Name: $\qquad$

## Organic I Lecture <br> Spring 2010 <br> Quiz \#5 <br> (10 points)

1. Complete the following reaction by filling in the structure of the expected product. (3 points, problem 6-20d)

2. Provide an energy diagram of a typical $\mathrm{S}_{\mathrm{N}} 1$ reaction. (2 points)
3. Which sequence ranks the following electrophiles in order of increasing reactivity in an $\mathrm{S}_{\mathrm{N}} 2$ reaction? (3 points)
1 2-bromopropane
2 1-bromo-2,2-dimethylbutane
3 1-bromohexane
a) $1<2<3$
b) $2<3<1$
c) $3<1<2$
d) $3<2<1$
e) $2<1<3$
f) $1<3<2$
4. Circle the stronger nucleophile out of the following pair of structures. (2 points)

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\mathrm{NaPH}_{2} \quad \text { or } \quad \mathrm{NaOH}
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