Supplementary Material

Synthesis of 9-Hydroxy-1*H*-Benzo[*f*]chromene Derivatives with Effective Cytotoxic Activity on MCF7/ADR, *P*-Glycoprotein Inhibitors, Cell Cycle Arrest and Apoptosis

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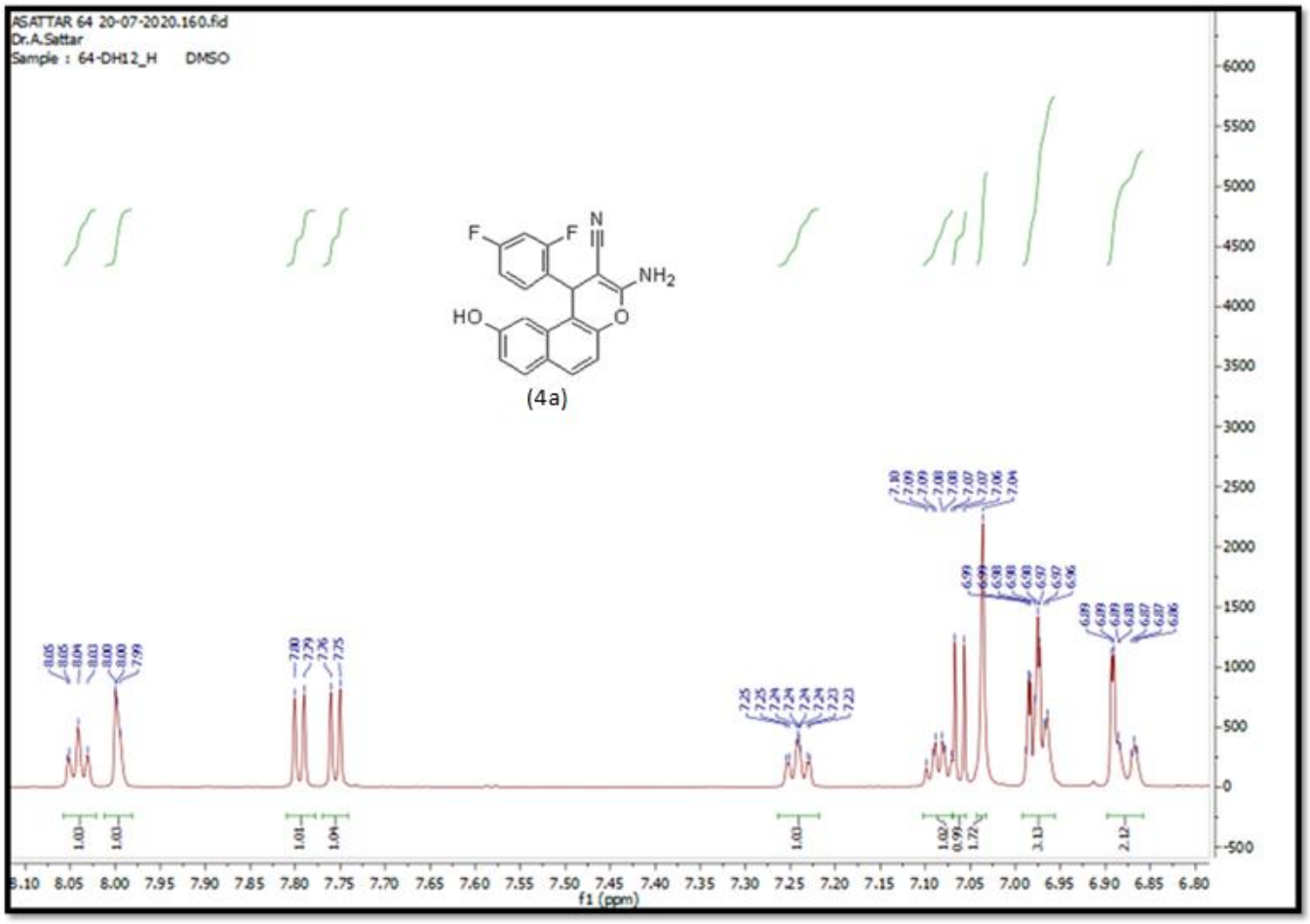


Figure S1: ^{1}H NMR 8.5-6.5 ppm of cpd. **(4a)**.

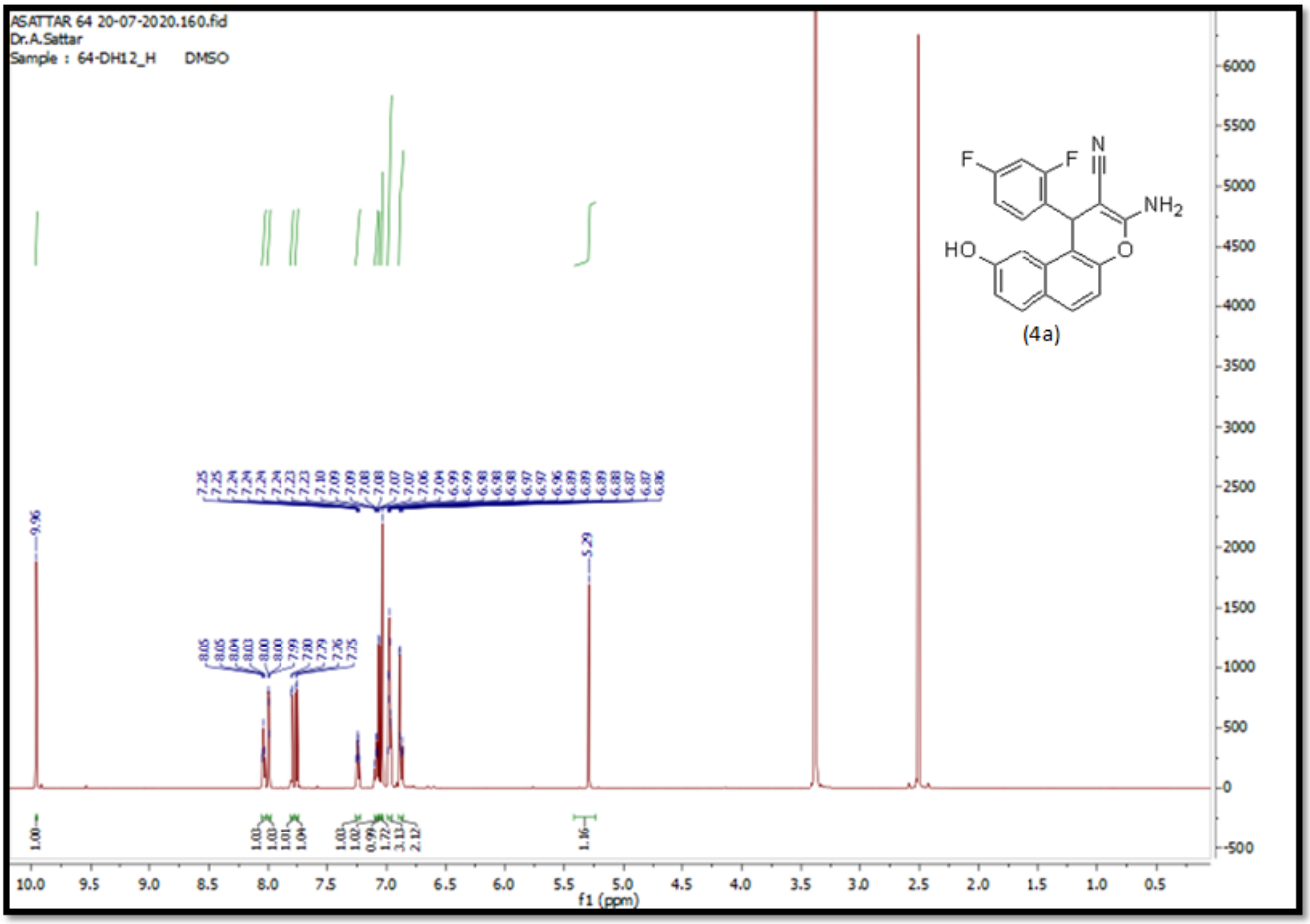


Figure S2: ^{1}H NMR of cpd. **(4a).**

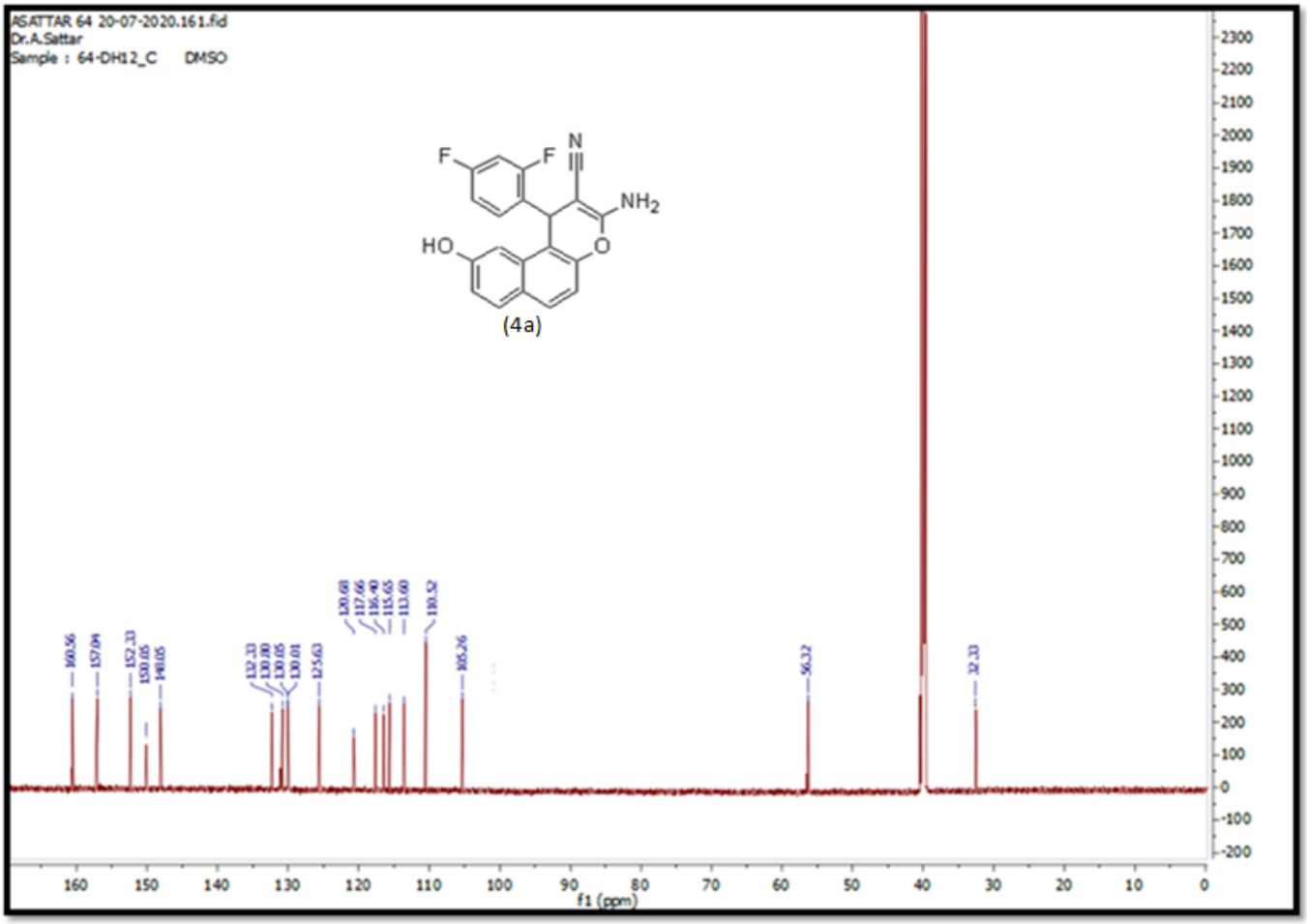


Figure S3: ^{13}C NMR of cpd. **(4a)**.

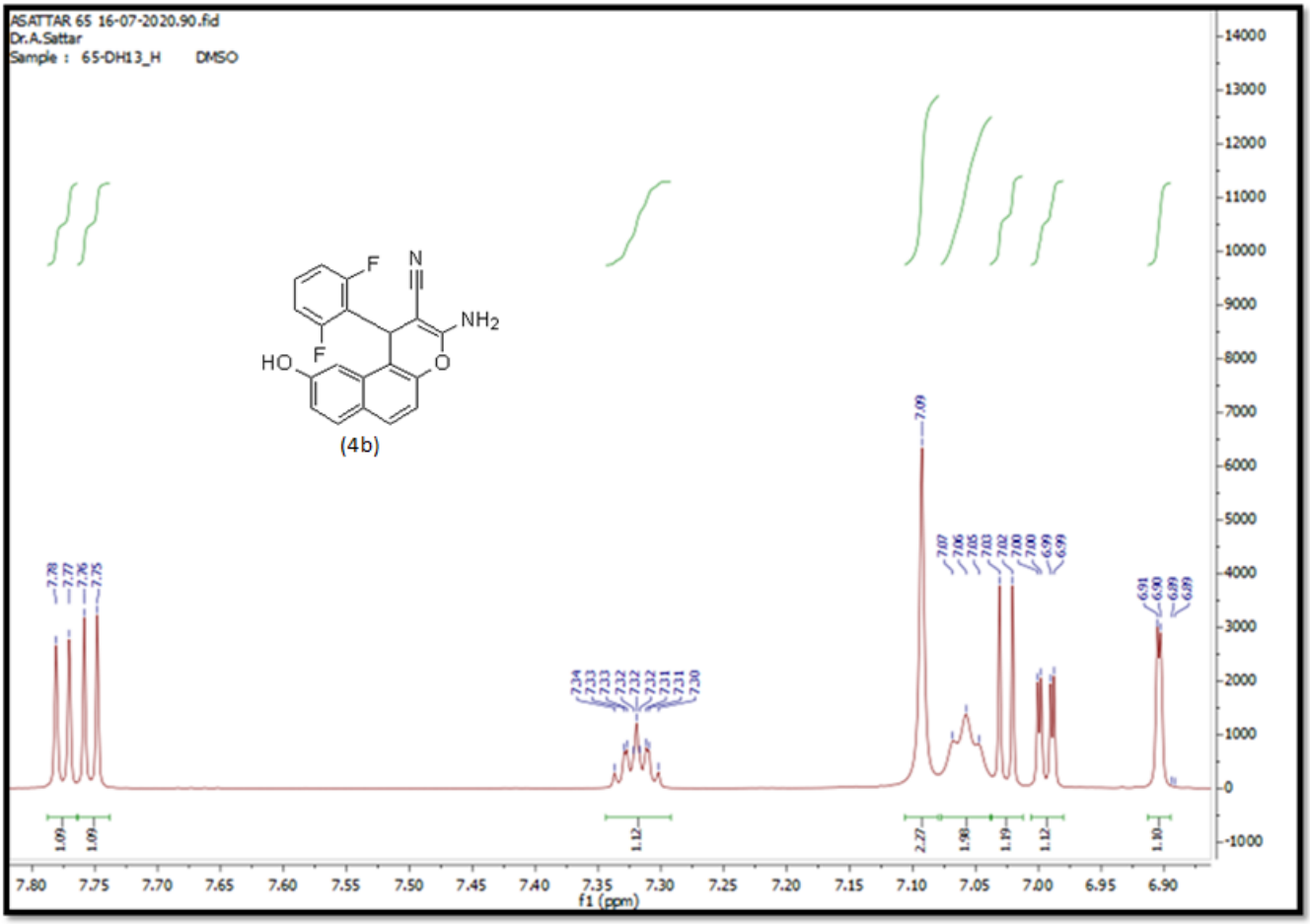


Figure S4: ^{1}H NMR 8.5-6.5 ppm of cpd. **(4b)**.

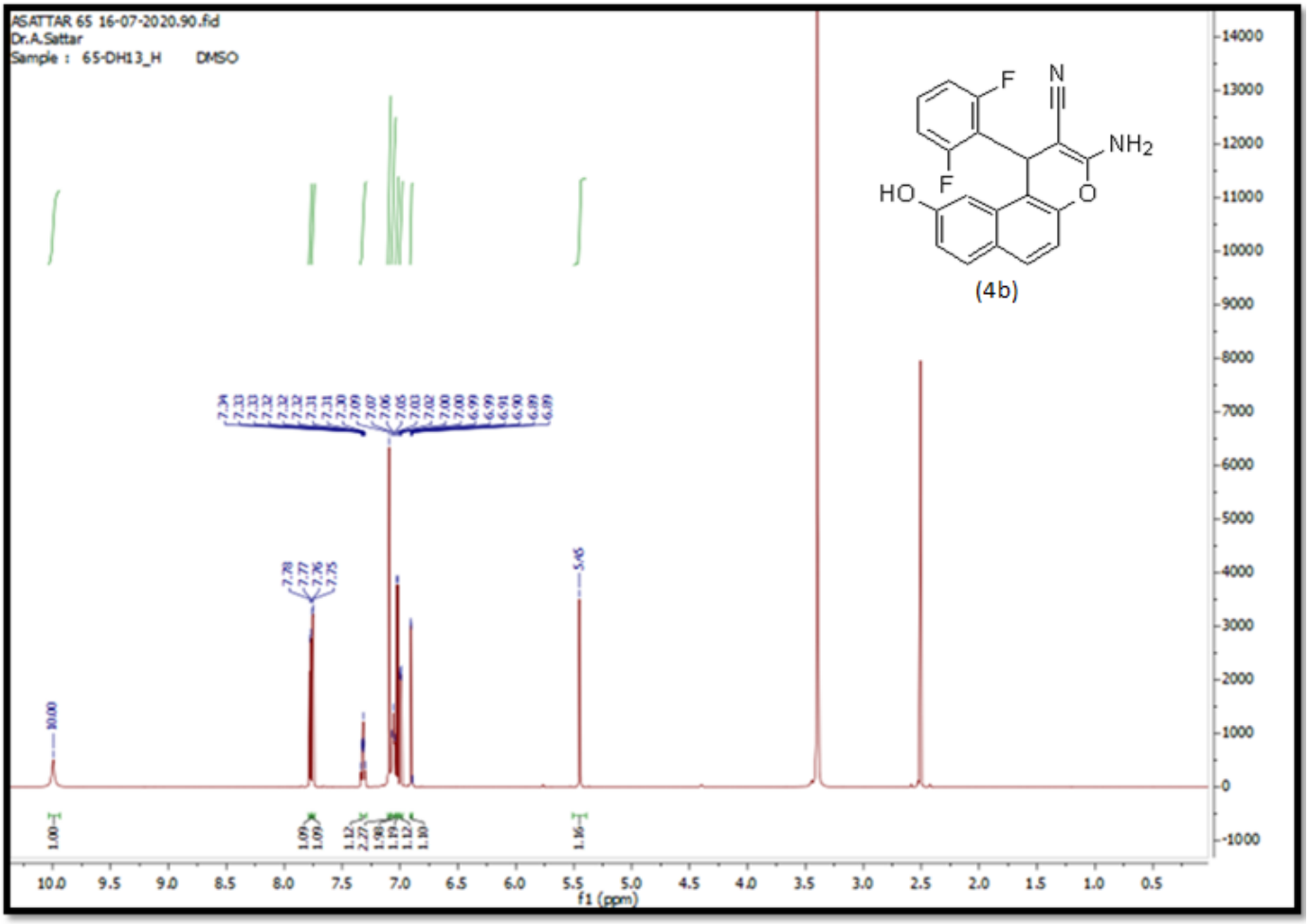


Figure S5: ^{1}H NMR of cpd. **(4b)**.

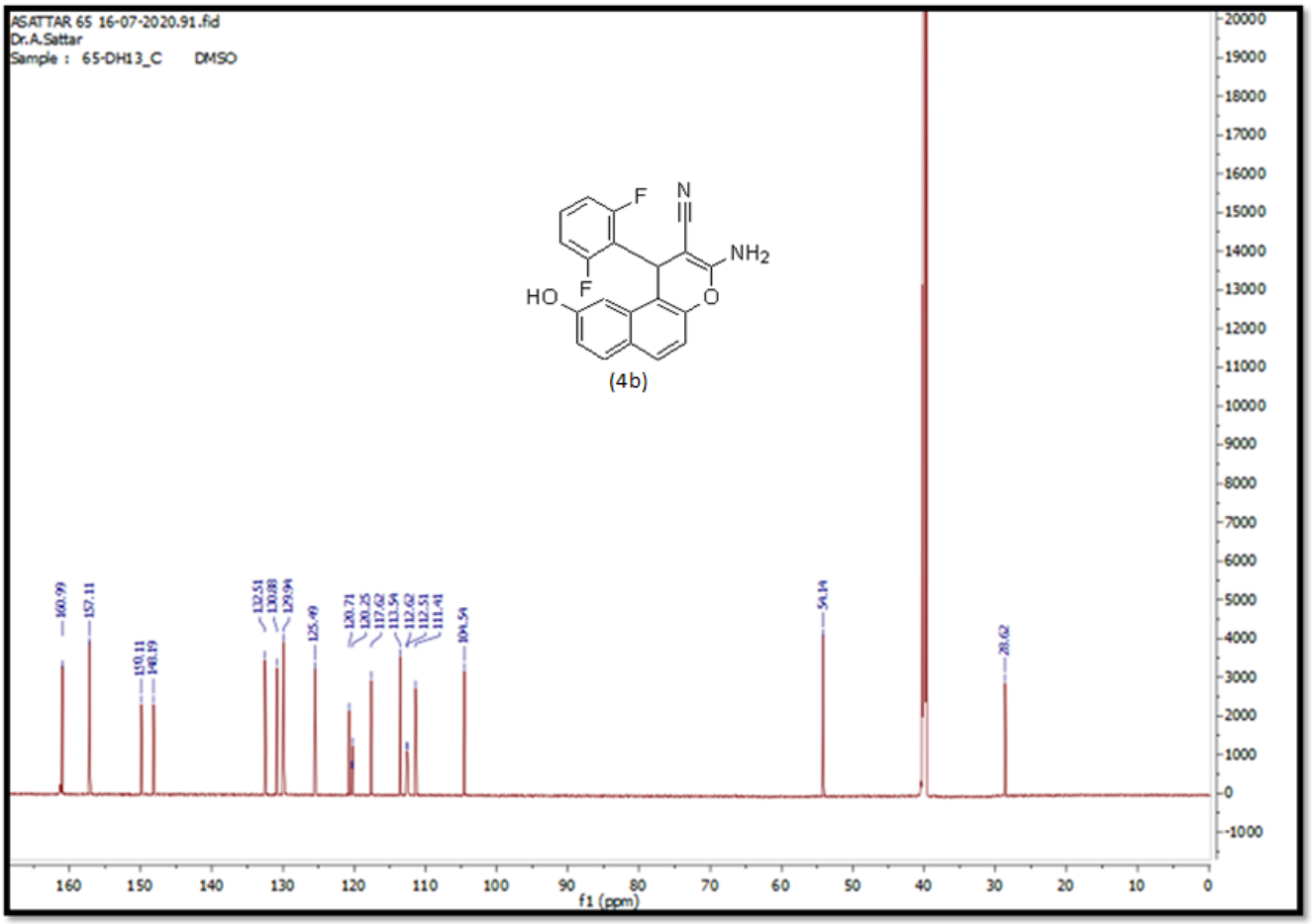


Figure S6: ^{13}C NMR of cpd. **(4b)**.

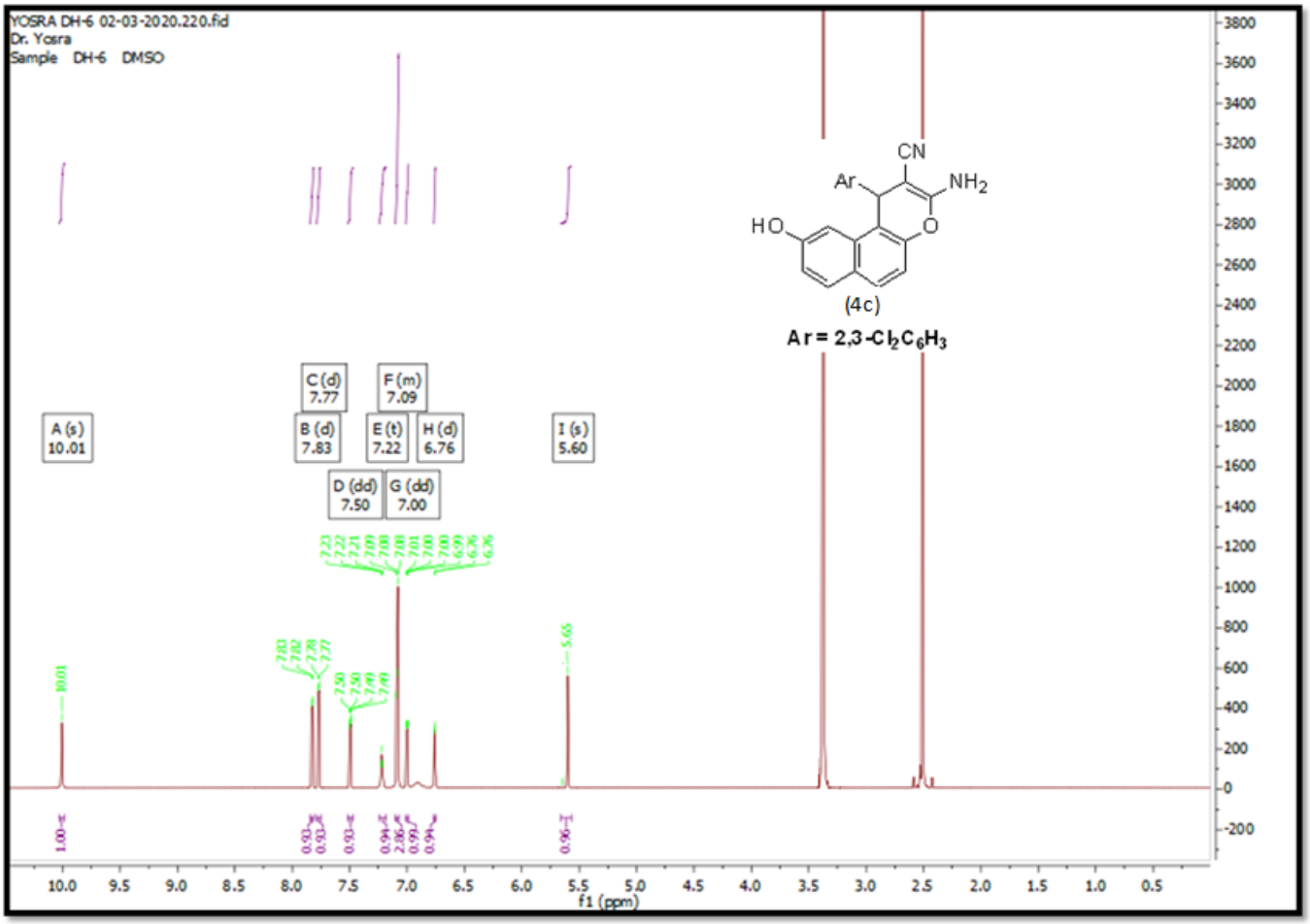


Figure S7: ^{1}H NMR of cpd. **(4c)**.

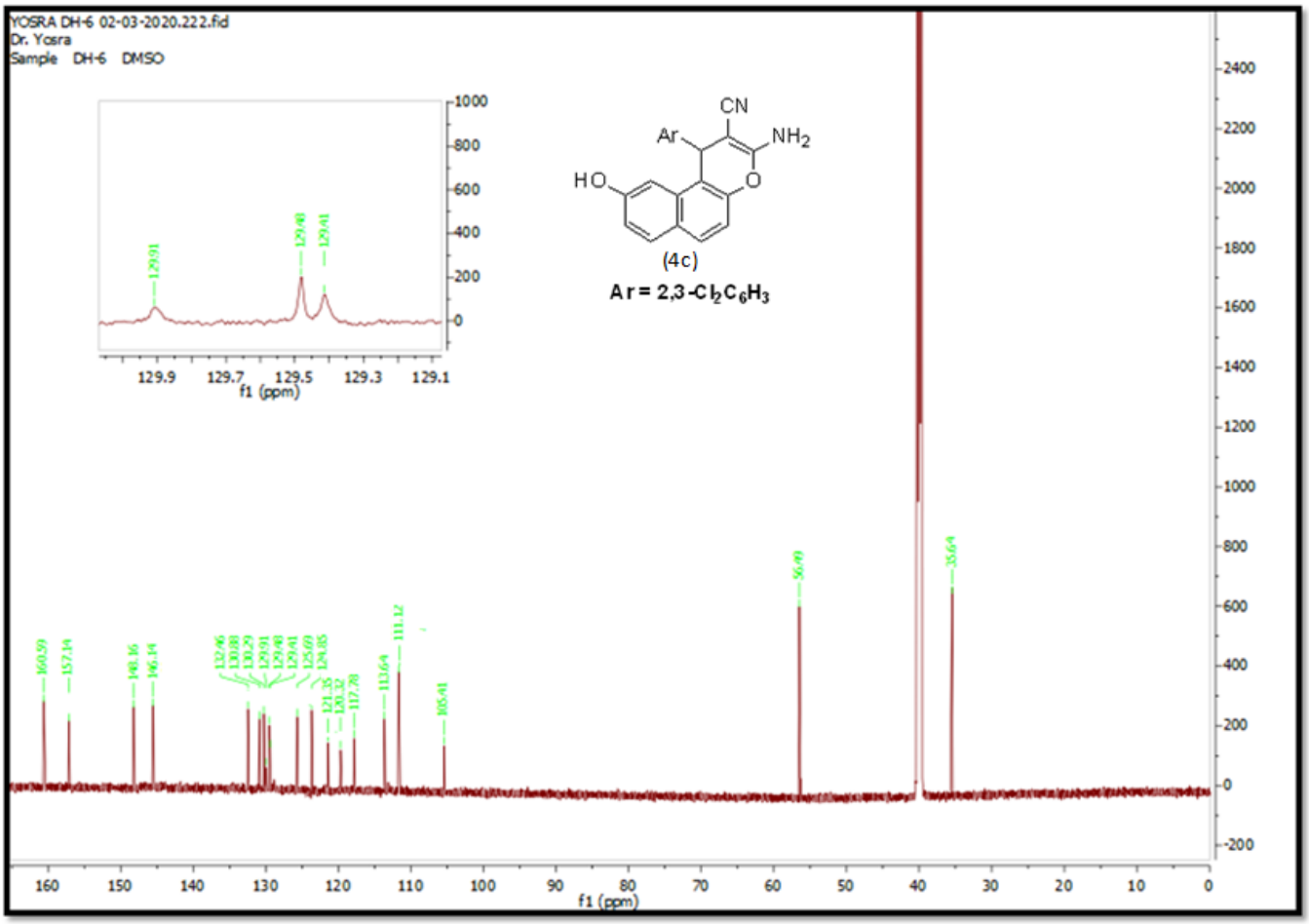


Figure S8: ^{13}C NMR of cpd. **(4c)**.

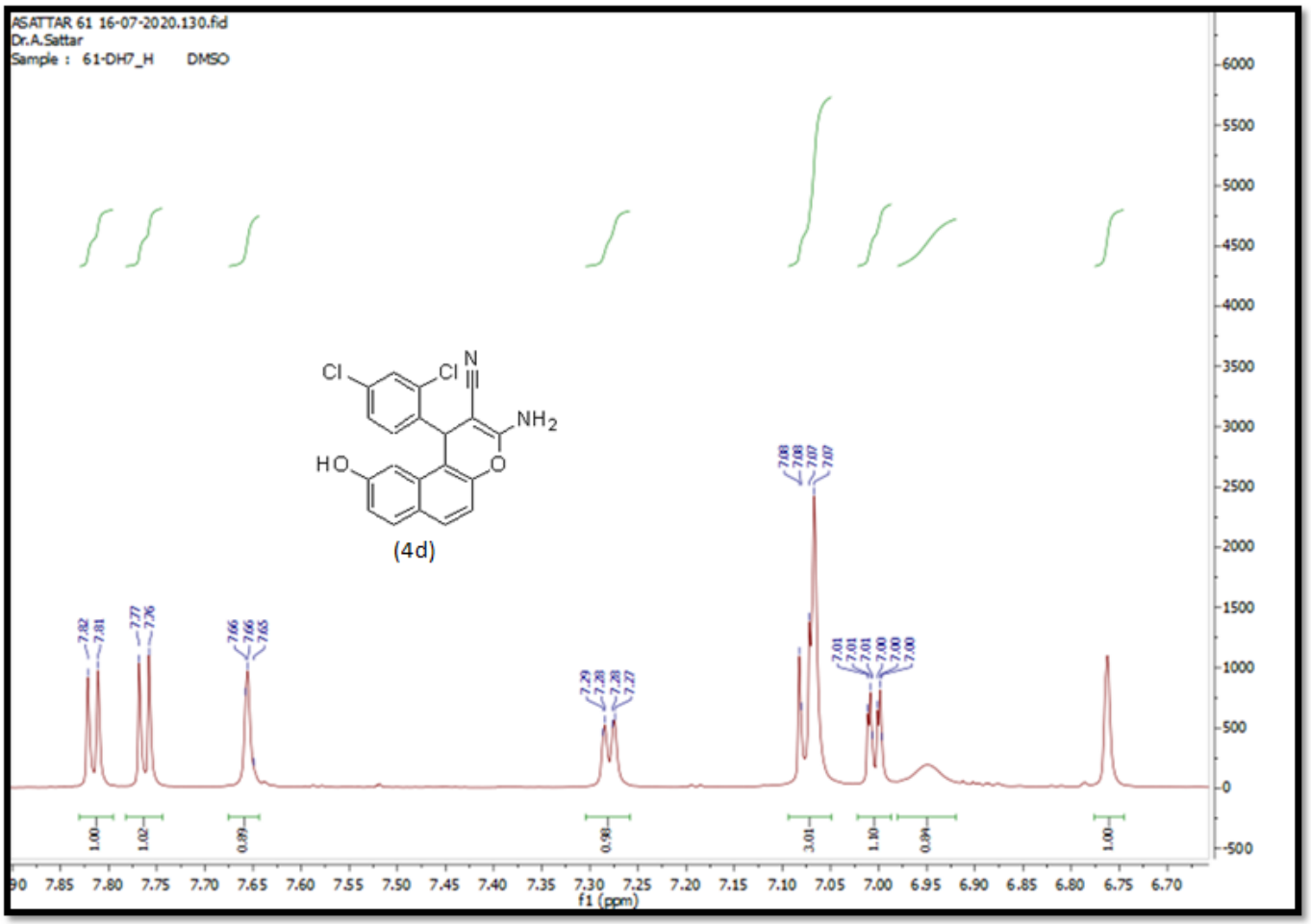


Figure S9: ^{1}H NMR 8.5-6.5 ppm of cpd. **(4d)**.

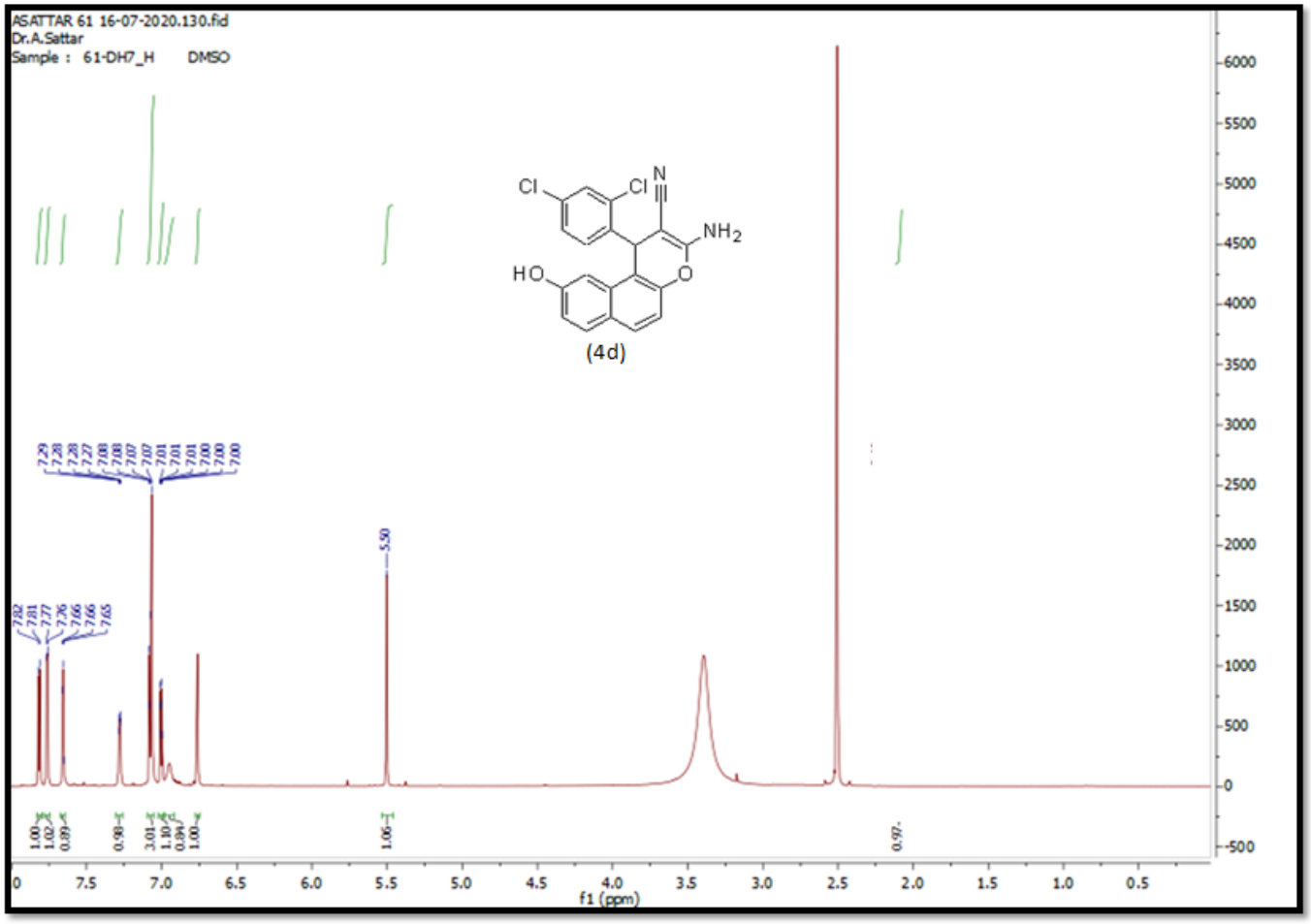


Figure S10: ^{1}H NMR of cpd **(4d)**.

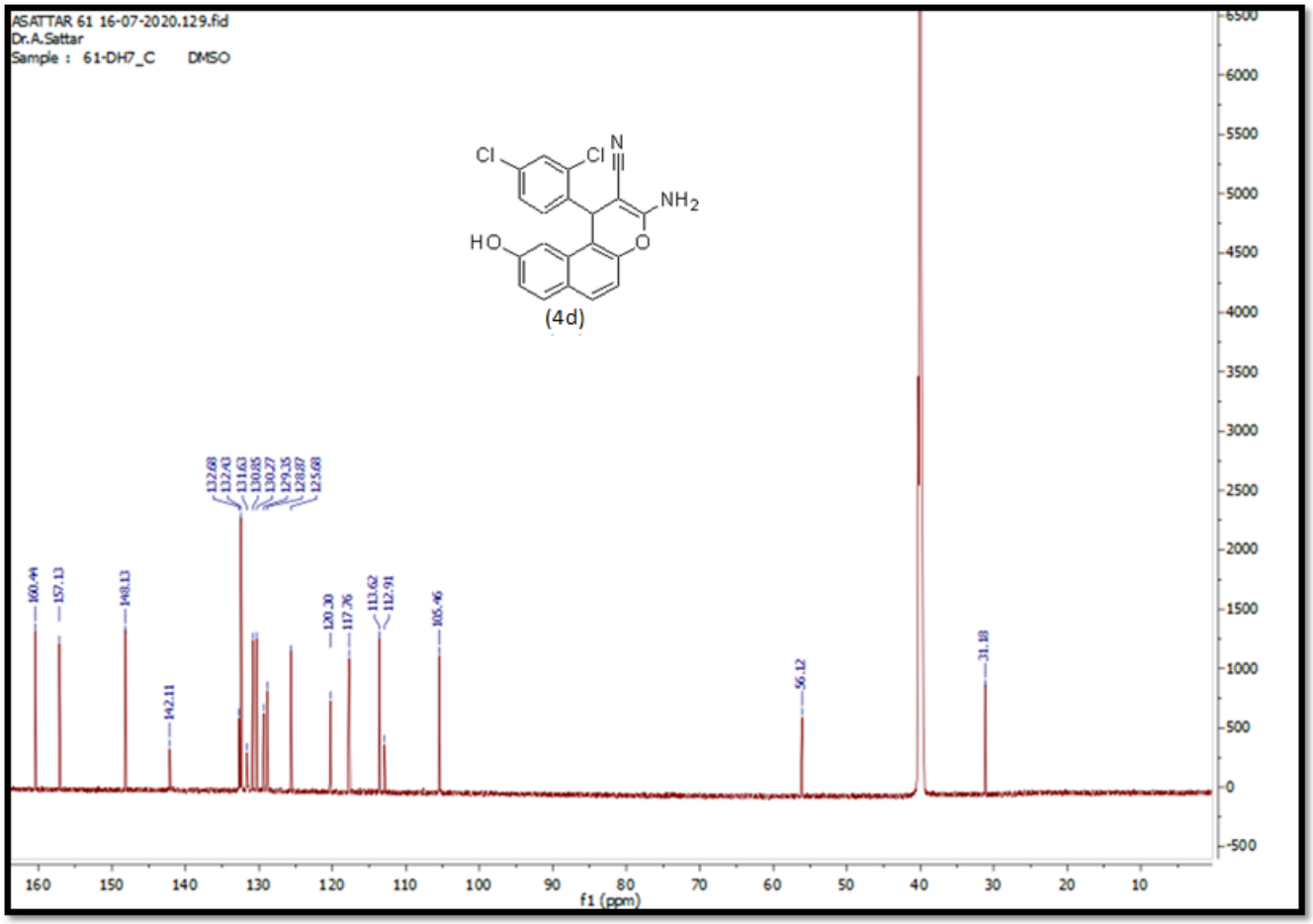


Figure S11: ^{13}C NMR of cpd. **(4d)**.

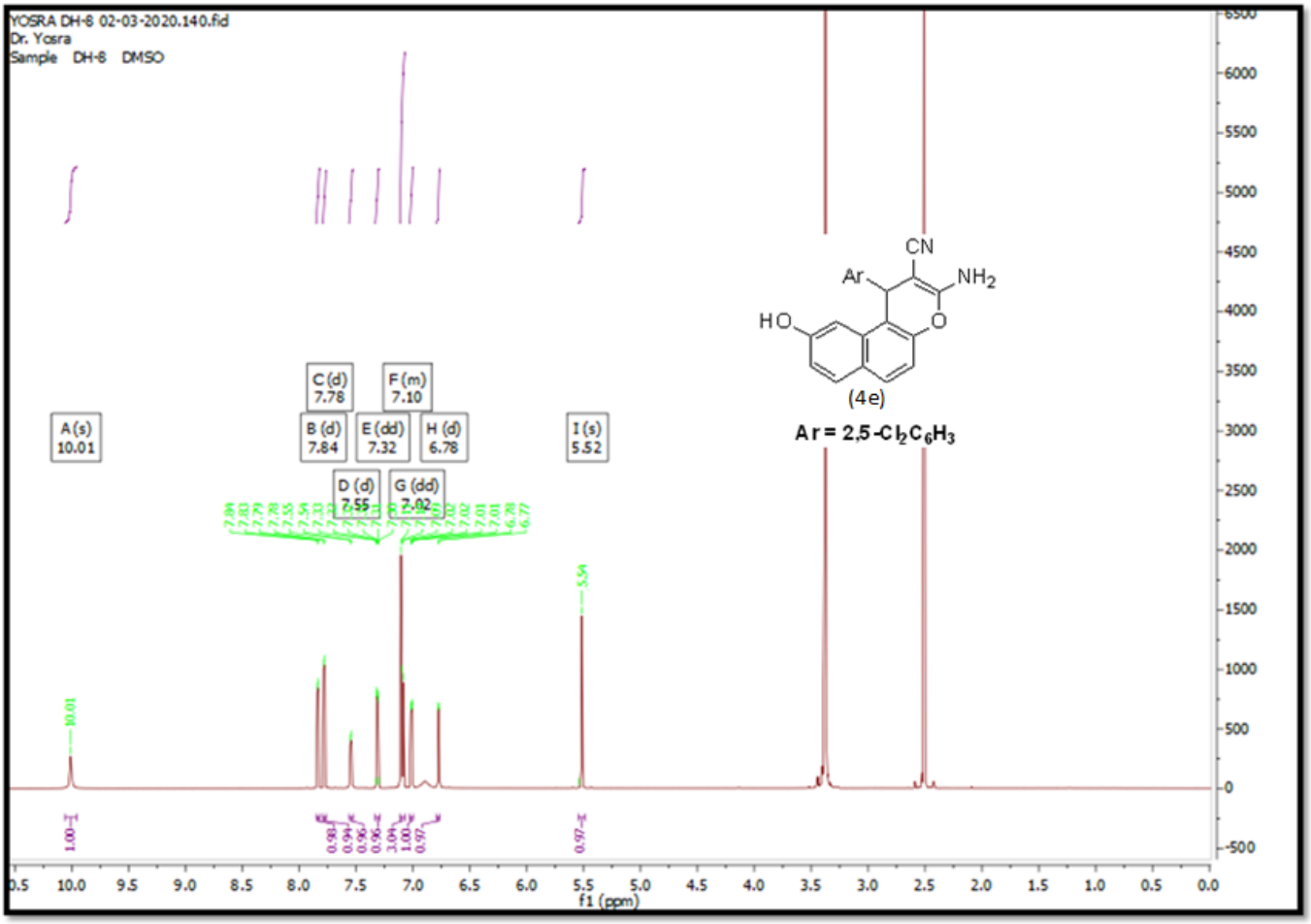


Figure S12: ^{1}H NMR of cpd **(4e)**.

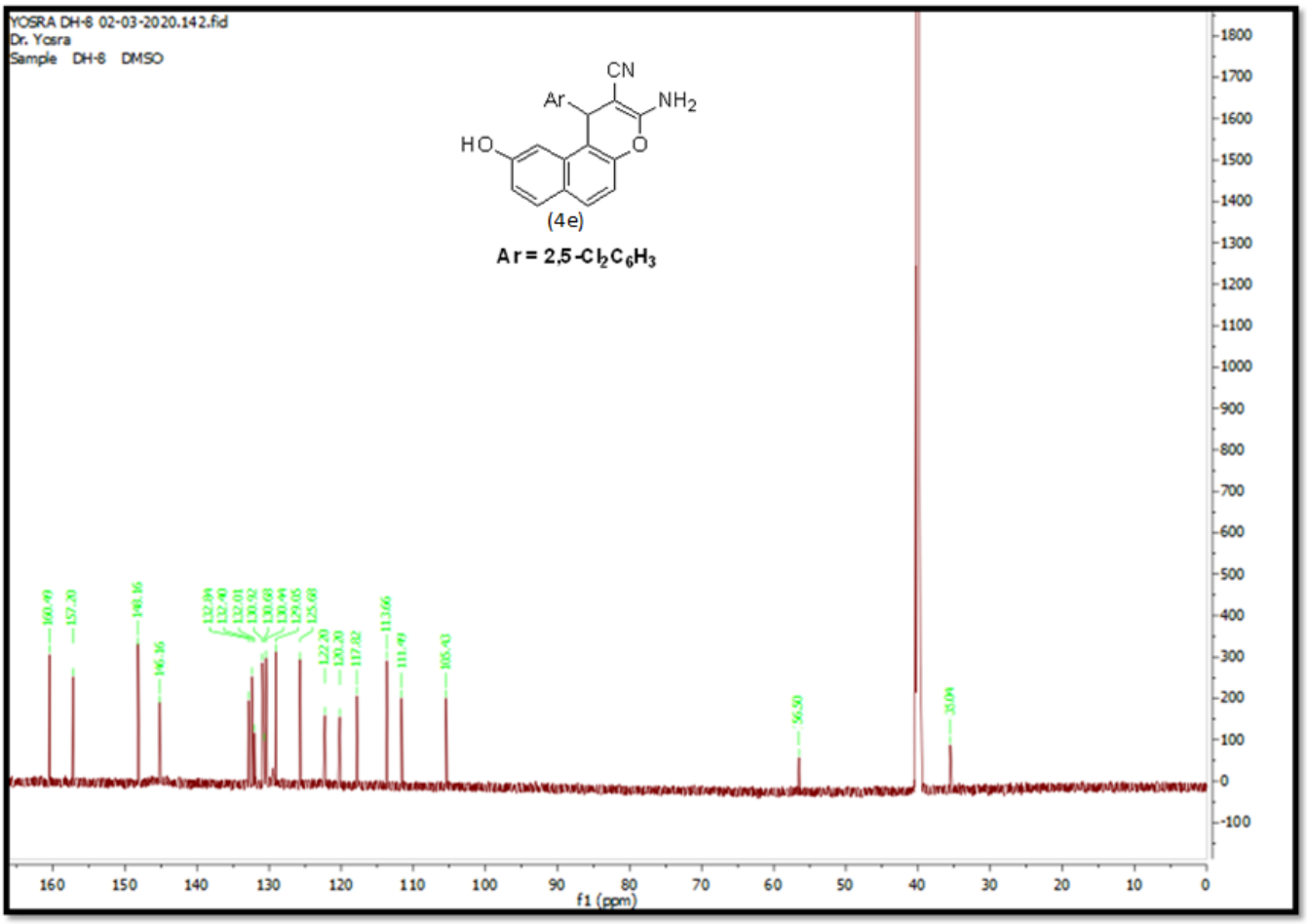


Figure S13: ^{13}C NMR of cpd. **(4e)**.

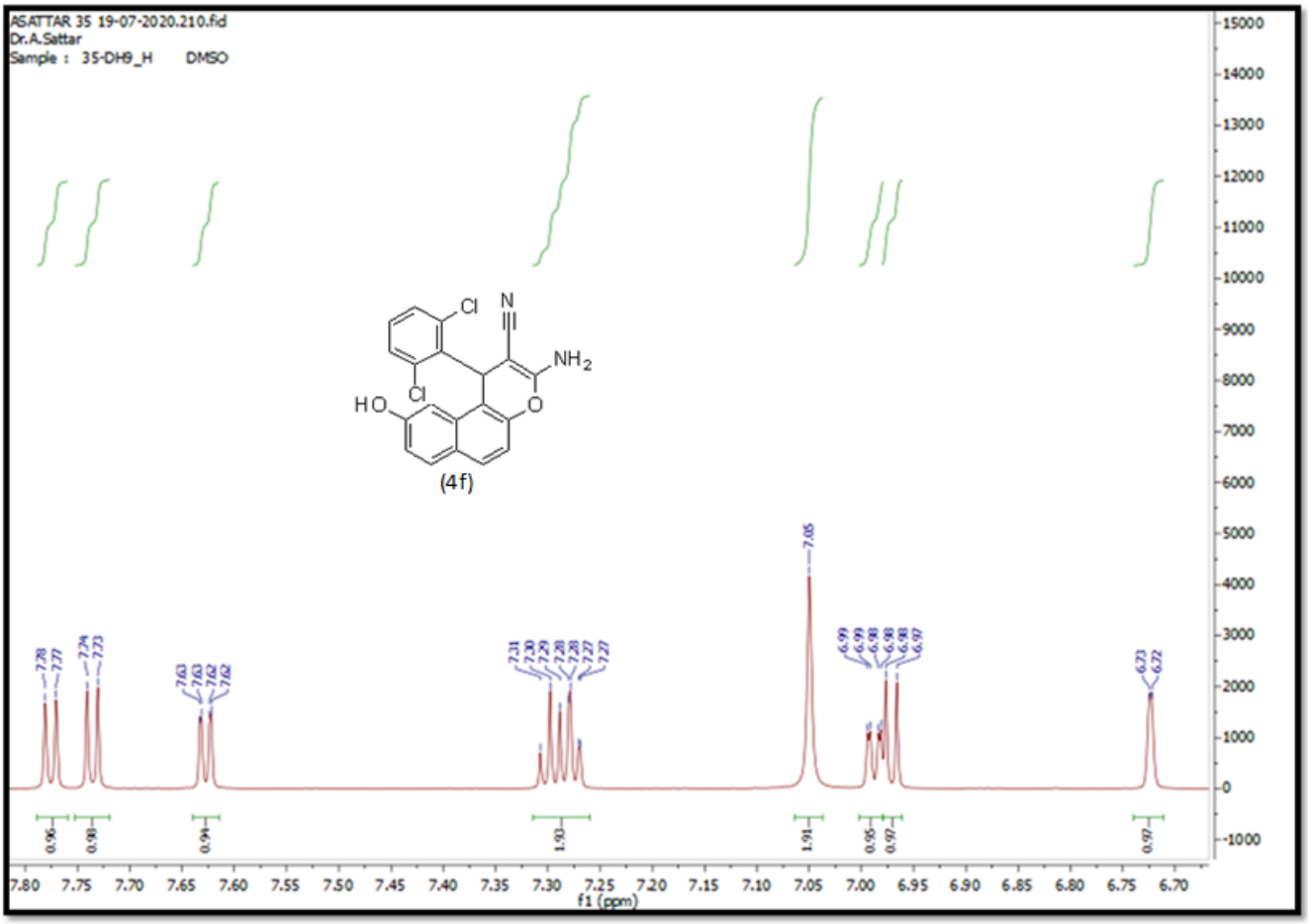


Figure S14: ^{1}H NMR 8.5-6.5 ppm of cpd. **(4f)**.

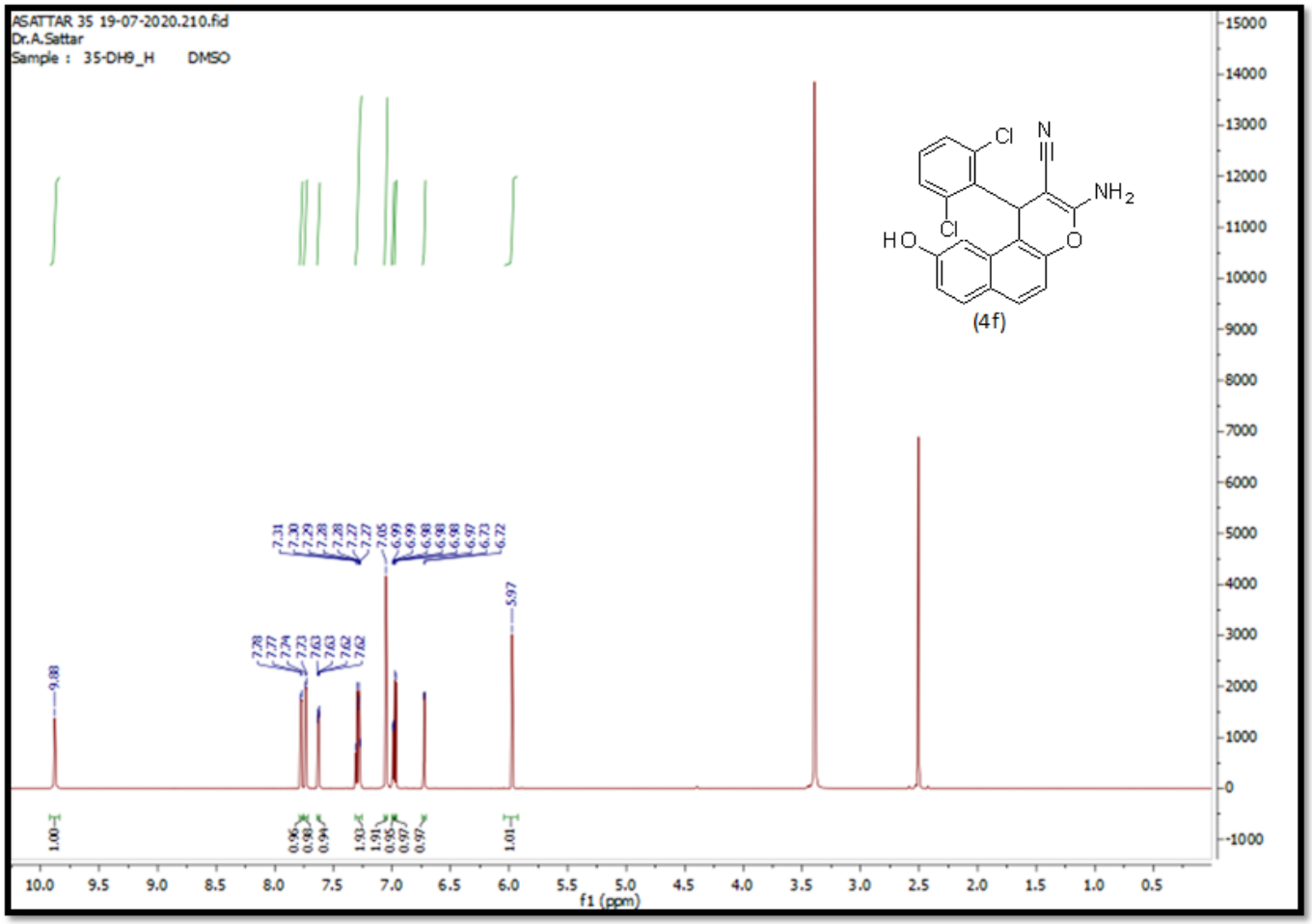


Figure S15: ^{1}H NMR of cpd. **(4f)**.

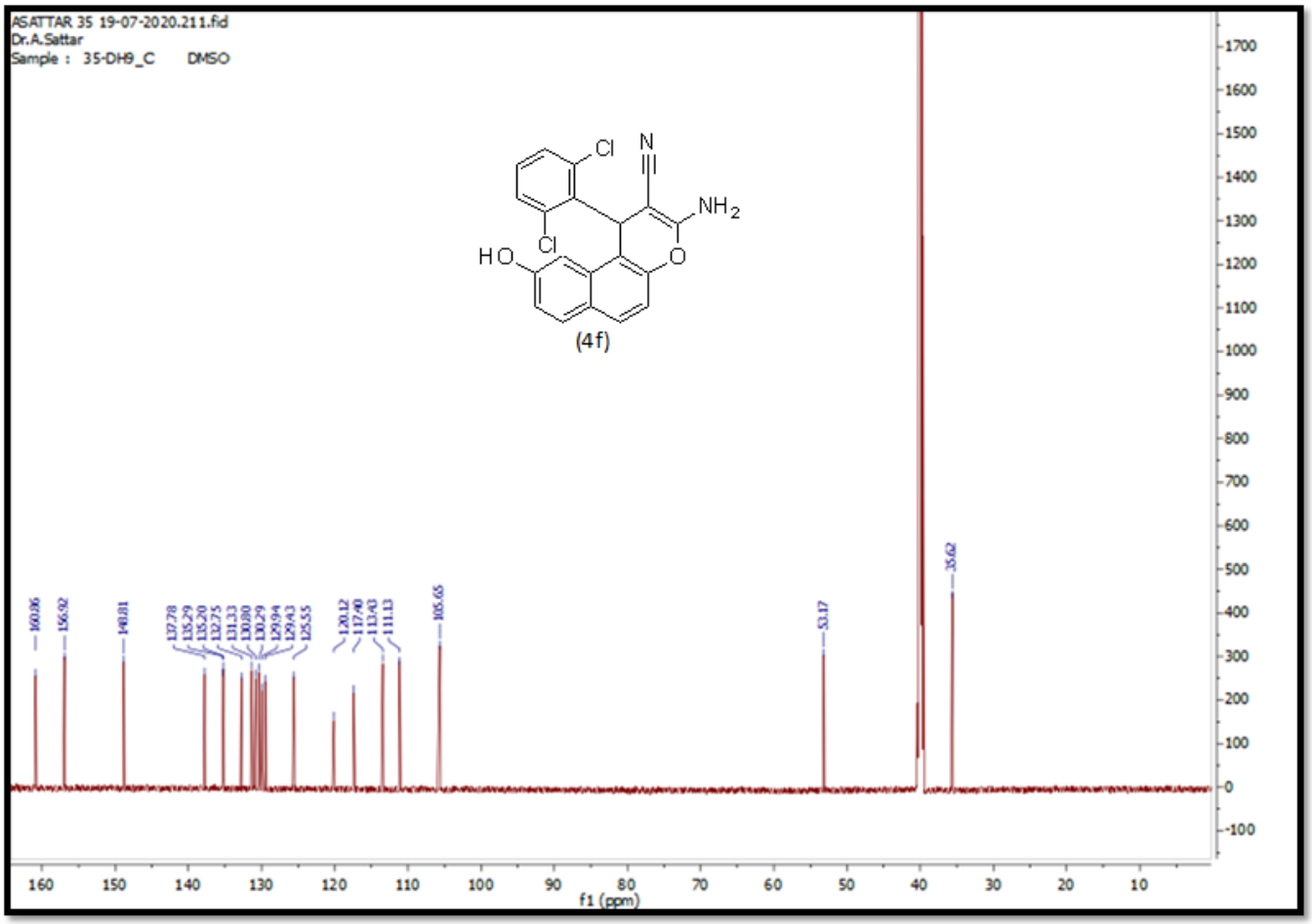


Figure S16: ^{13}C NMR of cpd. **(4f)**.

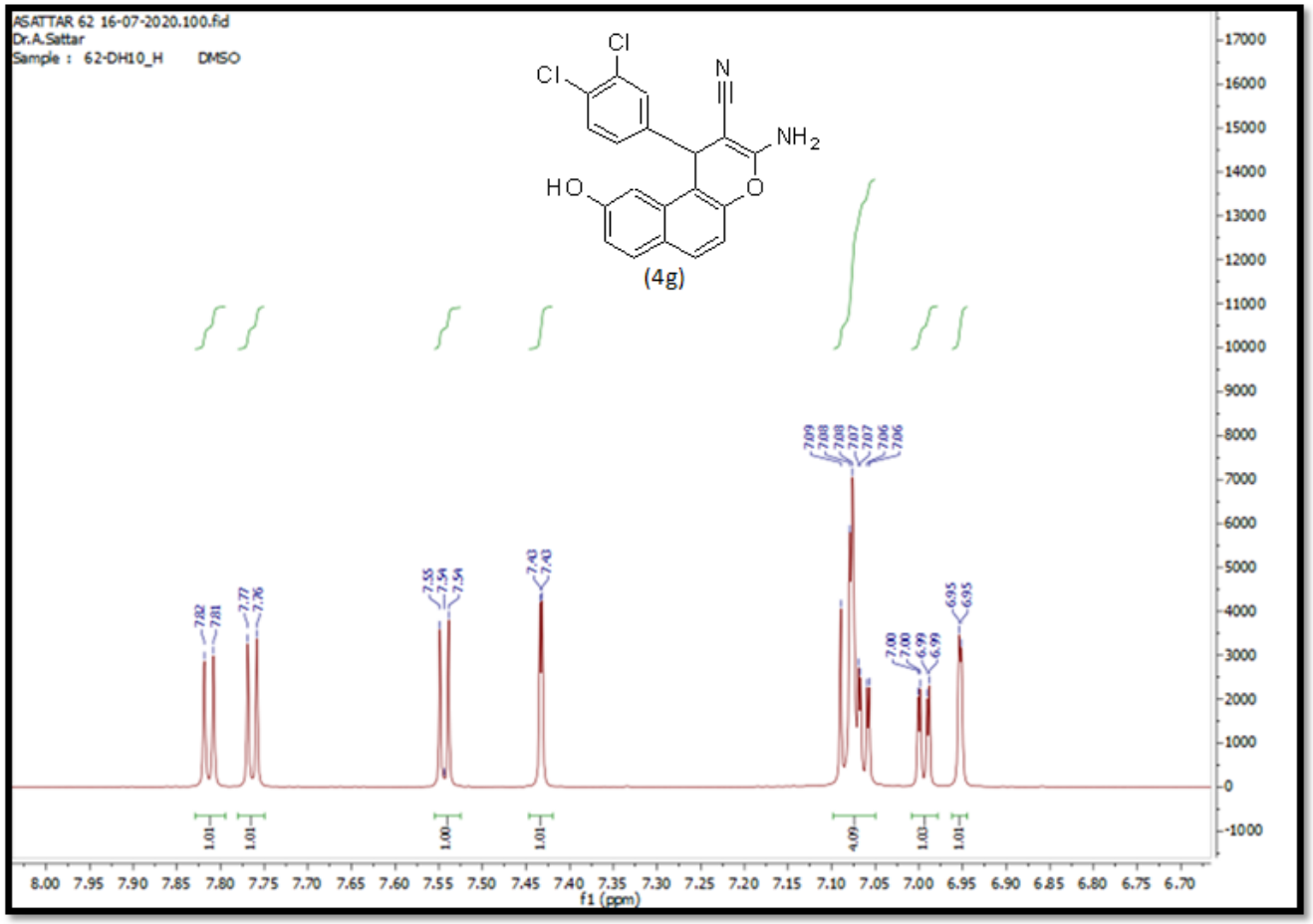


Figure S17: ^{1}H NMR 8.5-6.5 ppm of cpd. **(4g)**.

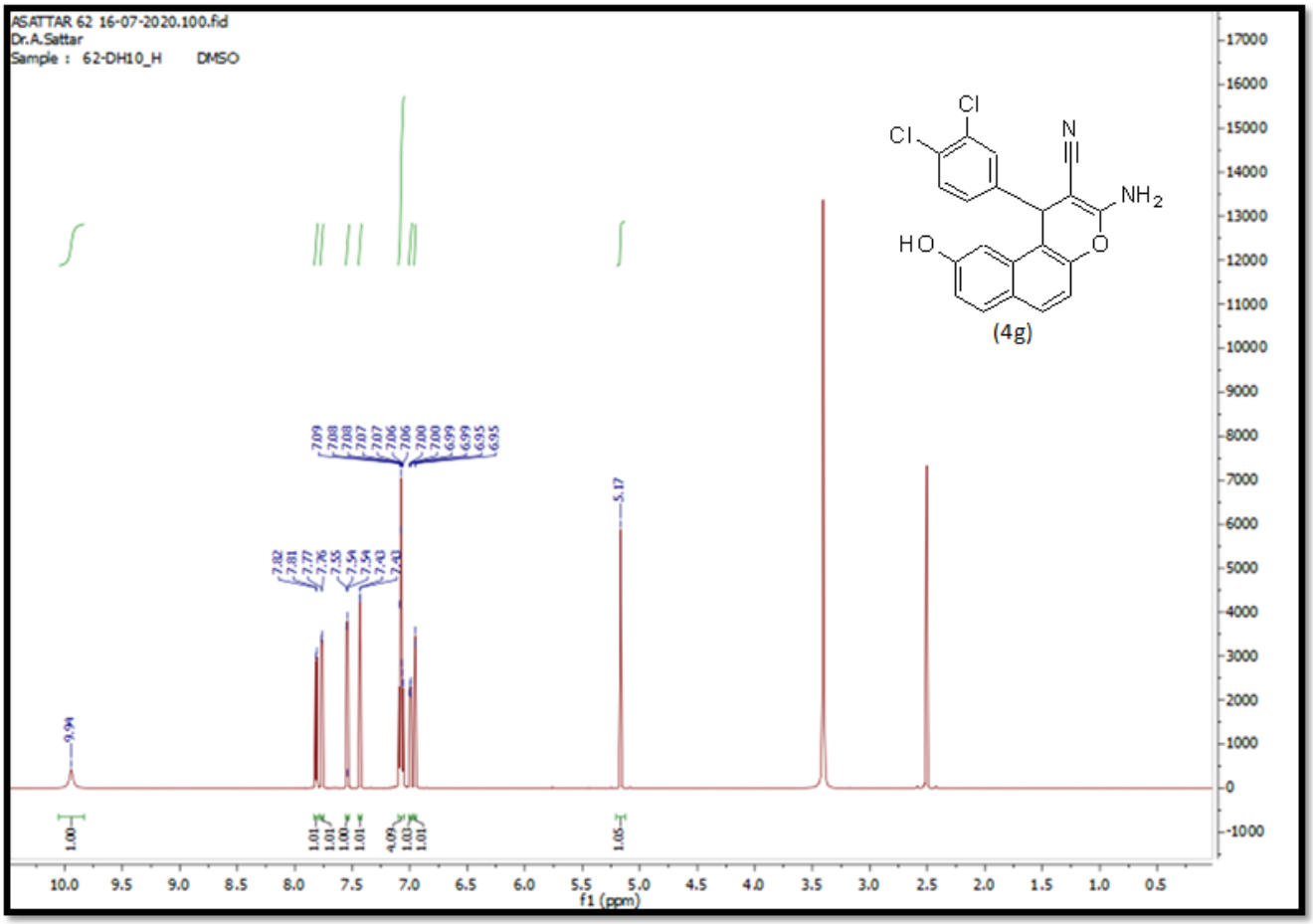


Figure S18: ^{1}H NMR of cpd. **(4g)**.

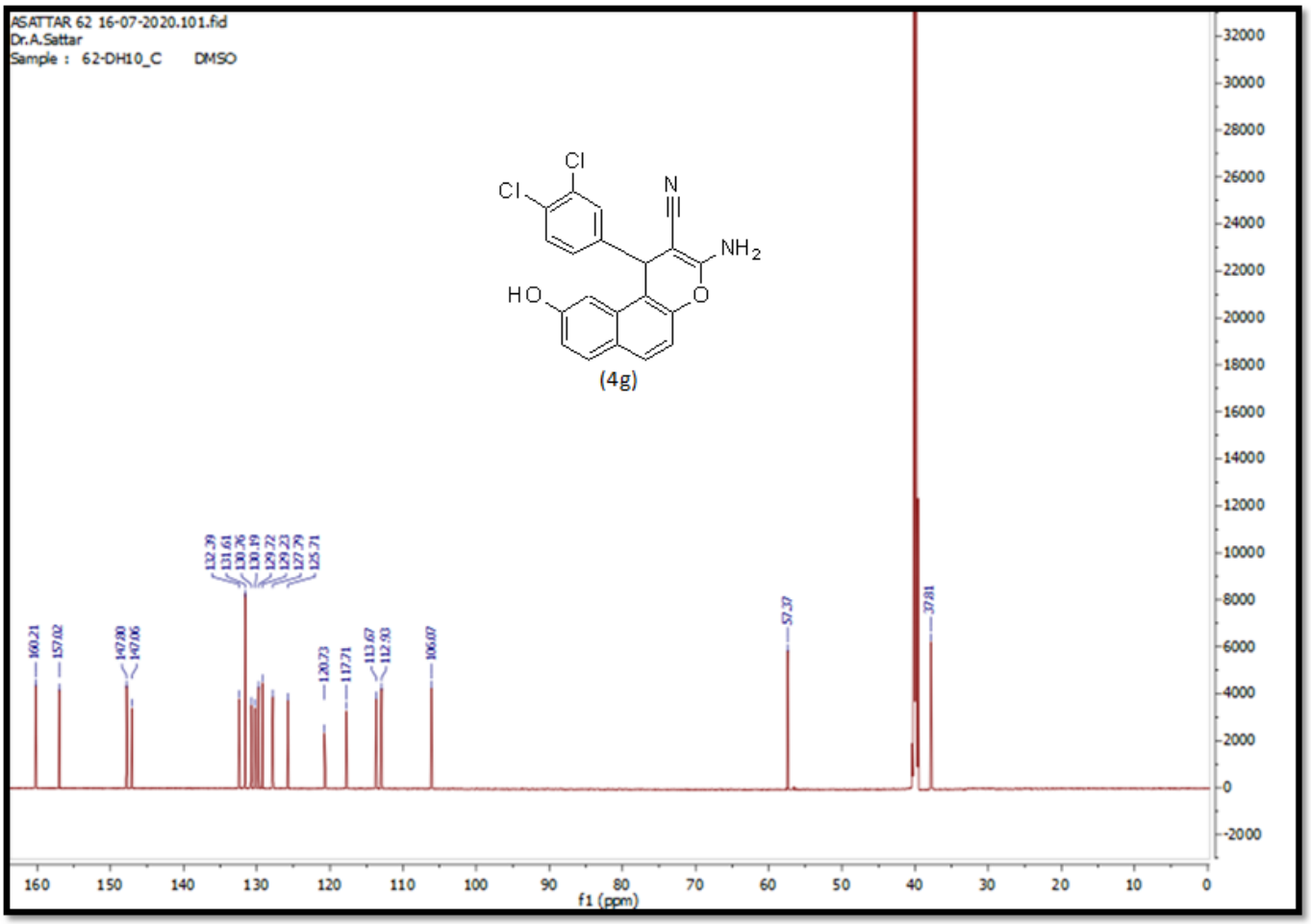


Figure S19: ^{13}C NMR of cpd. **(4g)**.

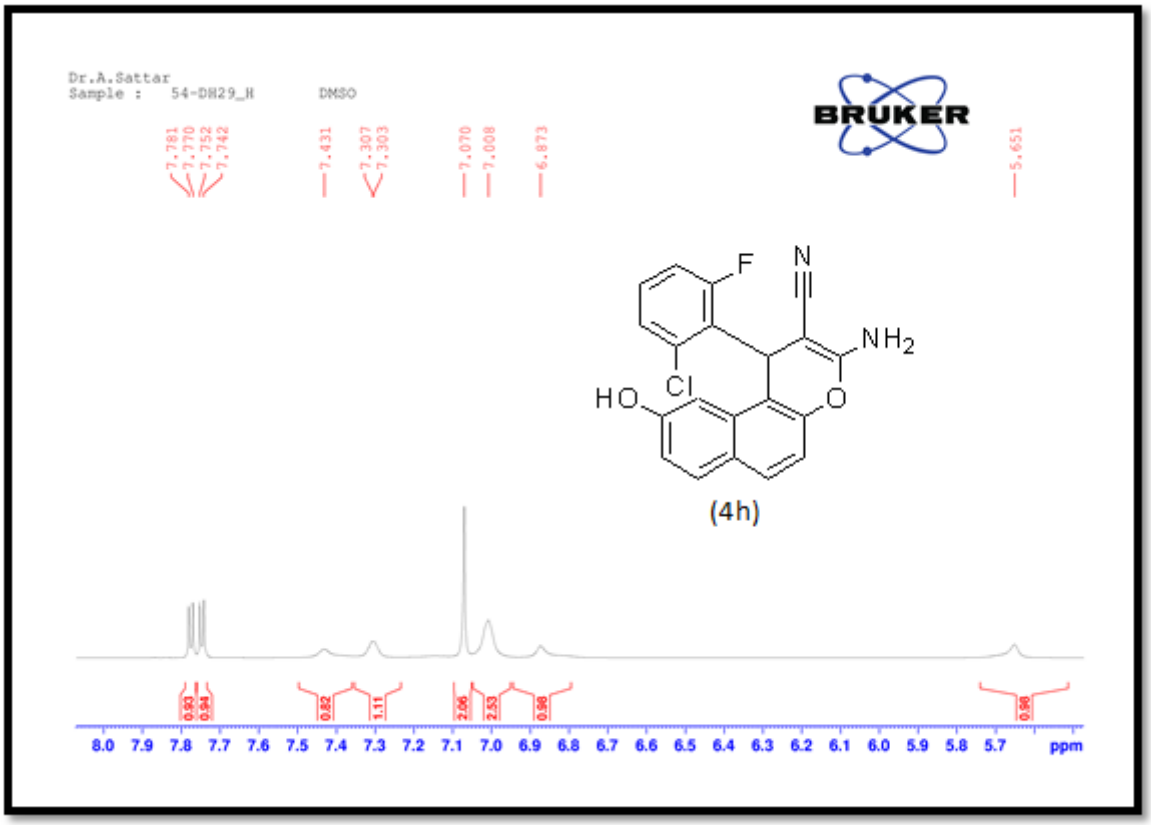


Figure S20: ^{1}H NMR 8.5-6.5 ppm of cpd. **(4h)**.

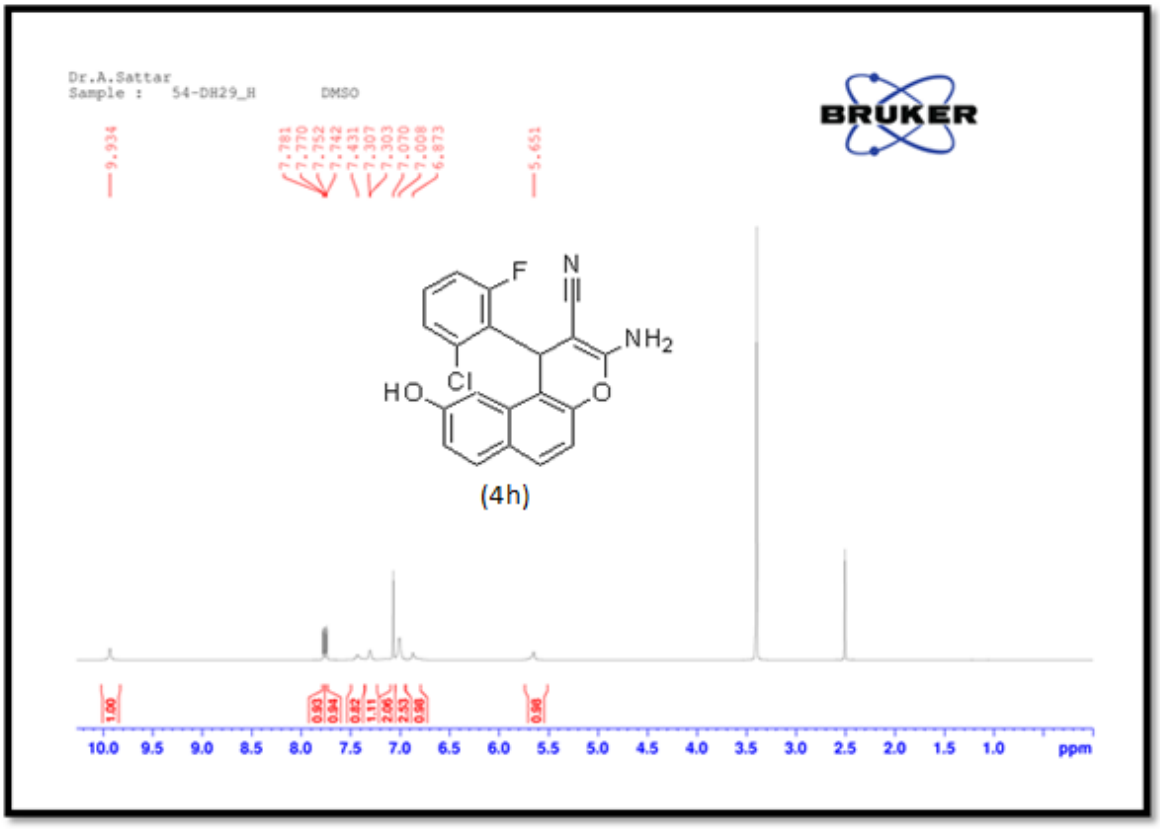


Figure S21: ^{1}H NMR of cpd. **(4h)**.

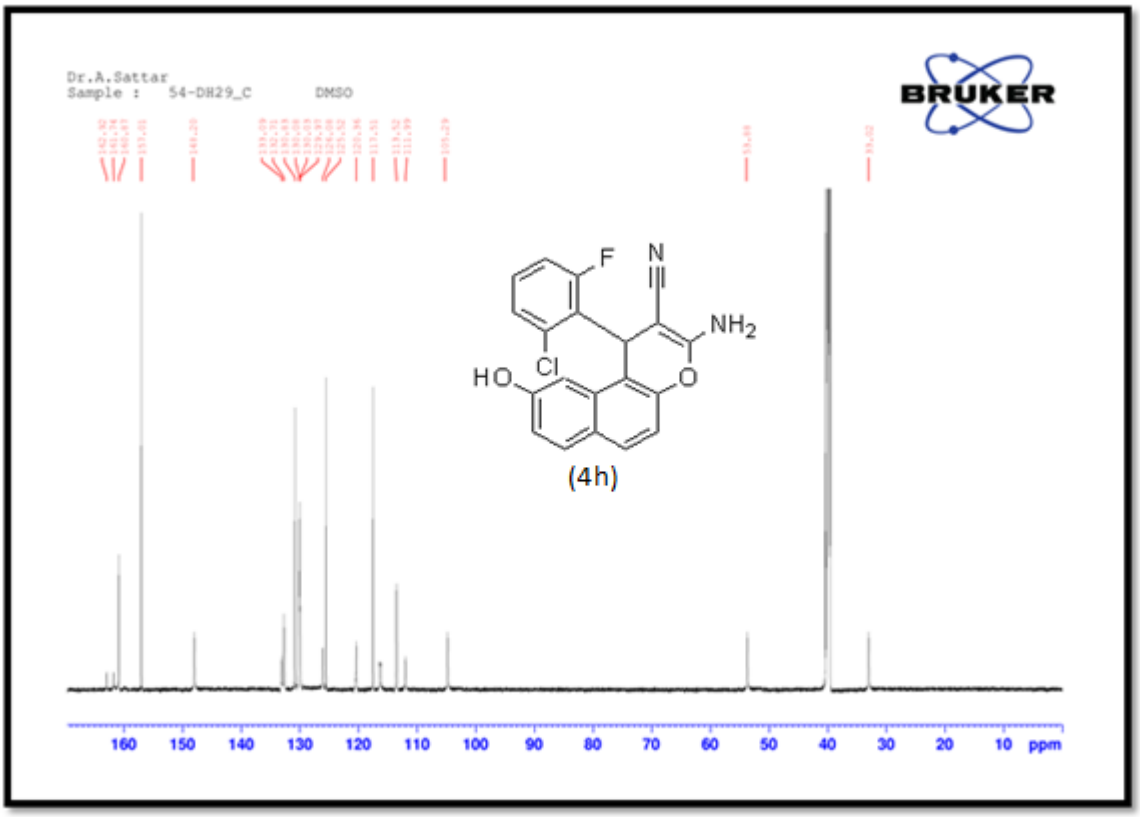


Figure S22: ^{13}C NMR of cpd. **(4h)**.

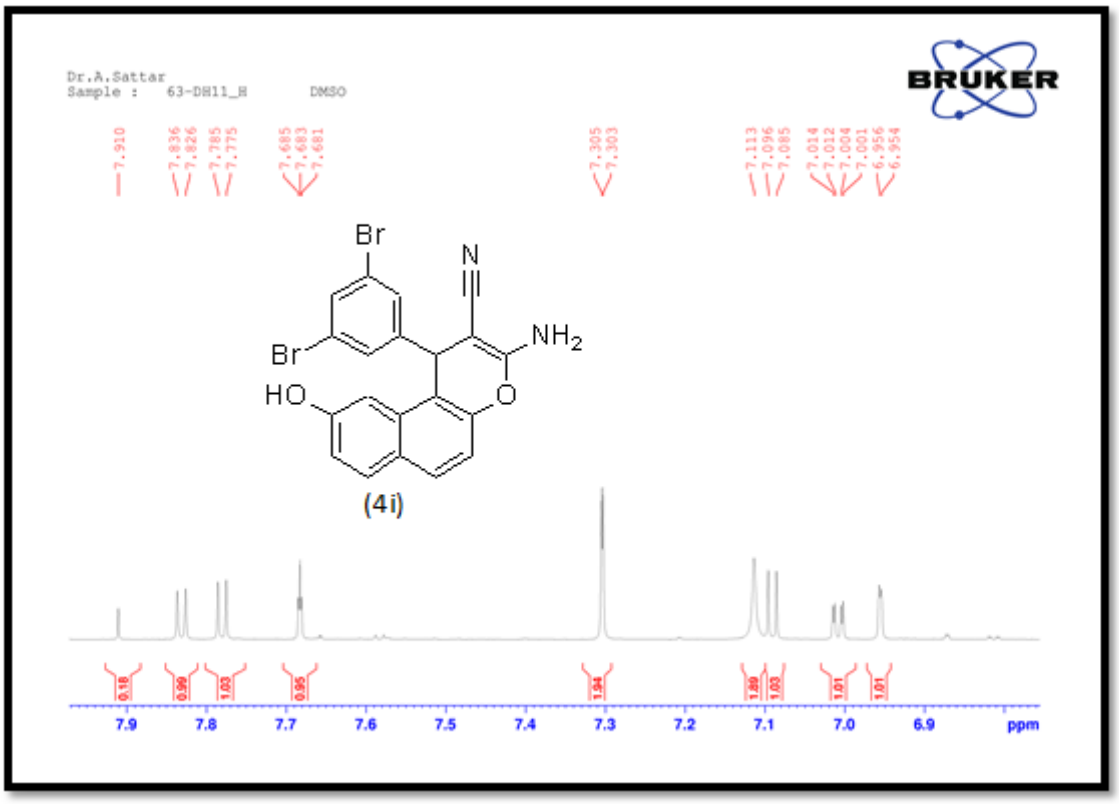


Figure S23: ^{1}H NMR 8.5-6.5 ppm of cpd. **(4i)**.

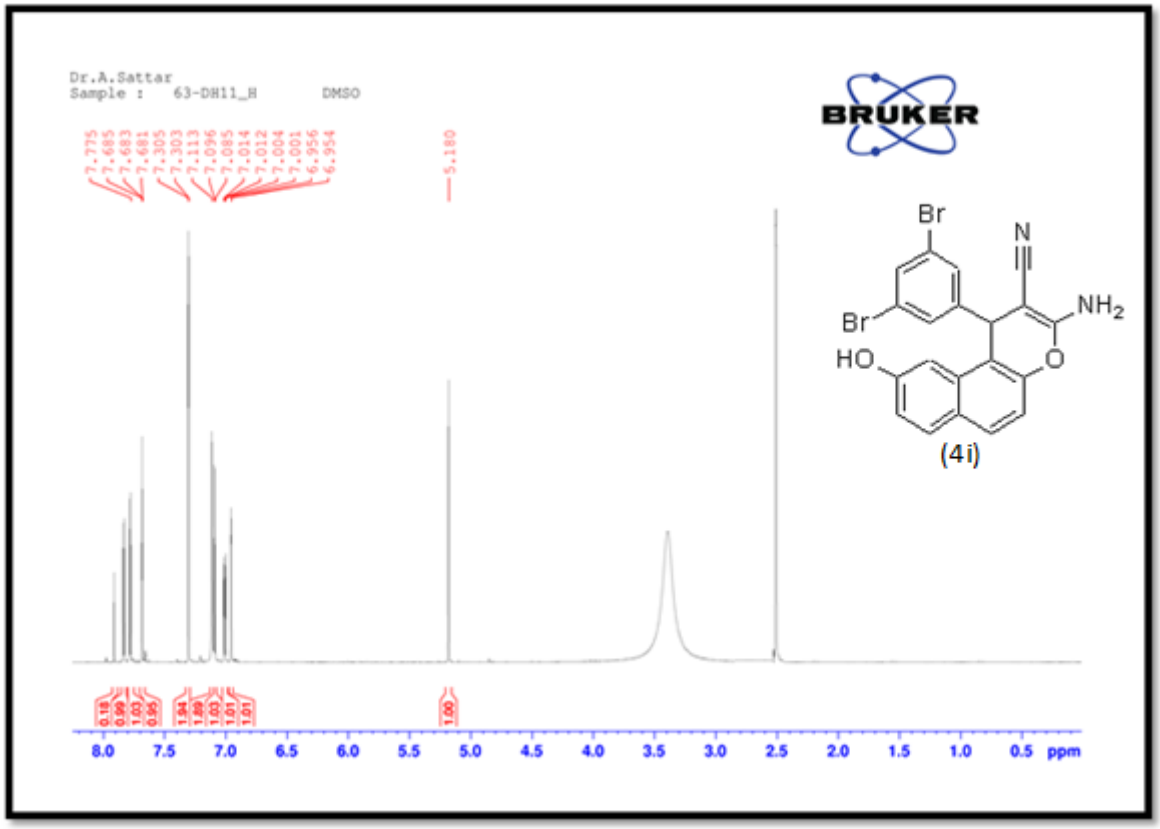


Figure S24: ^{1}H NMR of cpd. **(4i)**.

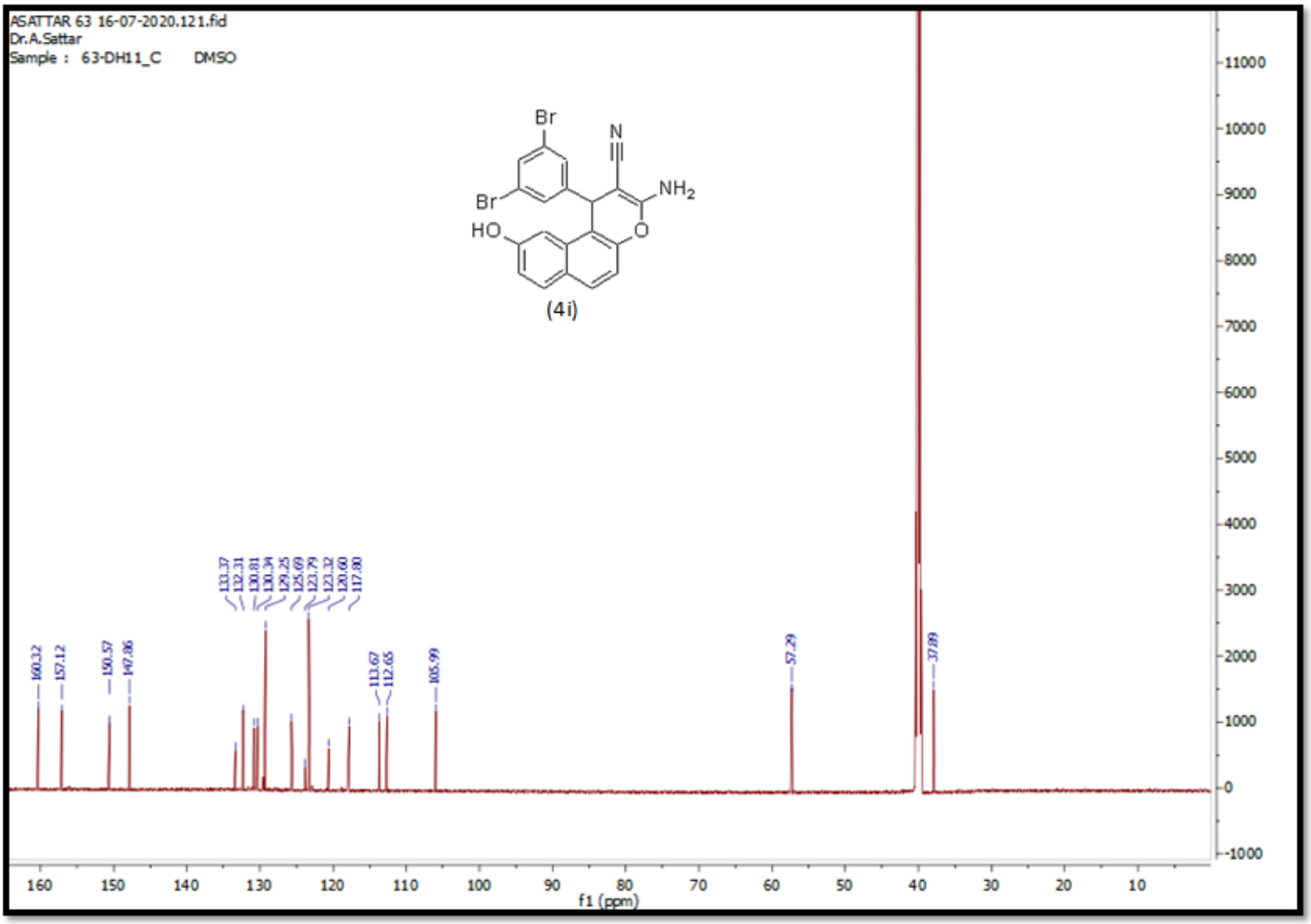


Figure S25: ^{13}C NMR of cpd. **(4i)**.

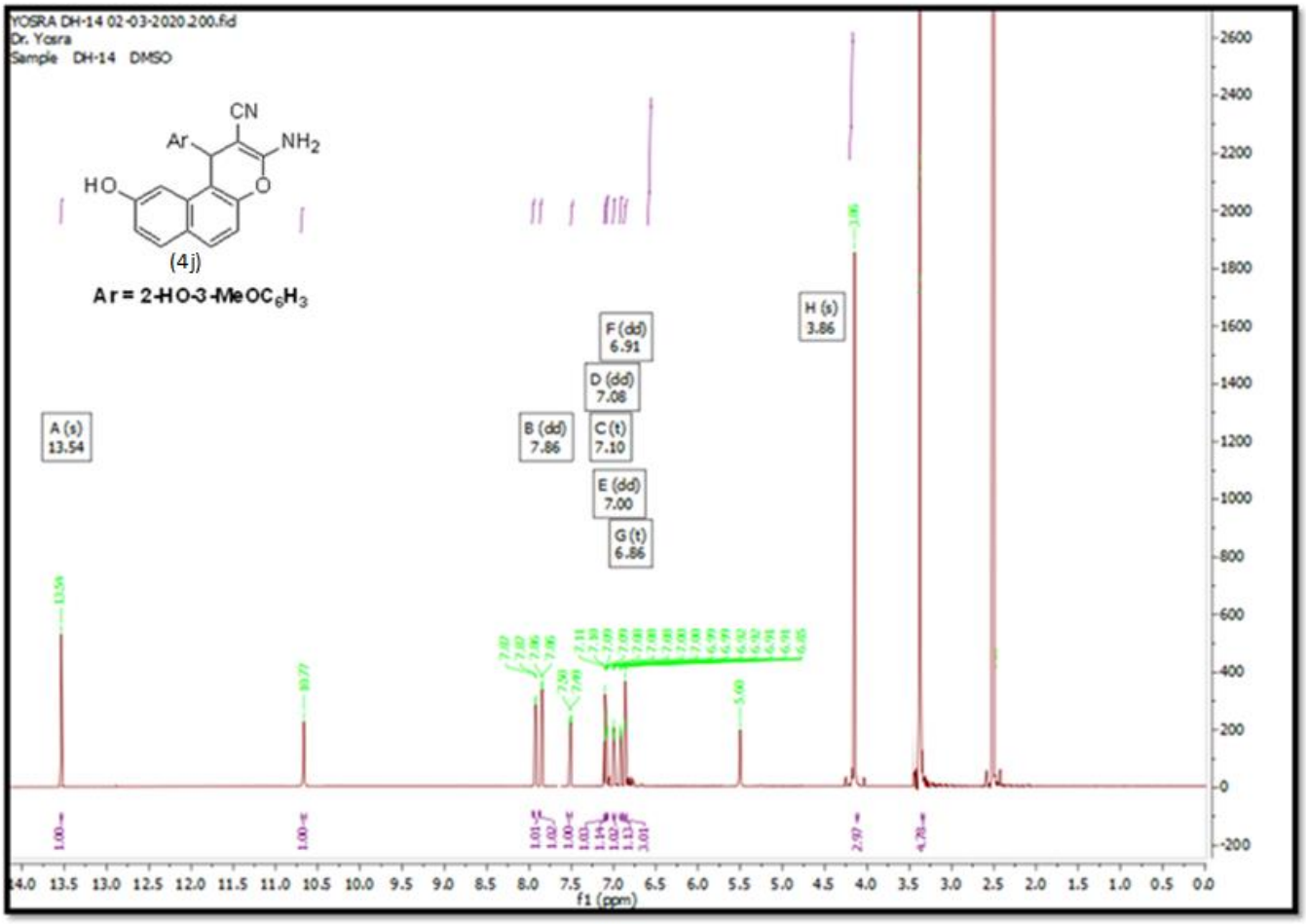


Figure S26: ^{1}H NMR of cpd. **(4j)**.

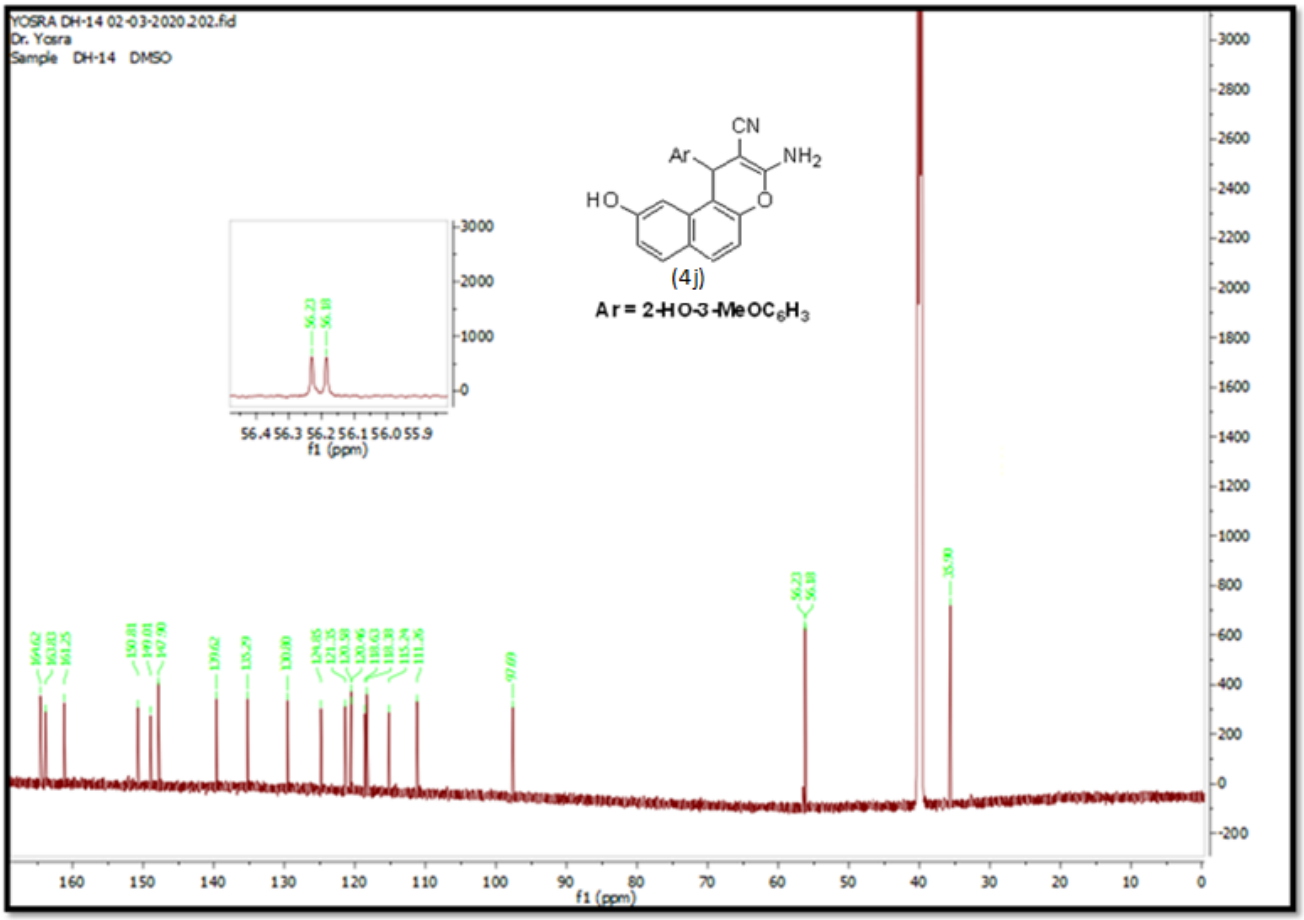


Figure S27: ^{13}C NMR of cpd. **(4j)**.

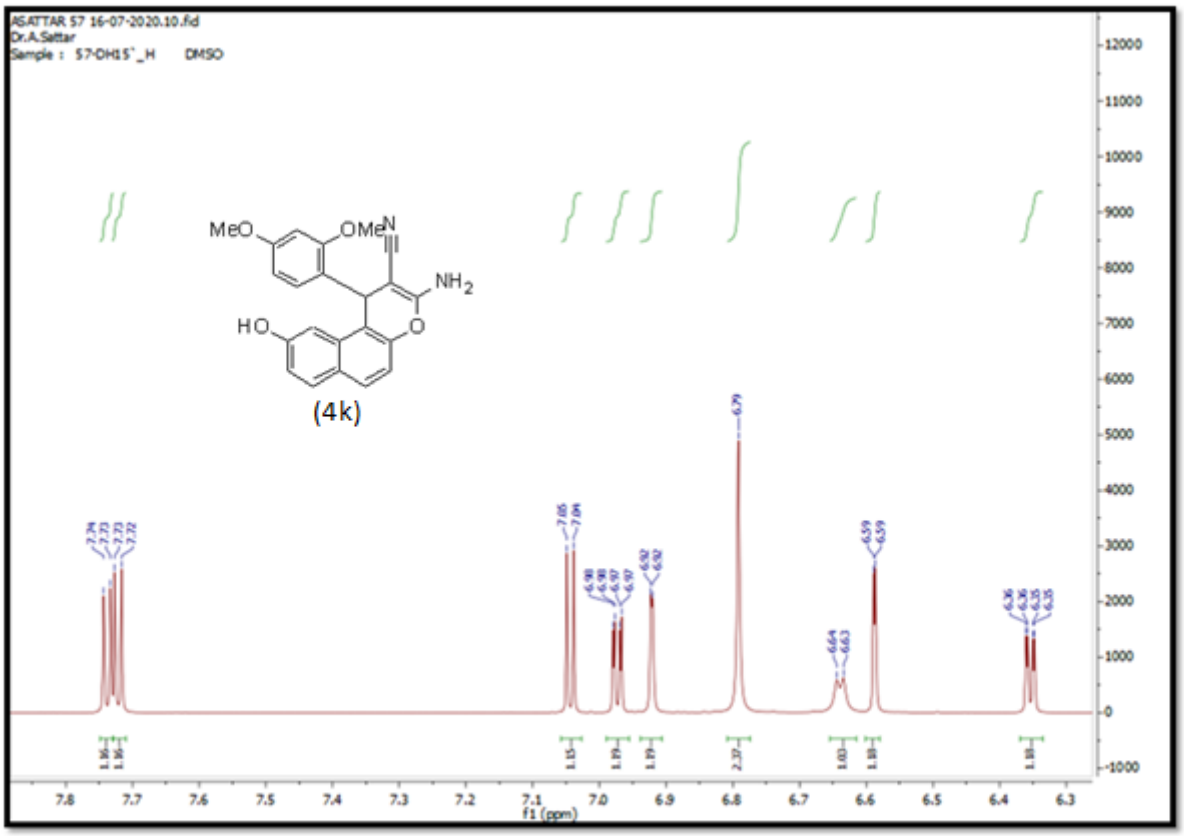


Figure S28: ^{1}H NMR 8.5-6.5 ppm of cpd. **(4k)**.

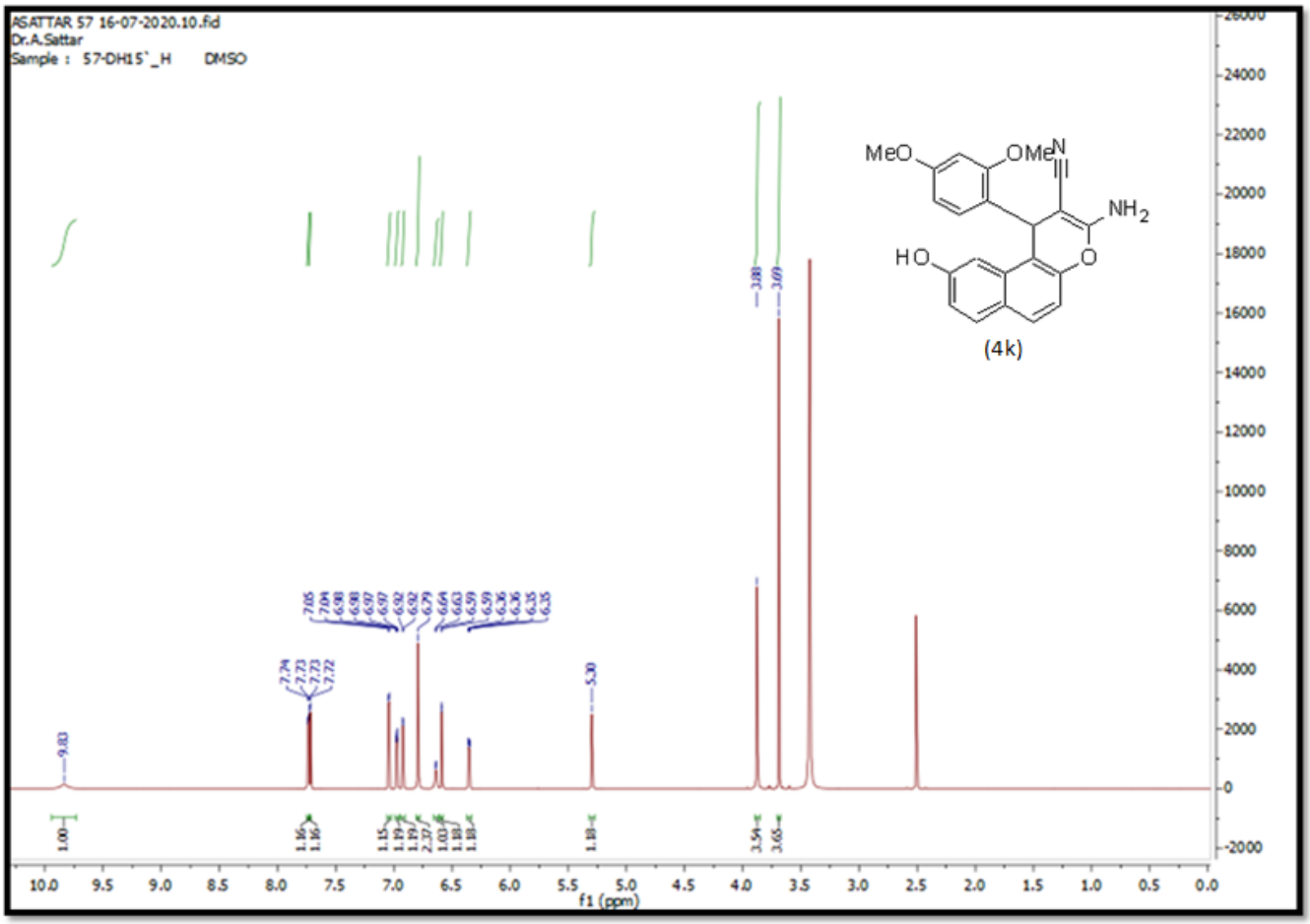


Figure S29: ^{1}H NMR of cpd. **(4k)**.

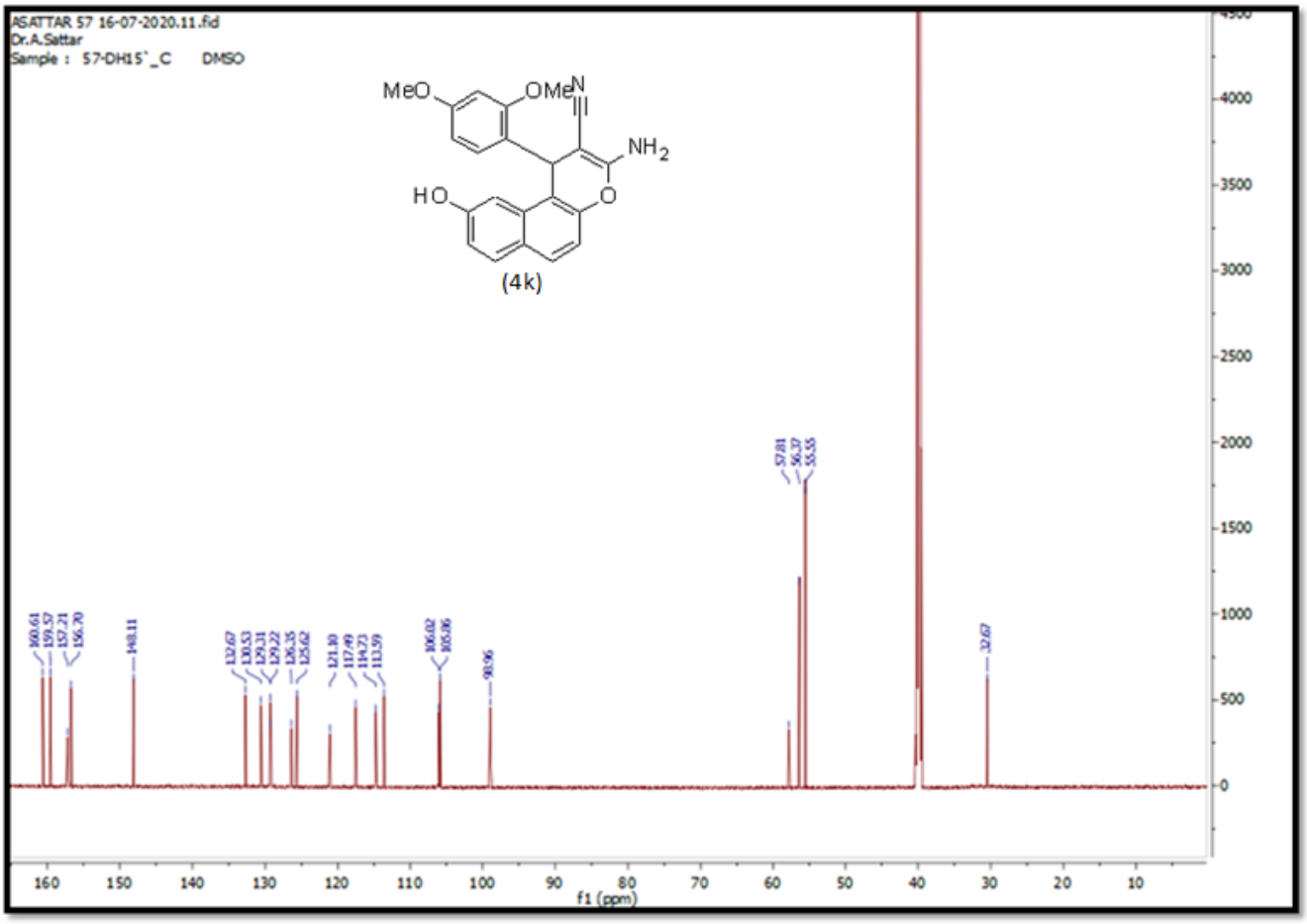


Figure S30: ^{13}C NMR of cpd. **(4k)**.

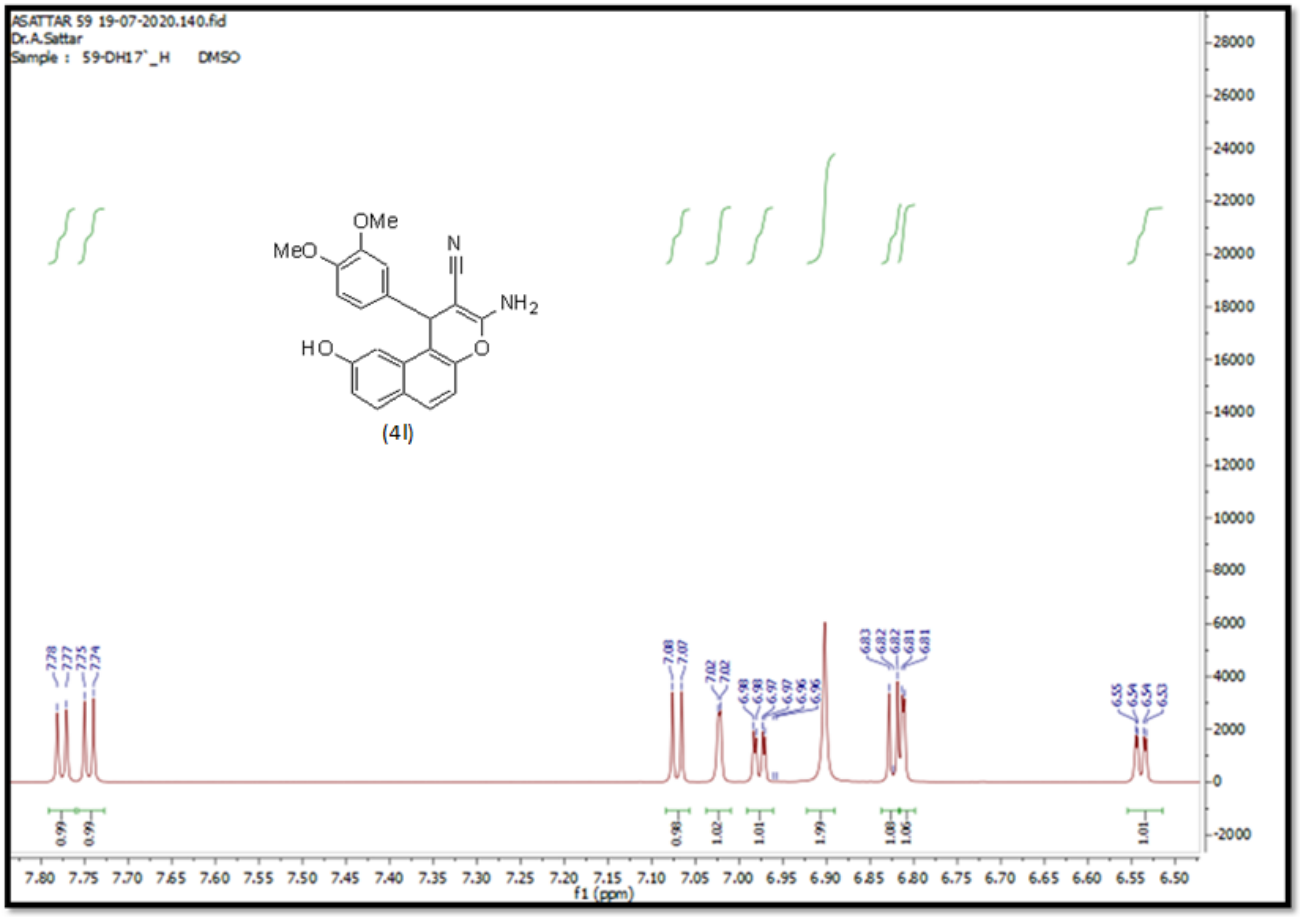


Figure S31: ^{1}H NMR 8.5-6.5 ppm of cpd. **(4l)**.

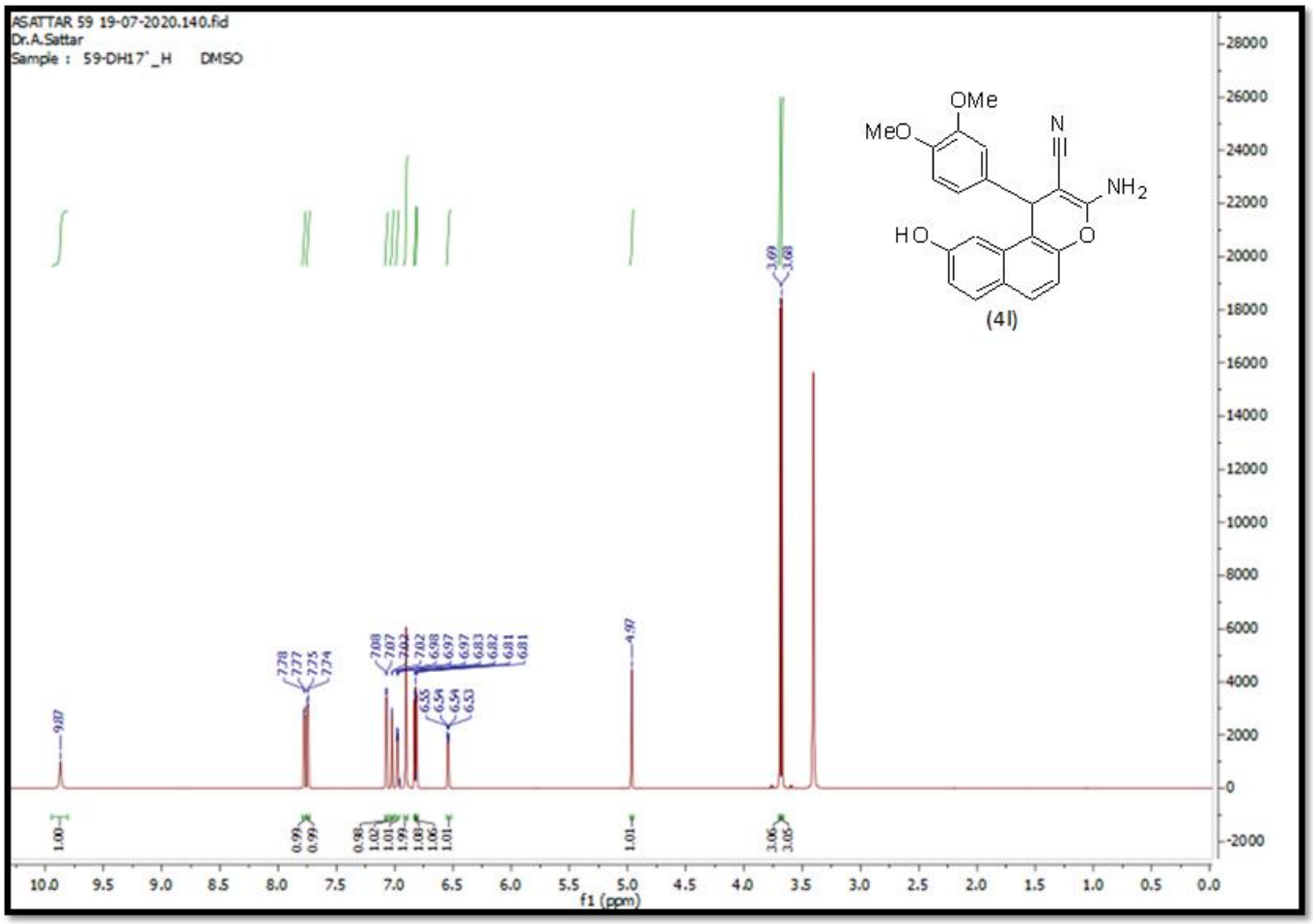


Figure S32: ^{1}H NMR of cpd. **(4l)**.

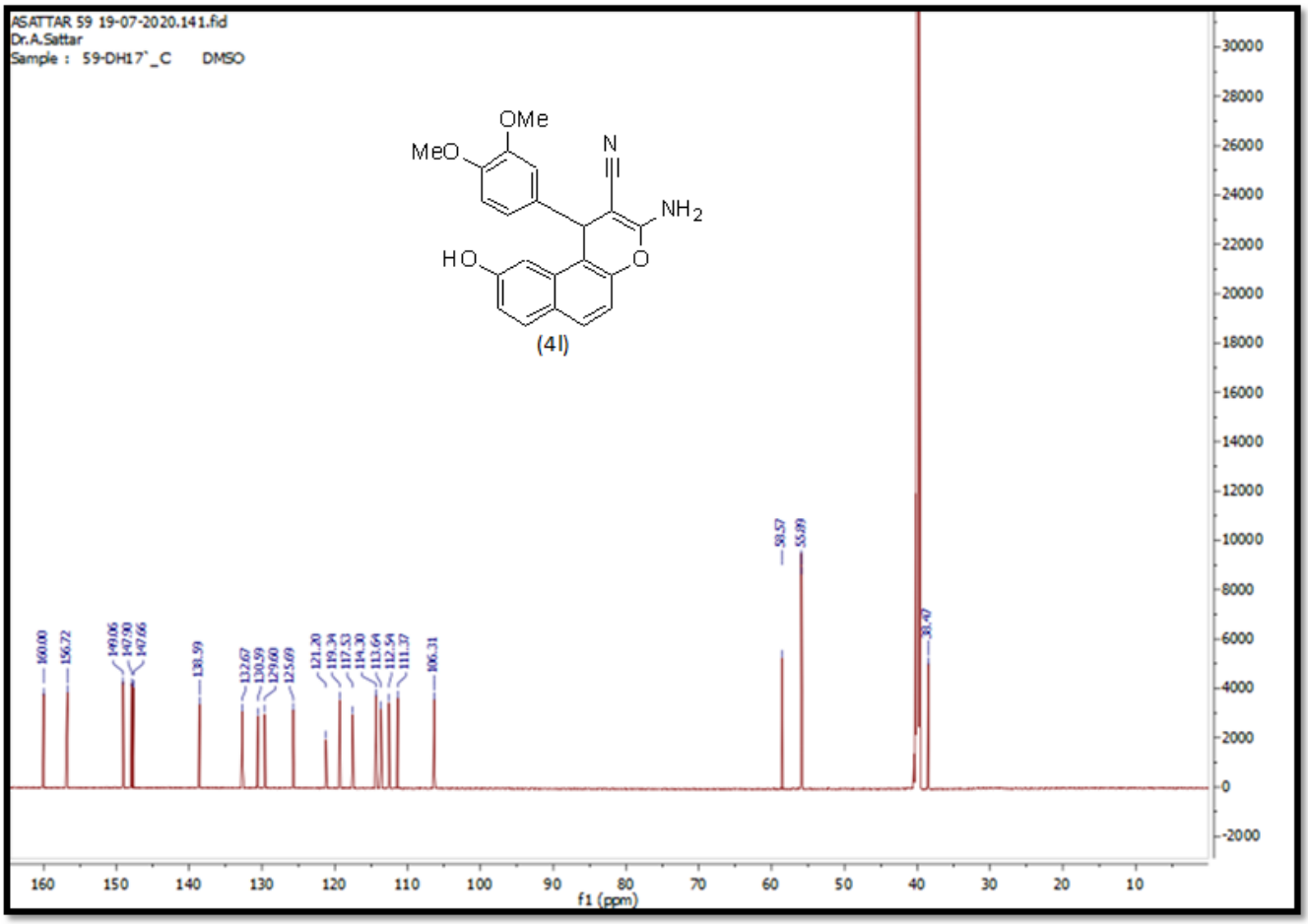


Figure S33: ^{13}C NMR of cpd. **(4l)**.

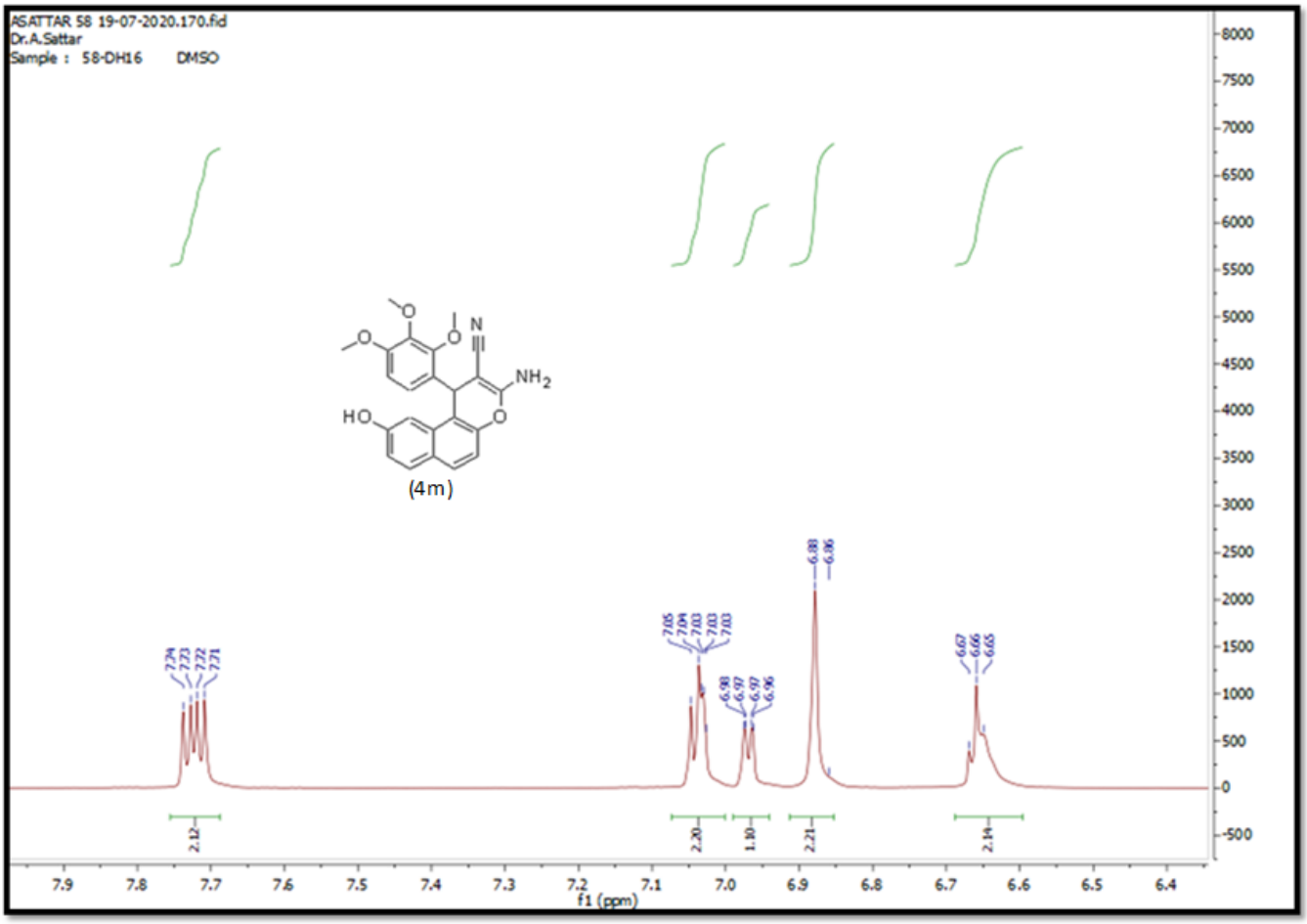


Figure S34: ^{1}H NMR 8.5-6.5 ppm of cpd. **(4m)**.

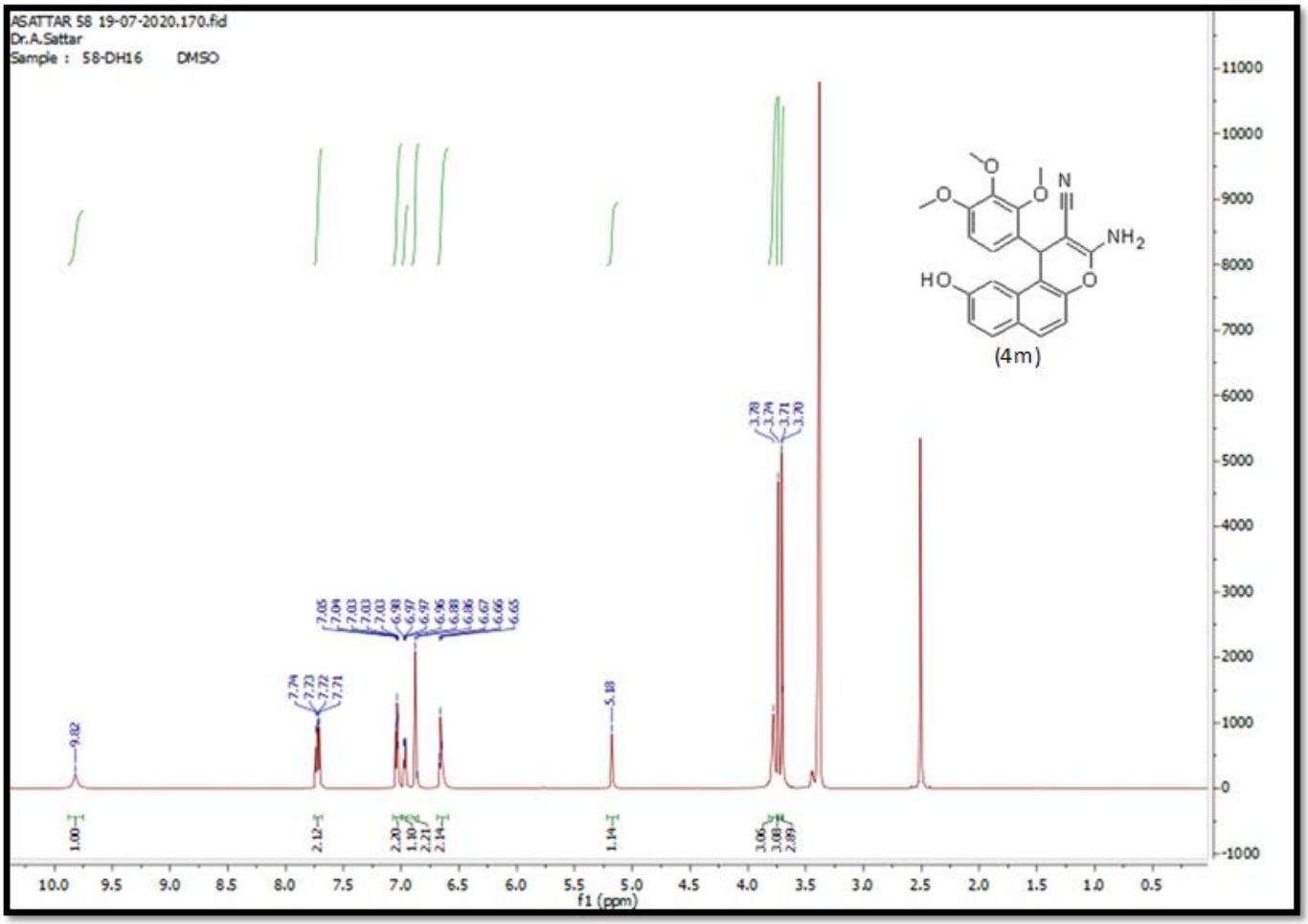


Figure S35: ^{1}H NMR of cpd. **(4m)**.

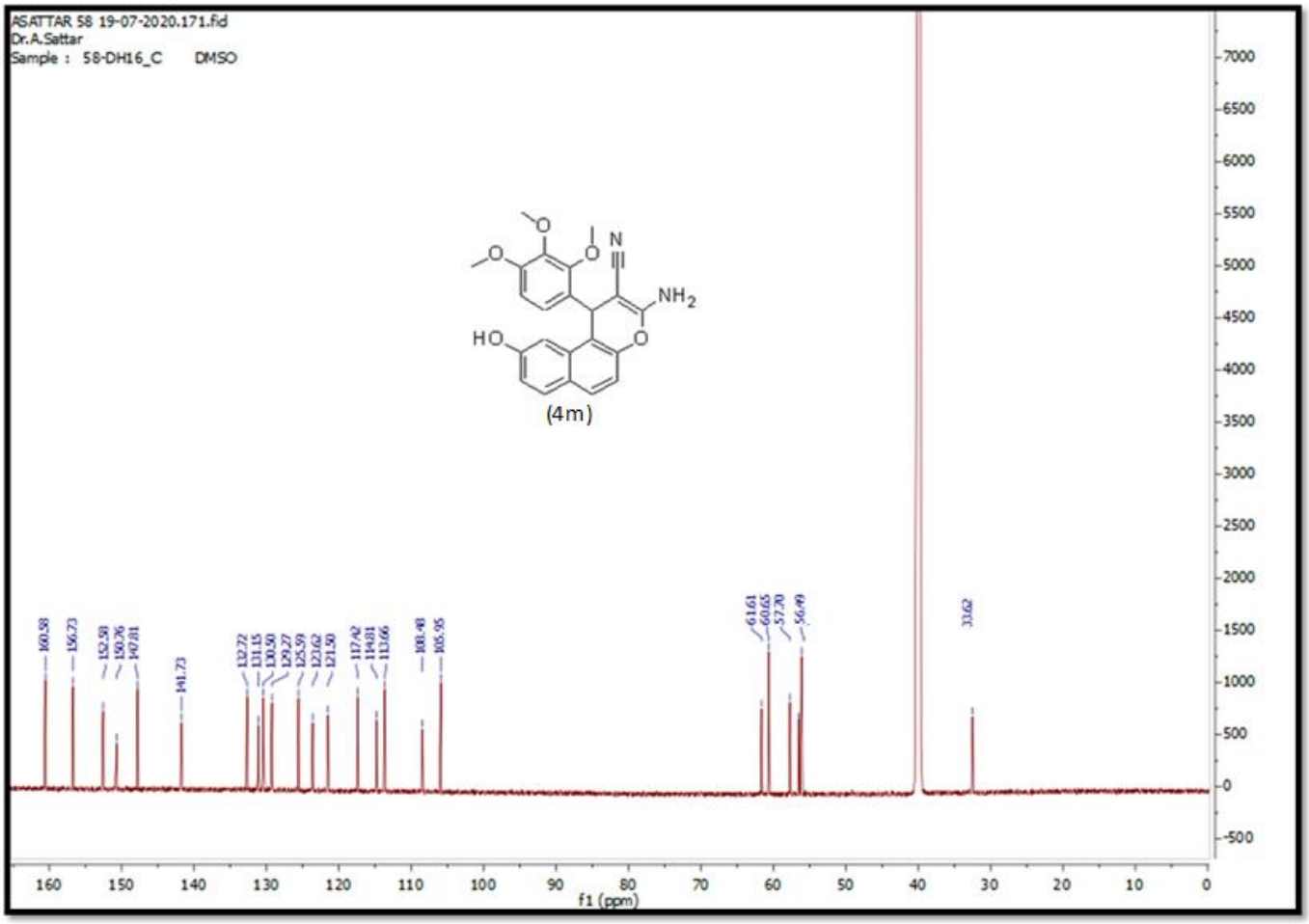


Figure S36: ^{13}C NMR of cpd. **(4m)**.

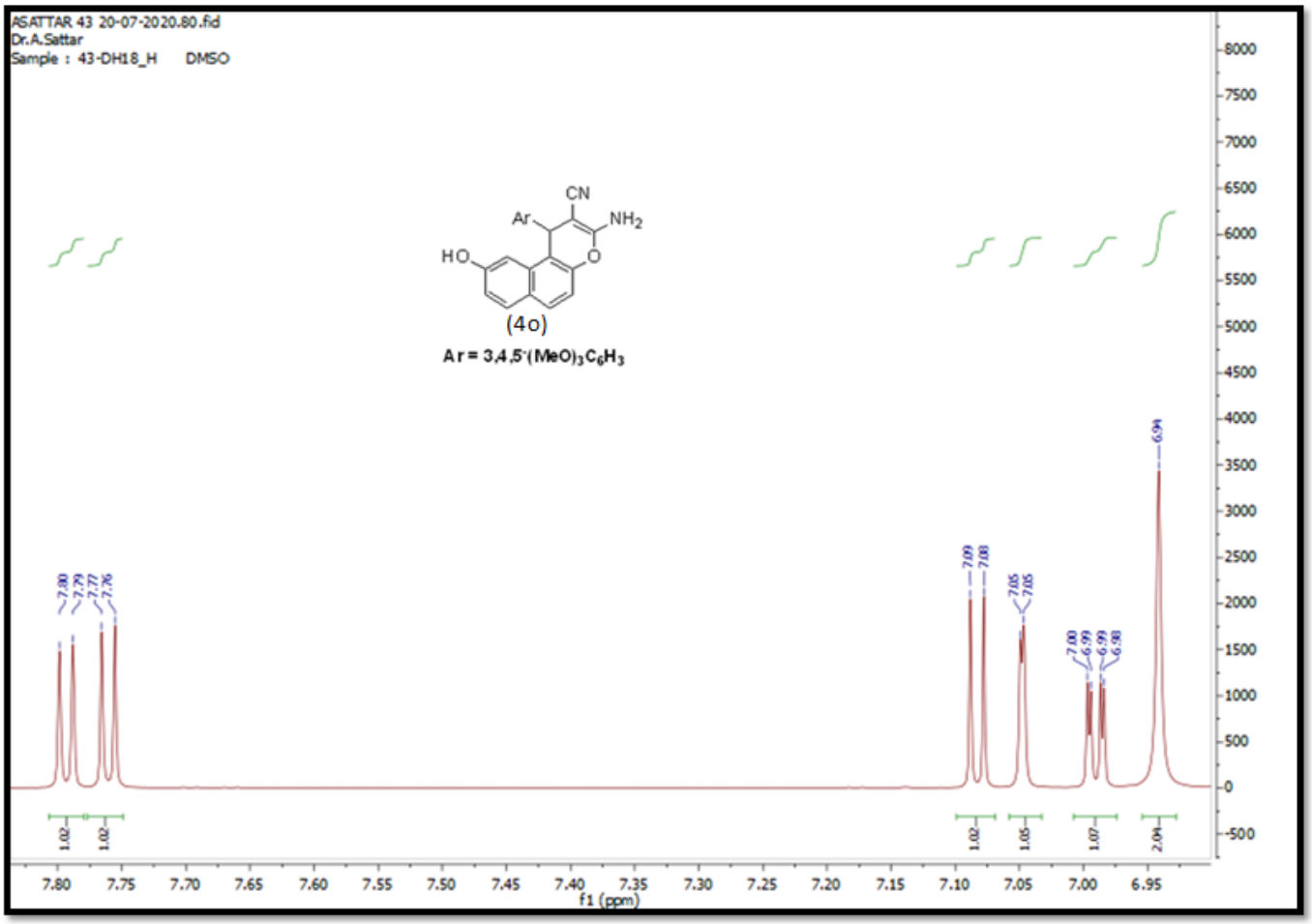


Figure S37: ^{1}H NMR 8.5-6.5 ppm of cpd. **(4n)**.

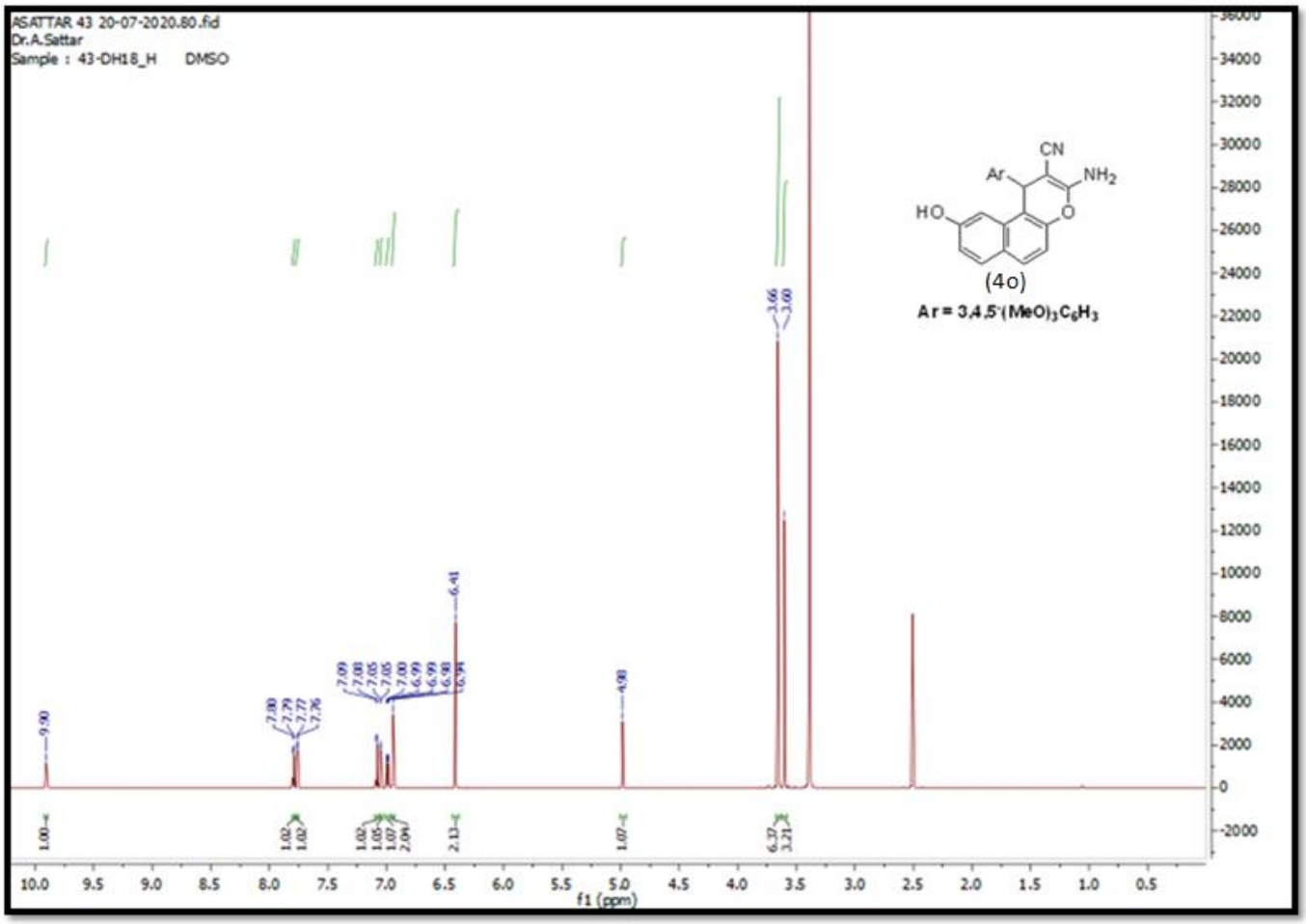


Figure S38: ^{1}H NMR of cpd. **(4n)**.

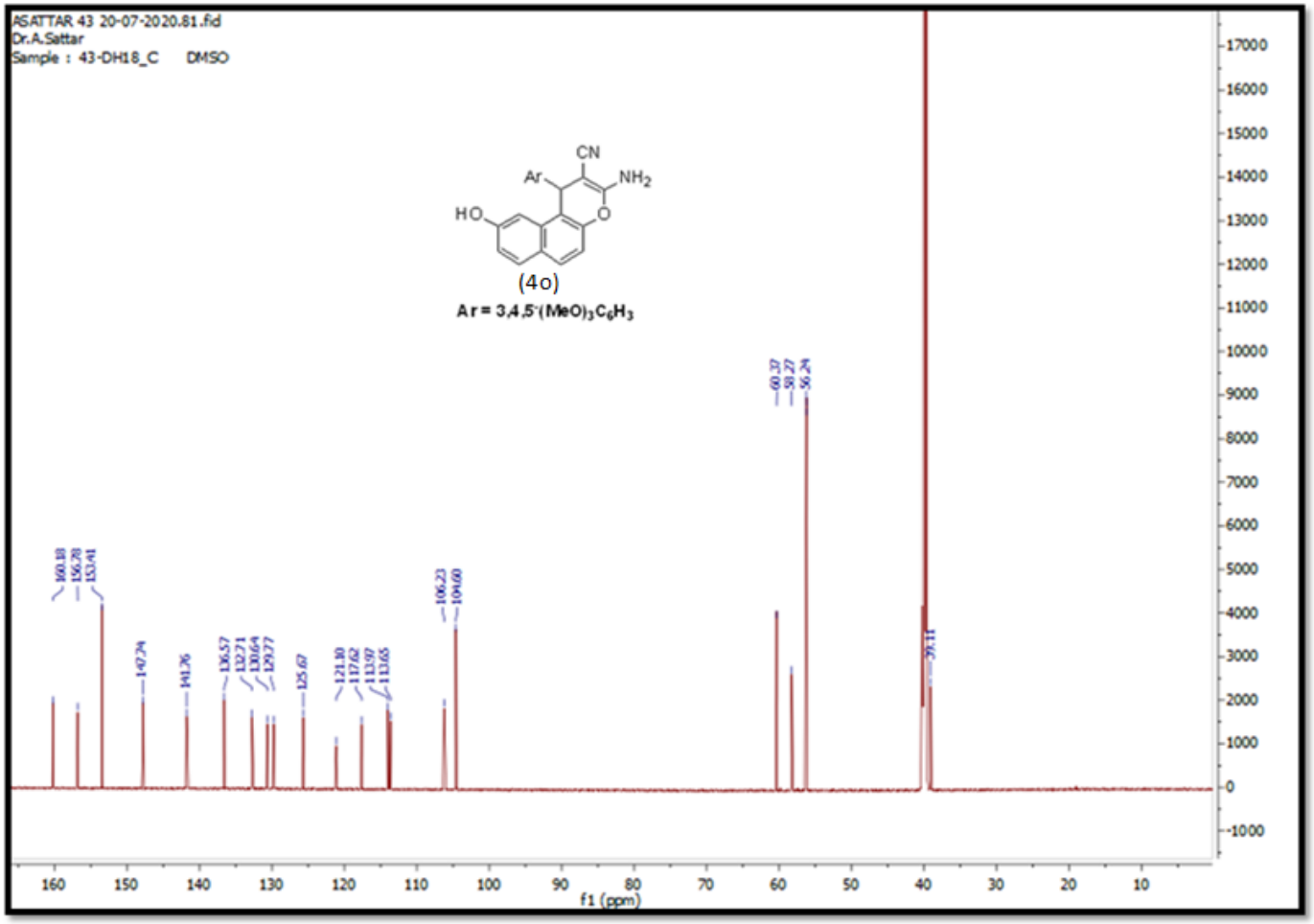


Figure S39: ^{13}C NMR of cpd. **(4n)**.

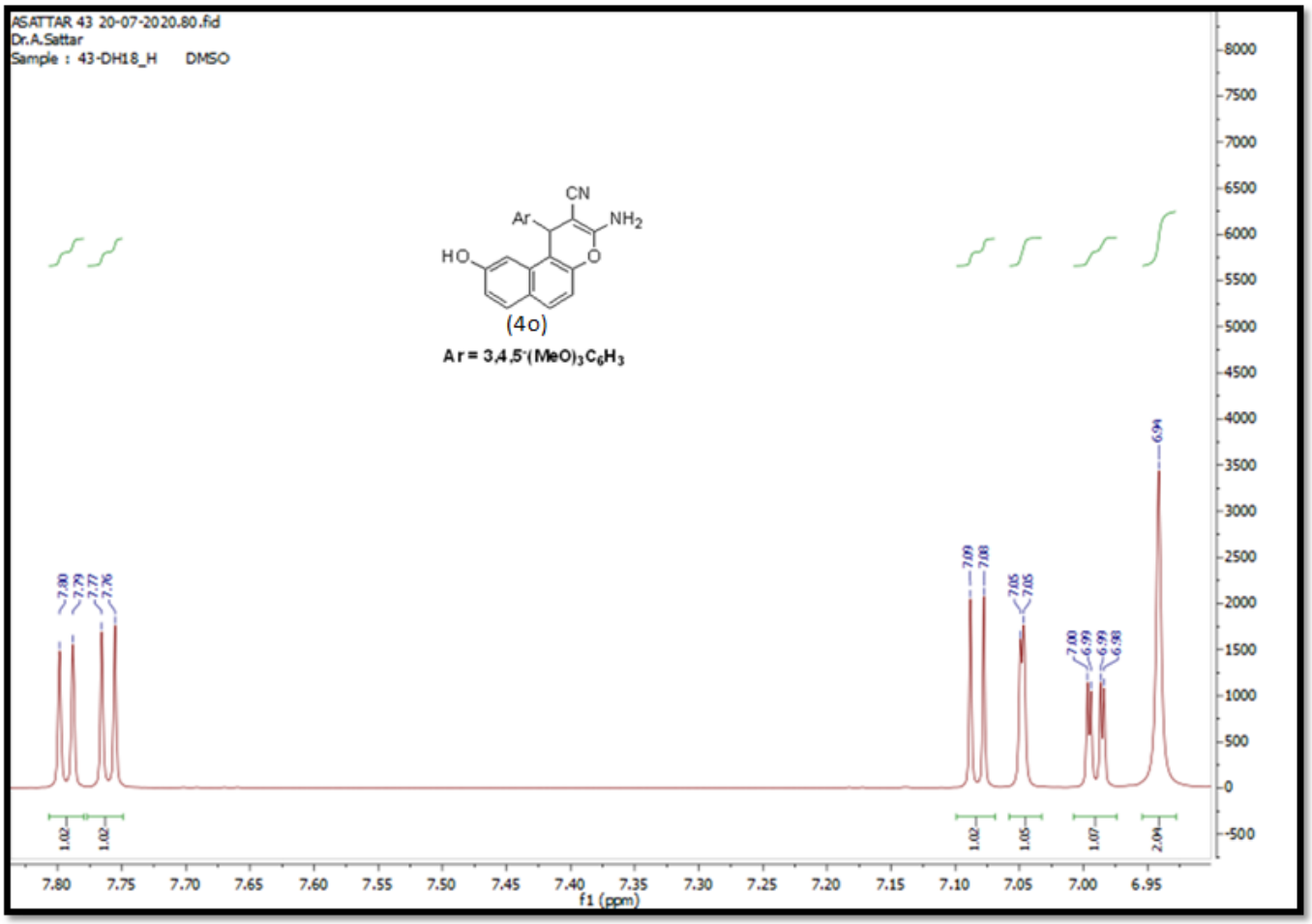


Figure S40: ^{1}H NMR 8.5-6.5 ppm of cpd. **(4o)**.

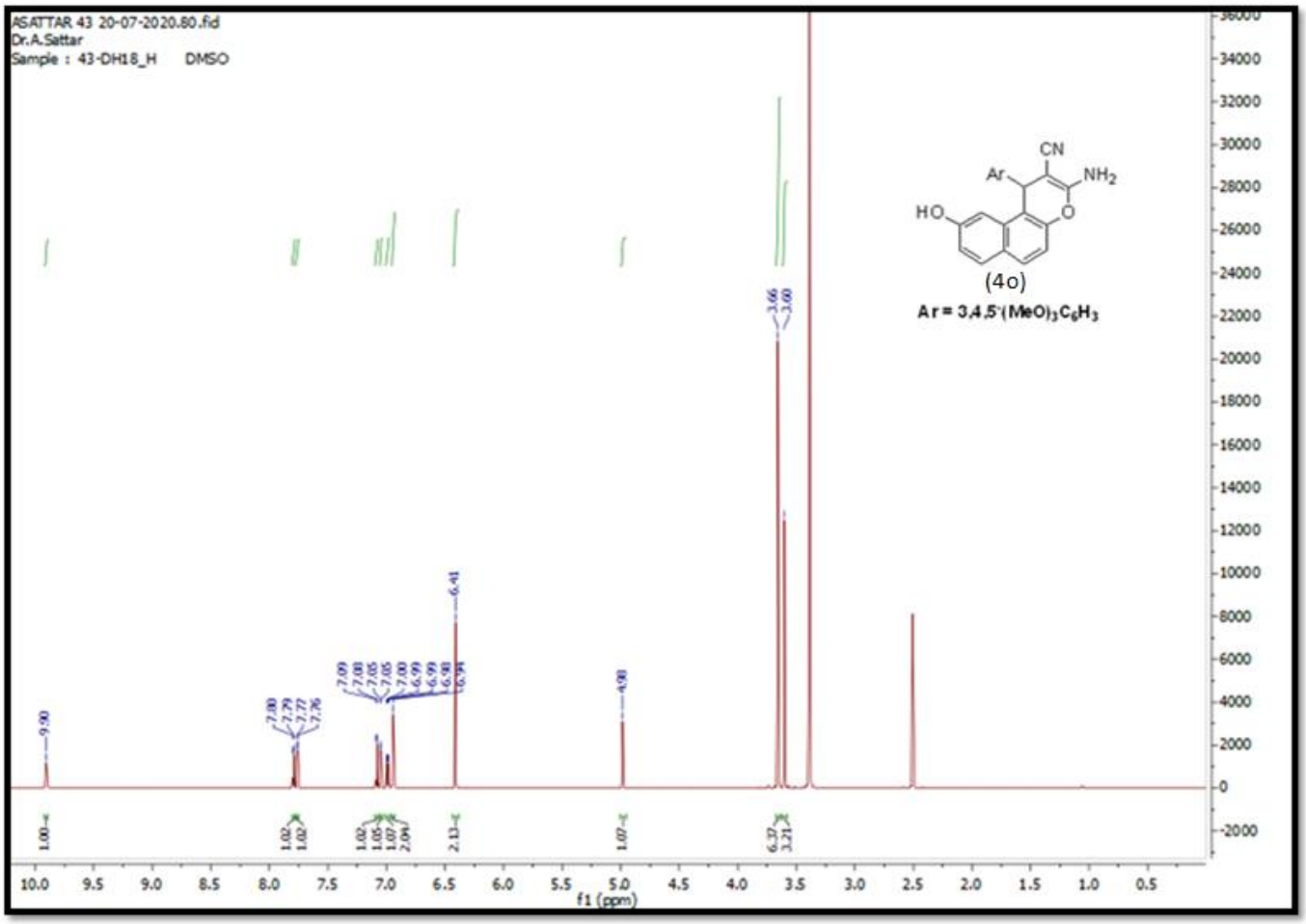


Figure S41: ^{1}H NMR of cpd. **(4o)**.

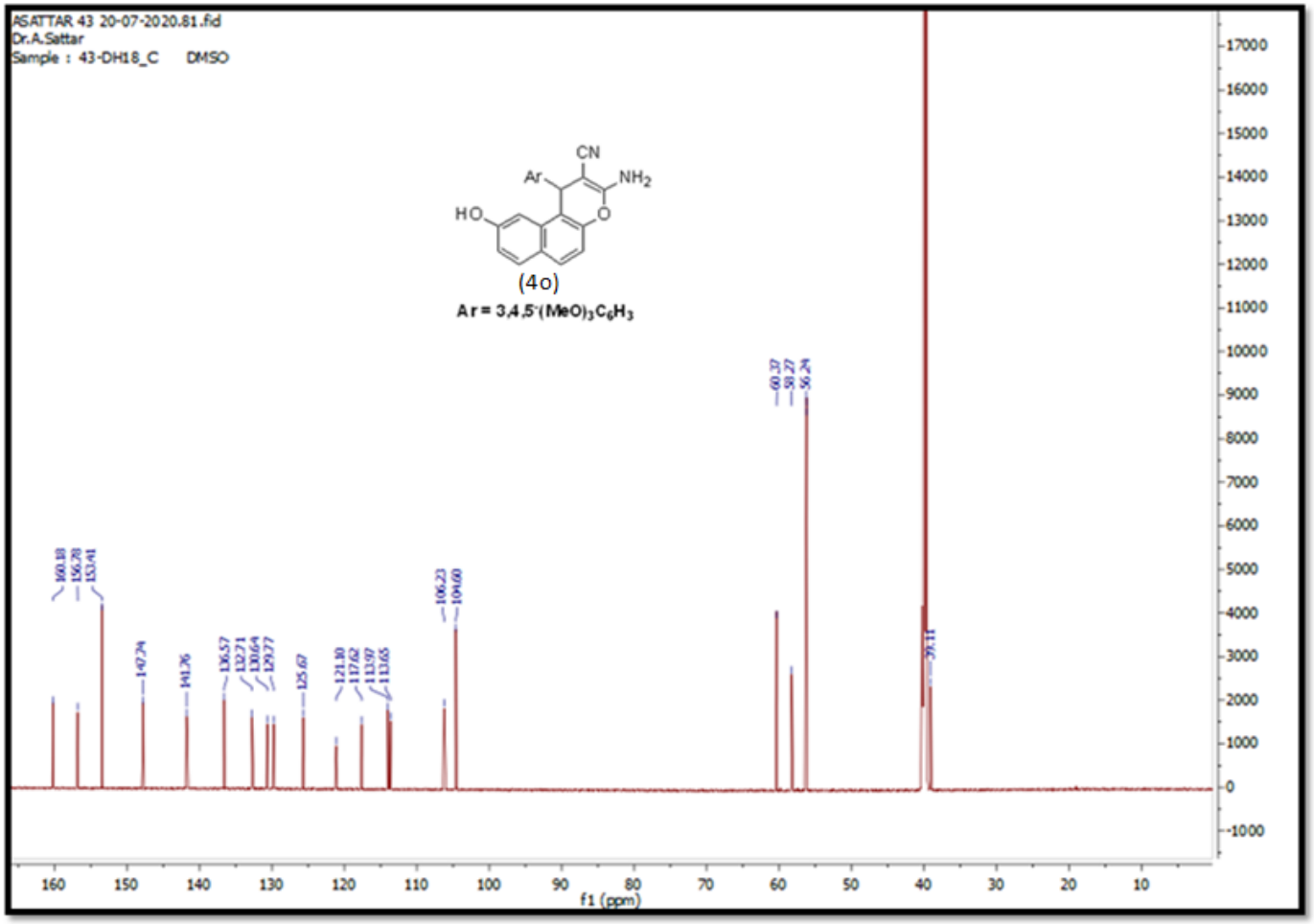


Figure S42: ^{13}C NMR of cpd. **(4o)**.

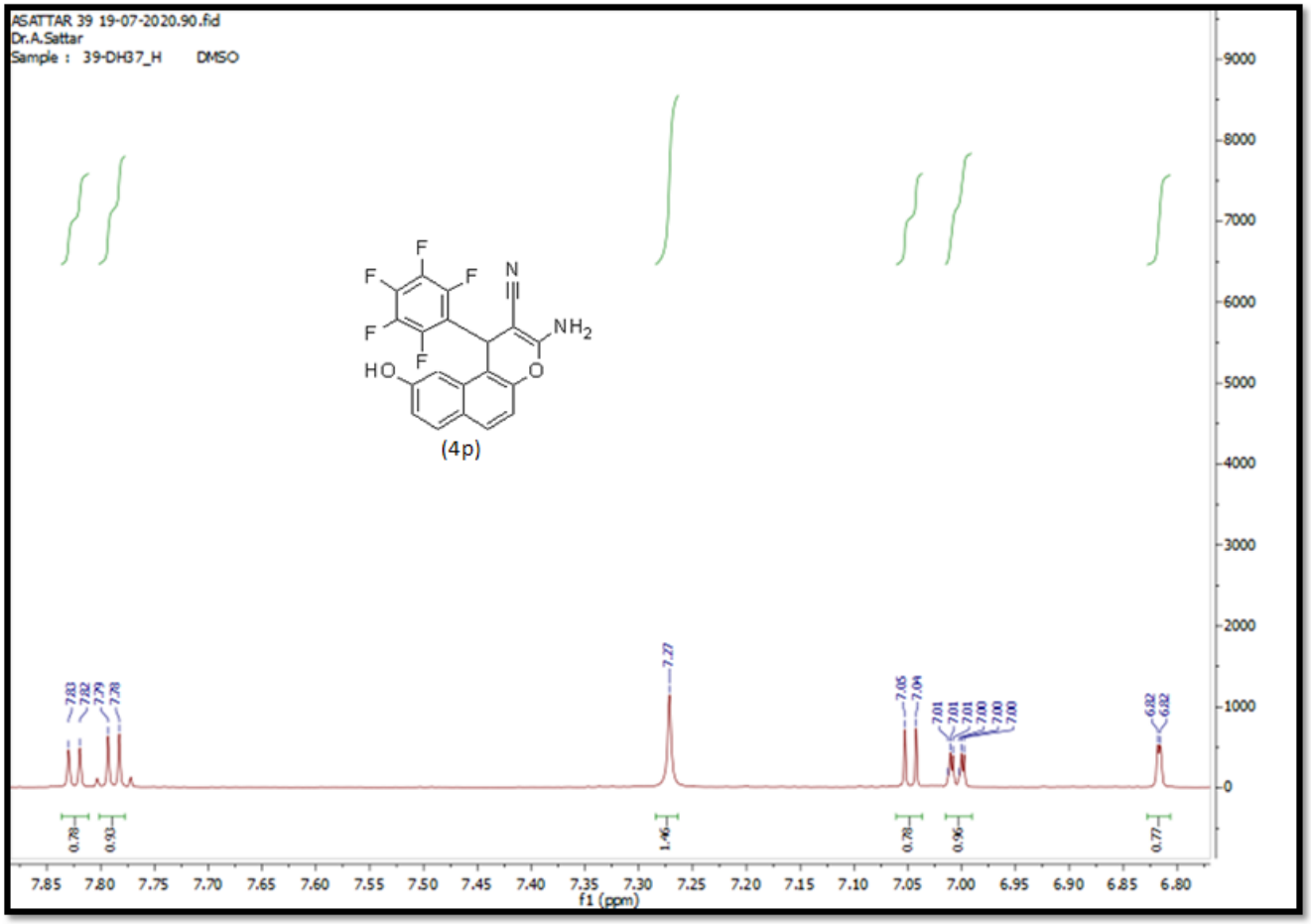


Figure S43: ^{1}H NMR 8.5-6.5 ppm of cpd. **(4p)**.

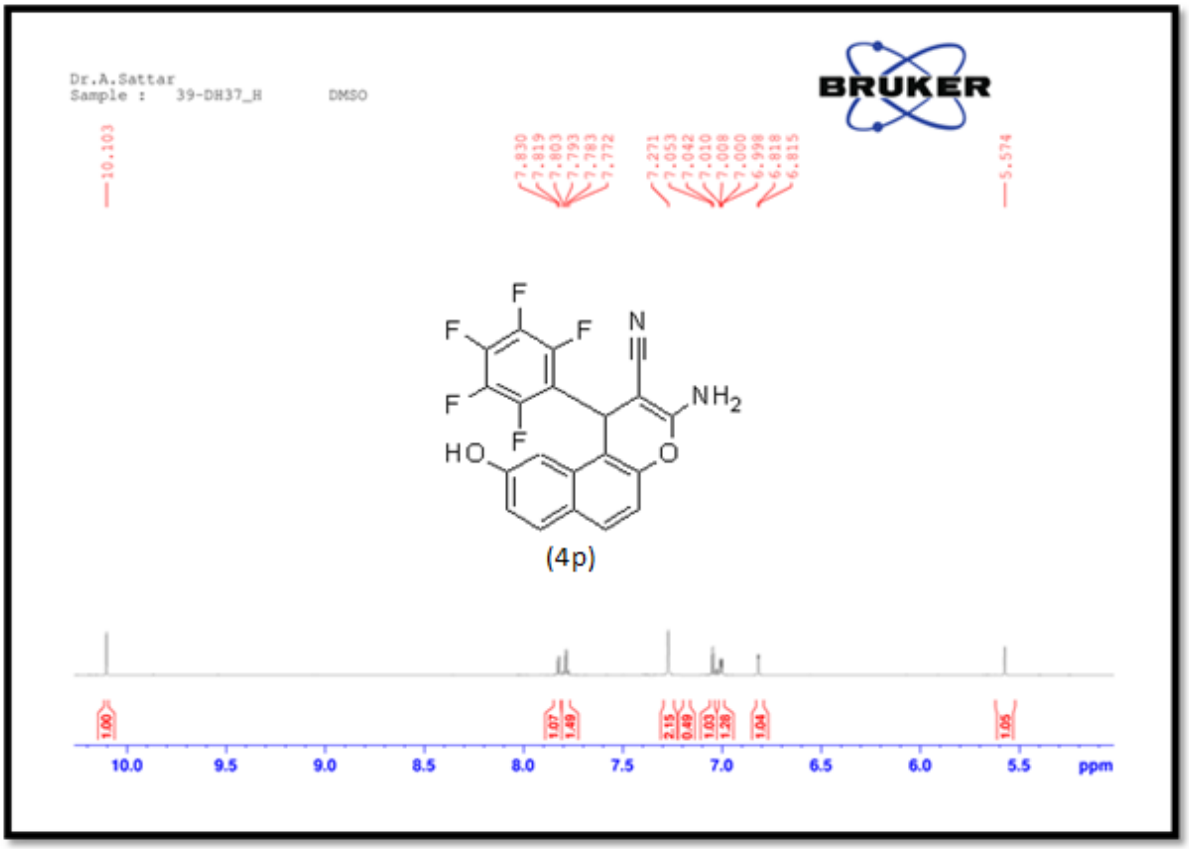


Figure S44: ^{1}H NMR 10.5-5.5 ppm of cpd. **(4p)**.

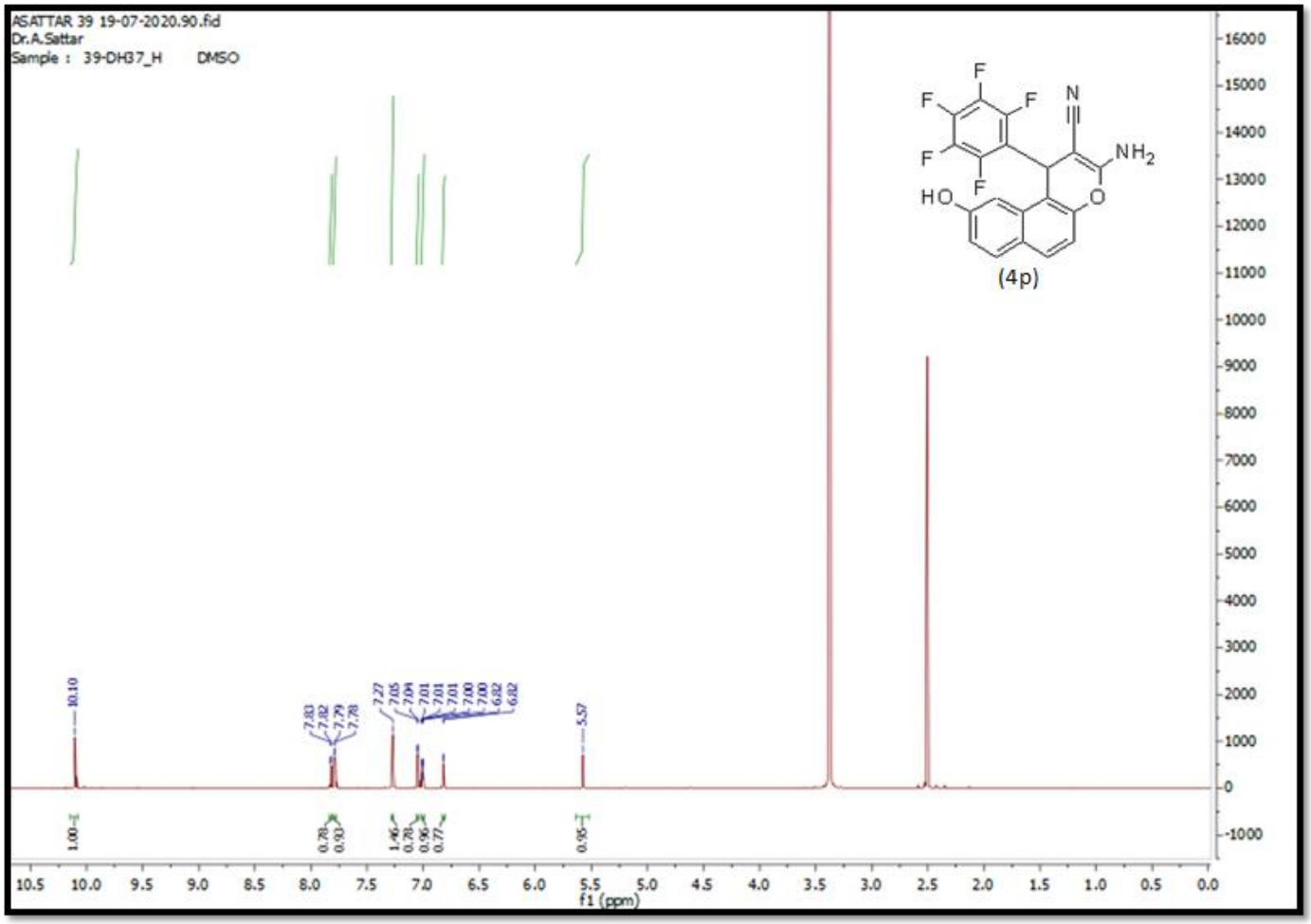


Figure S45: ^{1}H NMR of cpd. **(4p)**.

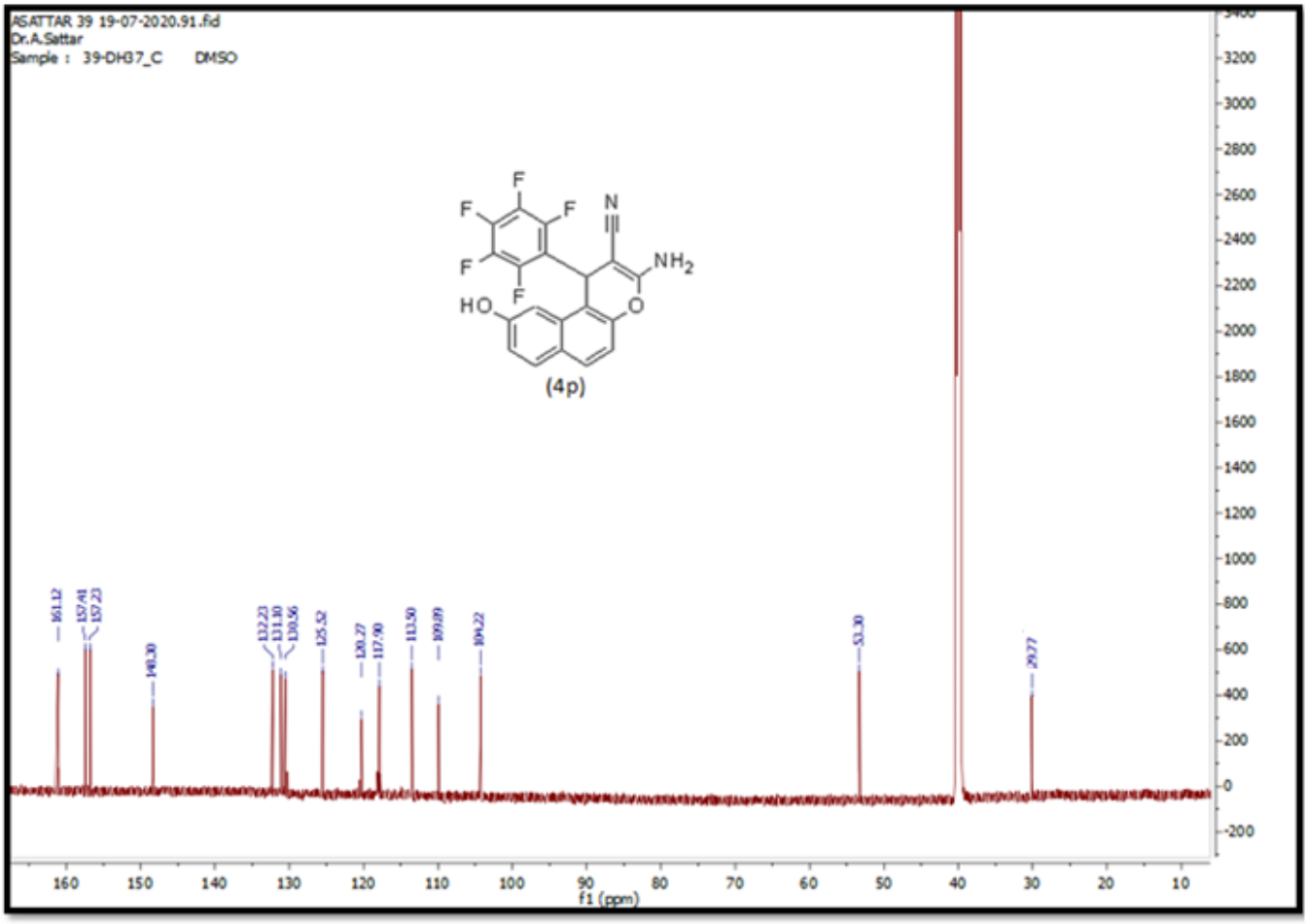


Figure S46: ^{13}C NMR of cpd. **(4p)**.

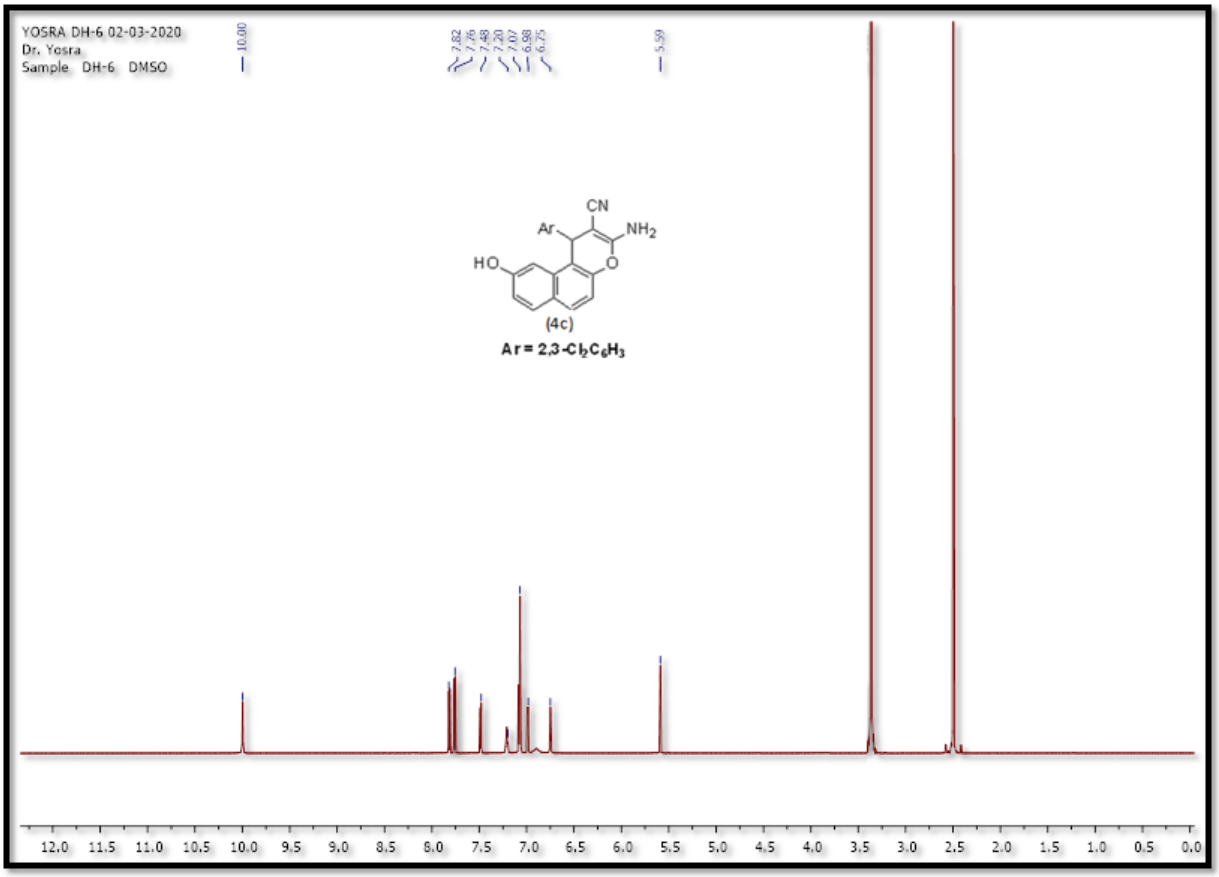


Figure S47: ^{1}H NMR of cpd. **(4c)**.

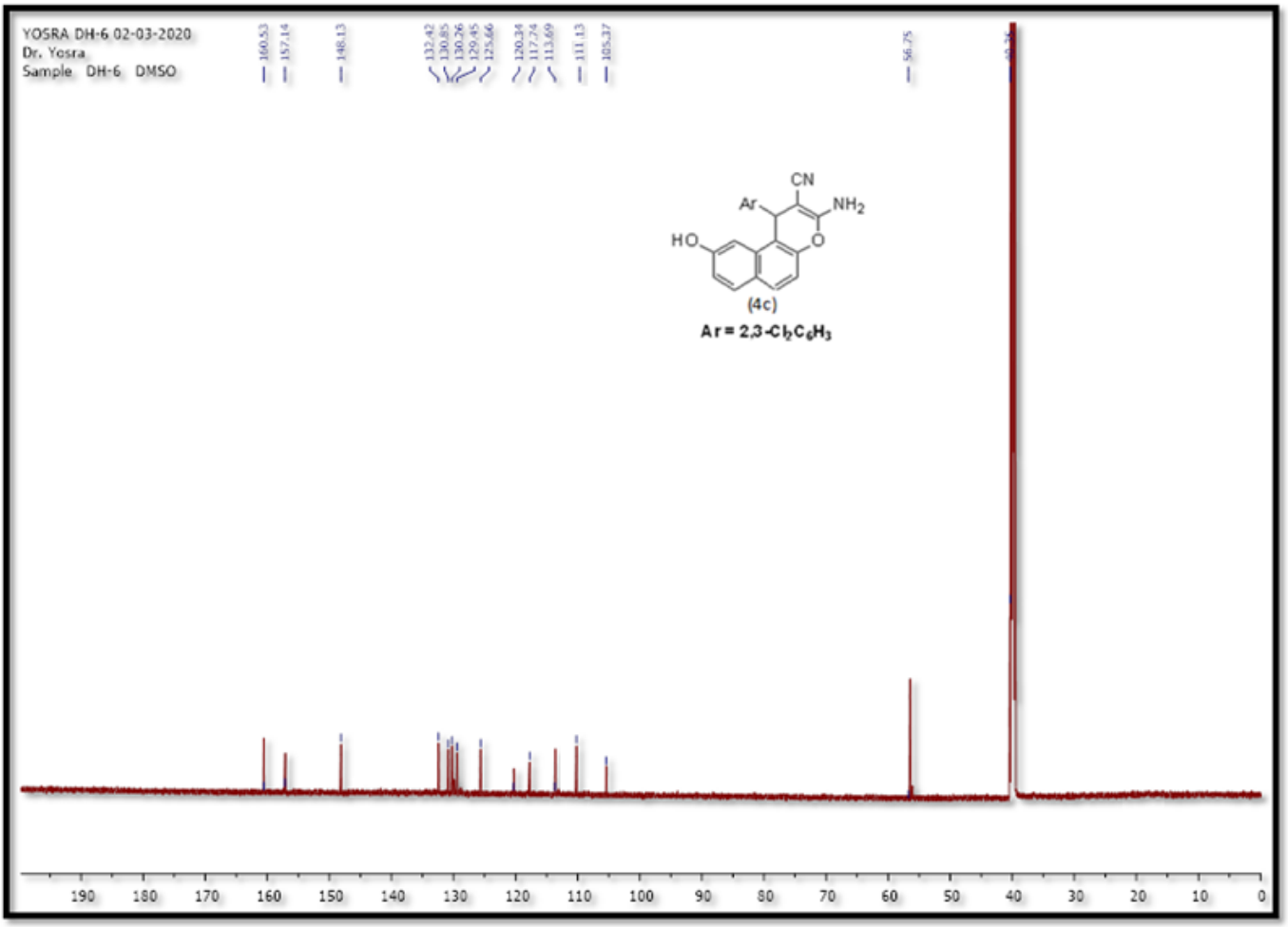


Figure S48: ^{13}C NMR of cpd. **(4c)**.

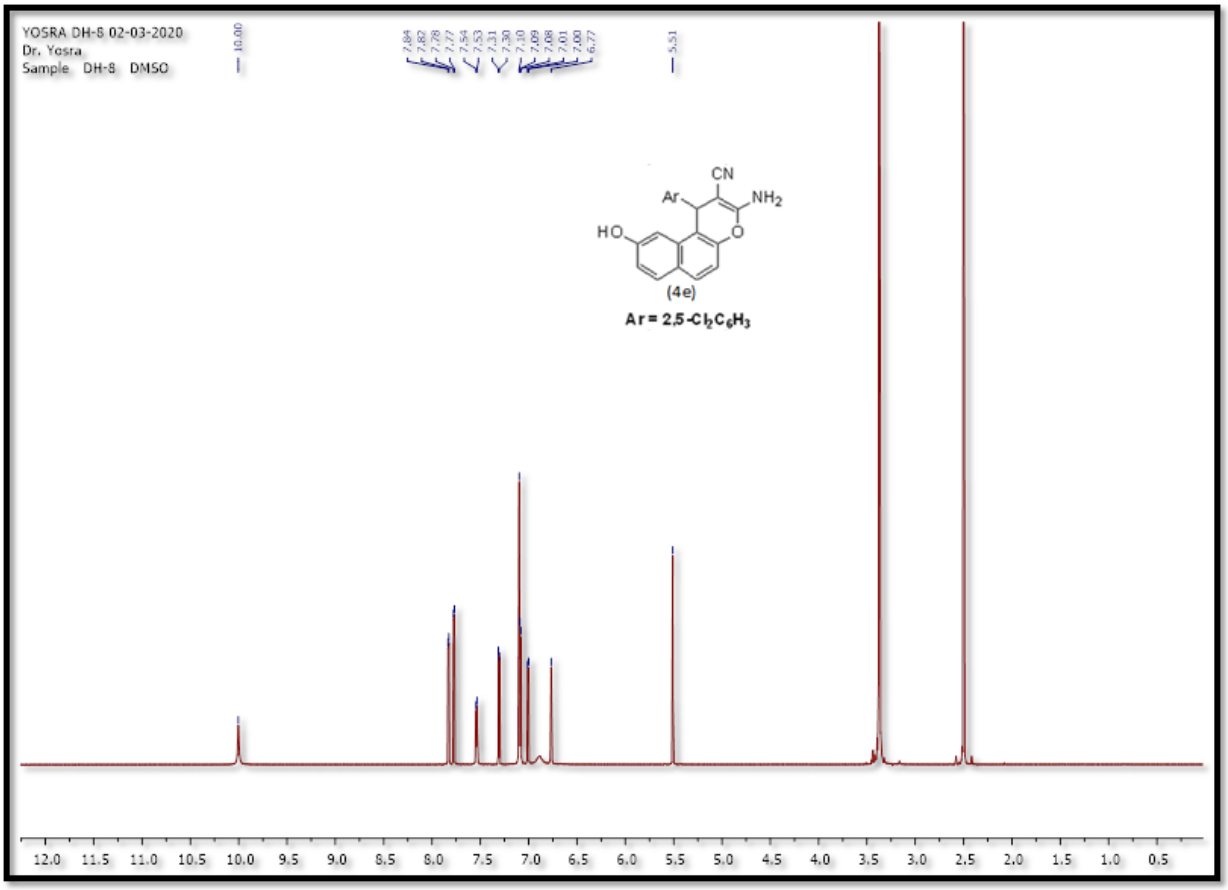


Figure S49: ^{1}H NMR of cpd. **(4e)**.

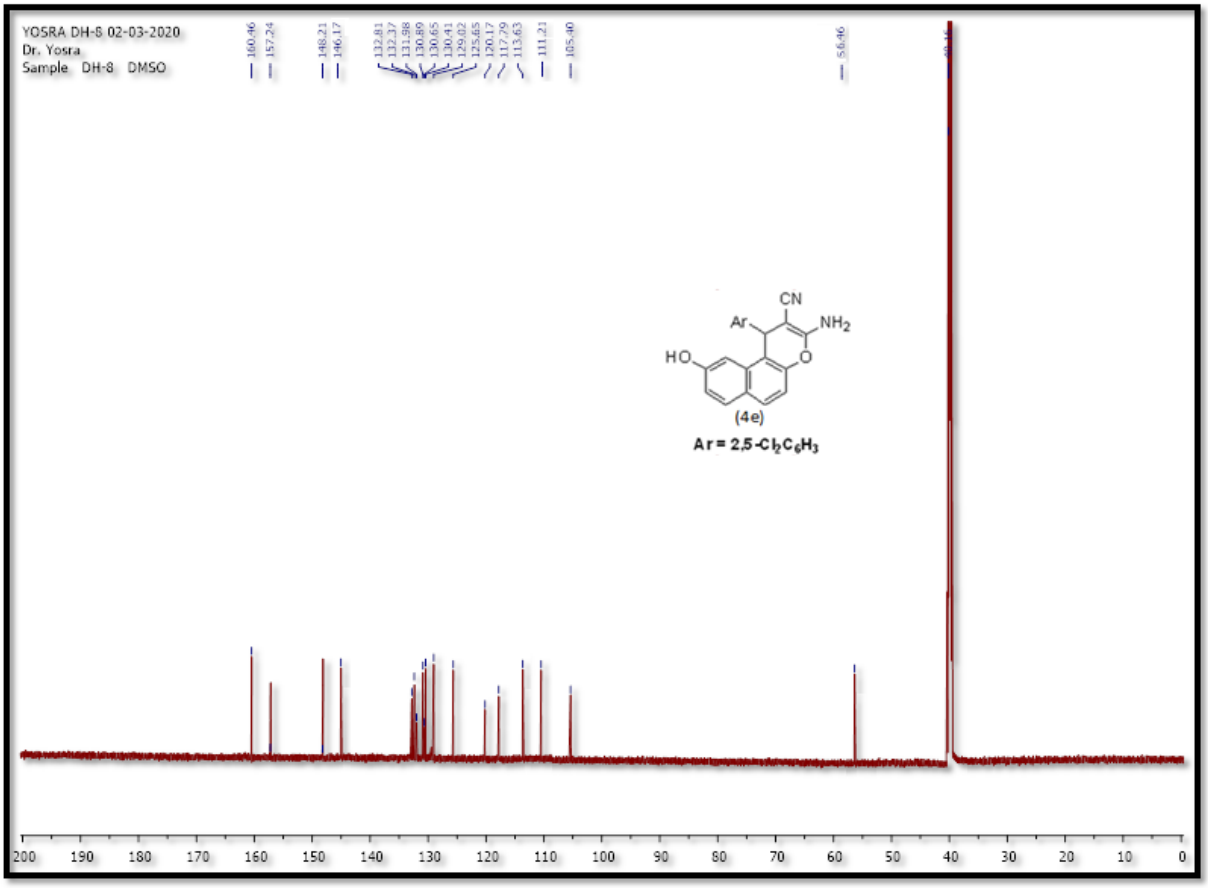


Figure S50: ^{13}C NMR of cpd. **(4e)**.

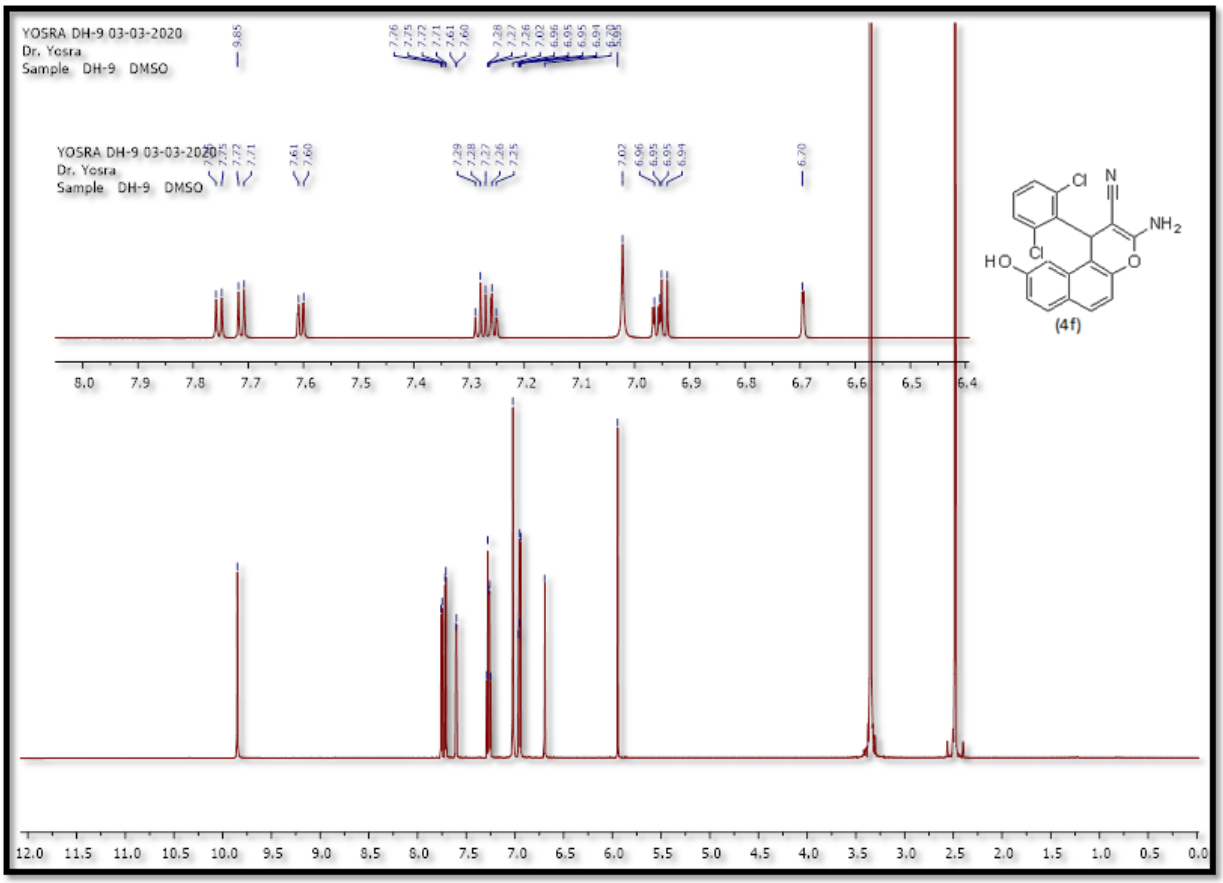


Figure S51: ^{1}H NMR of cpd. **(4f)**.

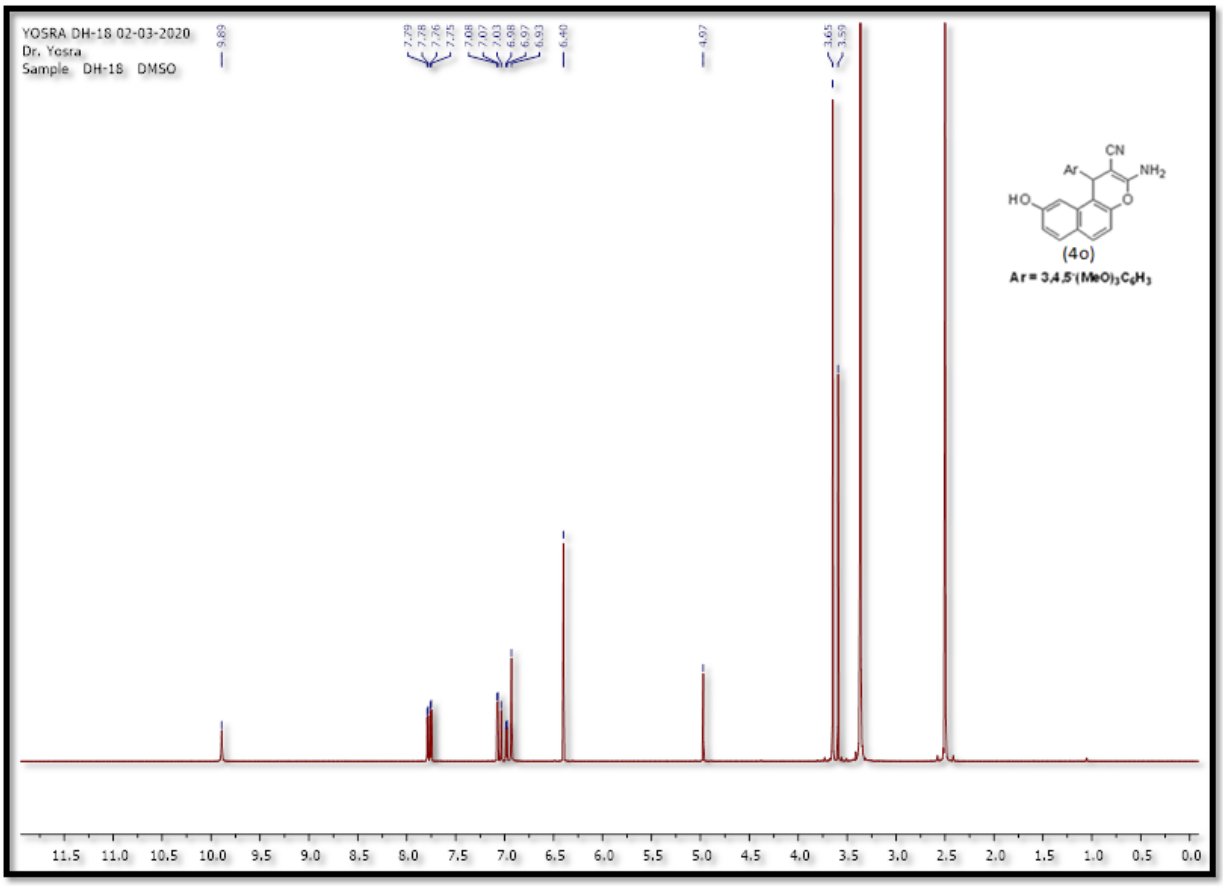
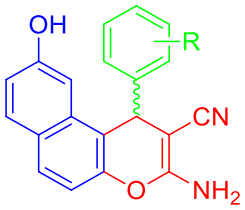


Figure S52: ^{1}H NMR of cpd. **(4o)**.

Table S1: The optimization Microwave irradiation condition for Synthesis of **4a-p**.



4a-p

Cpd.	R	yield (%)[a]	yield (%)[b]	yield (%)[c]
4a	**2,4-F_2**	**56**	**75**	**88**
4b	**2,6-F_2**	**77**	**81**	**85**
4c	**2,3-Cl_2**	**76**	**83**	**89**
4d	**2,4-Cl_2**	**74**	**85**	**88**
4e	**2,5-Cl_2**	**79**	**81**	**84**
4f	**2,6-Cl_2**	**63**	**83**	**84**
4g	**3,4-Cl_2**	**66**	**76**	**83**
4h	**2-Cl-6-F**	**69**	**80**	**87**
4i	**3,5-Br_2**	**59**	**83**	**86**
4j	**2-HO-3-MeO**	**72**	**76**	**83**
4k	**2,4-$(MeO)_2$**	**62**	**84**	**90**
4l	**3,4-$(MeO)_2$**	**76**	**78**	**89**
4m	**2,3,4-$(MeO)_3$**	**78**	**80**	**90**
4n	**2,4,5-$(MeO)_3$**	**73**	**76**	**87**
4o	**3,4,5-$(MeO)_3$**	**64**	**80**	**89**
4p	**2,3,4,5,6-F_5**	**65**	**77**	**79**

a: 200 W/ 1 min.; b: 300 W/ 1.5 min.; c: 400 W/2 min.