Appendix Two

$^{13}$C NMR Spectra for Chapter Three
2 $^{13}$C NMR spectra for Chapter 3

Figure 2.1. $^{13}$C NMR spectrum of aldehyde 220 in CDCl$_3$ at 75.5 MHz.

Figure 2.2. $^{13}$C NMR spectrum of trans enone 203 in CDCl$_3$ at 75.5 MHz.
Appendix Two

$^{13}$C NMR Spectra for Chapter Three

Figure 2.3. $^{13}$C NMR spectrum of cyclohexanone 226 in CDCl$_3$ at 75.5 MHz.

Figure 2.4. $^{13}$C NMR spectrum of alkyne 236 in CDCl$_3$ at 75.5 MHz.
Figure 2.5. $^{13}$C NMR spectrum of addition product 239 in CDCl$_3$ at 75.5 MHz.

Figure 2.6. $^{13}$C NMR spectrum of ester 253 in CDCl$_3$ at 75.5 MHz.
Figure 2.7. $^{13}$C NMR spectrum of propargylic alcohol 263 in CDCl$_3$ at 75.5 MHz.

Figure 2.8. $^{13}$C NMR spectrum of aldehyde 271 in CDCl$_3$ at 75.5 MHz.
Figure 2.9. $^{13}$C NMR spectrum of cis enone 278 in CDCl$_3$ at 75.5 MHz.

Figure 2.10. $^{13}$C NMR spectrum of cyclohexanone 279 in CDCl$_3$ at 75.5 MHz.
Figure 2.11. $^{13}$C NMR spectrum of cyclohexenone 280 in C$_6$D$_6$ at 75.5 MHz.