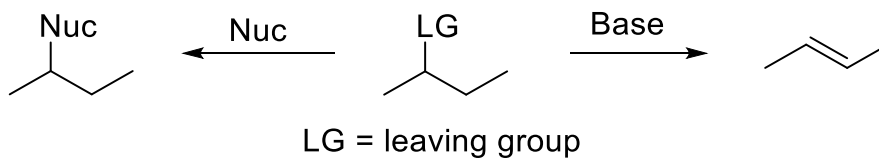
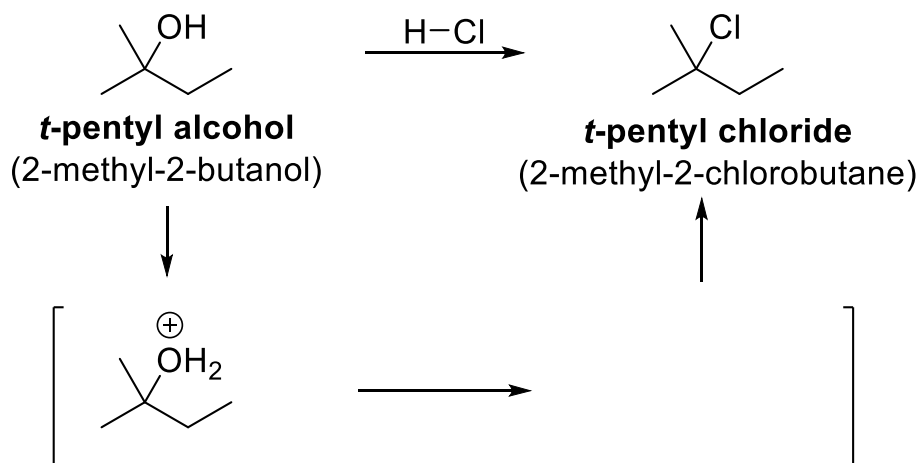
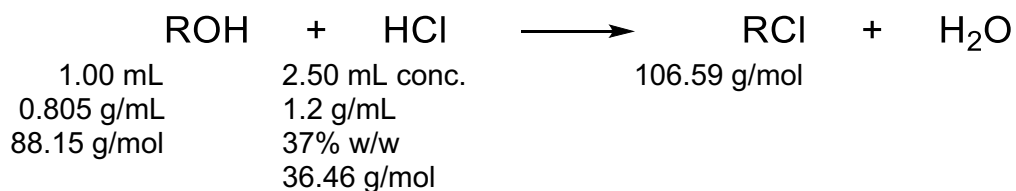


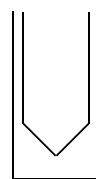
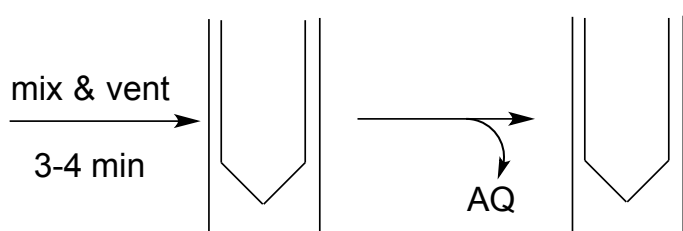
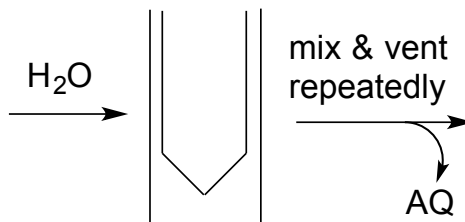
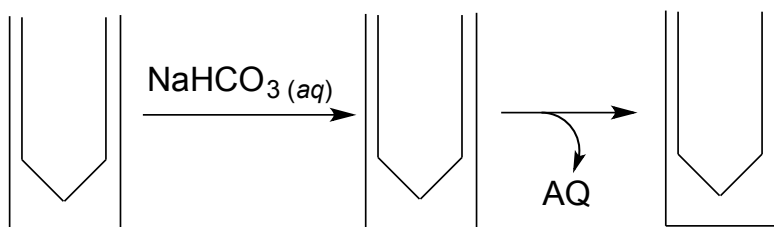
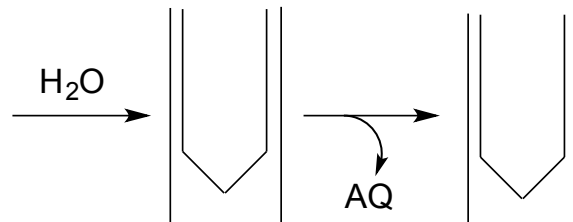
CHEM 8L, Experiment 6 – Synthesis of *t*-Pentyl Chloride

- Reaction Mechanism
- Theoretical Yield
- Reaction Setup & Workup
- Product Analysis: IR & GC

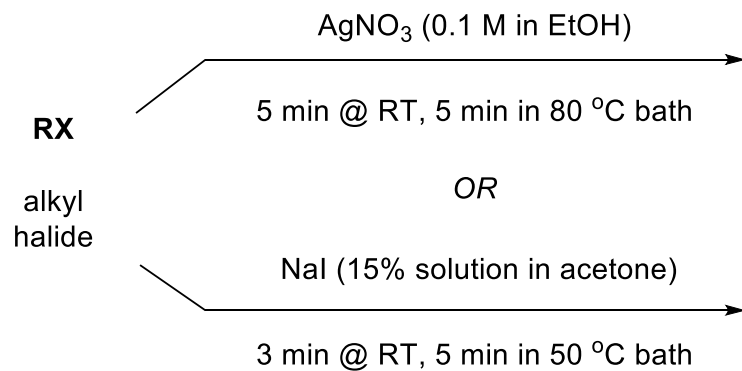
Substitution vs. Elimination**Unimolecular Substitution (S_N1) Mechanism****Theoretical Yield**

Reaction Set-up

Pipet + Plurige Provided on Reagent Bottles! Conical Vial

**Reaction Work-up****1. Remove aqueous layer****2. Wash with water****3. Quench with weak base****4. Wash with water****The Mildly Basic “Quench”**

Weak base prevents hydrolysis

Crude Product Analysis via Chemical Tests

	<i>t</i> -pentanol	rxn mixture	bromobenzene	bromobutane
Silver nitrate in ethanol				
Sodium iodide in acetone				

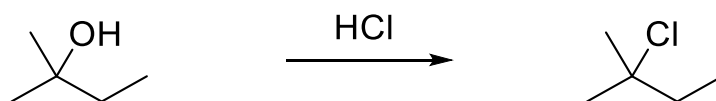
GC Analysis

1. Air & acetone

2. Alcohol standard

3. Alkyl halide standard

4. Crude reaction mixture

IR Analysis

Questions???**CHEM 8L Overview**

1. **Recrystallization** of Acetanilide
2. **Distillation & Gas Chromatography (GC)** Analysis of Citrus Oils
3. **Extraction & Thin Layer Chromatography (TLC)** Analysis of Spinach Pigments
4. **Infrared (IR)** Spectroscopic Analysis of Aspirin, Wintergreen Oil, and Carvone
5. Elimination / **Dehydration Reaction** – E1
 - Analysis *via* GC & IR
 - % Yield
 - Chemical Test: Permanganate Cleavage
6. **Substitution Reaction** – S_N1
 - Analysis *via* GC & IR
 - % Yield
 - Chemical Tests: Substitution w/ AgNO₃ or NaI

Please fill out instructor **evaluations** online (TA and CB). Help us help future students!