

大同大學 106 學年度 (暑)轉學入學考試試題

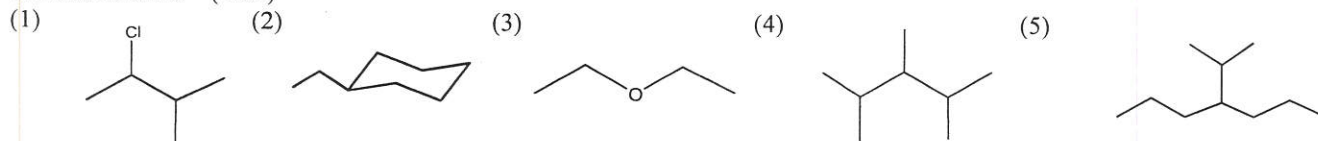
考試科目:有機化學

系別:化學工程學系

第 1/2 頁

註:本次考試 不可以參考自己的書籍及筆記; 不可以使用字典; 不可以使用計算器。

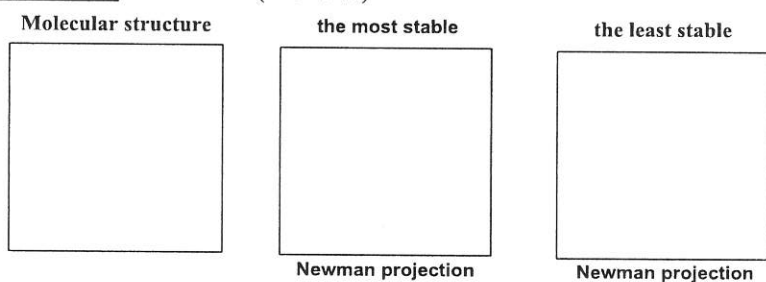
1. Nomenclature (15%)



2. Draw the following molecular structures. (15%)

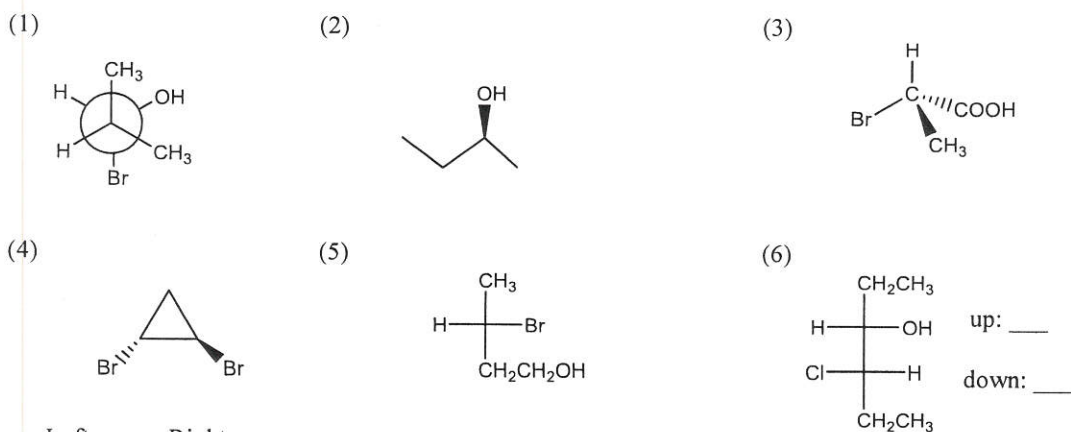
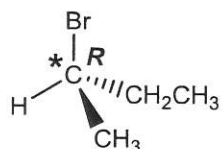
- (1) *tert*-butyl bromide (2) 2-methylbutane (3) octane (4) toluene (5) *trans*-1,4-diethylcyclohexane

3. For rotation about the C-2 —C-3 bond of 2,2-dimethylbutane, please draw the molecular structure and Newman projection of its the most stable and the least stable conformers. (2+3+3 %)

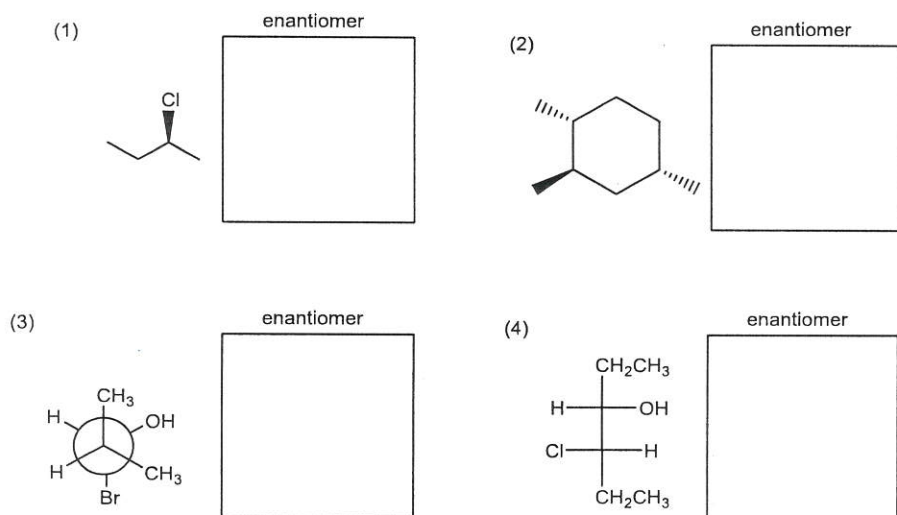


4. Indicate whether each of the following structures has the *R* or the *S* configuration: (16%)

For example :

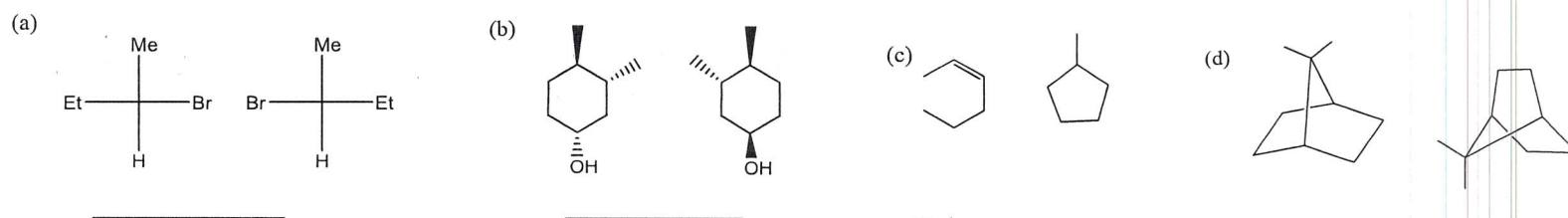


5. Draw the enantiomer of each of the following compounds: (8%)

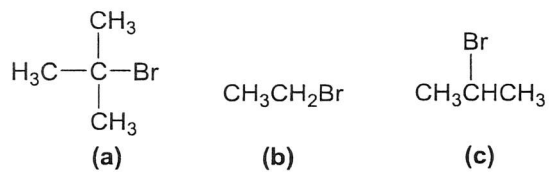


<背面尚有試題>

6. For each pair of compounds below, determine whether they are **identical compounds**, **constitutional isomers**, **enantiomers** or **diastereomers**: (12%)



7.



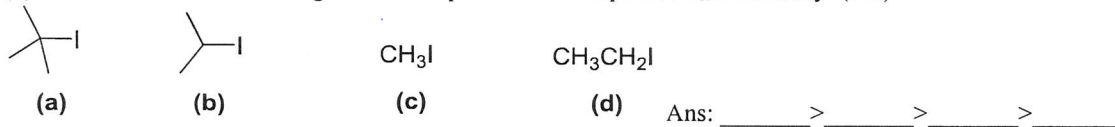
(1) Rank the above compounds in order of their expected reactivity toward S_N1 reaction: (6%)

Ans: _____ > _____ > _____

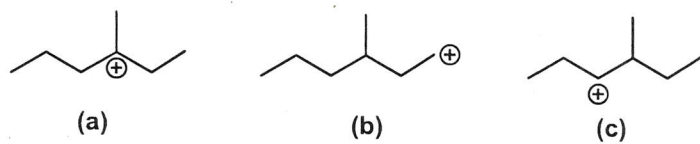
(2) Rank the above compounds in order of their expected reactivity toward E2 reaction: (6%)

Ans: _____ > _____ > _____

(3) Order each of the following sets of compounds with respect to S_N2 reactivity: (8%)



(4) Rank the following carbocations in order of decreasing stability. (6%)



Ans: _____ > _____ > _____