

Supplementary Material

A simple one-pot synthesis of new 9-aryl-3,4,6,7,9,10-hexahydro-1,8(2*H*,5*H*)-acridinediones

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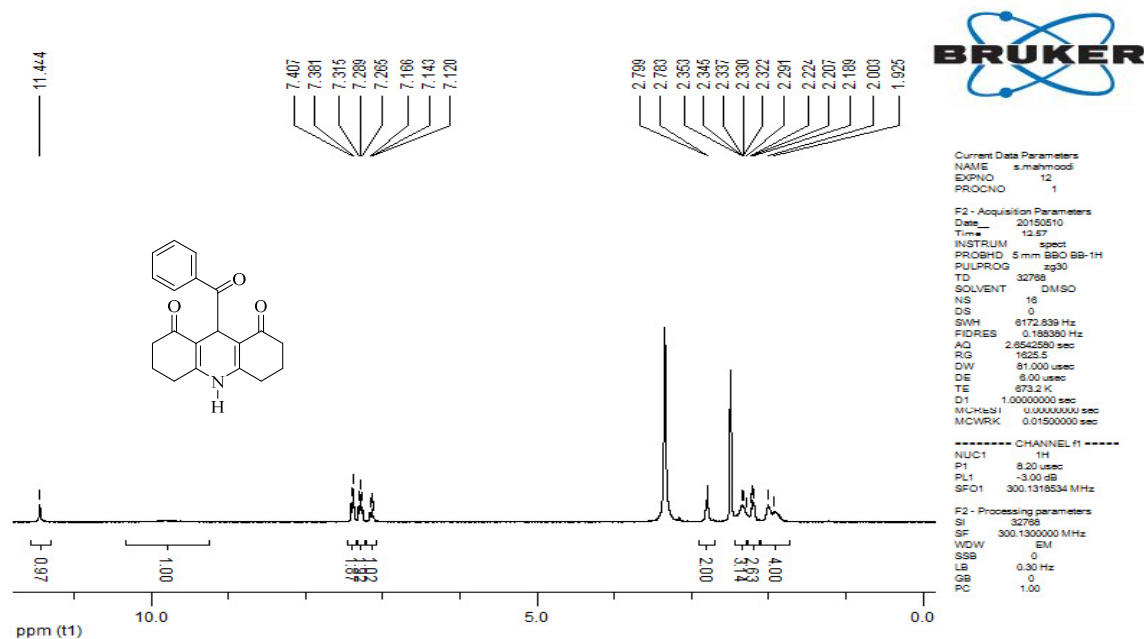
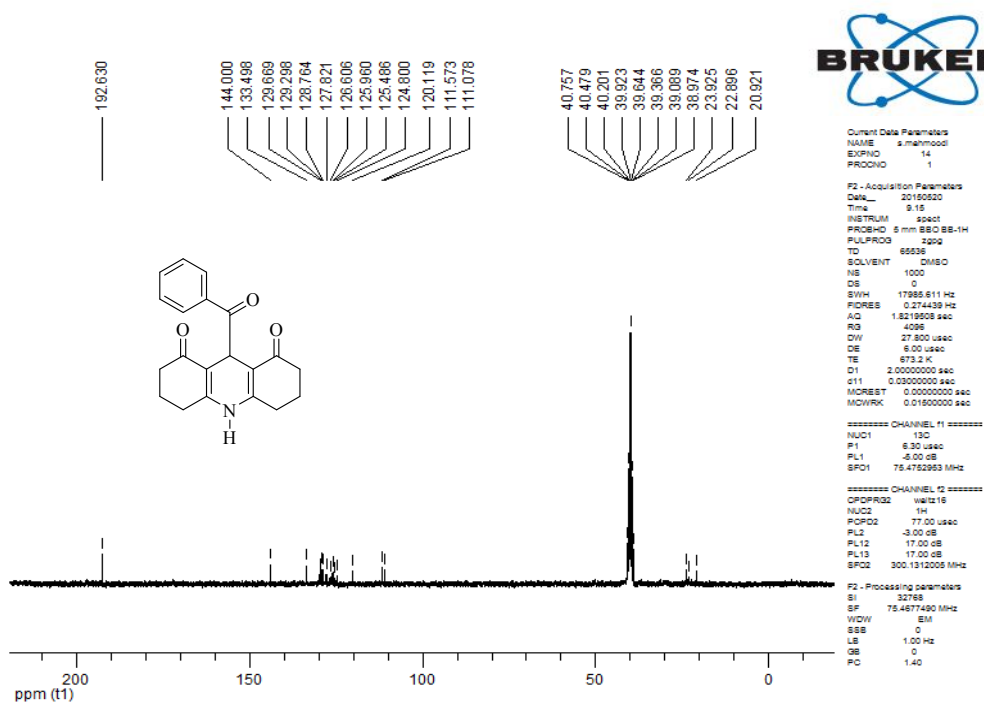
Figure S1. ^1H NMR spectrum (300 MHz, $\text{DMSO}-d_6$) of compound **4a**.**Figure S2.** ^{13}C NMR spectrum (75.5 MHz, $\text{DMSO}-d_6$) of compound **4a**.

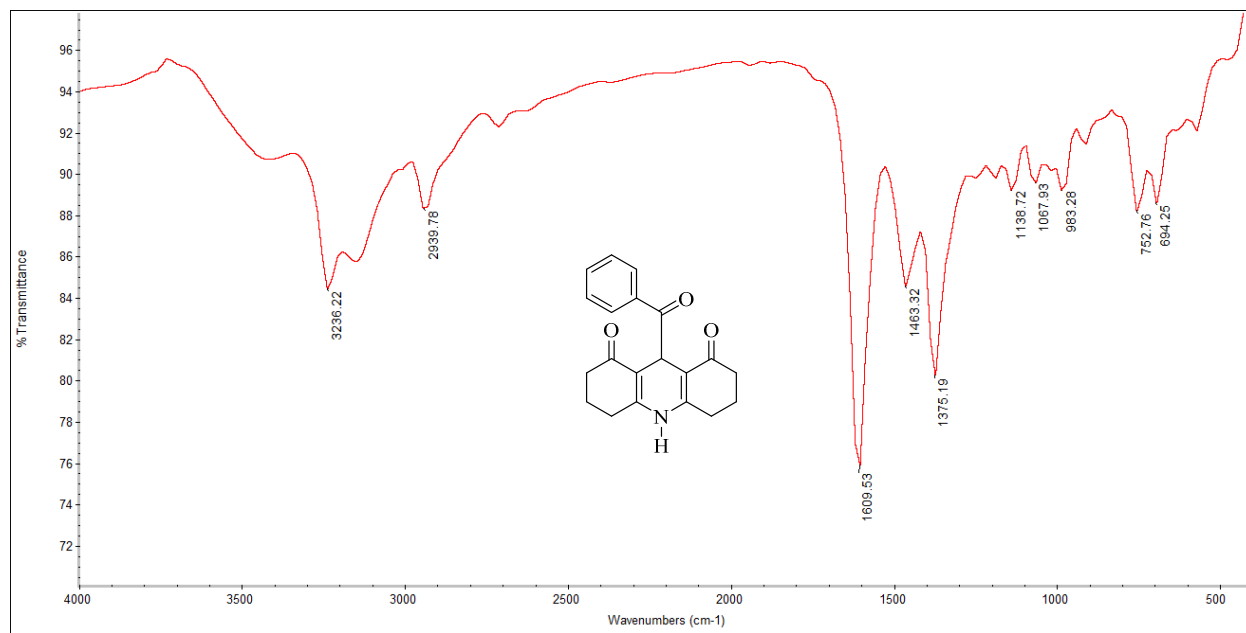
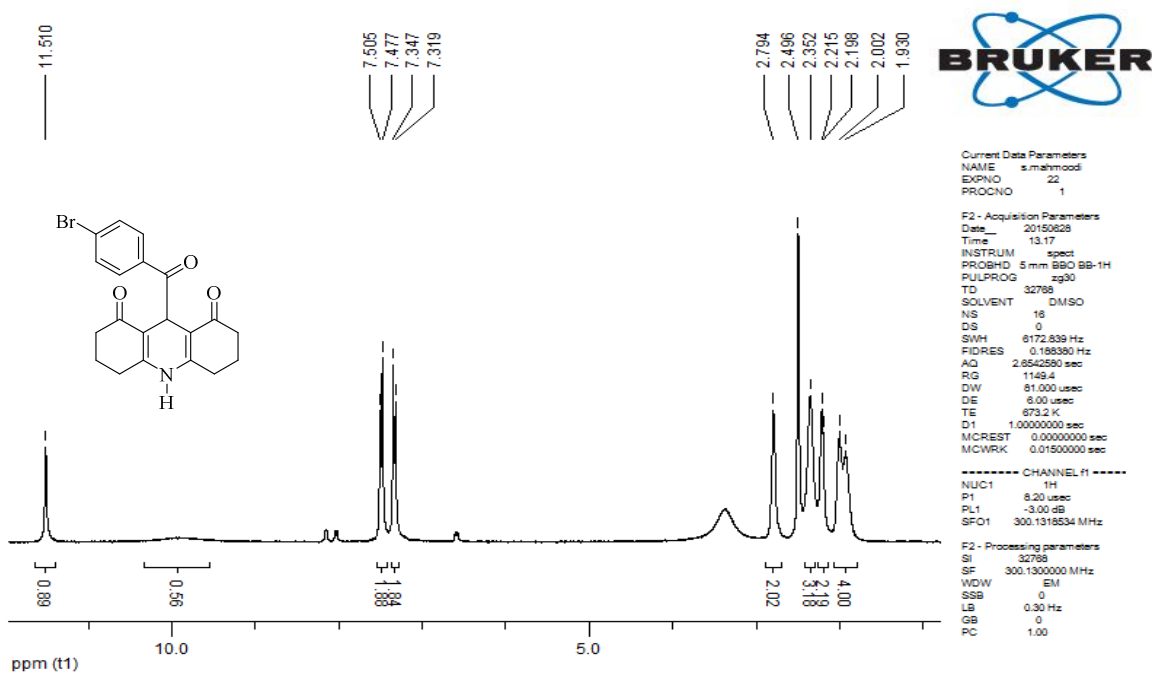
Figure S3. IR spectrum (KBr) of compound **4a**.**Figure S4.** ¹H NMR spectrum (300 MHz, DMSO-*d*₆) of compound **4b**.

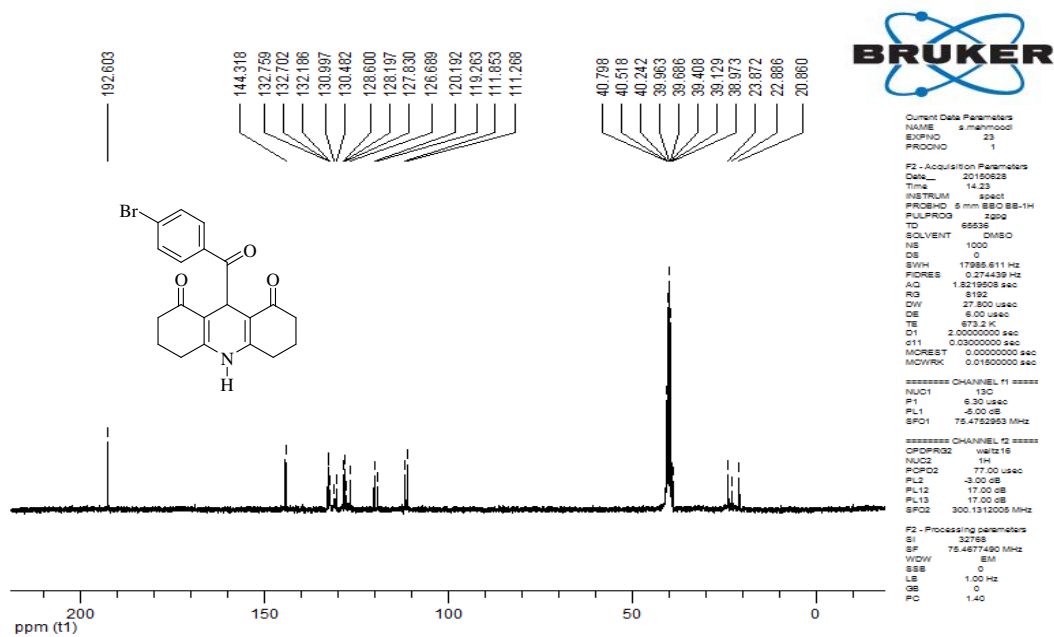
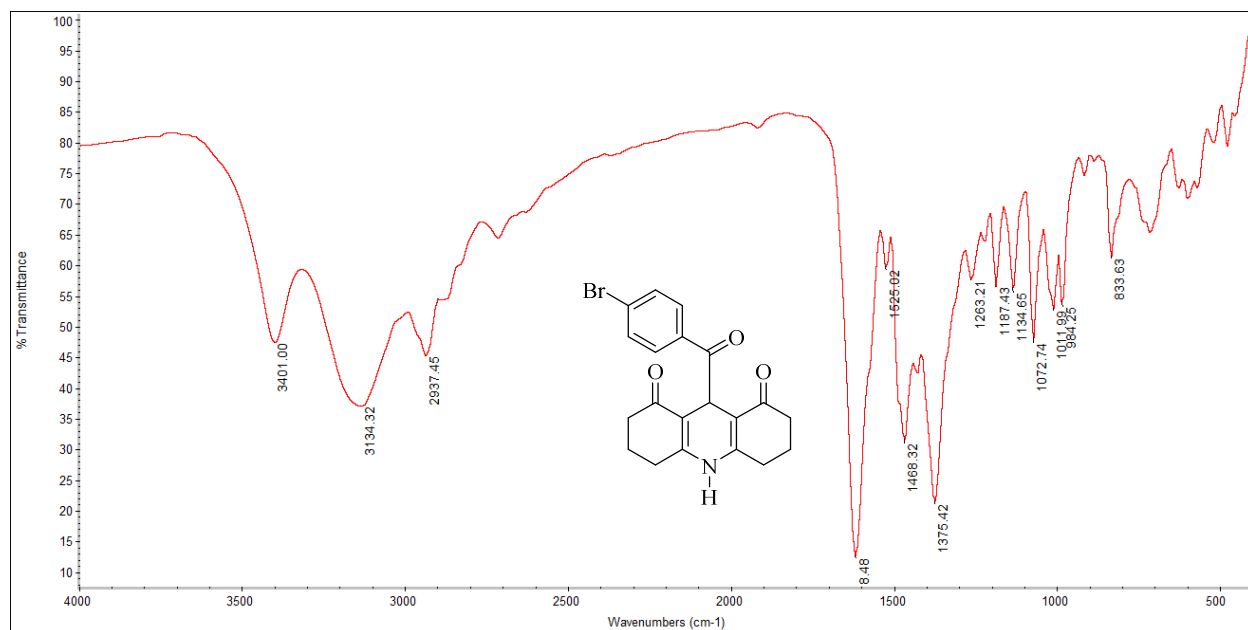
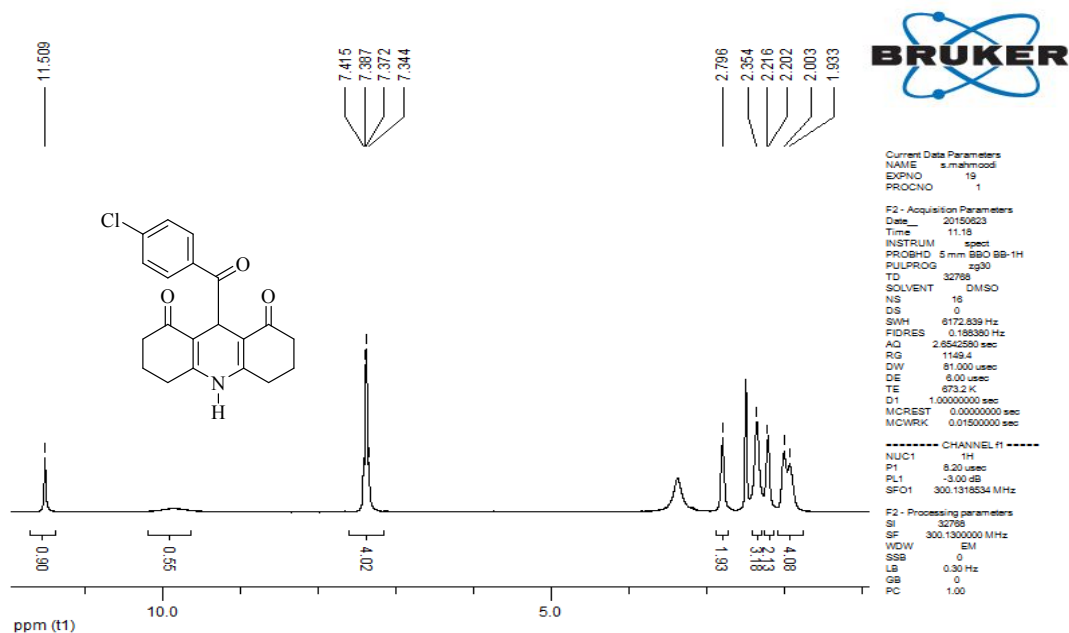
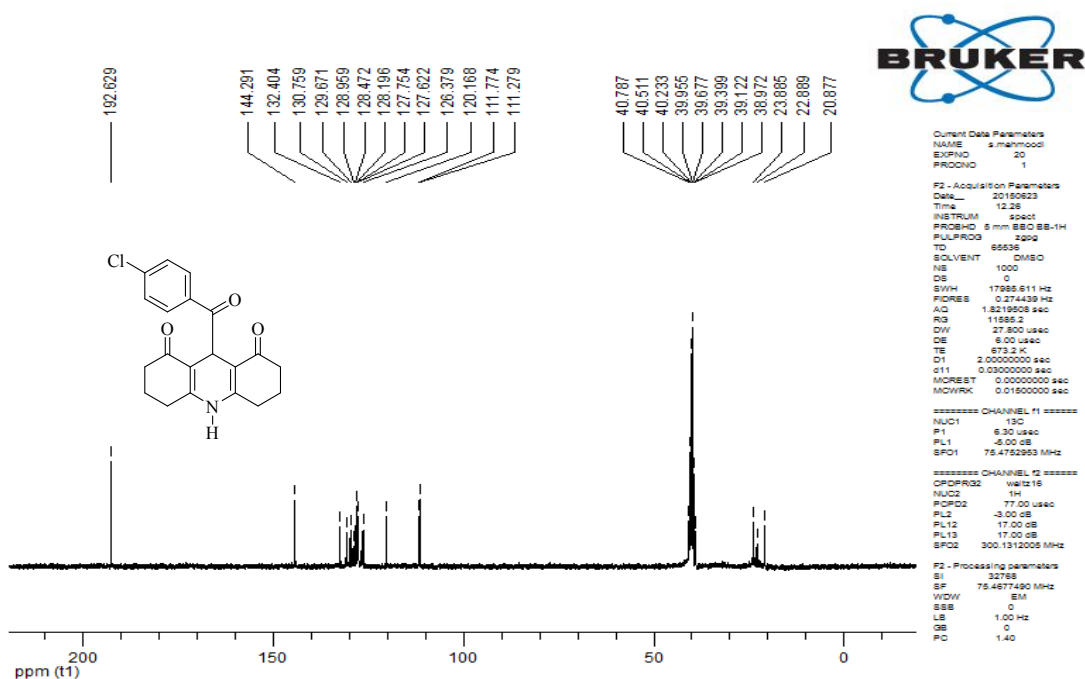
Figure S5. ^{13}C NMR spectrum (75.5 MHz, $\text{DMSO}-d_6$) of compound **4b**.**Figure S6.** IR spectrum (KBr) of compound **4b**.

Figure S7. ^1H NMR spectrum (300 MHz, $\text{DMSO}-d_6$) of compound **4c**.**Figure S8.** ^{13}C NMR spectrum (75.5 MHz, $\text{DMSO}-d_6$) of compound **4c**.

Chemical structure: O=C1C(=O)c2cc3c(c1)ccc4c3c[nH]4C(=O)c5ccc(Cl)cc5

Wavenumbers (cm⁻¹): 4000, 3500, 3000, 2500, 2000, 1500, 1000, 500

% Transmittance: 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95

Peak Wavenumbers (cm⁻¹): 3236.94, 3137.14, 2941.00, 2712.22, 1607.69, 1469.01, 1374.22, 1138.33, 1074.37, 983.29, 828.81, 734.36

BRUKER

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 EXPNO 24
 PROCNO 1

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 Time 10:37
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 PROBHD 5 mm BBO BB-1H
 PULPROG zg30
 TD 32768
 SOLVENT DMSO
 NS 16
 DS 0
 SVH 6172.539 Hz
 FIDRES 0.155350 Hz
 AQ 2.6542550 sec
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 DE 6.00 usec
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 MCOREST 0.00000000 sec
 MCWRR 0.01500000 sec

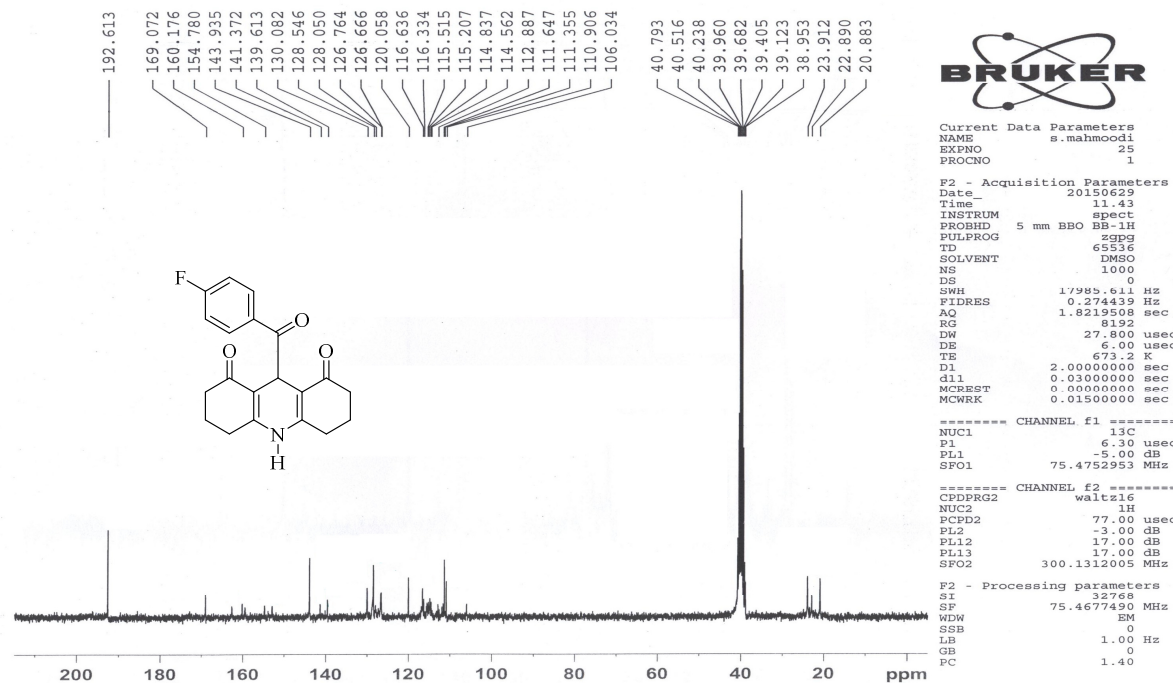
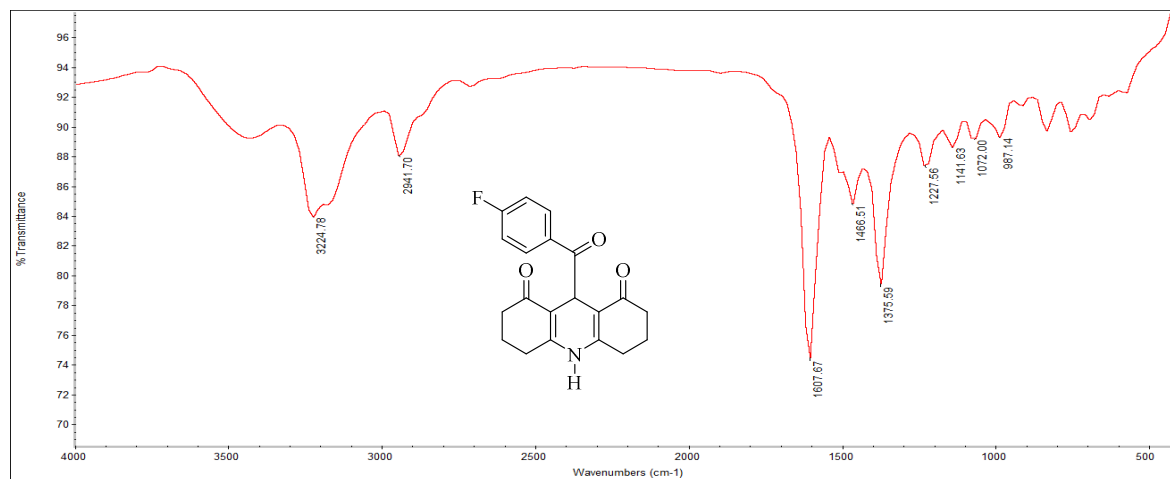
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 PL1 -3.00 dB
 SFO1 300.1318534 MHz

F2 - Processing parameters
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 SF 300.1300000 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

Chemical structure: 6-fluoro-1H-xanthone
O=C1C(=O)c2cc(F)ccc2C(=O)c3ccccc3N1

Peak list (ppm): 11.447, 9.810, 7.455, 7.406, 7.398, 7.379, 7.173, 7.143, 7.114, 2.794, 2.346, 2.212, 2.194, 2.004, 1.944, 1.926, 1.914, 1.910.

Integration values: 1.00, 0.07, 2.08, 2.14, 2.16, 3.03, 4.00.

Figure S11. ^{13}C NMR spectrum (75.5 MHz, $\text{DMSO-}d_6$) of compound **4d**.**Figure S12.** IR spectrum (KBr) of compound **4d**.

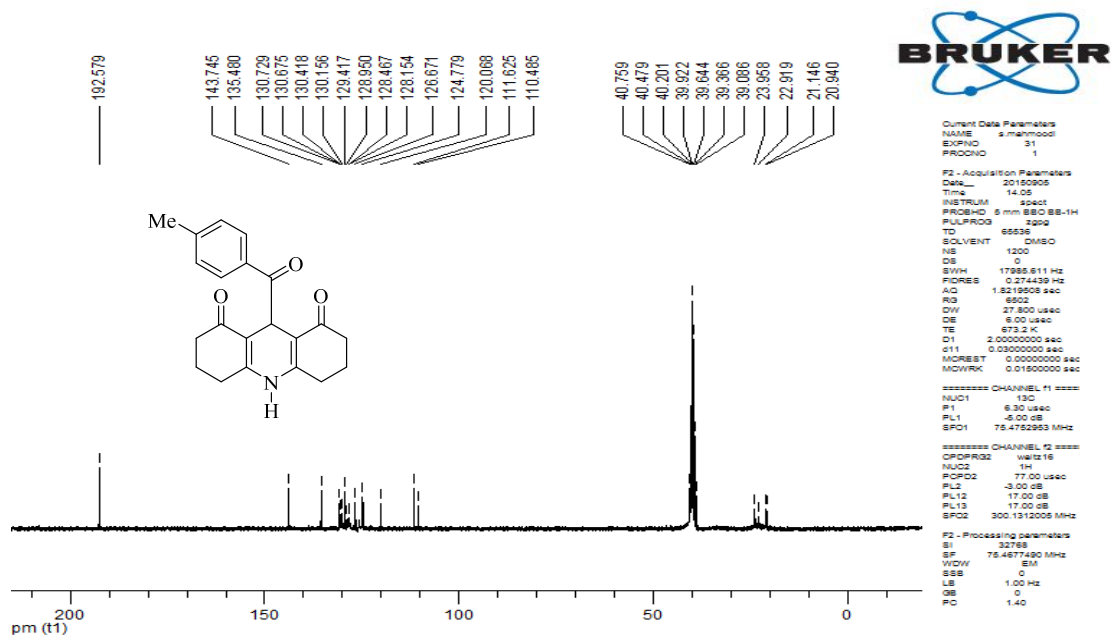
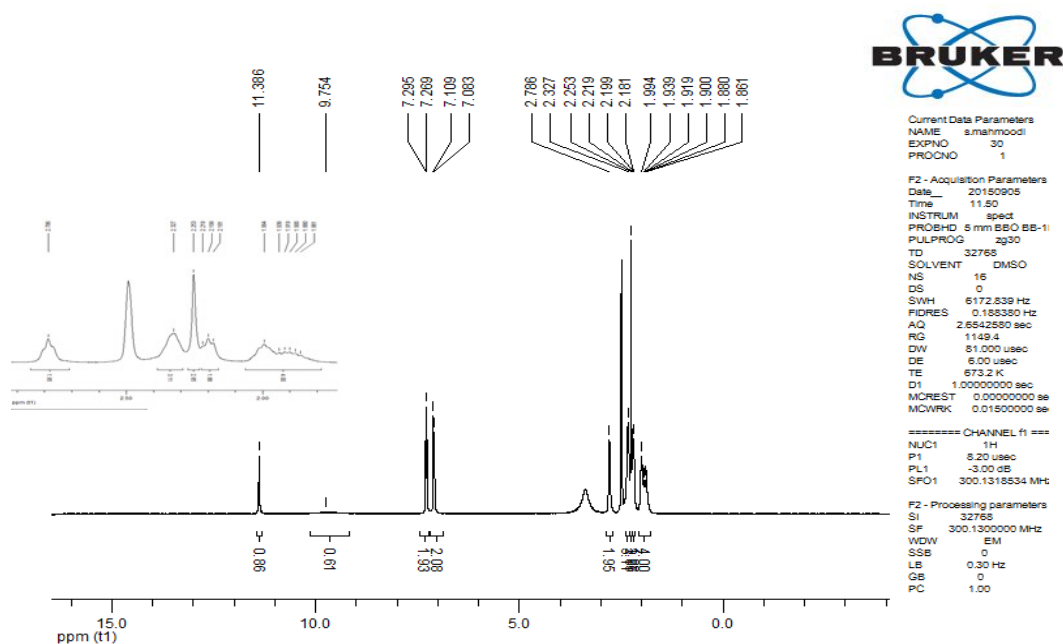


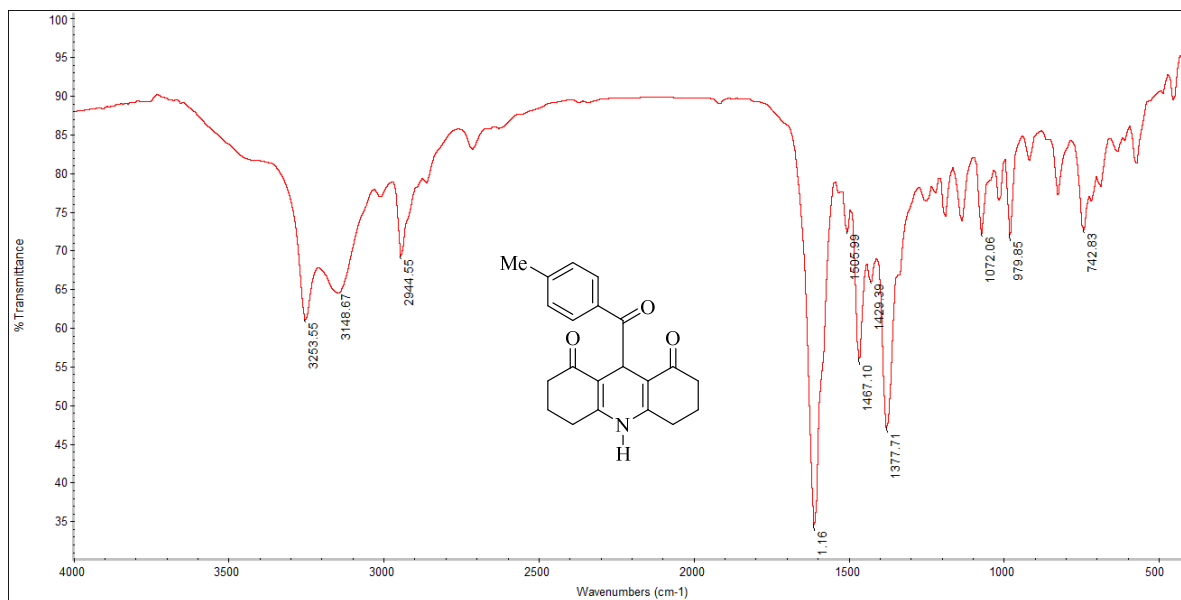
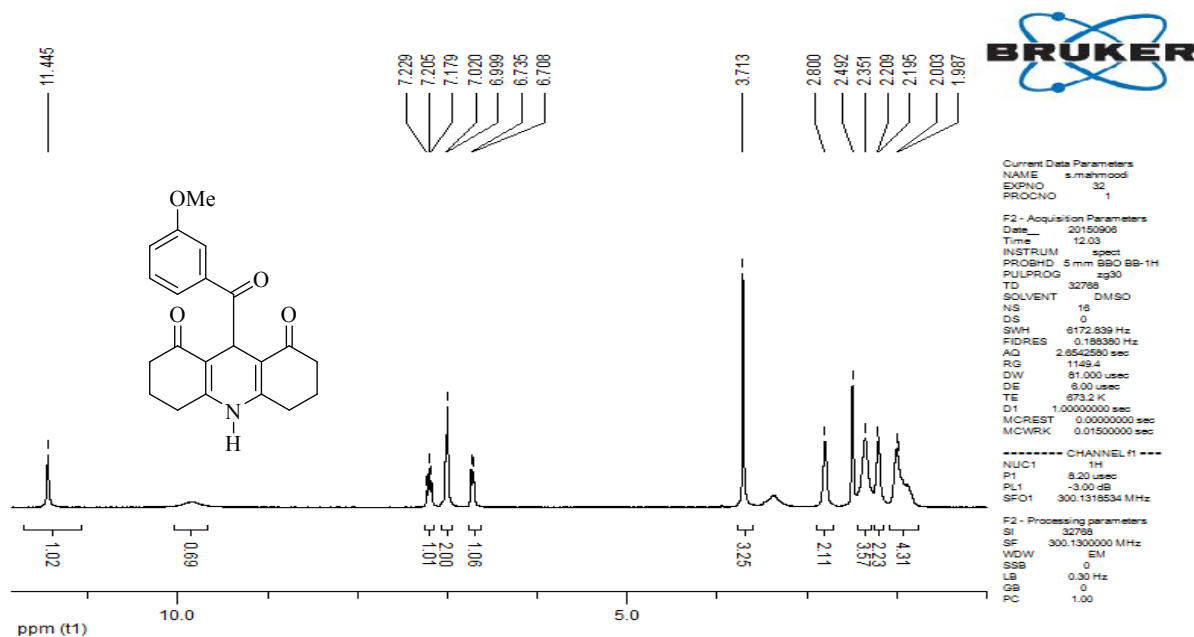
Figure S15. IR spectrum (KBr) of compound **4e**.**Figure S16.** ^1H NMR spectrum (300 MHz, $\text{DMSO}-d_6$) of compound **4f**.

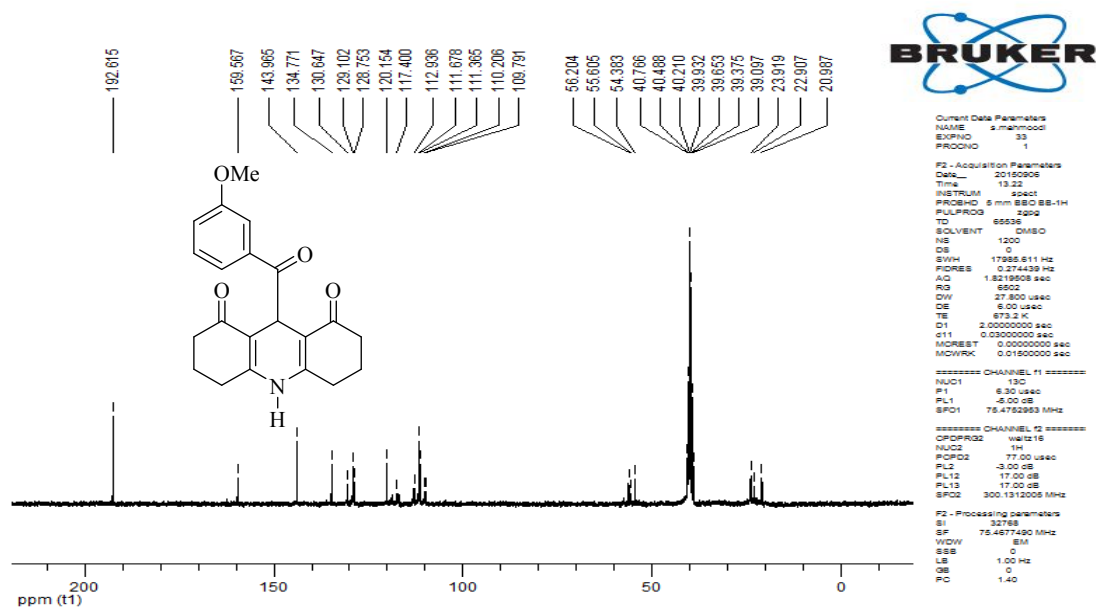
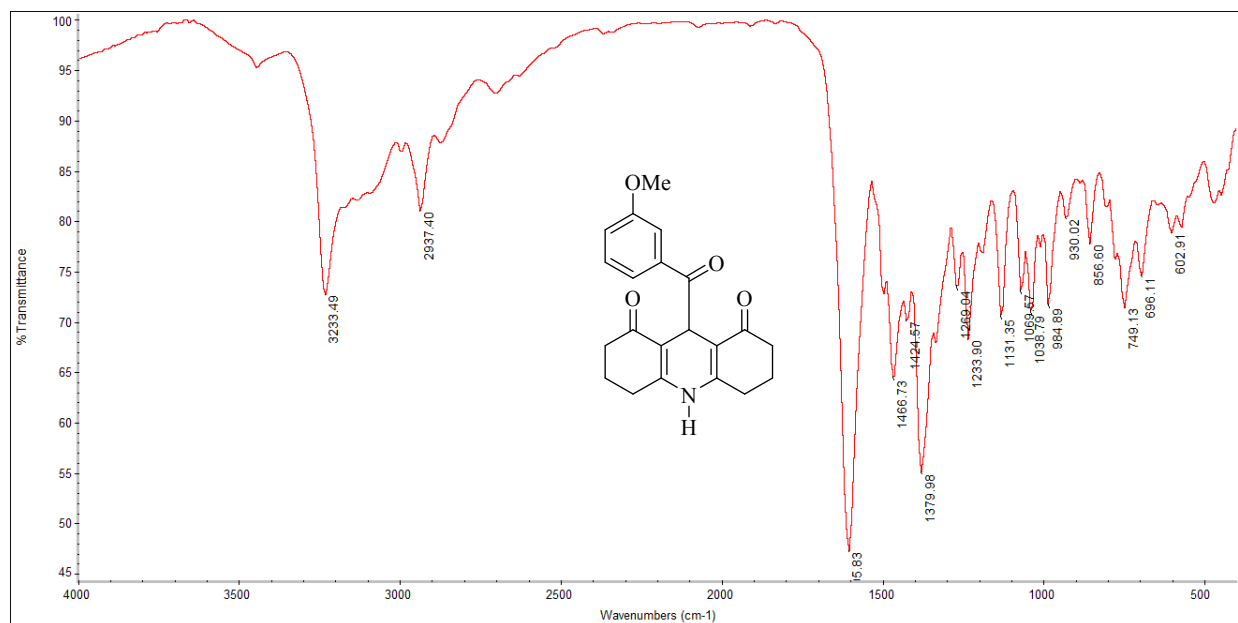
Figure S17. ^{13}C NMR spectrum (75.5 MHz, $\text{DMSO}-d_6$) of compound **4f**.**Figure S18.** IR spectrum (KBr) of compound **4f**.

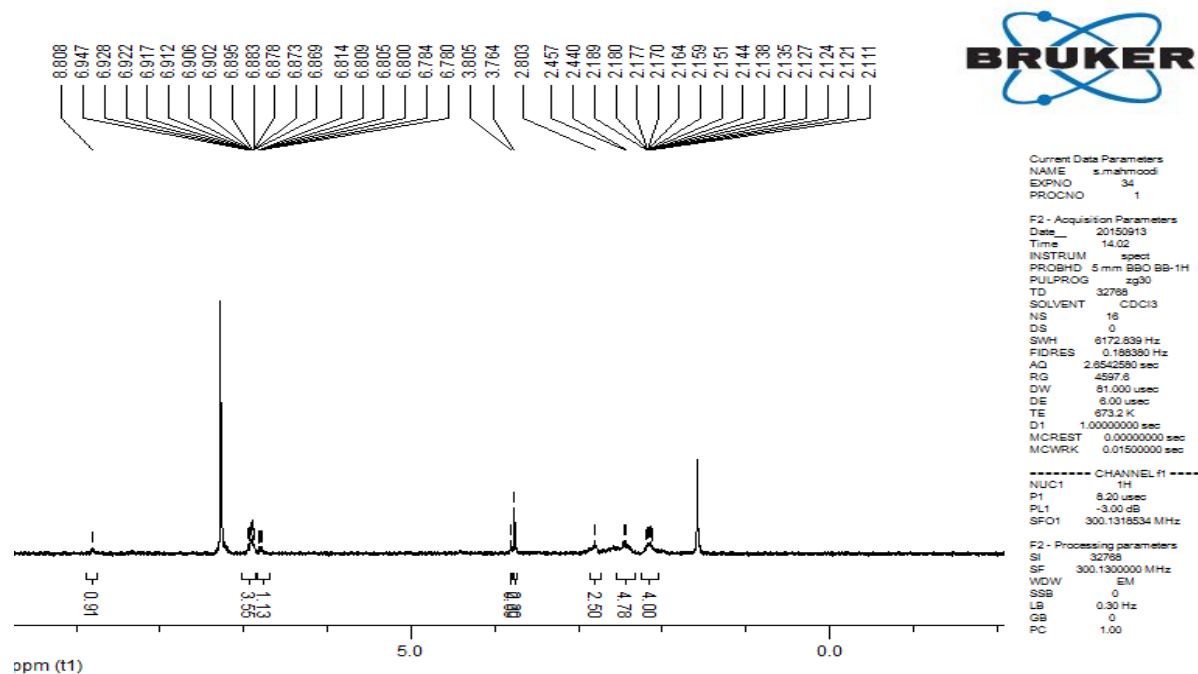
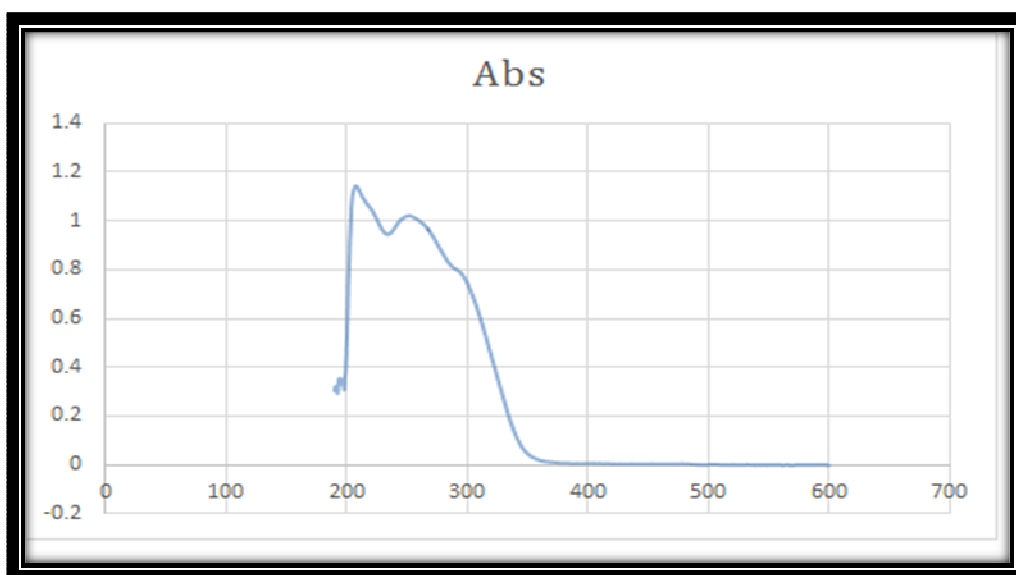
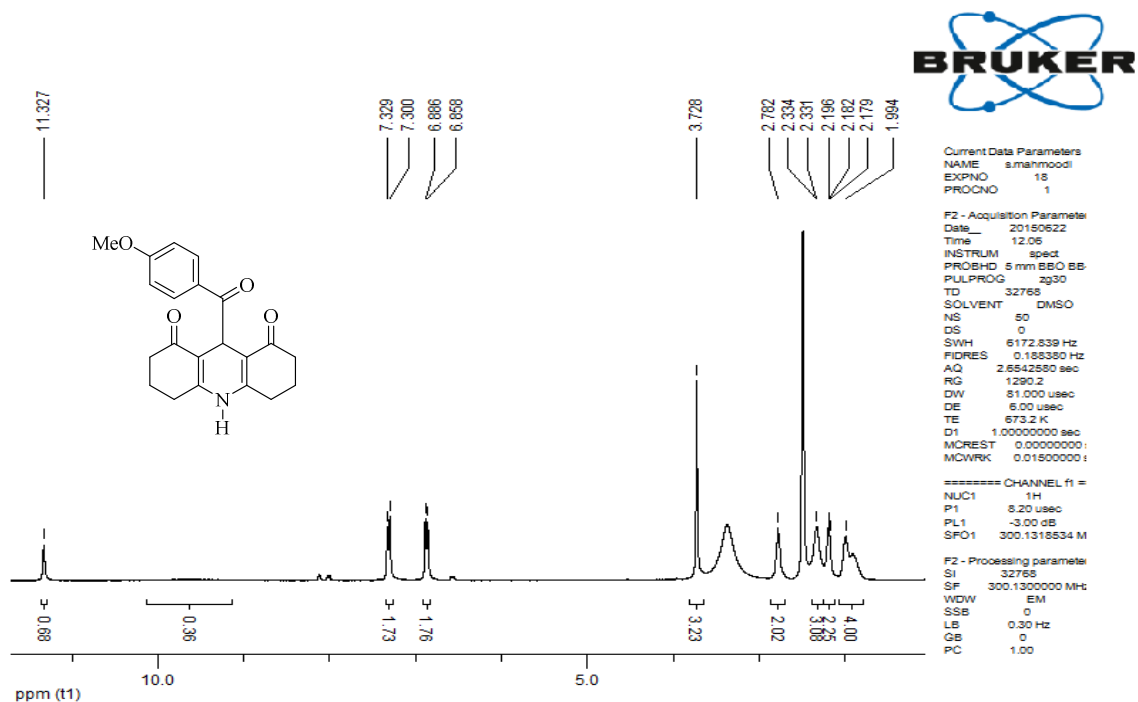
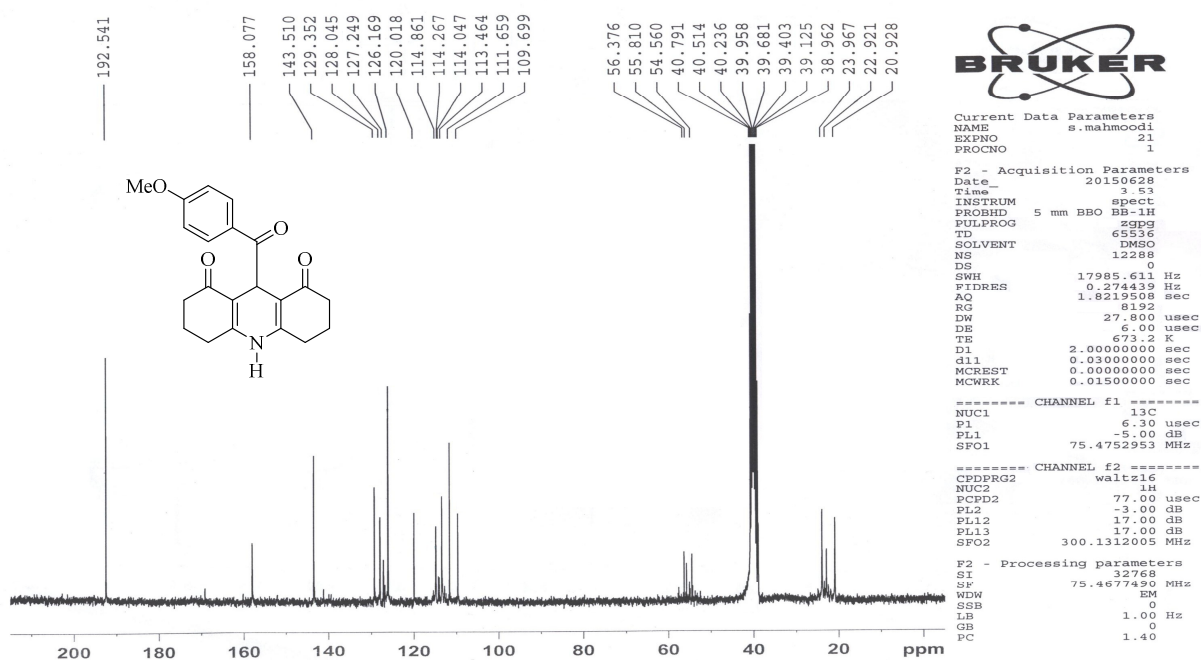
Figure S19. ^1H NMR spectrum (300 MHz, CDCl_3) of compound **4f****Figure S20.** UV-Vis spectrum (Solvent : MeOH) of compound **4f**

Figure S21. ^1H NMR spectrum (300 MHz, $\text{DMSO}-d_6$) of compound **4g**.**Figure S22.** ^{13}C NMR spectrum (75.5 MHz, $\text{DMSO}-d_6$) of compound **4g**.

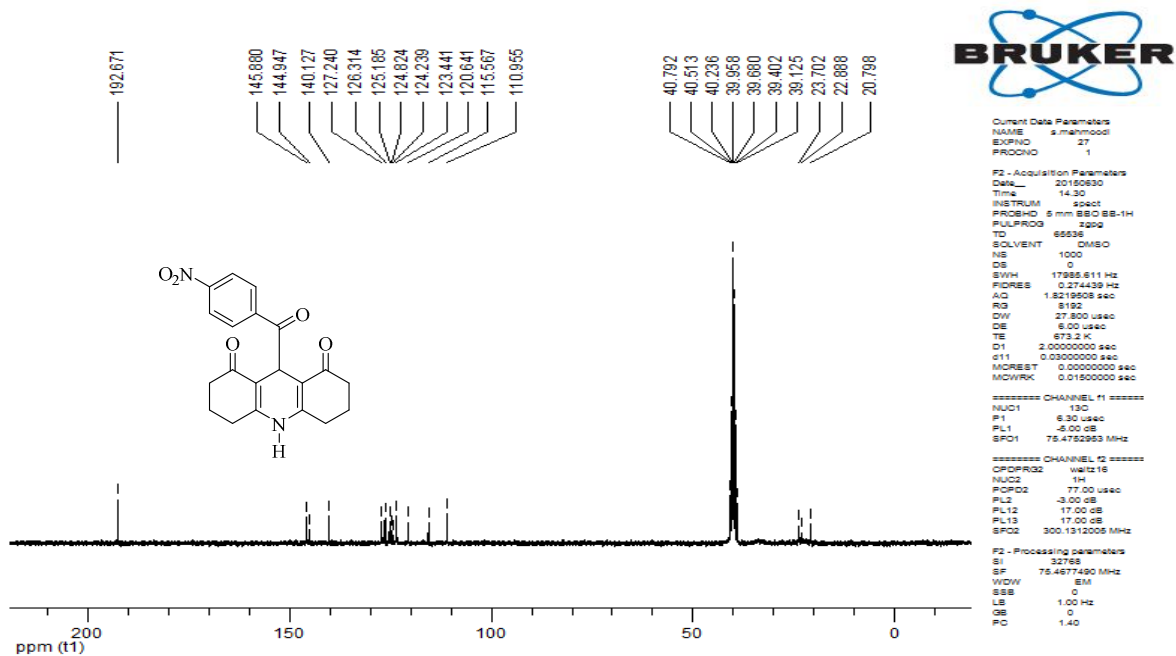
Chemical structure of 6-methoxy-9H-fluoren-9-one is shown above the spectrum.

Key IR peaks (Wavenumbers in cm⁻¹):

Wavenumber (cm⁻¹)	Assignment
3426.59	O-H stretch (broad)
3239.29	O-H stretch (sharp)
3107.33	O-H stretch (sharp)
2941.33	C-H stretch
1608.33	C=O stretch
1464.21	C-O stretch
1372.39	C-O stretch
1252.78	C-O stretch
1185.10	C-O stretch
1034.82	C-O stretch
827.77	Aromatic C-H out-of-plane bend
749.21	Aromatic C-H out-of-plane bend

Chemical structure: O=[N+]([O-])c1ccc(cc1)C(=O)c2c[nH]c3ccccc3c2=O

¹H NMR spectrum (DMSO-d₆) showing peaks at 11.005, 8.179, 8.152, 7.655, 7.628, 2.827, 2.386, 2.236, 2.009, 1.983, and 1.962 ppm. Integration values are 4.008, 0.29, 2.00, 1.94, 2.13, 3.07, 2.95, and 4.11.

Figure S25. ^{13}C NMR spectrum (75.5 MHz, $\text{DMSO}-d_6$) of compound **4h**.**Figure S26 .** IR spectrum (KBr) of compound **4h**.