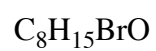


Chem 333
Fall 2012
Exam #2
October 22, 2012

Name _____

1. (20 points)



^{13}C NMR:

208.2, s

51.2, d

43.2, t

40.7, t

29.8, q

27.1, t

26.3, q

22.9, t

1H NMR:

4.13, tq, $J=1.5, 6.3$ Hz, 1H

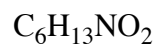
2.45, t, $J=7.3$ Hz, 2H

2.14, s, 3H

1.70, d, $J=6.3$ Hz, 3H

1.3-1.8, m, 6H

2. (40 points)



1H NMR:

4.13, m, 1H

4.00, dd, J=6.6, 8.1 Hz, 1H

3.67, dd, J=6.3, 8.1 Hz, 1H

2.85, dd, J=4.2, 13.2 Hz, 1H

2.78, dd, J=6.0, 13.2 Hz, 1H

1.40, s, 3H

1.34, s, 3H

1.31, bs, 2H (exchanges)

^{13}C NMR:

109.1, s

77.4, d

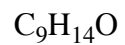
66.9, t

44.7, t

26.8, q

25.3, q

3. (40 points)



IR: 1715, 1640, 915 cm^{-1}

^{13}C NMR:

211.2, s

135.4, d

116.5, t

47.4, t

41.1, t

40.5, d

38.5, t

30.6, t

24.9, t

1H NMR:

1.2-2.3, m, 11H

4.99, d, $J = 10.9$ Hz, 1H

5.02, d, $J = 15.5$ Hz, 1H

5.61, ddt, $J = 10.9, 15.5, 7.6$ Hz, 1H