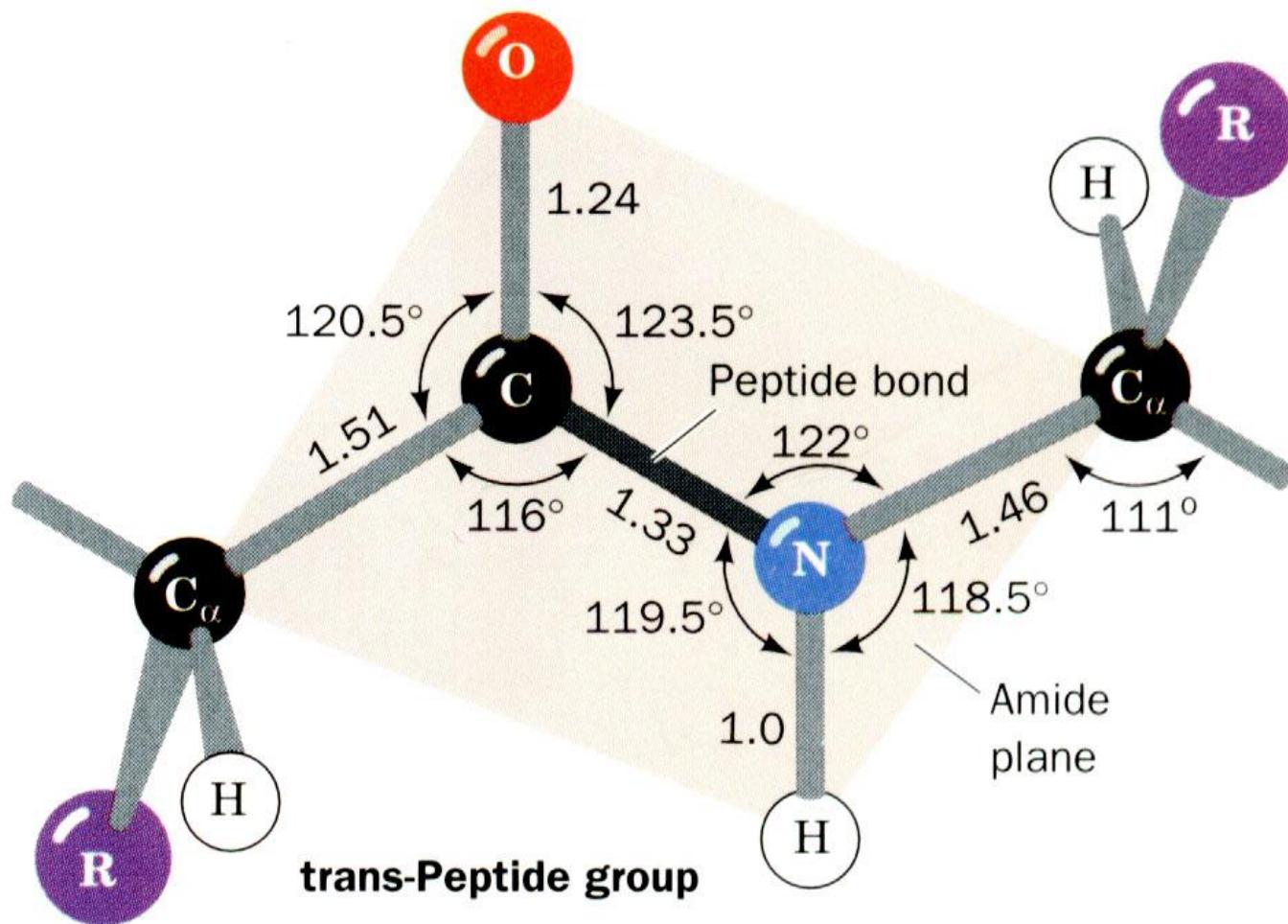
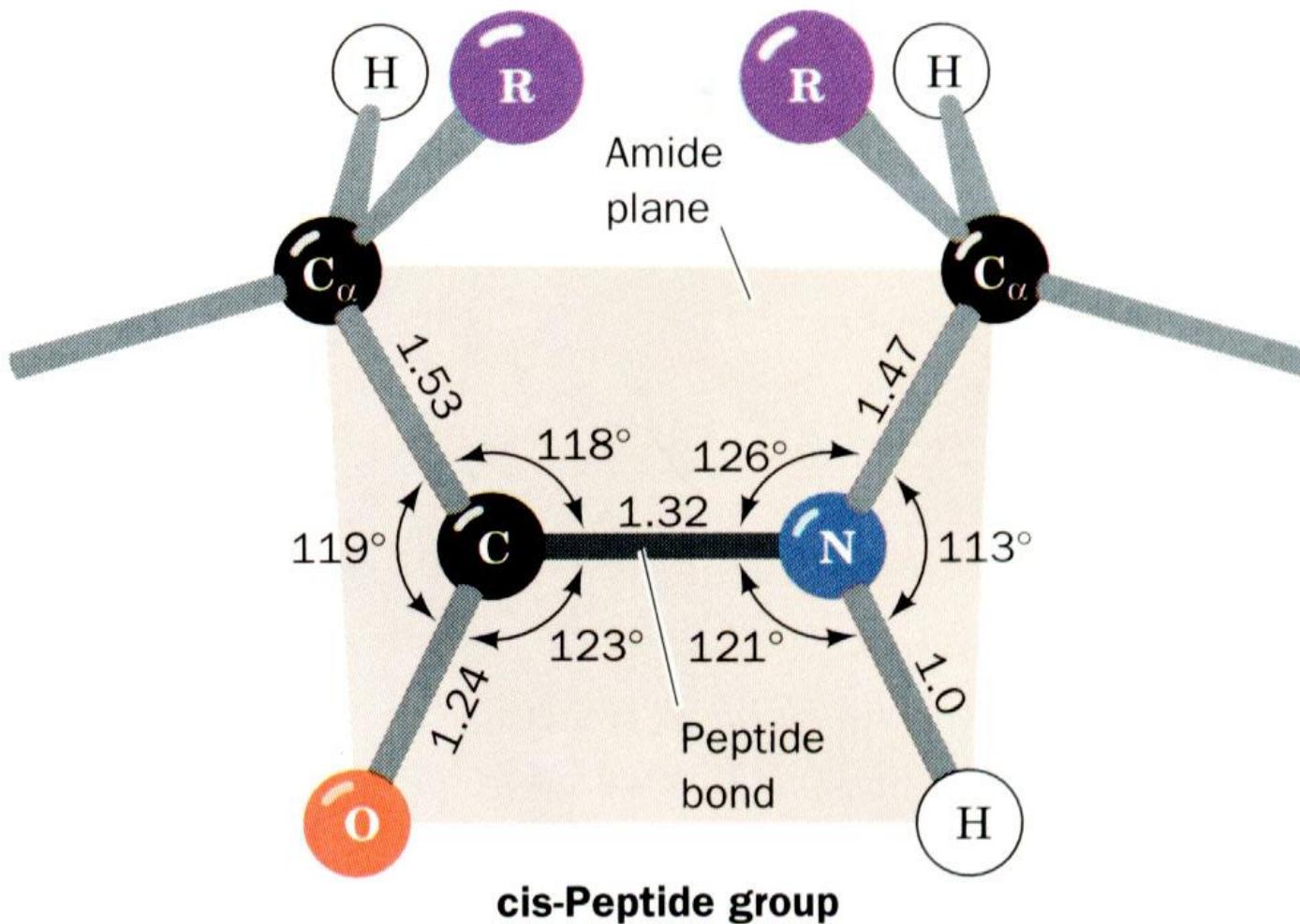


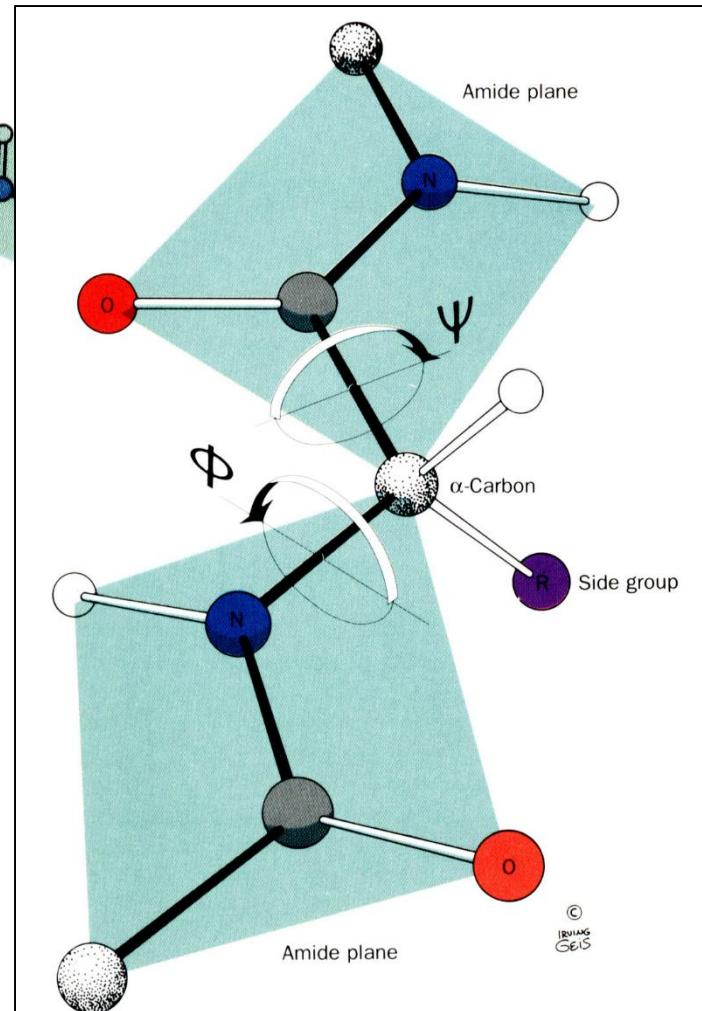
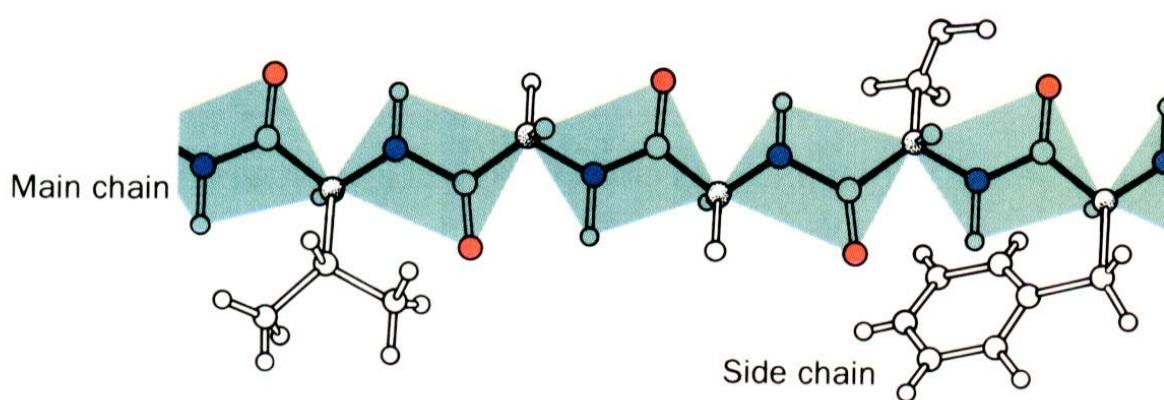
Peptide - Die Peptidbindung



- auch als *cis*-Amid möglich!

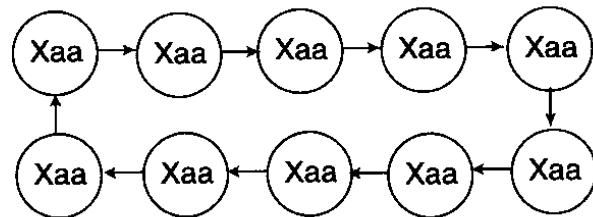


Haupt-, Seitenkette und Torsionswinkel

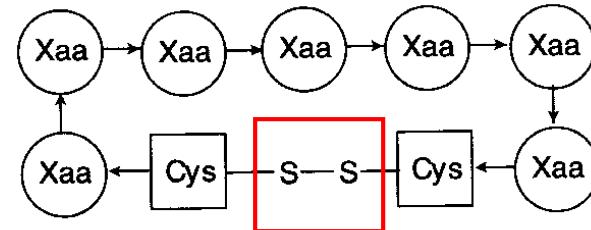


Cyclopeptide und verzweigte Peptide

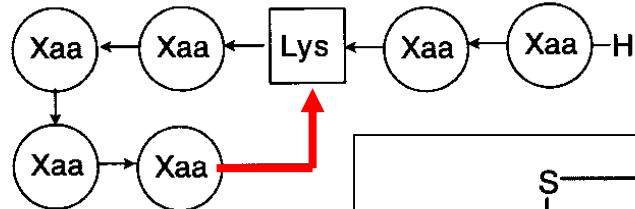
cyclisches Peptid



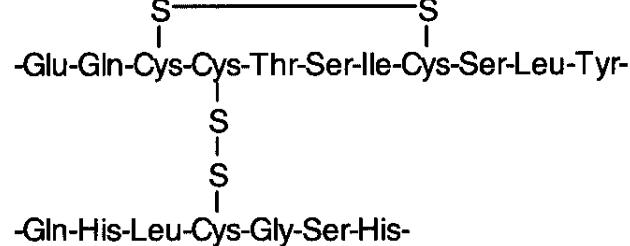
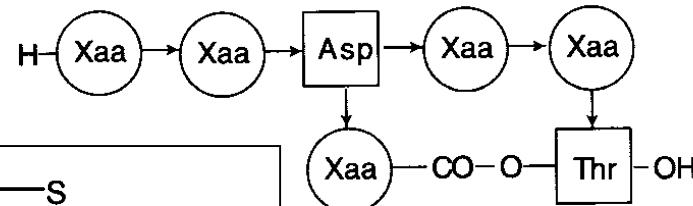
cyclisches Peptid (Disulfid)



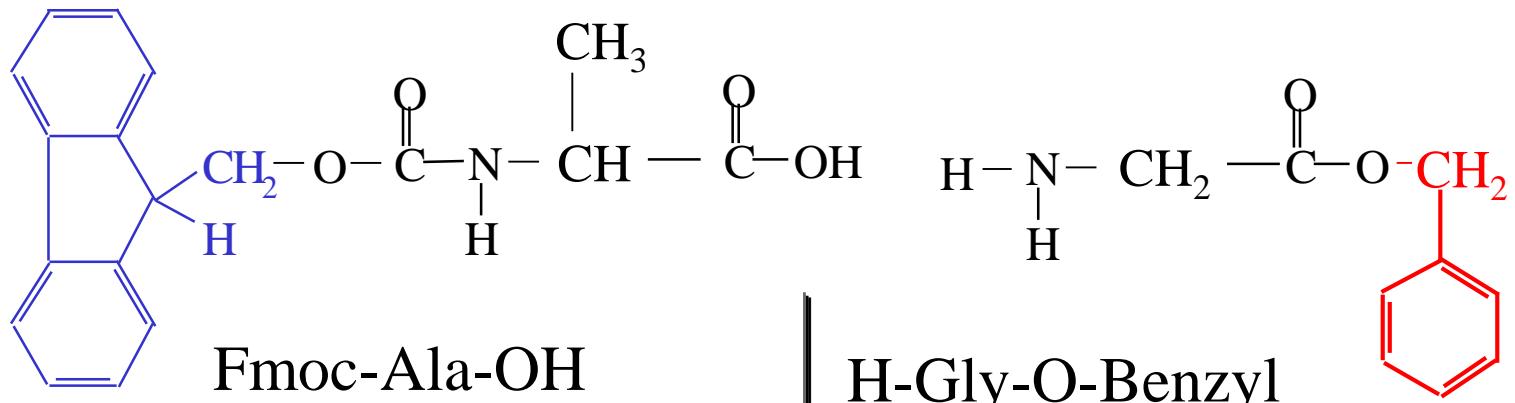
cyclisch verzweigtes Peptid



cyclisch verzweigtes Peptid
(Peptidlacton)

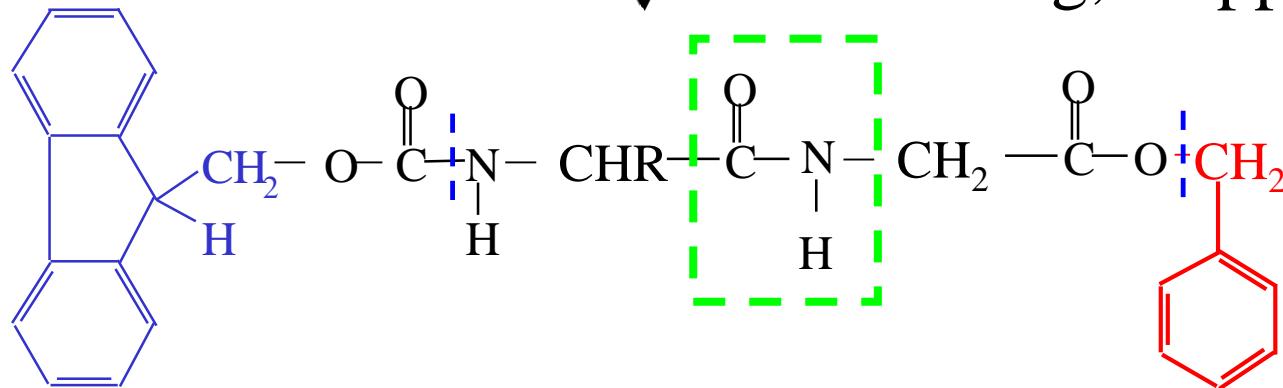


Peptidsynthese in Lösung - aufwendig!



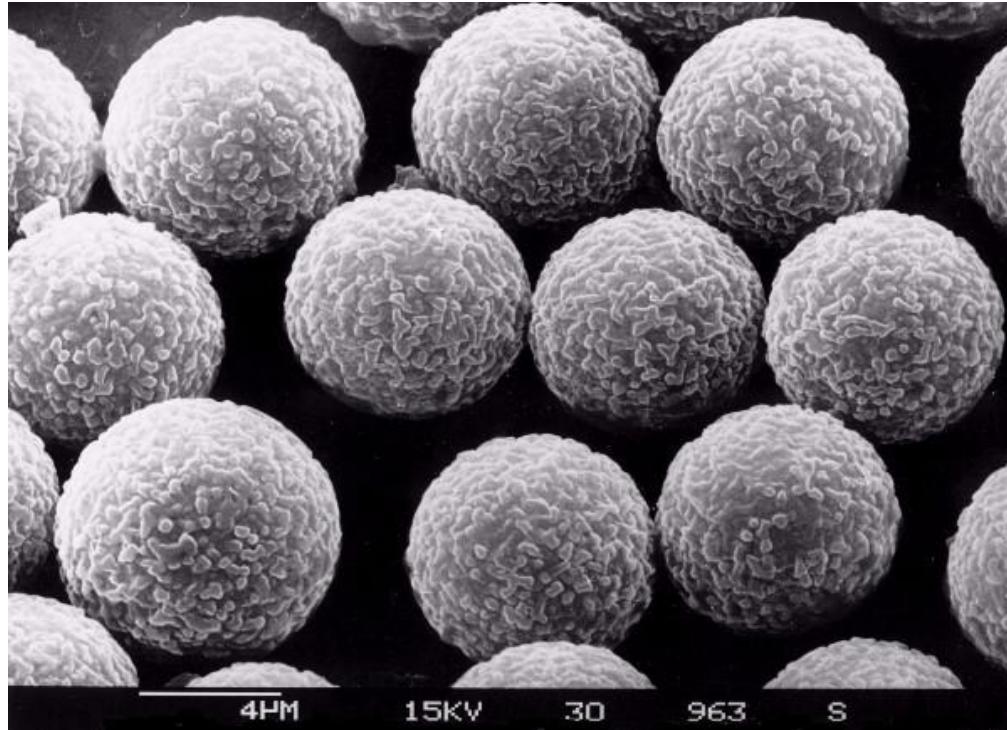
H-Gly-O-Benzyl

Aktivierung, Kupplung



Fmoc-Ala-Gly-Bzl

SPPS = Festphasenpeptidsynthese



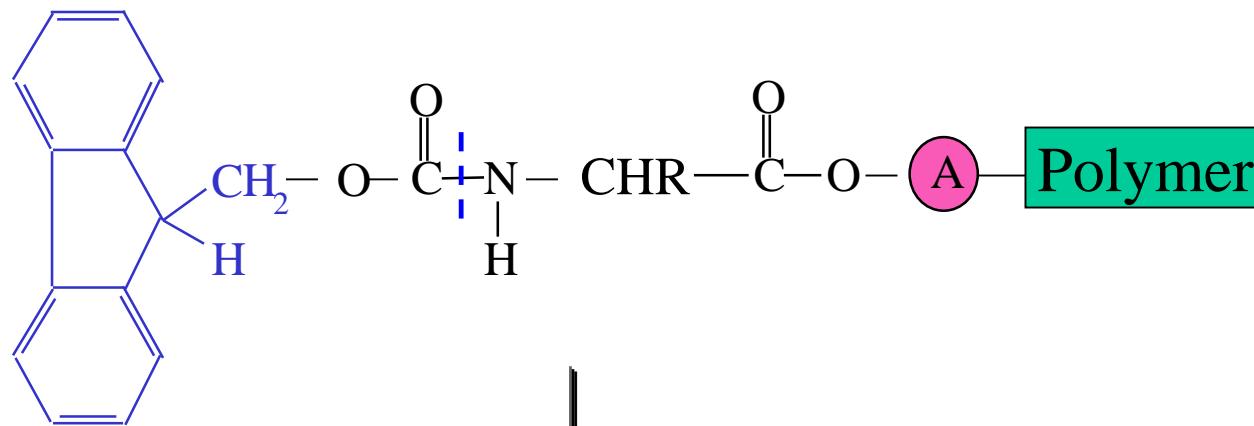
Merrifield-Harz

1963: Festphasenpeptidsynthese

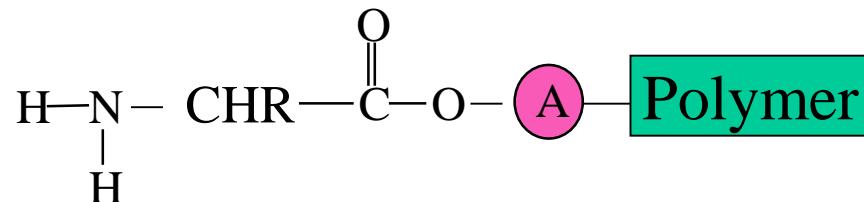


Merrifield (Nobelpreis 1978): **Polymer**

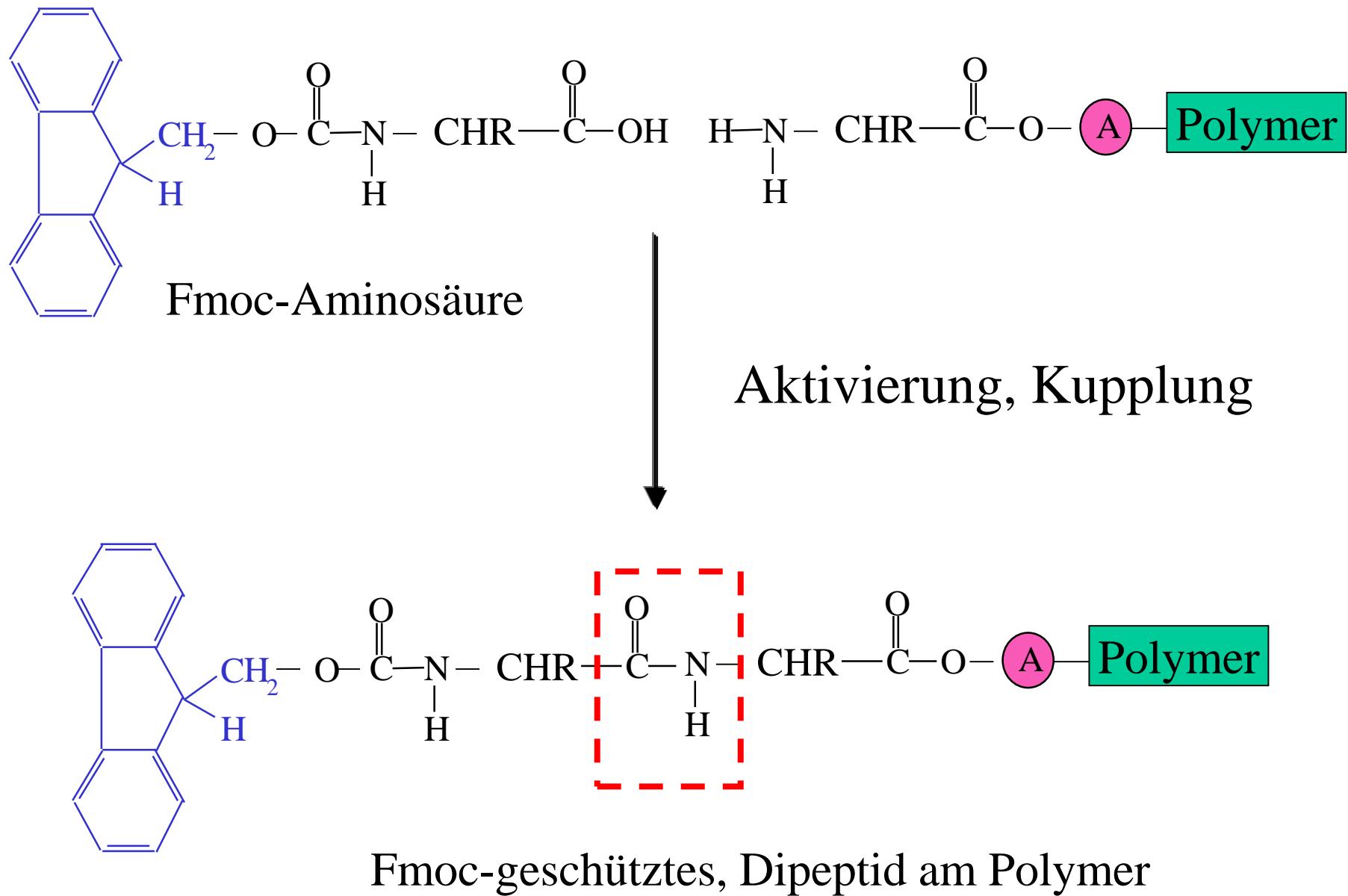
SPPS: Erster Schritt = Fmoc-Abspaltung



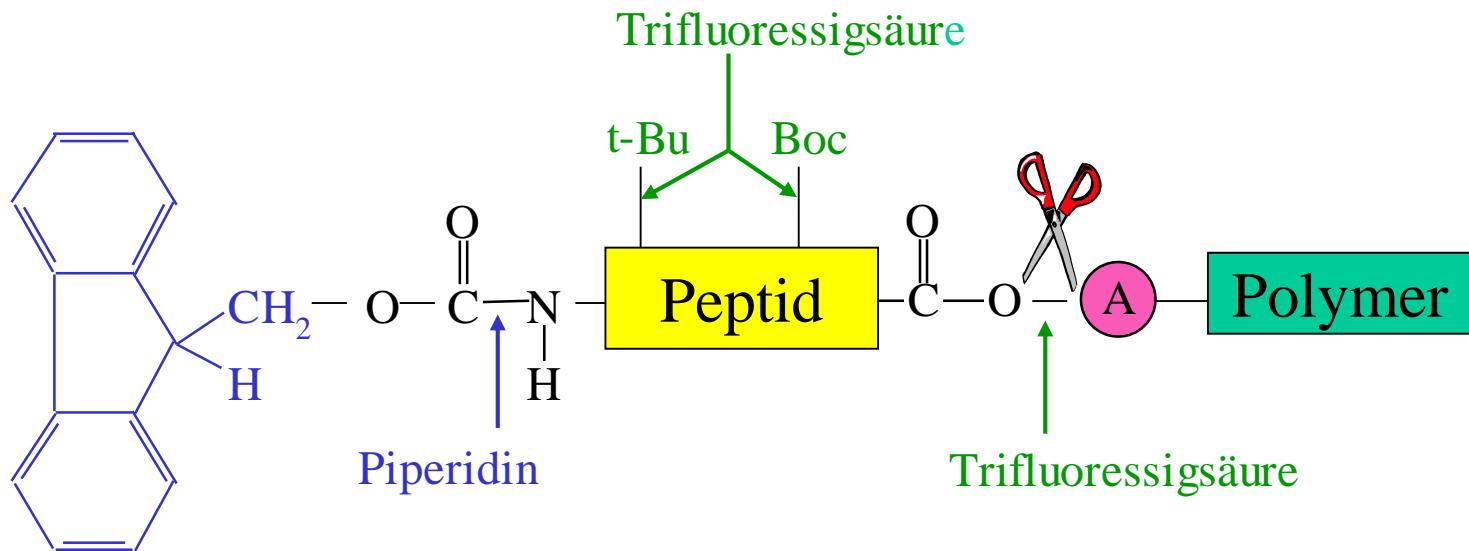
Abspaltung der
Na-Schutzgruppe



SPPS: Zweiter Schritt = Kupplung



Letzter Schritt: Spaltungen



Noch praktischer: ein Synthesizer



Syntheseprotokoll



- | | | |
|----|---|------------|
| 1. | Quellen den Harzes: | 10 min |
| 2. | Waschen mit DMF: | 2 x 5 min |
| 3. | Abspaltung der Fmoc-Schutzgruppe:
30 % Piperidin in DMF | 2 x 10 min |
| 4. | Waschen mit DMF | 8 x 5 min |
| 5. | Kupplung der Aminosäure
10-facher Ueberschuss Aminosäure
TBTU/HOBt/Diisopropylethylamin | 2 x 30 min |
| 6. | Waschen mit DMF | 6 x 5 min |
| 7. | Waschen mit Ether | 2 x 5 min |
| 8. | Trocknen mit Stickstoff | 20 min |

(3-6 werden immer wiederholt!)