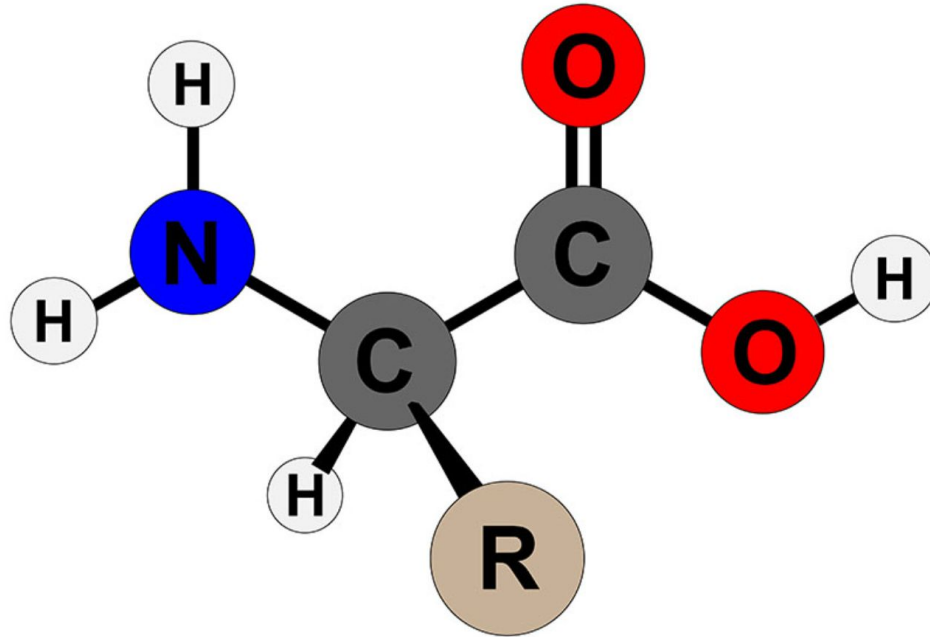
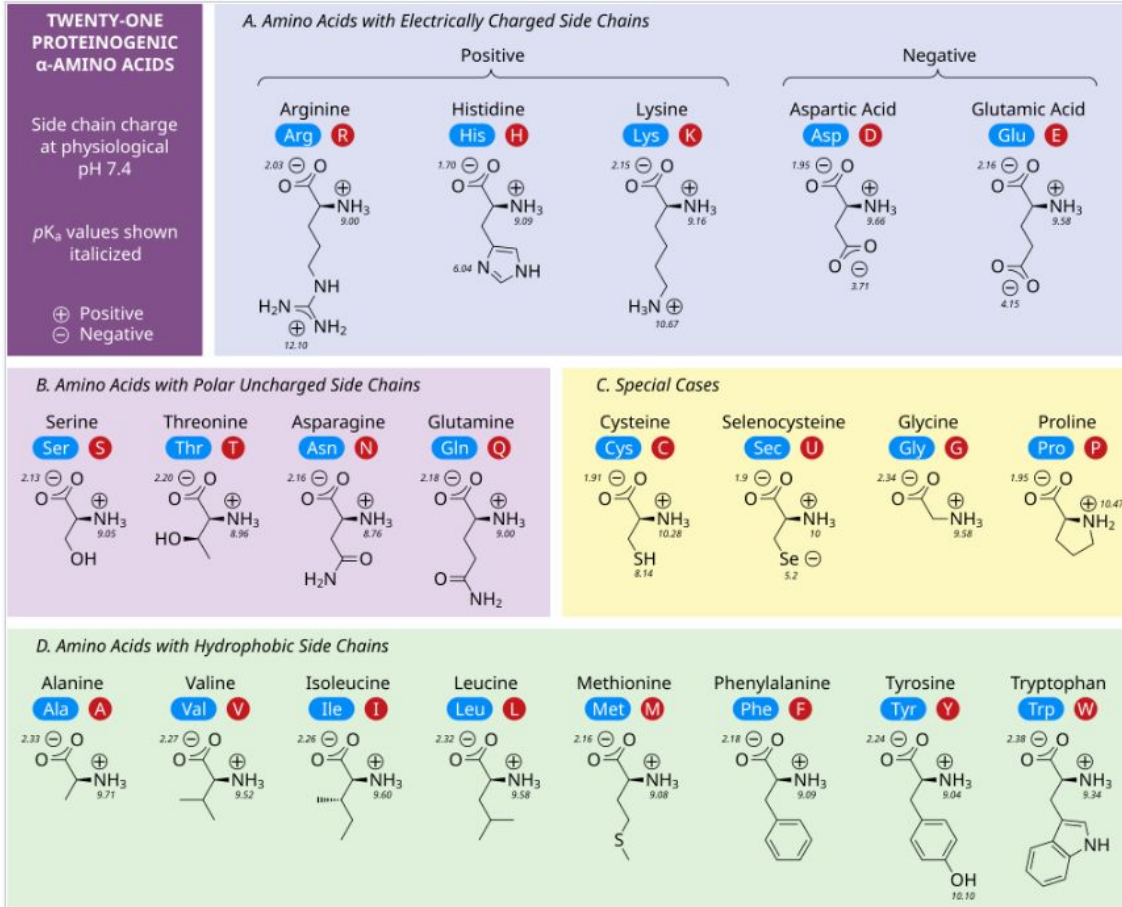


# Amino acid structure



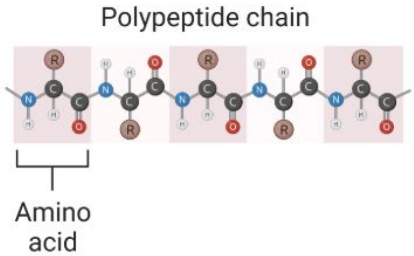
amino acid chains (proteins) carry out functions or provide structure

# Amino acid residues (side chains)

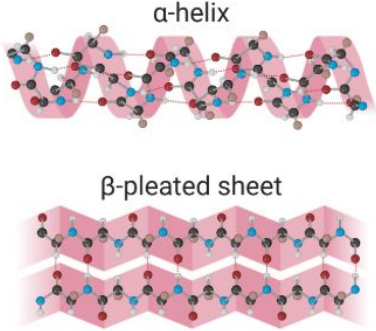


# Structure determines function

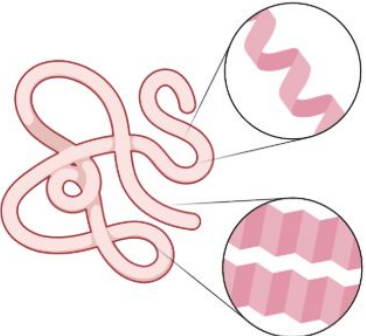
## Primary structure



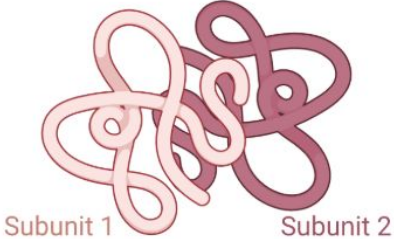
## Secondary structure



## Tertiary structure

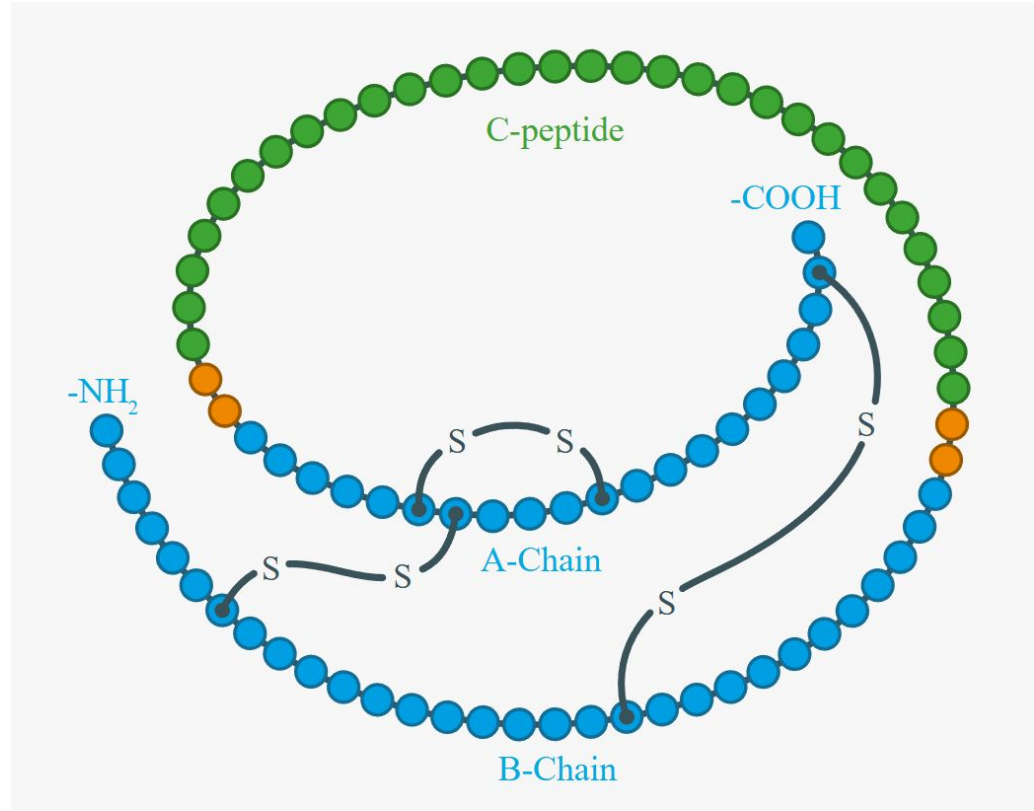


## Quaternary structure



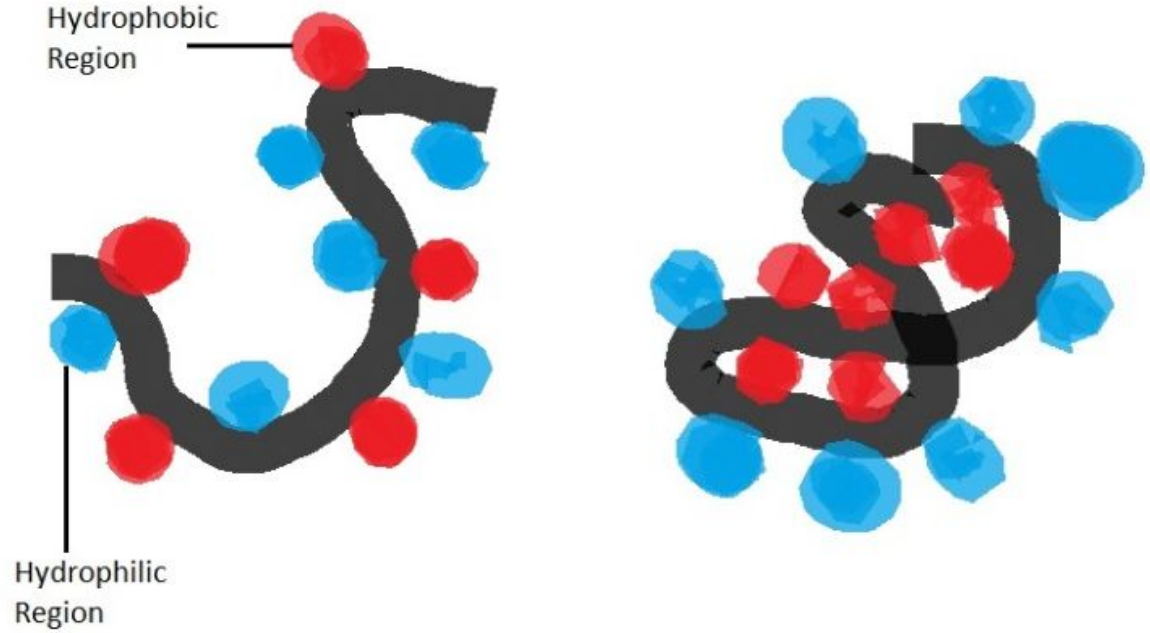
Interactions:

Disulfide  
bridges



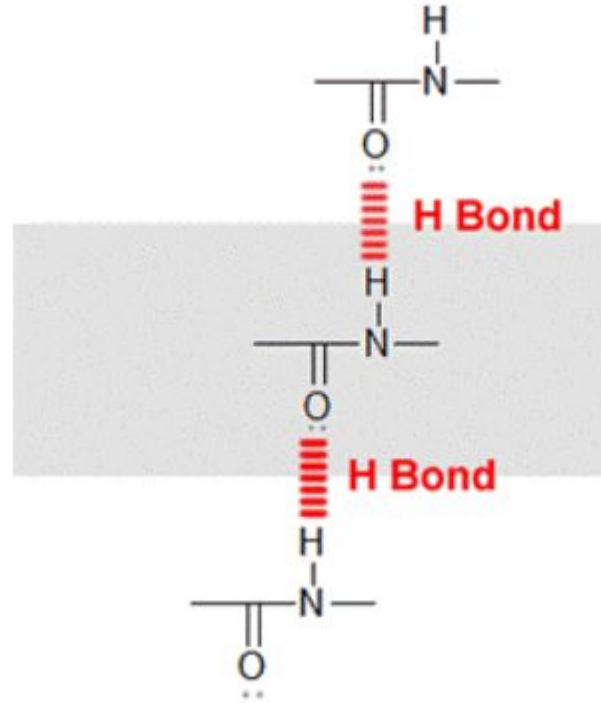
# Interactions:

## Hydrophobic interactions



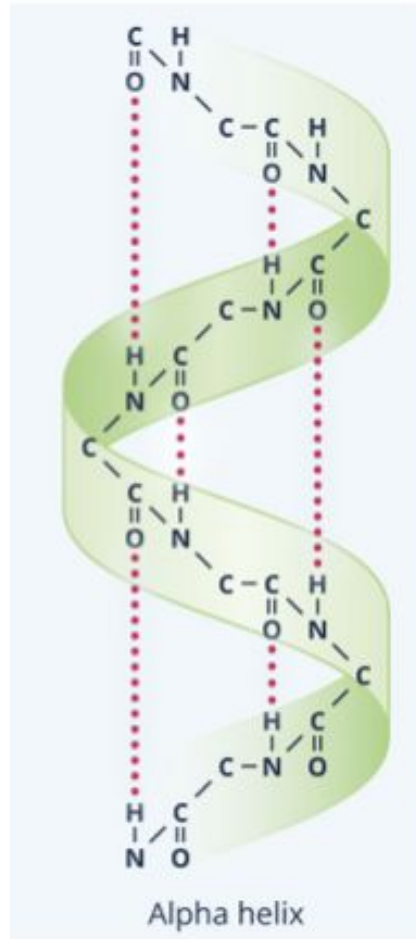
Interactions:

Hydrogen  
bonding



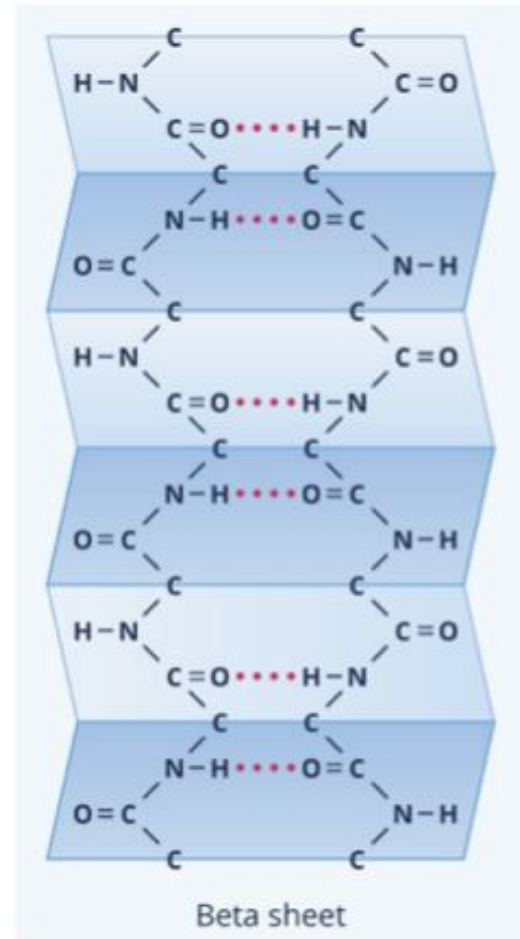
Secondary structures:

Alpha helices

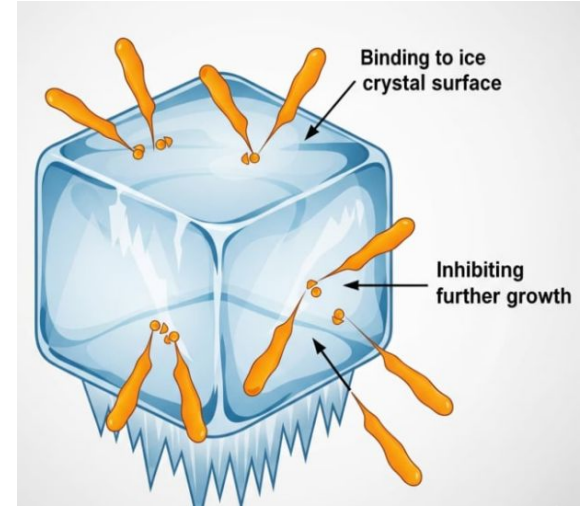
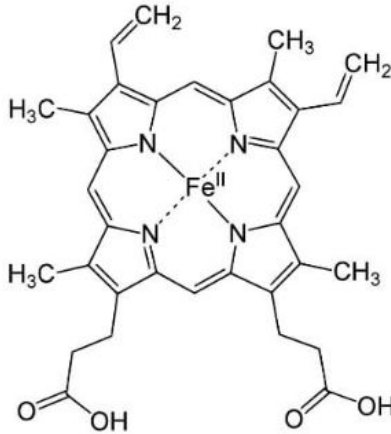
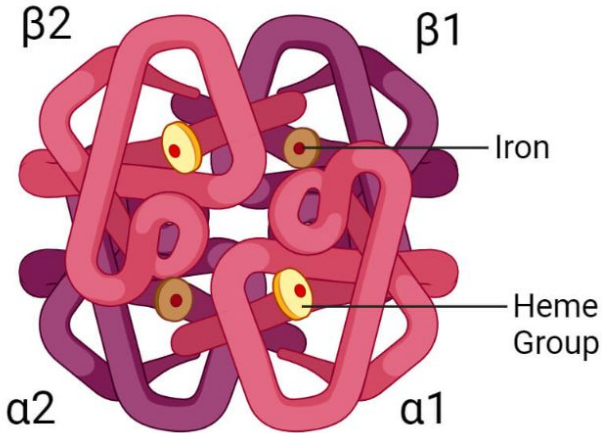


Secondary structures:

Beta sheets



# Examples



Hemoglobin, food, antifreezing



# Lipids



Lipid A



Phospholipid



Glycolipid



Lipoprotein

lipids: anything soluble in chloroform

# Lipids



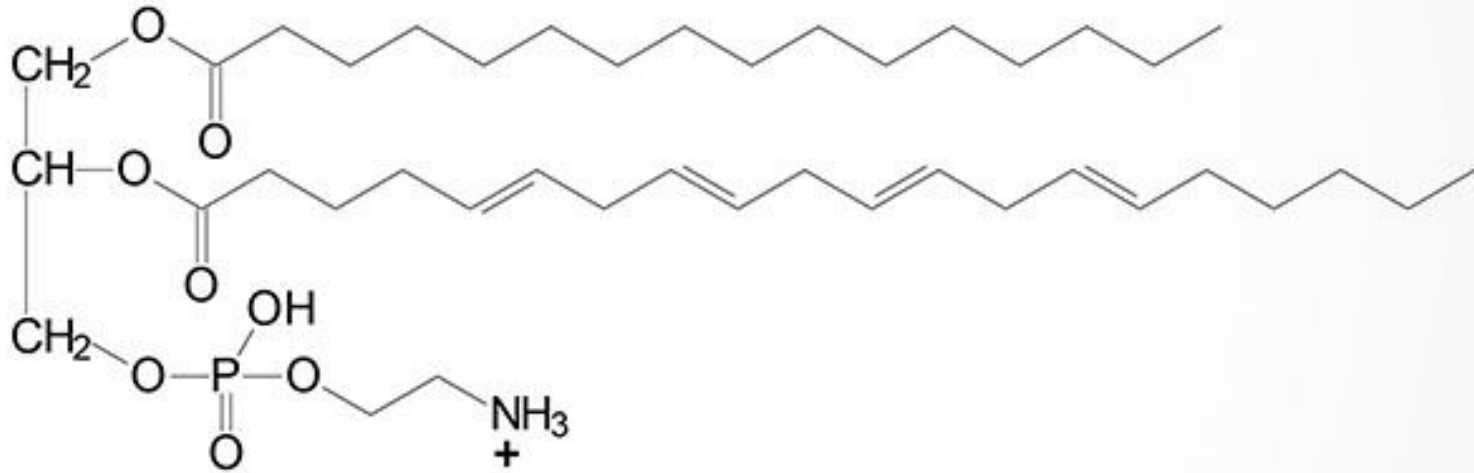
Micelle



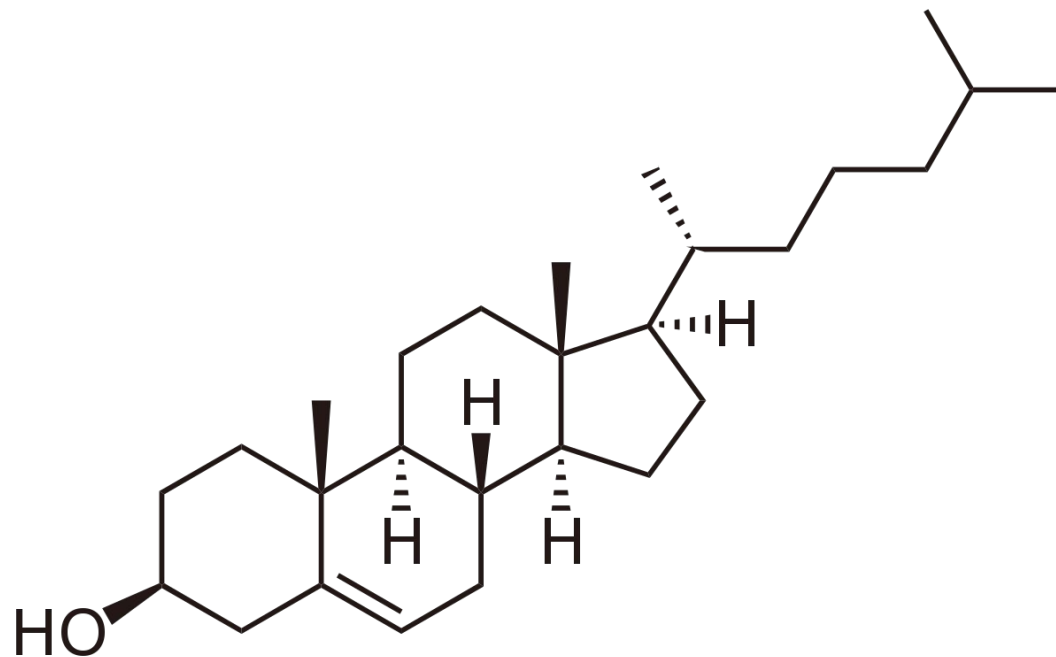
Liposome

useful for drug delivery and organization

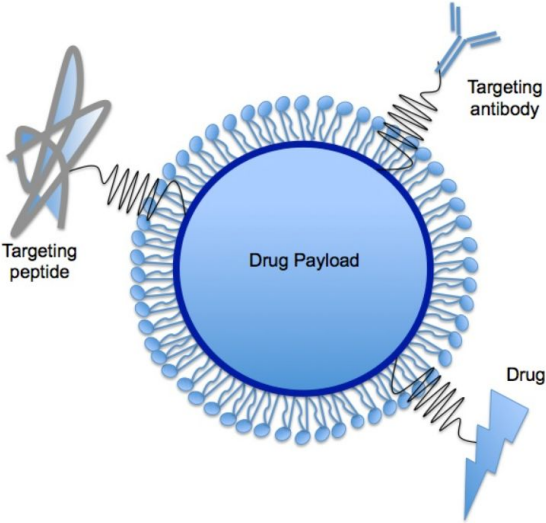
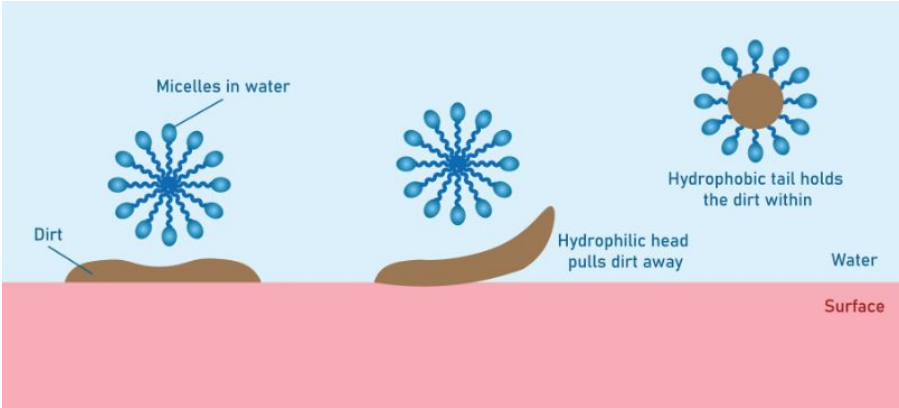
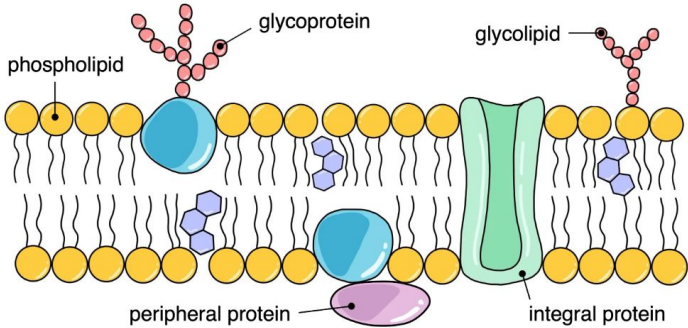
# Phospholipids



# Cholesterol



# Examples



lipid bilayer, cleaning products, drug delivery