

大同大學 107 學年度 (寒)轉學入學考試試題

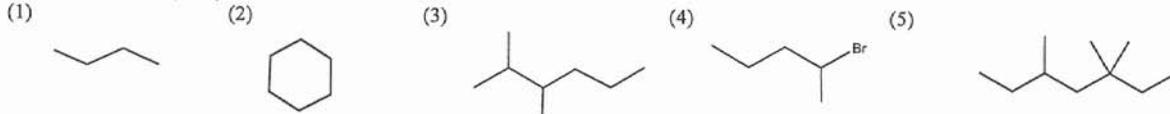
考試科目:有機化學

系列: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。

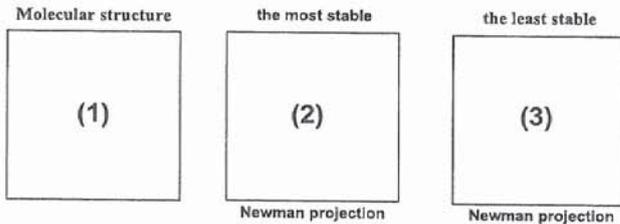
1. Nomenclature (15%)



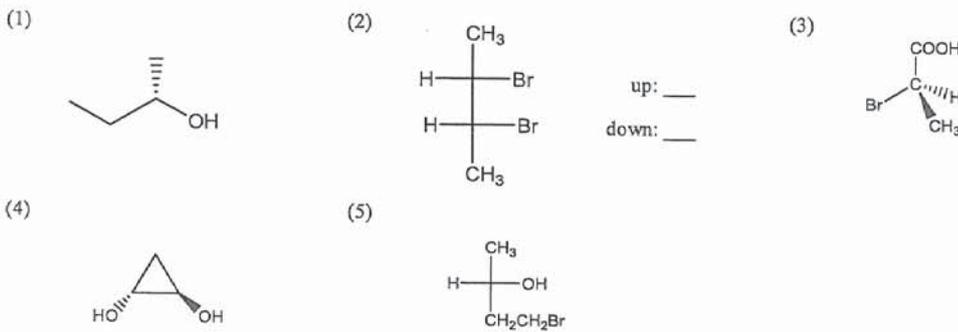
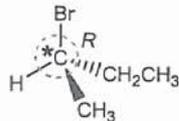
2. Draw the following molecular structures. (15%)

(1) hexane (2) 2,2,3,4-tetramethylpentane (3) 2-bromobutane (4) 2-*sec*-butylheptane (5) 2,3-dimethylotcane

3. For rotation about the C-3 —C-4 bond of 2,5-dimethylhexane, please draw the molecular structure and Newman projection of its the most stable and the least stable conformers. (3+3+3 %)

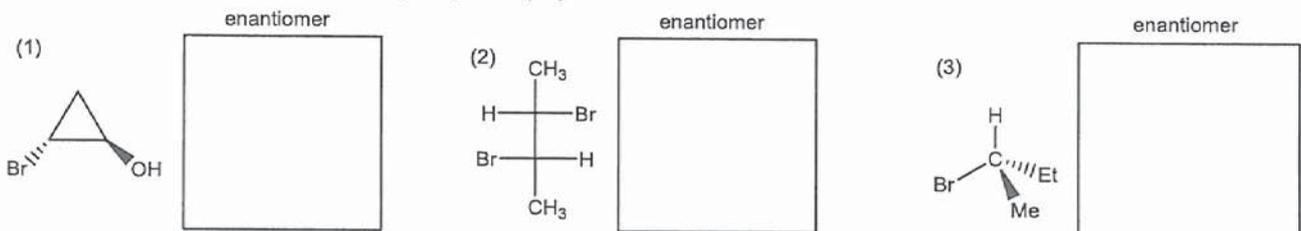


4. Indicate whether each of the following structures has the *R* or the *S* configuration: (21%)
For example :

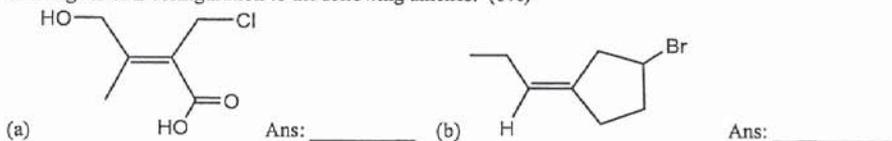


Left: ___ Right: ___

5. Draw the enantiomer of each of the following compounds: (9%)



6. Assign *E* or *Z* configuration to the following alkenes. (6%)



背面尚有試題

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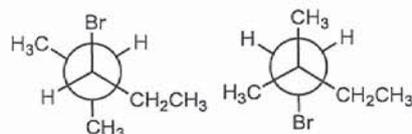
系別:化學工程學系

第2/2頁

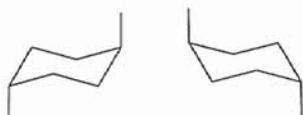
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7. Please indicate which two compounds (pair) are identical or enantiomers, diastereomers, or constitutional isomers. (12 %)

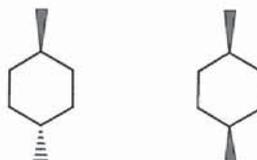
(a)



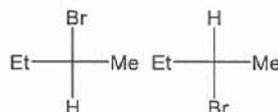
(c)



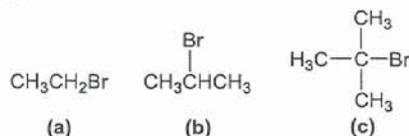
(b)



(d)



8.



(1) Rank the above compounds in order of their expected reactivity toward $\text{S}_{\text{N}}1$ reaction: (3%)

Ans: _____ > _____ > _____

(2) Rank the above compounds in order of their expected reactivity toward E2 reaction: (3%)

Ans: _____ > _____ > _____

(3) Order each of the following sets of compounds with respect to $\text{S}_{\text{N}}2$ reactivity: (4%)



Ans: _____ > _____ > _____ > _____

(4) Which of the following E2 reactions is the fastest? DBN is a steric organic base. (_____) (3%)

