

Supplementary Materials

Figure S1. ¹H-NMR spectra of compound 16.

¹H spectra Dr.HAMADA FK 29C in DMSO (at 80C)

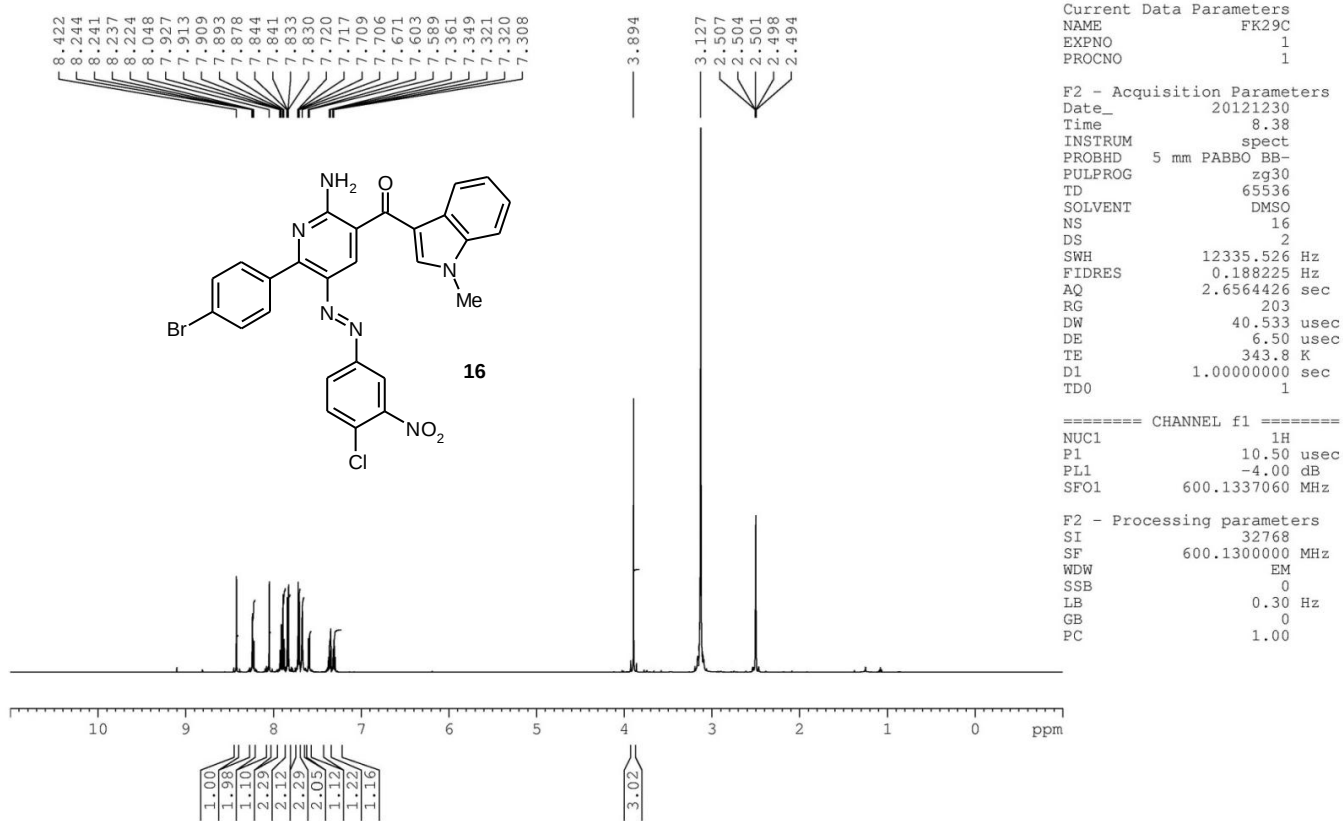


Figure S2. ^1H -NMR expansion of compound 16.

1H spectra Dr.HAMADA FK 29C in DMSO (at 80C)



Current Data Parameters
NAME FK29C
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20121230
Time 8.38
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT DMSO
NS 16
DS 2
SWH 12335.526 Hz
FIDRES 0.188225 Hz
AQ 2.6564426 sec
RG 203
DW 40.533 usec
DE 6.50 usec
TE 343.8 K
D1 1.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 10.50 usec
PL1 -4.00 dB
SFO1 600.1337060 MHz

F2 - Processing parameters
SI 32768
SF 600.1300000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

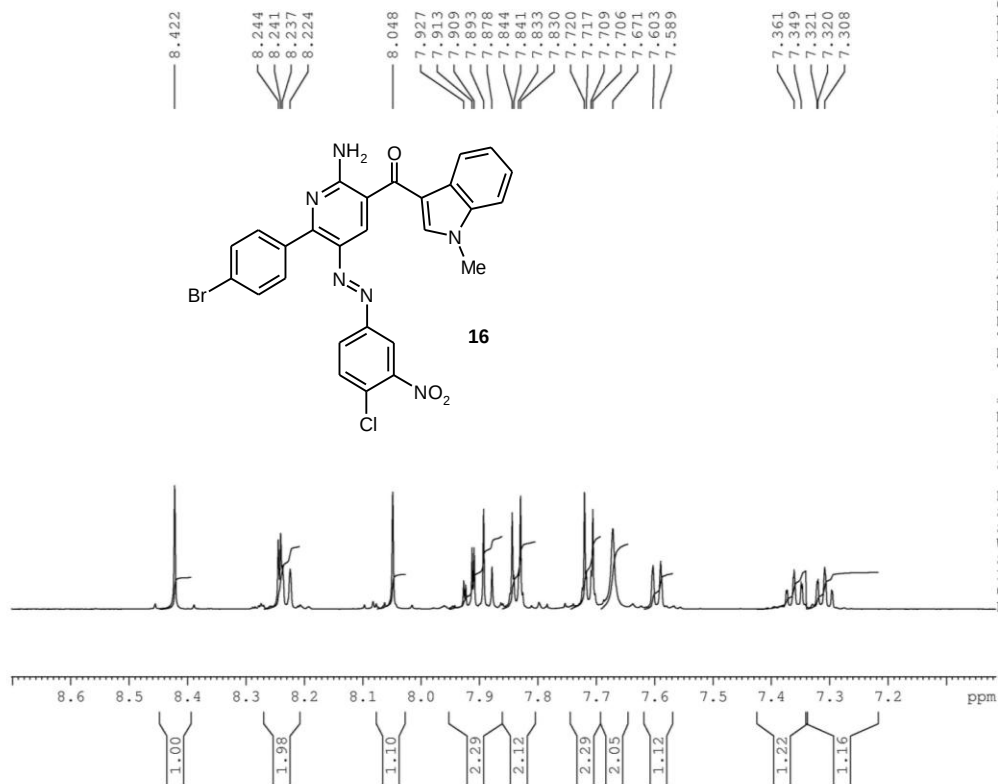


Figure S3. ^{13}C -NMR spectra of compound 16.

13C decoupled Spectra Dr.HAMADA FK 29C in DMSO (at 80C)

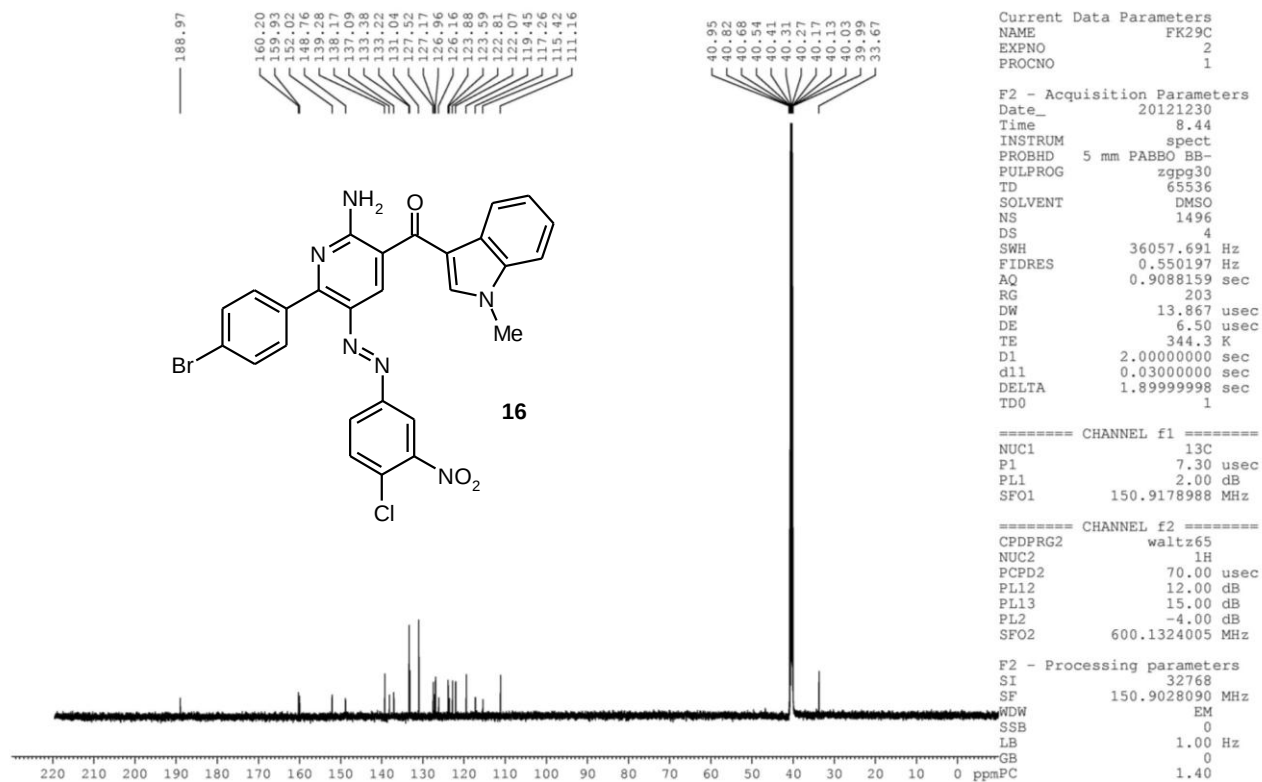


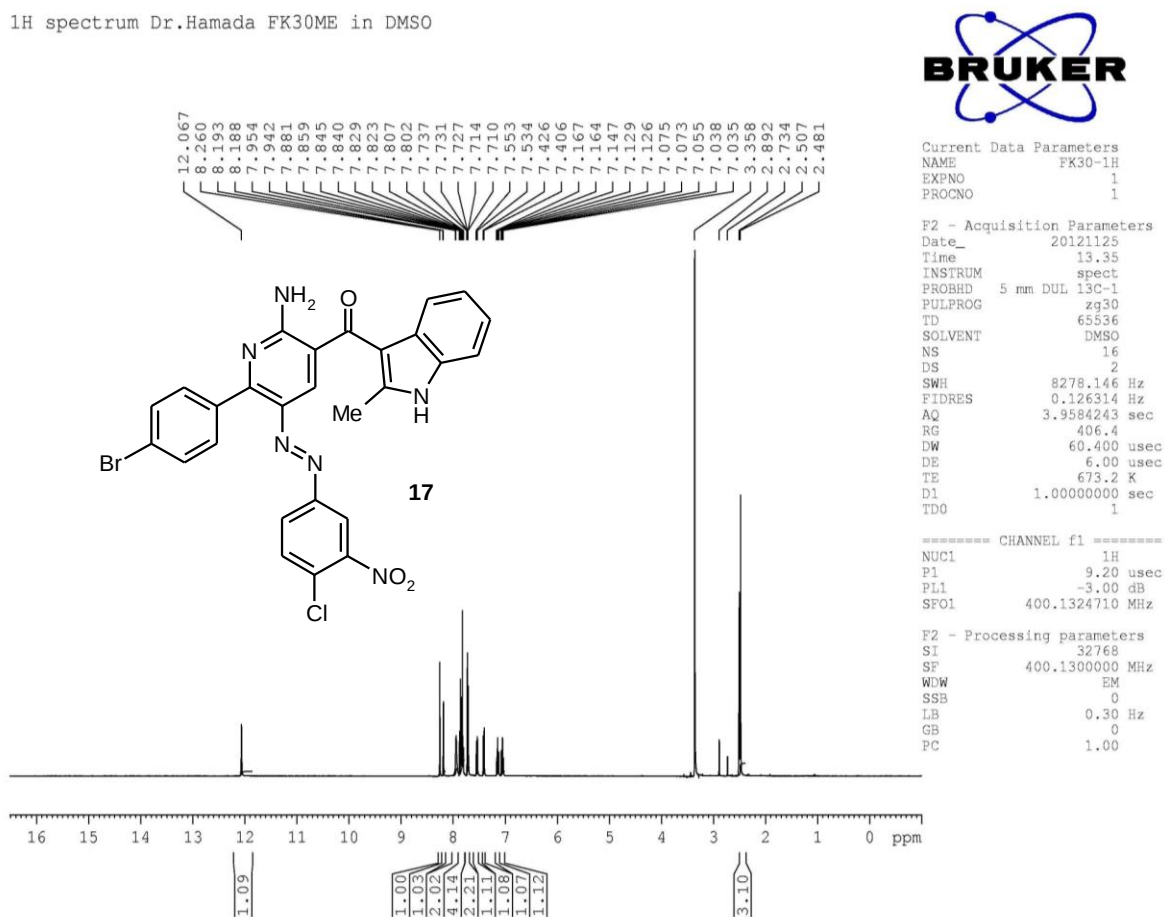
Figure S4. ^1H -NMR spectra of compound 17. ^1H spectrum Dr.Hamada FK30ME in DMSO



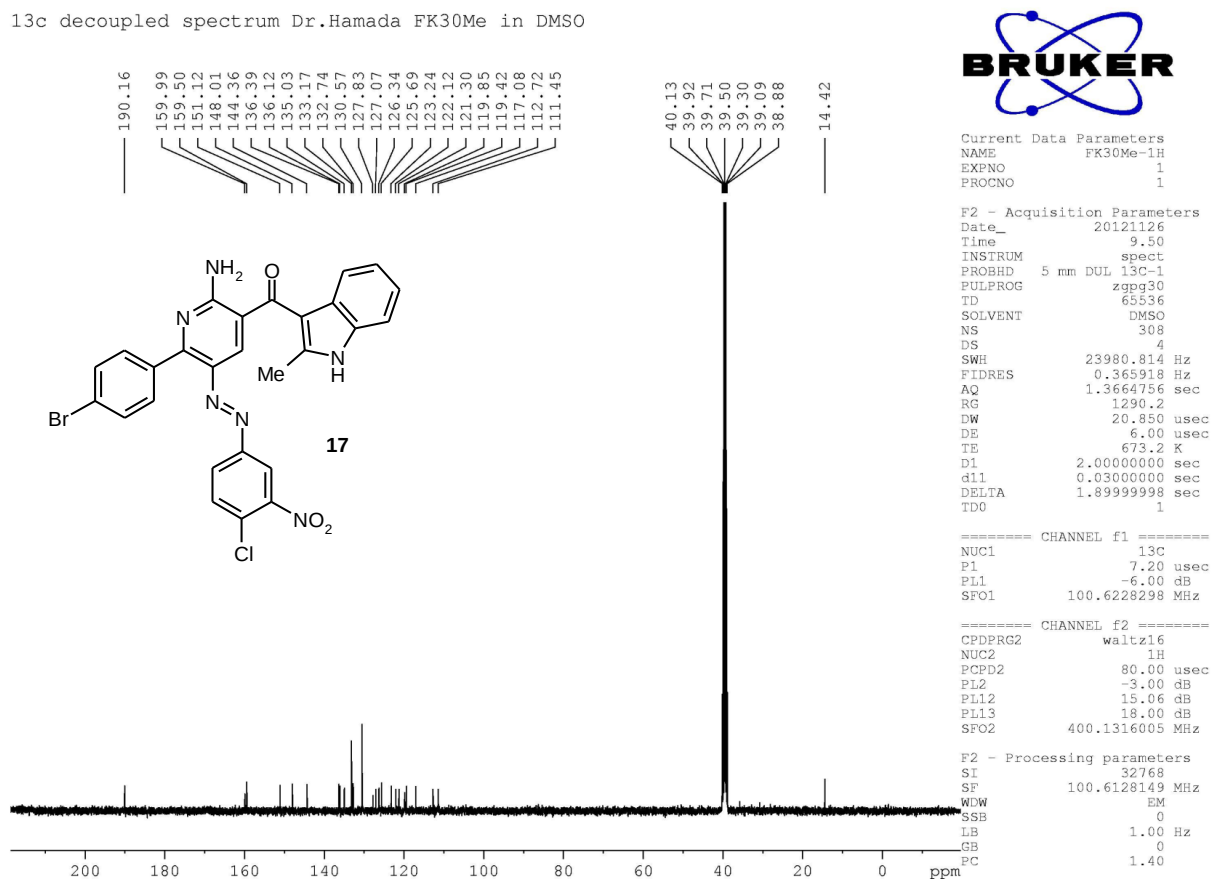
Figure S6. ^{13}C -NMR spectra of compound 17. ^{13}C decoupled spectrum Dr.Hamada FK30Me in DMSO

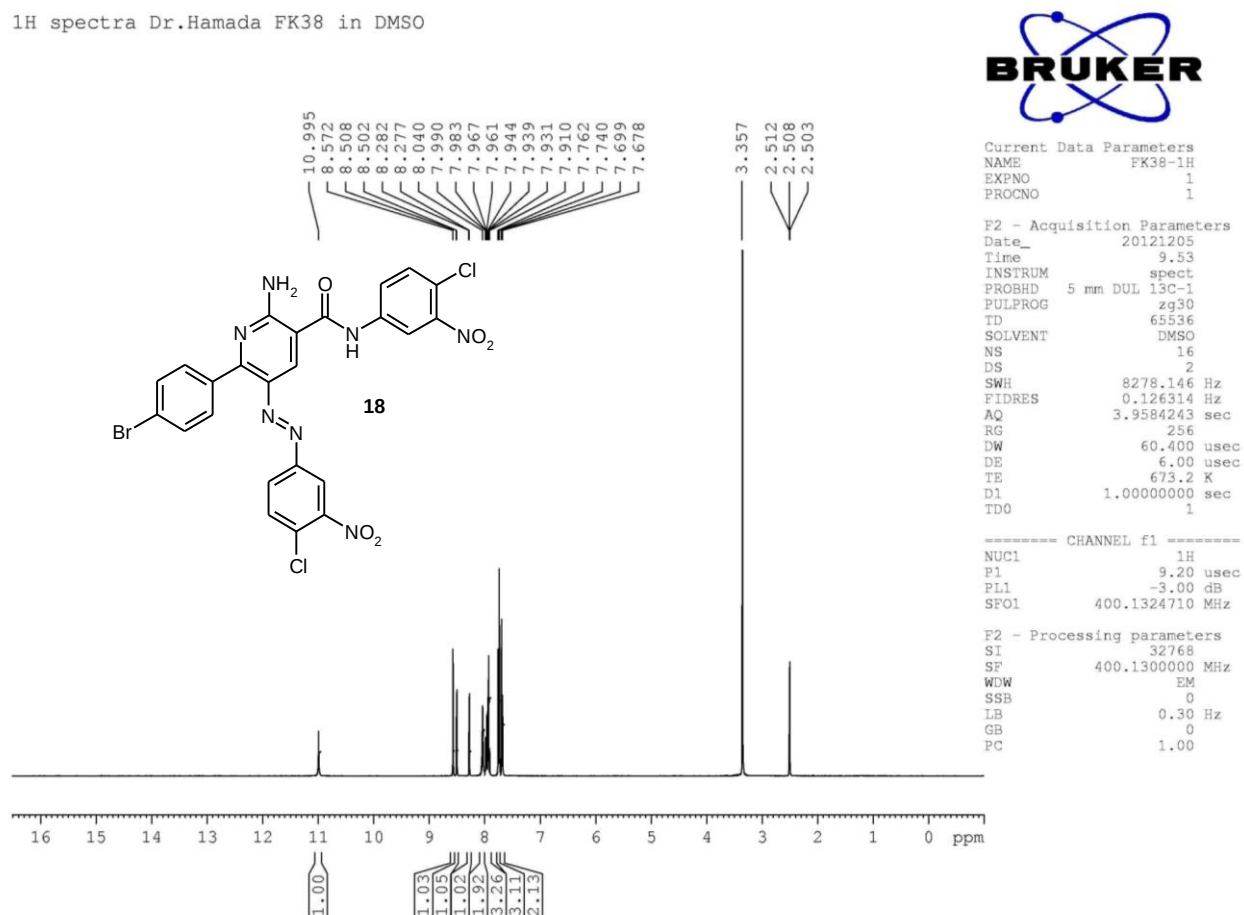
Figure S7. ^1H -NMR spectra of compound **18**. ^1H spectra Dr.Hamada FK38 in DMSO

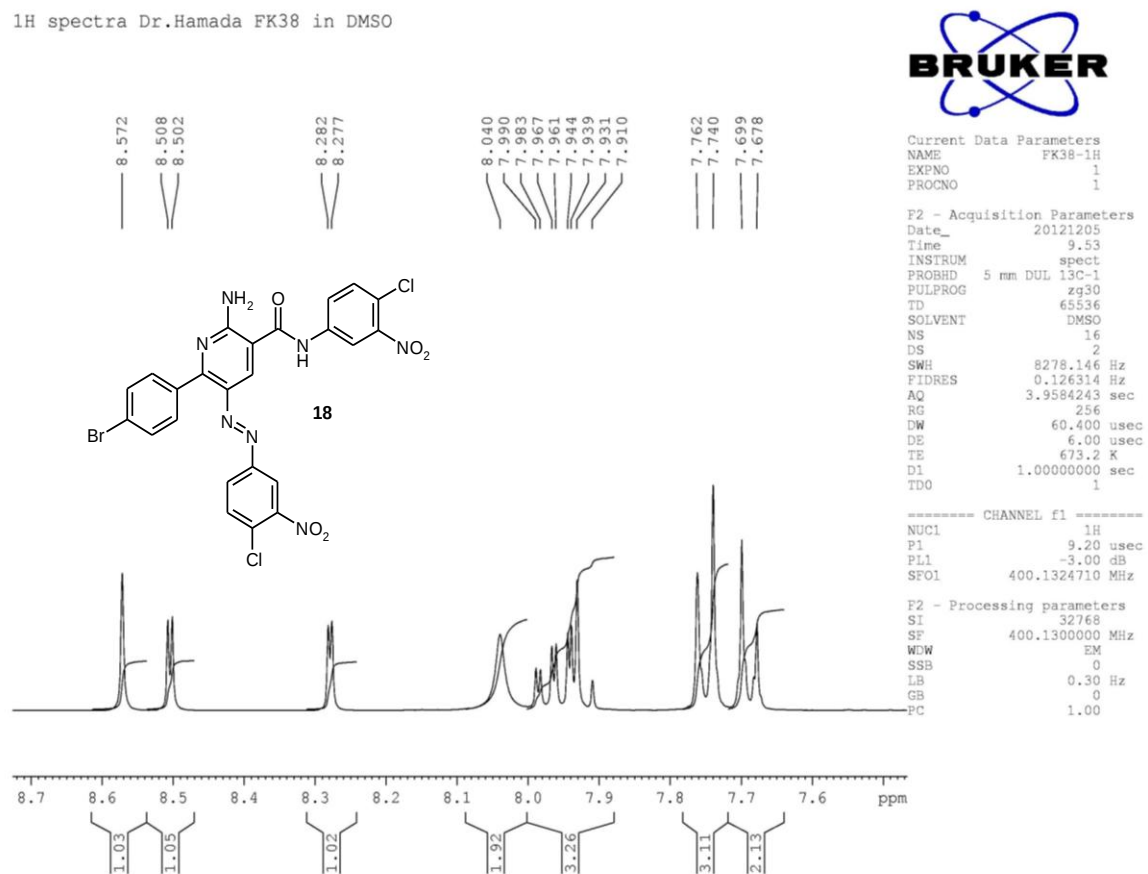
Figure S8. ^1H -NMR expansion of compound **18**.

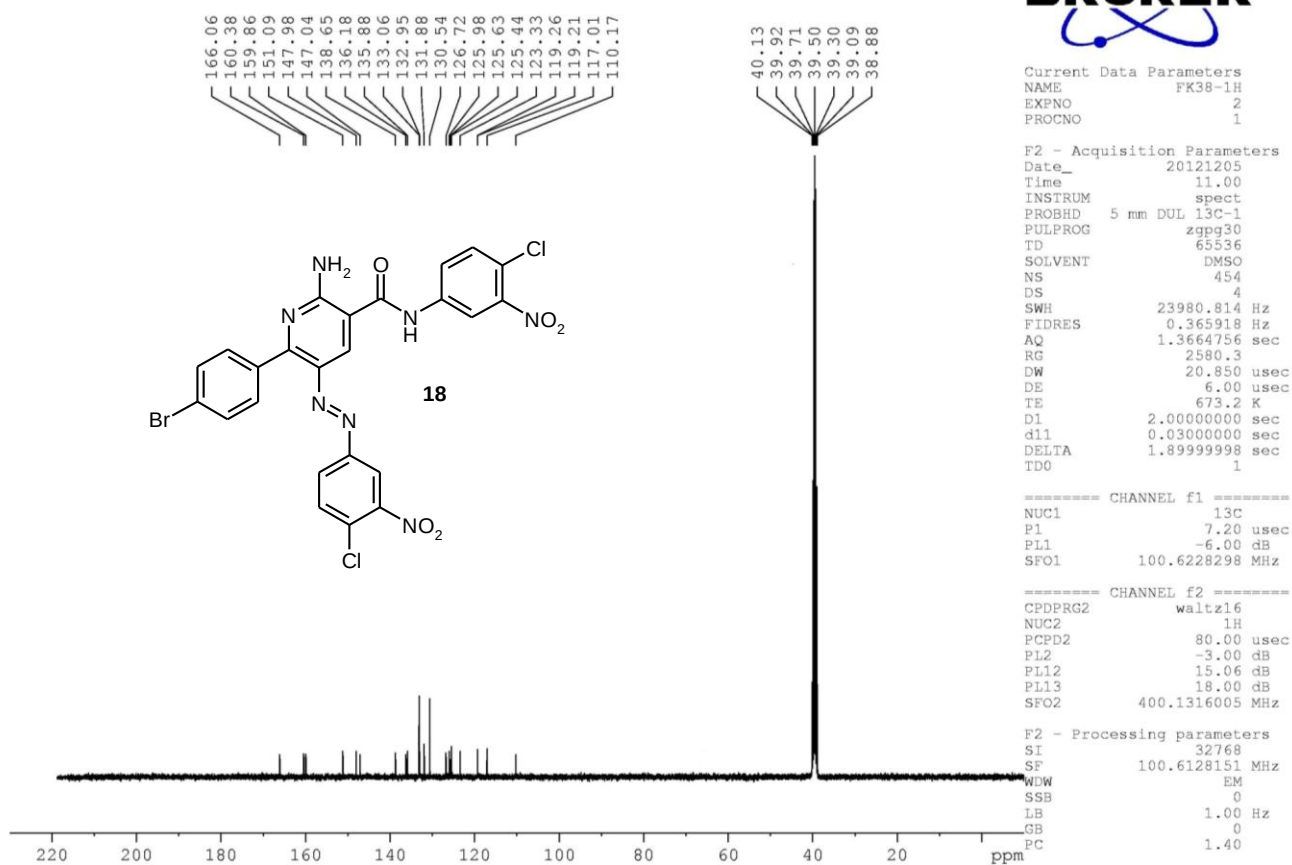
Figure S9. ^{13}C -NMR spectra of compound 18. ^{13}C decoupled spectra Dr.Hamada FK38 in DMSO

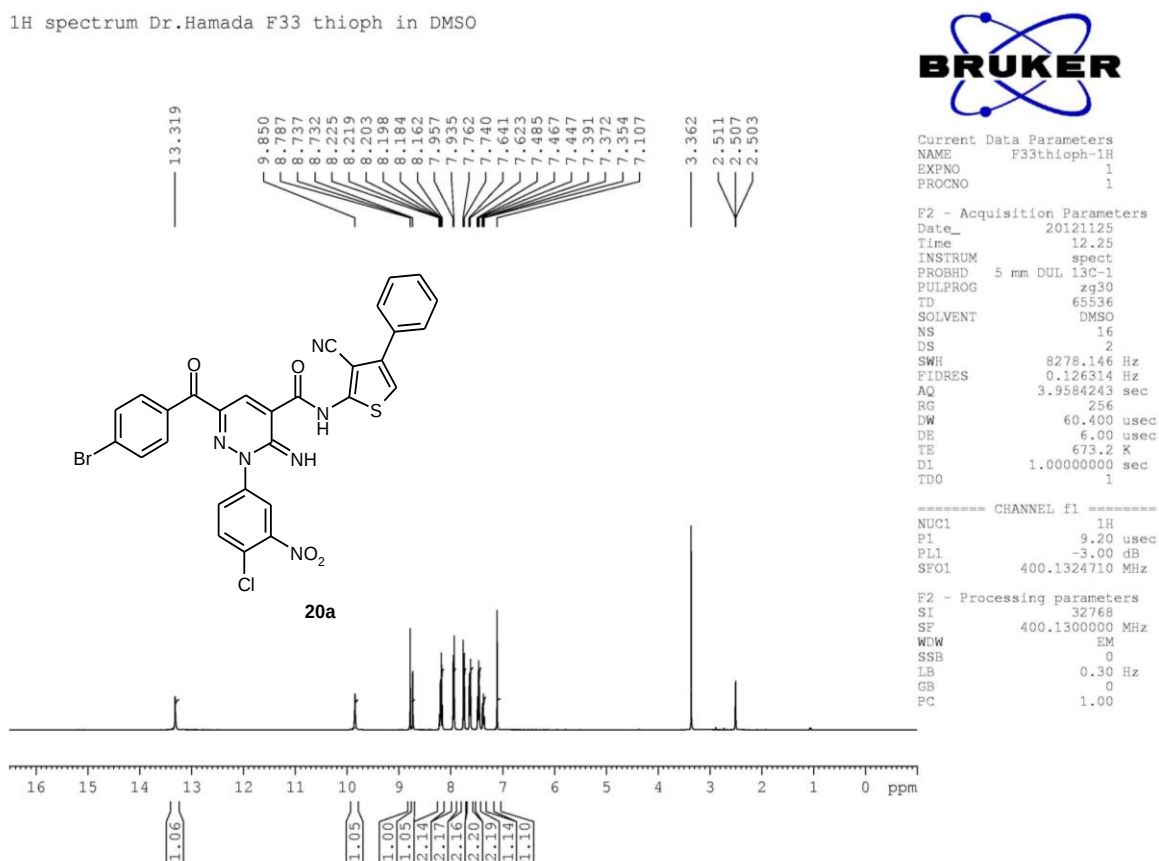
Figure S10. ^1H -NMR spectra of compound 20a. ^1H spectrum Dr.Hamada F33 thioph in DMSO

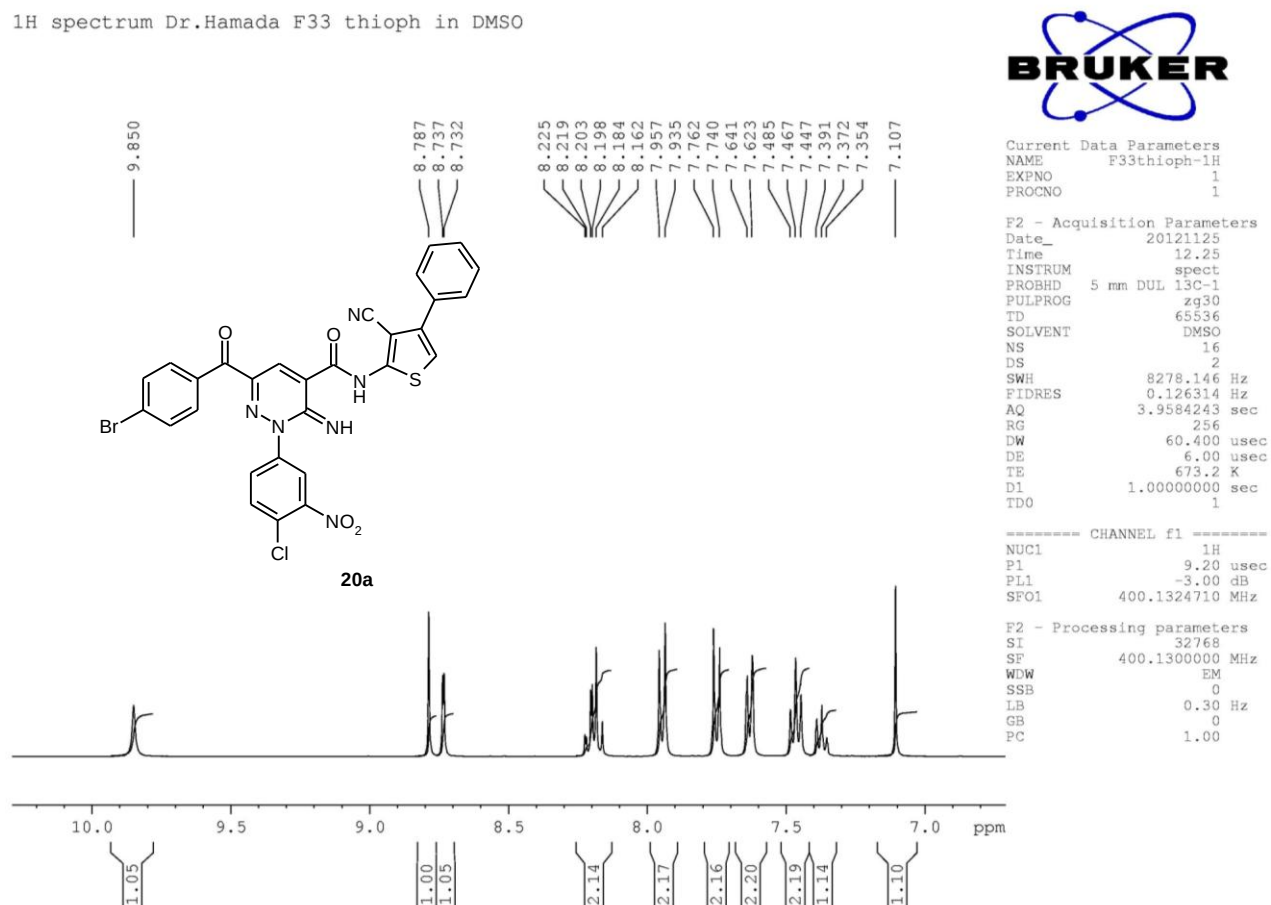
Figure S11. ^1H -NMR expansion of compound **20a**. ^1H spectrum Dr.Hamada F33 thioph in DMSO

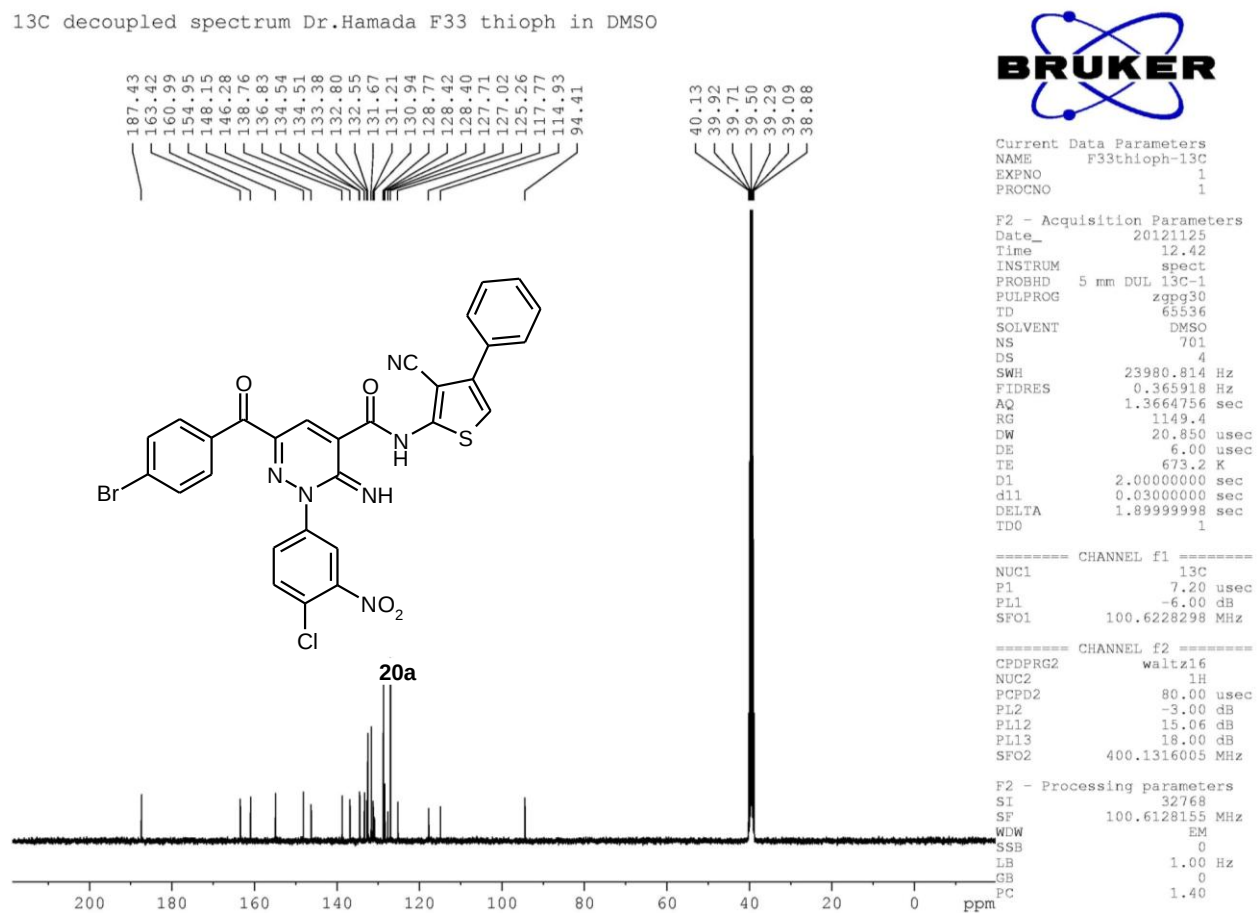
Figure S12. ^{13}C -NMR spectra of compound 20a. ^{13}C decoupled spectrum Dr.Hamada F33 thioph in DMSO

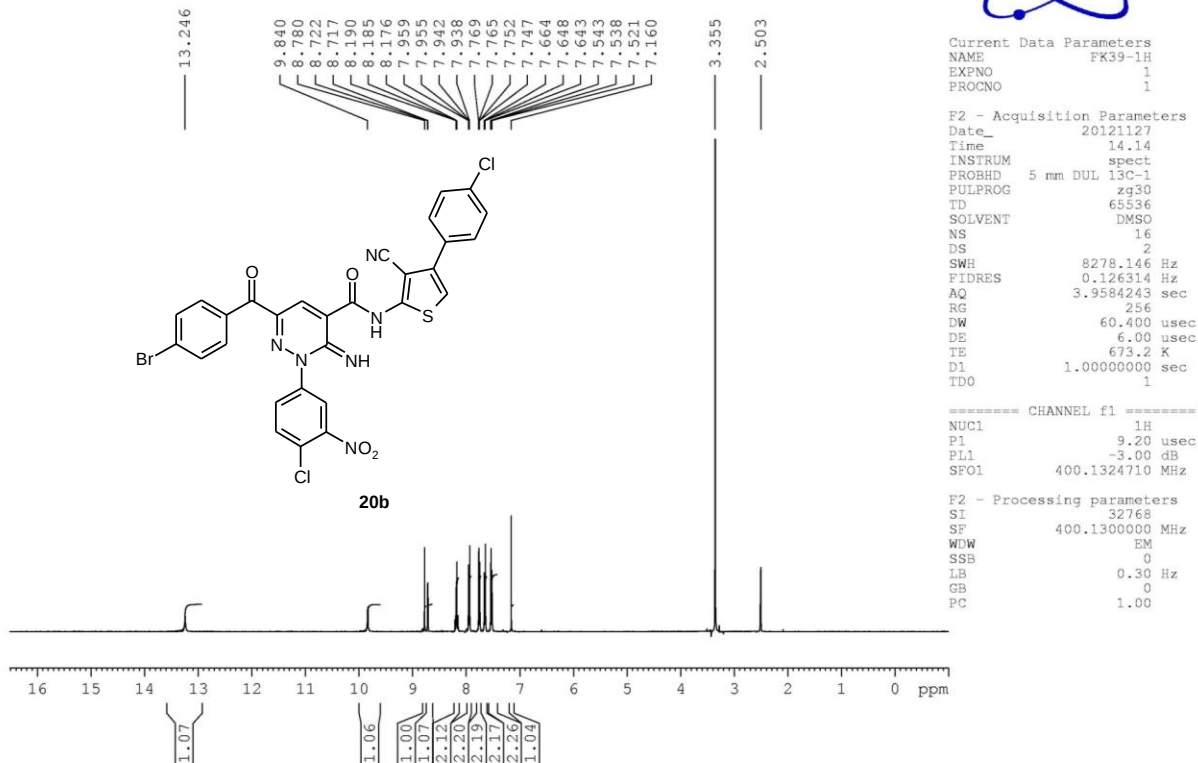
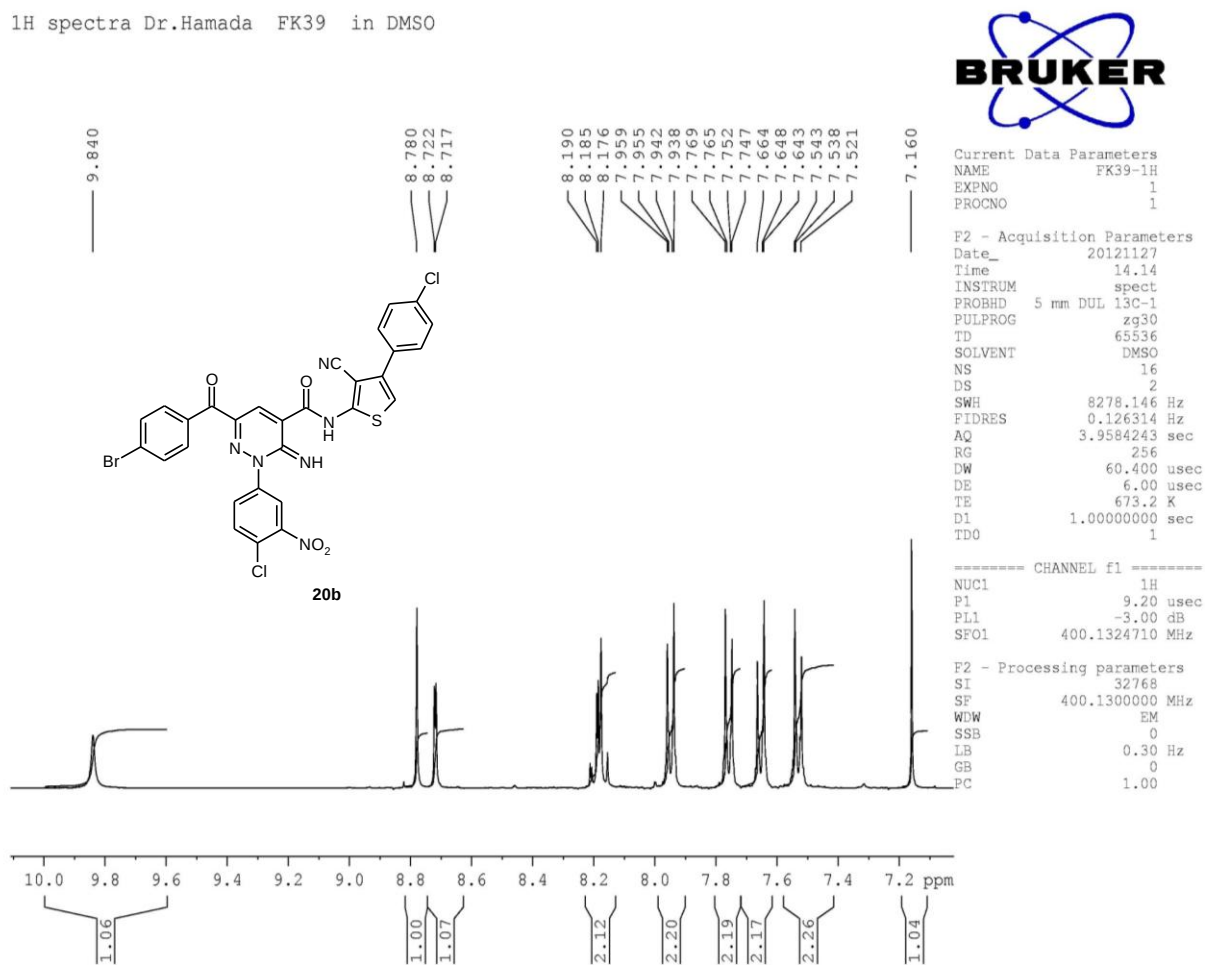
Figure S13. ^1H -NMR spectra of compound **20b**. ^1H spectra Dr.Hamada FK39 in DMSO

Figure S14. ^1H -NMR expansion of compound **20b**. ^1H spectra Dr.Hamada FK39 in DMSO

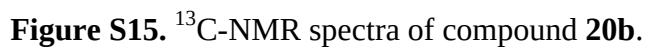


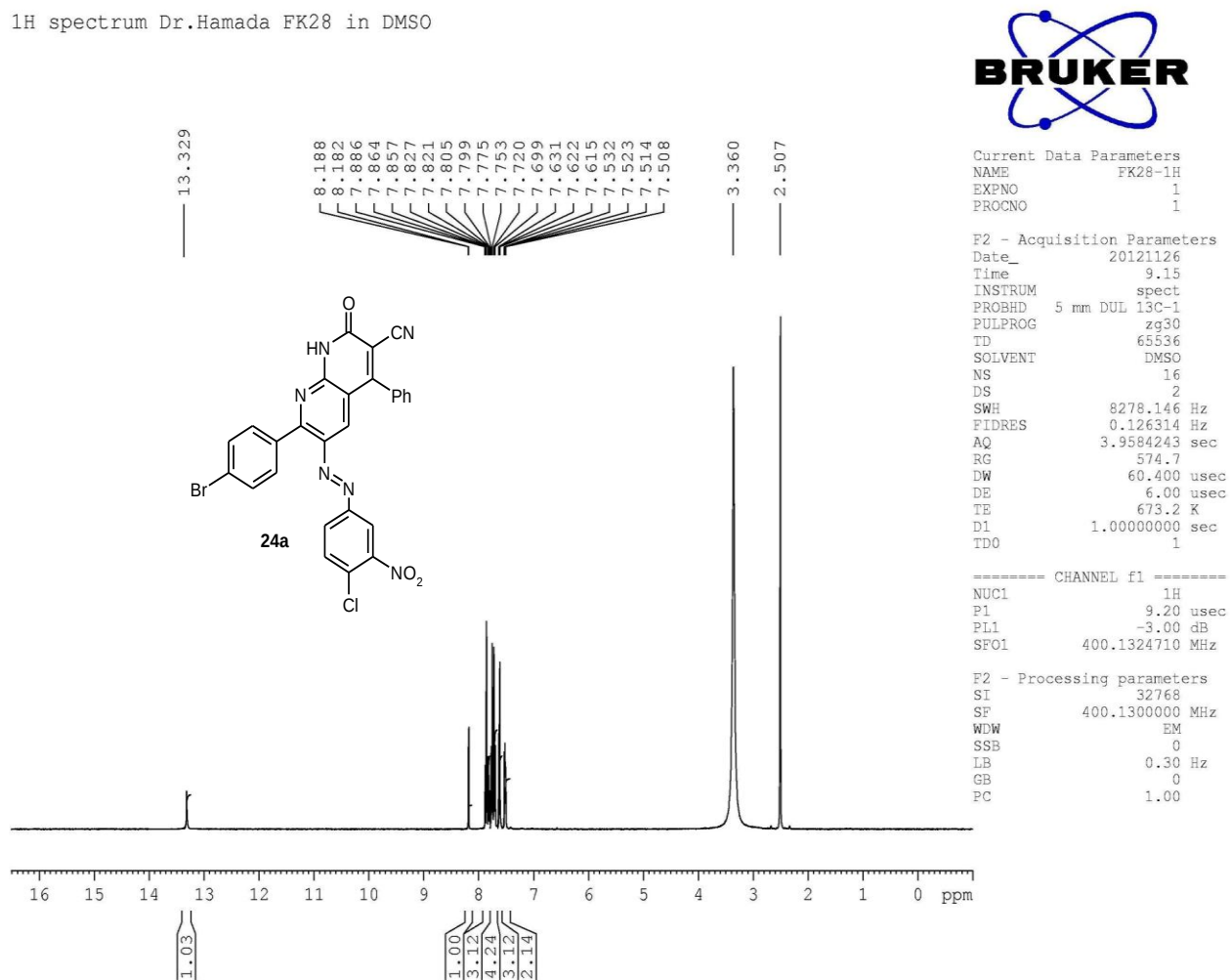
Figure S16. ^1H -NMR spectra of compound **24a**. ^1H spectrum Dr.Hamada FK28 in DMSO

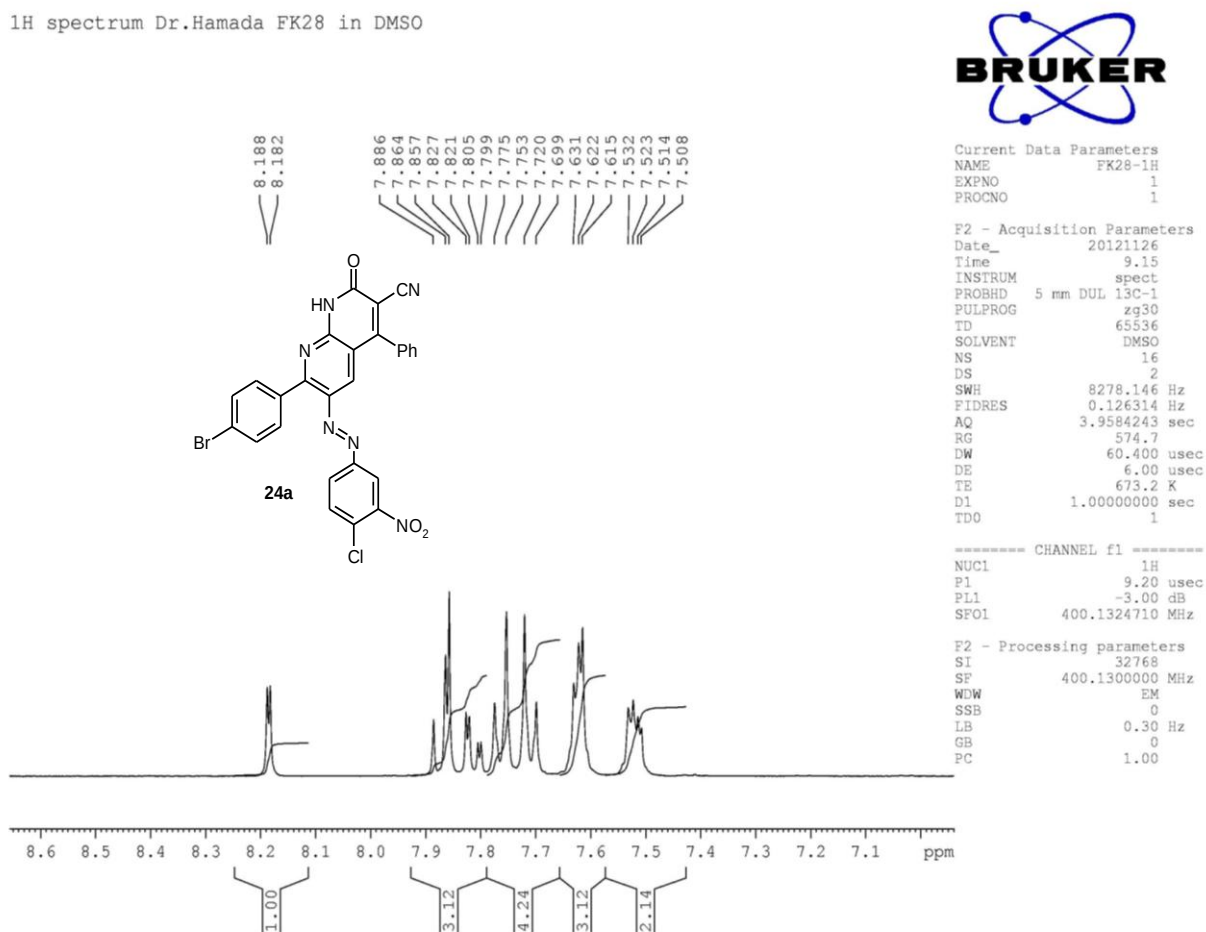
Figure S17. ^1H -NMR expansion of compound **24a**. ^1H spectrum Dr.Hamada FK28 in DMSO

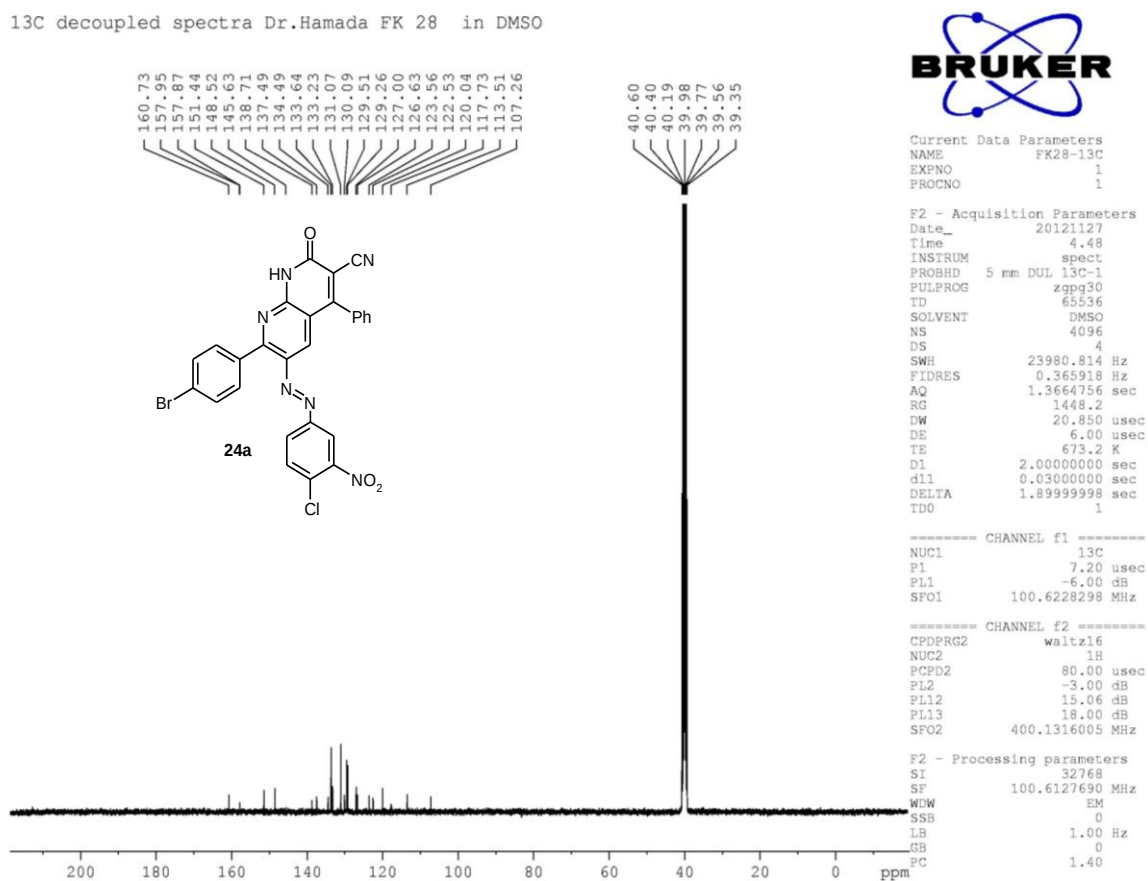
Figure S18. ^{13}C -NMR spectra of compound 24a. ^{13}C decoupled spectra Dr.Hamada FK 28 in DMSO

Figure S20. ^1H -NMR expansion of compound **24b**. ^1H spectrum Dr.Hamada FK 84C in DMSO

Current Data Parameters
NAME FK84C-1H
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20130530
Time 11.45
INSTRUM spect
PROBHD 5 mm DUL 13C-1
PULPROG zg30
TD 65536
SOLVENT DMSO
NS 16
DS 2
SWH 8278.146 Hz
FIDRES 0.126314 Hz
AQ 3.9584243 sec
RG 362
DW 60.400 usec
DE 6.00 usec
TE 673.2 K
D1 1.00000000 sec
TD0 1

CHANNEL f1
NUC1 1H
P1 9.20 usec
PL1 -3.00 dB
SFO1 400.1324710 MHz

F2 - Processing parameters
SI 32768
SF 400.1300000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 2.00

