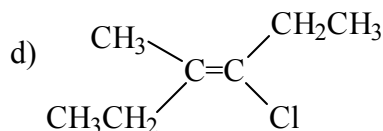
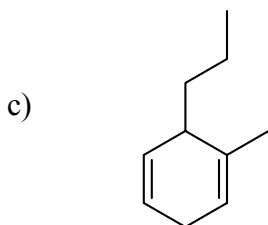
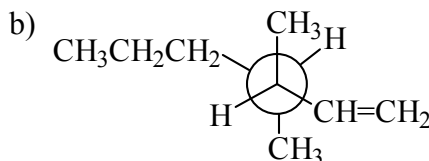
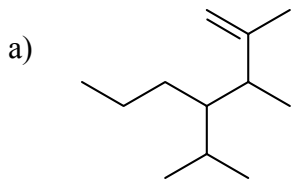
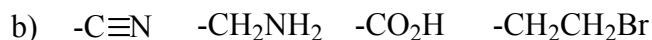
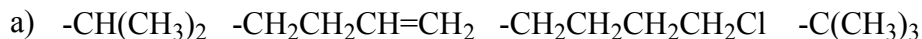


1.(16) Give the name of the following compounds. Be sure to Indicate stereochemistry where appropriate (e.g. *E* or *Z*).

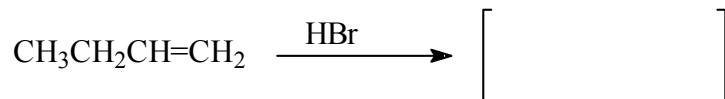


2.(8) Arrange the following series of substituents in order of *increasing* E/Z priority where 1 = lowest and 4 = highest priority.



3.(8) In the addition reaction of HBr to 1-butene, the product formed has a chiral center.

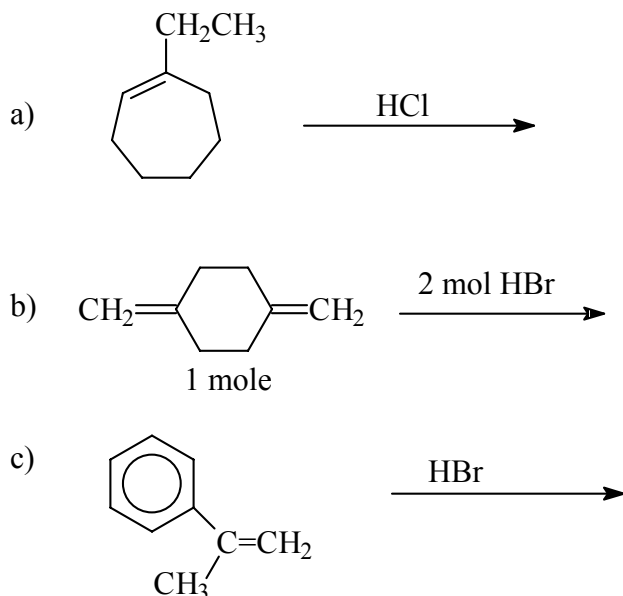
a) Draw the intermediate carbocation in this reaction.



b) How many stereoisomers can be formed of the final product? _____ Draw it (them) with Fisher projection(s).

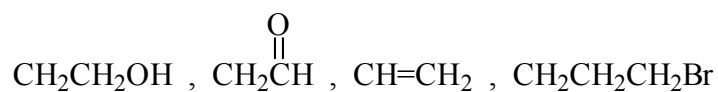
c) The product is not optically active (does not rotate the plane of plane-polarized light). Suggest a reason why.

4.(12) Give the major product for the following reactions:

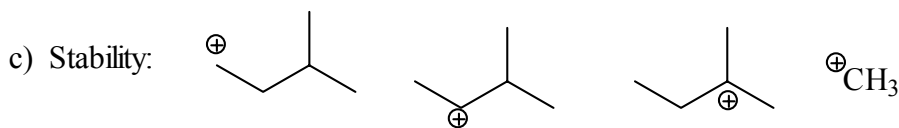
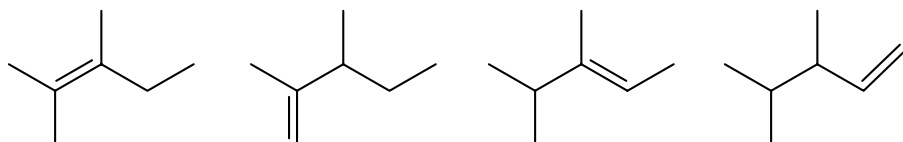


5.(12) Arrange the following in order of increasing (1= lowest or least)

a) Cahn, Ingold Prelog priority (E,Z priority):



b) Stability (think heat of hydrogenation):



6.(8) Give the stepwise mechanism for the following reaction. Use arrows to indicate the electron flow and show any intermediates.

