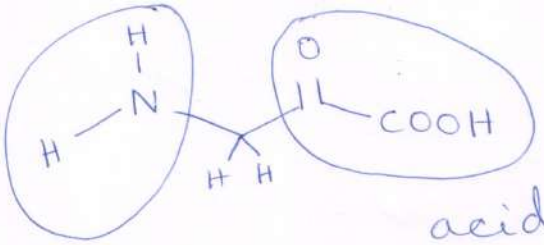
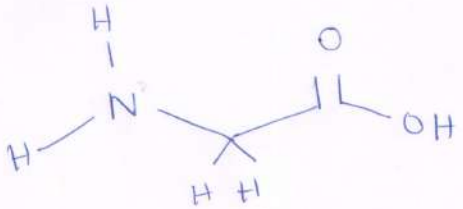


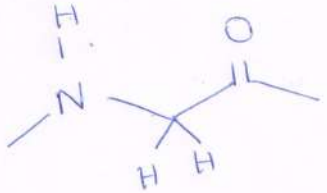
amine group

acid group

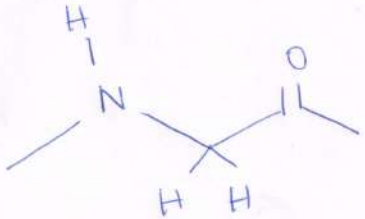
amino acid



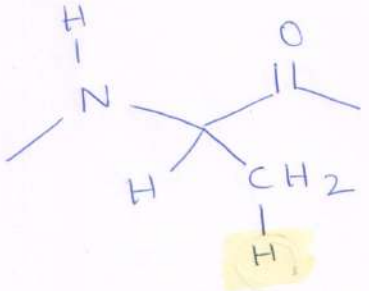
amino acid



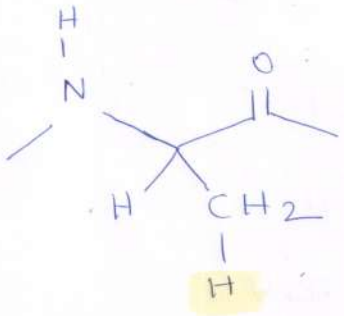
amino acid residue



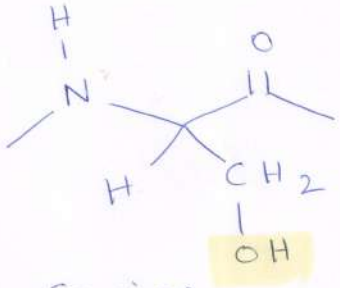
Glycine



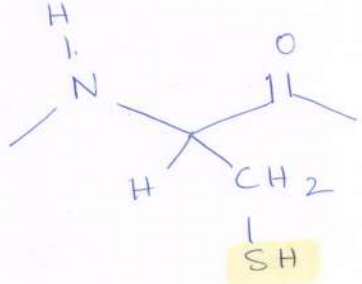
Alanine



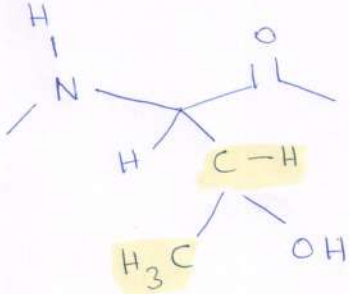
Alanine



Serine

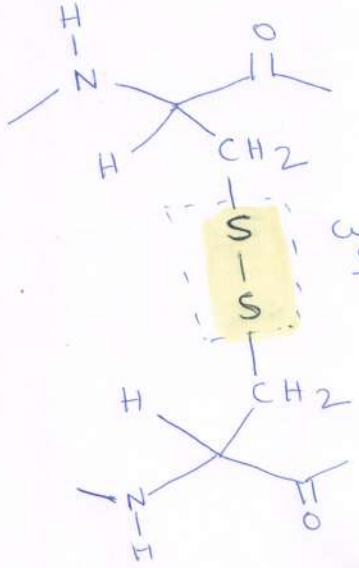


Cysteine

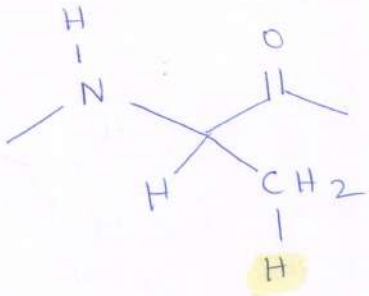


Threonine

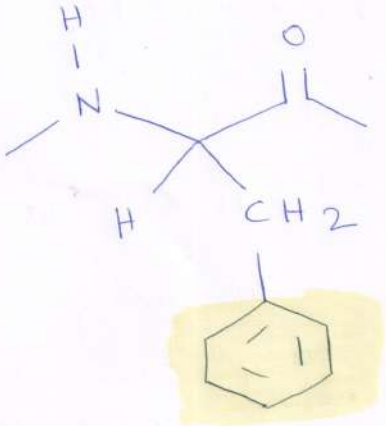
(one extra $-CH_2$ compared to serine)



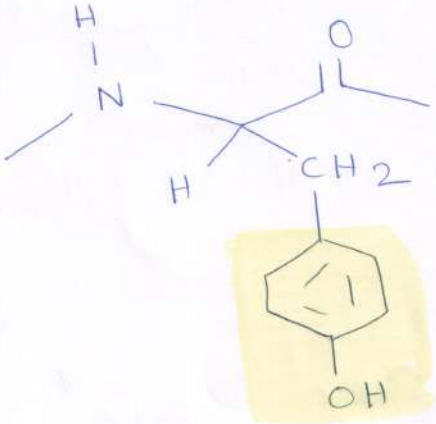
cystine



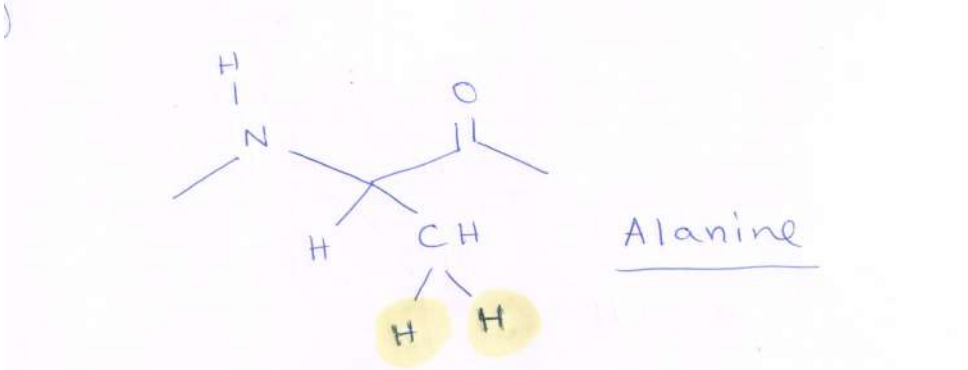
Alanine

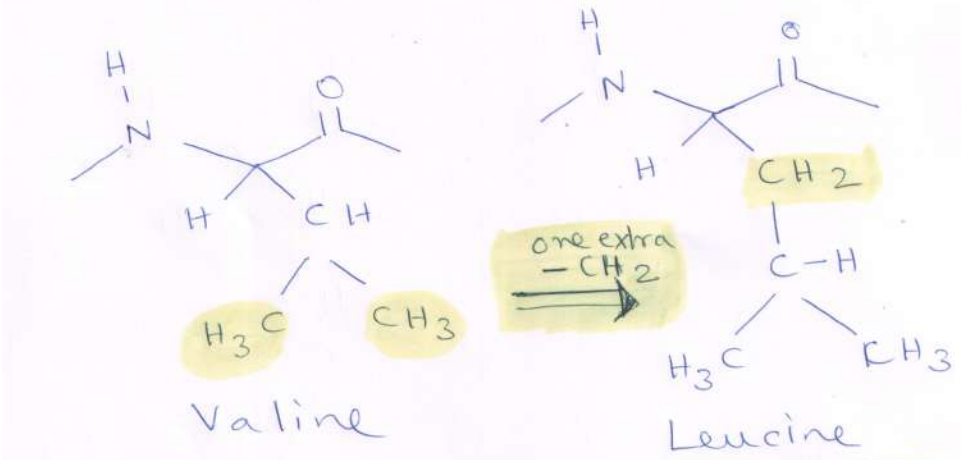


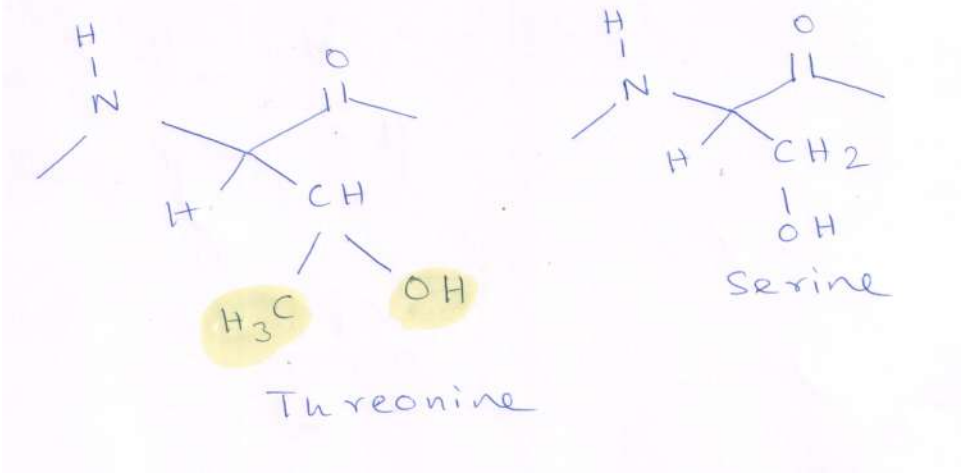
Phenylalanine

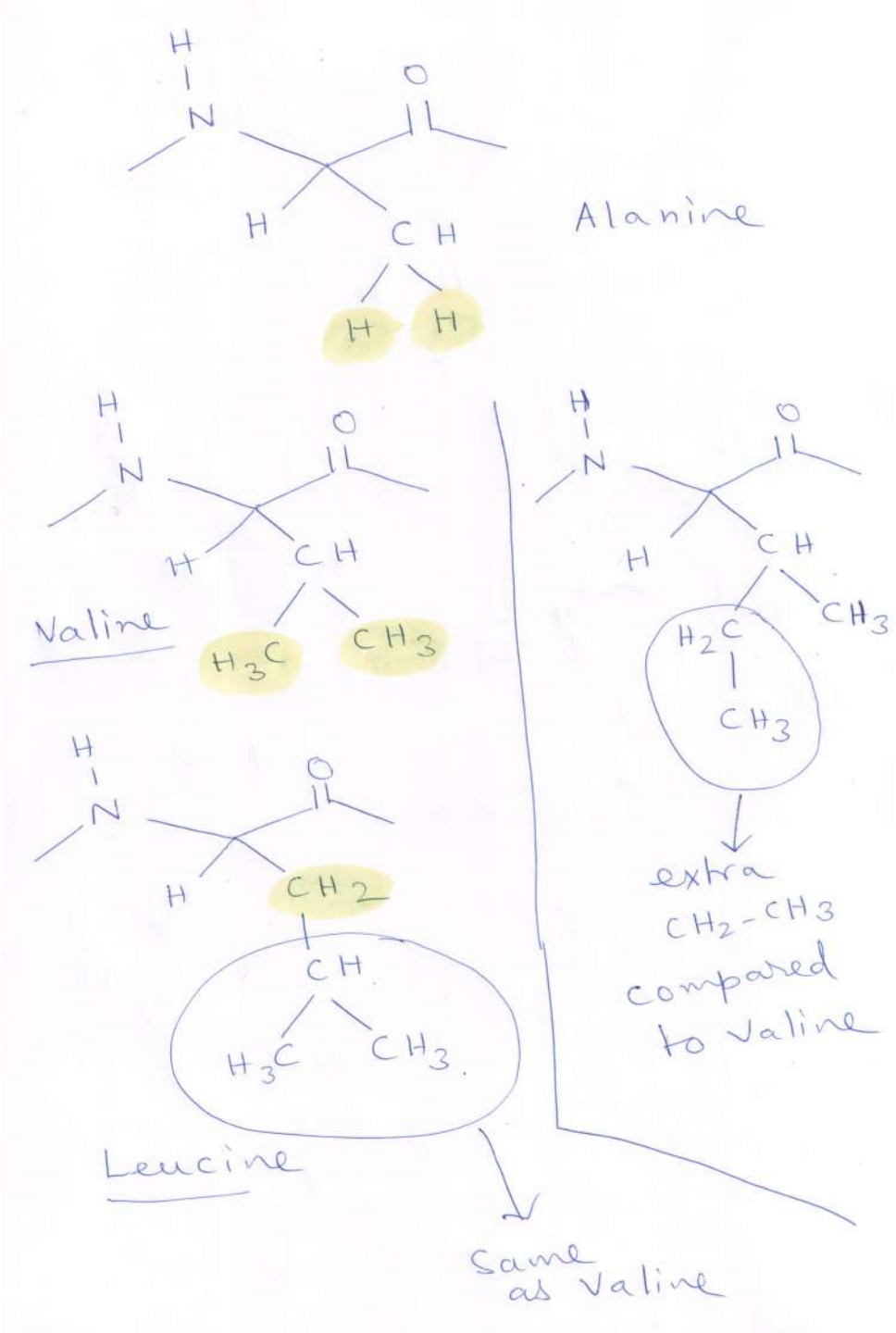


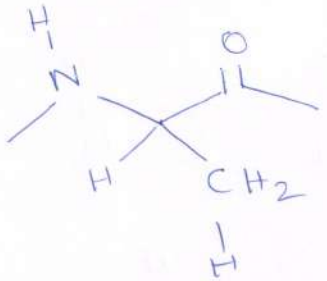
Tyrosine


Alanine

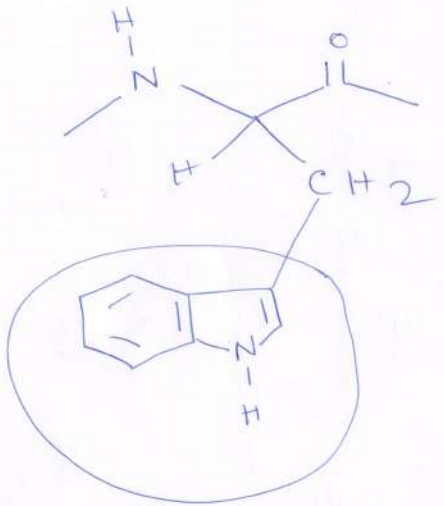

one extra
– CH2
Valine
Leucine


Threonine
Serine

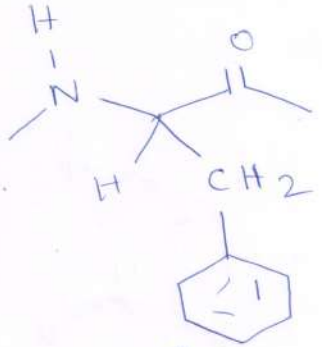

Alanine
Valine
Leucine
Isoleucine
extra CH_2-CH_3 compared to valine
Same as Valine



Alanine

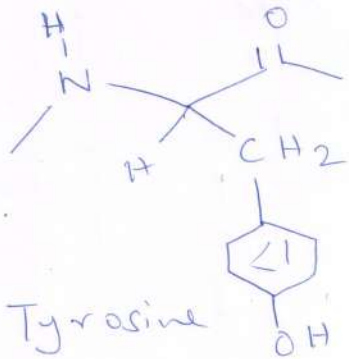


indole
rine

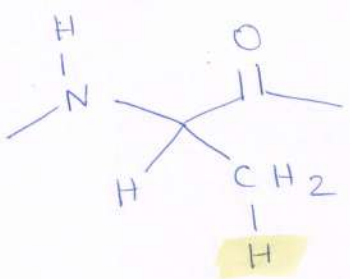


Benzene ring

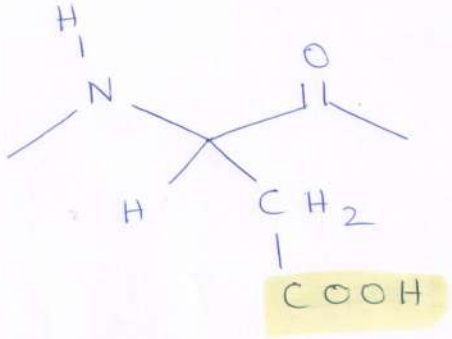
phenylalanine



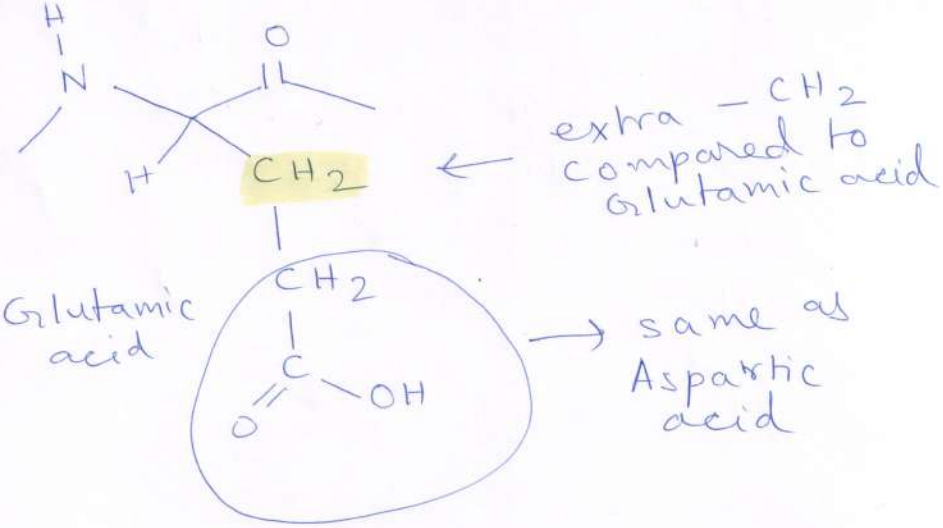
Tyrosine

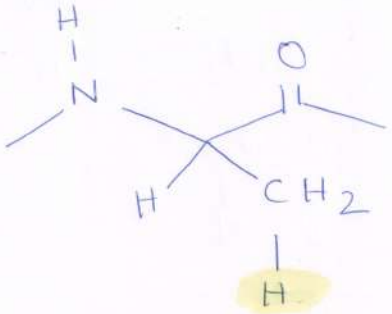


Alanine

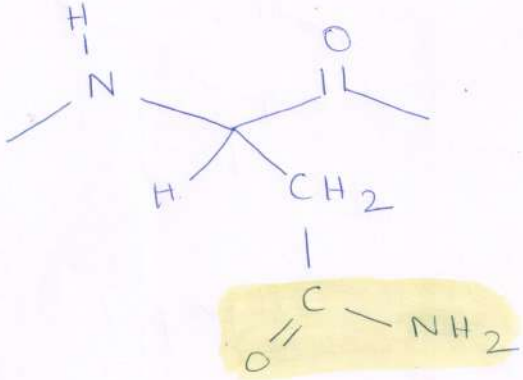


Aspartic acid



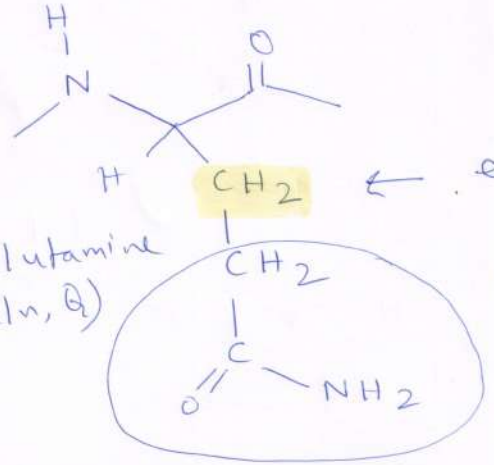


Alanine



Amide group

Asparagine (Asn)

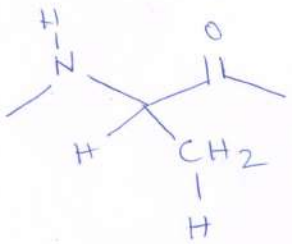


extra $-CH_2$ compared to Asn

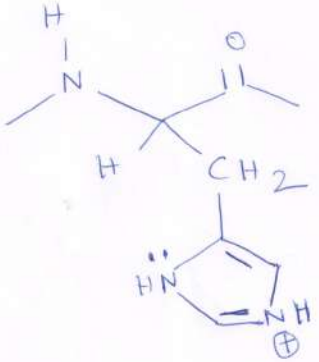
Glutamine (Gln, Q)

same as Asn

9



Alanine



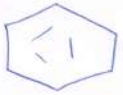
~~4 π e⊖ + 2 lone pair~~

4 π e⊖ + 1 lone pair

= 6 e⊖

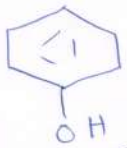
(4n+2) π e⊖ → Huckel rule

n = 1 here



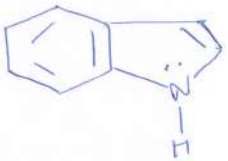
6 π e⊖

Phenyl alanine



6 π e⊖

Tyrosine



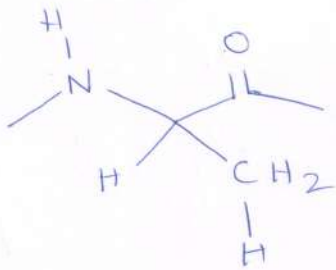
8 π e⊖ + 1 lonepo

= 10 e⊖

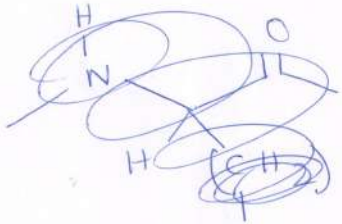
(4n+2) rule

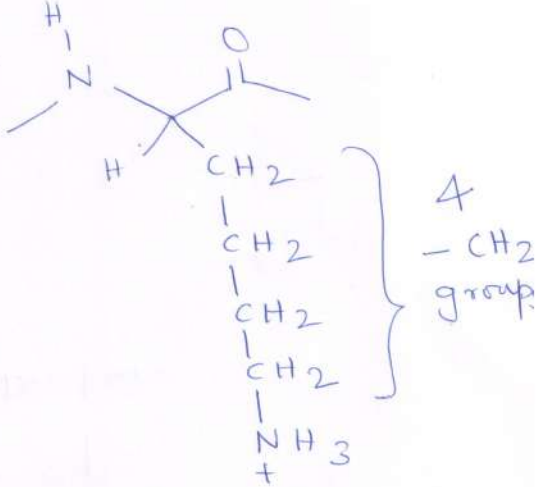
Here n = 2

10

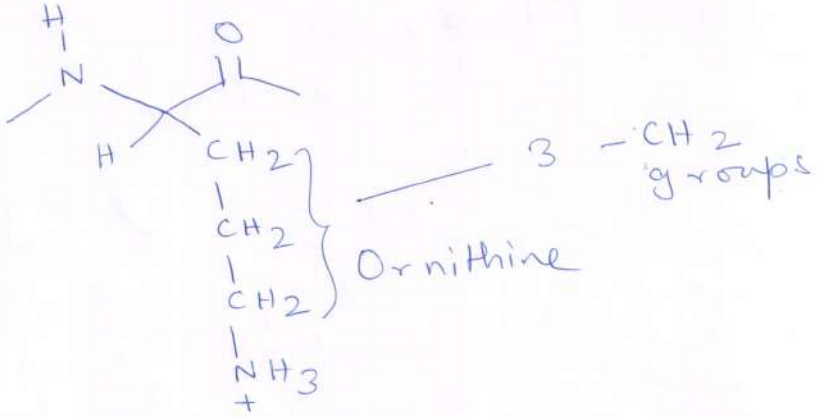


Alanine

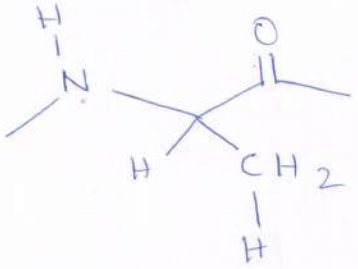




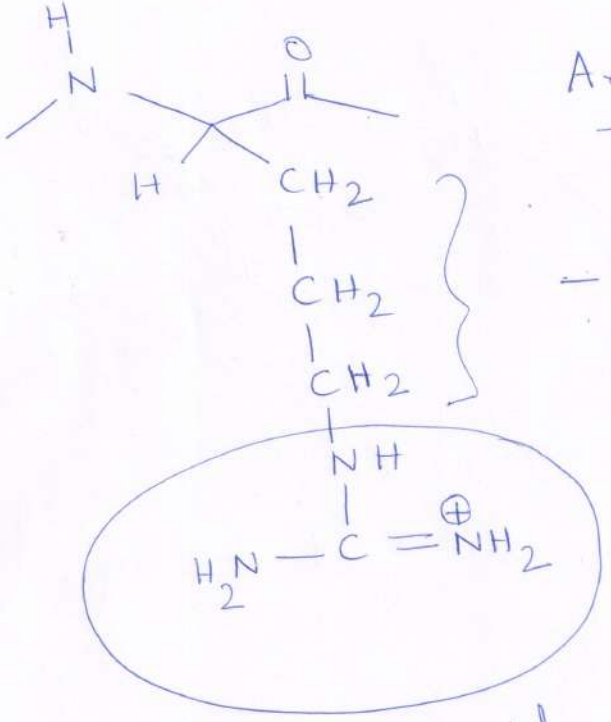
Lysine



Ornithine



Alanine



Arginine

– 3 CH_2 groups

guanido group