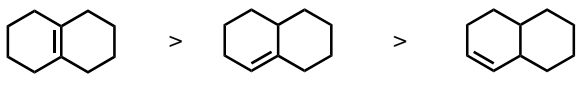


Answer Key

1.



Most stable
tetrasubstituted

Least stable
disubstituted

Hydrogenation is most exothermic

ΔH° of hydrogenation (in kcal/mol):

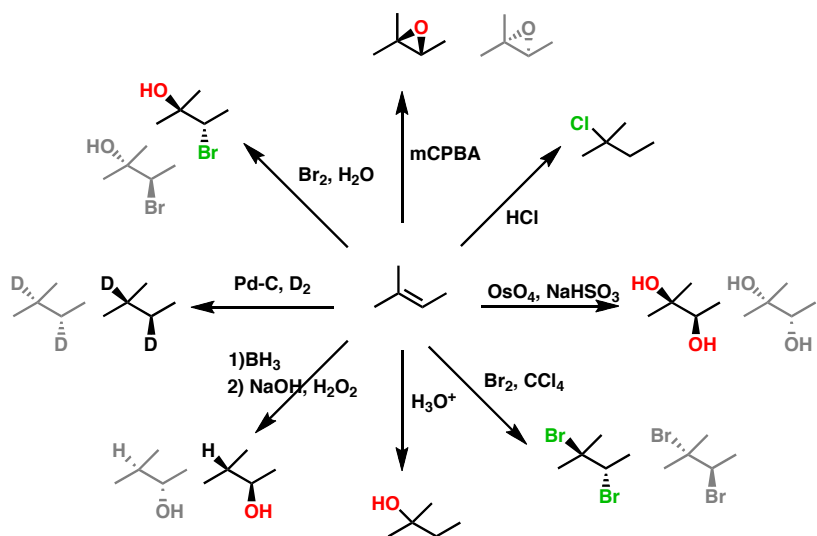
- 26.8

- 28.4

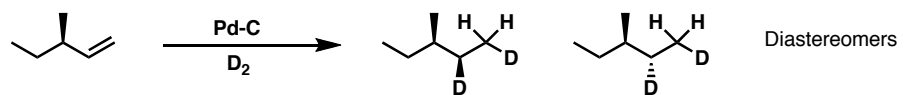
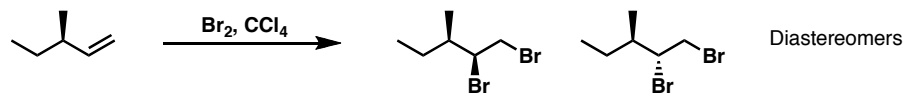
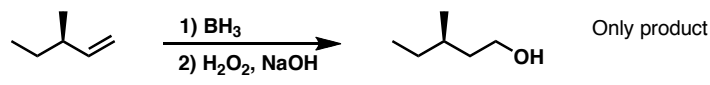
- 30.2

2.

Problem 2: Draw One Product Of Each Reaction

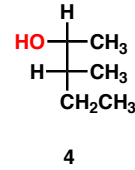
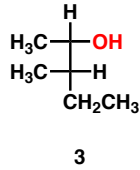
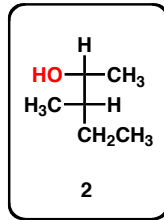
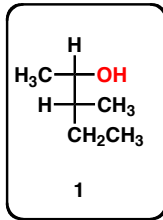
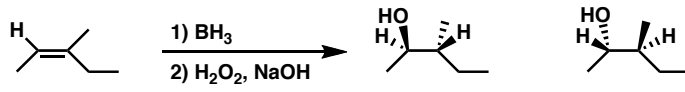


3.

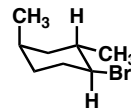
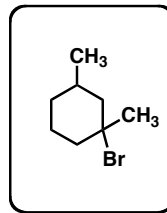
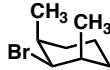
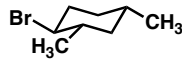
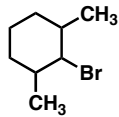


4.

Pick the structures which correspond to the products of the reaction below

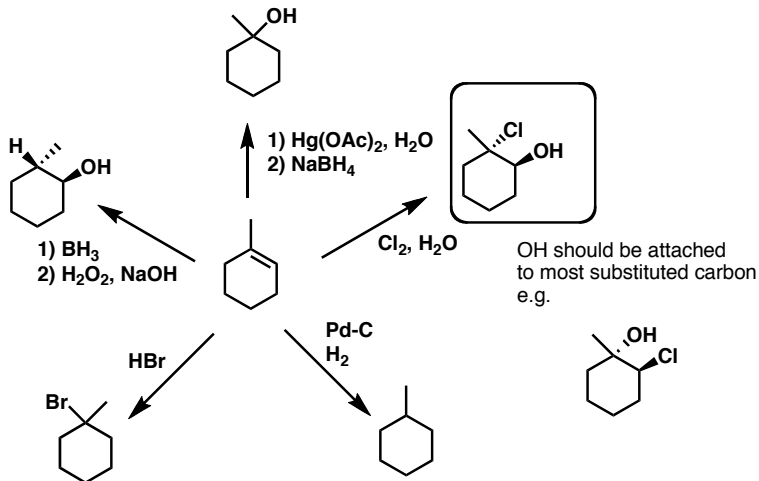


5.



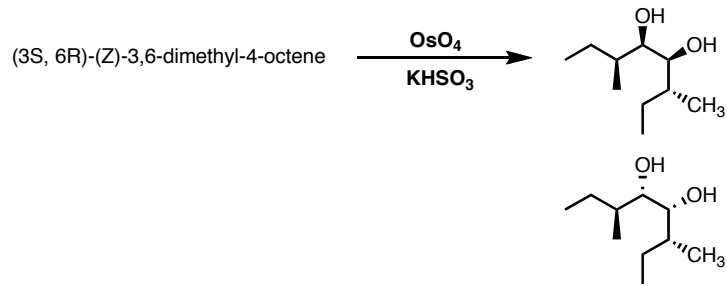
6.

Which Product Is Incorrect?



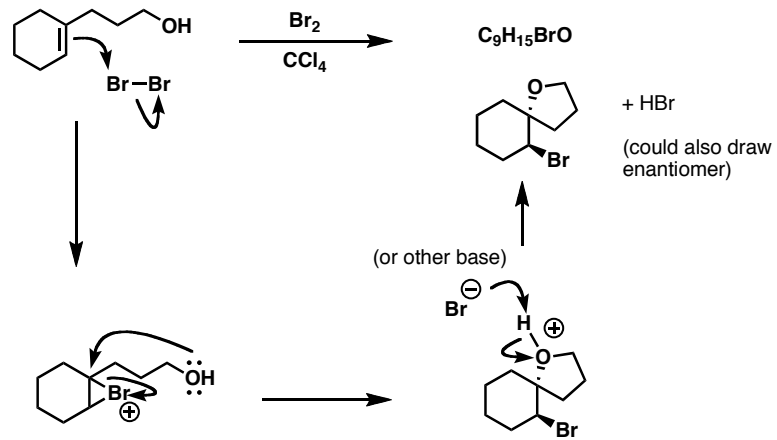
7.

Draw The Product(s) Of The Following Reaction



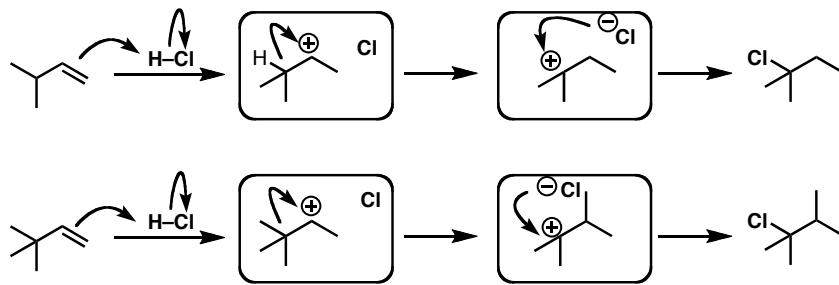
8.

Draw The Product Of The Following Reaction (And Mechanism)



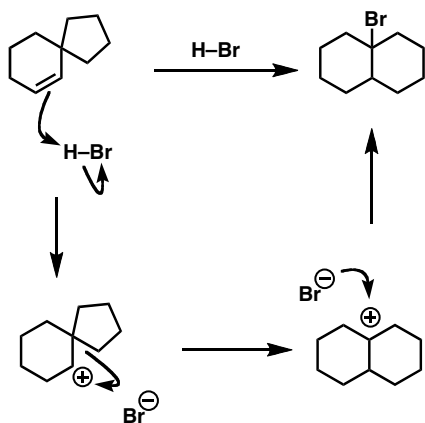
9.

Draw the mechanisms for these two reactions



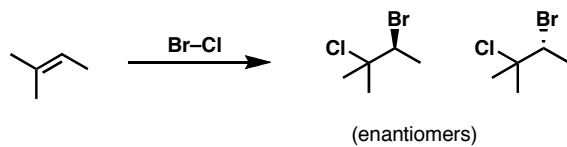
10.

Draw a mechanism for this reaction



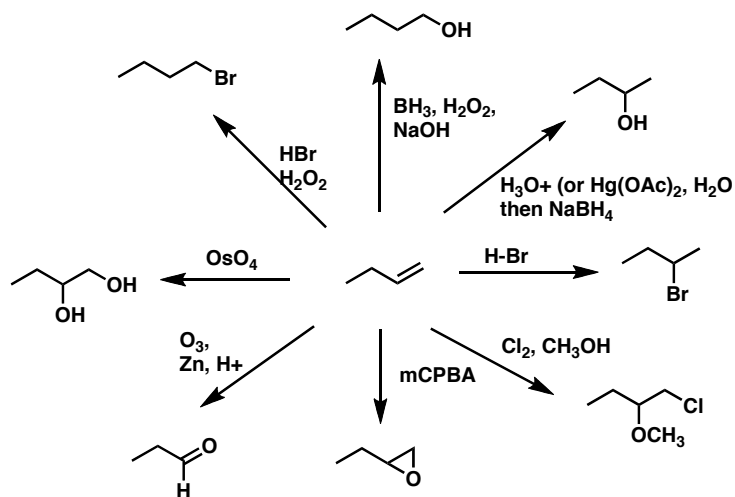
11.

What would be the product(s) of the following reaction?



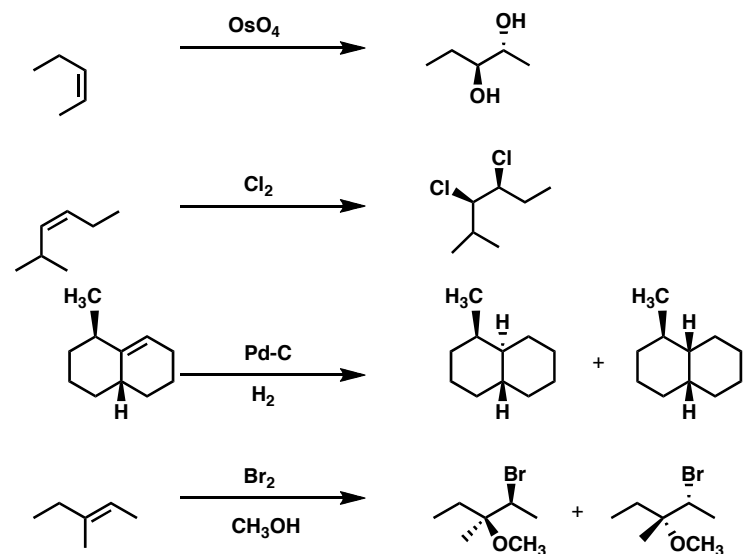
12.

Give the reagents for each of these reactions



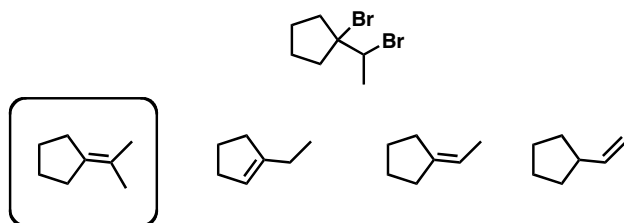
13.

Draw a suitable starting alkene for the following reactions



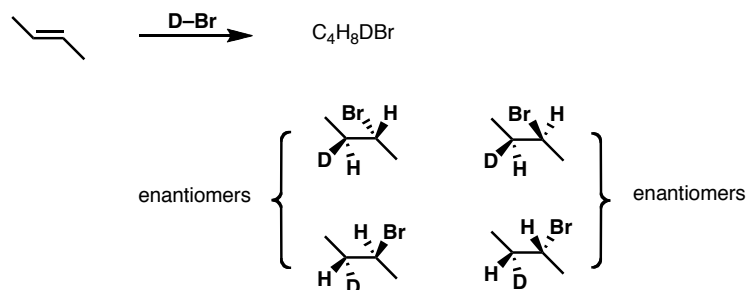
14.

Which alkene, treated with Br_2 and CCl_4 would give this product?



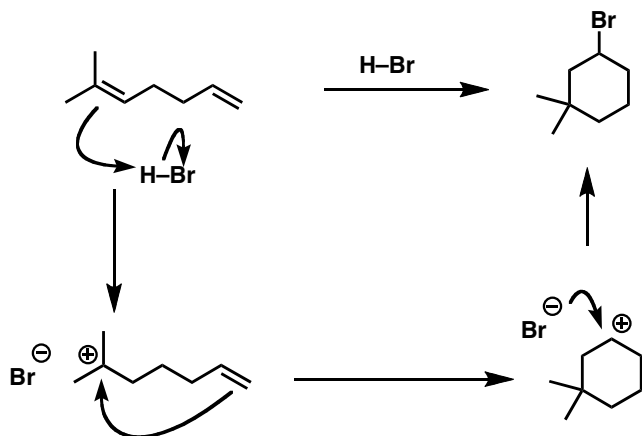
15.

Draw all the products resulting from this reaction and describe how they are related



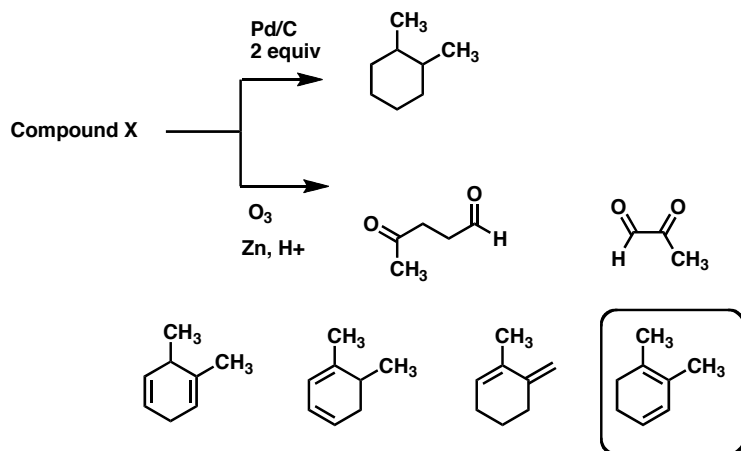
16.

Draw a mechanism for this reaction



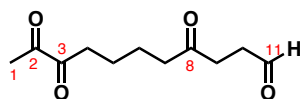
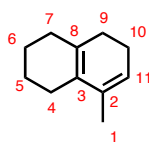
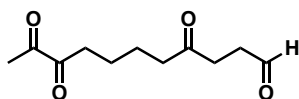
17.

Compound X absorbs 2 equivalents of hydrogen gas during hydrogenation. When treated with O₃ (and reductive workup) it gives the two products shown. What is compound X?



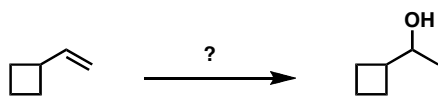
18.

MYSTERY COMPOUND X was found to absorb 2 equivalents of H₂ gas under catalytic hydrogenation conditions. Ozonolysis of MYSTERY COMPOUND X gave the molecule shown. Draw the structure of the mystery compound.



19.

What reagent(s) would you use for the following transformation?



1) $\text{Hg}(\text{OAc})_2, \text{H}_2\text{O}$
2) NaBH_4

20.

Draw A Mechanism For The Following Reaction

