Last Name	First Name	MI
Student ID Number:		*Total Score*
Circle the name of your TA: CARI HEATHER RYAN KAUSHIK		
Discussion Section – Day: Time:		/ 30

Chem 30A Fall 2005

QUIZ #2A

(15 Min)

Weds Nov 9th

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X											

ANSWER TO BONUS QUESTION

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Questions 1–10 are worth **3** points each. The bonus is worth **5** points.

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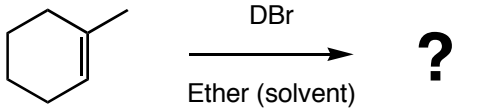

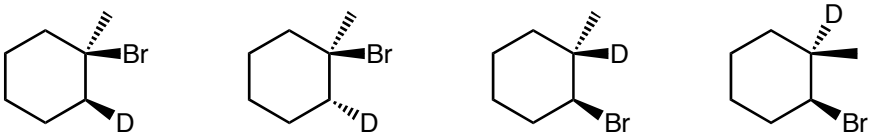

1 **2** **3** **4**

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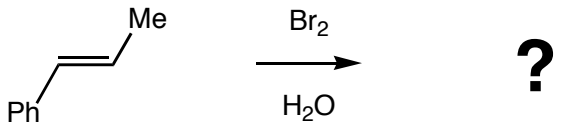

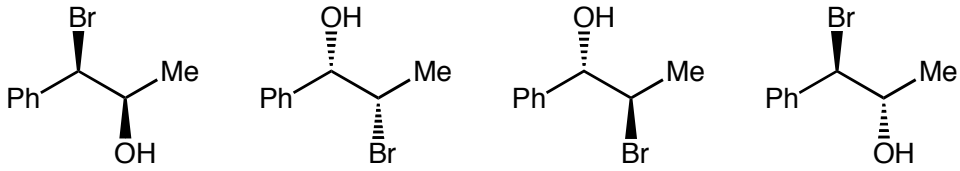

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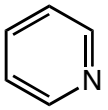
3. Pyridine, shown below, is most accurately described as:



Pyridine

A A Lewis acid and a Lewis base
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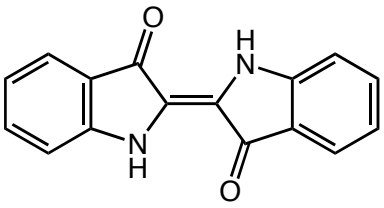
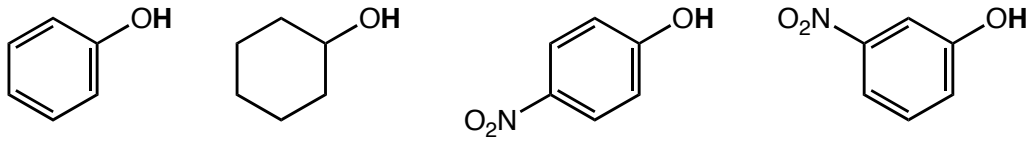
4. What is the Index of Hydrogen Deficiency (number of double bond equivalents) for the compound drawn below?



Indigo

A 7 **B** 9 **C** 11 **D** 13 **E** 15

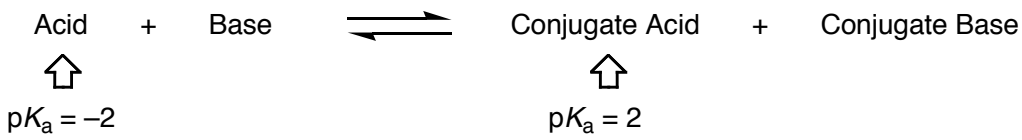
5. What is the order of acidity (from lowest pK_a value to highest pK_a value) of the bold hydrogen (**H**) atoms shown highlighted in the compounds drawn below?



1 **2** **3** **4**

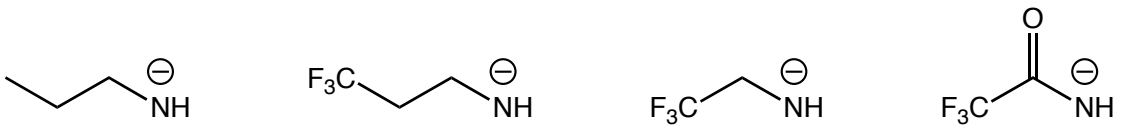
A 3, 4, 1, 2 **B** 2, 1, 4, 3 **C** 4, 3, 1, 2 **D** 1, 3, 4, 2 **E** 2, 1, 4, 3

6. The equilibrium constant (K_{eq}) for the reaction shown below is...?



A 0 **B** 10000 **C** 4 **D** –1 **E** 0.0001

7. What is the order of basicity (from least basic to most basic) of the nitrogen-based anions drawn below?



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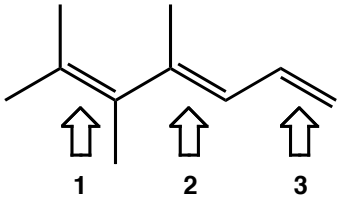
8. For the triene shown below, for which double bond(s) is it possible to assign *E* or *Z* descriptors?



A **1**, **2**, and **3**
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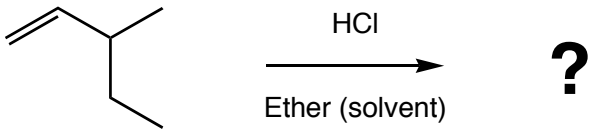

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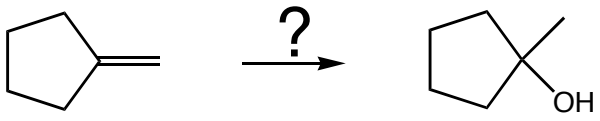

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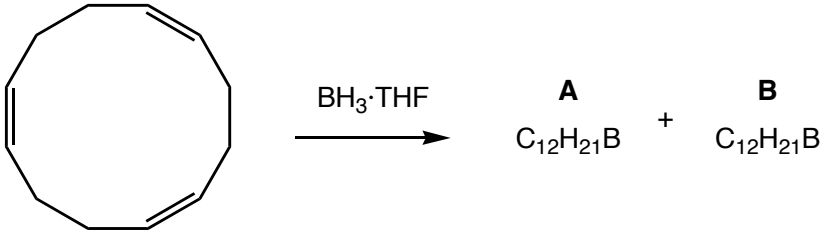
BONUS: 1,5,9-Cyclododecatriene reacts with borane·THF to form two different compounds (**A** and **B**) with the formula $C_{12}H_{21}B$. Neither **A** nor **B** contains any B–H bonds. On the FRONT PAGE of this quiz, fill in the structures of **A** and **B**, and indicate which one is likely to be formed in higher yield.



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Chem 30A Fall 2005

QUIZ #2B

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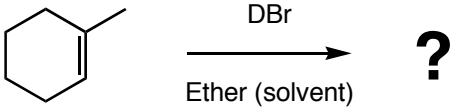

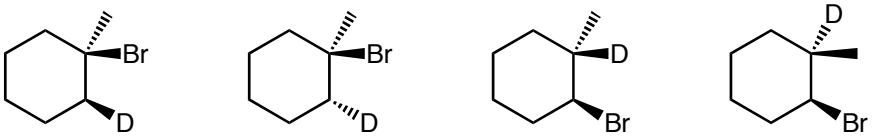

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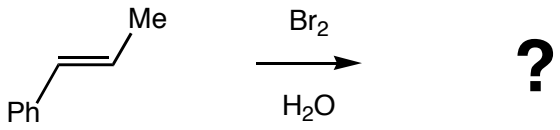

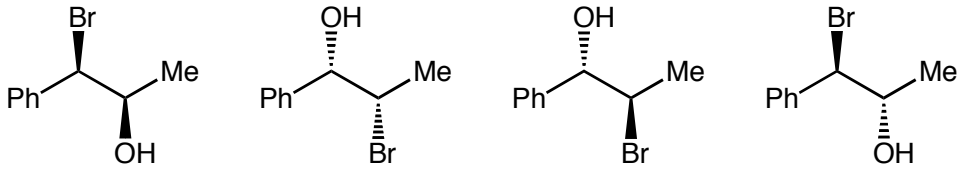

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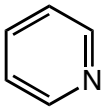

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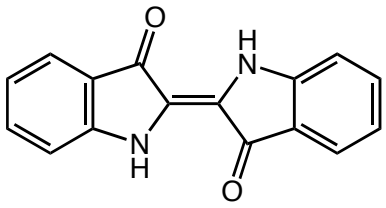

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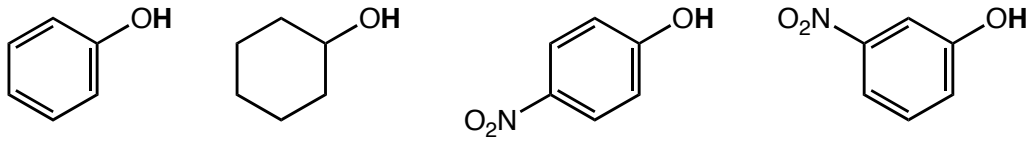

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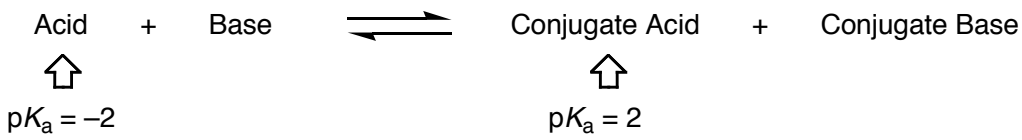

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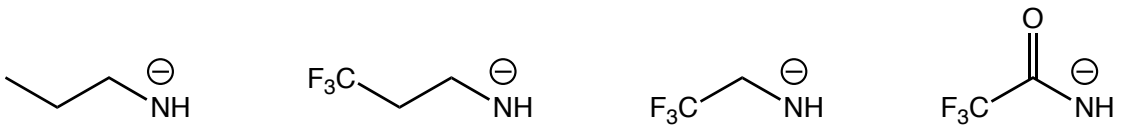

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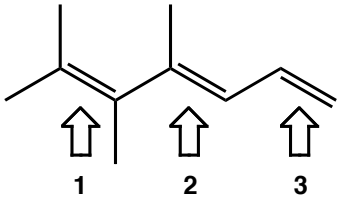

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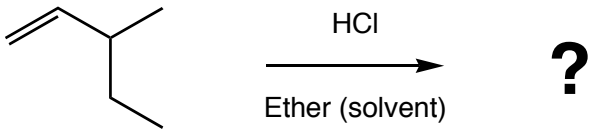

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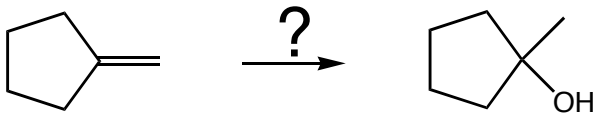

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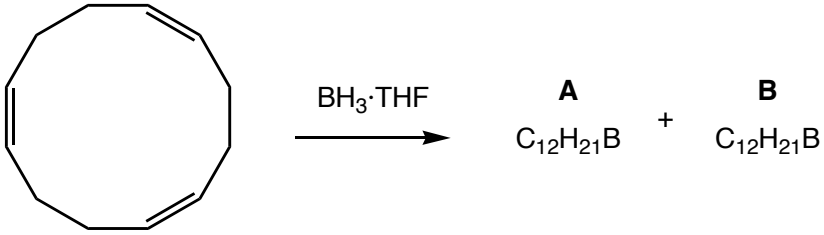

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Chem 30A Fall 2005

QUIZ #2C

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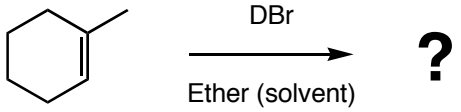

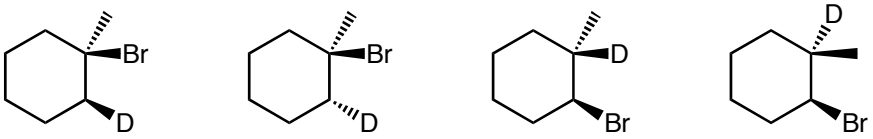

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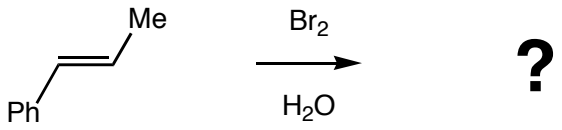

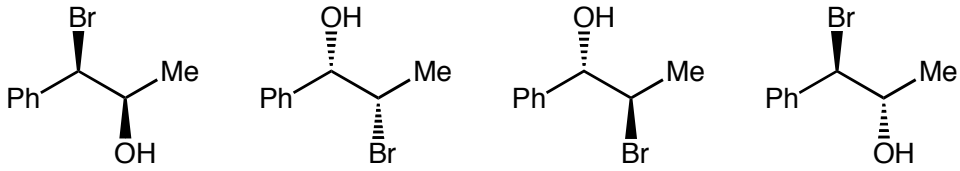

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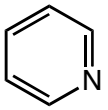

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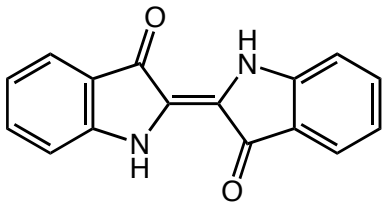

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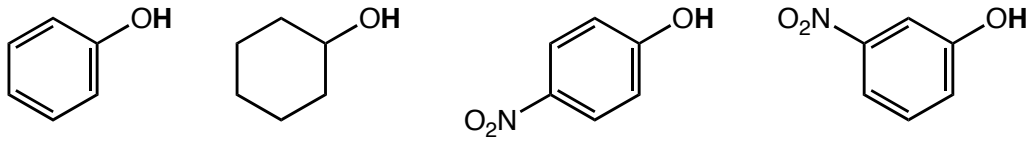

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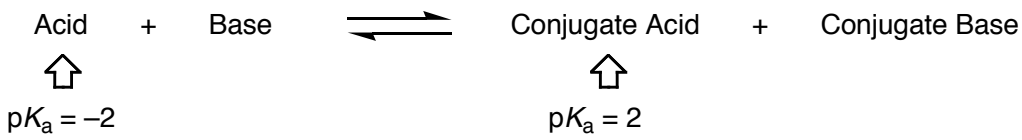

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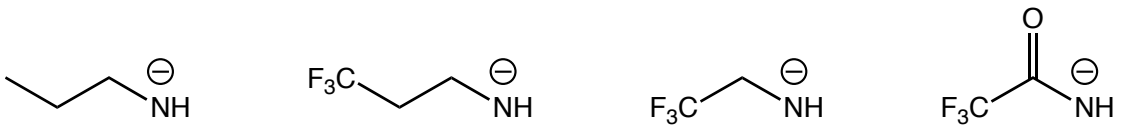

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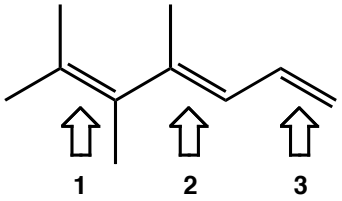

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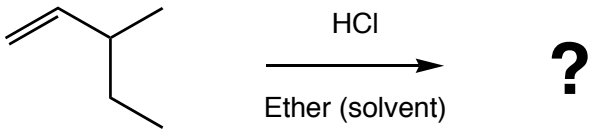
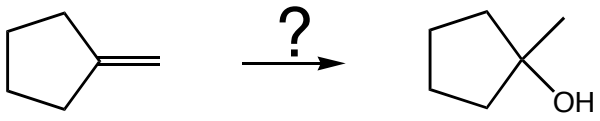
9. What is the major product of the reaction shown below?



A 3-chloro-3-methylpentane
B 2-chloro-3-ethylbutane
C 1-chloro-3-methylpentane
D 3-chloro-2-methylpentane
E 2-chloro-3-methylpentane

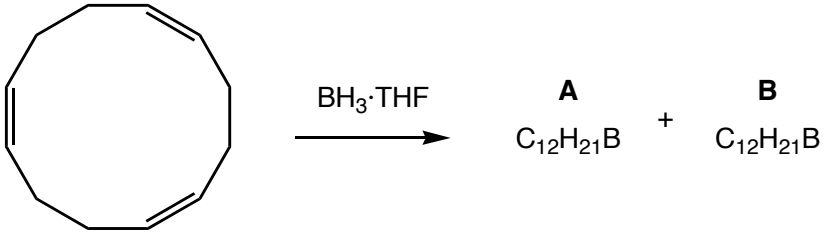
10. Which combination(s) of reagents would give rise to the reaction shown below?



#1 (i) BH_3·THF (ii) H_2O_2 / NaOH **#2** (i) $Hg(OAc)_2/H_2O$ (ii) $NaBH_4$ **#3** H_2O/H_2SO_4(cat.)

A #1, #2, and #3 **B** Only #2 and #3 **C** Only #3 **D** Only #1 **E** Only #2

BONUS: 1,5,9-Cyclododecatriene reacts with borane·THF to form two different compounds (**A** and **B**) with the formula $C_{12}H_{21}B$. Neither **A** nor **B** contains any B–H bonds. On the FRONT PAGE of this quiz, fill in the structures of **A** and **B**, and indicate which one is likely to be formed in higher yield.



***** *End of Quiz* *****