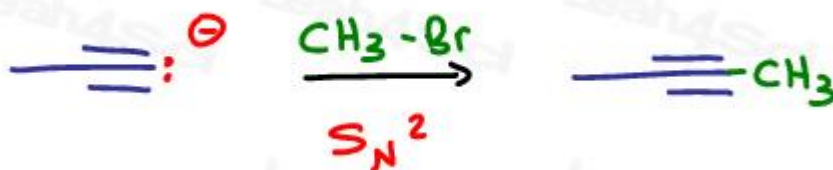


Answer on question#76521

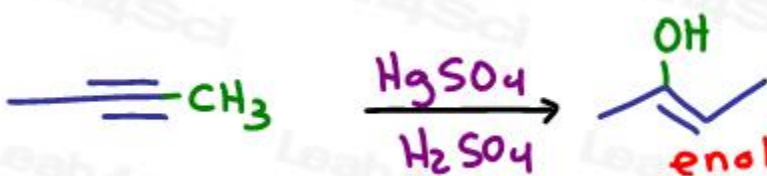
We'll start with an acid/base reaction to deprotonate the terminal alkyne forming a good nucleophile.



We need to elongate the chain by just one carbon. Let's give this methyl group a good leaving group to facilitate a quick SN2 reaction –my 'go-to' is Bromine, but you can also use Chlorine or Iodine.



Now that we have a carbon chain of desired length, let's carry out the acid catalyzed hydration.



But wait, the product is an enol, not a ketone!!

The next step will happen automatically. So while you don't have to show a reagent simply draw 'KET' over the reaction arrow for Keto Enol Tautomerization.



