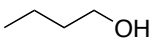
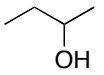
Alcohols and Ethers

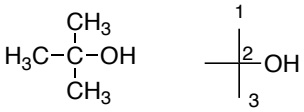
Examples continued:



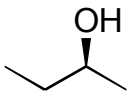
1-butanol
butan-1-ol
n-butanol



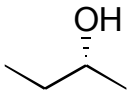
2-butanol



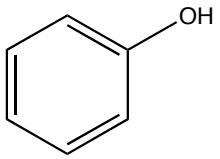
tert-butyl alcohol
2-methyl-2-propanol
2-methyl propan-2-ol



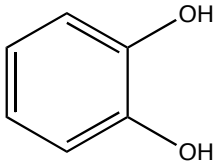
(S)-2-Butanol



(R)-2-Butanol

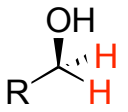


phenol

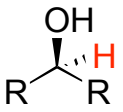


catechol

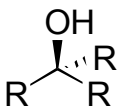
Note the difference in primary, secondary and tertiary alcohols (where R is not a hydrogen):



1^{O} Alcohol



2^{O} Alcohol

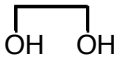


3^{O} Alcohol

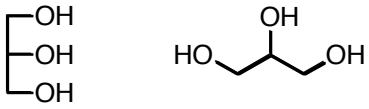
Polyols:

Diol: 2 OH groups
Triol: 3 OH
Tetraol: 4 OH, etc.

Polyols from nature:



Ethylene glycol (antifreezer)
1,2-dihydroxyethane
ethane-1,2-diol

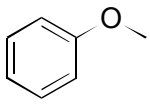


glycerol
glycerine
1,2,3-trihydroxypropane
12,3-propanetriol

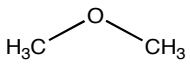
Nomenclature of Ethers

- common name "alkyl" groups on oxygen, then add "ether"

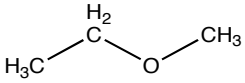
Examples:



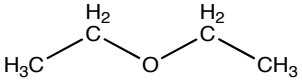
Anisole:
Phenyl Methyl Ether

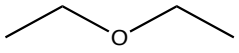


dimethyl ether
methyl ether

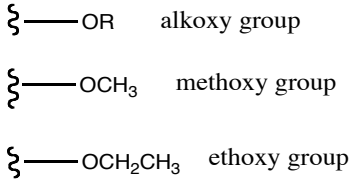


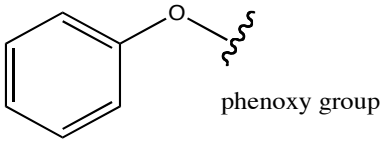
ethyl methyl ether



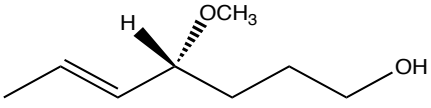


diethyl ether, ethyl ether, ether





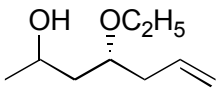
phenoxy group



4R-methoxyhept-5E-en-1-ol

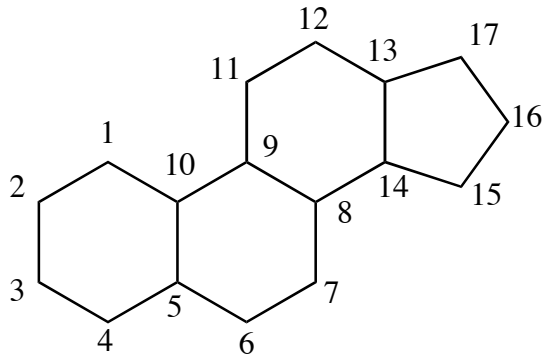
4R-methoxy-(E)-hept-5-en-1-ol

Note: alcohols have higher naming priority



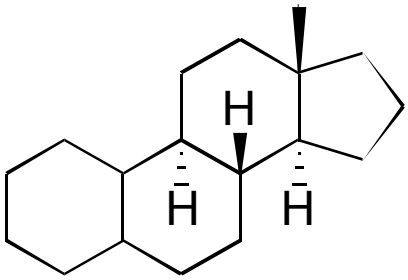
(R)4-Ethoxy hept-6-en-2-ol

Numbering carbons on steroids:

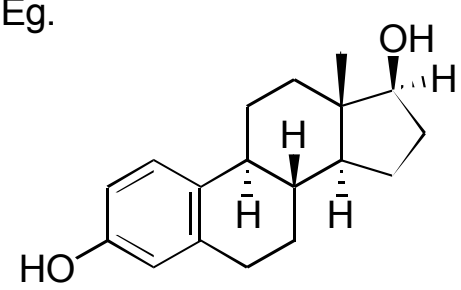


Note: Groups above the main structure are assigned β, while those below are α.

- **The Estrane Skeleton:**

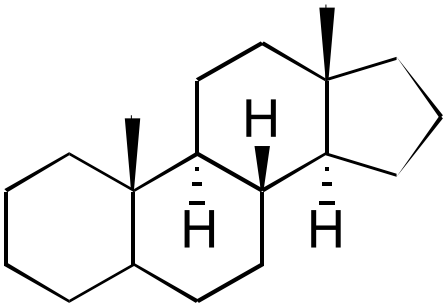


Eg.

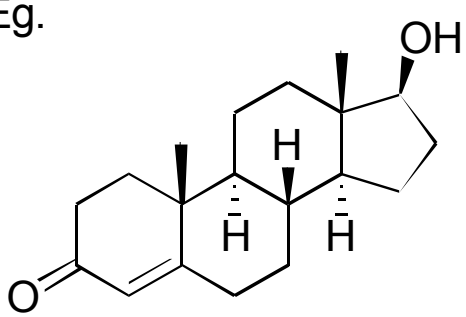


Estradiol:
Estra-1,3,5 trien-3,17β diol

- **The Androstane Skeleton:**

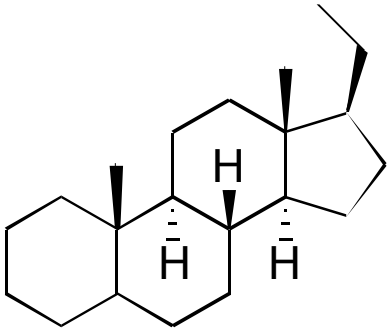


Eg.

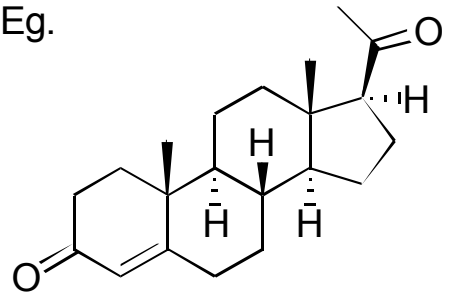


Testosterone

- **The Pregnane Skeleton:**

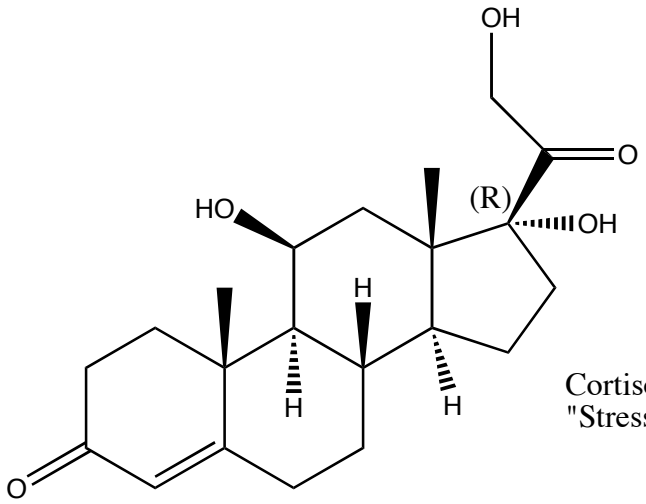


Eg.



Progesterone

An Andrenocorticoid: Cortisol



Cortisol
"Stress hormone"