

東吳大學 104 學年度轉學生(含進修學士班轉學生)招生考試試題

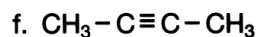
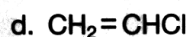
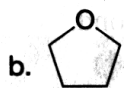
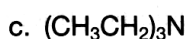
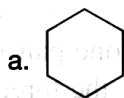
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系級	微生物學系三年級	考試時間	100 分鐘
科目	有機化學	本科總分	100 分

說明: 共十題, 每題各佔十分。

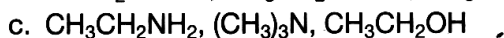
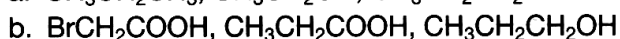
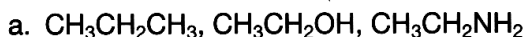
1.

What types of intermolecular forces are present in each compound?



2.

Rank the compounds in each group in order of increasing acidity.

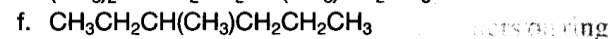
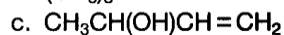
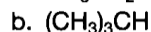


3.

Draw both chair conformations for *trans*-1,3-dimethylcyclohexane.

4.

Locate any stereogenic center in the given molecules. (Some compounds contain no stereogenic centers.)



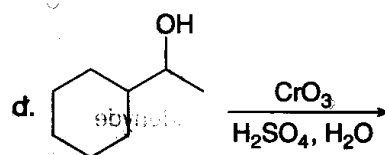
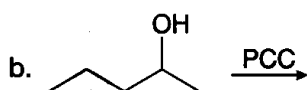
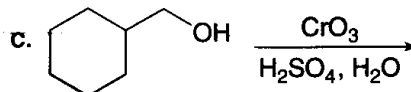
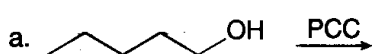
5.

What product is formed when $\text{CH}_3\text{OCH}_2\text{CH}_2\text{C}\equiv\text{CCH}_2\text{CH}(\text{CH}_3)_2$ is treated with each reagent: (a) H_2 (excess), Pd-C; (b) H_2 (1 equiv), Lindlar catalyst; (c) H_2 (excess), Lindlar catalyst; (d) Na, NH_3 ?

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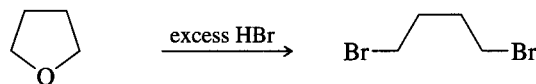
6.

Draw the organic products in each of the following reactions.



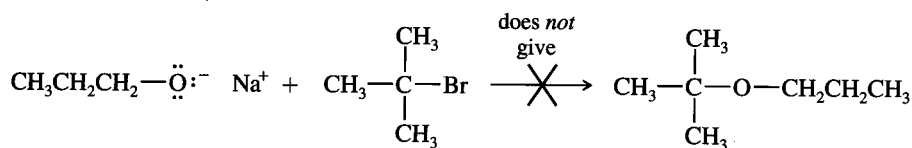
7.

Propose a mechanism for the following reaction.



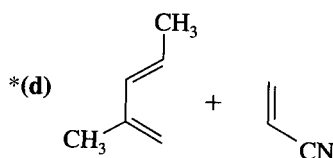
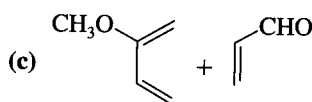
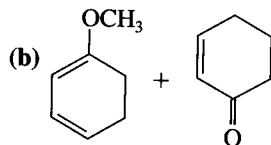
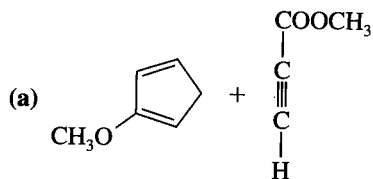
8.

- (a) Why is the following reaction a poor method for the synthesis of *tert*-butyl propyl ether?
 (b) What would be the major product from this reaction?
 (c) Propose a better synthesis of *tert*-butyl propyl ether.



9.

Predict the products of the following Diels-Alder reactions.



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10.

Rank the compounds in each set in order of increasing acid strength.

