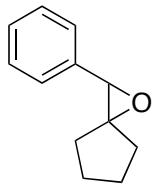
Chem 332
Spring 2011
Homework #11
Due 10 a.m. Monday, May 9th

Name_____

1. (15 points) Deduce the structure of A, and draw an arrow-pushing mechanism for its formation.



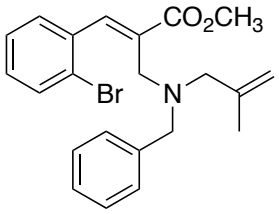
H^+ → **A** $C_{12}H_{14}O$

IR: 1712 cm^{-1}

^{1}H NMR:	**^{13}C NMR:**
7.26 t, J = 7.5 Hz, 2H	210.1, s
7.18 t, J = 7.5 Hz, 1H	138.8, s
7.08 d, J = 7.5Hz, 2H	128.5, d (2)
3.55 dd, J = 12.0, 5.4 Hz, 1H	128.3, d
2.48-2.33 m, 2H	126.8, d (2)
2.24-2.17 m, 1H	57.3, d
2.12-2.00 m, 1H	42.1, t
1.99-1.91 m, 2H	35.0, t
1.84-1.79 m, 2H	27.8, t
	25.2, t

2. (15 points) Deduce the structure of B, and draw an arrow-pushing mechanism for its formation.

IR: 1682, 1620, 1167, 1144 cm^{-1}



Bu_3SnH, AIBN, △ → **B** $C_{22}H_{25}NO_2$

^{1}H NMR:	**^{13}C NMR:**
0.54 s, 3H	25.5, q
0.99 s, 3H	28.1, q
2.36 d, J = 12.3 Hz,1H	31.5, s
2.85 d, J = 12.3 Hz,1H	47.8, d
3.35 s,1H	50.5, t
3.56 s, 3H	52.4, q
4.37 d, J = 15.3 Hz, 1H	60.1, t
4.44 d, J = 15.3 Hz, 1H	97.5, d
7.02 d, J = 6.6 Hz, 2H	125.9, d (2)
7.10–7.41 m, 8H	127.5, d (2)
7.77 s, 1H	127.9, d
	128.0, d
	128.7, d(2)
	128.8, d (2)
	136.6, s
	144.3, s
	144.6, s
	168.9, s