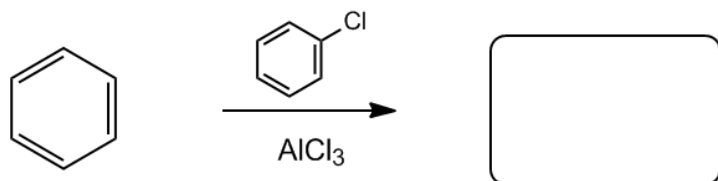


## CONCEPT: LIMITATIONS OF FRIEDEL-CRAFTS ALKYLATION

Friedel-Crafts Alkylation has several limitations that render it *almost useless* in the lab.

1. It does not react with *vinyl or aryl halides*. Their carbocations are far too unstable.

- Solution: Avoid vinyl or aryl halides



2. Aniline derivatives ruin the Lewis Acid Catalyst

- Solution: Avoid aniline derivatives or protect (*reversibly acetylate*) the amino group.



3. Alkylation reactions \_\_\_\_\_ the ring further reactions

- Solution: Excess benzene or **acylate instead**

4. Alkylation reactions are susceptible to carbocation rearrangements

- Solution: **Acylate instead**

## EXAMPLE: FC Alkylation vs. FC Acylation of benzene

