

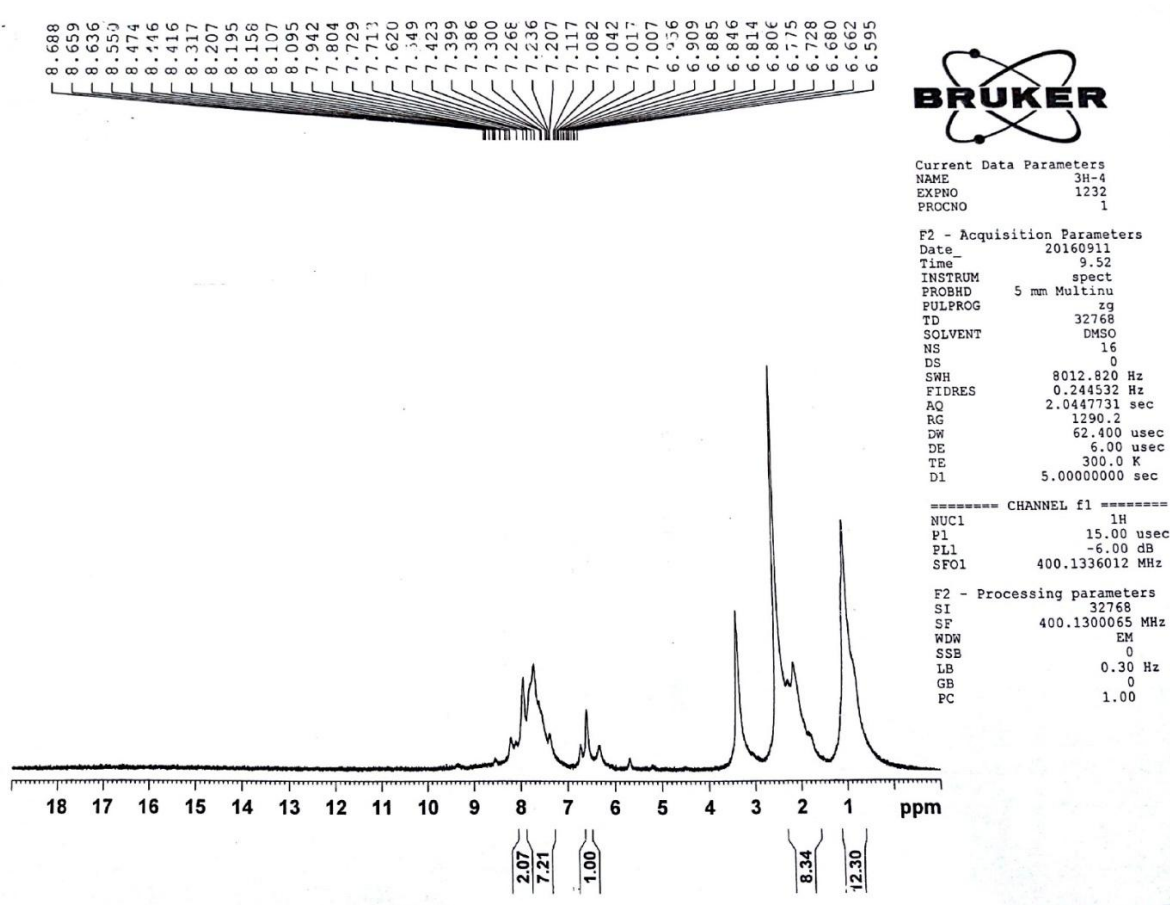
SUPPLEMENTARY INFORMATION

Title: **Sonochemical one pot synthesis of novel spiroacridines catalyzed by magnetically functionalized Fe₃O₄ nanoparticles with chitosan as a reusable effective catalyst**

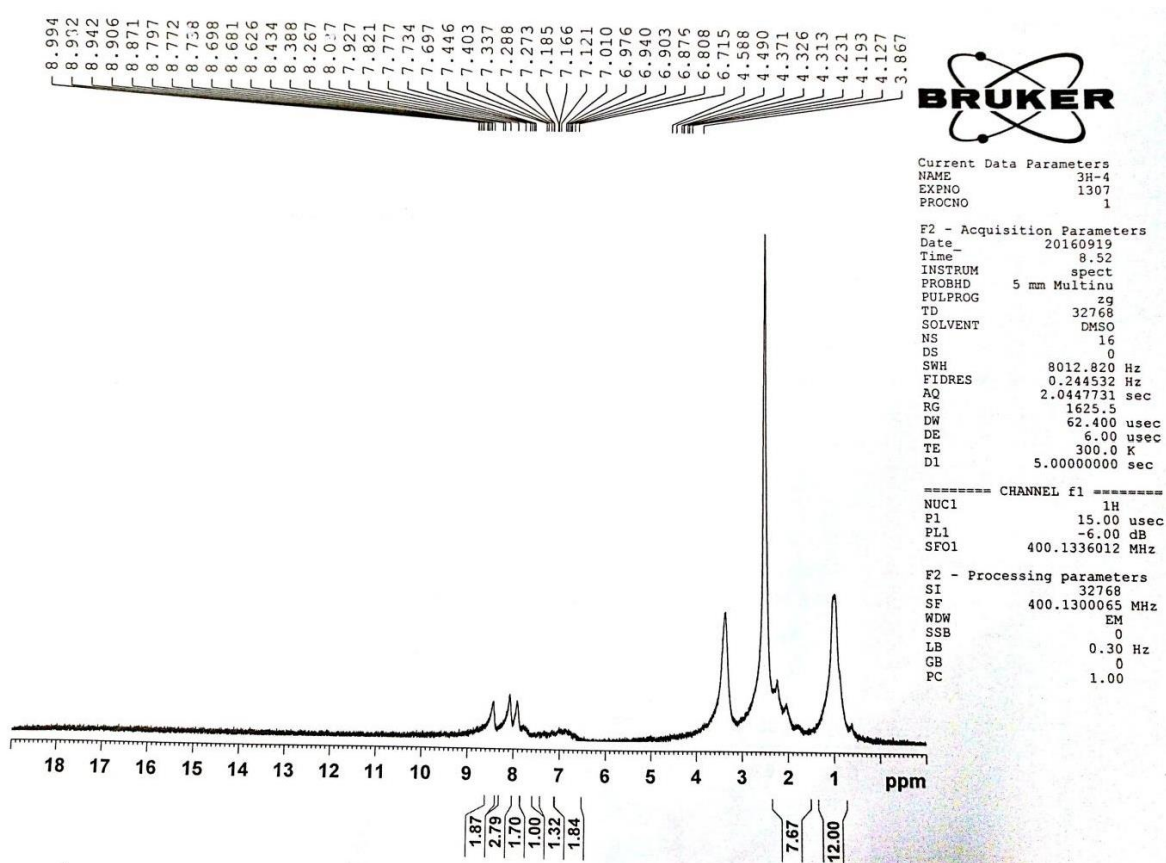
Authors: Hossein Naeimi* and Sepideh Lahouti

NMR data

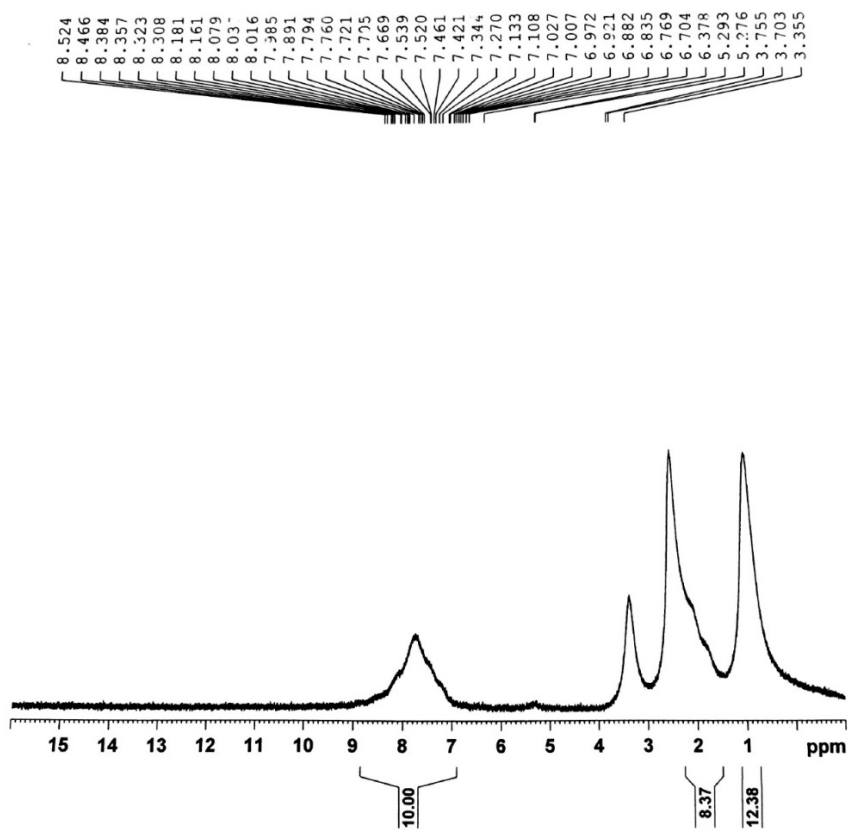
¹H NMR spectra of 3',3',6',6'-tetramethyl-10'-(4-nitrophenyl)-3',4',6',7'-tetrahydro-2H,2'H-spiro[acenaphthylene-1,9'-acridine]-1',2,8'(5'H,10'H)-trione(4a)



¹H NMR spectra of 10'-(4-hydroxyphenyl)-3',3',6',6'-tetramethyl-3',4',6',7'-tetrahydro-2H,2'H-spiro[acenaphthylene-1,9'-acridine]-1',2,8'(5'H,10'H)-trione(4b)



¹H NMR spectra of 10'-(4-chlorophenyl)-3',3',6',6'-tetramethyl-3',4',6',7'-tetrahydro-2H,2'H-spiro[acenaphthylene-1,9'-acridine]-1',2,8'(5'H,10'H)-trione(4c)



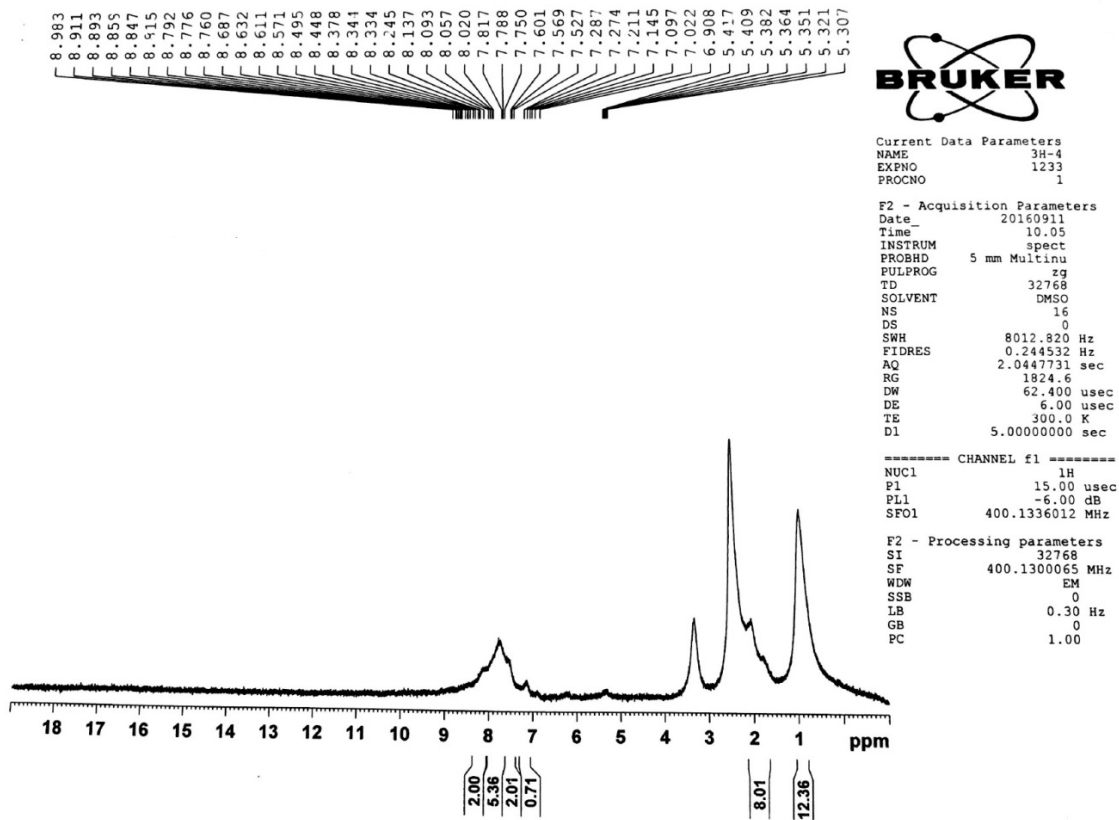
Current Data Parameters
 NAME 3H-4
 EXPNO 1240
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20160911
 Time 11.34
 INSTRUM spect
 PROBHD 5 mm Multinu
 PULPROG zg
 TD 32768
 SOLVENT DMSO
 NS 16
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.244532 Hz
 AQ 2.0447731 sec
 RG 1149.4
 DW 62.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 5.0000000 sec

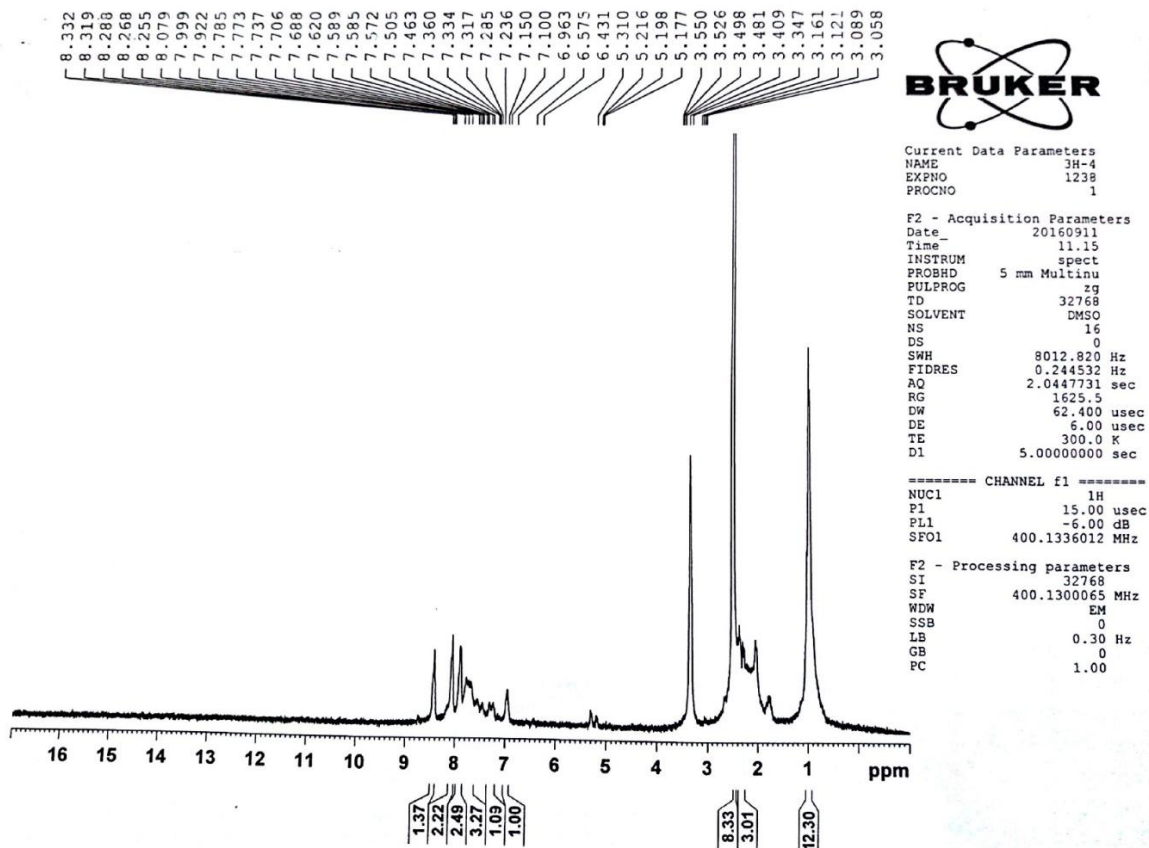
----- CHANNEL f1 -----
 NUC1 1H
 P1 15.00 usec
 PL1 -6.00 dB
 SF01 400.1336012 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300065 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

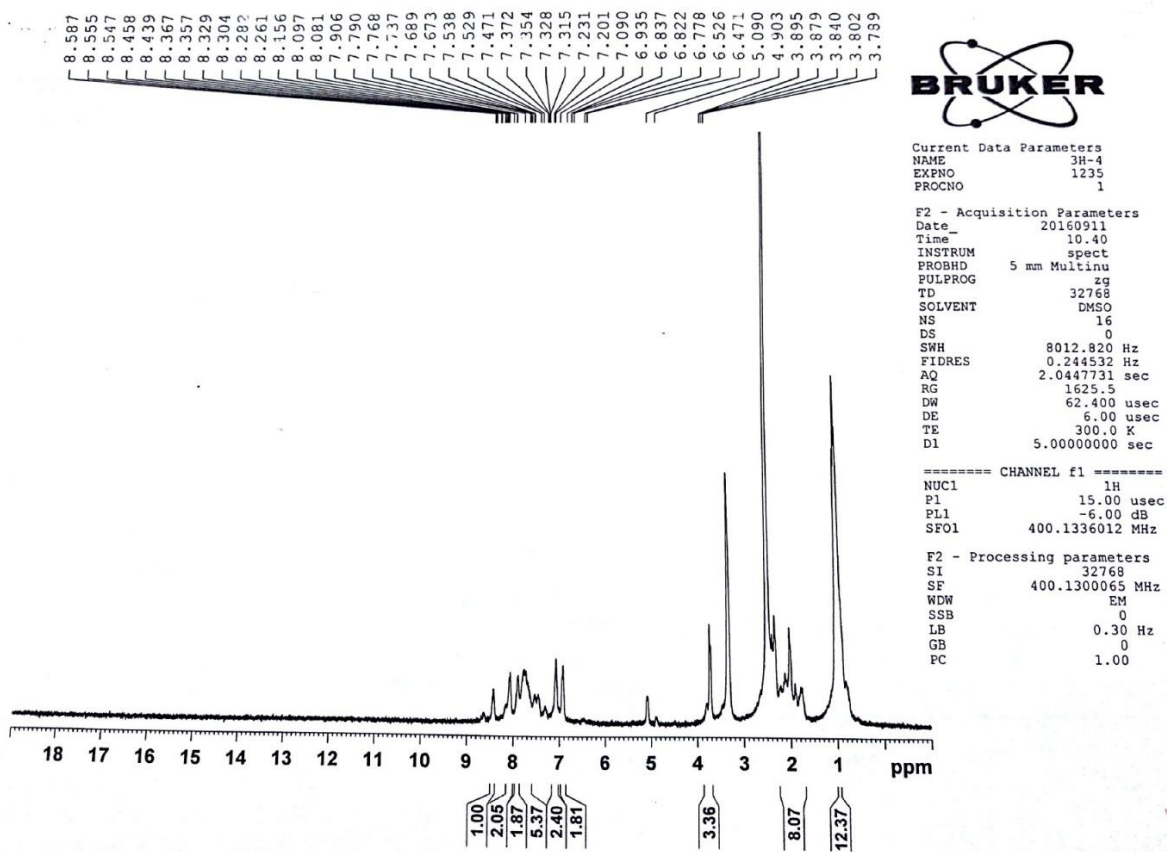
¹H NMR spectra of 10'-(4-bromophenyl)-3',3',6',6'-tetramethyl-3',4',6',7'-tetrahydro-2H,2'H-spiro[acenaphthylene-1,9'-acridine]-1',2,8'(5'H,10'H)-trione(4d)



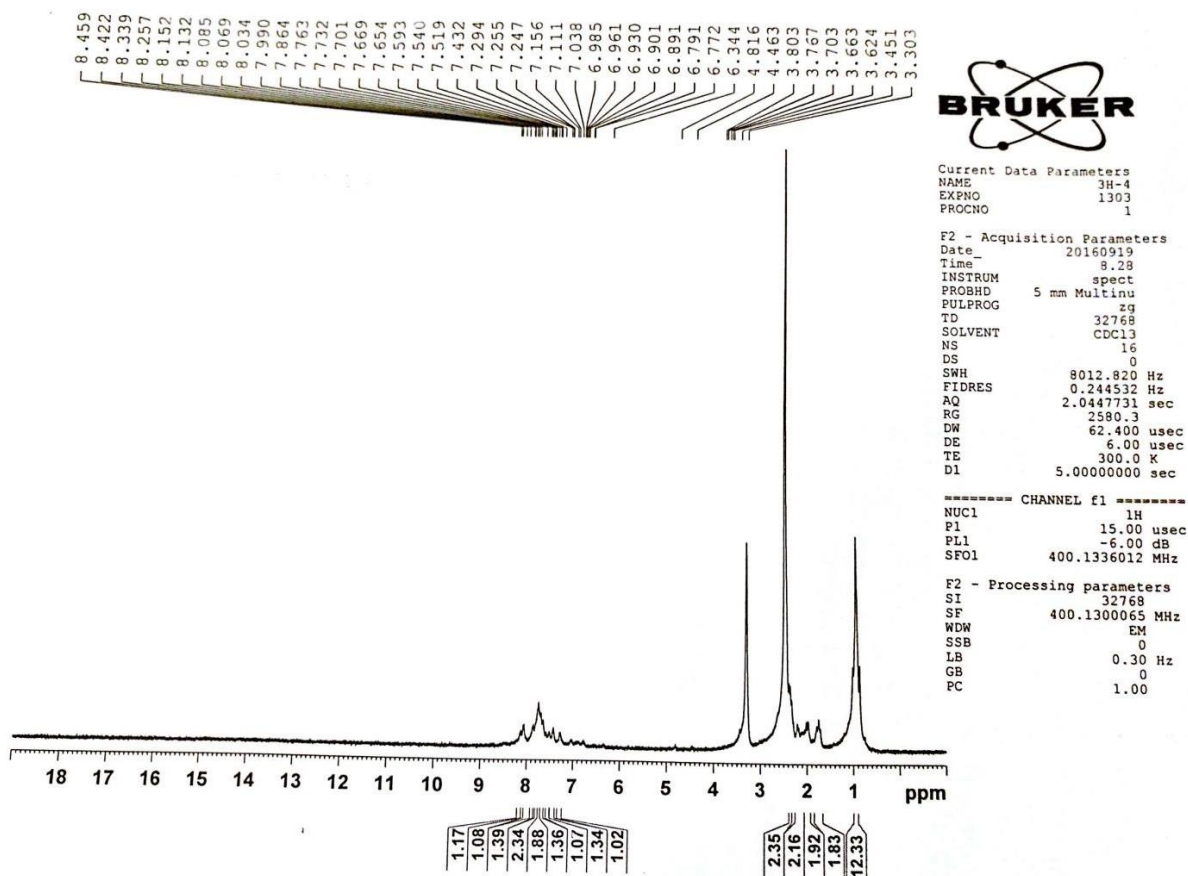
¹H NMR spectra of 3',3',6',6'-tetramethyl-10'-(p-tolyl)-3',4',6',7'-tetrahydro-2H,2'H-spiro[acenaphthylene-1,9'-acridine]-1',2,8'(5'H,10'H)-trione(4e)



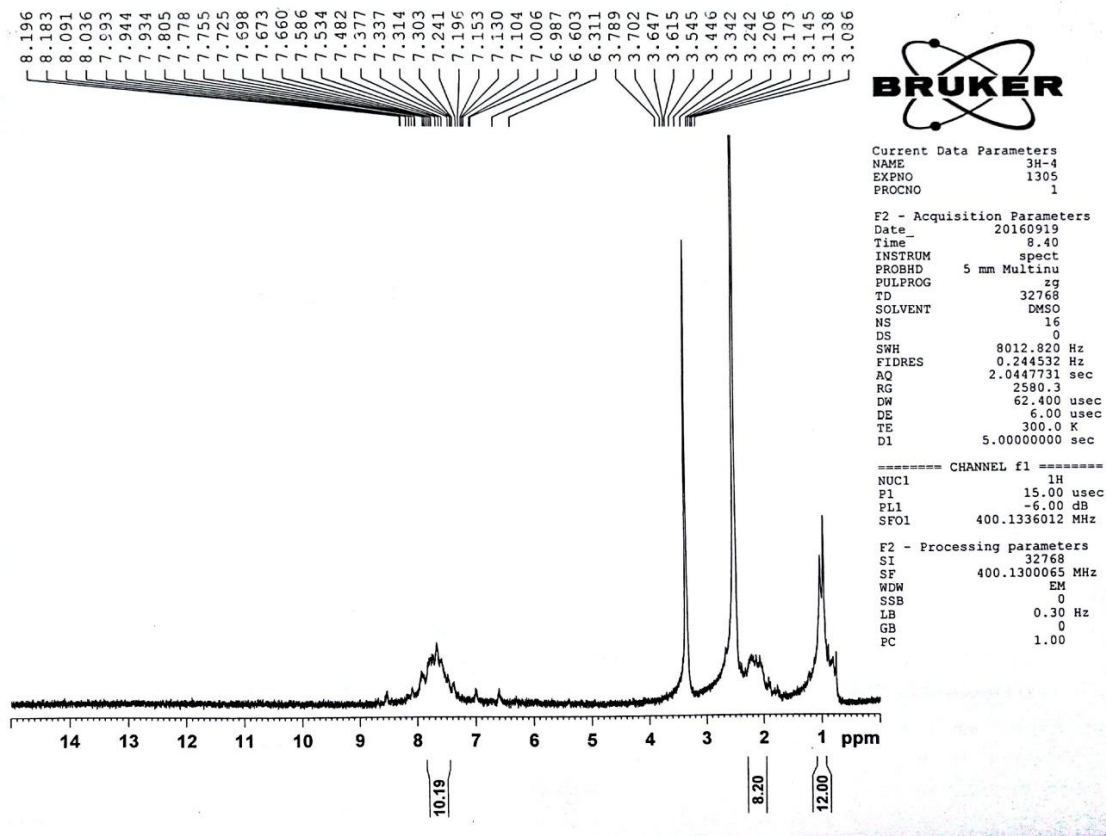
^1H NMR spectra of 10'-(4-methoxyphenyl)-3',3',6',6'-tetramethyl-3',4',6',7'-tetrahydro-2H,2'H-spiro[acenaphthylene-1,9'-acridine]-1',2,8'(5'H,10'H)-trione(4f)



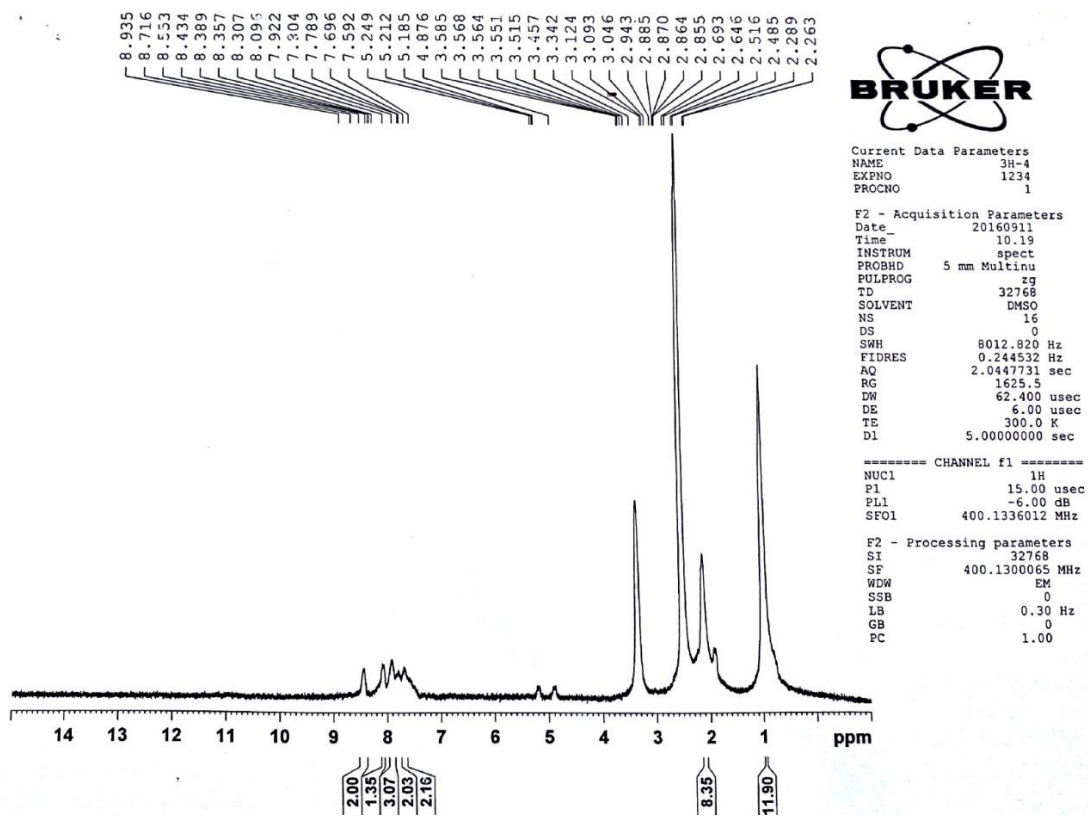
¹H NMR spectra of 10'-(2-hydroxyphenyl)-3',3',6',6'-tetramethyl-3',4',6',7'-tetrahydro-2H,2'H-spiro[acenaphthylene-1,9'-acridine]-1',2,8'(5'H,10'H)-trione(4g)



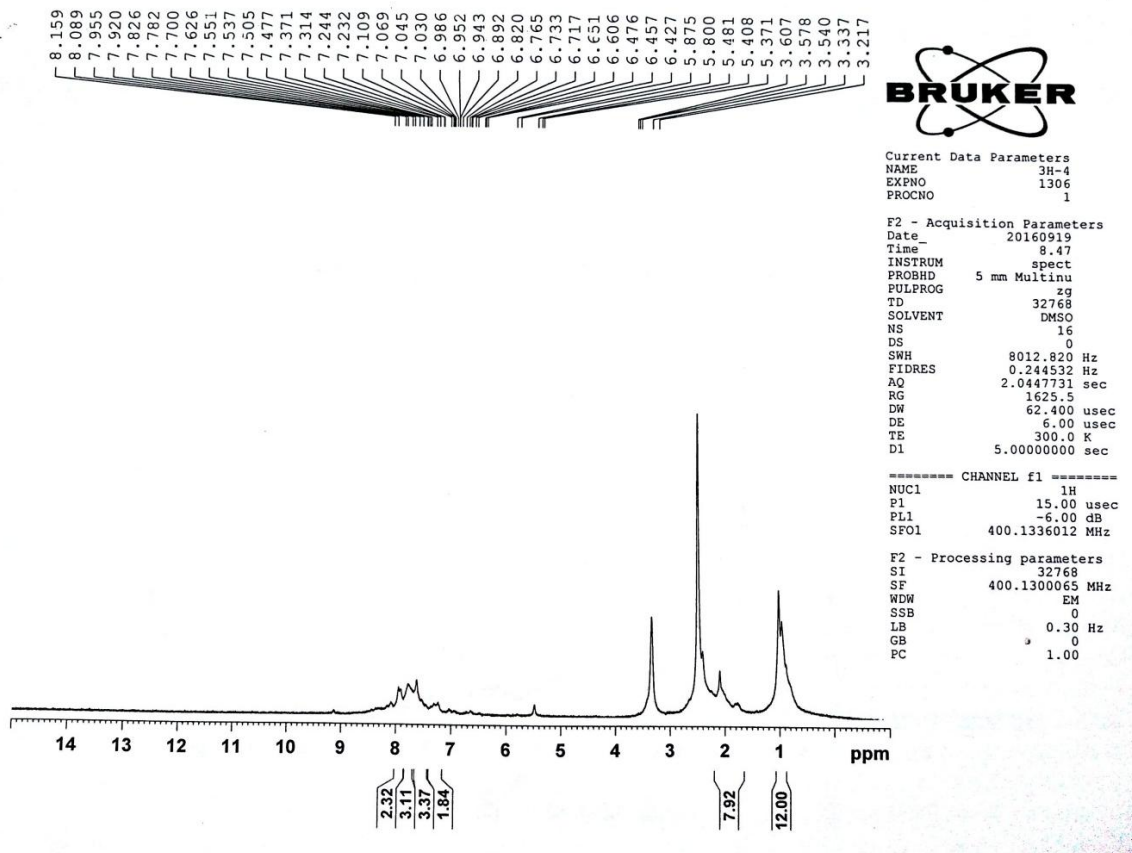
¹H NMR spectra of 3',3',6',6'-tetramethyl-10'-(2-nitrophenyl)-3',4',6',7'-tetrahydro-2H,2'H-spiro[acenaphthylene-1,9'-acridine]-1',2,8'(5'H,10'H)-trione(4h)



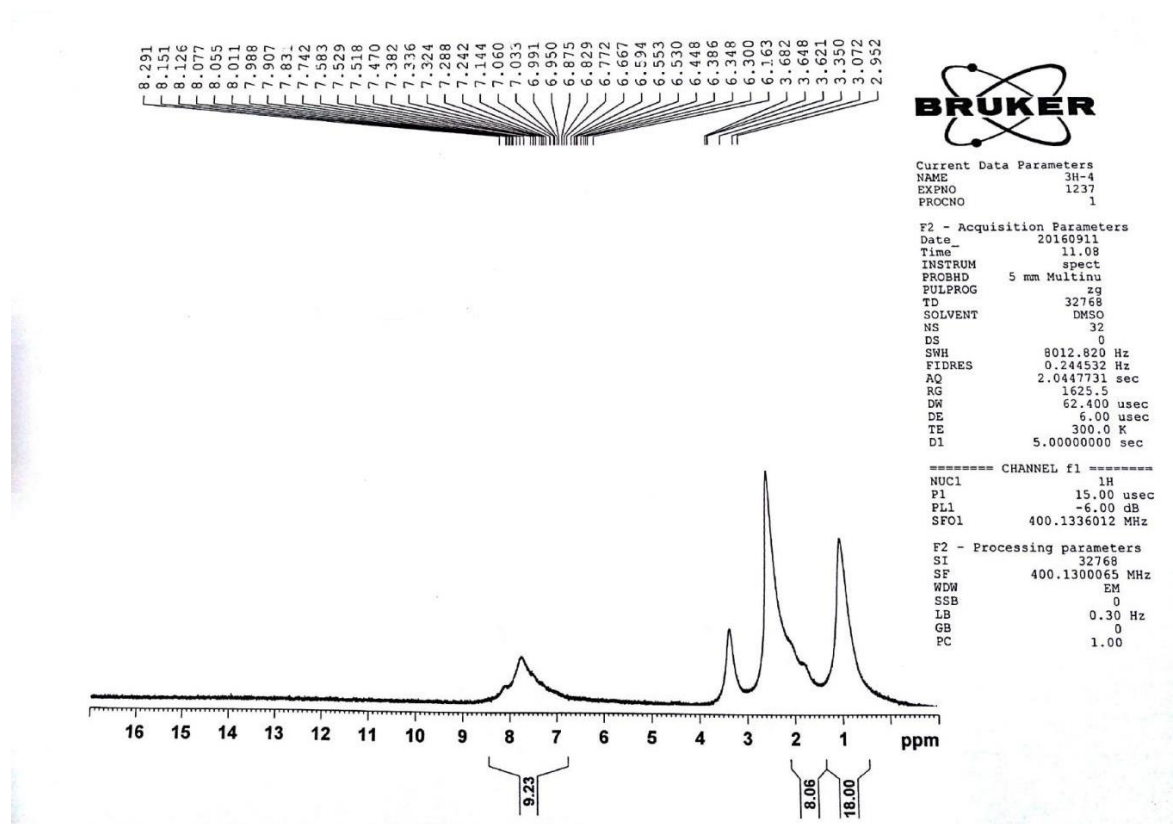
¹H NMR spectra of 10'-(2-chlorophenyl)-3',3',6',6'-tetramethyl-3',4',6',7'-tetrahydro-2H,2'H-spiro[acenaphthylene-1,9'-acridine]-1',2,8'(5'H,10'H)-trione(4i)



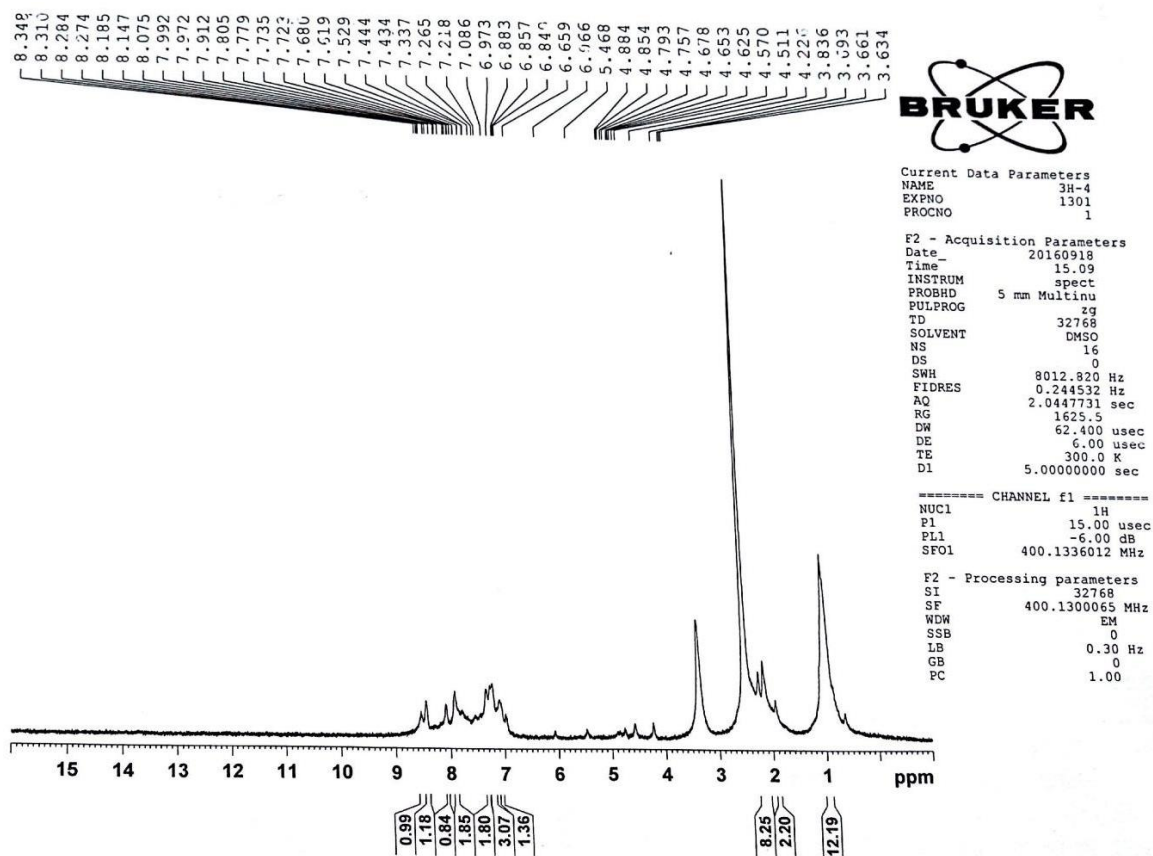
¹H NMR spectra of 3',3',6',6'-tetramethyl-10'-(3-nitrophenyl)-3',4',6',7'-tetrahydro-2H,2'H-spiro[acenaphthylene-1,9'-acridine]-1',2,8'(5'H,10'H)-trione(4j)



¹H NMR spectra of 10'-(2,4-dimethylphenyl)-3',3',6',6'-tetramethyl-3',4',6',7'-tetrahydro-2H,2'H-spiro[acenaphthylene-1,9'-acridine]-1',2,8'(5'H,10'H)-trione(4k)



¹H NMR spectra of 10'-benzyl-3',3',6',6'-tetramethyl-3',4',6',7'-tetrahydro-2H,2'H-spiro[acenaphthylene-1,9'-acridine]-1',2,8'(5'H,10'H)-trione(4I)



¹H NMR spectra of 10',10'''-(1,4-phenylene)bis(3',3',6',6'-tetramethyl-3',4',6',7'-tetrahydro-2H,2'H-spiro[acenaphthylene-1,9'-acridine]-1',2,8'(5'H,10'H)-trione (4m)

