Chemistry 334R

Problem Set 4

1. Draw the structure of the expected major organic product for each of the following five questions. Specify stereochemistry clearly, if relevant.

A.

$$CH_3$$
 H_3C CH_3

B.

C.

D.

E.

2. State whether each of the following four reactions is nonregioselective, partially regioselective, completely regioselective, nonstereoselective, partially stereoselective, and/or completely stereoselective. If a reaction is stereoselective, state whether it is enantioselective or diastereoselective. If a reaction is nonstereoselective, state whether it is nonenantioselective or nondiastereoselective. Consider all possible regioisomers and/or stereoisomers to describe your reasoning clearly and succinctly.

A.

$$H_{3}C$$
 CH_{3}
 PBr_{3}
 $H_{3}C$
 CH_{3}

B.

$$H_{3}C$$
 CH_{3}
 $H_{3}C$
 CH_{3}
 CH_{3}
 CH_{3}

C.

$$H_3C$$
 CH_3
 H_3C
 CH_3
 H_3C
 CH_3
 CH_3
 CH_3
 CH_3
 CH_3

D.

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