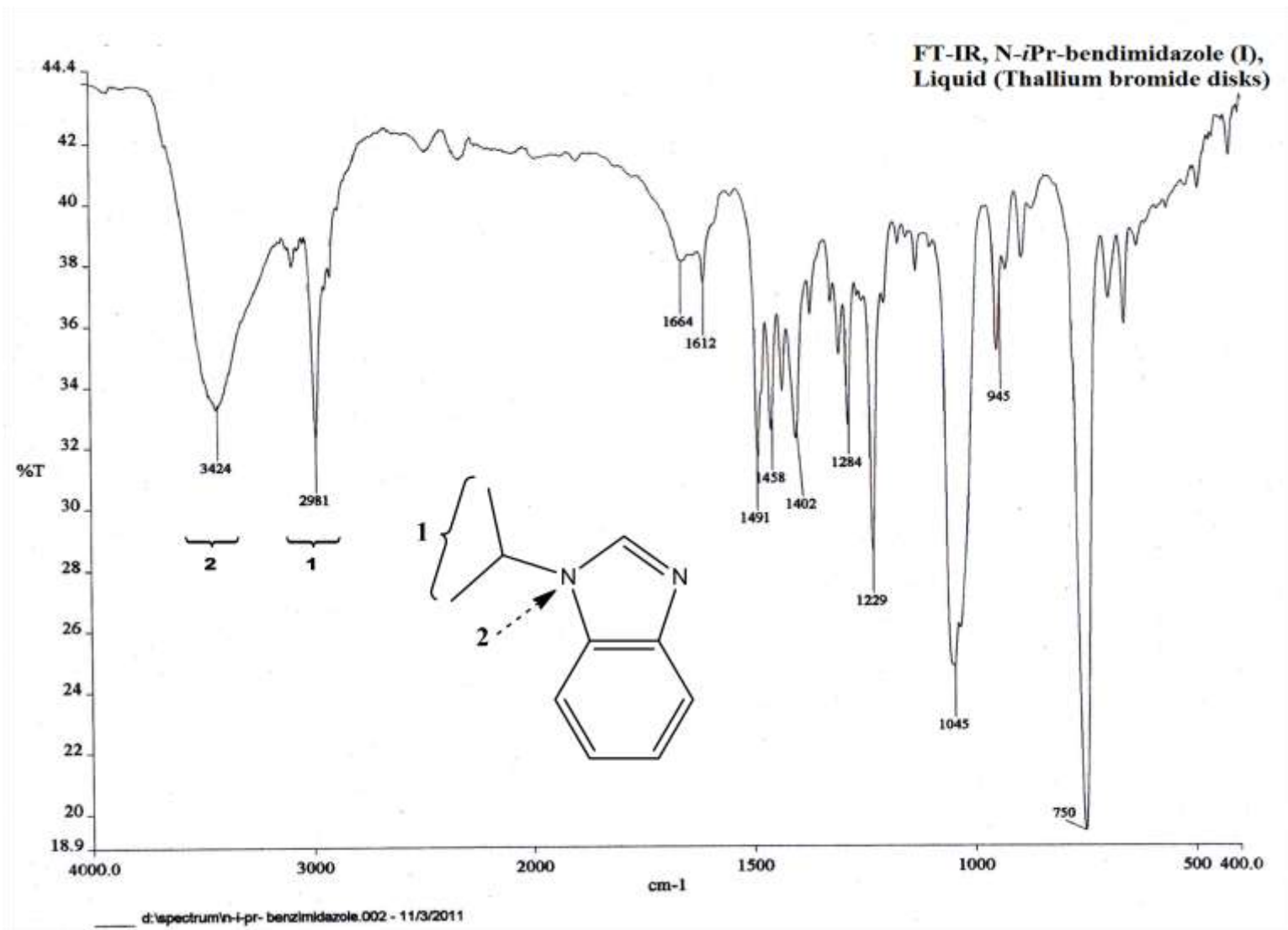
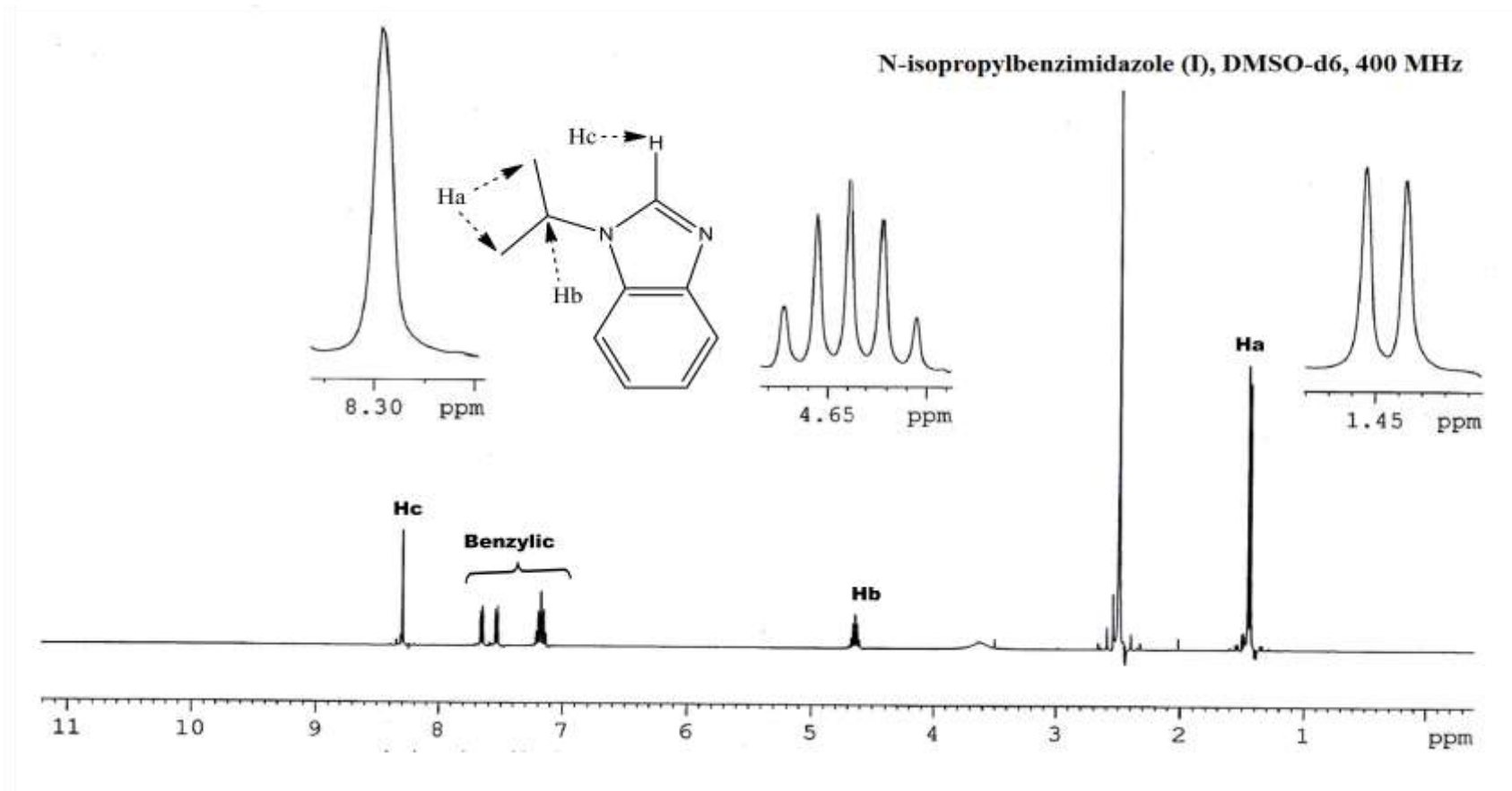


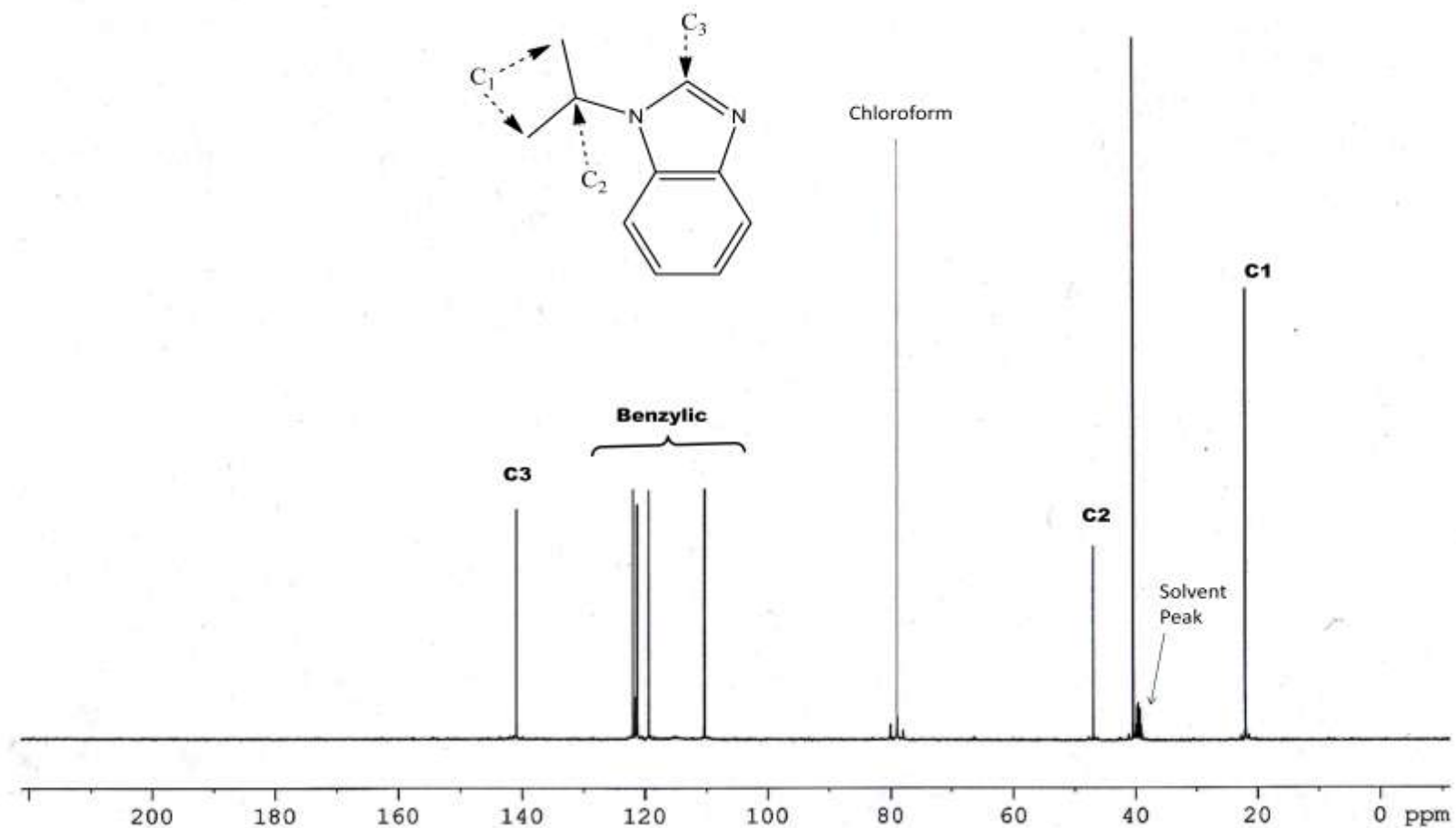
N-*i*-propyl benzimidazole (I)

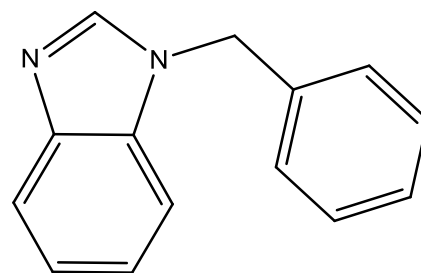
1. FT-IR
2. ^1H NMR
3. ^{13}C NMR





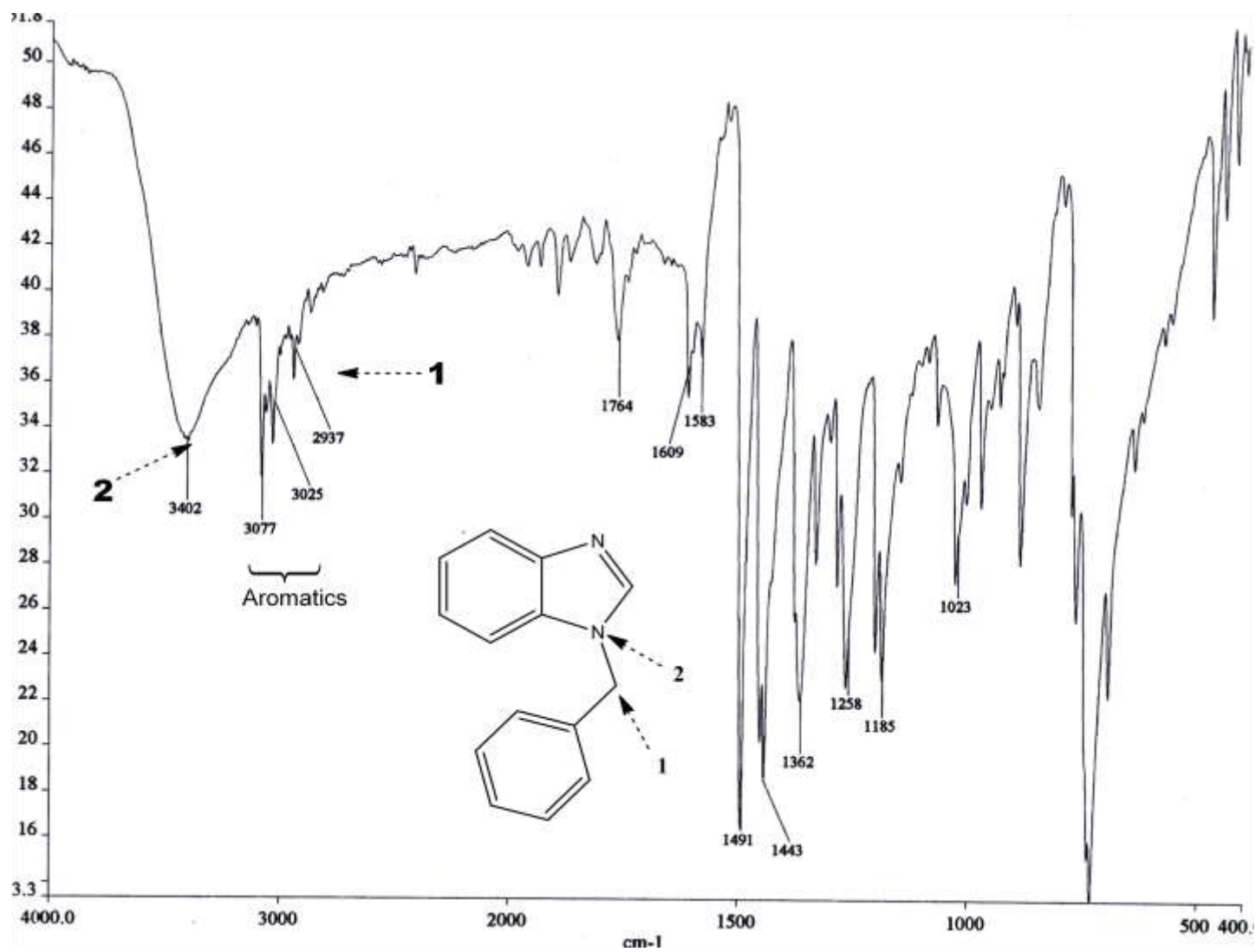
N-isopropylbenzimidazole, d6-DMSO, 400 MHz

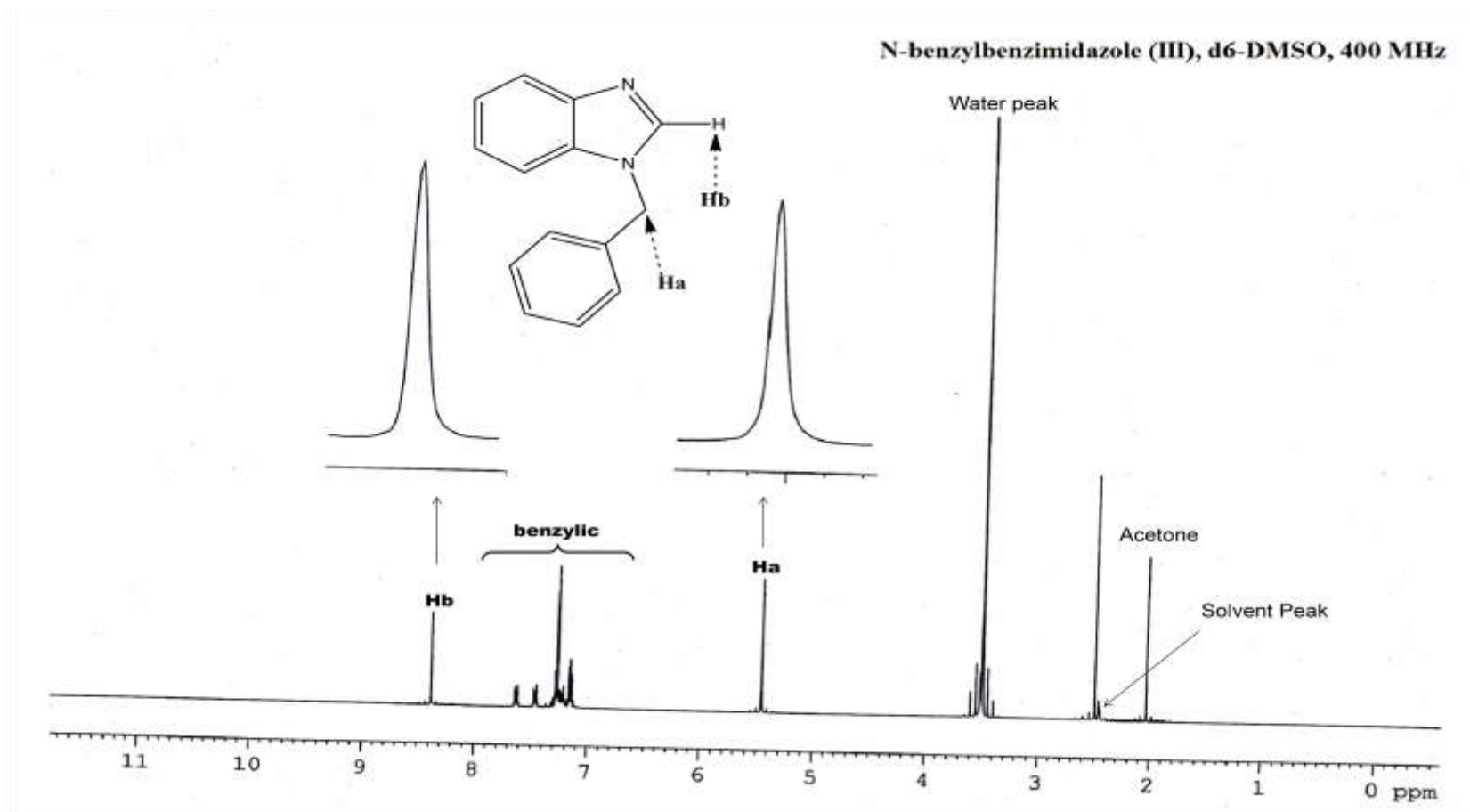


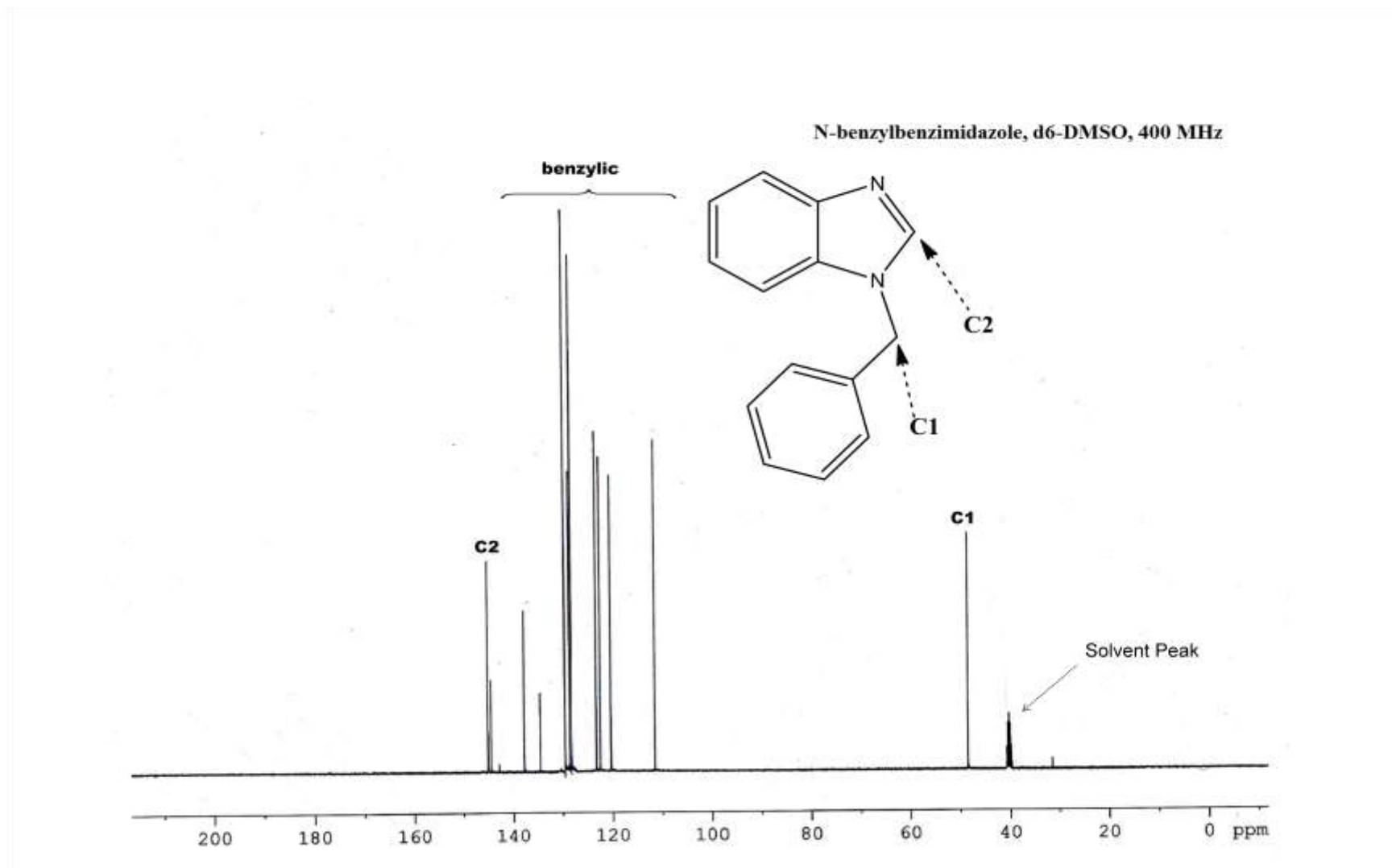


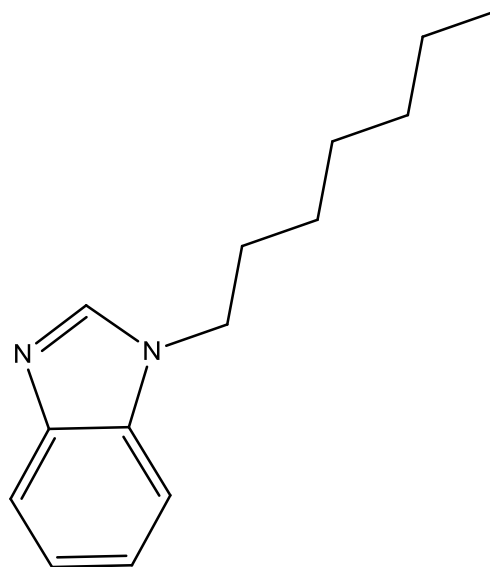
N-benzylbenzimidazole (**III**)

1. FT-IR
2. ^1H NMR
3. ^{13}C NMR



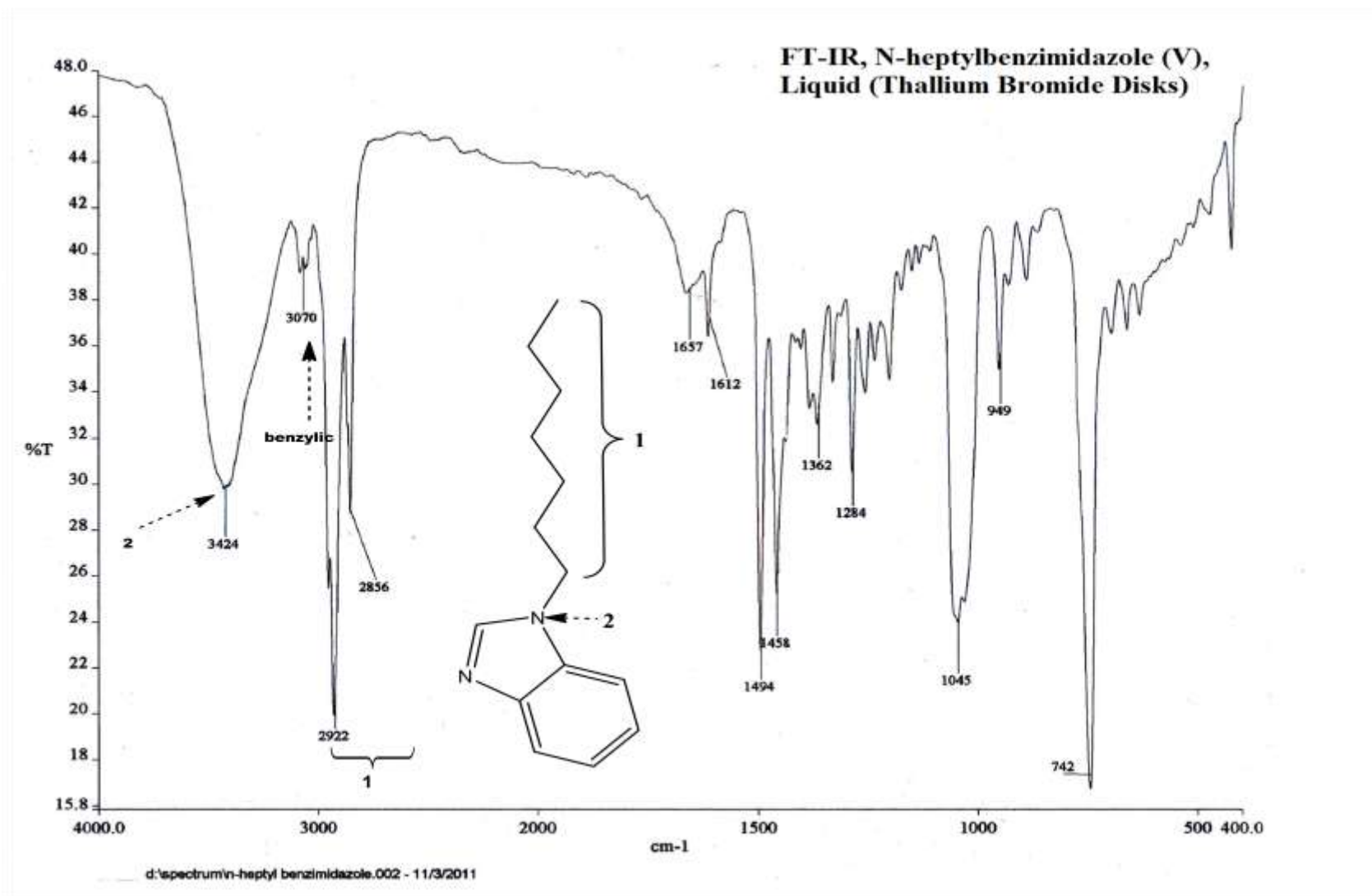




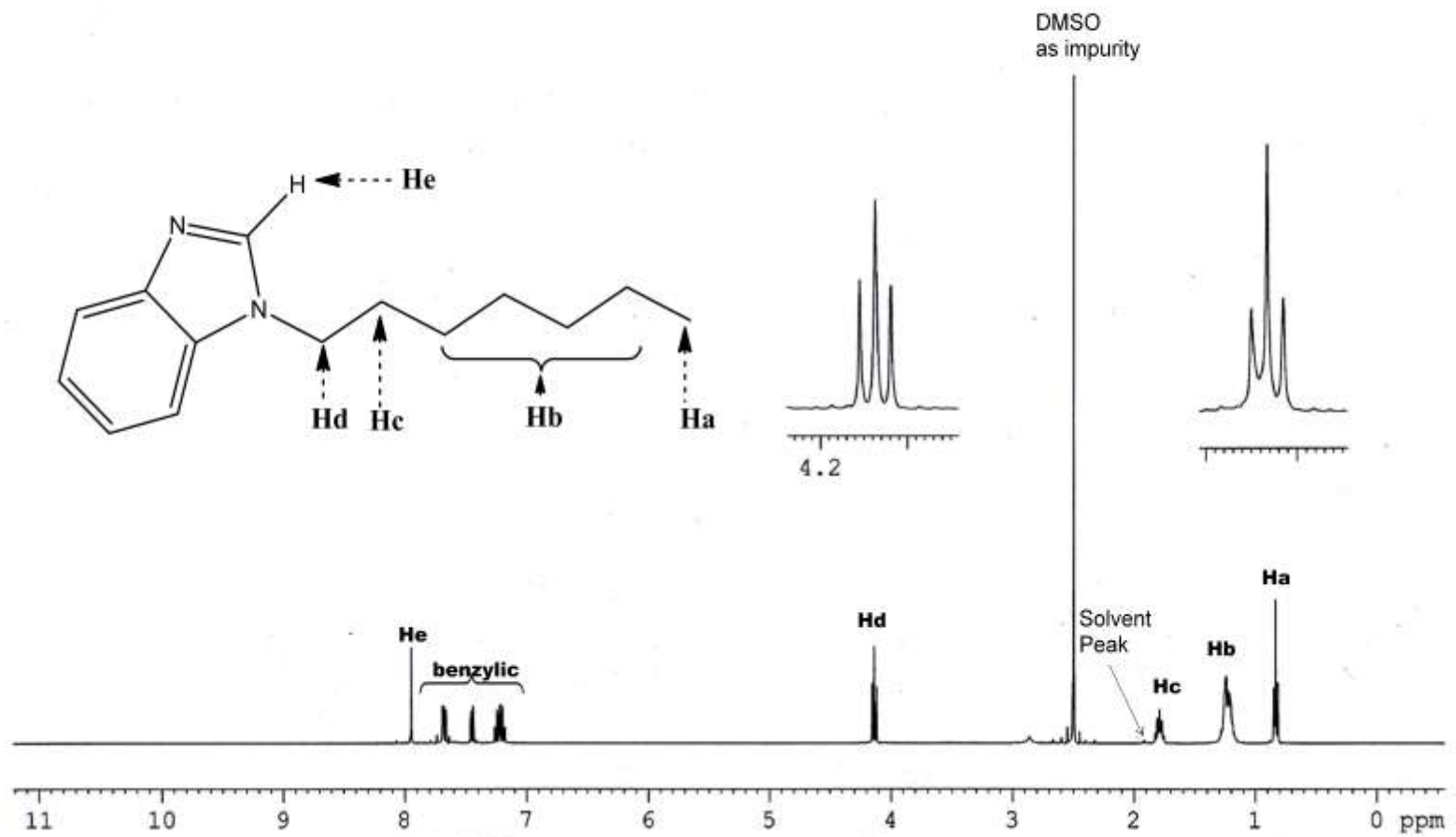


N-heptylbenzimidazole (V)

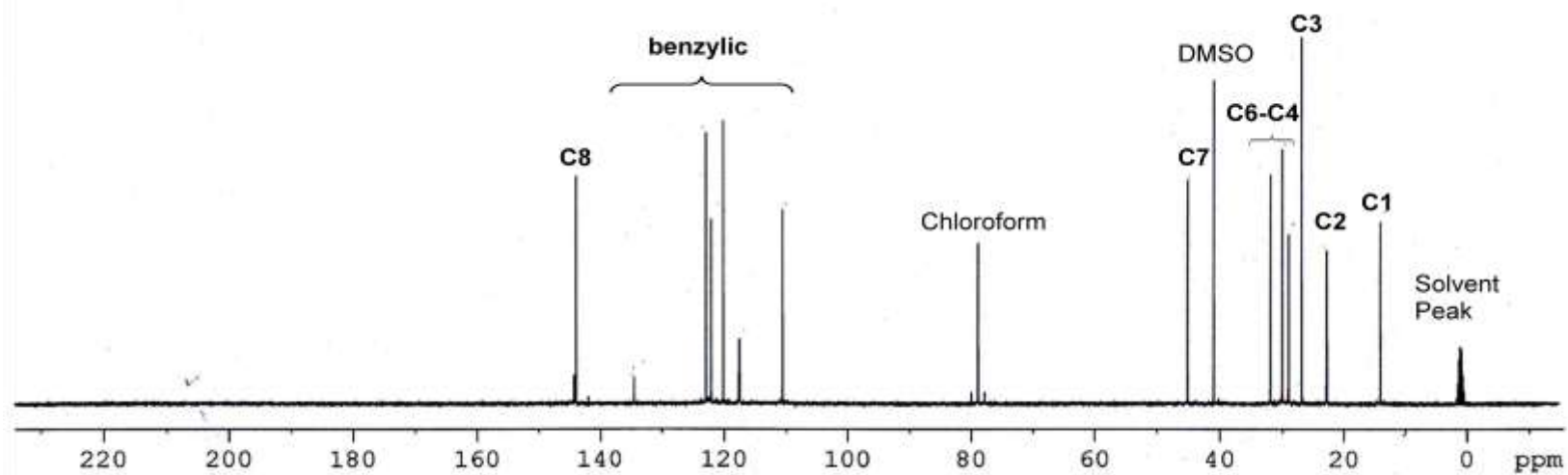
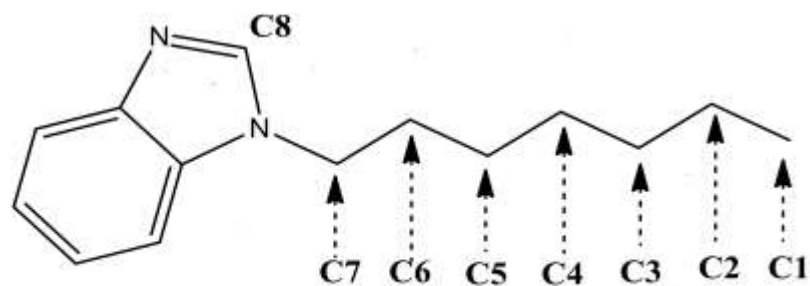
1. FT-IR
2. ^1H NMR
3. ^{13}C NMR

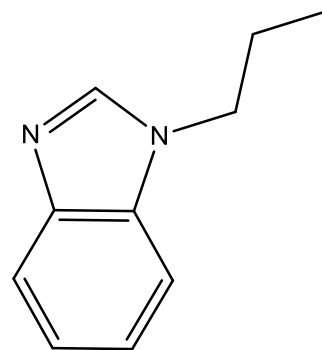


N-heptylbenzimidazole, d3-Acetonitril, 400 MHz



N-heptylbenzimidazole (V), d3-Acetonitril, 400 MHz

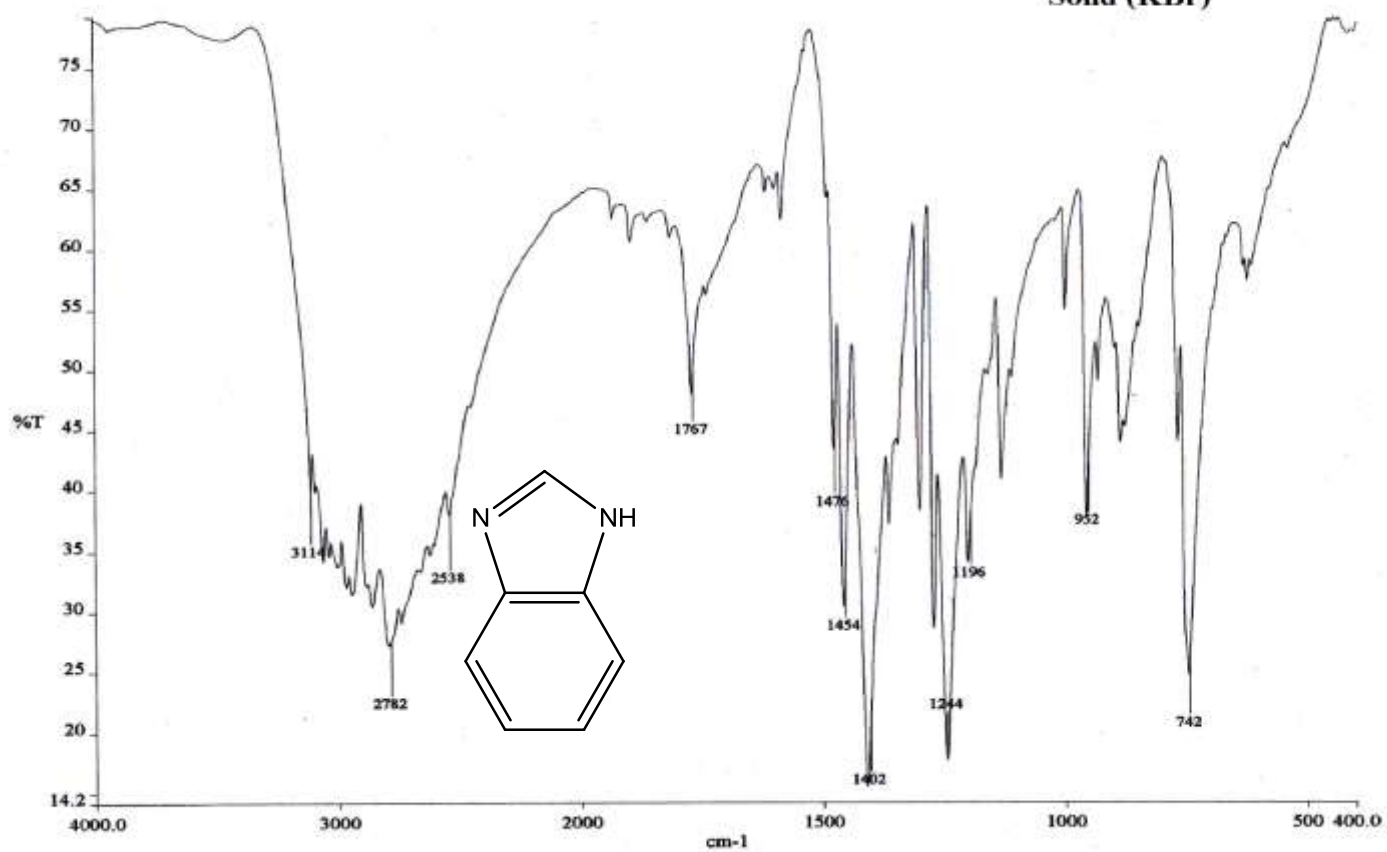




N-propylbenzimidazole (**VI**)

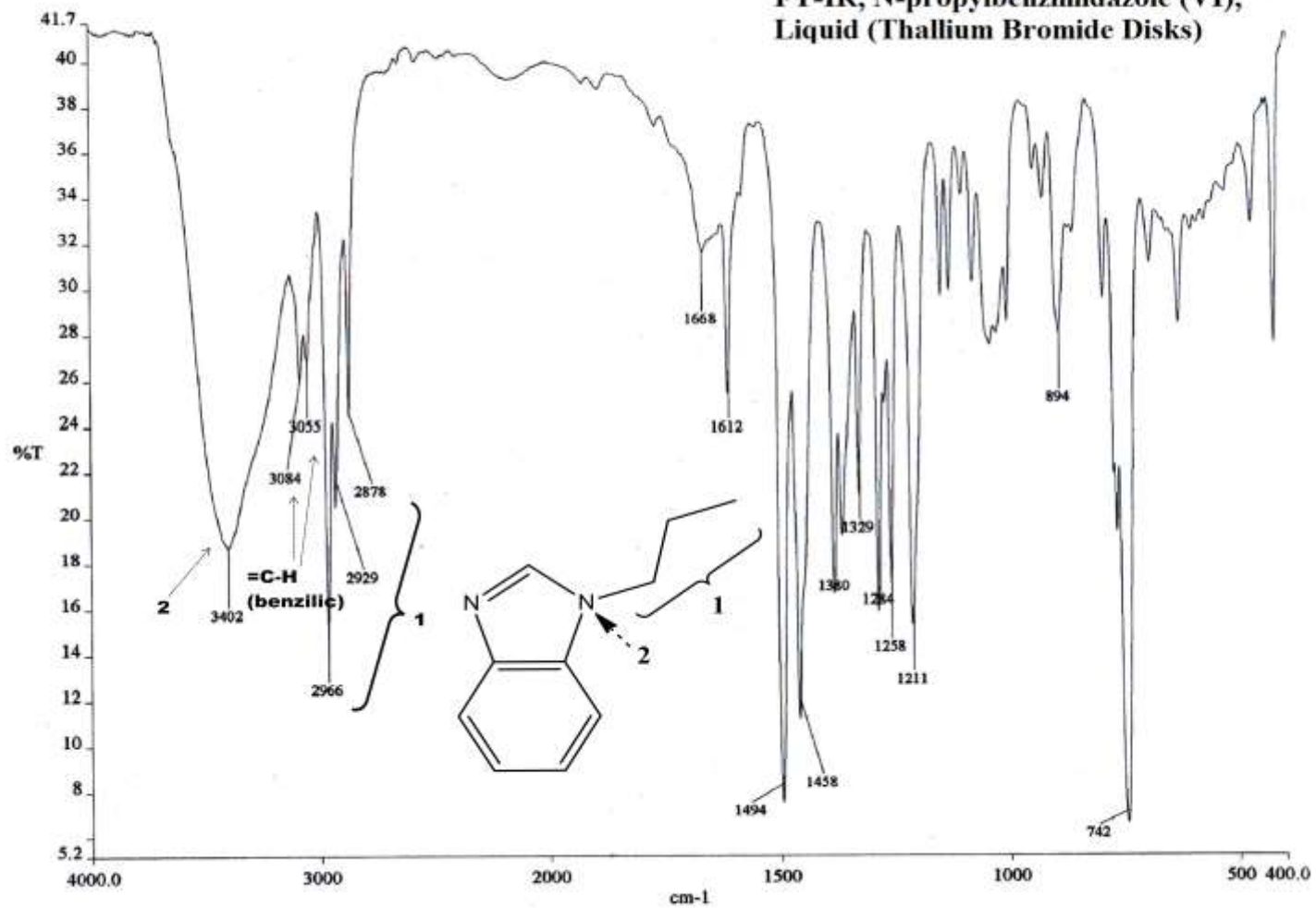
1. FT-IR benzimidazole
2. FT-IR
3. ^1H NMR of propyl bromide
4. ^1H NMR
5. ^{13}C NMR

FT-IR, Benzimidazole
Solid (KBr)



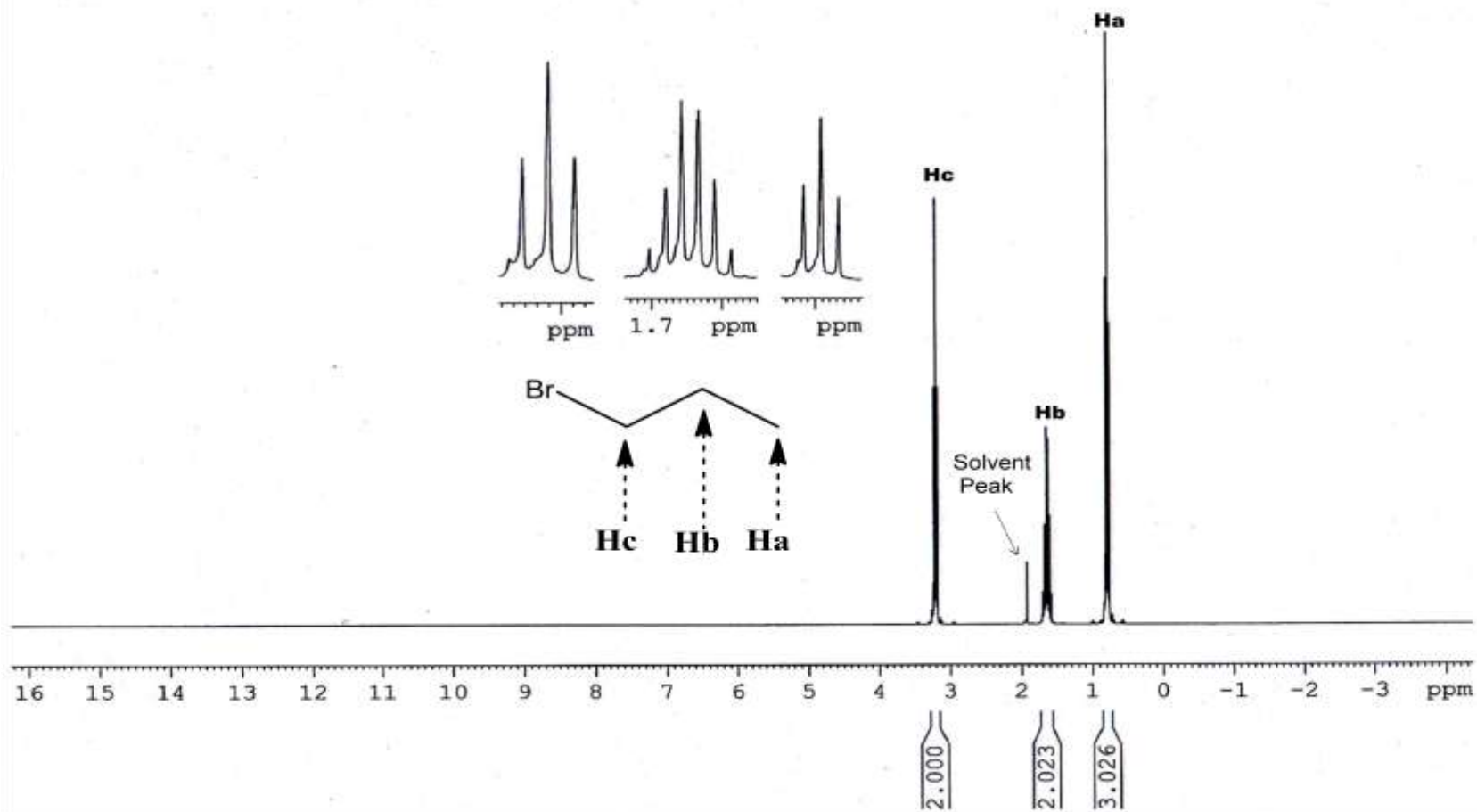
d:\spectrum\benzimidazole.008 - 11/3/2011

FT-IR, N-propylbenzimidazole (VI),
Liquid (Thallium Bromide Disks)

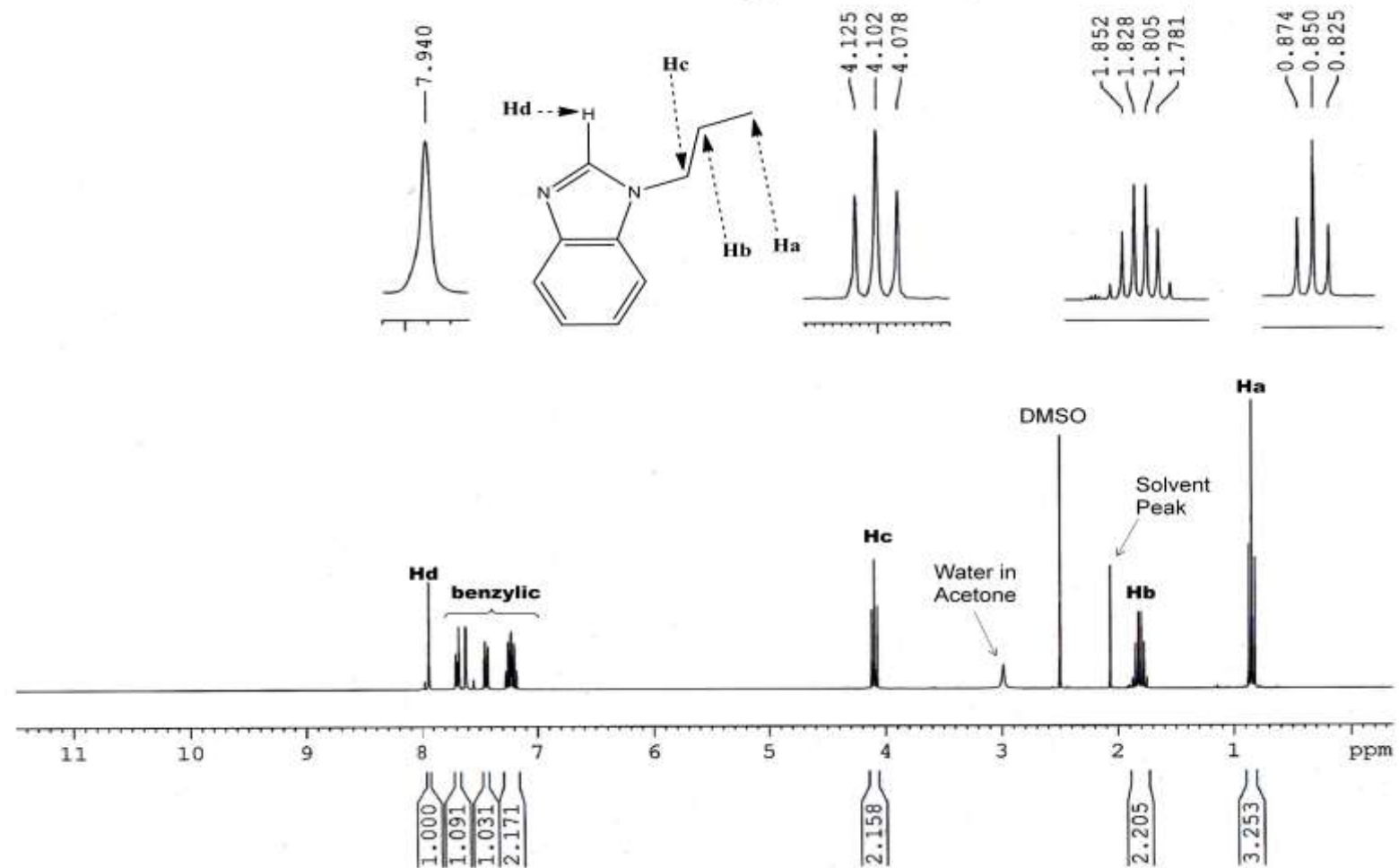


d:\spectrum\n-propyl benzimidazole.002 - 11/3/2011

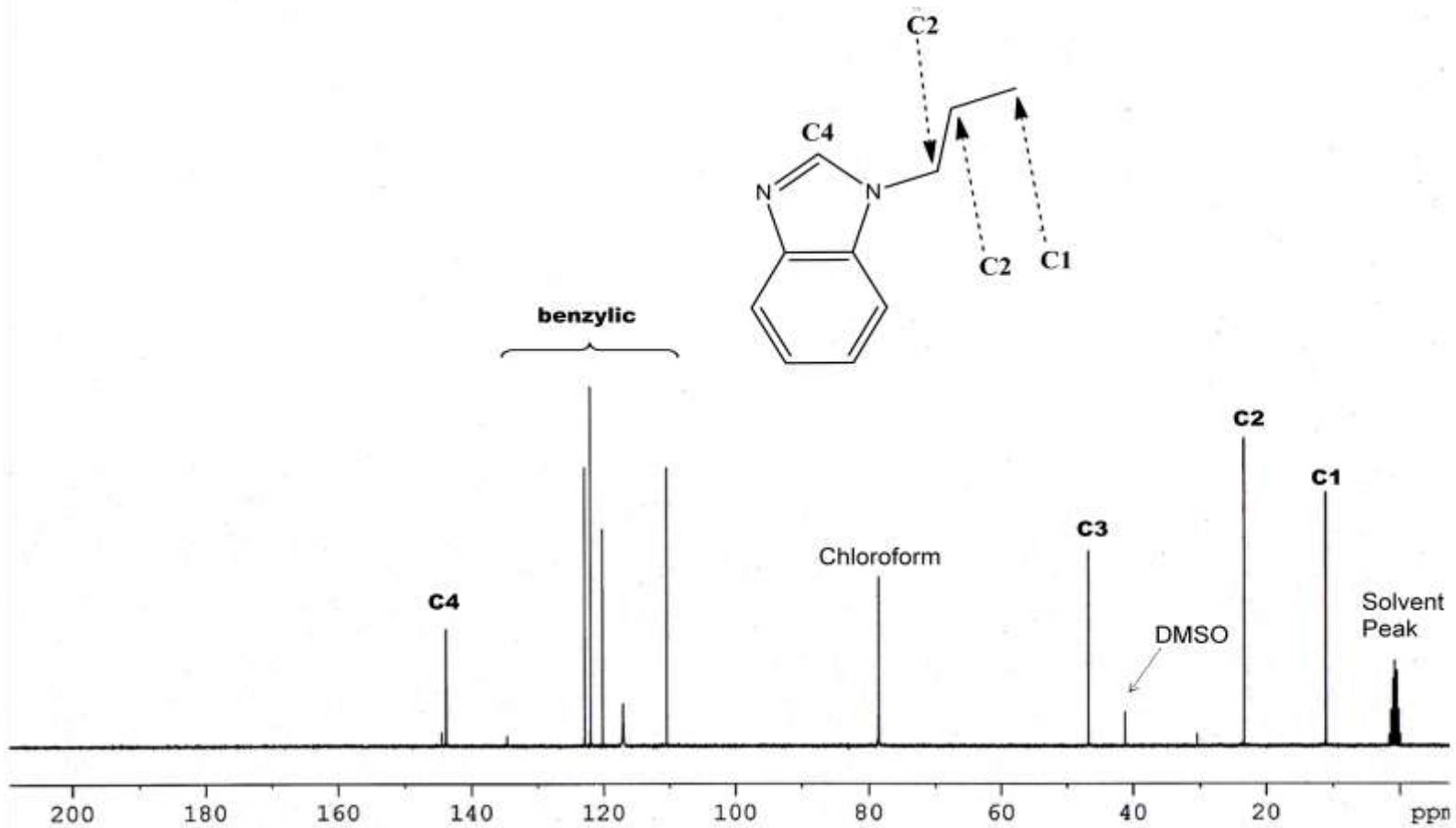
Propyl Bromide, d3-Acetonitrile, 300 MHz

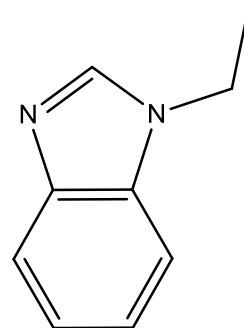


N-Propylbenzimidazole, d3-Acetonitrile, 300 MHz



N-Propylbenzimidazole, d3-Acetonitrile, 300 MHz

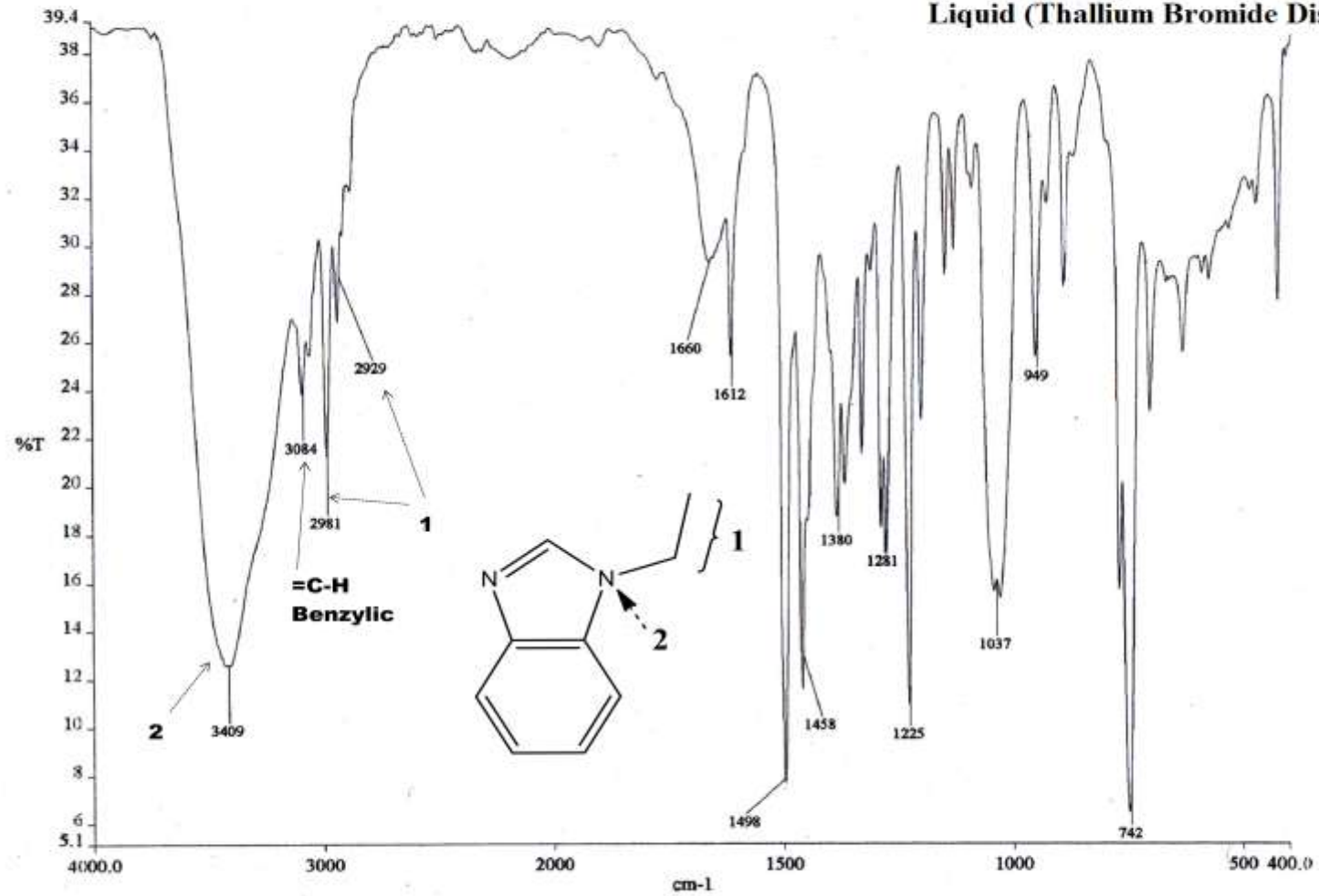




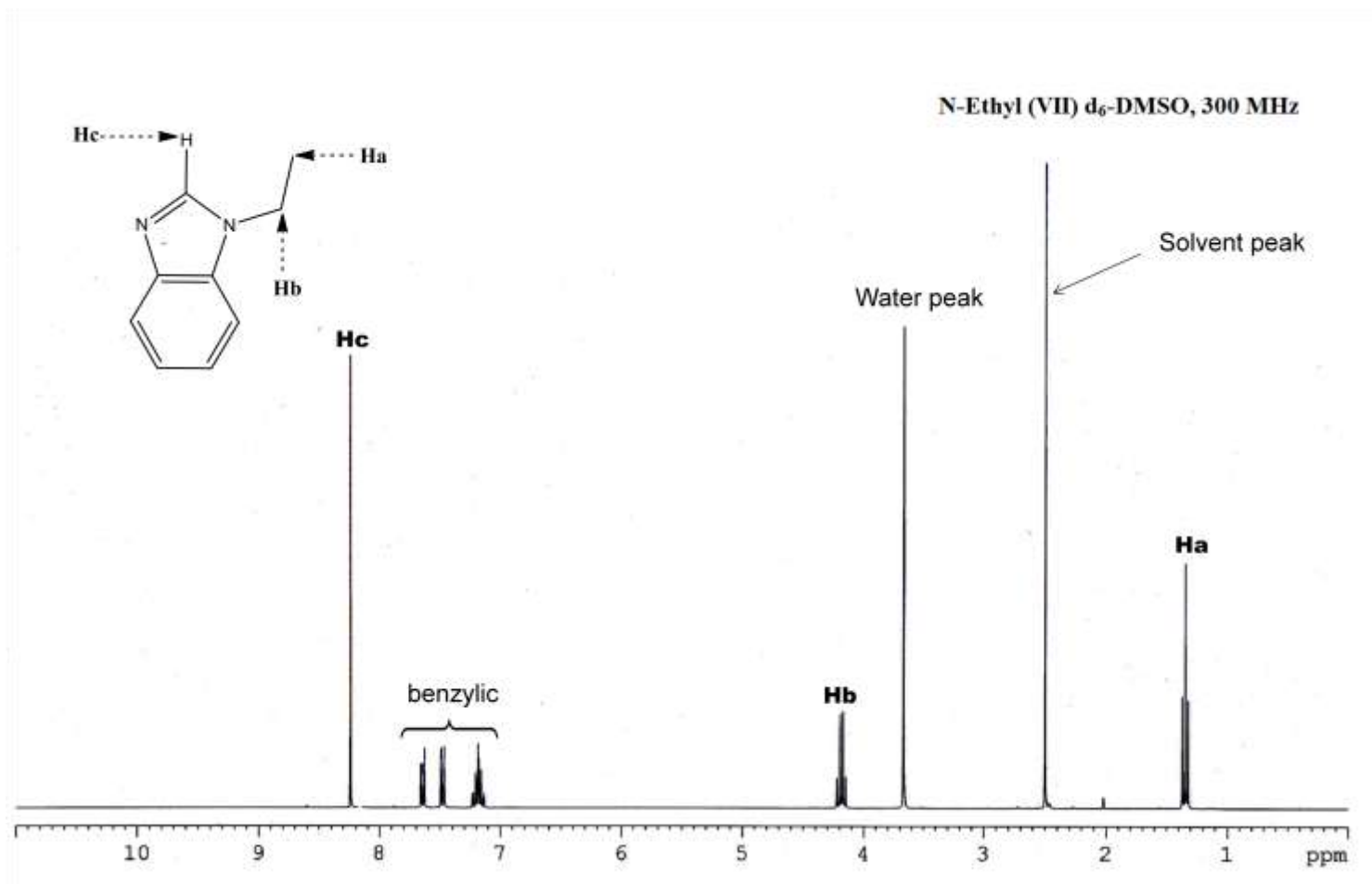
N-ethylbenzimidazole (VII)

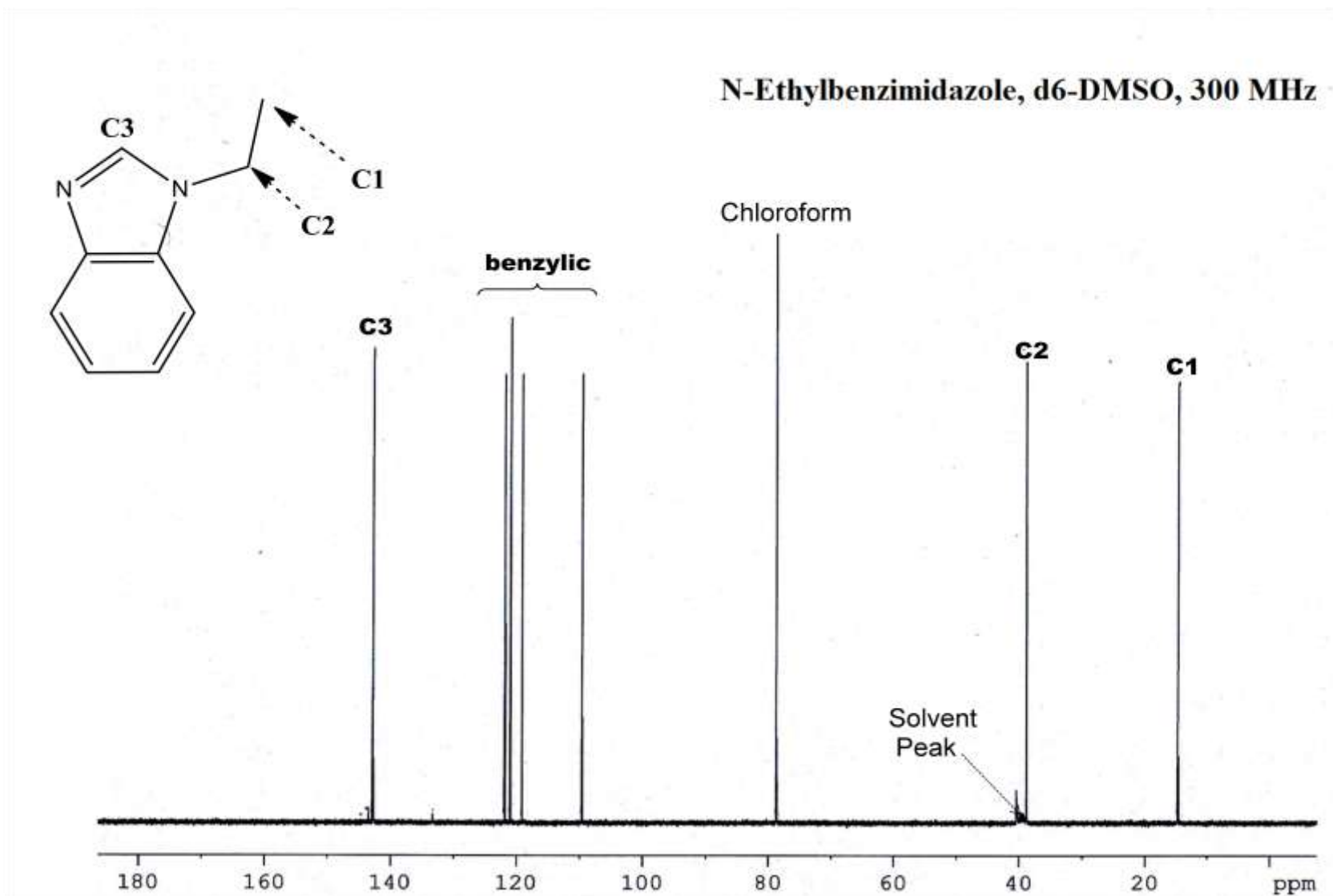
1. FT-IR
2. ^1H NMR
3. ^{13}C NMR

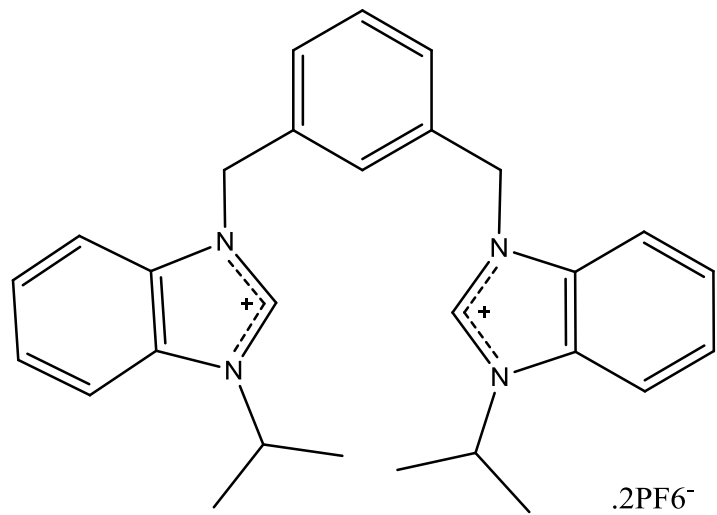
FT-IR, N-Ethylbenzimidazole (VII)
Liquid (Thallium Bromide Disks)



d:\spectrum\n-ethylbenzimidazole.002 - 15-3-2011

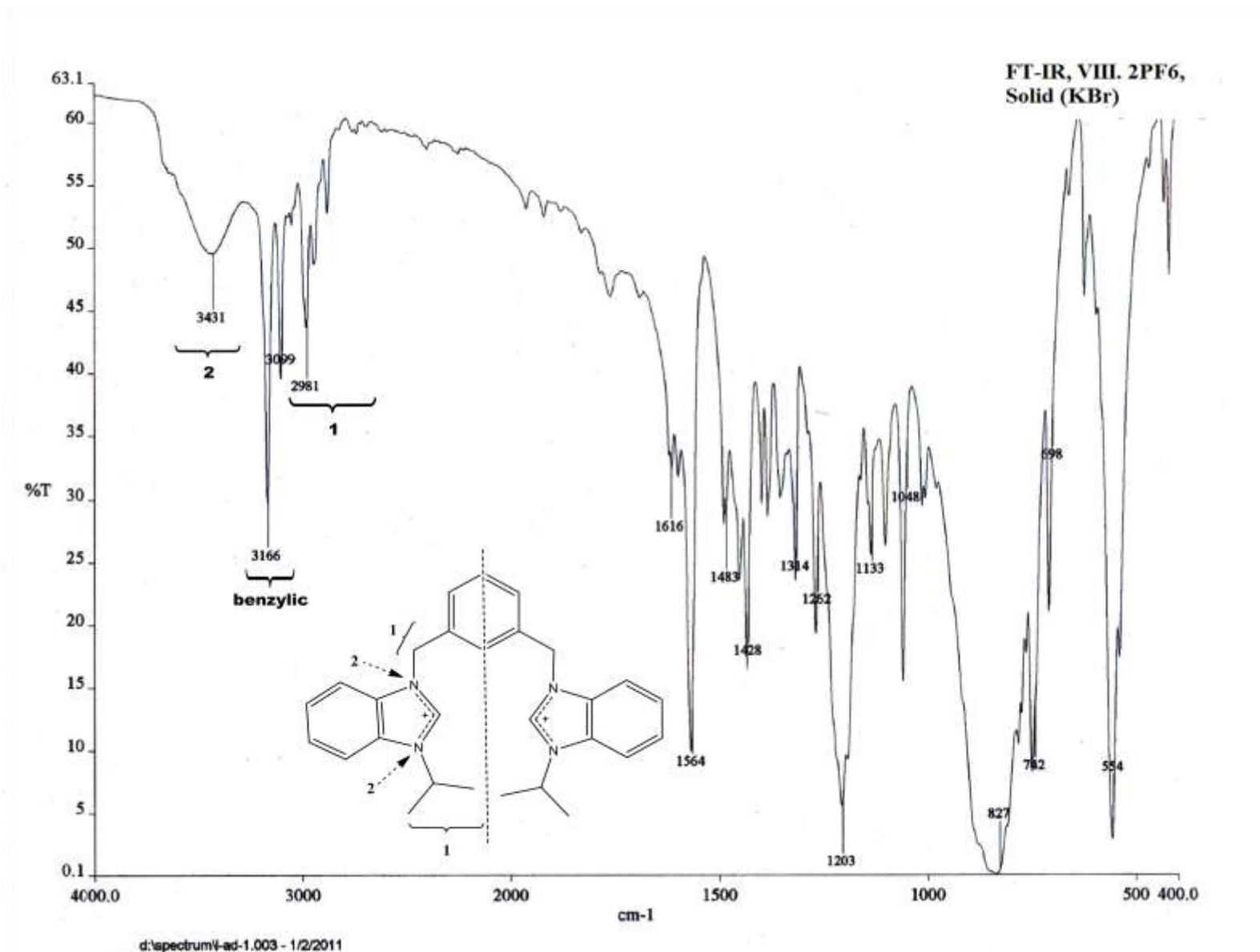




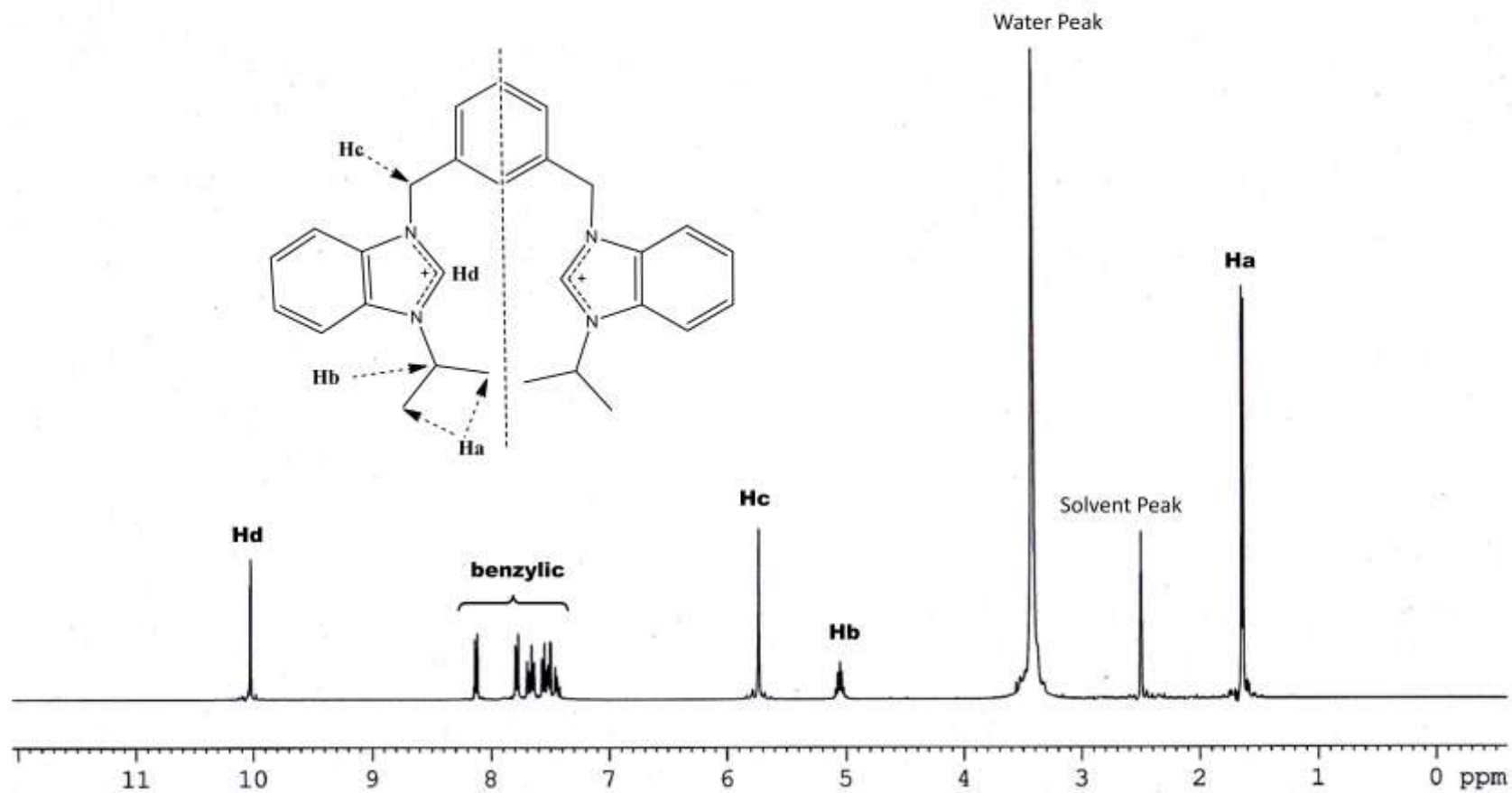


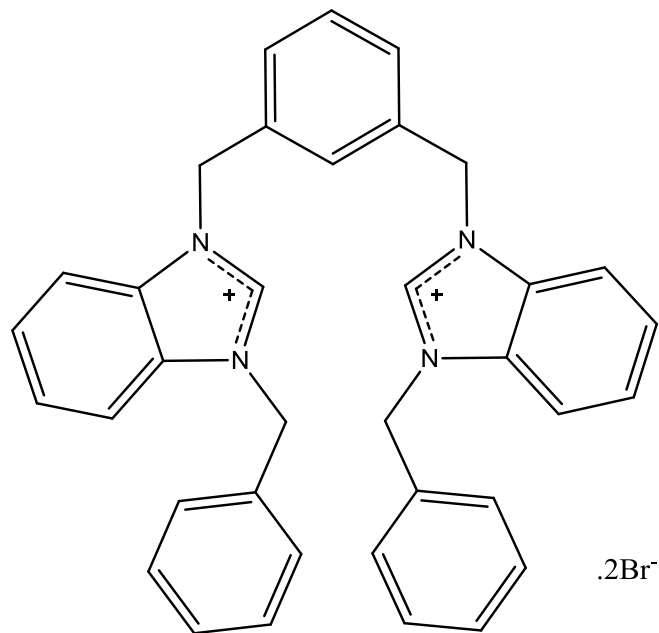
3,3'-(1,3-phenylenebis(methylene))bis(1-isopropyl-1H-benzimidazolium) salt (**VIII.2PF₆**)

1. FT-IR
2. ¹HNMR
3. ¹³CNMR



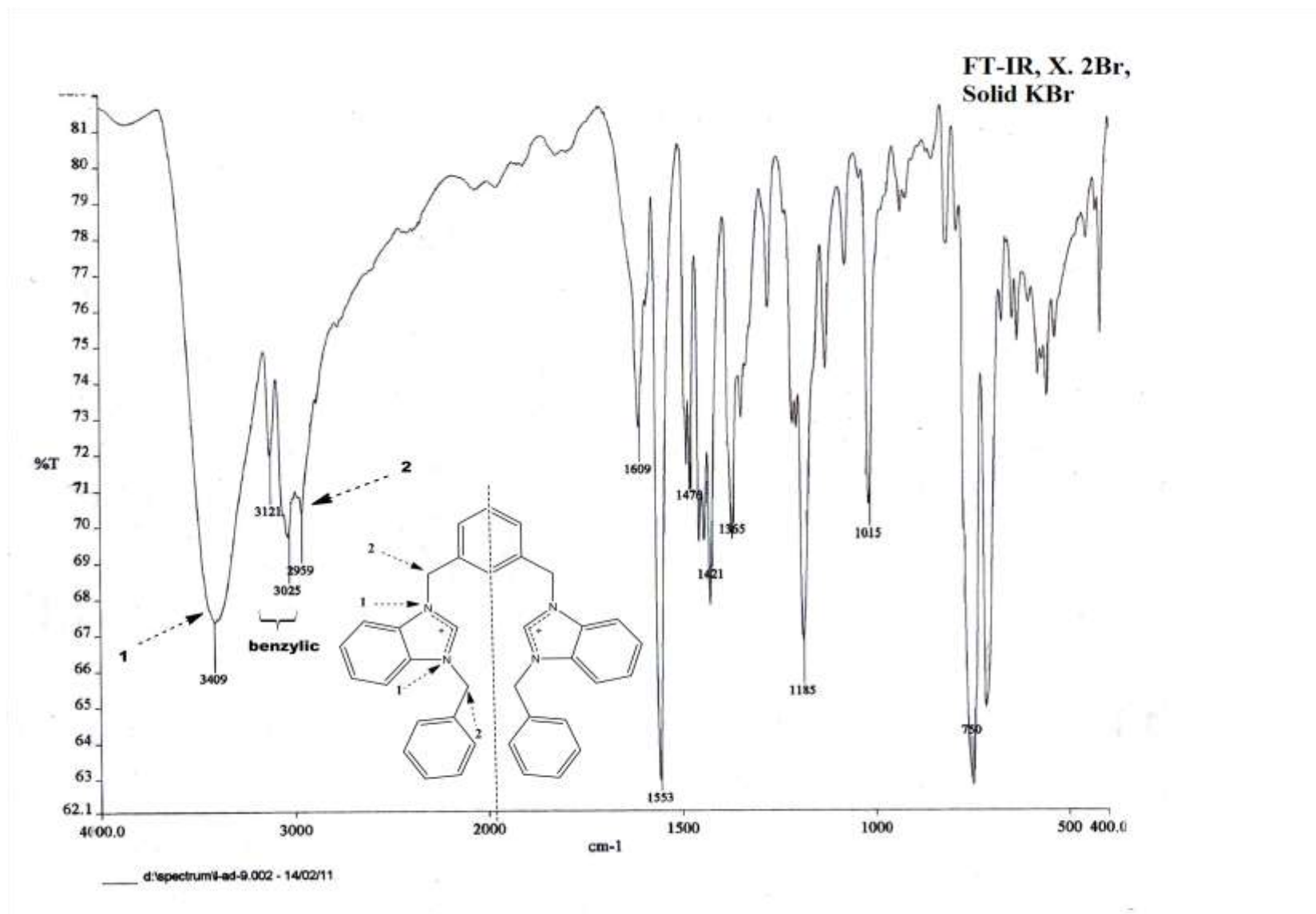
VIII. 2PF6, d6-DMSO, 400 Mhz



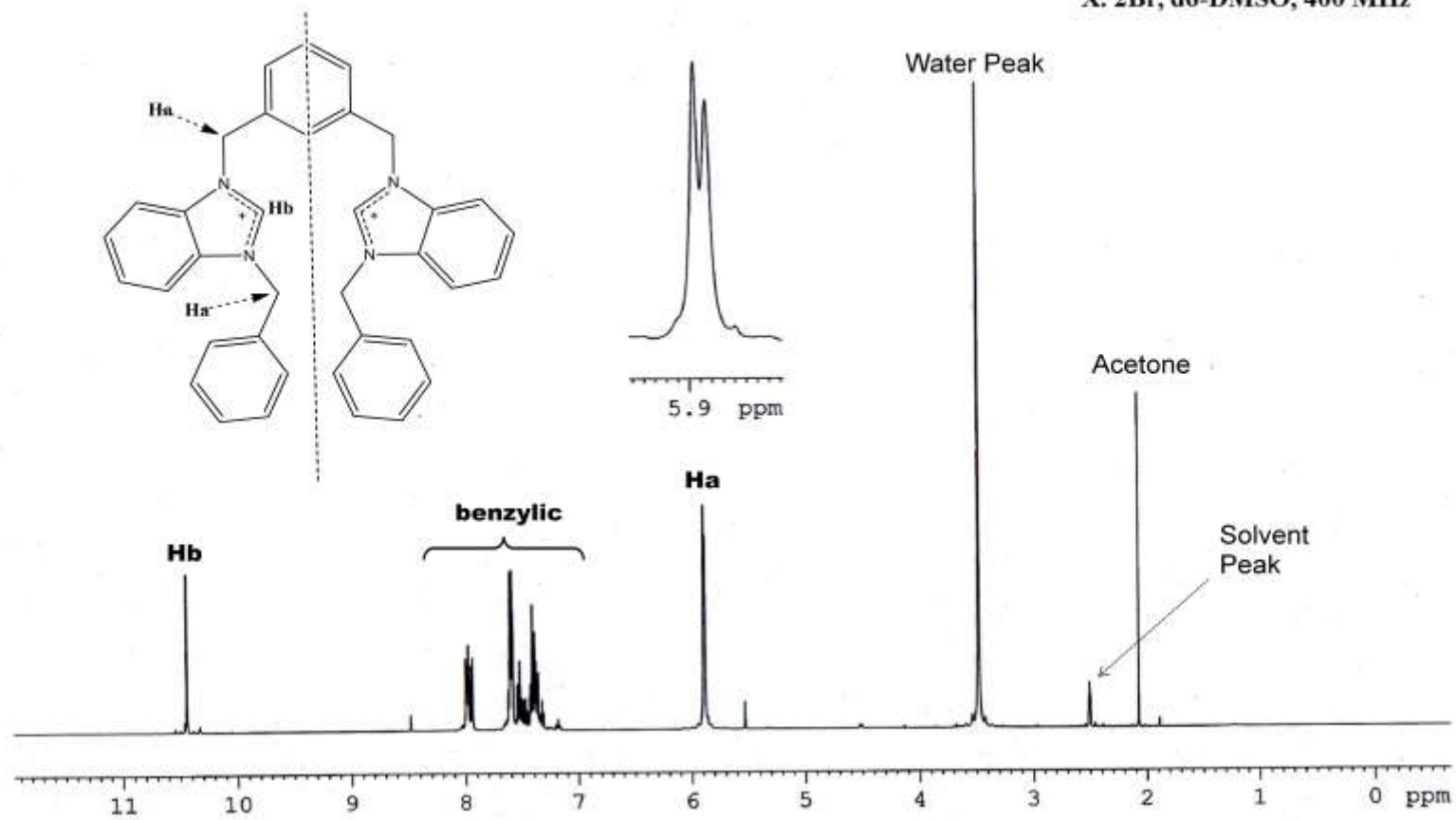


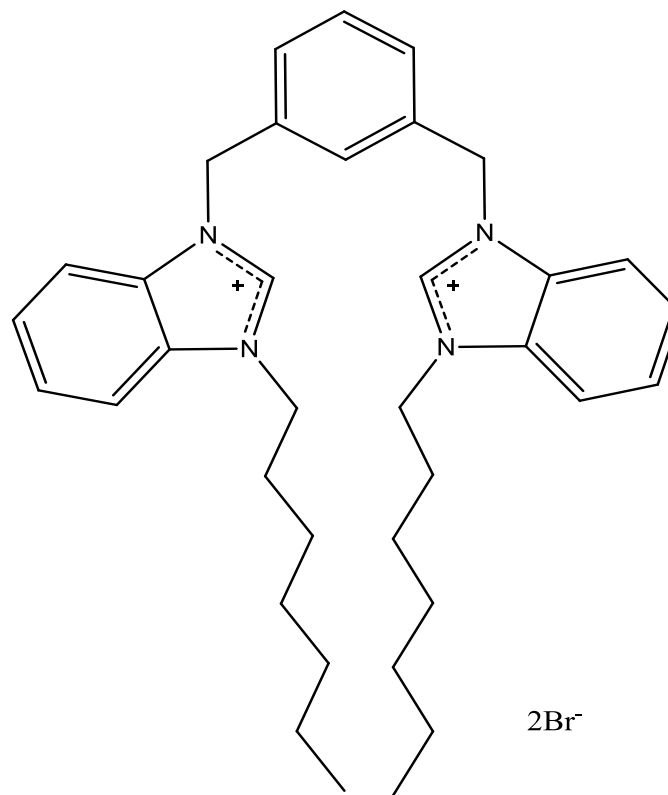
3,3'-(1,3-phenylenebis(methylene))bis(1-benzyl-1H-benzimidazolium) salt (**X.2Br**)

1. FT-IR
2. ^1H NMR
3. ^{13}C NMR



X. 2Br, d6-DMSO, 400 MHz

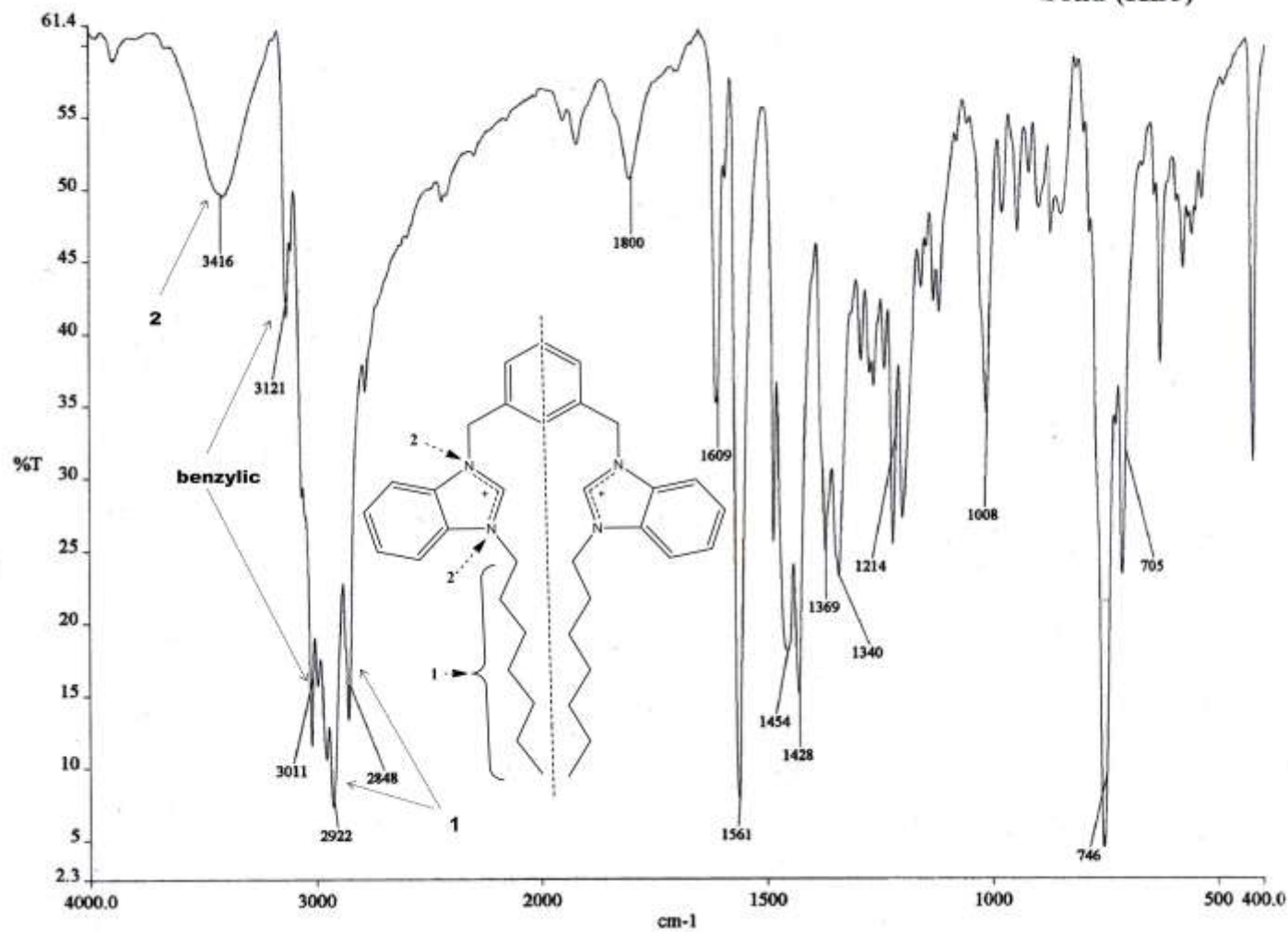




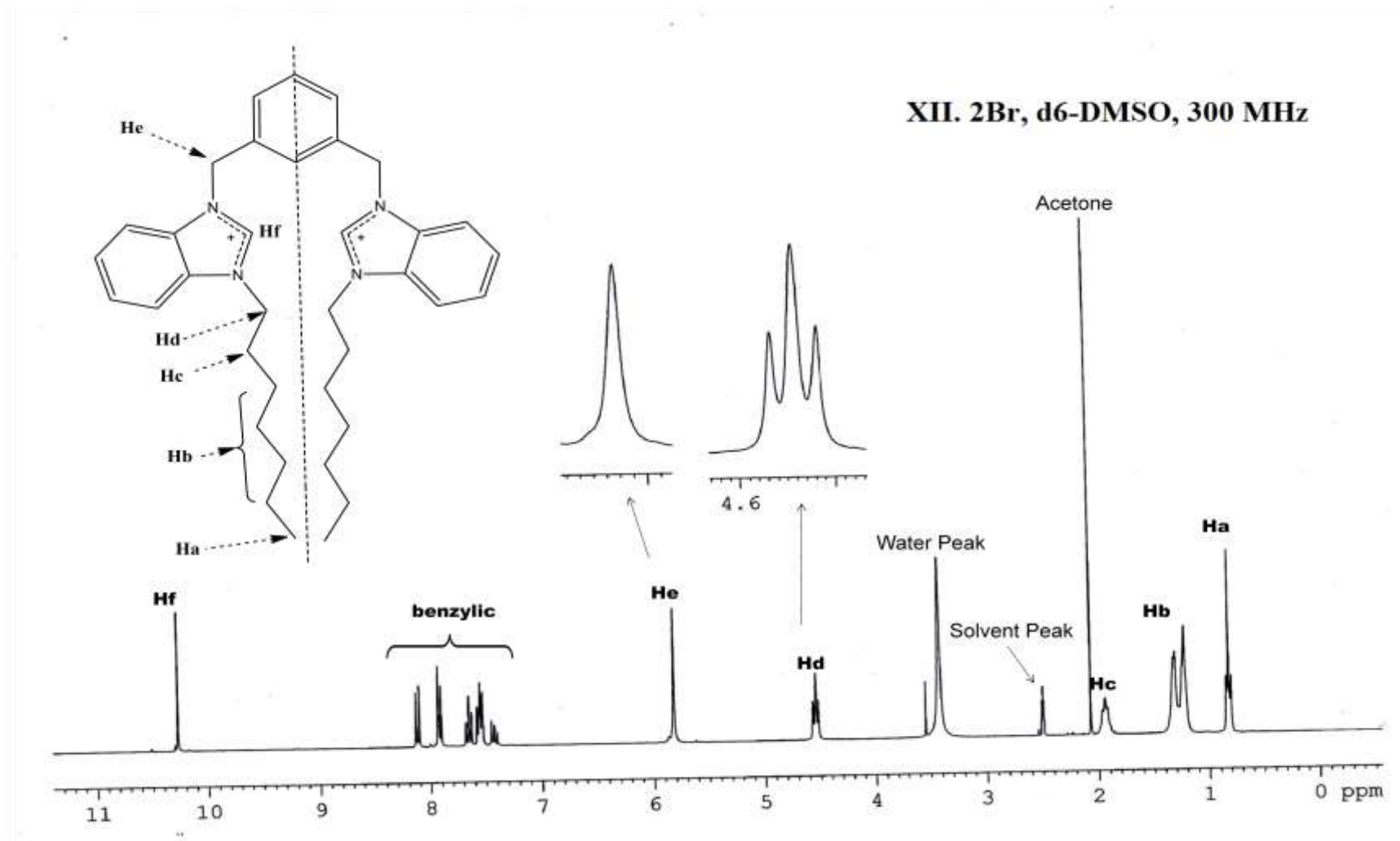
3,3'-(1,3-phenylenebis(methylene))bis(1-heptyl-1H-benzimidazolium) salt (**XII.2Br**)

1. FT-IR
2. ^1H NMR
3. ^{13}C NMR

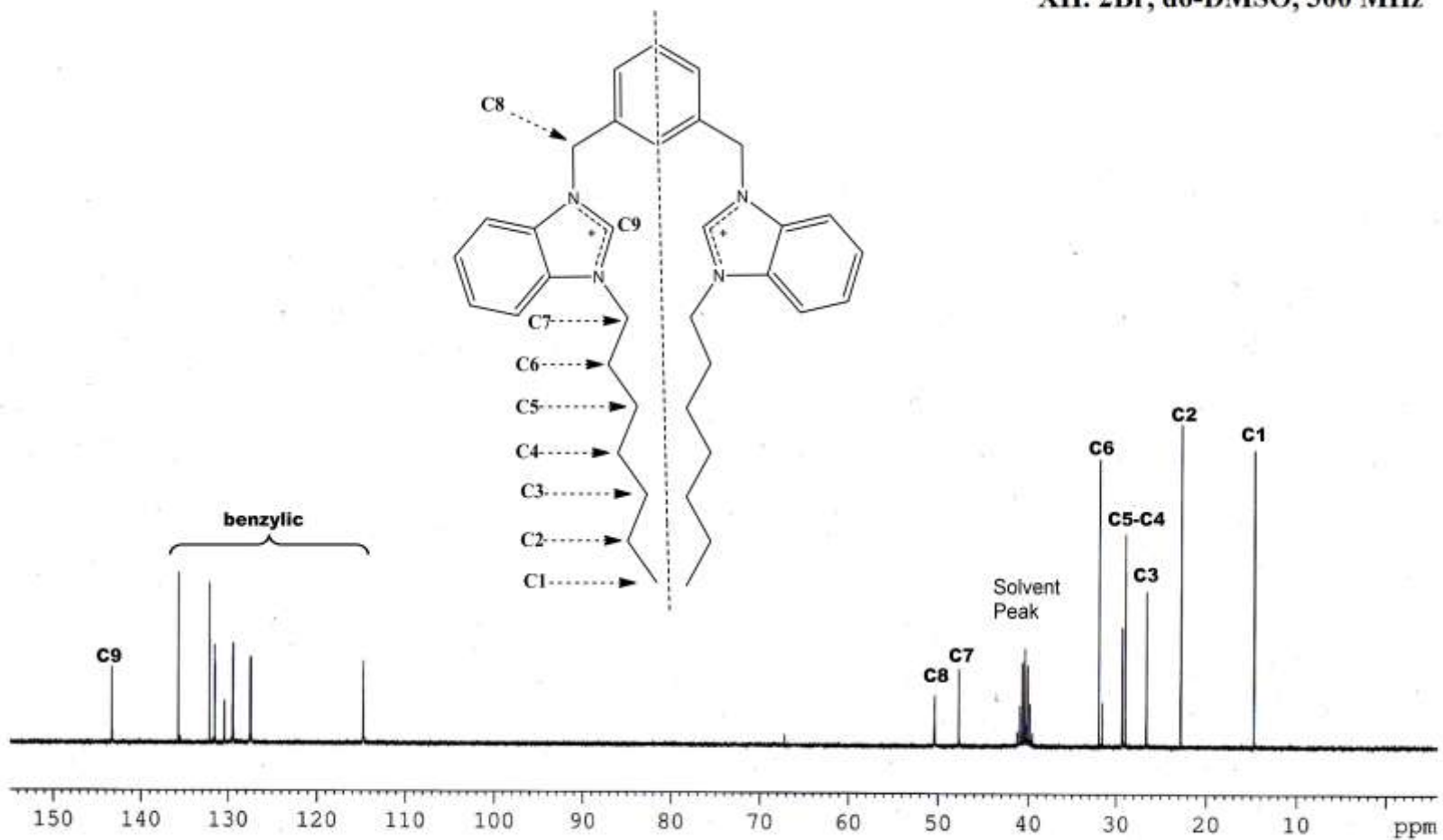
FT-IR, XII. 2Br
Solid (KBr)

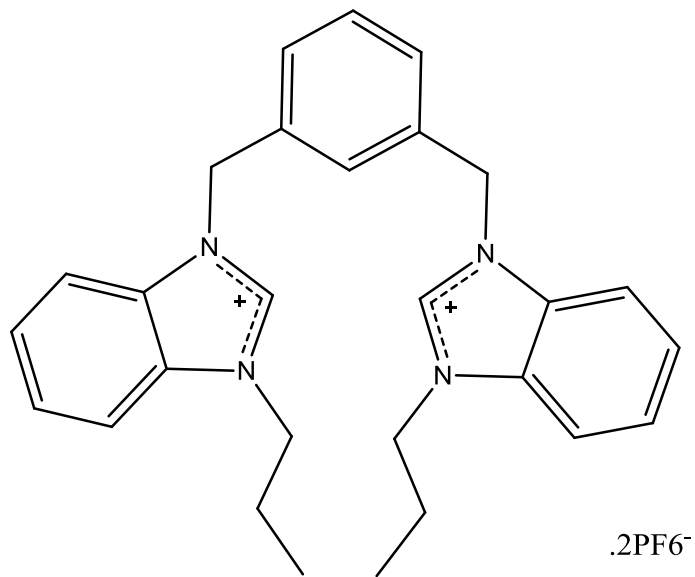


d:\spectrum\ad-14 (solid from reaction).002 - 02/03/11



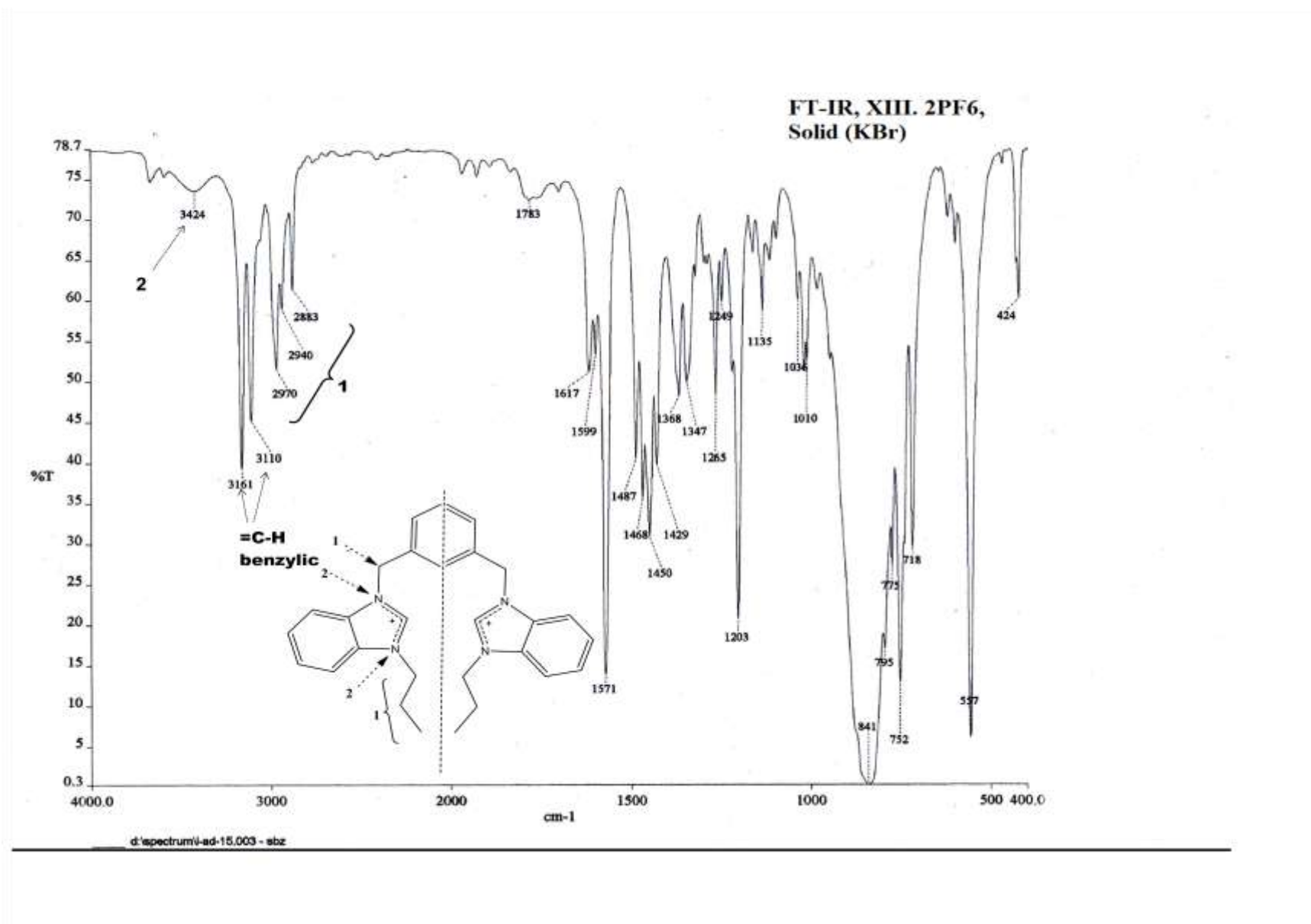
XII. 2Br, d6-DMSO, 300 MHz



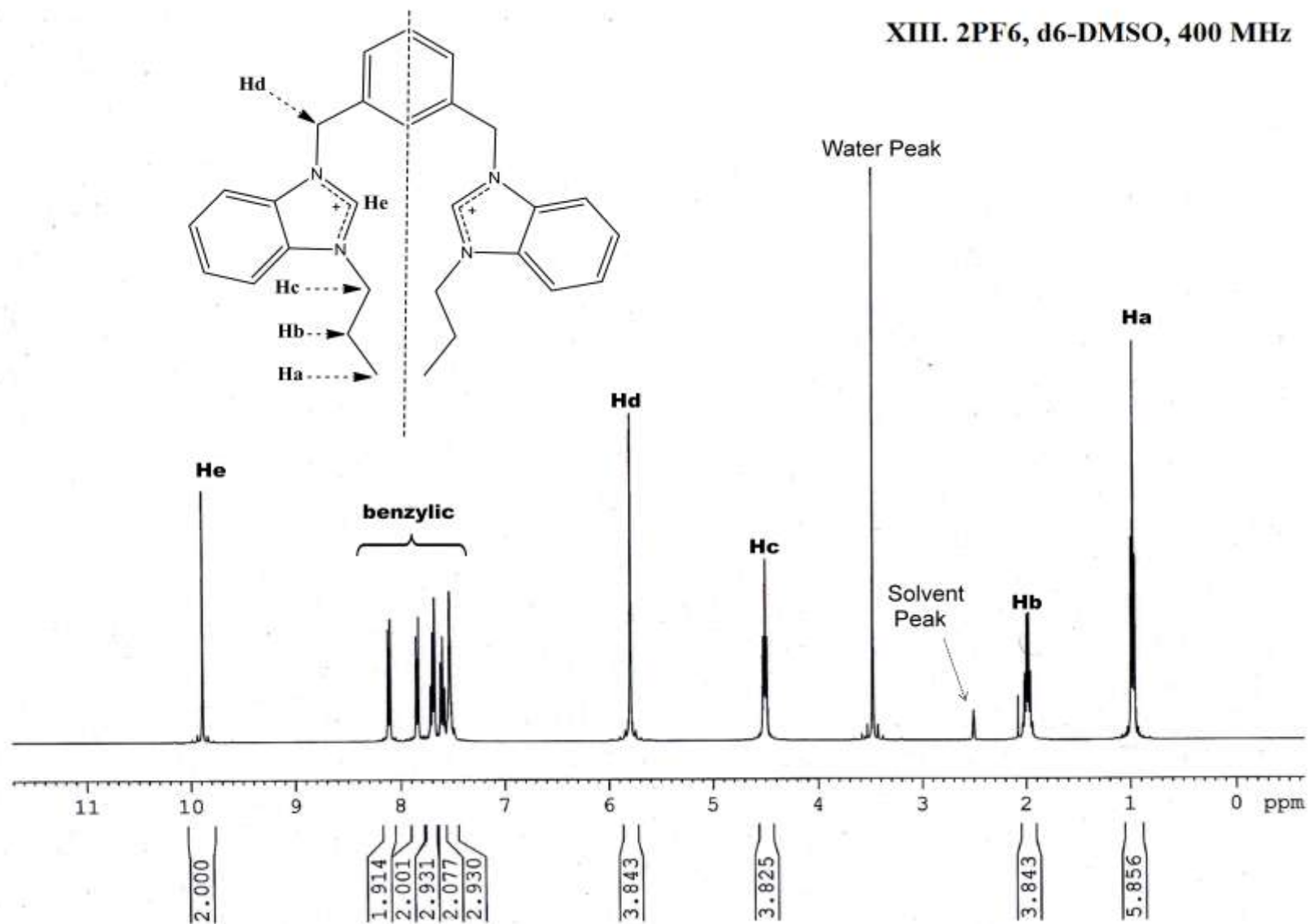


3,3'-(1,3-phenylenebis(methylene))bis(1-propyl-1H-benzimidazolium) salt (**XIII.2PF₆**)

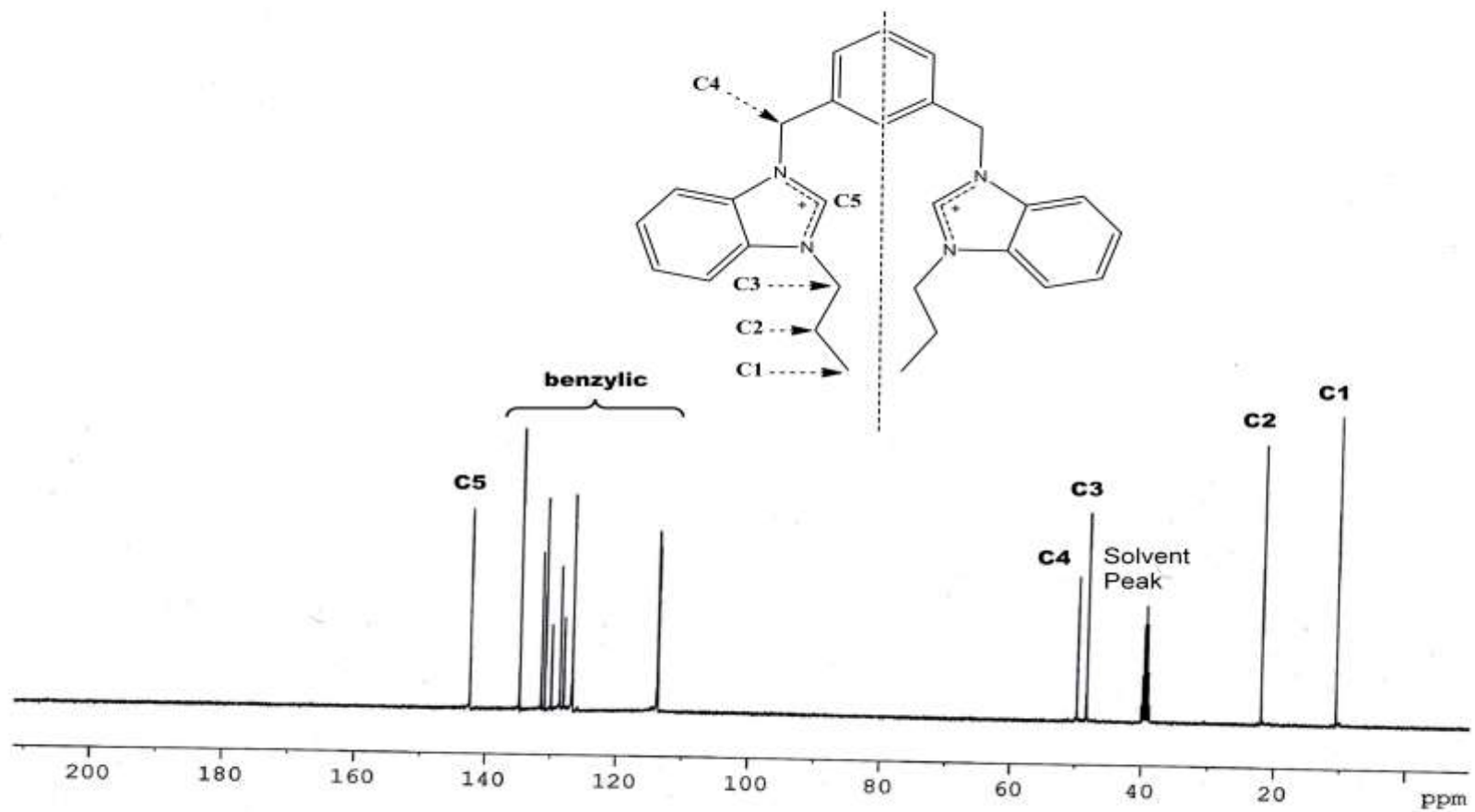
1. FT-IR
2. ¹HNMR
3. ¹³CNMR

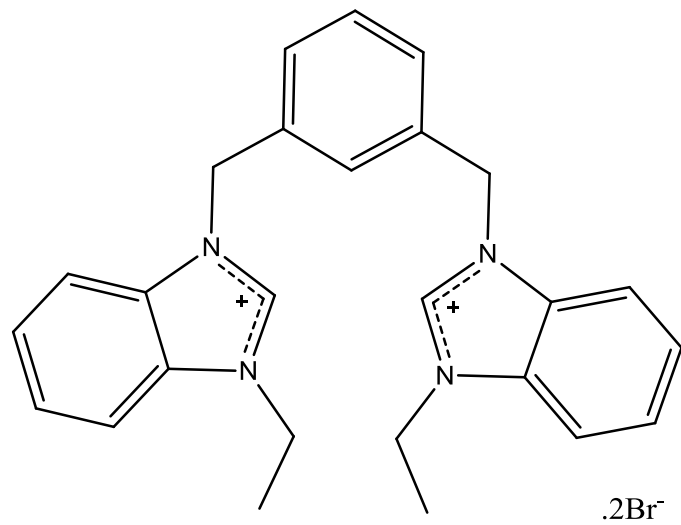


XIII. 2PF6, d6-DMSO, 400 MHz



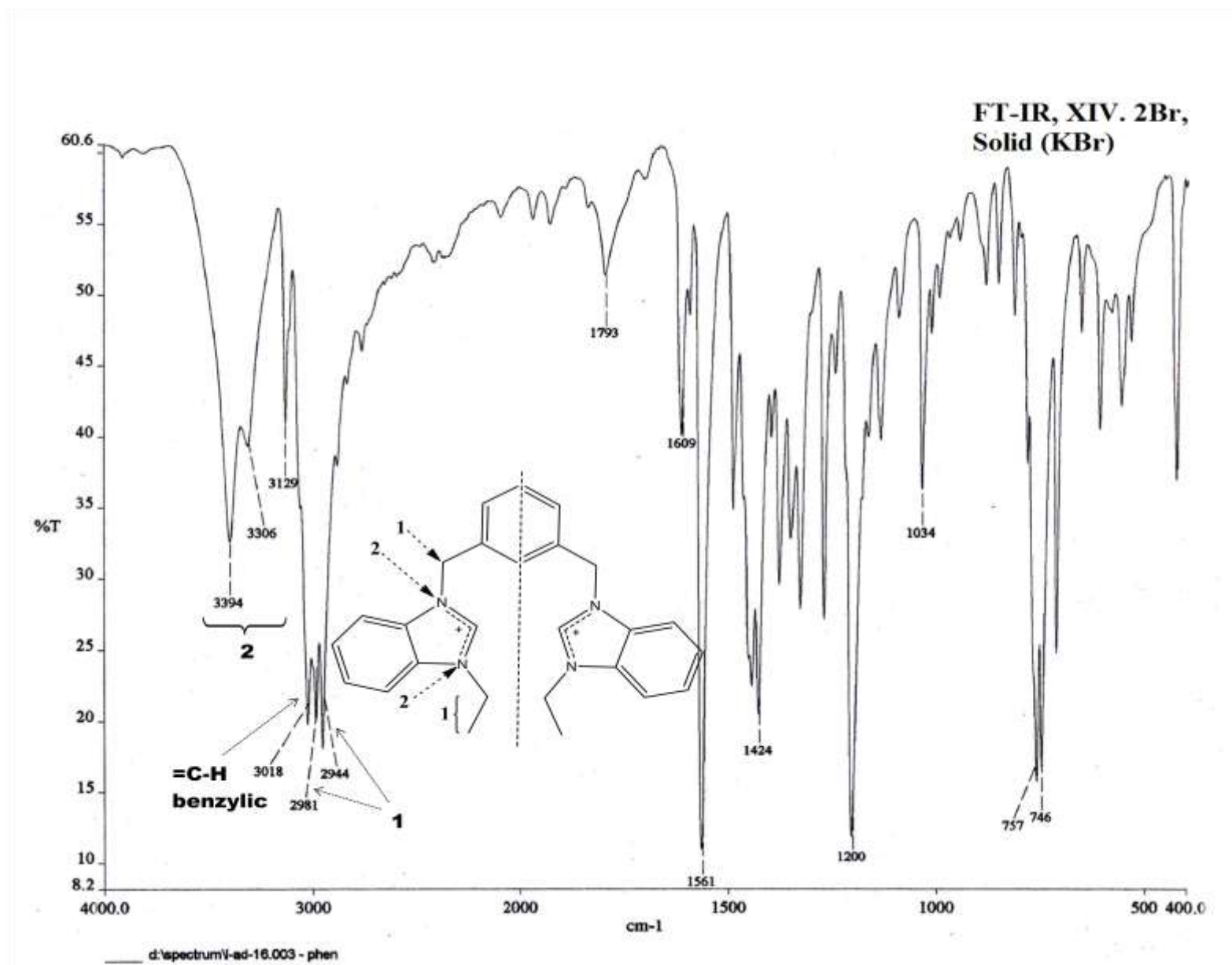
XIII. 2PF6, d6-DMSO, 400 MHz

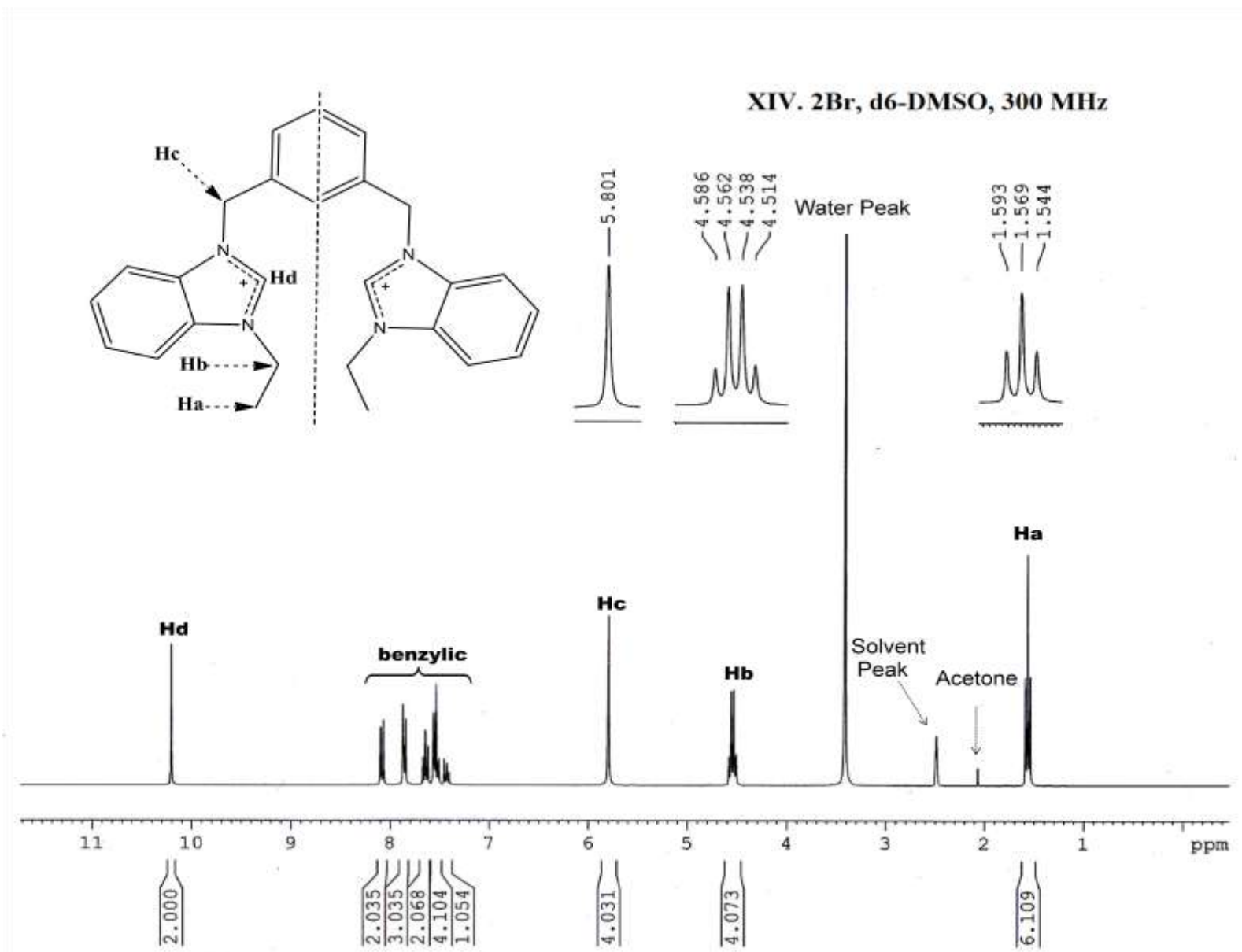


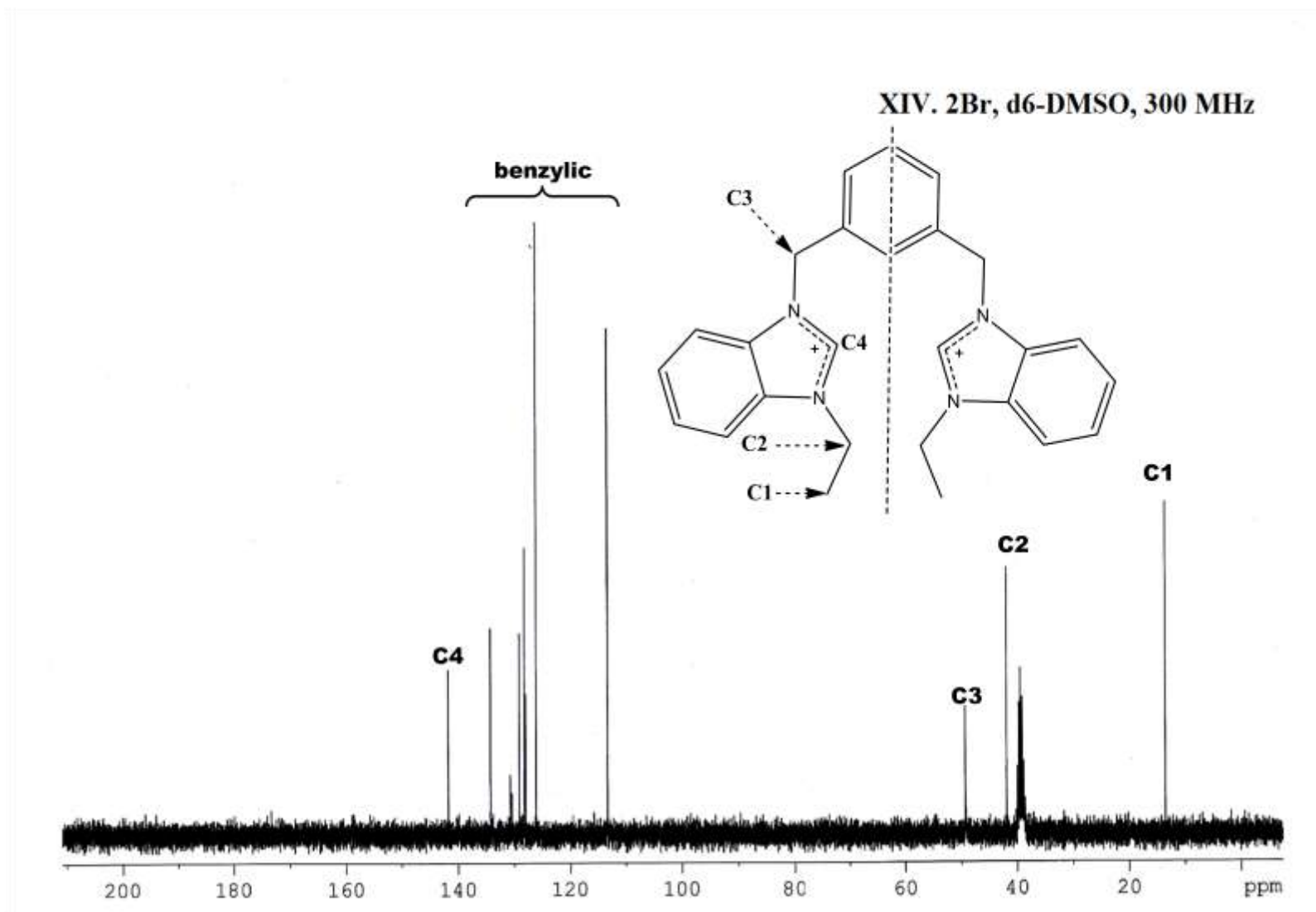


3,3'-(1,3-phenylenebis(methylene))bis(1-ethyl-1H-benzimidazolium) salt (**XIV.2Br**)

1. FT-IR
2. ¹HNMR
3. ¹³CNMR







Note:

All the spectrums were either scanned or directly saved as electronic copies on MS word from NMR PC and labelled by using MS Power Point, MS Word and ChemBioDraw 12.0.