

Question#75444 – Chemistry – Organic chemistry

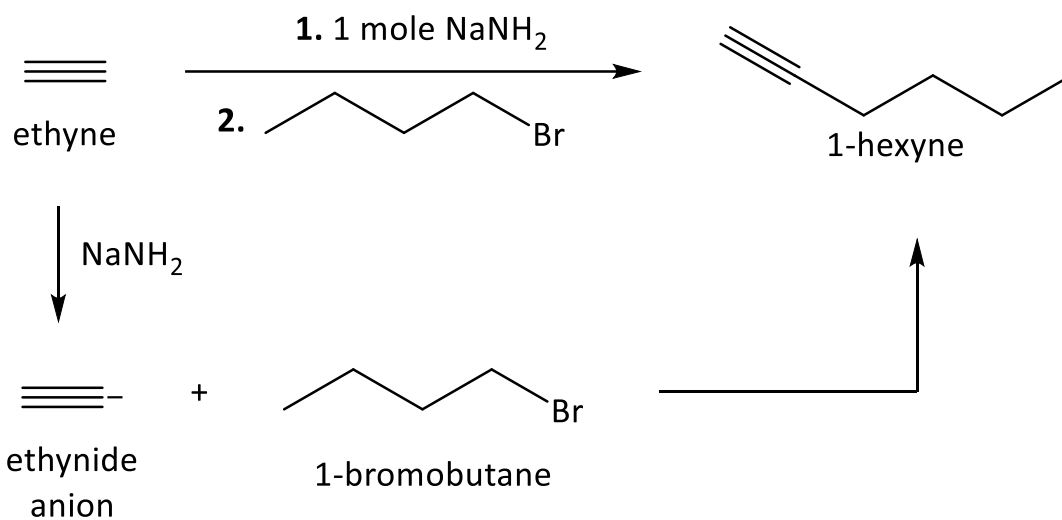
Question:

Prepare 1-hexyne from ethyne. Ethanol from ethyne. 3-hexanone from 3-hexyne.

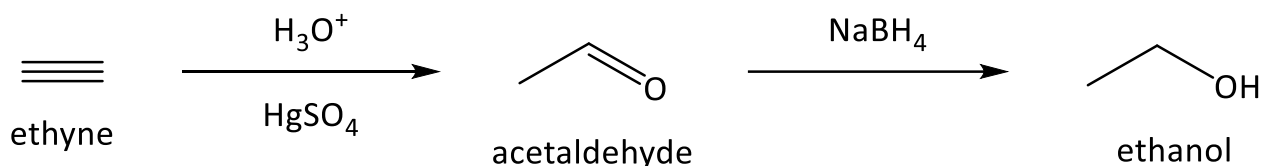
Answer:

1. To prepare 1-hexyne from ethylene we can use the alkylation of terminal alkyne.

The first stage is the reaction between ethyne and only one mole of sodium amide NaNH_2 . The ethynide ion (2 carbon atoms) that is produced on the first stage reacts with 1-bromobutane (4 carbon atoms) on the second stage producing 1-hexyne (4+2=6 carbon atoms).



2. To prepare ethanol from ethyne use hydration of alkyne and reduction reactions.



3. To prepare 3-hexanone from 3-hexyne use hydration of alkyne.

