Problem 8.7

What products would you expect from oxymercuration–demercuration of the following alkenes?

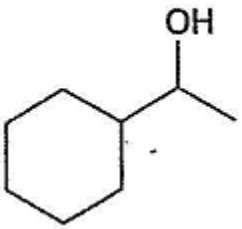
(a) $CH_3CH_2CH_2CH{=}CH_2$

(b) $CH_3C(CH_3){=}CHCH_2CH_3$

Problem 8.8

From what alkenes might the following alcohols have been prepared?

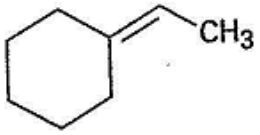
(a) $CH_3C(OH)(CH_3)CH_2CH_2CH_2CH_3$

(b) 

Problem 8.9

Show the structures of the products you would obtain by hydroboration–oxidation of the following alkenes:

(a) $CH_3C(CH_3){=}CHCH_2CH_3$

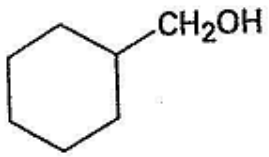
(b) 

Problem 8.10

What alkenes might be used to prepare the following alcohols by hydroboration–oxidation?

(a) $CH_3CH(CH_3)CH_2CH_2OH$

(b) $CH_3CH(OH)CH(CH_3)CH_3$

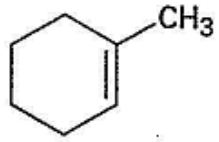
(c) 

Problem 8.27e

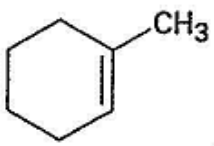
(e) ? $\xrightarrow[2.\ NaBH_4]{1.\ Hg(OAc)_2,\ H_2O}$ $CH_3CH_2CH_2CH(OH)CH_3$

Problem 8.28 (c,d)

Predict the products of the following reactions, showing both regiochemistry and stereochemistry where appropriate:

(c) 

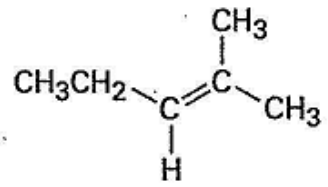
$\xrightarrow[2.\ H_2O_2,\ ^-OH]{1.\ BH_3}$?

(d) 

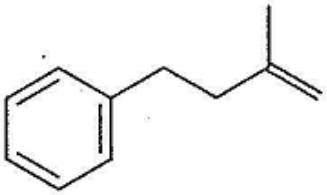
$\xrightarrow[2.\ NaBH_4]{1.\ Hg(OAc)_2,\ H_2O}$

Problem 17.6

Predict the products of the following reactions:

(a) 

$\xrightarrow[2.\ NaOH,\ H_2O_2]{1.\ BH_3}$?

(b) 

$\xrightarrow[2.\ NaBH_4]{1.\ Hg(OAc)_2,\ H_2O}$?

(c) $CH_3CH_2CH_2CH_2$ $CH_2CH_2CH_2CH_3$

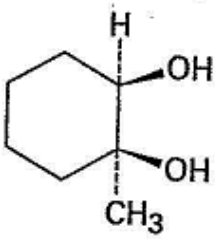
C=C

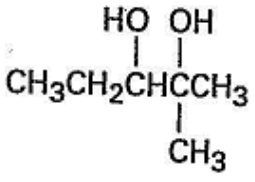
H H

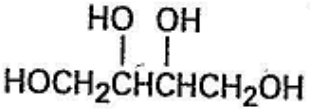
$\xrightarrow[2.\ NaHSO_3,\ H_2O]{1.\ OsO_4}$?

Problem 8.14

How would you prepare each of the following compounds starting with an alkene?

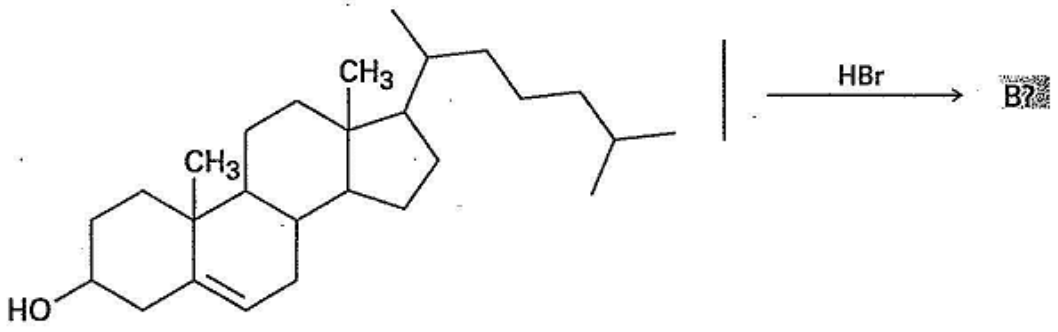
(a) 

(b) 

(c) 

Problem 8.28b

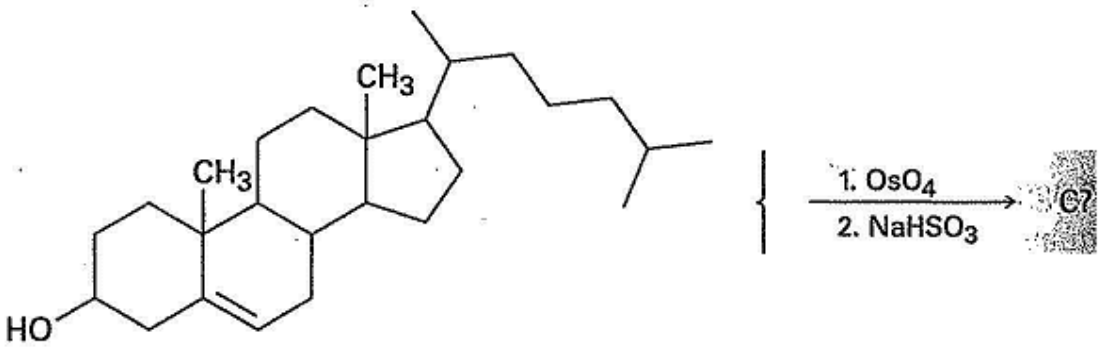
Predict the products of the following reactions. Don't worry about the size the molecule; concentrate on the functional groups.



Cholesterol

Problem 8.32c

Predict the products of the following reactions. Don't worry about the size the molecule; concentrate on the functional groups.



Cholesterol