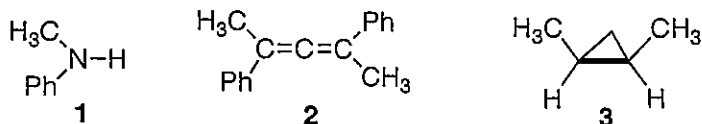


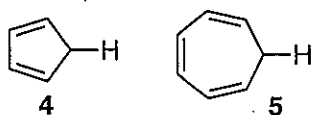
[有機化学基礎]

以下の問 (1) ~ (7) に答えよ.

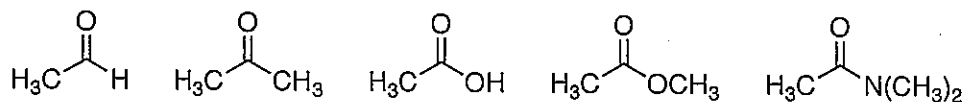
- (1) 以下の化合物 1~3 について, 光学活性であるかどうか, 理由とともに示せ.



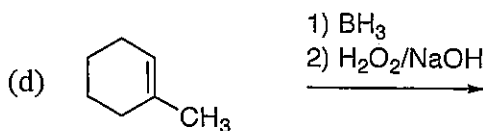
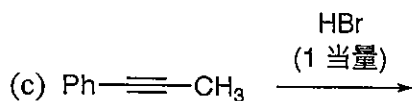
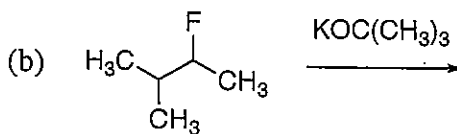
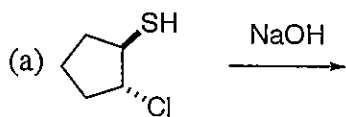
- (2) 以下の化合物 4 と 5 のいずれか酸性度の高いものを示せ. その理由も説明せよ.



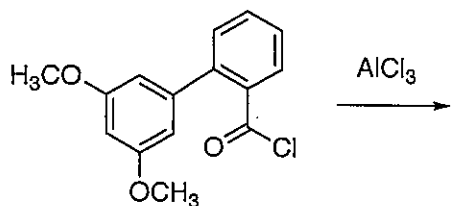
- (3) 以下の化合物を, 酸性度の低いものから高いものへ左から右に順に並べよ.



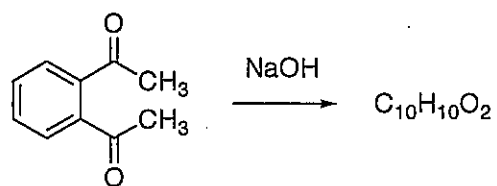
- (4) 以下に示す反応(a)~(d)について, 主生成物の構造式を, 立体化学を明確にして描け.



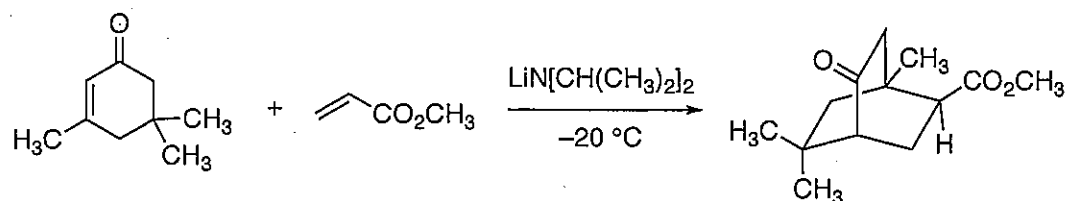
- (5) 以下に示す反応について, 主生成物の構造式を描け. また, 反応機構を電子の移動を表す巻矢印表記法を用いて示せ.



(6) 以下に示す反応について、主生成物の構造式を描け。



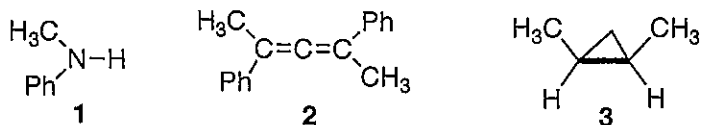
(7) 以下に示す反応について、反応機構を電子の移動を表す巻矢印表記法を用いて示せ。



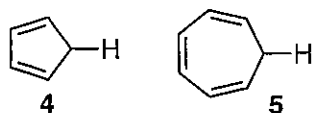
[Organic Chemistry: Basic]

Answer problems (1) through (7).

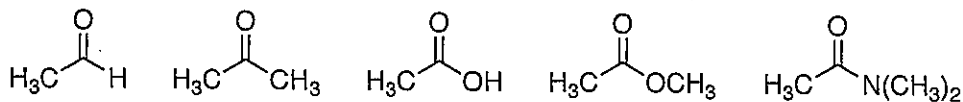
(1). Show if compounds **1–3** shown below are optically active or not. Provide the reason.



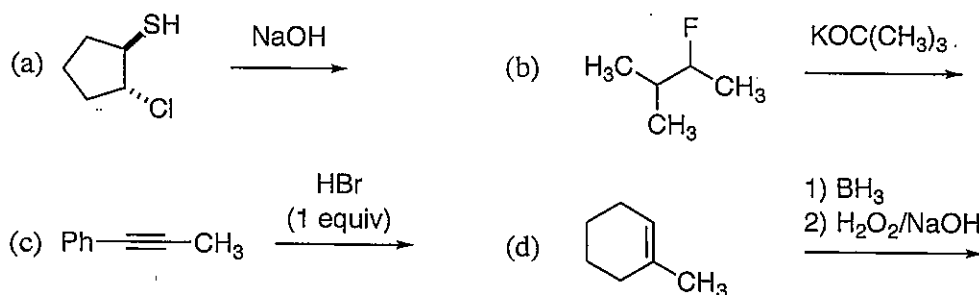
(2) Which of compounds **4** and **5** is a stronger acid? Provide the reason.



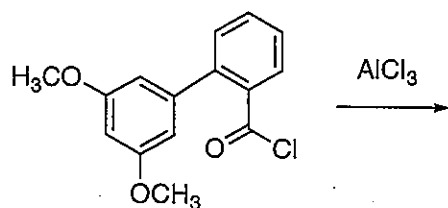
(3) List the compounds shown below in the increasing order of acidity from left to right.



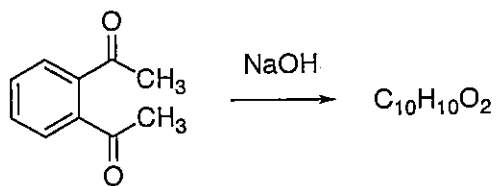
(4) Find the main product for the reactions shown below. If applicable, indicate the stereochemistry of each product.



(5) Find the main product for the reaction shown below. Also, show the reaction mechanism using the curved arrow formalism.



(6) Show the structure of the product obtained in the reaction below.



(7) Show the reaction mechanism using the curved arrow formalism for the reaction shown below.

