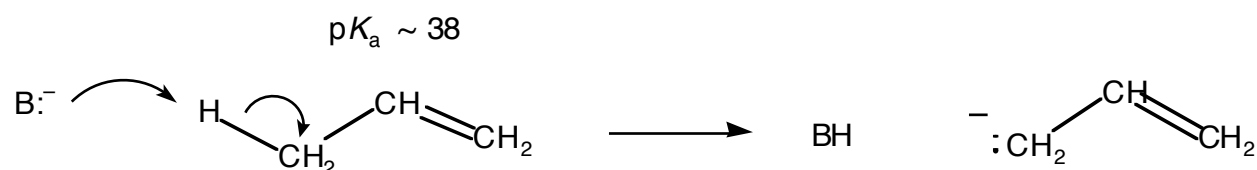


Problem 34, Chemistry 301X - 2006

It is not possible to remove a proton from propane to give the propyl anion. There is no base,  $B:^-$  known that is strong enough to do the following reaction. The  $pK_a$  of propane is too high.



The situation changes when propane is replaced with propene. Now the proton can be removed (although it is not easy - the  $pK_a$  is still high):



Why is it possible to deprotonate propene?

Now look at a modified propene in **X**. Once again, the molecule cannot be deprotonated by any base. Why not?

