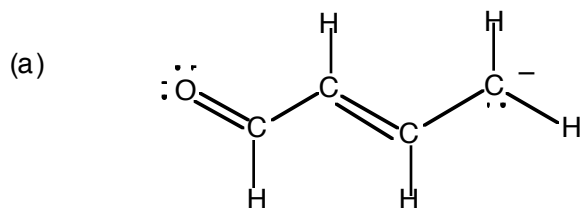
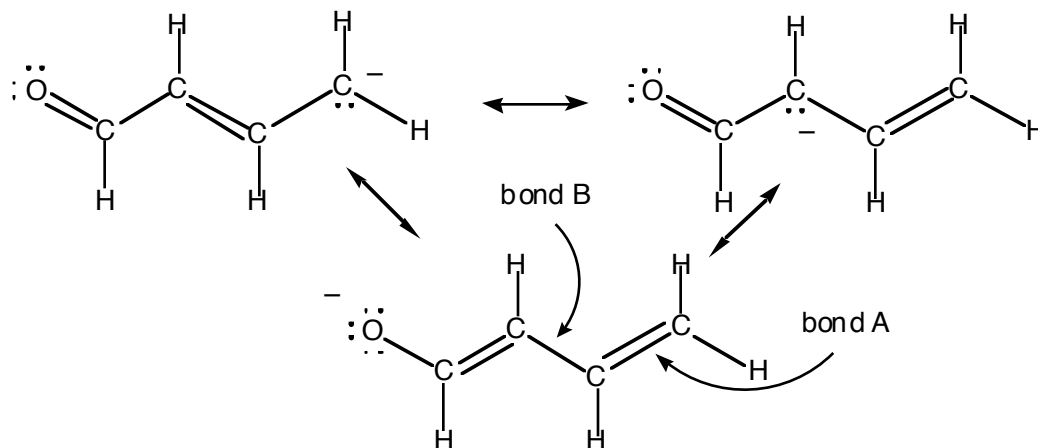


Answers to Problem 12, Chemistry 301 X, 2006



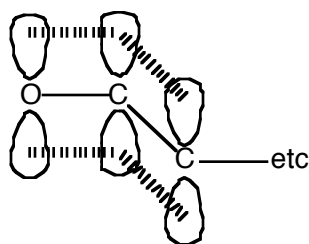
(b) Here are the three best:



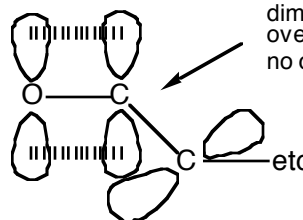
(c) The bottom one is the best because the relatively electronegative oxygen bears the negative charge.

(d) It's planar, all right. For charge to be dispersed, a VERY good thing in energy terms, orbitals must overlap - share space. For this to happen optimally, the system must be planar.

planar- orbitals overlap optimally, and charge can be delocalized



non-planar means diminished, or zero overlap here - no charge delocalization



NEW QUESTION: Why does it cost much much more in energy terms to rotate around bond A (see diagram in answer to part b) than around bond B?