

An example from the Fall 1998 Examination #3:

3. (20 points)

For each of the following five (5) questions, circle the number that corresponds to the correct answer.

A. D-glucose differs from D-fructose in:

1. the number of carbons
2. the overall oxidation level
3. the position and identity of the carbonyl group

B. Amylose is a:

1. step-growth homopolymer of D-glucose
2. step-growth copolymer of D-glucose and D-fructose
3. chain-growth homopolymer of D-glucose

C. The α - and β -anomers of D-galactose are:

1. enantiomers
2. diastereomers
3. structural isomers

D. The second sequence of steps in a Robinson annulation is an intramolecular aldol condensation followed by a dehydration. The intramolecular reaction occurs instead of an intermolecular one due to:

1. sterics
2. resonance
3. entropy

E. Cellulose contains D-glucose molecules linked together by

1. α -1,4'-glycosidic bonds
2. β -1,4'-glycosidic bonds
3. β -1,6'-glycosidic bonds