

Synthesis and Characterization of Novel Dimeric s-Triazine Derivatives as Potential Anti-Bacterial Agents against MDR Clinical Isolates.

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S160	Figure 160: ^1H -NMR (DMSO- d_6) spectrum of (<i>N'E,N'''E,N''''E,N''''''E</i>)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(<i>N'</i> -(4-fluorobenzylidene)acetohydrazide) 22f .	57
S161	Figure 161: ^{13}C -NMR (DMSO- d_6) spectrum of (<i>N'E,N'''E,N''''E,N''''''E</i>)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(<i>N'</i> -(4-fluorobenzylidene)acetohydrazide) 22f .	58
S162	Figure 162: IR (KBr) spectrum of (<i>N'E,N'''E,N''''E,N''''''E</i>)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl)) bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(<i>N'</i> -(4-hydroxybenzylidene)acetohydrazide) 22g .	59

S163	Figure 163: ^1H -NMR (DMSO- d_6) spectrum of (<i>N'E,N'''E,N''''E,N''''''E</i>)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl)) bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(<i>N'</i> -(4-hydroxybenzylidene)acetohydrazide) 22g .	60
S164	Figure 164: ^{13}C -NMR (DMSO- d_6) spectrum of (<i>N'E,N'''E,N''''E,N''''''E</i>)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl)) bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(<i>N'</i> -(4-hydroxybenzylidene)acetohydrazide) 22g .	61
S165	Figure 165: IR (KBr) spectrum of (<i>N'E,N'''E,N''''E,N''''''E</i>)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl)) bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(<i>N'</i> -(3,4-dimethoxybenzylidene)acetohydrazide) 22h .	62
S166	Figure 166: ^1H -NMR (DMSO- d_6) spectrum of (<i>N'E,N'''E,N''''E,N''''''E</i>)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl)) bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(<i>N'</i> -(3,4-dimethoxybenzylidene)acetohydrazide) 22h .	63
S167	Figure 167: IR (KBr) spectrum of (<i>N'E,N'''E,N''''E,N''''''E</i>)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl)) bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(<i>N'</i> -(benzo[d][1,3]dioxol-5-ylmethylene)acetohydrazide) 22i .	64
S168	Figure 168: ^1H -NMR (DMSO- d_6) spectrum of (<i>N'E,N'''E,N''''E,N''''''E</i>)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl)) bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(<i>N'</i> -(benzo[d][1,3]dioxol-5-ylmethylene)acetohydrazide) 22i .	65
S169	Figure 169: ^{13}C -NMR (DMSO- d_6) spectrum of (<i>N'E,N'''E,N''''E,N''''''E</i>)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl)) bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(<i>N'</i> -(benzo[d][1,3]dioxol-5-ylmethylene)acetohydrazide) 22i .	66
S170	Figure 170: IR (KBr) spectrum of (<i>N'E,N'''E,N''''E,N''''''E</i>)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl)) bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(<i>N'</i> -(furan-2-ylmethylene)acetohydrazide) 22j .	67
S171	Figure 171: ^1H -NMR (DMSO- d_6) spectrum of (<i>N'E,N'''E,N''''E,N''''''E</i>)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl)) bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(<i>N'</i> -(furan-2-ylmethylene)acetohydrazide) 22j .	68
S172	Figure 172: ^{13}C -NMR (DMSO- d_6) spectrum of (<i>N'E,N'''E,N''''E,N''''''E</i>)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl)) bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(<i>N'</i> -(furan-2-ylmethylene)acetohydrazide) 22j .	69

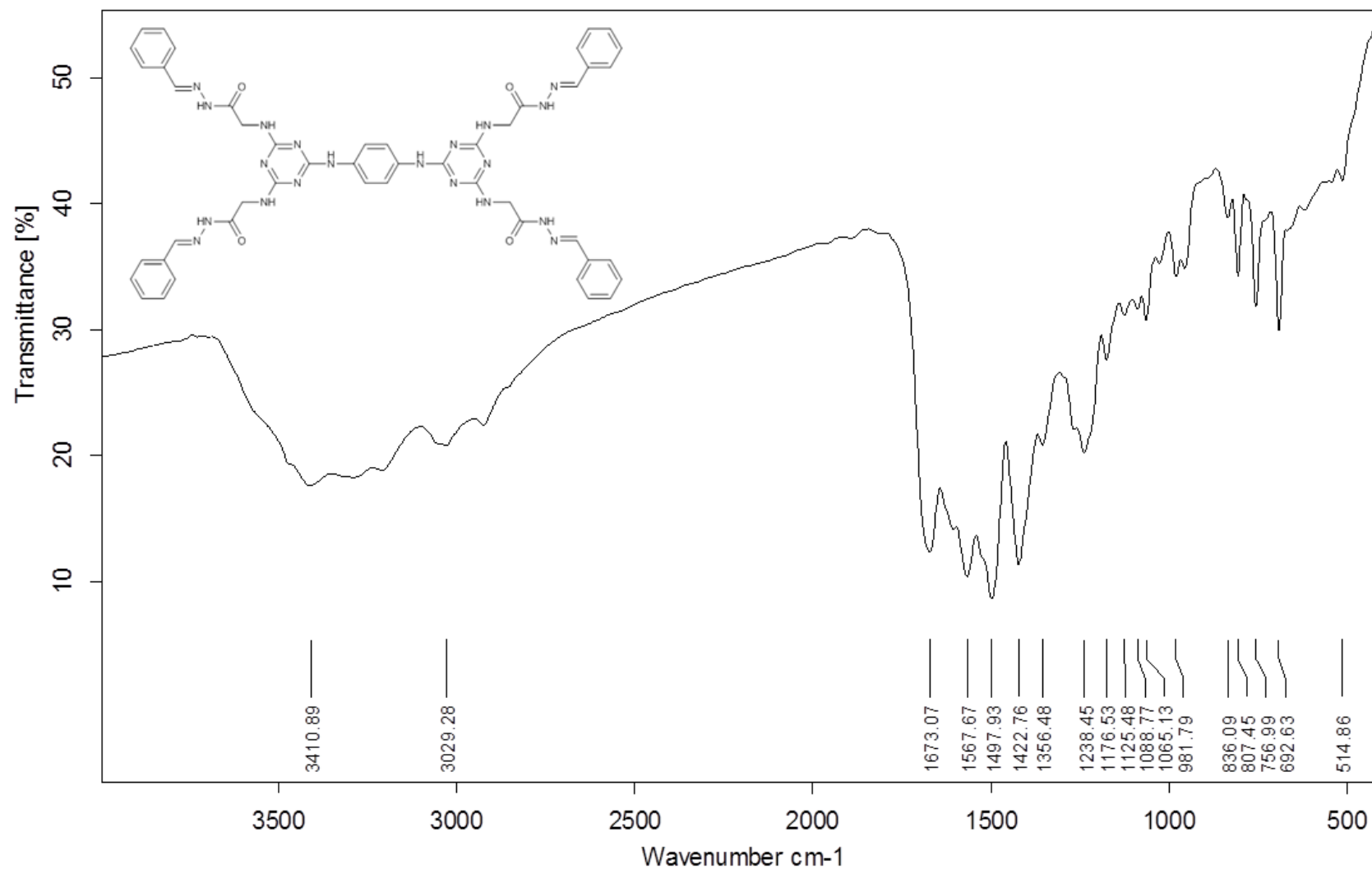


Figure 104: IR (KBr) spectrum of (*N'E,N'''E,N''''E,N'''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl)))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-benzylideneacetohydrazide) **21a**.

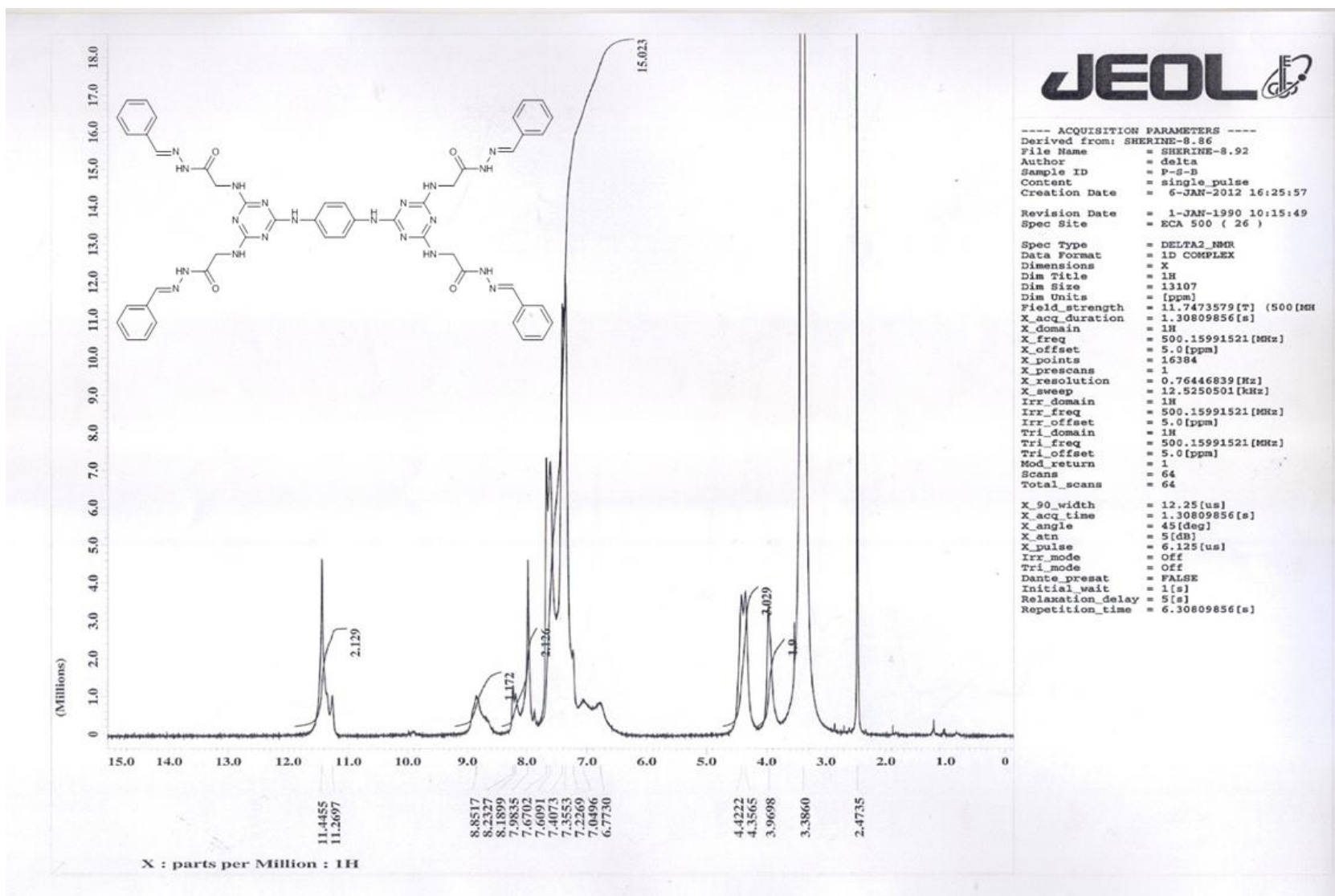


Figure 105: ^1H -NMR ($\text{DMSO}-d_6$) spectrum of (*N'E,N'''E,N''''E,N'''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-benzylideneacetohydrazide) **21a**.

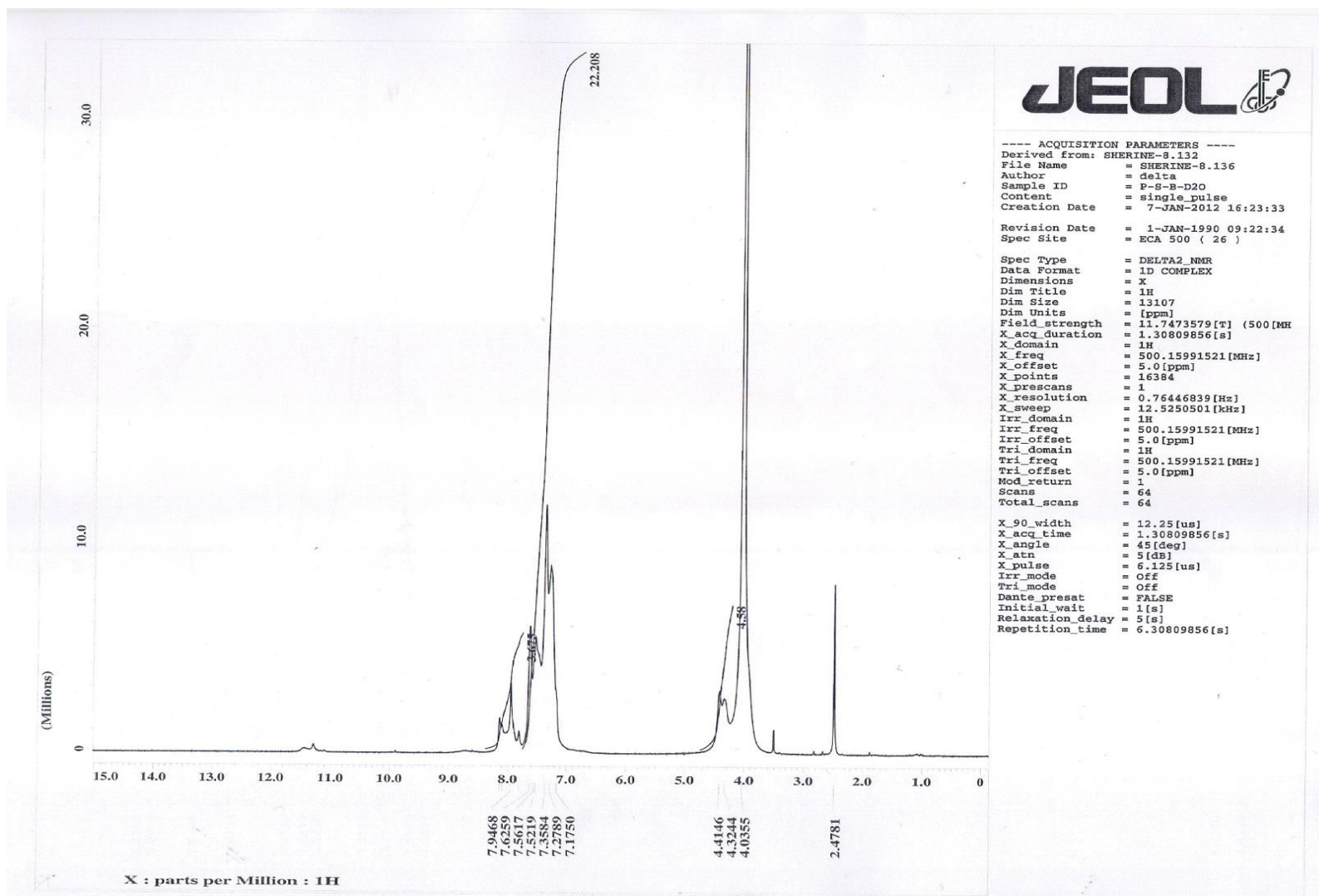


Figure 106: ^1H -NMR (DMSO- d_6) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-benzylideneacetohydrazide) **21a**.

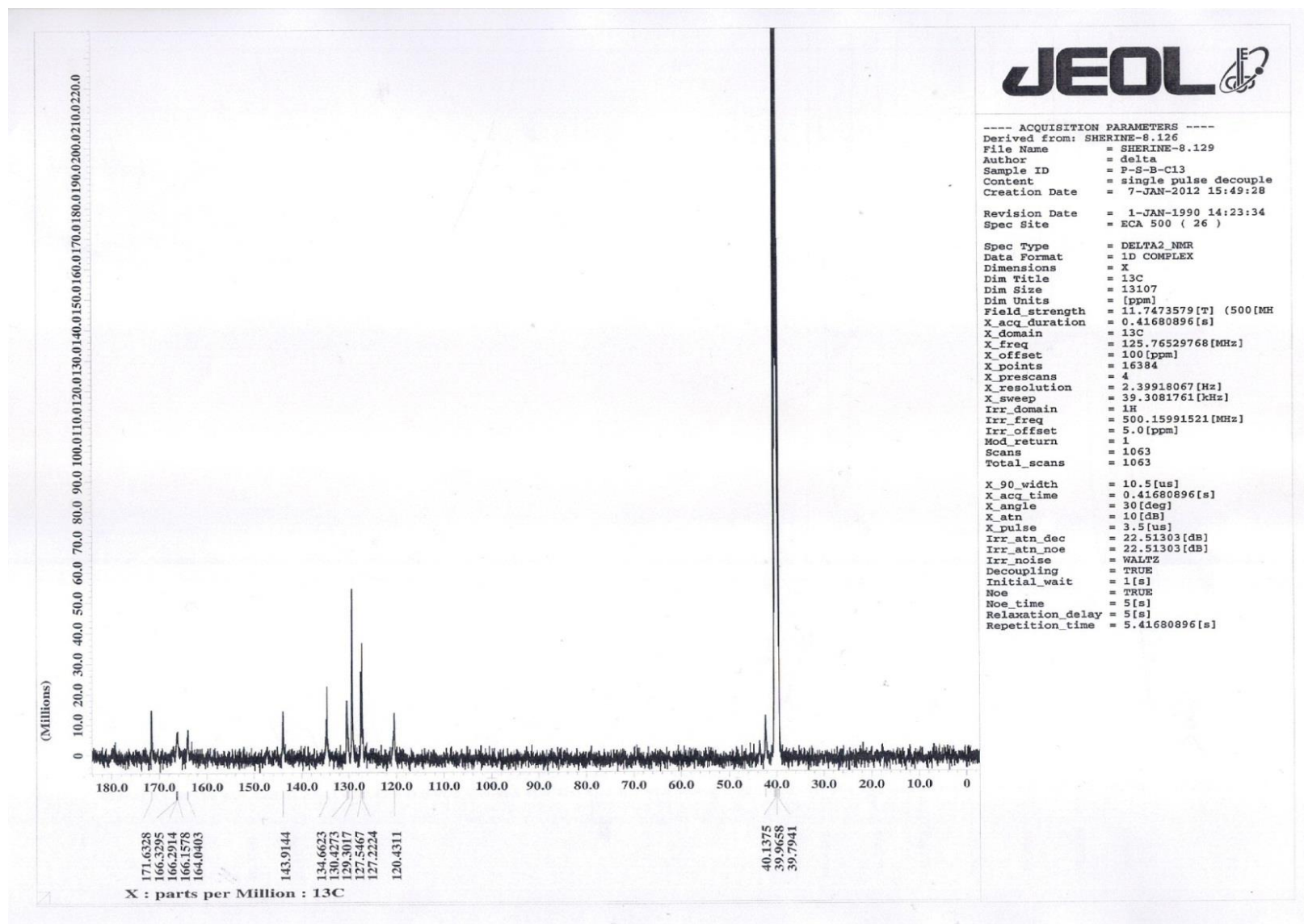


Figure 107: ^{13}C -NMR (DMSO- d_6) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-benzylideneacetohydrazide) **21a**.

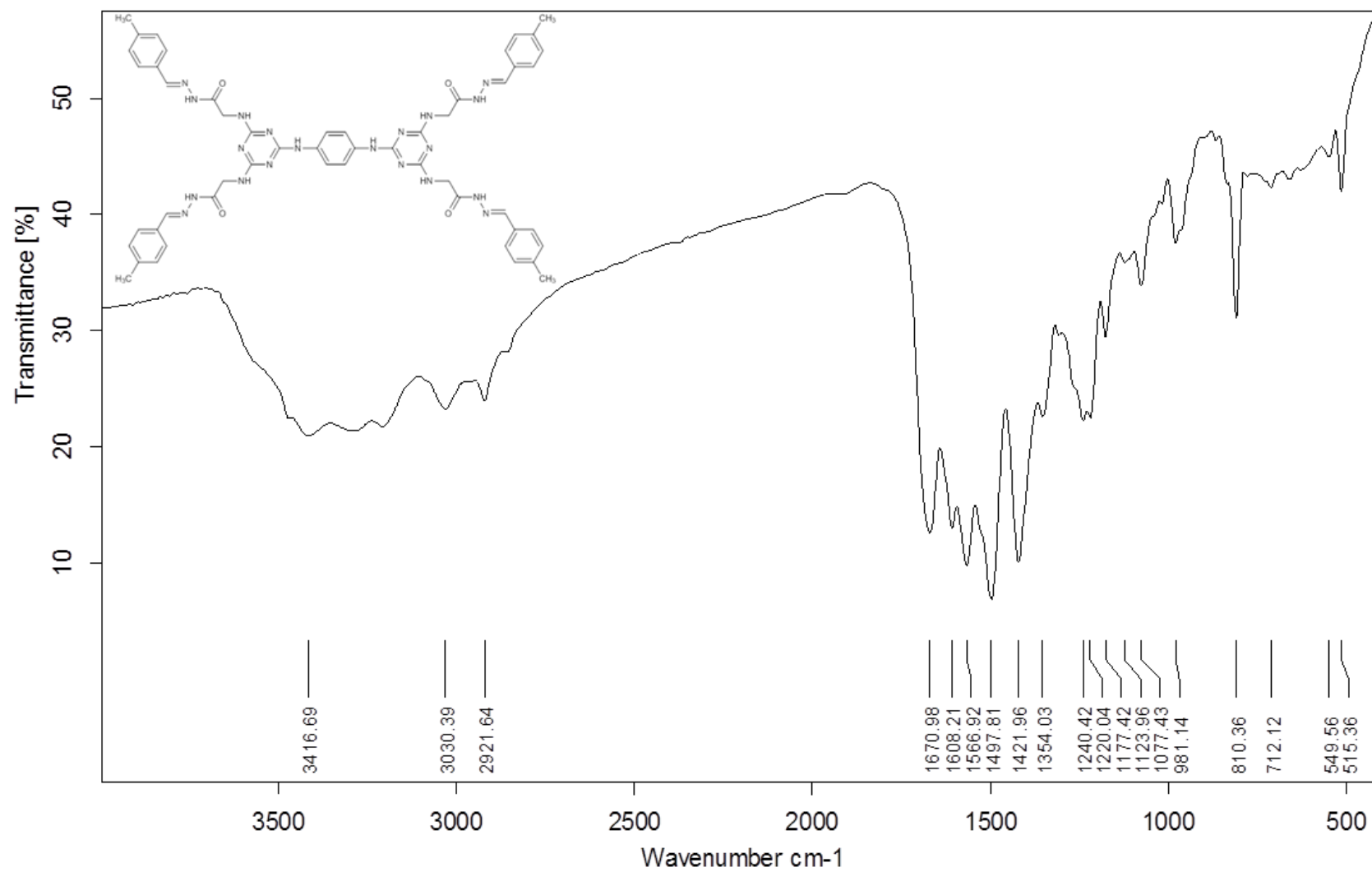


Figure 108: IR (KBr) spectrum of (*N'E,N'''E,N''''E,N'''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-methylbenzylidene)acetohydrazide) **21b**.

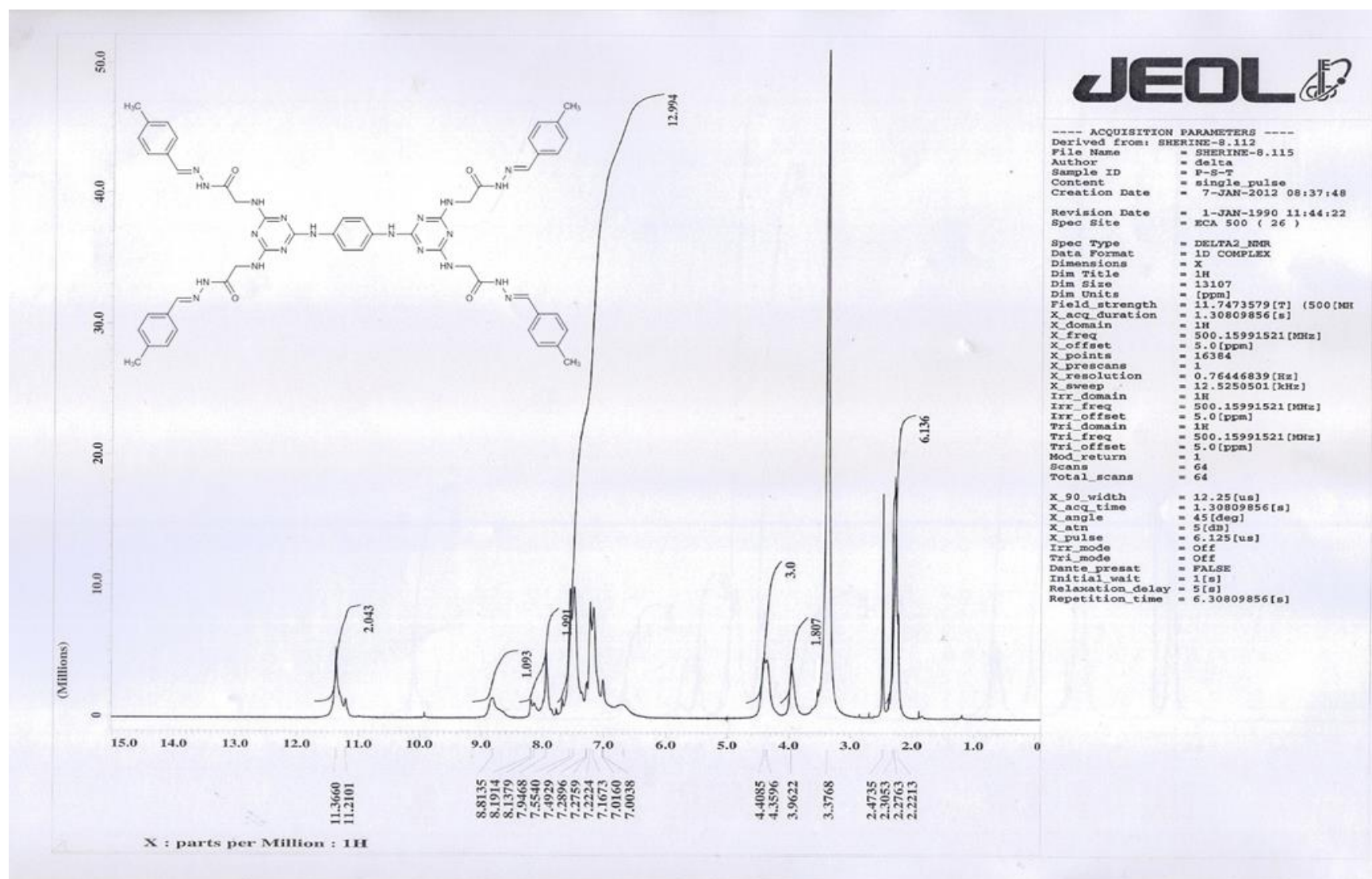


Figure 109: ^1H -NMR (DMSO- d_6) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-methylbenzylidene)acetohydrazide) **21b**.

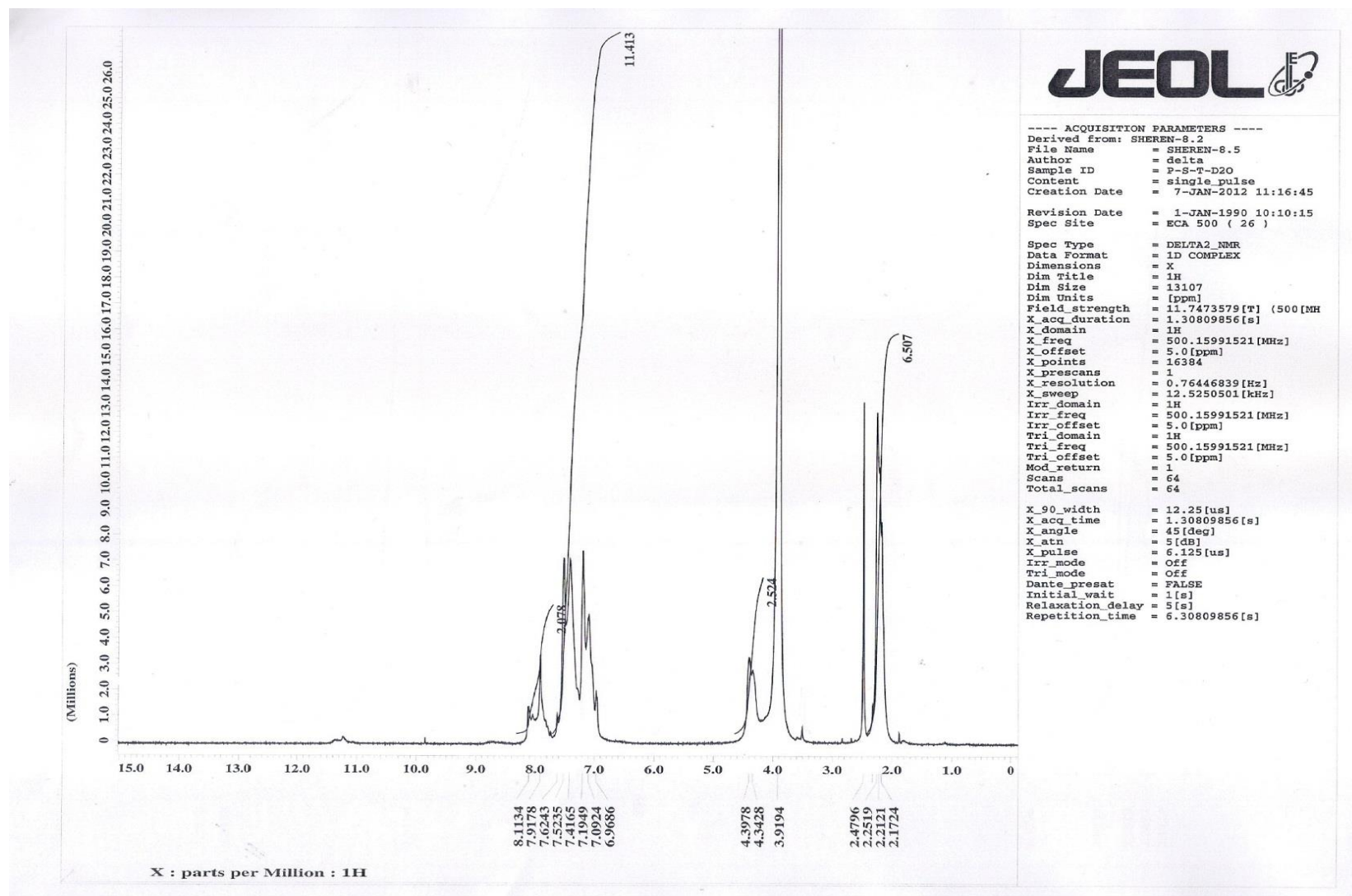


Figure 110: ^1H -NMR ($\text{DMSO}-d_6$) spectrum of $(N'E,N''E,N''''E,N''''''E)-2,2',2'',2'''-((6,6'-(1,4\text{-phenylenebis(azanediy))bis(1,3,5\text{-triazine-6,4,2-triyl))tetrakis(azanediy))tetrakis}(N'-(4\text{-methylbenzylidene)acetohydrazide})$ **21b**.

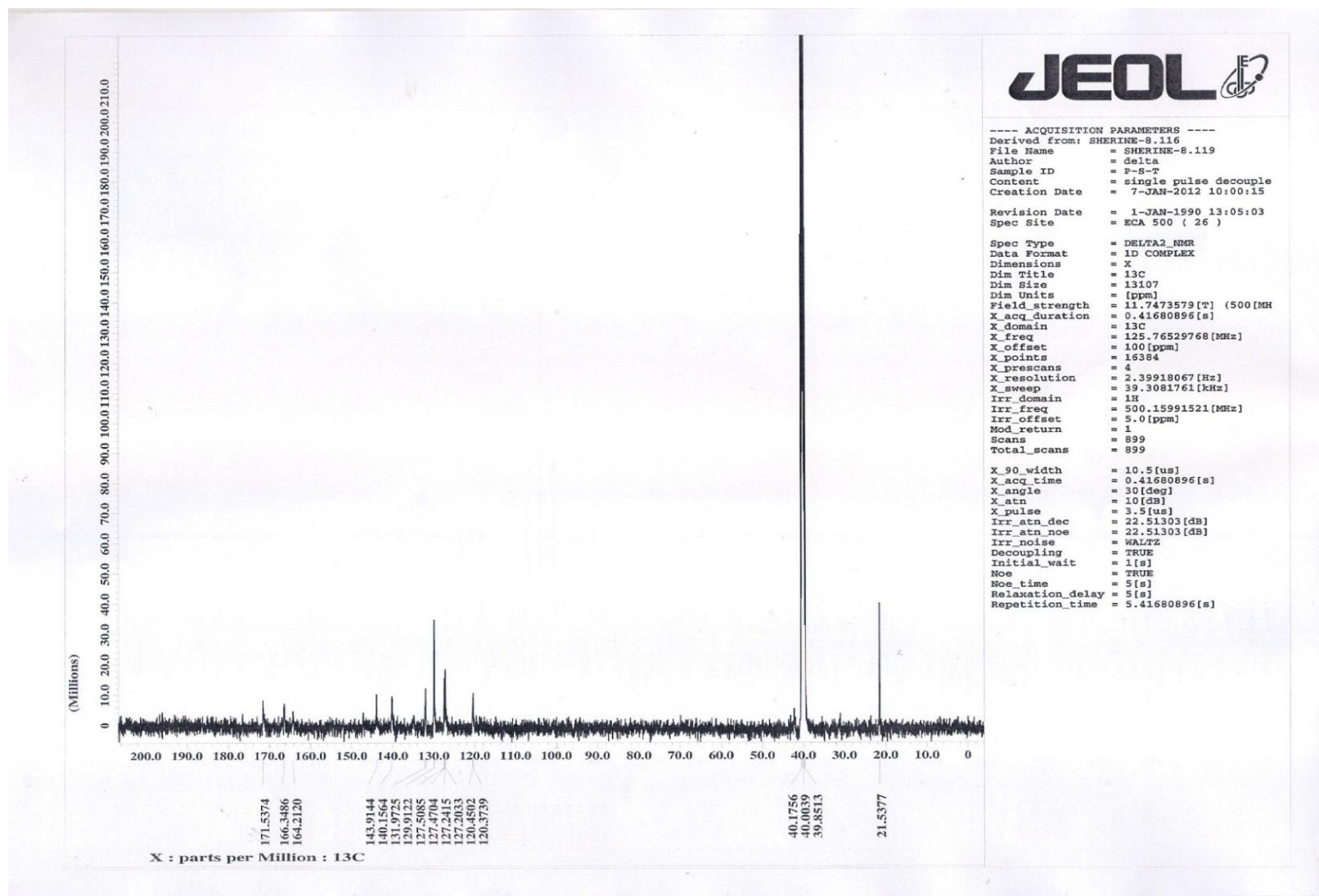


Figure 111: ^{13}C -NMR ($\text{DMSO-}d_6$) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-(((6'-(1,4-phenylenebis(azanediyl)))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-methylbenzylidene)acetohydrazide) **21b**.

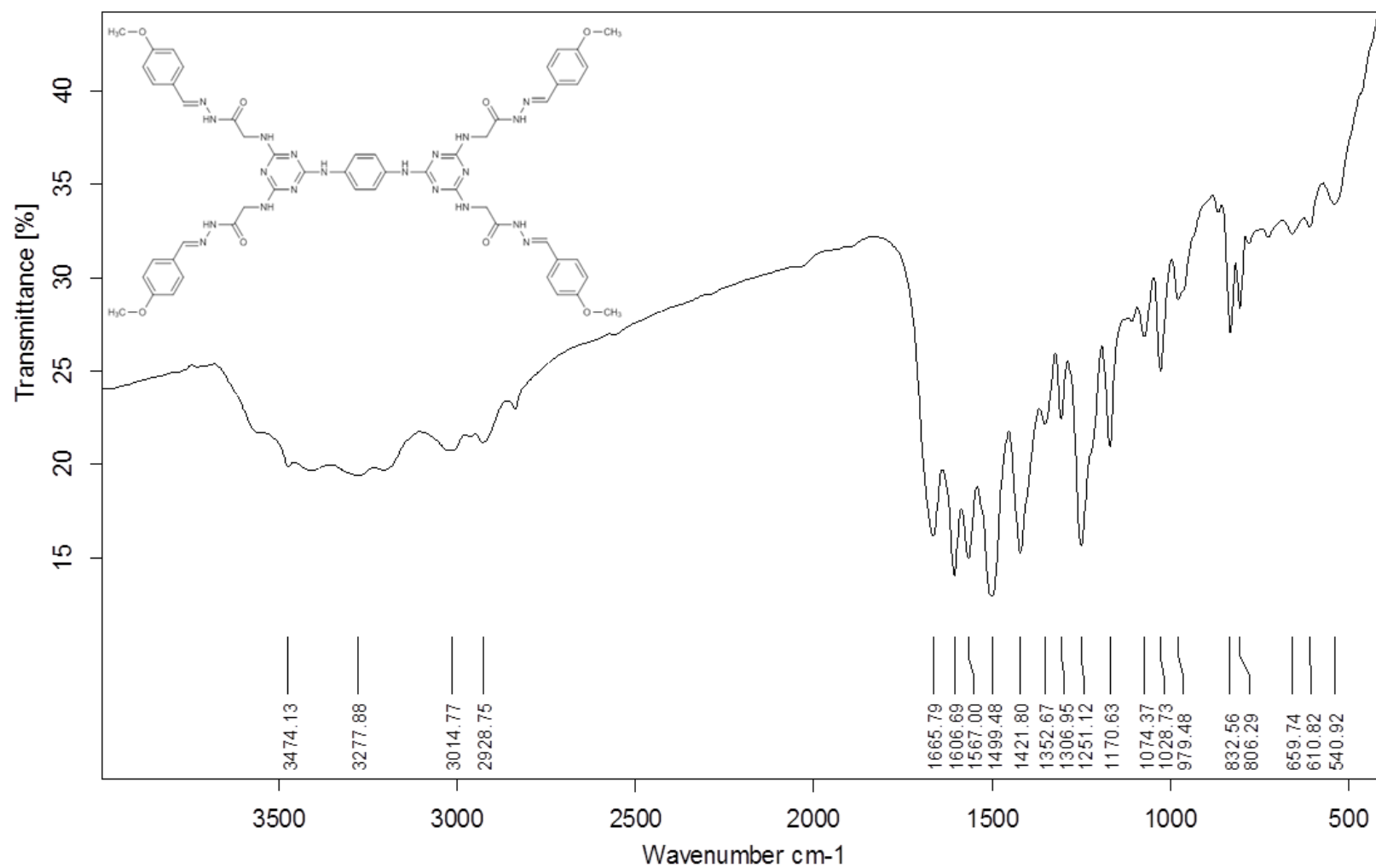


Figure 112: IR (KBr) spectrum of (*N'E,N''''E,N''''''E,N''''''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-methoxybenzylidene)acetohydrazide) **21c**.

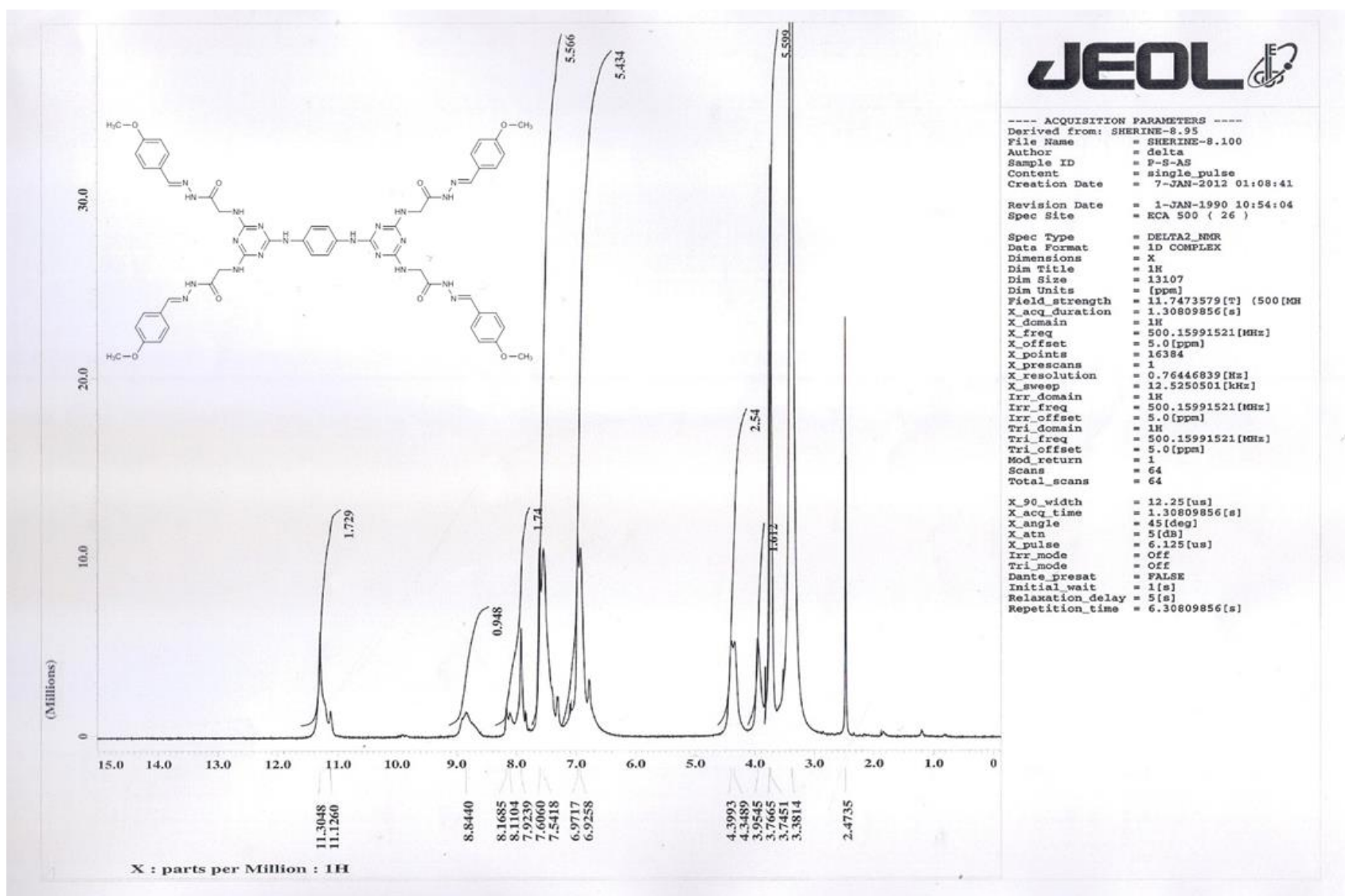


Figure 113: ^1H -NMR ($\text{DMSO-}d_6$) spectrum of $(N'E,N''E,N''''E,N''''''E)$ -2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(N' -(4-methoxybenzylidene)acetohydrazide) **21c**.

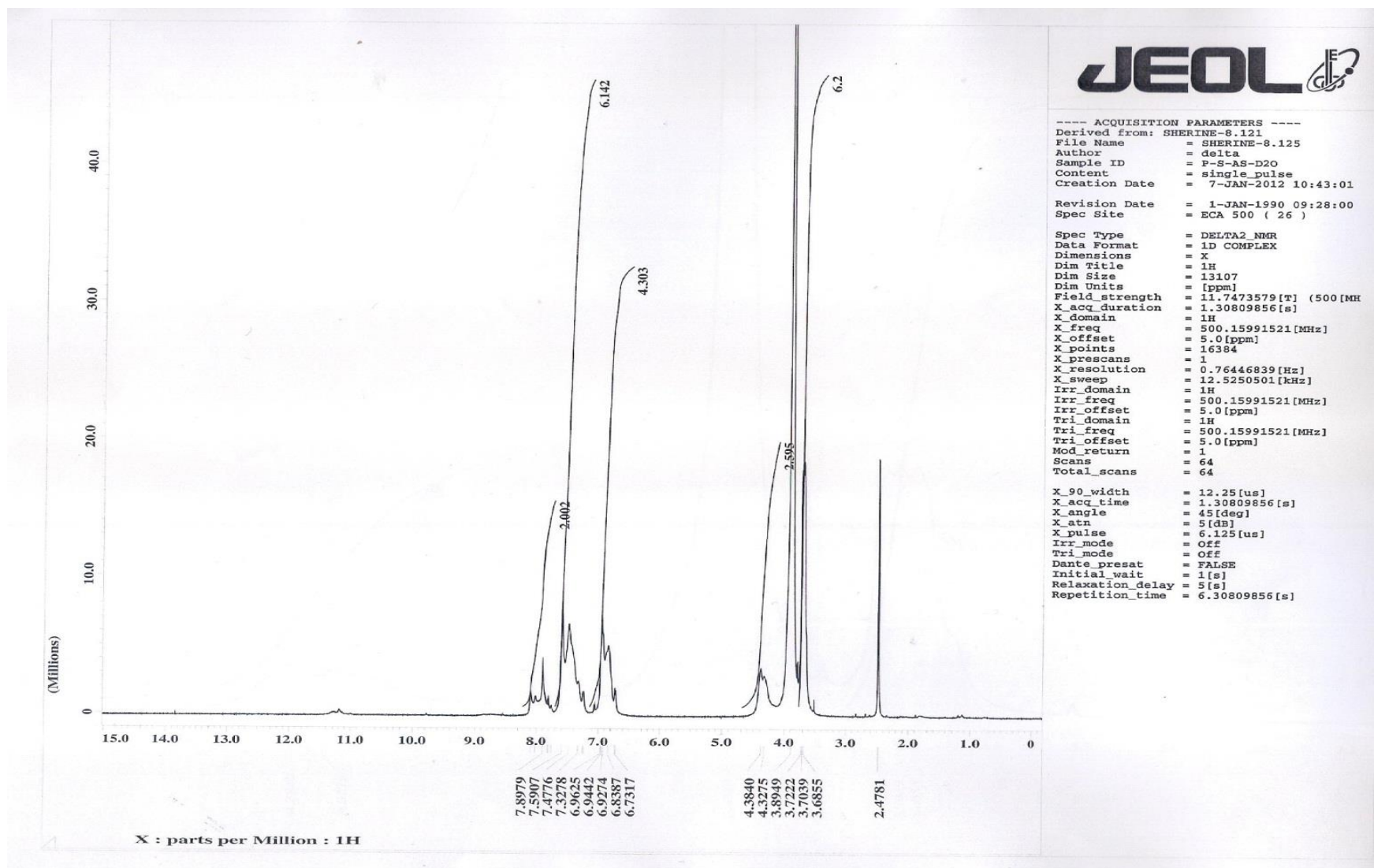


Figure 114: ^1H -NMR (DMSO- $d_6\text{D}_2\text{O}$) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-(((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-methoxybenzylidene)acetohydrazide) **21c**.

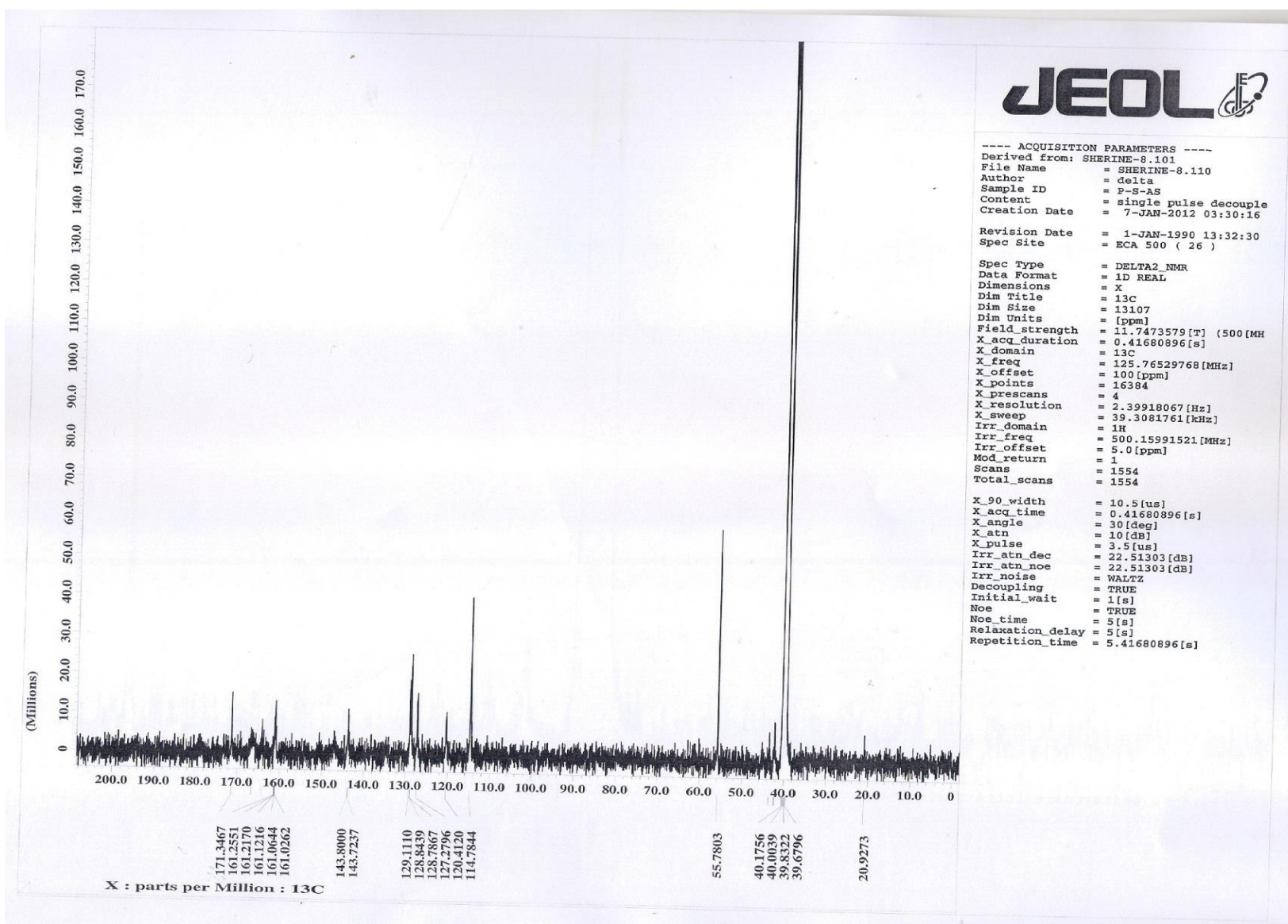


Figure 115: ^{13}C -NMR ($\text{DMSO}-d_6$) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-methoxybenzylidene)acetohydrazide) **21c**.

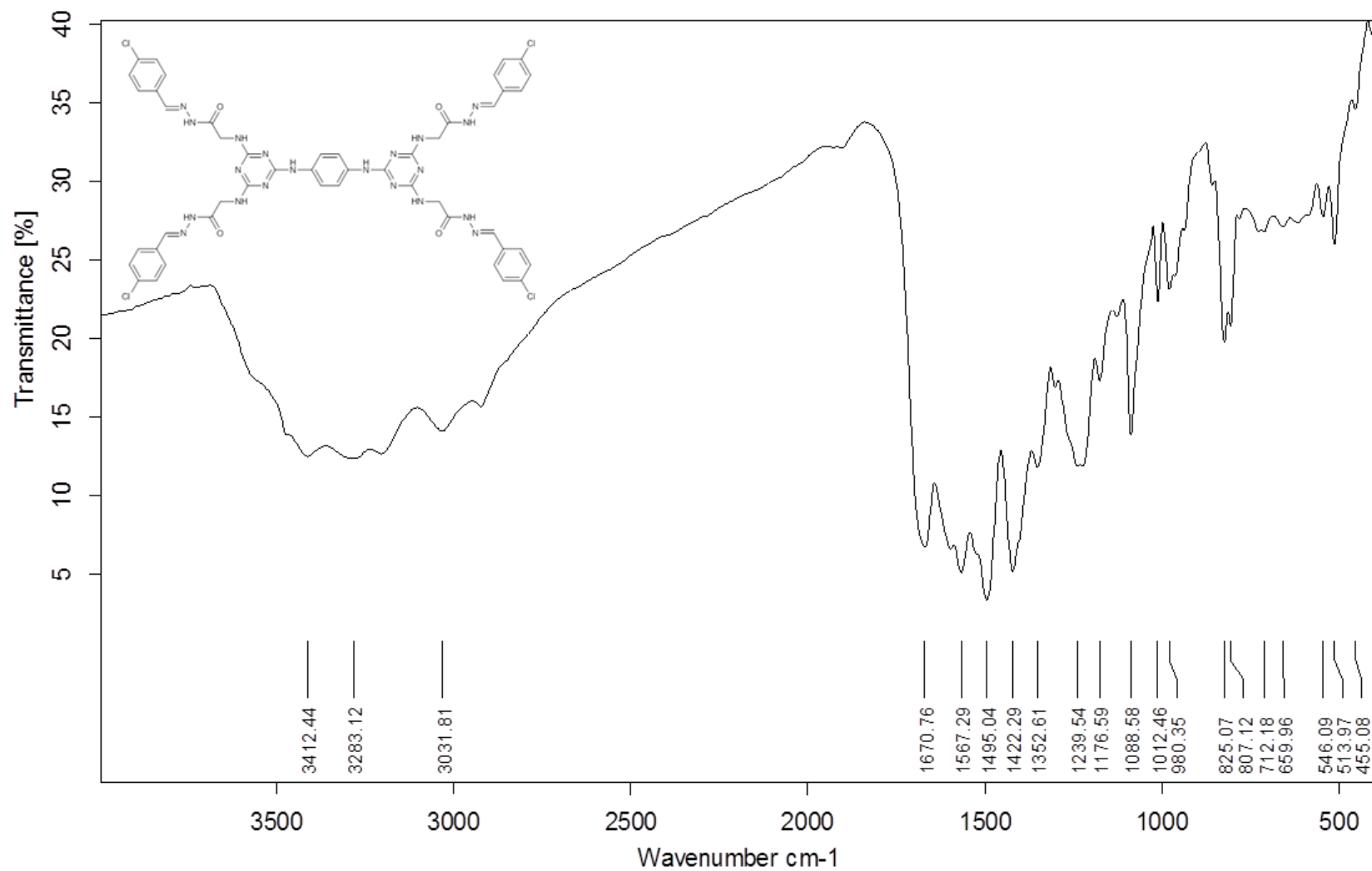


Figure 116: IR (KBr) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-chlorobenzylidene)acetohydrazide) **21d**.

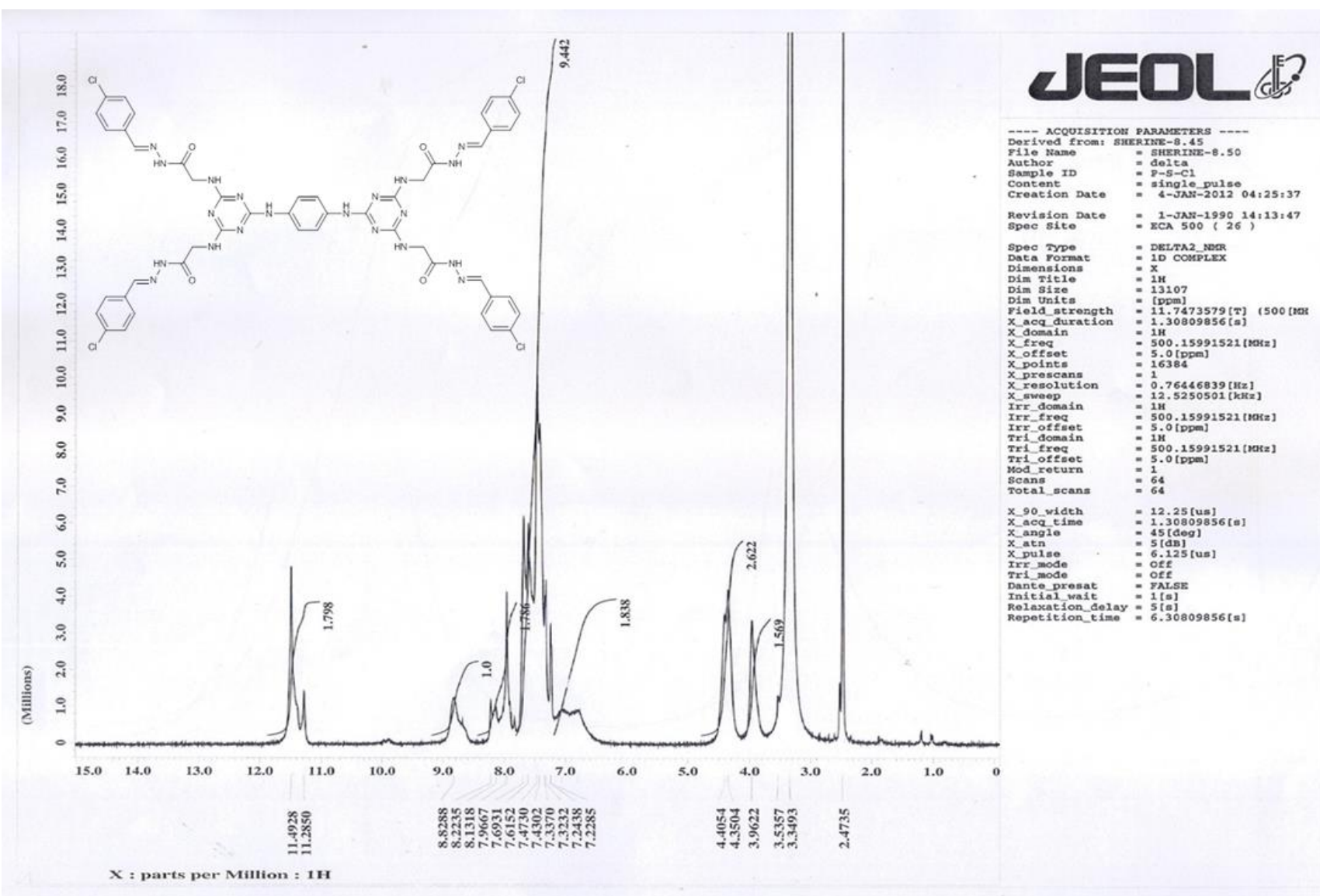


Figure 117: ^1H -NMR ($\text{DMSO-}d_6$) spectrum of (*N'E,N'''E,N'''''E,N''''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-chlorobenzylidene)acetohydrazide) **21d**.

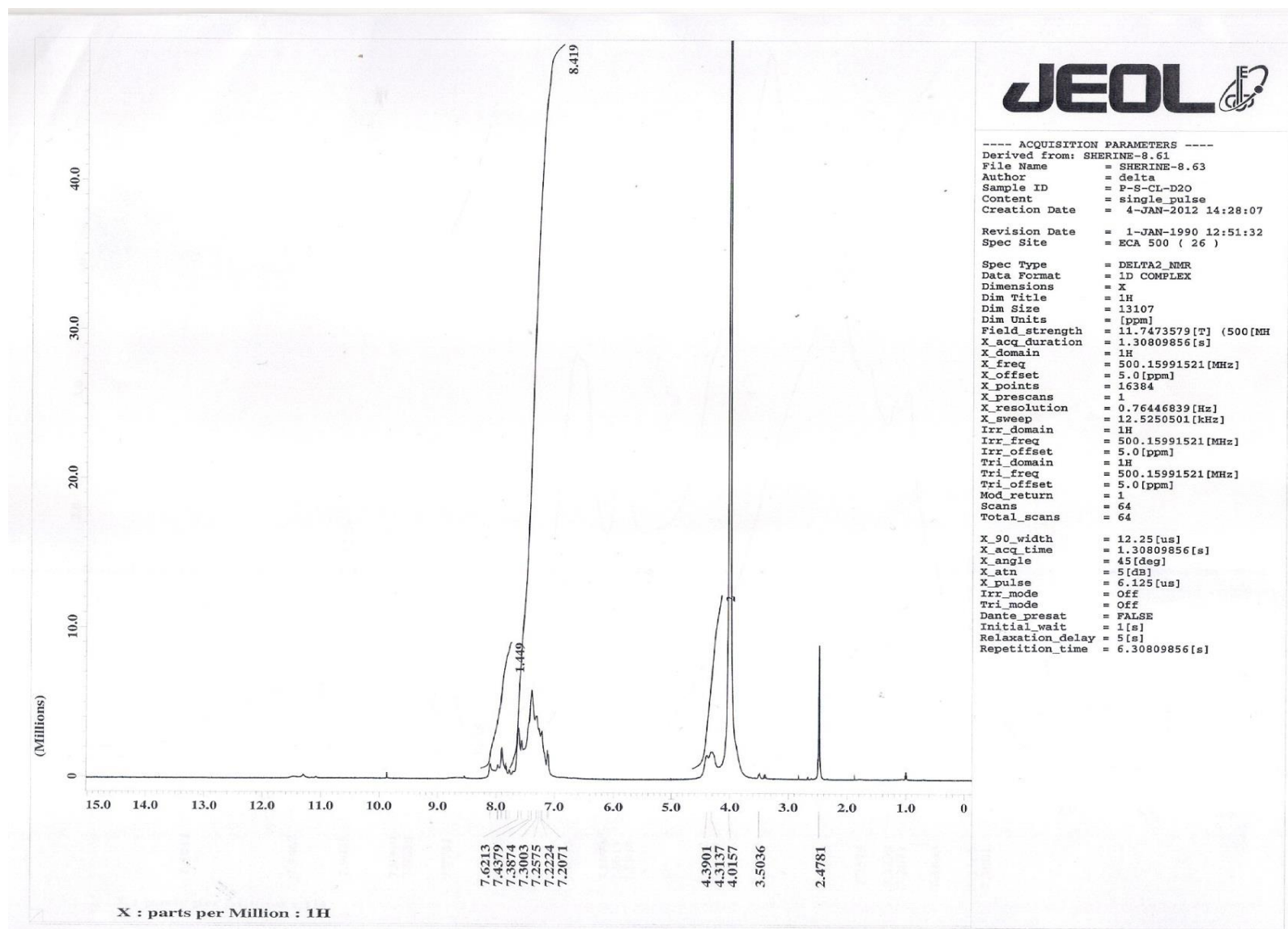


Figure 118: ^1H -NMR ($\text{DMSO}-d_6$) spectrum of $(N'E,N''E,N''''E,N''''''E)$ -2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(N' -(4-chlorobenzylidene)acetohydrazide) **21d**.

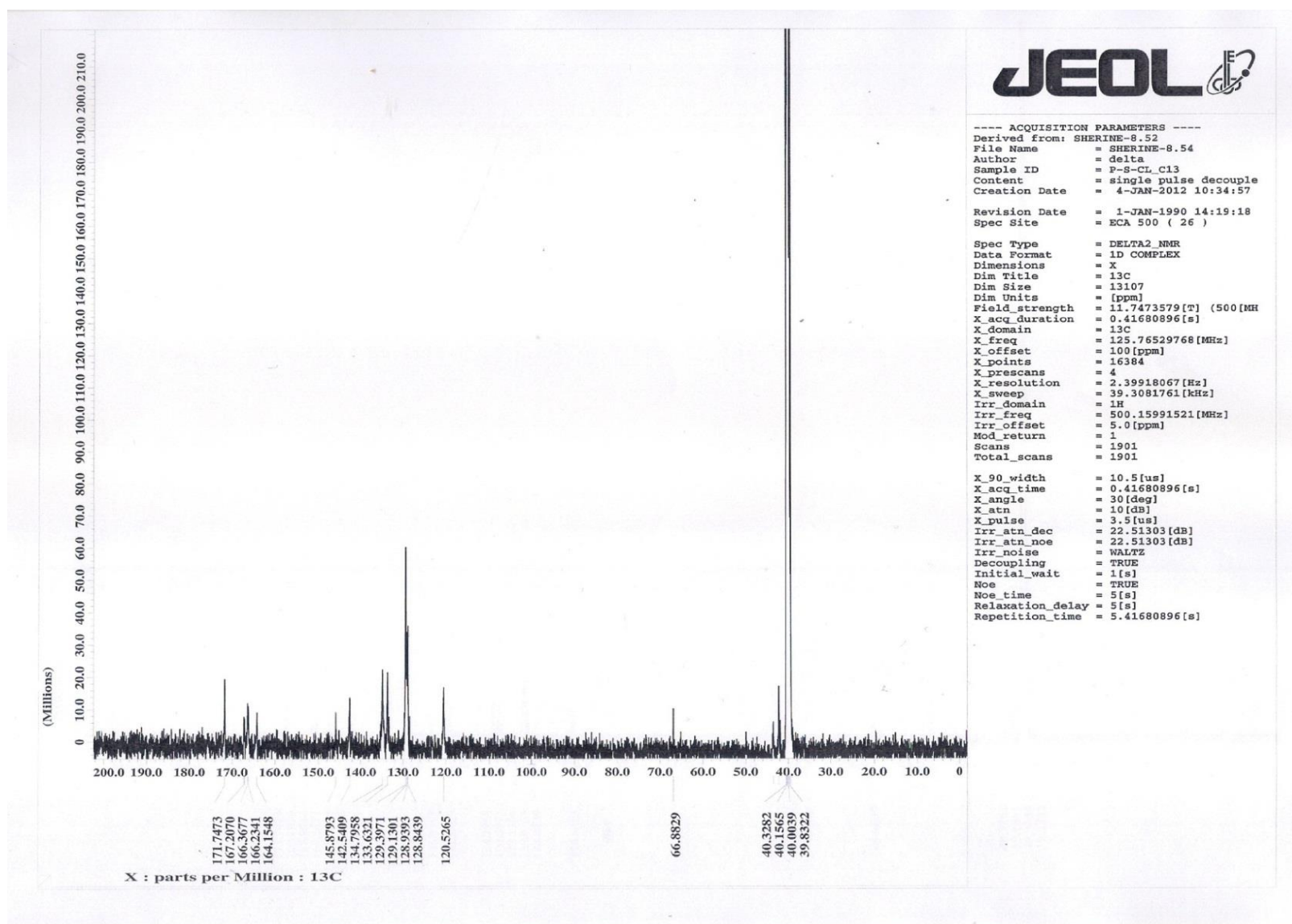


Figure 119: ^{13}C -NMR ($\text{DMSO}-d_6$) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-(((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-chlorobenzylidene)acetohydrazide) **21d**.

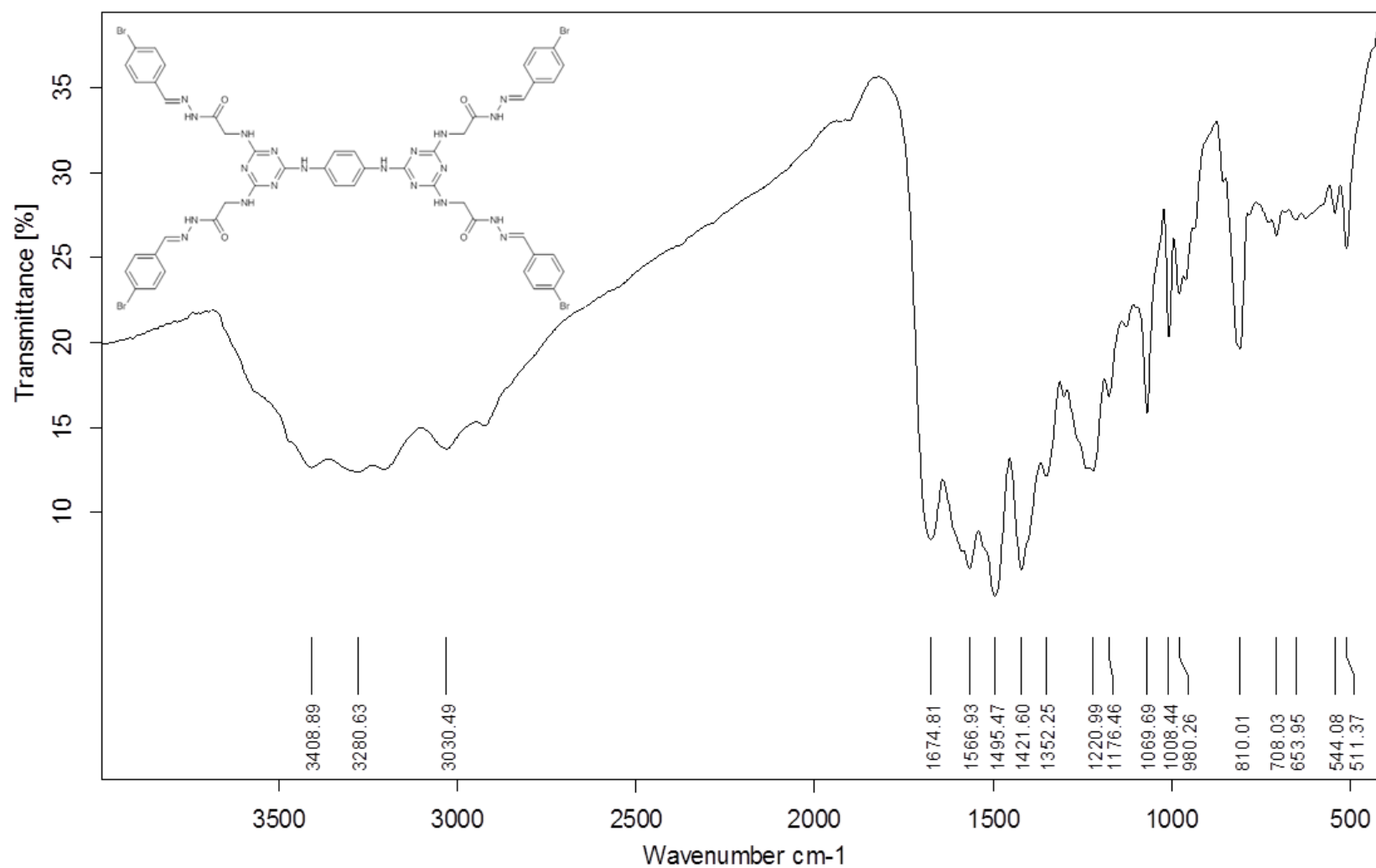


Figure 120: IR (KBr) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl)))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-bromobenzylidene)acetohydrazide) **21e**.

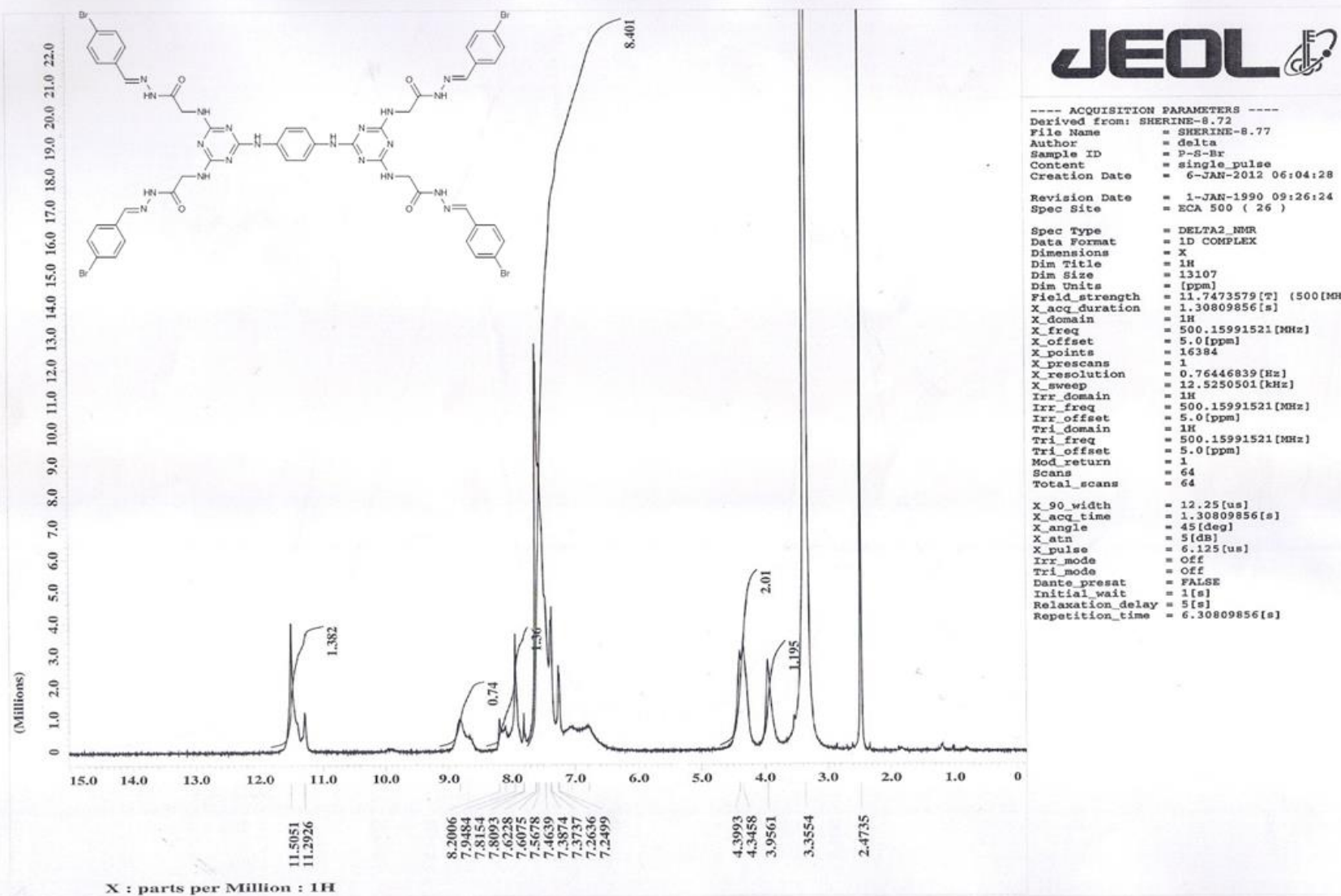


Figure 121: ^1H -NMR ($\text{DMSO}-d_6$) spectrum of $(N'E,N''E,N''''E,N''''''E)$ -2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(N' -(4-bromobenzylidene)acetohydrazide) **21e**.

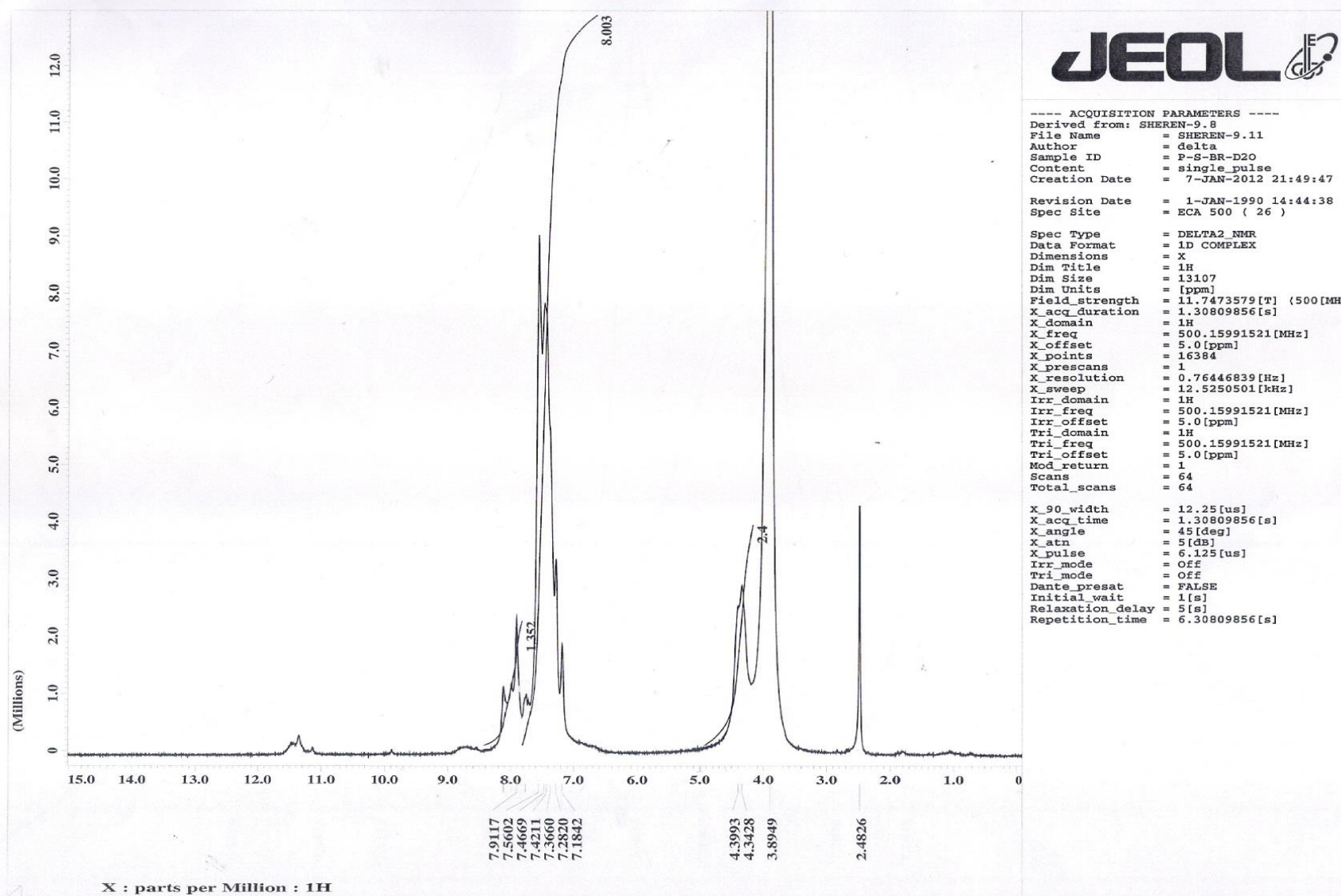


Figure 122: ^1H -NMR ($\text{DMSO}-d_6$) spectrum of $(N'E,N''E,N''''E,N''''''E)-2,2',2'',2'''-((6,6'-(1,4\text{-phenylenebis(azanediyl))bis(1,3,5\text{-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis}(N'-(4\text{-bromobenzylidene)acetohydrazide})$ **21e**.

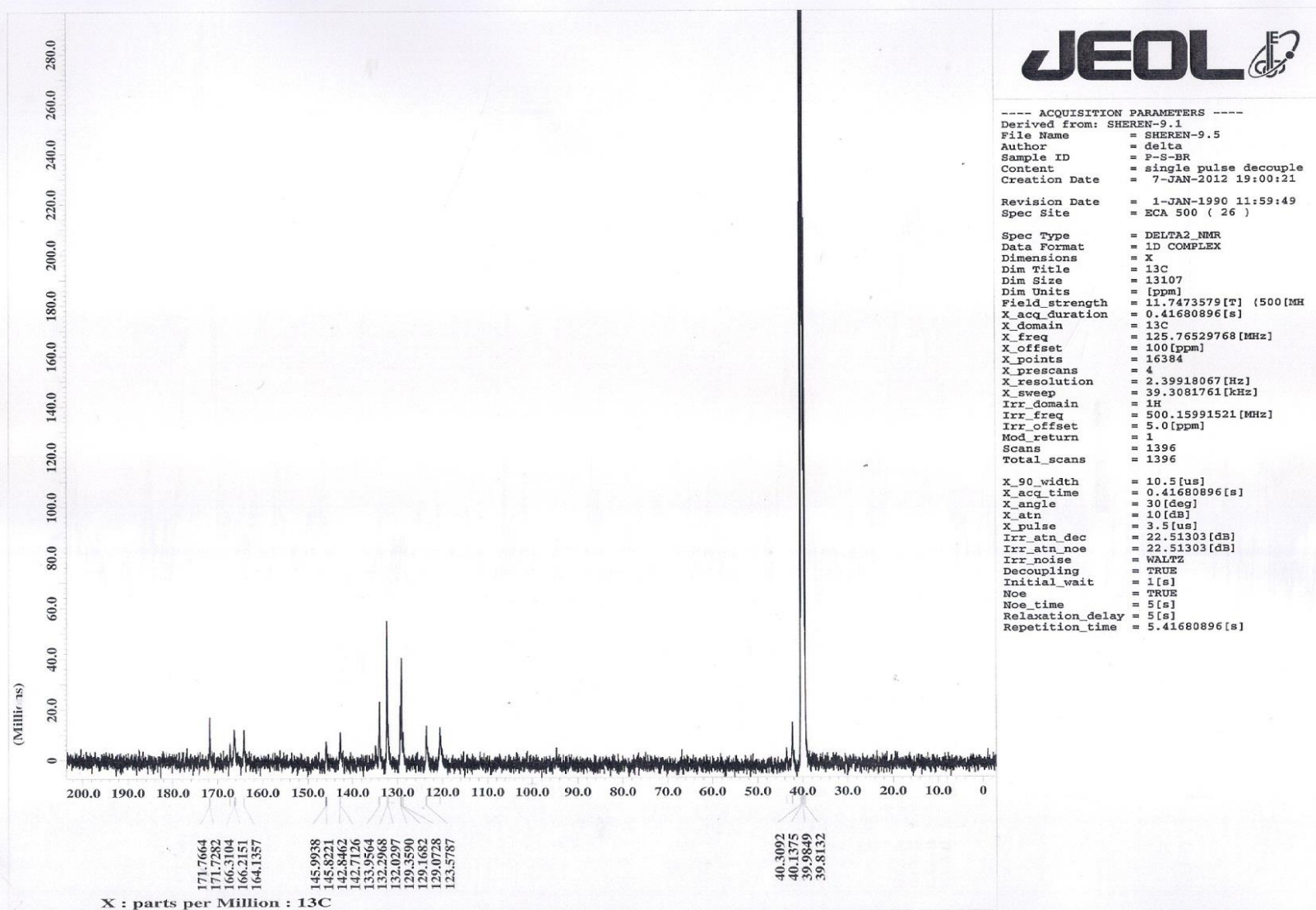


Figure 123: ^{13}C -NMR ($\text{DMSO}-d_6$) spectrum of ($N'E,N'''E,N'''''E,N''''''E$)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(N' -(4-bromobenzylidene)acetohydrazide) **21e**.

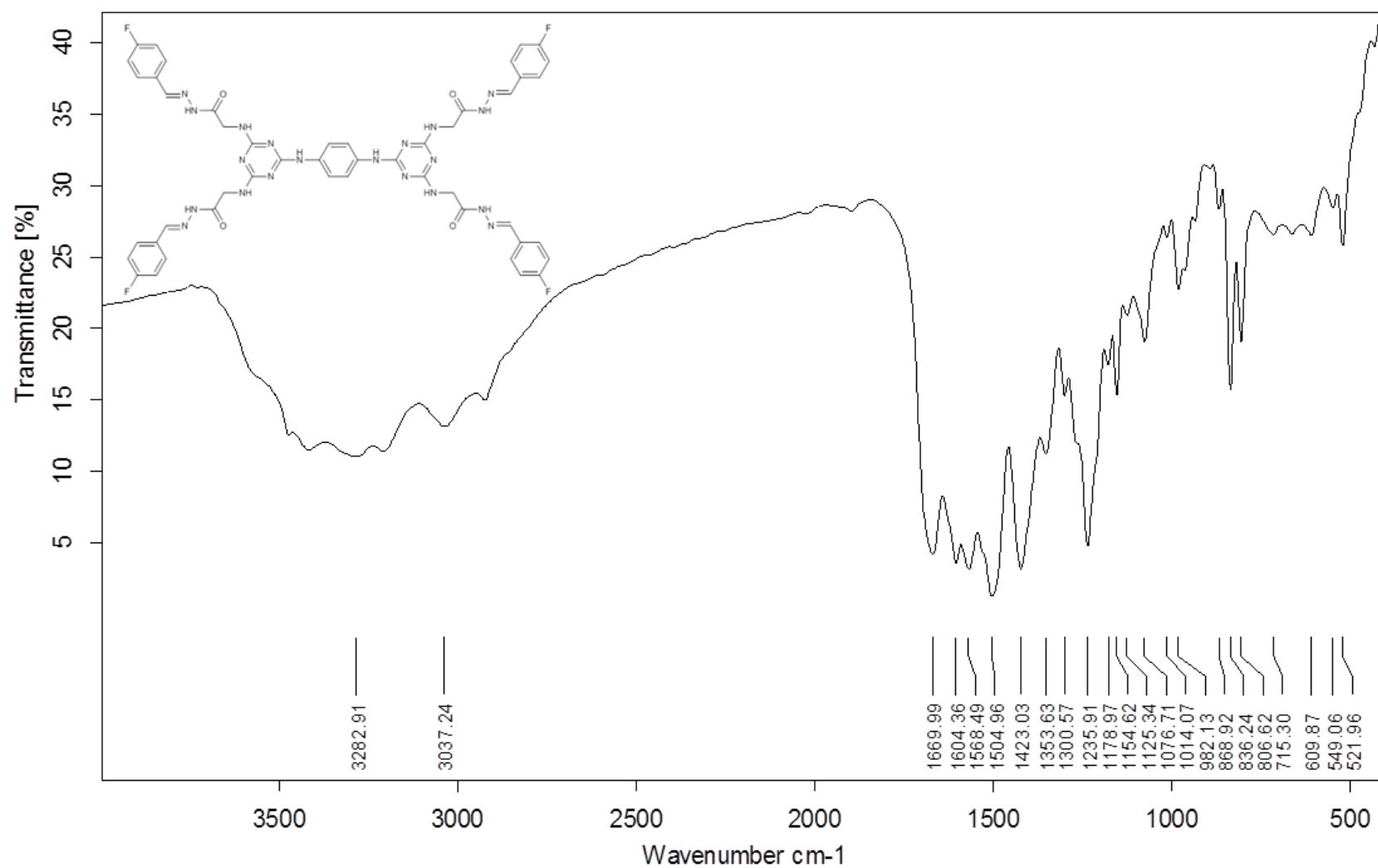


Figure 124: IR (KBr) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-fluorobenzylidene)acetohydrazide) **21f**.

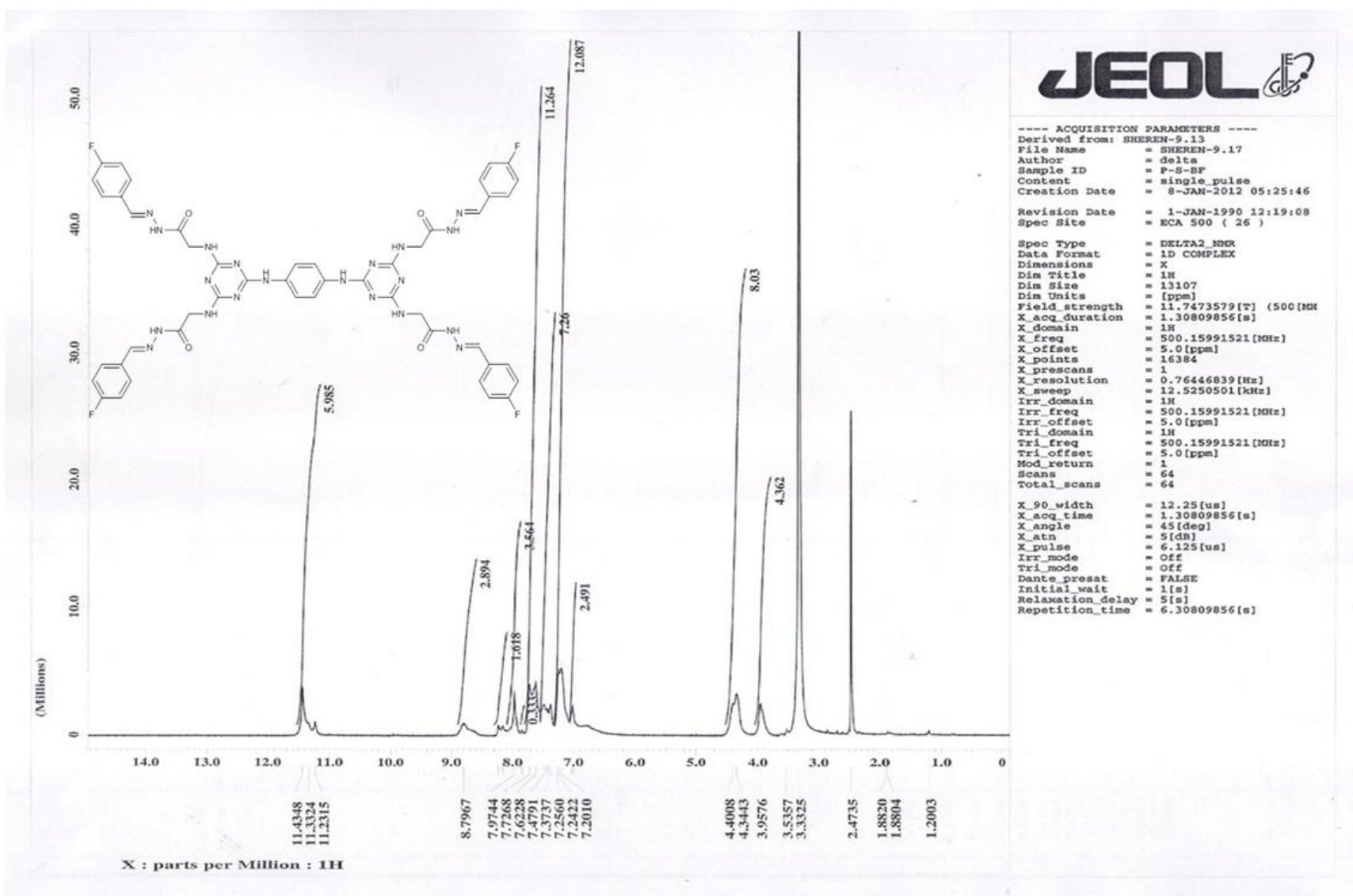


Figure 125: ^1H -NMR ($\text{DMSO-}d_6$) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-fluorobenzylidene)acetohydrazide) **21f**.

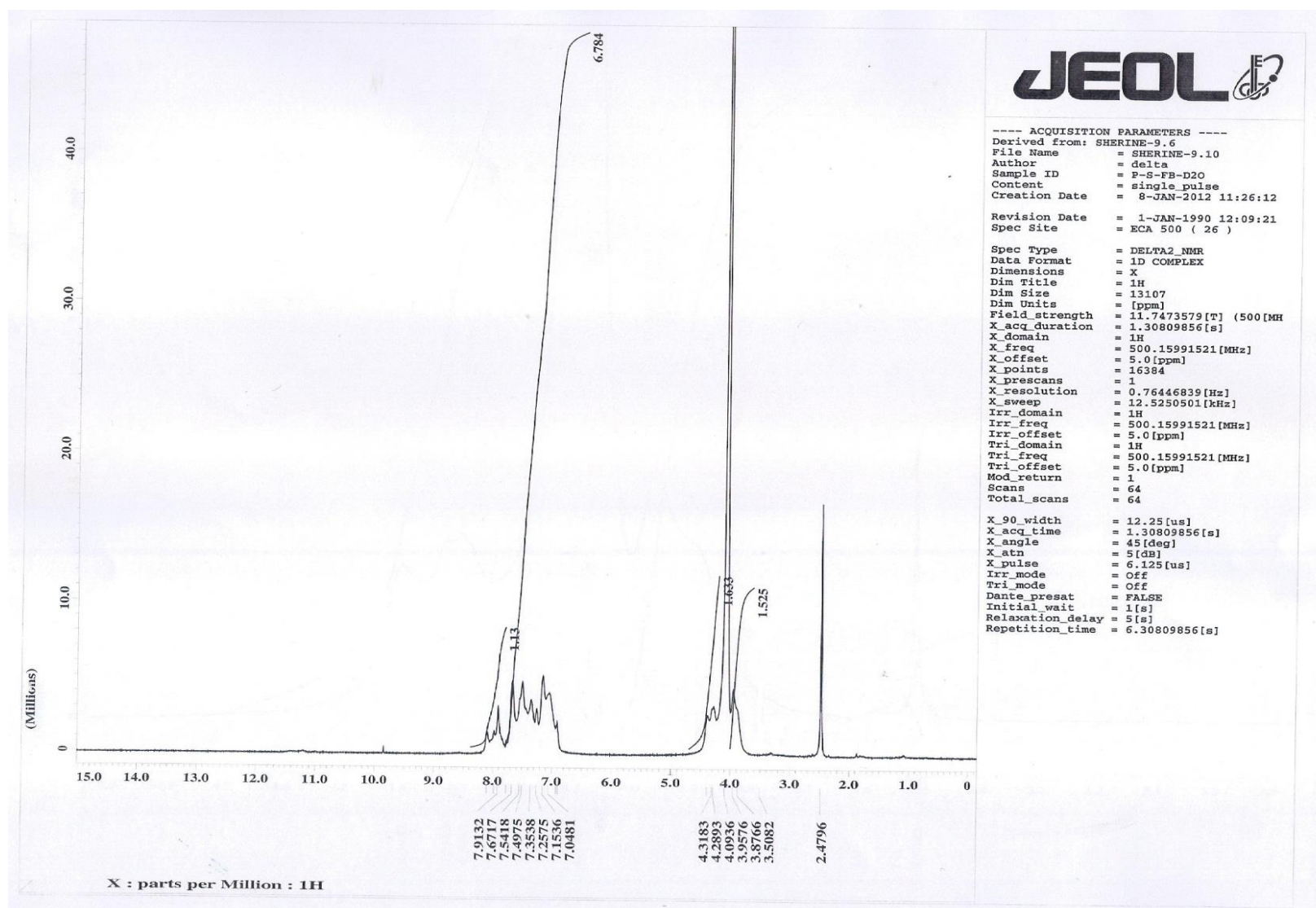


Figure 126: ^1H -NMR (DMSO- d_6) spectrum of (*N'**E*,*N'''E*,*N''''E*,*N''''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-fluorobenzylidene)acetohydrazide) **21f**.

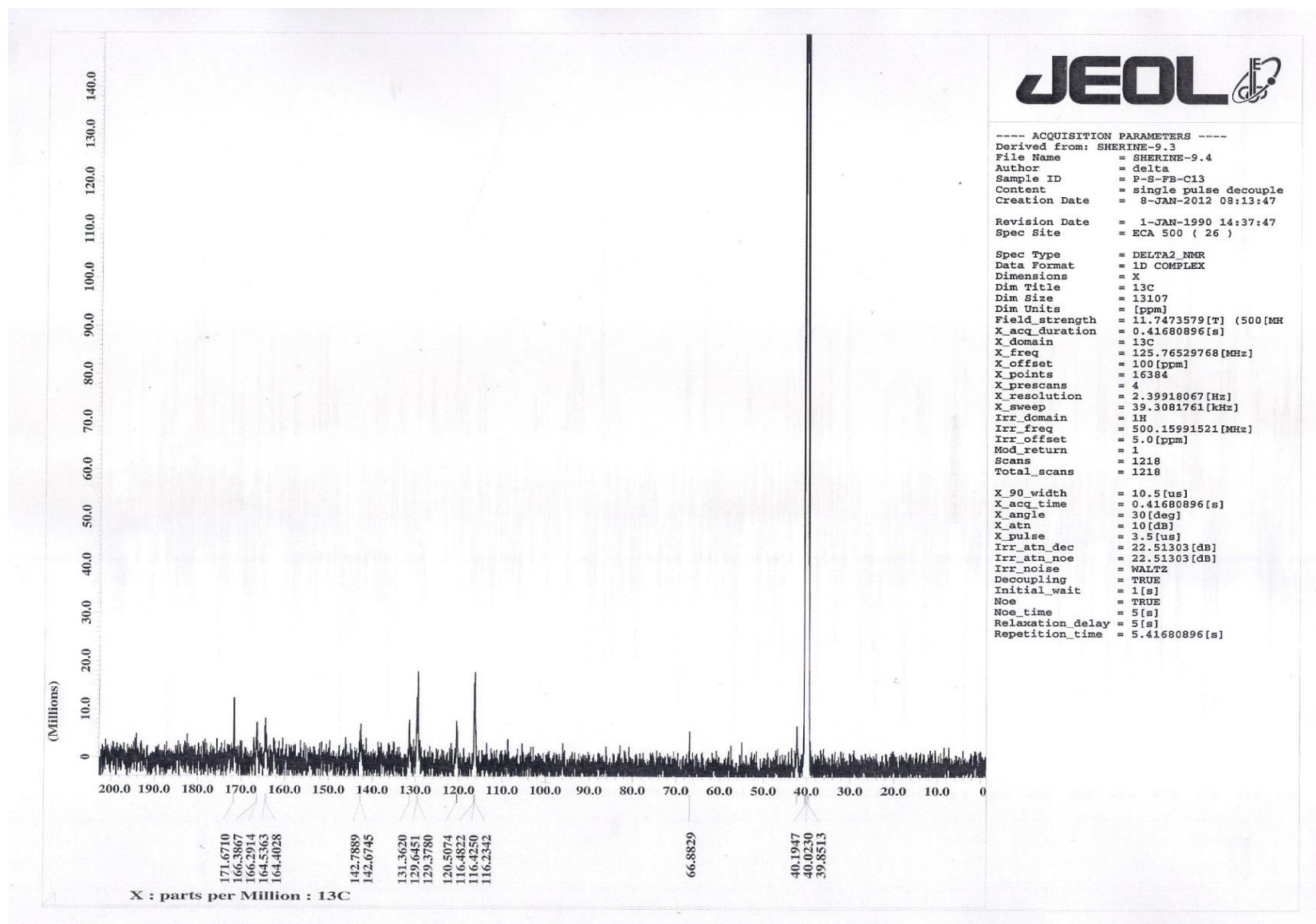


Figure 127: ^{13}C -NMR (DMSO- d_6) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-fluorobenzylidene)acetohydrazide) **21f**.

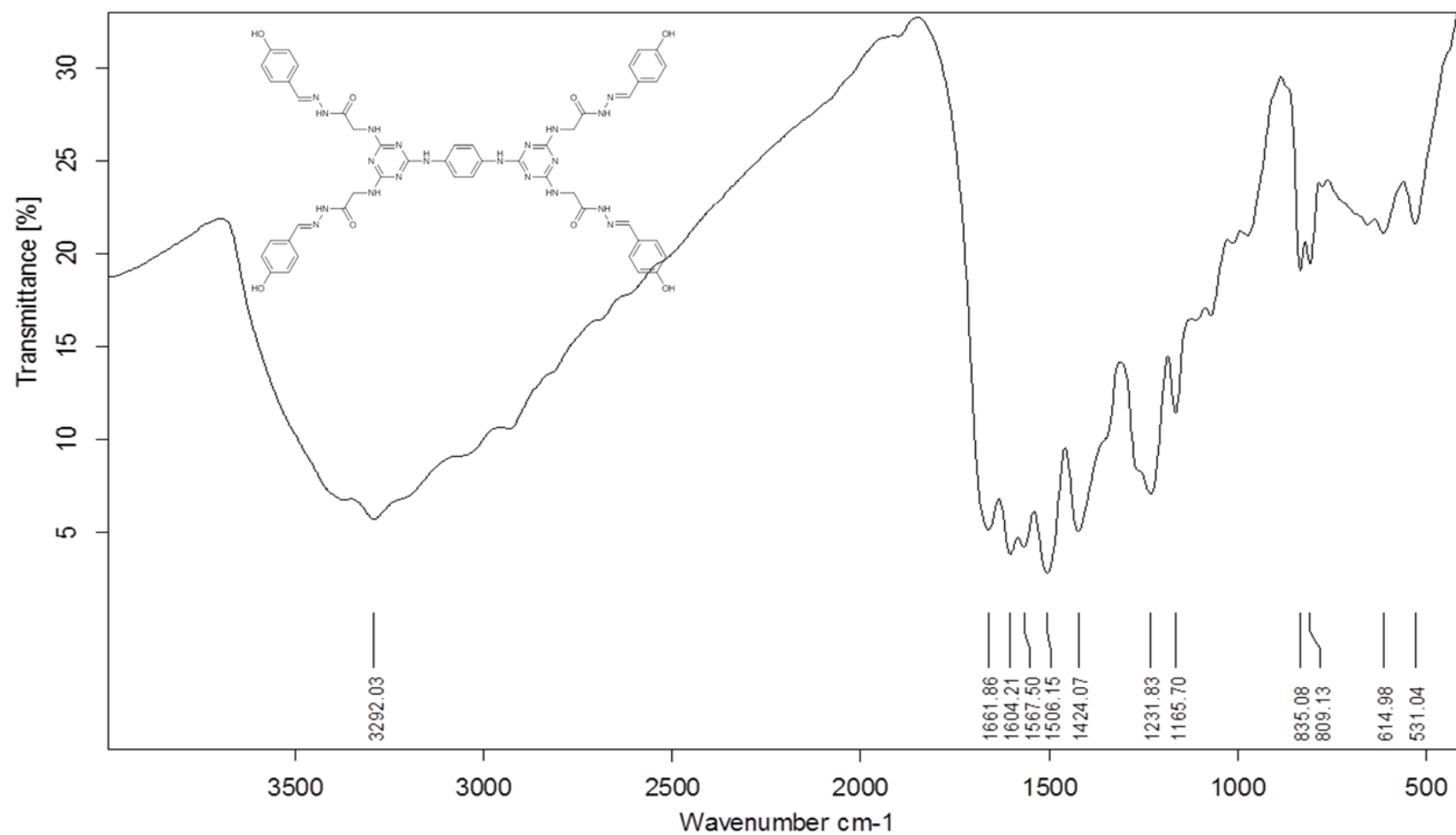


Figure 128: IR (KBr) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-hydroxybenzylidene)acetohydrazide) **21g**.

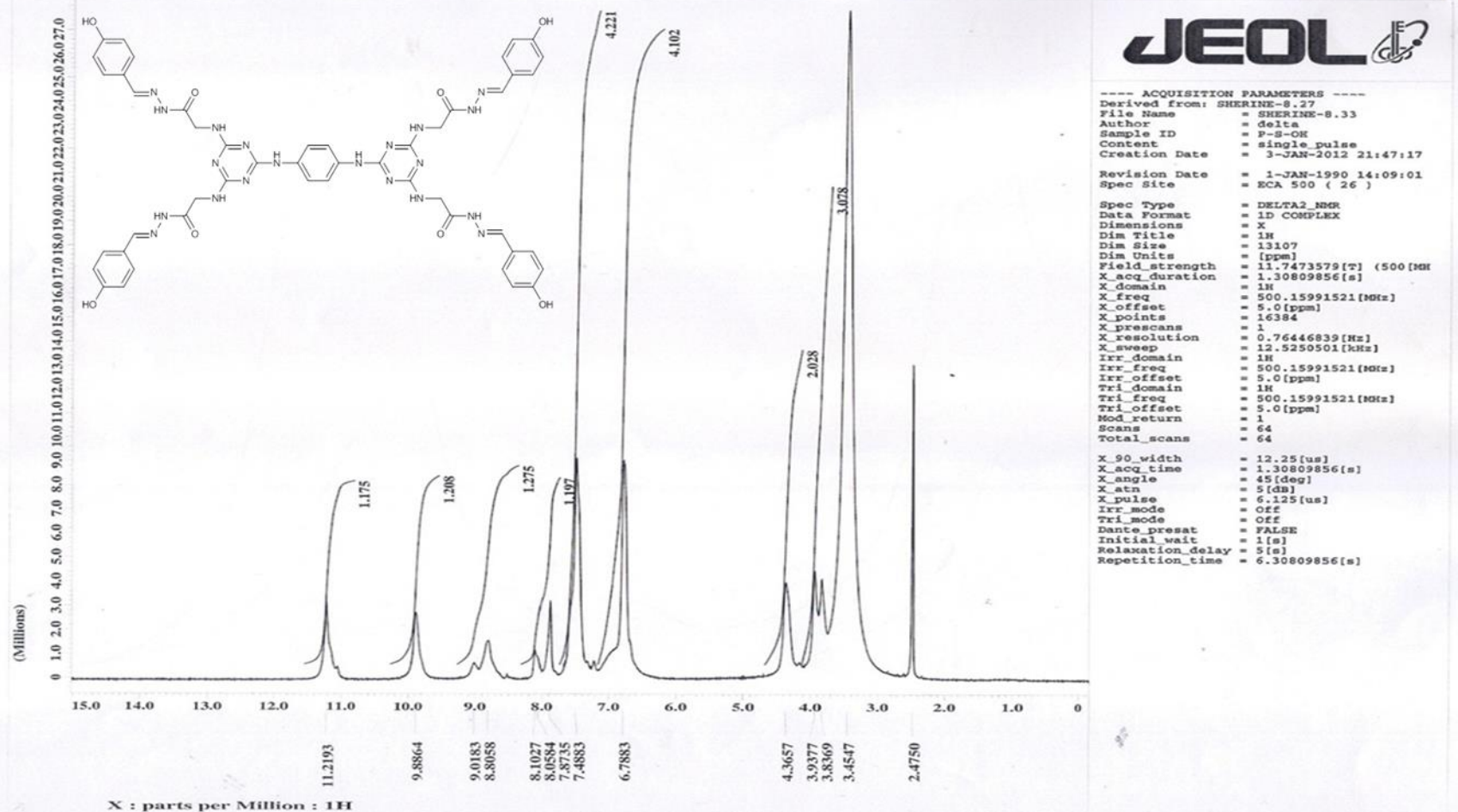


Figure 129: ^1H -NMR ($\text{DMSO-}d_6$) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-hydroxybenzylidene)acetohydrazide) **21g**.

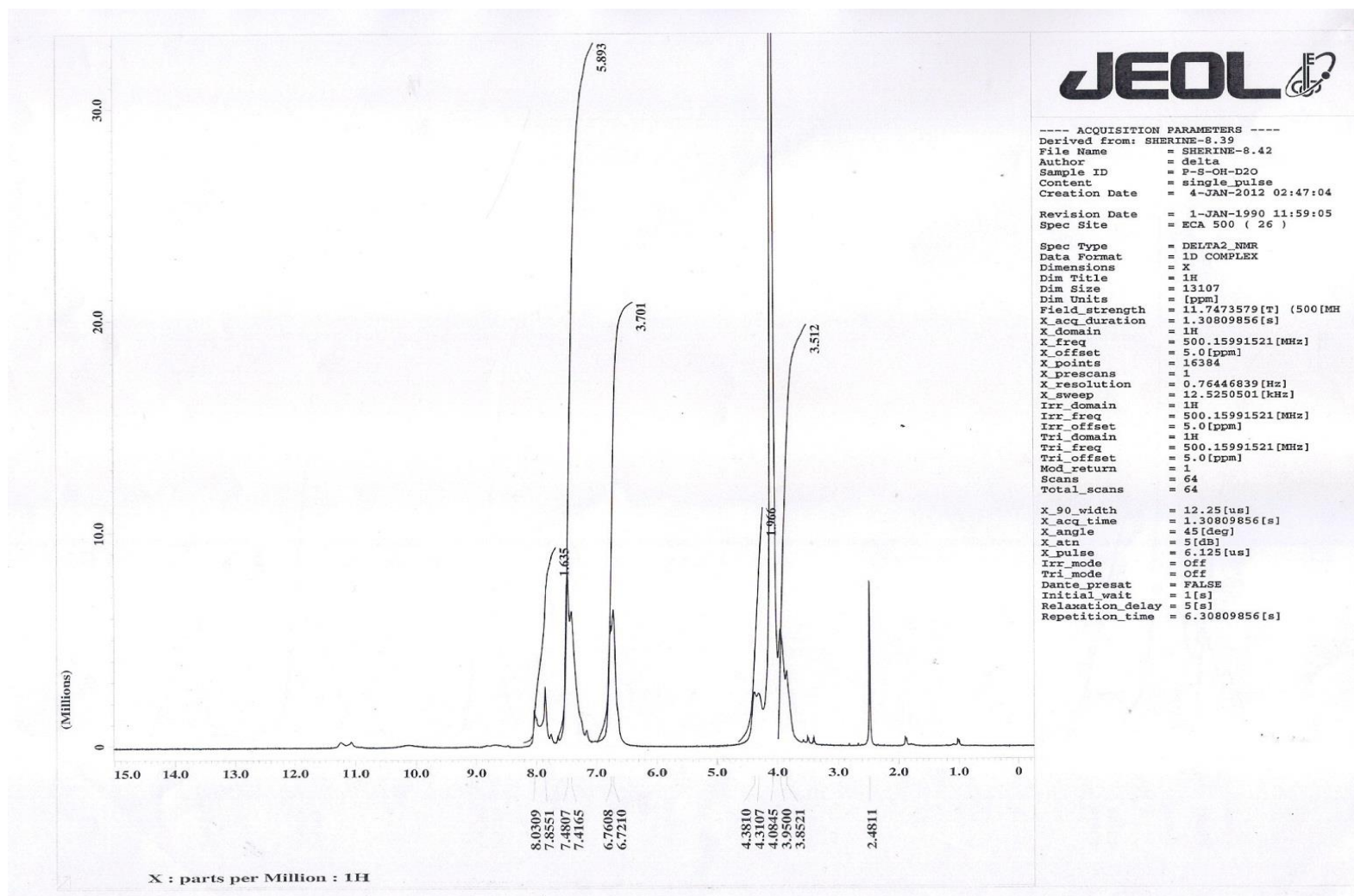


Figure 130: ^1H -NMR ($\text{DMSO}-d_6$) spectrum of $(N'E,N''E,N''''E,N''''''E)$ -2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(N' -(4-hydroxybenzylidene)acetohydrazide) **21g**.

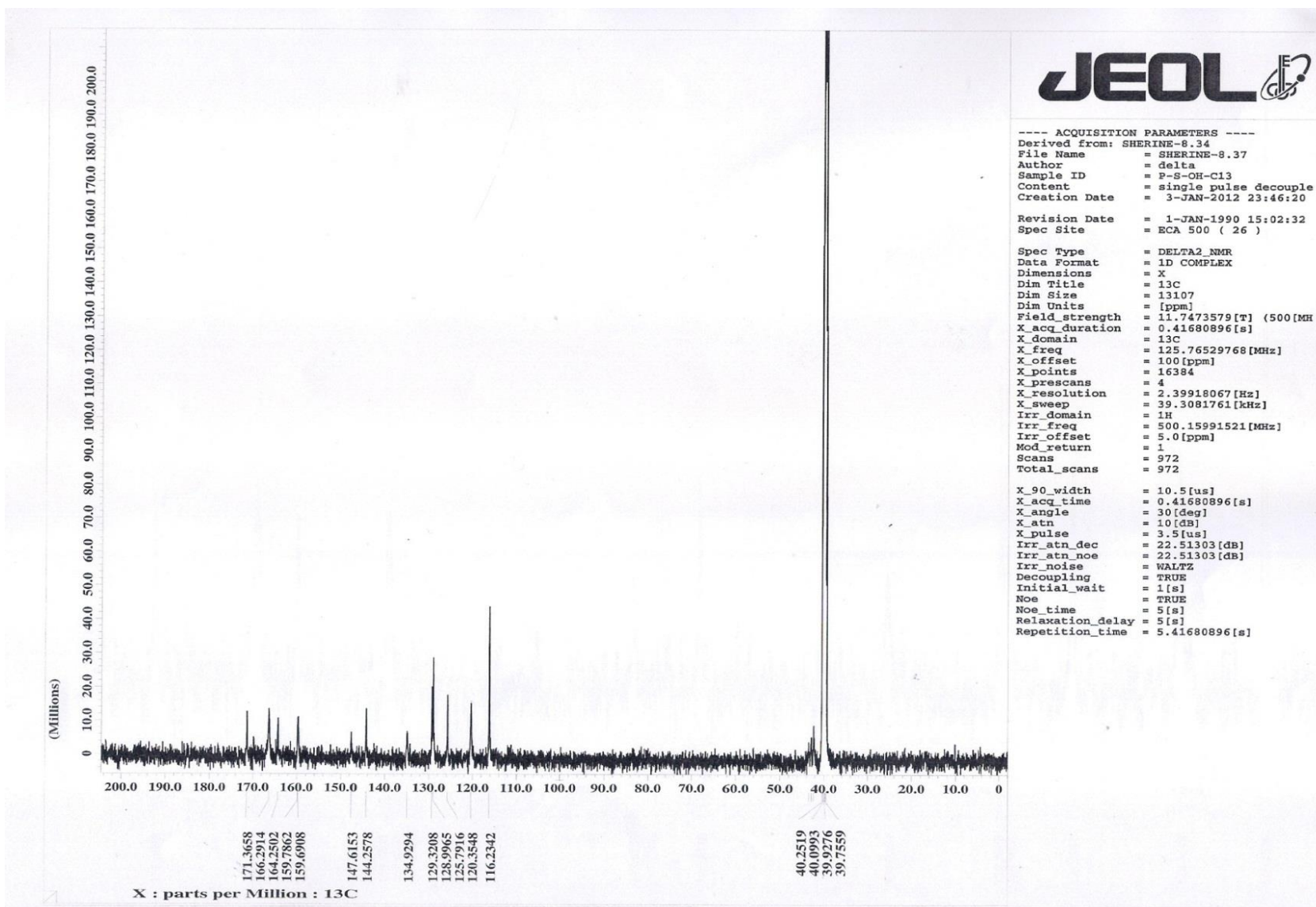


Figure 131: ^{13}C -NMR ($\text{DMSO}-d_6$) spectrum of $(N'E,N'''E,N''''E,N''''''E)-2,2',2'',2'''-((6,6'-(1,4\text{-phenylenebis(azanediyl))bis(1,3,5\text{-triazine-6,4,2-triyl)})tetrakis(azanediyl))tetrakis(N'-(4\text{-hydroxybenzylidene)acetohydrazide})$ **21g**.

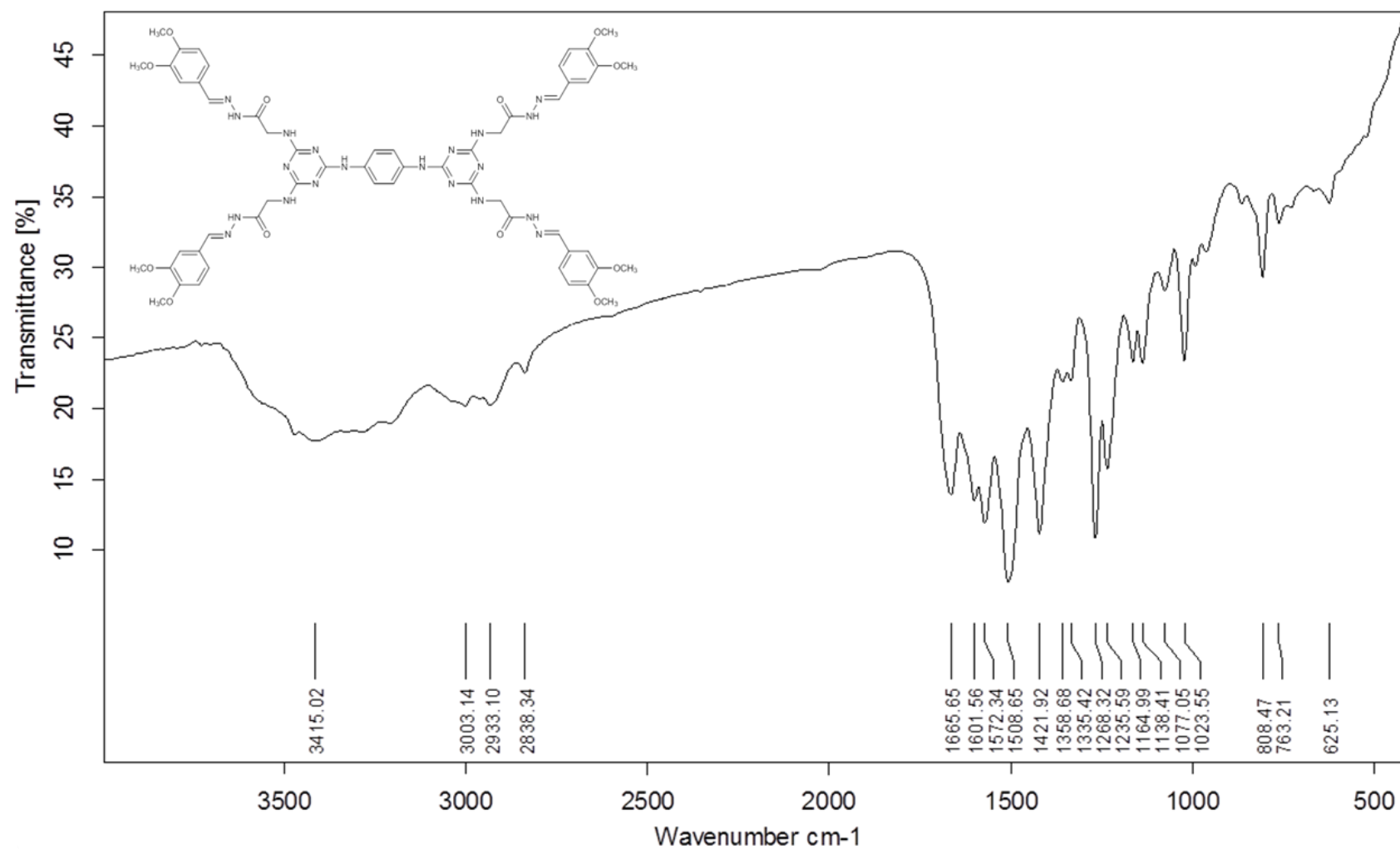


Figure 132: IR (KBr) spectrum of (*N'E,N'''E,N''''E,N'''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(3,4-dimethoxybenzylidene)acetohydrazide) **21h**.

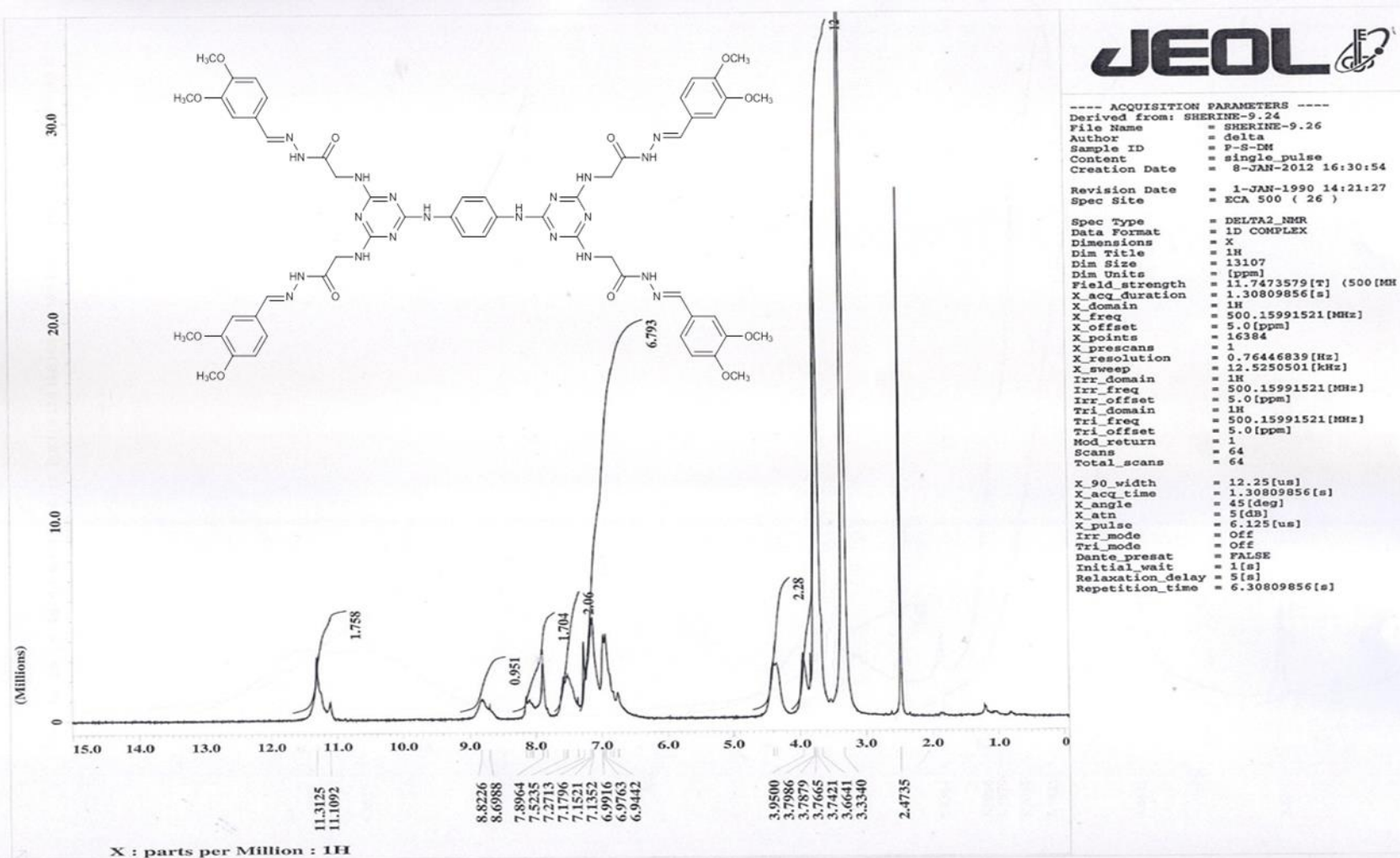


Figure 133: ¹H-NMR (DMSO-*d*₆) spectrum of (*N'E,N'''E,N''''E,N'''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(3,4-dimethoxybenzylidene)acetohydrazide) **21h**.

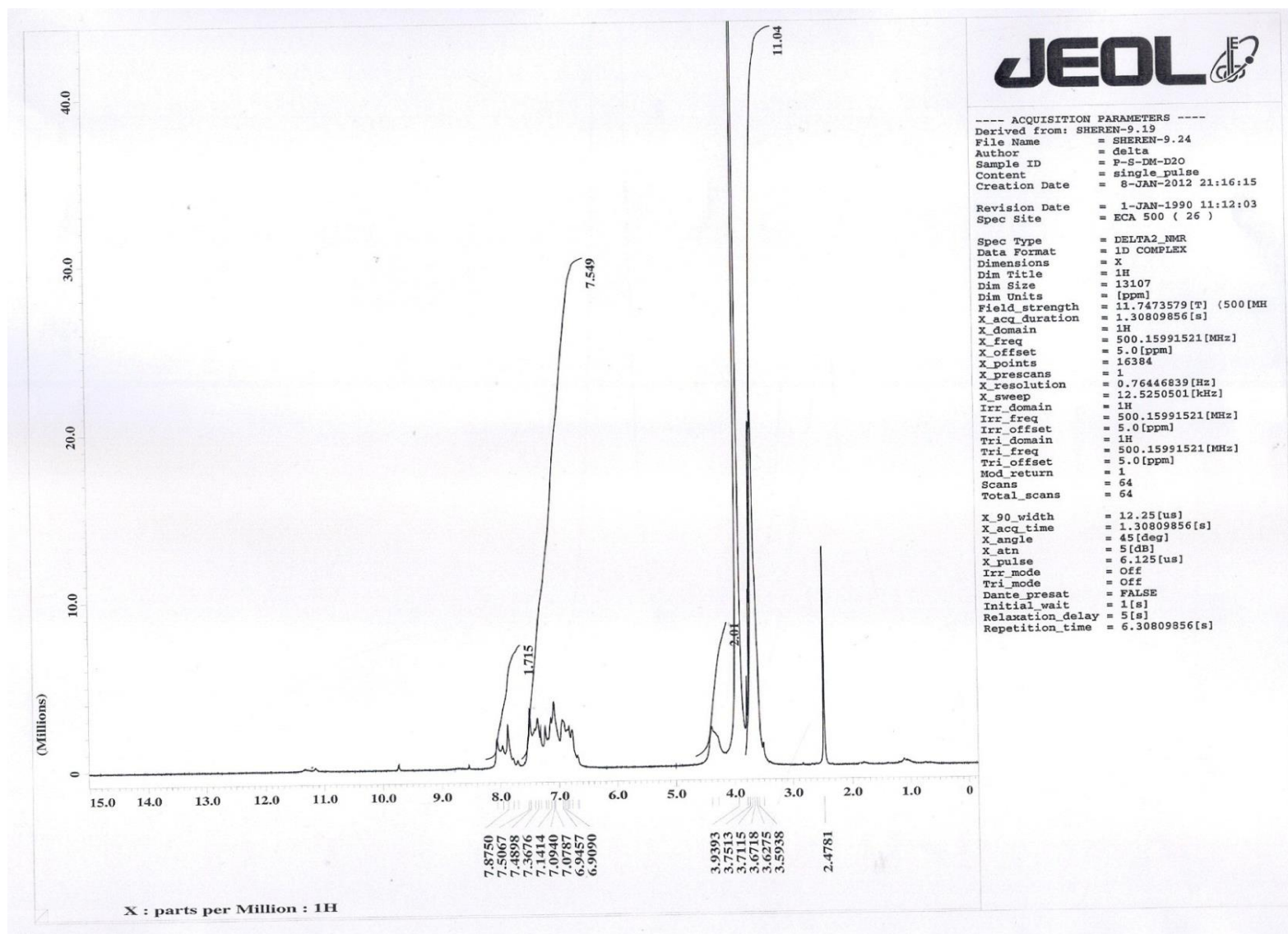


Figure 134: ^1H -NMR ($\text{DMSO}-d_6/\text{D}_2\text{O}$) spectrum of $(N'E,N'''E,N''''E,N''''''E)-2,2',2'',2'''-((6,6'-(1,4\text{-phenylenebis(azanediyl))bis(1,3,5\text{-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis}(N'-(3,4\text{-dimethoxybenzylidene)acetohydrazide})$ **21h**.

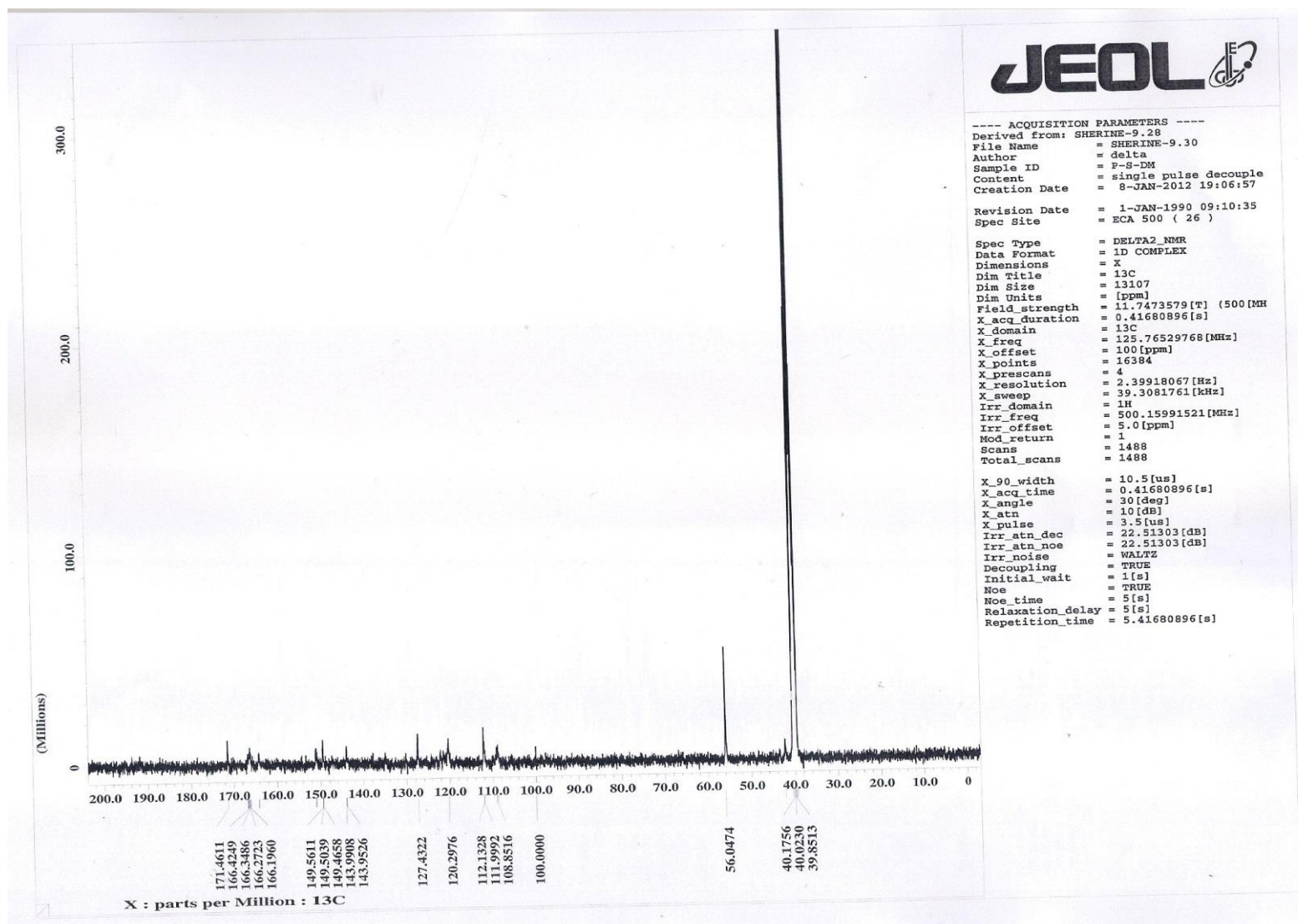


Figure 135: ^{13}C -NMR ($\text{DMSO}-d_6$) spectrum of (*N'E,N'''E,N'''''E,N''''''E*)-2,2',2'',2'''-((6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(3,4-dimethoxybenzylidene)acetohydrazide) **21h**.

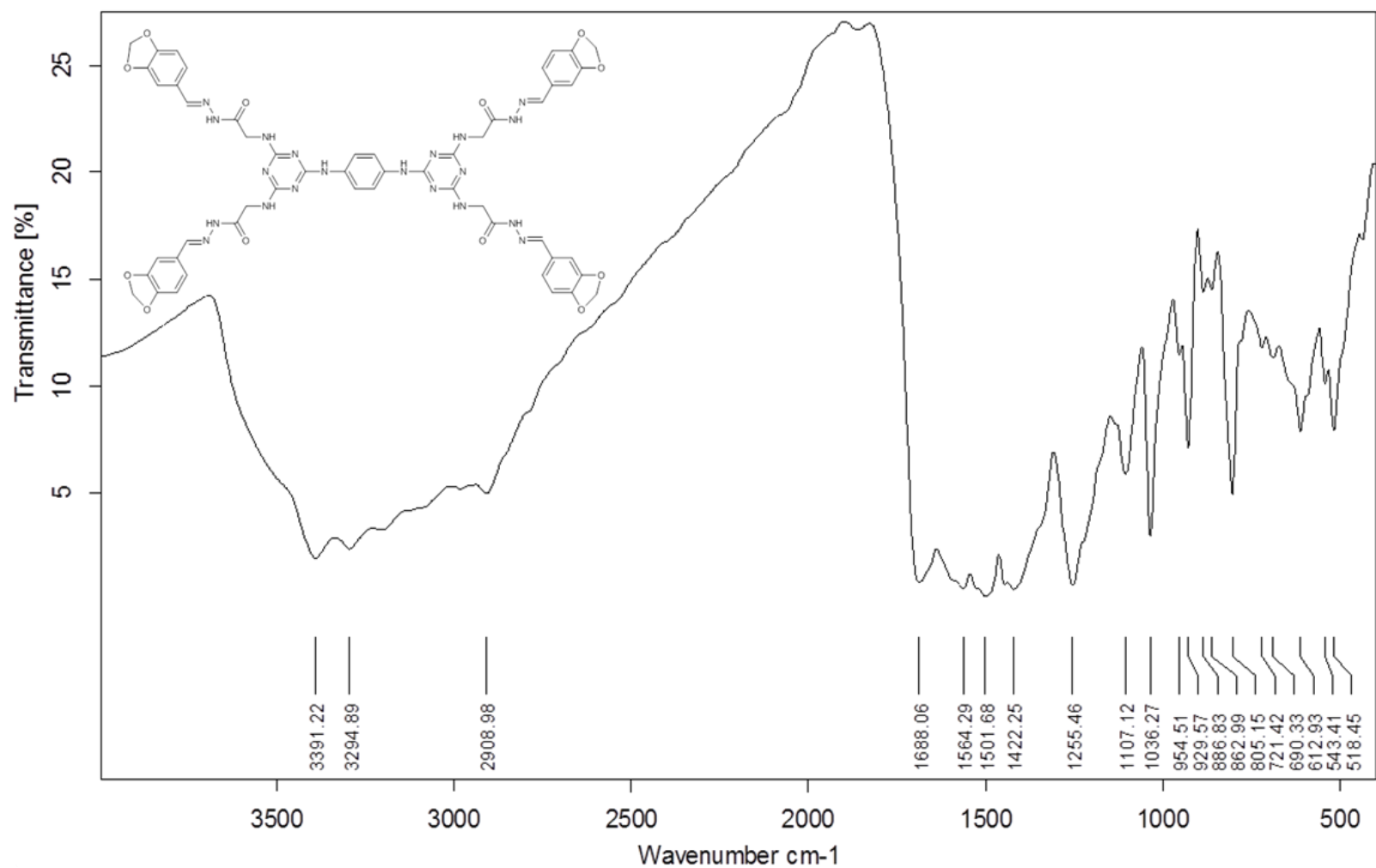
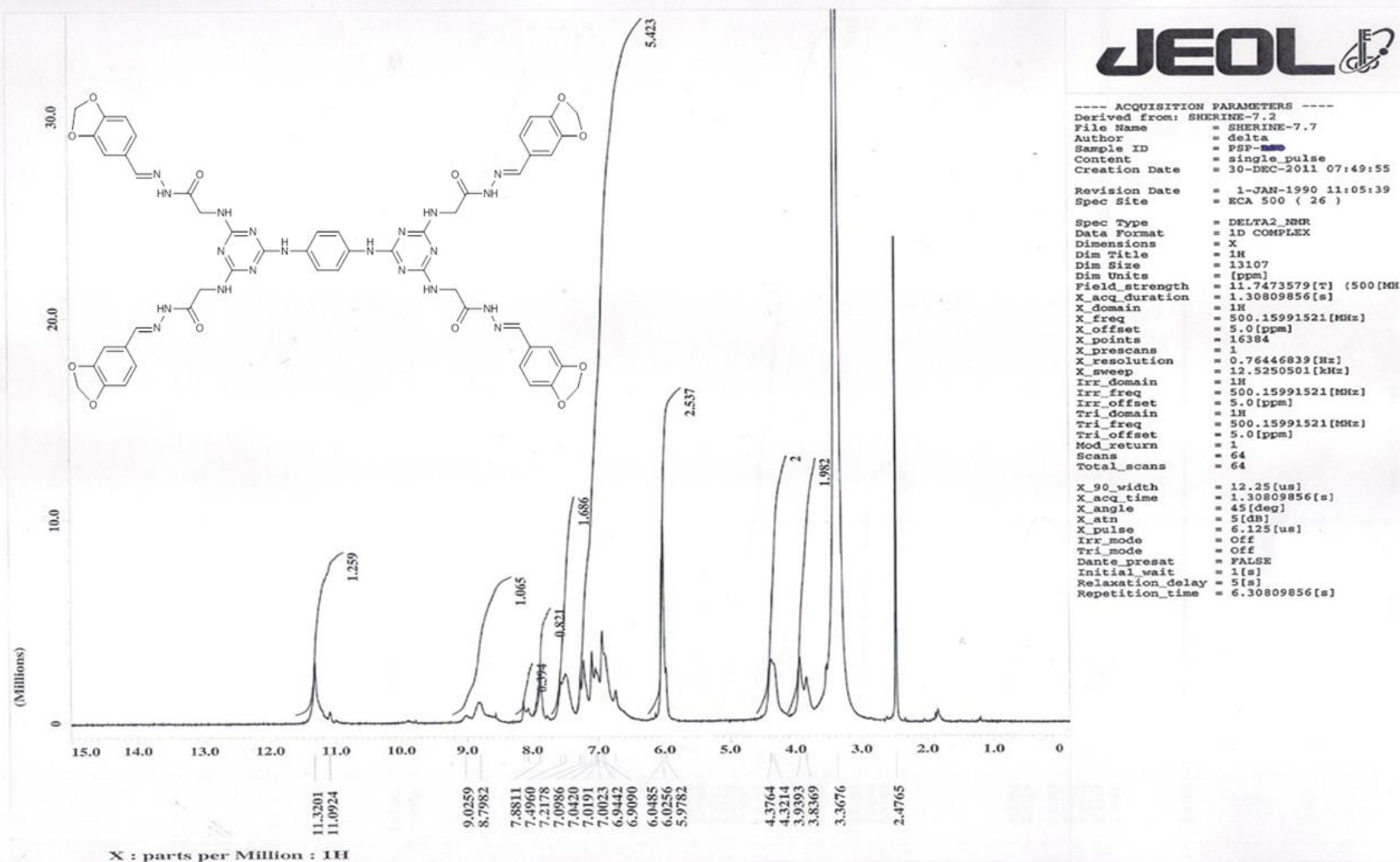


Figure 136: IR (KBr) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(benzo[d][1,3]dioxol-5-ylmethylene)acetohydrazide) **21i**.



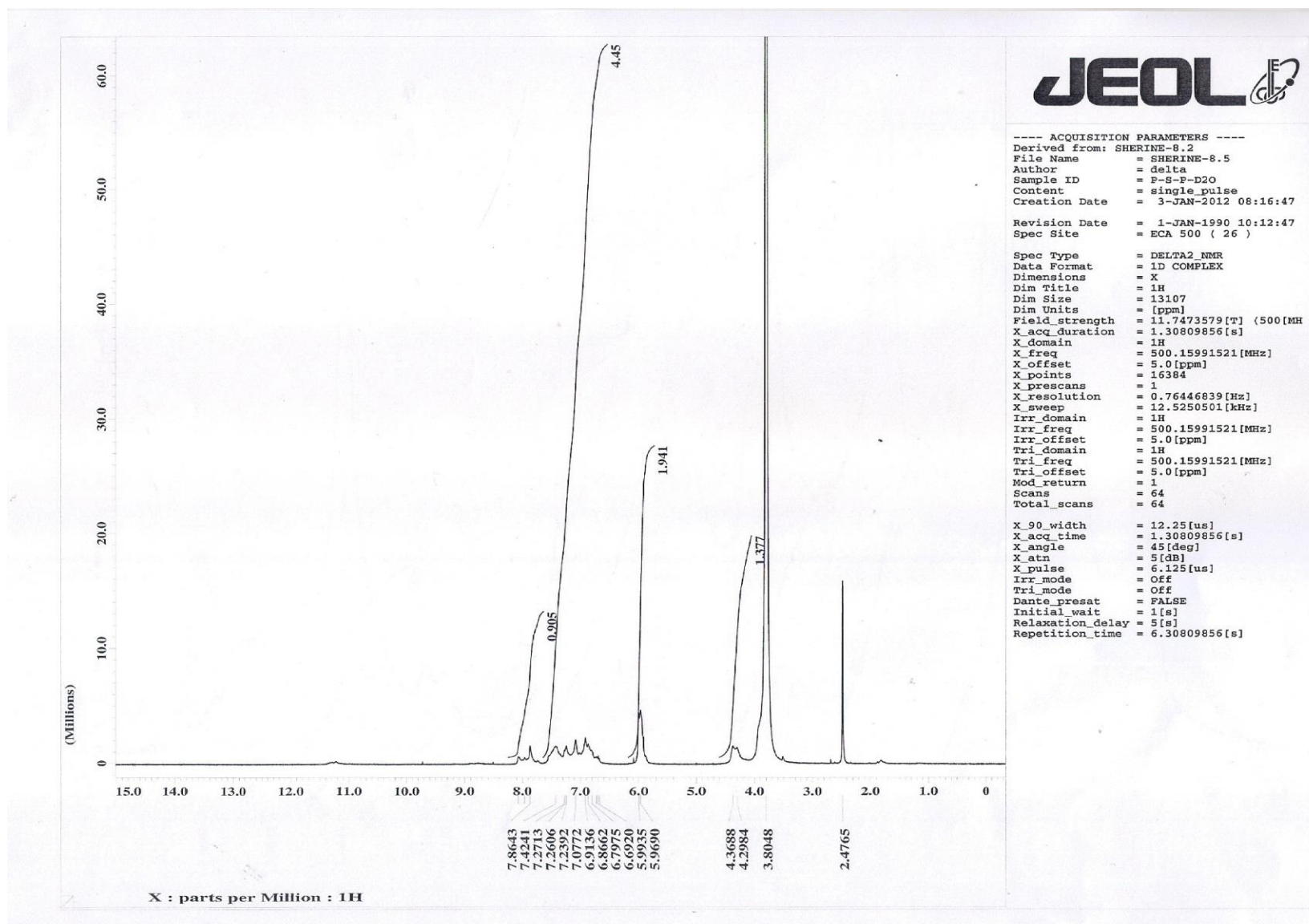


Figure 138: ^1H -NMR ($\text{DMSO}-d_6\text{D}_2\text{O}$) spectrum of $(N'E,N''E,N''''E,N''''''E)-2,2',2'',2'''-((6,6'-(1,4\text{-phenylenebis(azanediyl))bis(1,3,5\text{-triazine-6,4,2-triyl)})tetrakis(azanediyl))tetrakis(N'-(benzo[d][1,3]dioxol-5\text{-ylmethylene)acetohydrazide})$ **21i**.

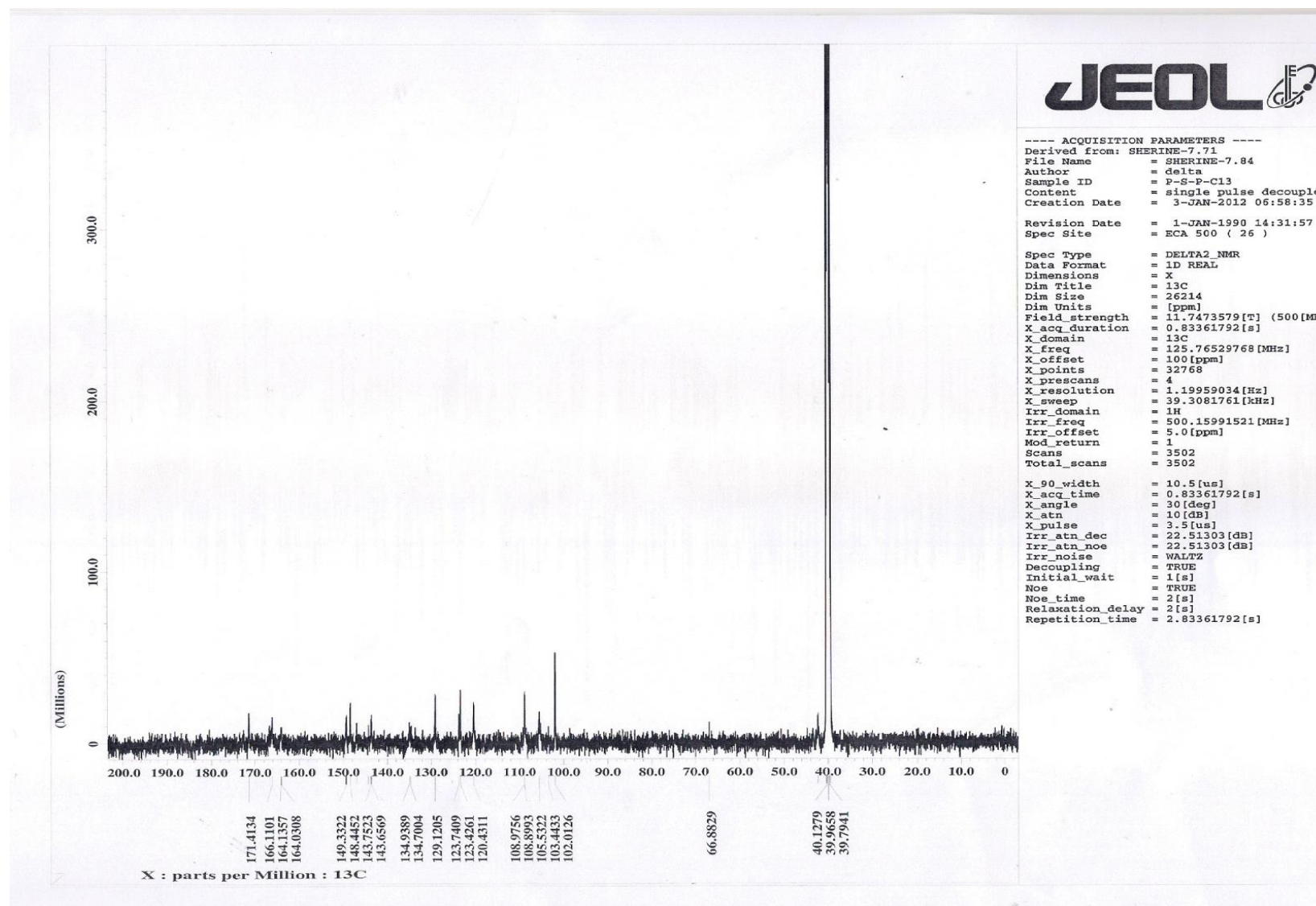


Figure 139: ^{13}C -NMR ($\text{DMSO}-d_6$) spectrum of $(N'E, N'''E, N''''E, N''''''E)$ -2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(N' -(benzo[d][1,3]dioxol-5-ylmethylene)acetohydrazide) **21i**.

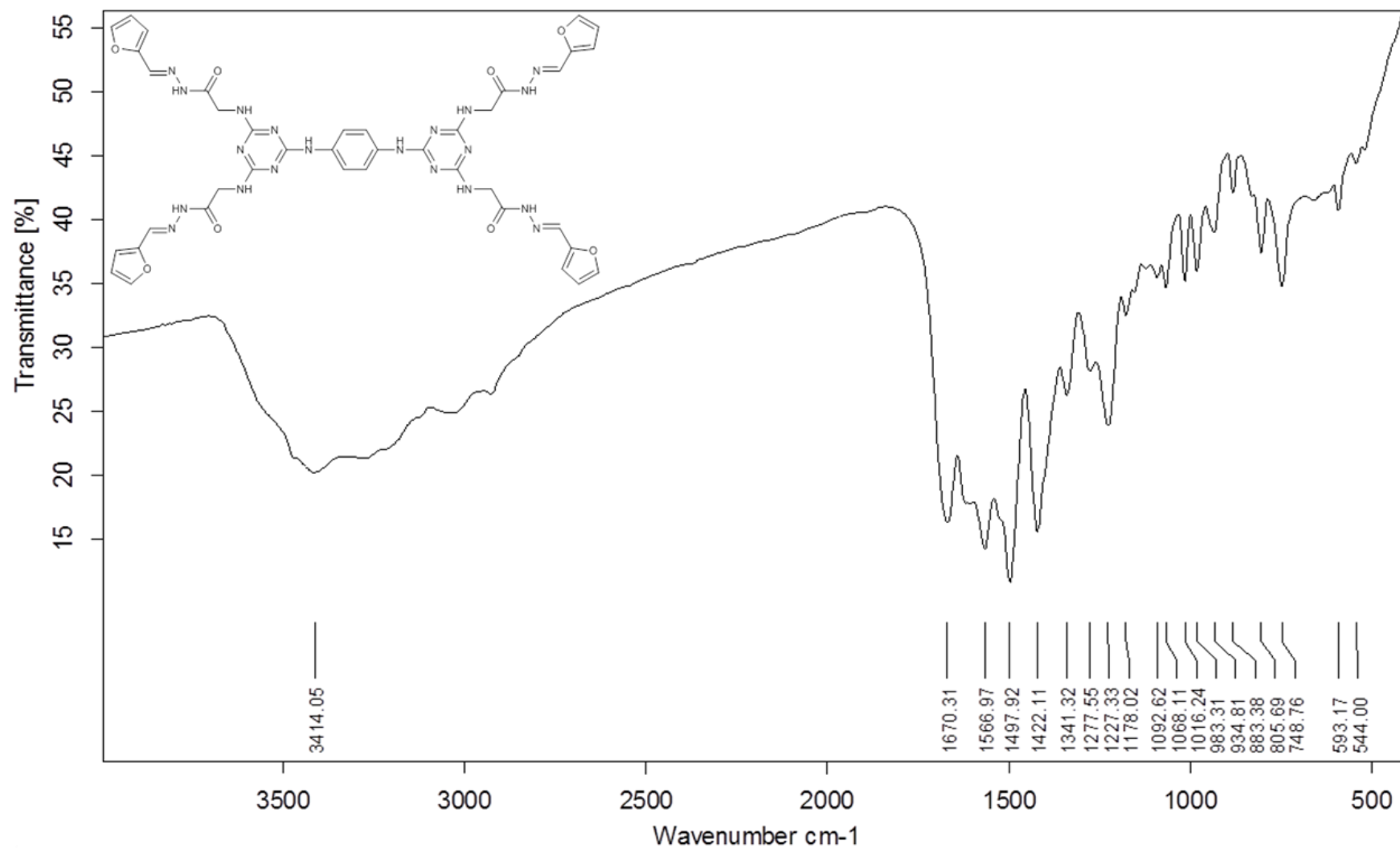


Figure 140: IR (KBr) spectrum of (*N'E,N'''E,N''''E,N'''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(furan-2-ylmethylene)acetohydrazide) **21j**.

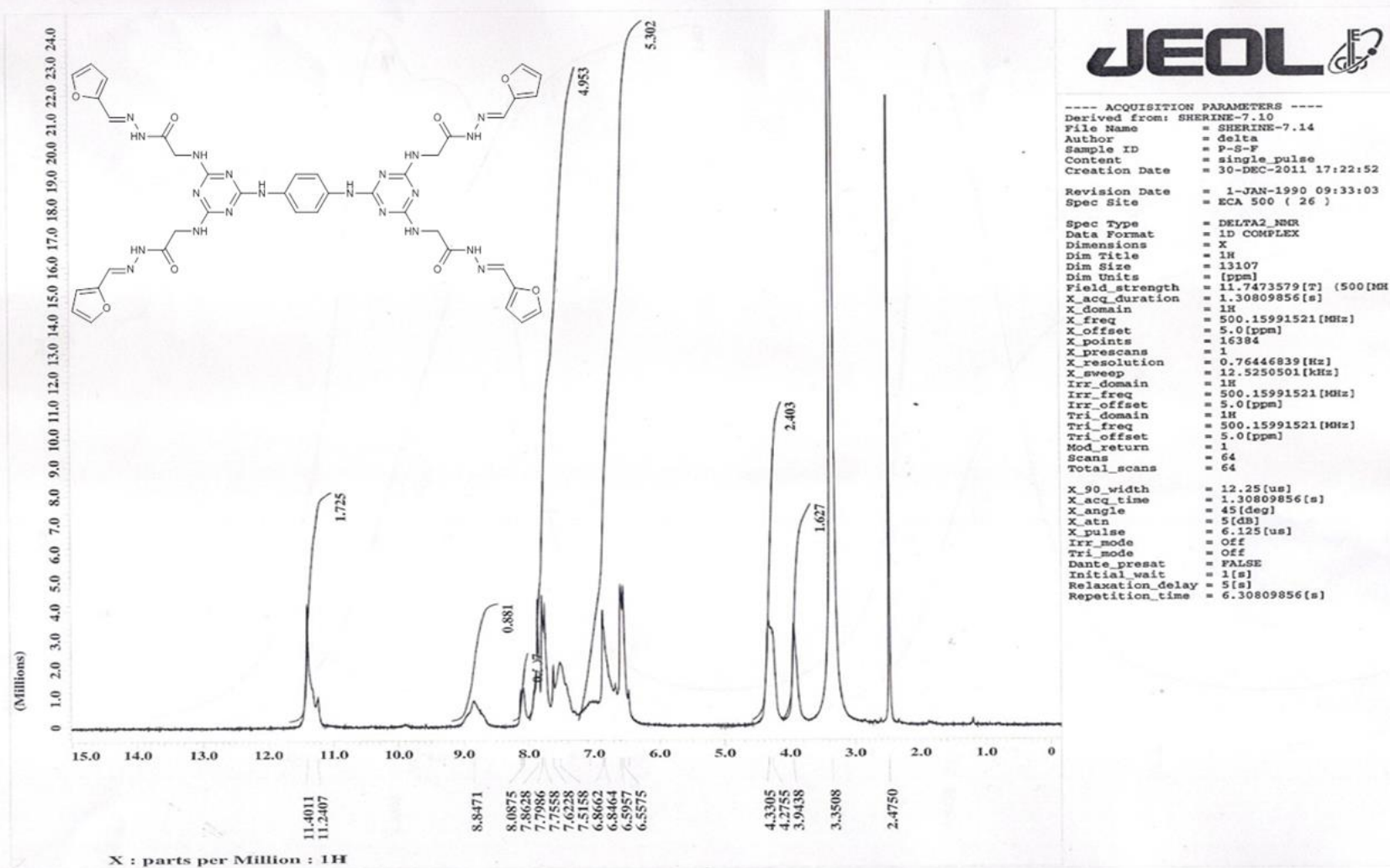


Figure 141: ¹H-NMR (DMSO-*d*₆) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(furan-2-ylmethylene)acetohydrazide) **21j**.

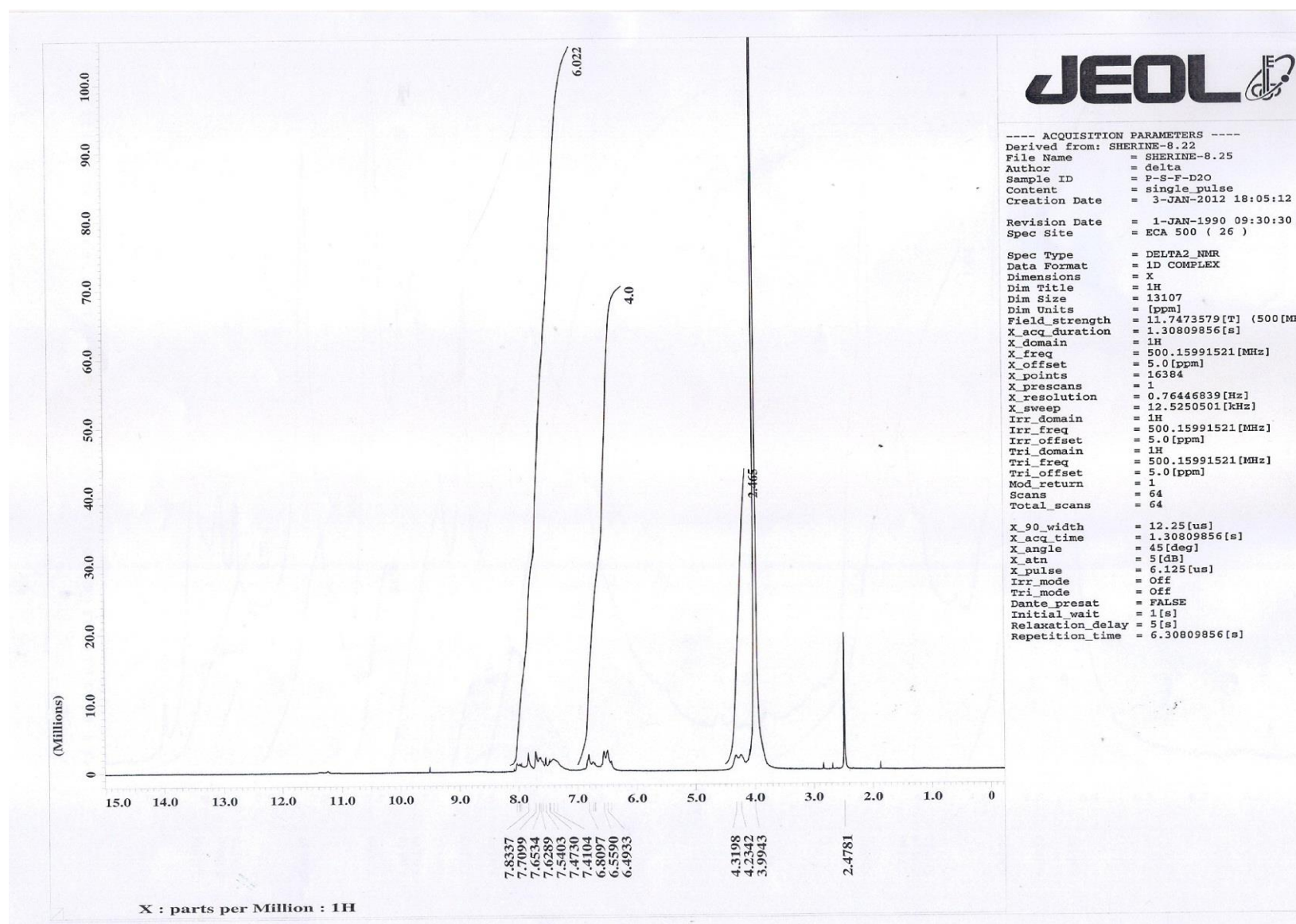


Figure 142: ^1H -NMR (DMSO- d_6) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(furan-2-ylmethylene)acetohydrazide) **21j**.

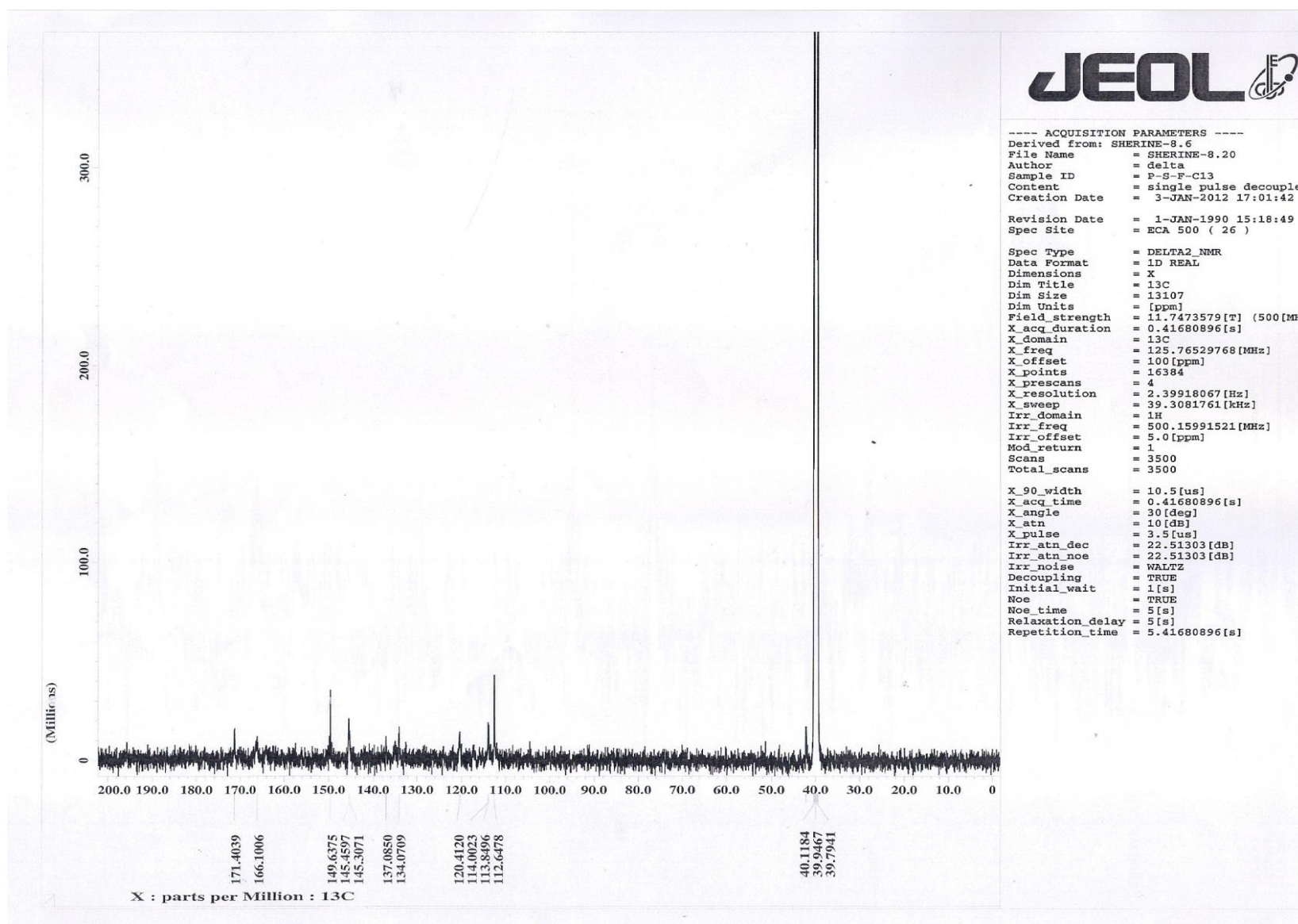


Figure 143: ^{13}C -NMR (DMSO- d_6) spectrum of (*N'E,N'''E,N''''E,N'''''E*)-2,2',2'',2'''-((6,6'-(1,4-phenylenebis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(furan-2-ylmethylene)acetohydrazide) **21j**.

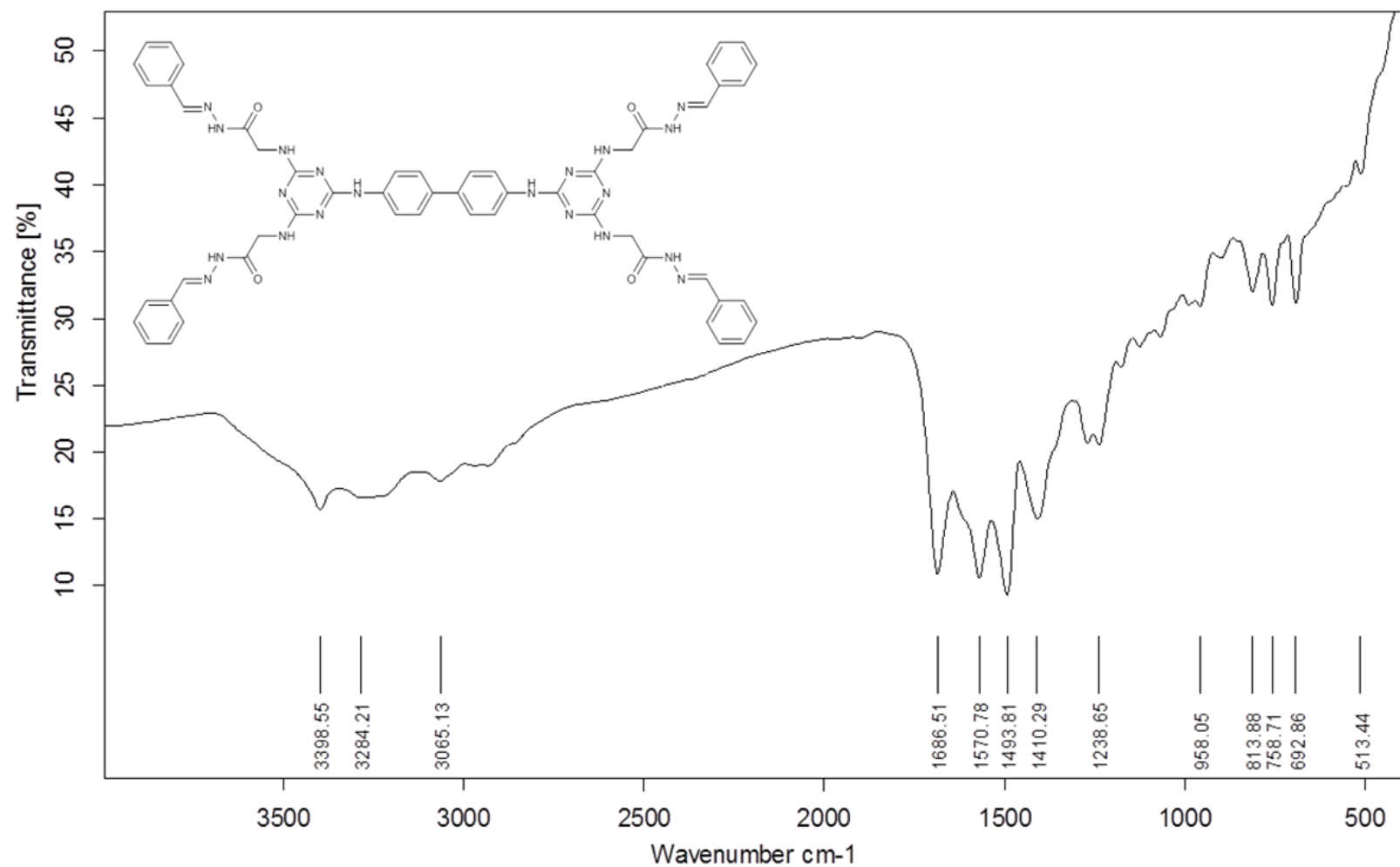


Figure 144: IR (KBr) spectrum of *(N'E,N'''E,N''''E,N''''''E)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(N'-benzylideneacetohydrazide) 22a*.

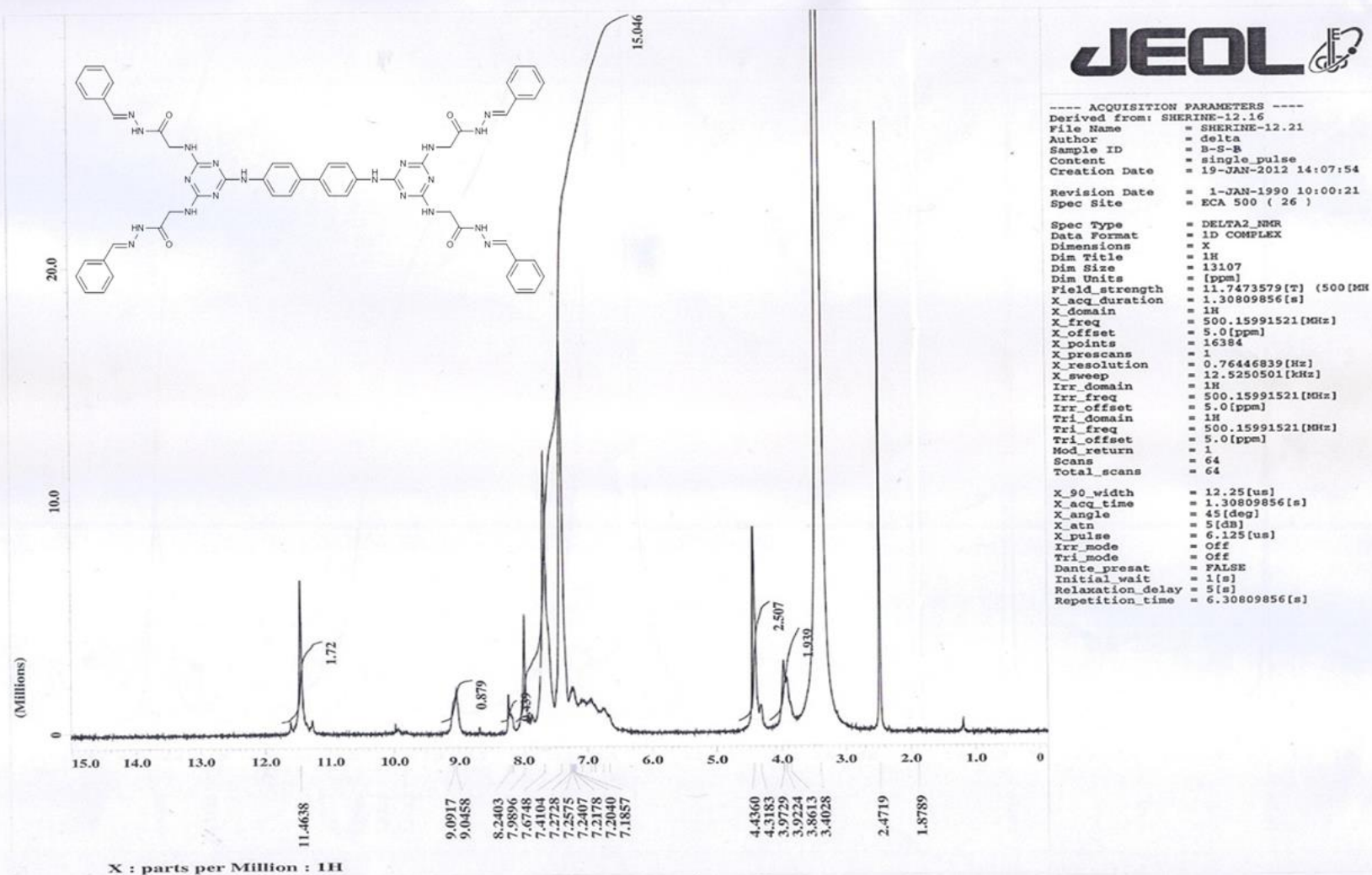


Figure 145: ¹H-NMR (DMSO-*d*₆) spectrum of (*N'**E,N'''E,N'''''E,N''''''E*)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-benzylideneacetohydrazide) **22a**.

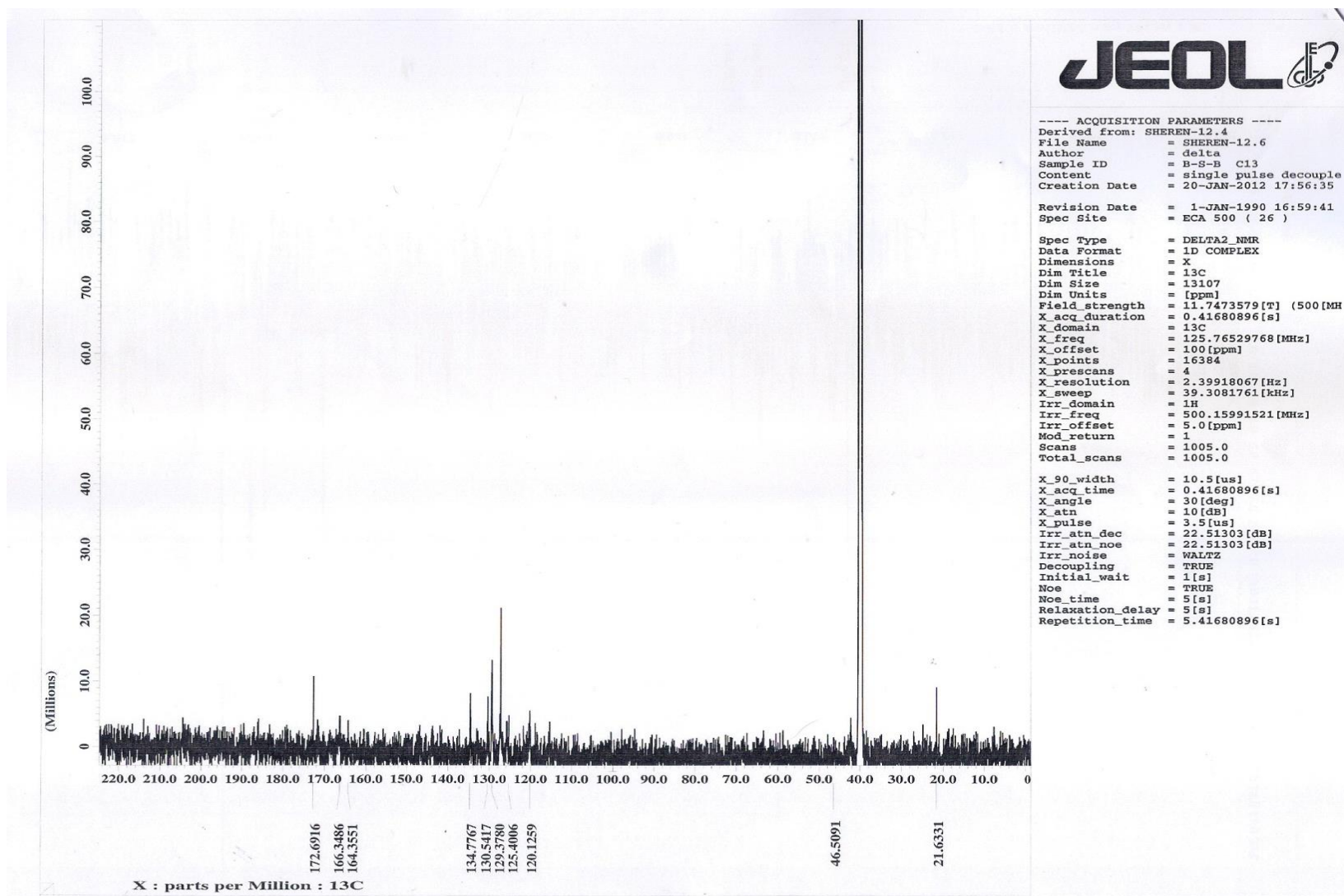


Figure 146: ^{13}C -NMR (DMSO- d_6) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-benzylideneacetohydrazide) **22a**.

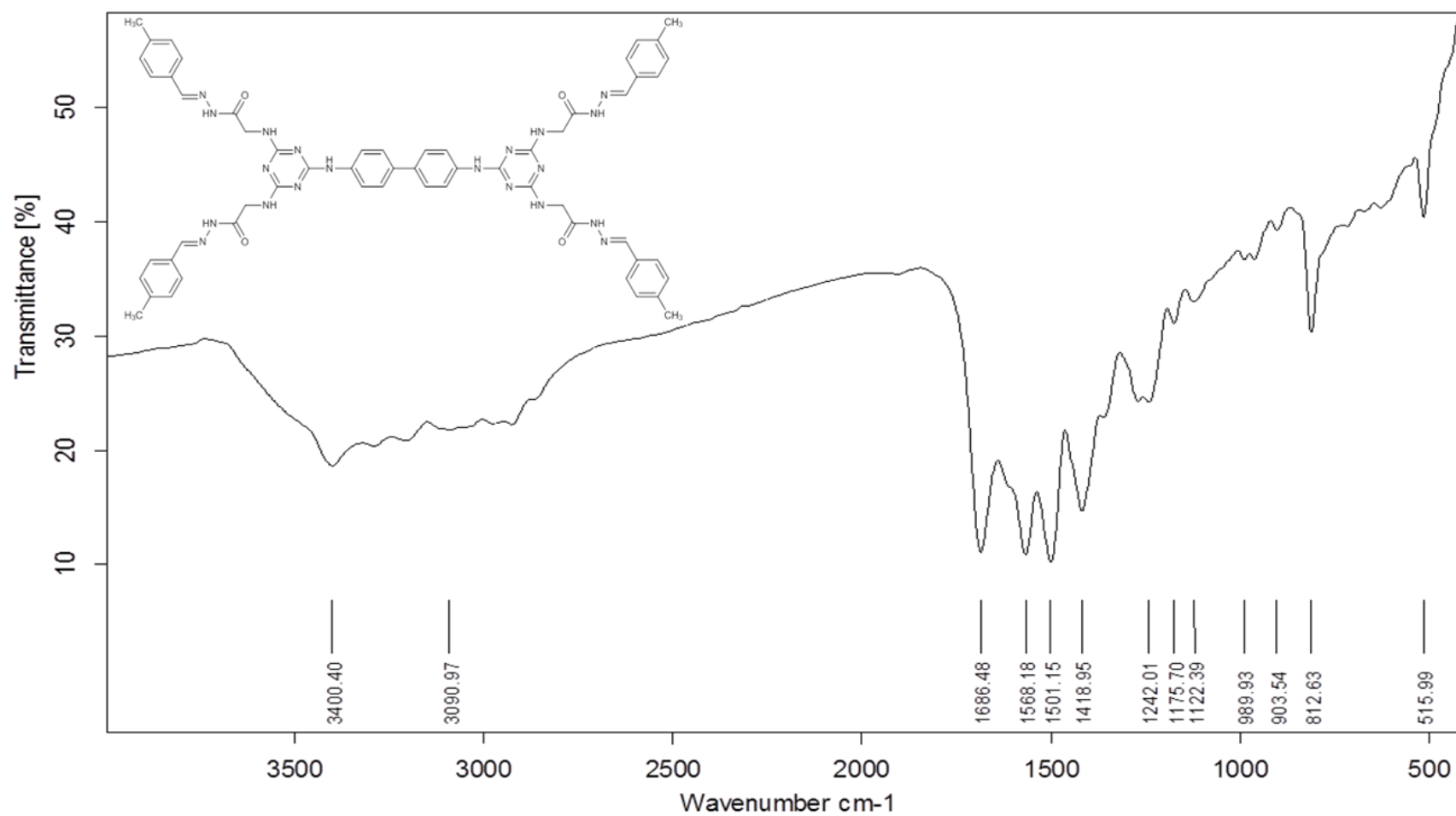


Figure 147: IR (KBr) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl))bis (1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-methylbenzylidene)acetohydrazide) **22b**.

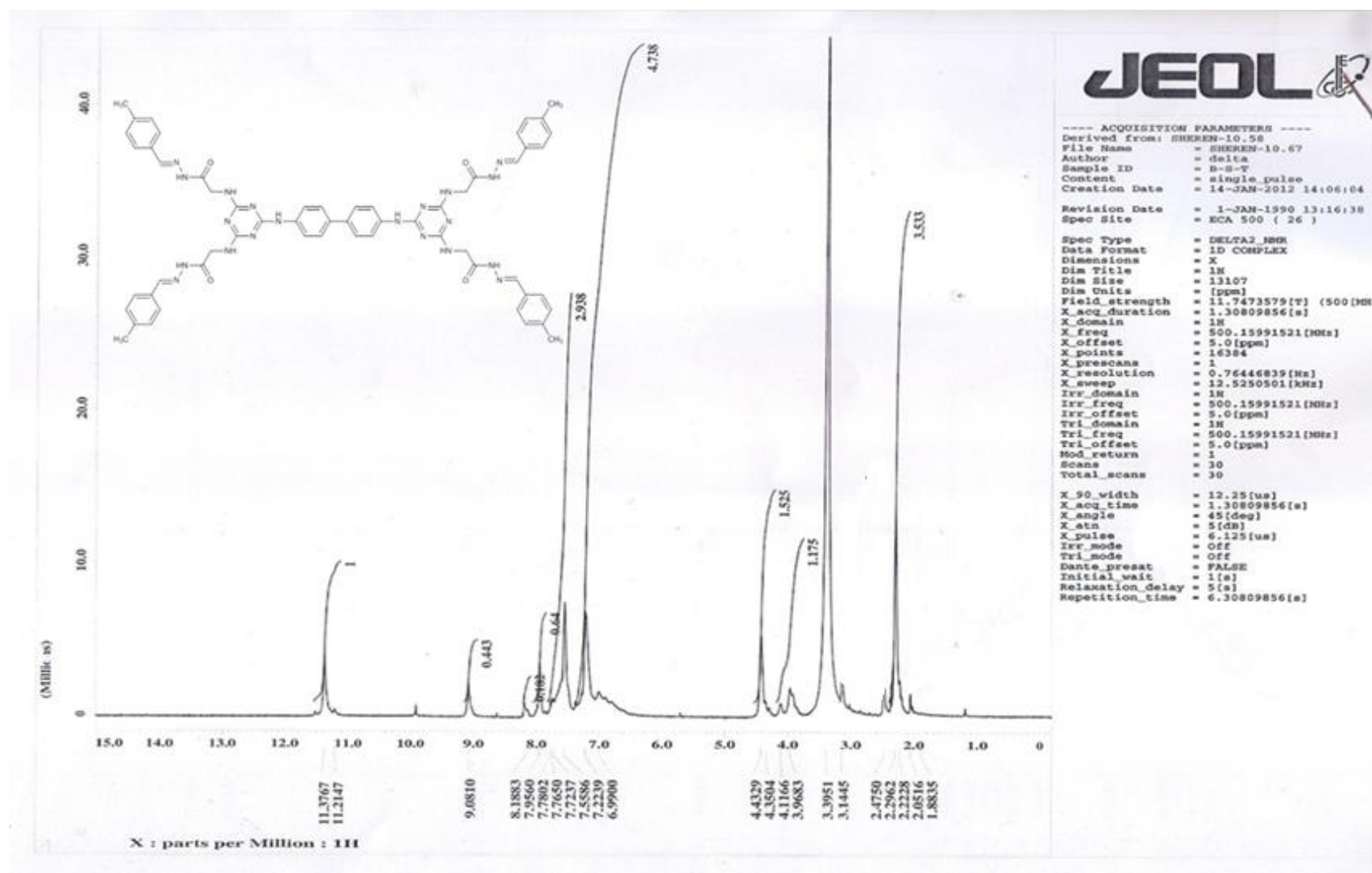


Figure 148: ^1H -NMR ($\text{DMSO}-d_6$) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-methylbenzylidene)acetohydrazide) **22b**.

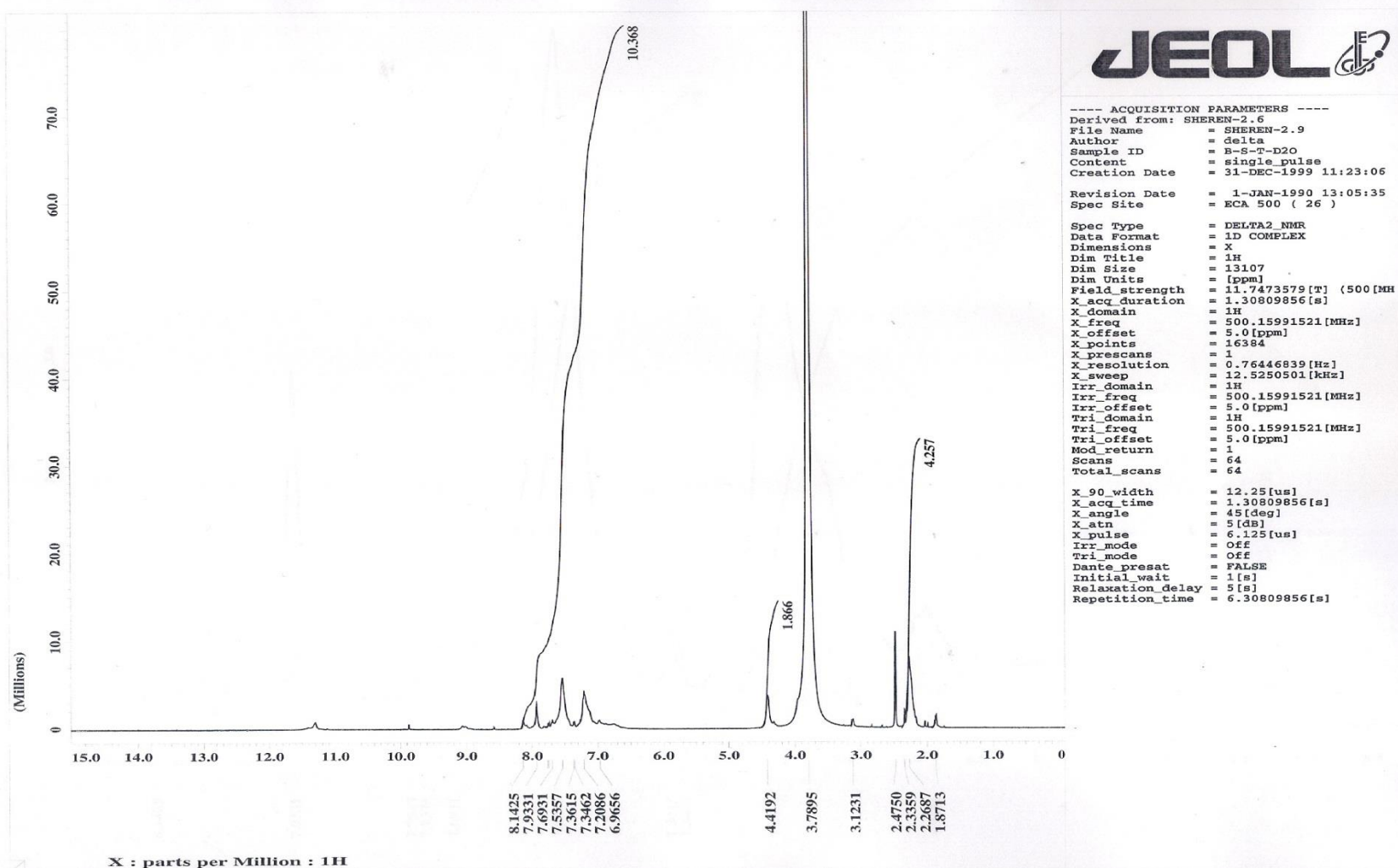


Figure 149: ^1H -NMR ($\text{DMSO}-d_6\text{D}_2\text{O}$) spectrum of ($N'E,N'''E,N''''E,N''''''E$)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl))bis (1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(N' -(4-methylbenzylidene)acetohydrazide) **22b**.

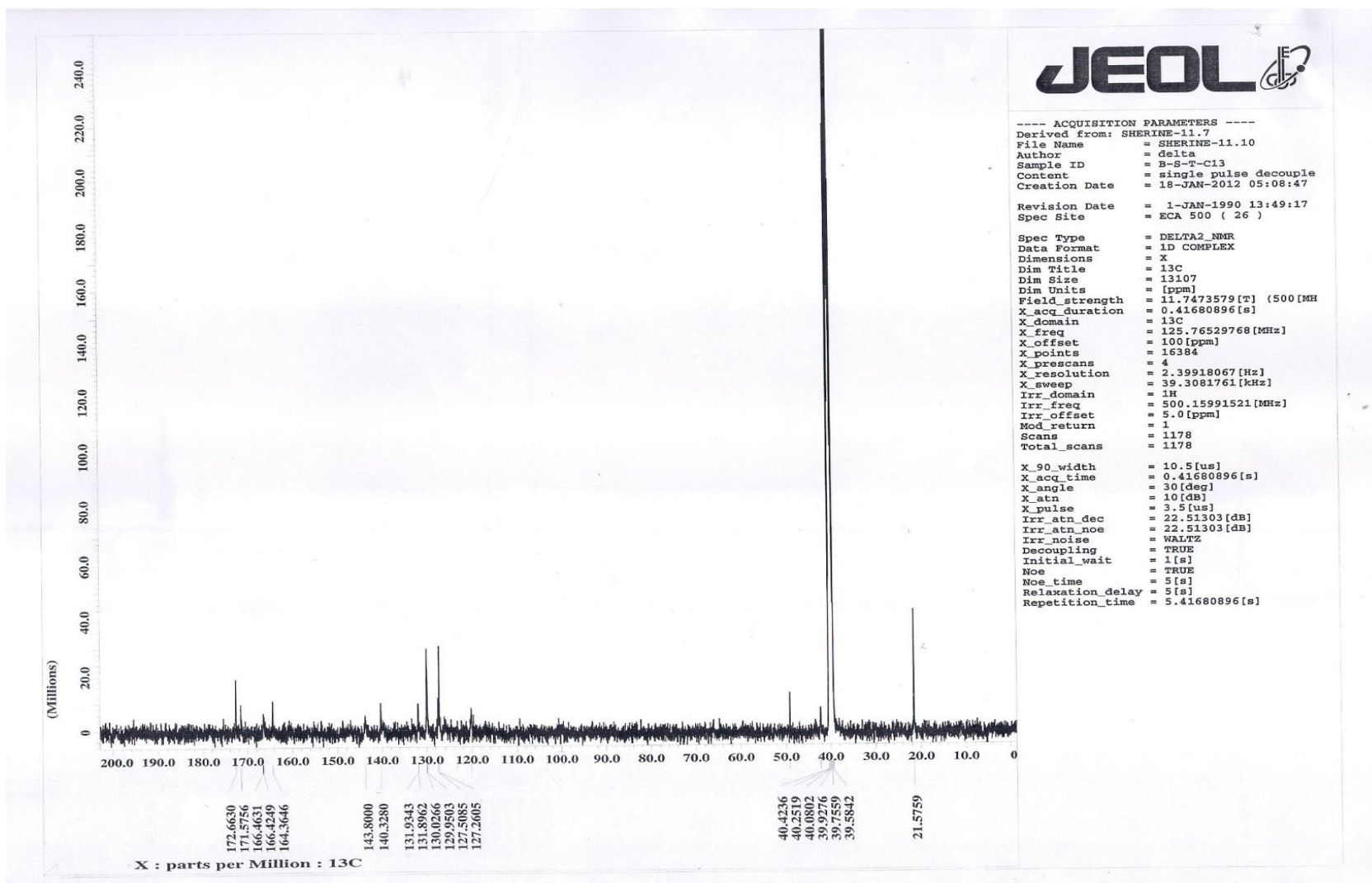


Figure 150: ^{13}C -NMR ($\text{DMSO}-d_6$) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-methylbenzylidene)acetohydrazide) **22b**.

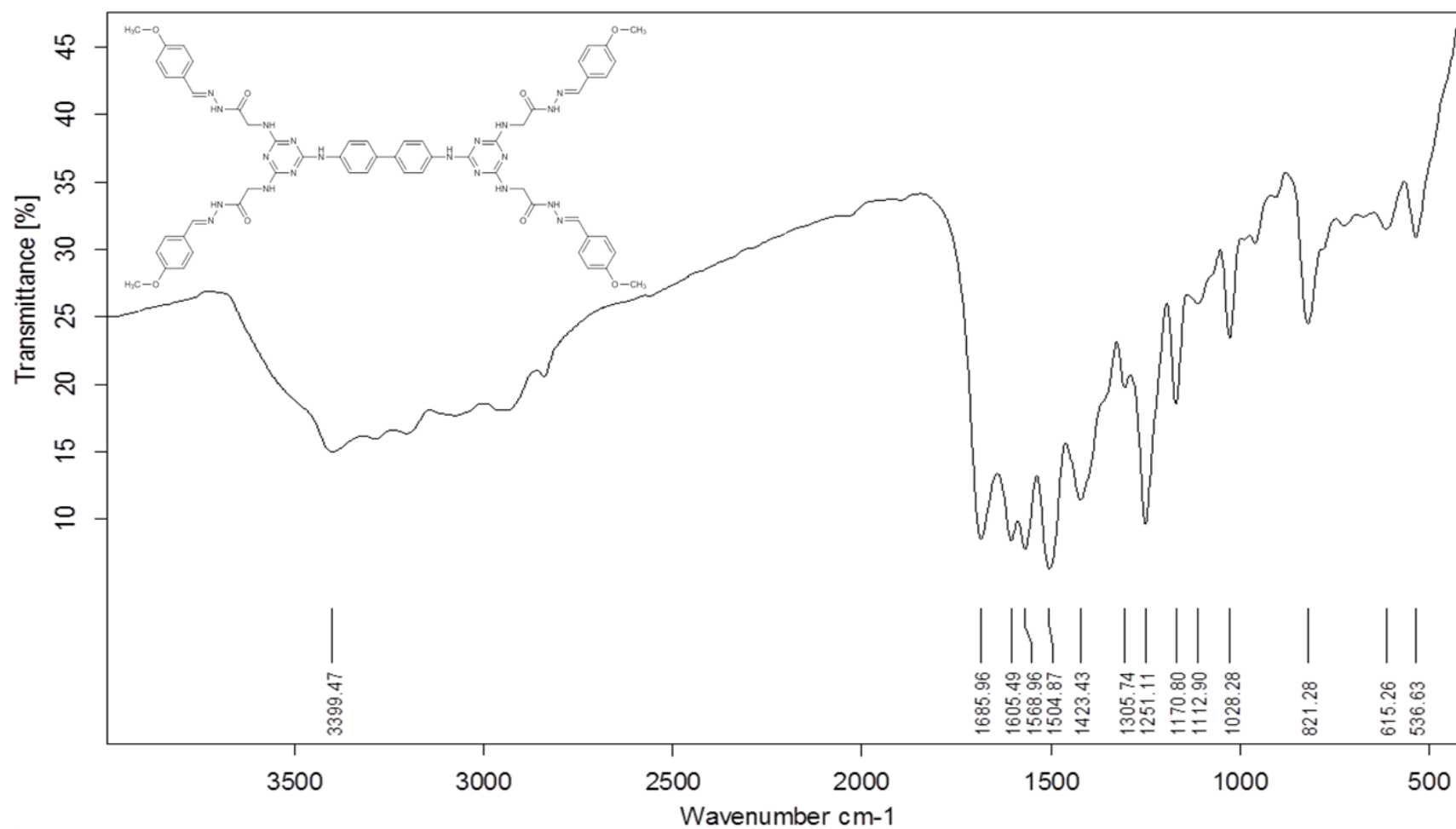


Figure 151: IR (KBr) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl)) bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-methoxybenzylidene) acetohydrazide) **22c**.

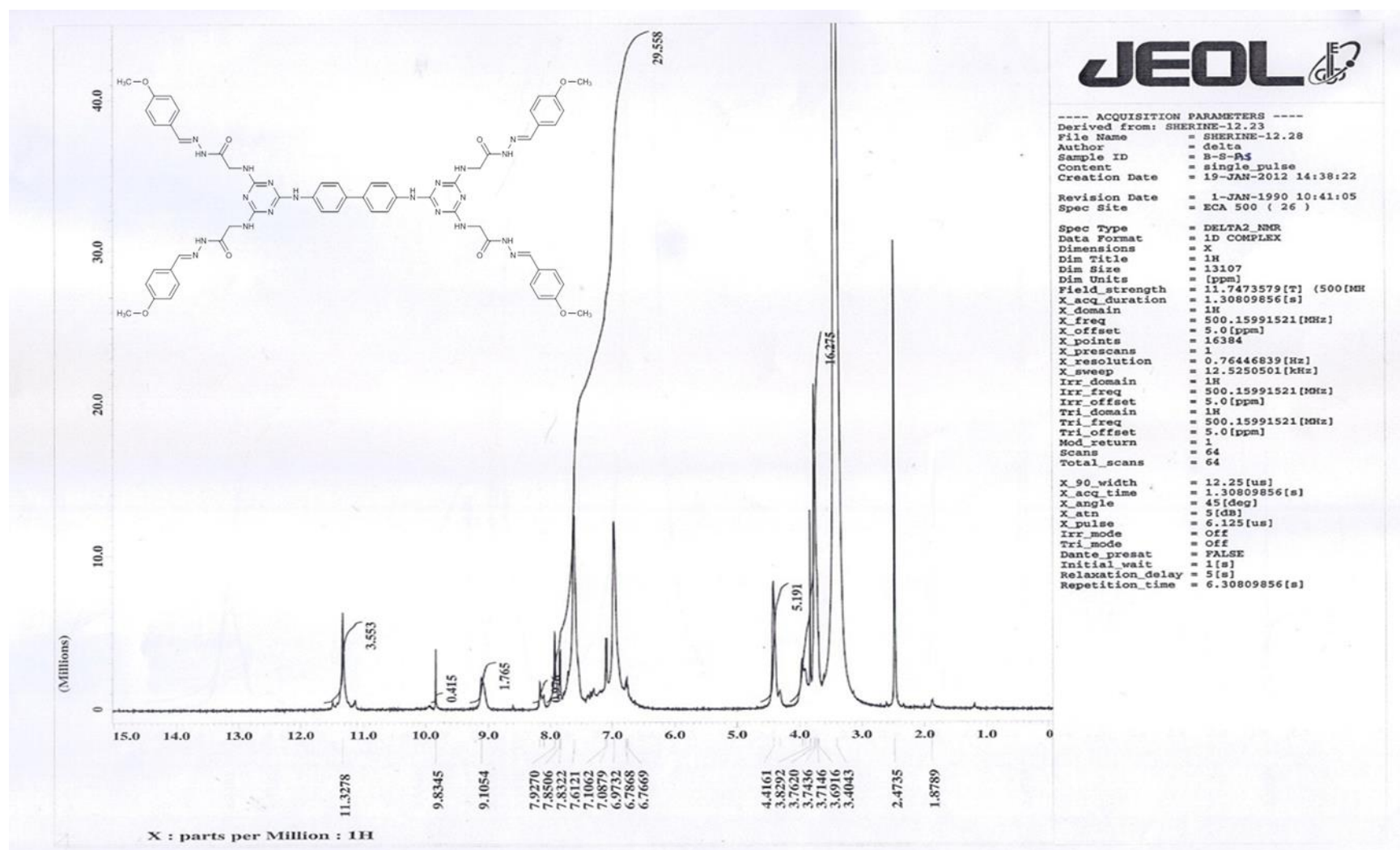


Figure 152: ^1H -NMR ($\text{DMSO}-d_6$) spectrum of (*N'E,N'''E,N''''E,N'''''E*)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl)) bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-methoxybenzylidene)acetohydrazide) **22c**.

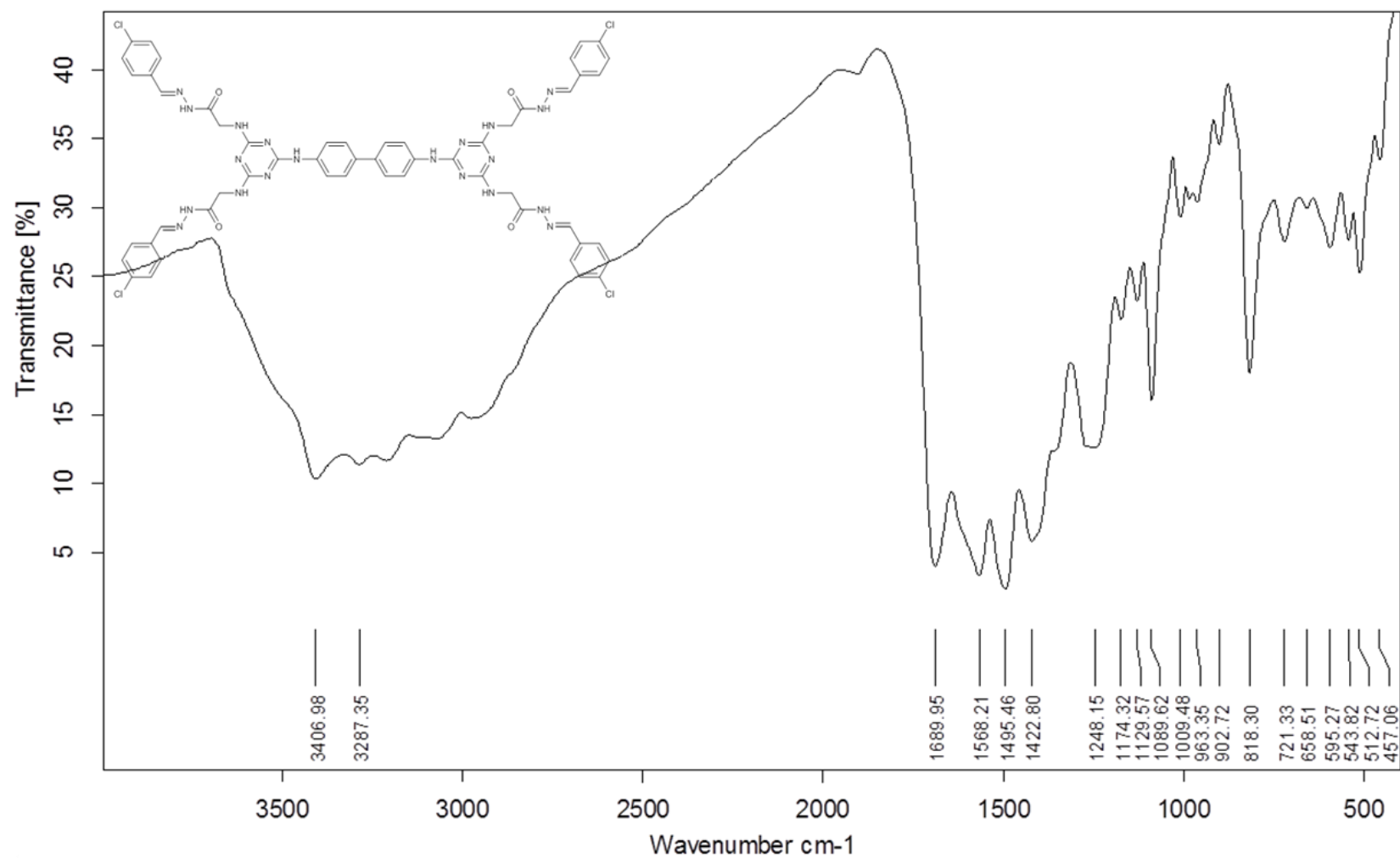


Figure 153: IR (KBr) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-chlorobenzylidene)acetohydrazide) **22d**.

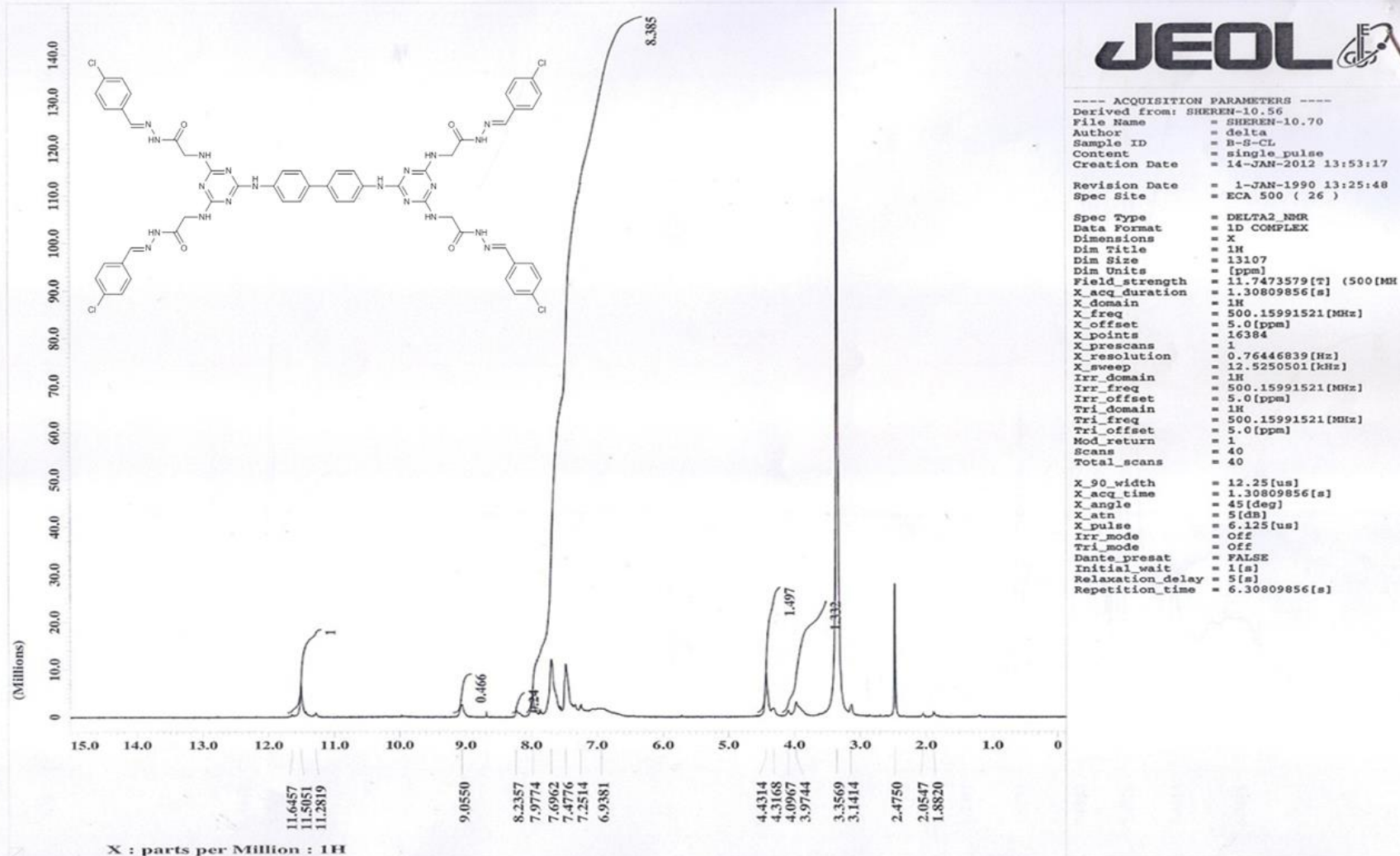


Figure 154: ^1H -NMR ($\text{DMSO}-d_6$) spectrum of ($N'E,N'''E,N''''E,N''''''E$)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(N' -(4-chlorobenzylidene)acetohydrazide) **22d**.

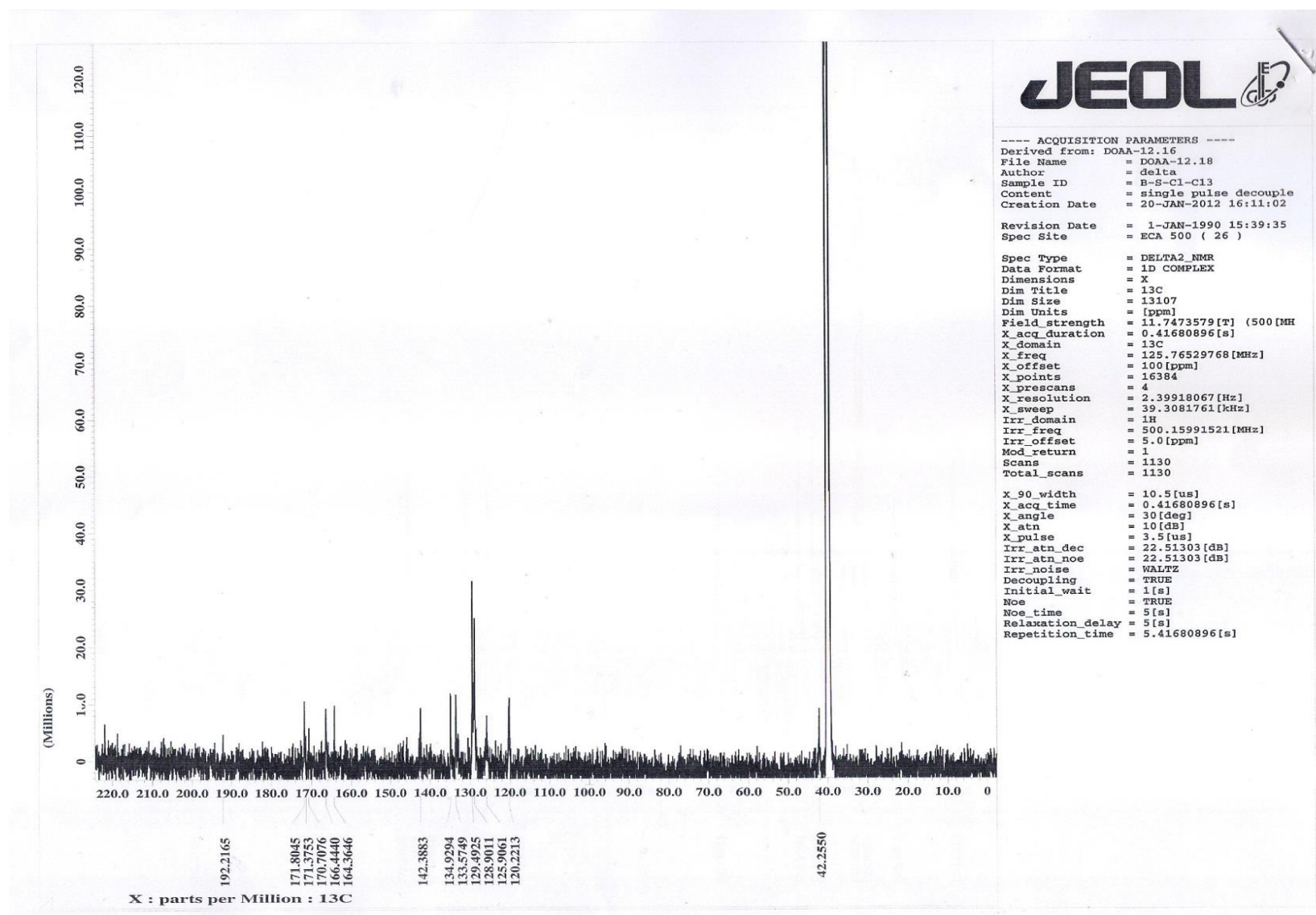


Figure 155: ^{13}C -NMR ($\text{DMSO-}d_6$) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-chlorobenzylidene)acetohydrazide) **22d**.

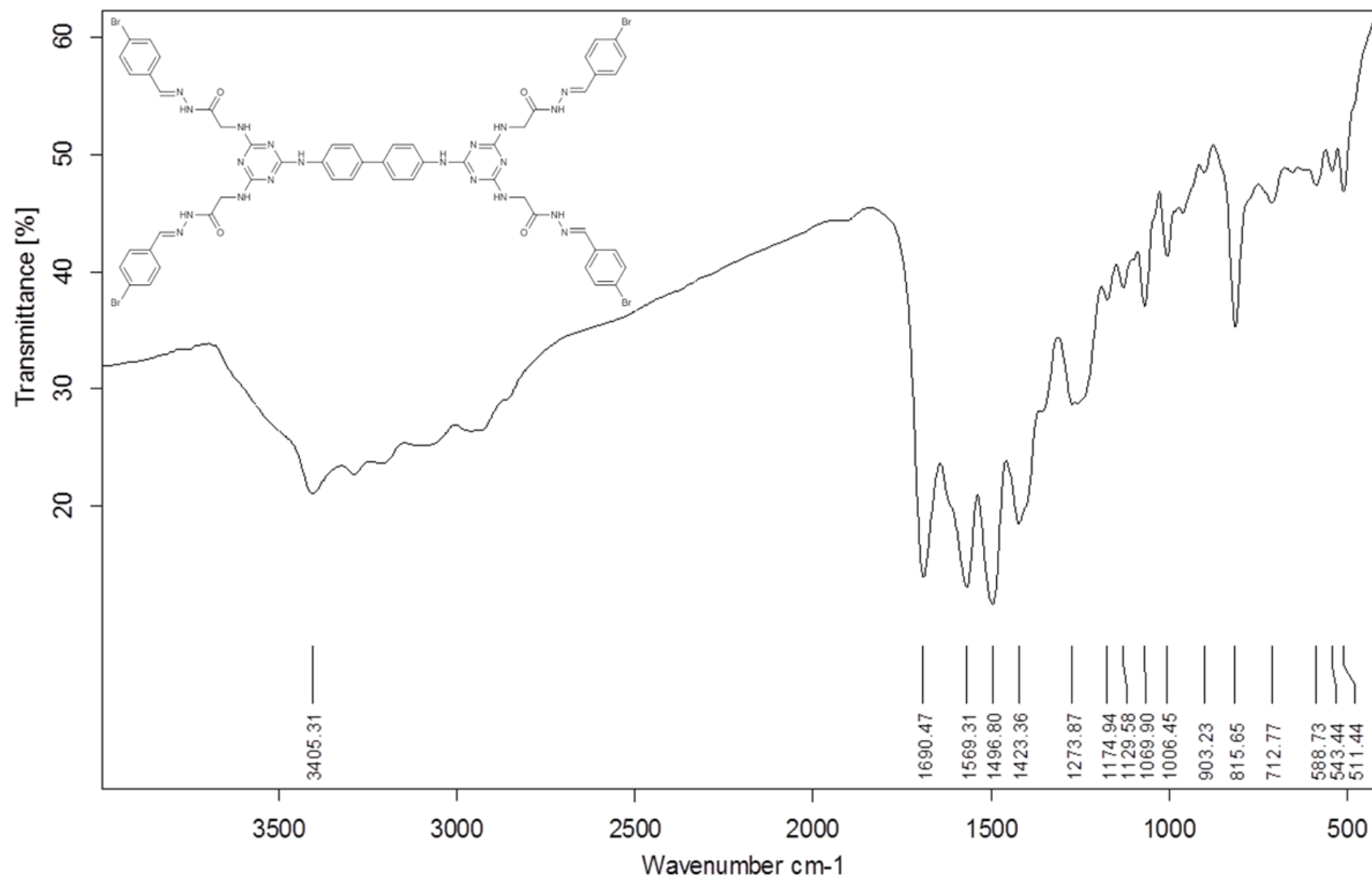


Figure 156: IR (KBr) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-bromobenzylidene)acetohydrazide) **22e**.

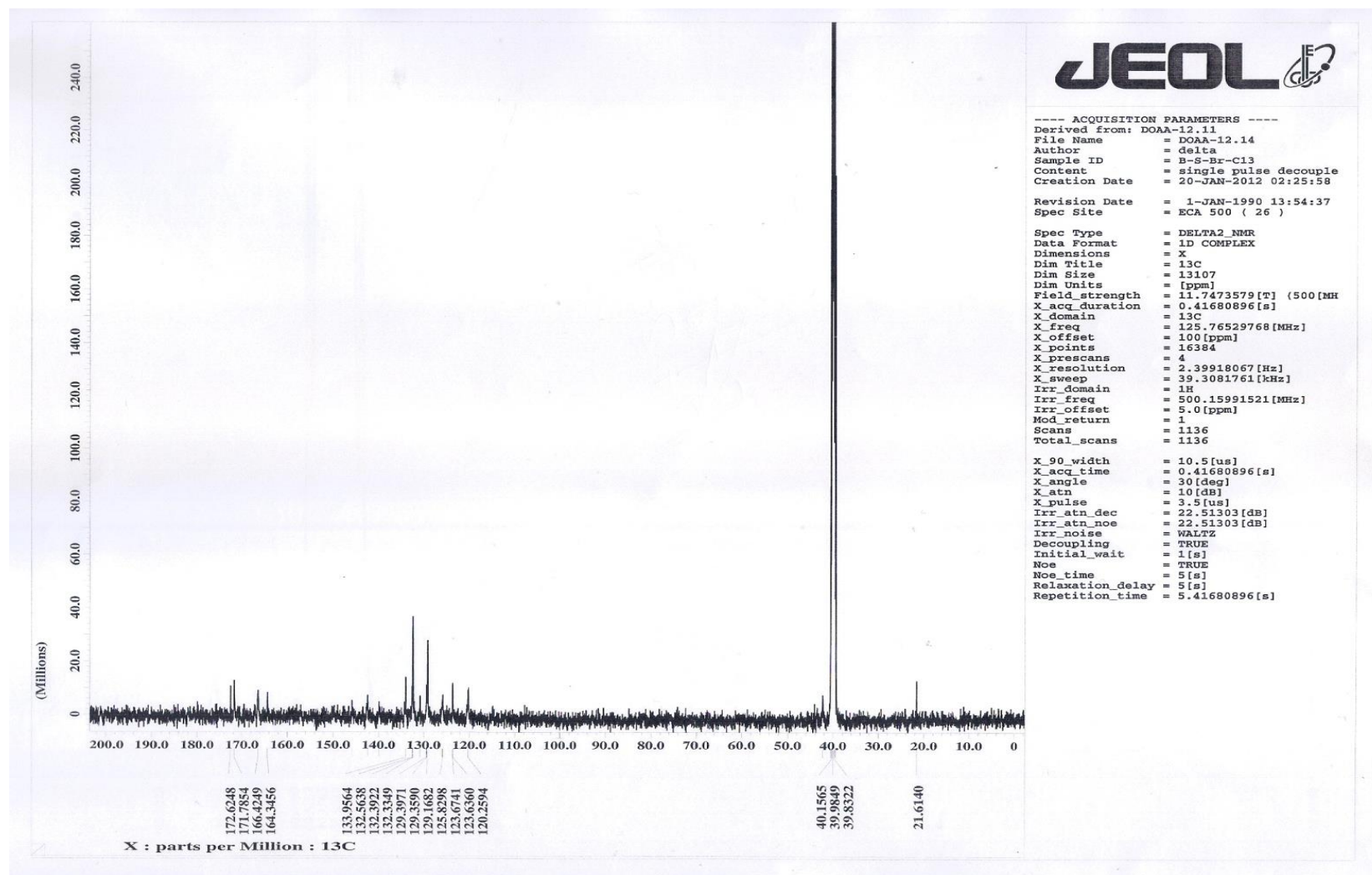


Figure 158: ^{13}C -NMR ($\text{DMSO-}d_6$) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-bromobenzylidene)acetohydrazide) **22e**.

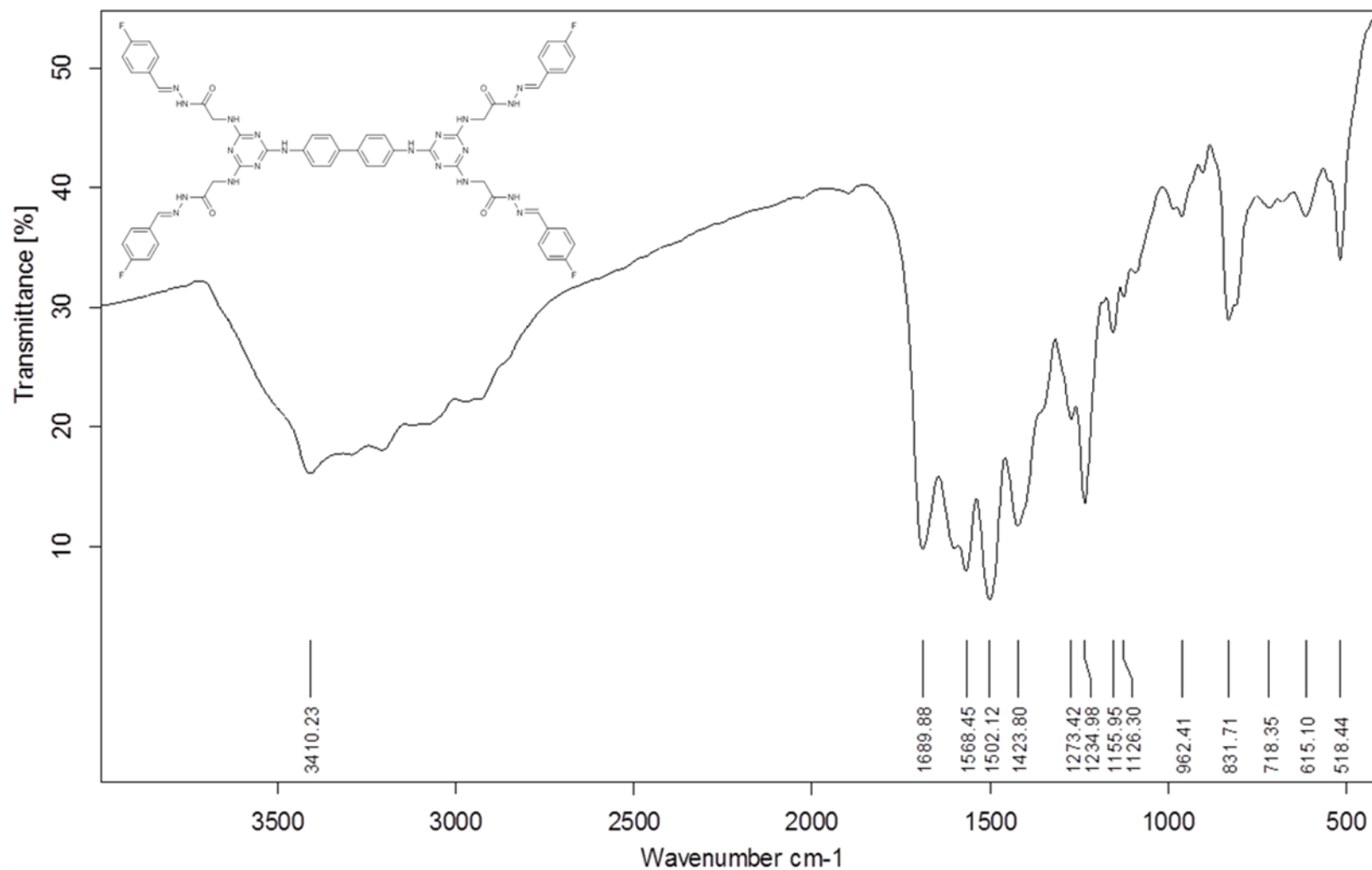


Figure 159: IR (KBr) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-fluorobenzylidene)acetohydrazide) **22f**.

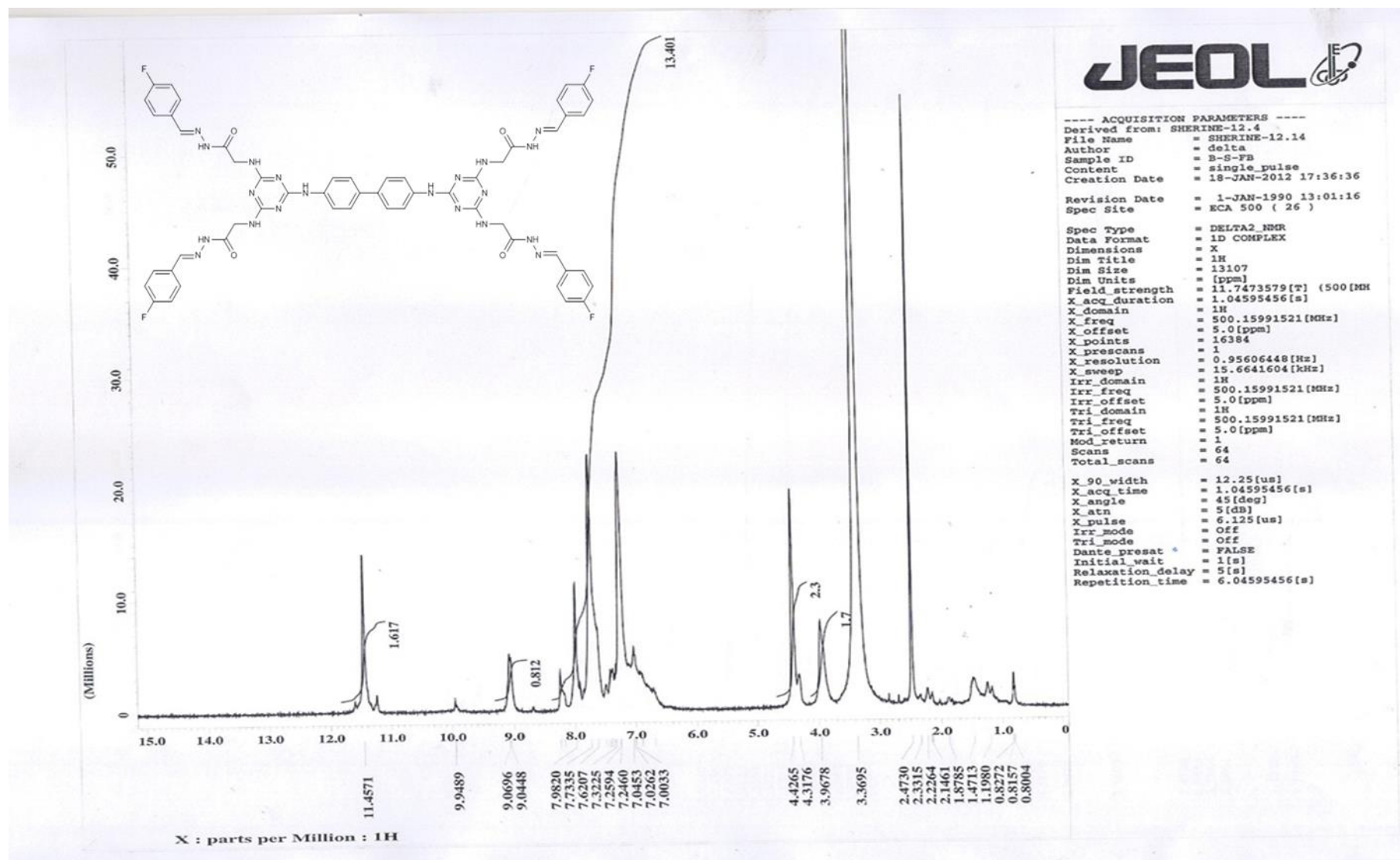


Figure 160: ^1H -NMR ($\text{DMSO}-d_6$) spectrum of $(N'E,N'''E,N''''E,N''''''E)$ -2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(N' -(4-fluorobenzylidene)acetohydrazide) **22f**.

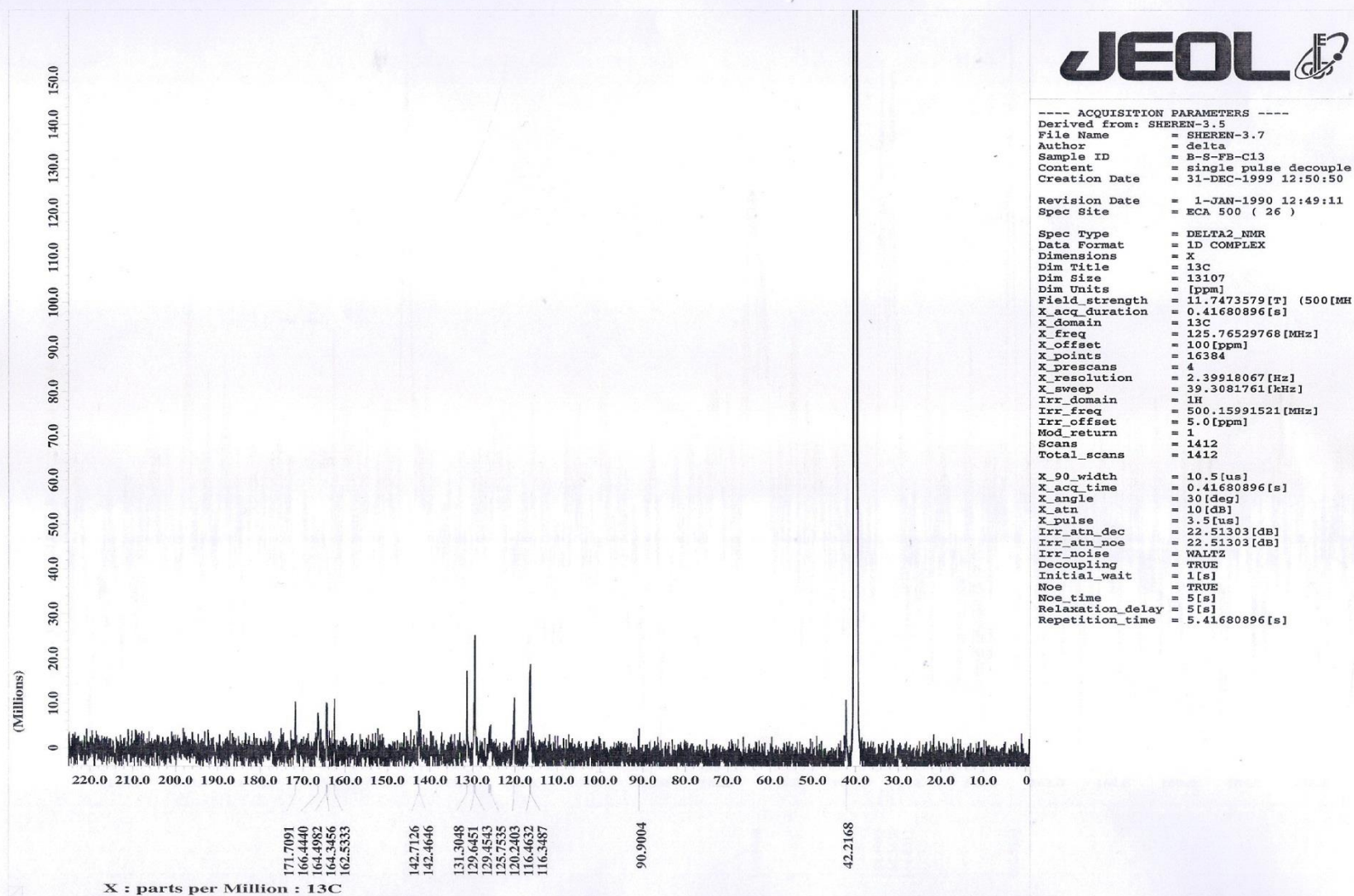


Figure 161: ^{13}C -NMR ($\text{DMSO}-d_6$) spectrum of (*N'E,N'''E,N'''''E,N''''''E*)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-fluorobenzylidene)acetohydrazide) **22f**.

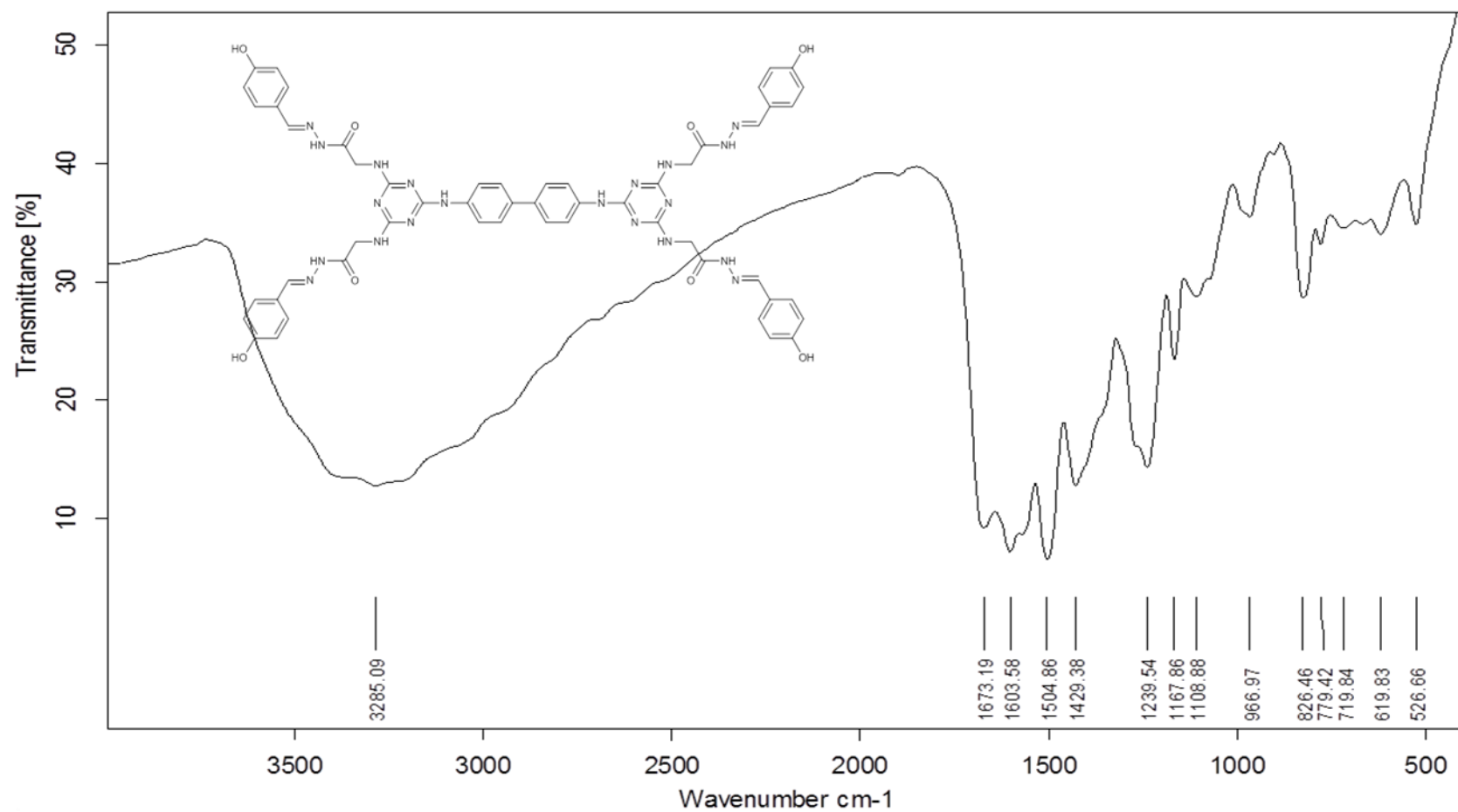


Figure 162: IR (KBr) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl)) bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-hydroxybenzylidene)acetohydrazide) **22g**.

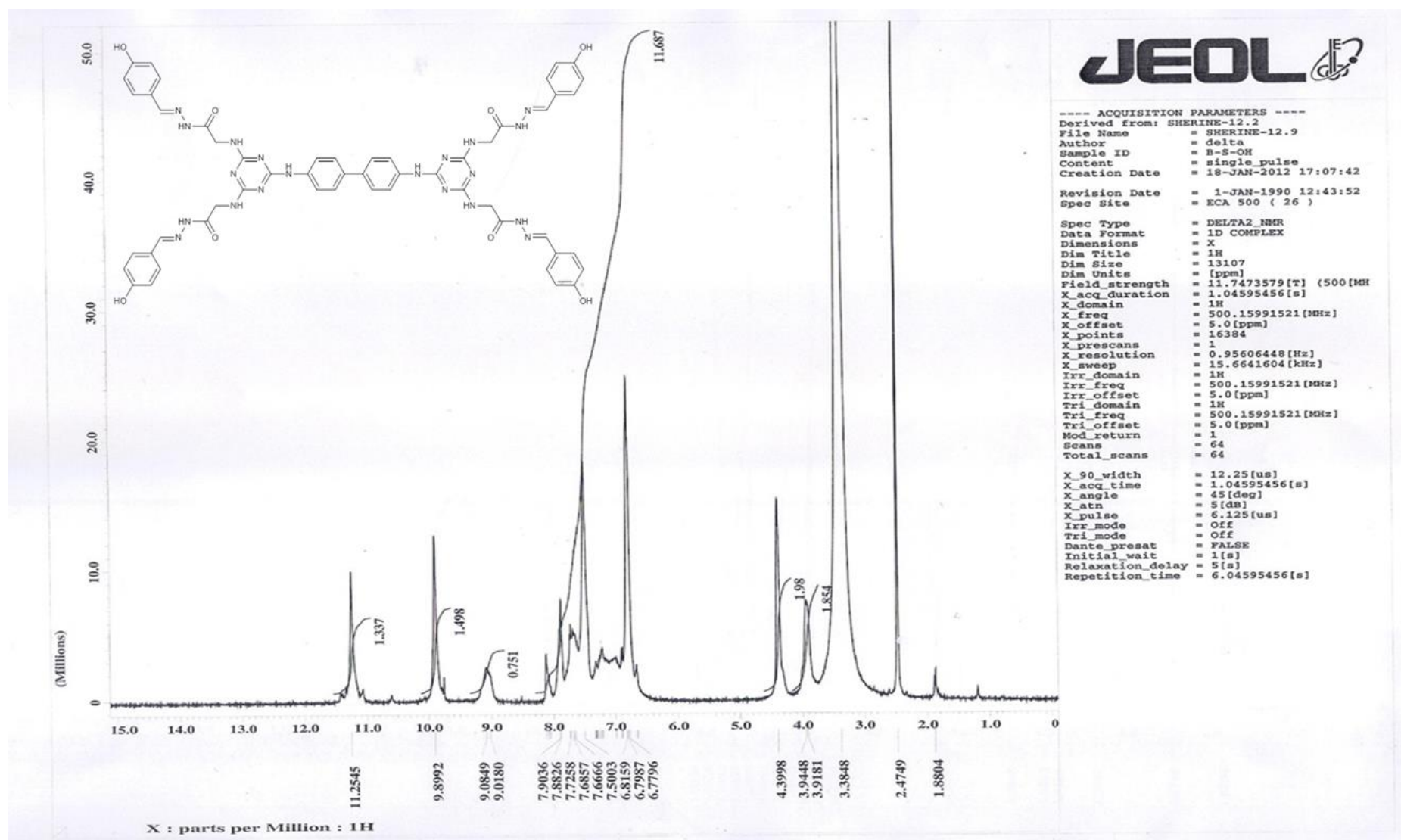


Figure 163: ^1H -NMR (DMSO- d_6) spectrum of (*N'E,N'''E,N''''E,N'''''E*)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-hydroxybenzylidene)acetohydrazide) **22g**.

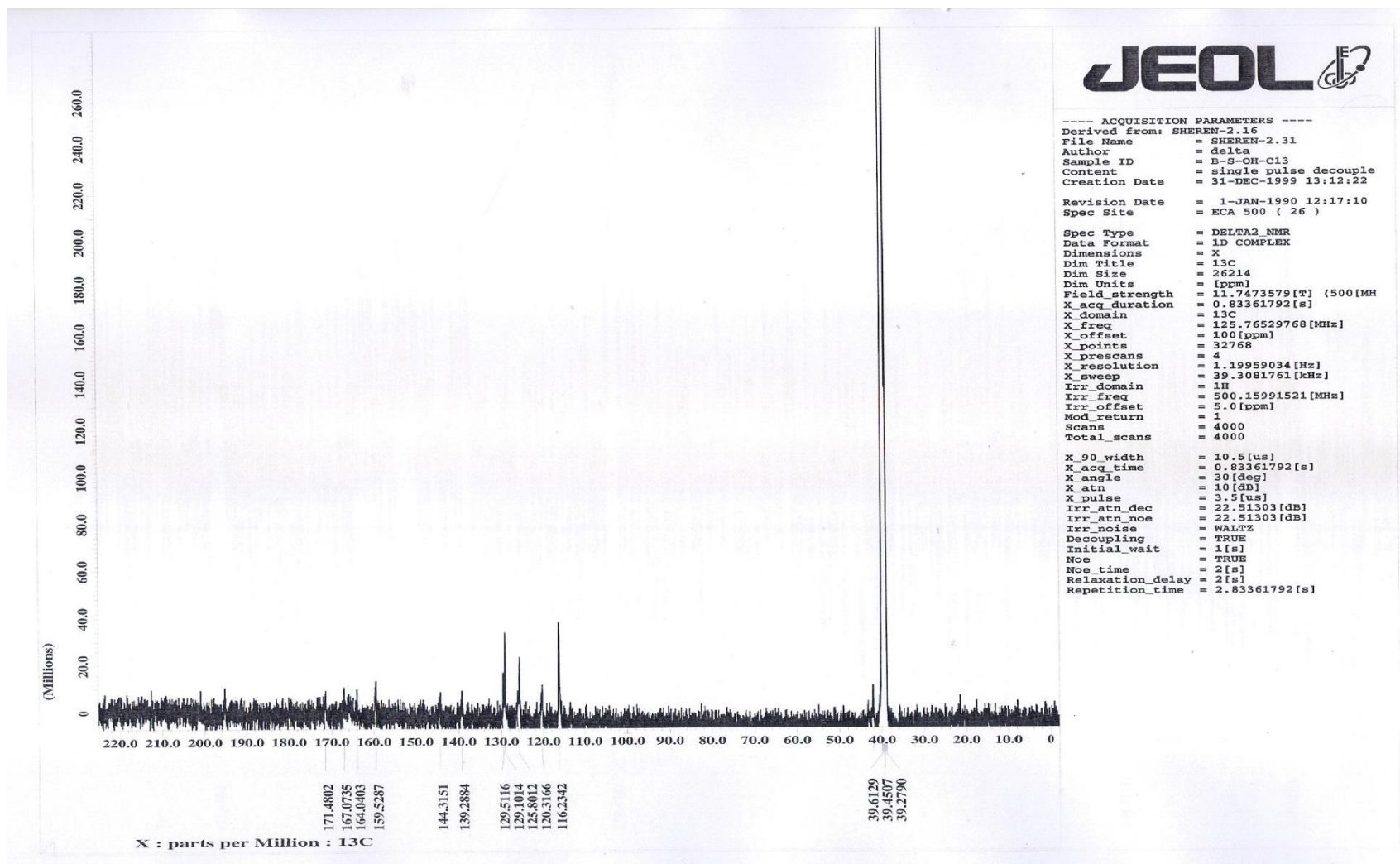


Figure 164: ^{13}C -NMR ($\text{DMSO}-d_6$) spectrum of (*N'E,N'''E,N'''''E,N''''''E*)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(4-hydroxybenzylidene)acetohydrazide) **22g**.

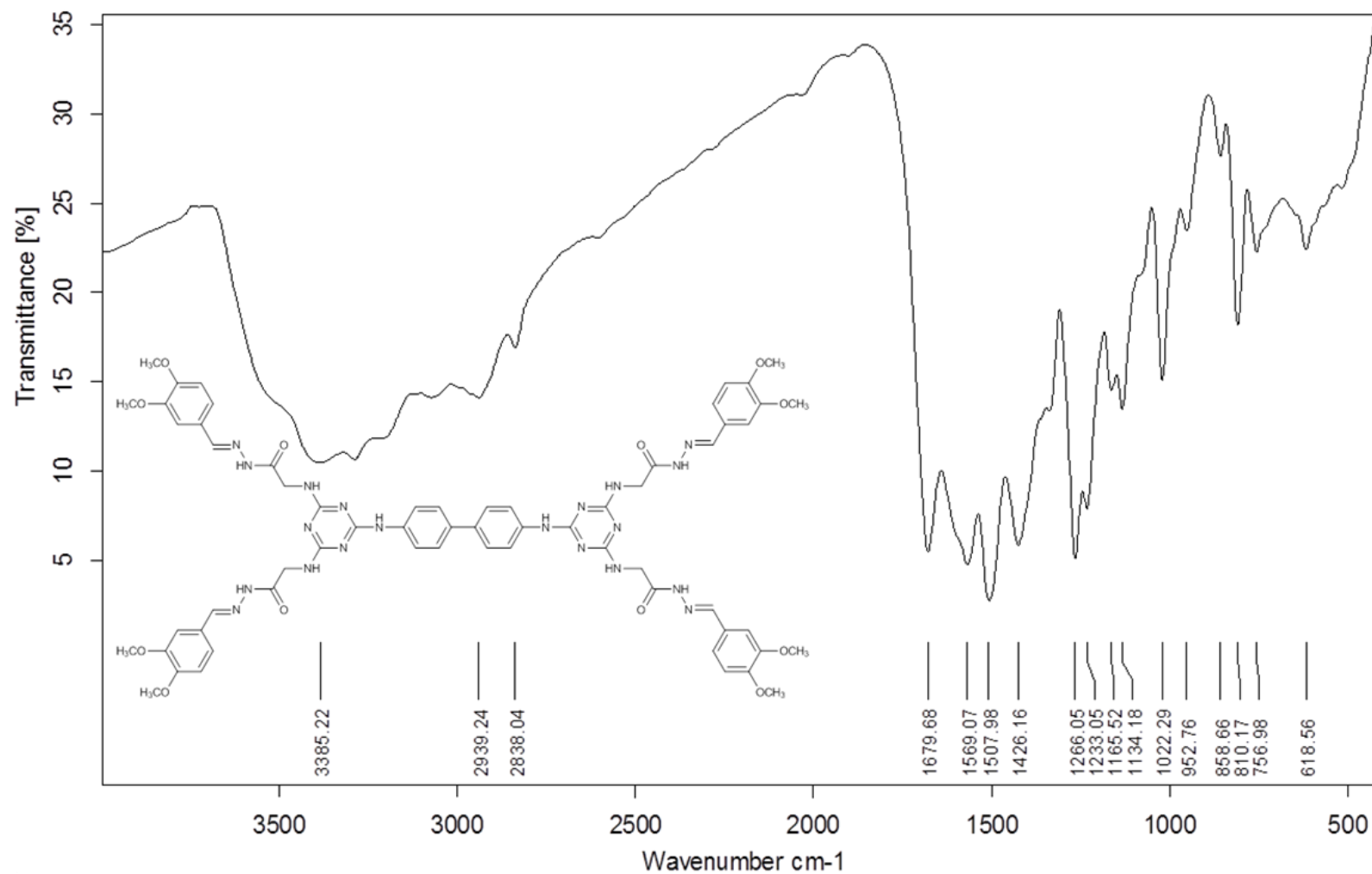


Figure 165: IR (KBr) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl)) bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(3,4-dimethoxybenzylidene)acetohydrazide) **22h**.

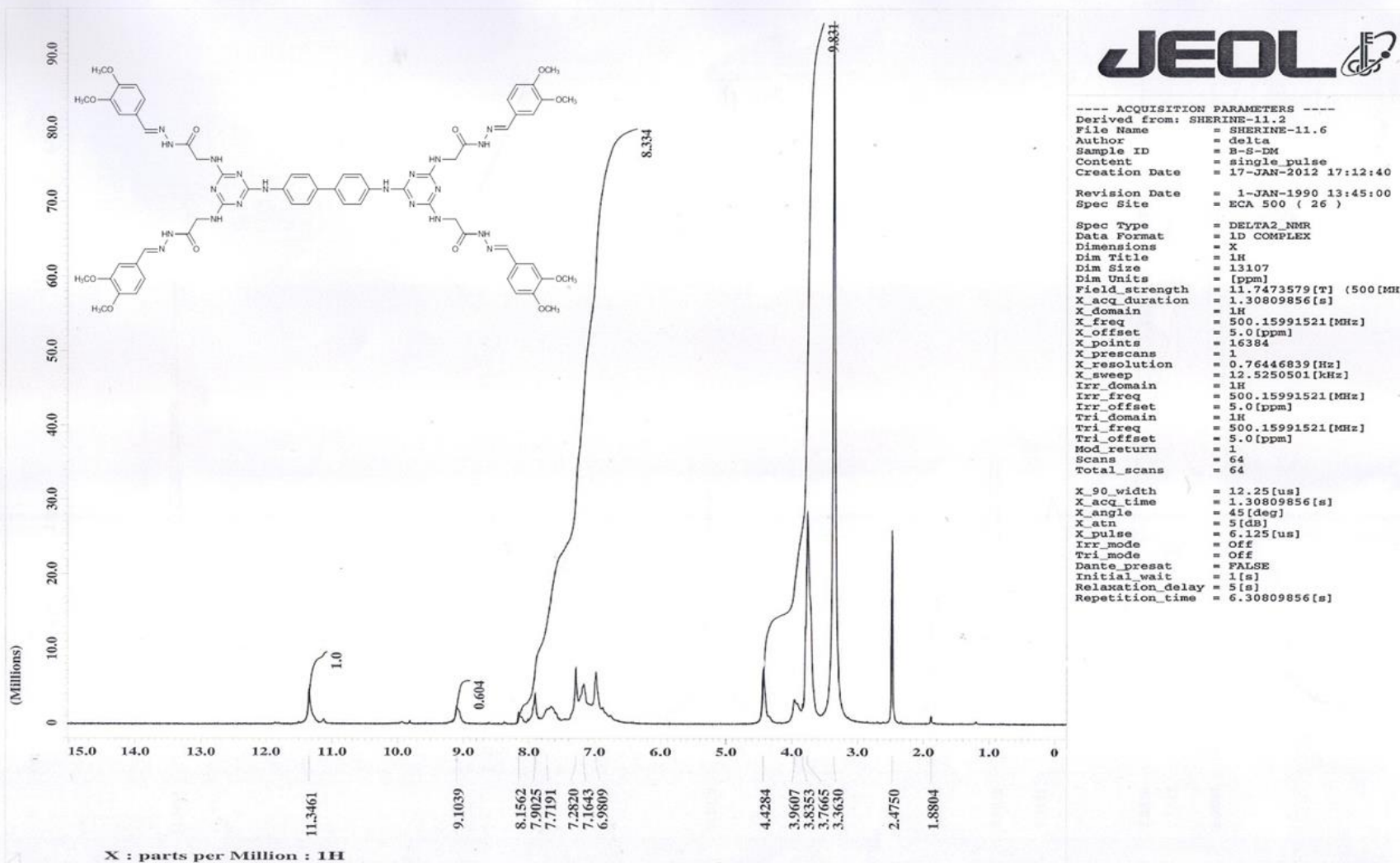


Figure 166: ^1H -NMR ($\text{DMSO-}d_6$) spectrum of (*N'E,N'''E,N''''E,N'''''E*)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(3,4-dimethoxybenzylidene)acetohydrazide) **22h**.

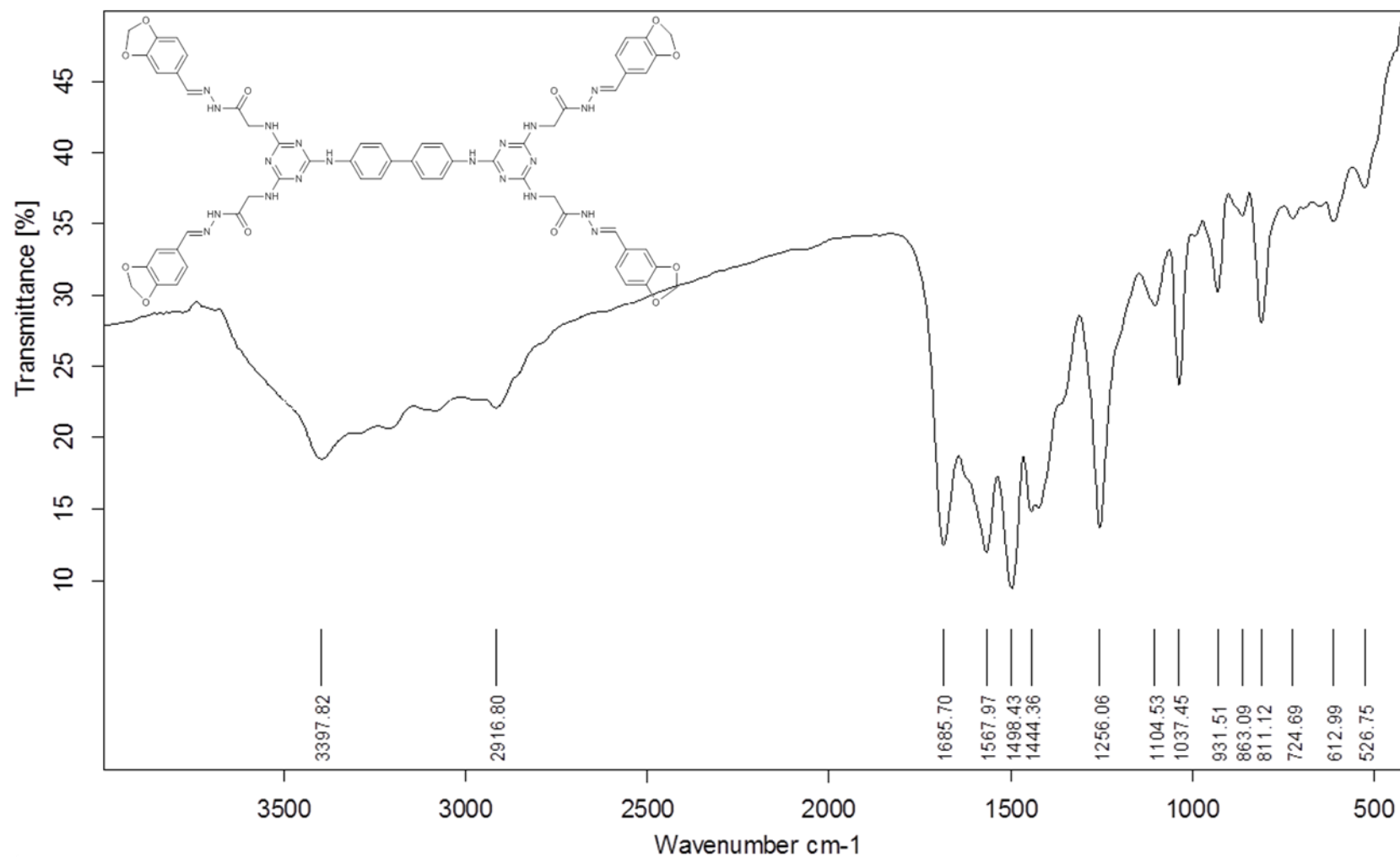
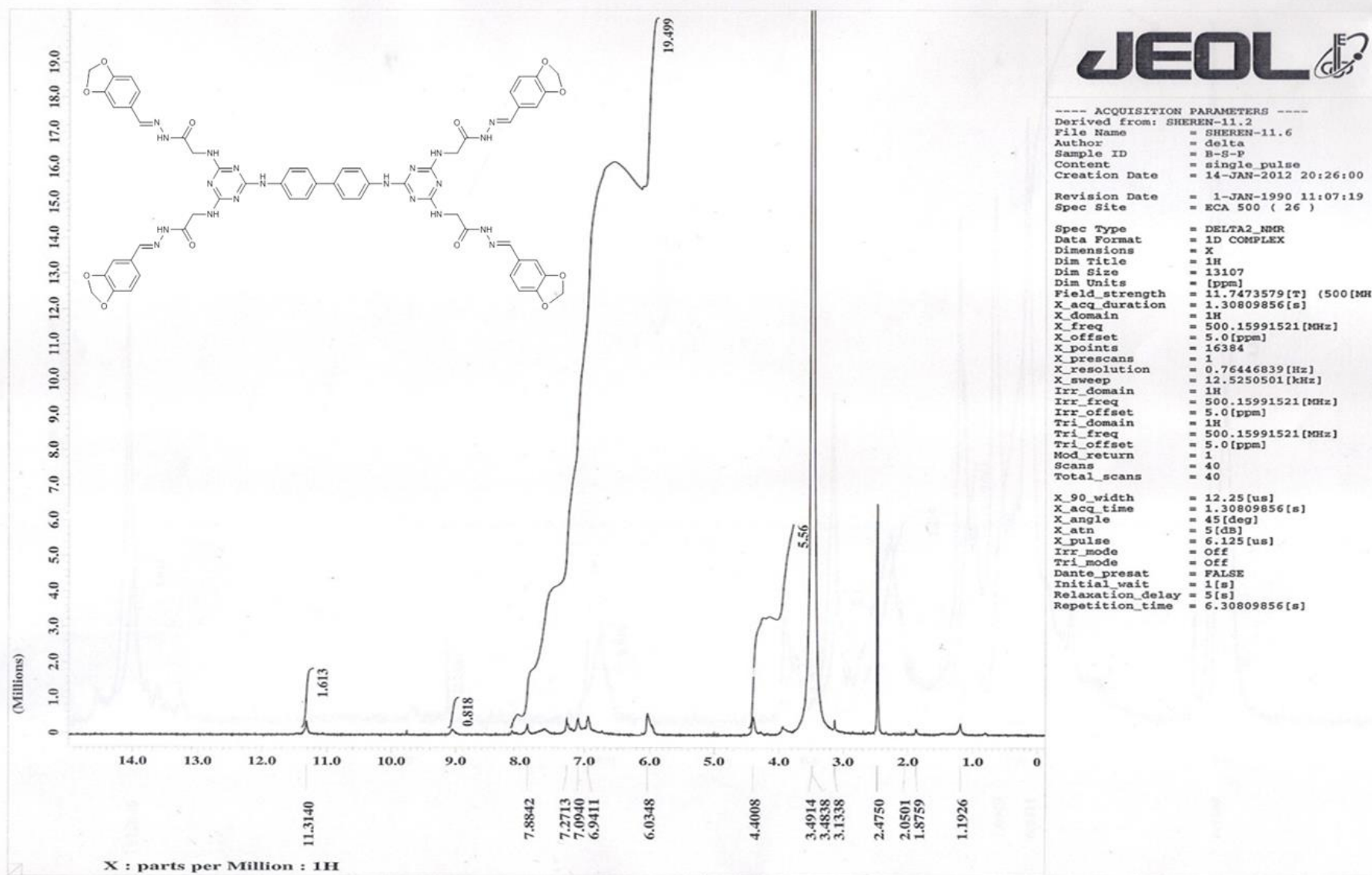


Figure 167: IR (KBr) spectrum of (*N'E,N'''E,N'''''E,N''''''E*)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl)) bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(benzo[d][1,3]dioxol-5-ylmethylene)acetohydrazide) **22i**.



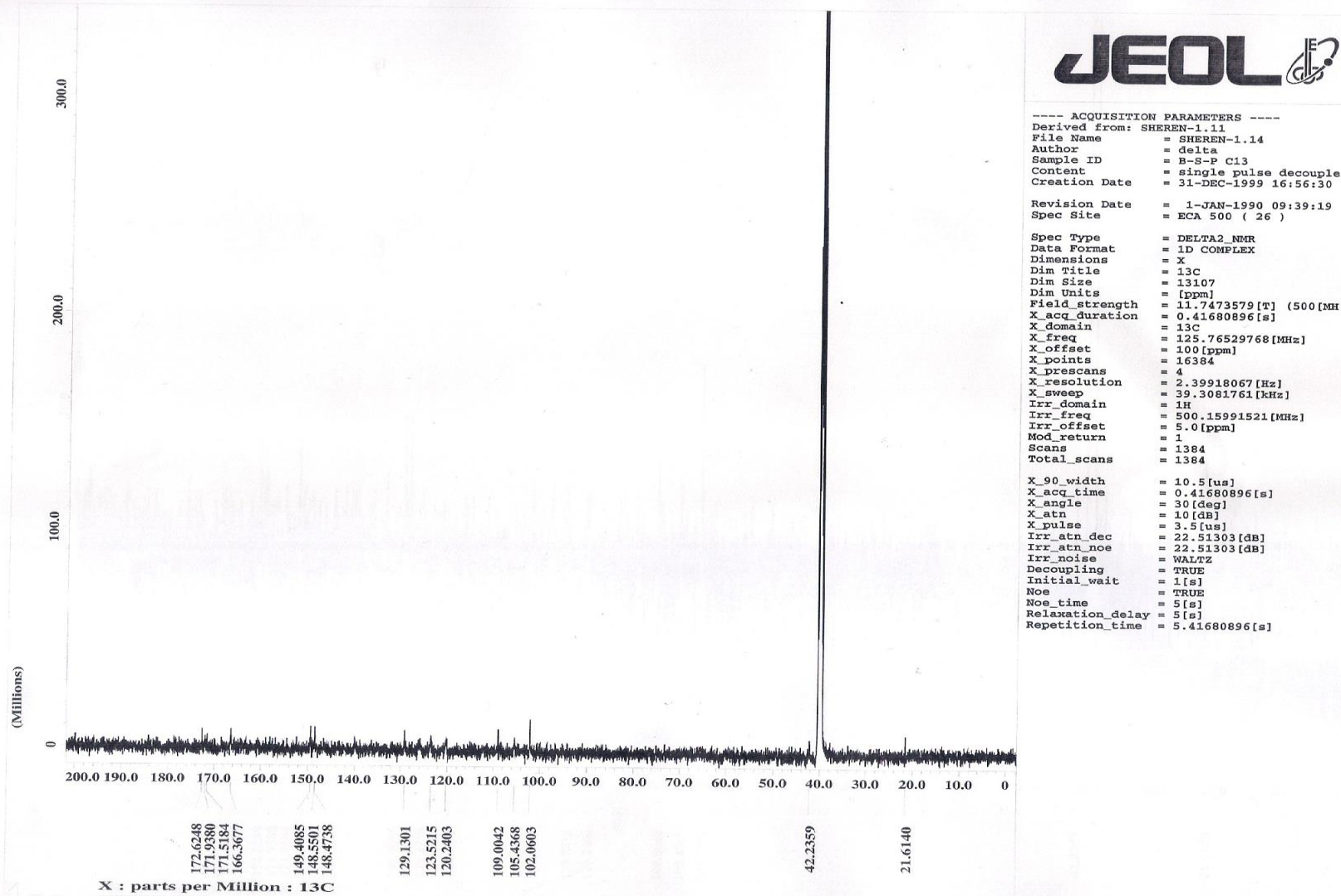


Figure 169: ^{13}C -NMR ($\text{DMSO-}d_6$) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(benzo[d][1,3]dioxol-5-ylmethylene)acetohydrazide) **22i**.

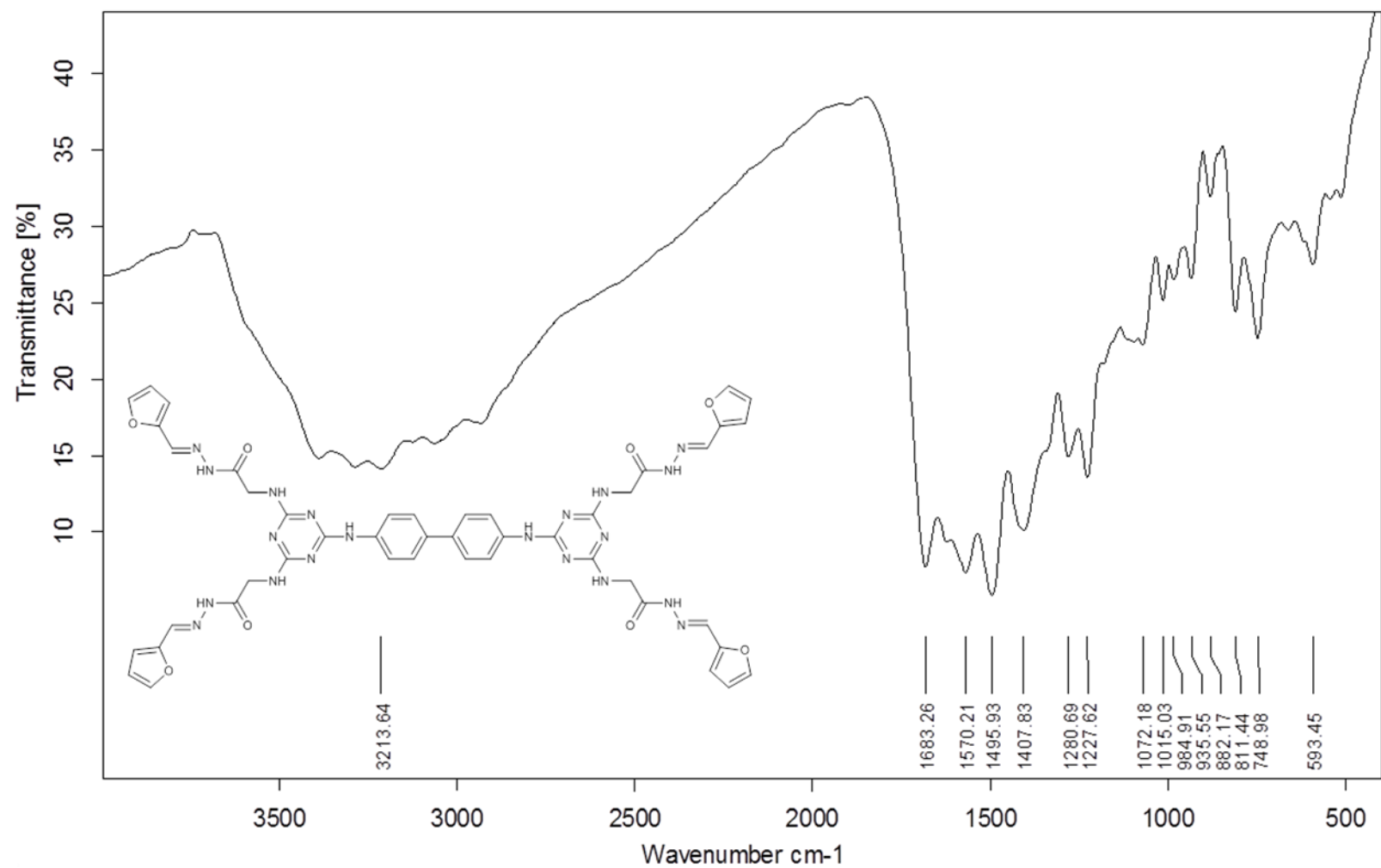


Figure 170: IR (KBr) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl)) bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(furan-2-ylmethylene)acetohydrazide) **22j**.

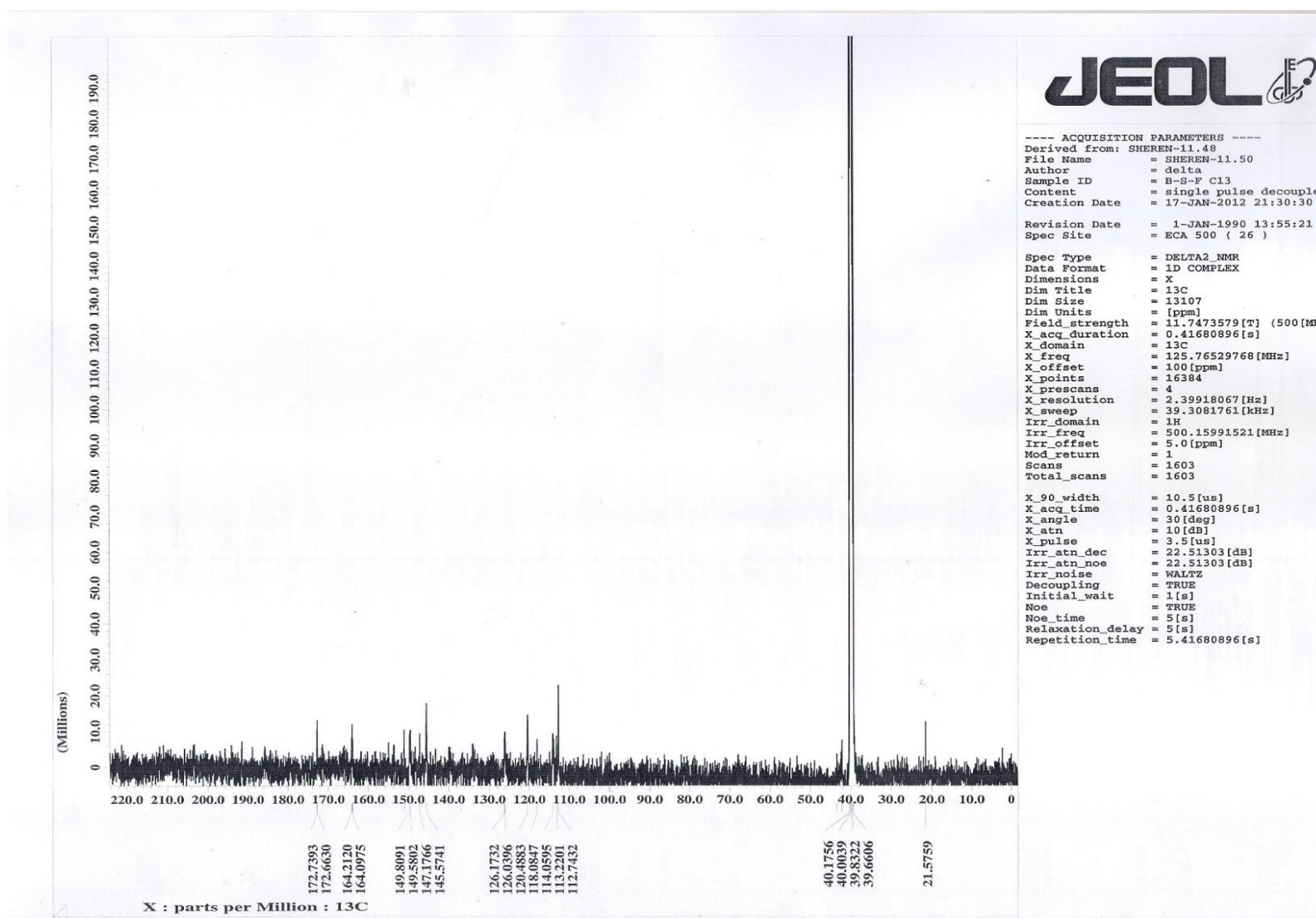


Figure 172: ^{13}C -NMR ($\text{DMSO}-d_6$) spectrum of (*N'E,N'''E,N''''E,N''''''E*)-2,2',2'',2'''-((6,6'-([1,1'-biphenyl]-4,4'-diylbis(azanediyl))bis(1,3,5-triazine-6,4,2-triyl))tetrakis(azanediyl))tetrakis(*N'*-(furan-2-ylmethylene)acetohydrazide) **22j**.