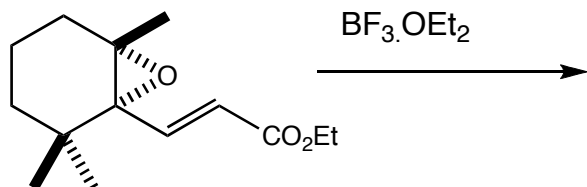


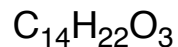
1. (15 points) Deduce the structure of **A**, and draw an arrow-pushing mechanism for its formation.



IR: 1725, 1689, 1631 cm^{-1}

MS: 238 (M^+), 193, 169, 128, 111

A



^1H NMR:

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

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

4.25, q, $J = 6.9$ Hz, 2H

2.4, m, 1H

1.6-1.8, m, 3H

1.4 - 1.6, m, 2H

1.34, t, $J = 6.9$ Hz, 3H

1.20, s, 3H

1.10, s, 3H

0.86, s, 3H

^{13}C NMR:

202.8, s

165.5, s

137.6, d

130.4, d

61.1, t

59.2, s

44.4, s

40.6, t

34.4, t

25.5, t

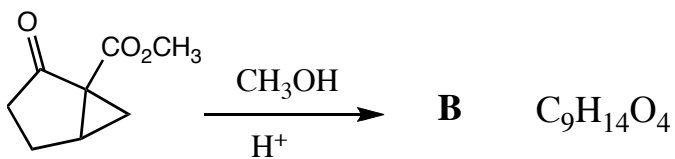
24.7, q

20.3, q

19.8, q

14.3, q

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



IR: 2953, 2881, 1757, 1729, 1437, 1114 cm^{-1}

^1H NMR:

3.69, s, 3H

3.38, m, 2H

3.27, s, 3H

3.05, d, $J=10.0$ Hz, 1H

2.81, m, 1H

2.35, m, 1H

2.27, m, 1H

2.09, m, 1H

1.65, m, 1H

^{13}C NMR:

211.7, s

169.8, s

74.5, t

59.4, d

58.5, q

52.8, q

41.5, d

38.0, t

24.2, t