**supplement #13: *Reactions to Make Alkenes: The Complete Laundry List***

***Chemistry 3514 Organic Chemistry I***

860-900 o C steam

1. Industrial route: steam cracking C2-C8 alkanes ethene (p. 181)

B. Laboratory routes to alkenes. Four of the six are mentioned in your text (see pg. references)

1. **DEHYDROHALOGENATION:** halides to alkenes (base driven E2) (pp. 327-330)



2. **DEHYDROHALOGENATION**: `vicinal’ dihalides to alkenes (extension of reaction 1)



3. **DEHYDRATION**: alcohols to alkenes (acid-catalyzed E1, pp 515-516)

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4.`**cis’-HYDROGENATION OF ALKYNES**: alkyne to alkene w/black magic foo foo dust (p. 263)



5.`**trans’-HYDROGENATION OF ALKYNES** : alkyne to alkene w/blue electron soup (p. 264)

Na

NH

3

H

H

trans addition

or Li

+

6. **DIMERIZATION OF ALKENES**: alkenes to bigger alkenes with conc. sulfuric acid; a carbocation route to bigger molecules)

