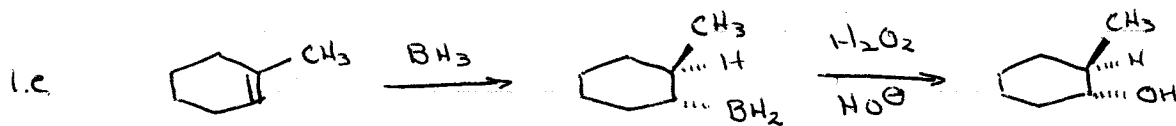
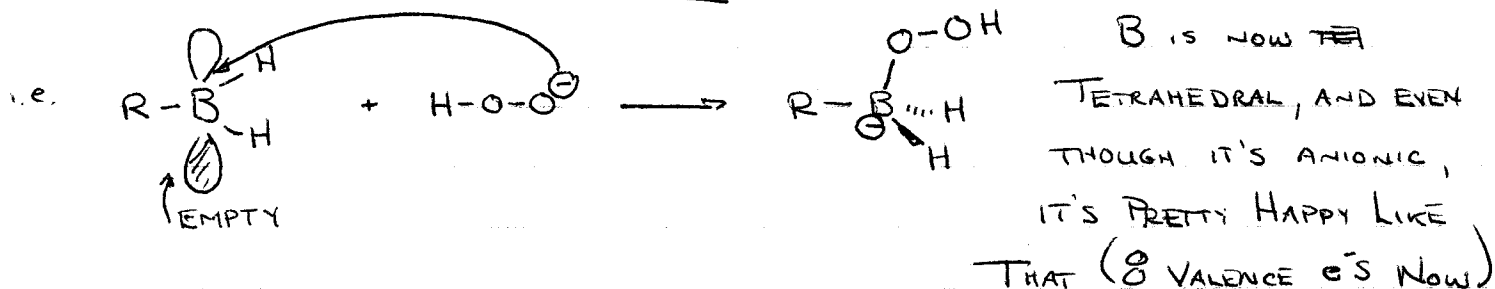


So, How DOES THE CARBON-BORON BOND BECOME AN ALCOHOL WHEN TREATED WITH  $H_2O_2$  AND  $OH^-$ ?



FIRST OF ALL, HYDROGEN PEROXIDE ( $H_2O_2$ ) IS MORE ACIDIC THAN WATER, SO YOU FORM ...  $H-O-O-H + OH^- \rightleftharpoons H-O-O^- + H_2O$

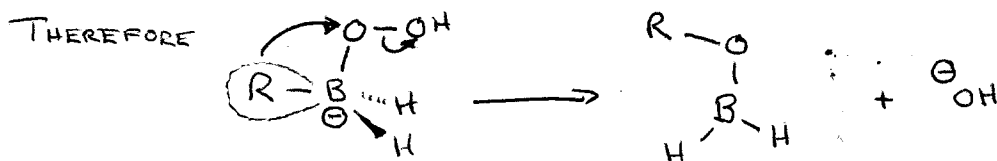
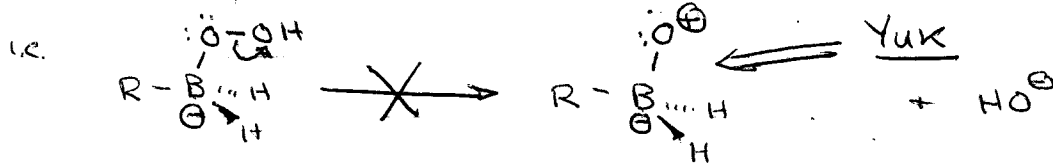
BORON HAS AN EMPTY p ORBITAL, AND IS THEREFORE CAPABLE OF UNDERGOING NUCLEOPHILIC ATTACK AT B.



BUT,  $OH^-$  IS A LEAVING GROUP ... PERHAPS NOT THE GREATEST ONE IN THE WORLD, BUT NEVERTHELESS, IT IS ...

- IF IT LEAVES, IT WOULD GENERATE AN  $O^-$  WITH SIX VALENCE e's.

- THIS IS VERY DISFAVOURD, AND SO AS THIS OCCURS, THE R GROUP MIGRATES FROM THE BORON ATOM TO THAT OXYGEN, ALONG WITH ITS ELECTRON PAIR (YES, THE BONDING PAIR). THIS MAKES ALL ATOMS NEUTRAL, SO IT IS ENERGETICALLY FAVOURED.



FINALLY, THIS B-O BOND IS HYDROLYZED IN WATER AND BASE TO GIVE THE

