Re: Reaction Question

Source: http://sci.tech−archive.net/Archive/sci.chem/2005−08/msg00403.html

- *From*: Christopher Kerr <gingekerr@xxxxxxxxx>
- *Date*: Fri, 12 Aug 2005 15:53:19 +0100

−−−−−BEGIN PGP SIGNED MESSAGE−−−−−
Hash: SHA1

Hikaru wrote:

> Hi. I have this problem here. It involves 1,3 butadiene reacting with an
> equal amount of HCl. What is the major product coming out of it?
>
> I worked it out and I'm thinking the double bond will abstract the proton,
> and so the proton ends up on the outer edge (carbon 1 or 4) and then there
> is a carbocation. So chlorine could attack there, so you have
> 3−chloro−1−butene (I'm not sure if I named it correctly). Otherwise the
> intermediate could resonate and the positive charge ends up on the end, so
> you get 1−chloro−2−butene. So between those two, which is the major
> product? I initially thought 3−chloro−1−butene, but because I think I've
> named it incorrectly, that's why it's the wrong answer choice.
>
> Thank you.

Perhaps steric effects cause the chloride to prefer the terminal position to
form 1−chloro−but−2−ene, with the trans isomer presumably being preferred.

However, even if this is the case, it is quite possible that
3−chloro−but−1−ene is more abundant than either of the isomers of
1−chloro−but−2−ene taken individually

−−−−−BEGIN PGP SIGNATURE−−−−−
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- ***References***:

- ***Reaction Question***
  - *From:* Hikaru

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