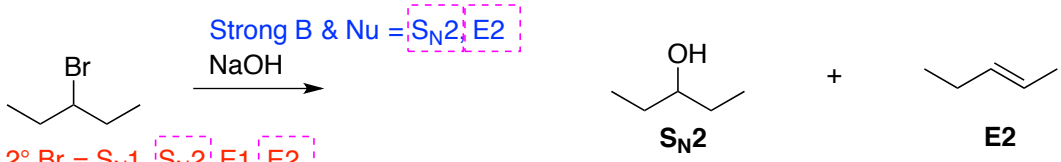
Chemistry 233
Substitution versus Elimination
Answer Key

1)

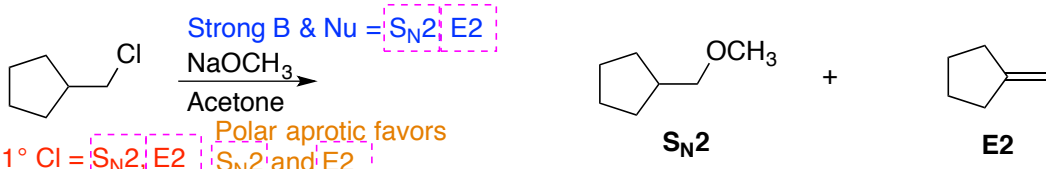


2° Br = S_N1, S_N2, E1, E2

S_N2 **E2**

Major Product with 2° Substrate

2)



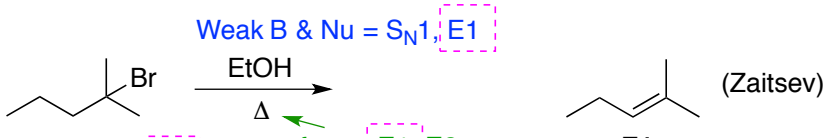
1° Cl = S_N2, E2

Polar aprotic favors S_N2 and E2

S_N2 **E2**

Major Product with 1° Substrate

3)

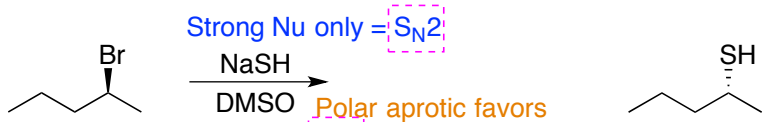


3° Br = S_N1, E1, E2

favors E1, E2

E1

4)

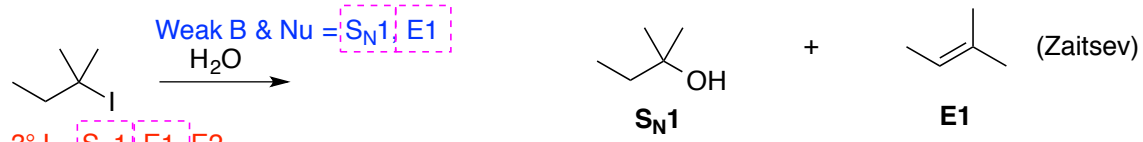


2° Br = S_N1, S_N2, E1, E2

Polar aprotic favors S_N2 and E2

S_N2

5)

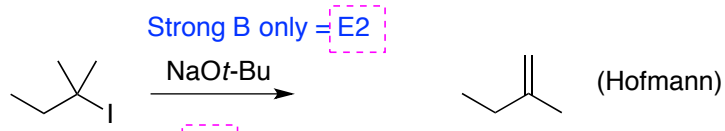


3° I = S_N1, E1, E2

S_N1 **E1**

Relatively equal mixture of both products

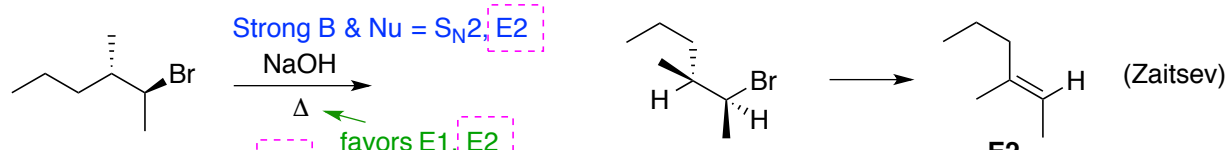
6)



3° I = S_N1, E1, E2

E2

7)

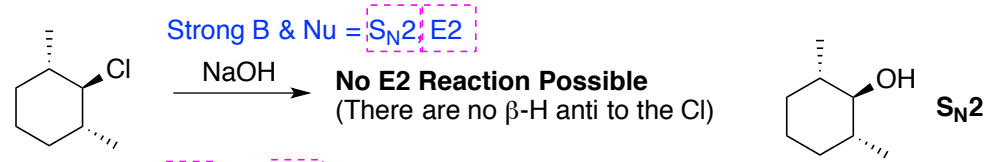


2° Br = S_N1, S_N2, E1, E2

favors E1, E2

E2

8)



No E2 Reaction Possible
(There are no β-H anti to the Cl)

S_N2

2° Cl = S_N1, S_N2, E1, E2