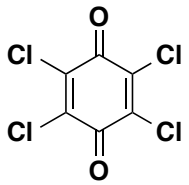
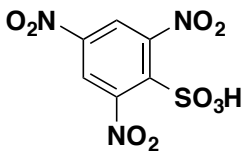
Problem Set 4

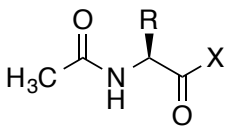
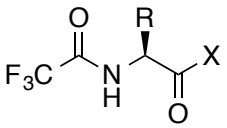
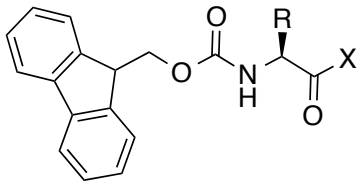
1. In class, the use of ninhydrin (Kaiser test) as a qualitative tool for amine detection was discussed. Make sure that you can draw the mechanism of this reaction.

2. Two alternative colorimetric tests for the qualitative detection of secondary and primary amines, respectively, are the chloranil and the TNBS tests. The structures of chloranil and TNBS are shown below. Make sure you understand how the colorimetric tests work (Draw the mechanism).



***p*-Chloranil**



TNBS

3. Order the three peptides shown below according to their tendency to epimerize and explain your reasoning (X = leaving group).