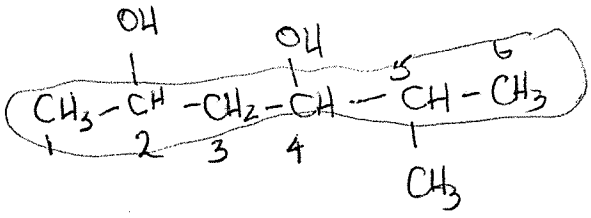
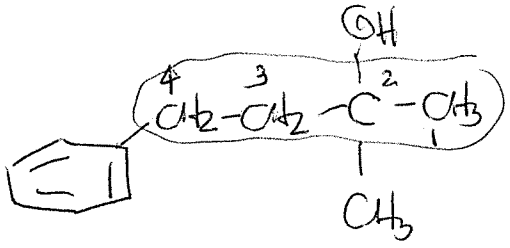
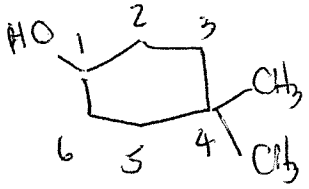
17.1

a) 

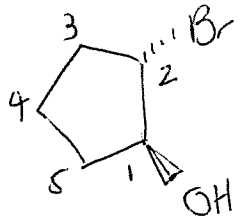
5-methyl-2,4-hexanediol

b) 

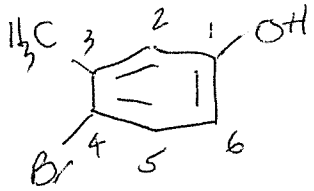
2-methyl-4-phenyl-2-butanol

c) 

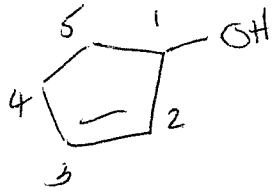
4,4-dimethylcyclohexanol

d) 

trans-2-bromocyclopentanol

e) 

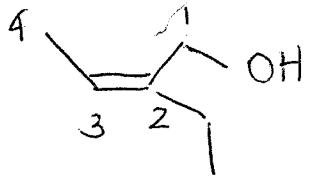
4-bromo-3-methyl phenol

f) 

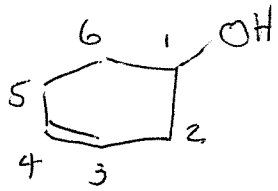
cyclopent-2-en-1-ol

17.2

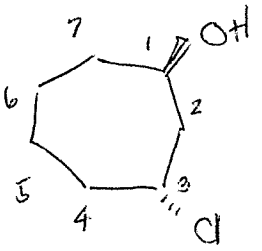
a) (Z)-2-ethyl-2-buten-1-ol



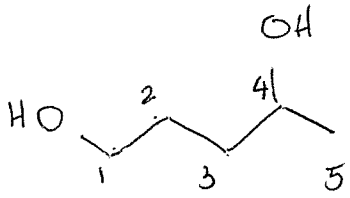
b) 3-cyclohexen-1-ol



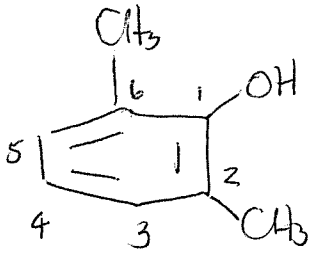
c) trans-3-chlorocycloheptanol



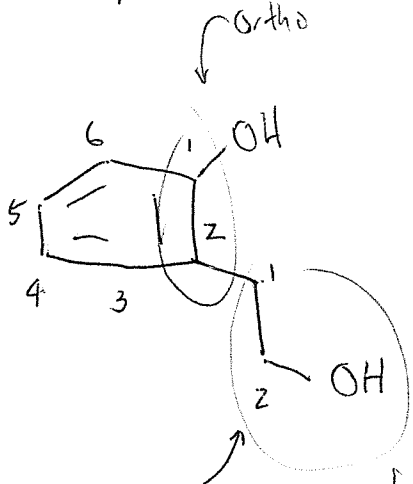
d) 1,4-pentanediol



e)

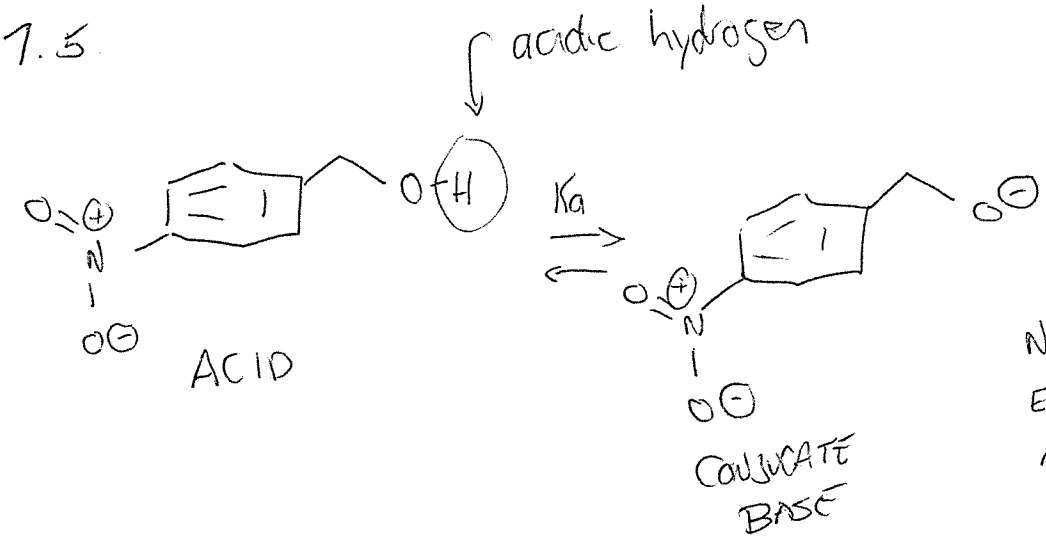


f) o-(2-hydroxyethyl)phenol



2-hydroxy refers to position of hydroxyl on ethyl substituent

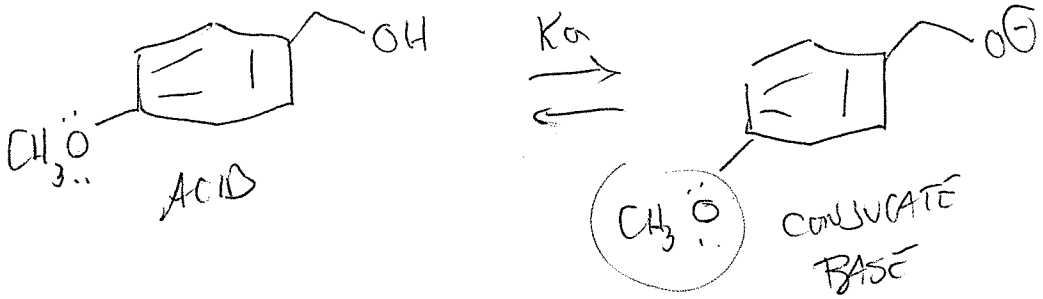
17.5



NITRO IS AN EWG by resonance. ↑ ⊕ character of the ring stabilizes the conjugate base better than p-methoxy, which is an EDG

$K_a = \frac{[CB]}{[A]}$ ← stabilized by EWG (NO_2, $\sigma_p = +0.78$)

↑ Ka, ↓ pKa
MORE ACIDIC



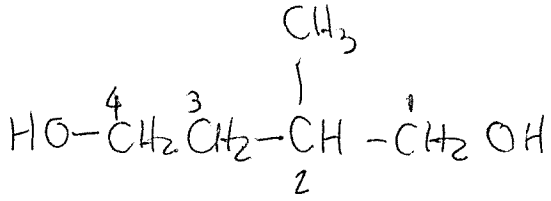
EDG $\sigma_p = -0.27$
DESTABILIZES ⊖ conjugate base

$K_a = \frac{[CB]}{[A]}$ ← destabilized by EDG (OCH_3 $\sigma_p = -0.27$)

↓ Ka, ↑ pKa
LESS ACIDIC

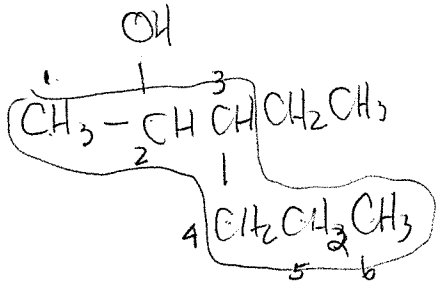
17.25

a)



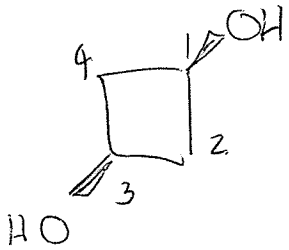
2-methyl-1,4-butanediol

b)



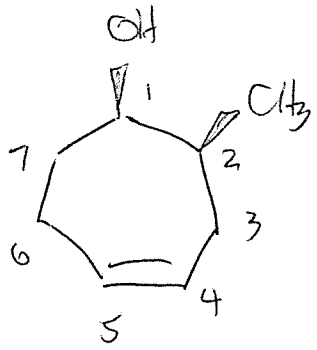
3-ethyl-2-hexanol

c)



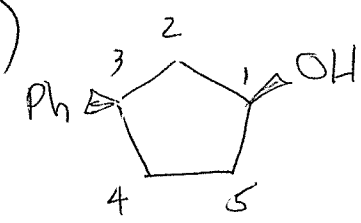
cis-1,3-cyclobutanediol

d)



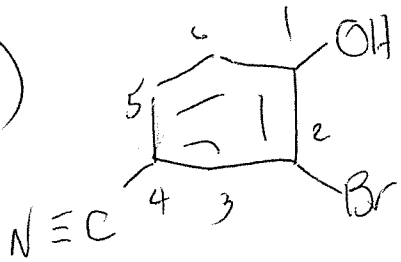
cis-2-methylcyclohepta-4-en-1-o

e)



3-phenylcyclopentanol

f)

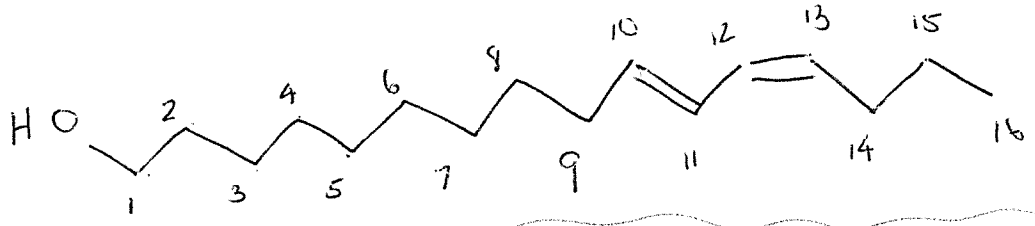


2-bromo-4-cyanophenol

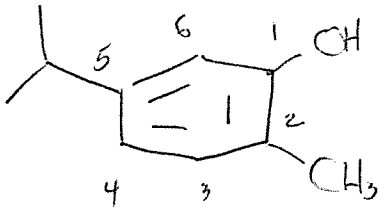
17.28

$C_{16}H_{28}O$

(10E, 12Z) 10, 12- hexadecadien-1-ol



17.29



5-isopropyl-2-methyl phenol