**TAKE HOME PORTION OF ORGANIC II EXAM 3/FINAL COMBO**

**Alfred State College Due by 2 PM Tuesday 12 May 85 pts**

**Ground rules**

a) You may work together or separately. It is suggested that you break into teams of two or three and tackle just one of the compounds, then share results. The class can turn in a single exam if they wish which represents a cumulative effort. Do not let anyone just `go along for the ride’. Each team member will be required to `grade’ fellow team members on perceived levels of effort and participation. How your team members grade you here is part of the grade for this project.

 b) You may not consult Doc or any other chemist for help. You are on your own.

**c) ONLY the organic compounds listed below are allowed. If necessary, you will need to find routes to common organic materials like methanol, acetone, toluene etc. from just what is given. For convenience, if you have provided a route to such compounds and they are common to several syntheses, you can `save’ them to a common reactant ‘bank’ and `withdraw’ from the ‘bank’ rather than repetitively re-making them for each synthesis.**

1) starting ***from just*** ethanol prepare compound A



 5 pts

  **A**



2) starting ***from just*** benzene and ethanol, suggest a route to compound **B** **B**

 10 pts



3) starting ***from just*** ethanol and benzene find a route to compound **C** **C**

 10 pts



4) starting ***from just*** ethanol and benzene find a route to compound **D** **D**

 15 pts



5) Starting ***from just*** ethanol find a route to compound **E**  **E**

 20 pts (a Fong original he’s given the common name shown, nyuk,nyuk)

 Dihydroxy Moeyne

6) Starting from just methanol synthesize **all** materials necessary to build compound **F**

25 pts (hint-Doc found the protecting group acetal chemistry on 522-524 helpful to



protect keto intermediate prior to conversion to phenol)

 **F**

**All requisite reactions are covered either in chapters covered in Fall and Spring and/or have been run in lab.**