1. Consider the reaction below.

   a. (35 pts.) Work out a forward synthesis of the following molecule (one diastereomer).

   b. (5 pts.) Explain the logic behind your very first disconnection. Disconnect at the ketal. This simplifies the problem greatly because the target molecule breaks down to:

   ![Diagram of target molecule]

   c. (10 pts.) How much more difficult would an enantiospecific synthesis be? Explain. The target is complicated by remote stereochemistry. We need the component alcohol as one enantiomer if we are going to make one diastereomer of the desired material. So there is no difference in difficulty between a diastereospecific and an enantiospecific synthesis.

   ![Diagram of alcohol synthesis]

   There are many ways that we have studied to make the alcohol.

   RULES: Use no fragments greater than seven carbons atoms.