

Ionic Liquid-mediated Multi-component Reaction Towards the Synthesis of Dihydropyrimidones: An Environmentally Benign Green Protocol

Rakesh P. Chaudhari^a; Ganesh R. Chaudhari^a, Hemant A. Mahajan^b; Harish R. Talele^c

a) Department of Chemistry, Arts and Science College, Bhalod, Dist. – Jalgaon, Maharashtra, India

b) Department of Chemistry, Smt. G. G. Khadse College, Muktainagar, Dist. – Jalgaon, Maharashtra, India

*c) Department of Chemistry, TVES's Dhanaji Nana Mahavidyalaya, Faizpur, Dist. – Jalgaon, Maharashtra, India
Affiliated with KBCNMU, Jalgaon, Maharashtra, India*

Spectral Data

¹H-NMR, ¹³C-NMR and HRMS spectra of synthesized ionic liquids

Sr. No	Spectra
1	¹ H-NMR, ¹³ C-NMR and HRMS spectra of propyl pyridinium bromide (PPBr) (Scheme-1)
2	¹ H NMR, ¹³ C NMR and HRMS spectra of <i>N</i> -(2-hydroxyethyl) pyridinium bromide (HEPBr) (Scheme-2)
3	¹ H NMR, ¹³ C NMR and HRMS spectra of 1 methyl 3 propyl imidazolium bromide (PMImBr) (Scheme-3)
4	¹ H NMR, ¹³ C NMR and HRMS spectra of 1-(hydroxymethyl)-3-methyl-1H-imidazol-3-ium bromide (HEMImBr) (Scheme-4)

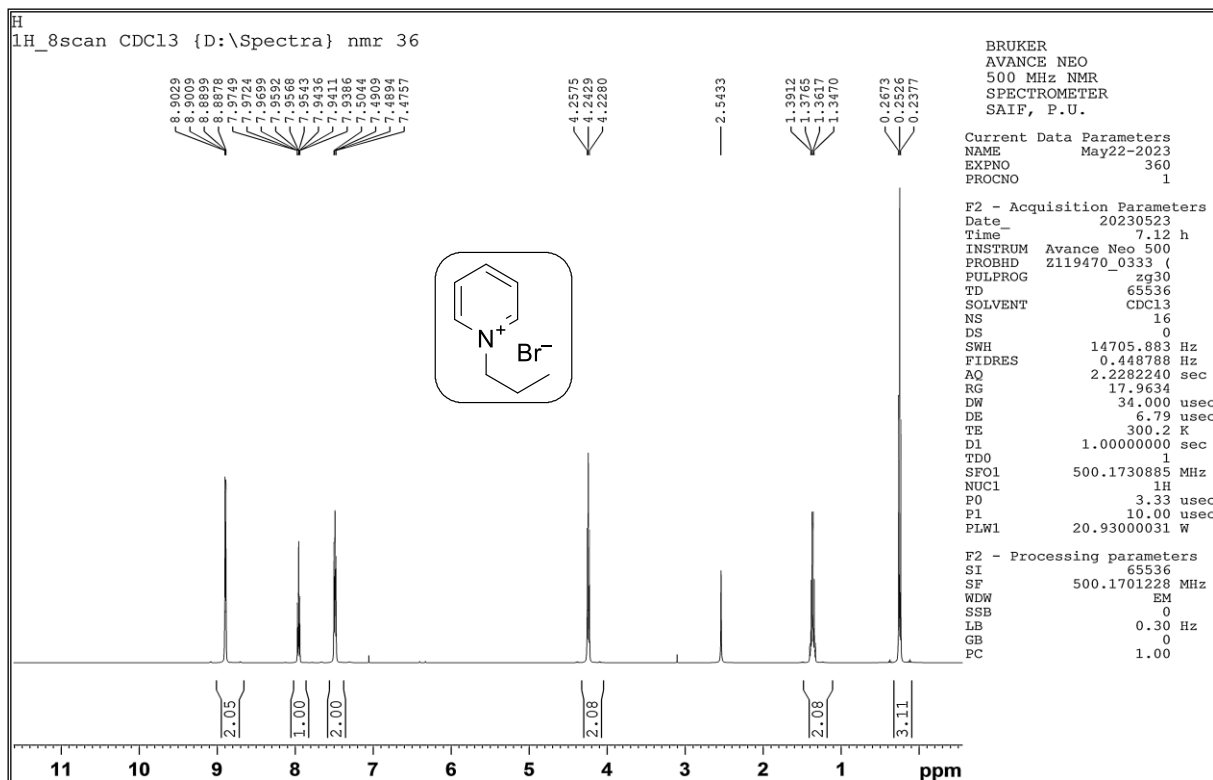


Figure: ¹H-NMR spectra of propyl pyridinium bromide (PPBr)

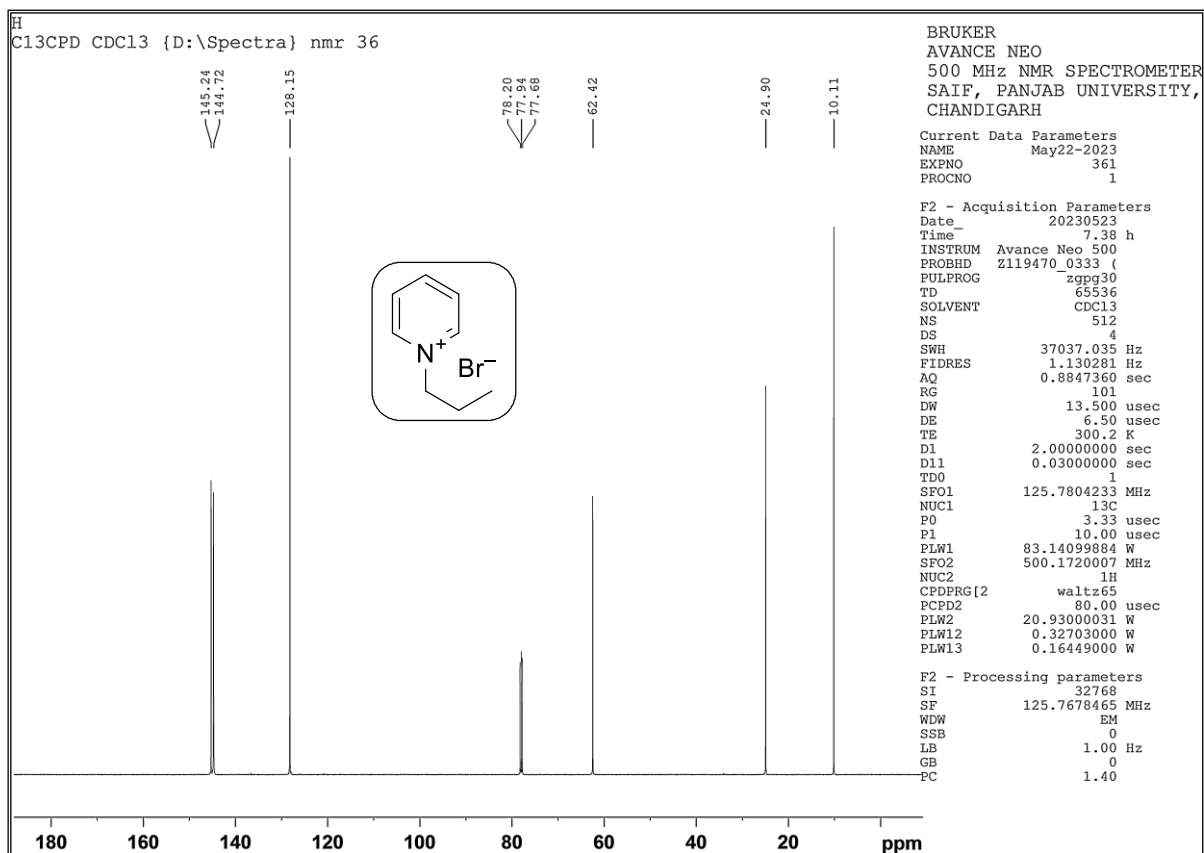


Figure: ¹³C-NMR spectra of propyl pyridinium bromide (PPBr)

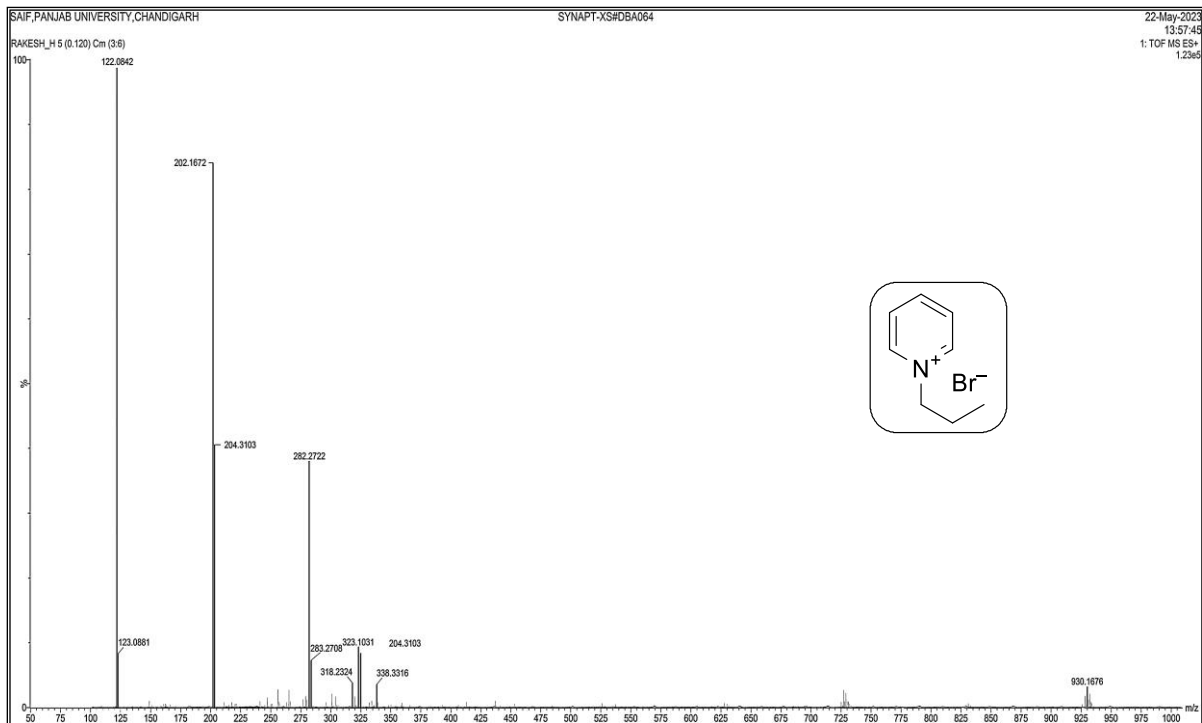


Figure: ESI-MS spectra of propyl pyridinium bromide (PPBr)

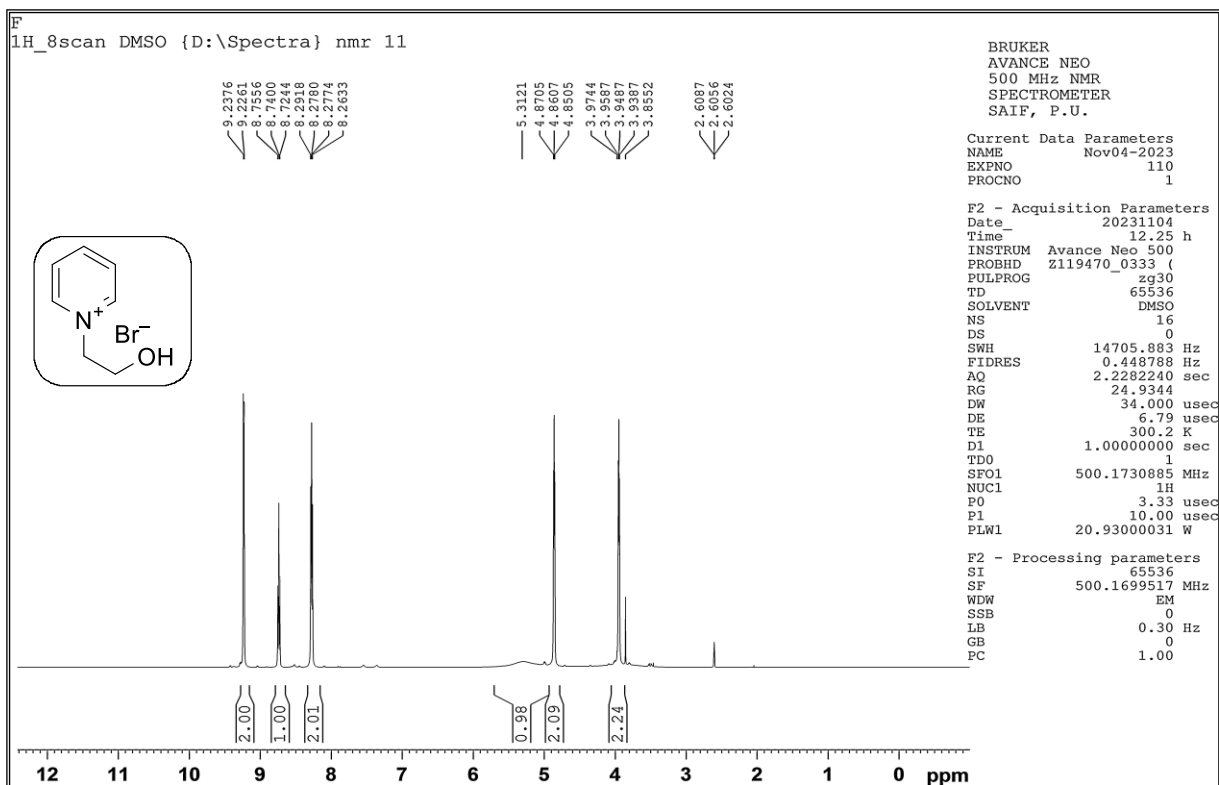


Figure: ¹H-NMR spectra of *N*-(2-hydroxyethyl)pyridinium bromide (HEPBr)

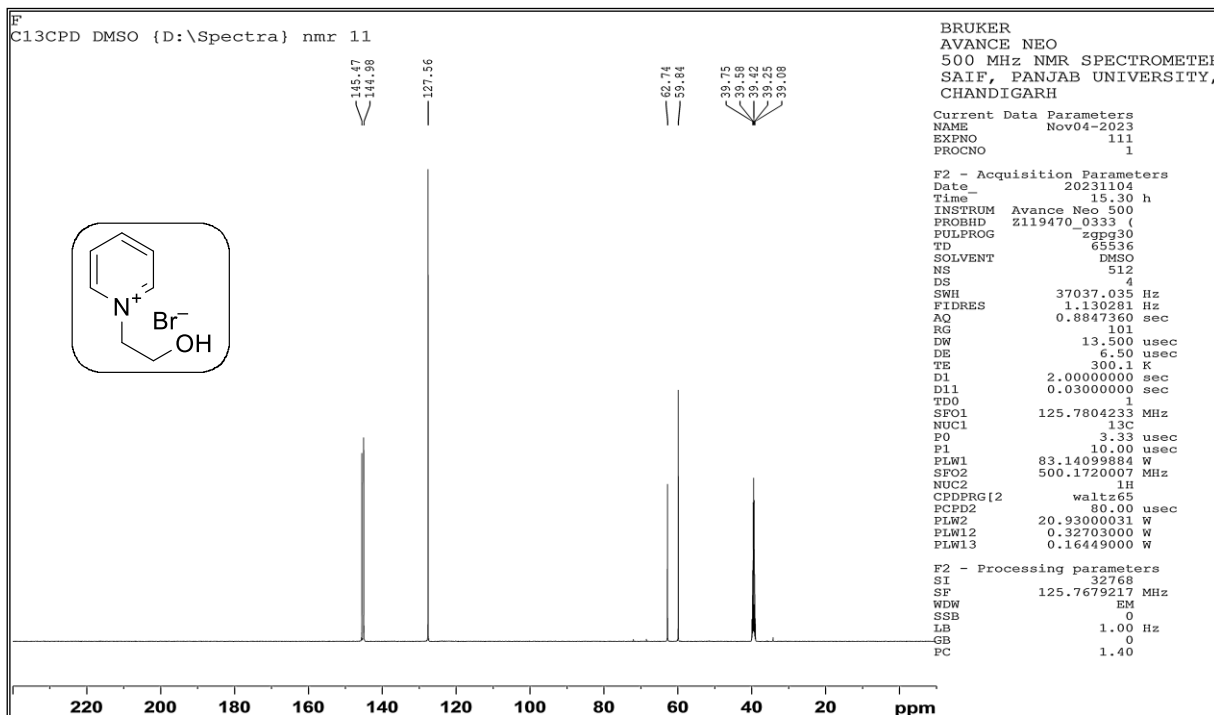


Figure: ^{13}C -NMR spectra of *N*-(2-hydroxyethyl)pyridinium bromide (HEPBr)

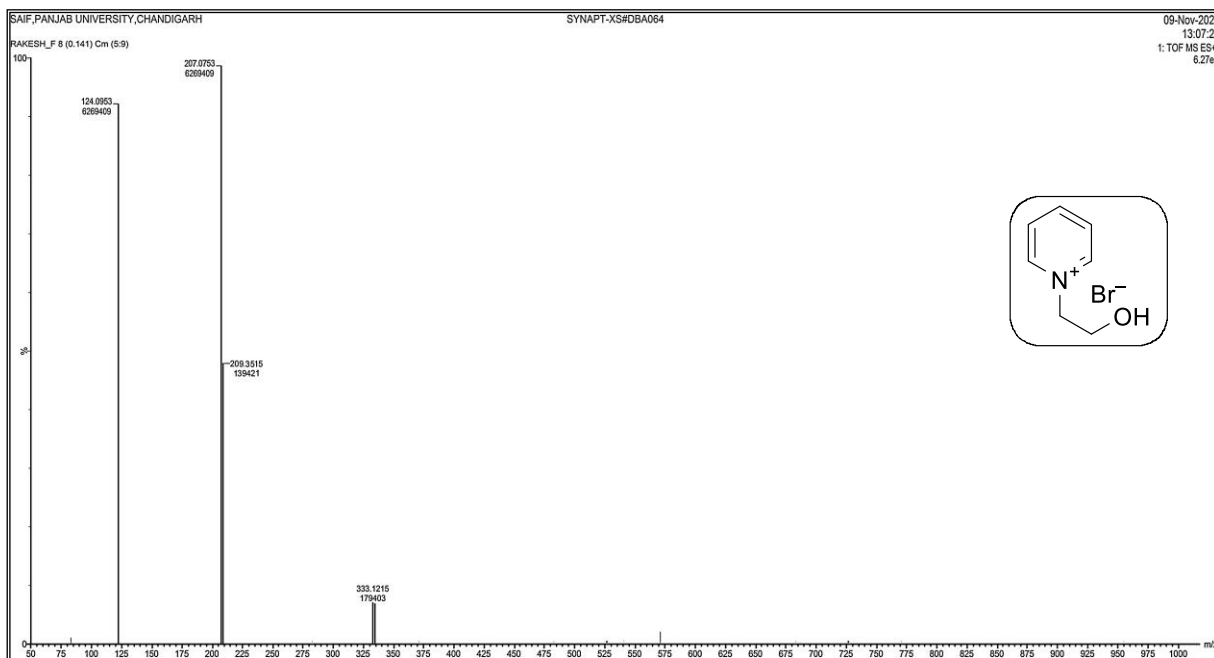


Figure: ESI-MS spectra of *N*-(2-hydroxyethyl)pyridinium bromide (HEPBr)

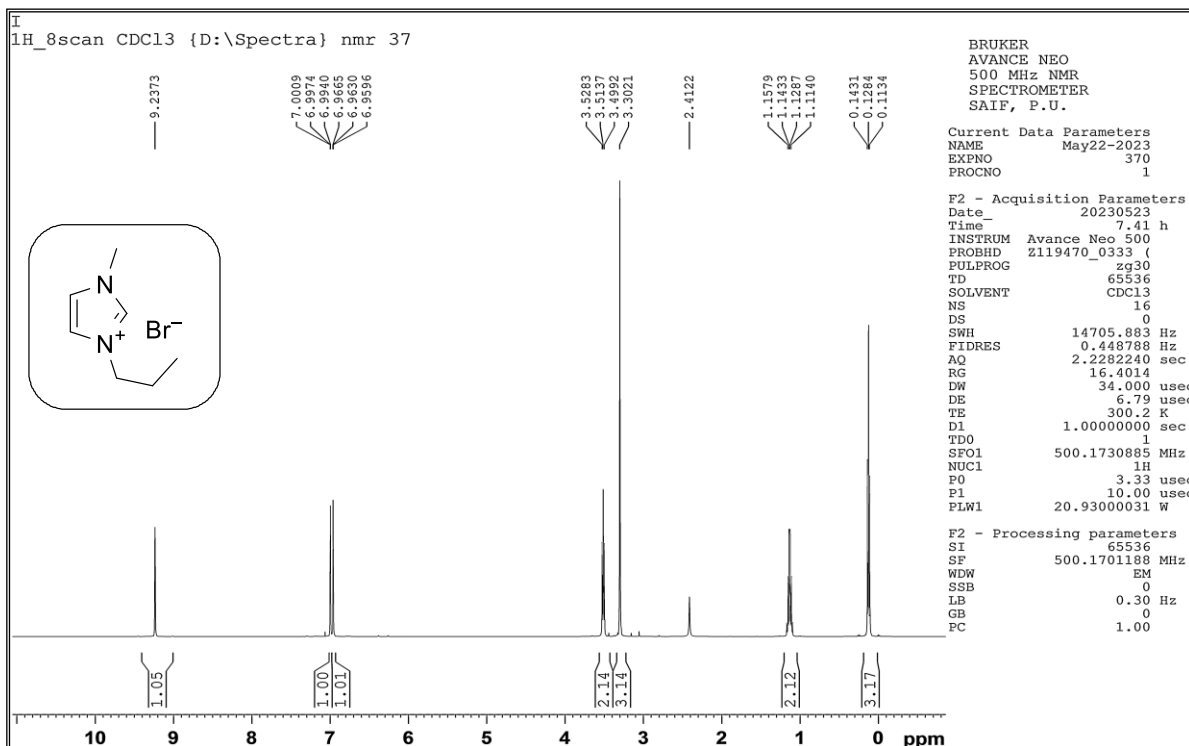


Figure: ^1H -NMR spectra of 1-methyl-3-propylimidazolium bromide (PMImBr)

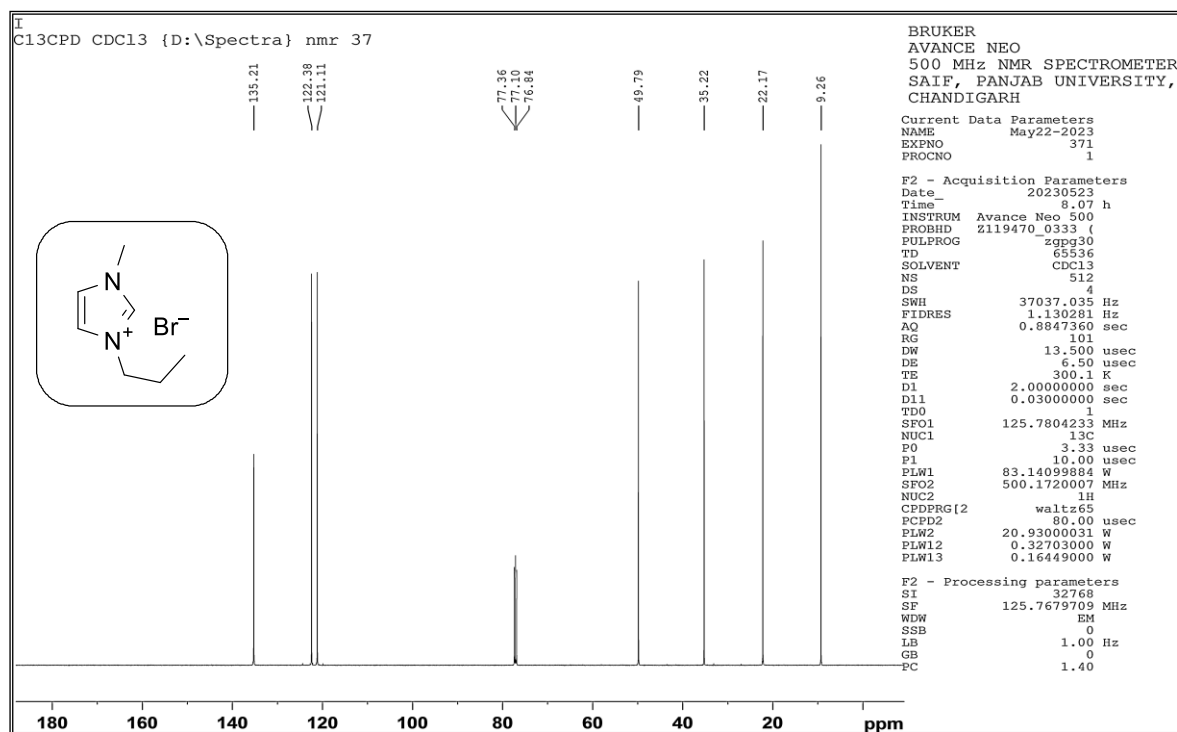
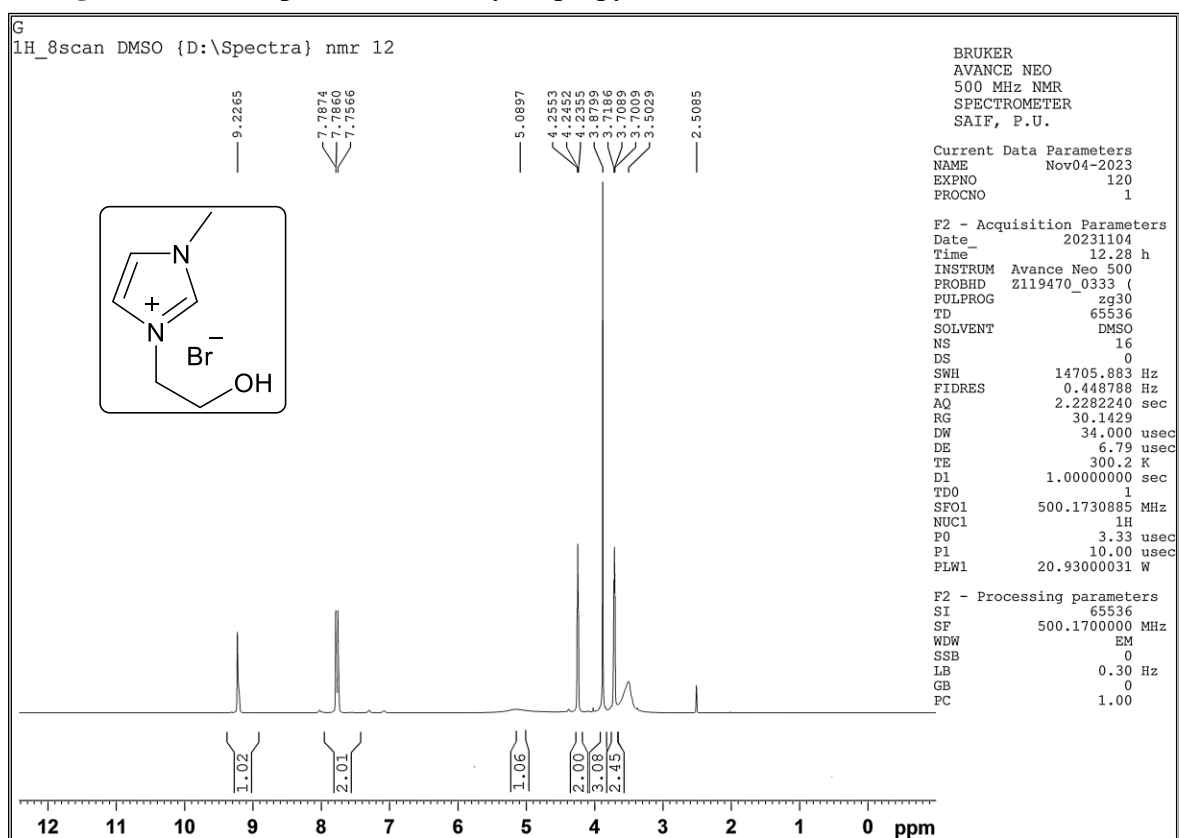
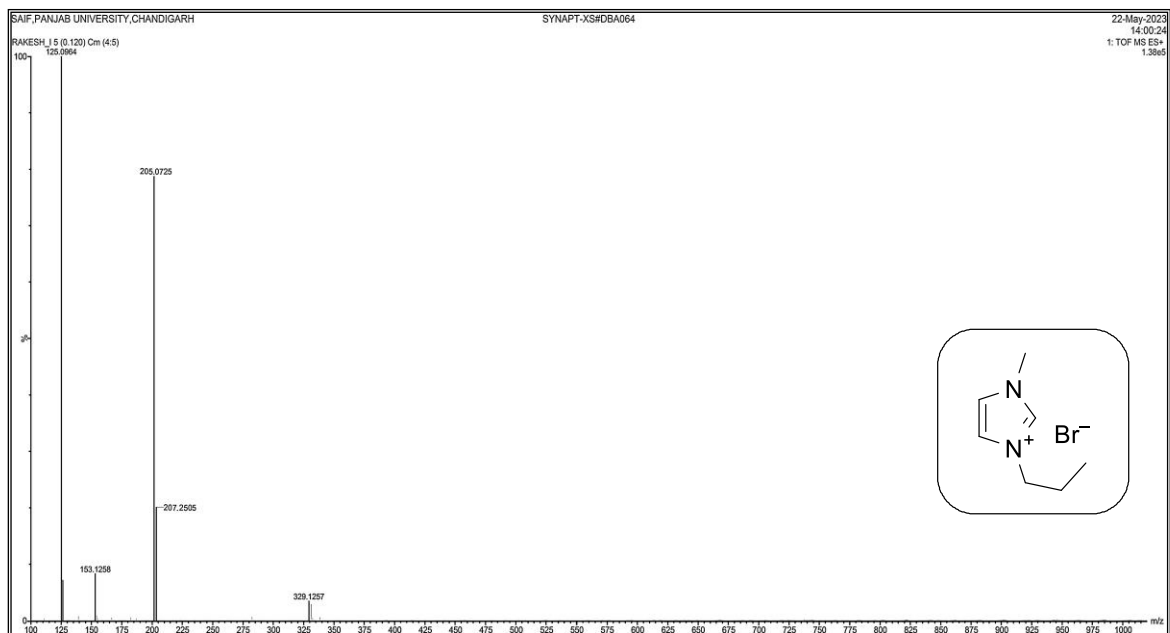


Figure: ^{13}C -NMR spectra of 1-methyl-3-propylimidazolium bromide (PMImBr)



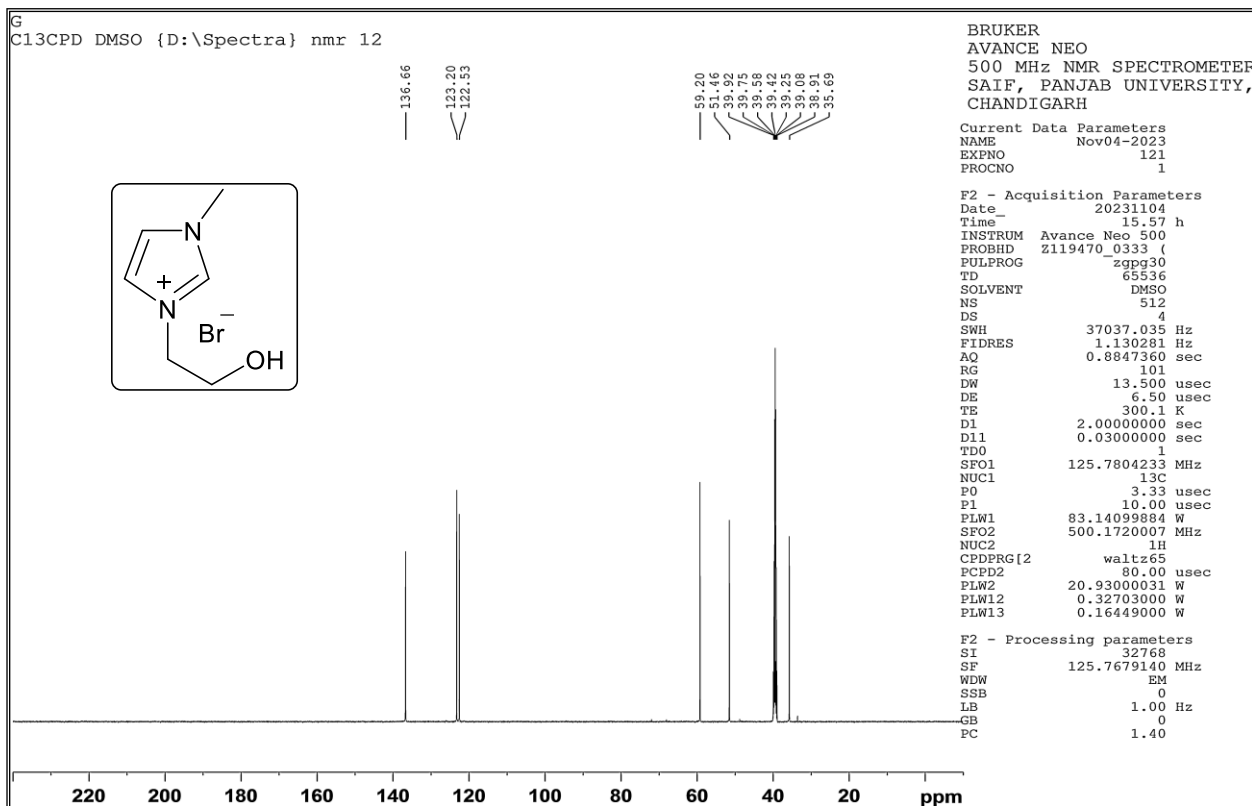


Figure: ^{13}C -NMR spectra of 1-(hydroxymethyl)-3-methyl-1*H*-imidazol-3-ium bromide (HEMImBr)

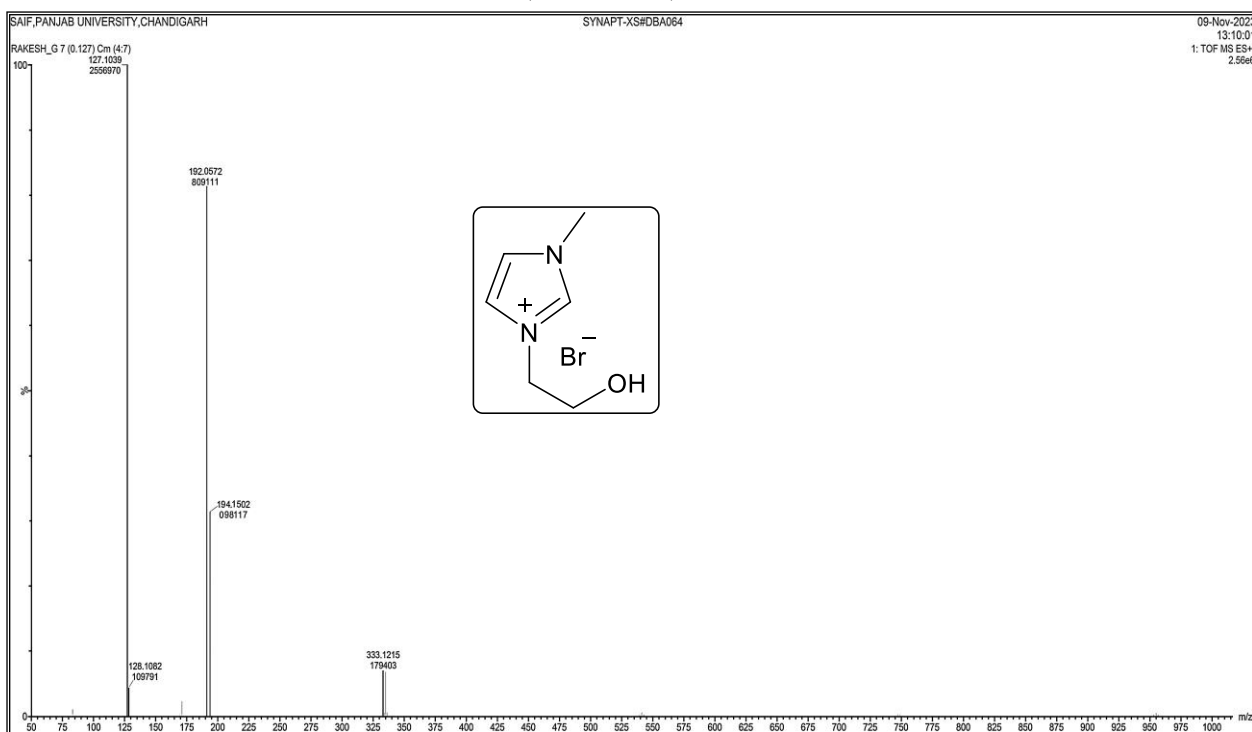


Figure: ESI-MS spectra of 1-(hydroxymethyl)-3-methyl-1*H*-imidazol-3-ium bromide (HEMImBr)

Spectra Table

IR, ¹H-NMR, ¹³C-NMR and HRMS spectra of synthesized Dihydropyrimidone

Sr. No	Spectra
1	IR, ¹ H-NMR, ¹³ C-NMR and HRMS spectra of 5-Ethoxycarbonyl-6-methyl-4-phenyl-3,4-dihydropyrimidin-2(1 <i>H</i>)-one (4a)
2	IR, ¹ H-NMR, ¹³ C-NMR and HRMS spectra of 5-(Ethoxycarbonyl)-4-(4-bromophenyl)-6-methyl-3,4-dihydropyrimidin-2(1 <i>H</i>)-one (4b)
3	IR, ¹ H-NMR, ¹³ C-NMR and HRMS spectra of 5-(Ethoxycarbonyl)-4-(4-chlorophenyl)-6-methyl-3,4-dihydropyrimidin-2(1 <i>H</i>)-one (4c)
4	IR, ¹ H-NMR, ¹³ C-NMR and HRMS spectra of 5-(Ethoxycarbonyl)-4-(4-nitrophenyl)-6-methyl-3,4-dihydropyrimidin-2(1 <i>H</i>)-one (4d)

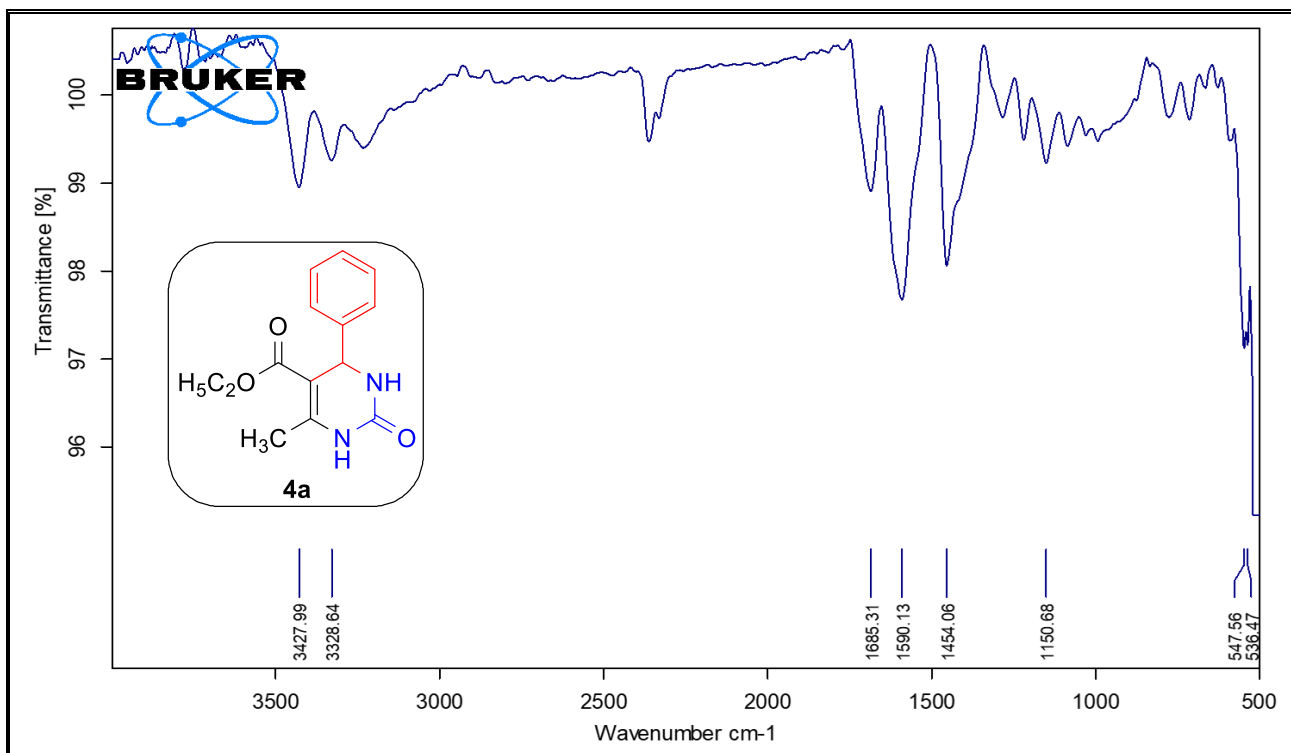


Figure: IR spectra of 5-Ethoxycarbonyl-6-methyl-4-phenyl-3,4-dihydropyrimidin-2(1H)-one (**4a**)

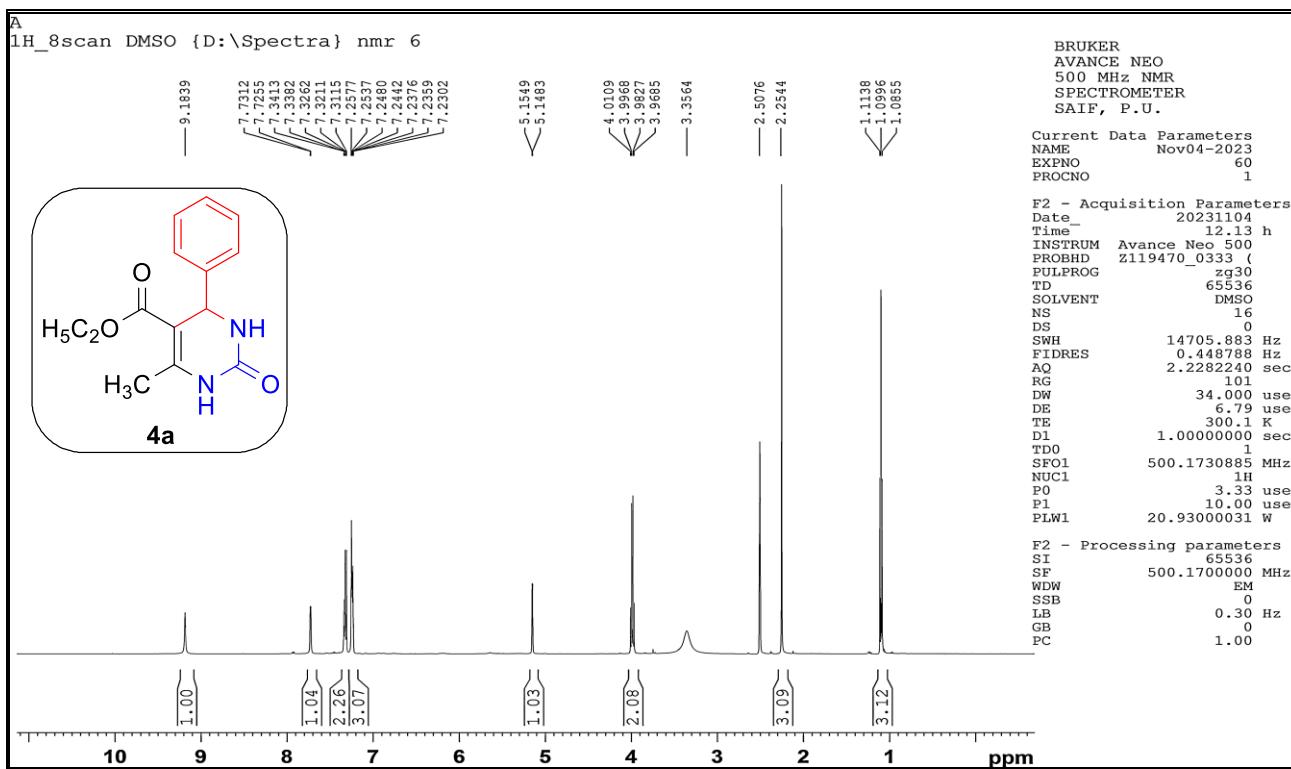


Figure: ^1H NMR spectra of 5-Ethoxycarbonyl-6-methyl-4-phenyl-3,4-dihydropyrimidin-2(1H)-one (**4a**)

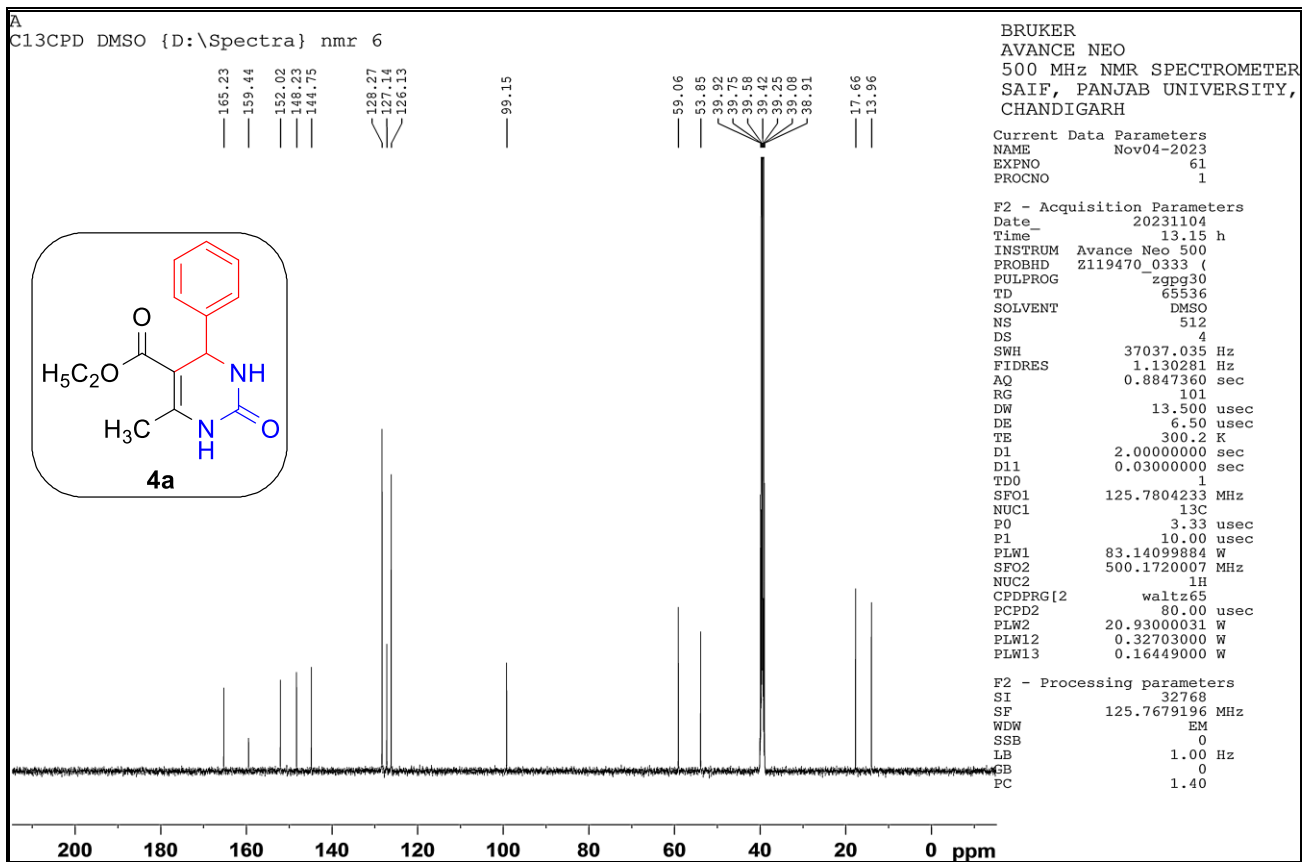


Figure: ^{13}C NMR spectra of 5-Ethoxycarbonyl-6-methyl-4-phenyl-3,4-dihydropyrimidin-2(1H)-one (**4a**)

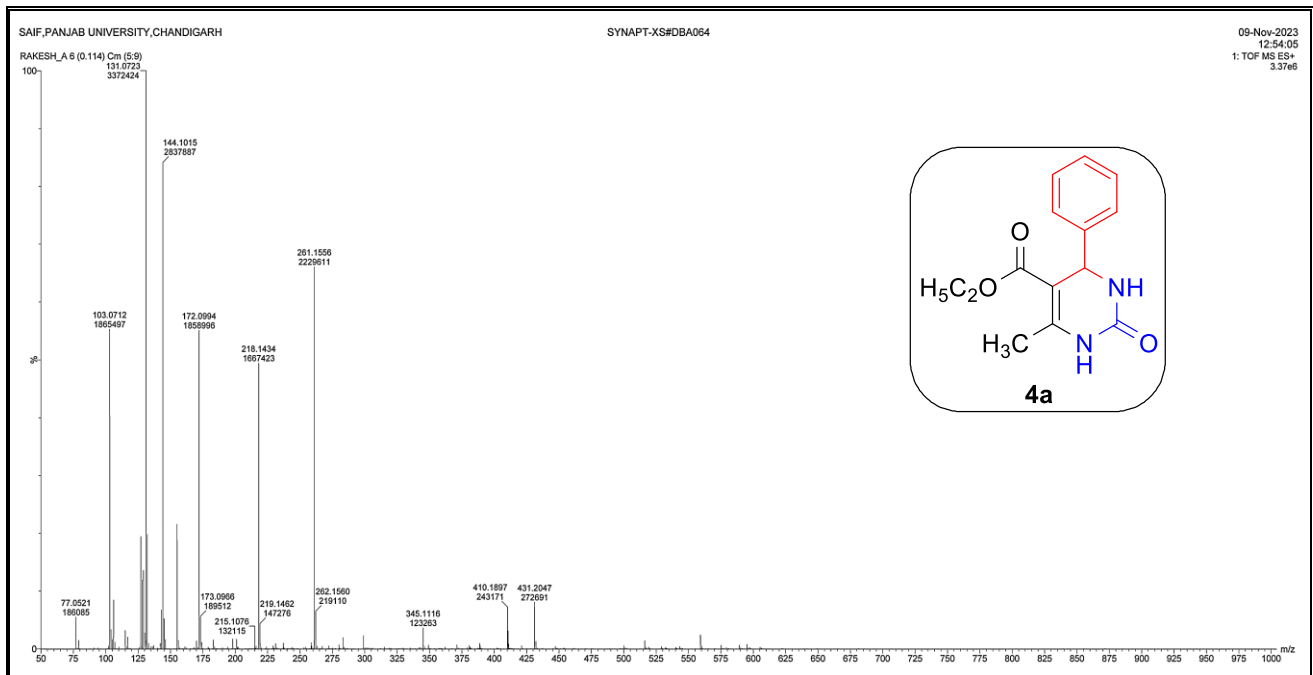


Figure: HRMS spectra of 5-Ethoxycarbonyl-6-methyl-4-phenyl-3,4-dihydropyrimidin-2(1H)-one (**4a**)

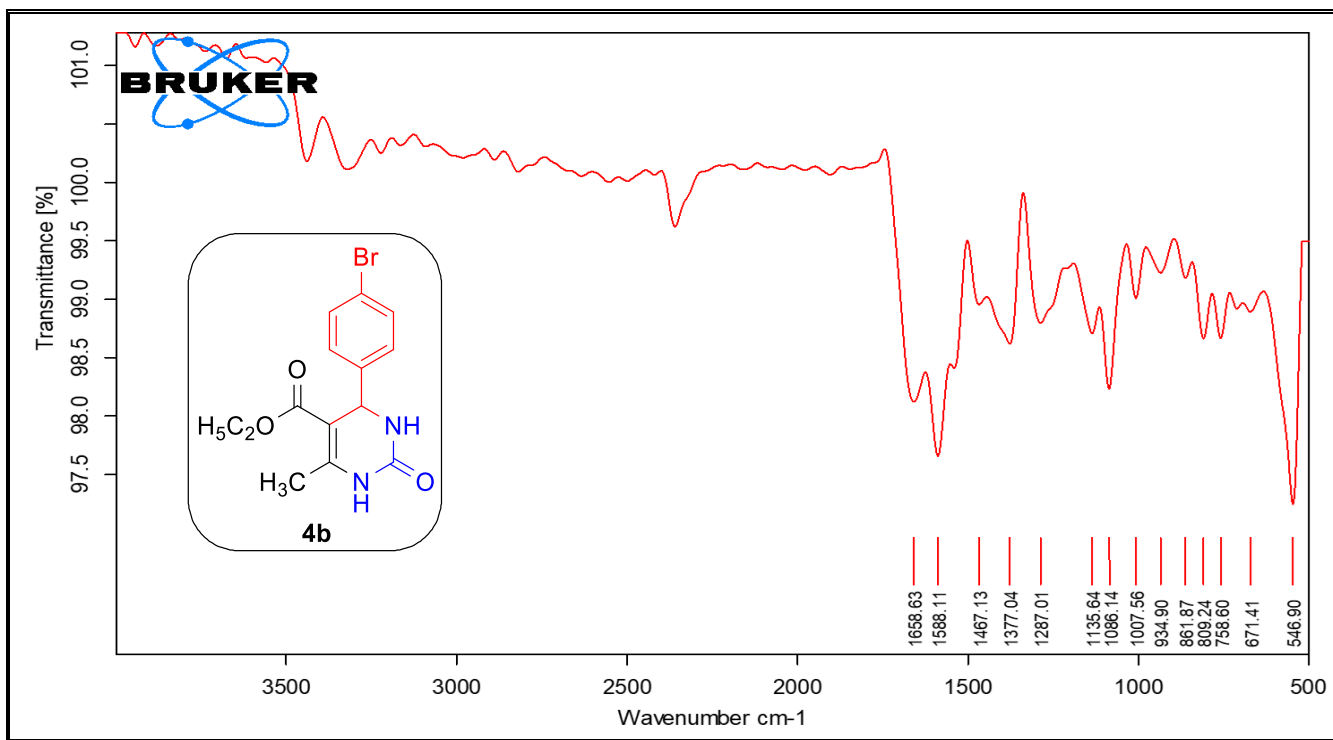


Figure: IR spectra of 5-(Ethoxycarbonyl)-4-(4-bromophenyl)-6-methyl-3,4-dihydropyrimidin-2(1H)-one (**4b**)

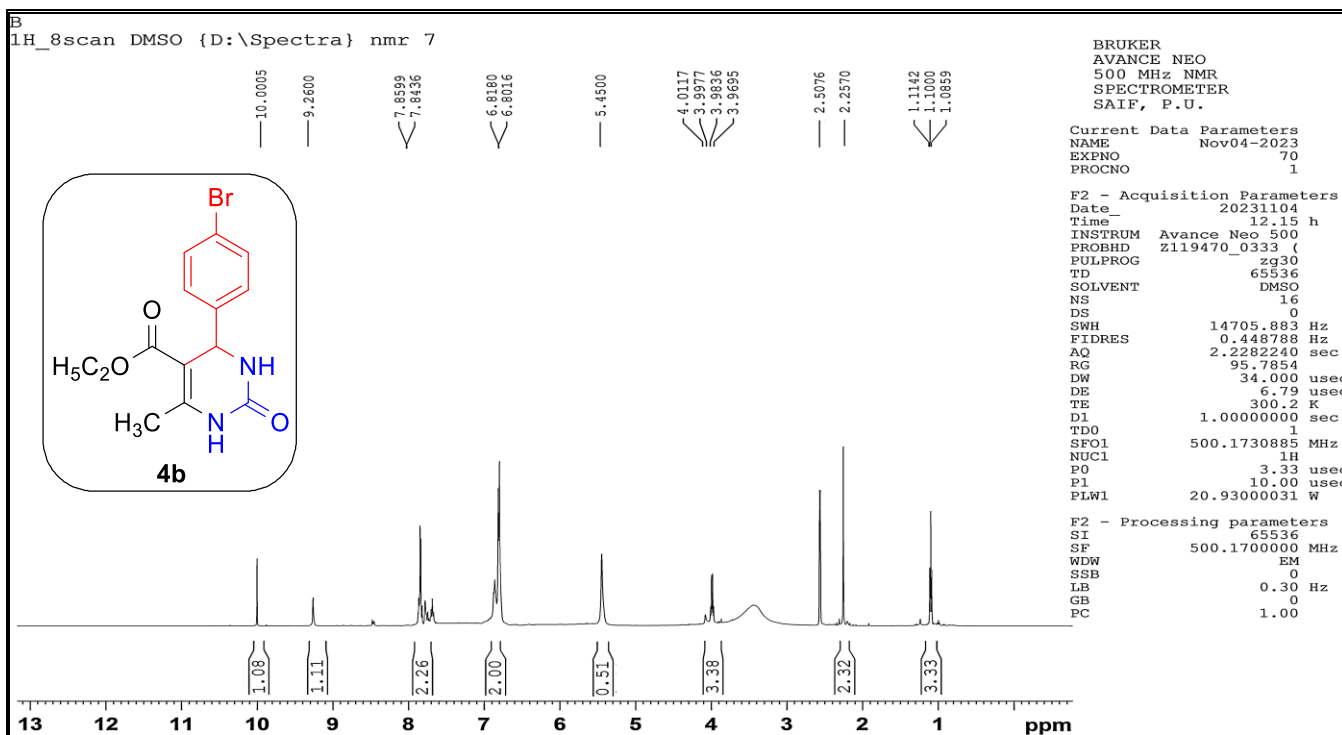


Figure: ^1H NMR spectra of 5-(Ethoxycarbonyl)-4-(4-bromophenyl)-6-methyl-3,4-dihydropyrimidin-2(1H)-one (**4b**)

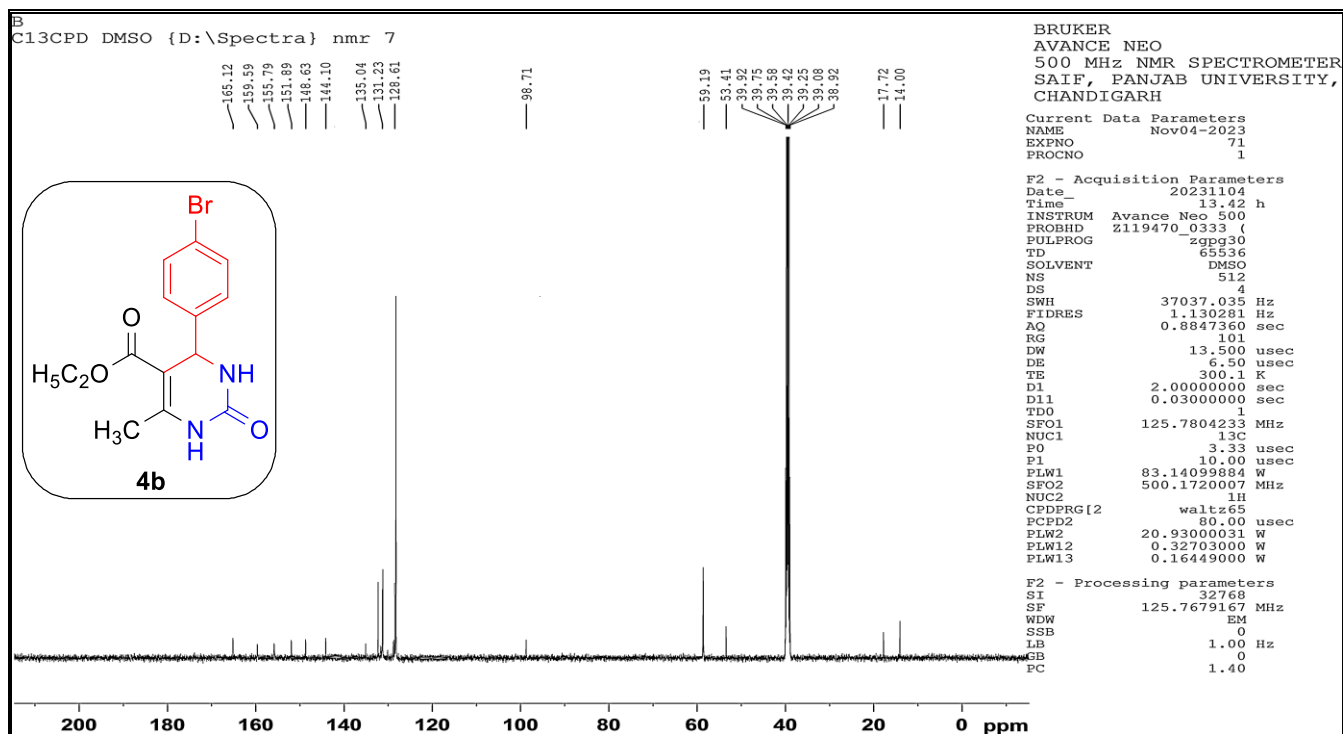


Figure: ^{13}C NMR spectra of 5-(Ethoxycarbonyl)-4-(4-bromophenyl)-6-methyl-3,4-dihydropyrimidin-2(1H)-one (**4b**)

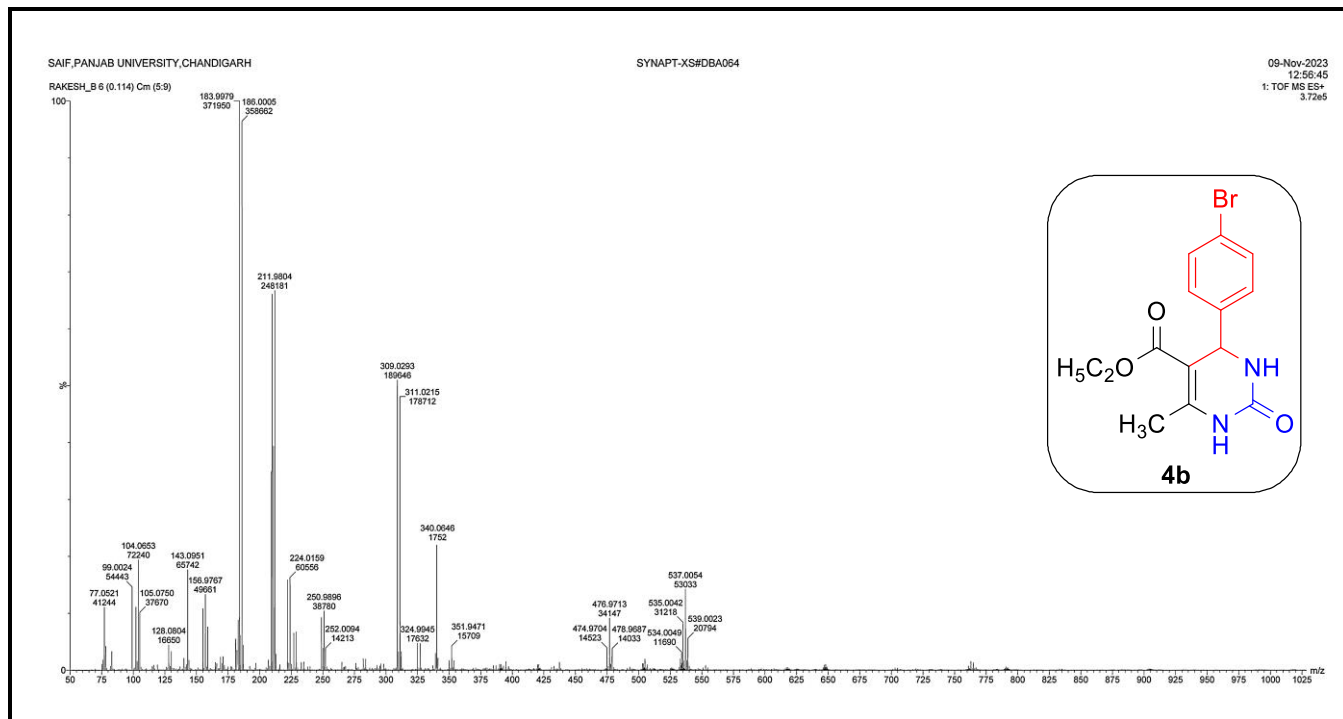


Figure: HRMS spectra of 5-(Ethoxycarbonyl)-4-(4-bromophenyl)-6-methyl-3,4-dihydropyrimidin-2(1H)-one (**4b**)

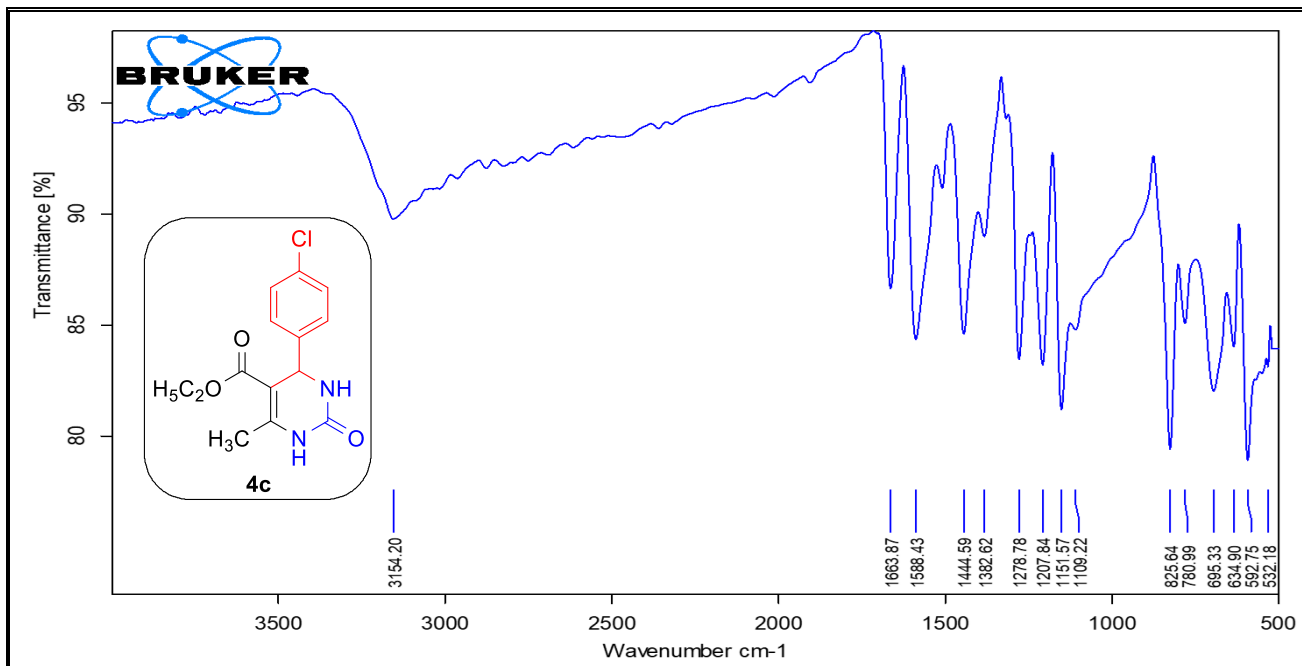


Figure: IR spectra of 5-(Ethoxycarbonyl)-4-(4-chlorophenyl)-6-methyl-3,4-dihydropyrimidin-2(1H)-one (**4c**)

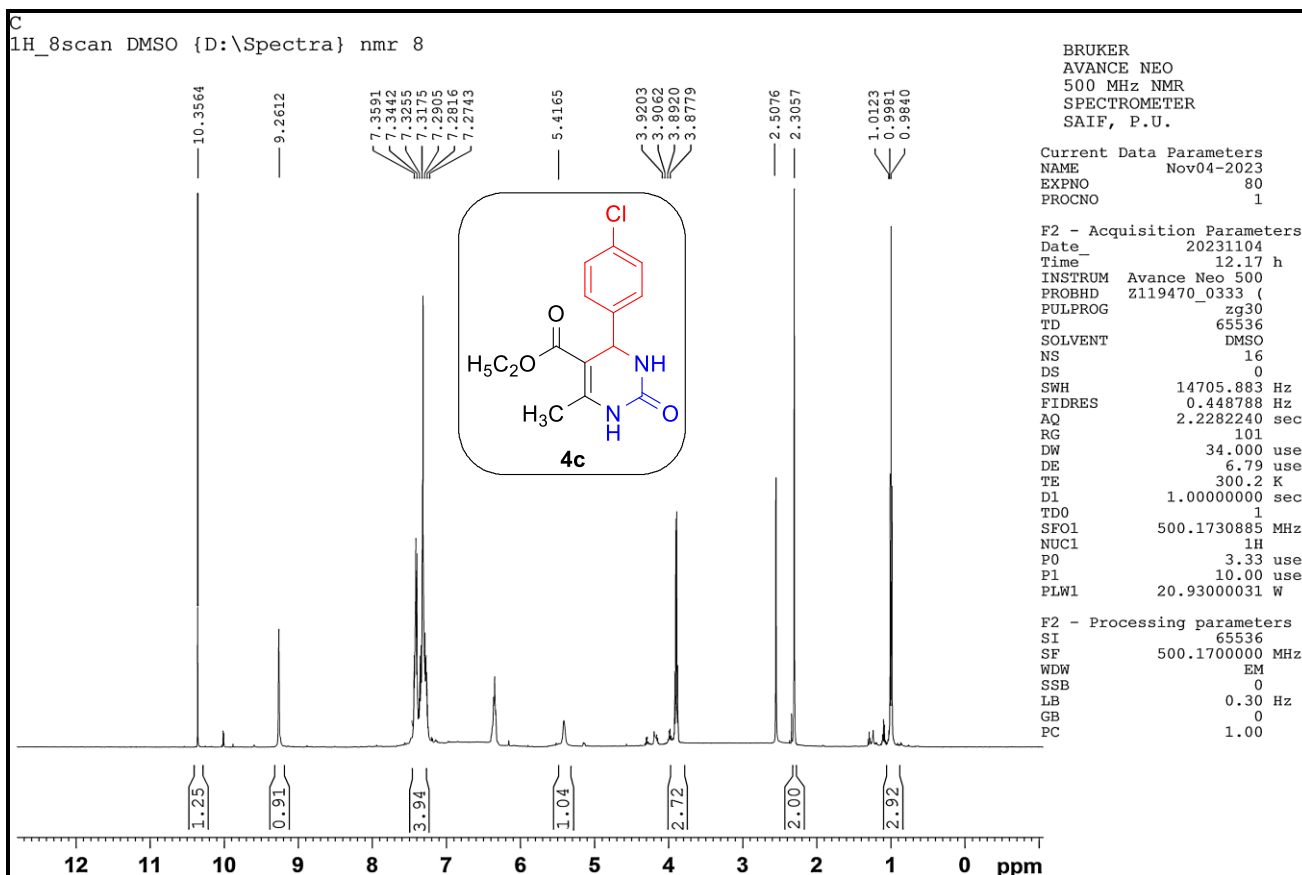


Figure: ^1H NMR spectra of 5-(Ethoxycarbonyl)-4-(4-chlorophenyl)-6-methyl-3,4-dihydropyrimidin-2(1H)-one (**4c**)

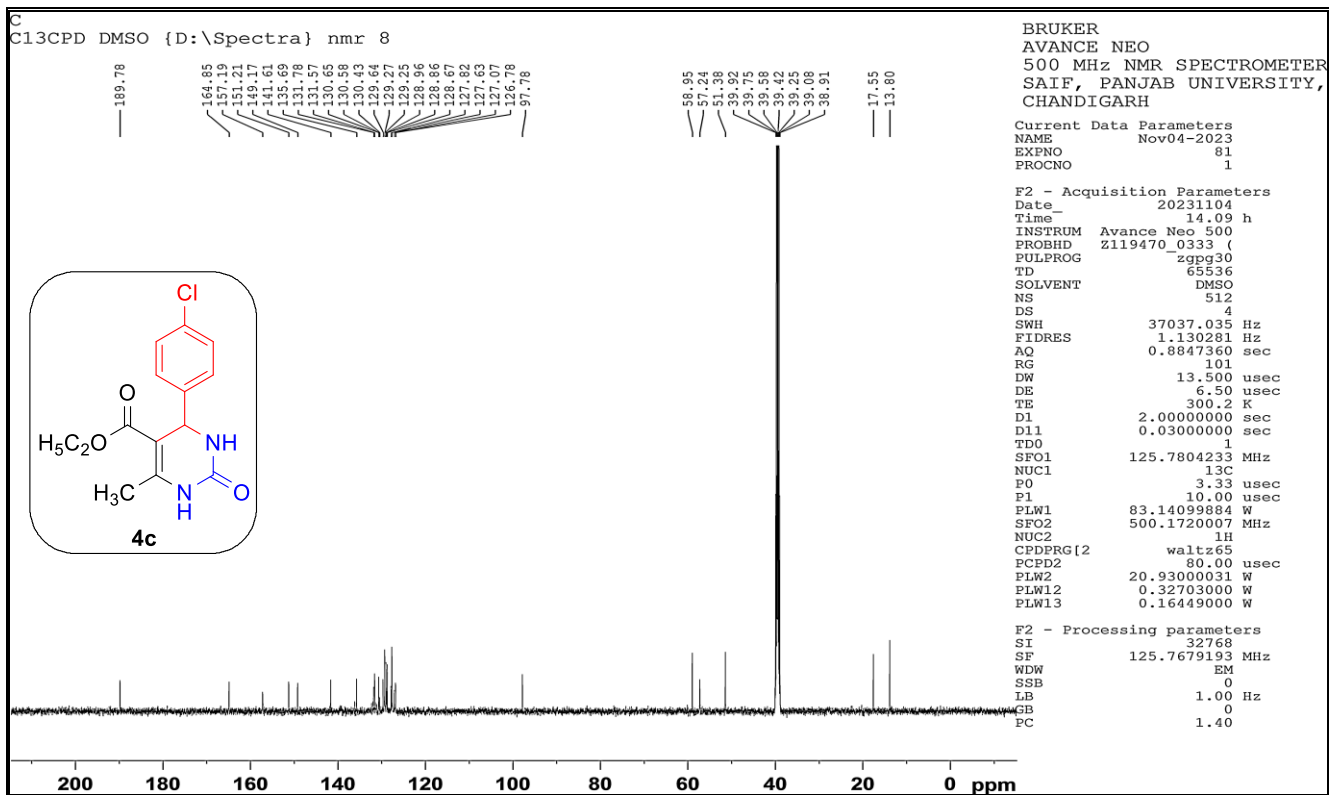


Figure: ^{13}C NMR spectra of 5-(Ethoxycarbonyl)-4-(4-chlorophenyl)-6-methyl-3,4-dihydropyrimidin-2(1H)-one (**4c**)

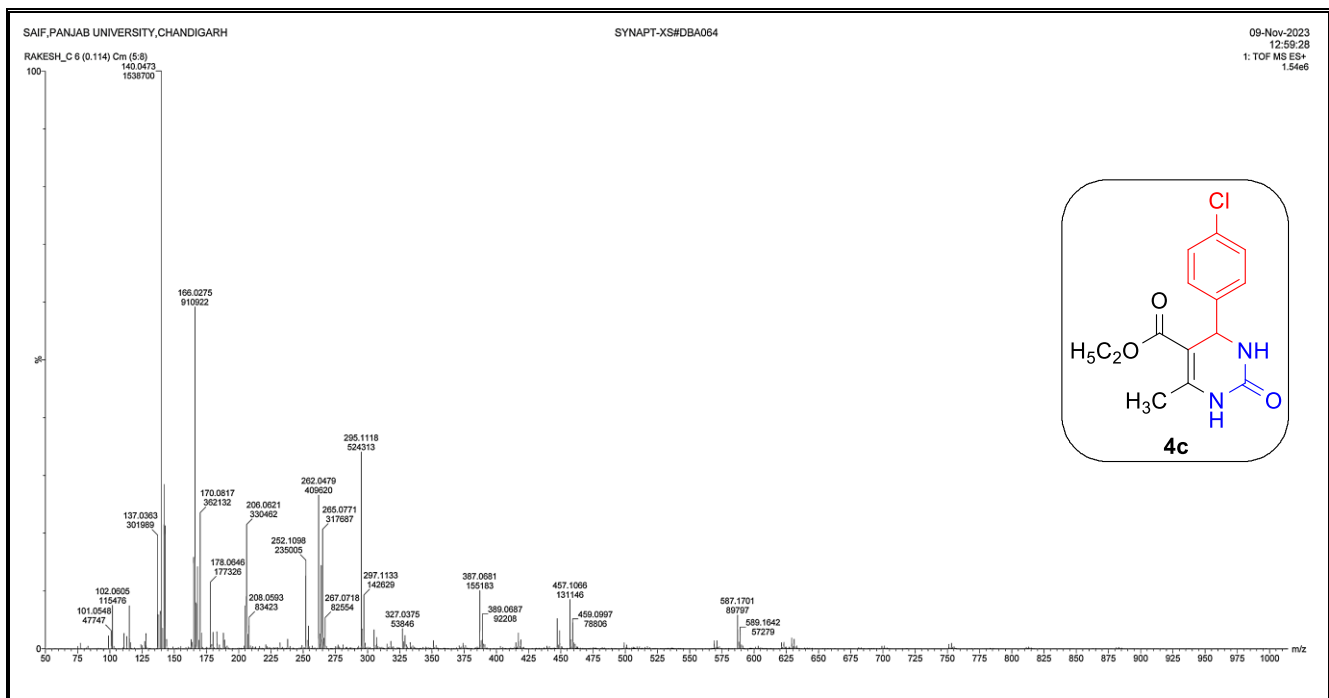


Figure: HRMS spectra of 5-(Ethoxycarbonyl)-4-(4-chlorophenyl)-6-methyl-3,4-dihydropyrimidin-2(1H)-one (**4c**)

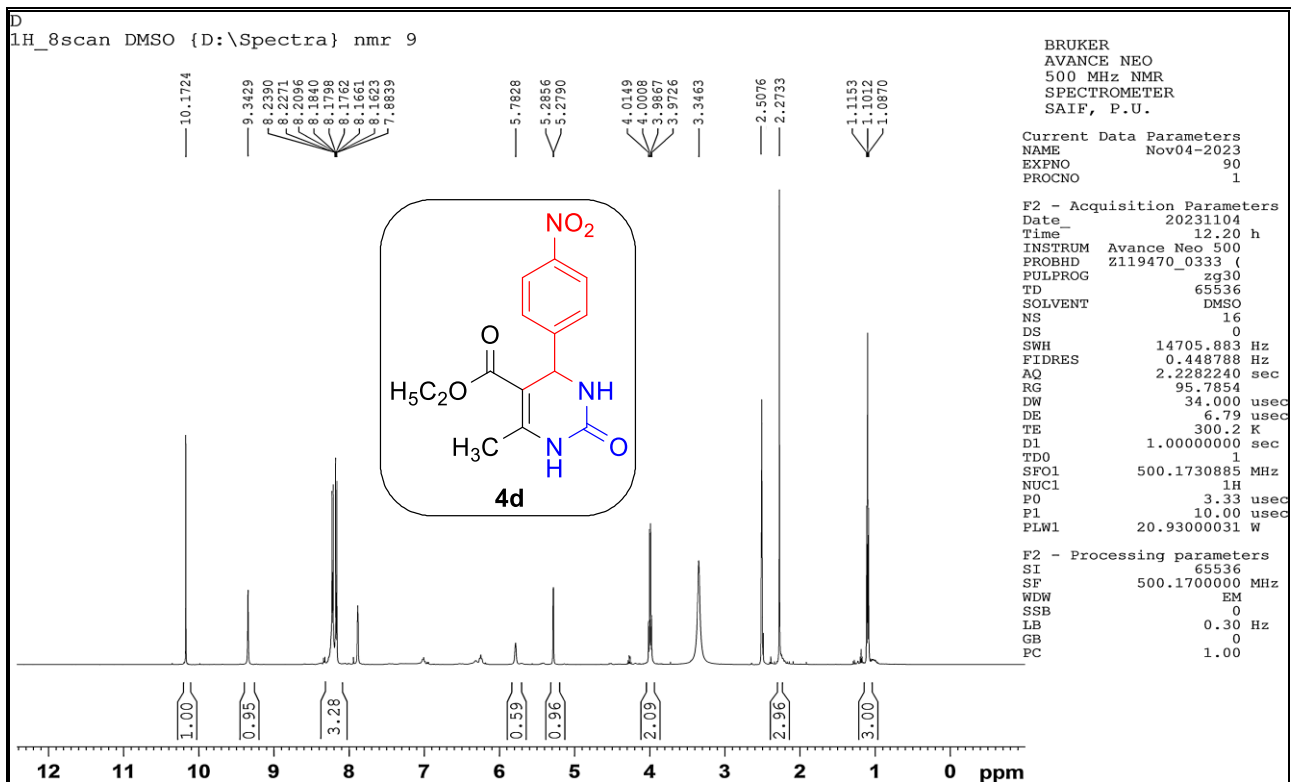


Figure: ¹H NMR spectra of 5-(Ethoxycarbonyl)-4-(4-nitrophenyl)-6-methyl-3,4-dihydropyrimidin-2(1H)-one (**4d**)

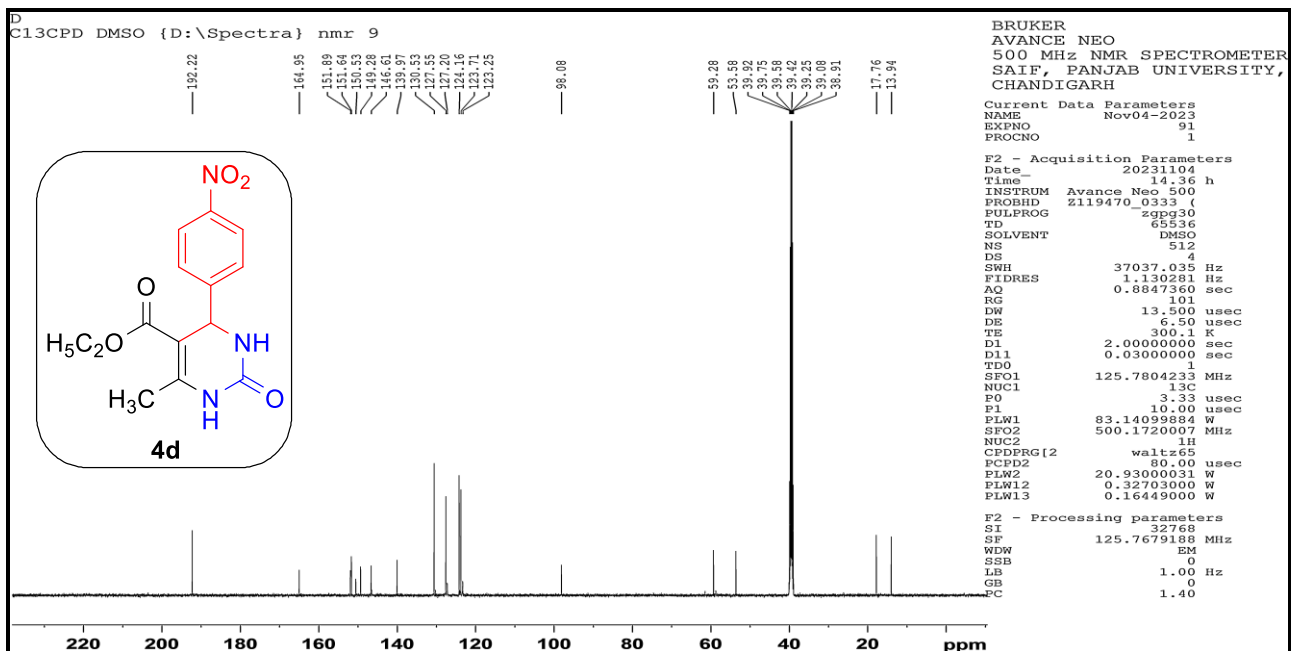


Figure: ¹³C NMR spectra of 5-(Ethoxycarbonyl)-4-(4-nitrophenyl)-6-methyl-3,4-dihydropyrimidin-2(1H)-one (**4d**)

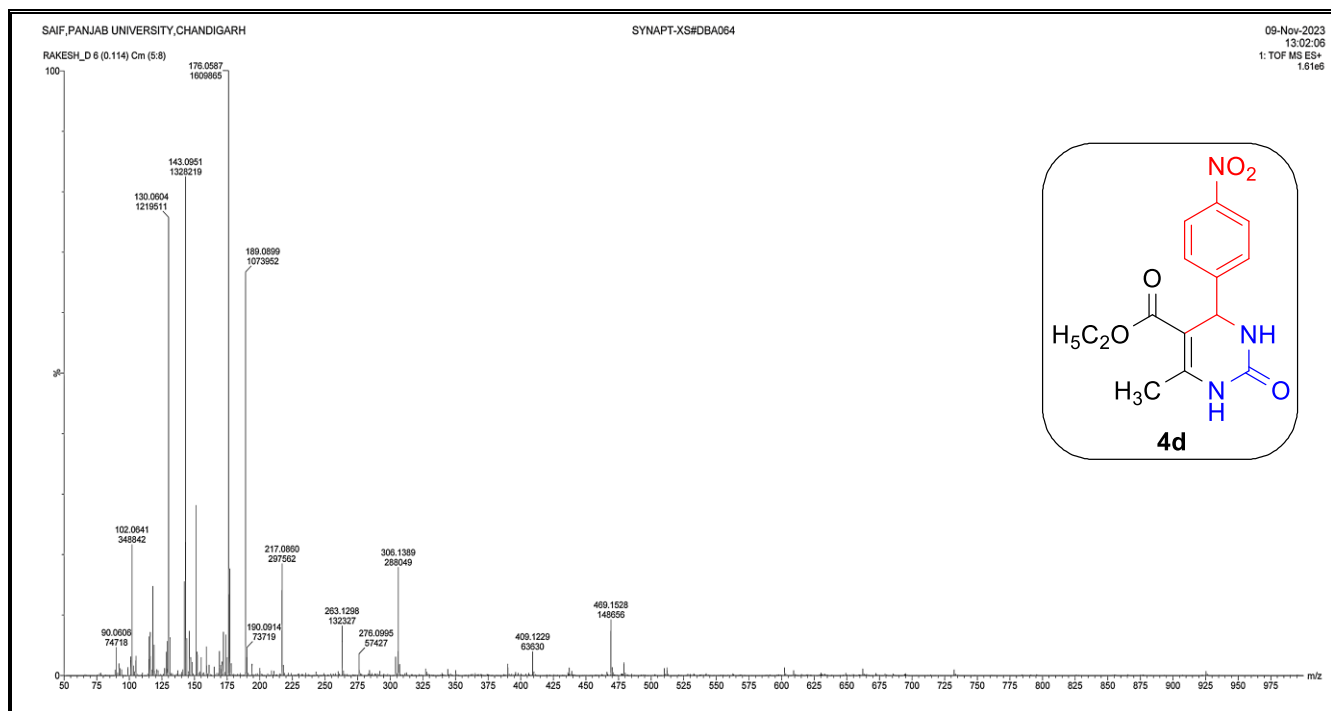


Figure: HRMS spectra of 5-(Ethoxycarbonyl)-4-(4-nitrophenyl)-6-methyl-3,4-dihydropyrimidin-2(1H)-one (**4d**)