From Nitrobenzenes to Substituted Tetrahydroquinolines in a Single Step by a Domino Reduction / Imine Formation / Aza-Diels–Alder Reaction

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Supporting Information

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(3a*SR*,4*RS*,9b*RS*)-4-Phenyl-3a,4,5,9b-tetrahydro-3*H*-cyclopenta[*c*]quinoline (*endo*-**5a**)

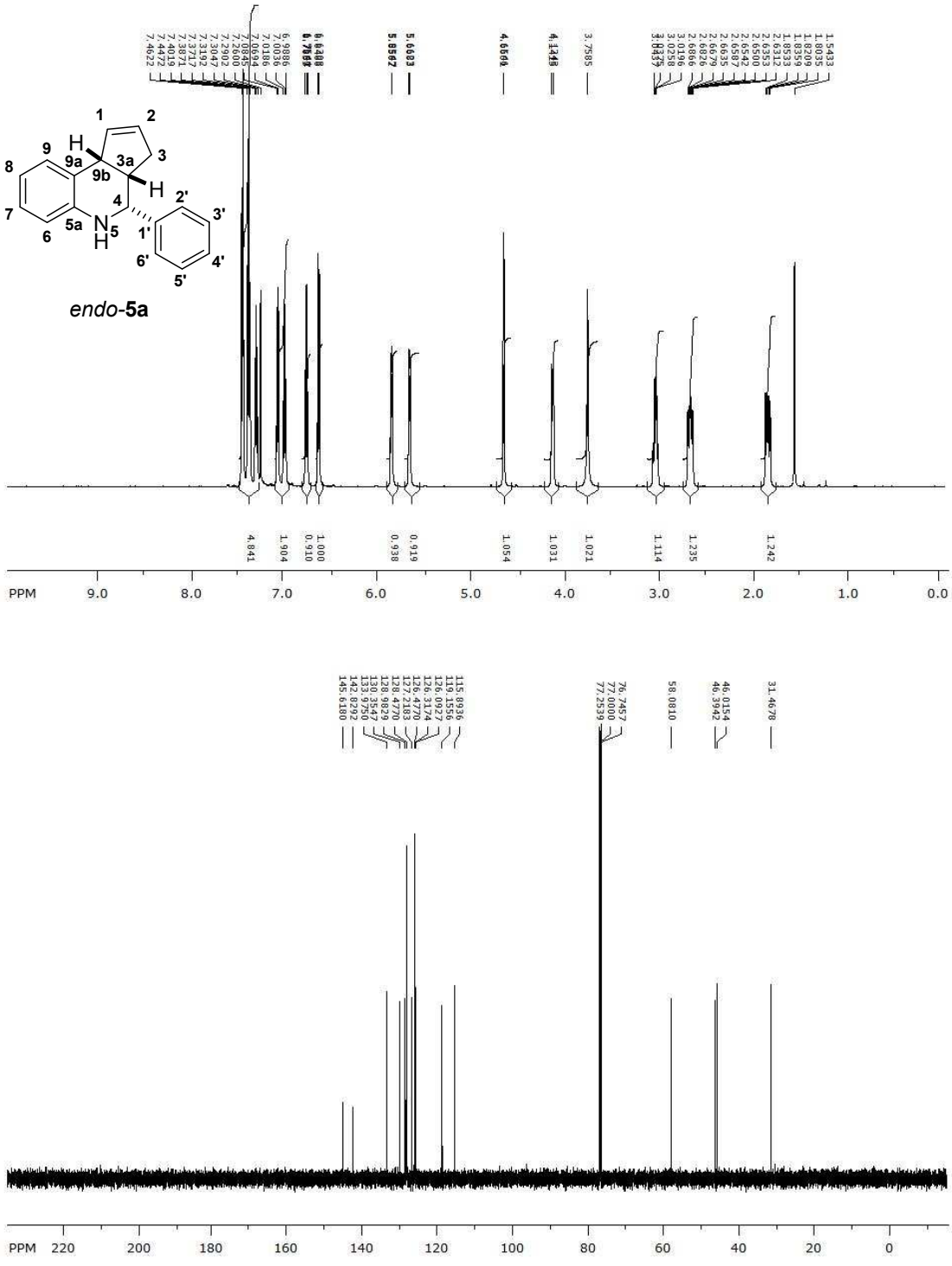

Figure 1. ^{1}H (500 MHz) and ^{13}C (125 MHz) NMR spectra of *endo*-**5a** in $CDCl_3$.

(3a*SR*,4*SR*,9b*RS*)-4-Phenyl-3a,4,5,9b-tetrahydro-3*H*-cyclopenta[*c*]quinoline (*exo*-**5a**)

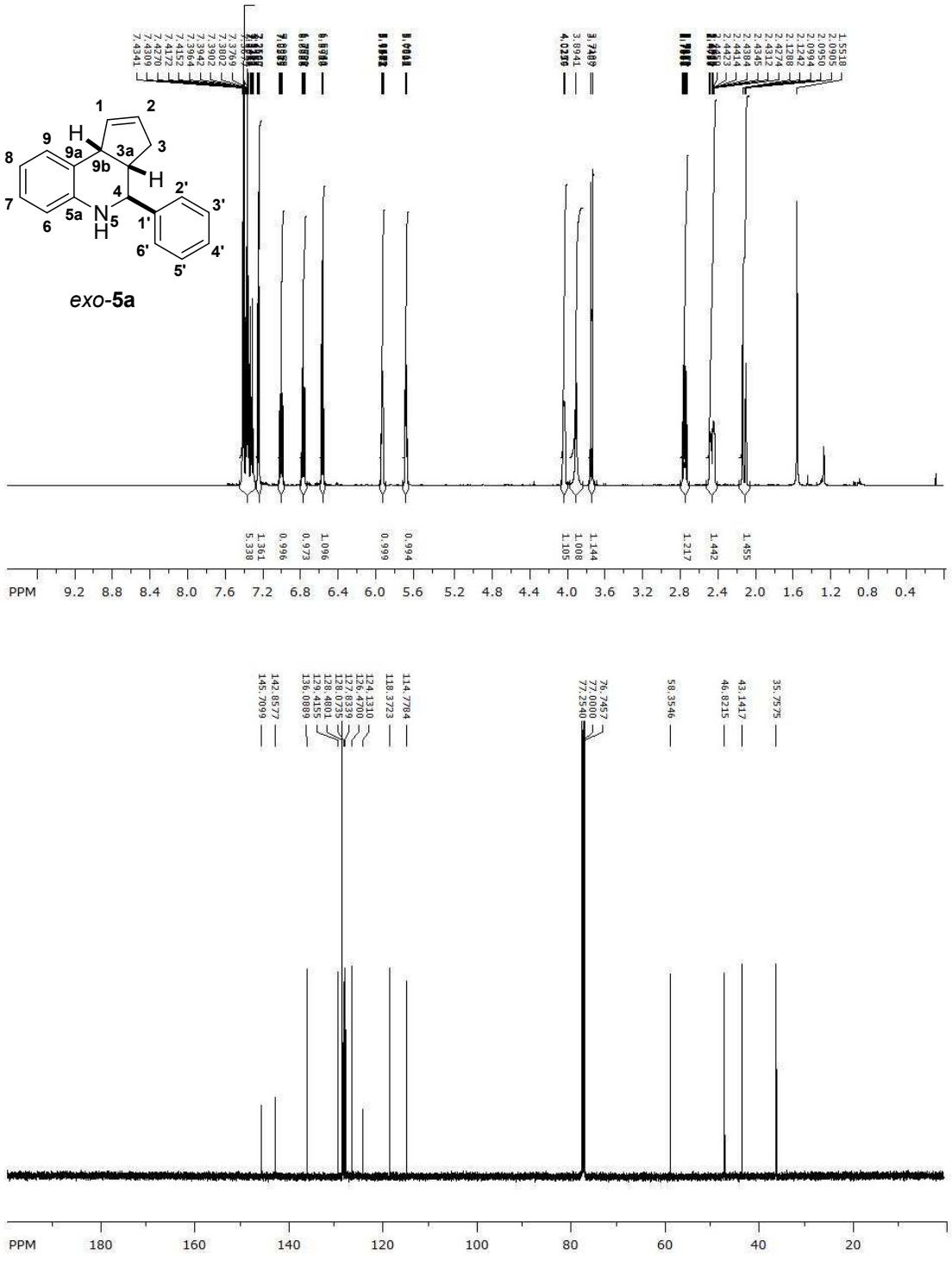

Figure 2. ^{1}H (500 MHz) and ^{13}C (125 MHz) NMR spectra of *exo*-**5a** in $CDCl_3$.

(3a*SR*,4*RS*,9b*RS*)-6-Bromo-4-phenyl-3a,4,5,9b-tetrahydro-3*H*-cyclopenta[*c*]quinoline (*endo*-**5b**)

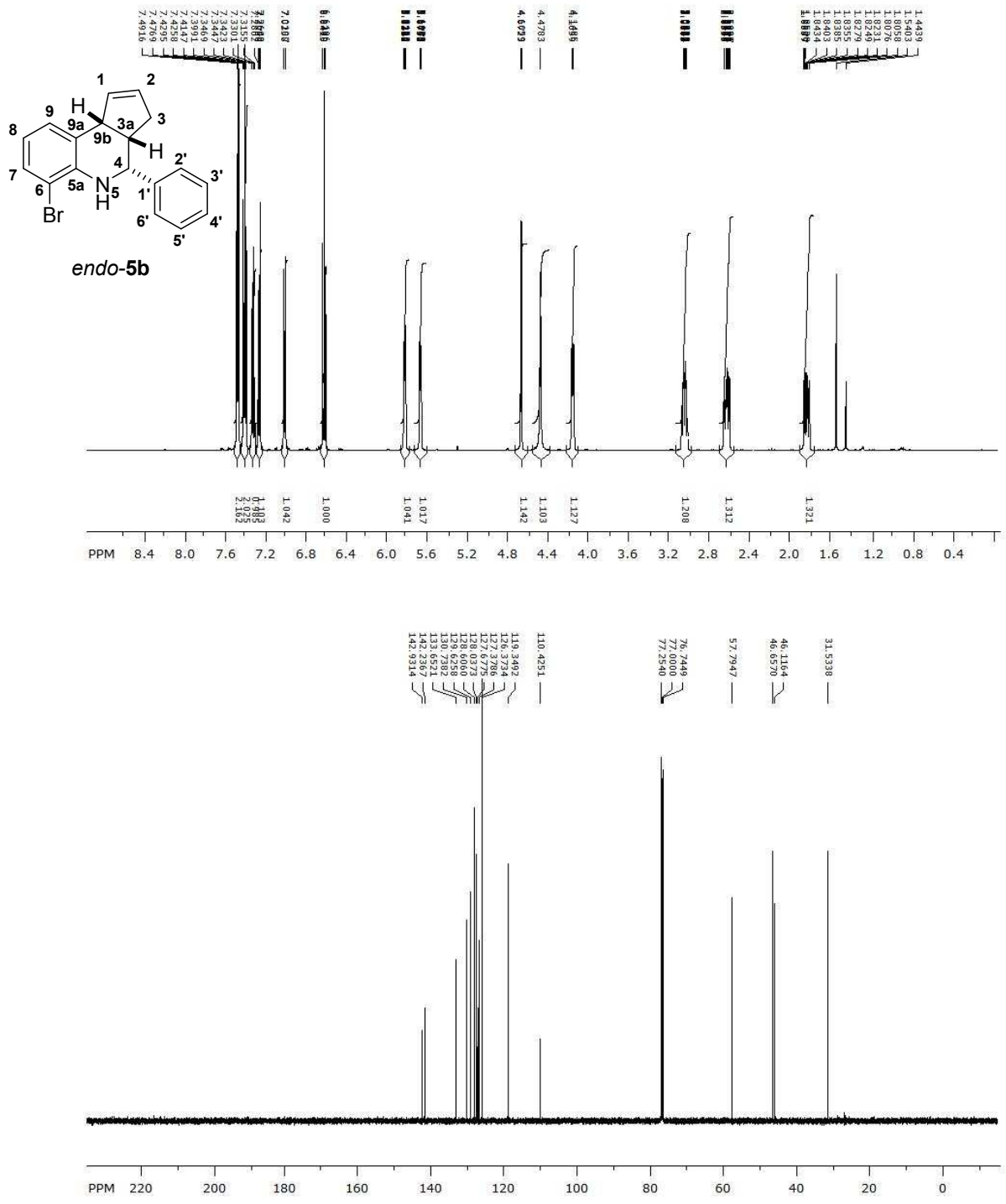

Figure 3. ^{1}H (500 MHz) and ^{13}C (125 MHz) NMR spectra of *endo*-**5b** in $CDCl_3$.

(3a*SR*,4*RS*,9b*RS*)-7-Bromo-4-phenyl-3a,4,5,9b-tetrahydro-3*H*-cyclopenta[*c*]quinoline (*endo*-**5c**)

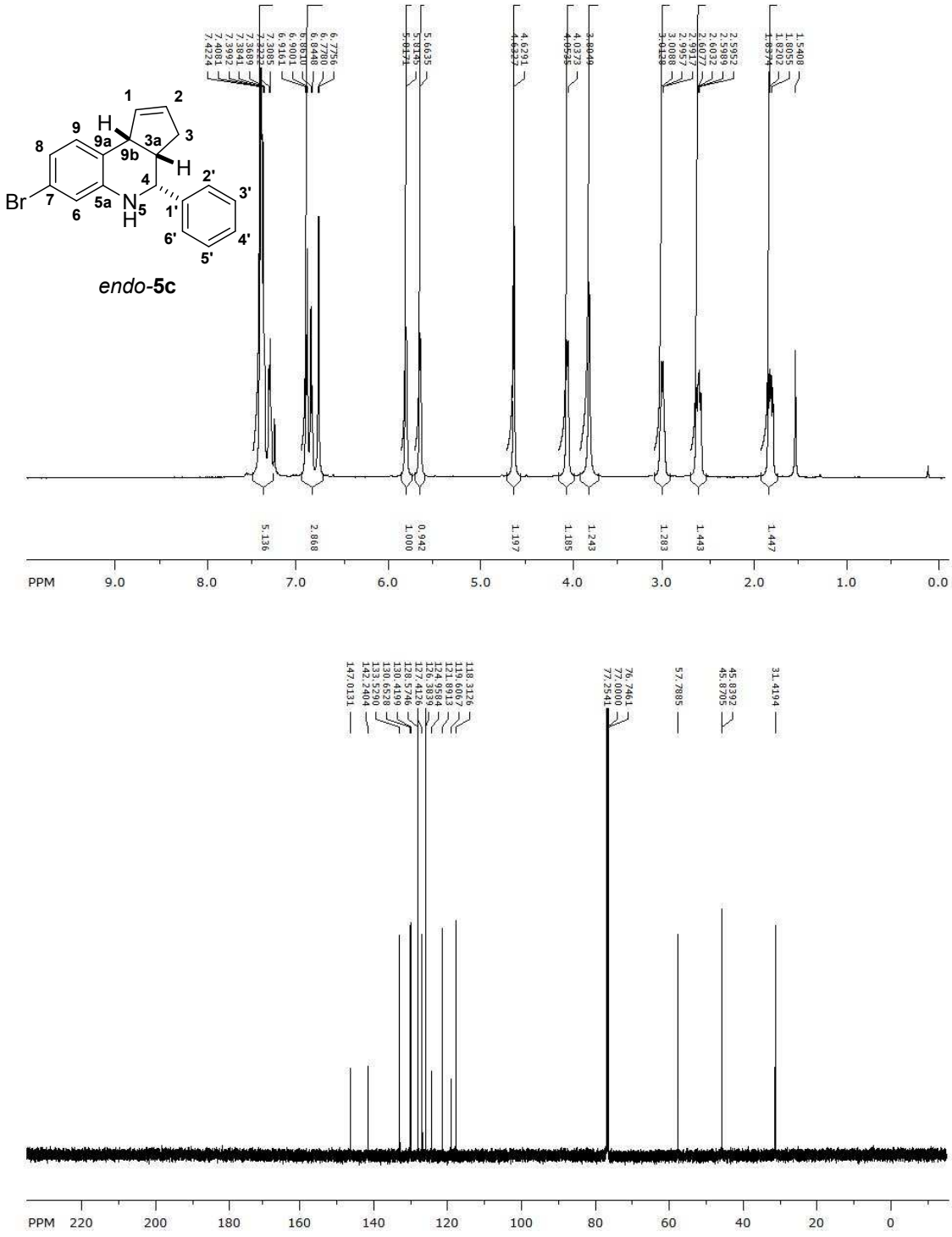

Figure 4. ^{1}H (500 MHz) and ^{13}C (125 MHz) NMR spectra of *endo*-**5c** in $CDCl_3$.

(3a*SR*,4*RS*,9b*RS*)-8-Bromo-4-phenyl-3a,4,5,9b-tetrahydro-3*H*-cyclopenta[*c*]quinoline (*endo*-**5d**)

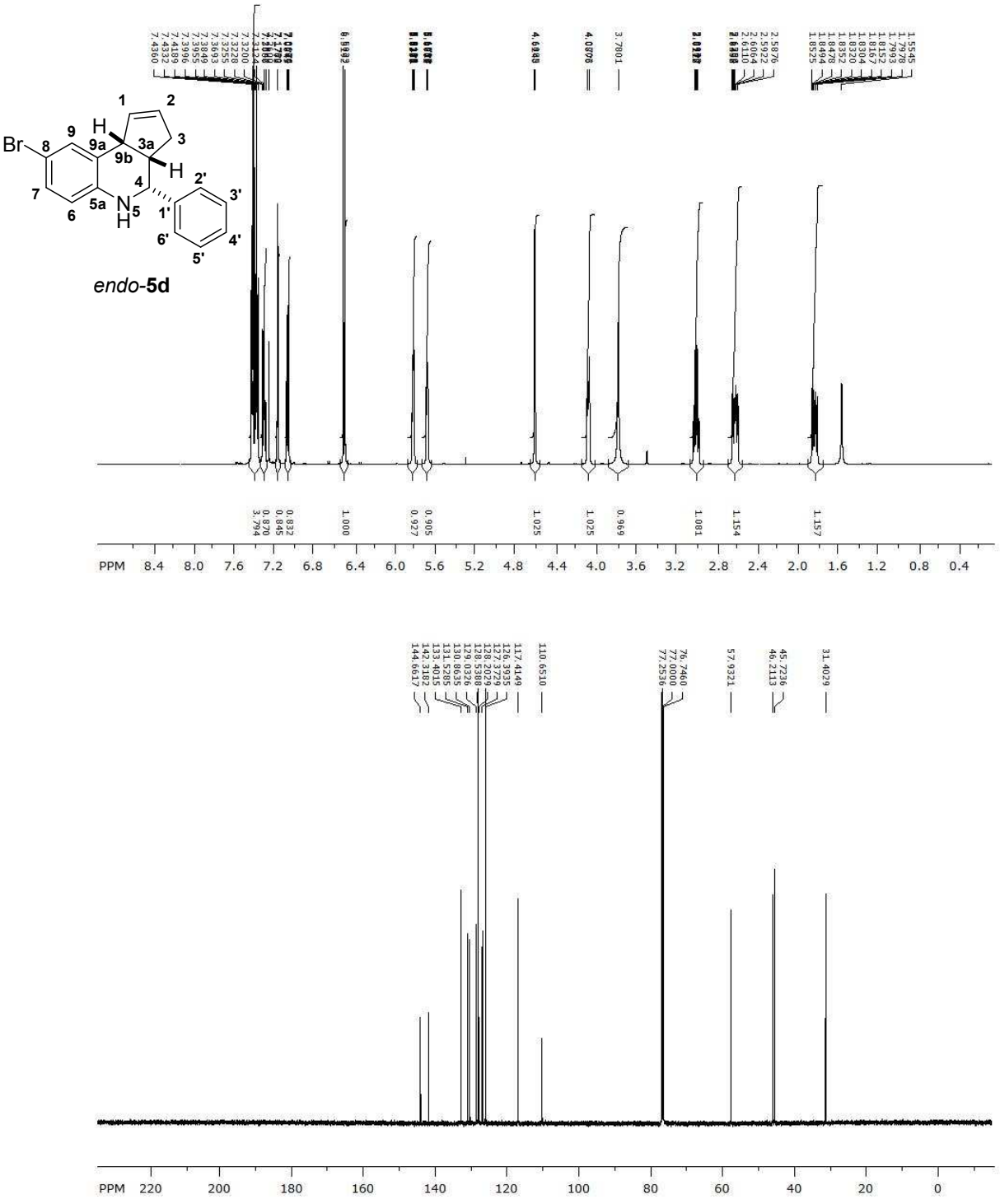

Figure 5. ^{1}H (500 MHz) and ^{13}C (125 MHz) NMR spectra of *endo*-**5d** in $CDCl_3$.

(3a*SR*,4*SR*,9b*RS*)-8-Bromo-4-phenyl-3a,4,5,9b-tetrahydro-3*H*-cyclopenta[*c*]quinoline (*exo*-**5d**)

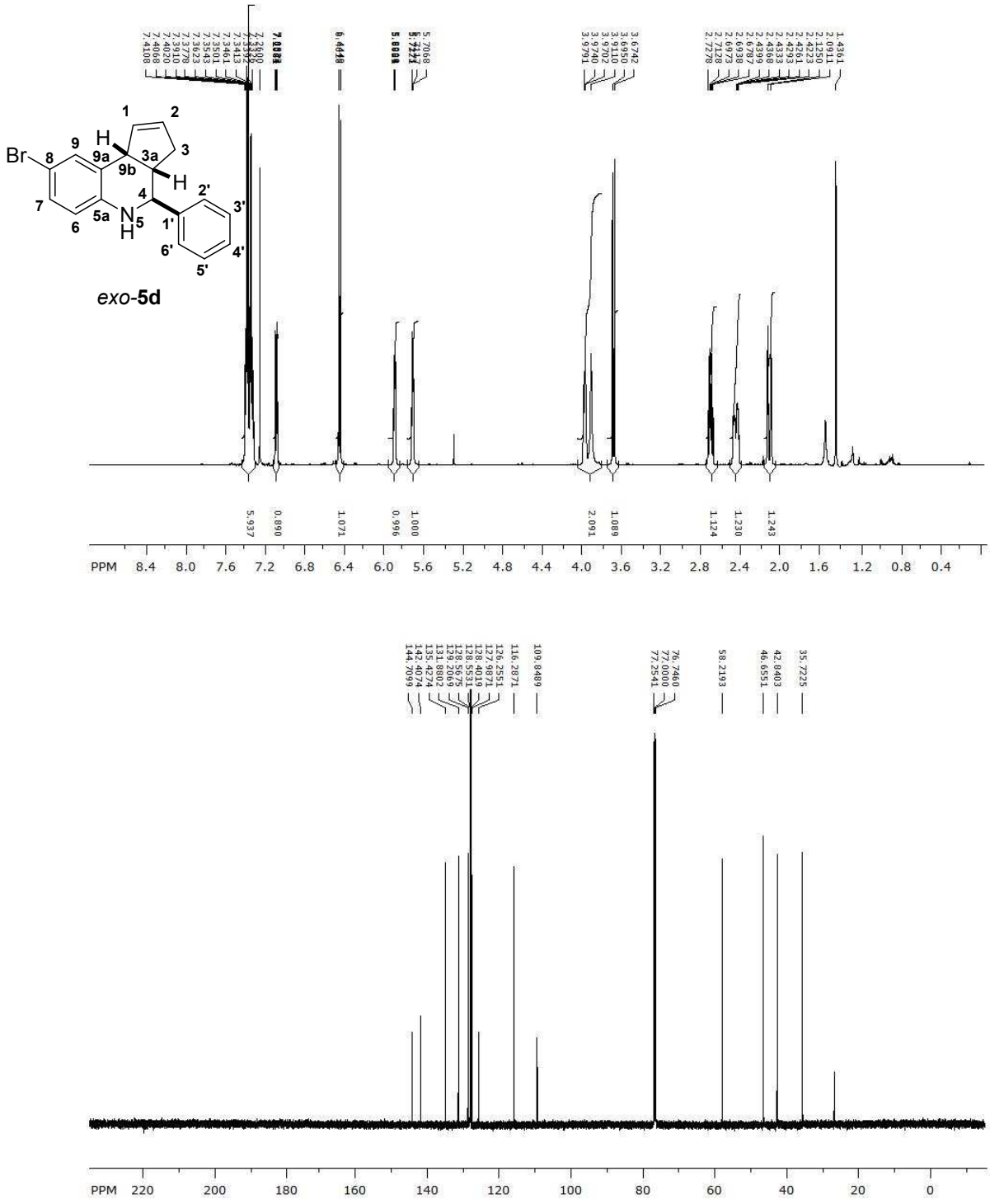

Figure 6. ^{1}H (500 MHz) and ^{13}C (125 MHz) NMR spectra of *exo*-**5d** in $CDCl_3$.

(3a*SR*,4*RS*,9b*RS*)-4-Phenyl-3a,4,5,9b-tetrahydro-3*H*-cyclopenta[*c*]quinoline-8-carbonitrile (*endo*-**5e**)

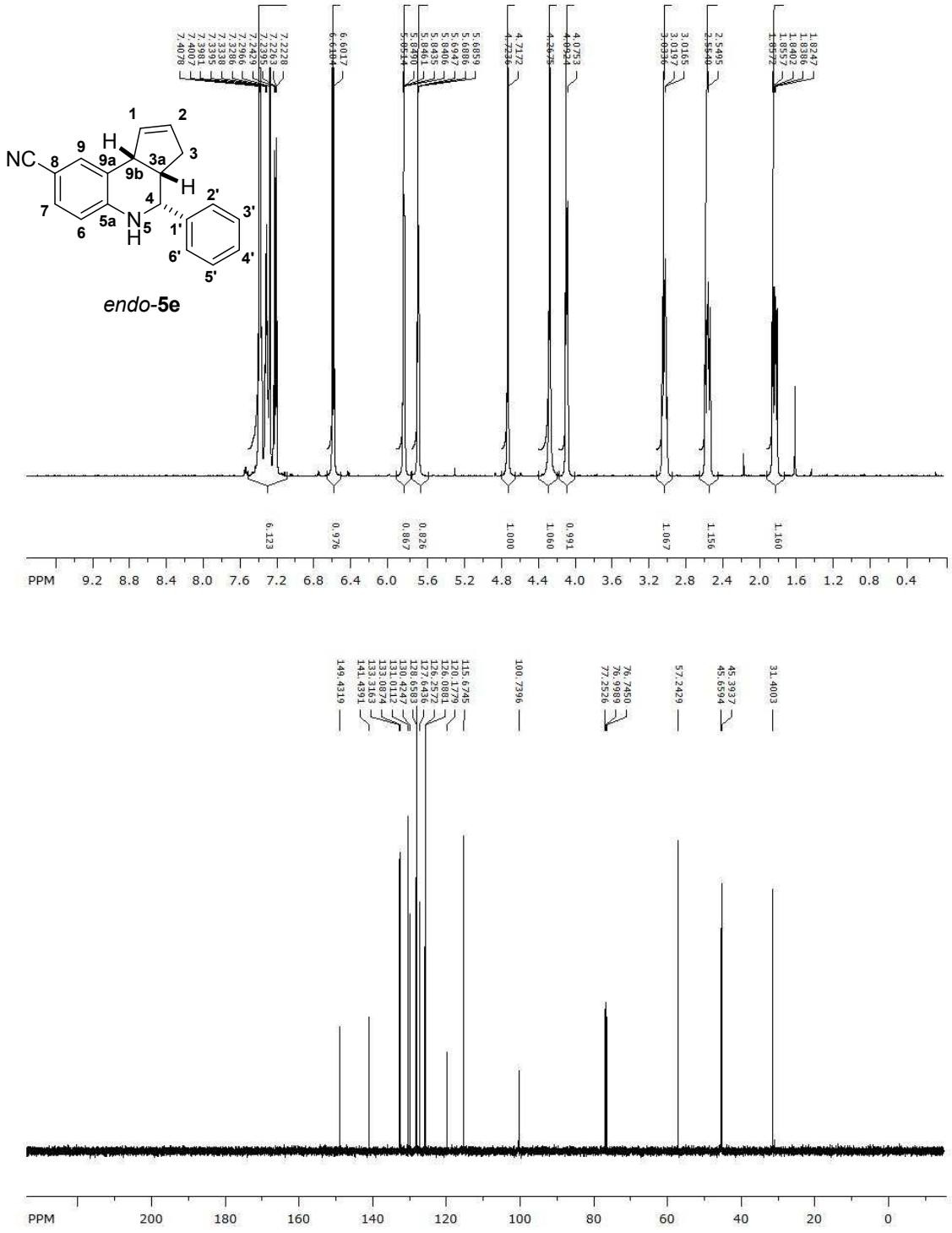

Figure 7. ^{1}H (500 MHz) and ^{13}C (125 MHz) NMR spectra of *endo*-**5e** in $CDCl_3$.

(3a*SR*,4*RS*,9b*RS*)-8-Methoxy-4-phenyl-3a,4,5,9b-tetrahydro-3*H*-cyclopenta[*c*]quinoline (*endo*-**5f**)

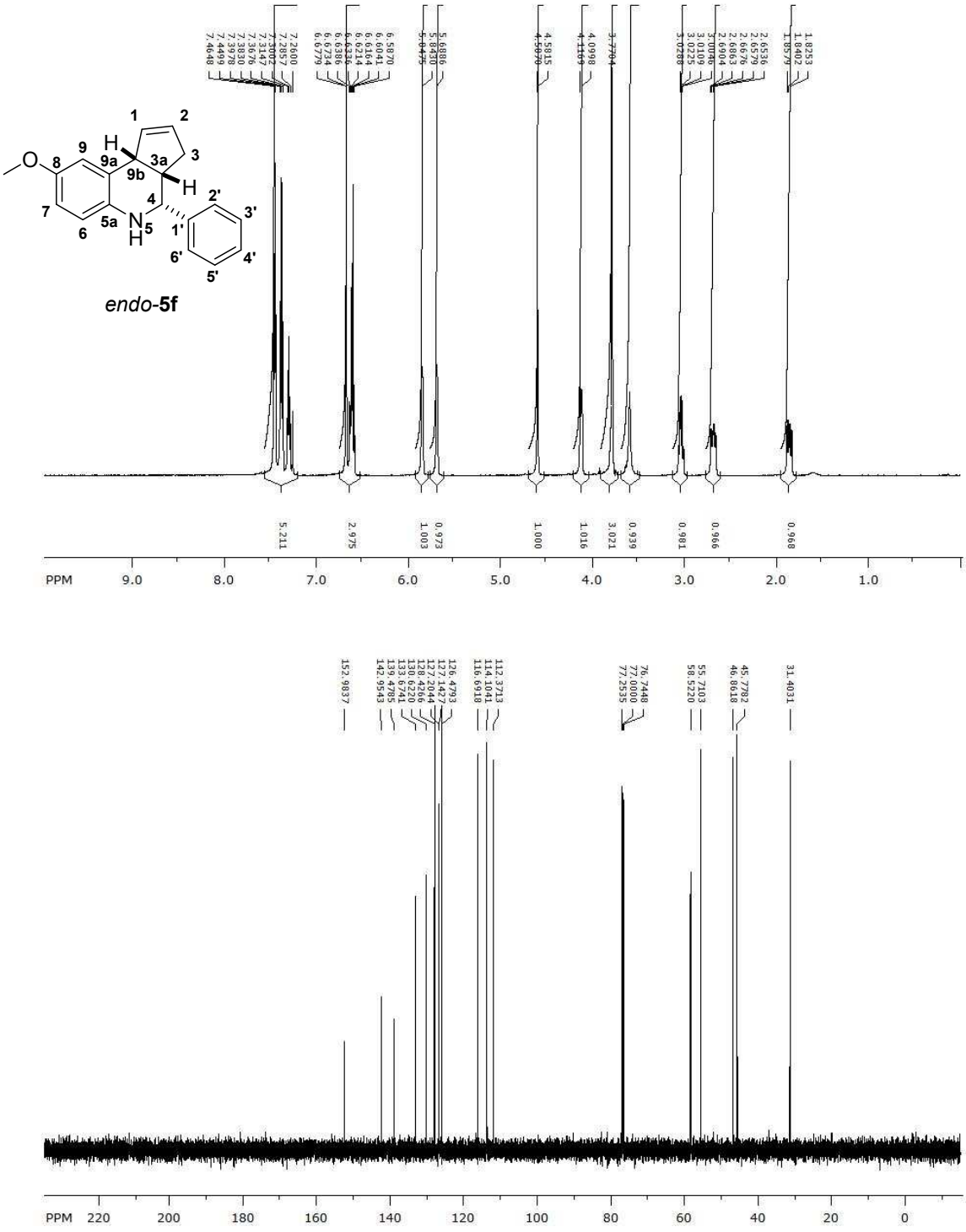

Figure 8. ^{1}H (500 MHz) and ^{13}C (125 MHz) NMR spectra of *endo*-**5f** in $CDCl_3$.

(3a*SR*,4*RS*,9b*RS*)-8-Methyl-4-phenyl-3a,4,5,9b-tetrahydro-3*H*-cyclopenta[*c*]quinoline (*endo*-**5g**)

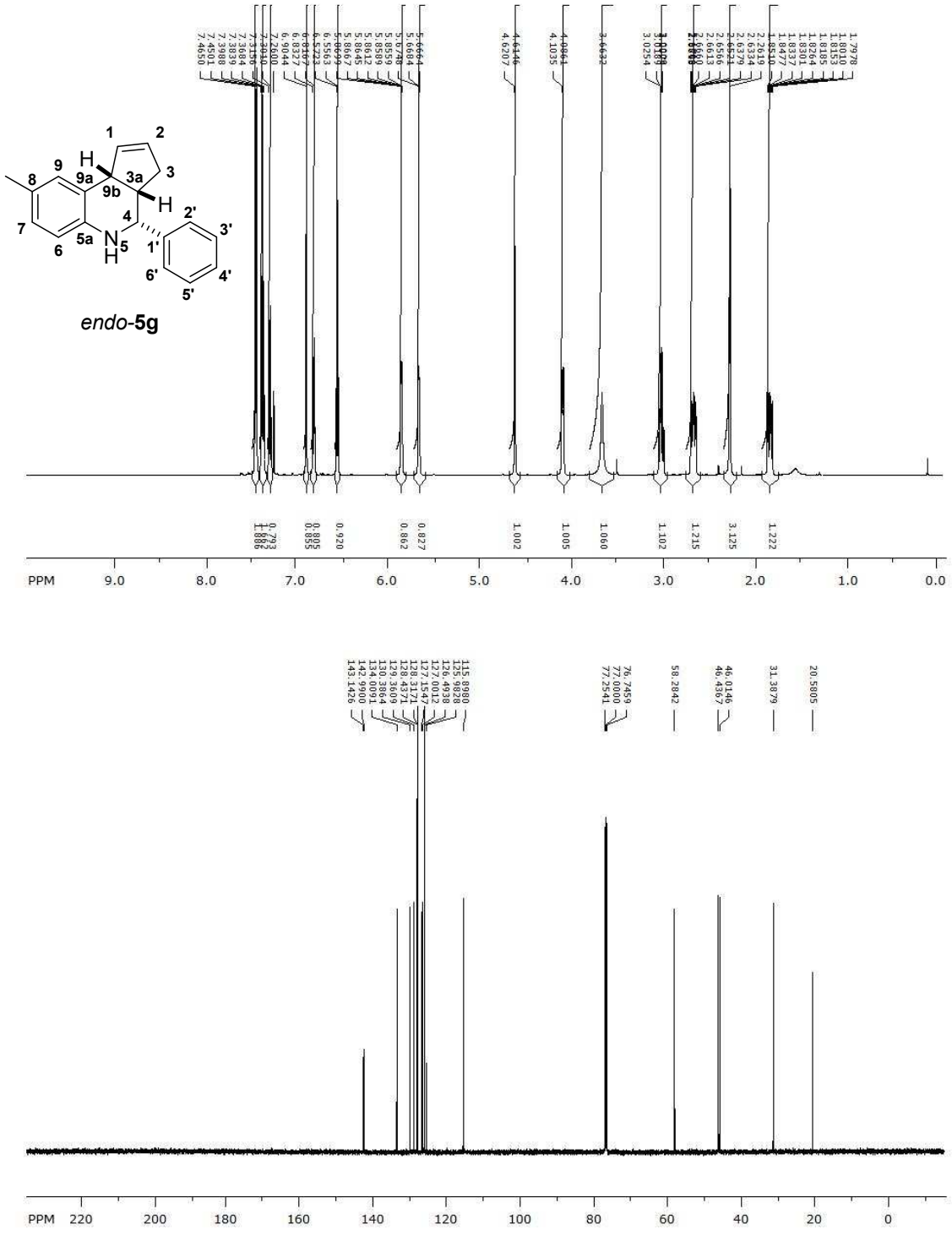

Figure 9. ^{1}H (500 MHz) and ^{13}C (125 MHz) NMR spectra of *endo*-**5g** in $CDCl_3$.

(3a*SR*,4*RS*,9b*RS*)-4-(4-Fluorophenyl)-3a,4,5,9b-tetrahydro-3*H*-cyclopenta[*c*]quinoline (*endo*-**5h**)

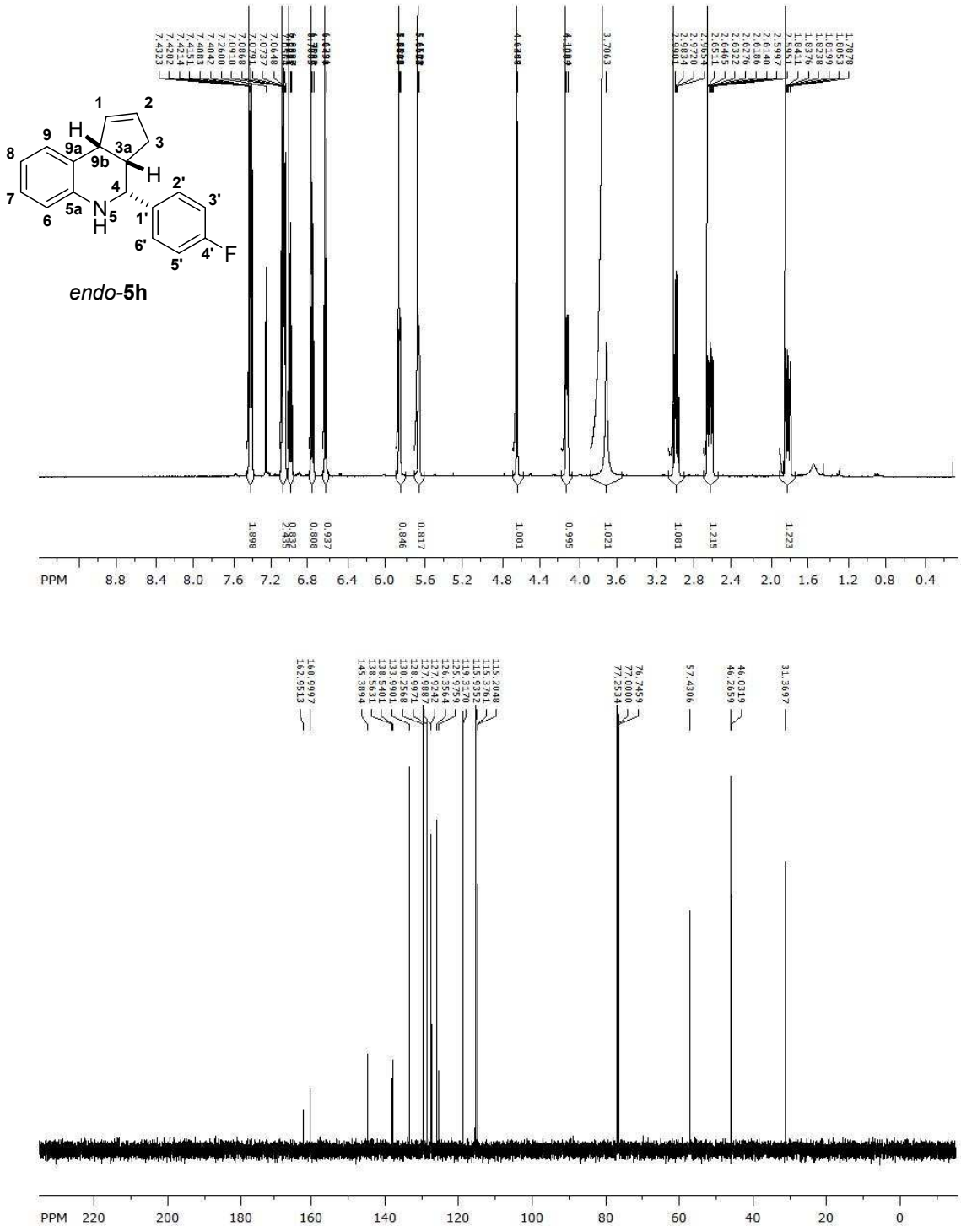

Figure 10. ^{1}H (500 MHz) and ^{13}C (125 MHz) NMR spectra of *endo*-**5h** in $CDCl_3$.

(3a*SR*,4*RS*,9b*RS*)-4-(4-Chlorophenyl)-3a,4,5,9b-tetrahydro-3*H*-cyclopenta[*c*]quinoline (*endo*-**5i**)

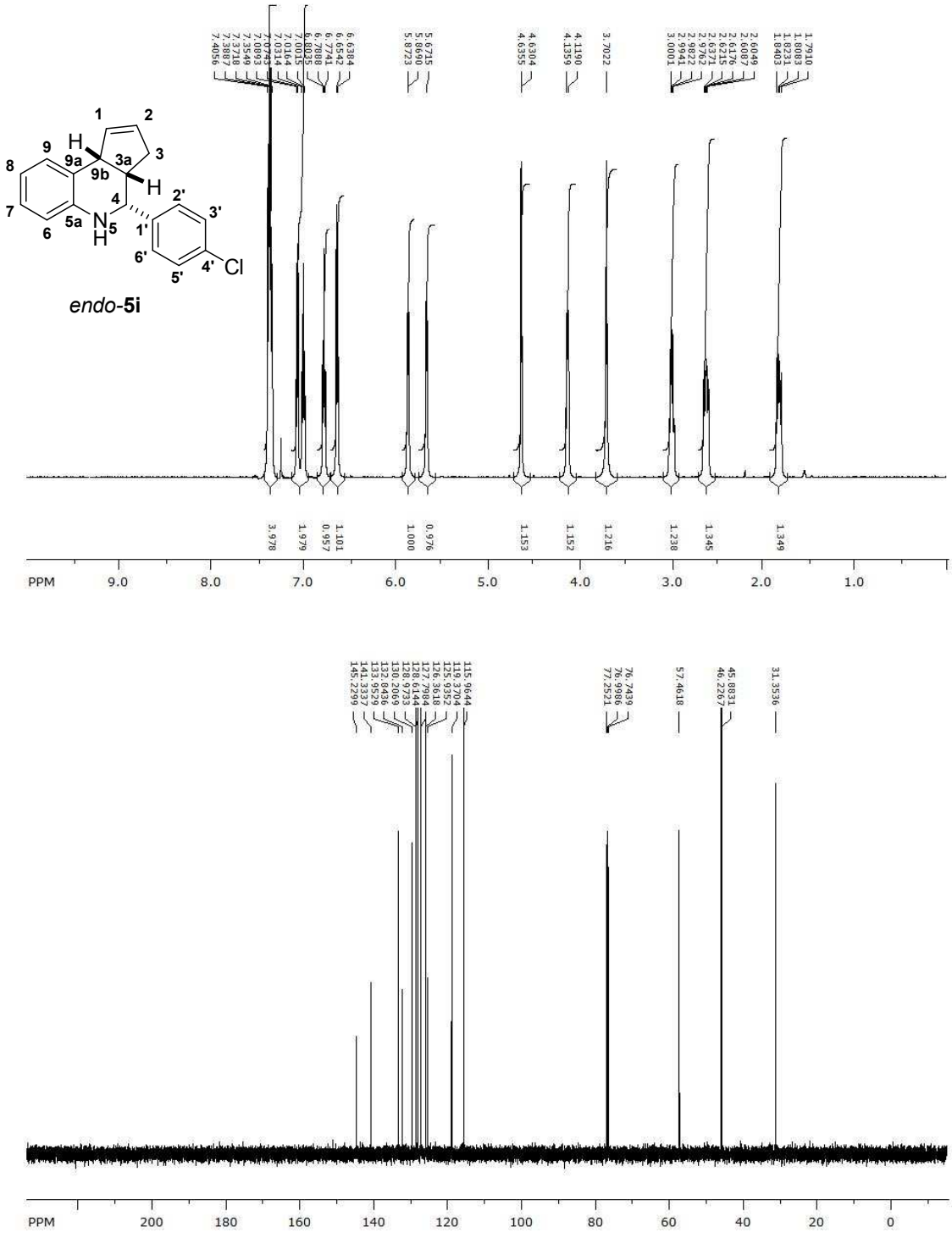

Figure 11. ^{1}H (500 MHz) and ^{13}C (125 MHz) NMR spectra of *endo*-**5i** in $CDCl_3$.

(3a*SR*,4*RS*,9b*RS*)-4-(4-Bromophenyl)-3a,4,5,9b-tetrahydro-3*H*-cyclopenta[*c*]quinoline (*endo*-**5j**)

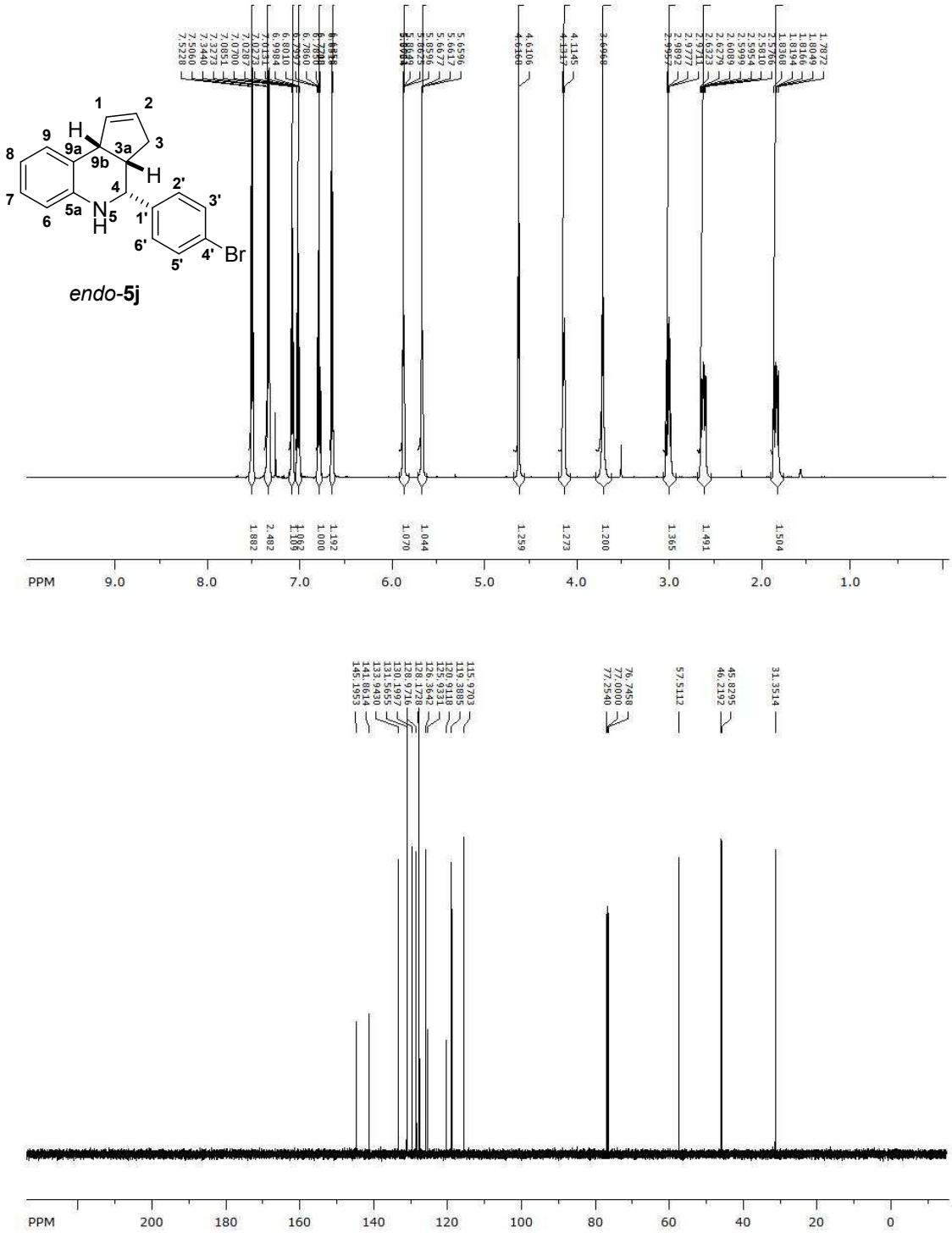

Figure 12. ^{1}H (500 MHz) and ^{13}C (125 MHz) NMR spectra of *endo*-**5j** in $CDCl_3$.

4-((3a*SR*,4*RS*,9b*RS*)-3a,4,5,9b-Tetrahydro-3*H*-cyclopenta[*c*]quinolin-4-yl)benzonitrile (*endo*-**5k**)

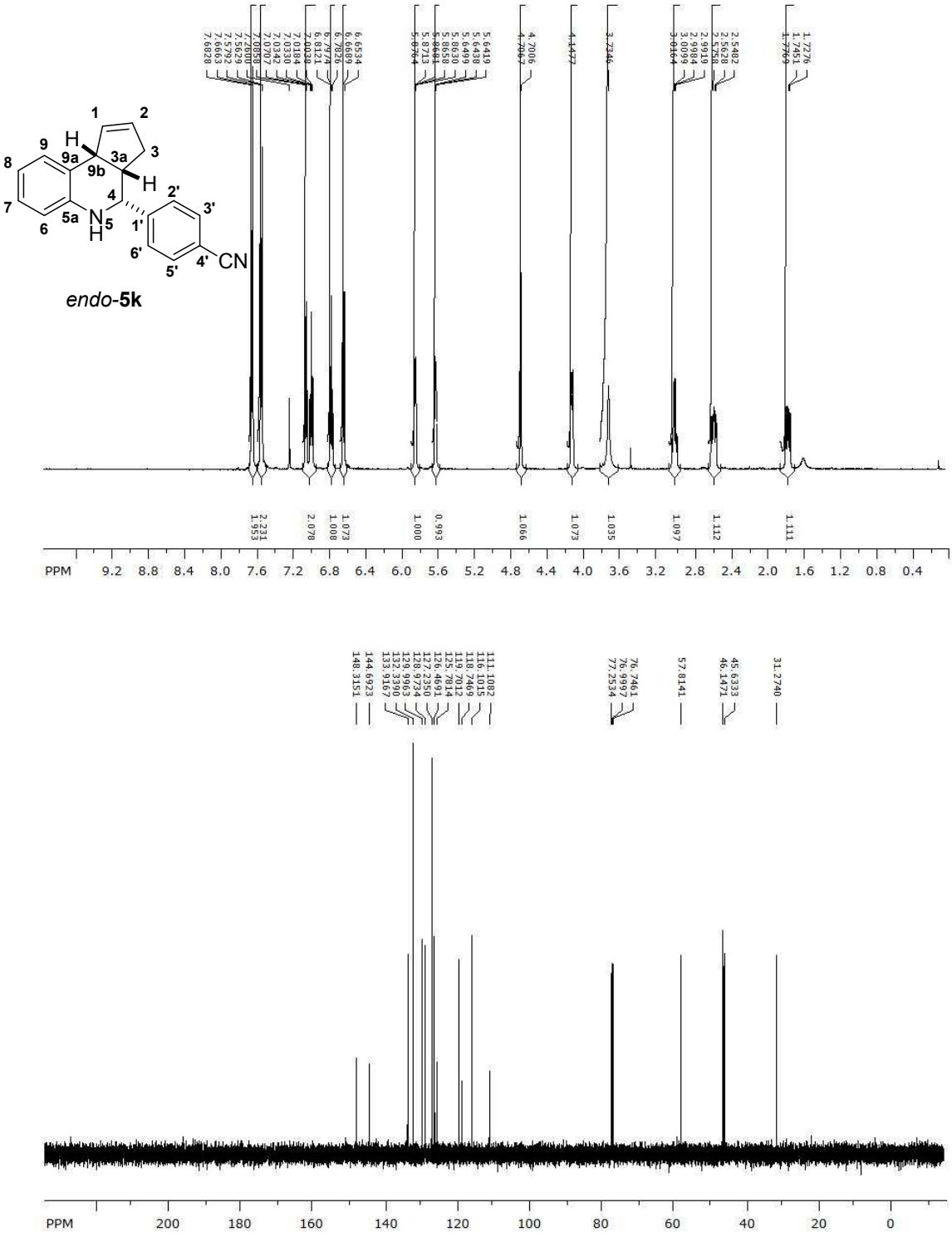

Figure 13. ^{1}H (500 MHz) and ^{13}C (125 MHz) NMR spectra of *endo*-**5k** in $CDCl_3$.

(3a*SR*,4*RS*,9b*RS*)-4-(4-(Trifluoromethyl)phenyl)-3a,4,5,9b-tetrahydro-3*H*-cyclopenta[*c*]quinoline (*endo*-**5l**)

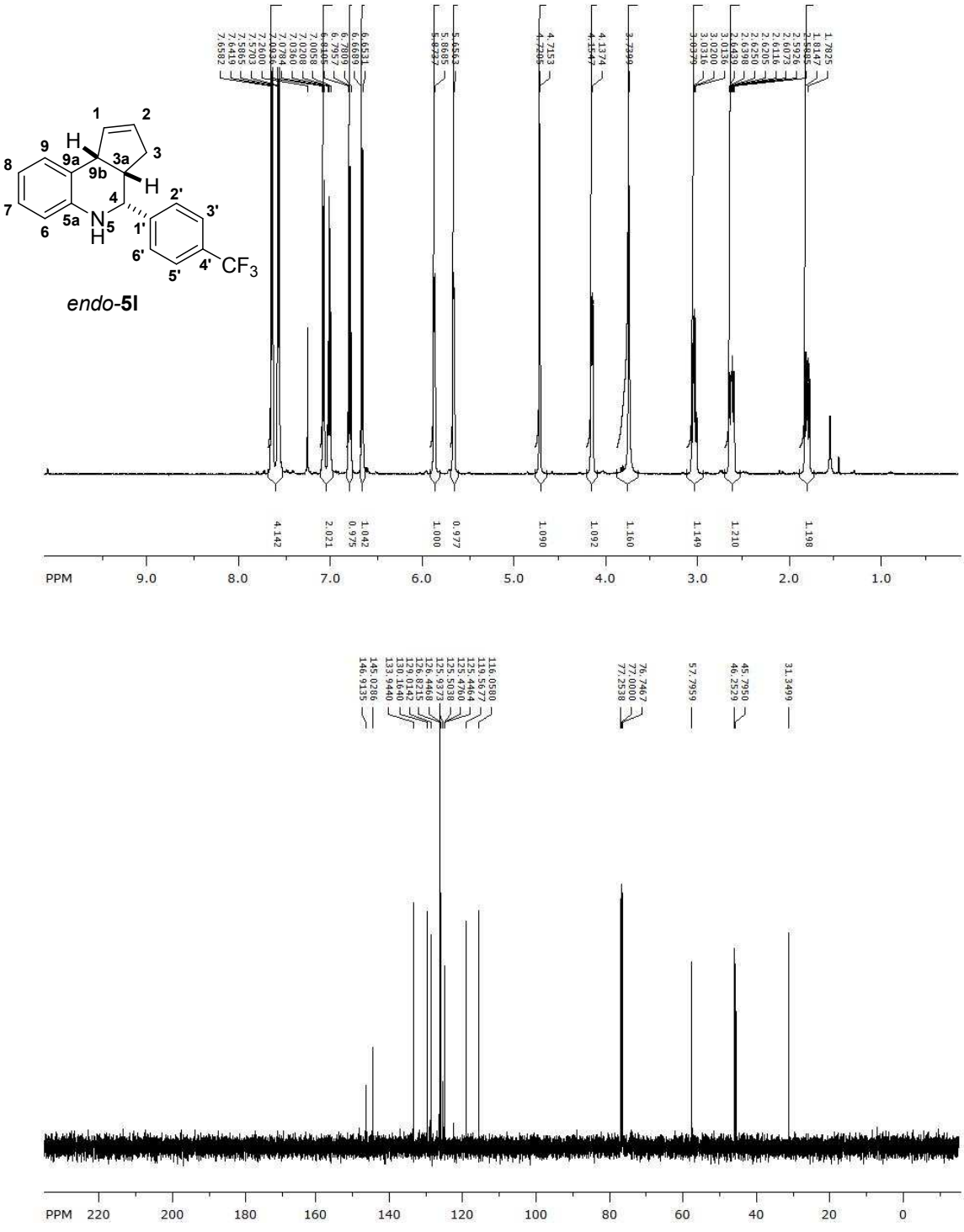

Figure 14. ^{1}H (500 MHz) and ^{13}C (125 MHz) NMR spectra of *endo*-**5l** in $CDCl_3$.

(3a*SR*,4*RS*,9b*RS*)-4-(Methoxyphenyl)-3a,4,5,9b-tetrahydro-3*H*-cyclopenta[*c*]quinoline (*endo*-**5m**)

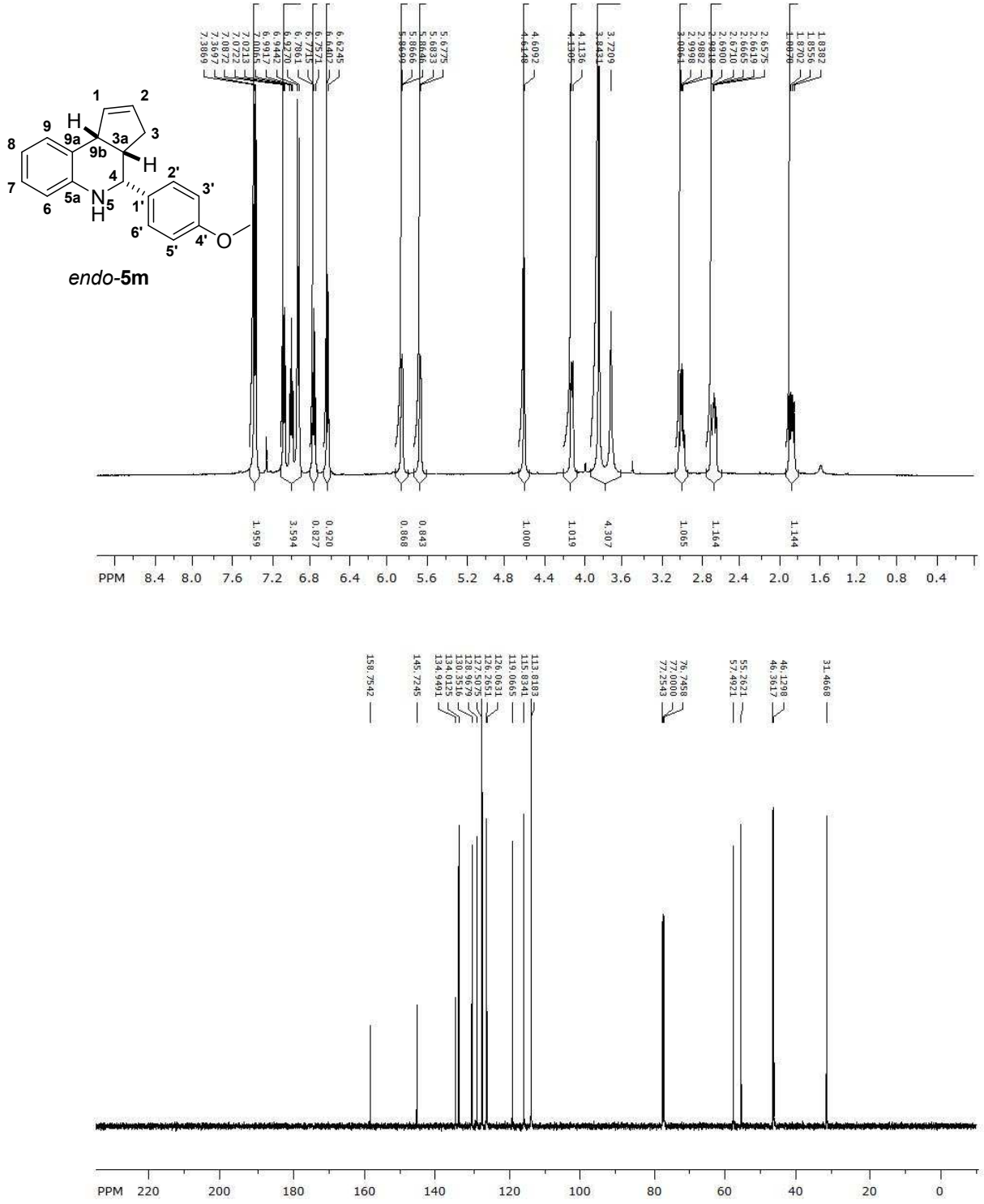

Figure 15. ^{1}H (300 MHz) and ^{13}C (75 MHz) NMR spectra of *endo*-**5m** in $CDCl_3$.

(3a*SR*,4*RS*,9b*RS*)-4-p-Tolyl-3a,4,5,9b-tetrahydro-3*H*-cyclopenta[*c*]quinoline (*endo*-**5n**)

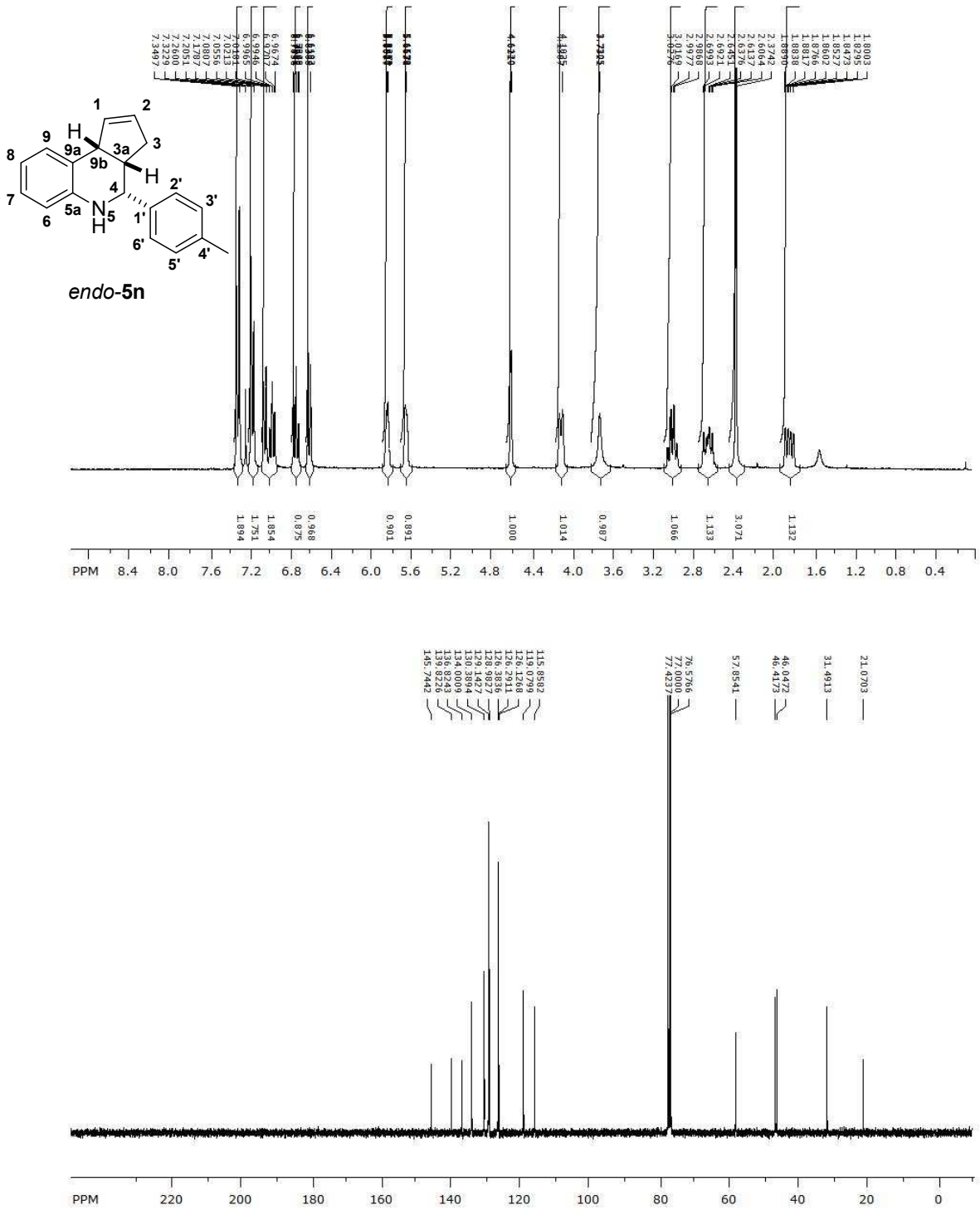

Figure 16. ^{1}H (300 MHz) and ^{13}C (75 MHz) NMR spectra of *endo*-**5n** in $CDCl_3$.

(3a*SR*,4*RS*,9b*RS*)-4-(Pyridin-3-yl)-3a,4,5,9b-tetrahydro-3*H*-cyclopenta[*c*]quinoline (*endo*-**5o**)

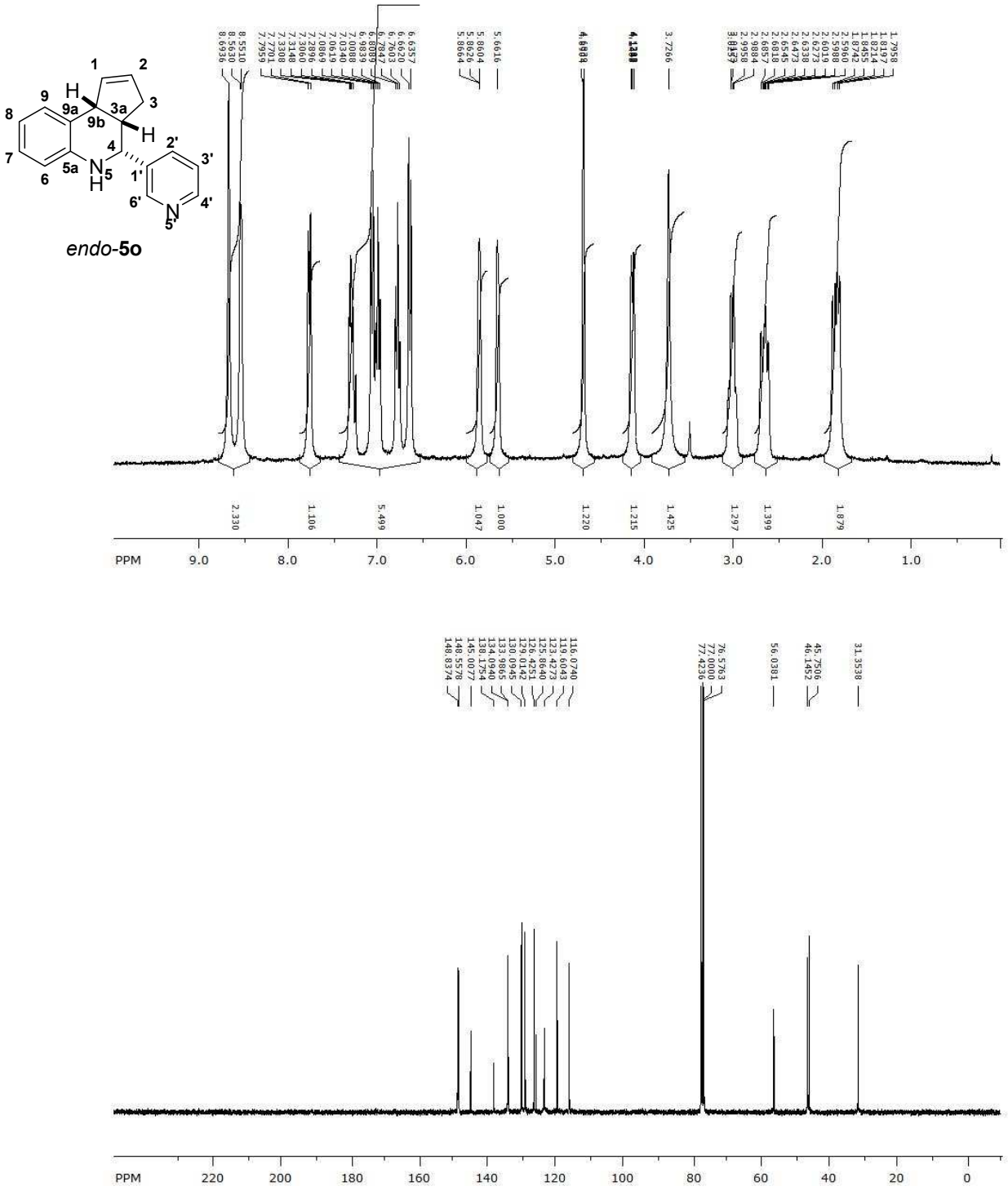

Figure 17. ^{1}H (300 MHz) and ^{13}C (75 MHz) NMR spectra of *endo*-**5o** in $CDCl_3$.

(3a*SR*,4*RS*,9b*RS*)-4-(Furan-2-yl)-3a,4,5,9b-tetrahydro-3*H*-cyclopenta[*c*]quinoline (*endo*-**5p**)

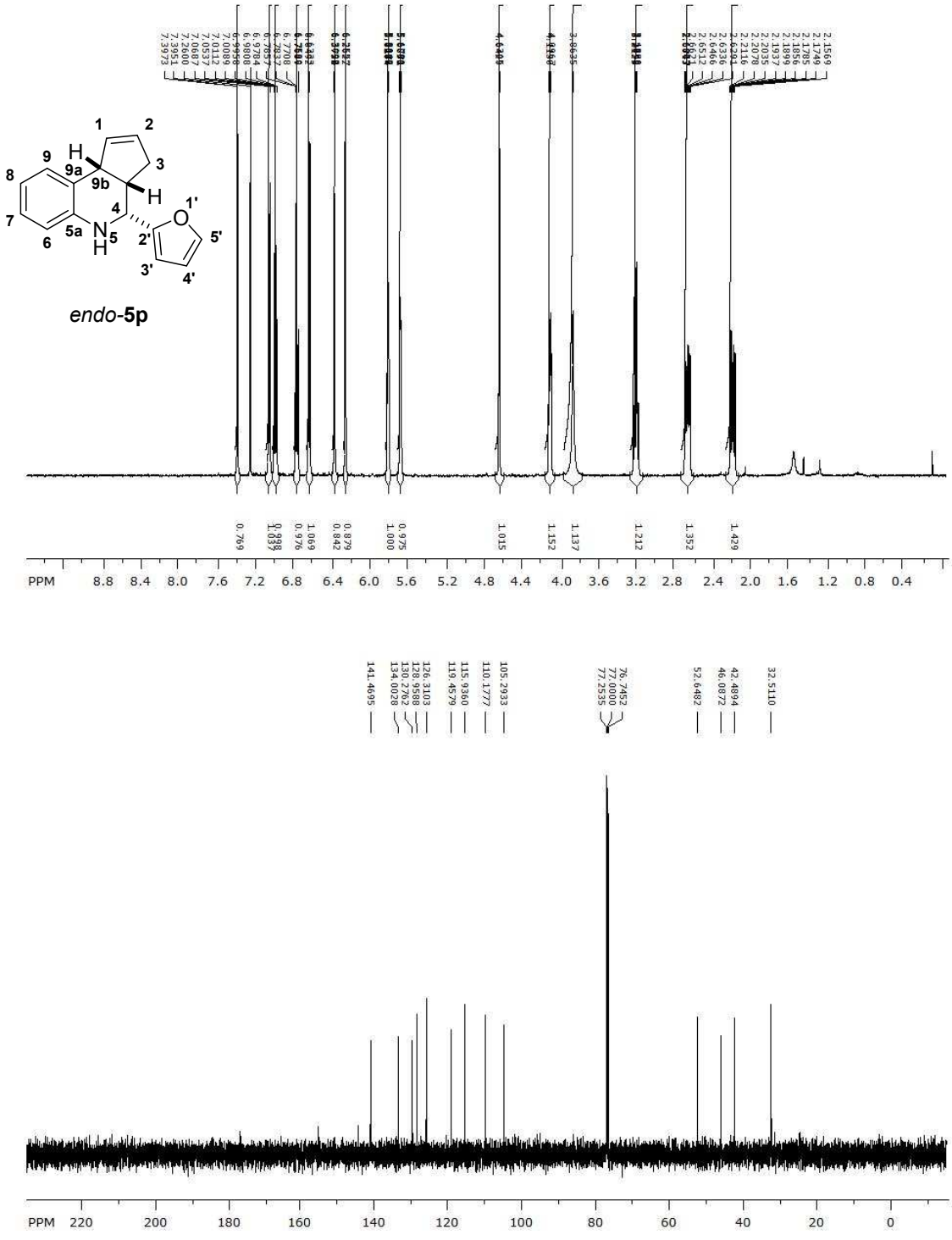

Figure 18. ^{1}H (500 MHz) and ^{13}C (125 MHz) NMR spectra of *endo*-**5p** in $CDCl_3$.

(3a*SR*,4*RS*,9b*RS*)-4-Cyclohexyl-3a,4,5,9b-tetrahydro-3*H*-cyclopenta[*c*]quinoline (*endo*-**5q**)

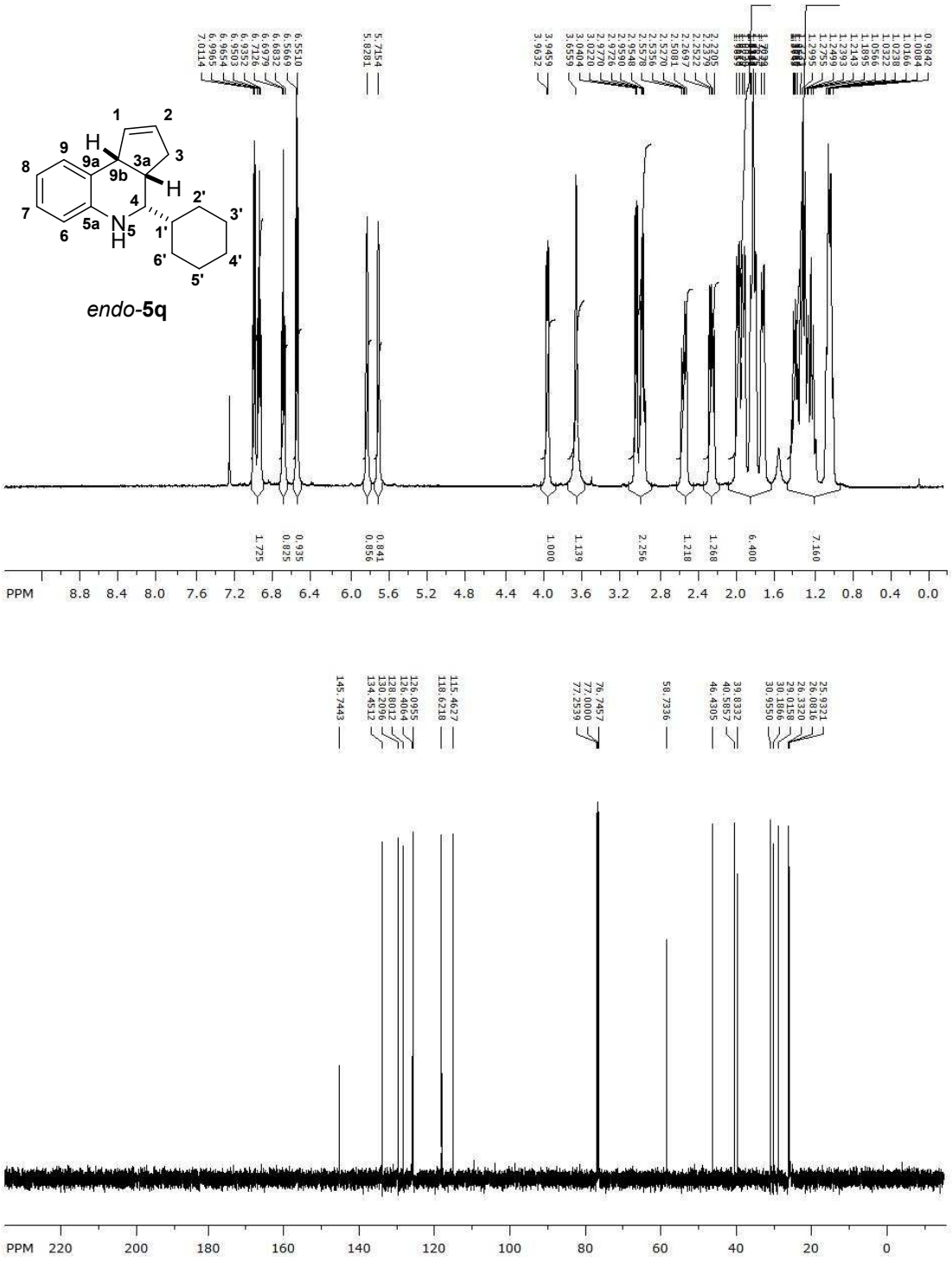

Figure 19. ^{1}H (500 MHz) and ^{13}C (125 MHz) NMR spectra of *endo*-**5q** in $CDCl_3$.

(3a*SR*,4*RS*,9b*RS*)-4-*Tert*-butyl-3a,4,5,9b-tetrahydro-3*H*-cyclopenta[*c*]quinoline (*endo*-**5r**)

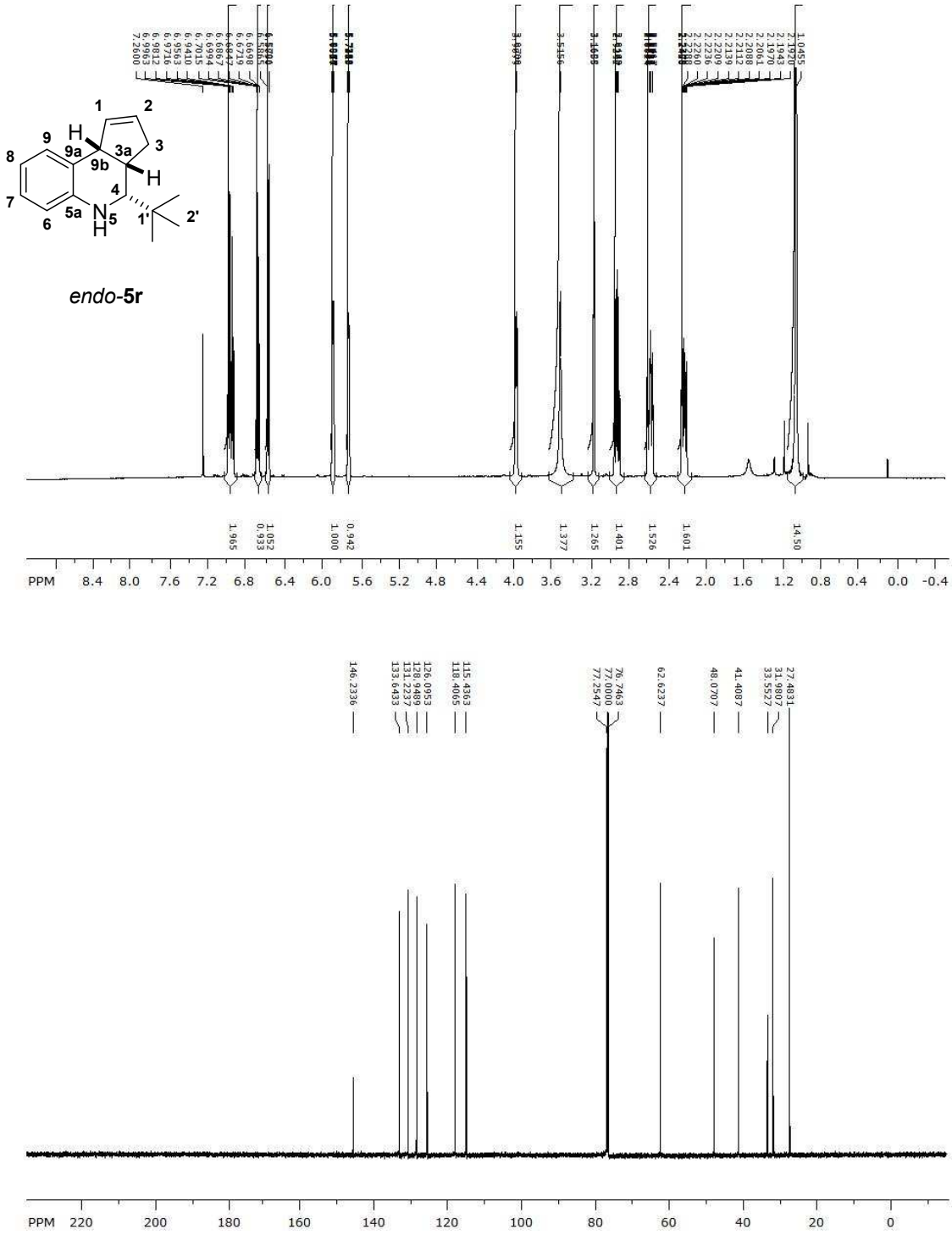

Figure 20. ^{1}H (500 MHz) and ^{13}C (125 MHz) NMR spectra of *endo*-**5r** in $CDCl_3$.

(2*SR*,4*RS*)-2,4-Diphenyl-1,2,3,4-tetrahydroquinoline (**8**)

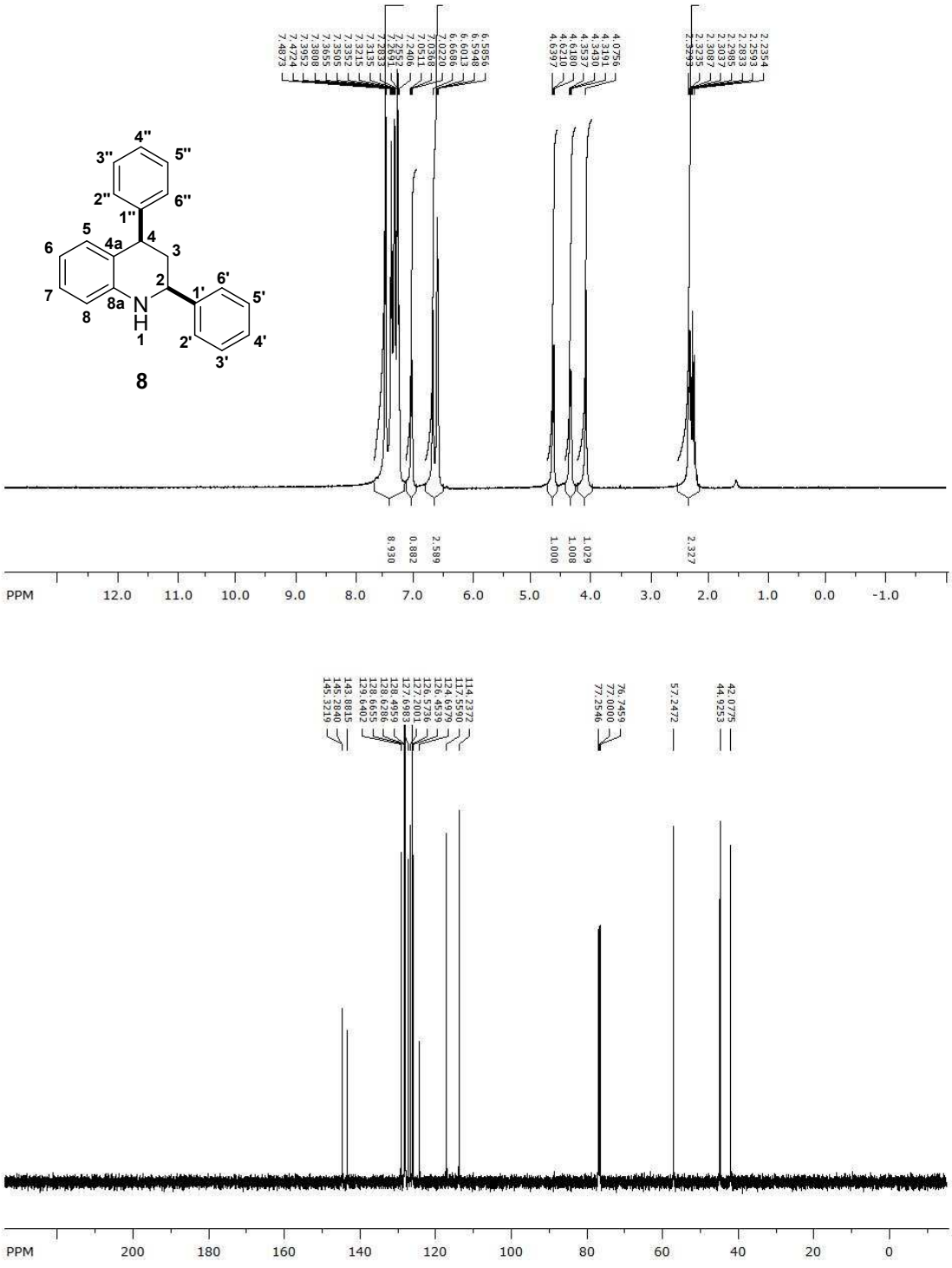

Figure 21. ^{1}H (500 MHz) and ^{13}C (125 MHz) NMR spectra of **8** in $CDCl_3$.

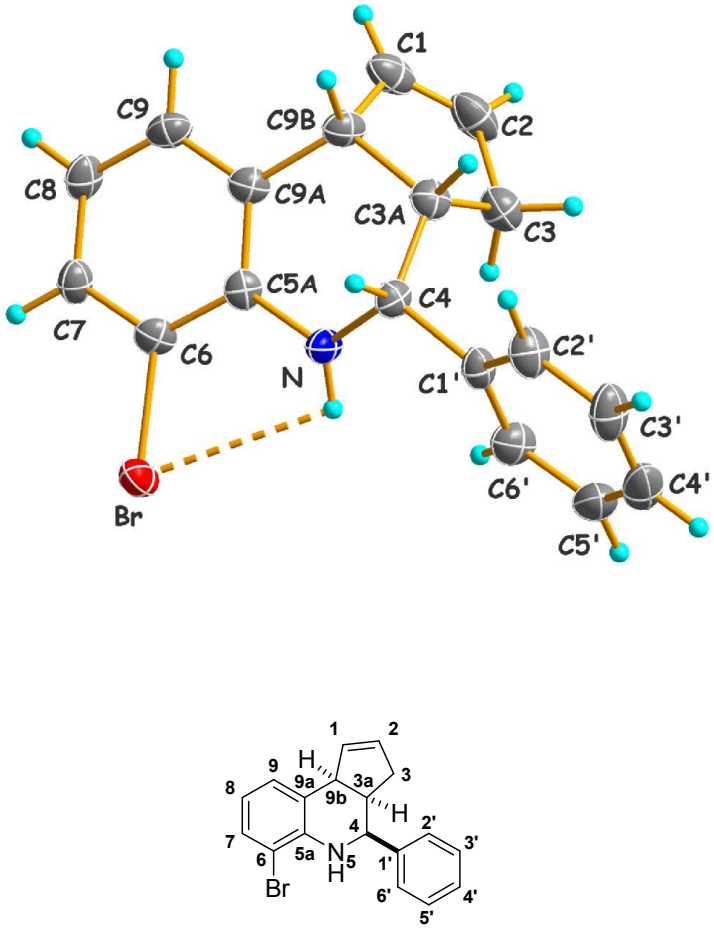

Figure 22. X-ray crystal structure of (3a*SR*,4*RS*,9b*RS*)-6-bromo-4-phenyl-3a,4,5,9b-tetrahydro-*3H*-cyclopenta[*c*]quinoline (**5b**)

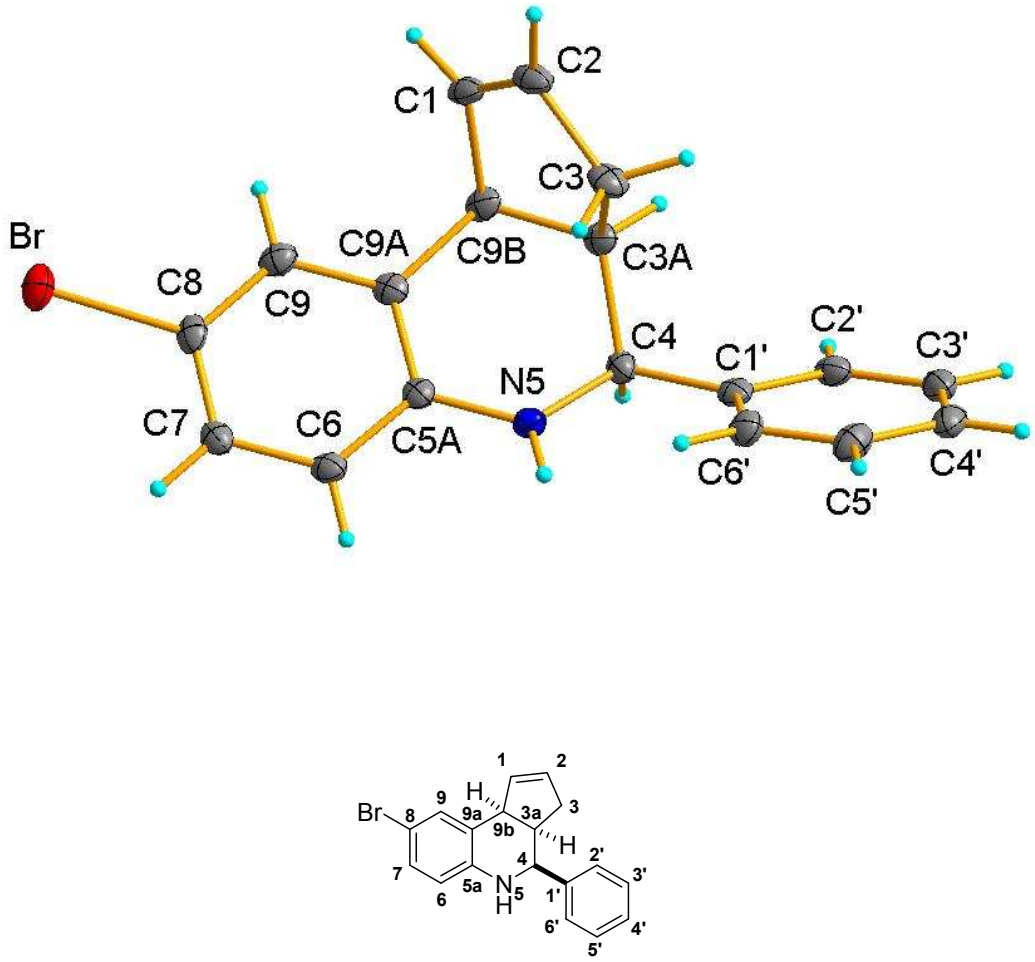

Figure 23. X-ray crystal structure of (3a*SR*,4*RS*,9b*RS*)-8-bromo-4-phenyl-3a,4,5,9b-tetrahydro-*3H*-cyclopenta[*c*]quinoline (**5d**)

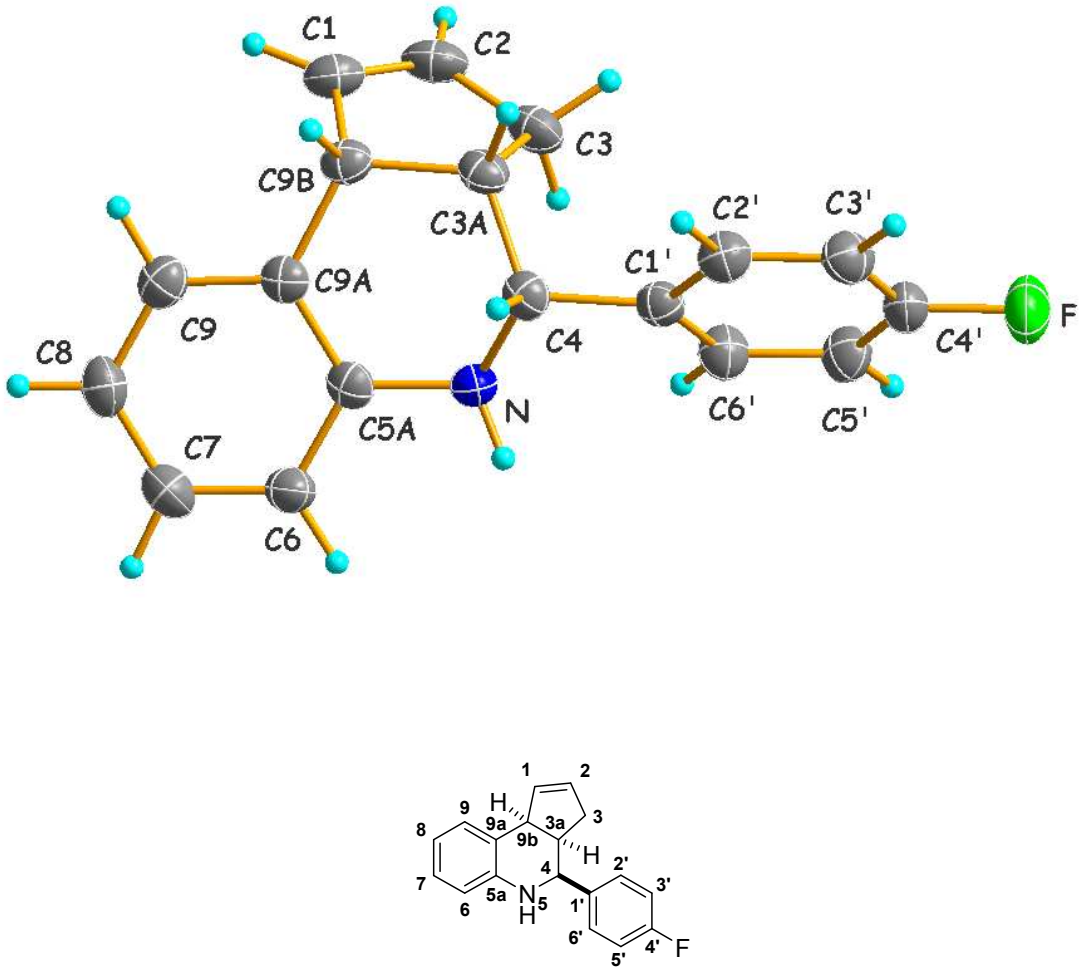

Figure 24. X-ray crystal structure of (3a*SR*,4*RS*,9b*RS*)-4-(4-fluorophenyl)-3a,4,5,9b-tetrahydro-*3H*-cyclopenta[*c*]quinoline (**5h**)