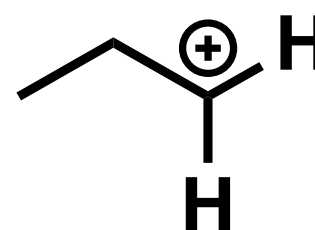
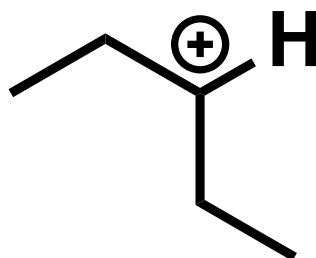
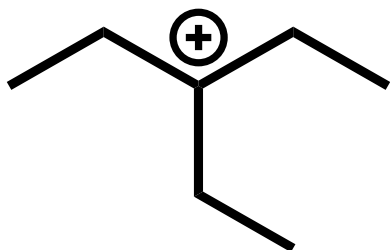


## quiz, 小テスト-1

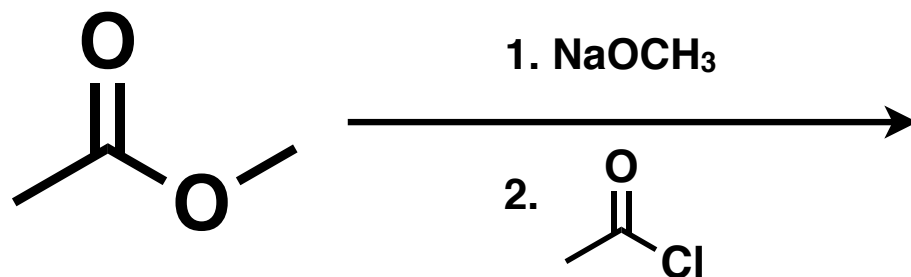
A. Predict which carbocation is the most stable one.



B. Predict which carbocation is more stable one.



C. Predict the product and write a mechanism for the following reaction.



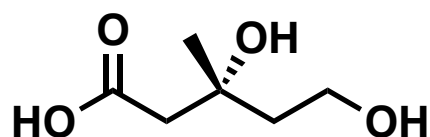
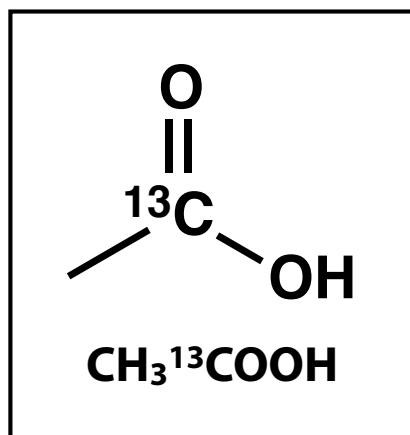
## quiz, 小テスト

1. To confirm the biosynthetic scheme of the mevalonate pathway, a researcher supplemented selectively isotope-labelled acetic acid ( $\text{CH}_3^{13}\text{COOH}$ ) into the medium of terpene-producing yeast. After fermentation, and mevalonic acid and geranyl pyrophosphate were purified from the yeast lysate. Then, the numbers and positions of  $^{13}\text{C}$  in the isolated mevalonic acid and geranyl pyrophosphate were determined by NMR experiments.

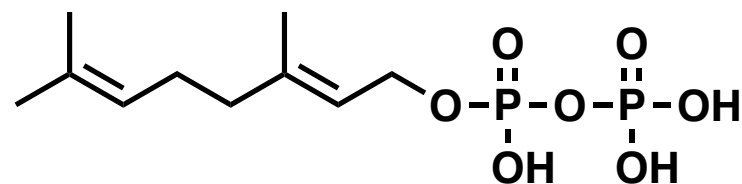
Predict the results of each molecule. Highlight the labelled carbons with circles.

メバロン酸経路における生合成反応スキームを検証するため、テルペンを産生する酵母の培養液に、部位特異的に安定同位体ラベルした酢酸を加えた。培養後、メバロン酸とゲラニル二リン酸を酵母の破碎液から精製した。その後、精製したメバロン酸とゲラニル二リン酸中に含まれる $^{13}\text{C}$ の数と場所をNMR解析により決定した。

その結果を予測せよ。（ラベル化炭素を○で囲んでしめせ。）



mevalonic acid

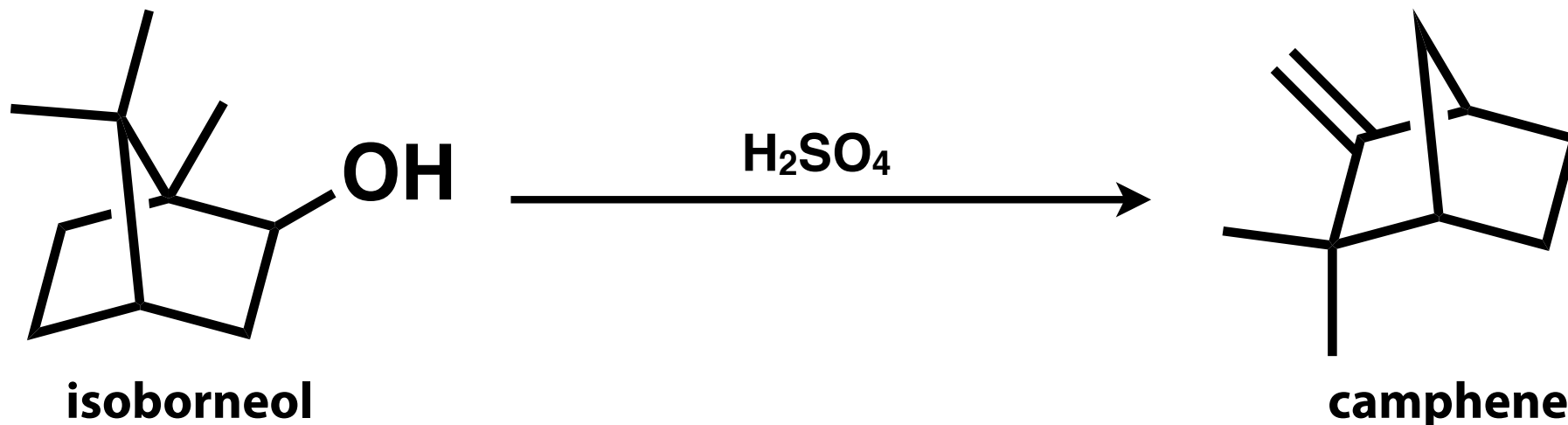


geranyl pyrophosphate  
(GPP)

2. Shown at the end of this class.  
講義の最後に出します。
3. Provide your impressions and/or questions regarding the issues introduced in the class if applicable.  
講義内容に関する感想や簡単な質問などをどうぞ。

## quiz, 小テスト

2. Isoborneol can be chemically converted to camphene by sulfuric acid treatment. Predict the mechanism of this reaction.



3. Provide your impressions and/or questions regarding the issues introduced in the class if applicable.

講義内容に関する感想や簡単な質問などをどうぞ。