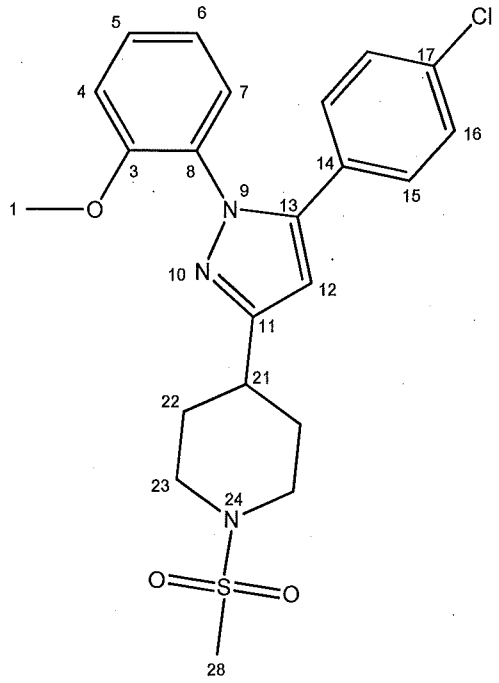
Verified Structure:



Key Points:

1.) The Proton and Nitrogen-15 chemical shift assignments were made using the chemical shift values and coupling patterns in the Proton spectrum (Figure 1) and HN HMBC spectrum (Figure 2).

2.) The proton chemical shifts, coupling patterns, and integration values observed in the proton spectrum are consistent with the structure shown above.

3.) In the HN HMBC spectrum, H21 has a three bond HN coupling to N10, which has a chemical shift of 305 ppm. This chemical shift is consistent with the chemical shift of a C=N nitrogen. This shows that N10 is the C=N nitrogen in the pyrazole ring and that the piperidine ring is at position 11. From this we can conclude that the methoxyphenol group is bonded at N9 and is alpha to the parachlorephenyl group.

4.) The spectroscopy data are consistent with the structure shown.

Spectra: The spectra are shown in Figures 1 to 2.

Figure 1: Proton NMR Spectrum

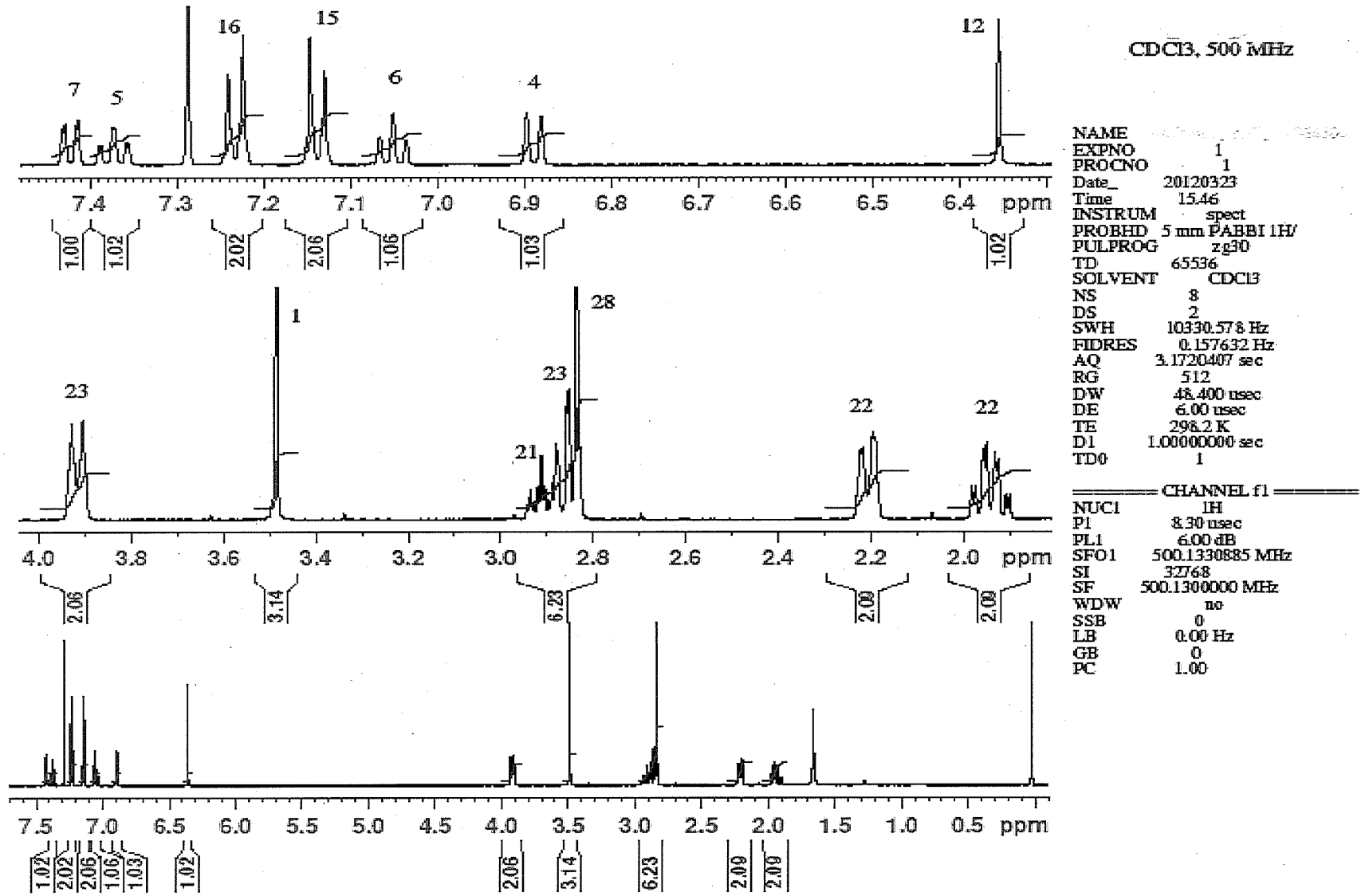
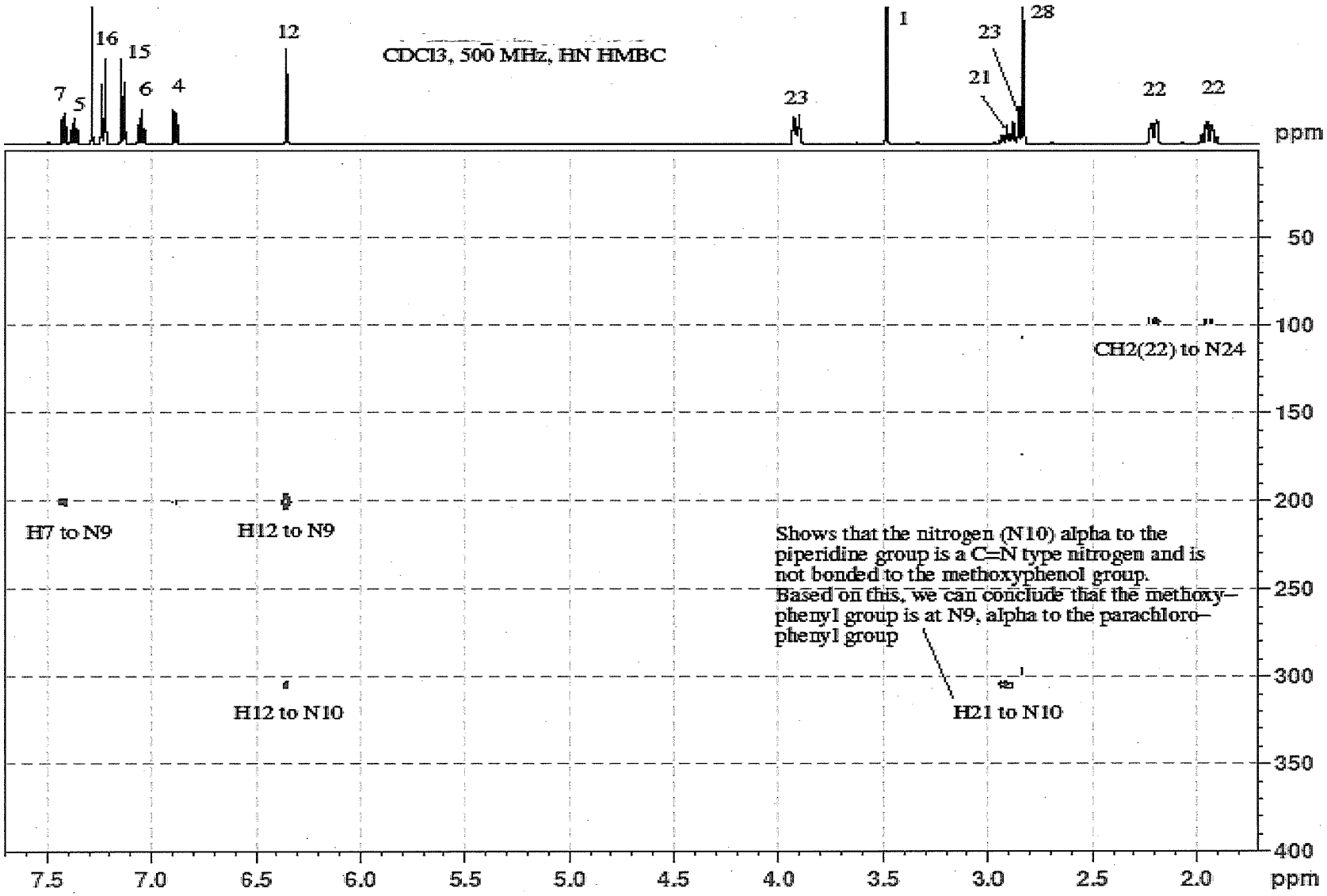
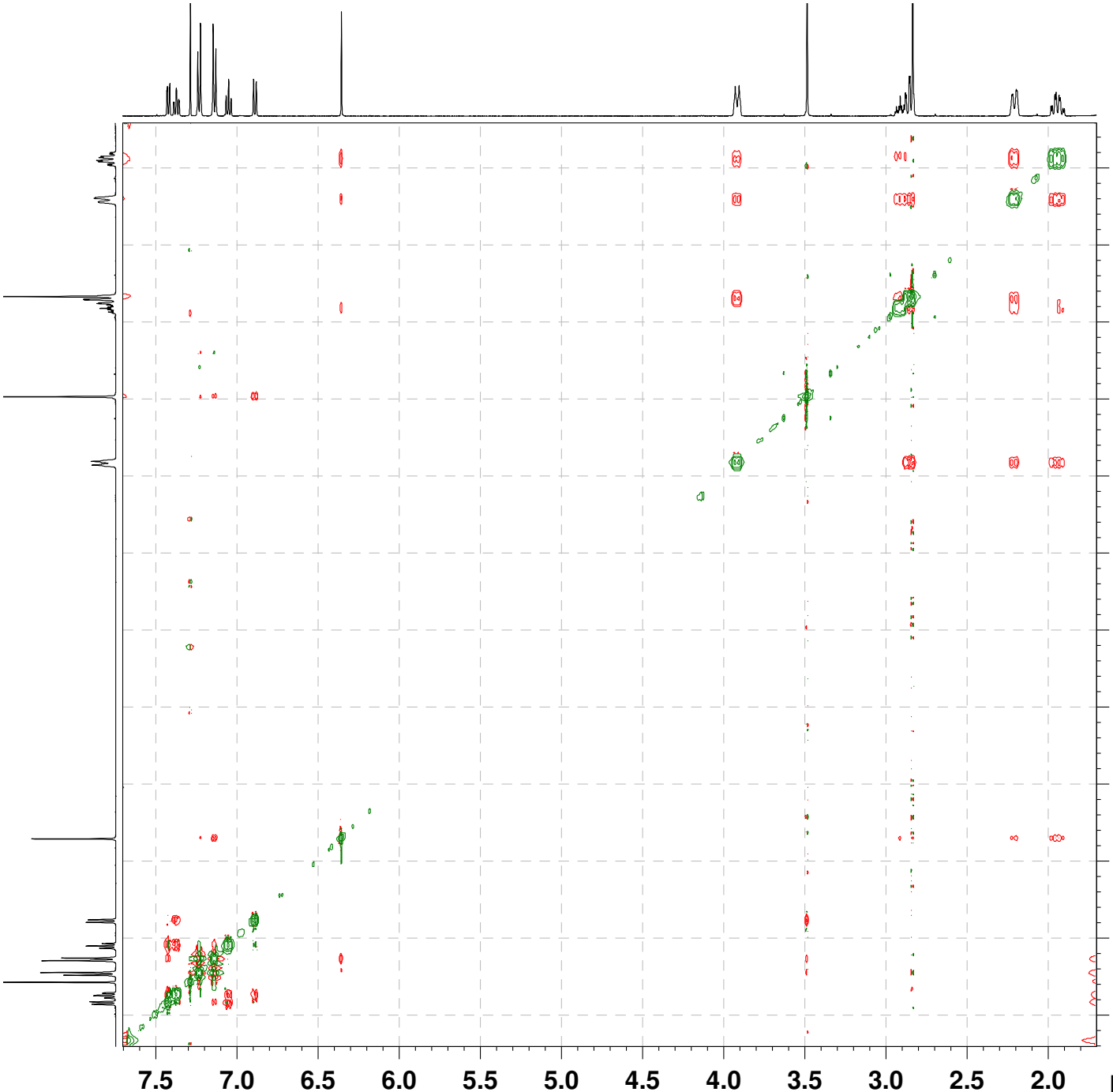


Figure 2: HN HMBC Spectrum



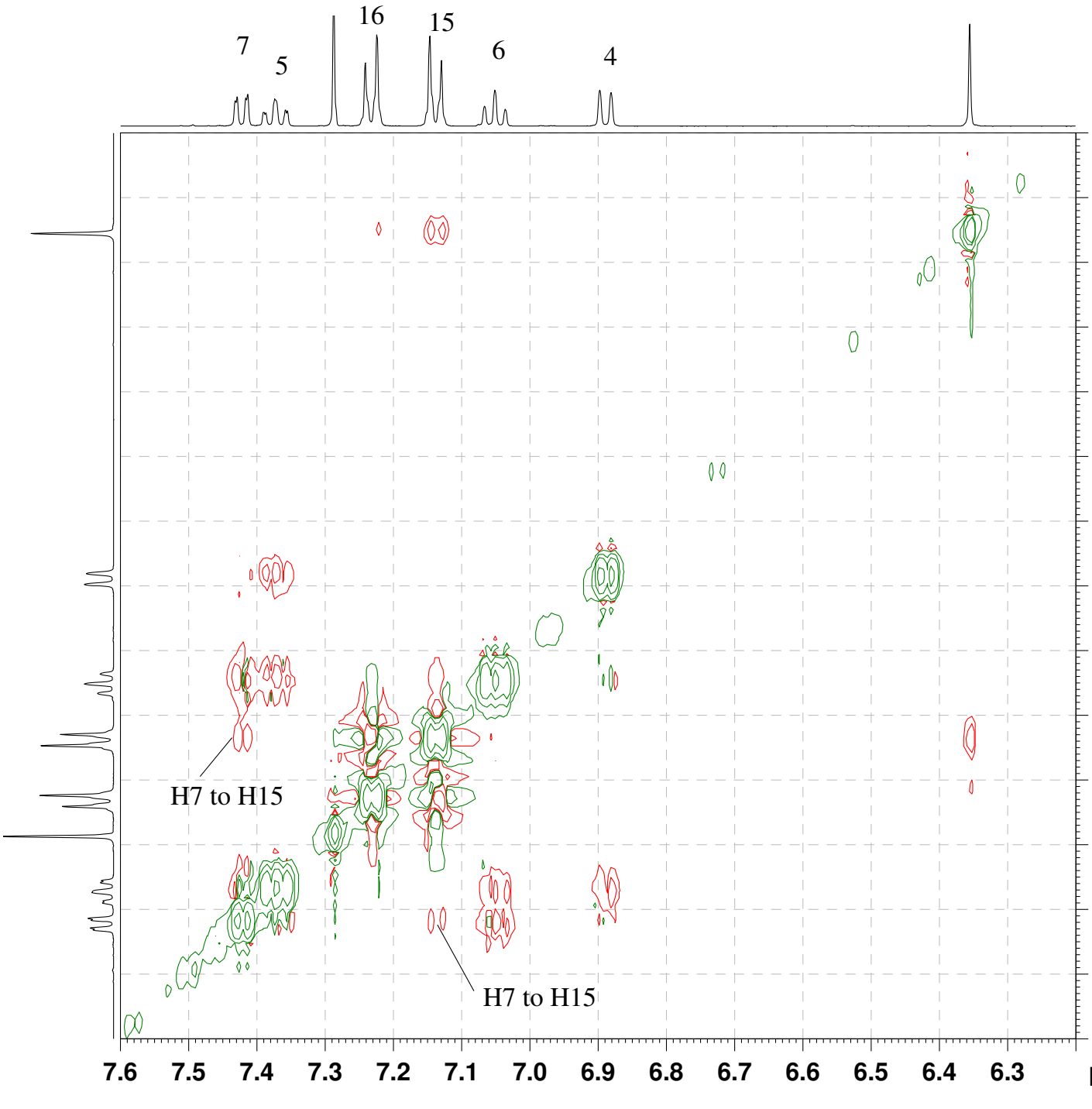


CDCl3, 500 MHz, NOESY
d8 = 0.9 sec

NAME	Compound 2
EXPNO	10
PROCNO	1
Date_	20120324
Time	2.12
INSTRUM	spect
PROBHD	5 mm PABBI 1H/
PULPROG	noesyph
TD	2048
SOLVENT	CDCl3
NS	56
DS	4
SWH	3004.808 Hz
FIDRES	1.467191 Hz
AQ	0.3410036 sec
RG	128
DW	166.400 usec
DE	12.00 usec
TE	298.2 K
d0	0.00015583 sec
D1	2.00000000 sec
D8	0.89999998 sec
IN0	0.00033280 sec
ST1CNT	0

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

NUC1	1H
P1	8.30 usec
PL1	6.00 dB
SFO1	500.1323506 MHz
ND0	1
TD	256
SFO1	500.1324 MHz
FIDRES	11.737530 Hz
SW	6.008 ppm
FnMODE	States-TPPI
SI	1024
SF	500.1300000 MHz
WDW	QSINE
SSB	2
LB	0.00 Hz
GB	0
PC	1.00
SI	512
MC2	States-TPPI
SF	500.1300000 MHz
WDW	QSINE
SSB	2
LB	0.00 Hz
GB	0



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