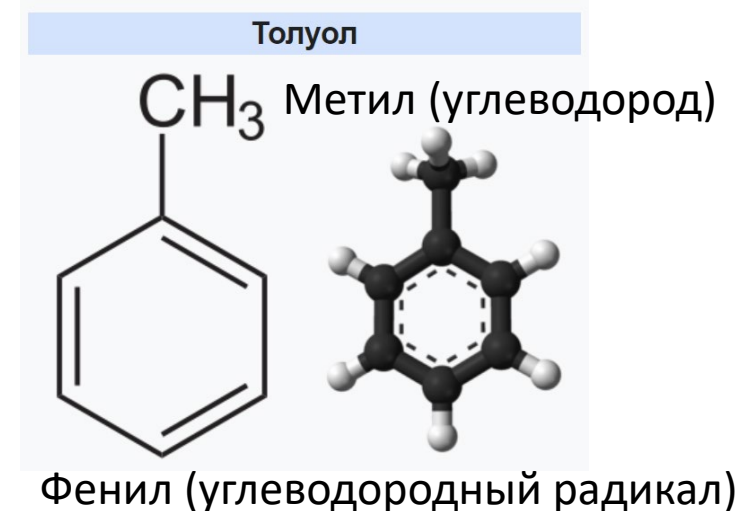
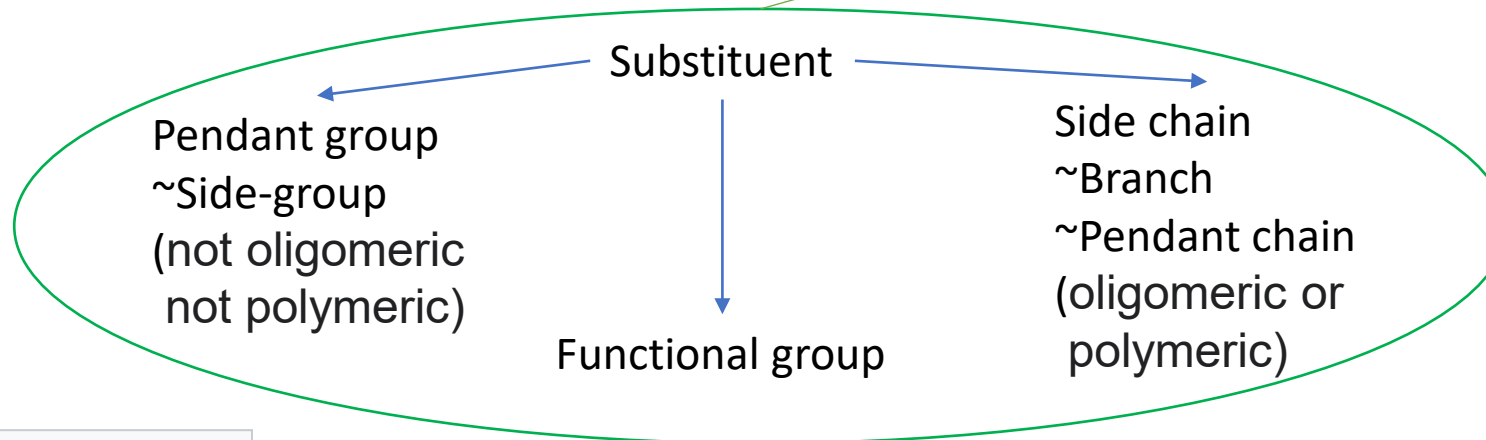


Radicals

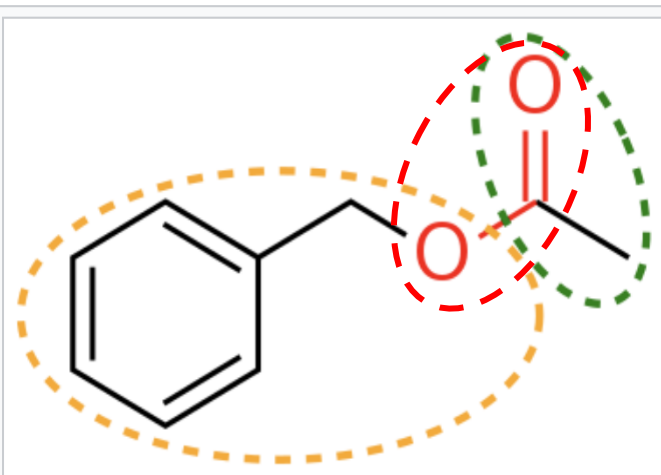
- Radix – корень – корневая часть кислоты
- Лавуазье считал что корневая часть + кислород = кислота
- Теория радикалов: подобно неорганическим элементам (*простые радикалы*), органические радикалы (*составные радикалы*), считающиеся неделимыми в органических реакциях
- Ученые определяли неорганическую химию как атомную химию, а органическую химию — как радикальную химию
- Слово радикал подчеркивает неделимость
- Свободный подчеркивает его несвязность
- Radical residues indivisible, Radical = indivisible Residue



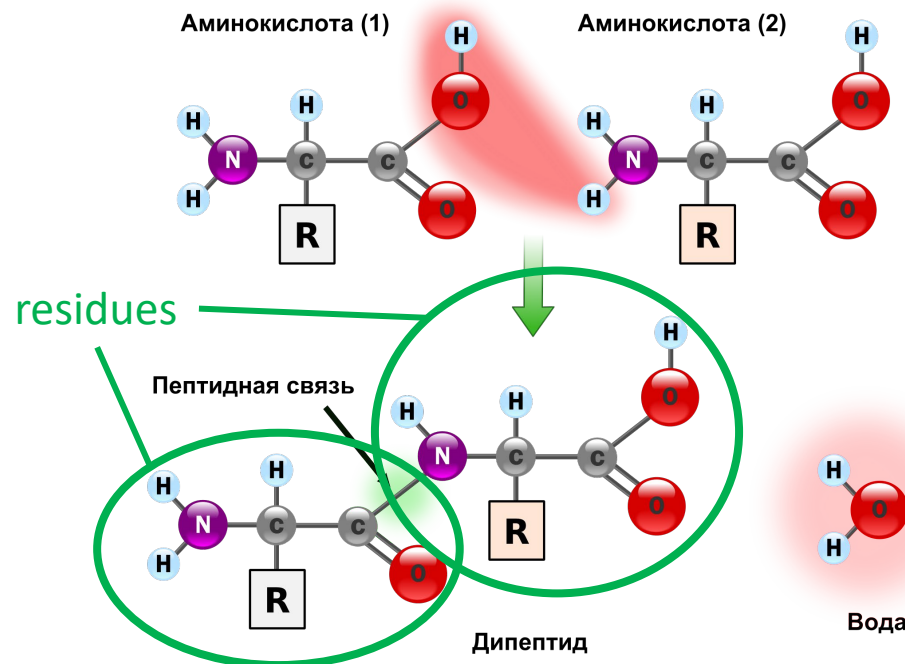
Moiety (частка, *médḥyos – между)



Not side = core part
of the molecule called
the "main chain"
or backbone



Benzyl acetate contains a *benzyloxy moiety* (encircled with light orange). It also contains an *ester functional group* (in red), and an *acetyl functional group* (encircled with dark green). Other divisions can be made.



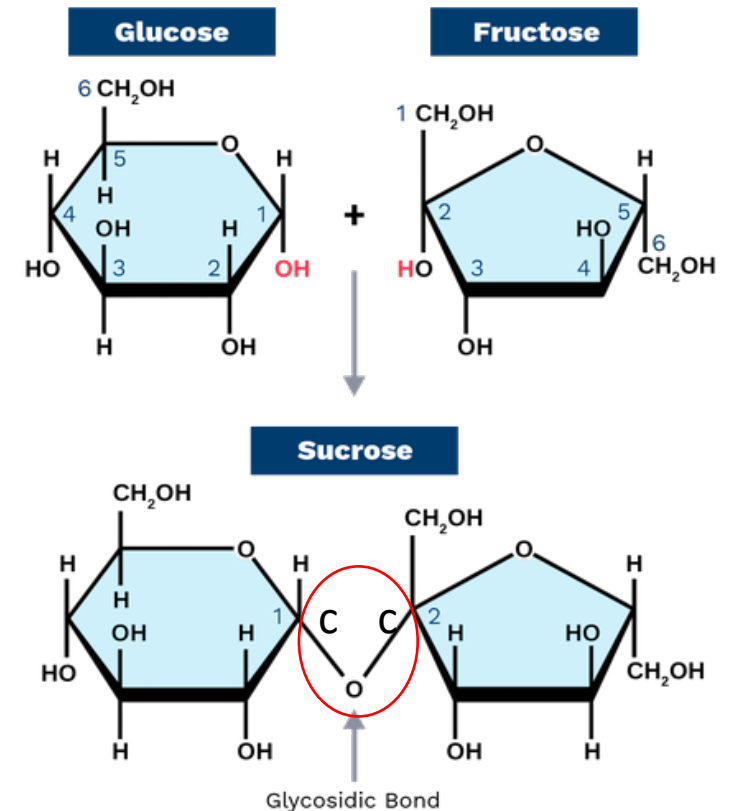
Polysaccharides

Carbohydrate (saccharide) $C_m(H_2O)_n$, $OHC[CH]_nCOOH$, $C_6H_{12}O_5$, Carbon has functional Oxygen

УглеВоды

Polysaccharide (polycarbohydrates) is a polymer of monomer saccharides joined by COC (Glycosidic bond)

σάκχαρον (sákkharon), Sanskrit (śárkarā), *kórkeh₂ (крошка)

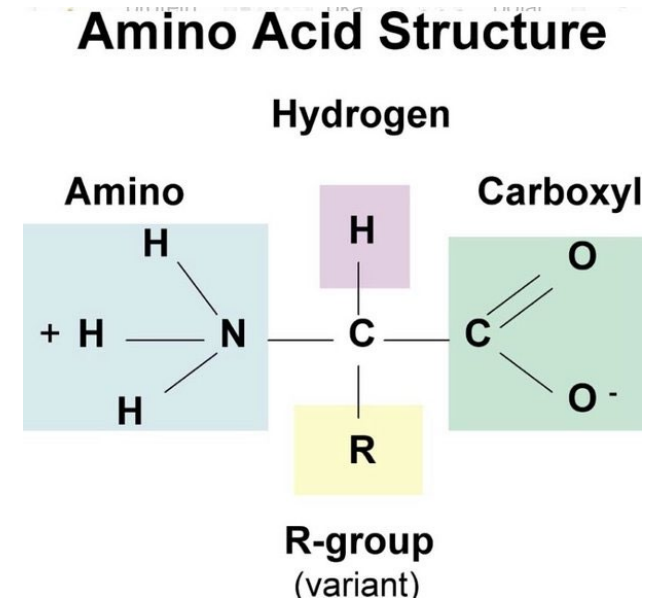
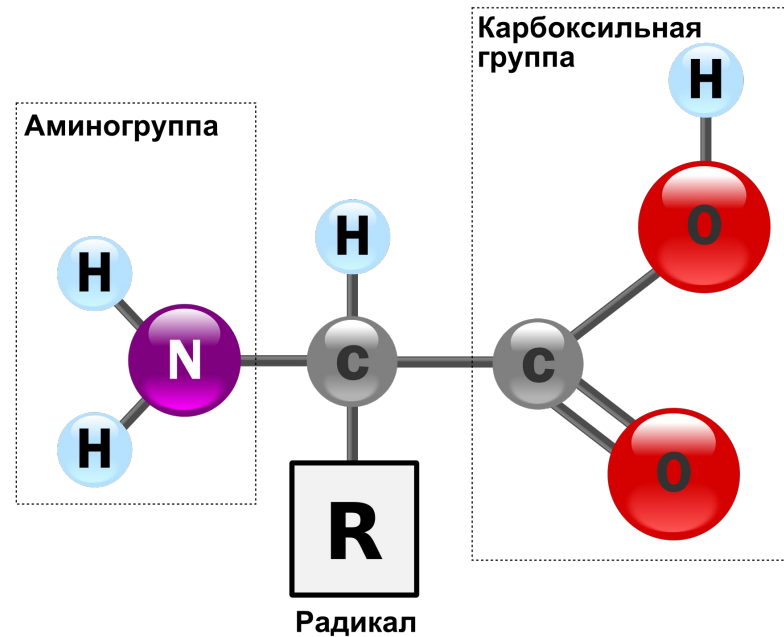
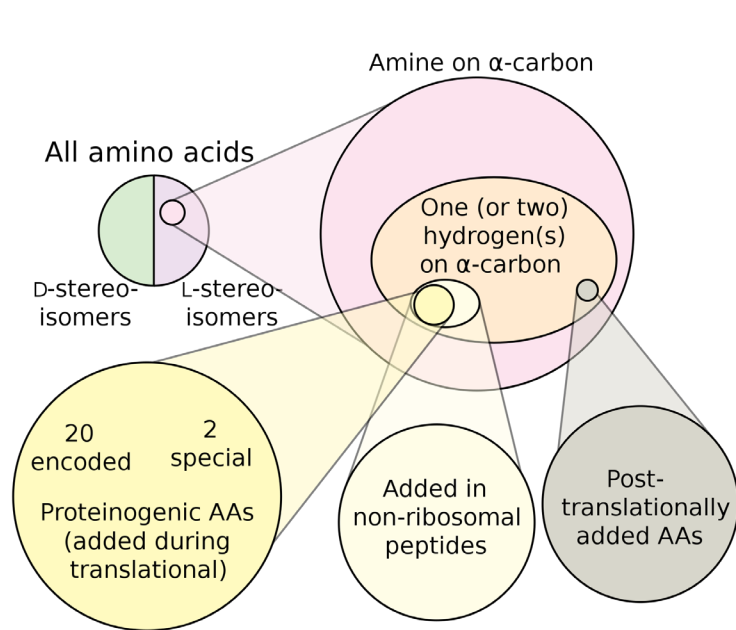


https://en.wikipedia.org/wiki/Skeletal_formula

Amino acids

Amines are derivatives of ammonia (NH₃)

Amino acids contain amino (NH₃) and carboxylate (CO₂) functional groups with a side chain (R group)



In fact they are ions [1](#), [2](#)

Polypeptide

Protein = Проте́ин (Первичный)

Peptide = Пептос (печь, варить, переваривать), *rék^w-ye-, *pek^w- (печь)

Conformation = устройство = совмещение

GLYCOSIDIC BOND VERSUS PEPTIDE BOND

Glycosidic bond is a type of covalent bond formed between two monosaccharides

Present in carbohydrates/sugars

Can be given as -C-O-C-

Hydrolysis of glycosidic bond forms two monosaccharides

Peptide bond is a type of covalent bond formed between two amino acids

Present in proteins

Can be given as -CONH-

Hydrolysis of peptide bond forms two amino acids

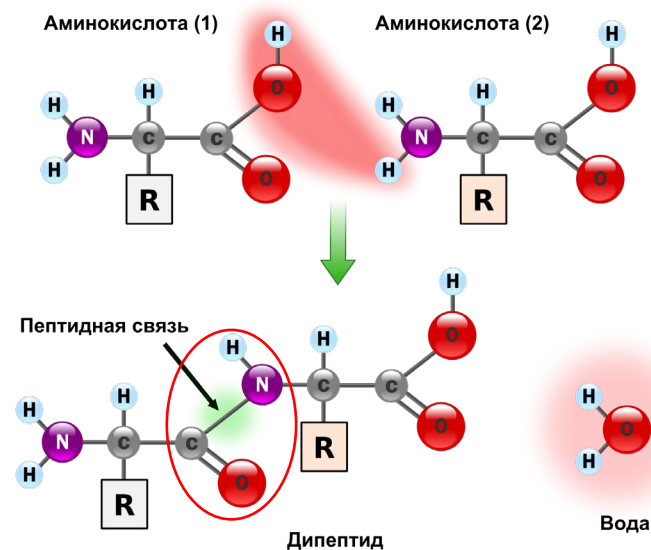
Visit www.pediaa.com

Polypeptide is a polymer of monomer amino acid joined by CONH (Peptide bond)

Oligo-peptide (=Few-peptide) – 2-20 amino acid

Poly-peptide (=Many-peptide) – 20+ amino acid

Protein = Poly-peptide(s) + stable conformation (3D structure)



DNA

The Nucleosome

"Beads-on-a-String"

The 30nm Fibre

Active Chromosome

The Metaphase Chromosome

Isolated patches.

Genes under active transcription.

Less active genes.

During interphase.

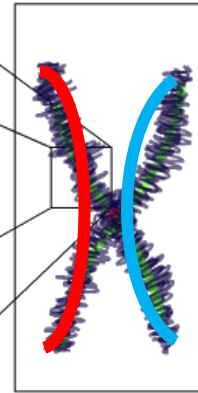
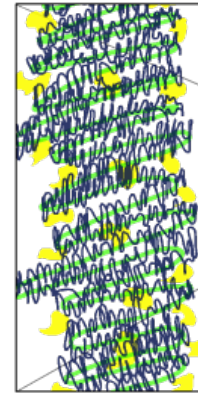
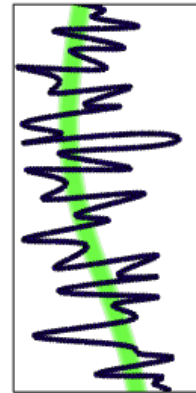
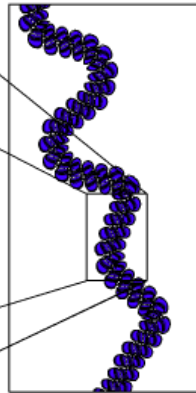
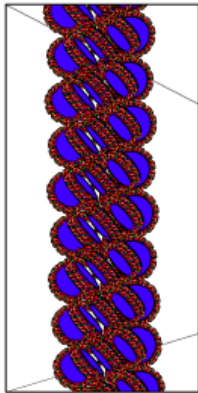
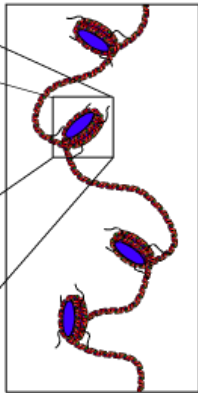
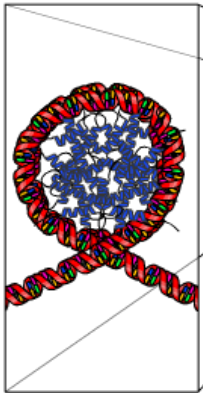
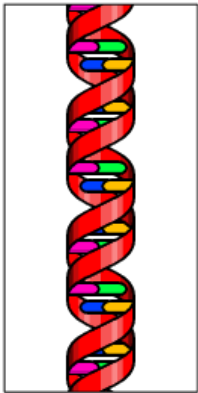
During cell division.

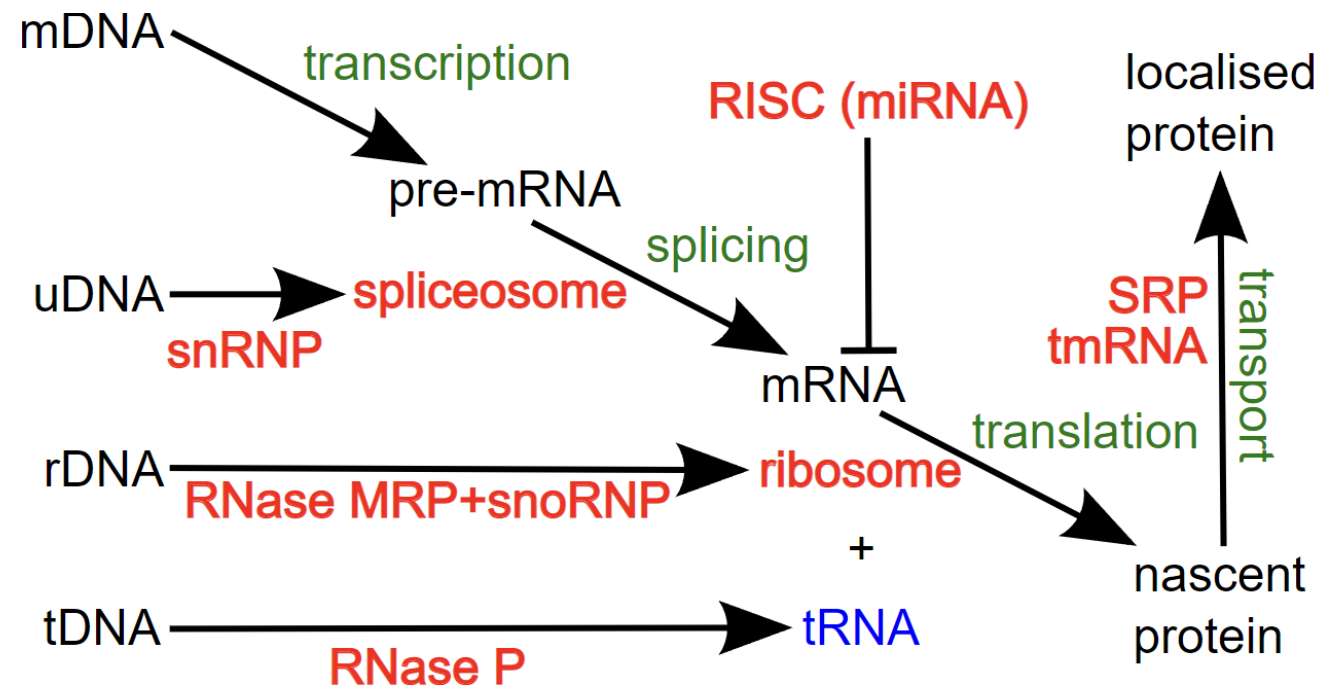
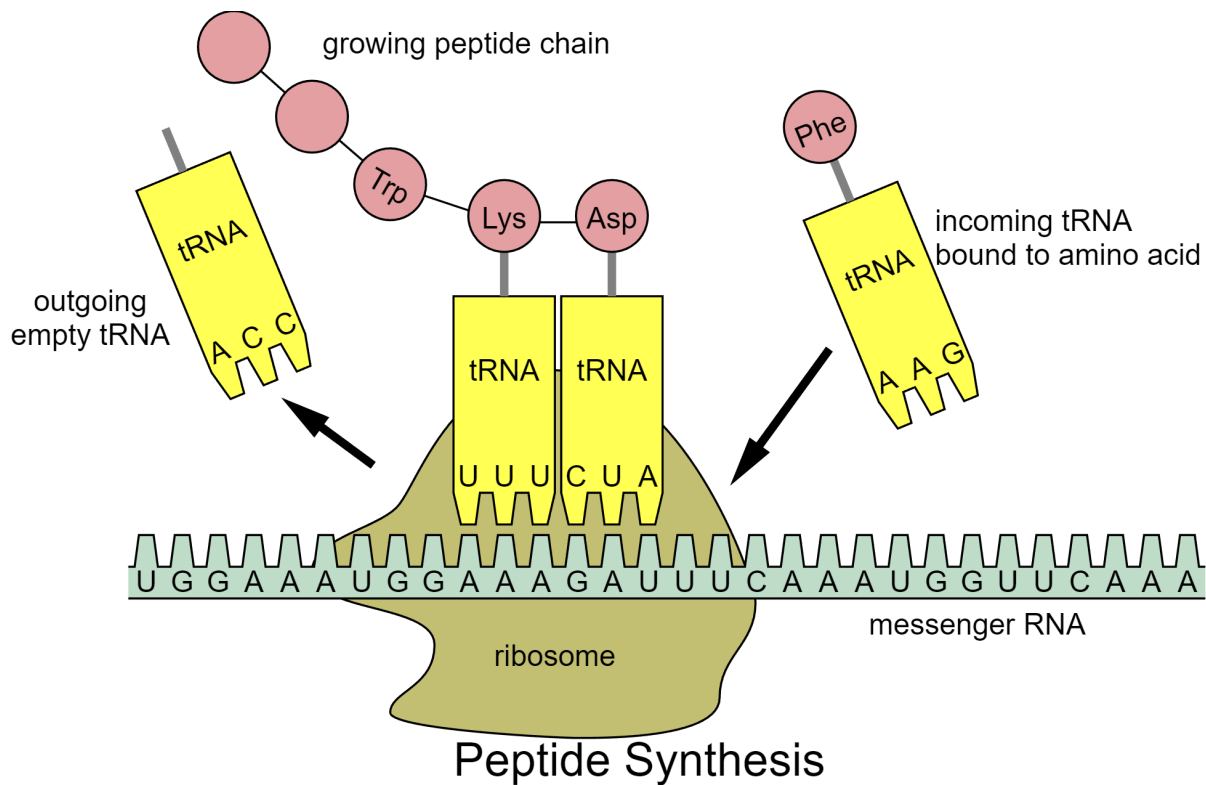
Add core histones.

Add histone H1.

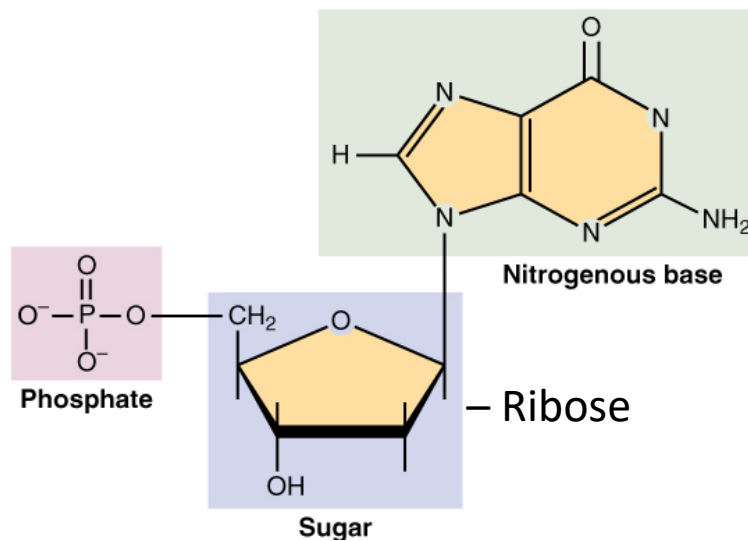
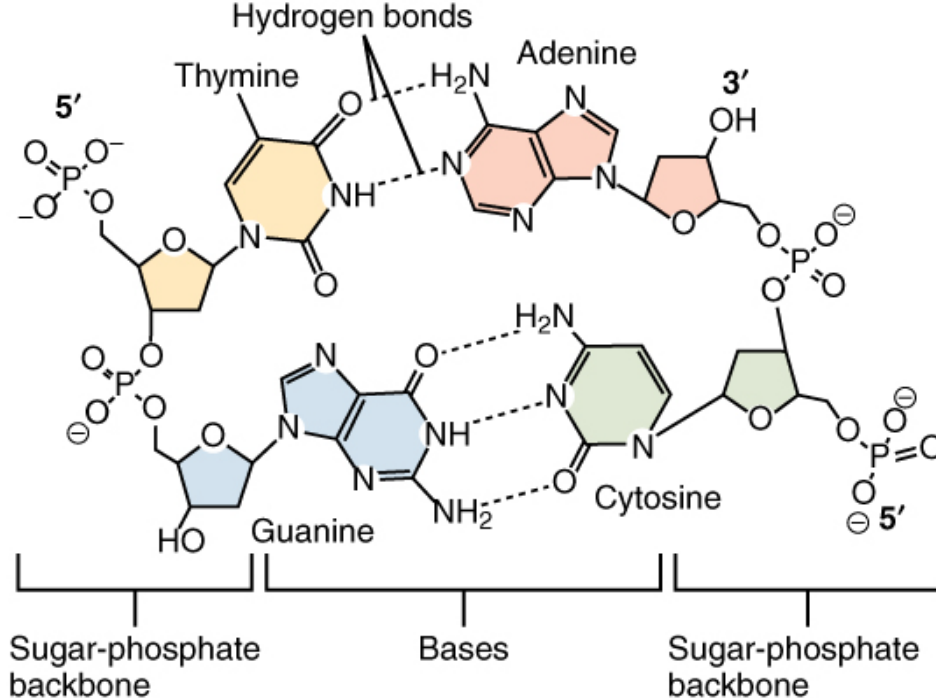
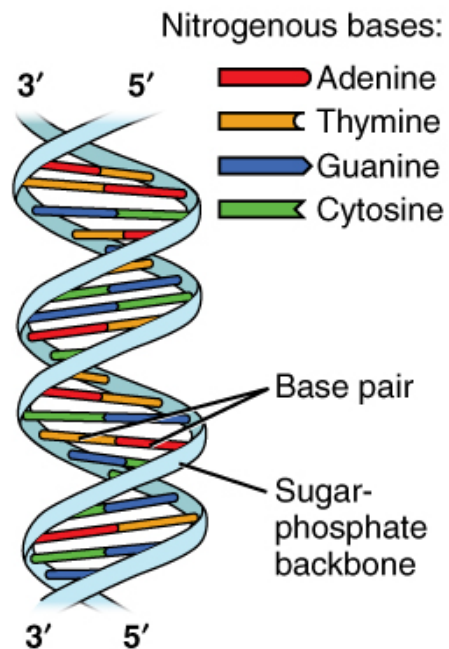
Add further scaffold proteins.

Add further scaffold proteins.

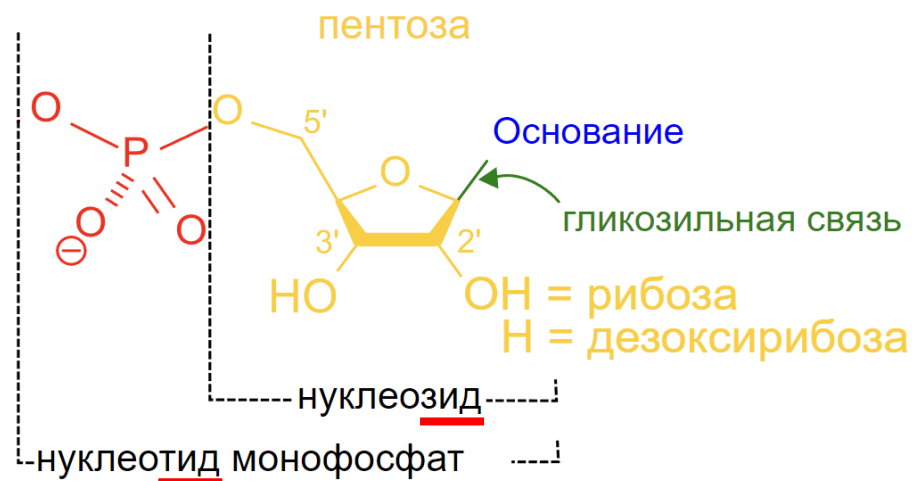




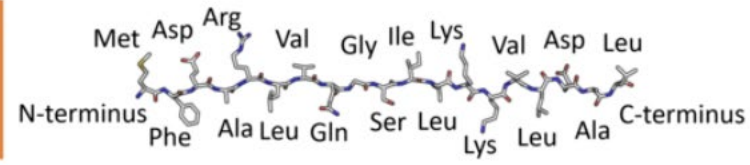
A-T
G-C
Иногда
C-A
G-U
A-A
...



– Азотистое основание:
A, G, C, T = U



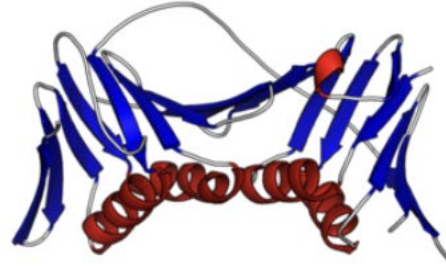
Primary



Secondary



Tertiary



Quaternary

