**CHEM525 Enzymatic Activity as a function of pH Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. (4 points) This week you will study the effects of pH on the reaction catalyzed by the pectate lyases. Given what you know about the reaction, draw the reaction mechanism for the reaction at pH 4 and pH 8.5. You must include the substrate, the amino acid(s) employed in the reaction and all requisite arrows. If the reaction won’t proceed at one pH, your drawing of the reaction mechanism must clearly show why. You must also write an explanation of each mechanism to accompany your figure.
2. (6 points) In the Garcia-Moreno paper assigned for you to read this week, the author mentions several roles that charged amino acids play in the in the structure, function and evolution of proteins. Name 3 of them and briefly describe each.