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Supporting Information

Facile Route to Synthesis Fe_3O_4@acacia-SO_3H Nanocomposite as Heterogeneous Magnetic System for Catalytic Applications

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Table S1. The applied materials and equipment.

Material / equipment	Purity / Brand
$FeCl_2.4H_2O$	Sigma Aldrich, 98%
$FeCl_3.6H_2O$	Sigma Aldrich, 98%
Ammonium acetate	Merck
Acacia gum	Sigma Aldrich
Solvents	Merck
Aldehyde derivatives	Sigma Aldrich
Dimedone	Sigma Aldrich, 95%
Chlorosulfonic acid	Sigma Aldrich, 99%
Silica gel for column chromatography	Sigma Aldrich, 60%
Ultrasound bath	KQ-250 DE - 50 kHz and power of 250 W L^{-1}
Melting point measurement apparatus	Electrothermal 9100
FT-IR spectroscopy	Shimadzu IR-470
EDX spectroscopy	Numerix DXP-X10P
TGA apparatus	Bahr-STA 504 instrument under argon atmosphere
VSM apparatus	Lakeshore 7407 and Meghnatis Kavir Kashan Co., Iran
XRD spectroscopy	DRON-8 X-ray diffractometer
FESEM analysis	Sigma-Zeiss microscope with attached camera
TEM analysis	Philips CM200
NMR spectroscopy	Bruker DRX-300 Avance spectrometer at 300MHz
ICP	Agilent 7500ce

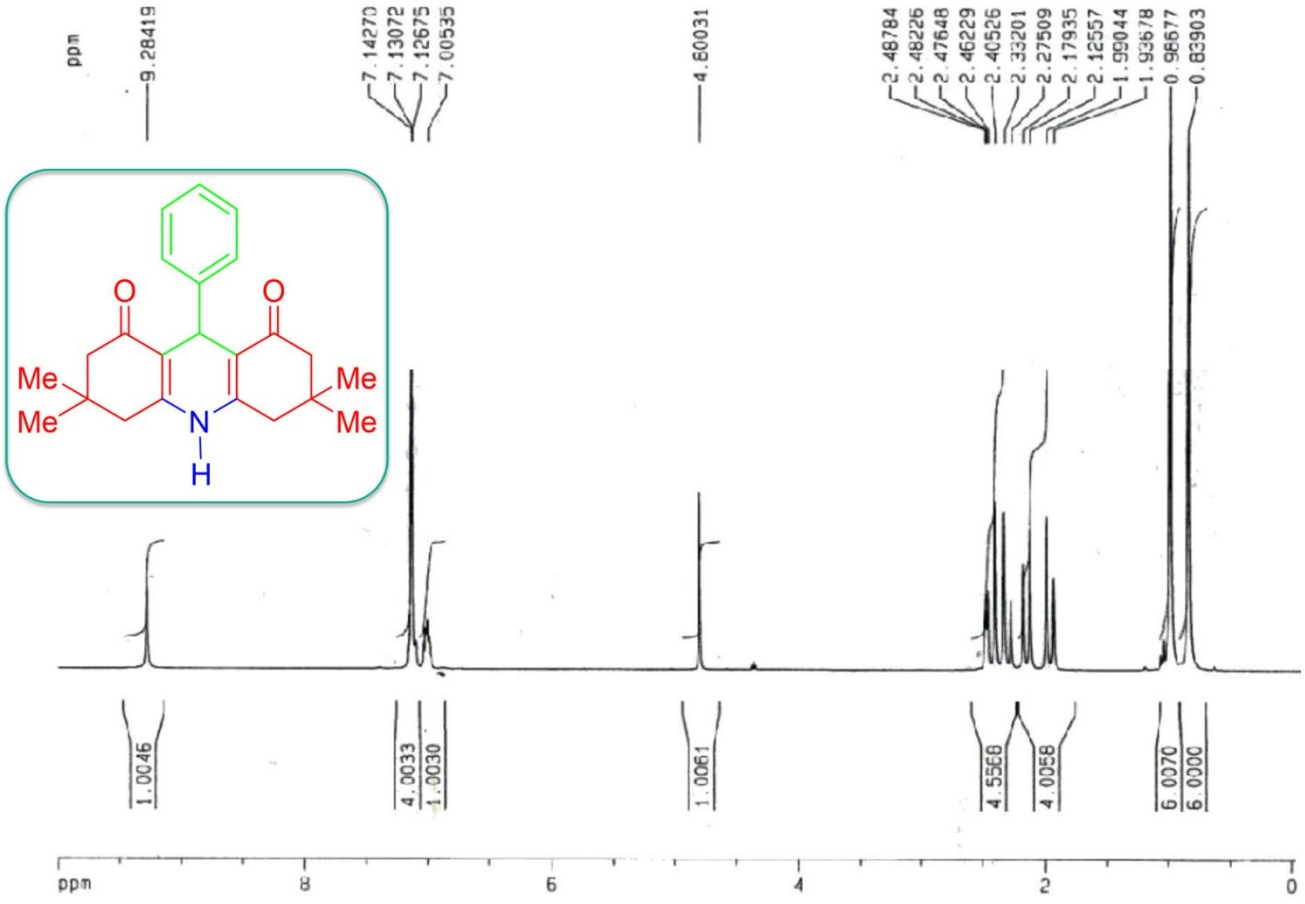


Figure S1. ^{1}H-NMR spectrum of product ***a.***

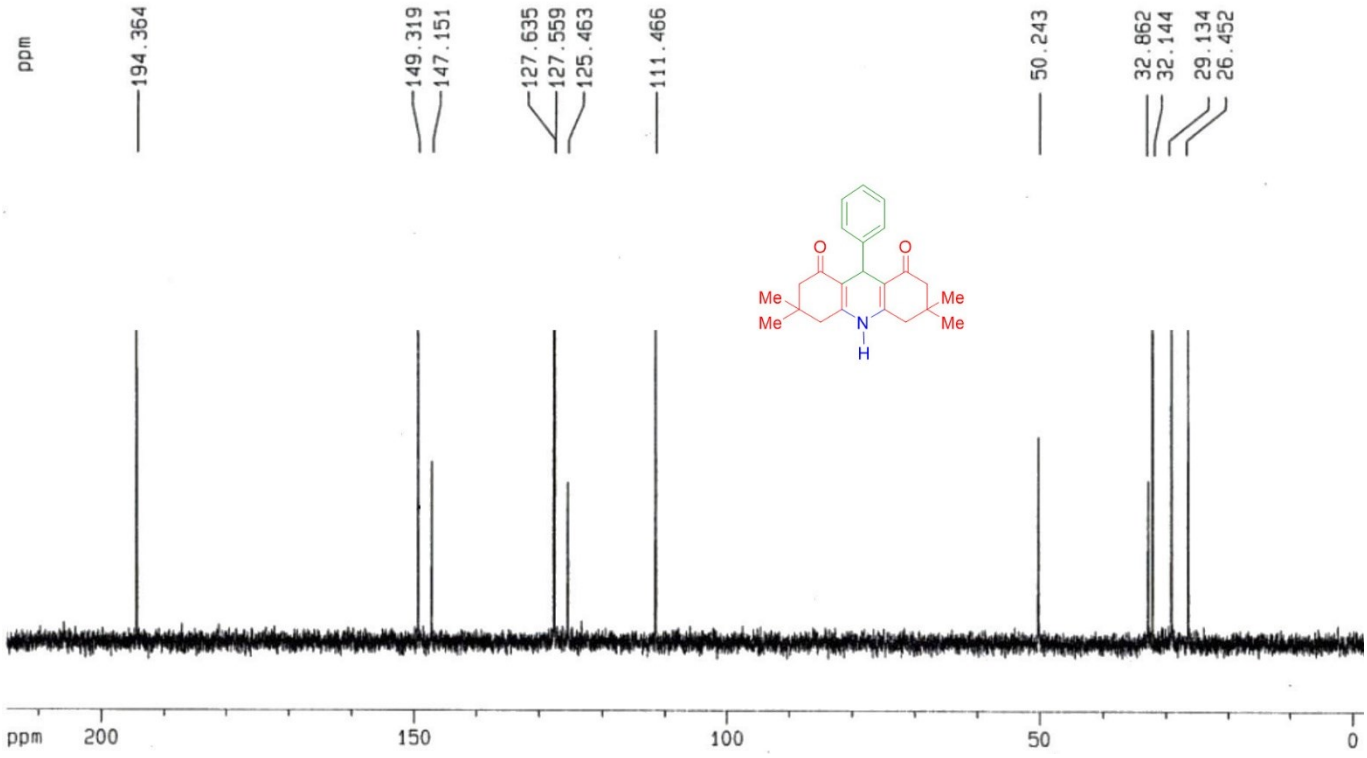


Figure S2. ^{13}C-NMR spectrum of product ***a.***

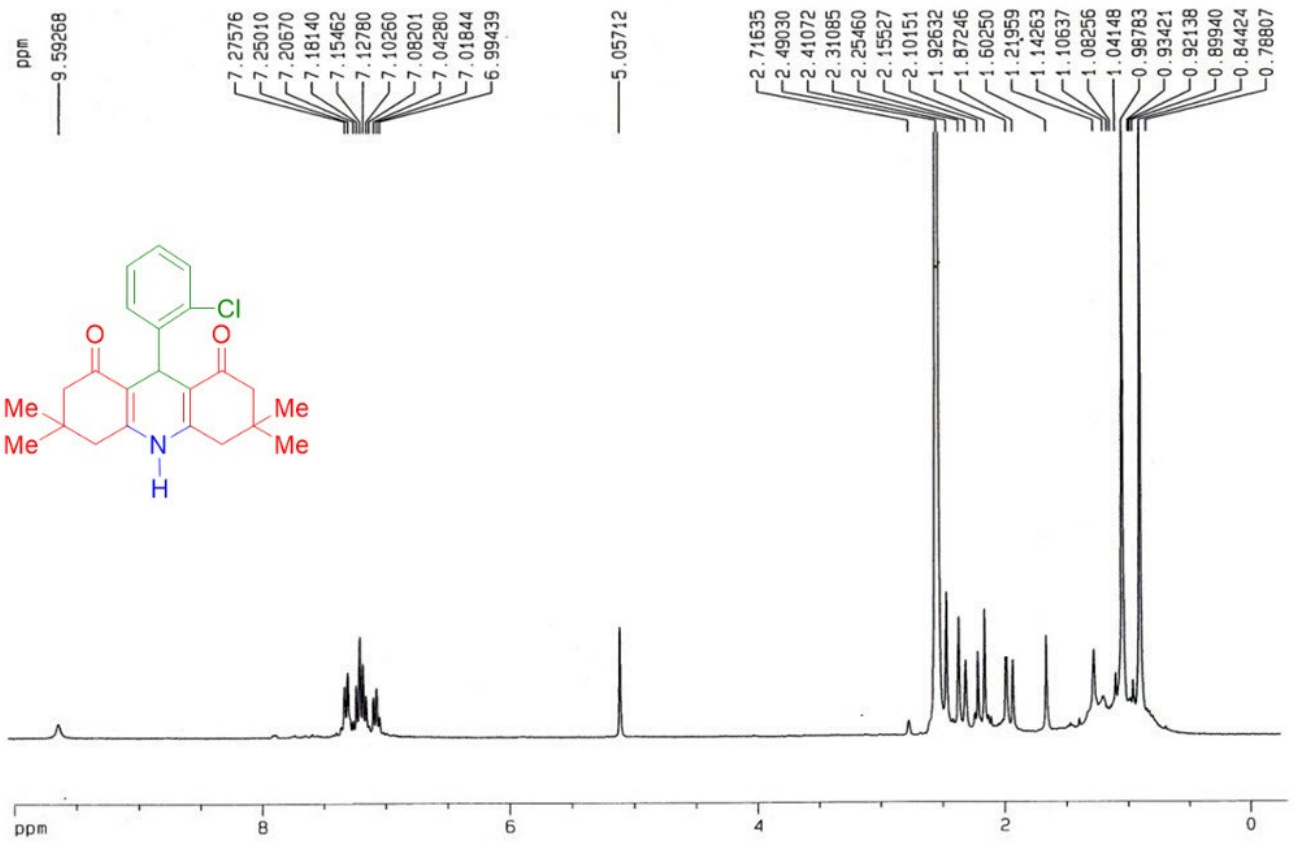


Figure S3. ^{1}H-NMR spectrum of product ***b.***

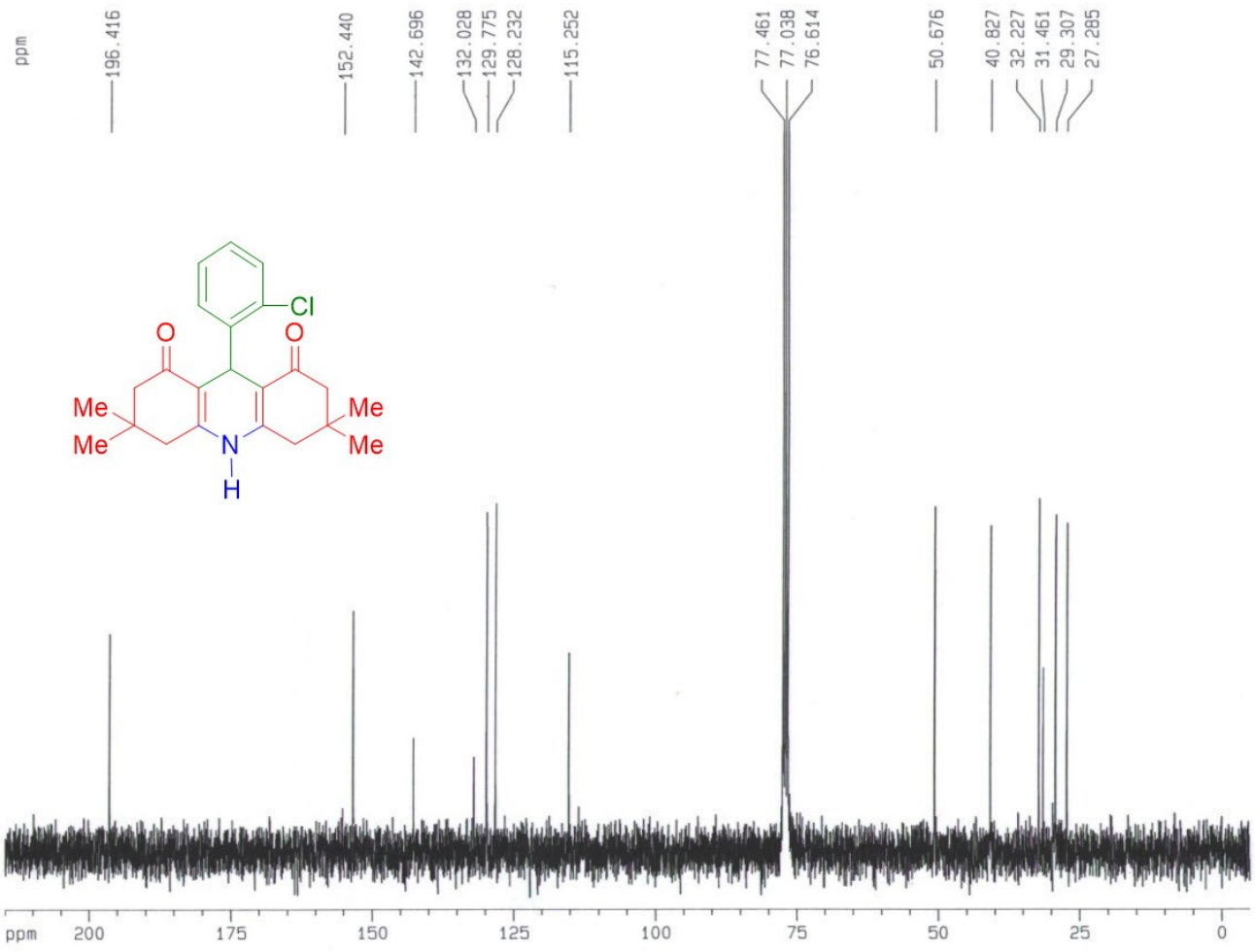


Figure S4. ^{13}C-NMR spectrum of product ***b.***

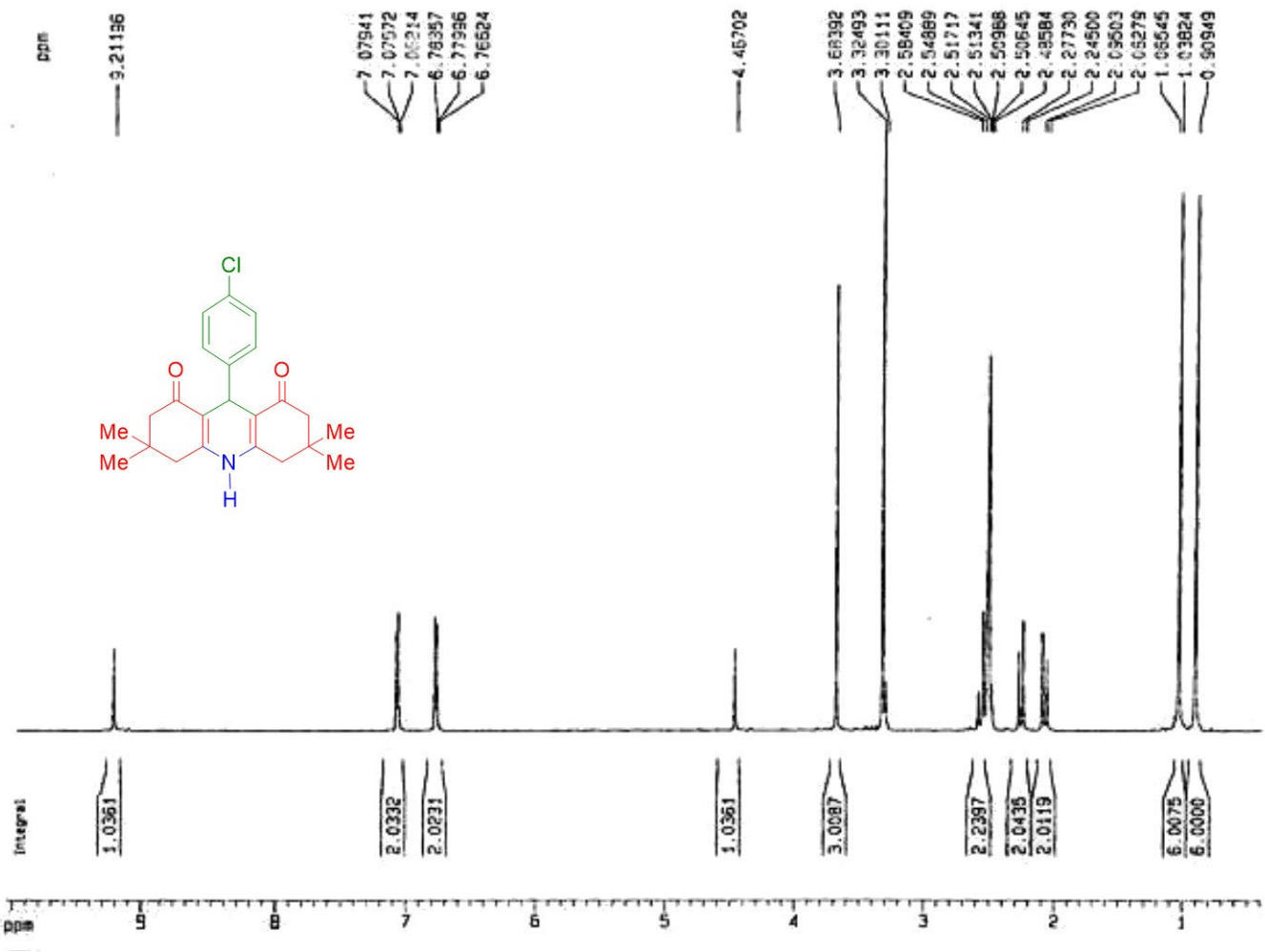


Figure S5. ^{1}H-NMR spectrum of product ***c.***

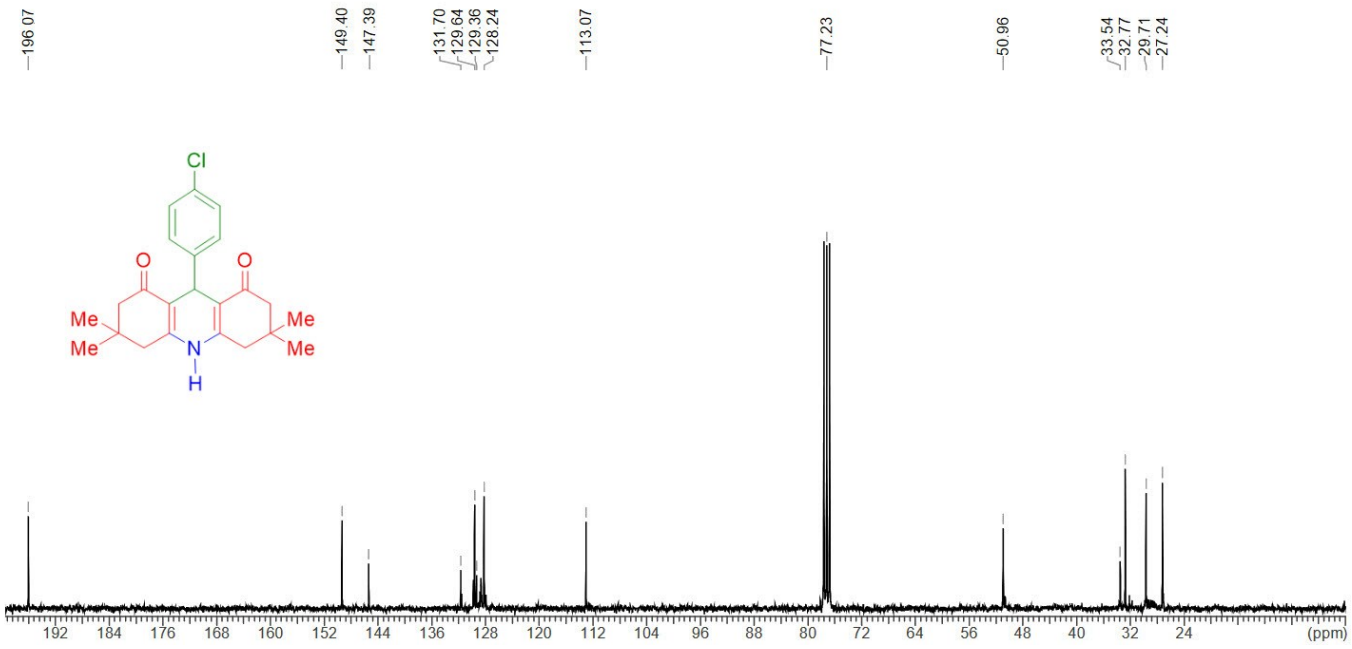


Figure S6. ^{13}C-NMR spectrum of product ***c.***

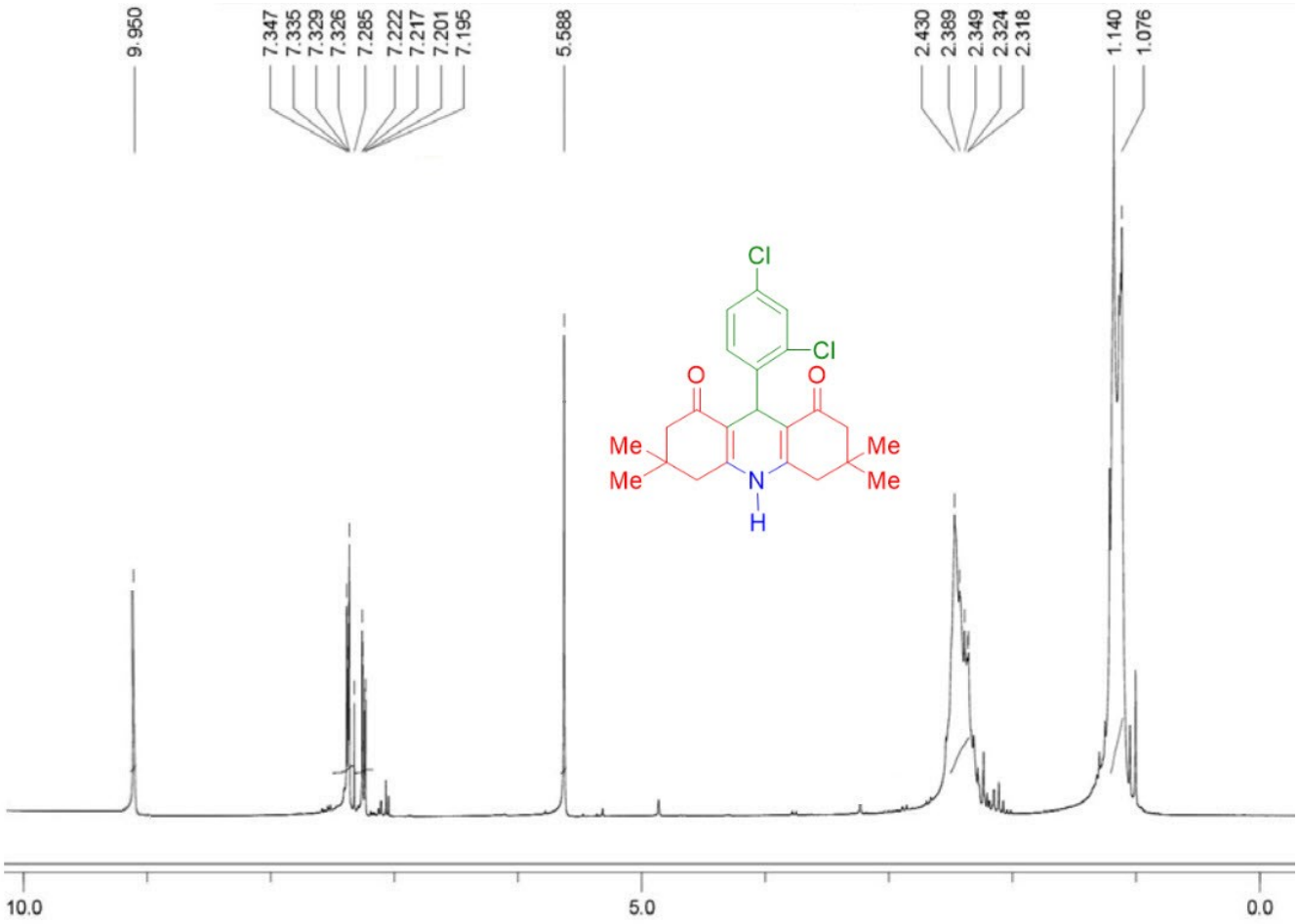


Figure S7. ^{1}H-NMR spectrum of product ***d.***

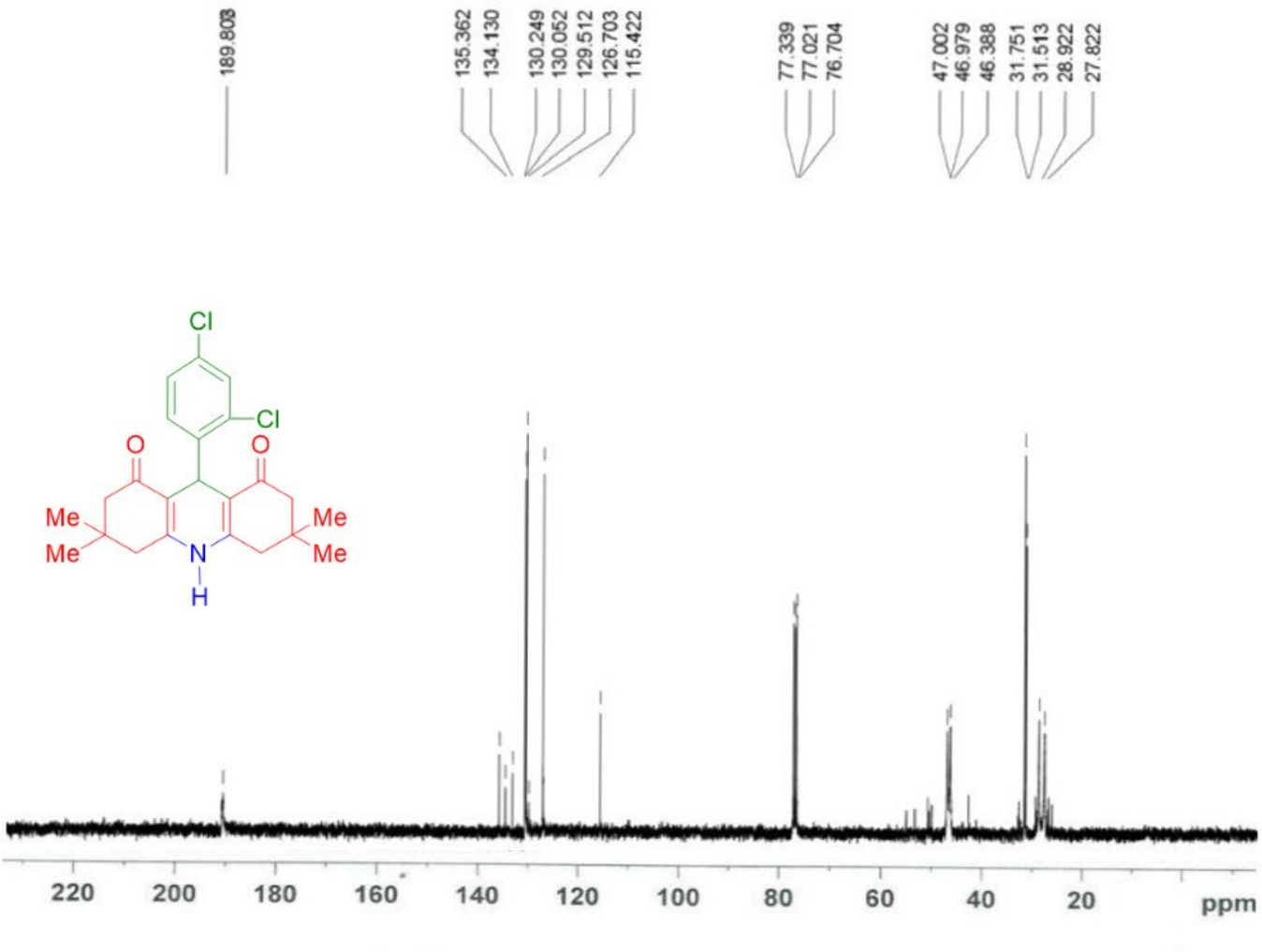


Figure S8. ^{13}C-NMR spectrum of product ***d.***

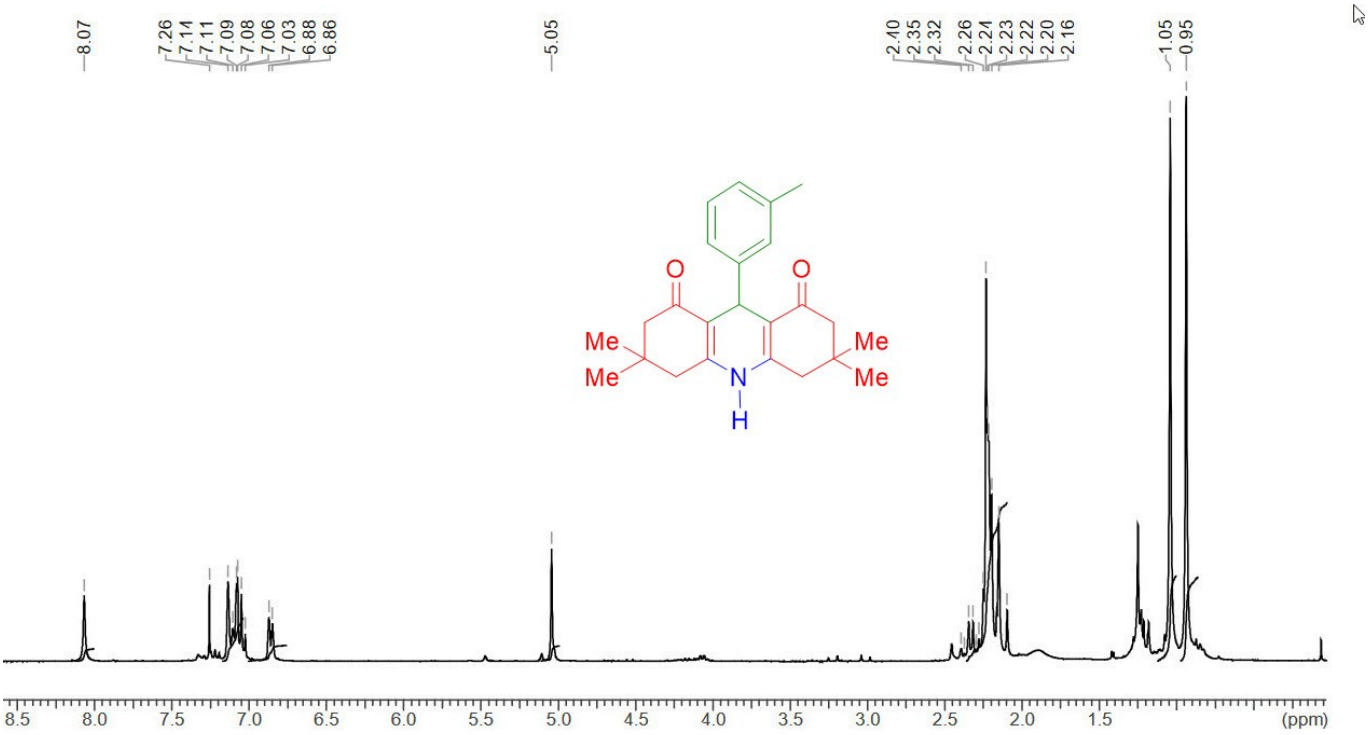


Figure S9. ^{1}H-NMR spectrum of product ***e.***

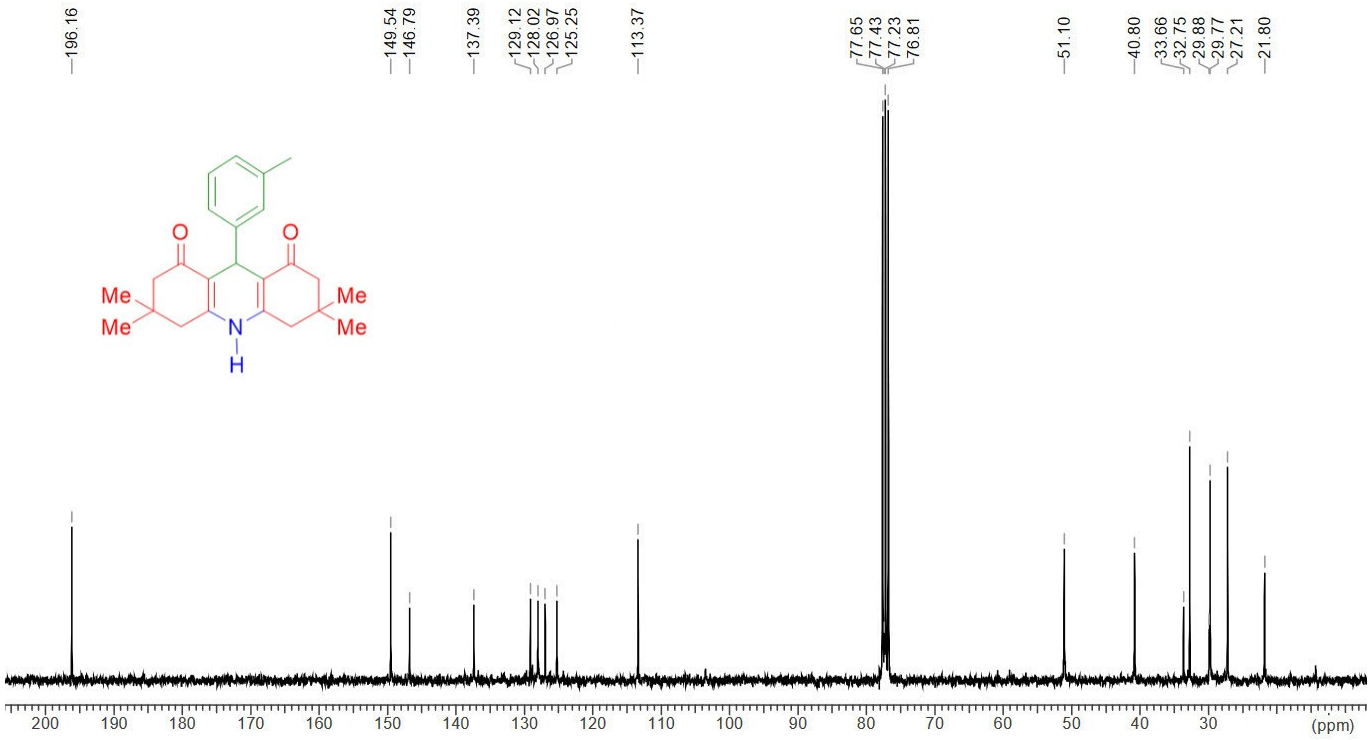


Figure S10. ^{13}C-NMR spectrum of product ***e.***

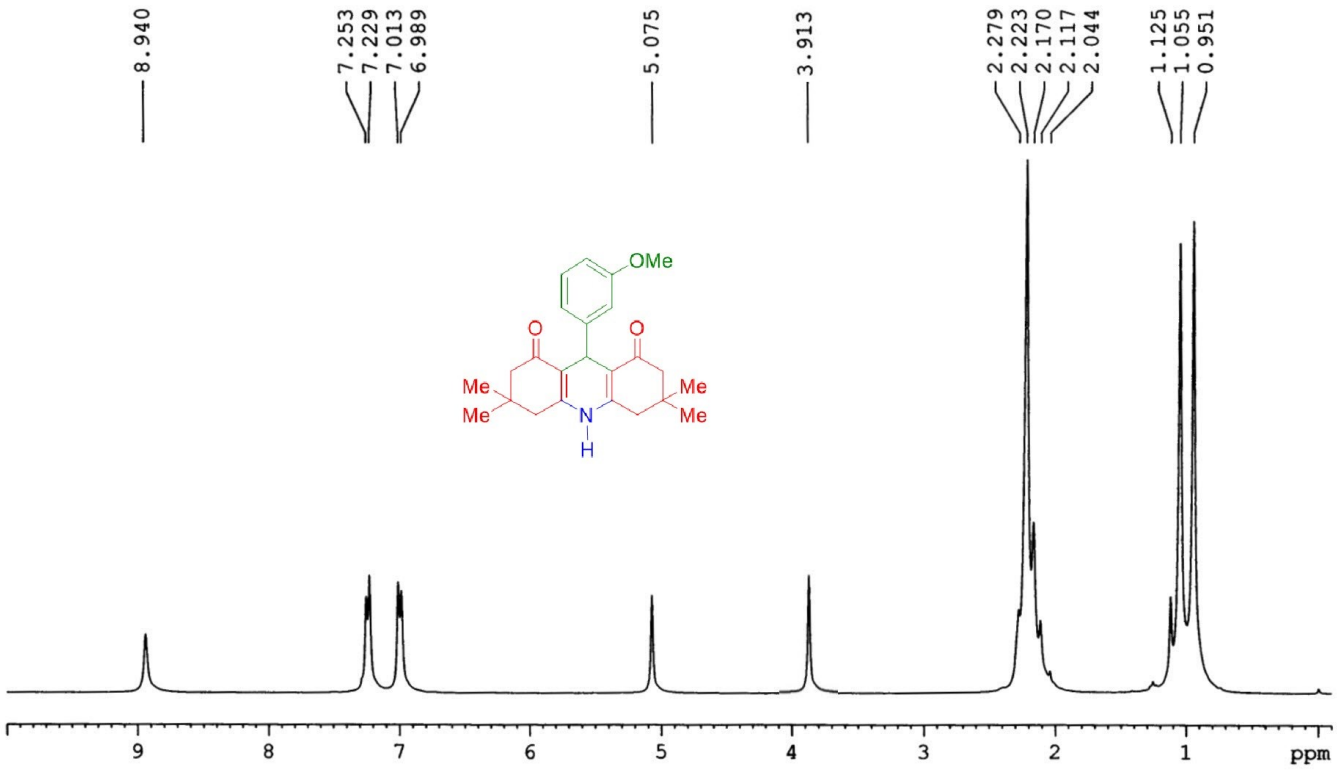


Figure S11. ^{1}H-NMR spectrum of product ***f.***

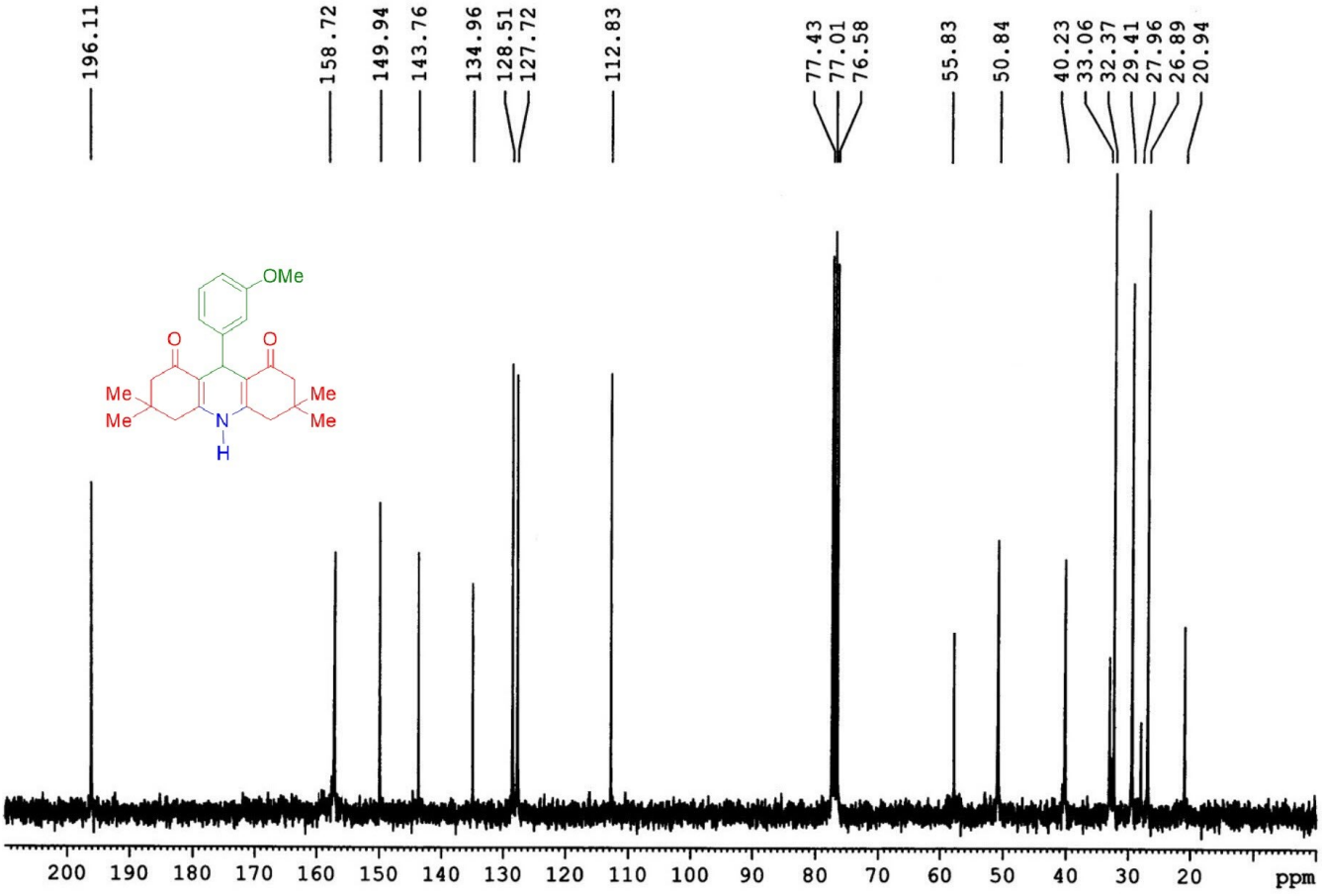


Figure S12. ^{13}C-NMR spectrum of product ***f.***

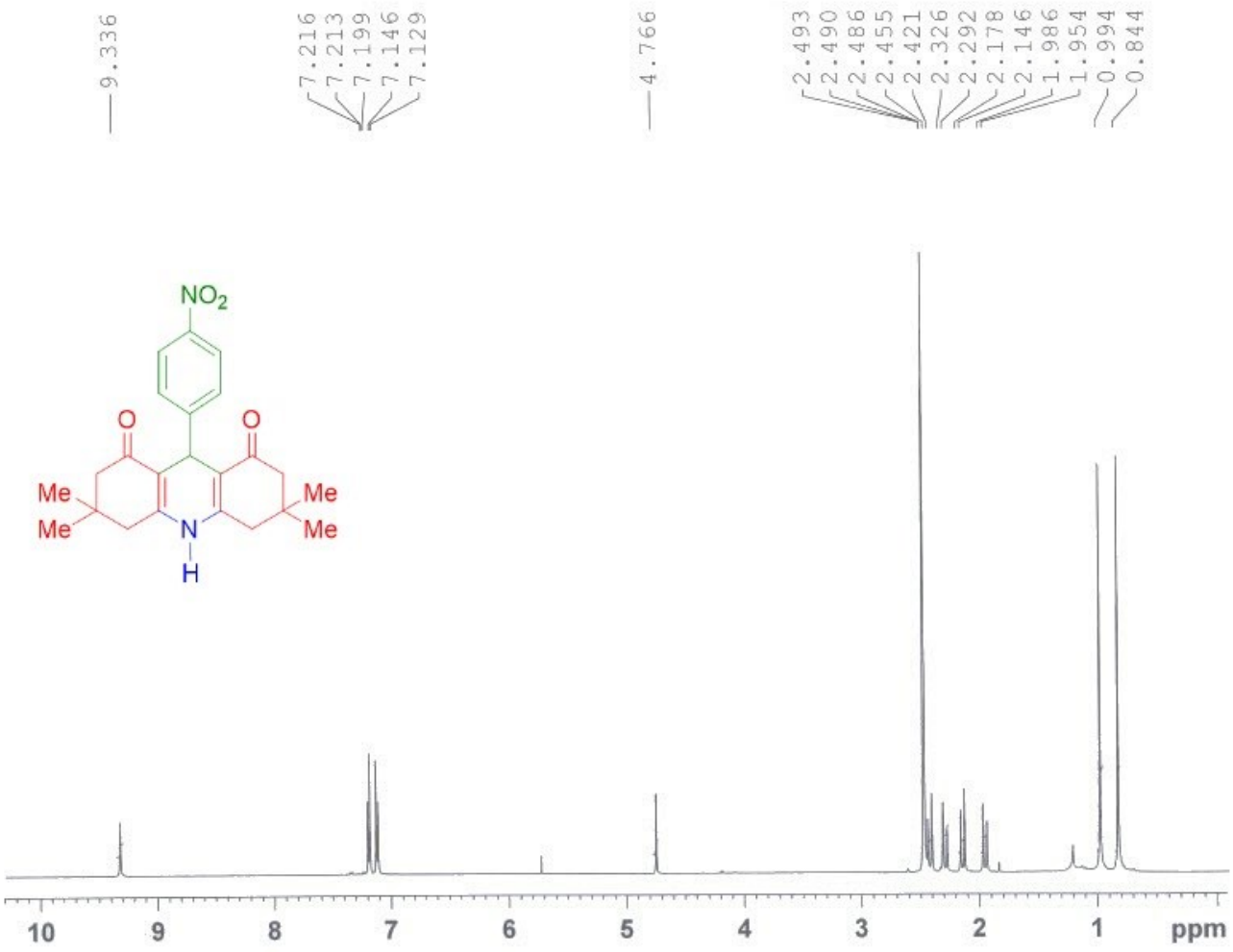


Figure S13. ^{1}H-NMR spectrum of product ***g.***

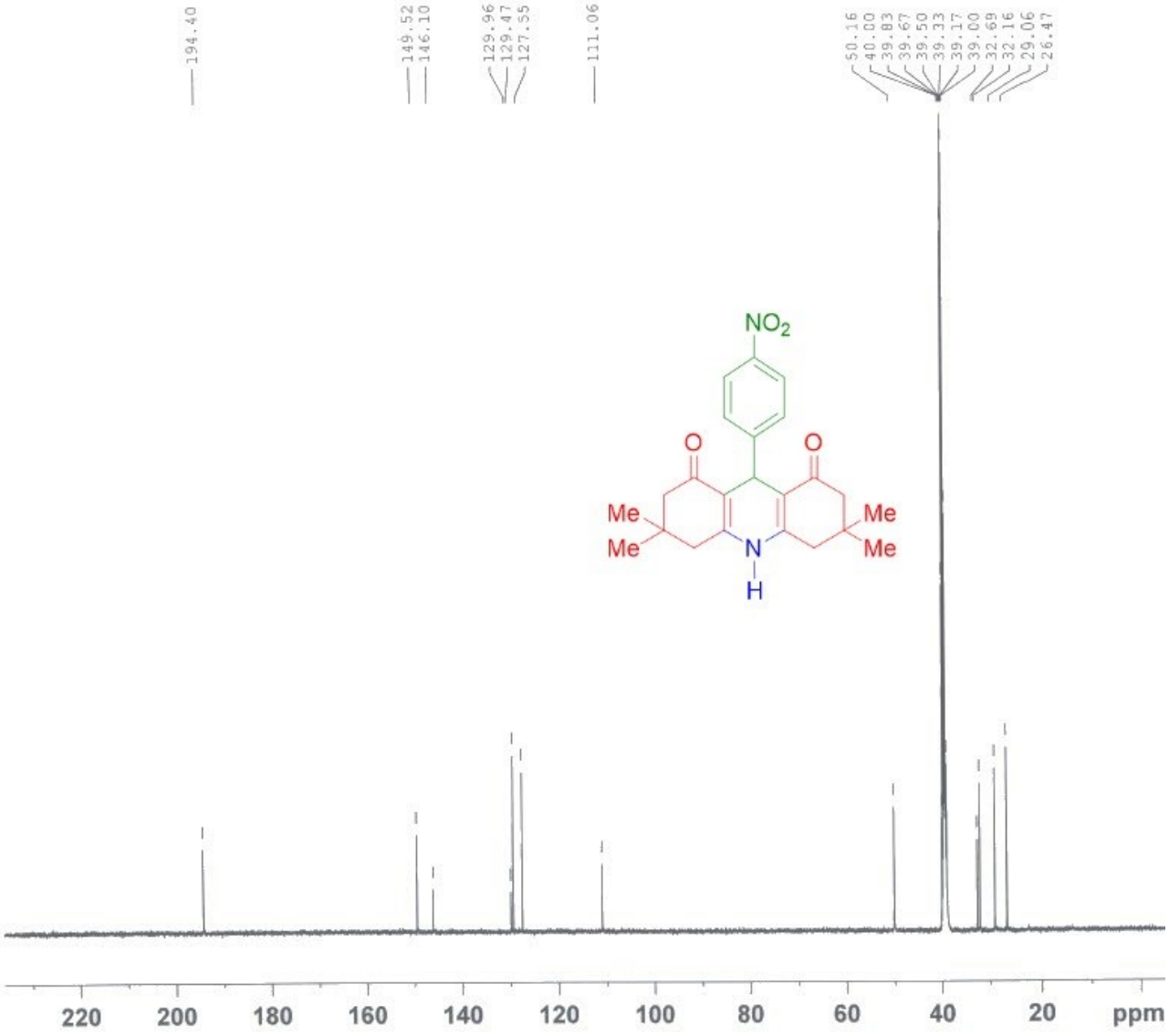


Figure S14. ^{13}C-NMR spectrum of product ***g.***

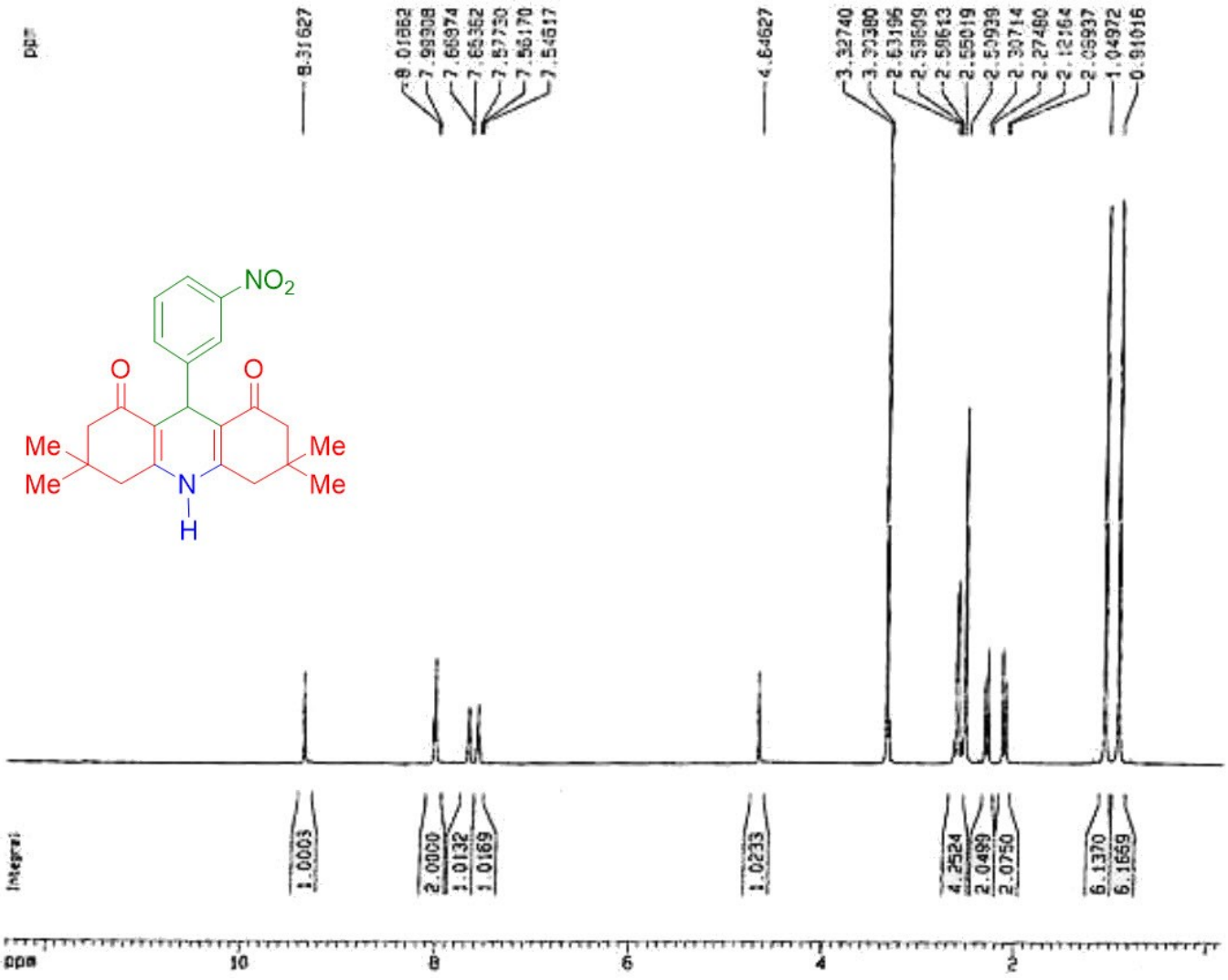
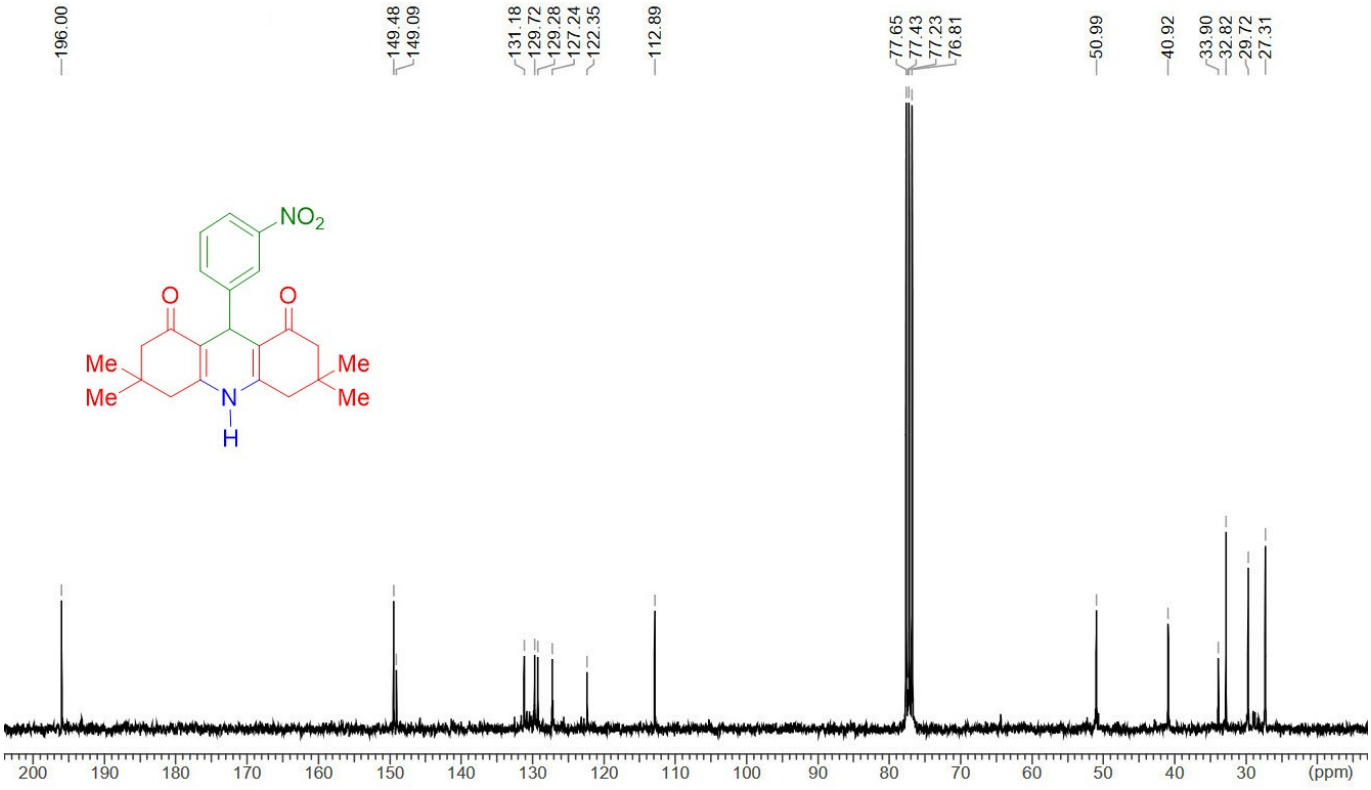


Figure S15. [1]H-NMR spectrum of product ***h.***



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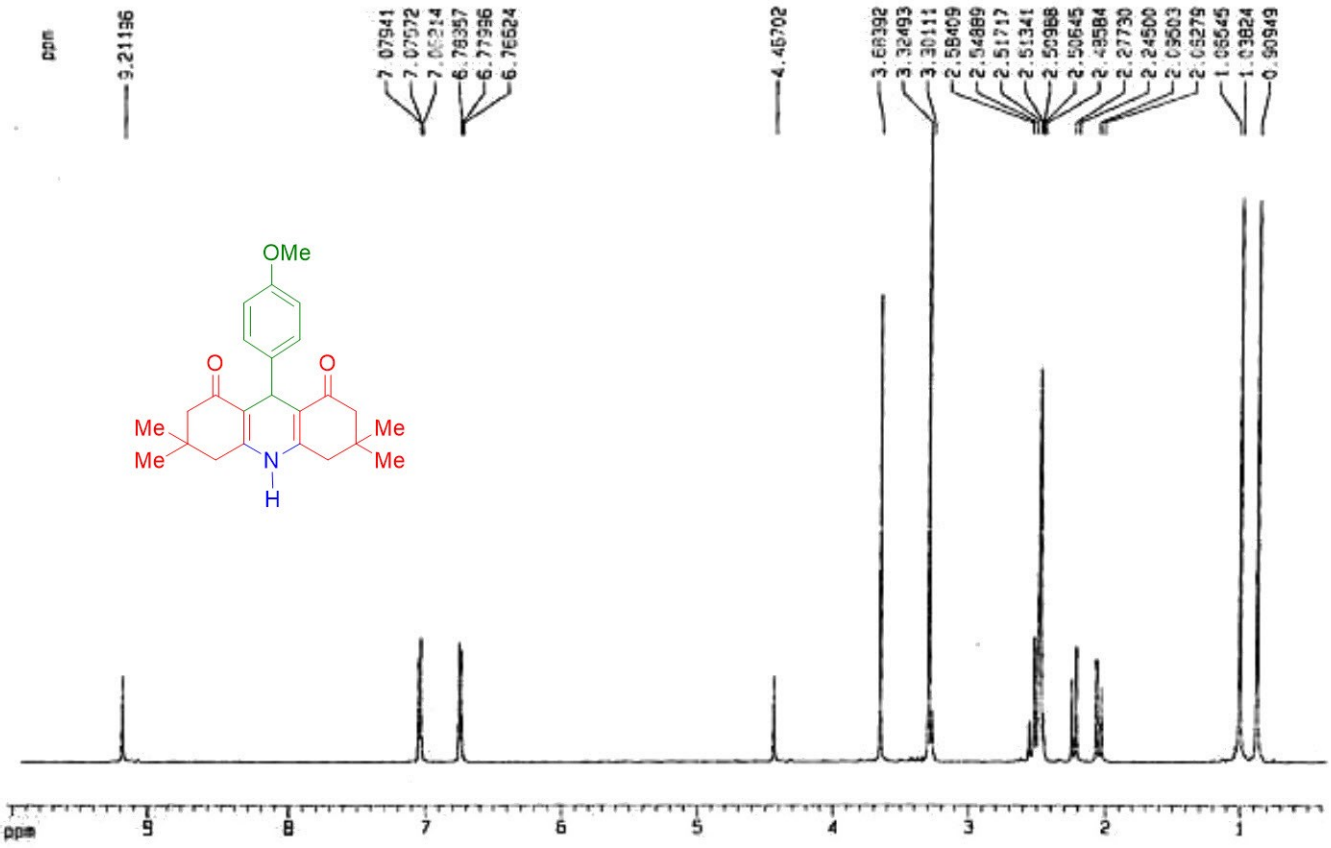

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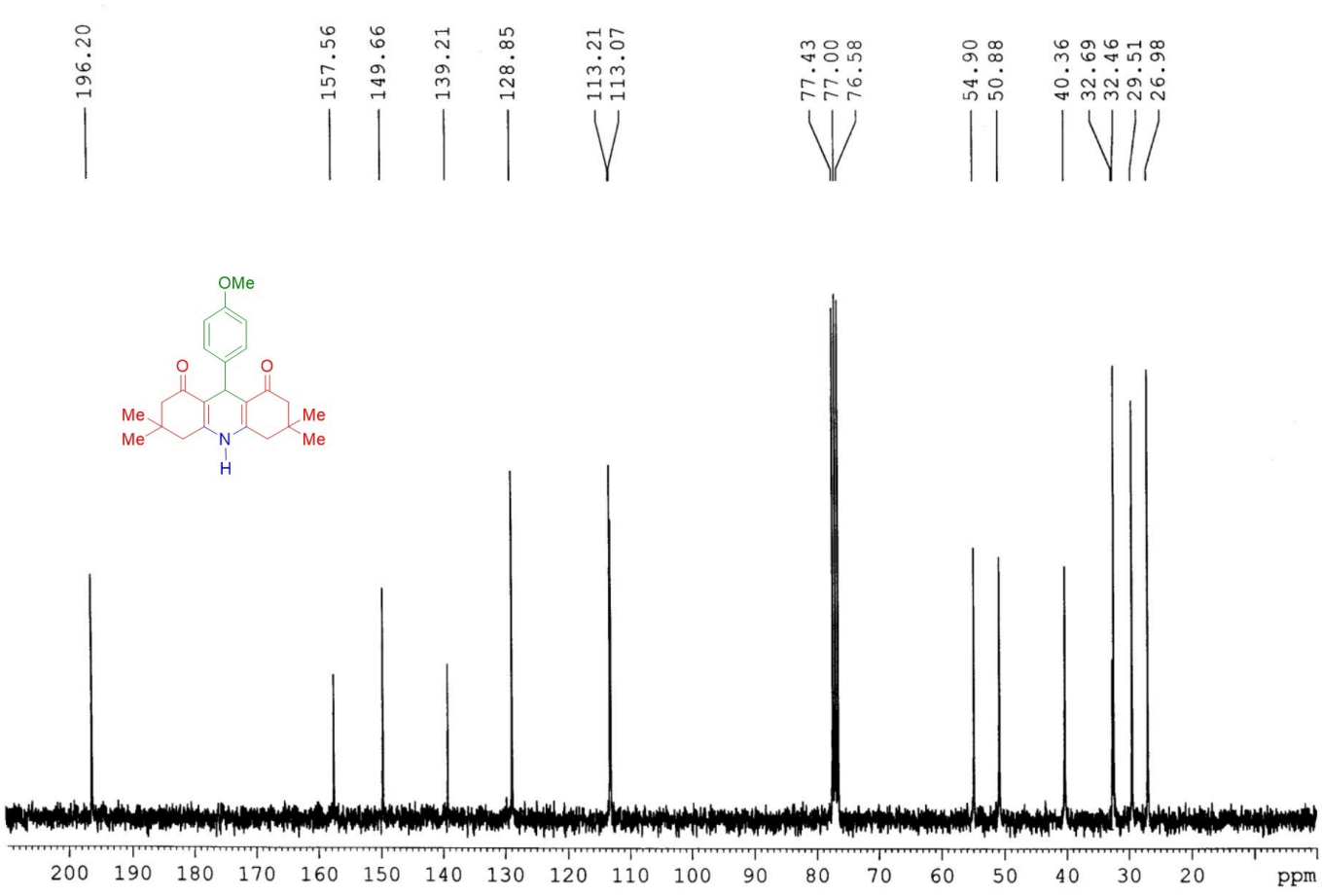
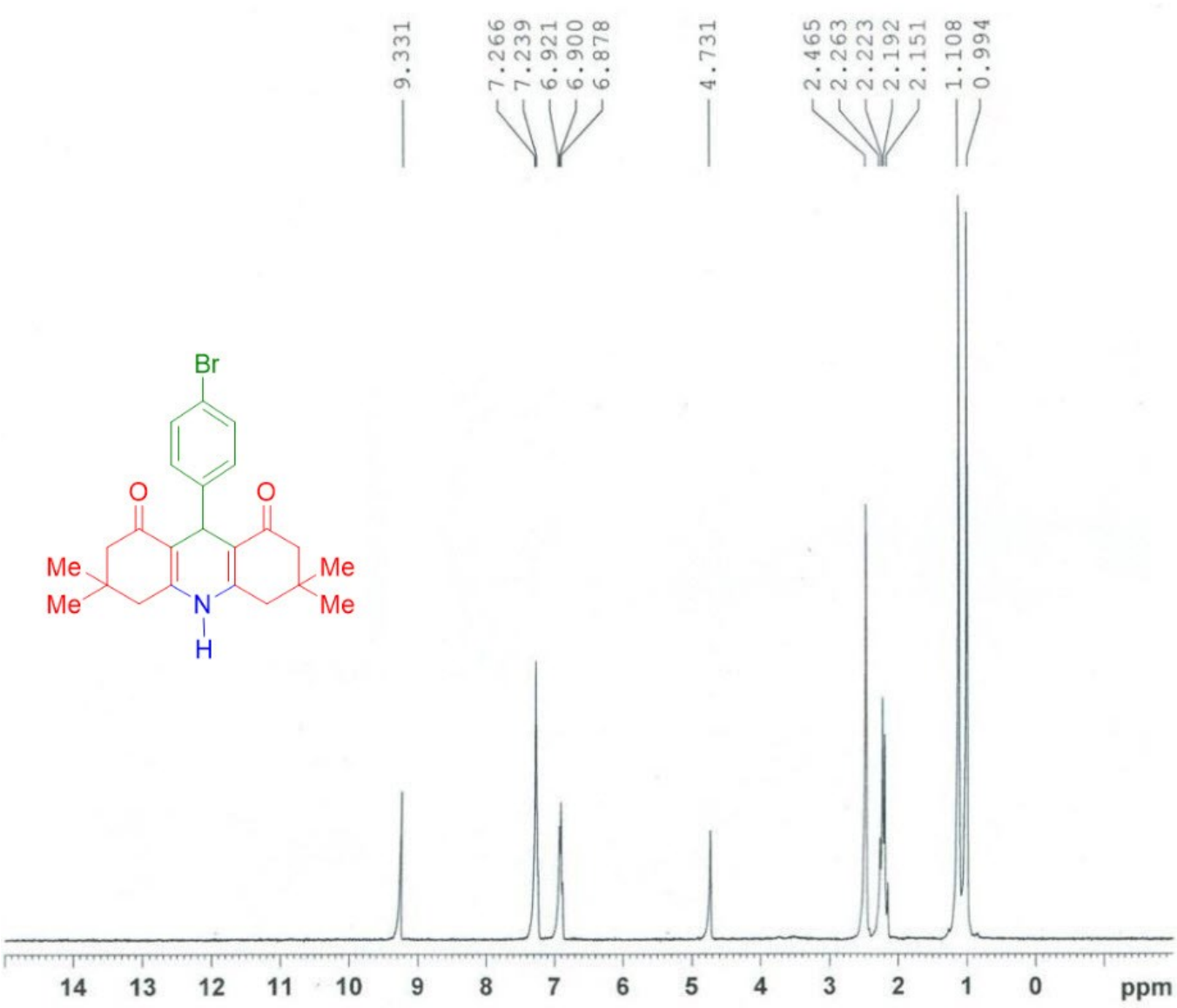


Figure S18. ^{13}C-NMR spectrum of product ***i.***



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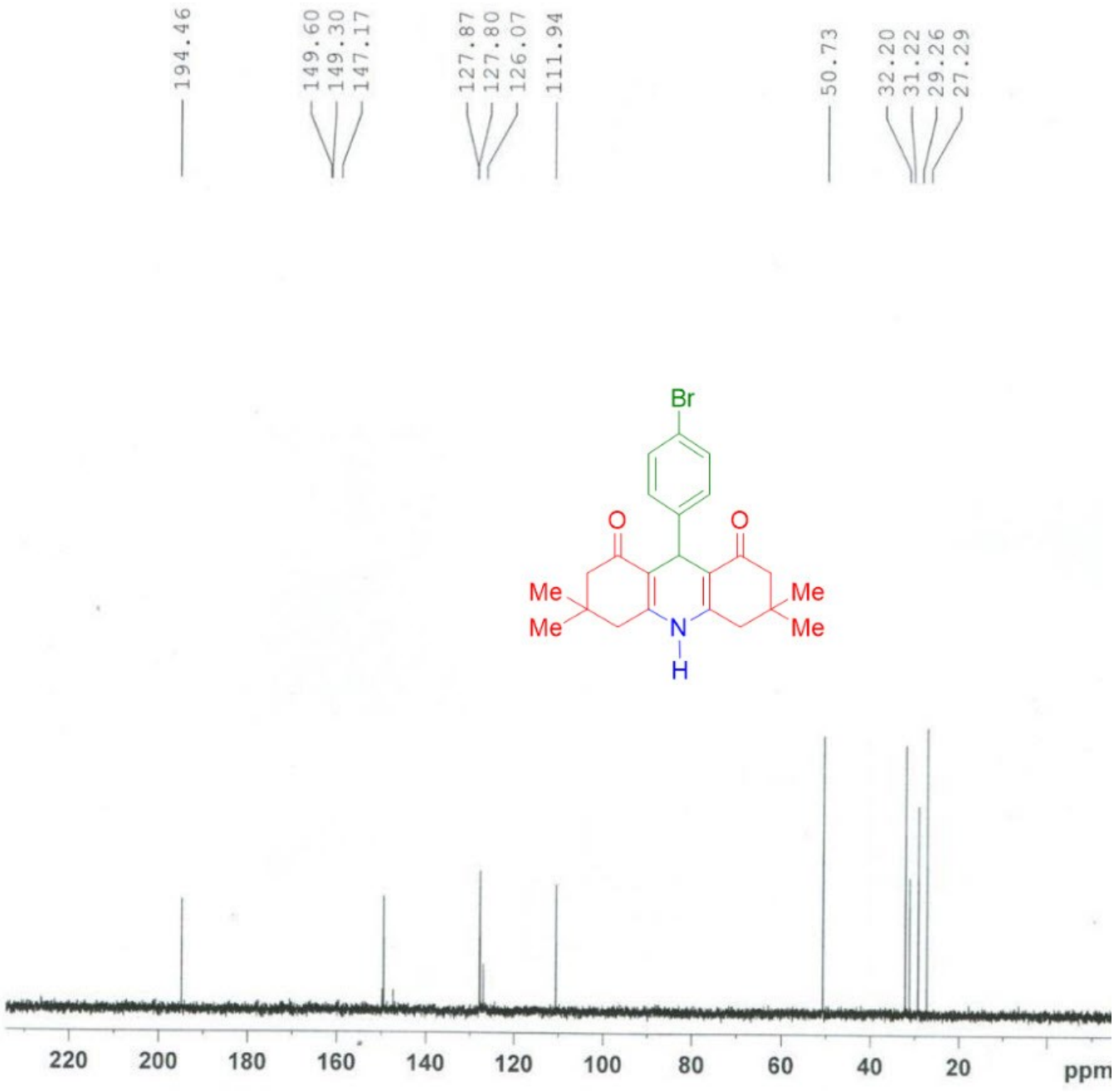

Figure S20. ^{13}C-NMR spectrum of product ***j.***