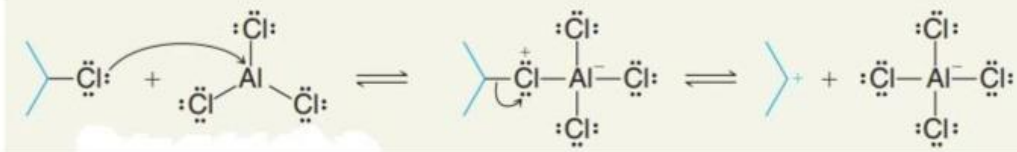

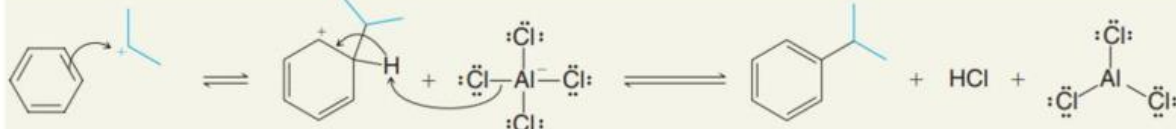


Fill in the blanks:

Friedel-Crafts Alkylation

| Step | Mechanism | |
|--------|---|---|
| Step 1 |  <p>This is a <i>Lewis/Bronsted-Lowry</i> acid-base reaction. The complex dissociates to form a <i>carbocation/carbanion</i> and AlCl_4^-</p> | |
| Step 2 |  <p>The <i>carbocation/carbanion</i>, acting as an <i>electrophile/nucleophile</i>, reacts with benzene to produce an arenium ion.</p> |  <p>A <i>electron/proton</i> is removed from the arenium ion to form isopropylbenzene. This step also regenerates the AlCl_3 and liberated HCl.</p> |