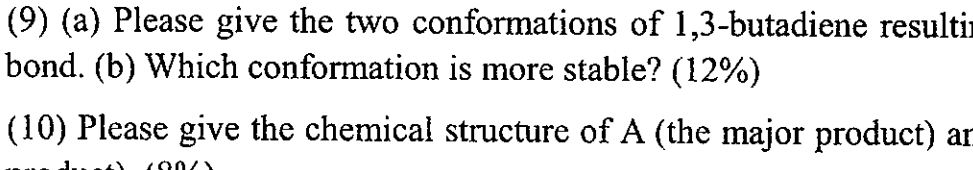
※注意:請於試卷內之「非選擇題作答區」標明題號依序作答。

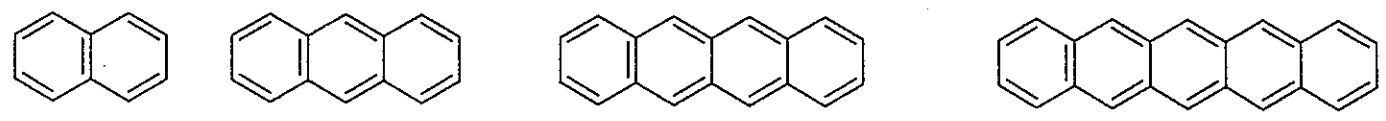
(1) Please arrange the relative rates for the bromination of benzene, methoxybenzene, and *N*,*N*-dimethylaniline in descending order (from largest to smallest). (8%)

(2) Please give the chemical structure of A (the major product) and the chemical structure of B (the major product). (8%)



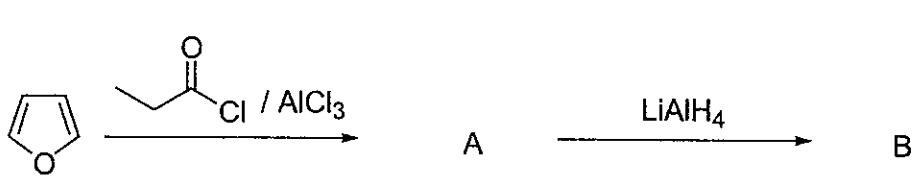
(3) The S_N2 reaction is a type of reaction that is common in organic chemistry. What do S, N, and 2 stand for, respectively? (12%)

(4) Please arrange the λ_{max} (maximum absorption) values of naphthalene, anthracene, tetracene, and pentacene in descending order (from largest to smallest). (12%)



naphthalene　anthracene　tetracene　pentacene

(5) Please give the chemical structure of A (the major product) and the chemical structure of B (the major product). (8%)



(6) Please arrange the relative reactivities in radical substitution of the **H**s attaching to allylic carbon, tertiary carbon, secondary carbon, and primary carbon in descending order (from largest to smallest). (12%)

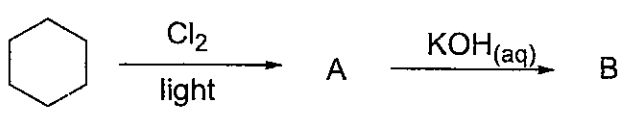
allylic carbon　tertiary carbon　secondary carbon　primary carbon

(7) The three isomeric pentanes, C_5H_{12}, have boiling points of 9.5, 28, and 36 °C. Please match each boiling point with the corresponding chemical structure. (12%)

(8) (a) Is acetone and water miscible at room temperature? (b) Please give you reason. (8%)

(9) (a) Please give the two conformations of 1,3-butadiene resulting from the rotation about the C–C sing bond. (b) Which conformation is more stable? (12%)

(10) Please give the chemical structure of A (the major product) and the chemical structure of B (the major product). (8%)



試題隨卷繳回