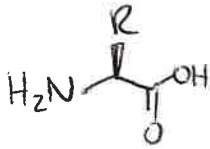


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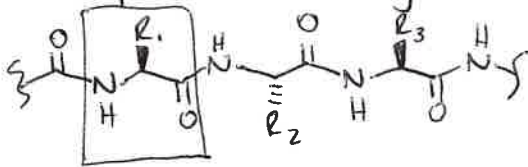
Recall: Peptide synthesis / solid-phase methods ... [§ 26.6]



Note: R = side chain
 (20 R's in proteins)

α-amino acids
 (protein building blocks)

• peptide/protein = "polyamide"



"α-amino acid residue"

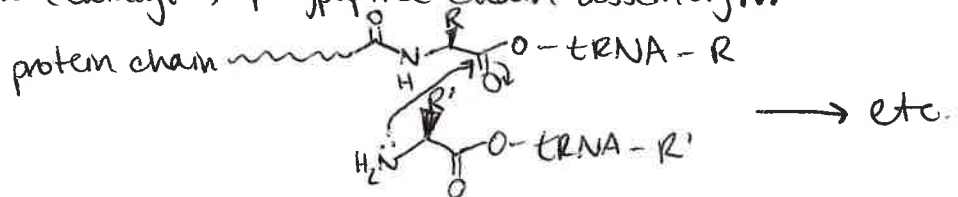
• sequence of residues defines a particular protein or peptide. Typical proteins have 100's or 1000's of residues

DNA $\xrightarrow{\text{transcription}}$ mRNA $\xrightarrow{\text{translation}}$ protein

↓
 Sequence code

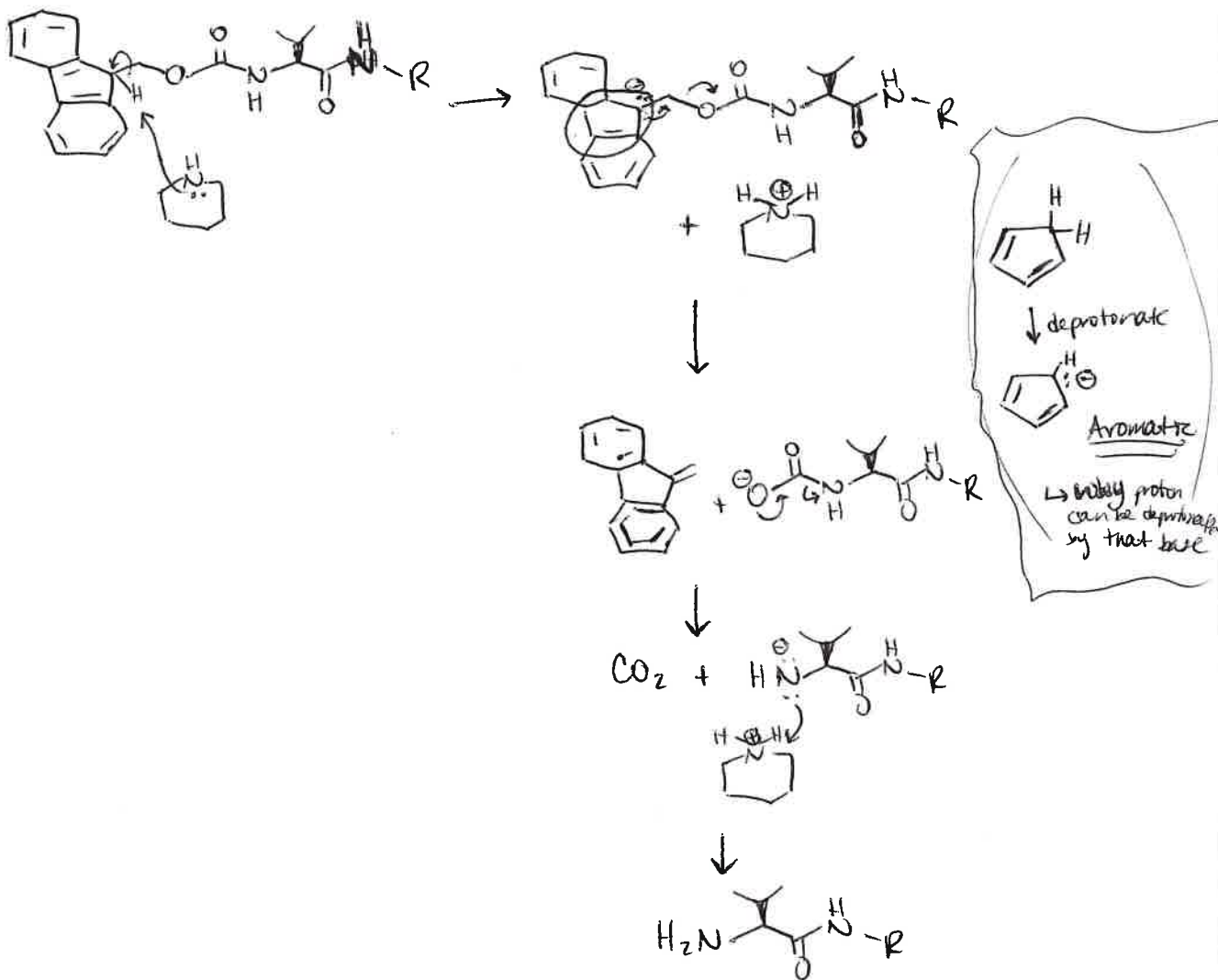
⇒ Controlled amide formation in proper sequence

• Ribosome controls (catalyzes) polypeptide chain assembly...



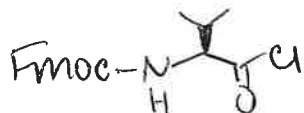
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- off rxn:



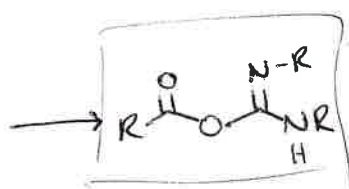
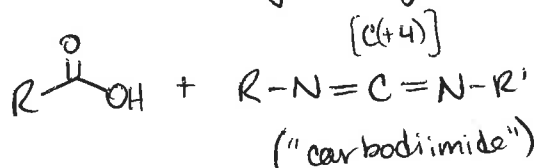
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OK...



= still too self-reactive!

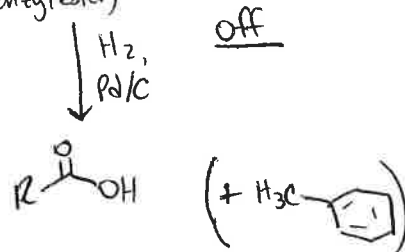
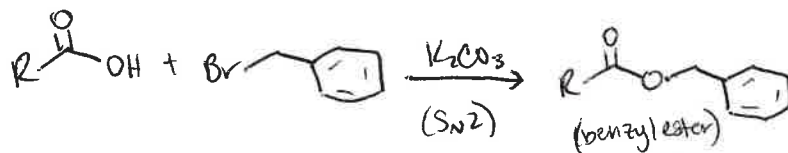
* Further rxn engineering...



looks like an anhydride!

* Also need carboxyl group protection - benzyl ester

on:



(now have all protecting groups + coupling agents, so can do synthesis)

* Dipeptide synthesis:

