



These notes represent a detailed interpretation of the professor's lecture. They are not a transcript of the lecture. TakeNote® is best used as a supplement to your own notes, not as a substitute.

Lecture Date: Thursday, March 16, 2006

Announcements:

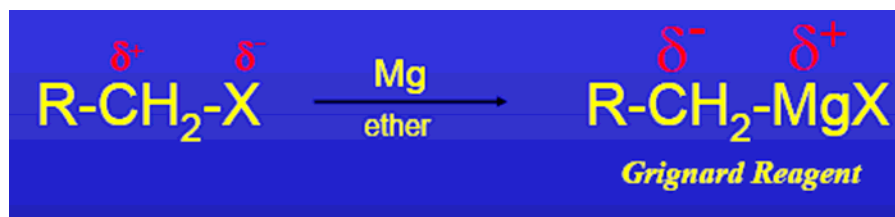
- There is one lab handout.
- The Nitration lab report is due next week.

I. Post-Mortem – Thin Layer Chromatography

- A. As you may have noticed you may encounter a problem with overloading your TLC plate. If this happens, you will see big spots on the plate – this is not a good situation, since you want small spots.
- B. If you encounter “streaky blobs” on the plate, the plate has also been overloaded. In this case, dilute with ethyl acetate.
- C. Remember that it is extremely important to choose the right solvent for the situation. Usually the more polar the solvent, the better the travel distance.
- D. In paper chromatography, the stationary phase is the paper. Oxygen has a partial negative charge, hydrogen a partial positive one.
- E. There are usually theoretically many choices with respect to carrying out your thin-layer chromatography, but in this specific case, your plate will be covered with silica gel, which is fairly polar.
- F. Remember that for our purposes, we care about relative polarities, not necessarily the exact polarities of each substance.
 1. If two solutions smear into each other, run the procedure for a longer time.
 2. Let the solvent run to near the top of the plate for maximum travel.

II. The Grignard Reaction/Reagent

- A. Formulated by Victor Grignard (took Nobel Prize in 1912).
 1. The general reaction is shown below:



Notice that this reaction reverses the polarity on the end products (it ultimately creates stronger electronegative compounds). The end product is the **Grignard Reagent**. Notice also that R-CH₂ is an alkyl halide – a powerful nucleophile.