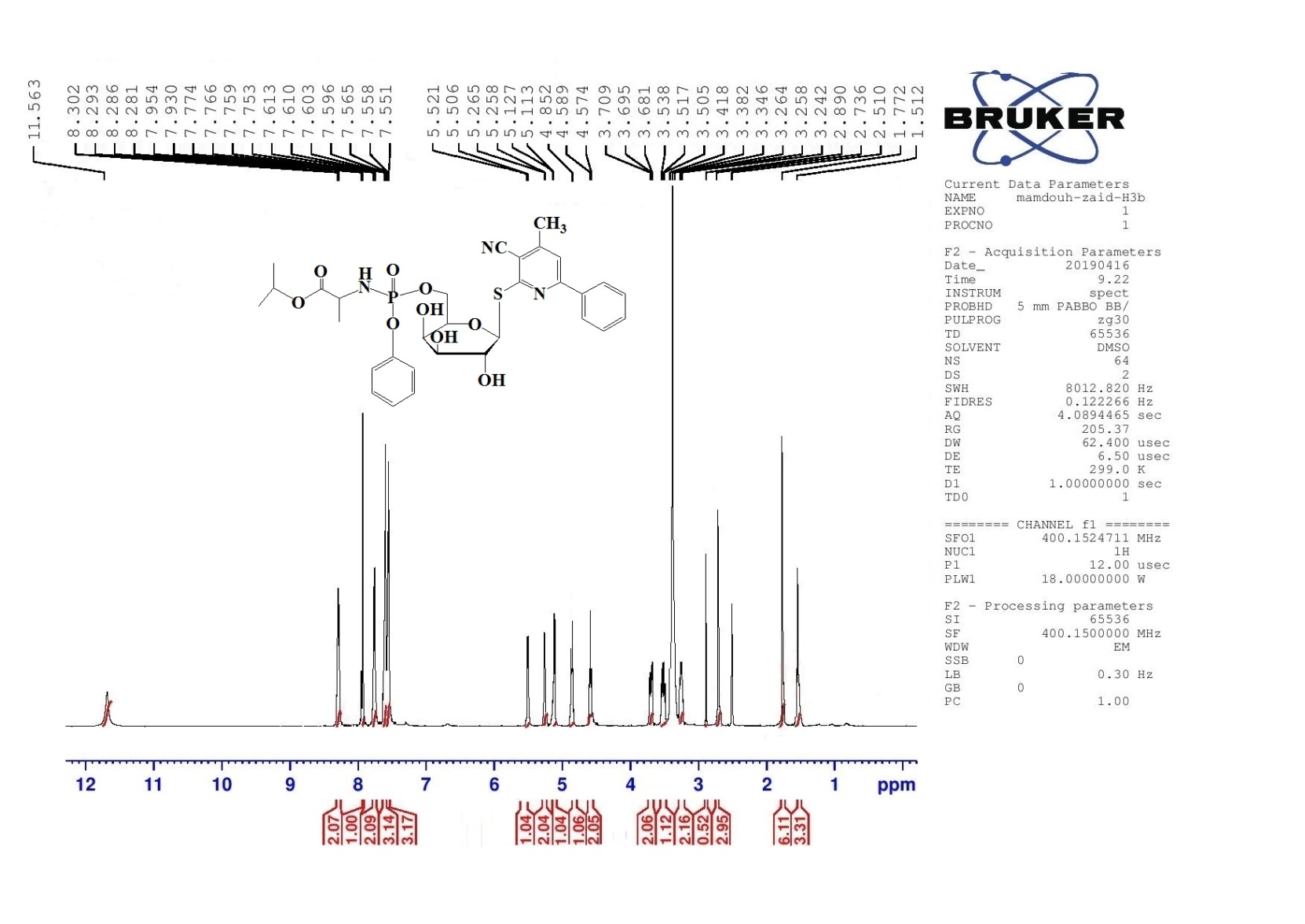
Figure s8: 13C NMR of compound 6c

S9 figure s9: 1H NMR of compound 6d

S10

 Figure s10: 1H NMR of compound 6f

S11

 Figure s11: 1H NMR of compound 6g

S12

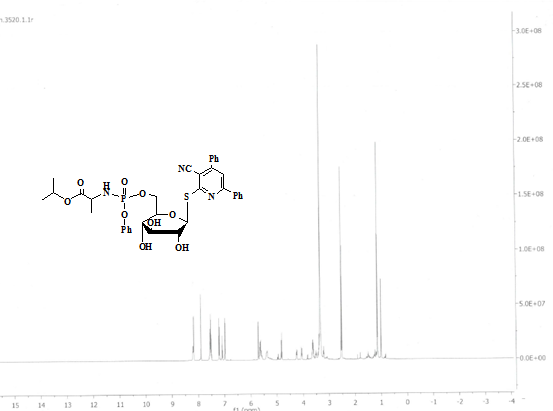
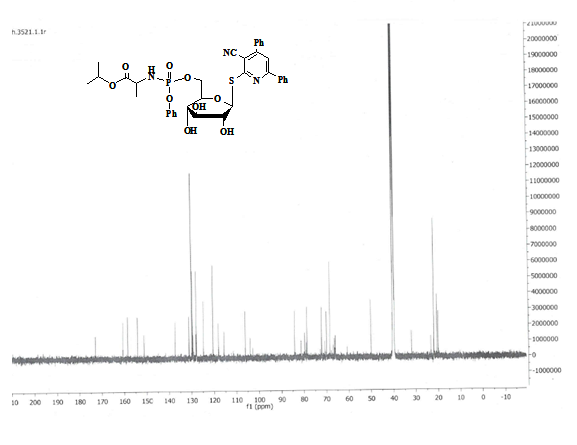


Figure s12: 1H NMR of compound 6h

 Figure s13: 13C NMR of compound 6h

S14

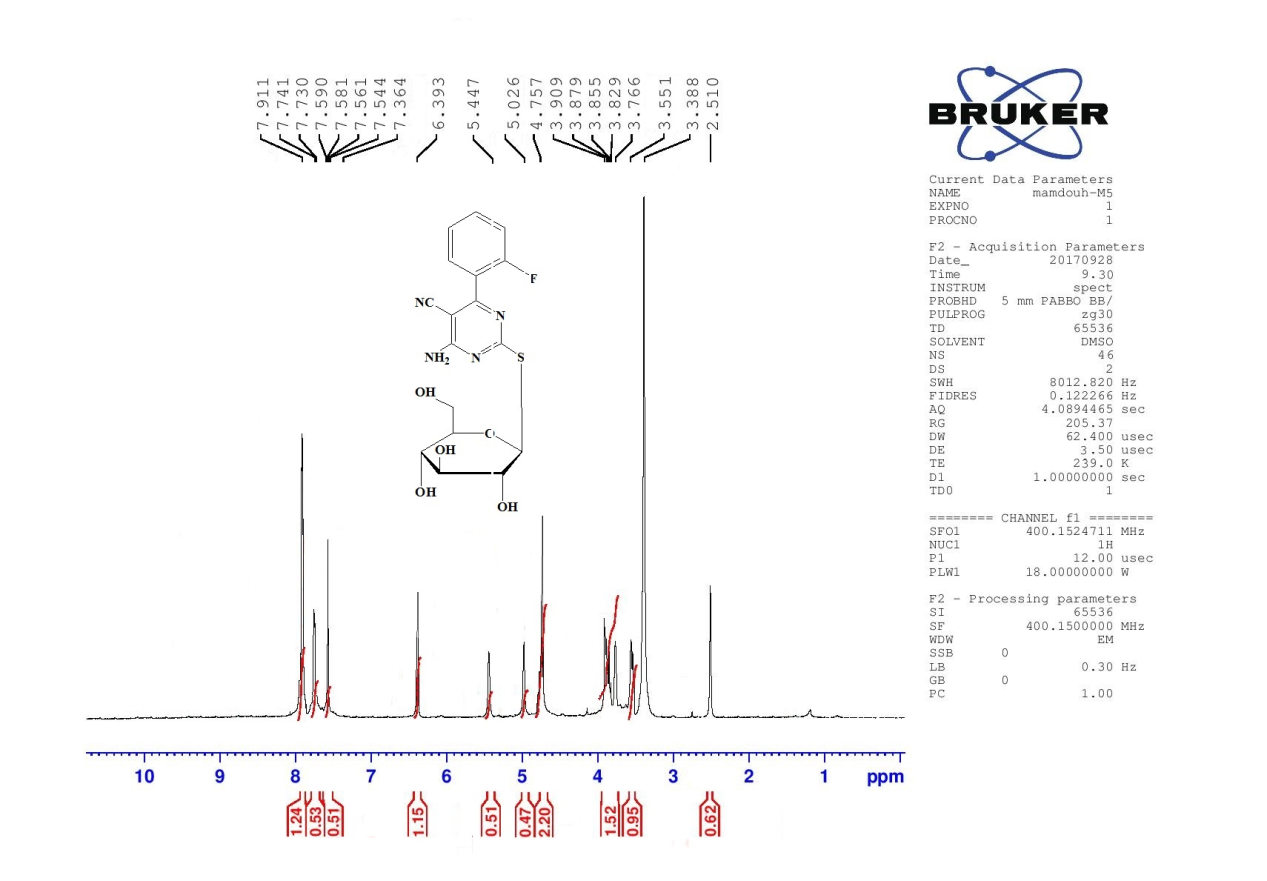


Figure s14: 1H NMR of compound 9a

S15

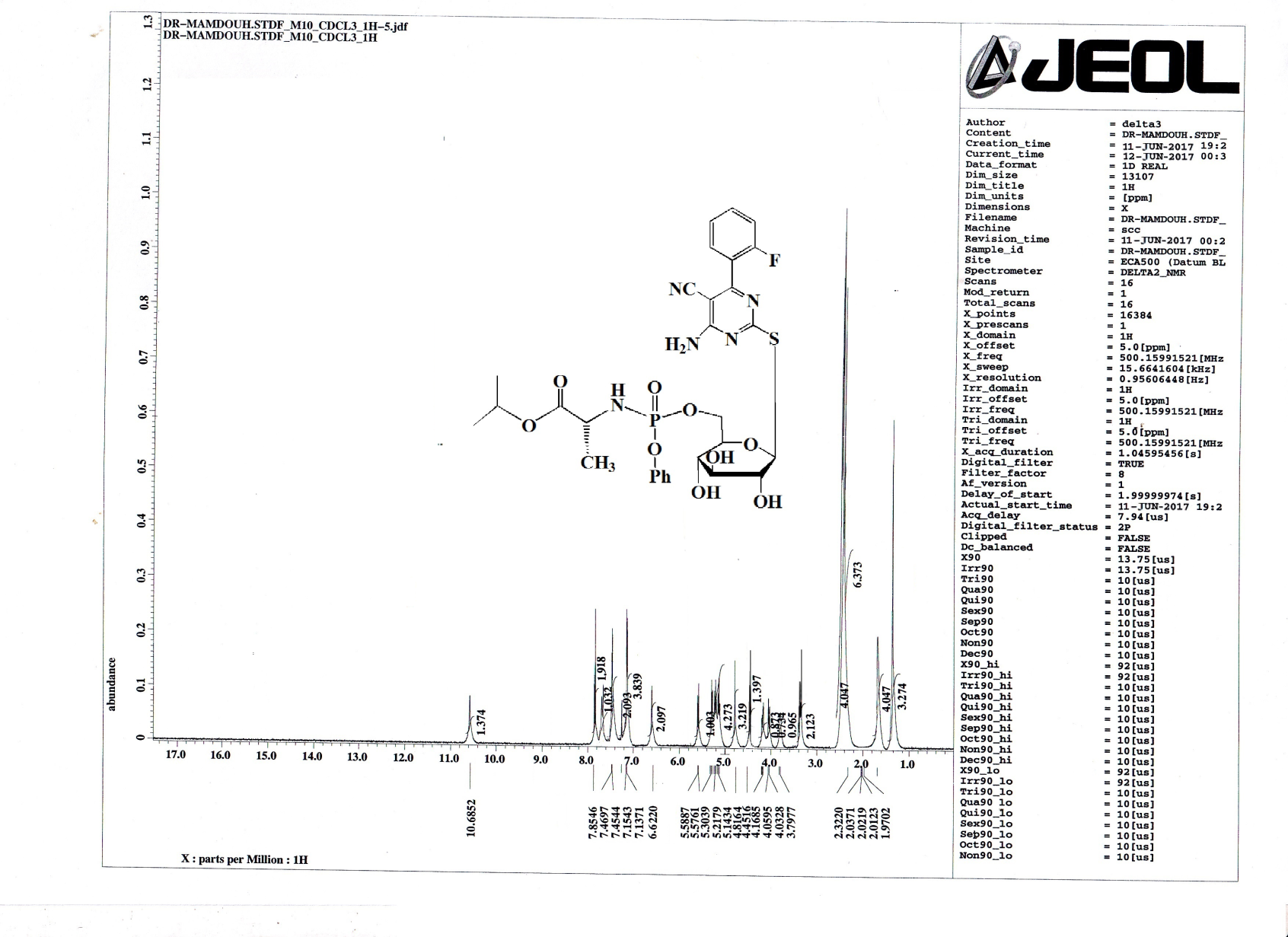


Figure s15: 1H NMR of compound 10a

S16

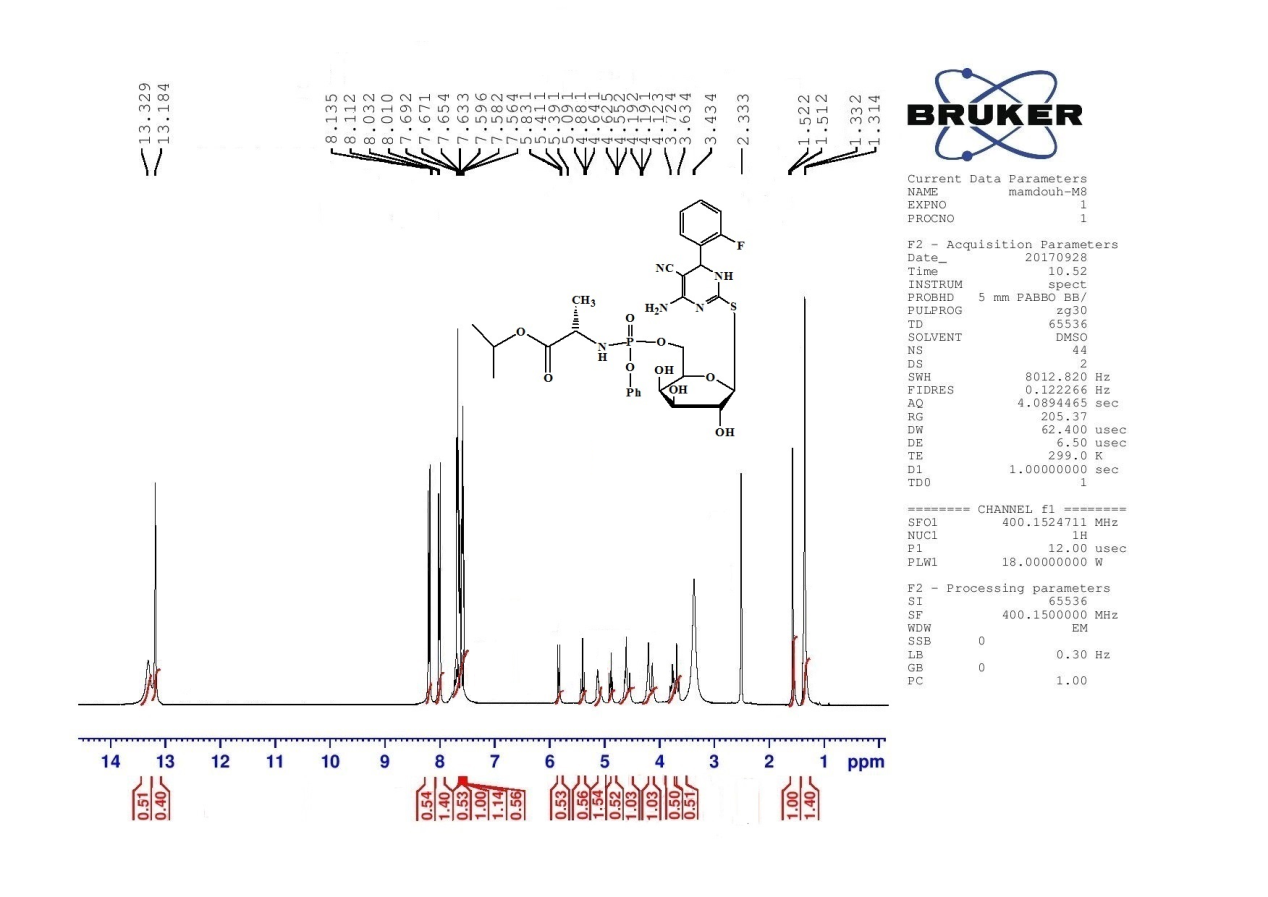


Figure s16: 1H NMR of compound 10b

S17

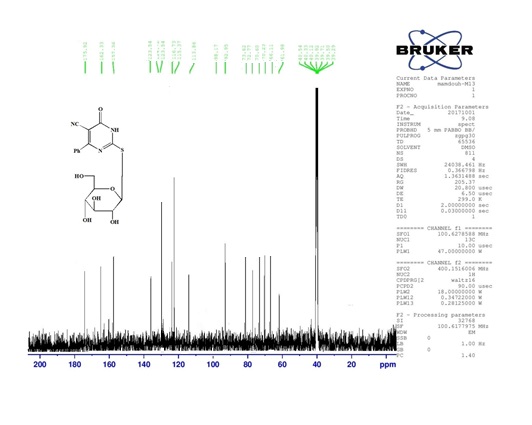


Figure s17: 13C NMR of compound 13a

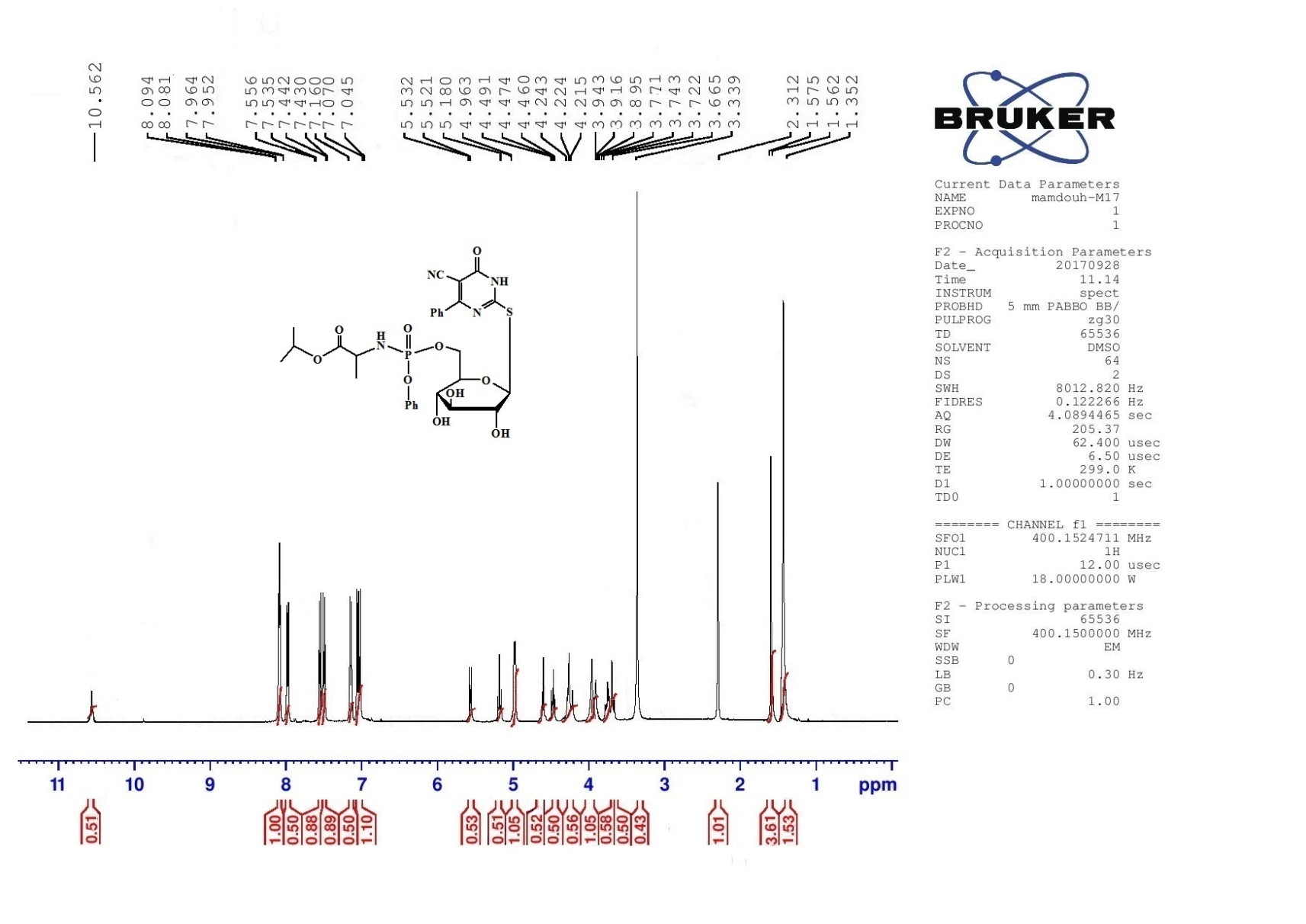
s18

figure s18: 1H NMR of compound 14a

S19

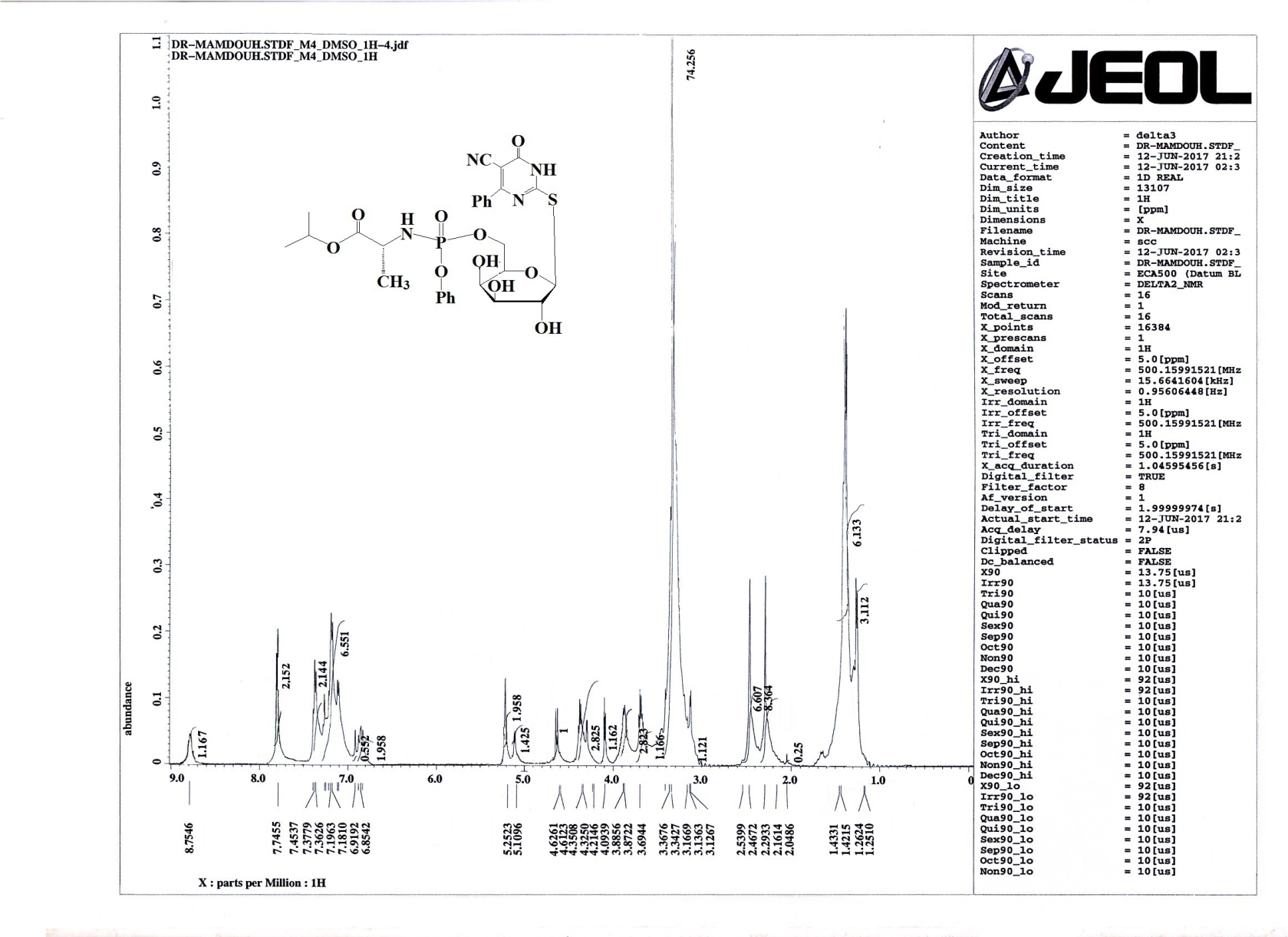


Figure s19: 1H NMR of compound 14b

S20

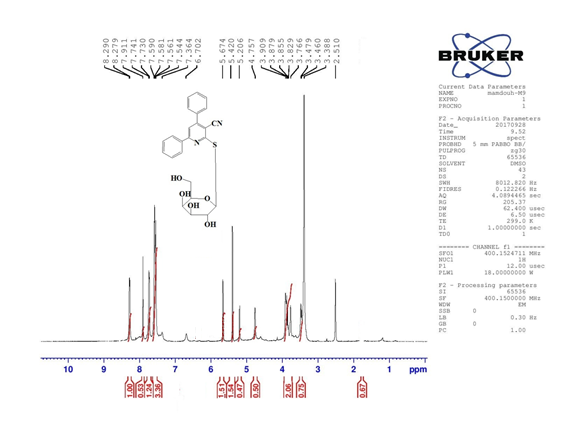


Figure s20: 1H NMR of compound 4i

S21

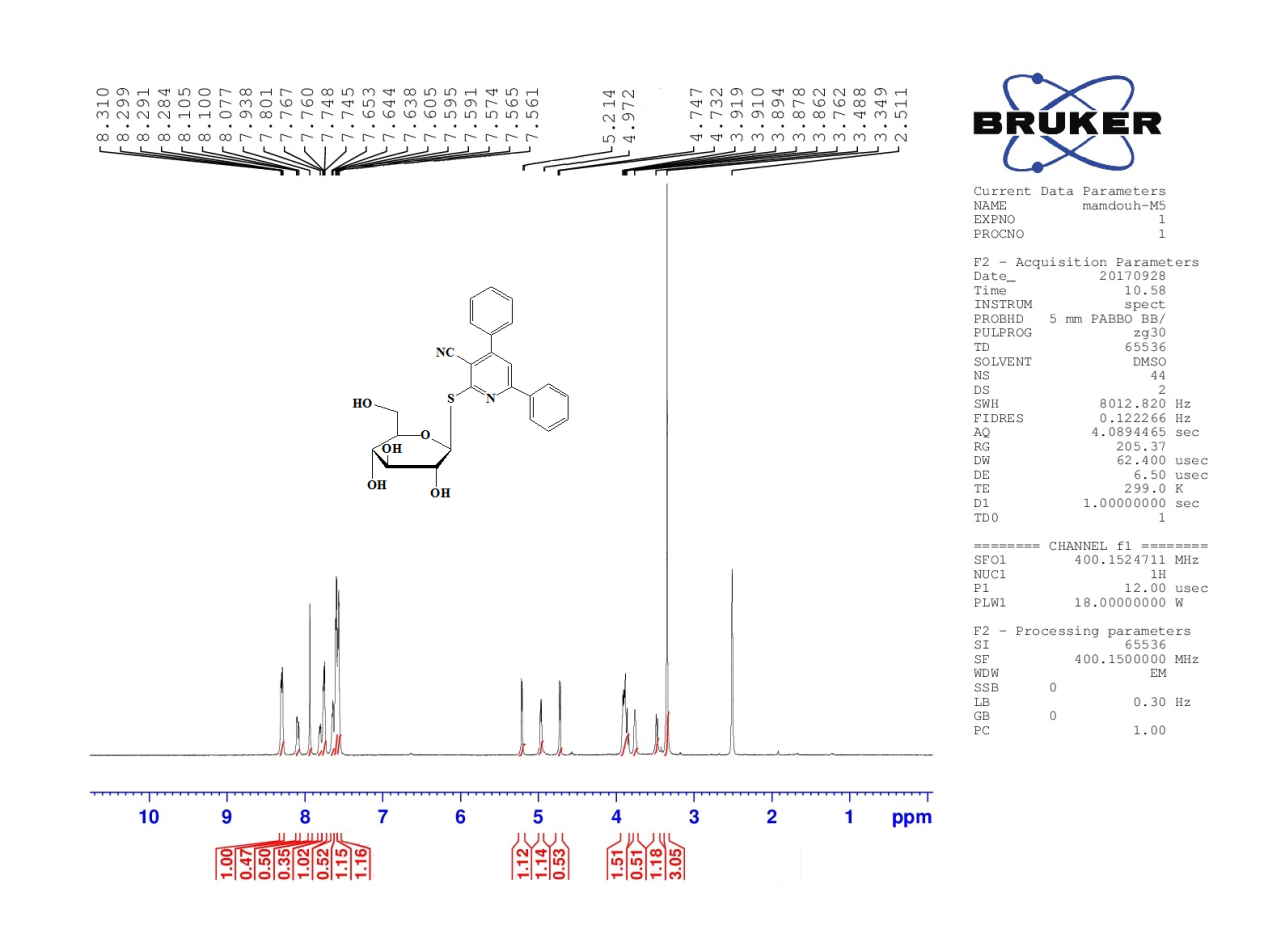


Figure s21: 1H NMR of compound 4h

S22

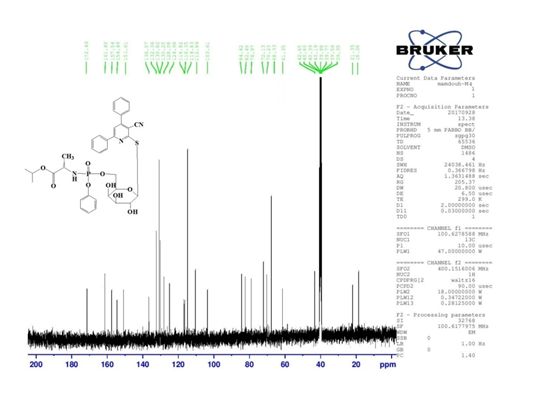


Figure s22: 13C NMR of compound 6i

S23

Inhibition %

Compd.No.

**Figure 1.** Cytotoxicity of compounds **4a**, **4b**, **4c**, **4d**, **4e, 4h a**nd **4i** at concentration0.25 and

0.125 µM.

S24

Inhibition %

Compd. No.

**Figure 2.** Cytotoxicity of compounds **6a**, **6b**, **6d**, **6e, 6f, 6g a**nd **6h** at concentration0.25

and 0.125 µM.

S25

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Compd. No.

Inhibition %

**Figure 3.** Cytotoxicity of compounds **9a**, **9b**, **10a**, **10b, 14a a**nd **14b** at concentration

0.25 and 0.125 µM.

S26



Figure 4. Graphs of Inhibitory concentration 50 (IC50) of tested compounds (4a.4b, 4c, 4d, 4e, 4i, 6a, 6b, 6d, 6e, 6f, 6g, 9a, 9b, 10a, 10b, 14a and 14b): Antiviralactivity against Severe Acute Respiratory Syndrome Corona virus 2 (SARS-CoV-2) (hCoV19/Egypt/NRC-03/2020 (Accession Number on GSAID: EPI\_ISL\_430820.

S27



Figure 5. Graphs of Cytotoxicity concentration 50 (CC50) of tested compounds (4a.4b, 4c, 4d, 4e, 4i, 6a, 6b, 6d, 6e, 6f, 6g, 9a, 9b, 10a, 10b, 14a and 14b): on Vero E6 cells