

**Organic Chemistry 2**

Quiz #9

April 16, 2010

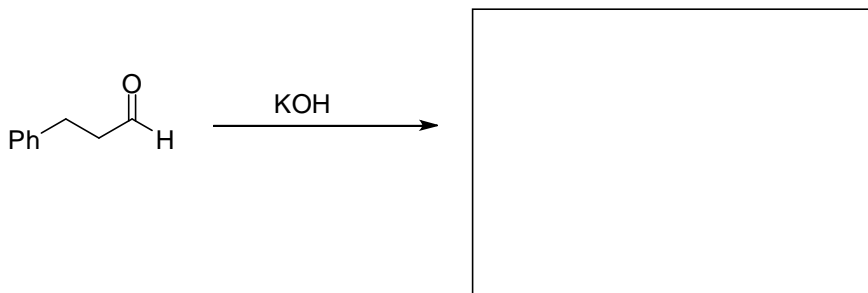
Name: \_\_\_\_\_

1. Provide the products of the acid-base reaction shown below and circle the side of the equilibrium that will be favored. (2 pts.)



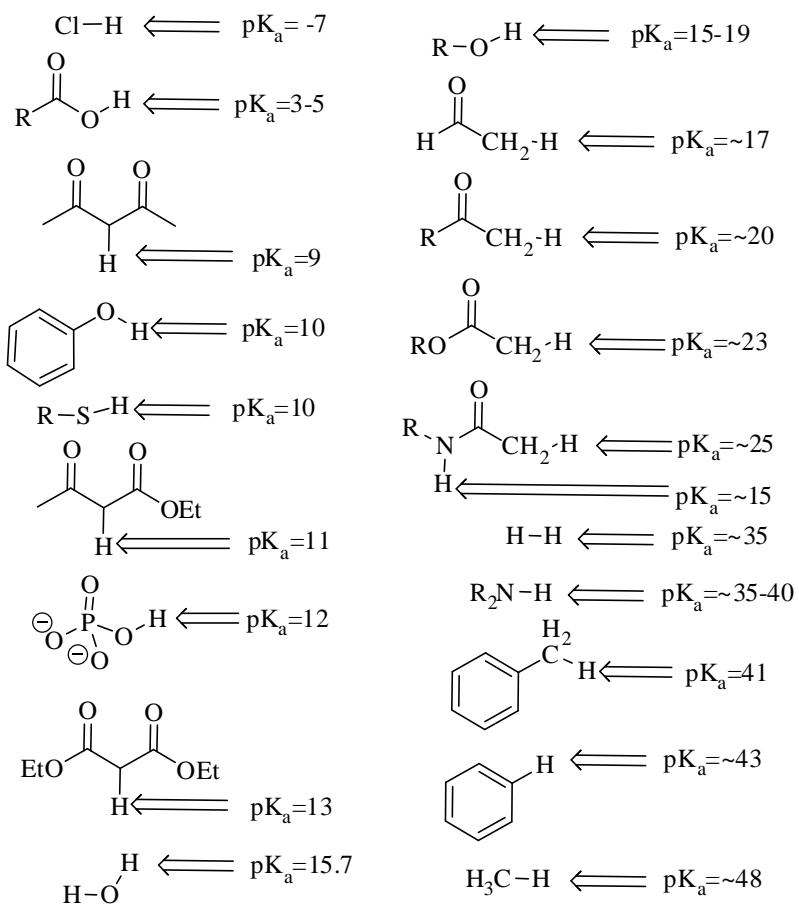
What? You say you don't have the  $pK_a$ 's memorized yet?! You're in luck! A secret table can be found on the back of this quiz, just don't tell the person next to you!

2. Draw the product of the following reaction. (2 pts.)



3. Which answer is NOT a correct explanation for why ketone reagents have an unfavorable equilibrium in the aldol reaction with sodium hydroxide base? (2 pts.)

- a) Ketones are less electrophilic due to a carbonyl carbon that is more stabilized by two electron releasing alkyl groups.
- b) The ketone group is stabilized by allylic interactions with the adjacent pi system.
- c) There is less ketone enolate formed because the alpha protons are less acidic.
- d) Steric hindrance at the carbonyl carbon of a ketone, due to two alkyl groups, makes enolate addition more difficult.



Note: R=alkyl