SECOND HOUR EXAM - CHEMISTRY 3331

March 19, 1998

Problem 1.(45 points) Give the final product for the following reactions. If no reaction occurs, state so. Circle the final product that you want graded.

$$C) \qquad \qquad \frac{D_2 \lozenge^4}{D_2 \lozenge}$$

$$E) \qquad \qquad \frac{1)\, LD\, A/e \, the \, \tau}{2)\, CH_{2}B\tau}$$

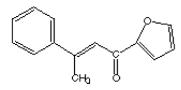
$$G$$
 OH $\frac{pBr_1(trace)}{Br_2}$

$$\begin{array}{ccc} I) & (CH_1)_1C\cdot B\tau & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ &$$

N) OH
$$\frac{1) \text{ NaOH/H}_{2} \circ}{2) \text{ CH}_{2} \text{Bt}}$$

Problem 2. (10points) Give the product for the aldol condensation - dehydration sequence for the following molecules. Circle the final product.

Problem 3. (5 points) What two molecules would you use for the synthesis of the following compound employing the aldol condensation? Circle the two molecules.



Problem 4. (10 points) What two molecules would you use for synthesis of the following compound using the method of the Robinson Annulation. Circle the two compounds

Problem 4. (30 points) Using only the indicated starting materials as you sole source of carbon found in the product, develop a method to carry out the following transformation.

B)
$$CH_3B_1 + H_3C$$
 OH H_3C OH H_3C OH