Transformation of 3-(4-methoxybenzylidine)-5-(*p*-tolyl)-2(3*H*)-Furanone into New Nitrogen Heterocyclic Candidates as Insecticidal Agents with *In-Silico* Studies

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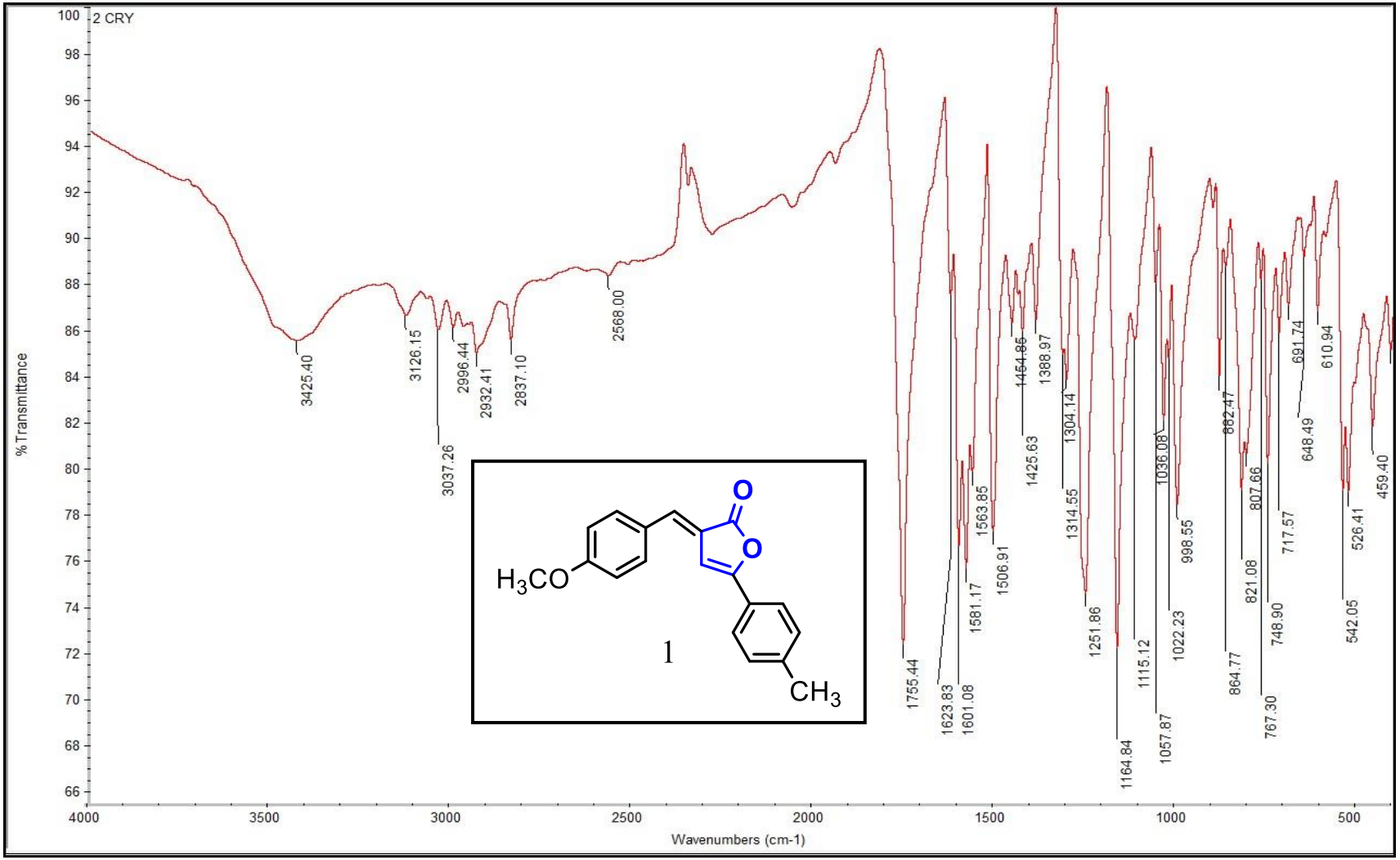
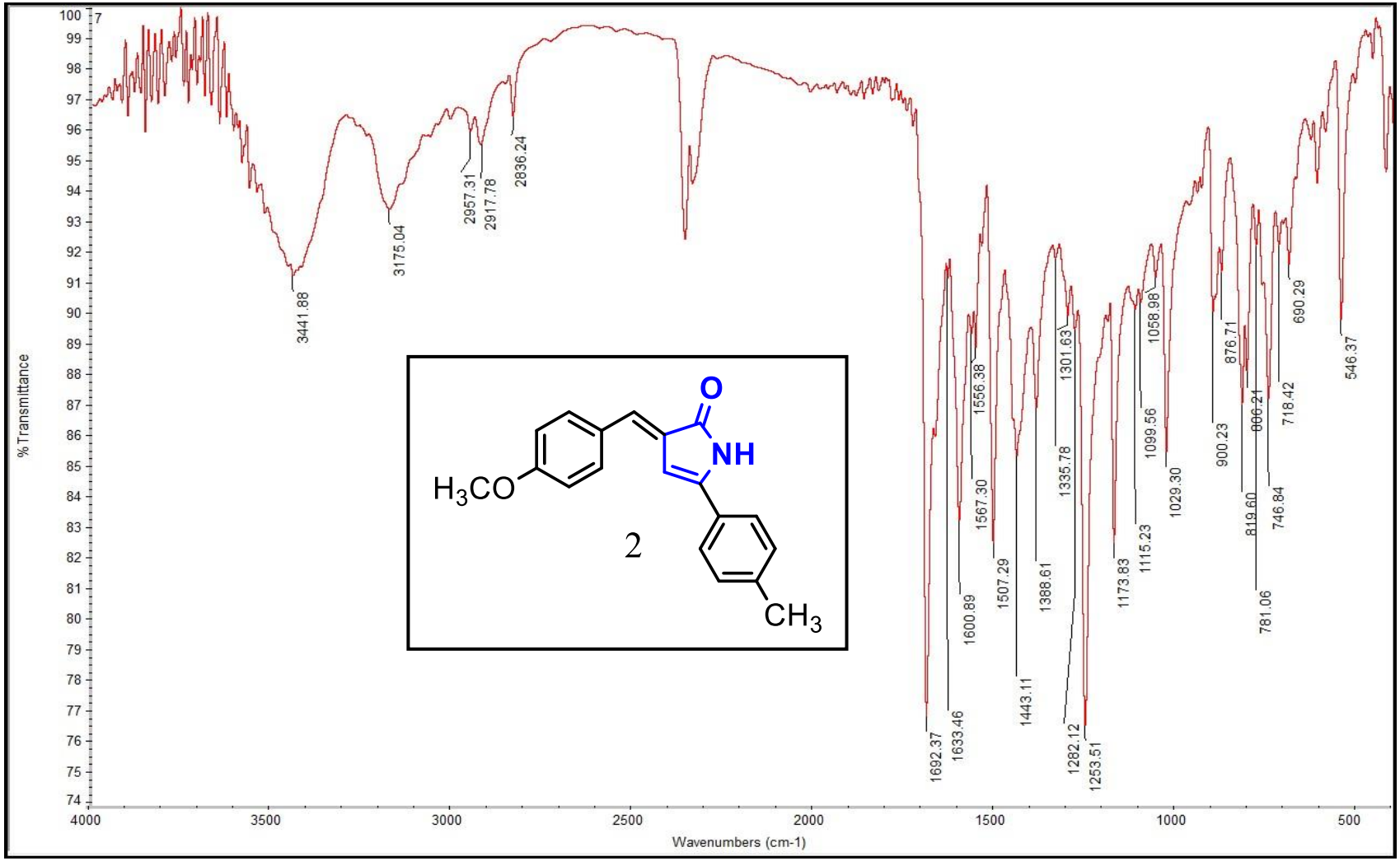
Supporting information:

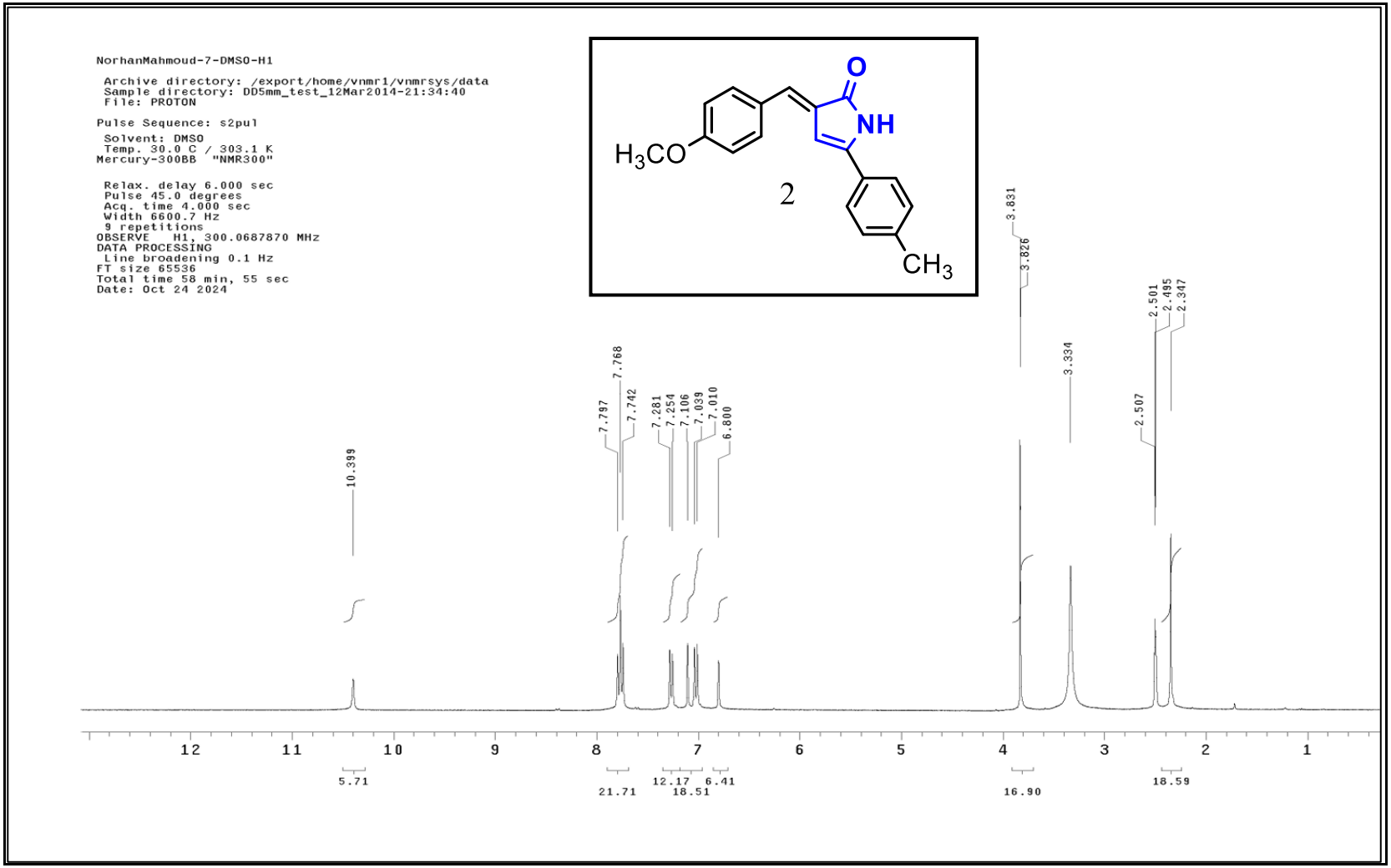
Spectral Data:



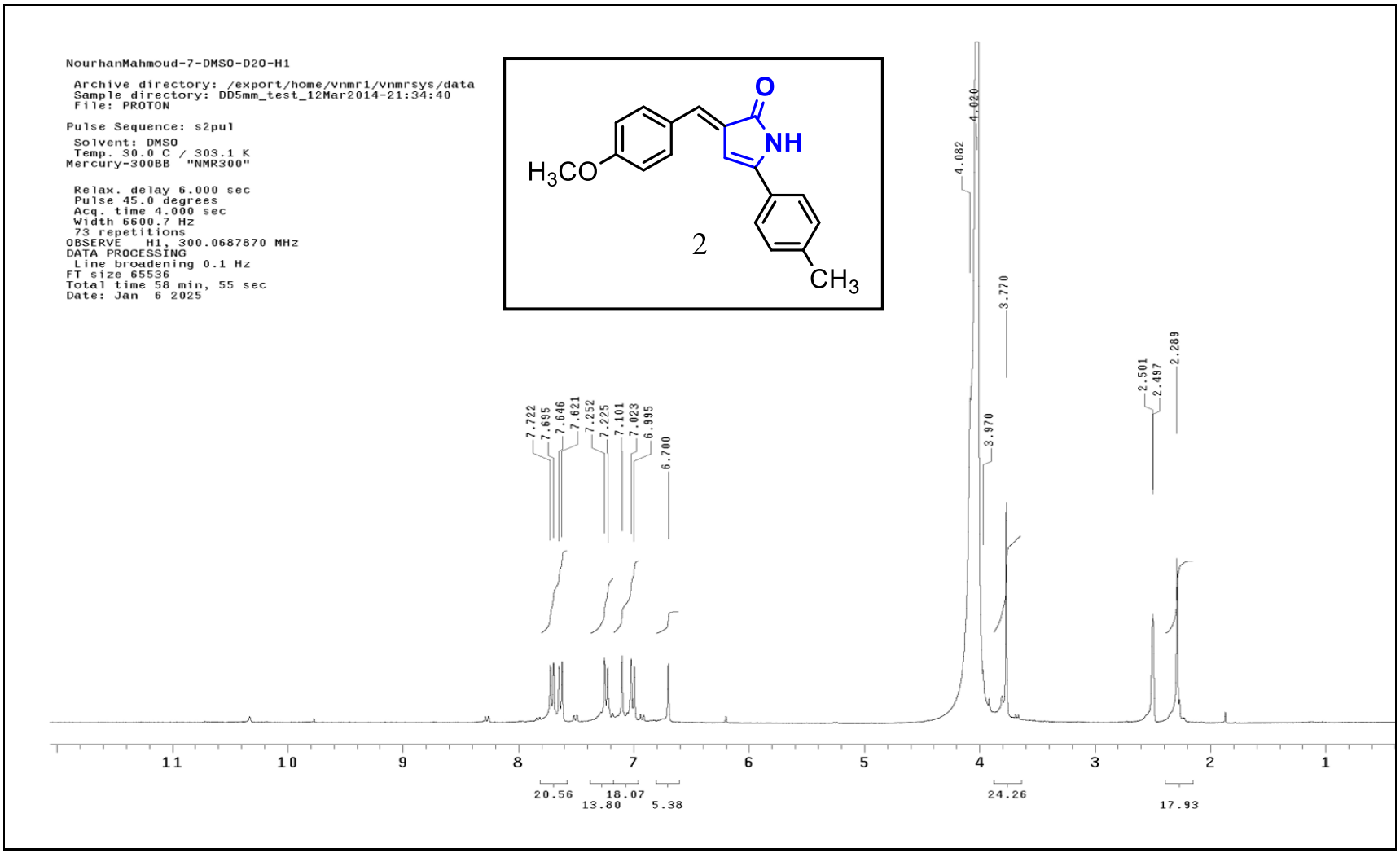
IR spectrum of compound 1



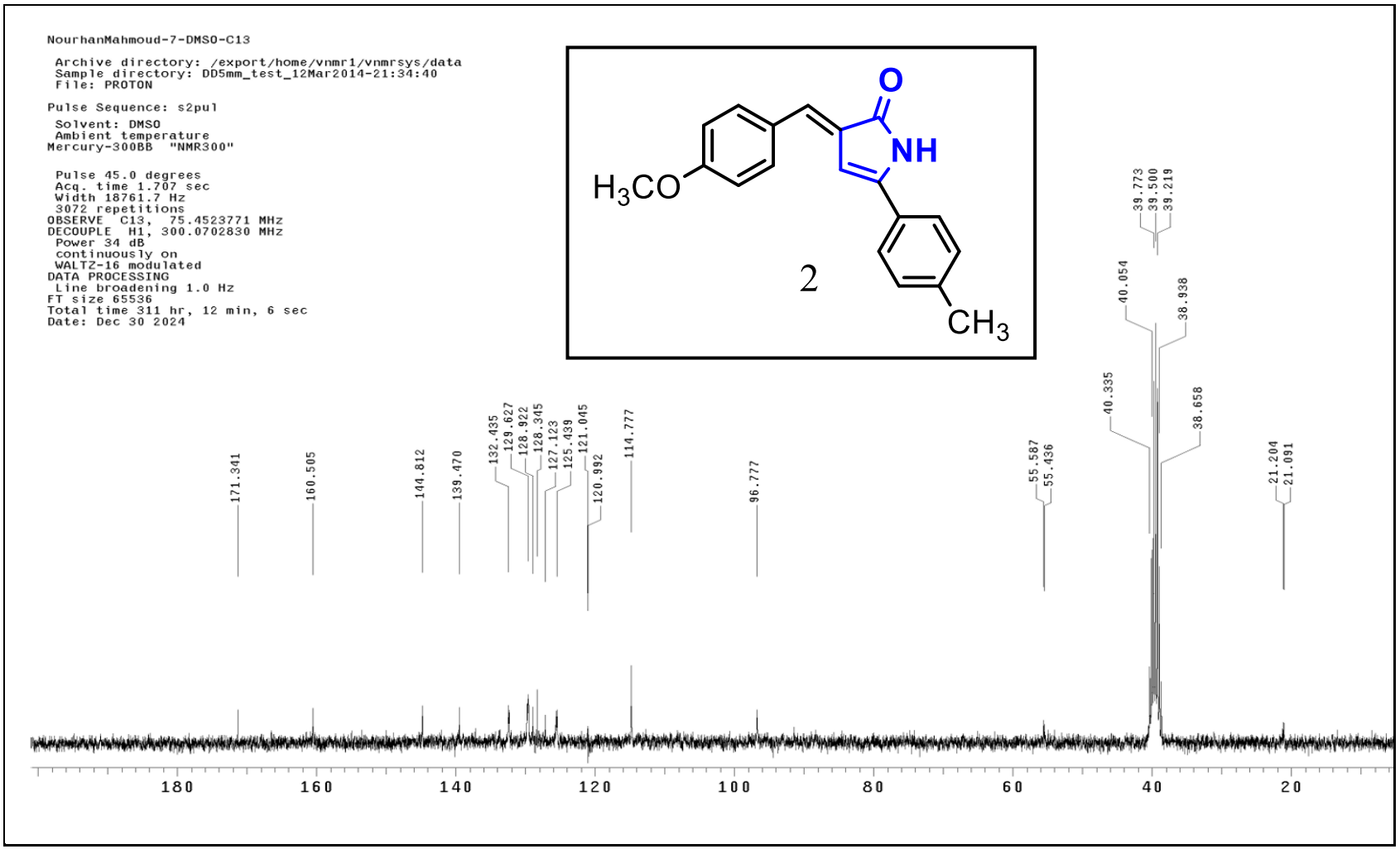
IR spectrum of compound 2



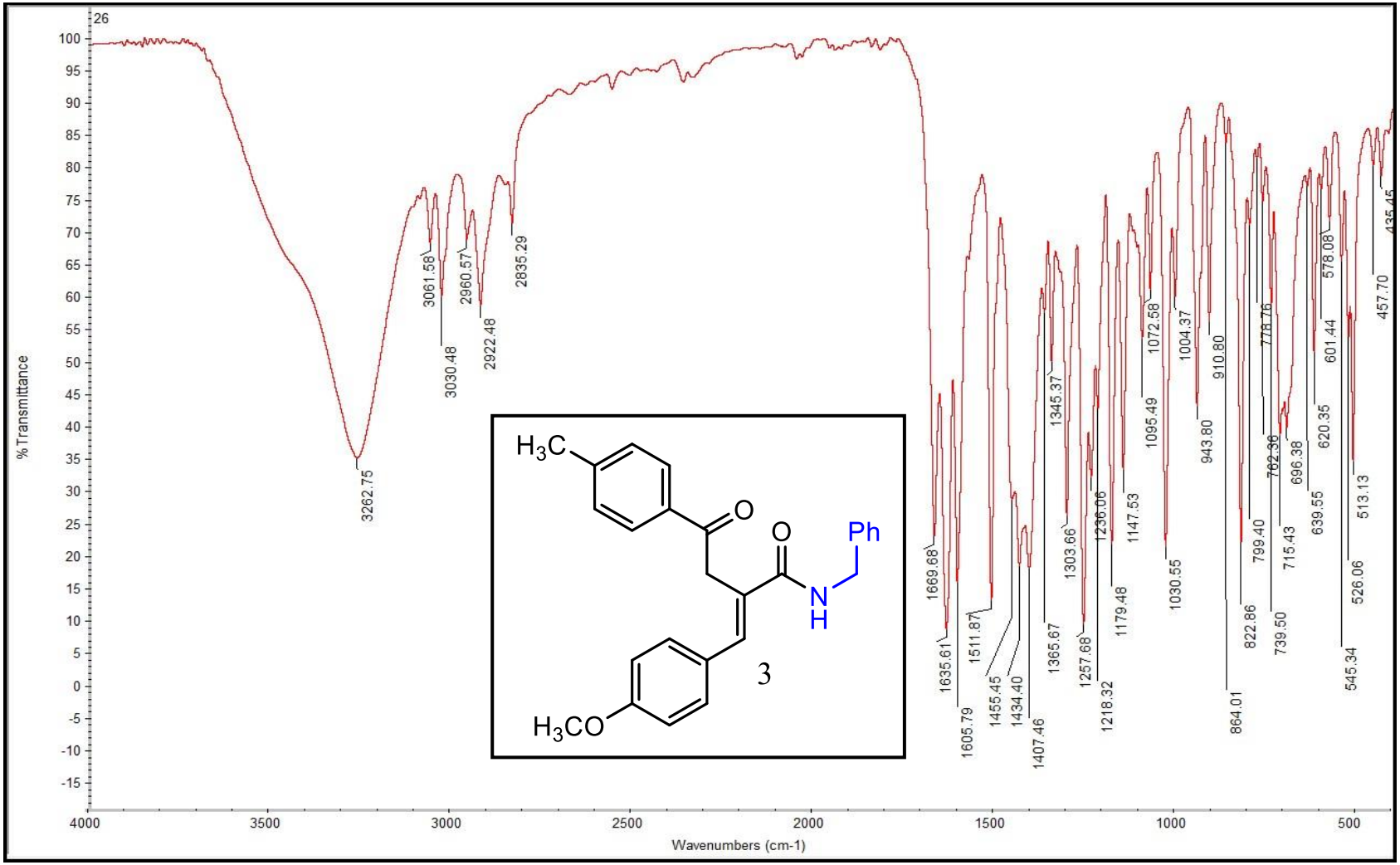
^{1}H NMR spectrum (DMSO-d_6) of compound 2



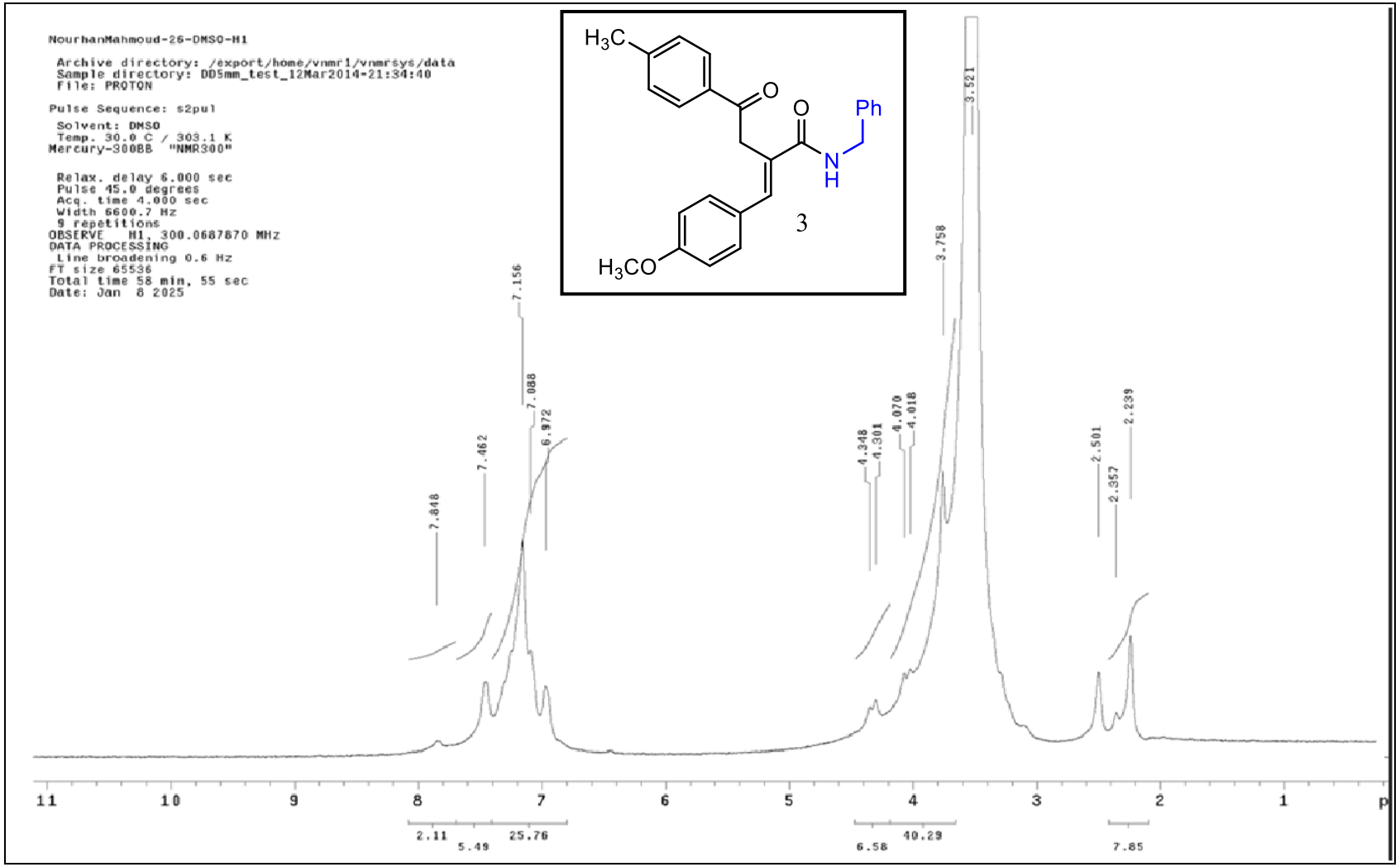
^{1}H NMR spectrum (DMSO-d_6 + D_2O) of compound 2



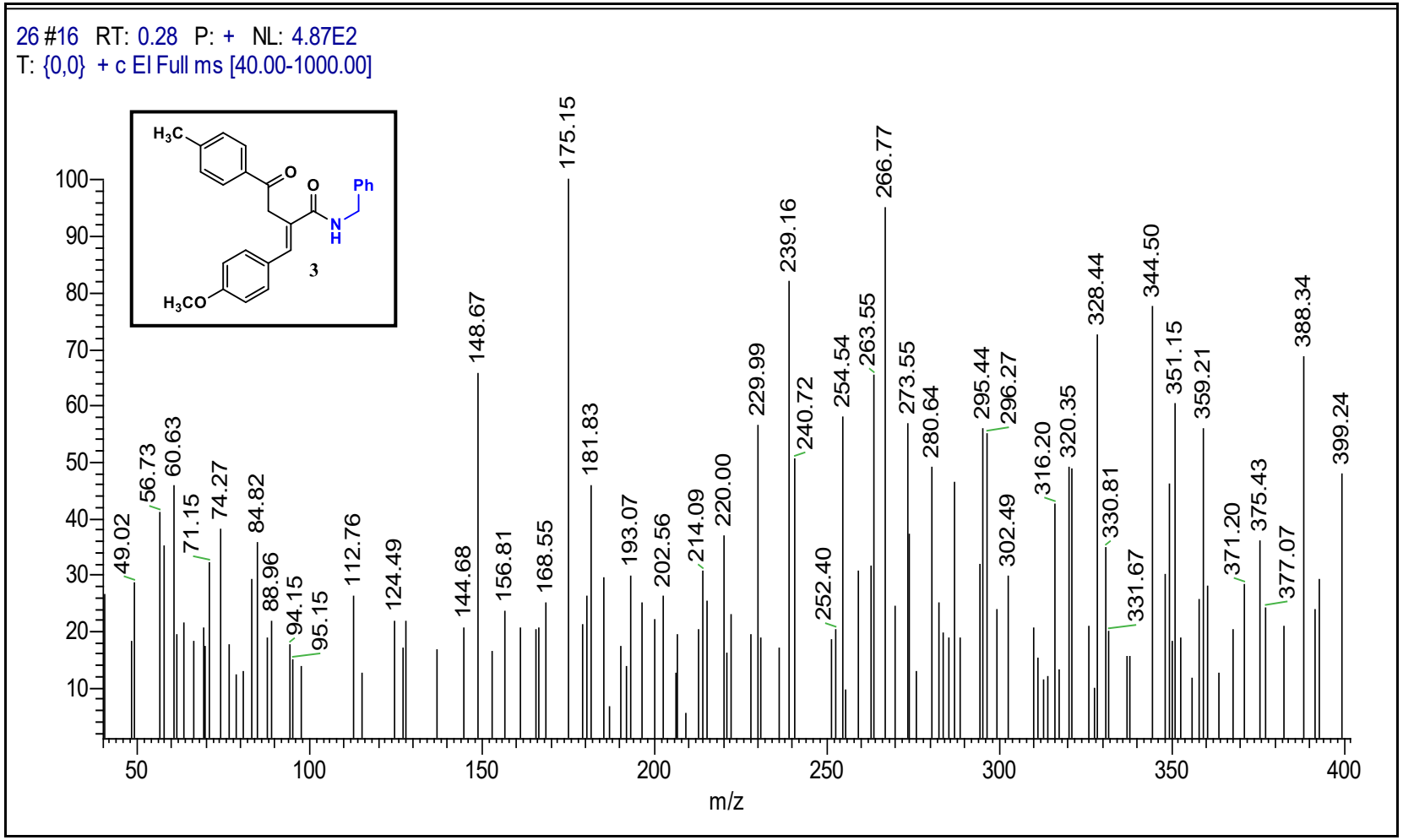
^{13}C NMR spectrum of compound 2.



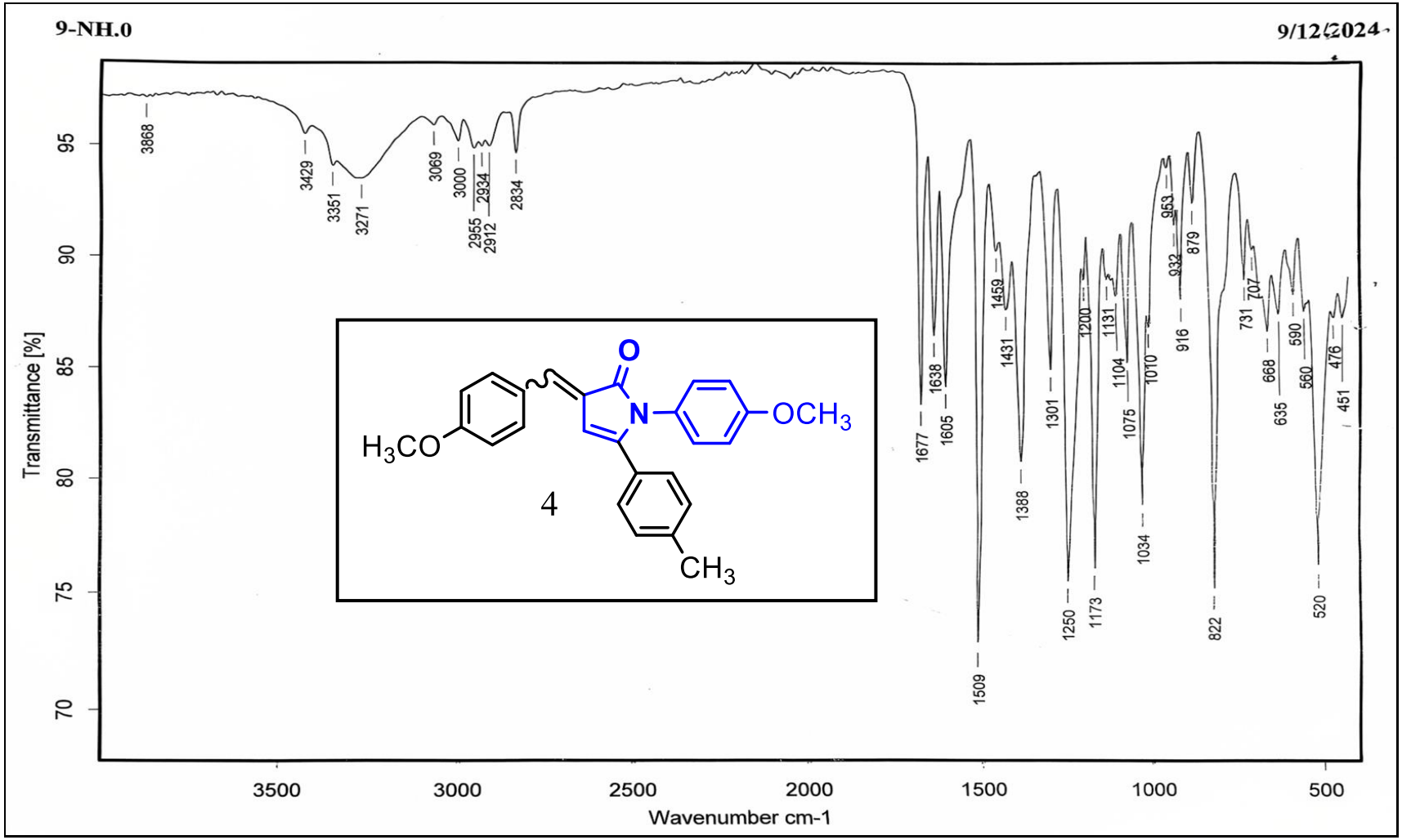
IR spectrum of compound 3



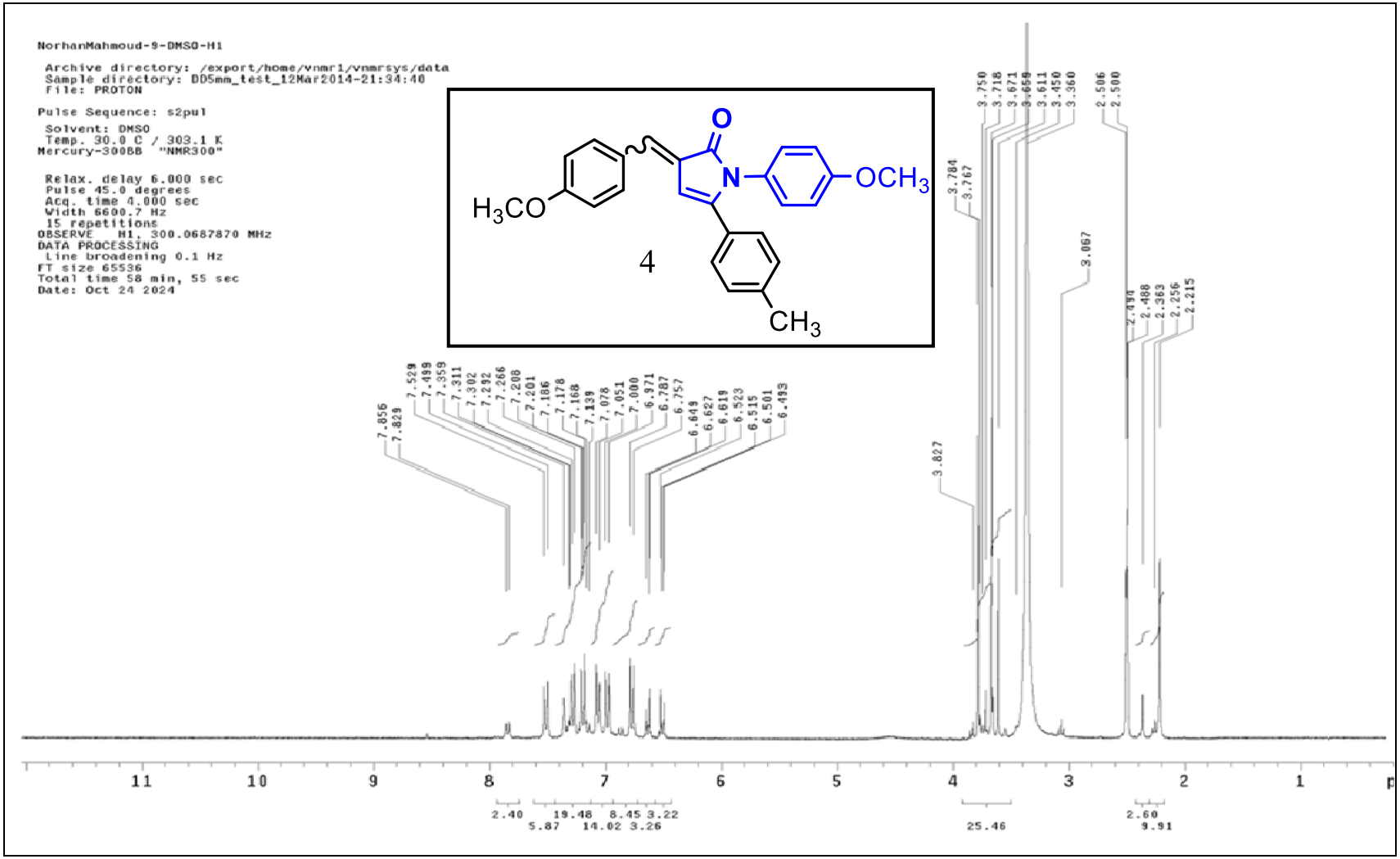
^{1}H NMR spectrum (DMSO-d_6) of compound 3



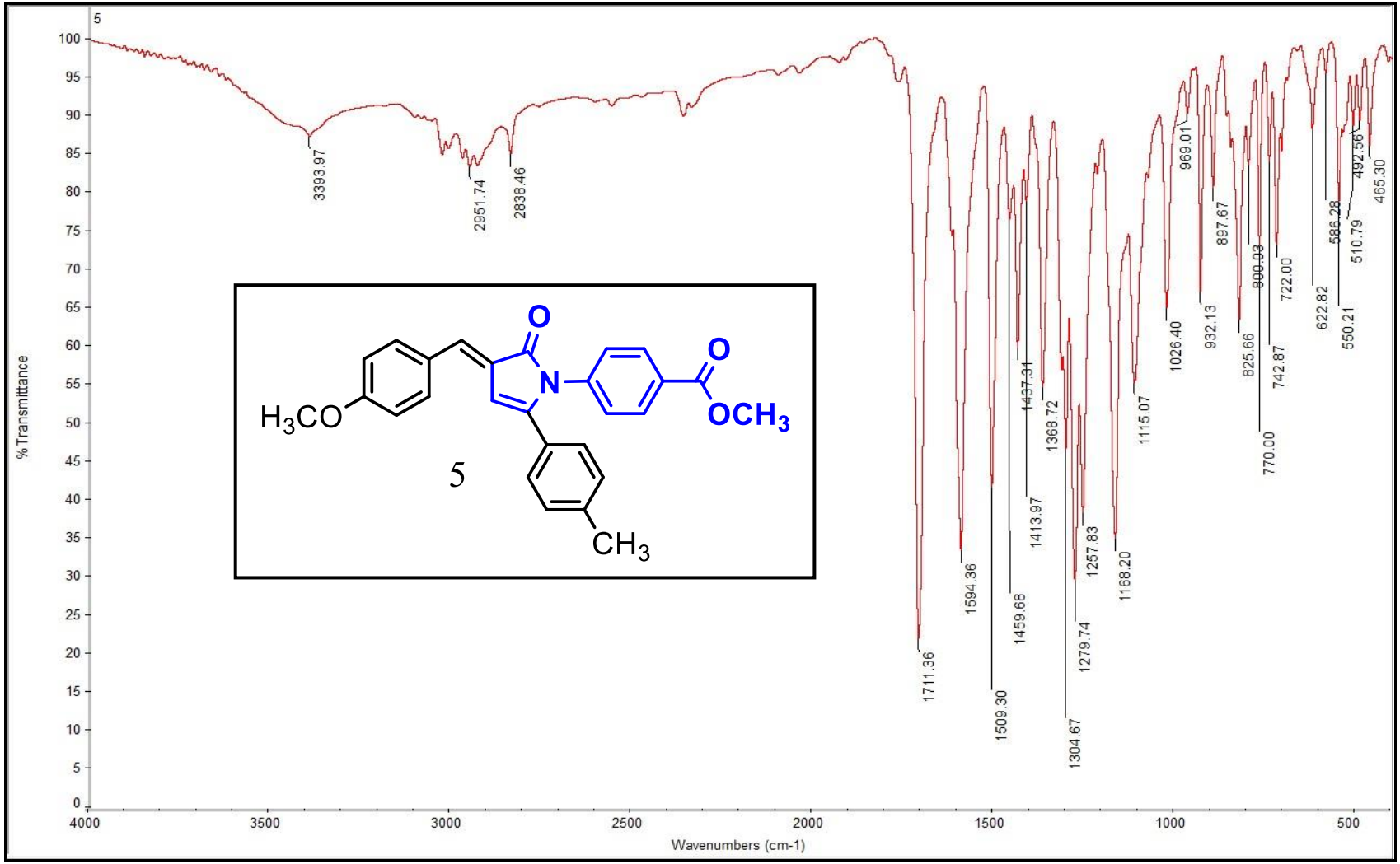
EI-MS of compound **3**



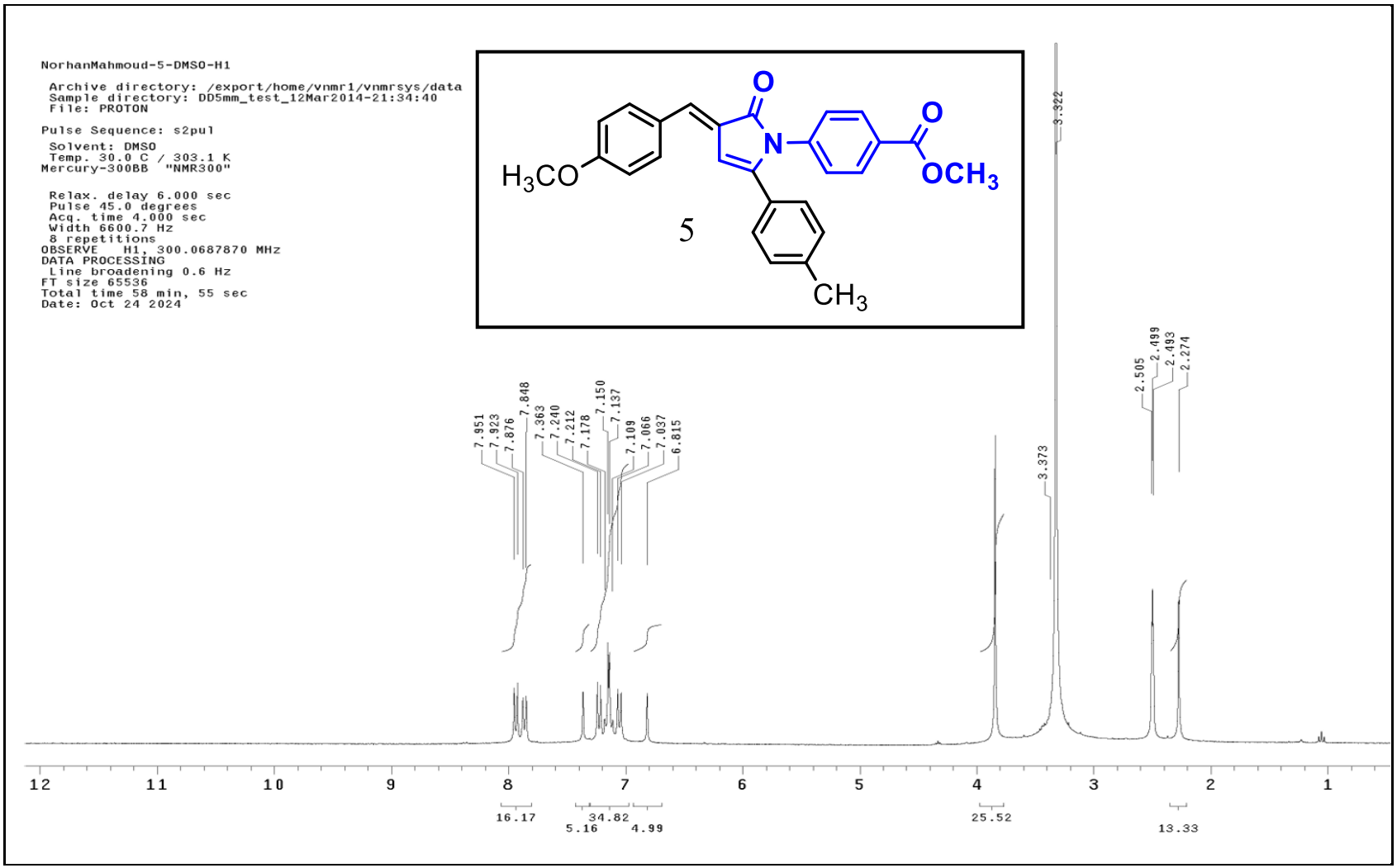
IR spectrum of compound 4



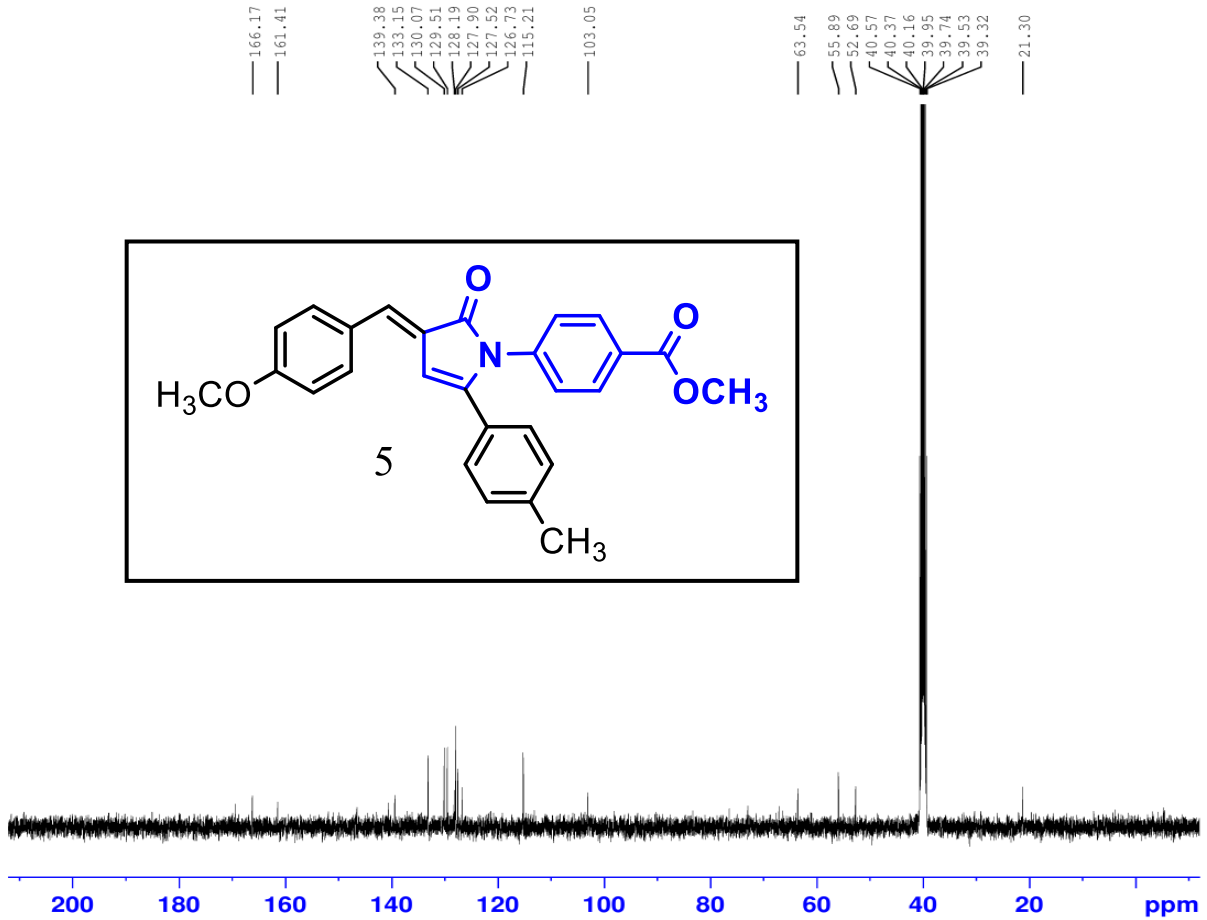
^{1}H NMR spectrum (DMSO-d_6) of compound 4



IR spectrum of compound 5



^{1}H NMR spectrum (DMSO-d_6) of compound 5

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PROCNO                        1

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NS                    3618
DS                       4
SWH              24038.461 Hz
FIDRES           0.366798 Hz
AQ               1.3631488 sec
RG                  205.37
DW                  20.800 usec
DE                   6.50 usec
TE                  300.0 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                      1

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NUC1                   13C
P1                   10.00 usec
PLW1          47.00000000 W

======== CHANNEL f2 ========
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NUC2                   1H
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PCPD2                90.00 usec
PLW2          18.00000000 W
PLW12          0.34722000 W
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F2 - Processing parameters
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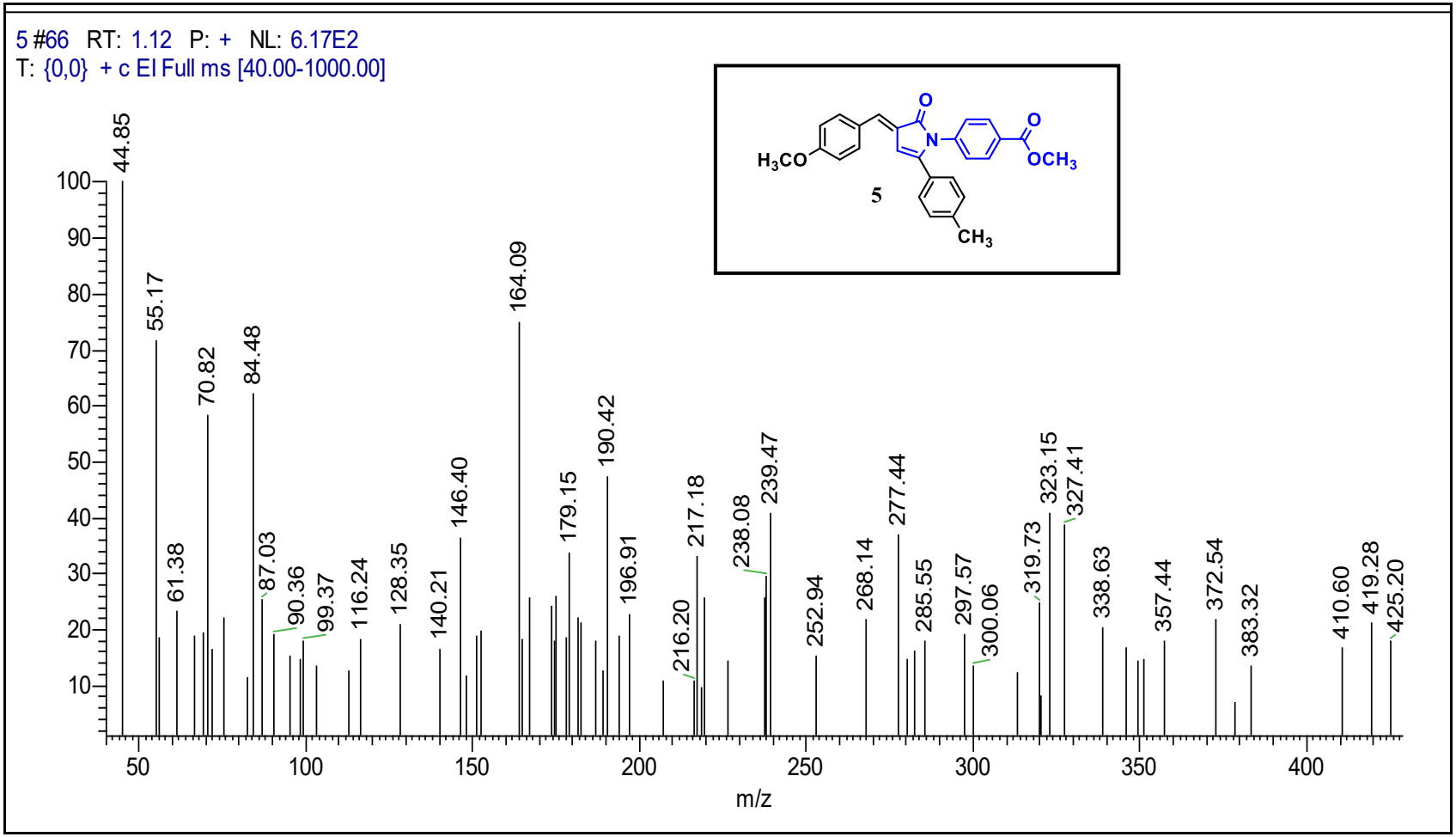
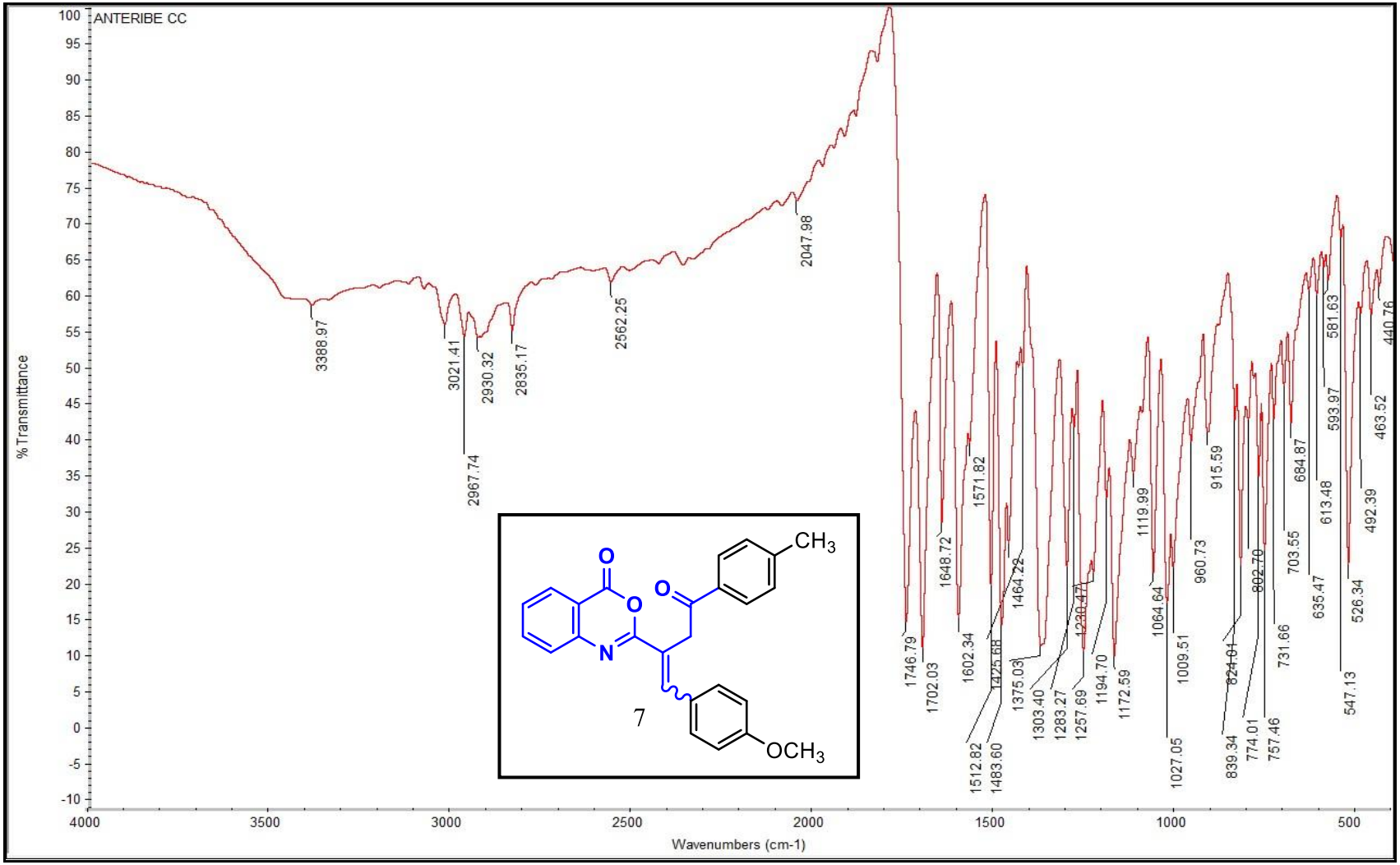
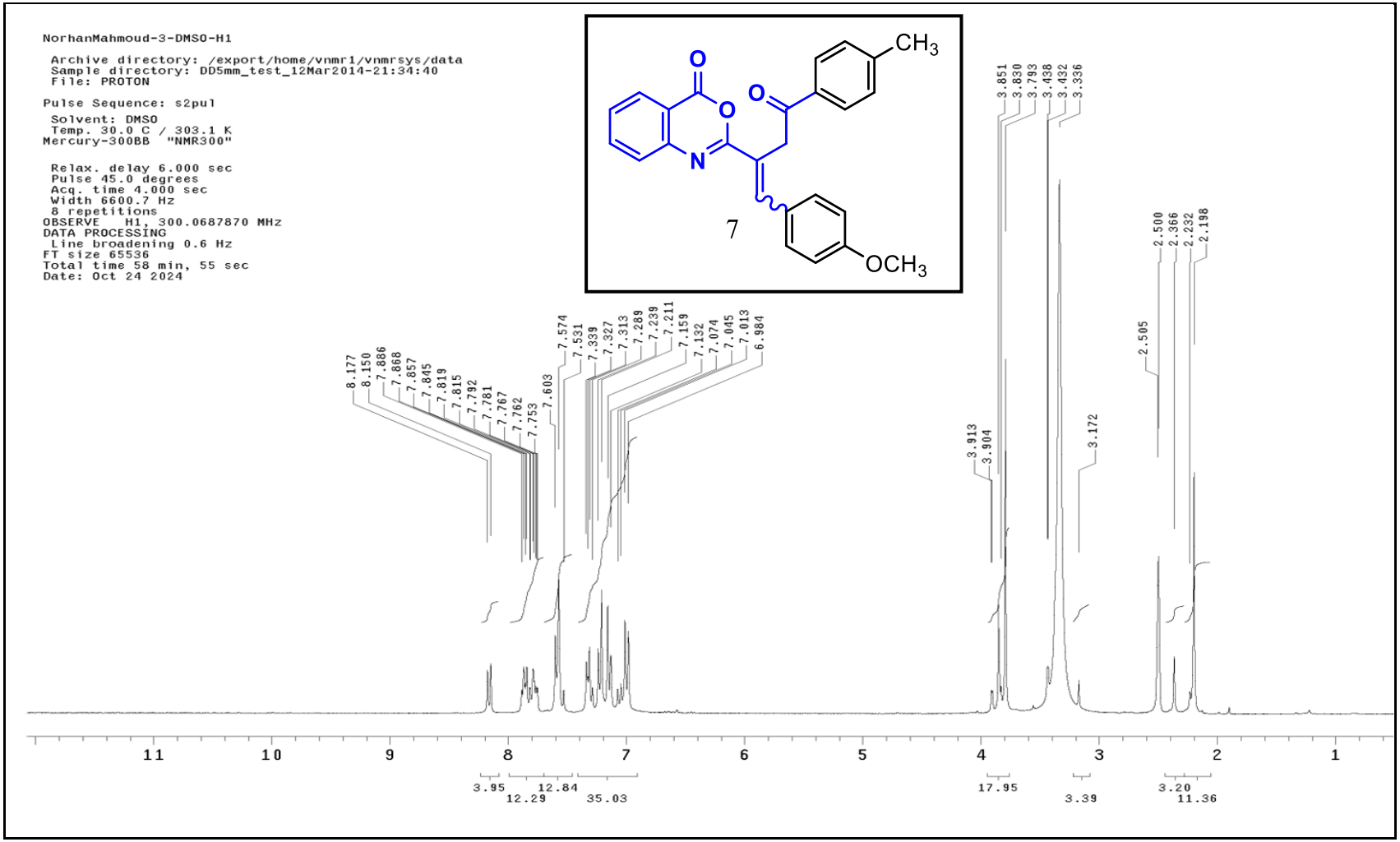
^{13}C NMR spectrum of compound 5



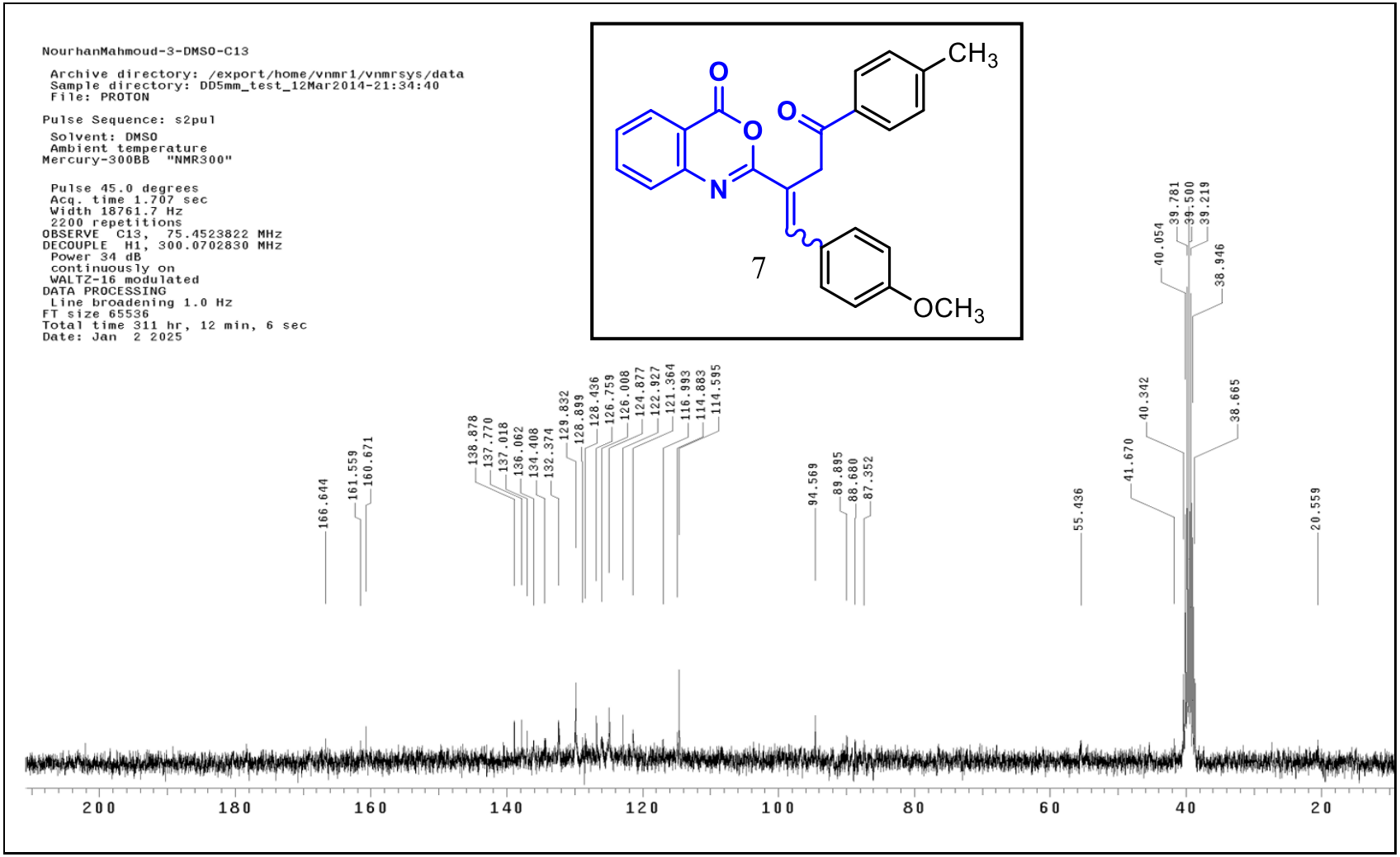
EI-MS of compound **5**



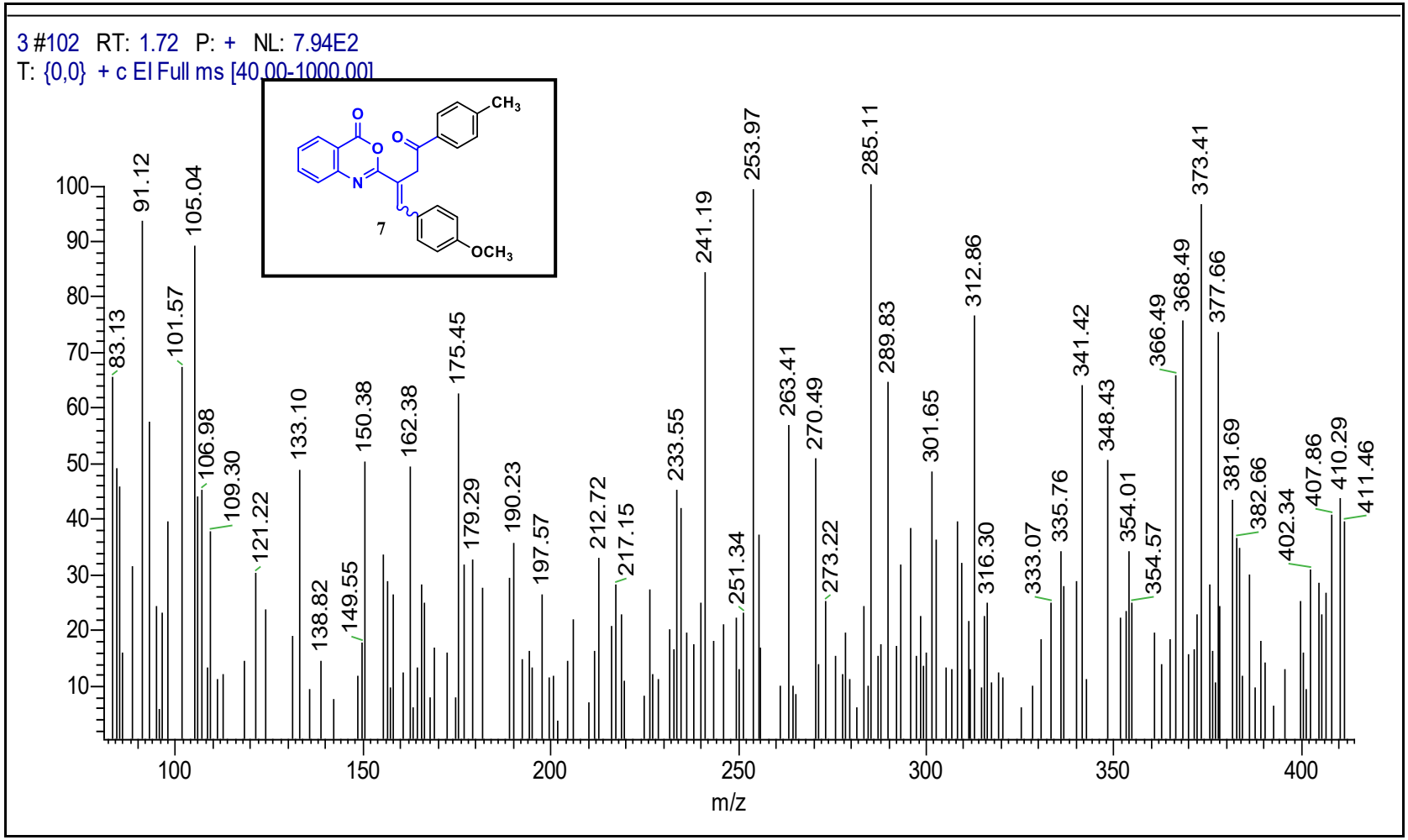
IR spectrum of compound 7



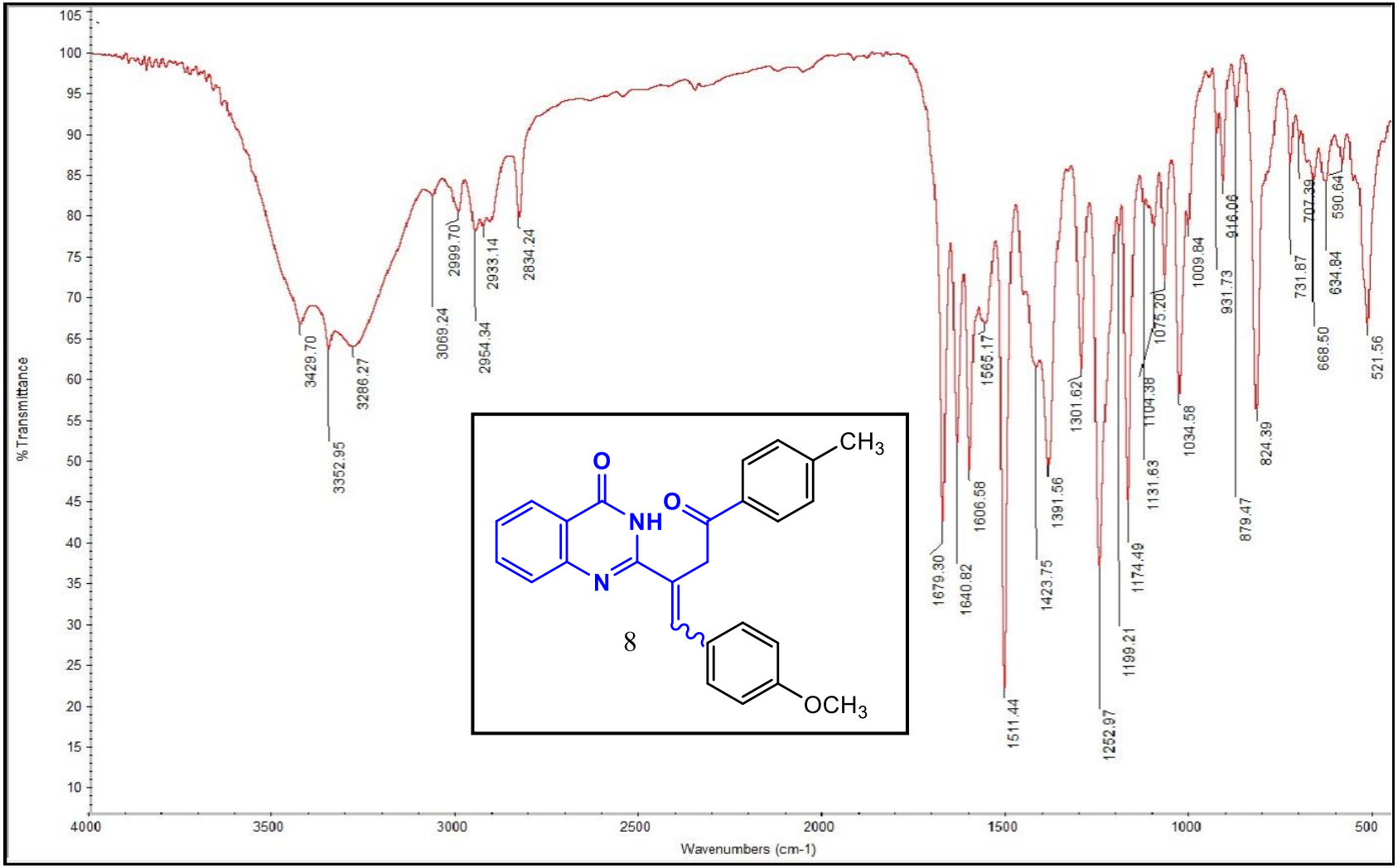
^{1}H NMR spectrum (DMSO-d_6) of compound 7



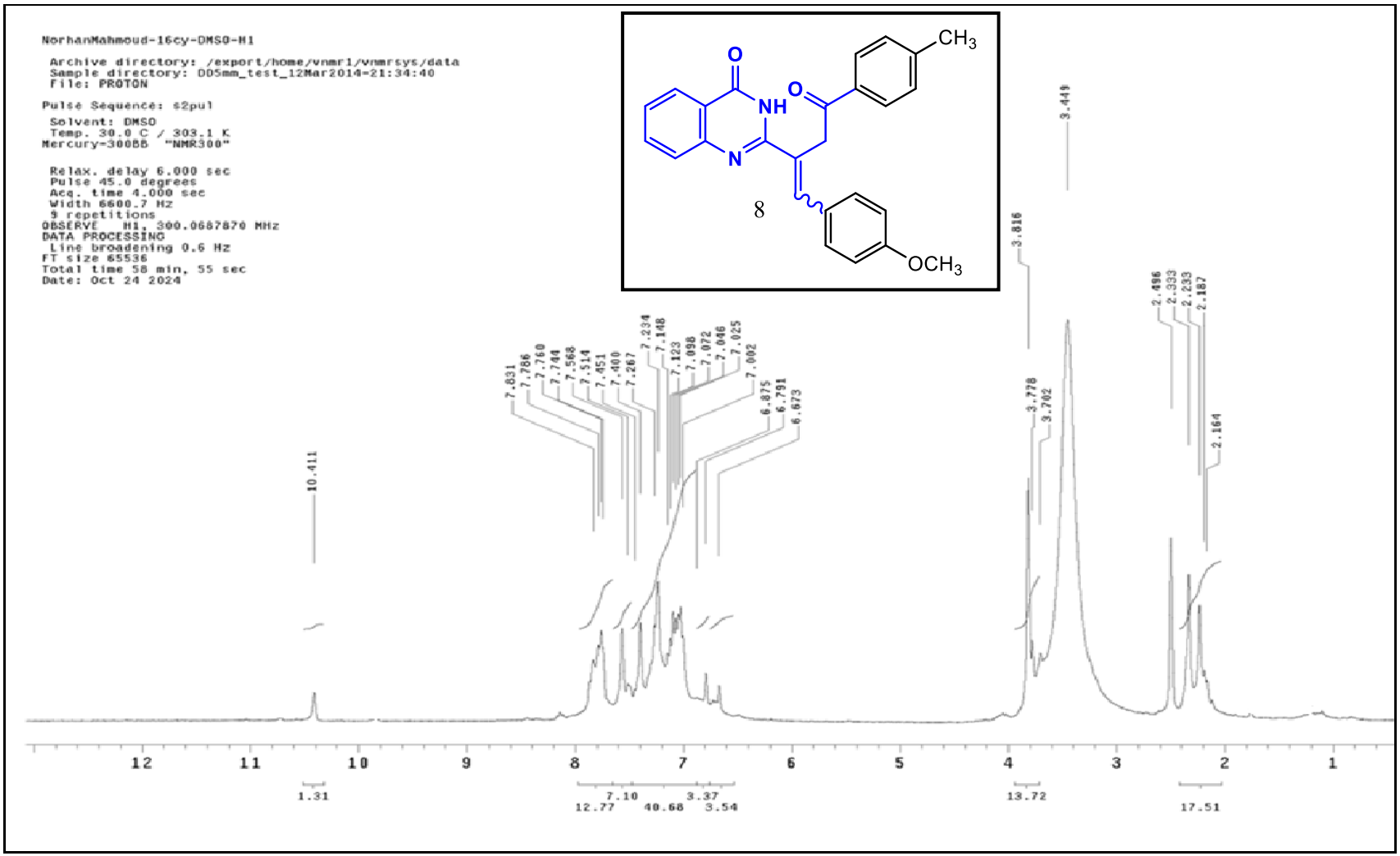
^{13}C NMR spectrum of compound 7



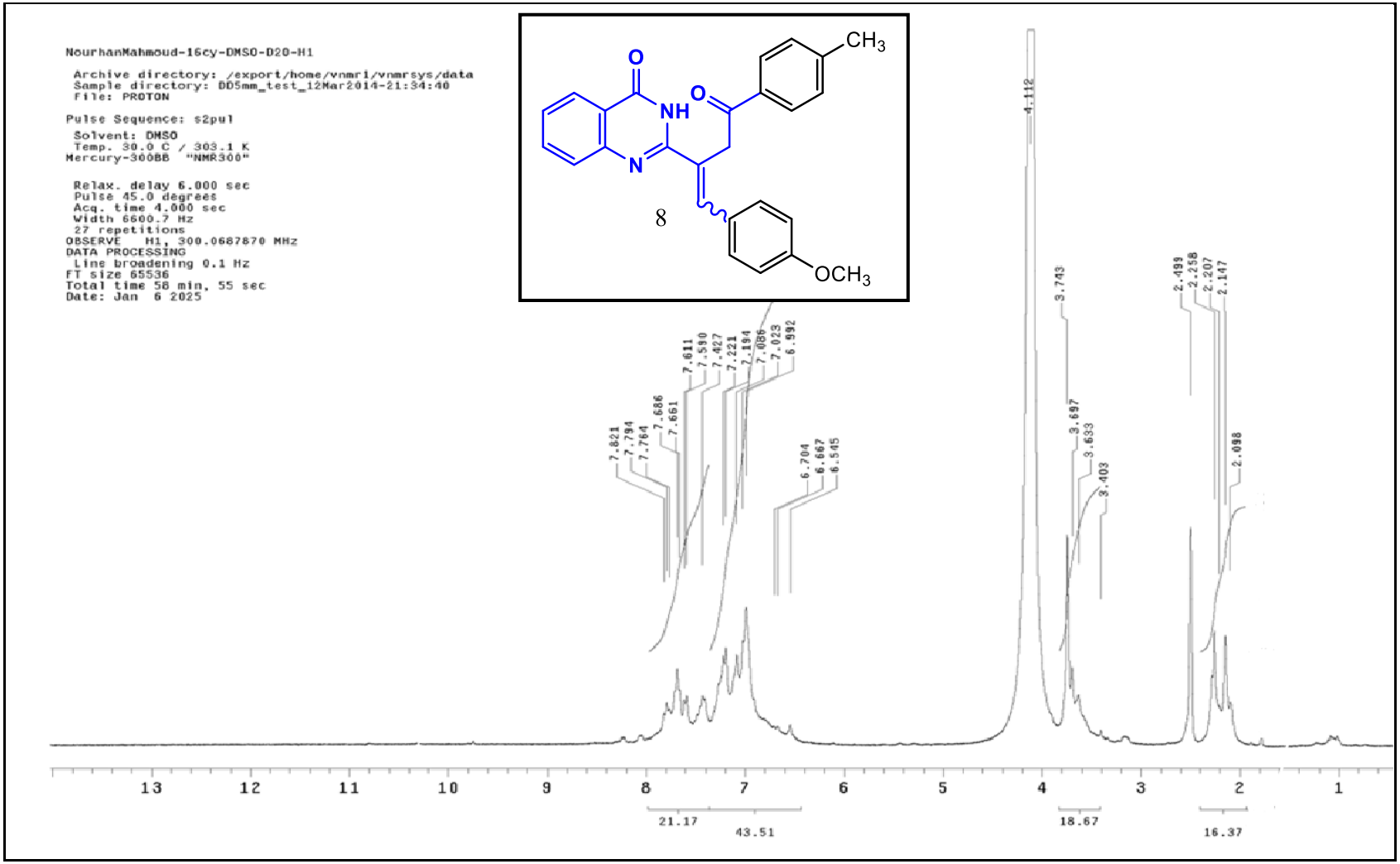
EI-MS of compound **7**



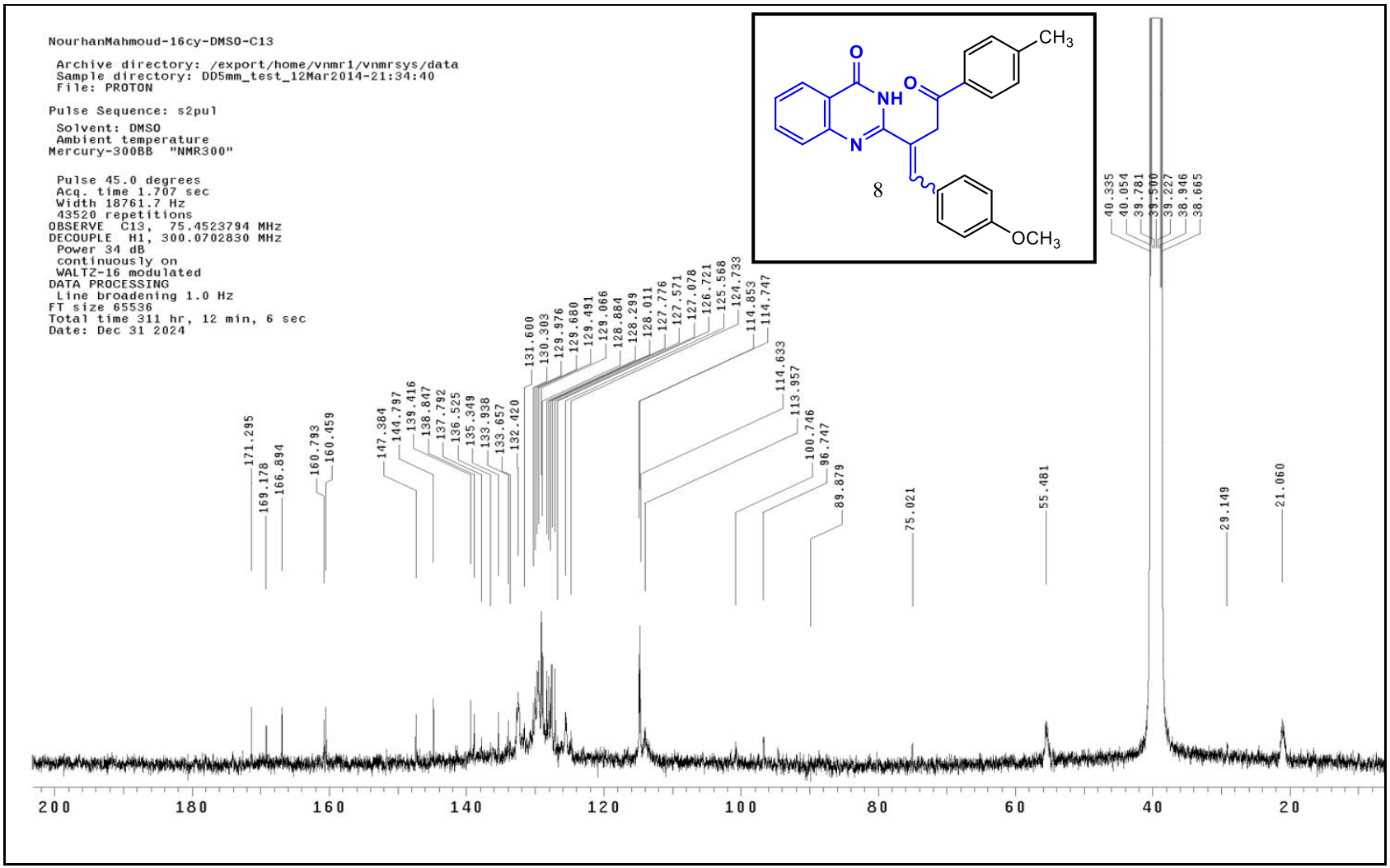
IR spectrum of compound 8



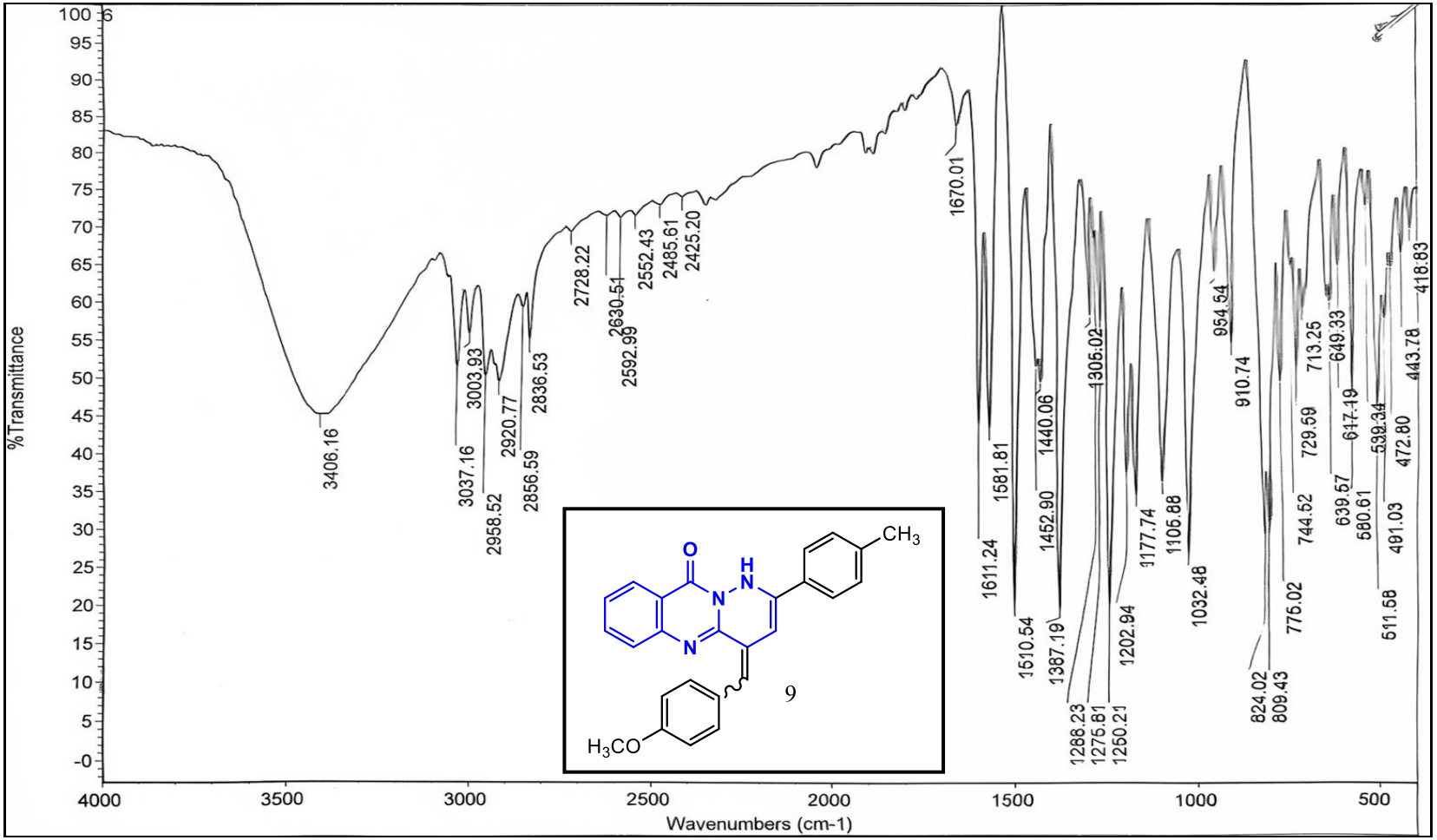
^{1}H NMR spectrum (DMSO-d_6) of compound 8



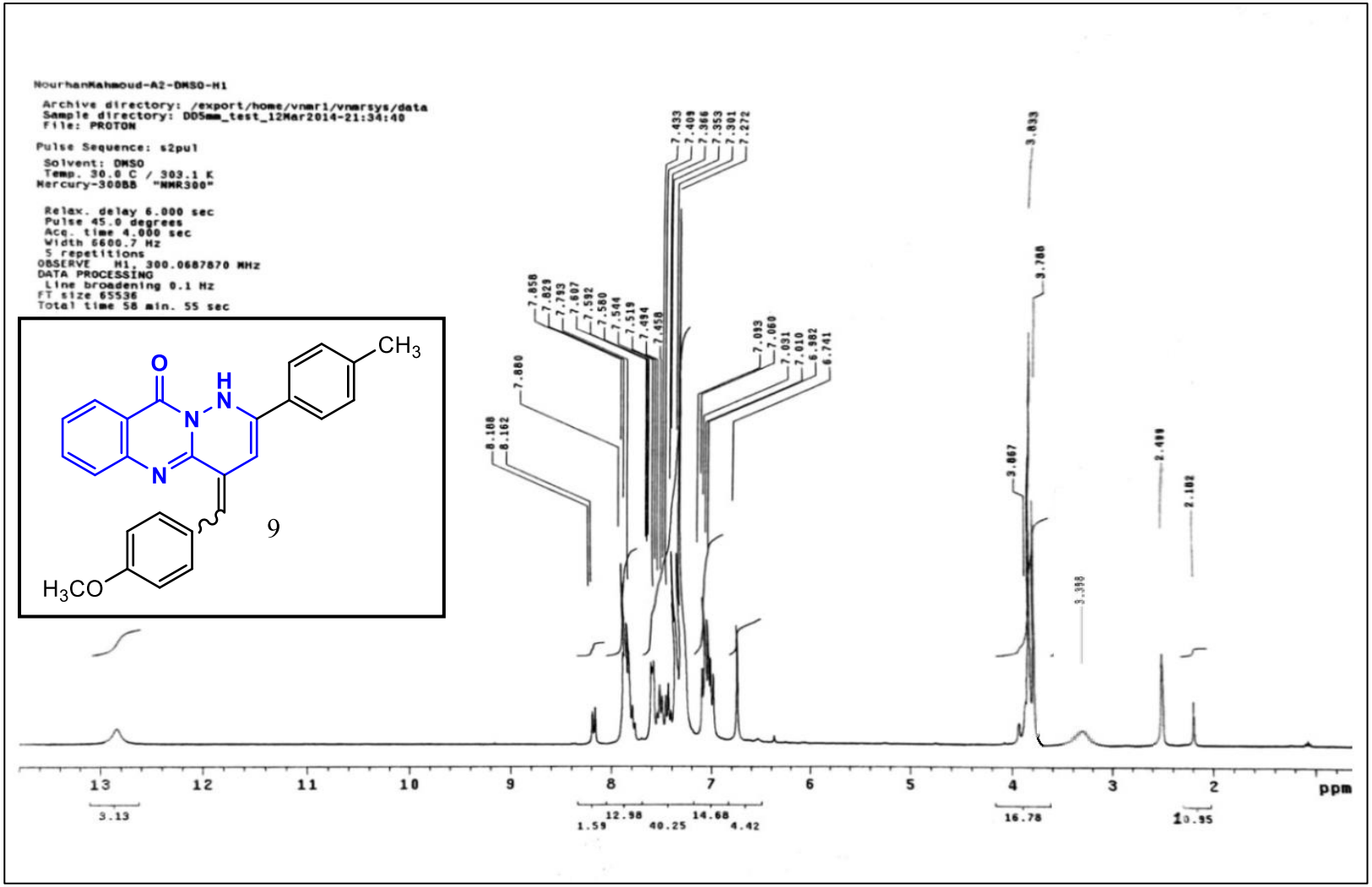
^{1}H NMR spectrum (DMSO-d_6 + D_2O) of compound 8



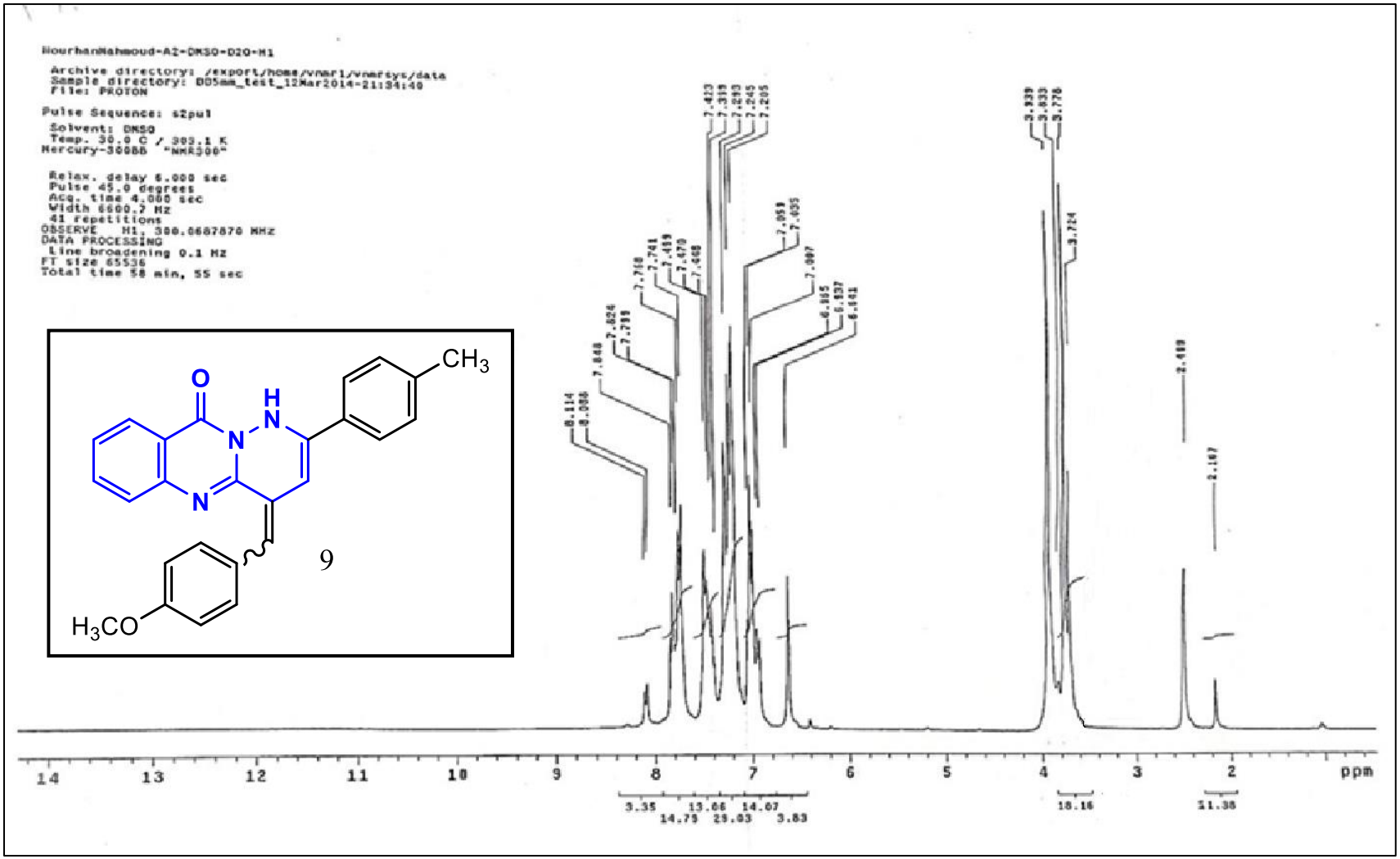
^{13}C NMR spectrum of compound 8



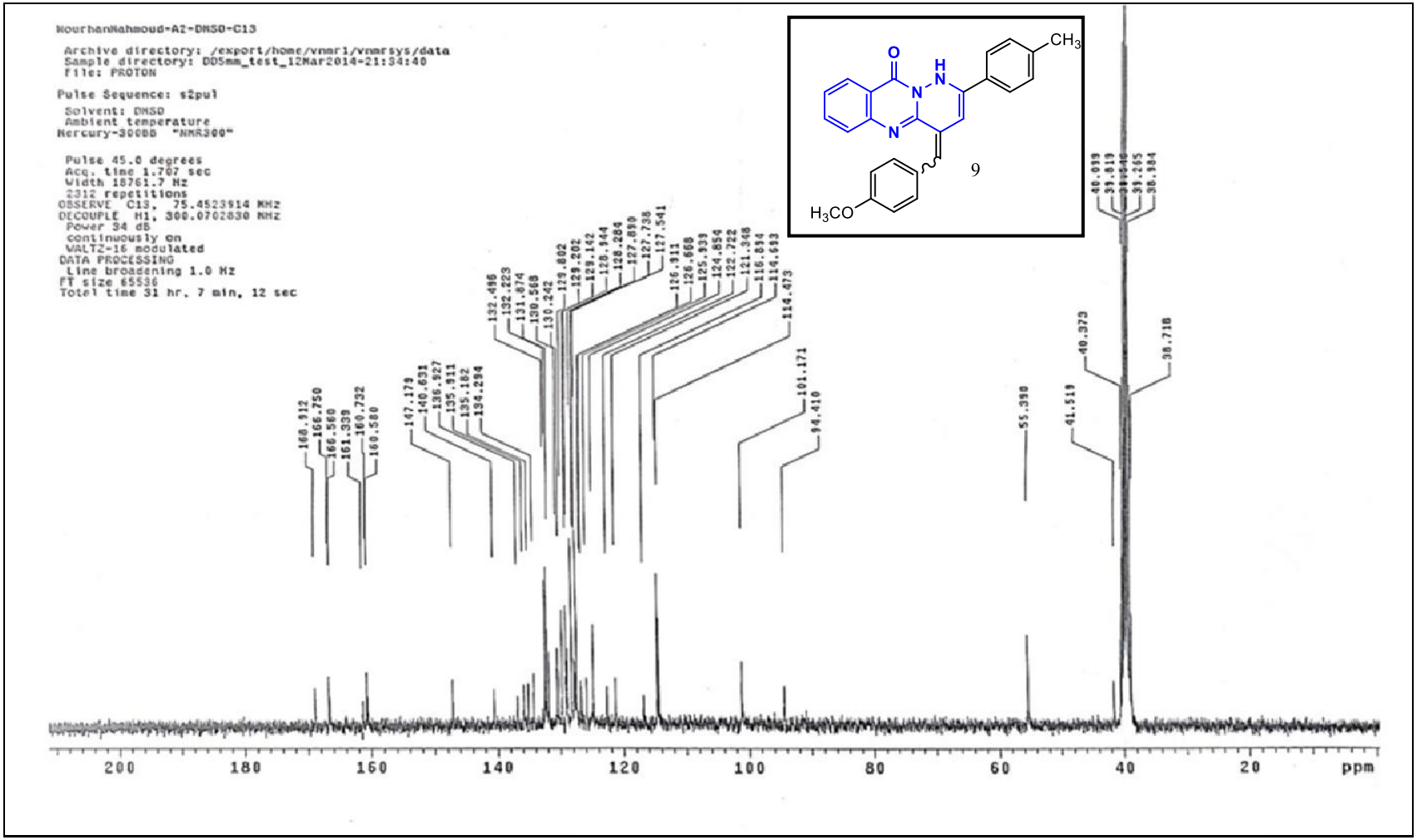
IR spectrum of compound 9



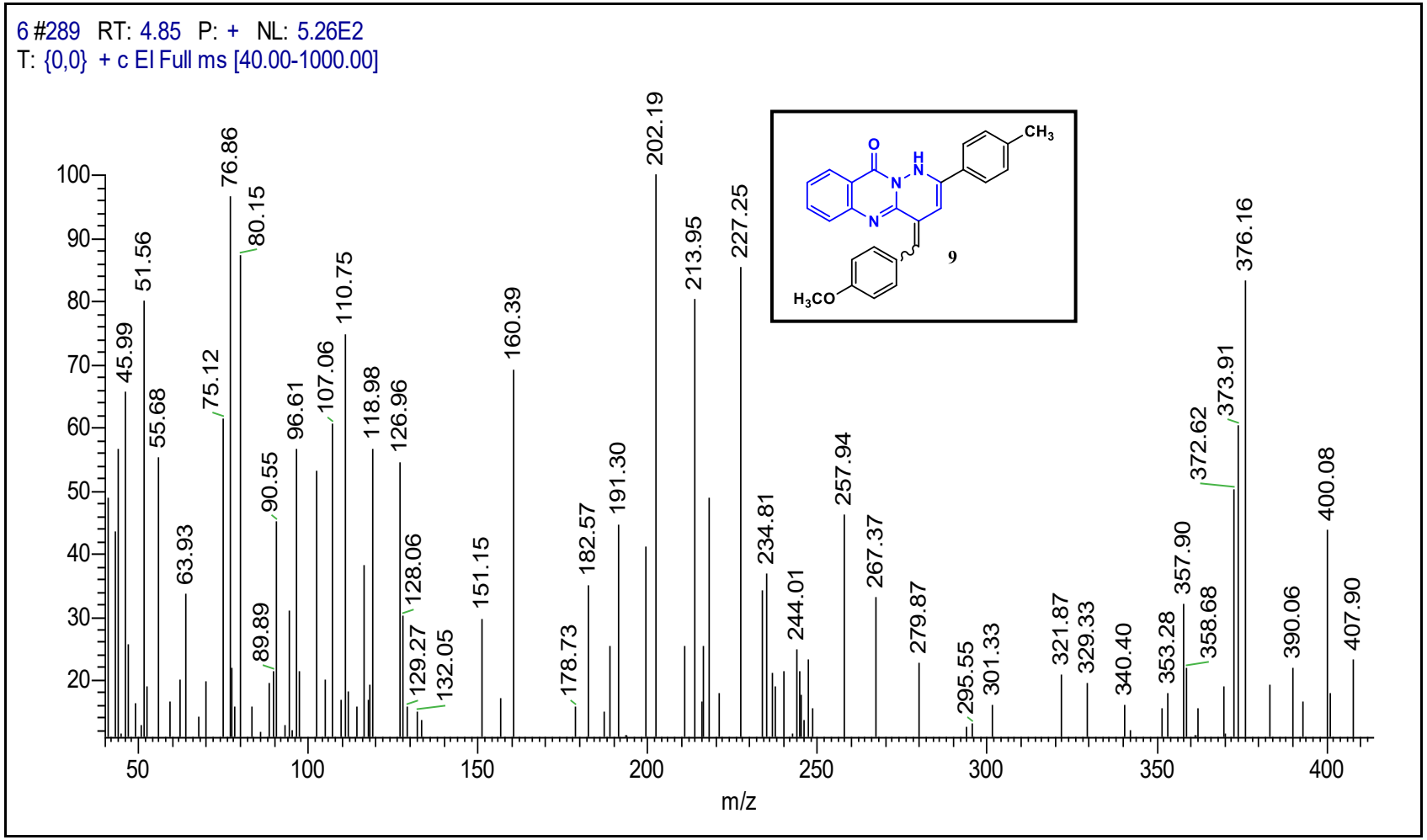
^{1}H NMR spectrum (DMSO-d_6) of compound 9



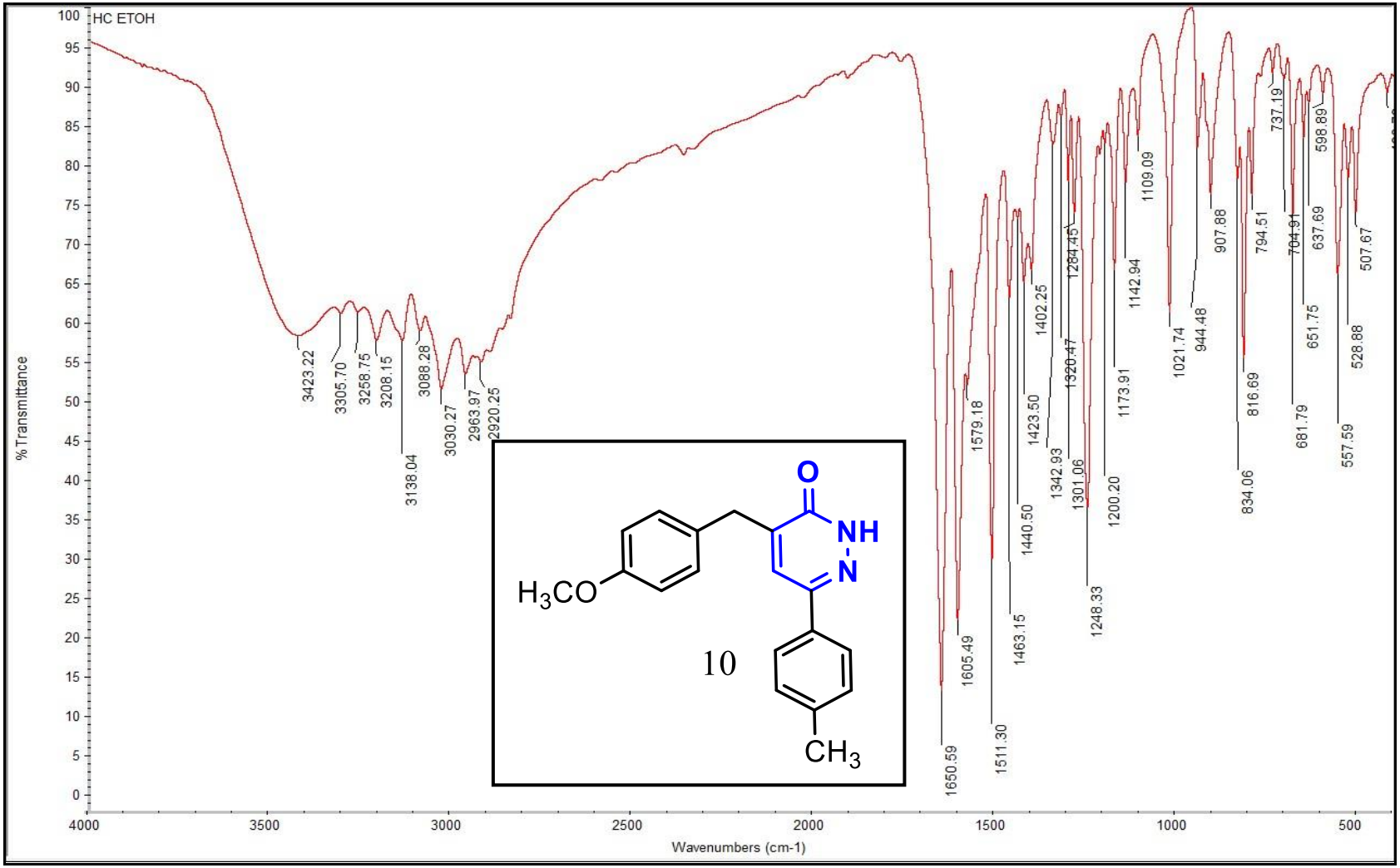
^{1}H NMR spectrum (DMSO-d_6+ D_2O) of compound 9



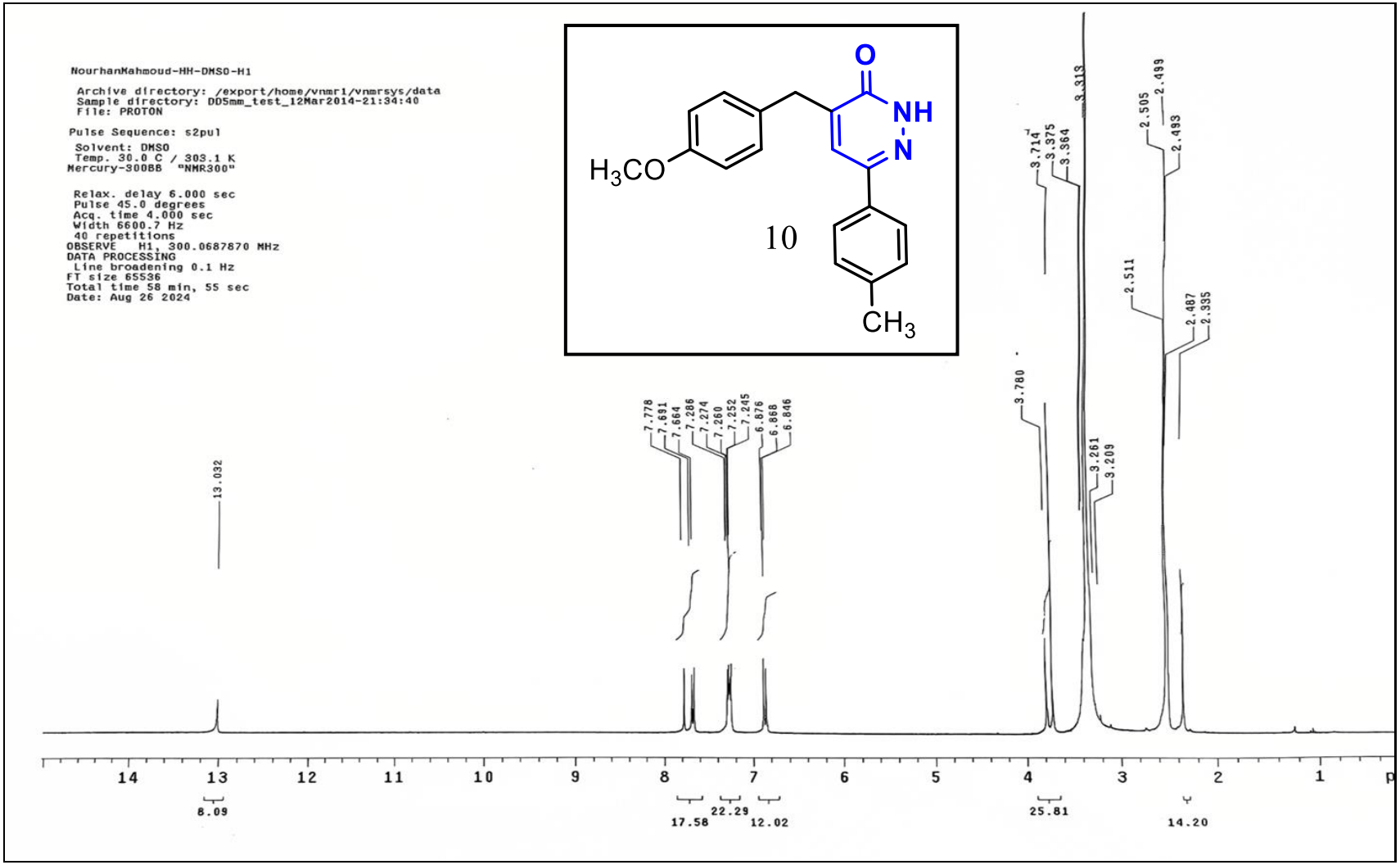
^{13}C NMR spectrum of compound 9



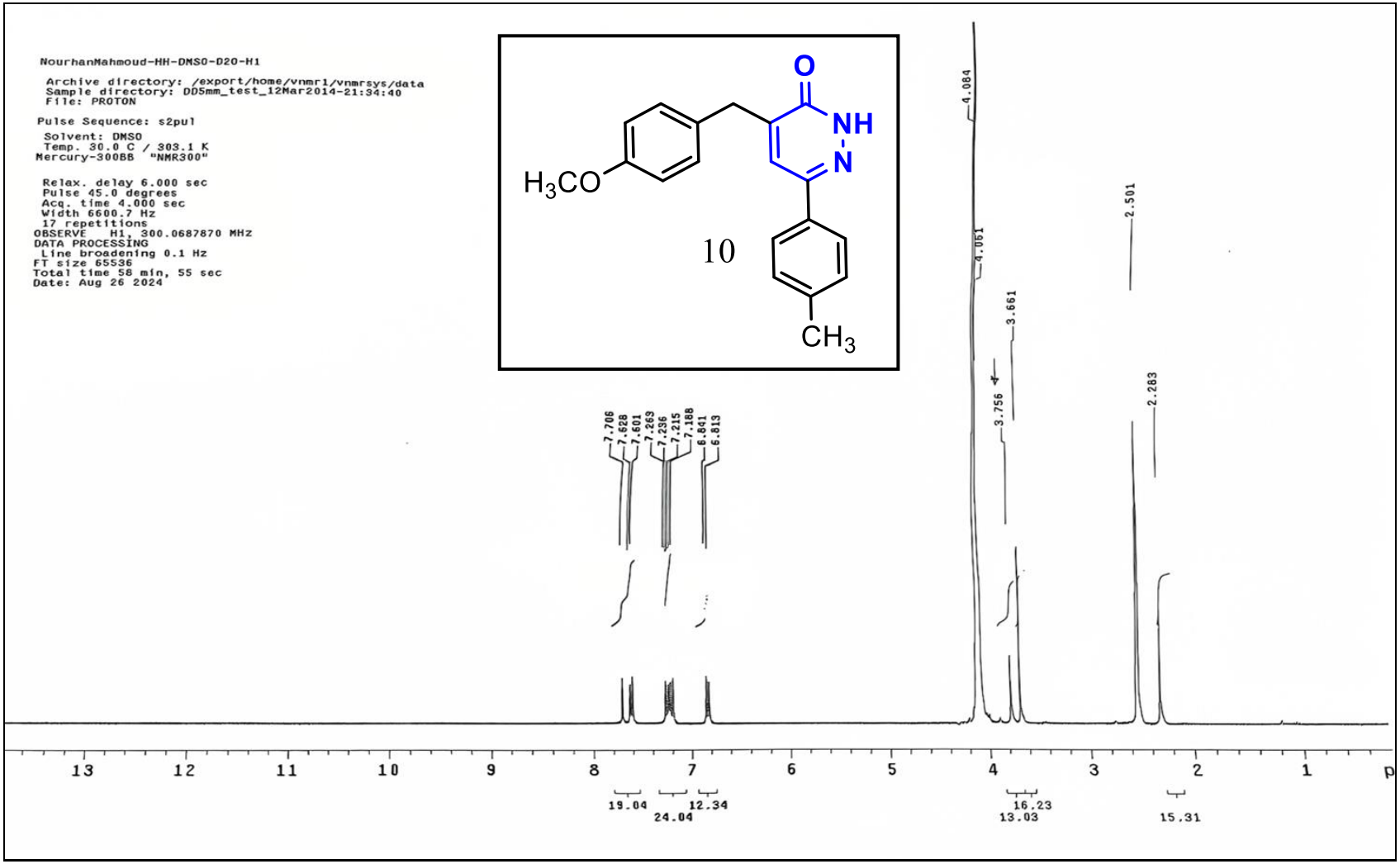
EI-MS of compound **9**



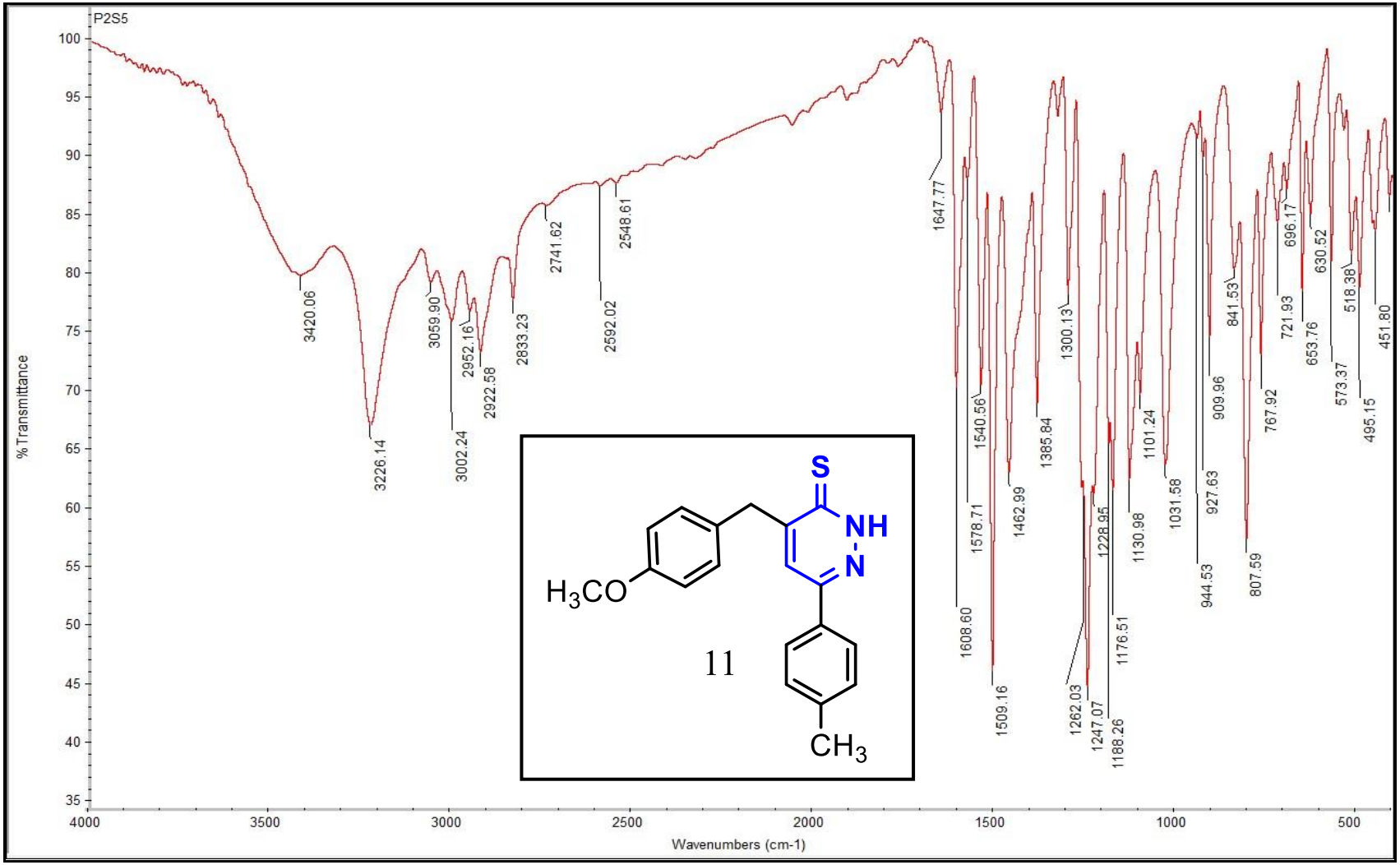
IR spectrum of compound 10



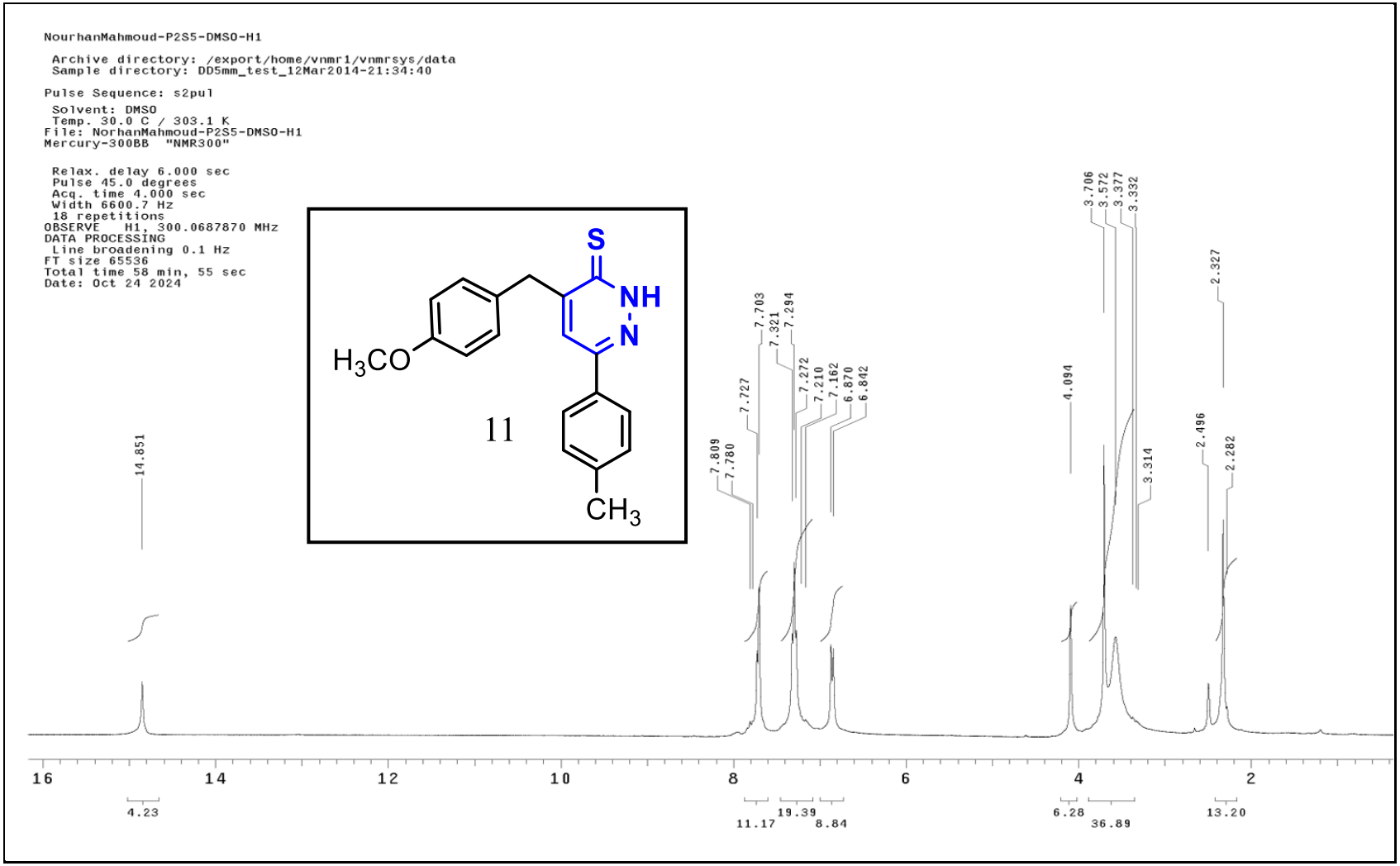
^{1}H NMR spectrum (DMSO-*d*$_6$) of compound 10



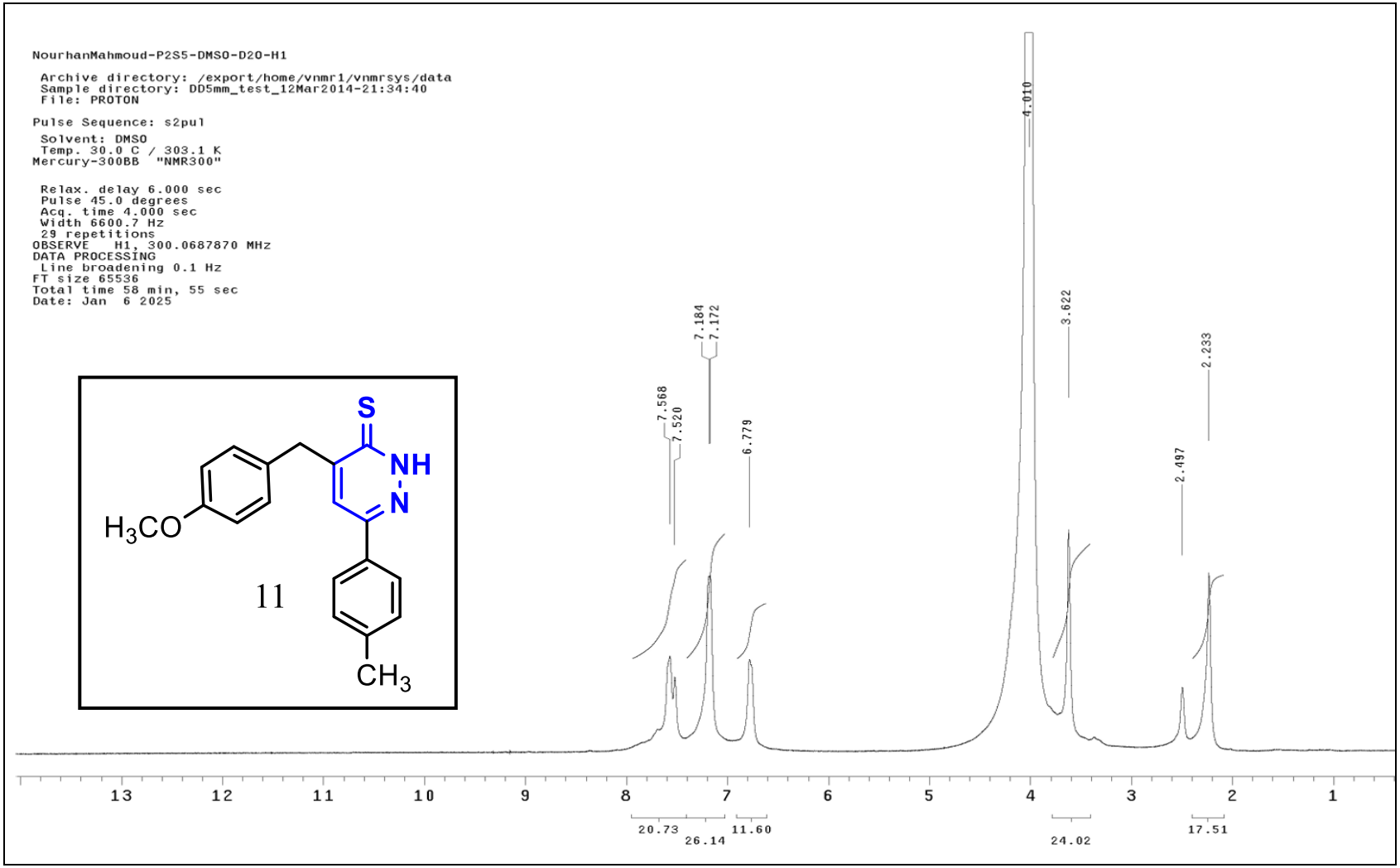
^{1}H NMR spectrum (DMSO-d_6 + D_2O) of compound 10



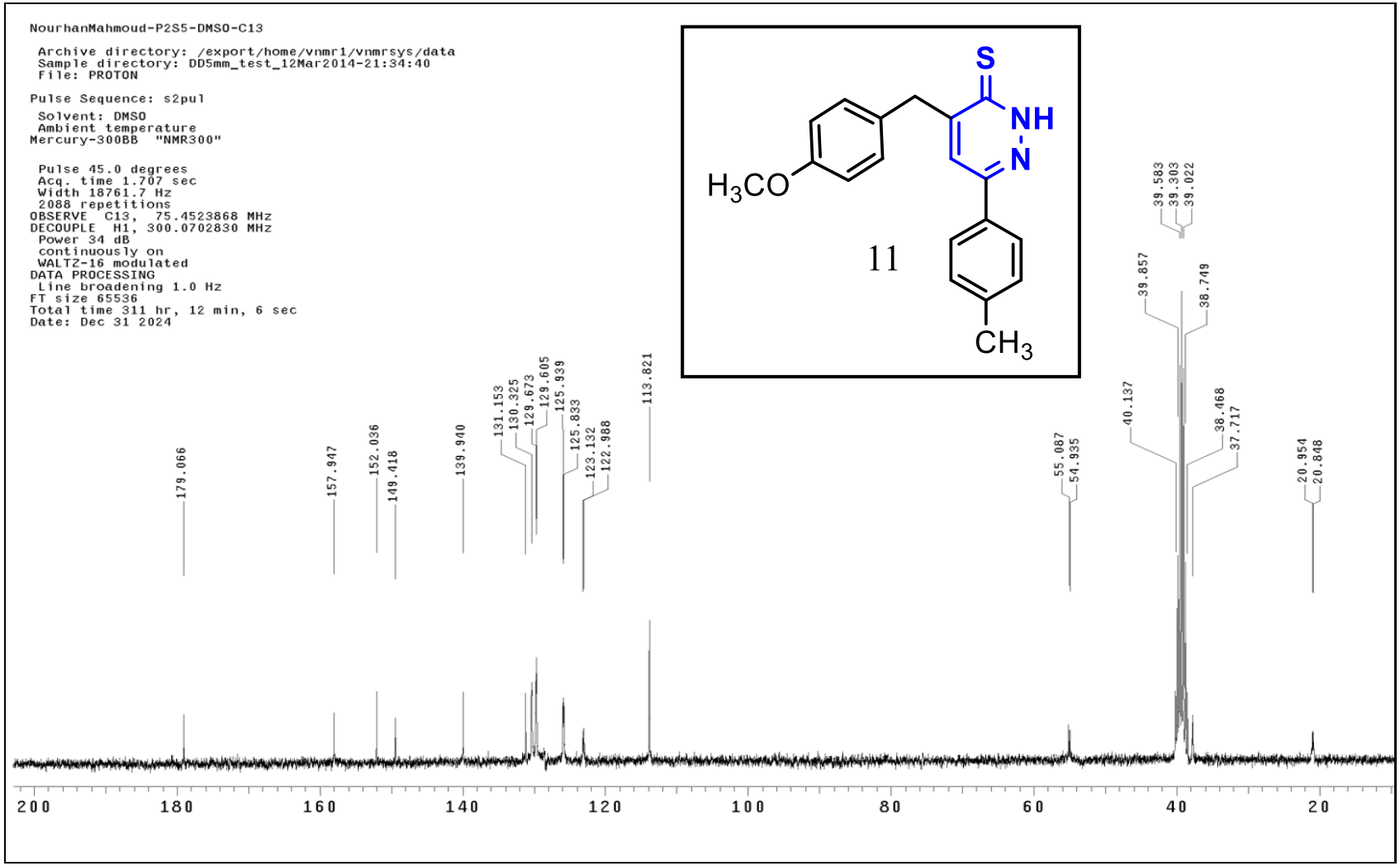
IR spectrum of compound 11



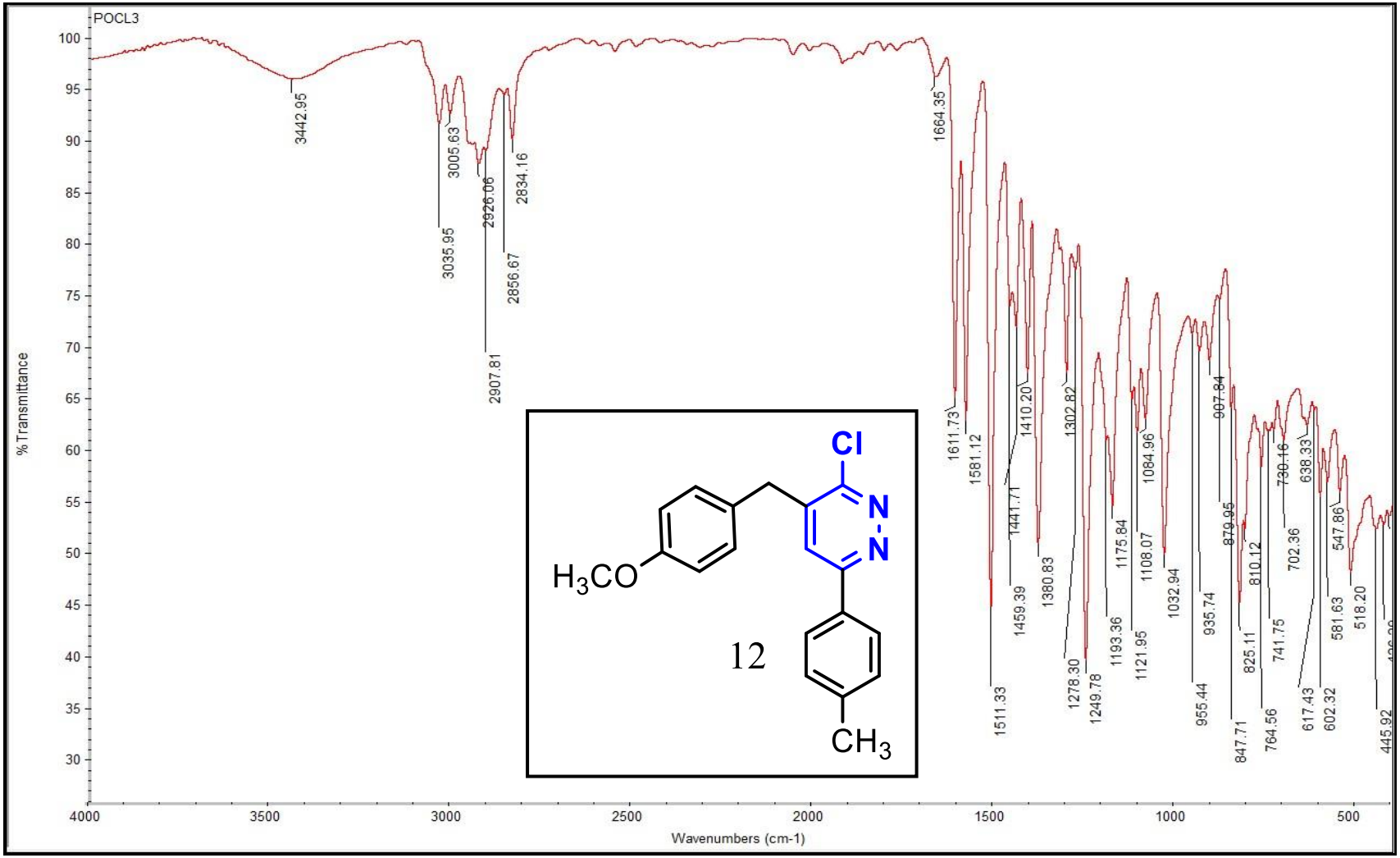
^{1}H NMR spectrum (DMSO-d_6) of compound 11



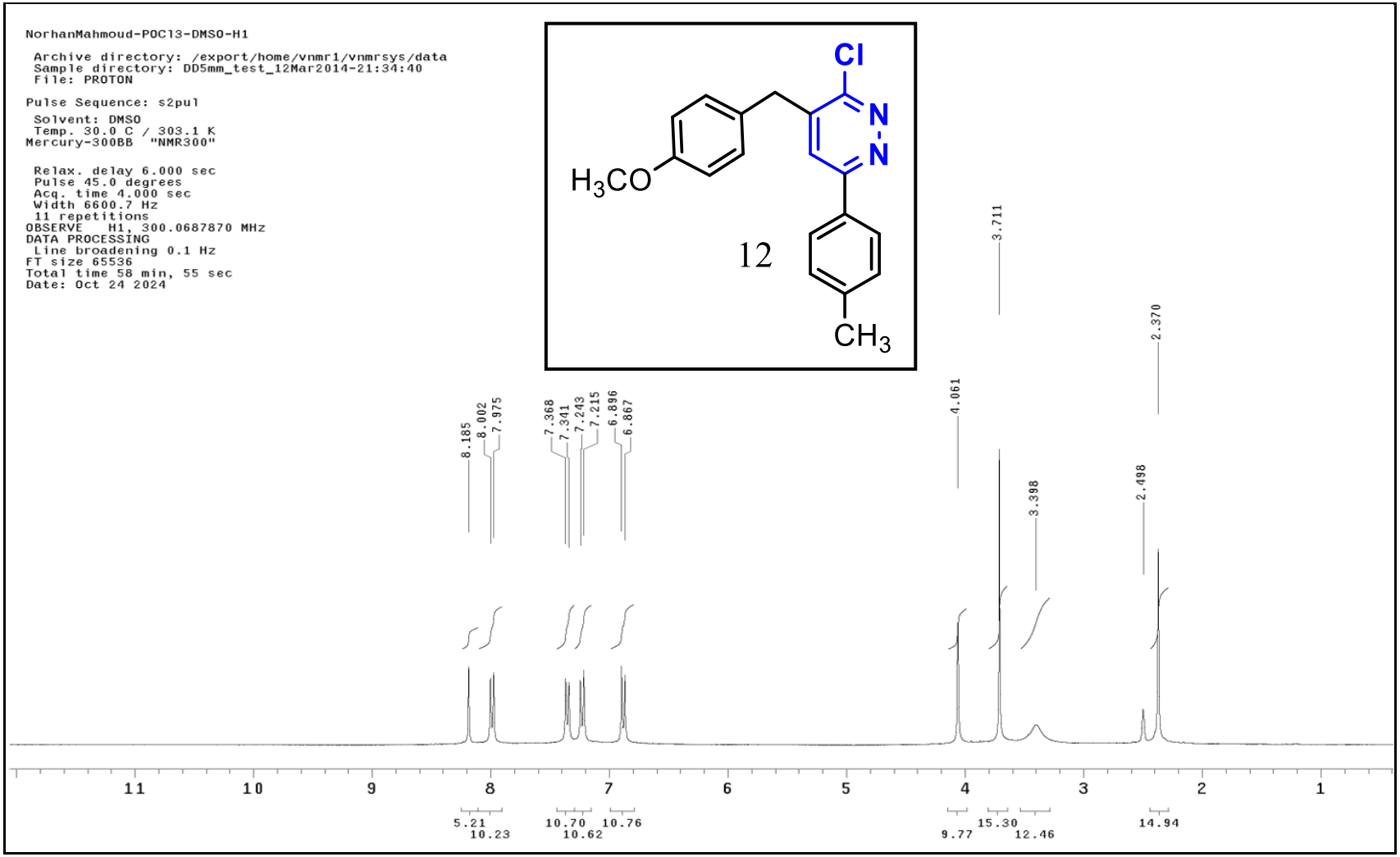
^{1}H NMR spectrum (DMSO-d_6 + D_2O) of compound 11



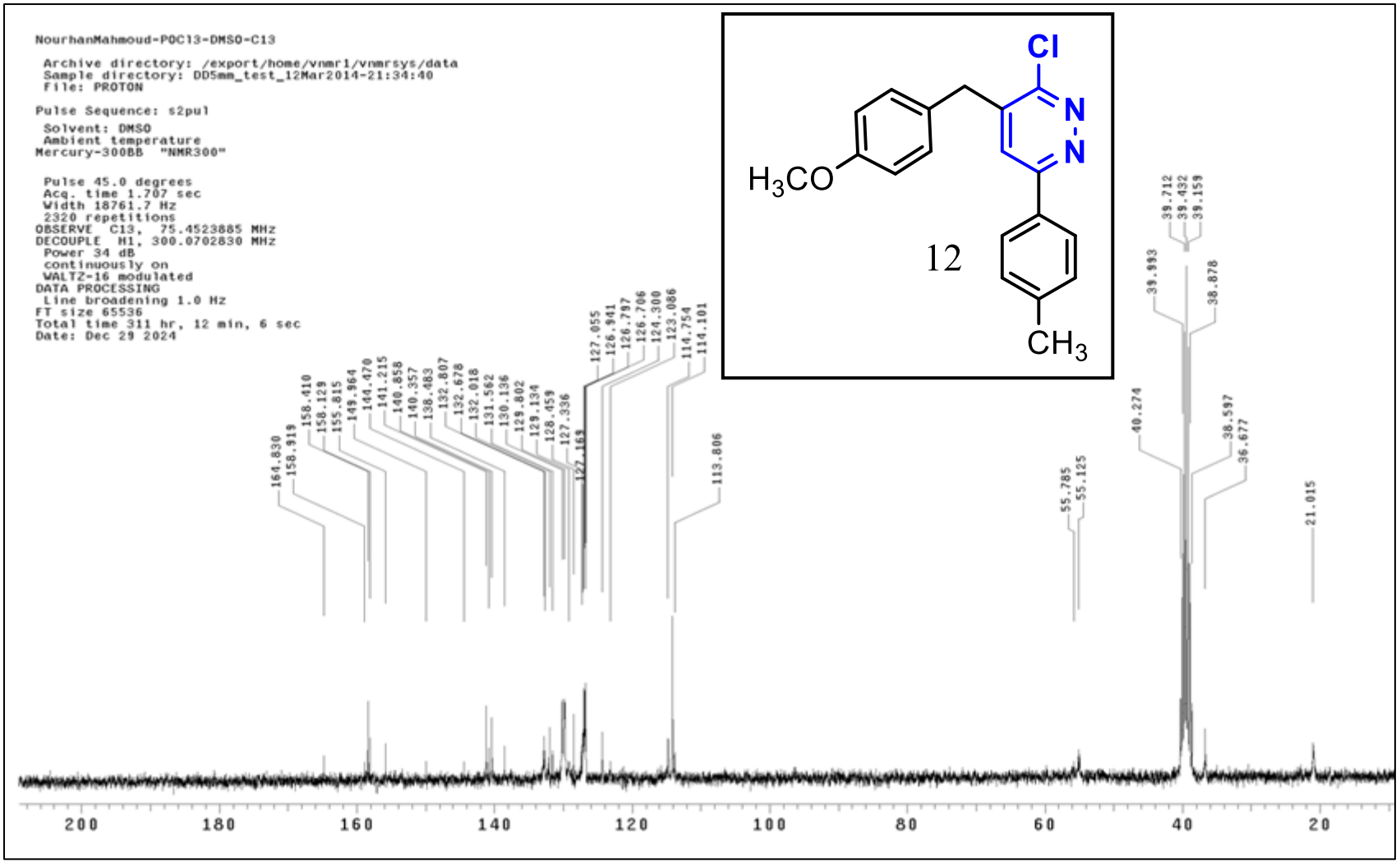
^{13}C NMR spectrum (DMSO-d_6) of compound 11



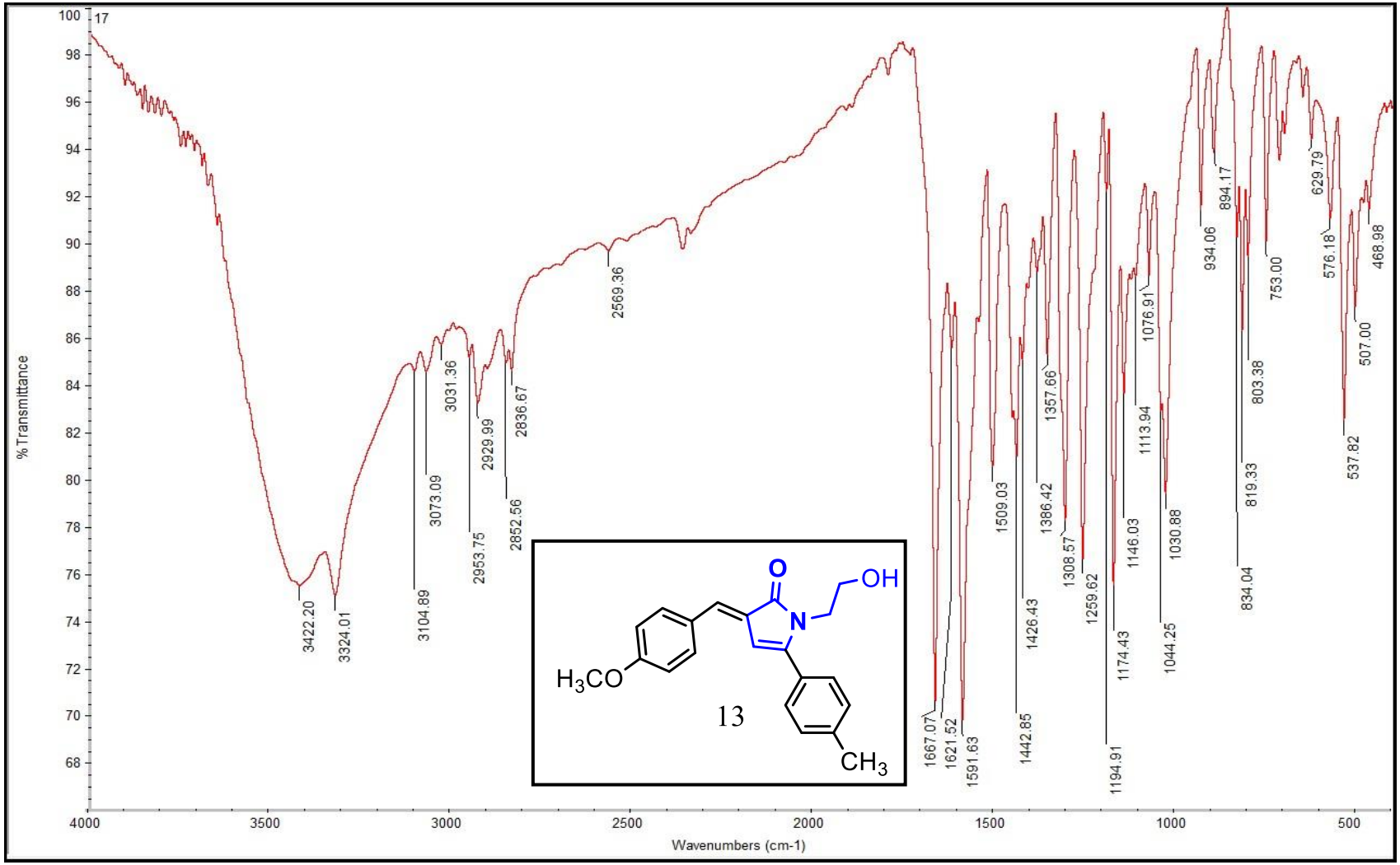
IR spectrum of compound 12



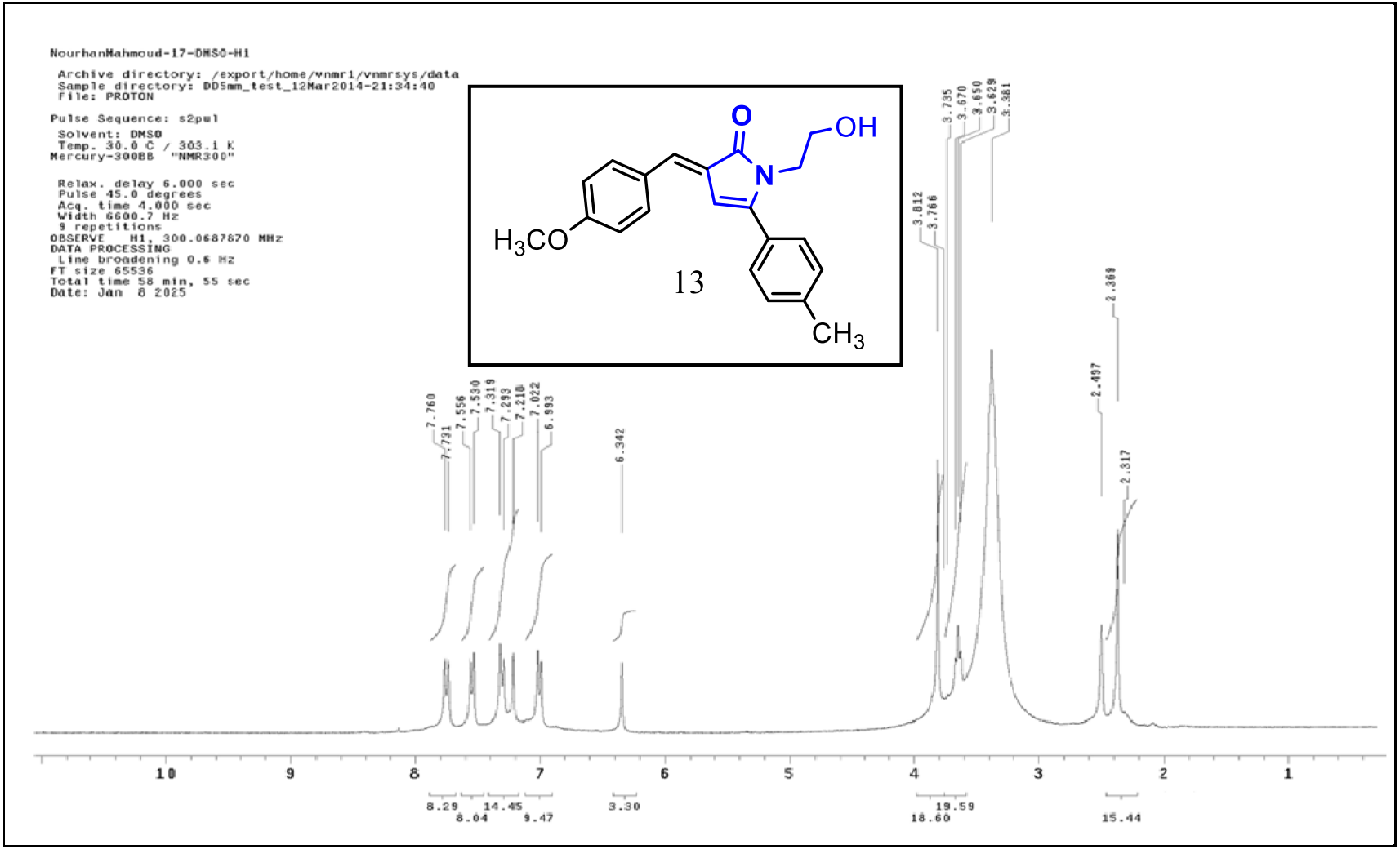
^{1}H NMR spectrum (DMSO-*d*$_6$) of compound 12



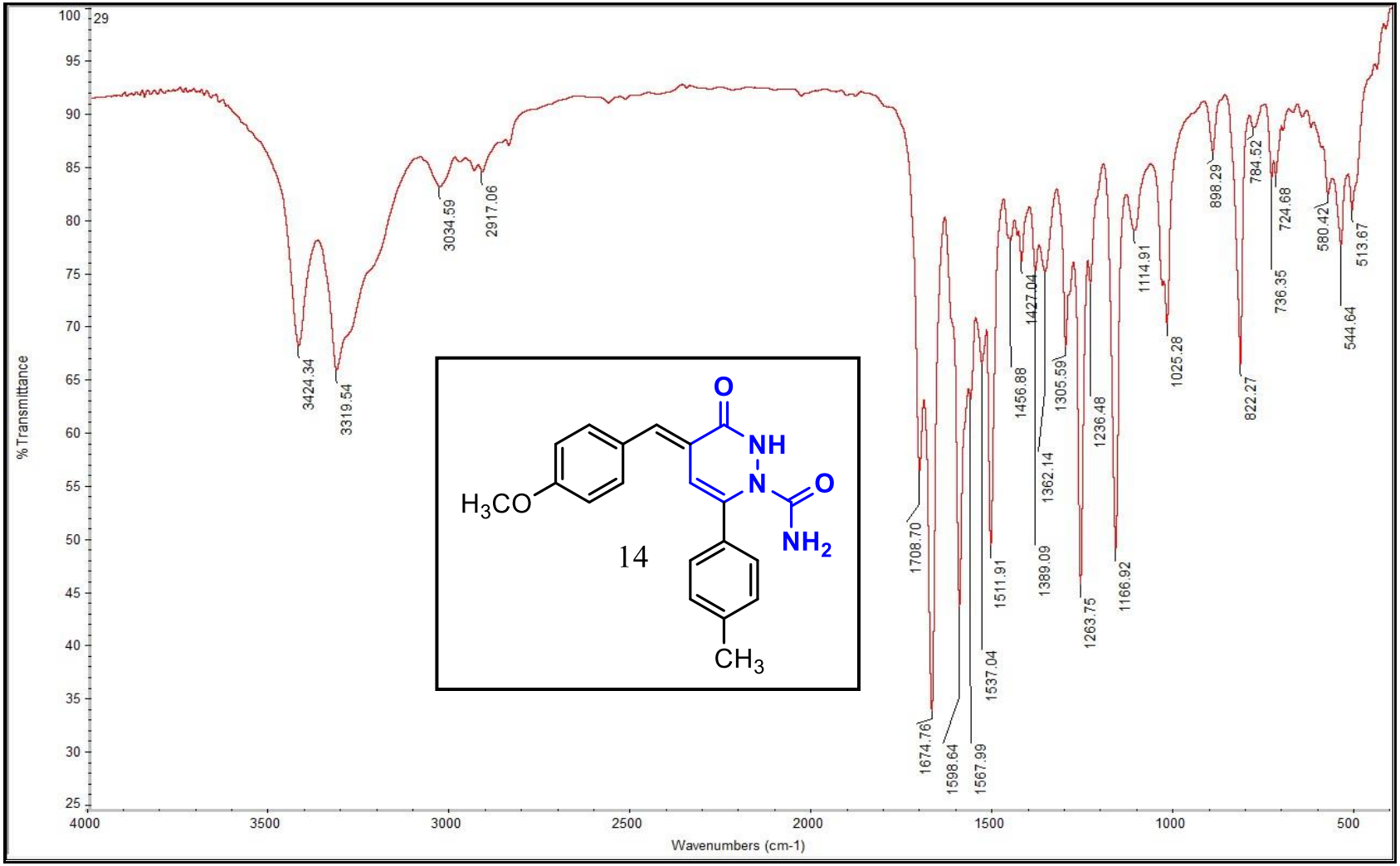
^{13}C NMR spectrum of compound 12



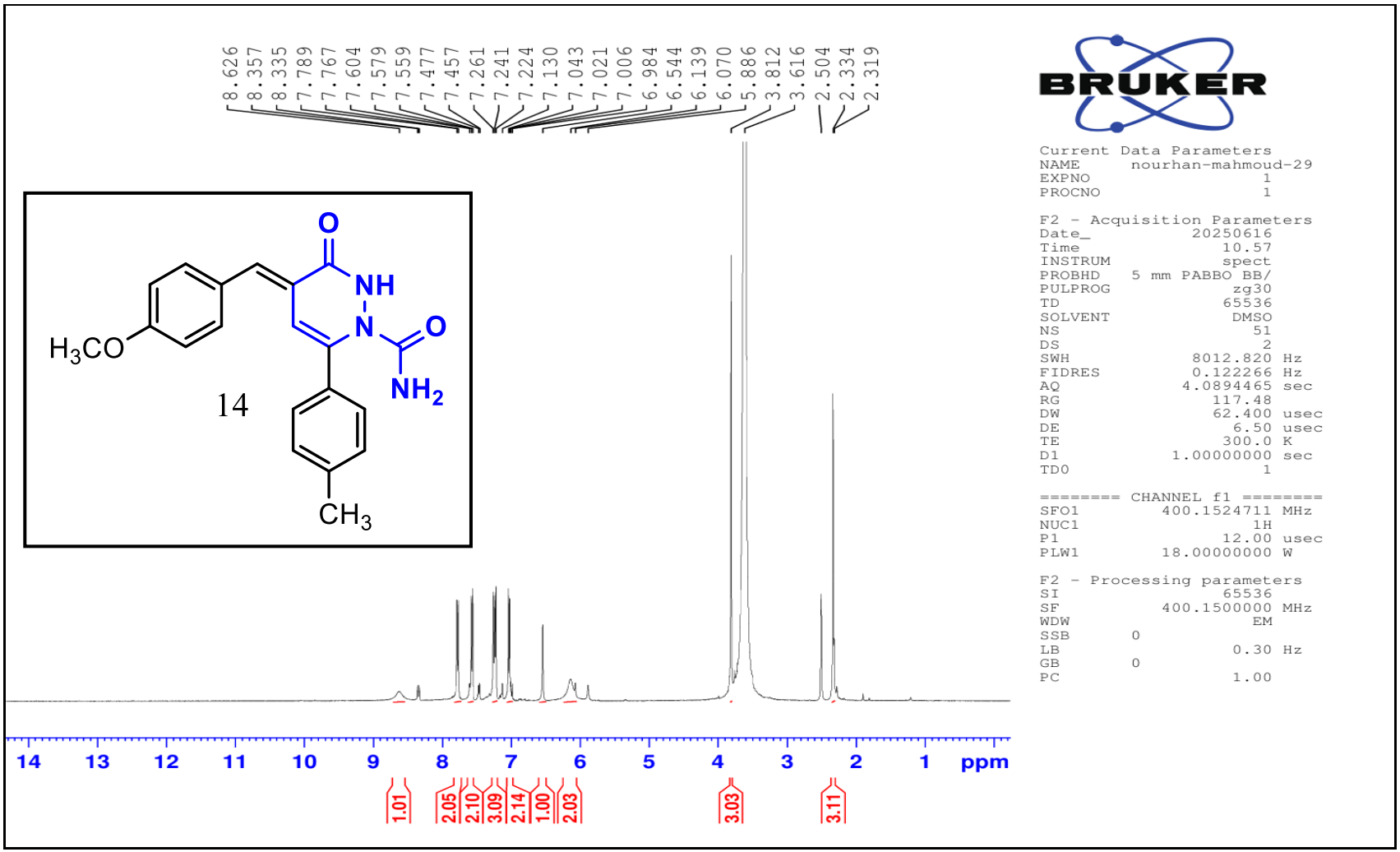
IR spectrum of compound 13



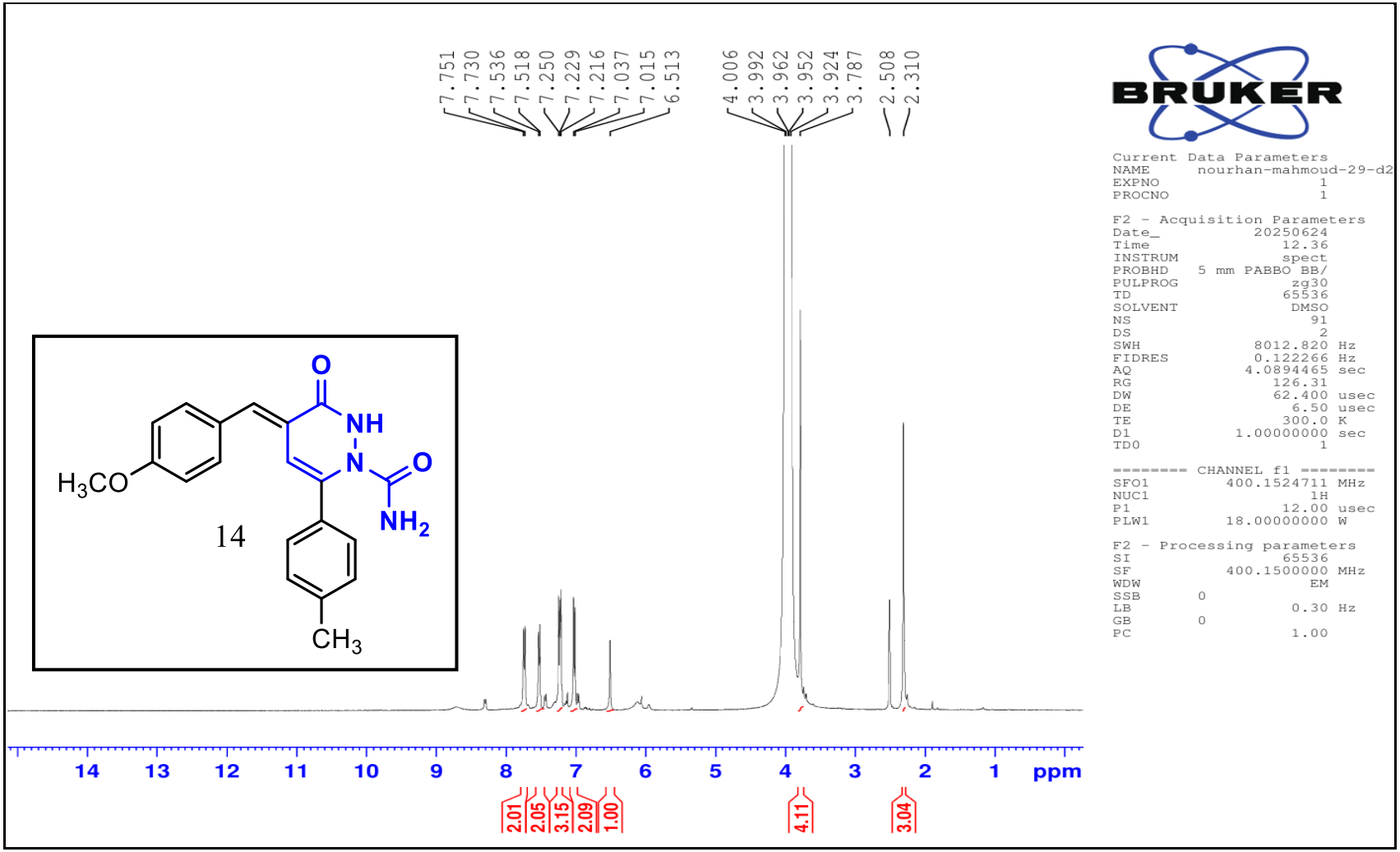
^{1}H NMR spectrum (DMSO-d_6) of compound 13



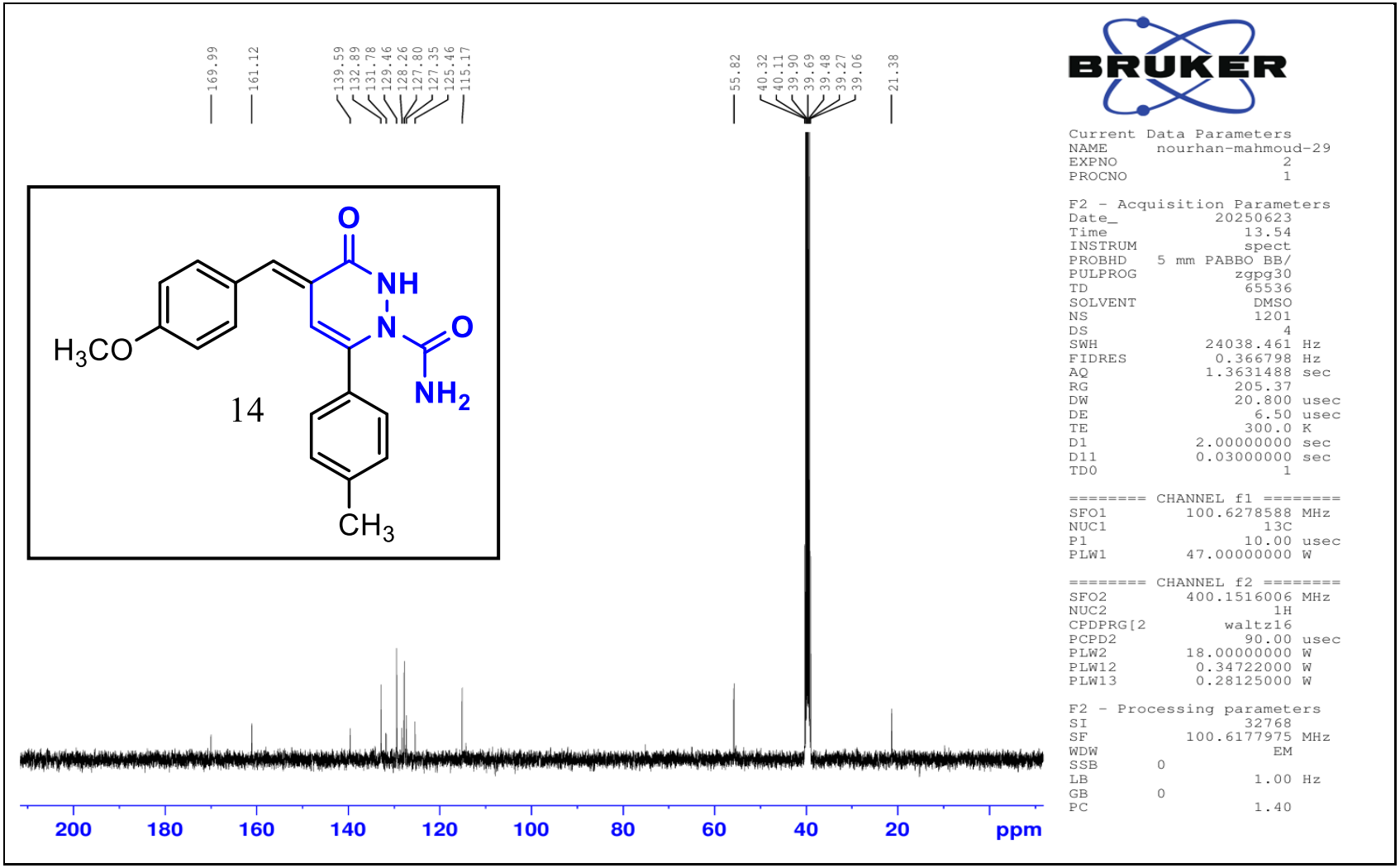
IR spectrum of compound 14



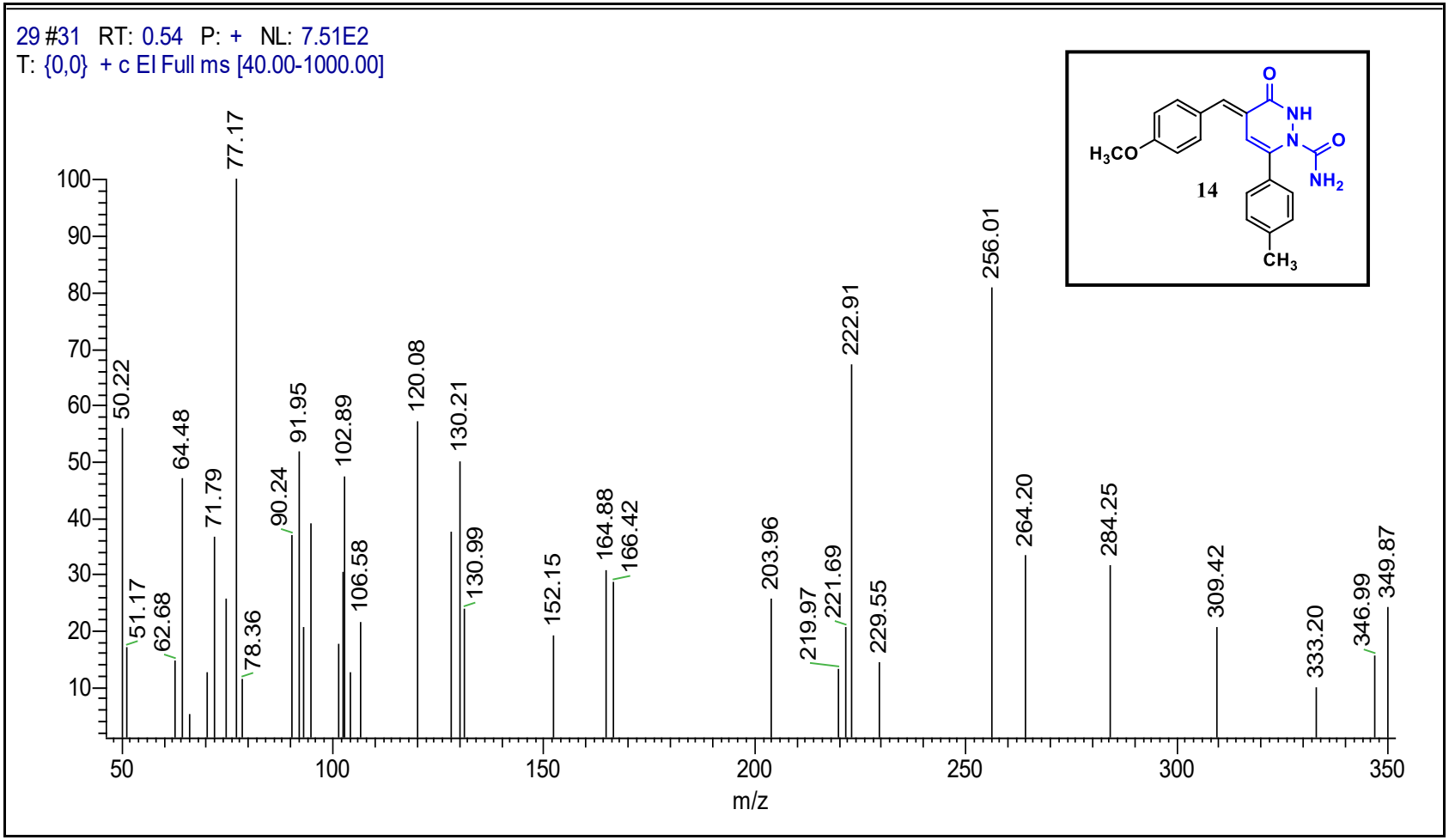
^{1}H NMR spectrum (DMSO-*d*$_6$) of compound 14



^{1}H NMR spectrum (DMSO-d_6 + D_2O) of compound 14



^{13}C NMR spectrum of compound 14



EI-MS of compound **14**