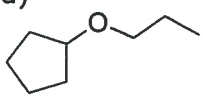
11A. Provide IUPAC names for ethers.

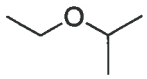
11A.1 Name the following compounds

a)



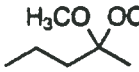
propoxy cyclopentane

b)



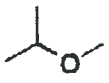
2-ethoxy propane
(ethyl isopropyl ether)

c)



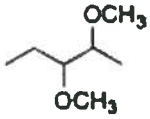
2,2-dimethoxy pentane

d)



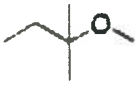
2-methoxy propane
(isopropyl methyl ether)

e)



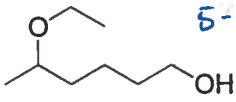
2,3-dimethoxy pentane

f)



2-methoxy-2-methyl butane

g)



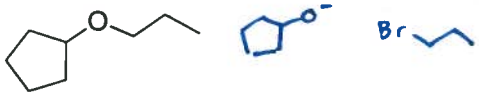
5-ethoxyl-hexanol

11B. Synthesize ethers through the Williamson ether synthesis.

11B.1 Show the starting materials you would use to make the following. ~~how you would make the following ether using~~ with the Williamson ether synthesis.

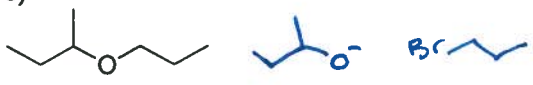
* Any halide is ok

a)



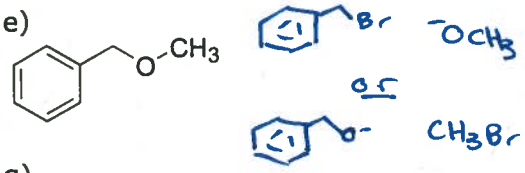
b)

c)



d)

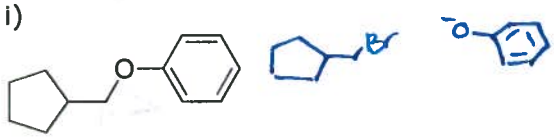
e)



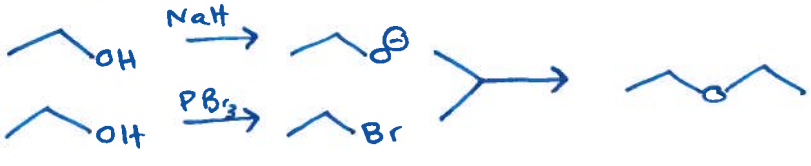
g)

h)

i)



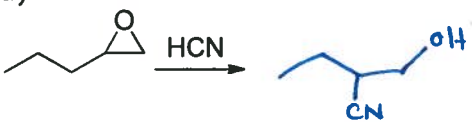
11B.2 Show how you would make diethyl ether using ethanol as your only source of carbon and any other inorganic reagents.



11C. Predict the products of epoxide openings in base and acid.

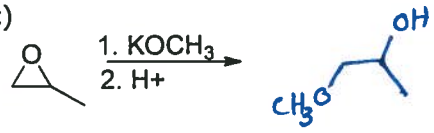
11C.1 Draw the major product of the following epoxide opening reactions. Include stereochemistry where relevant.

a)

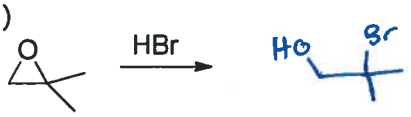


b)

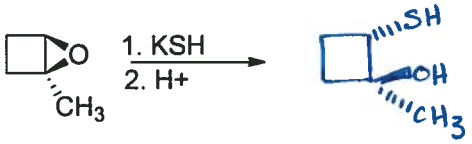
c)



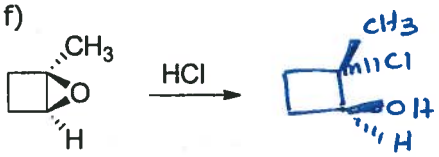
d)



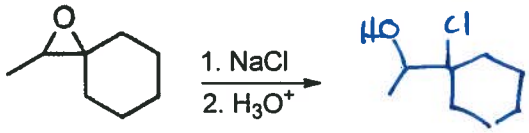
e)



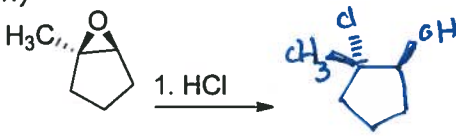
f)



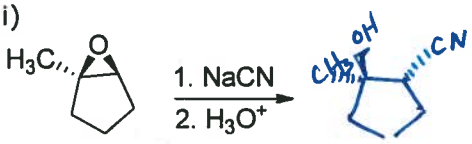
g)



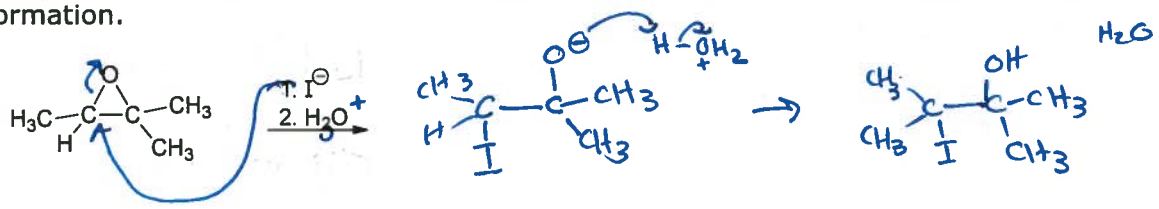
h)



i)



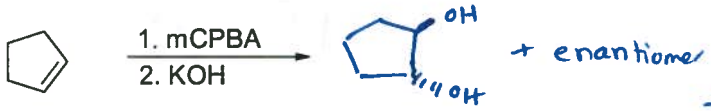
11C.2 Draw the product of the following reaction and use curved arrows to show the mechanism of formation.



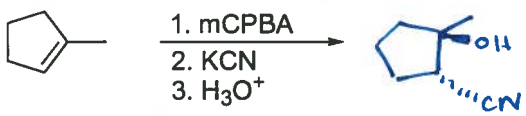
11C.3. Draw the products of the following reactions. Include stereochemistry where relevant

a)

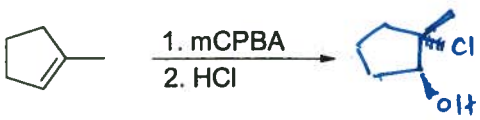
b)



c)



d)



e)

f