Chem 228 WS/2016
Synthesis of Para Red: Library Assignment
(step 1 due week of 3/9/16)

Name_____ Section_____ StdntNo_____

Attach this Sheet to Your Search Results

The following searches are to locate needed information about compounds involved in your synthesis project and to familiarize you with some of the standard reference sources for organic compound information.

1. Procedures-Find procedures for preparing p-nitroacetanilide, p-nitroaniline and 4-(4'-nitrobenzeneazo)-1-naphthol in "Vogel's Textbook of Practical Organic Chemistry", which is on class reserve for chem 228 at the circulation desk at the MST library or may be found online via a Google search.
   Print out and attach procedures. Keep a copy for yourself.

2. Background- Solomons, the current organic textbook for 221/223, provides some background from which the procedure above was derived. Look up these topics in the index.
   Aromatic nitration, Hydrolysis of amides, Diazo coupling

3. MSDS info-for p-nitroacetanilide, p-nitroaniline and 4-(4'-nitrobenzeneazo)-1-naphthol (para red) and reagents used to produce them.
   You will need MWt, MP, BP, structures, CAS# & hazards for all reagents and products.
   Also FTIR, NMR spectra for each product.

   Recommended sources:
   Synth Project WS16 web link, SDBS, Merck Index, SciFinder.
   Handbook of Data on Organic Compounds, MST **reference** QD257.7.H36
   Dictionary of Organic Compounds, MST **reference** QD246.D5
   Ullmann's Encyclopedia of Industrial Chemistry, "Azo dyes" MST **reference** TP9.U57

4. Summary of reactions:

   step 1 acetanilide is converted to o & p-nitroacetanilide
   step 2 p-nitroacetanilide is converted p-nitroaniline
   step 3 p-nitroaniline is converted to para red

   Attach your balanced reactions to this sheet and keep another copy for yourself.

   In Lab: We will begin the first step of the synthesis on 3/9/16.

   Gloves are recommended for all steps. Expect a quiz over step 1 after St. Pat's.

   You should come prepared to do step 1 of the procedure.
   Adjust amounts in Vogel procedure to use 0.06 mole of acetanilide.

   You should also have the usual prelab property table prepared in your lab book covering chemicals to be used in the first step.

NOTE: Xerox machines and Bookeye scanner on the first floor of the library can scan documents to pdf which can be stored on a thumb drive allowing free copying of reference materials.