Objectives

After completing this section, you should be able to

1. write an equation to represent the oxidative cleavage of an alkyne with potassium permanganate or ozone.
2. identify the products that result from the oxidative cleavage of a given alkyne.
3. identify the reagents needed to carry out the oxidative cleavage of an alkyne.
4. use the results of an oxidative cleavage to determine the identity of an alkyne of unknown structure.

Study Notes

Compare the oxidative cleavage of alkynes with the oxidative cleavage of alkenes, discussed in Section 8.8.

Alkynes, much like alkene, can be cleaved with as powerful oxidizing agents such as ozone or KMnO4. Because triple bonds are generally less reactive than double bonds the yields of the is reaction are sometimes low.

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