

Supporting Information A

Cyclisation reactions of *N*-cinnamoyl-9-aminoanthracenes

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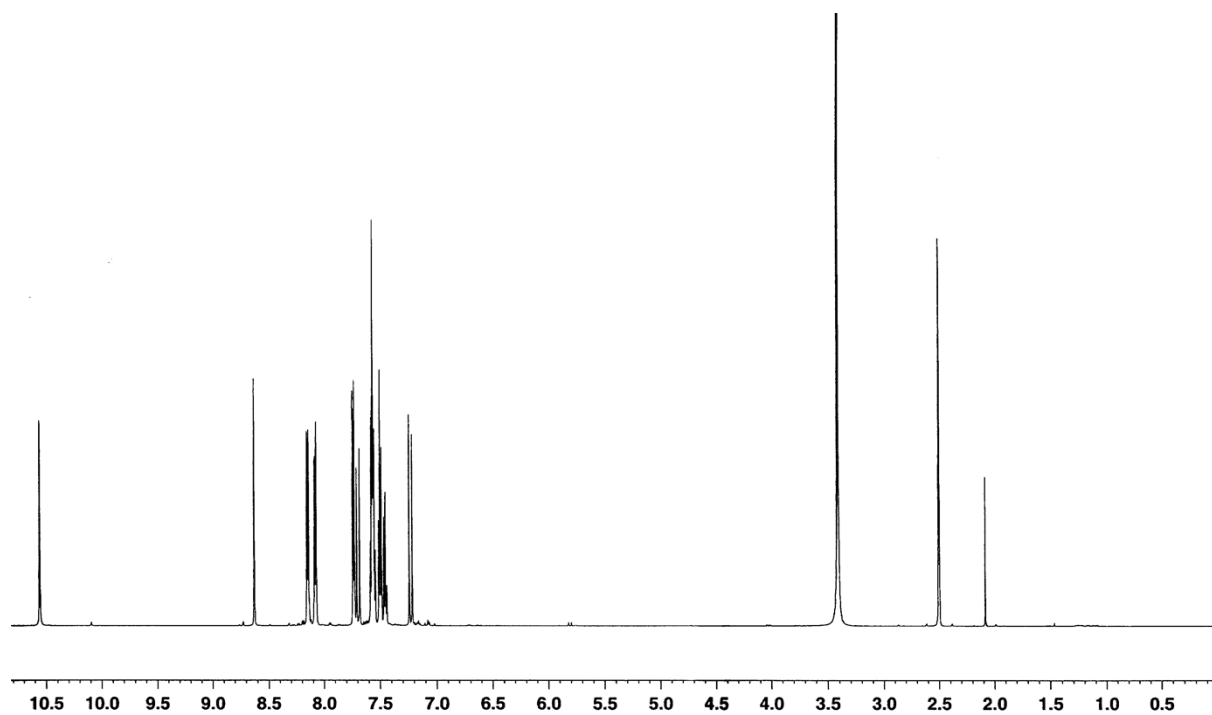
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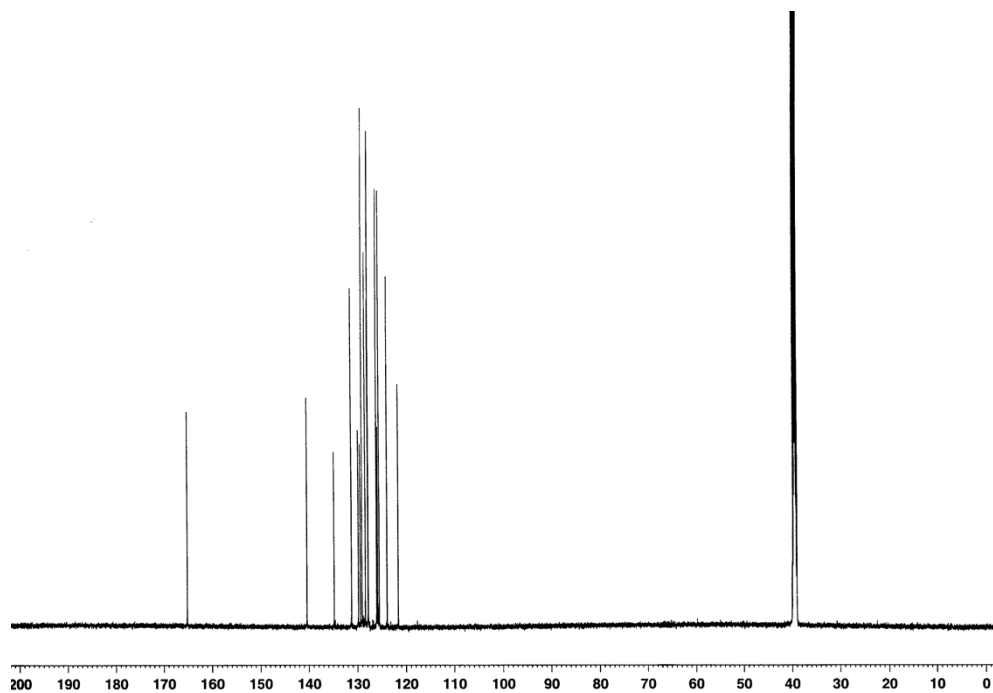
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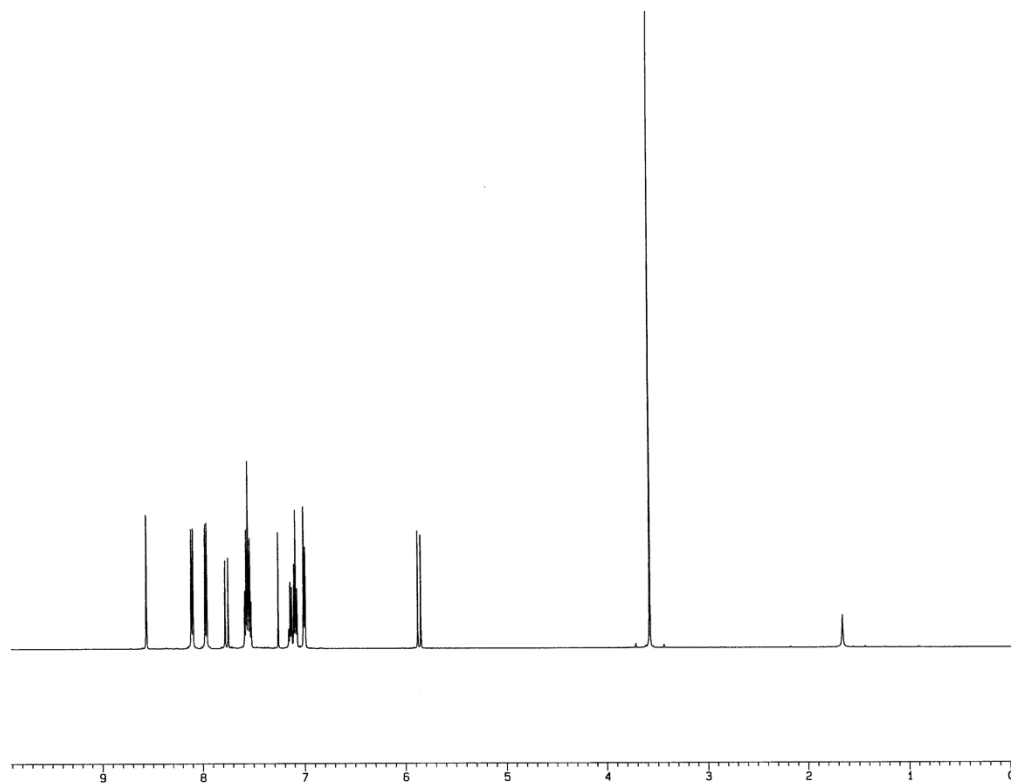
$^1\text{H-NMR}$ (600 MHz, $\text{d}^6\text{-DMSO}$) spectrum of *N*-cinnamoyl-9-aminoanthracene **3a**



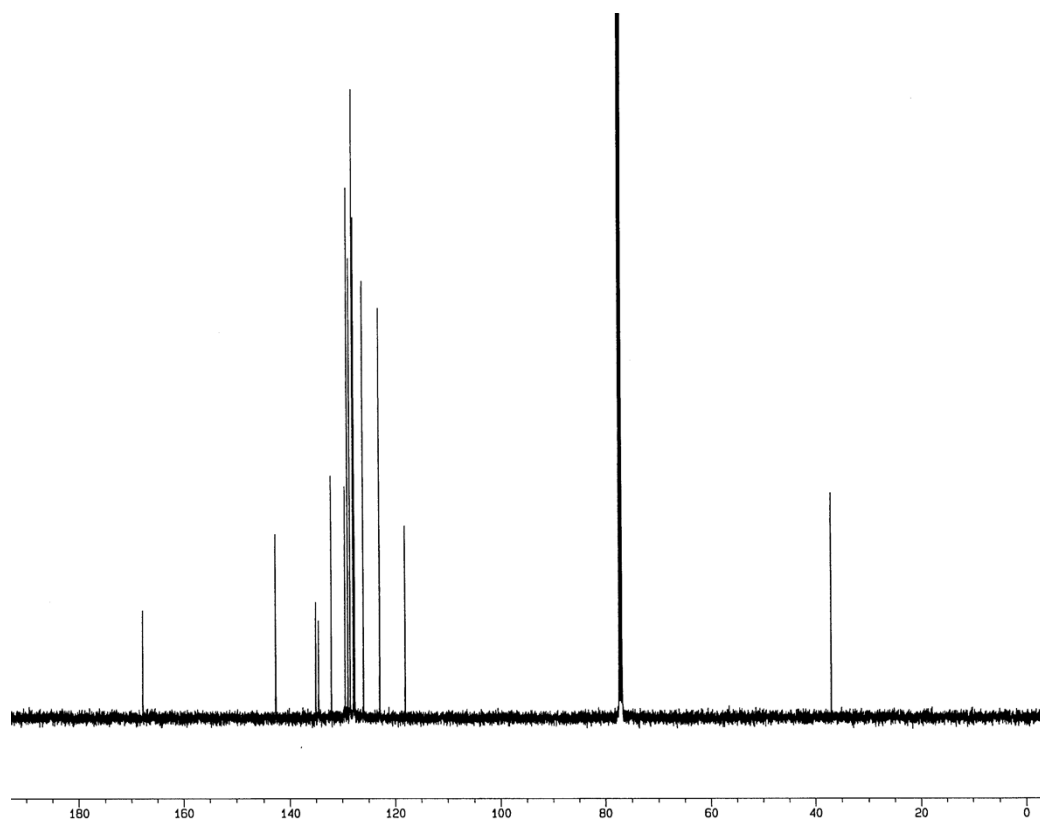
$^{13}\text{C-NMR}$ (150 MHz, $\text{d}^6\text{-DMSO}$) spectrum of *N*-cinnamoyl-9-aminoanthracene **3a**



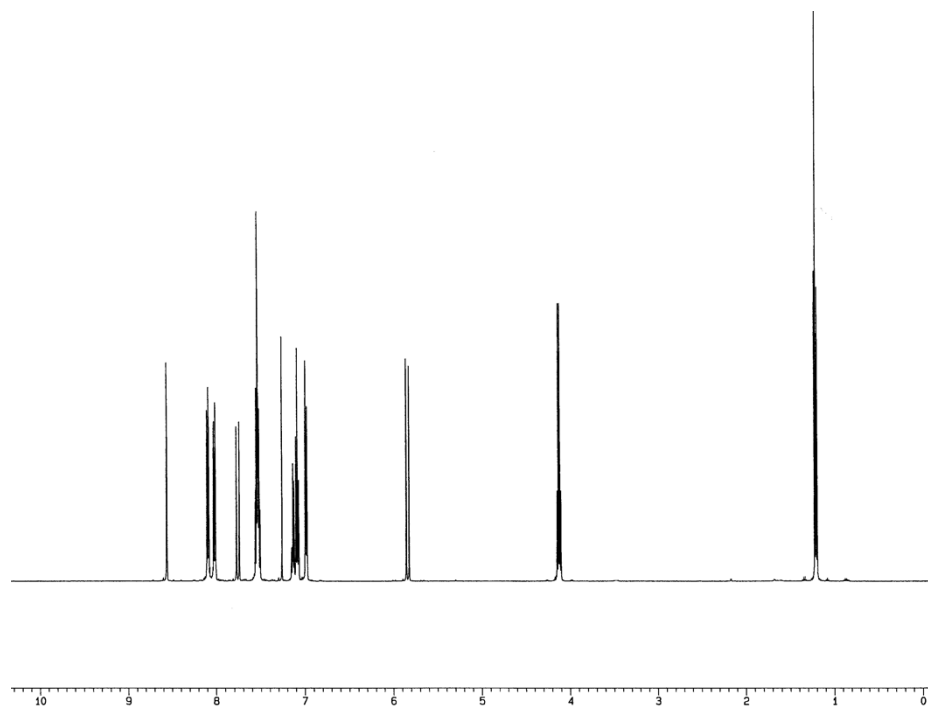
$^1\text{H-NMR}$ spectrum (500 MHz, CDCl_3) of *N*-Methyl-*N*-cinnamoyl-9-aminoanthracene **3b**



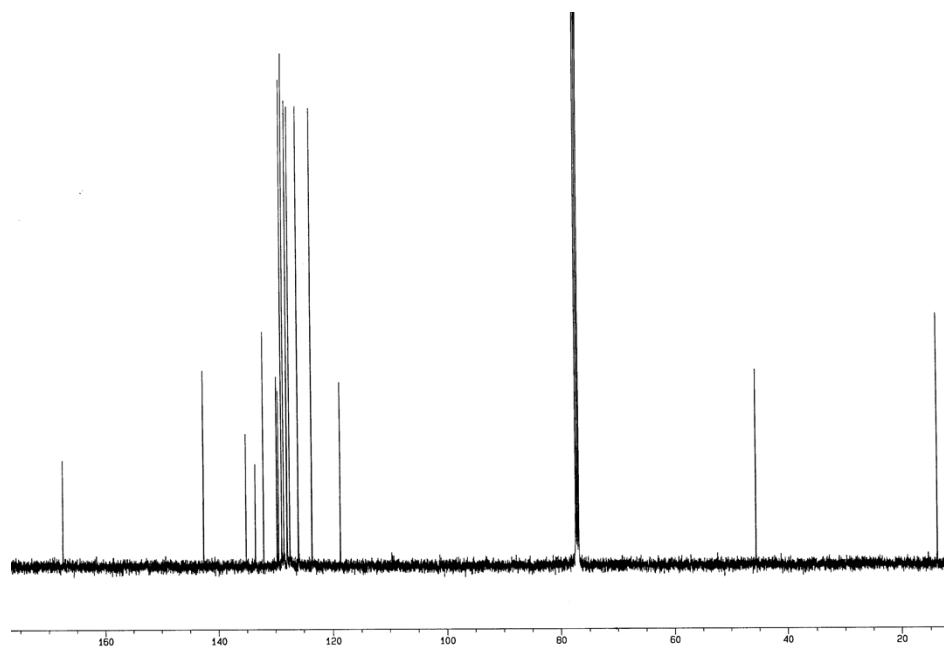
$^{13}\text{C-NMR}$ spectrum (125 MHz, CDCl_3) of *N*-Methyl-*N*-cinnamoyl-9-aminoanthracene **3b**



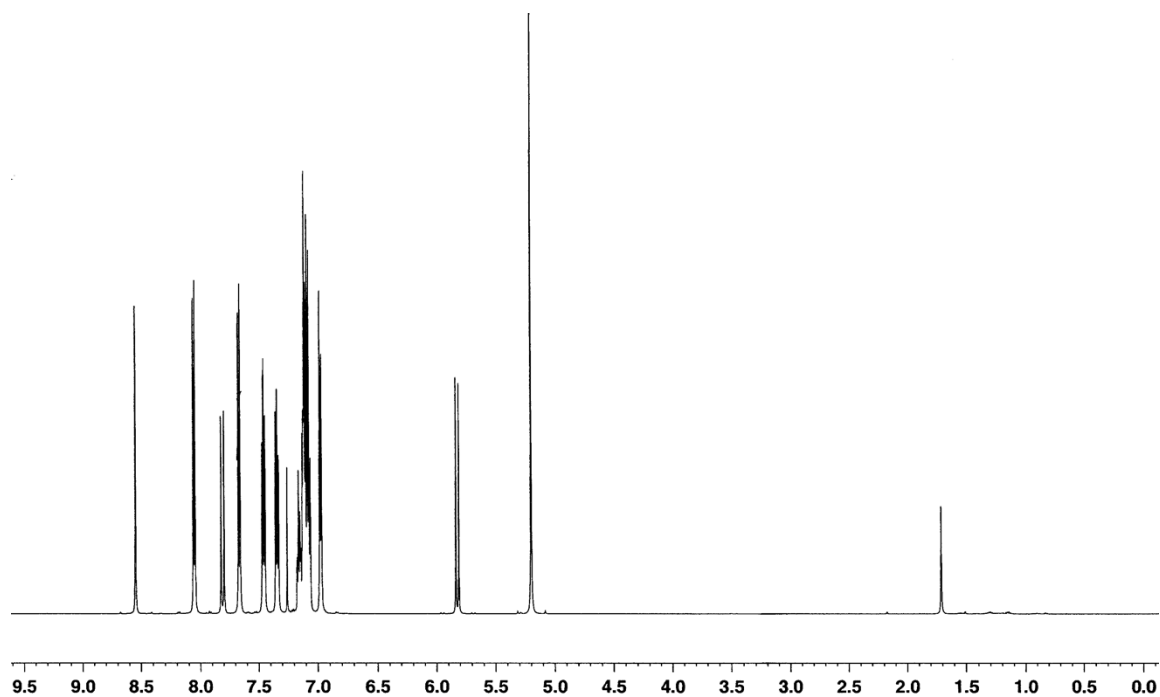
$^1\text{H-NMR}$ spectrum of *N*-Ethyl-*N*-cinnamoyl-9-aminoanthracene **3c**



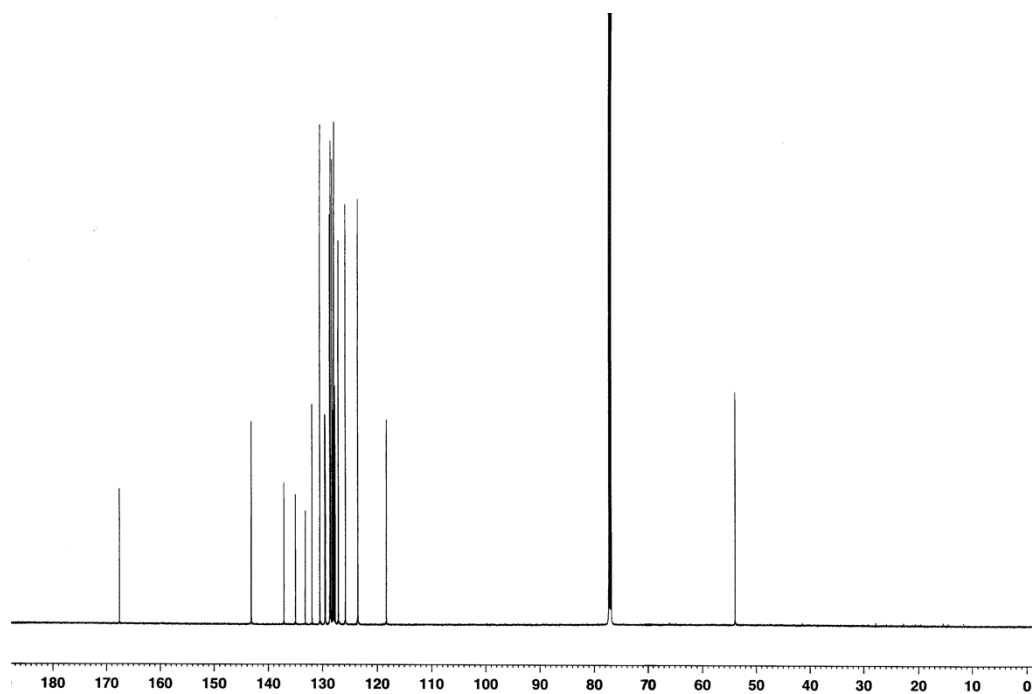
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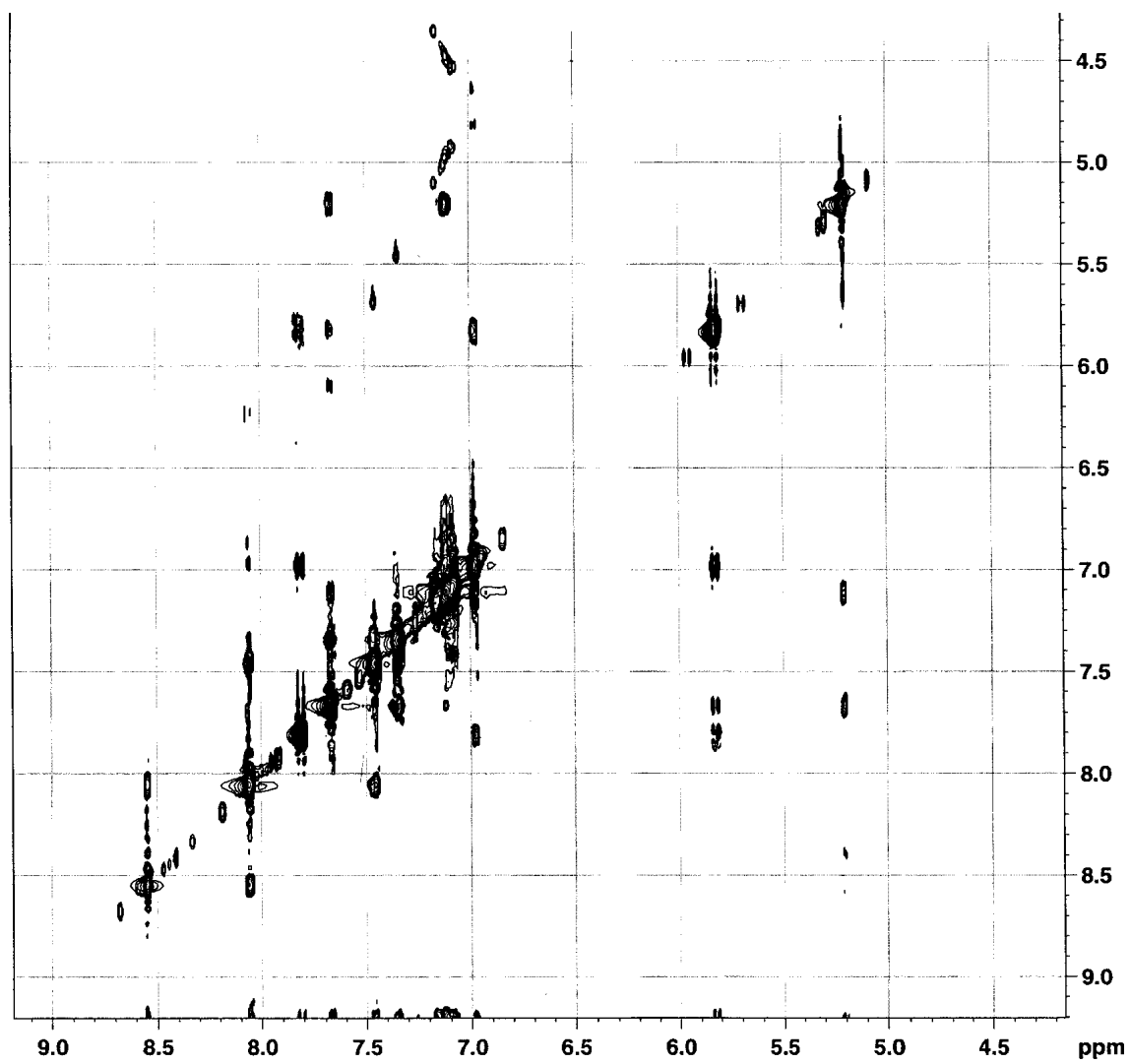
$^1\text{H-NMR}$ (600 MHz, CDCl_3) spectrum of *N*-Benzyl-*N*-cinnamoyl-9-aminoanthracene **3d**



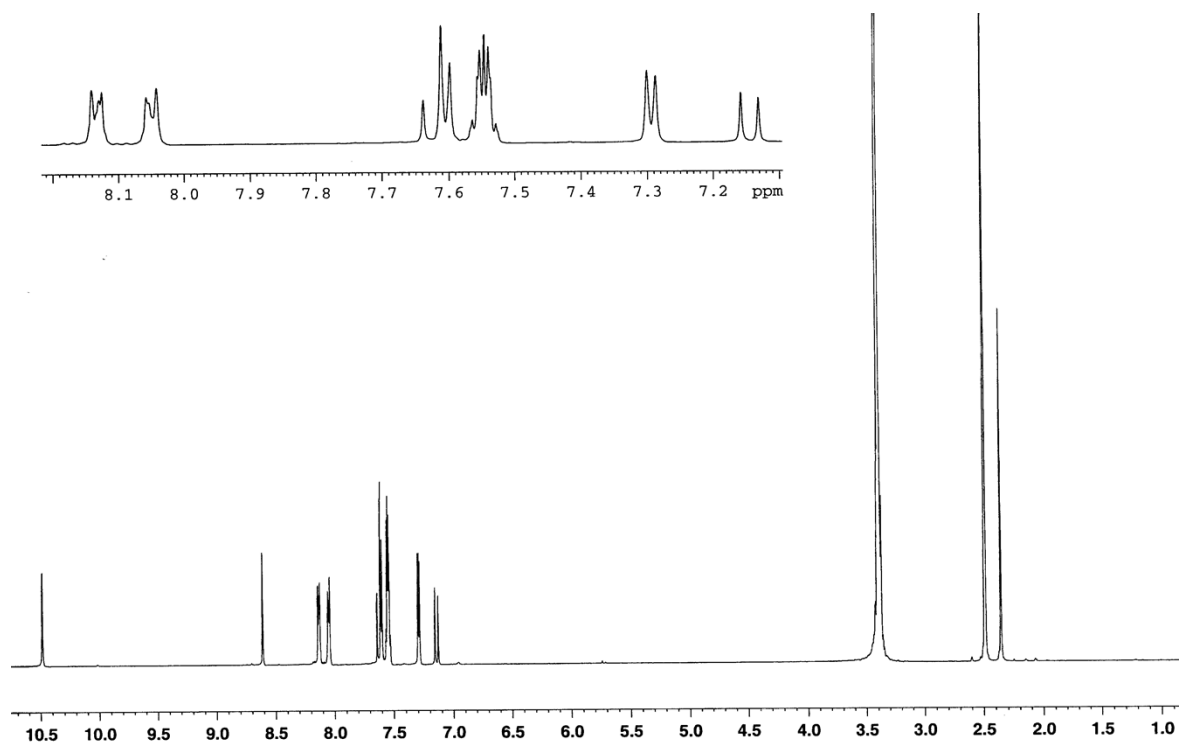
$^{13}\text{C-NMR}$ (150 MHz, CDCl_3) spectrum of *N*-Benzyl-*N*-cinnamoyl-9-aminoanthracene **3d**



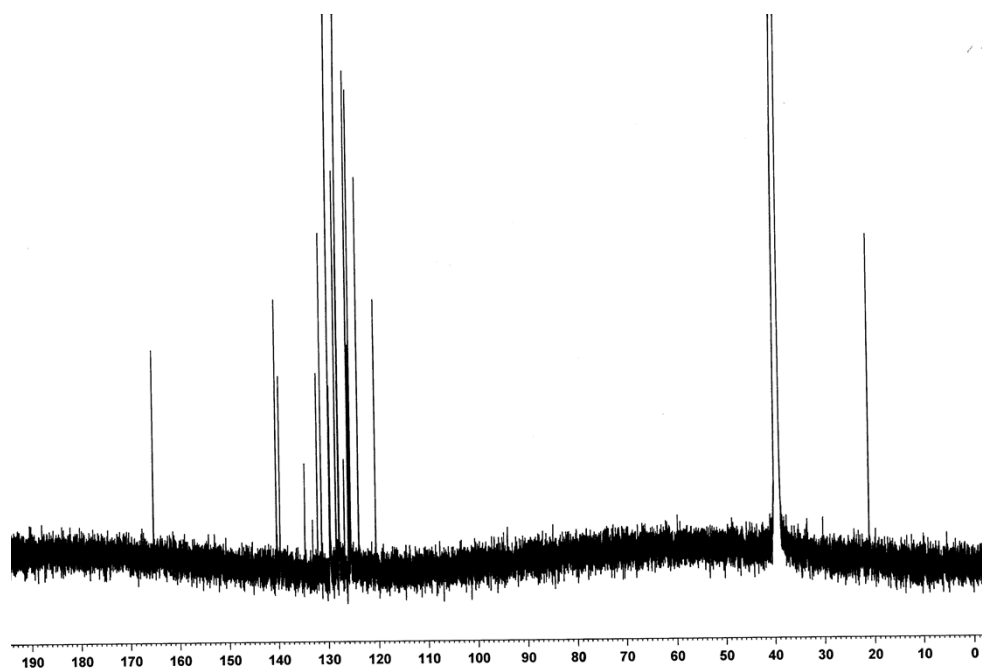
NOESY (600 MHz) spectrum of *N*-Benzyl-*N*-cinnamoyl-9-aminoanthracene **3d**



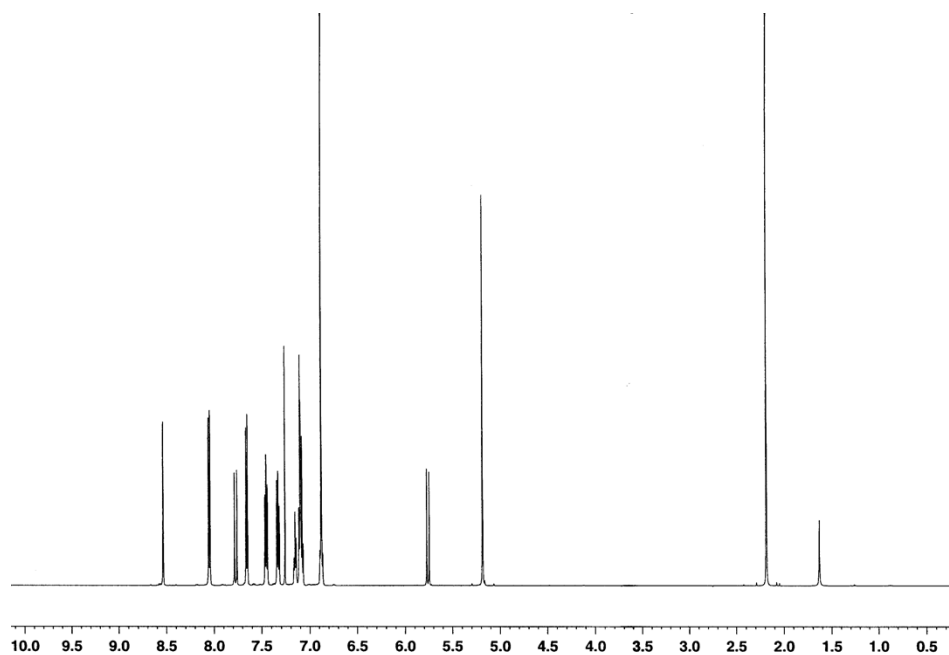
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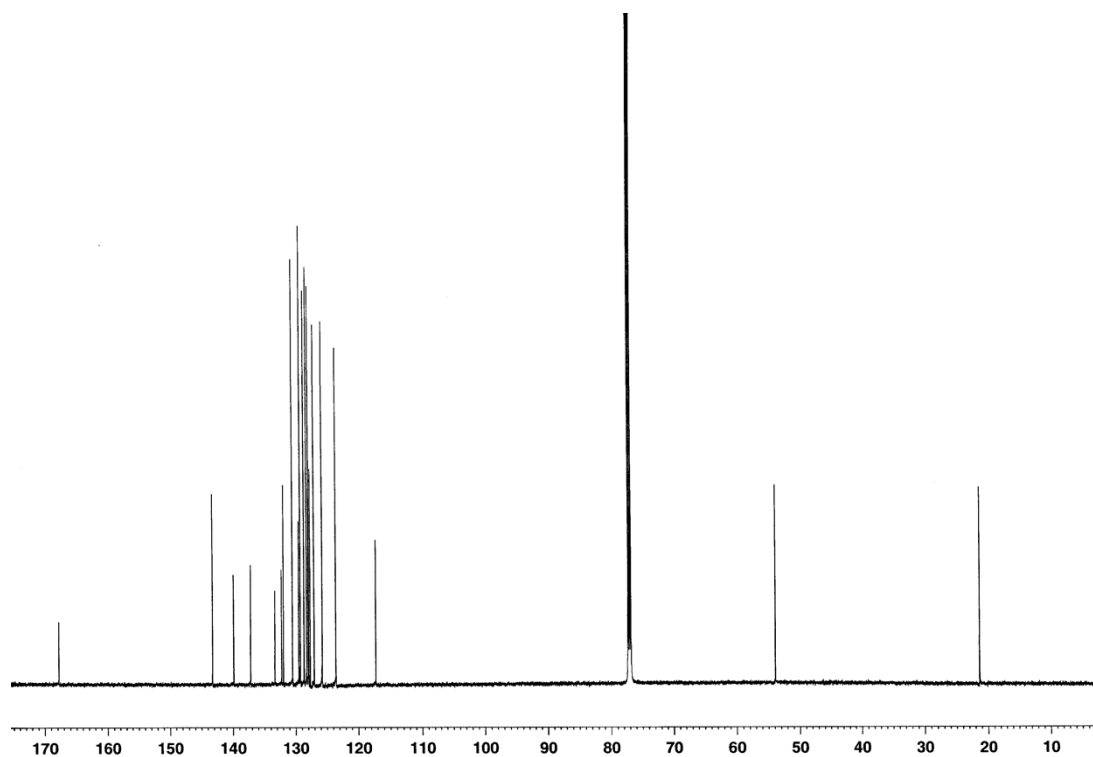
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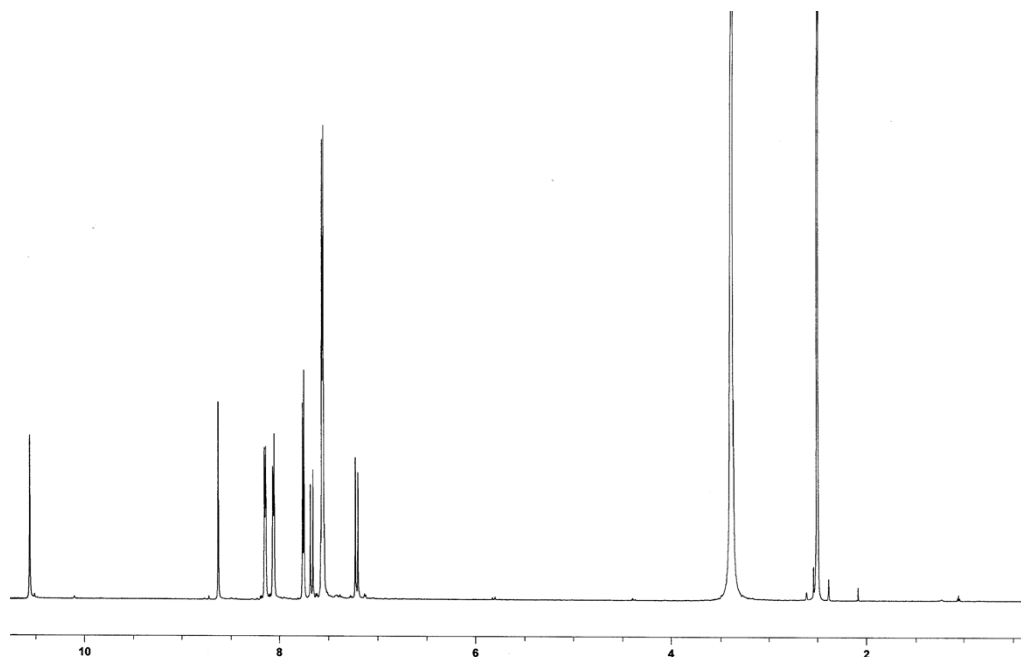
$^1\text{H-NMR}$ spectrum (600 MHz, CDCl_3) of *N*-benzyl-*N*-(4-methylcinnamoyl)-9-aminoanthracene **3f**



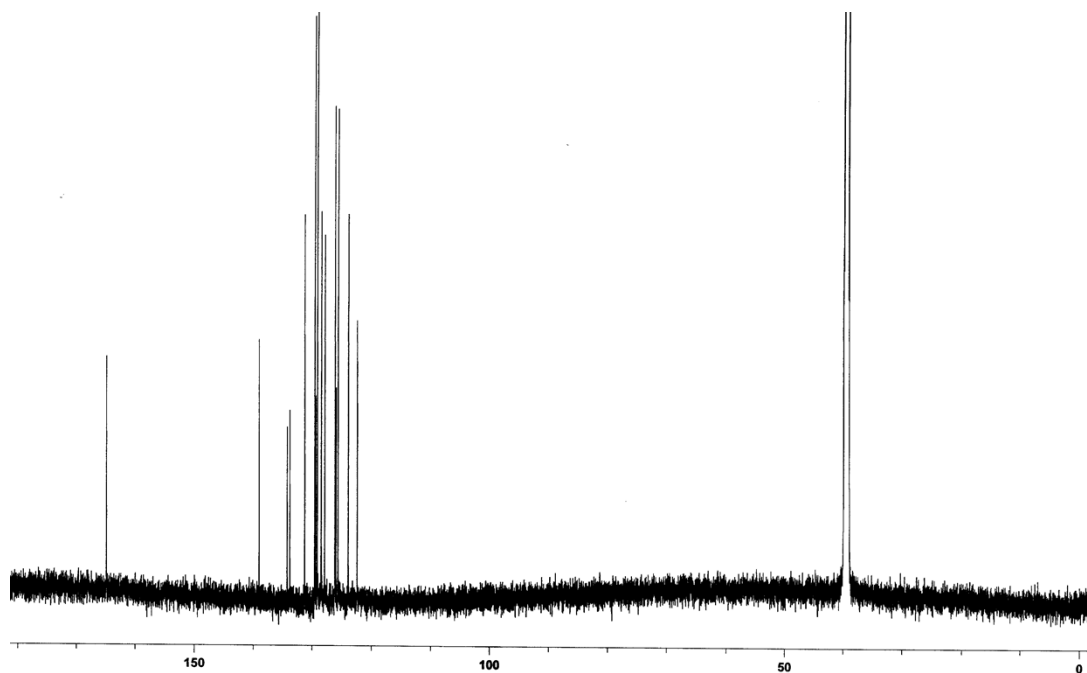
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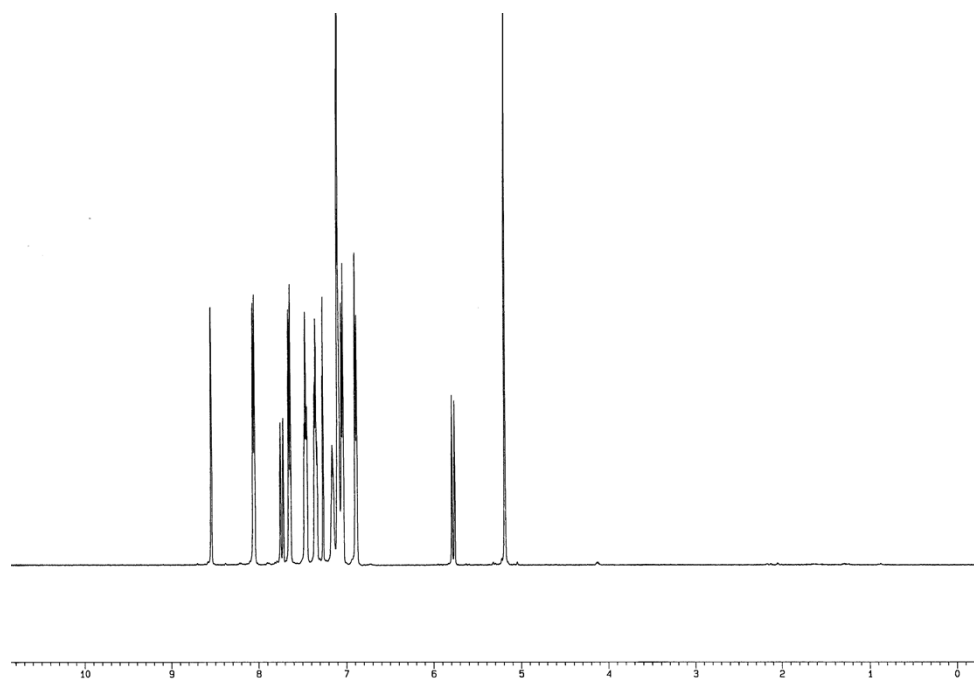
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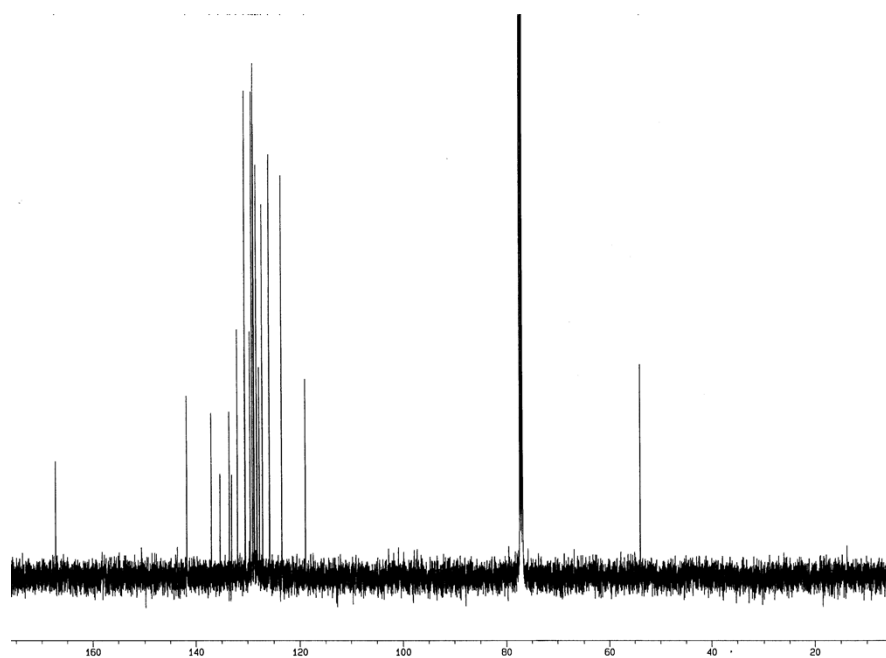
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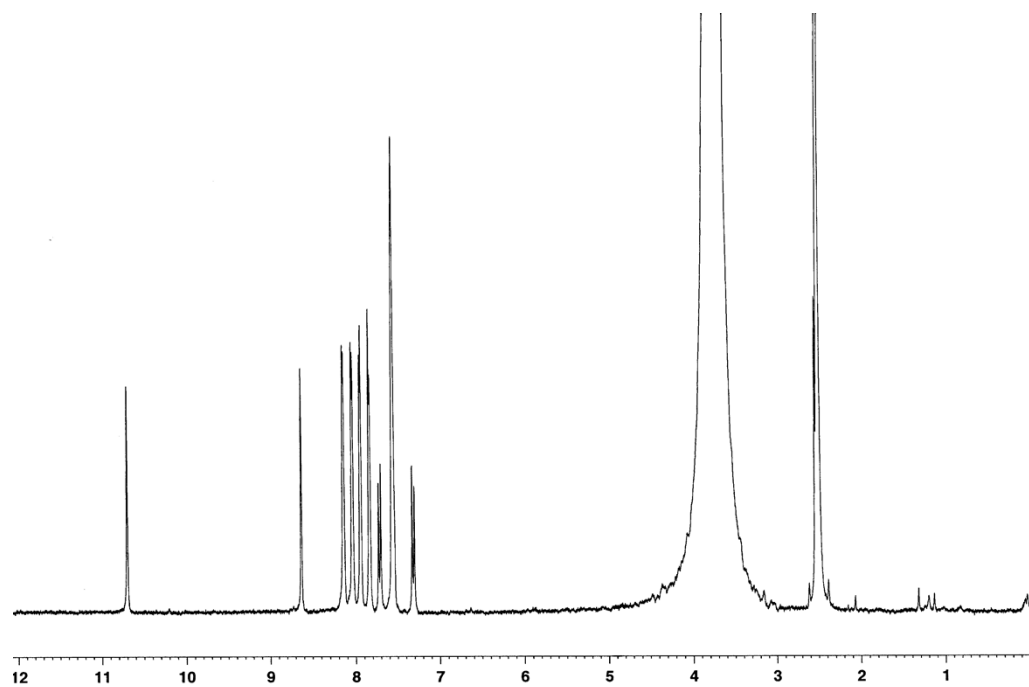
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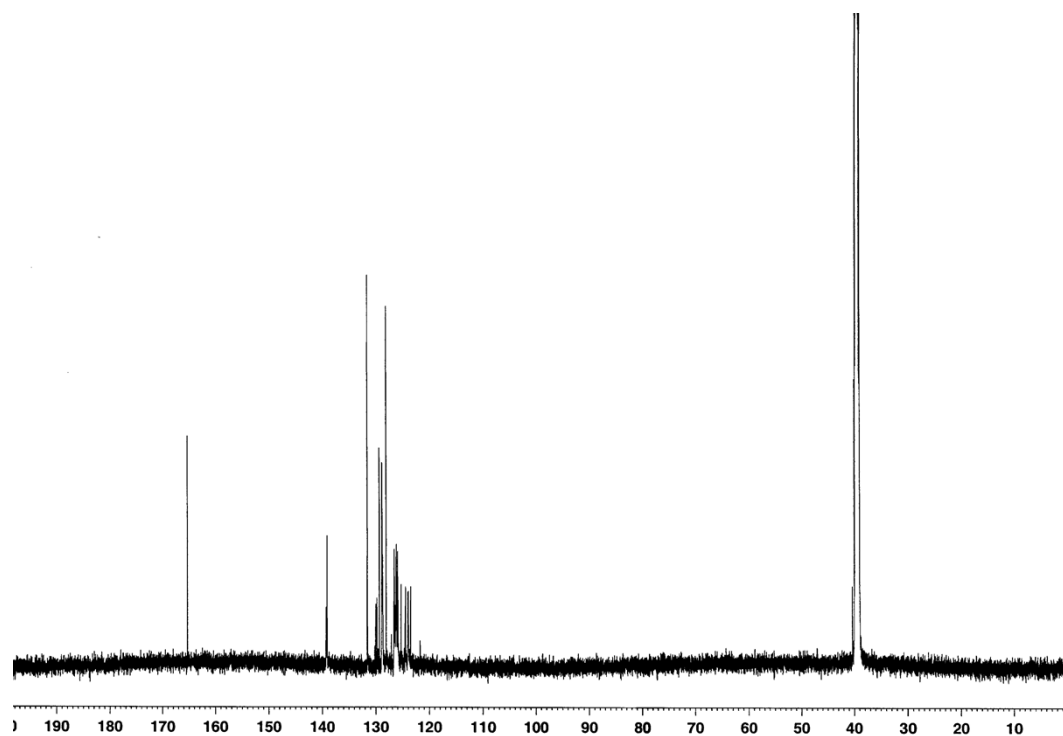
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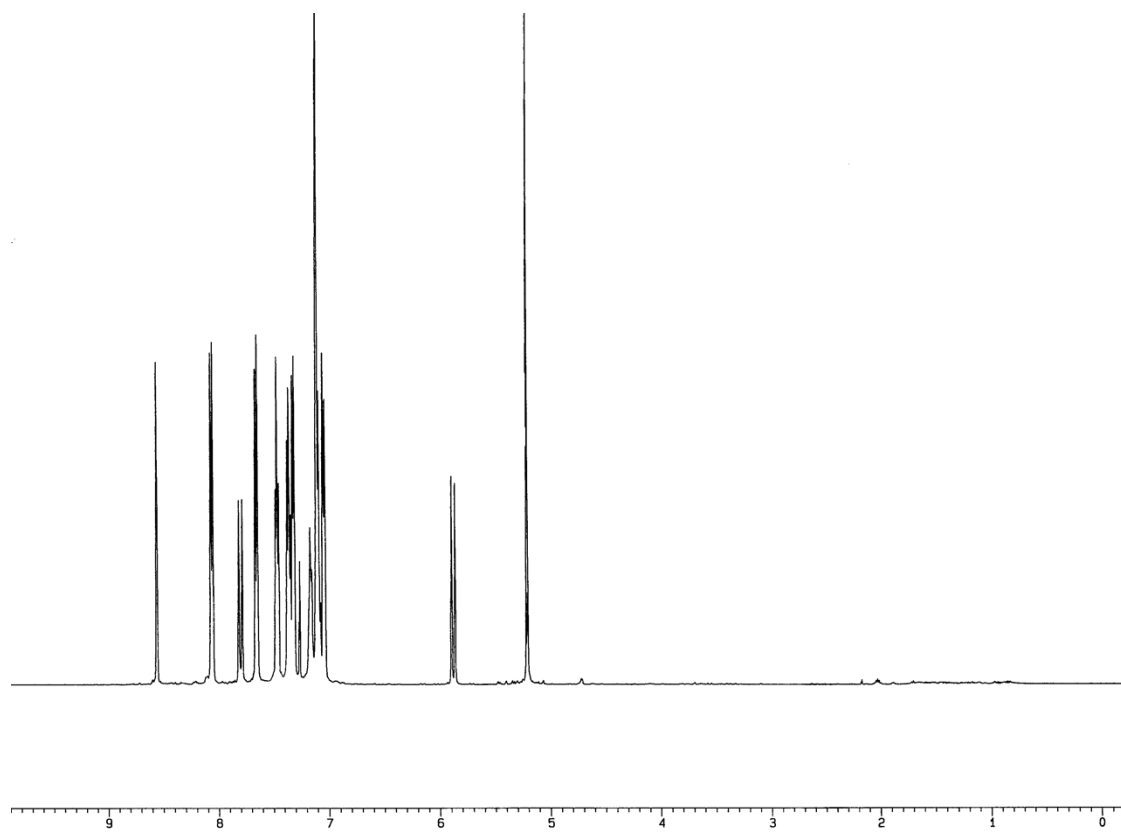
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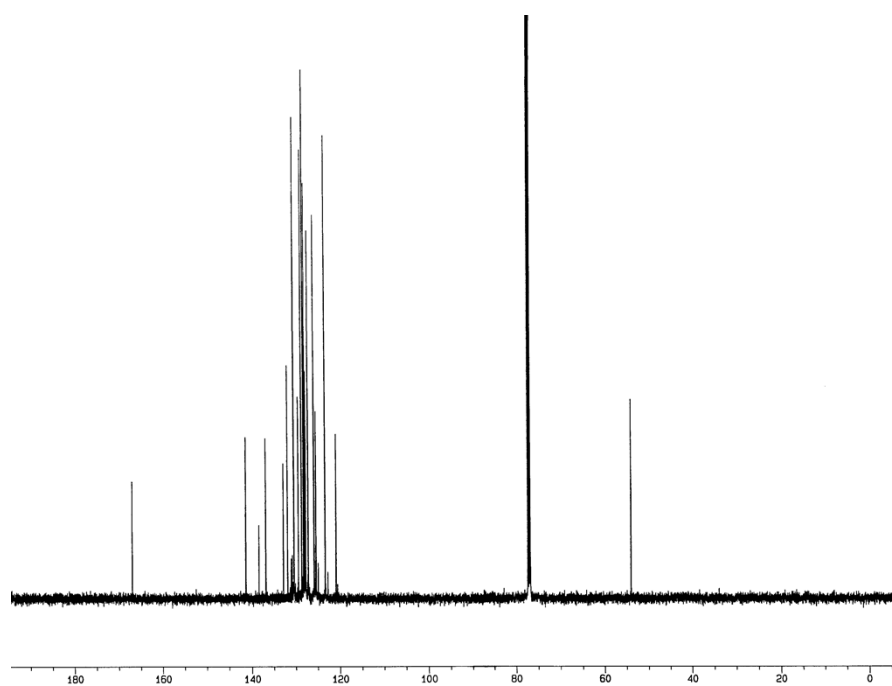
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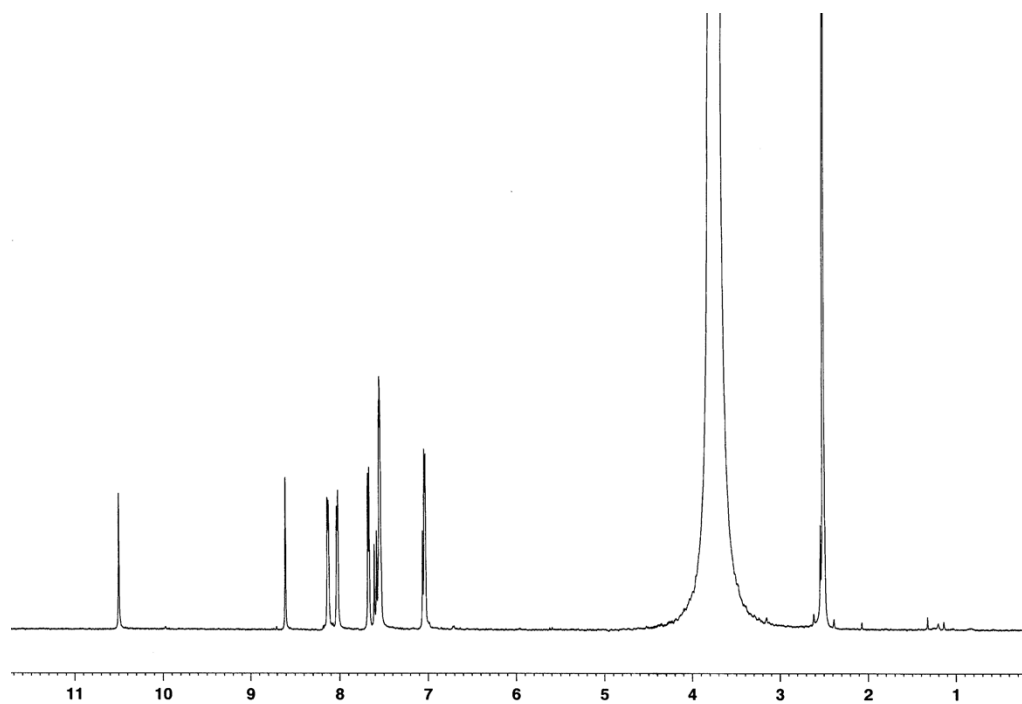
^1H -NMR spectrum (500 MHz, CDCl_3) of *N*-benzyl-*N*-(4-trifluoromethylcinnamoyl)-9-aminoanthracene **3j**



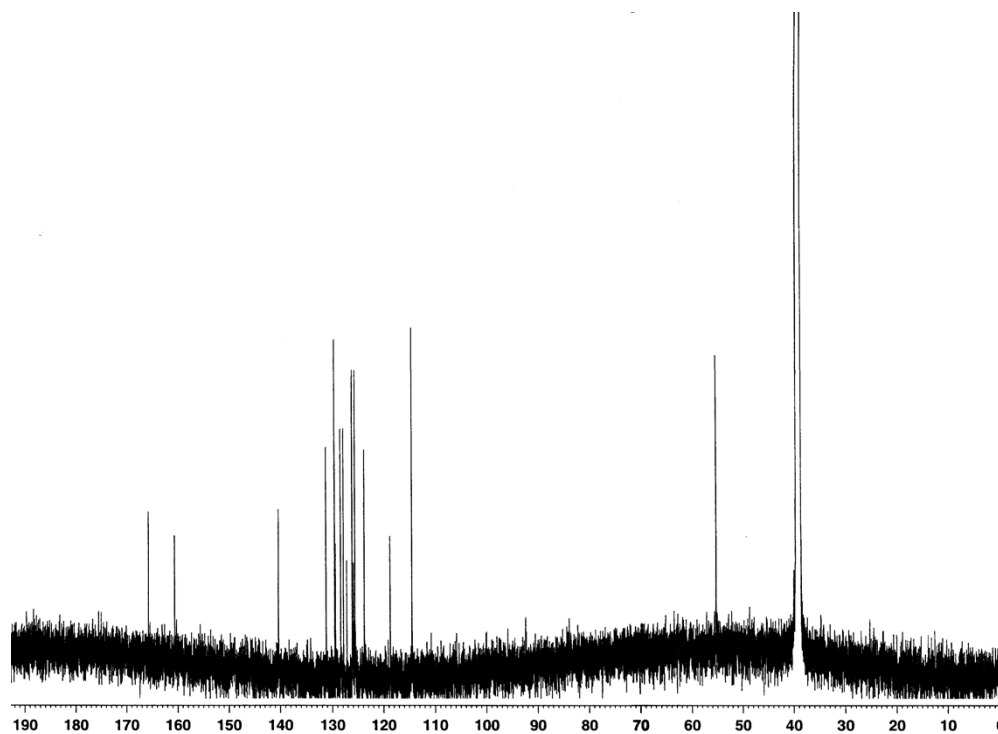
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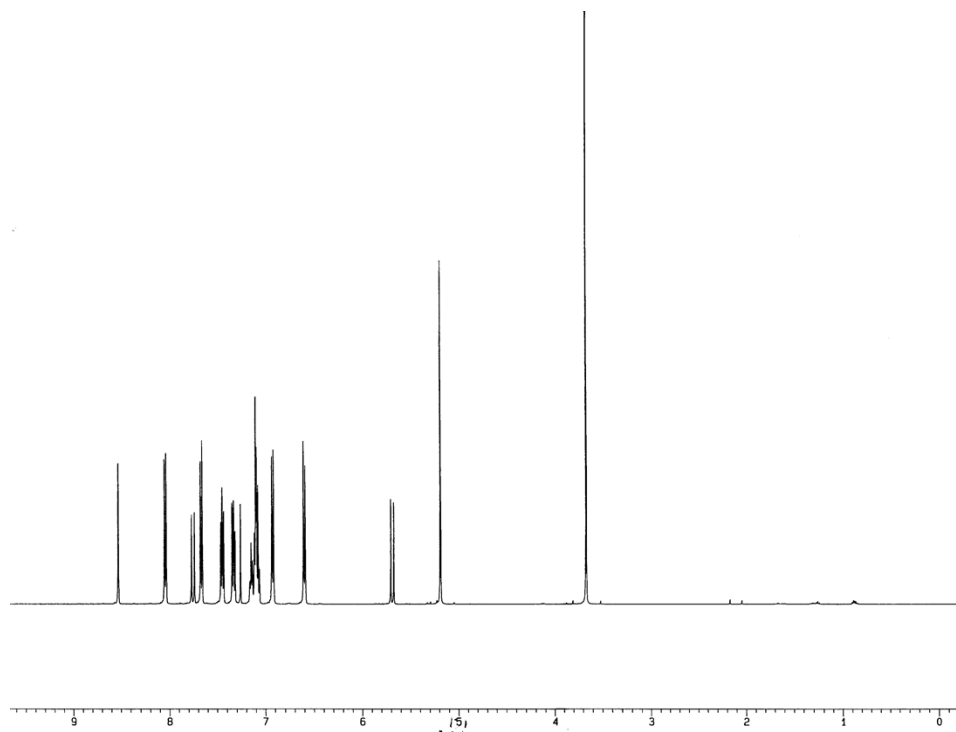
$^1\text{H-NMR}$ spectrum (600 MHz, DMSO-d_6) of *N*-(4-methoxycinnamoyl)-9-aminoanthracene **3k**



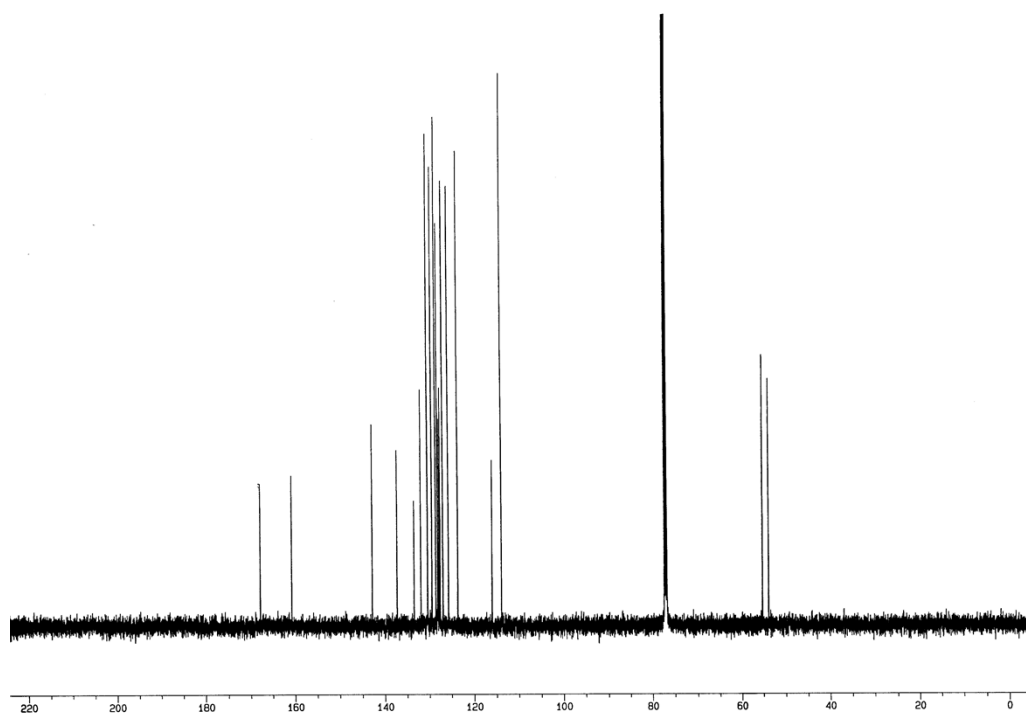
$^{13}\text{C-NMR}$ spectrum (150 MHz, DMSO-d_6) of *N*-(4-methoxycinnamoyl)-9-aminoanthracene **3k**



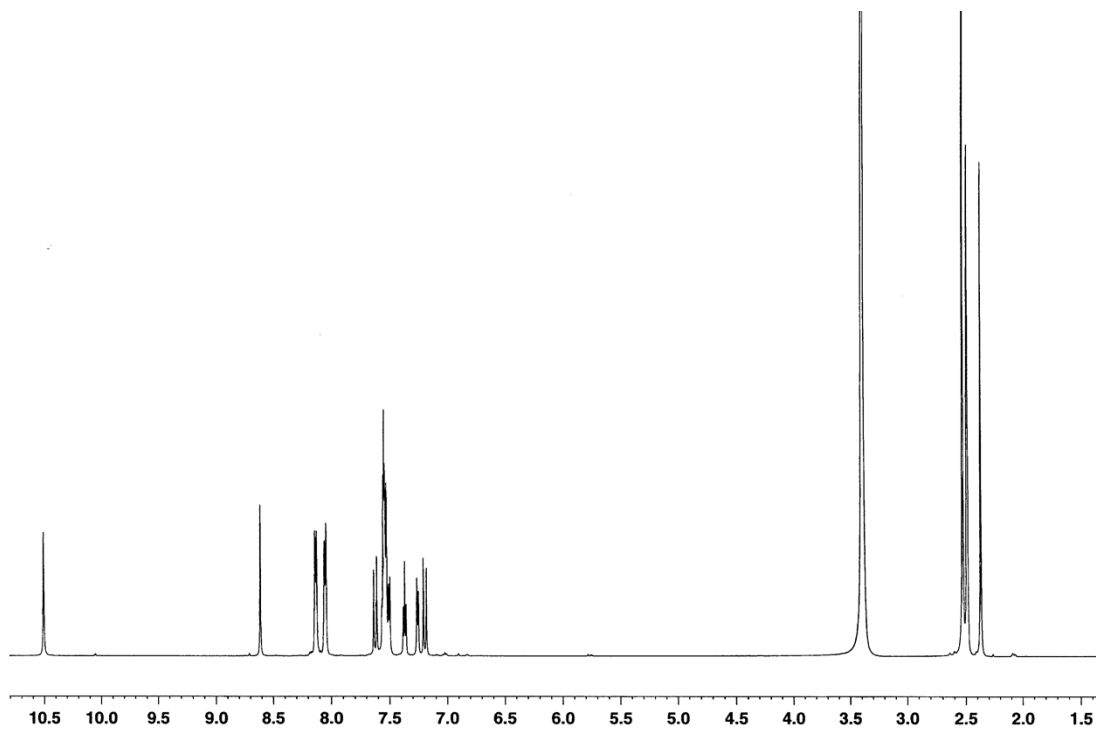
$^1\text{H-NMR}$ spectrum (500 MHz, CDCl_3) of *N*-Benzyl-*N*-(4-methoxycinnamoyl)-9-aminoanthracene **31**



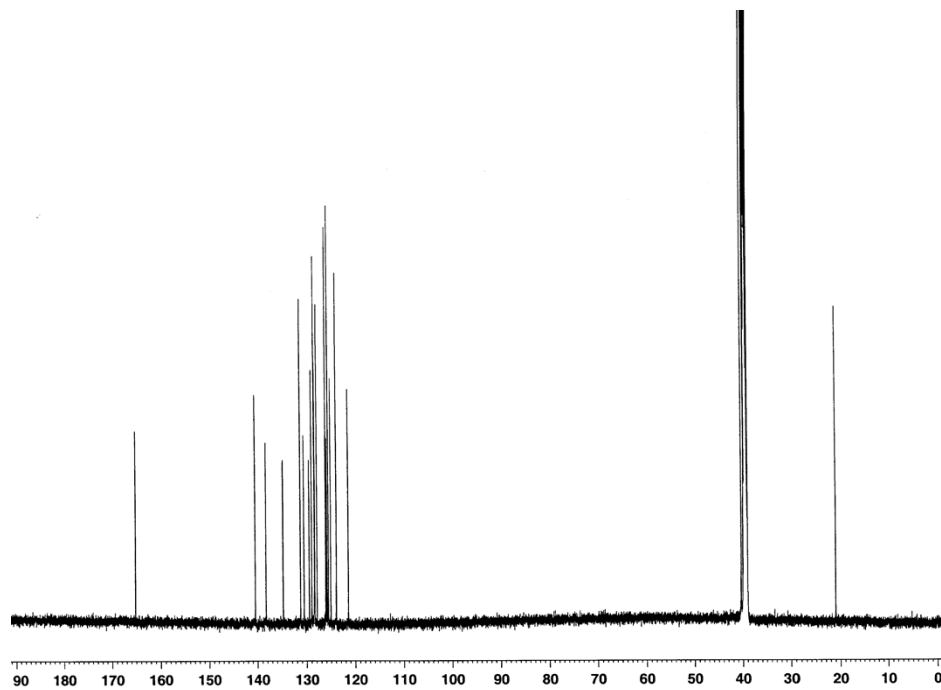
$^{13}\text{C-NMR}$ spectrum (125 MHz, CDCl_3) of *N*-Benzyl-*N*-(4-methoxycinnamoyl)-9-aminoanthracene **31**



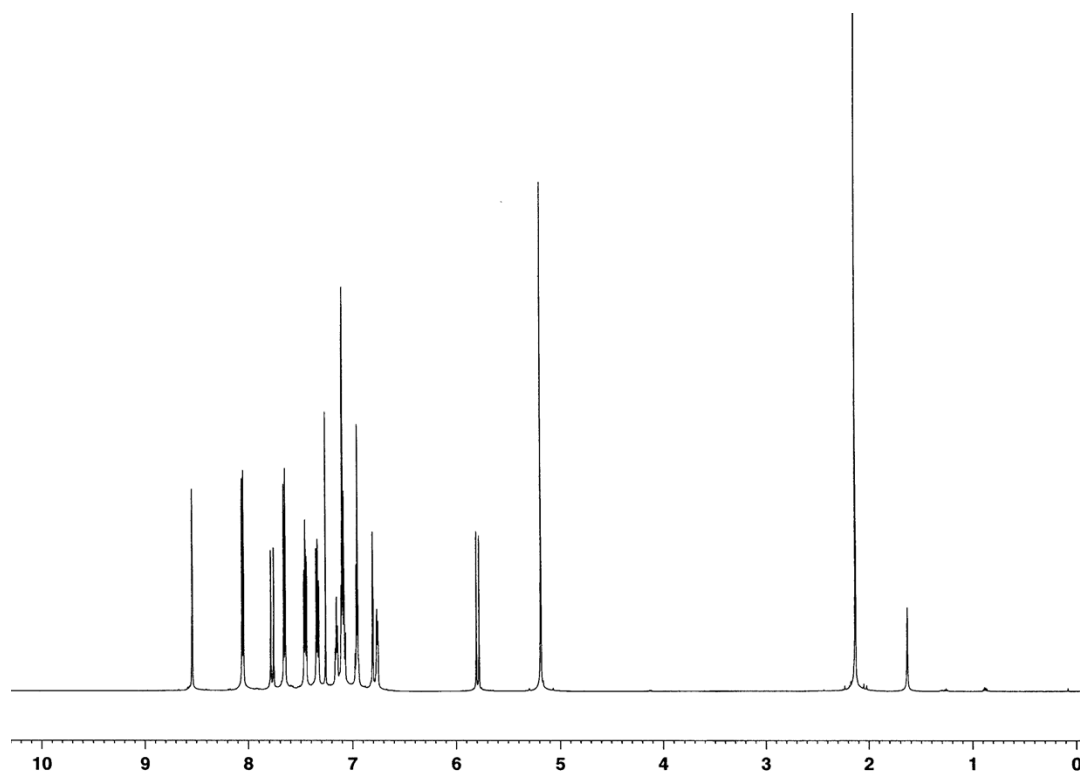
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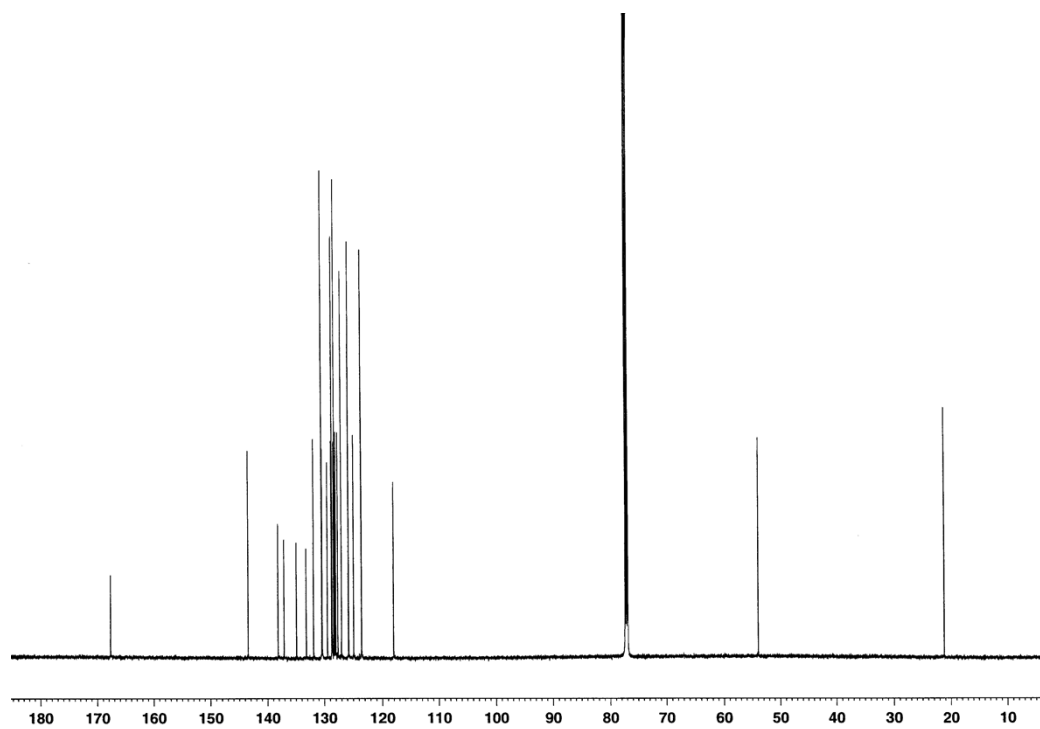
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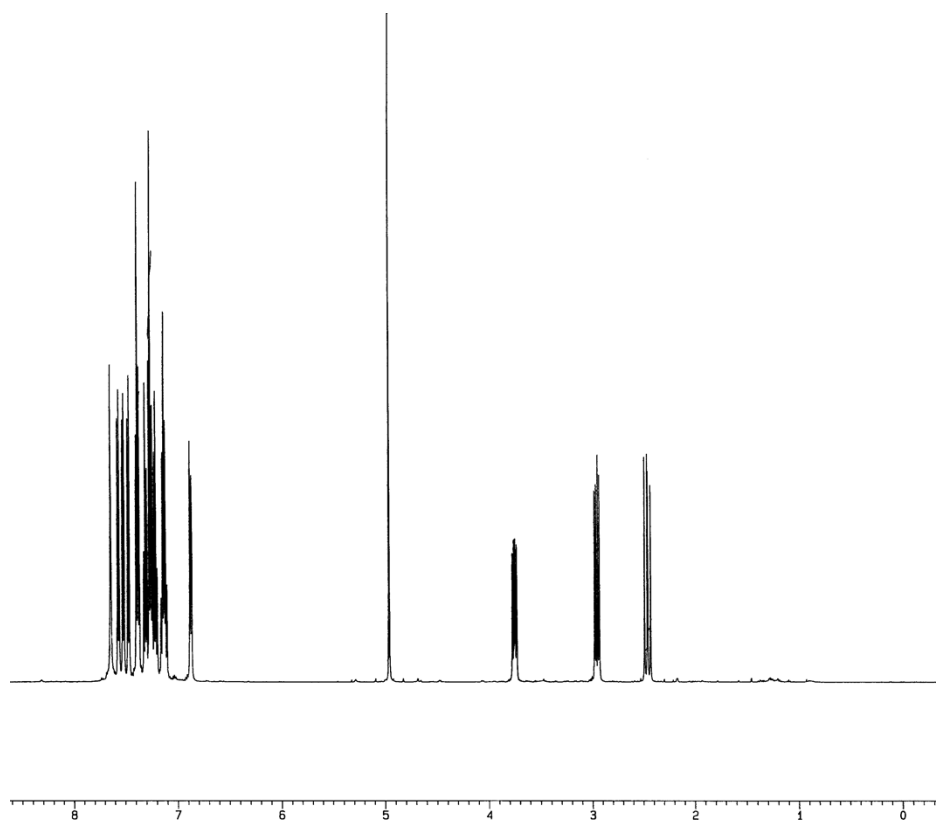
$^1\text{H-NMR}$ spectrum (600 MHz, CDCl_3) of *N*-benzyl-*N*-(3-methylcinnamoyl)-9-aminoanthracene **3n**



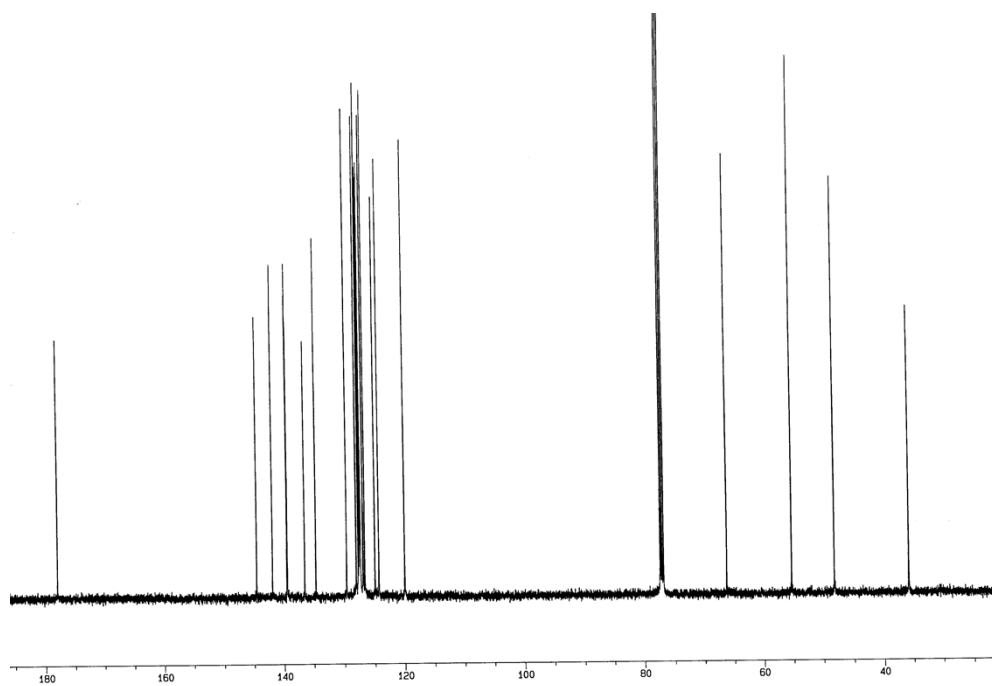
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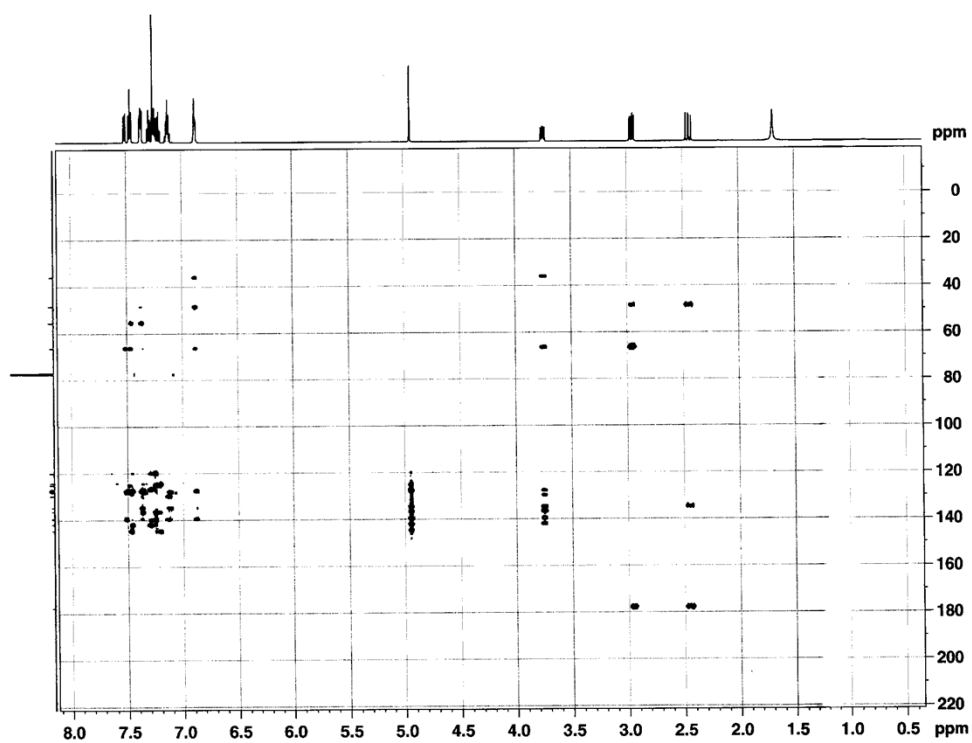
^1H -NMR spectrum (500MHz, CDCl_3) of (\pm) 2-azahexacyclo[10.6.6.0^{1,5}.0^{6,11}.0^{13,18}.0^{19,24}]tetracos-6(11),7,9,13,15,17,19(24),20,22-nonaen-3-one **4a**



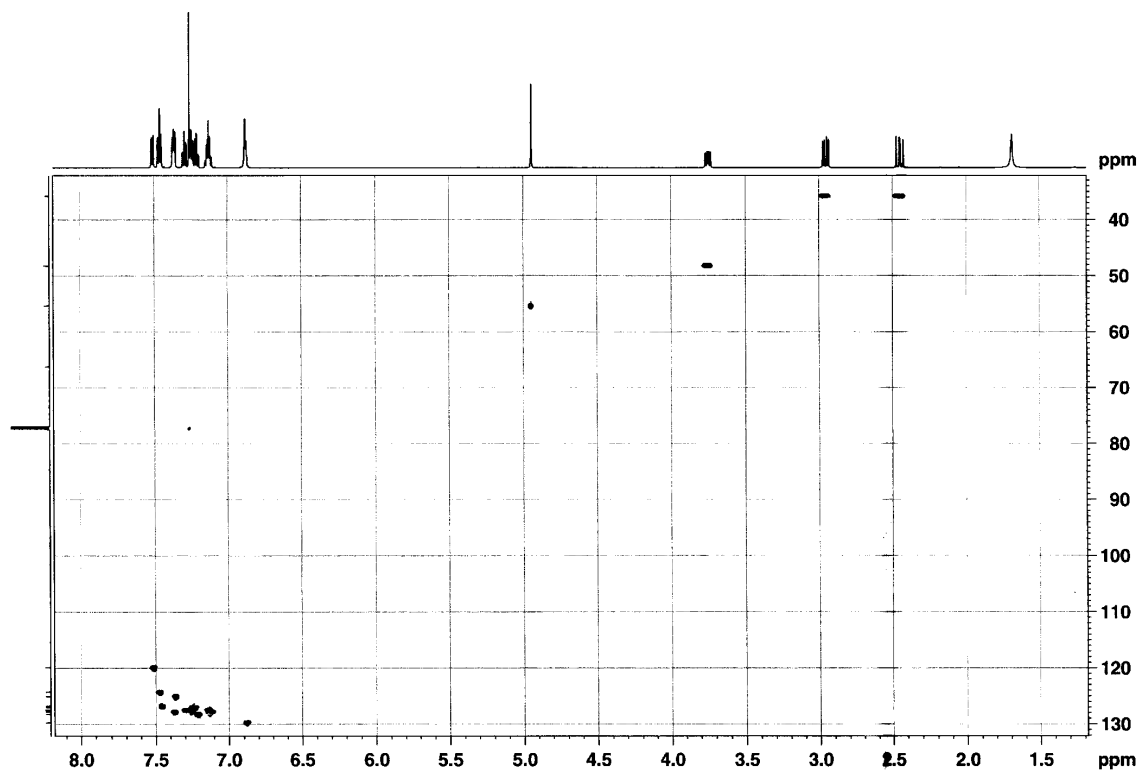
^{13}C -NMR spectrum (125MHz, CDCl_3) of (\pm) 2-azahexacyclo[10.6.6.0^{1,5}.0^{6,11}.0^{13,18}.0^{19,24}]tetracos-6(11),7,9,13,15,17,19(24),20,22-nonaen-3-one **4a**



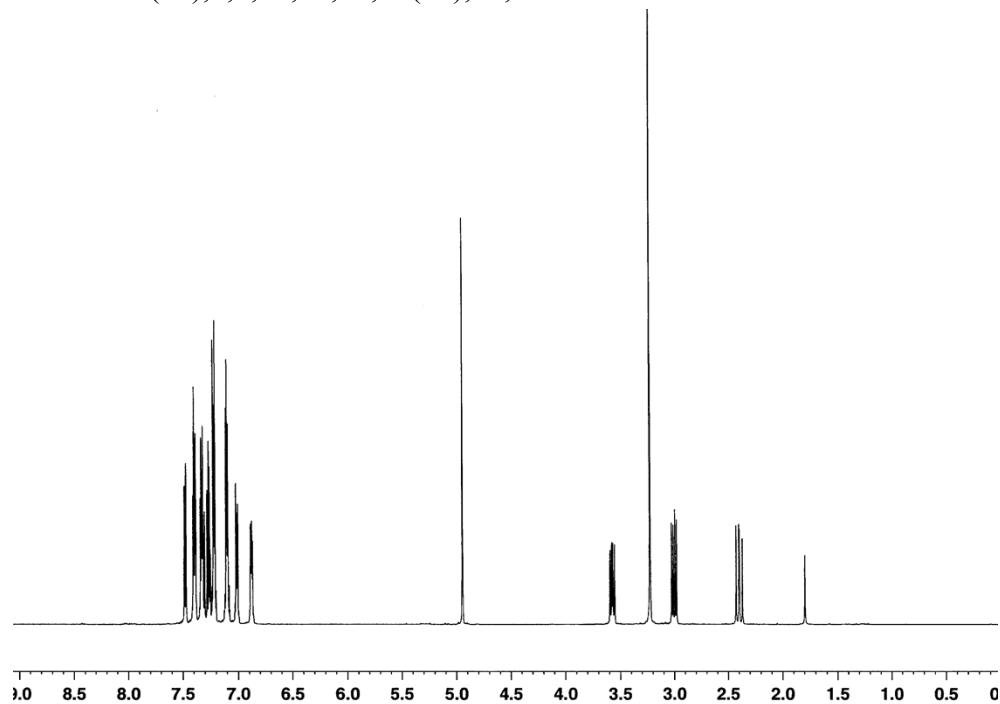
HMBC NMR spectrum (600MHz, CDCl₃) of (±) 2-azahexacyclo[10.6.6.0^{1,5}.0^{6,11}.0^{13,18}.0^{19,24}] tetracos- 6(11),7,9,13,15,17,19(24),20,22-nonaen-3-one **4a**



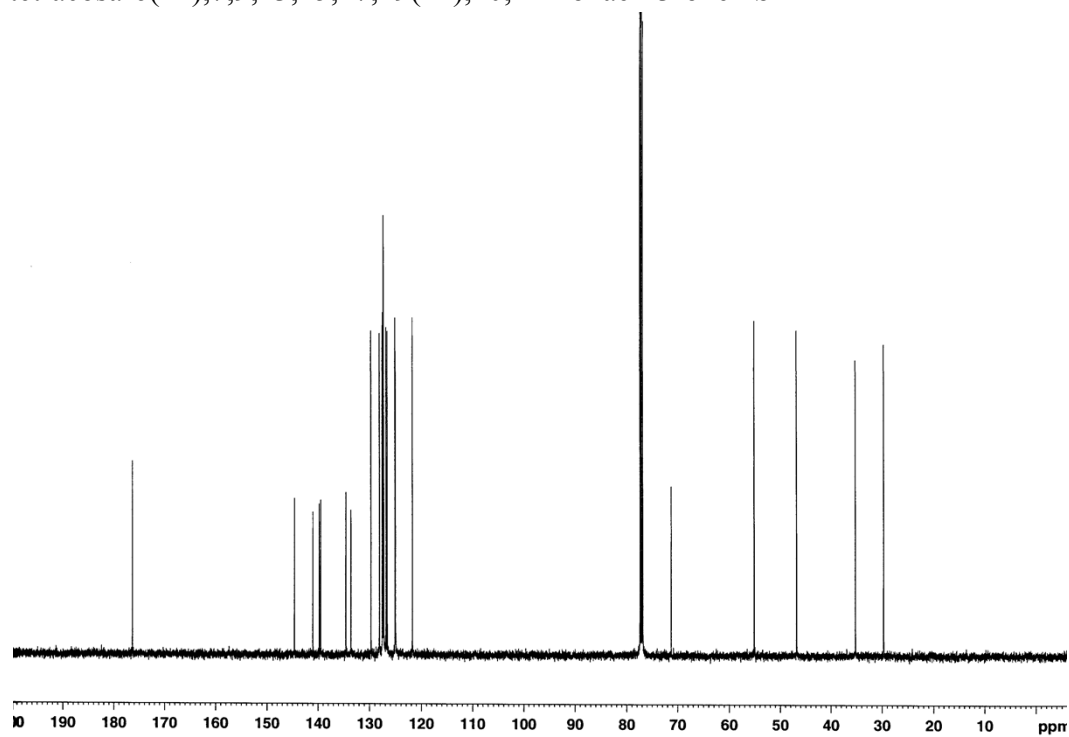
HSQC NMR spectrum (600MHz, CDCl₃) of (±) 2-azahexacyclo[10.6.6.0^{1,5}.0^{6,11}.0^{13,18}.0^{19,24}] tetracos- 6(11),7,9,13,15,17,19(24),20,22-nonaen-3-one **4a**



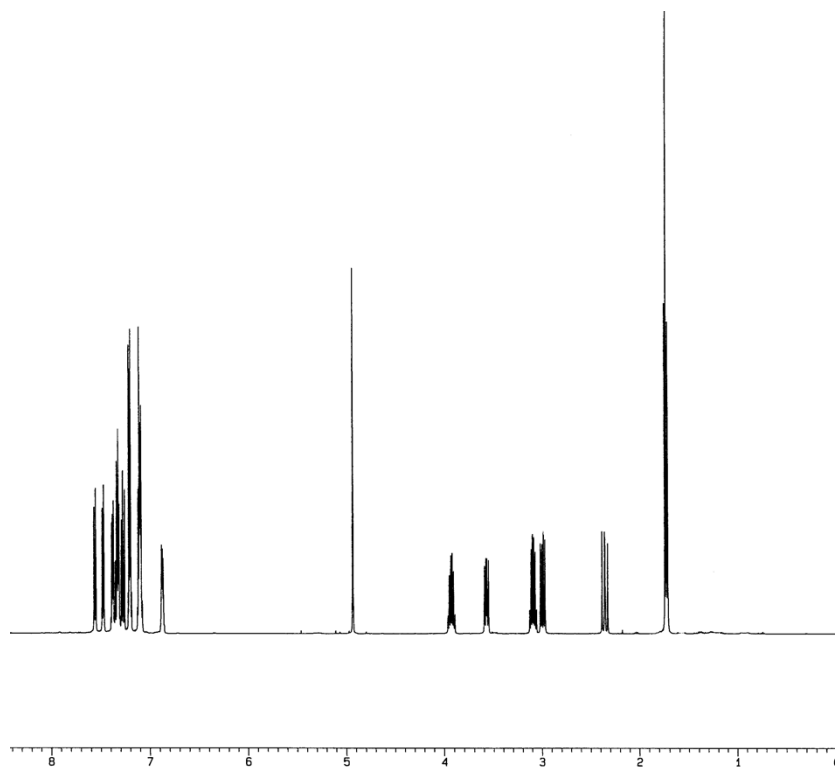
^1H -NMR spectrum (500MHz, CDCl_3) of (\pm) 2-methyl-2-azahexacyclo[10.6.6.0^{1,5}.0^{6,11}.0^{13,18}.0^{19,24}] tetracos-6(11),7,9,13,15,17,19(24),20,22-nonaen-3-one **4b**



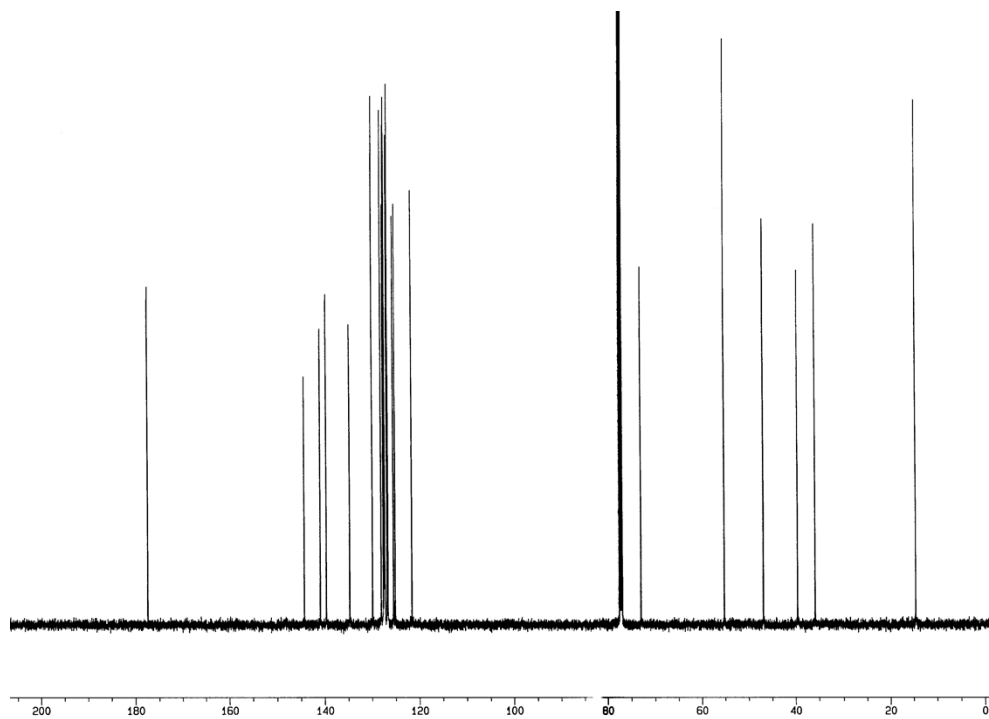
^{13}C -NMR spectrum (125MHz, CDCl_3) of (\pm) 2-methyl-2-azahexacyclo[10.6.6.0^{1,5}.0^{6,11}.0^{13,18}.0^{19,24}] tetracos-6(11),7,9,13,15,17,19(24),20,22-nonaen-3-one **4b**



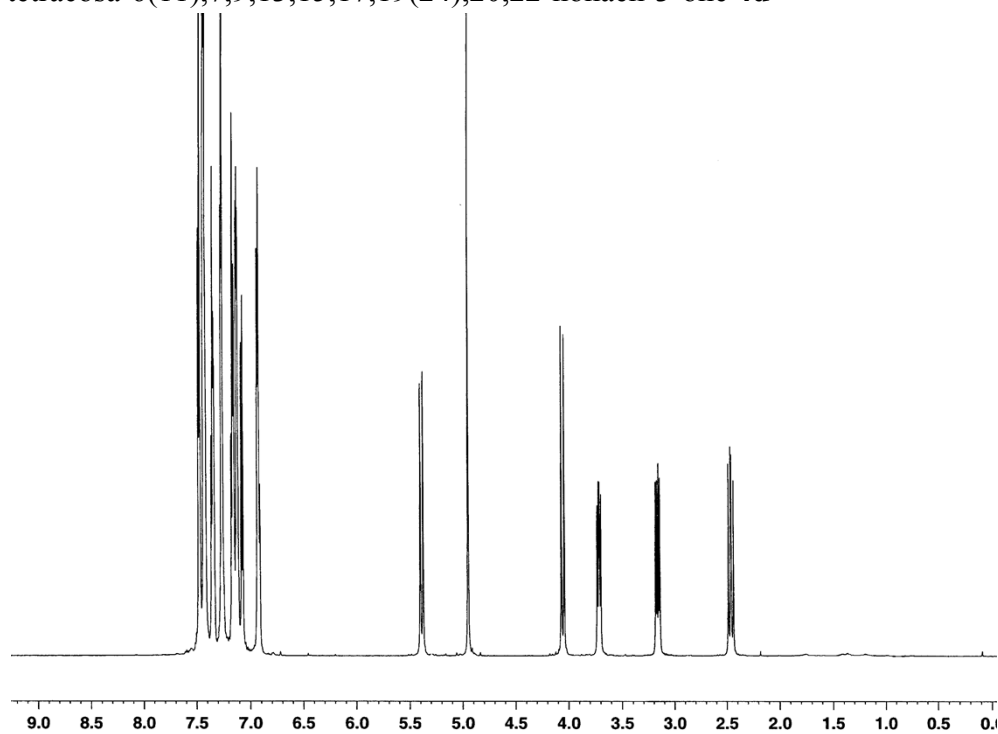
$^1\text{H-NMR}$ spectrum (500MHz, CDCl_3) of (\pm) 2-ethyl-2-azahexacyclo[10.6.6.0^{1,5}.0^{6,11}.0^{13,18}.0^{19,24}] tetracos-6(11),7,9,13,15,17,19(24),20,22-nonaen-3-one **4c**



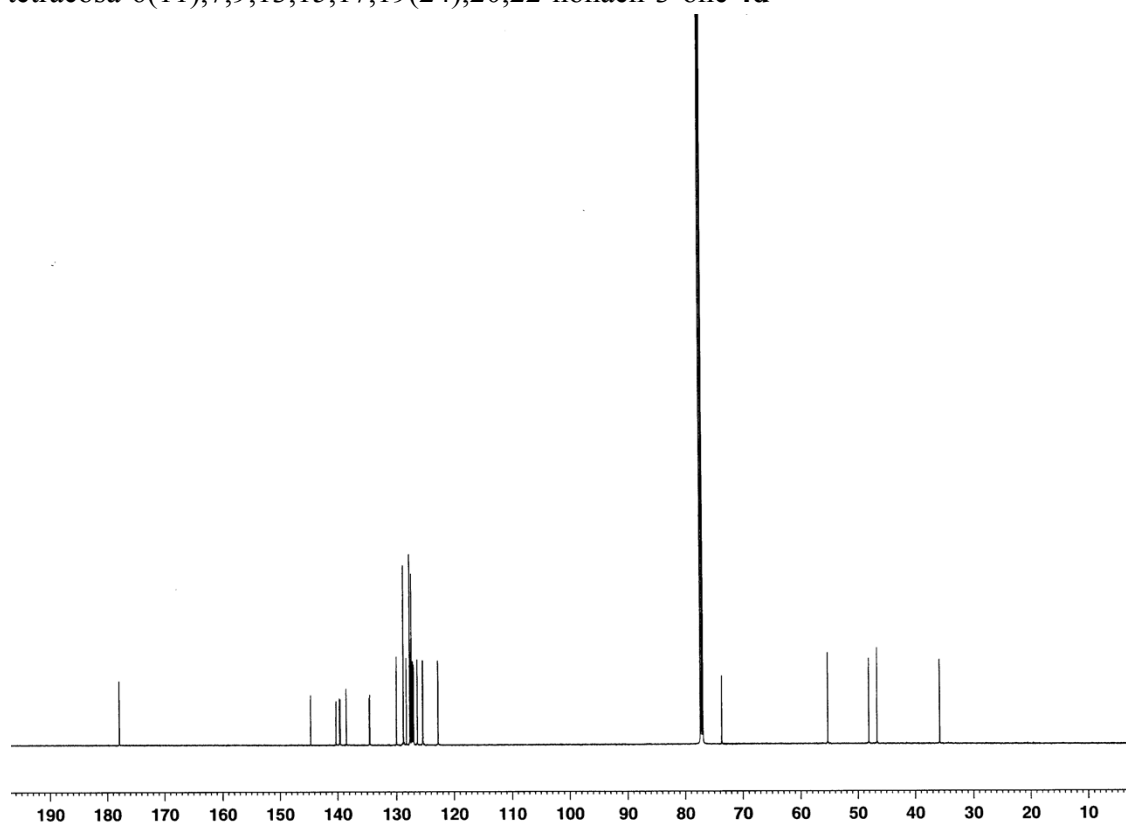
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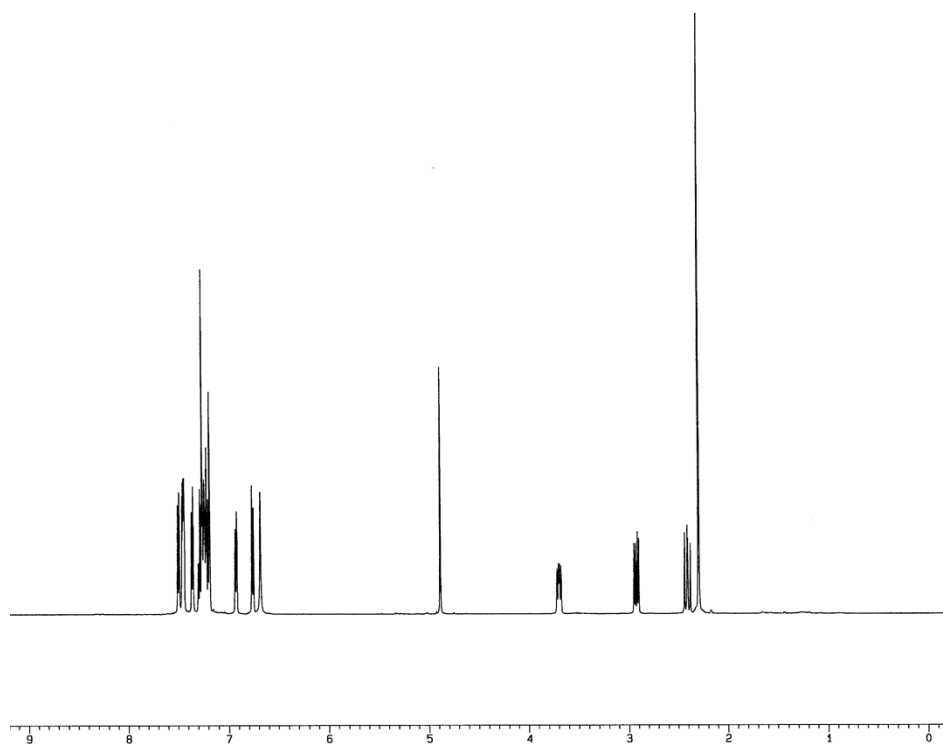
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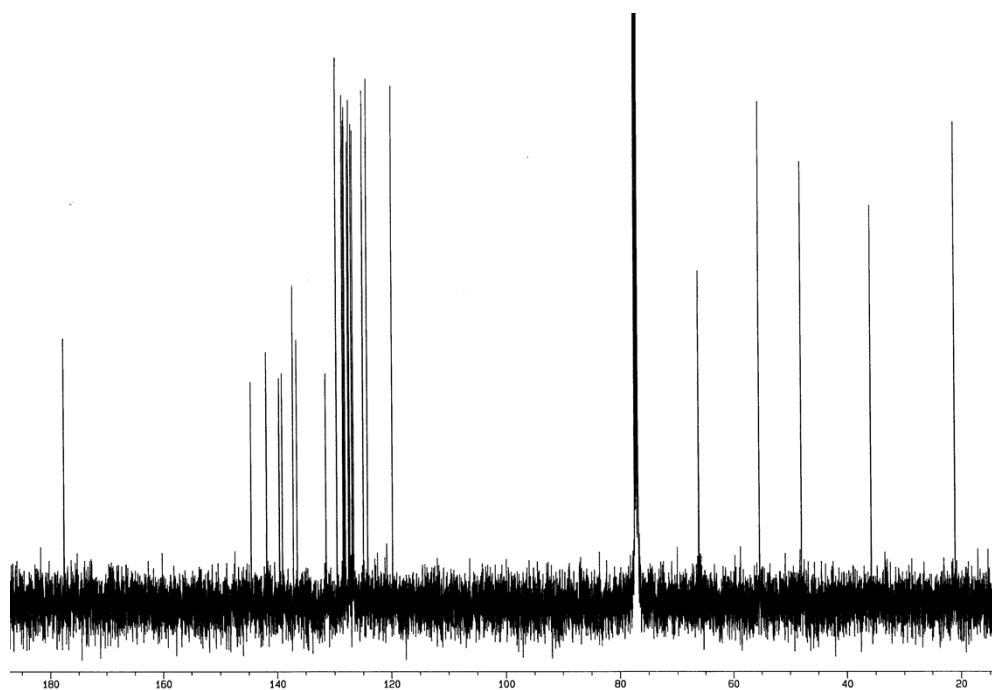
$^{13}\text{C-NMR}$ spectrum (150 MHz, CDCl_3) of (\pm) 2-benzyl-2-azahexacyclo[10.6.6.0^{1,5}.0^{6,11}.0^{13,18}.0^{19,24}] tetracos-6(11),7,9,13,15,17,19(24),20,22-nonaen-3-one **4d**



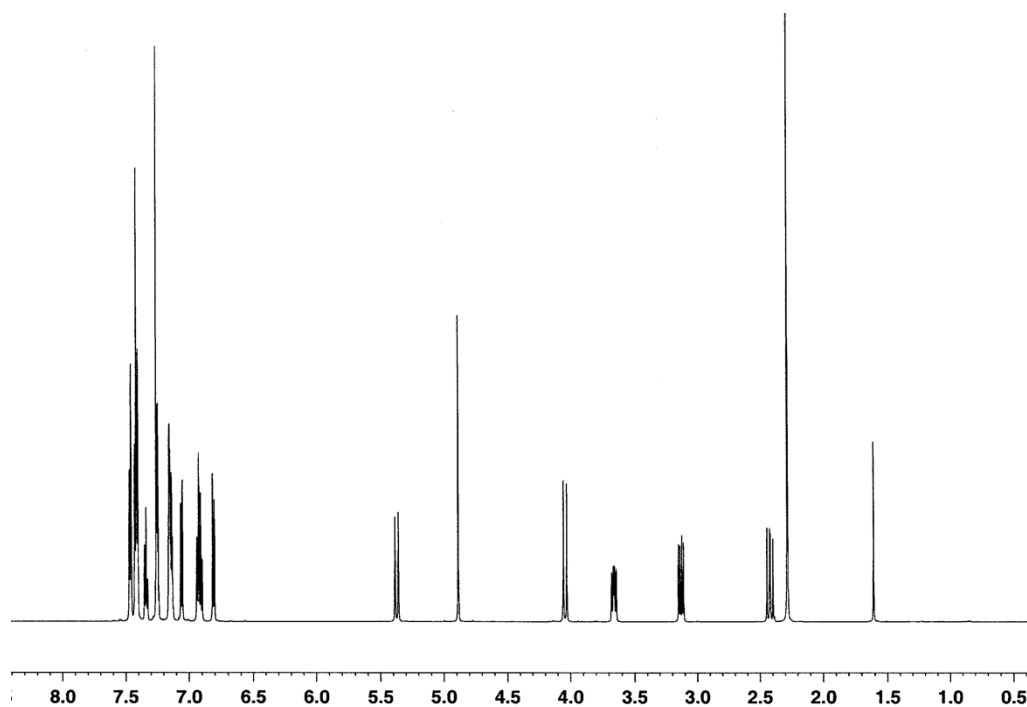
^1H -NMR spectrum (500MHz, CDCl_3) of (\pm) 9-methyl-2-azahexacyclo[10.6.6.0^{1,5}.0^{6,11}.0^{13,18}.0^{19,24}] tetracos- 6(11),7,9,13,15,17,19(24),20,22-nonaen-3-one **4e**



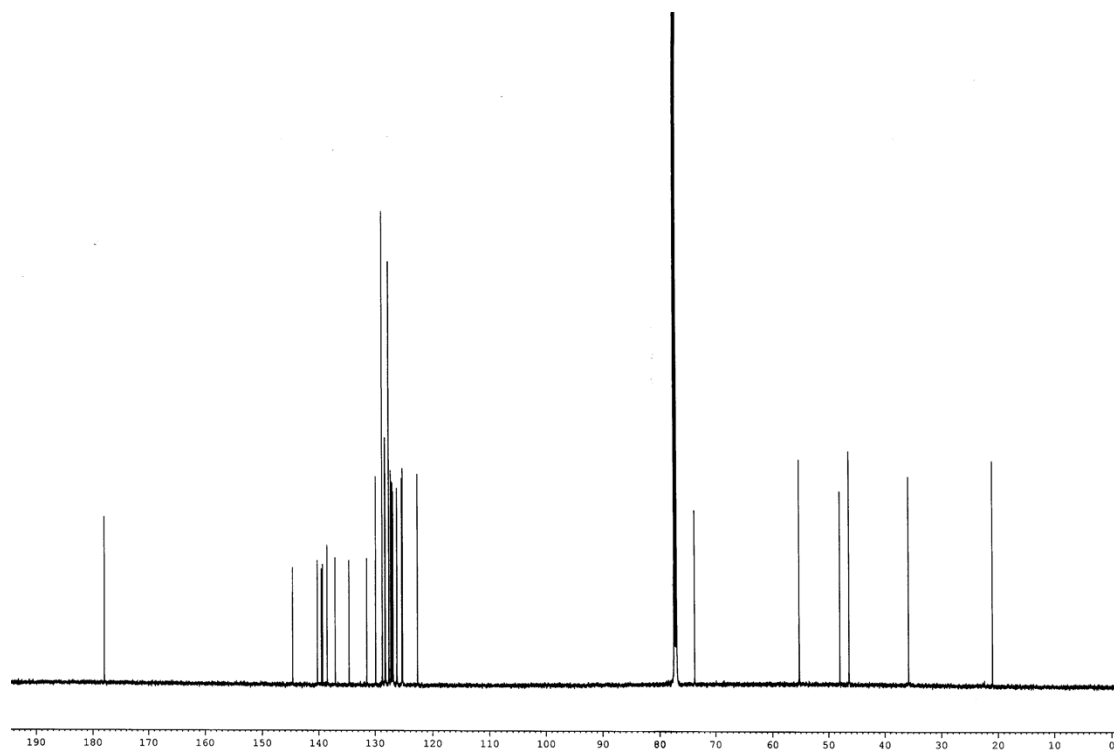
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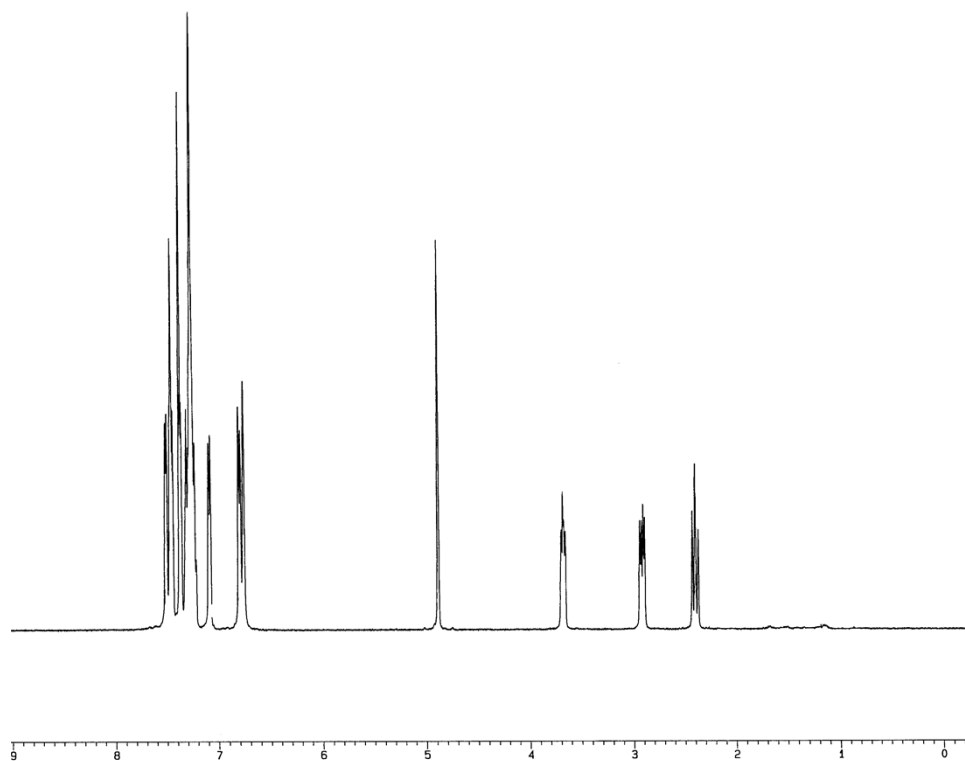
$^1\text{H-NMR}$ spectrum (600MHz, CDCl_3) of (\pm) 2-benzyl-9-methyl-2-azahexacyclo[10.6.6.0^{1,5}.0^{6,11}.0^{13,18}.0^{19,24}]tetracos-6(11),7,9,13,15,17,19(24),20,22-nonaen-3-one **4f**



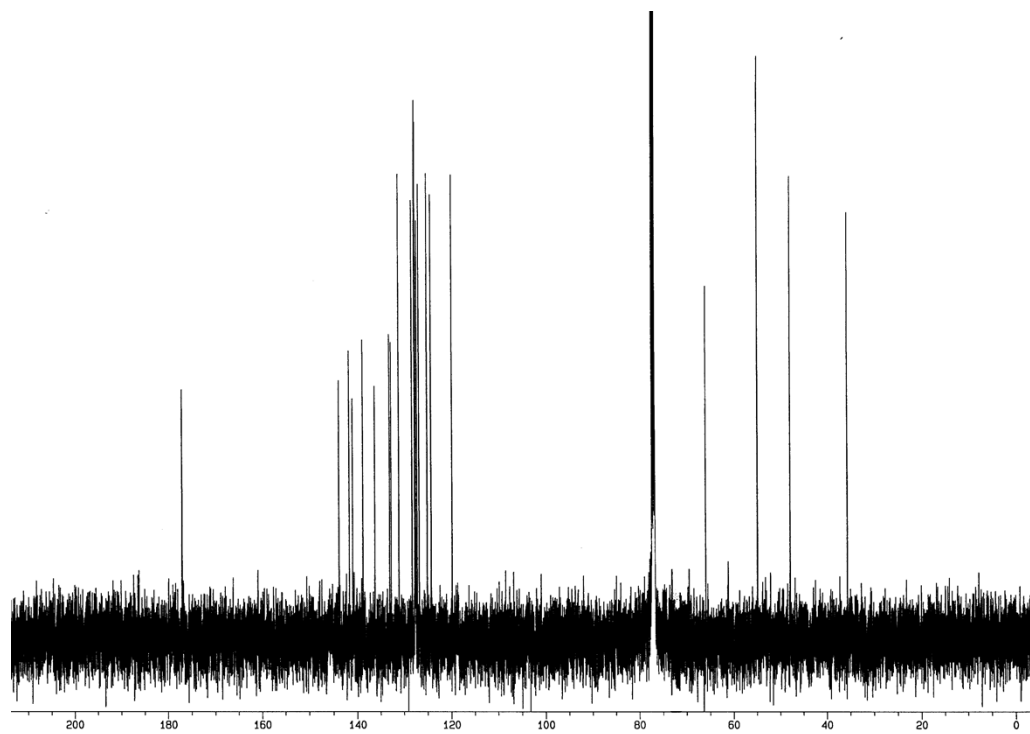
$^{13}\text{C-NMR}$ spectrum (125MHz, CDCl_3) of (\pm) 2-benzyl-9-methyl-2-azahexacyclo[10.6.6.0^{1,5}.0^{6,11}.0^{13,18}.0^{19,24}]tetracos-6(11),7,9,13,15,17,19(24),20,22-nonaen-3-one **4f**



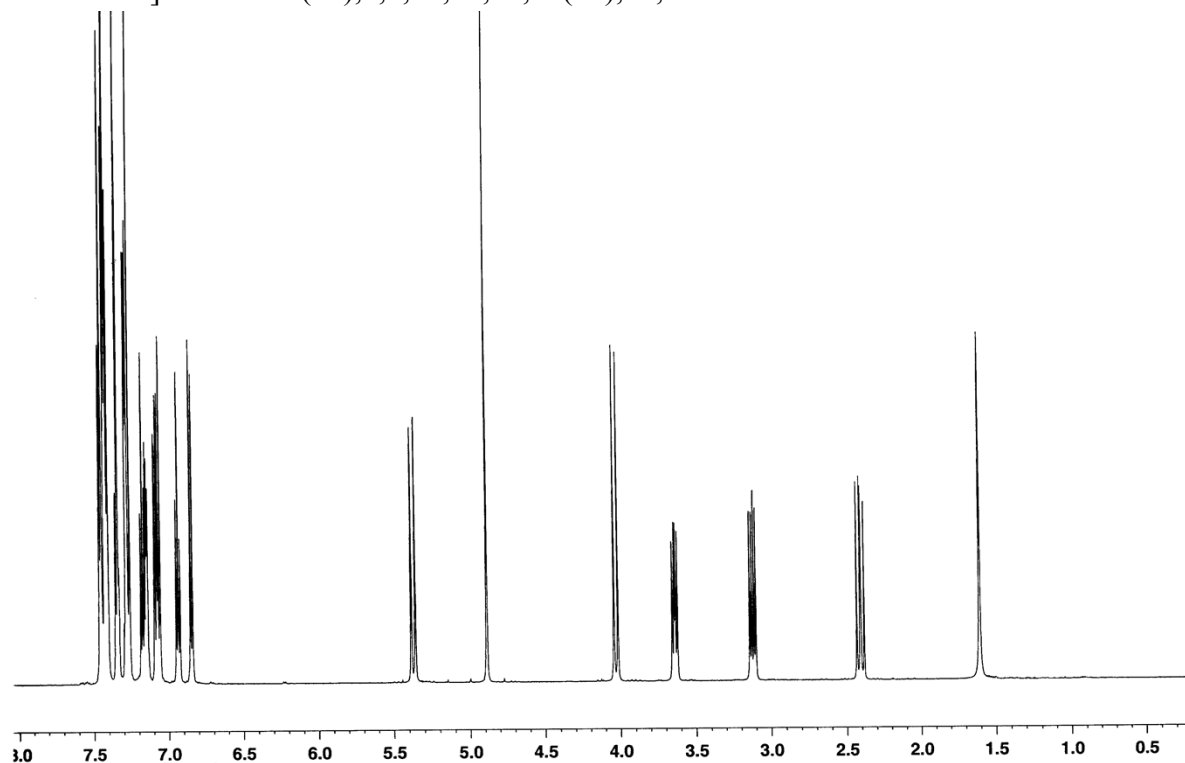
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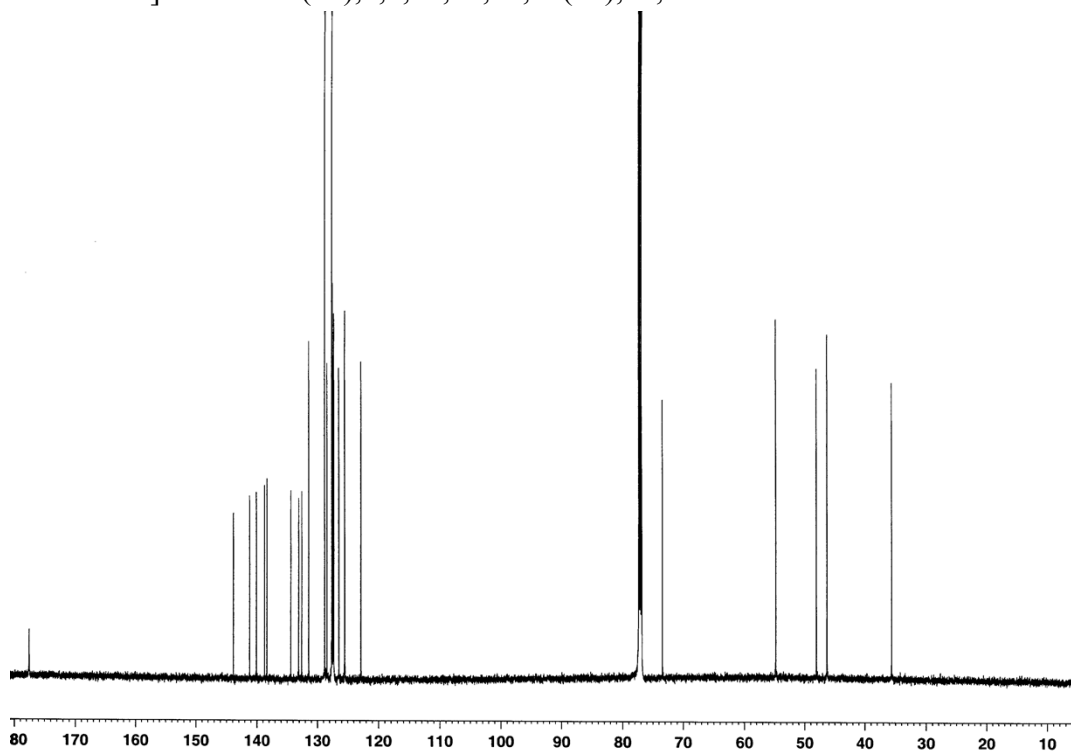
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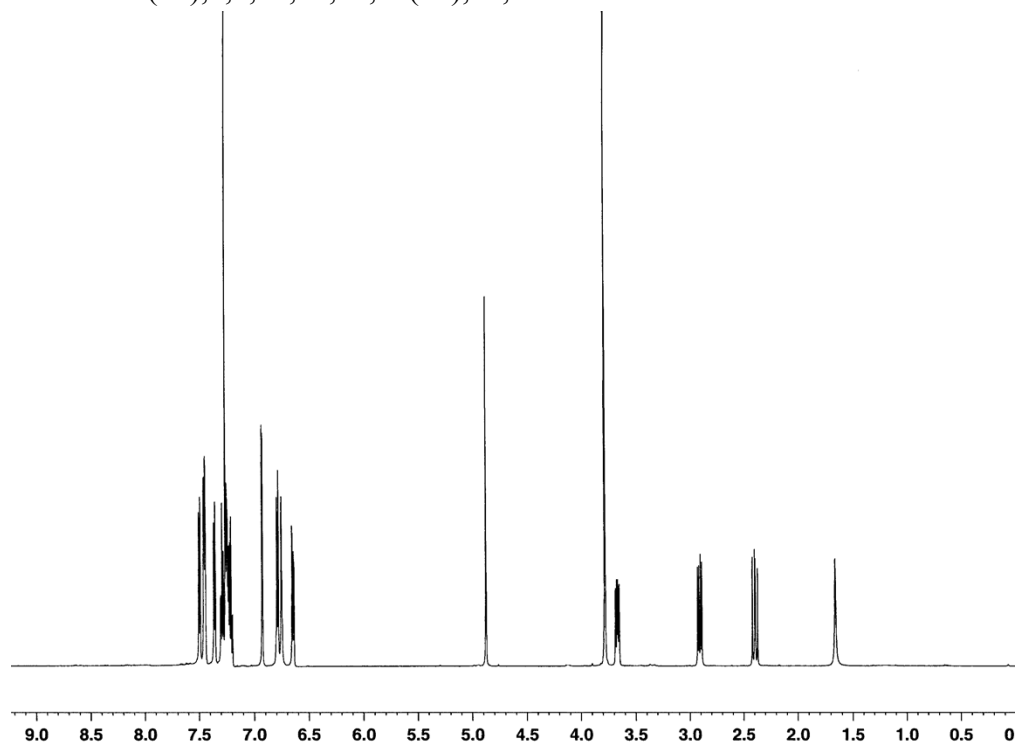
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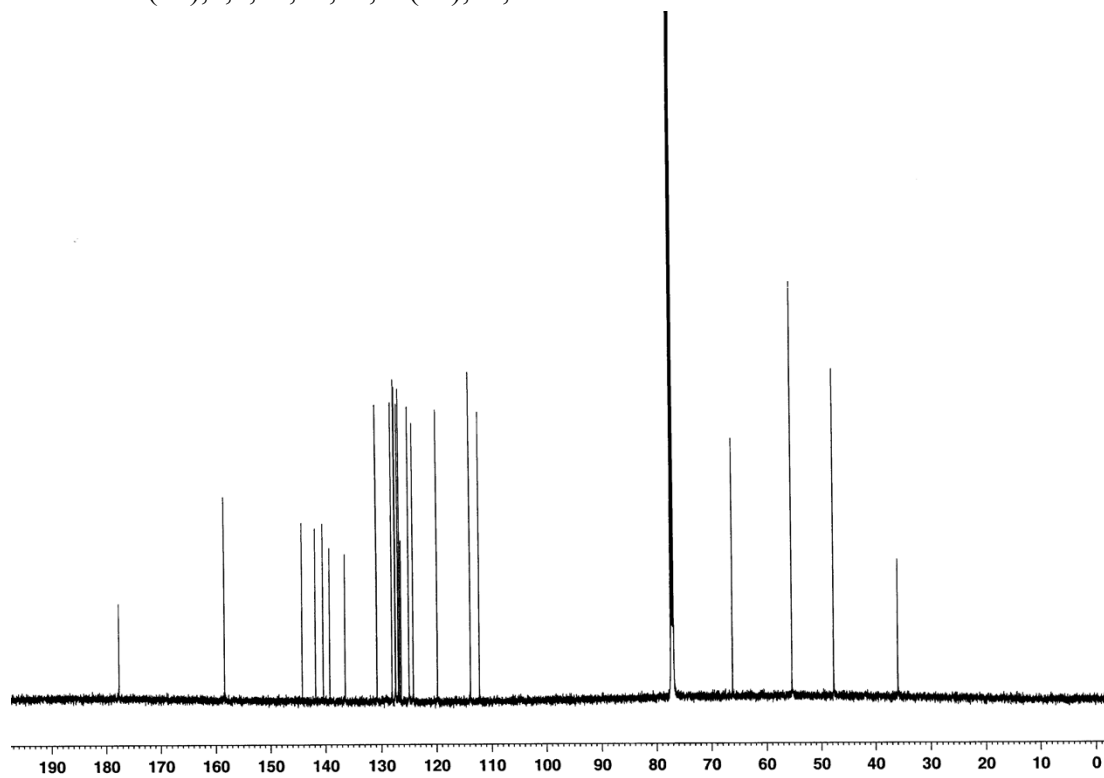
$^{13}\text{C-NMR}$ spectrum (125MHz, CDCl_3) of (\pm) 2-benzyl-9-chloro-2-azahexacyclo[10.6.6.0^{1,5}.0^{6,11}.0^{13,18}.0^{19,24}]tetracos-6(11),7,9,13,15,17,19(24),20,22-nonaen-3-one **4h**



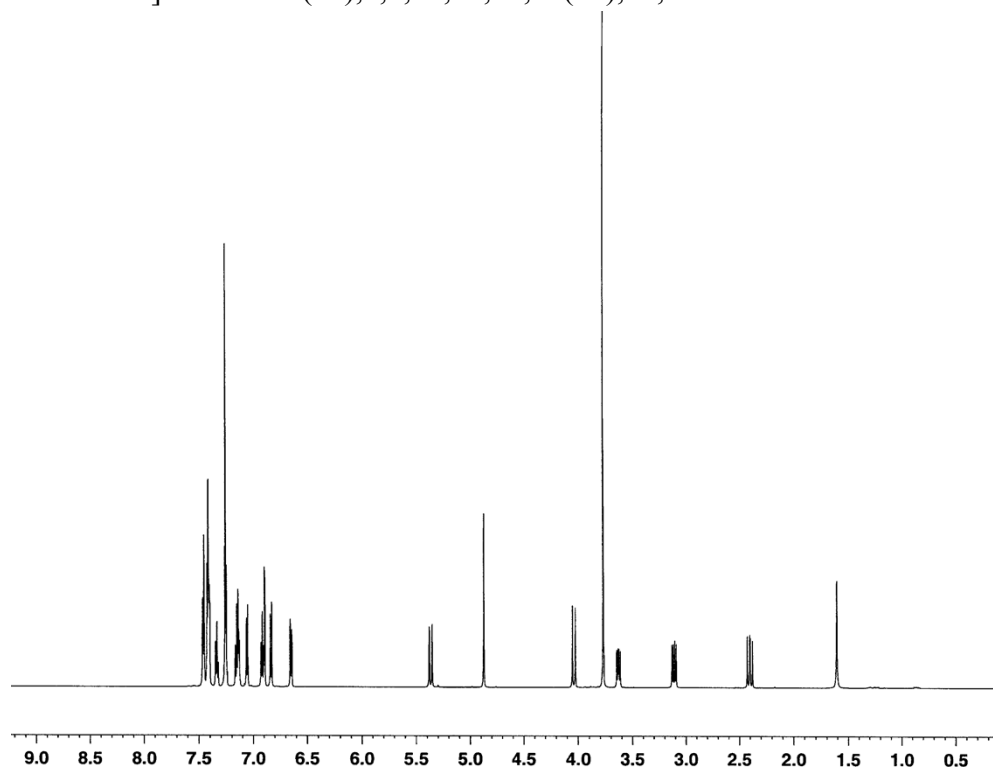
$^1\text{H-NMR}$ spectrum (600MHz, CDCl_3) of (\pm) 9-methoxy-2-azahexacyclo[10.6.6.0^{1,5}.0^{6,11}.0^{13,18}.0^{19,24}] tetracos-6(11),7,9,13,15,17,19(24),20,22-nonaen-3-one **4k**



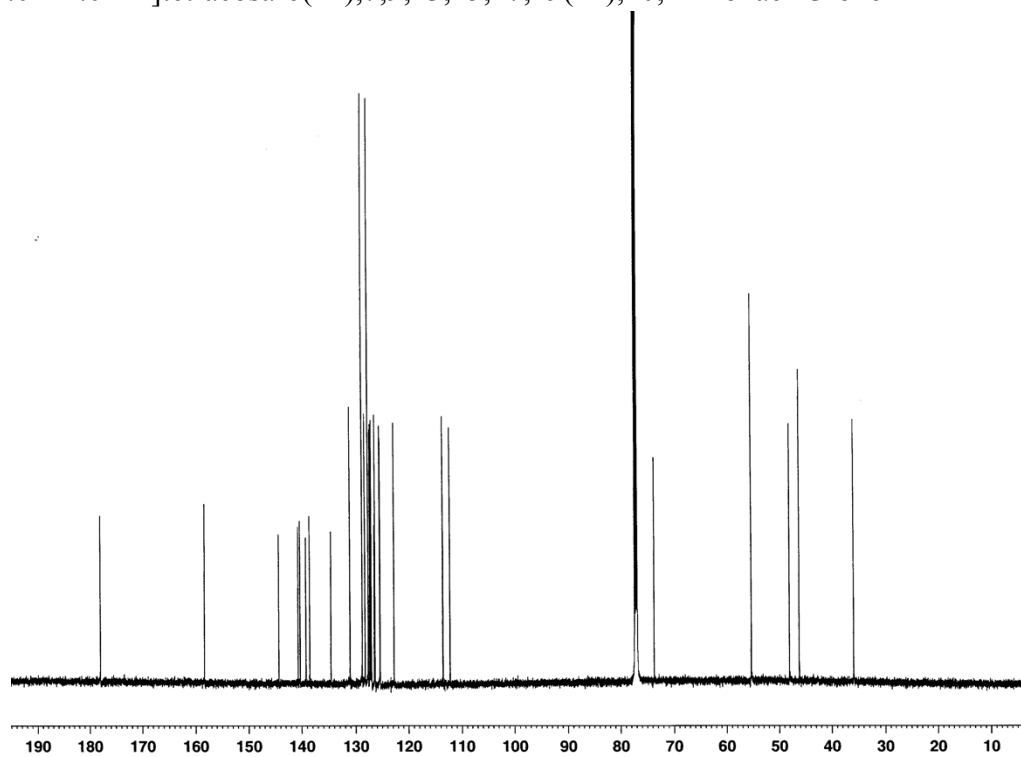
$^{13}\text{C-NMR}$ spectrum (150MHz, CDCl_3) of (\pm) 9-methoxy-2-azahexacyclo[10.6.6.0^{1,5}.0^{6,11}.0^{13,18}.0^{19,24}] tetracos-6(11),7,9,13,15,17,19(24),20,22-nonaen-3-one **4k**



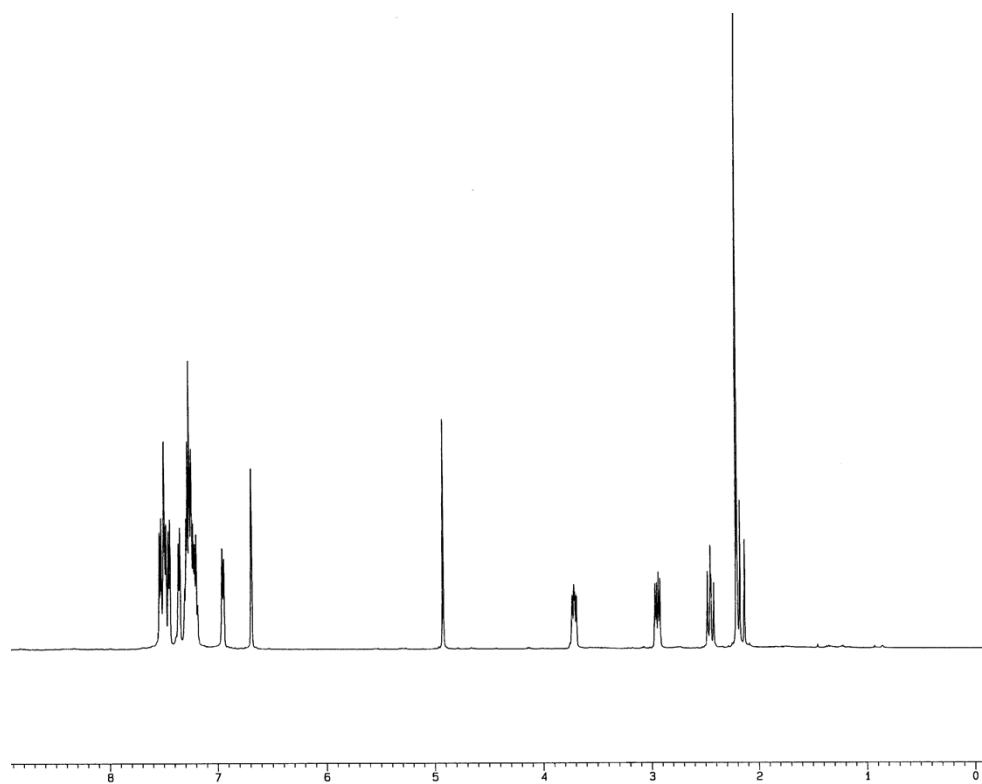
$^1\text{H-NMR}$ spectrum (600MHz, CDCl_3) of (\pm) 2-benzyl-9-methoxy-2-azahexacyclo[10.6.6.0^{1,5}.0^{6,11}.0^{13,18}.0^{19,24}]tetracos-6(11),7,9,13,15,17,19(24),20,22-nonaen-3-one **4I**



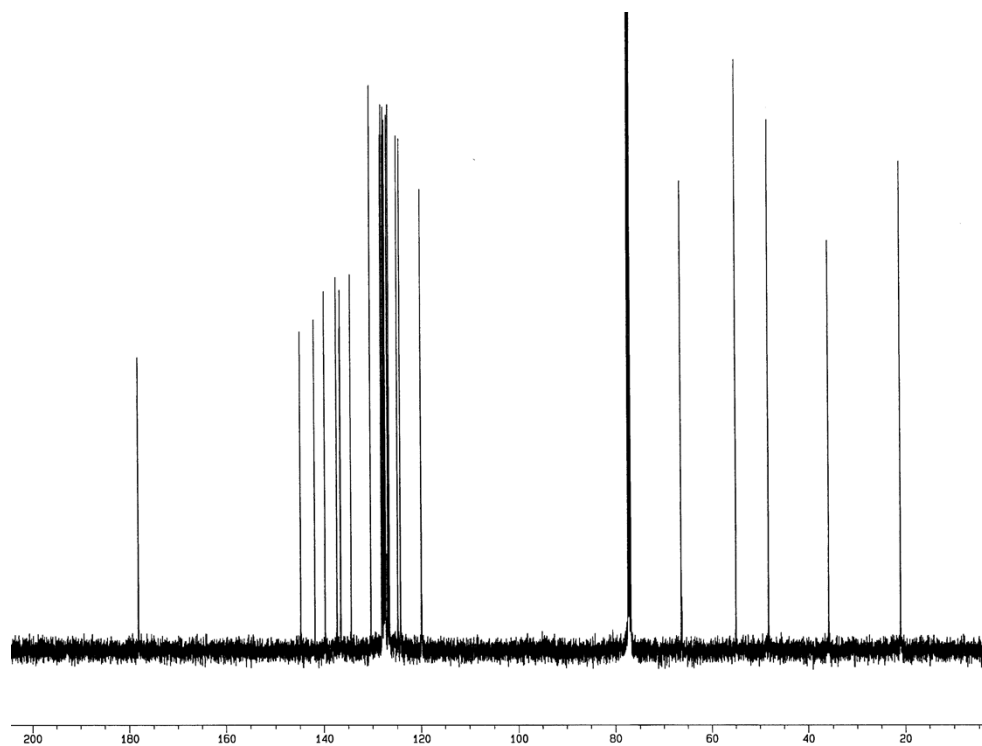
$^{13}\text{C-NMR}$ spectrum (150MHz, CDCl_3) of (\pm) 2-benzyl-9-methoxy-2-azahexacyclo[10.6.6.0^{1,5}.0^{6,11}.0^{13,18}.0^{19,24}]tetracos-6(11),7,9,13,15,17,19(24),20,22-nonaen-3-one **4I**



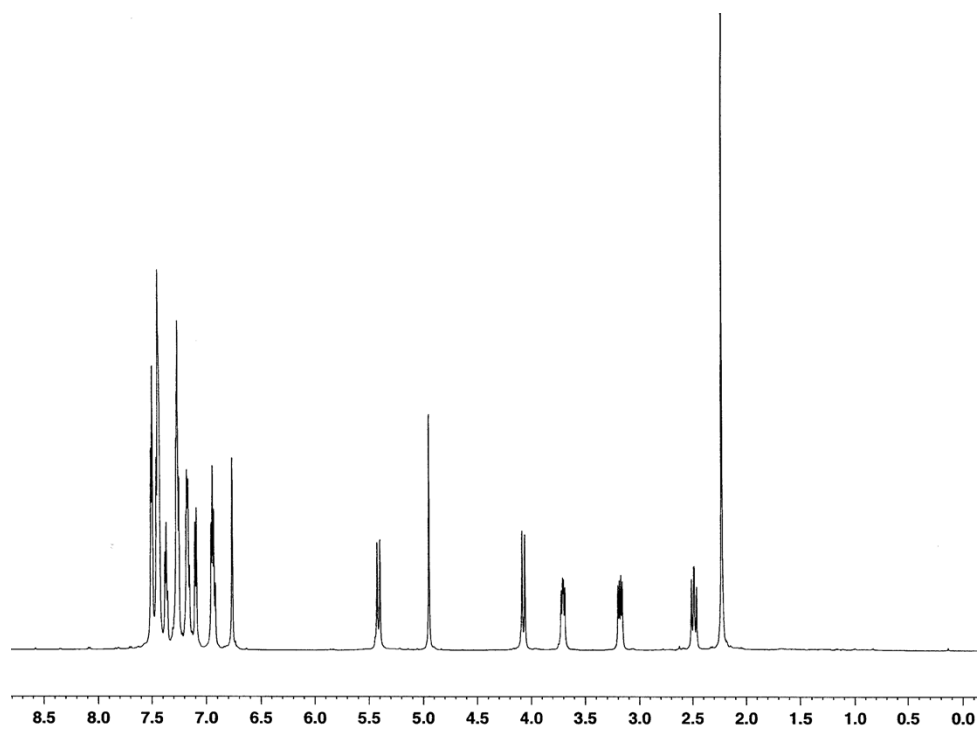
$^1\text{H-NMR}$ spectrum (500MHz, CDCl_3) of (\pm) 8-methyl-2-azahexacyclo[10.6.6.0^{1,5}.0^{6,11}.0^{13,18}.0^{19,24}] tetracos-6(11),7,9,13,15,17,19(24),20,22-nonaen-3-one **4m**



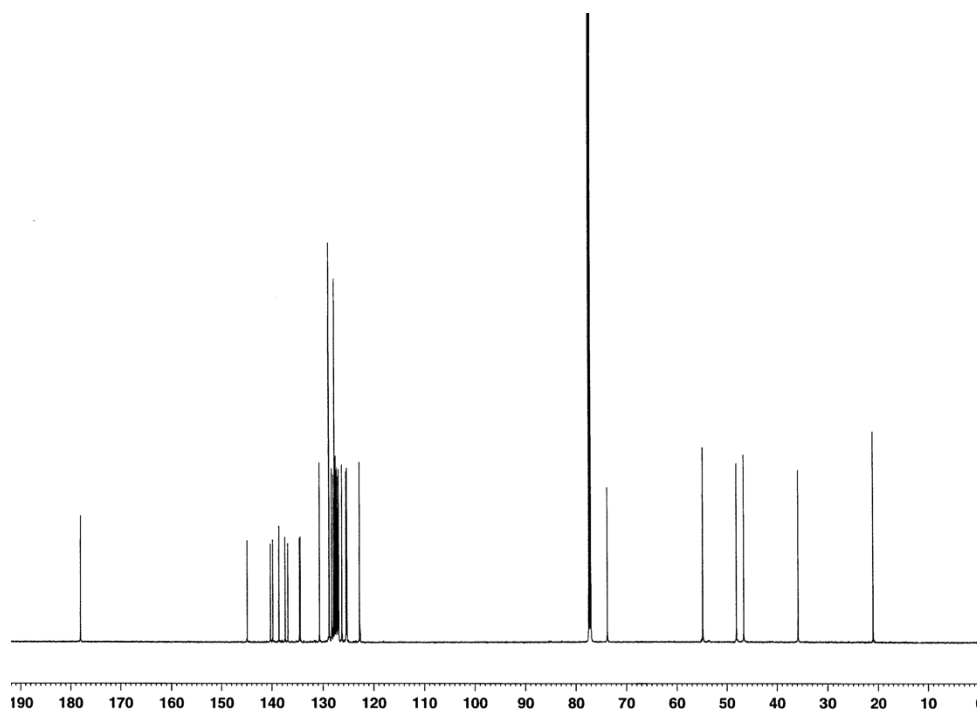
$^{13}\text{C-NMR}$ spectrum (125MHz, CDCl_3) of (\pm) 8-methyl-2-azahexacyclo[10.6.6.0^{1,5}.0^{6,11}.0^{13,18}.0^{19,24}] tetracos-6(11),7,9,13,15,17,19(24),20,22-nonaen-3-one **4m**



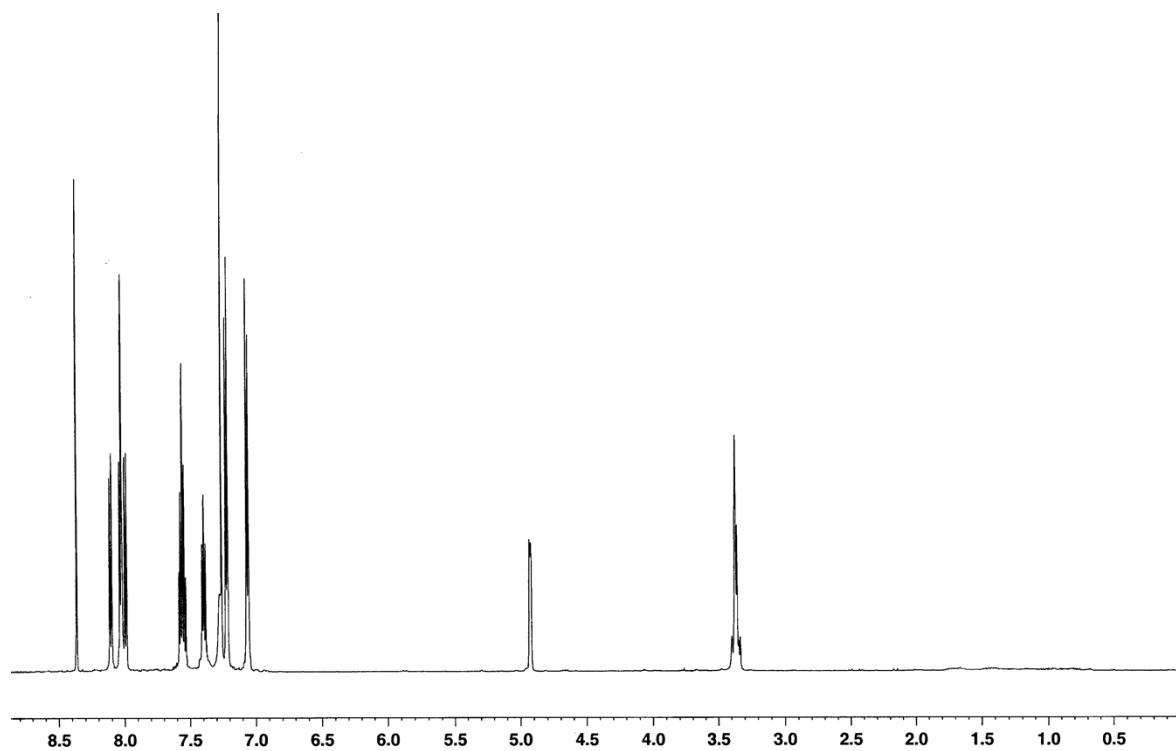
$^1\text{H-NMR}$ spectrum (600MHz, CDCl_3) of (\pm) 2-benzyl-8-methyl-2-azahexacyclo[10.6.6.0^{1,5}.0^{6,11}.0^{13,18}.0^{19,24}]tetracos-6(11),7,9,13,15,17,19(24),20,22-nonaen-3-one **4n**



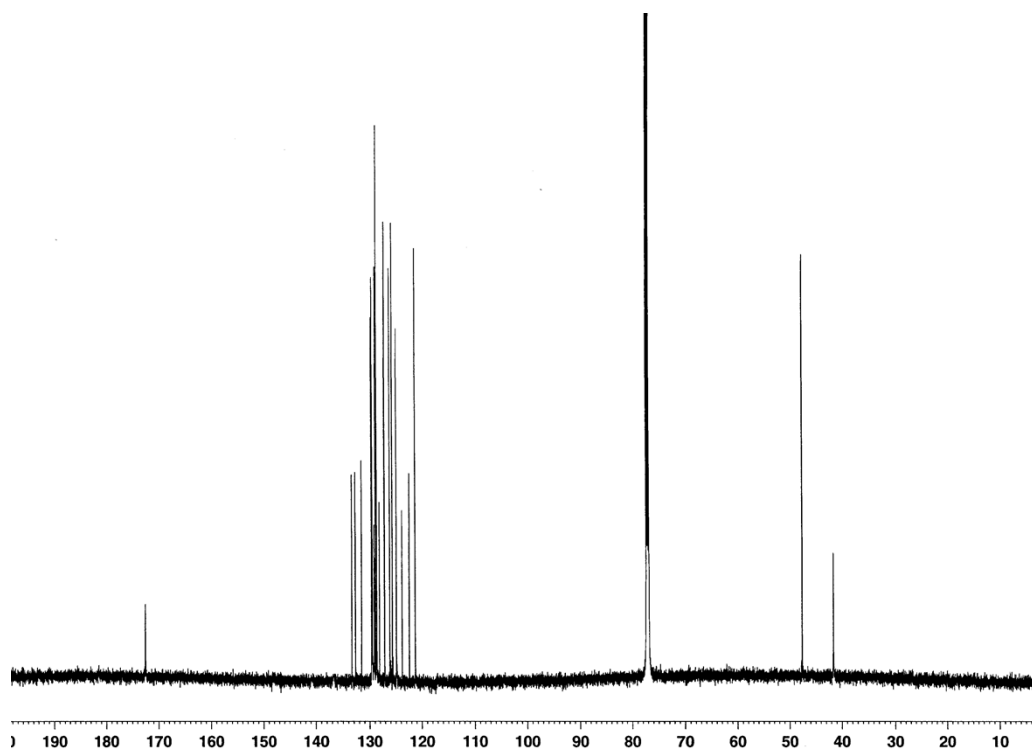
$^{13}\text{C-NMR}$ spectrum (150MHz, CDCl_3) of (\pm) 2-benzyl-8-methyl-2-azahexacyclo[10.6.6.0^{1,5}.0^{6,11}.0^{13,18}.0^{19,24}]tetracos-6(11),7,9,13,15,17,19(24),20,22-nonaen-3-one **4n**



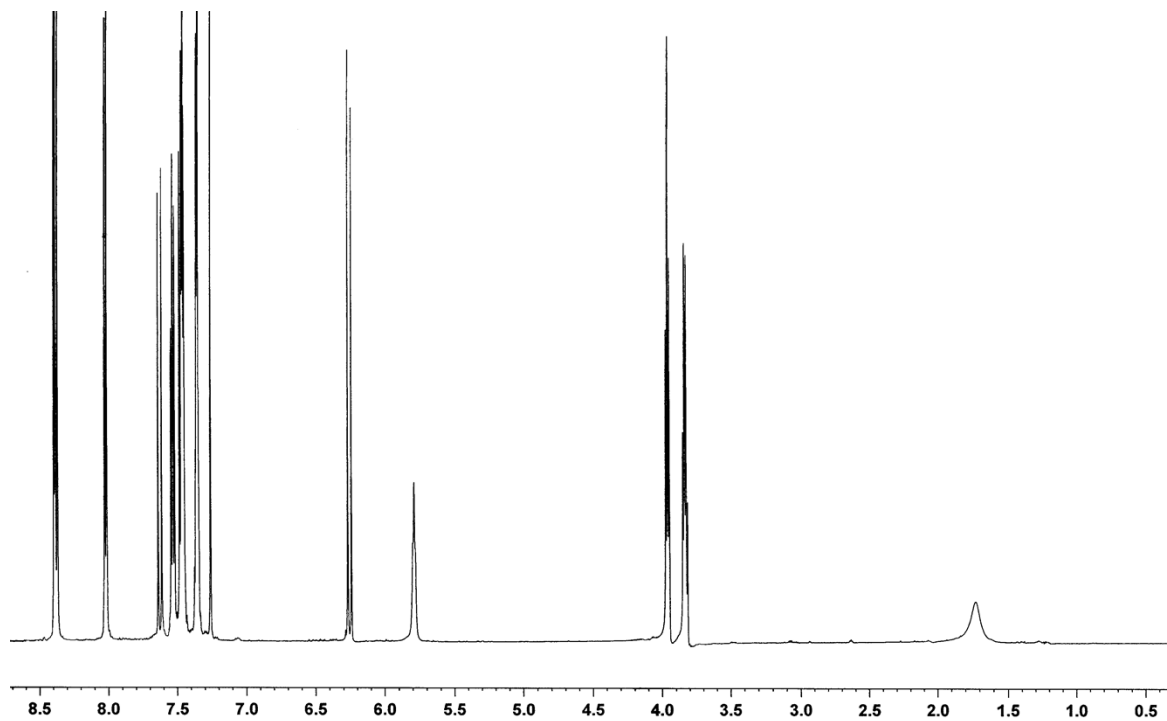
$^1\text{H-NMR}$ spectrum (600MHz, CDCl_3) of (\pm) 4-phenyl-3,4-dihydro-1H-1-azacyclohept[de]anthracen-2-one **7**



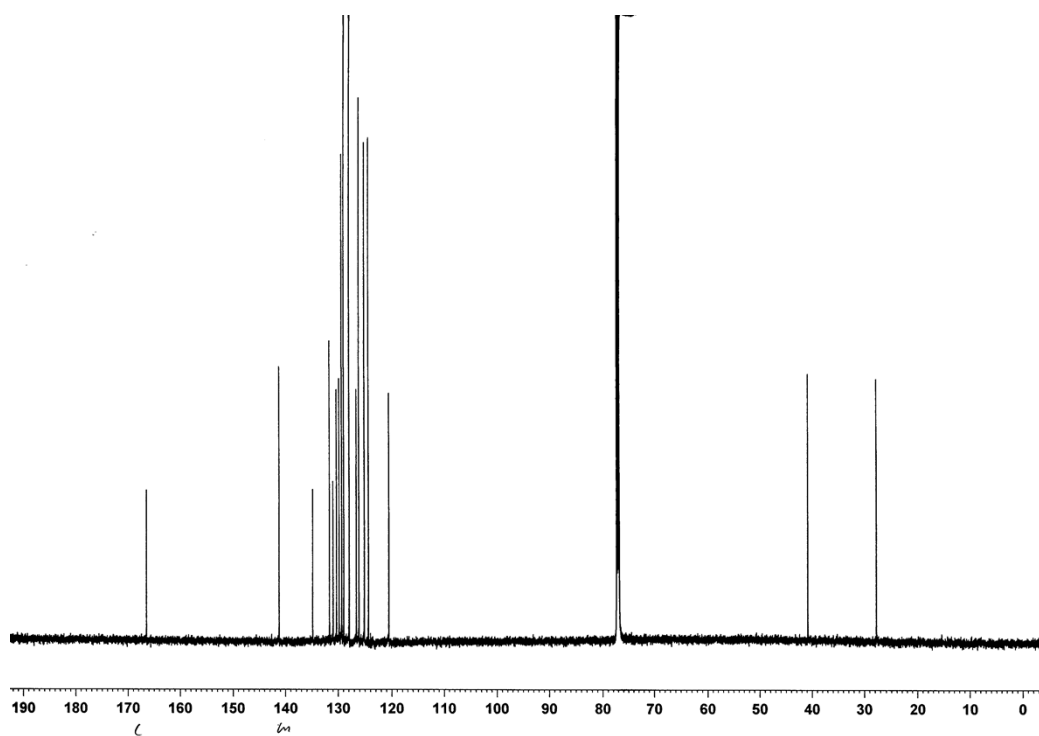
$^{13}\text{C-NMR}$ spectrum (125MHz, CDCl_3) of (\pm) 4-phenyl-3,4-dihydro-1H-1-azacyclohept[de]anthracen-2-one **7**



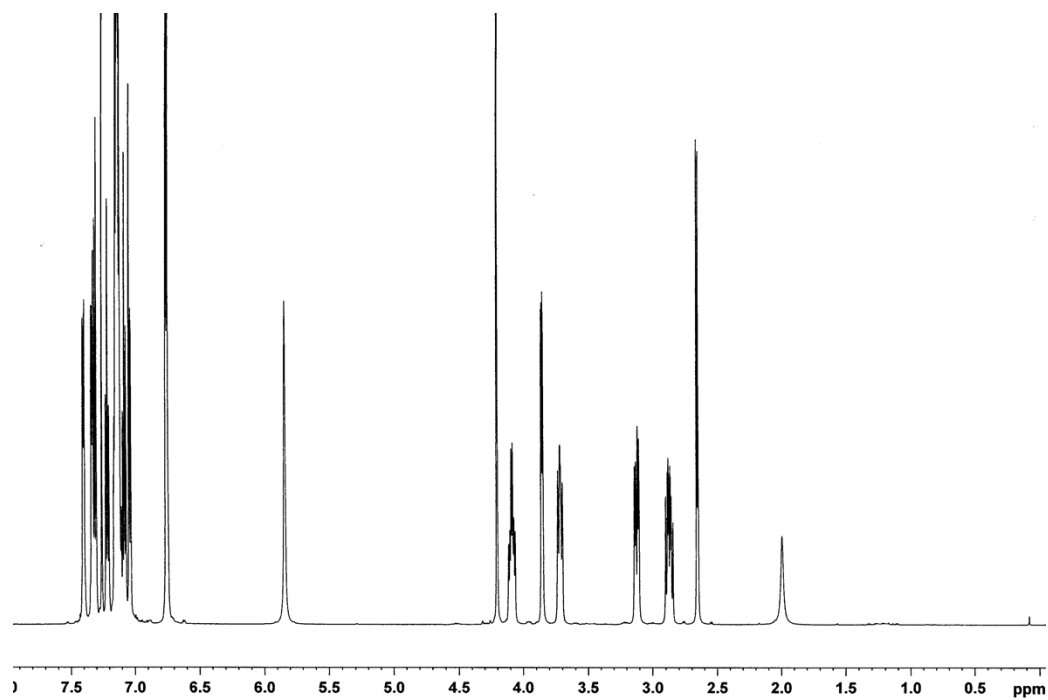
$^1\text{H-NMR}$ spectrum (600MHz, CDCl_3) of *N*-(anthracen-9-yl-ethyl)-3-phenylacrylamide **8**



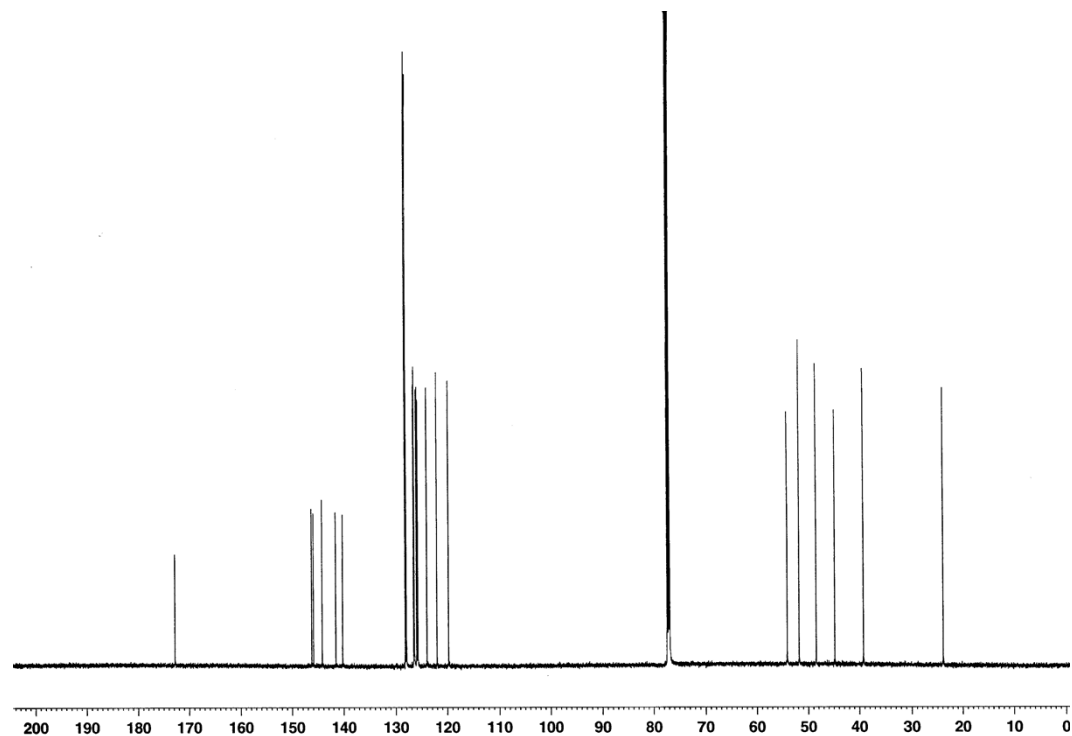
$^{13}\text{C-NMR}$ spectrum (125MHz, CDCl_3) of *N*-(anthracen-9-yl-ethyl)-3-phenylacrylamide **8**



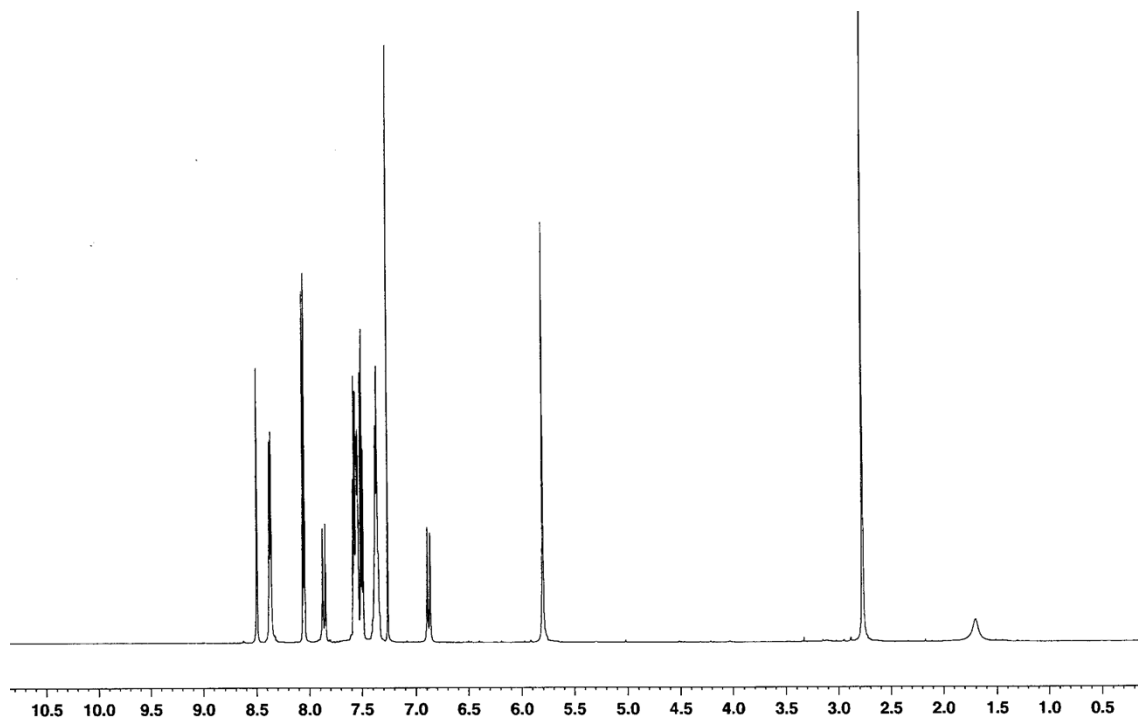
$^1\text{H-NMR}$ spectrum (600MHz, CDCl_3) of (19S,20R)(19R,20S)-20-phenyl-17-azapentacyclo[6.-6-.6.-0^{1,19}.0^{2,7}.0^{9,14}]jicosa- 2,4,6,9(14),10,12-hexaen-18-one **9**



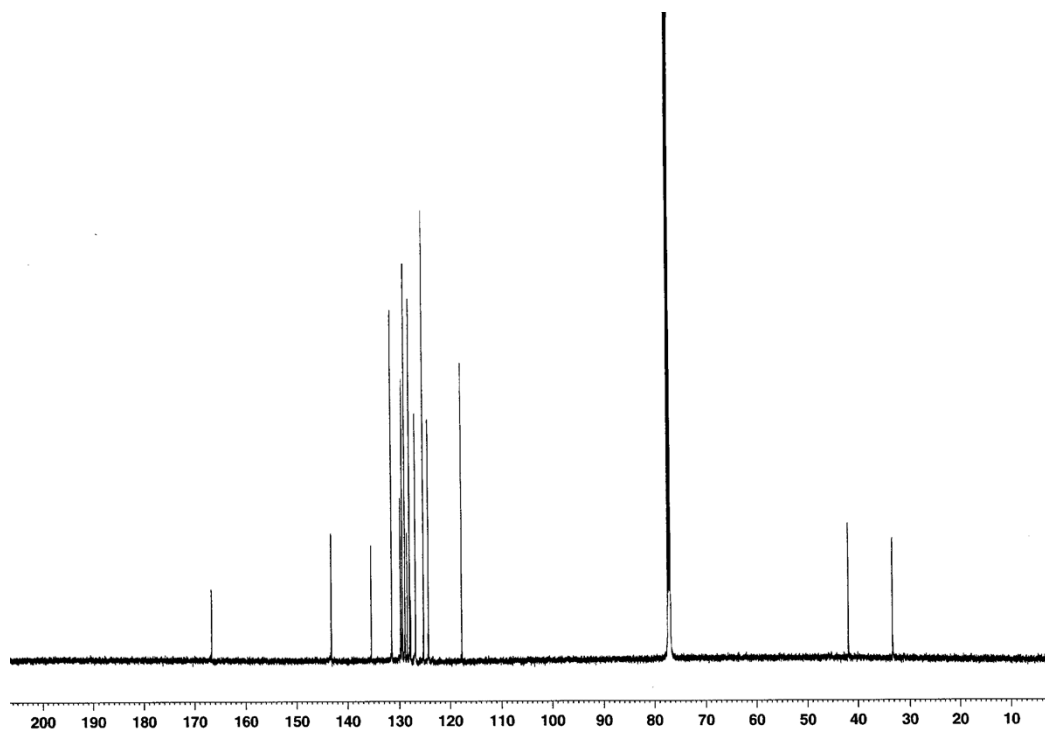
$^{13}\text{C-NMR}$ spectrum (125MHz, CDCl_3) of (19S,20R)(19R,20S)-20-phenyl-17-azapentacyclo[6.-6-.6.-0^{1,19}.0^{2,7}.0^{9,14}]jicosa- 2,4,6,9(14),10,12-hexaen-18-one **9**



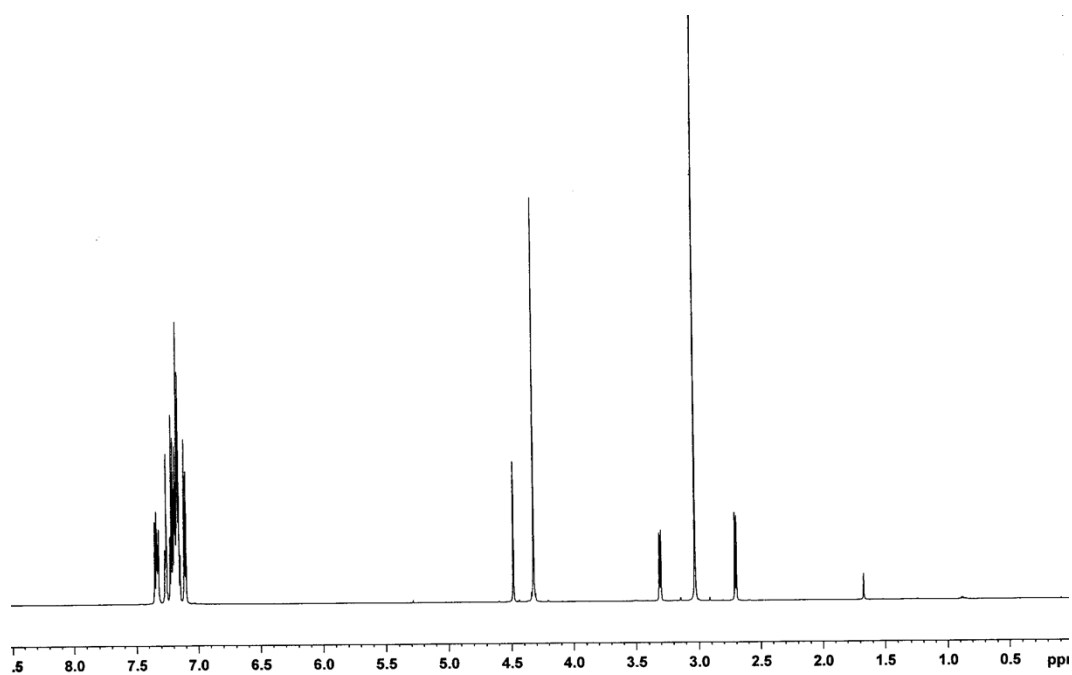
$^1\text{H-NMR}$ spectrum (600MHz, CDCl_3) of *N*-(anthracen-9-yl-methyl)-*N*-methyl-3-phenylacryl-amide **10**



$^{13}\text{C-NMR}$ spectrum (125MHz, CDCl_3) of *N*-(anthracen-9-yl-methyl)-*N*-methyl-3-phenylacryl-amide **10**



^1H -NMR spectrum (600MHz, CDCl_3) of (\pm) 16-methyl-19-phenyl-16-azapentacyclo[6.6.5.0^{1,18}.0^{2,7}.0^{9,14}]nonadeca-2,4,6,9(14),10,12-hexaen-17-one **11**



^{13}C -NMR spectrum (125MHz, CDCl_3) of (\pm) 16-methyl-19-phenyl-16-azapentacyclo[6.6.5.0^{1,18}.0^{2,7}.0^{9,14}]nonadeca-2,4,6,9(14),10,12-hexaen-17-one **11**

