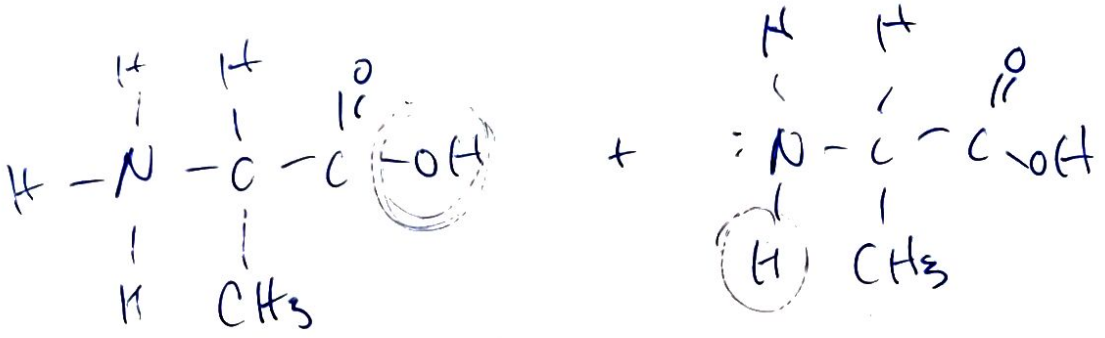
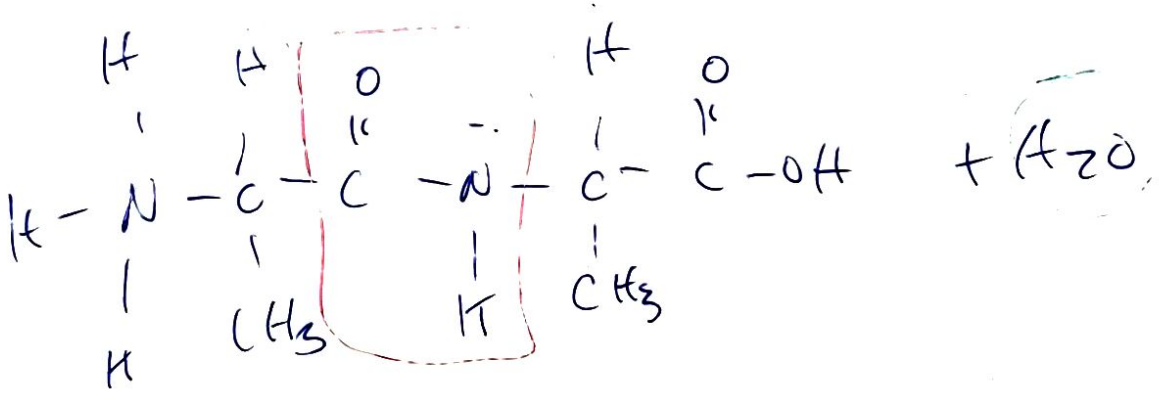
#780c1 ##





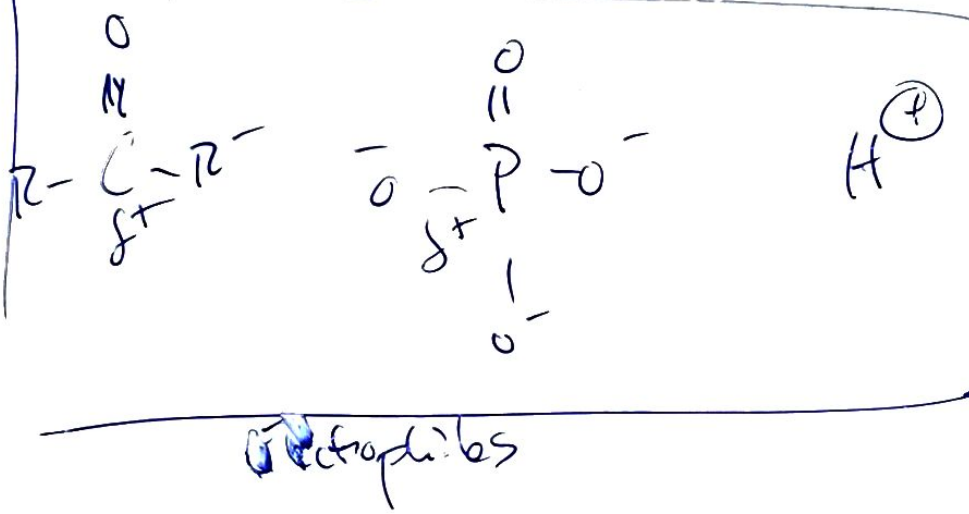
3 Rules

① CHANOPS

CHP = Sitting there

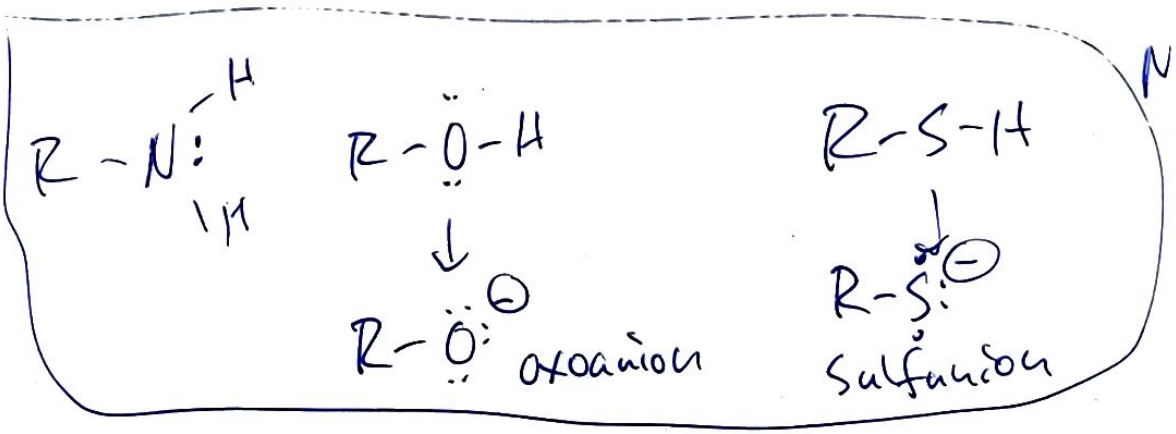
NOS = Always moving

lone pair · electron negative charge



Electrophiles

Nucleophiles

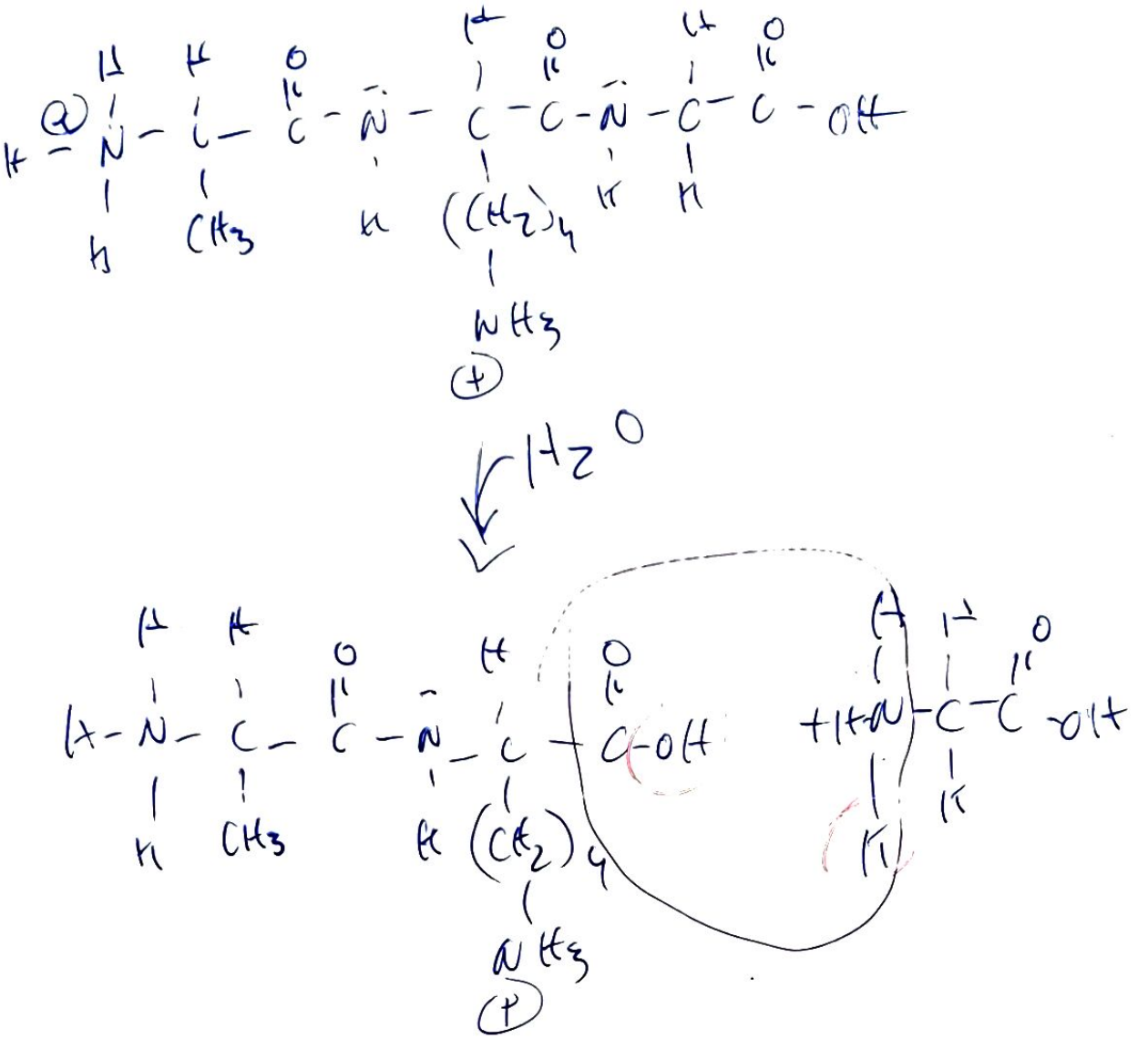


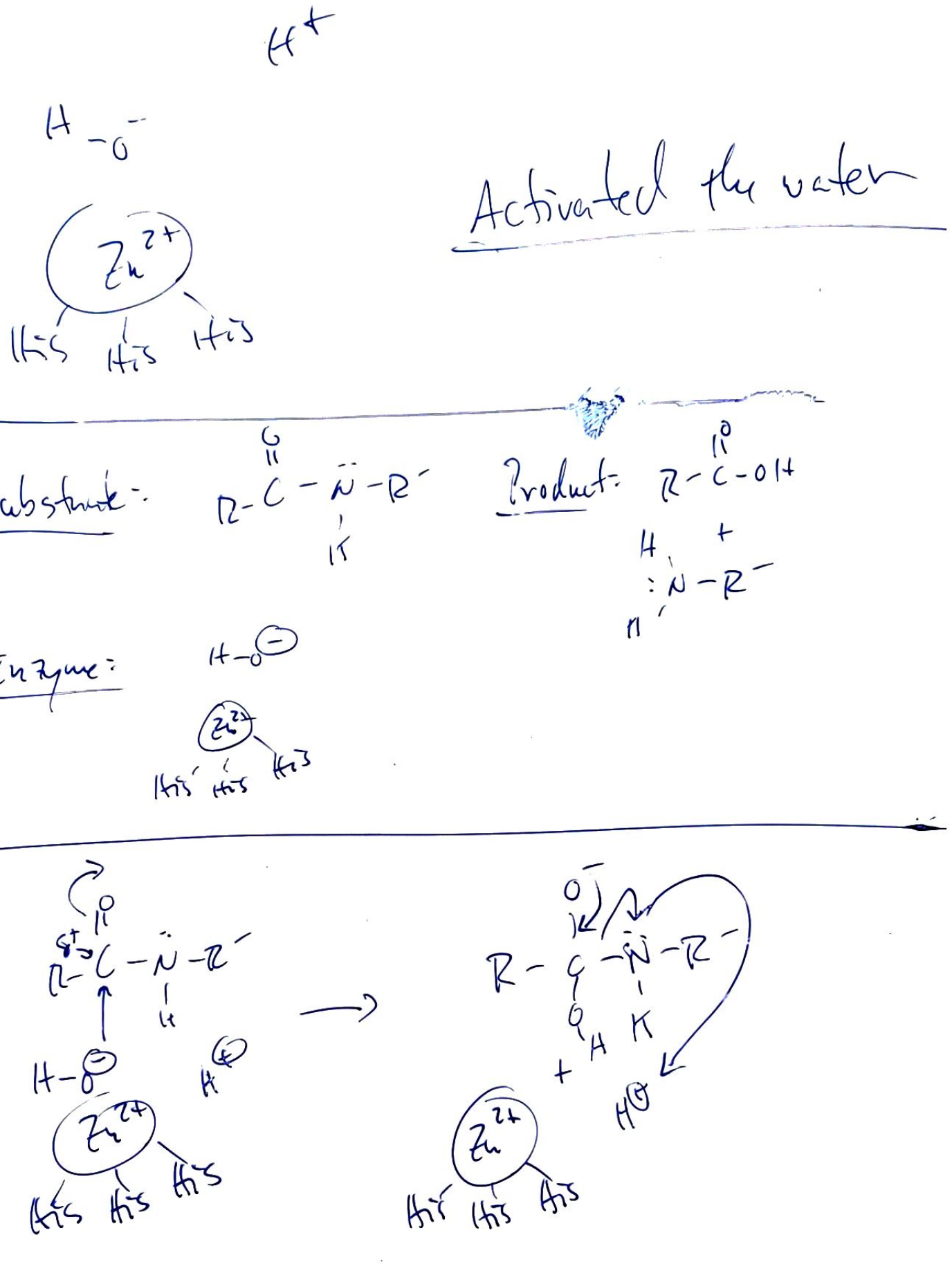
(2) Draw the substrate and the product

Look @ what has changed

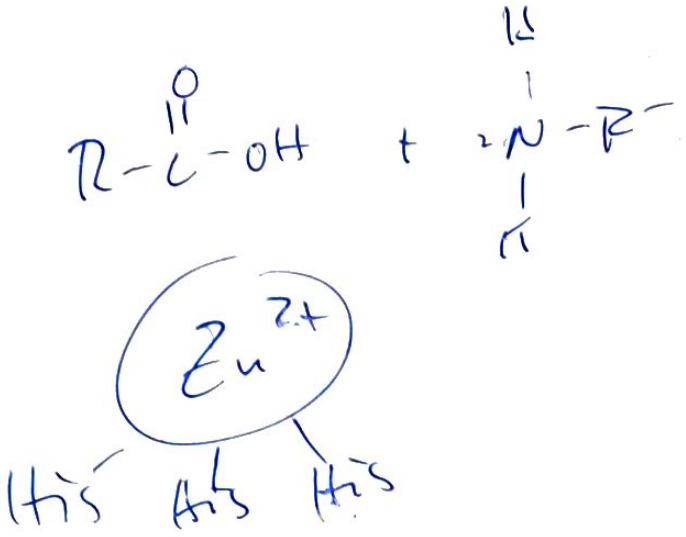
(3) Use the nucleophile to attack the electrophile

"Arrow pushing"




H+
H-O-
Zn2+
His
His
His
Activated the water
Substrate:
Product:
Enzyme:
H-O(-)
Zn2+
His
His
His
1
δ+
δ-
H-O(-)
H(+)
Zn2+
His
His
His
O(-)
H
H
+
H(+)
Zn2+
His
His
His

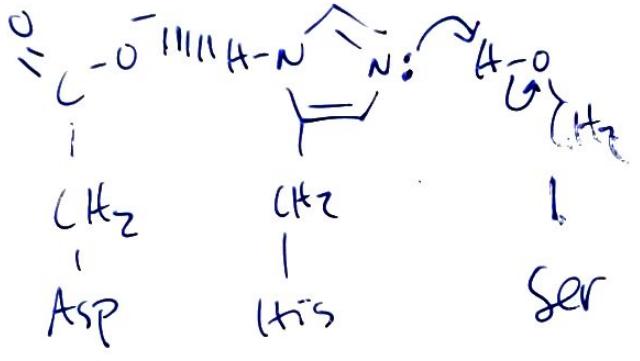
(2)

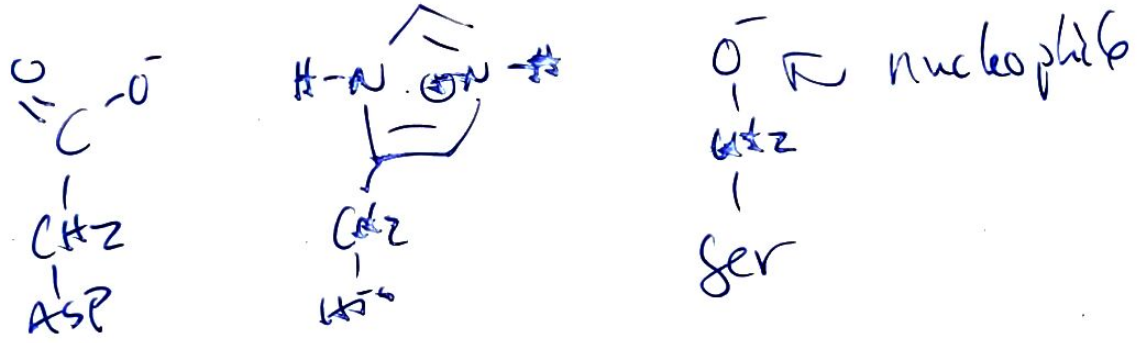


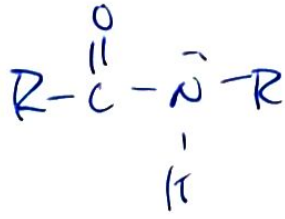
Chymotrypsin: Serine Protease

Catalytic Triad: Asp - His - Ser

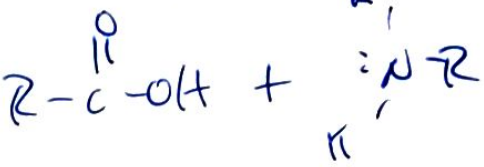
1st Step: Activation of Ser



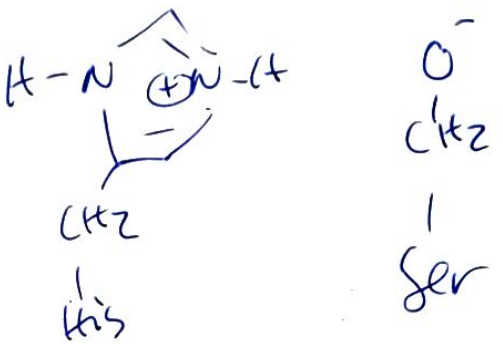


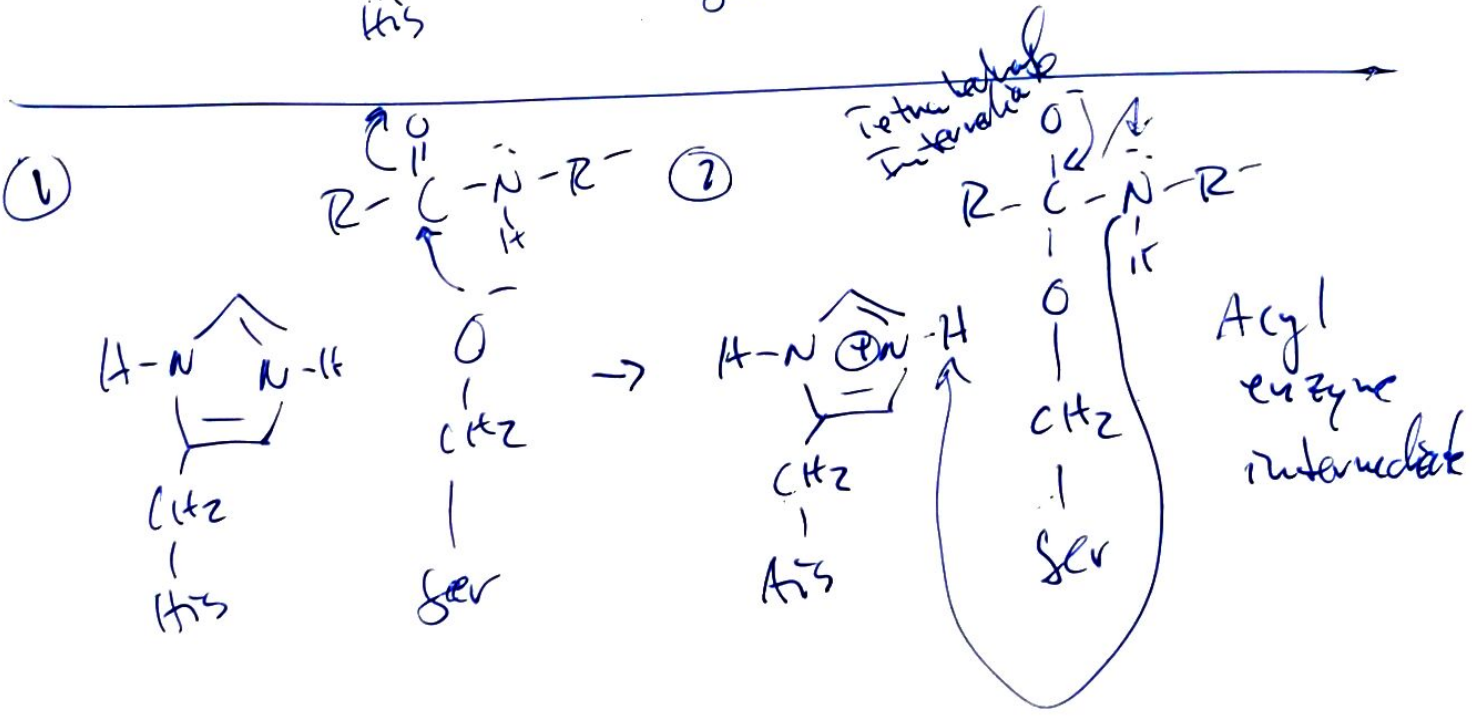
substrate for Serine Proteases: 

Proteases = Protein Hydrolases

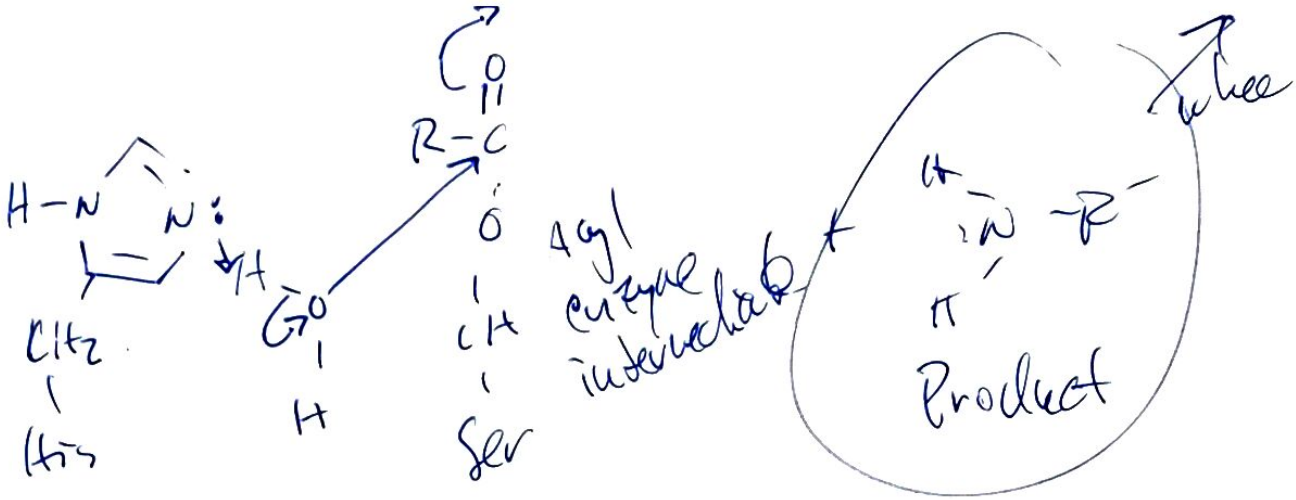
Product of Serine Protease: 

Enzyme component:

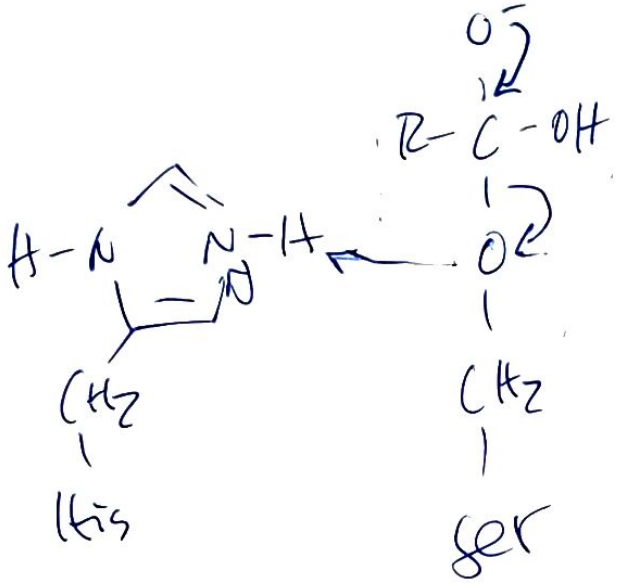




(3)



(4)



(5)