Politechnika Gdańska realizuje projekt dofinansowany z Funduszy Europejskich „Zintegrowany Program Rozwoju Politechniki Gdańskiej”

Celem projektu jest podniesienie jakości kształcenia na studiach II i III stopnia, zwiększenie efektywności zarządzania Politechniką Gdańską oraz podniesienie kompetencji kadr.

Dofinansowanie projektu z UE: 28 905 073,51 zł
POWR.03.05.00-00-Z044/17

Fundusze Europejskie
Wiedza Edukacja Rozwój

Rzeczpospolita Polska

Unia Europejska
Europejski Fundusz Społeczny

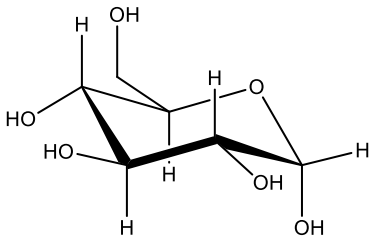
Polimery Naturalne

Fundusze Europejskie
Wiedza Edukacja Rozwój

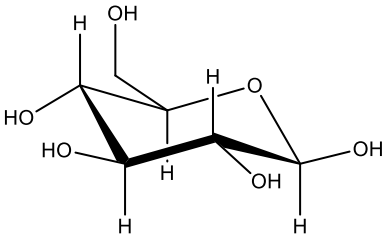
Rzeczpospolita Polska

Unia Europejska
Europejski Fundusz Społeczny

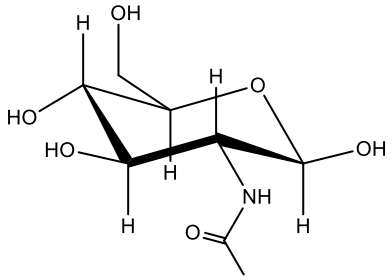
Monomery polimerów naturalnych.



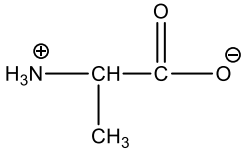
α-D-glukopiranoza



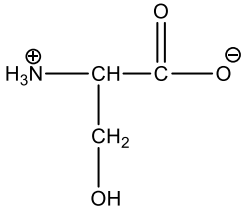
β-D-glukopiranoza



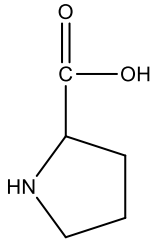
N-acetyloglukozoamina



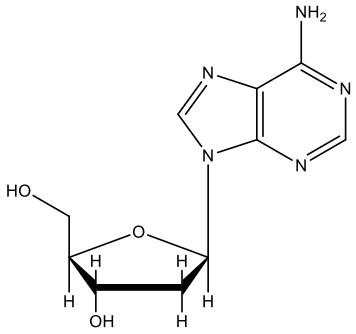
Alanina (Ala)



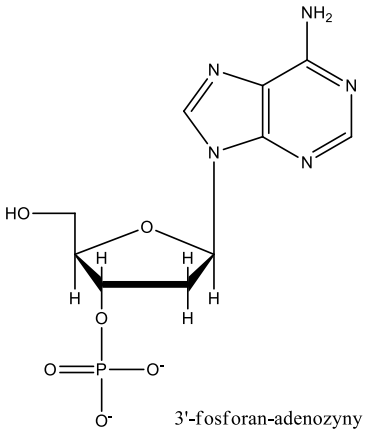
Seryna (Ser)



Prolina (Pro)

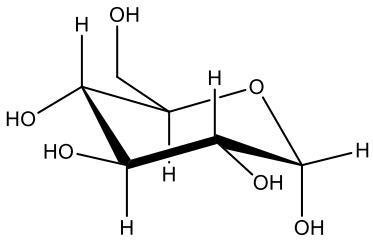


Adenozyna

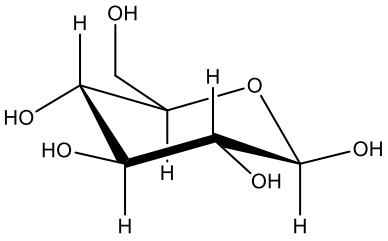


3'-fosforan-adenozyny

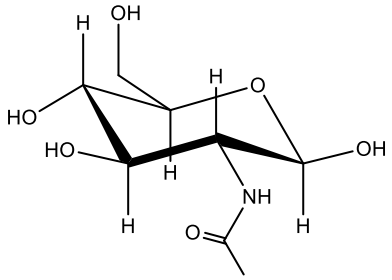
Monomery polimerów naturalnych.



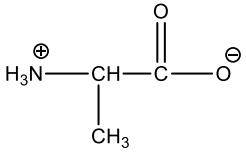
α-D-glukopiranoza



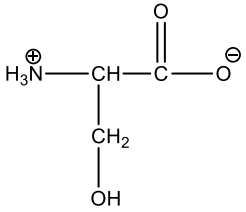
β-D-glukopiranoza



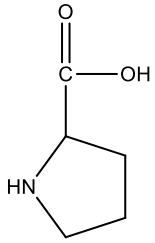
N-acetyloglukozoamina



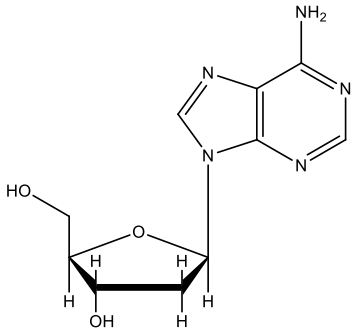
Alanina (Ala)



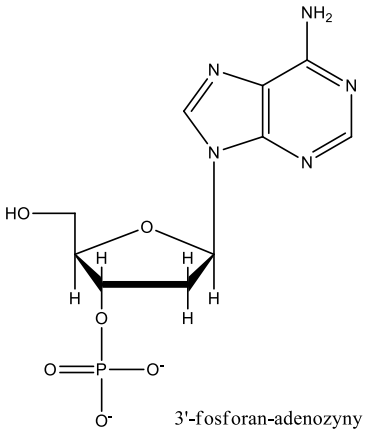
Seryna (Ser)



Prolina (Pro)

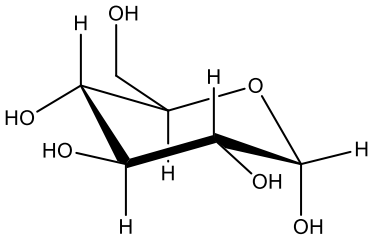


Adenozyna

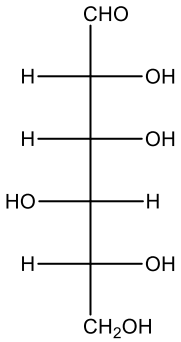


3'-fosforan-adenozyny

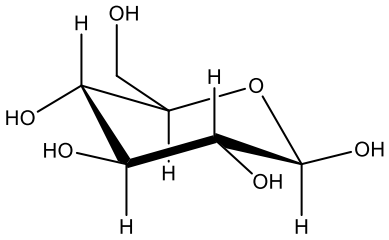
Monosacharydy



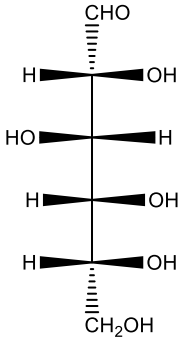
α-D-glukopiranoza

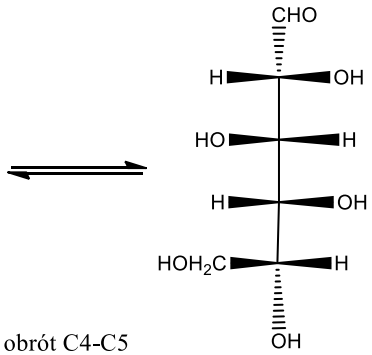


D-glukoza

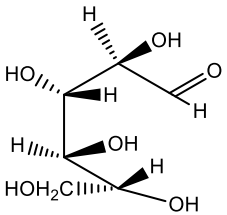


β-D-glukopiranoza

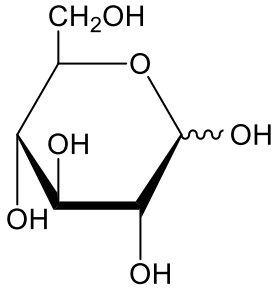




obrót C4-C5

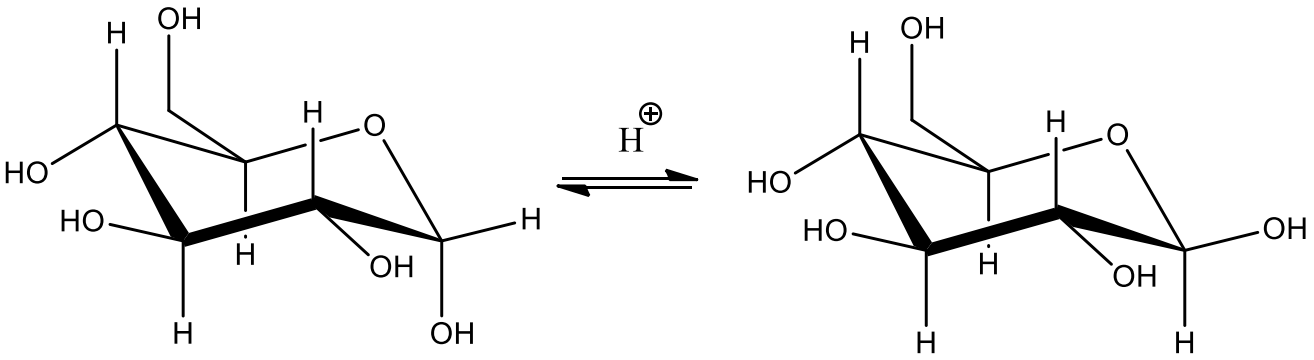


ta grupa OH zamknie pierscien acetalowy



Projekcja Haworth'a

Mutarotacja



α-D-glukopiranoza

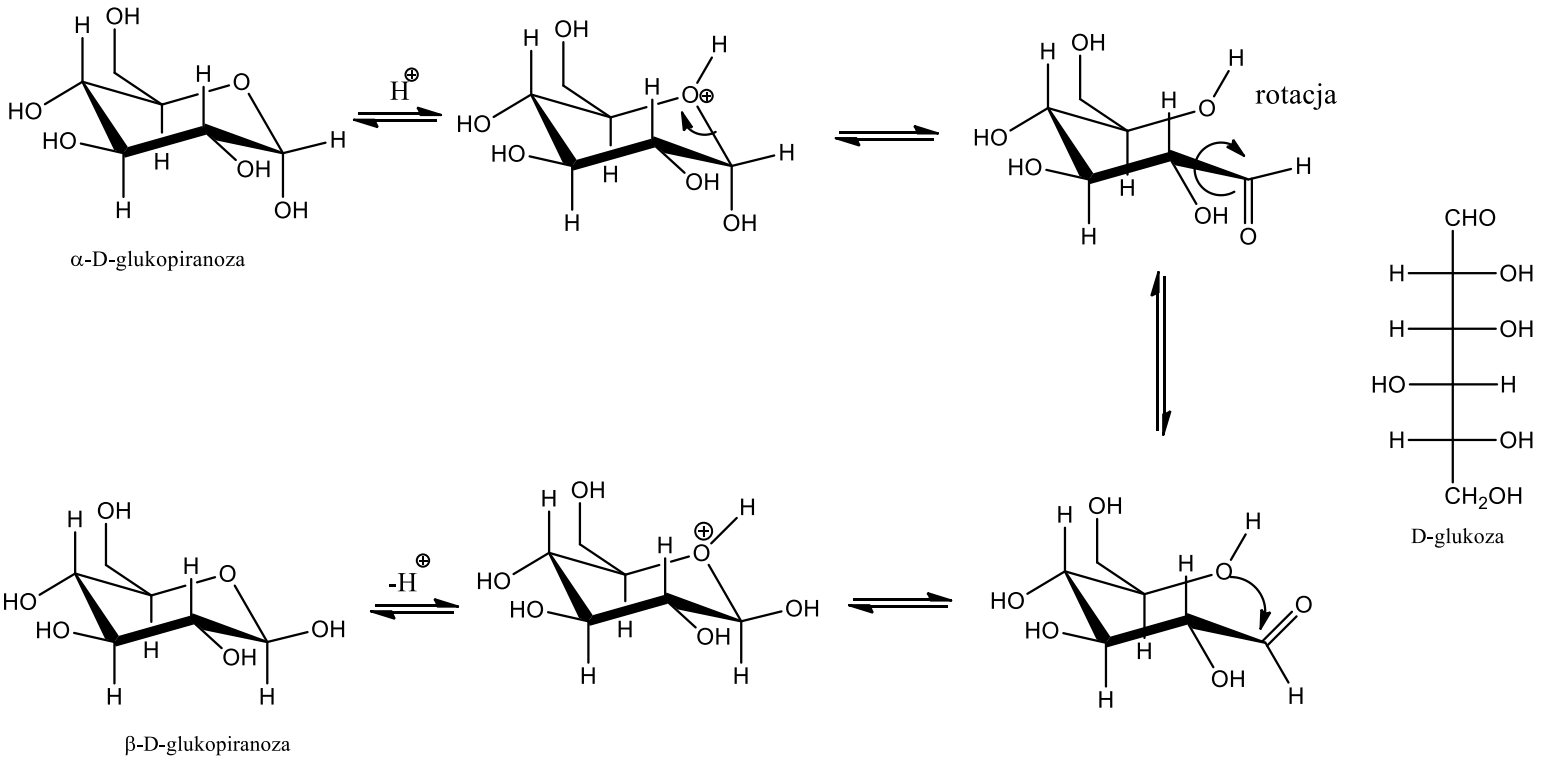
+112,2°

β-D-glukopiranoza

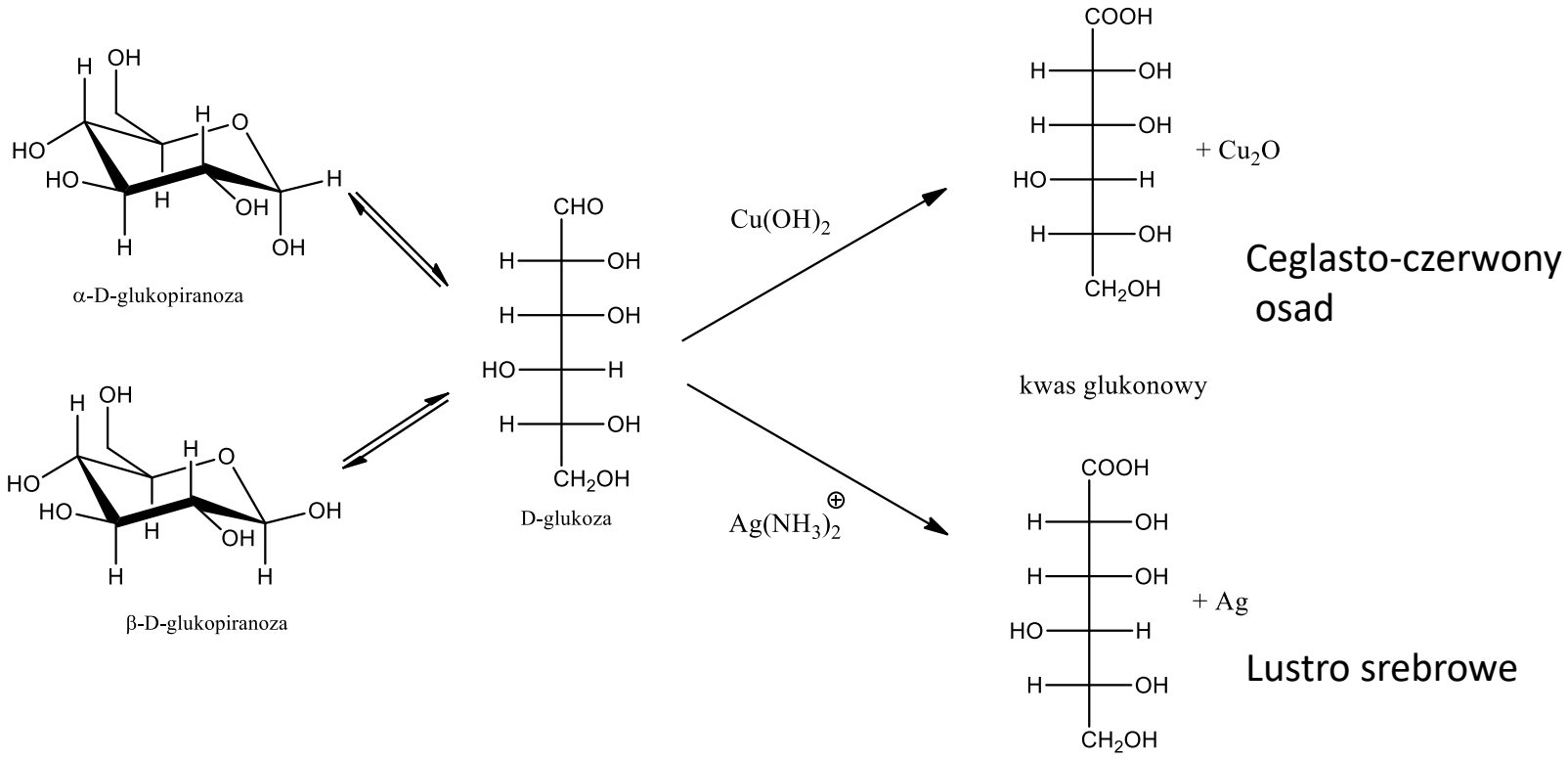
+18,7°

w stanie równowago +52.2° 64% formy β i 36% formy α

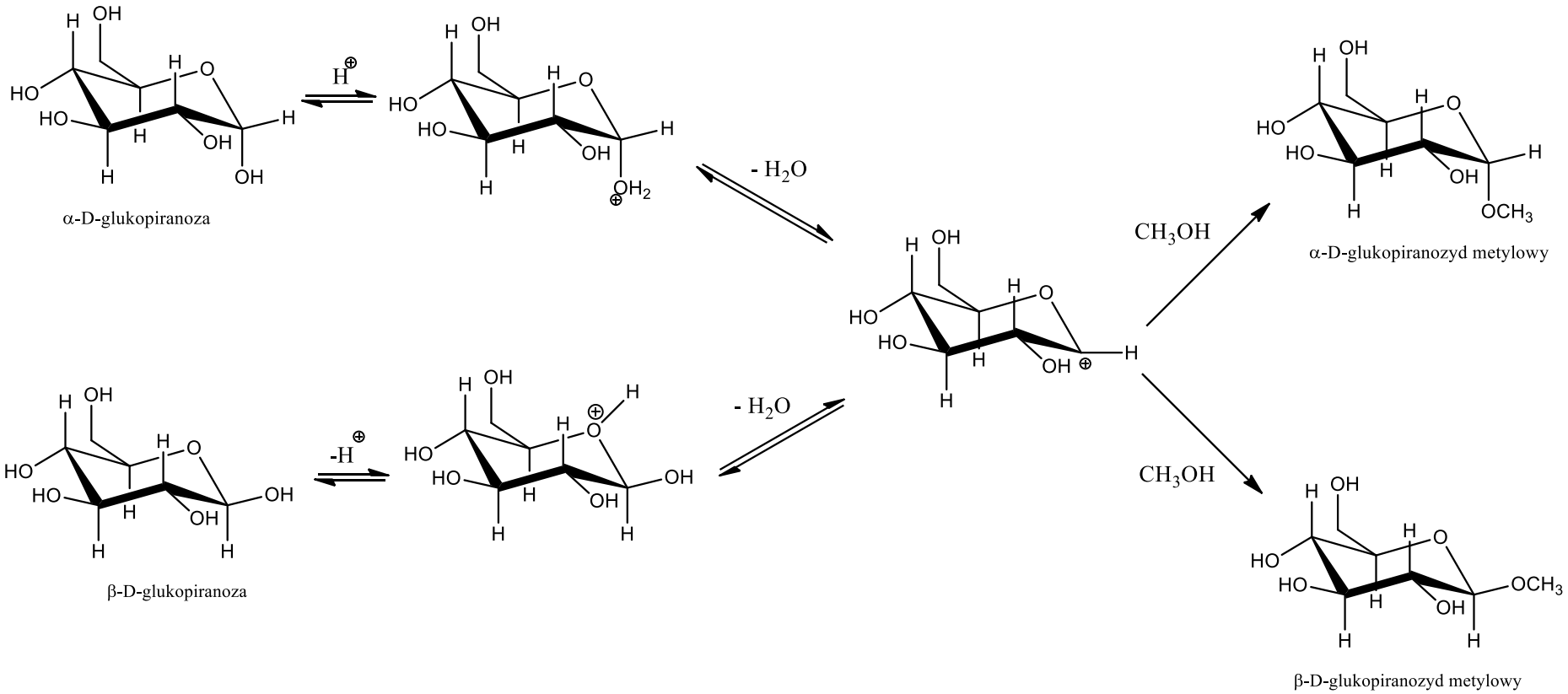
Mechanizm mutarotacji



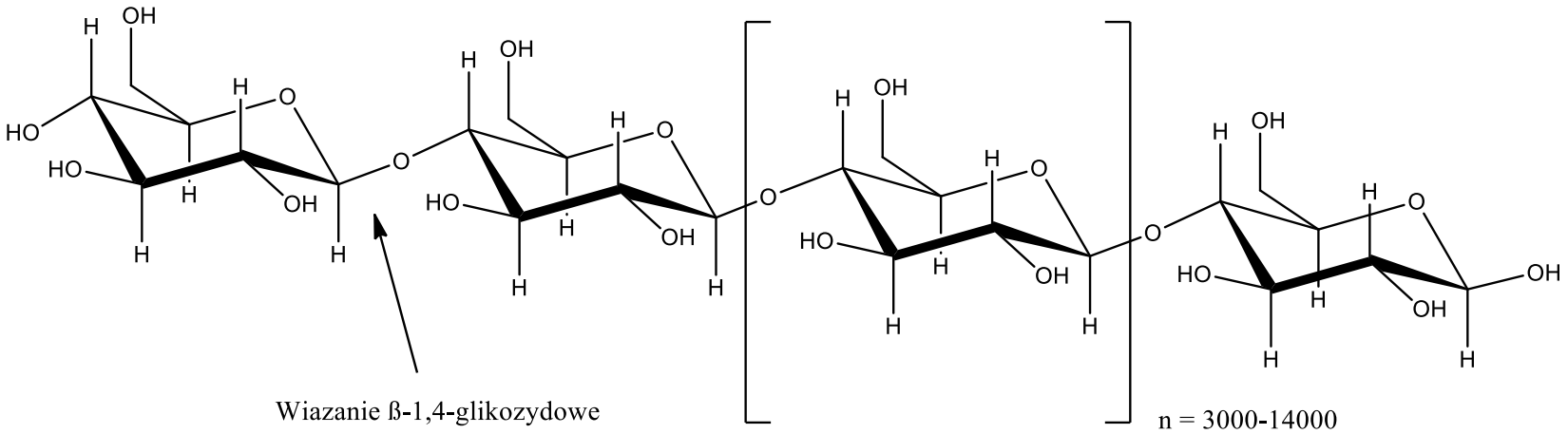
Glukoza daje pozytywny wynik próby Tollensa i Trommera

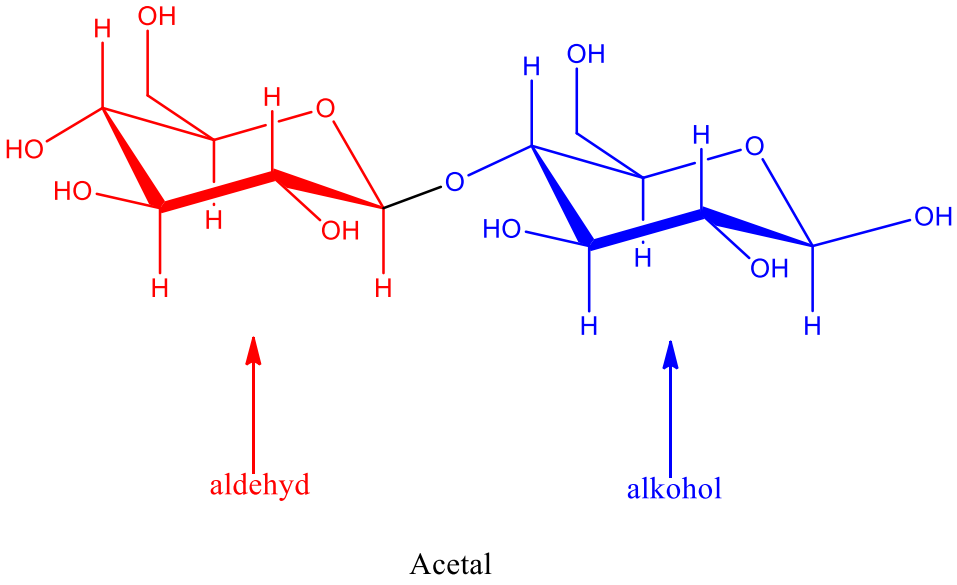


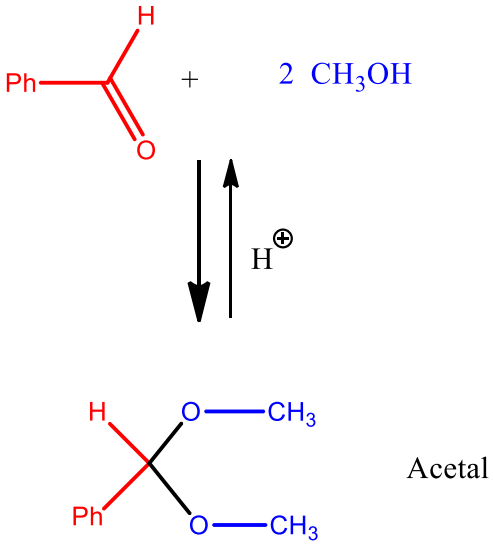
Tworzenie acetali - glikozydy



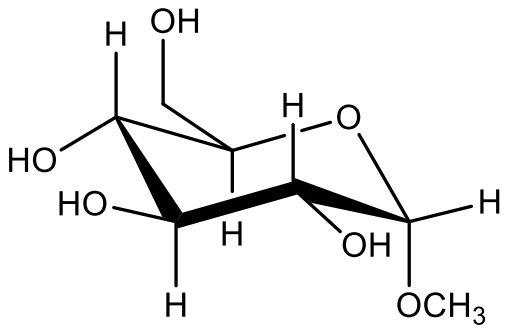
Celuloza


Wiazanie ß-1,4-glikozydowe
n = 3000-14000

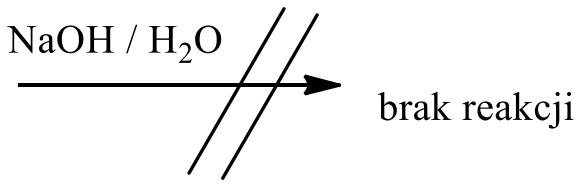

aldehyd
alkohol
Acetal

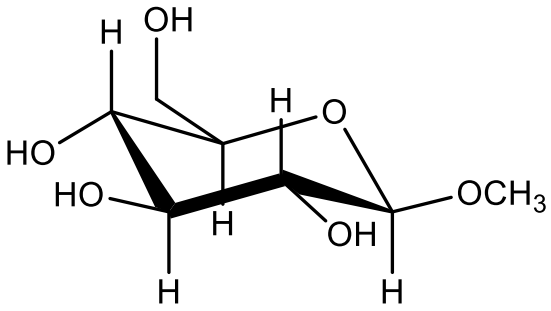

2 CH3OH
Acetal

Glikozydy hydroliza

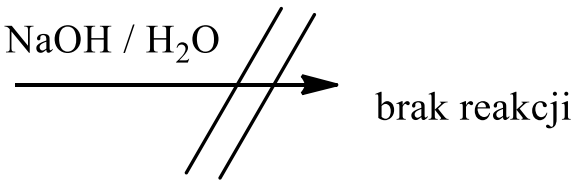


α-D-glukopiranozyd metylowy

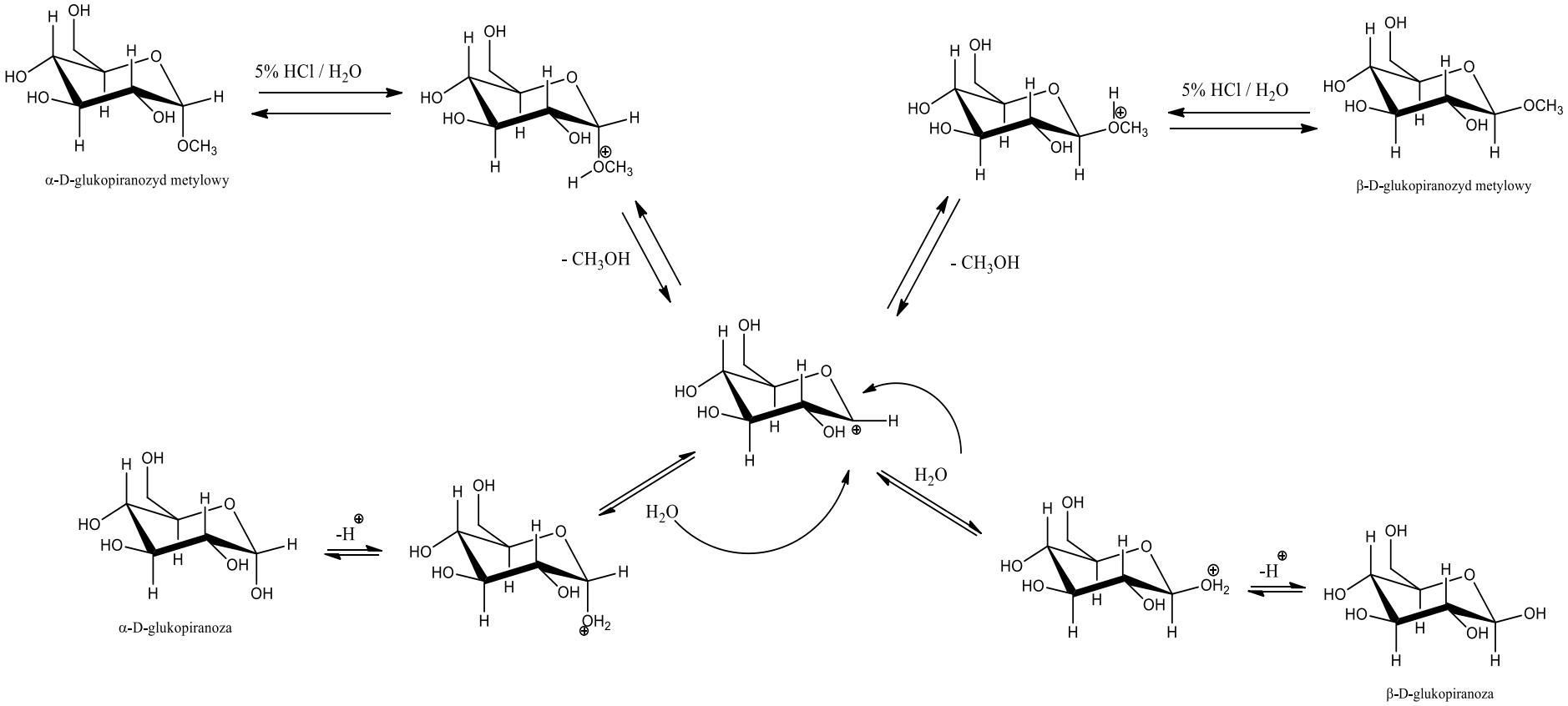




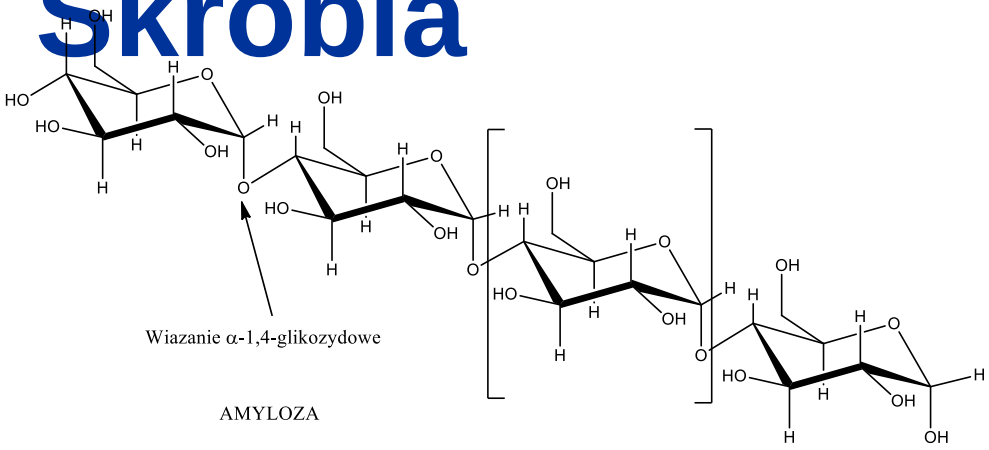
β-D-glukopiranozyd metylowy



Glikozydy hydroliza

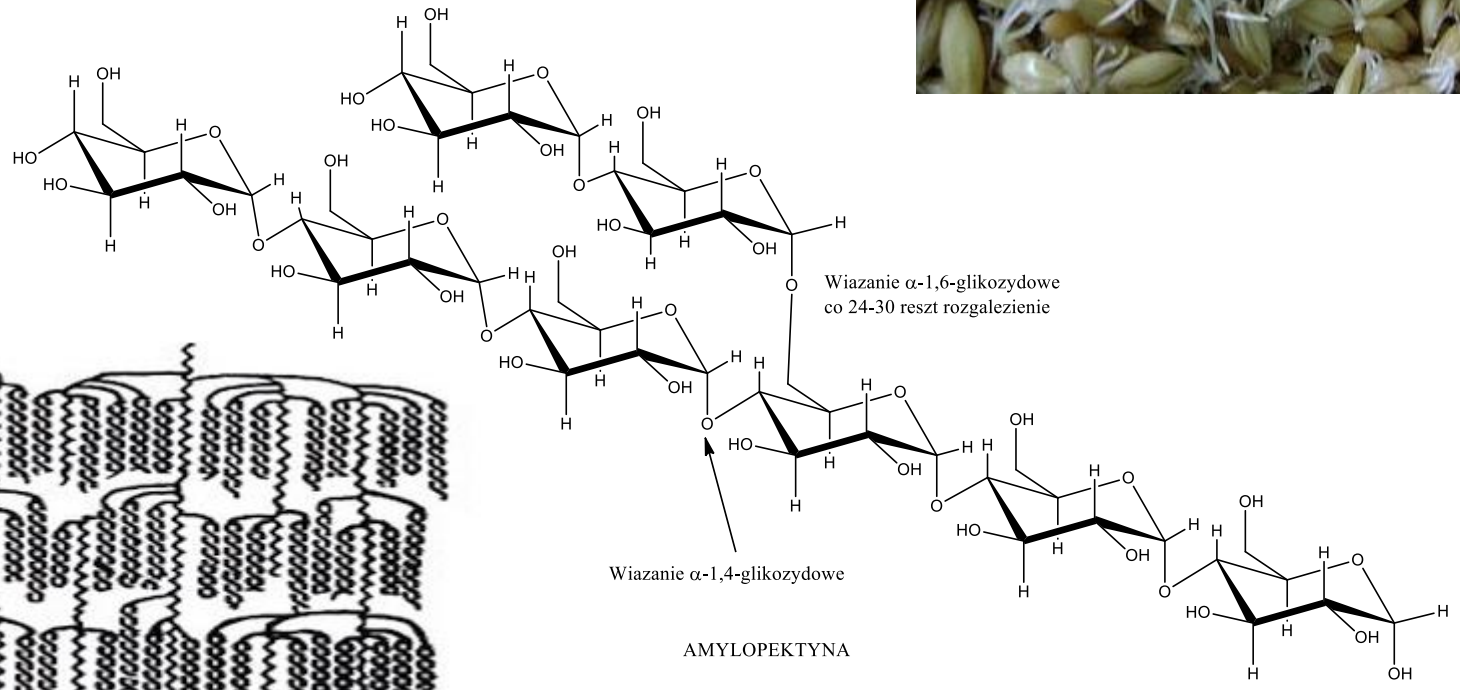


Skrobia



AMYLOZA

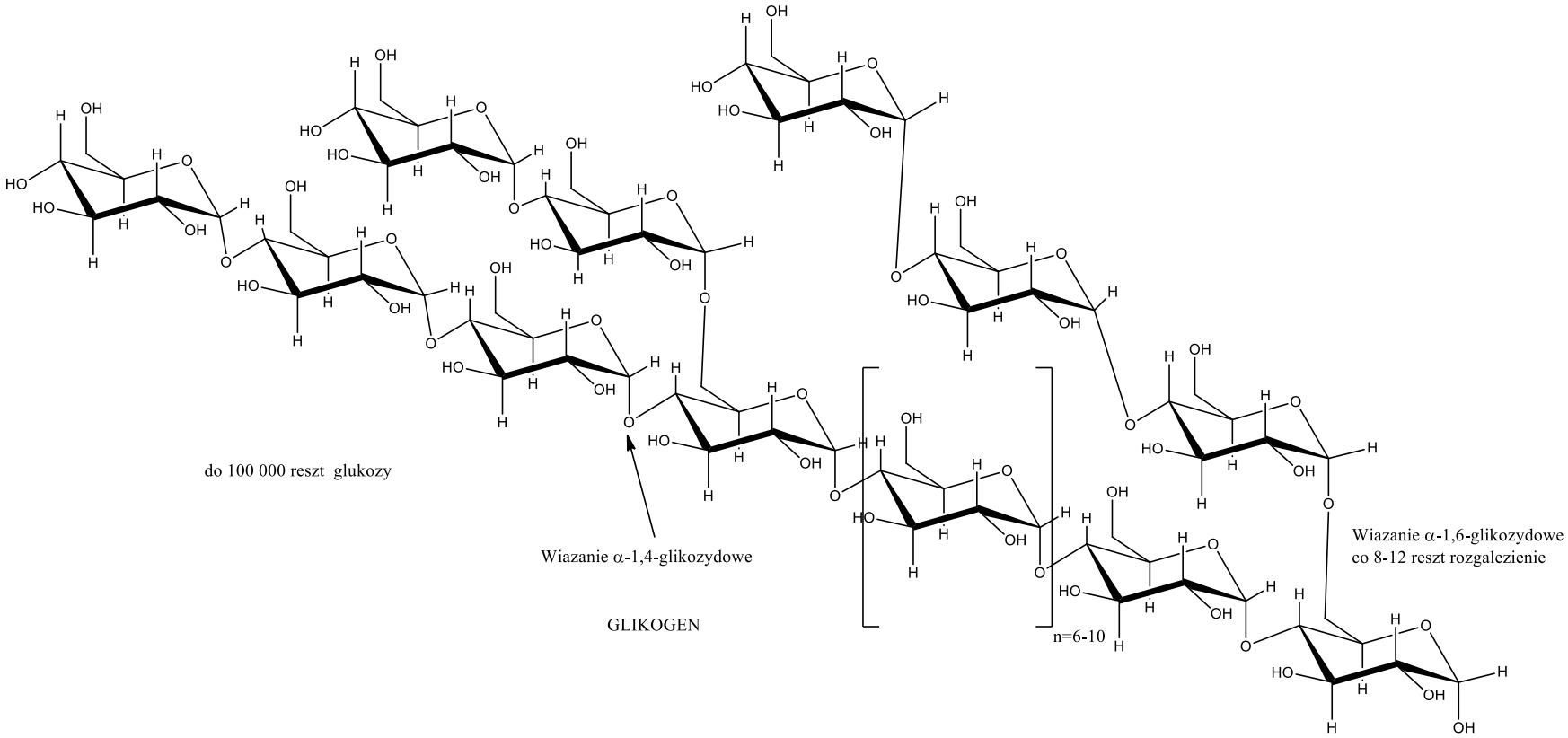
n = 300-3000



AMYLOPEKTYNA

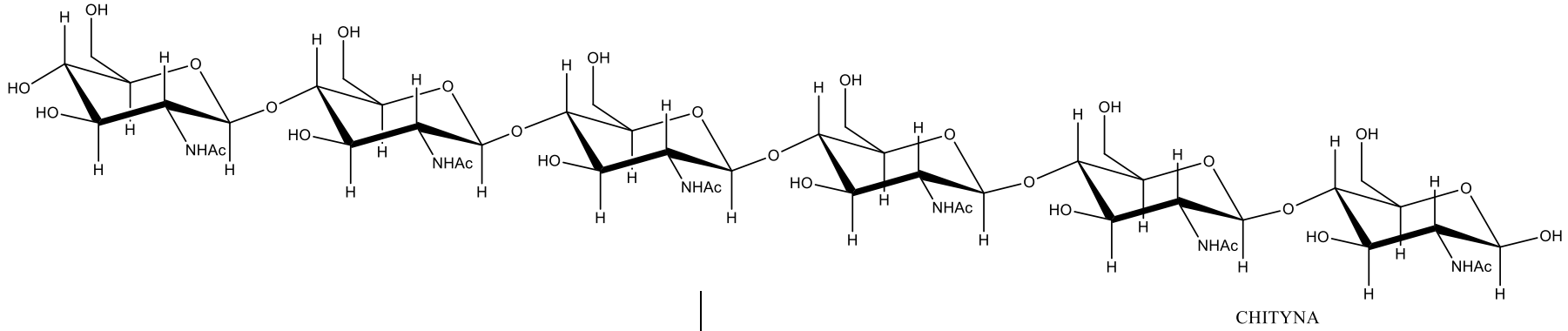
2000 do 200000 reszt glukozy

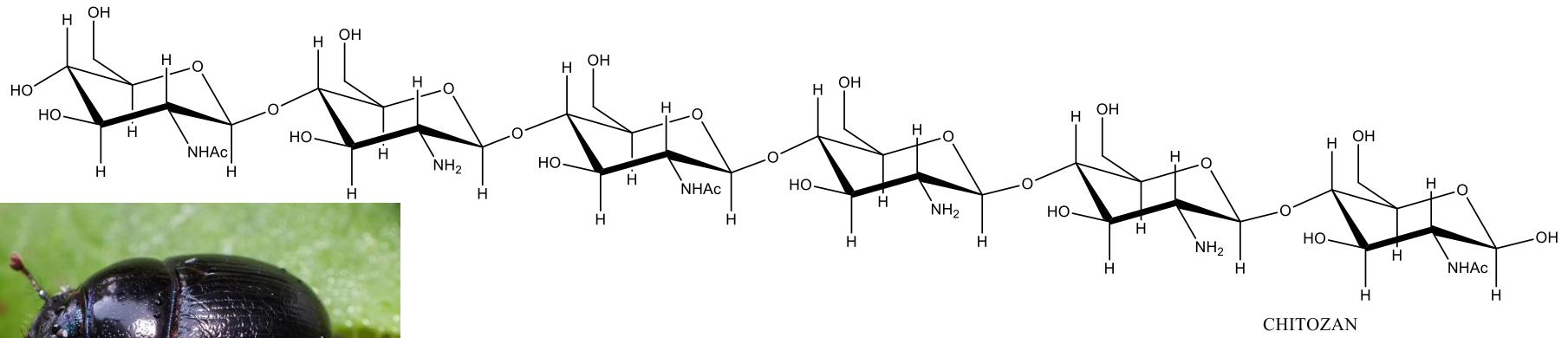
Glikogen



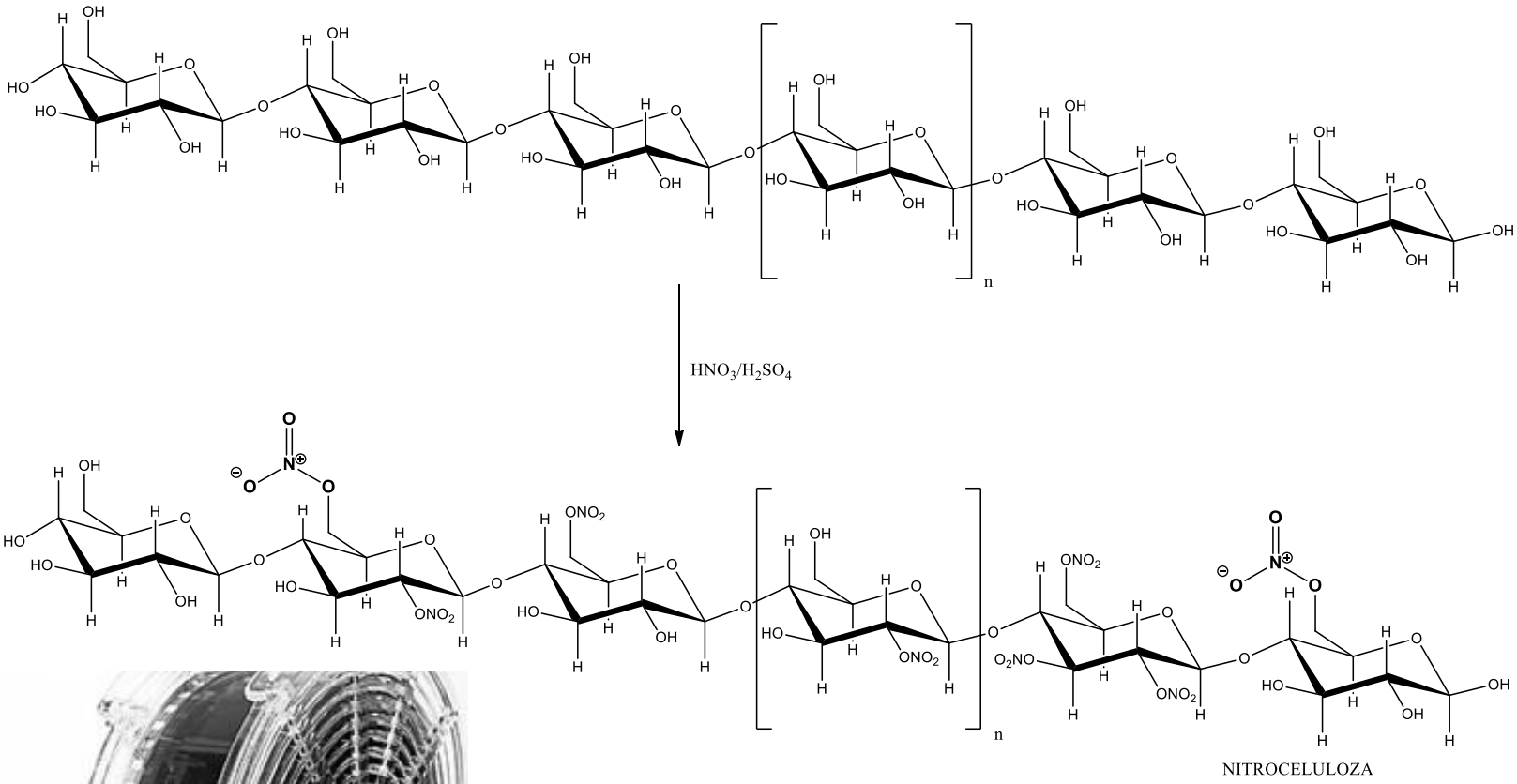
Częściej rozgałęziony niż amylopektyna – szybszy rozpad na glukozę

Chityna i chitozan



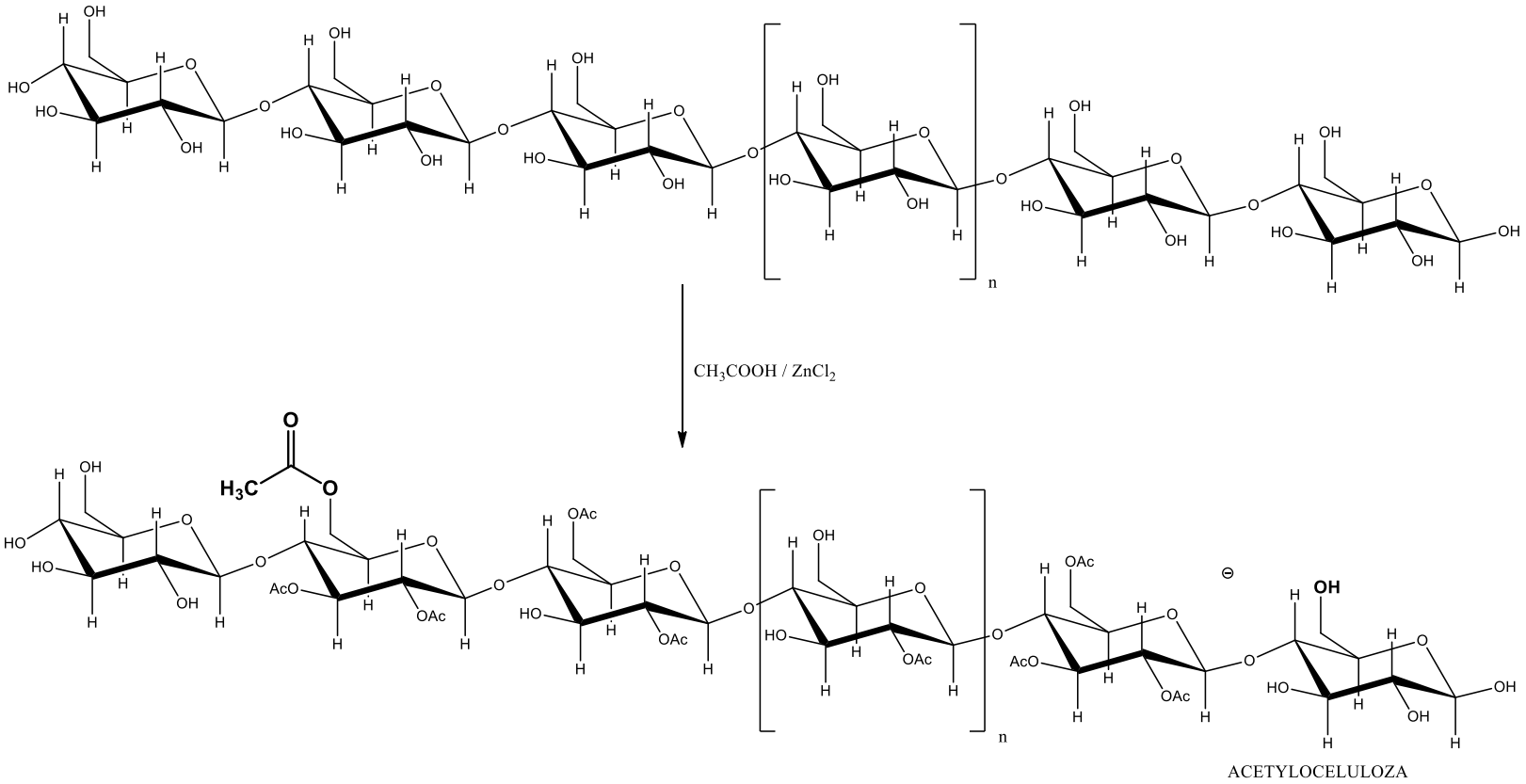


Modyfikowane Celulozy

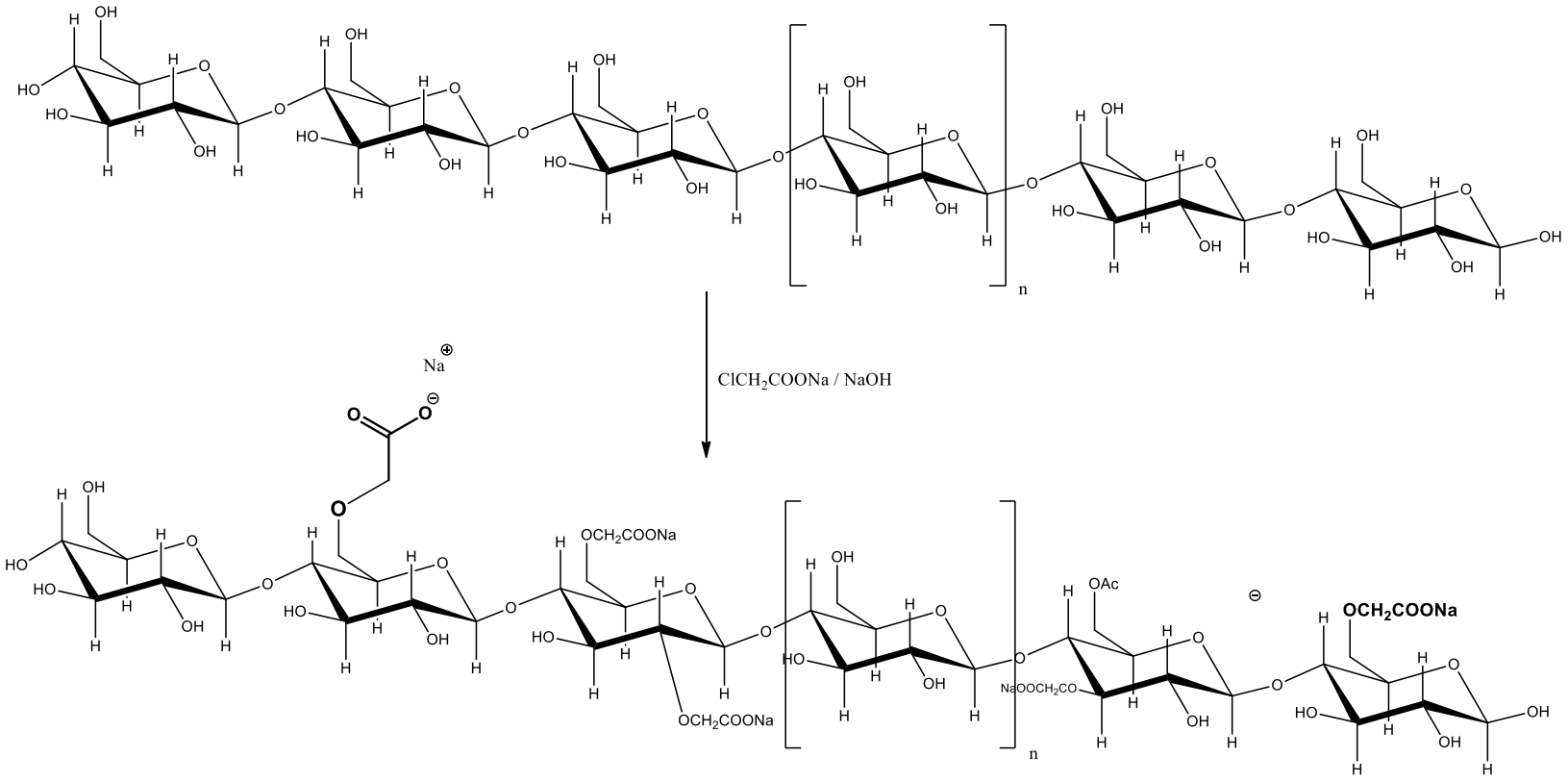


Proch bezdymny

Acetyloceluloza



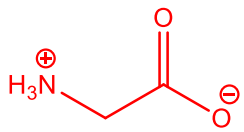
Karboksymetyloceluloza



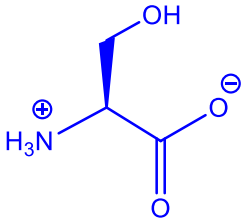
KARBOKSYMETYLOCELULOZA

E466

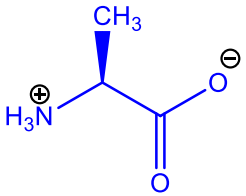
Polimery białkowe - elementy składowe



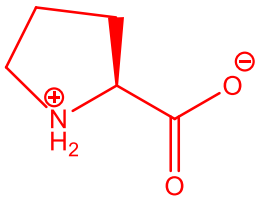
Glicyna
Gly



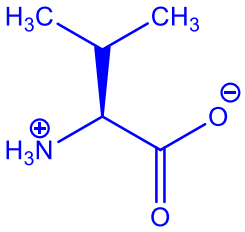
Seryna
Ser



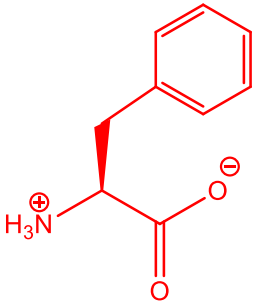
Ala



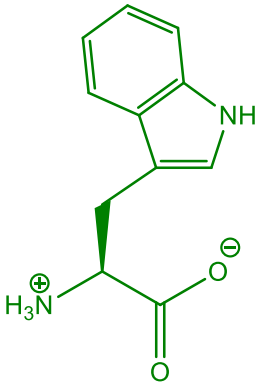
Prolina
Pro



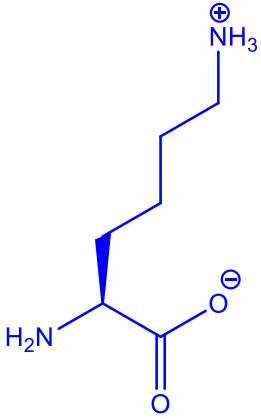
Walina
Val



Fenyloalanina
Phe

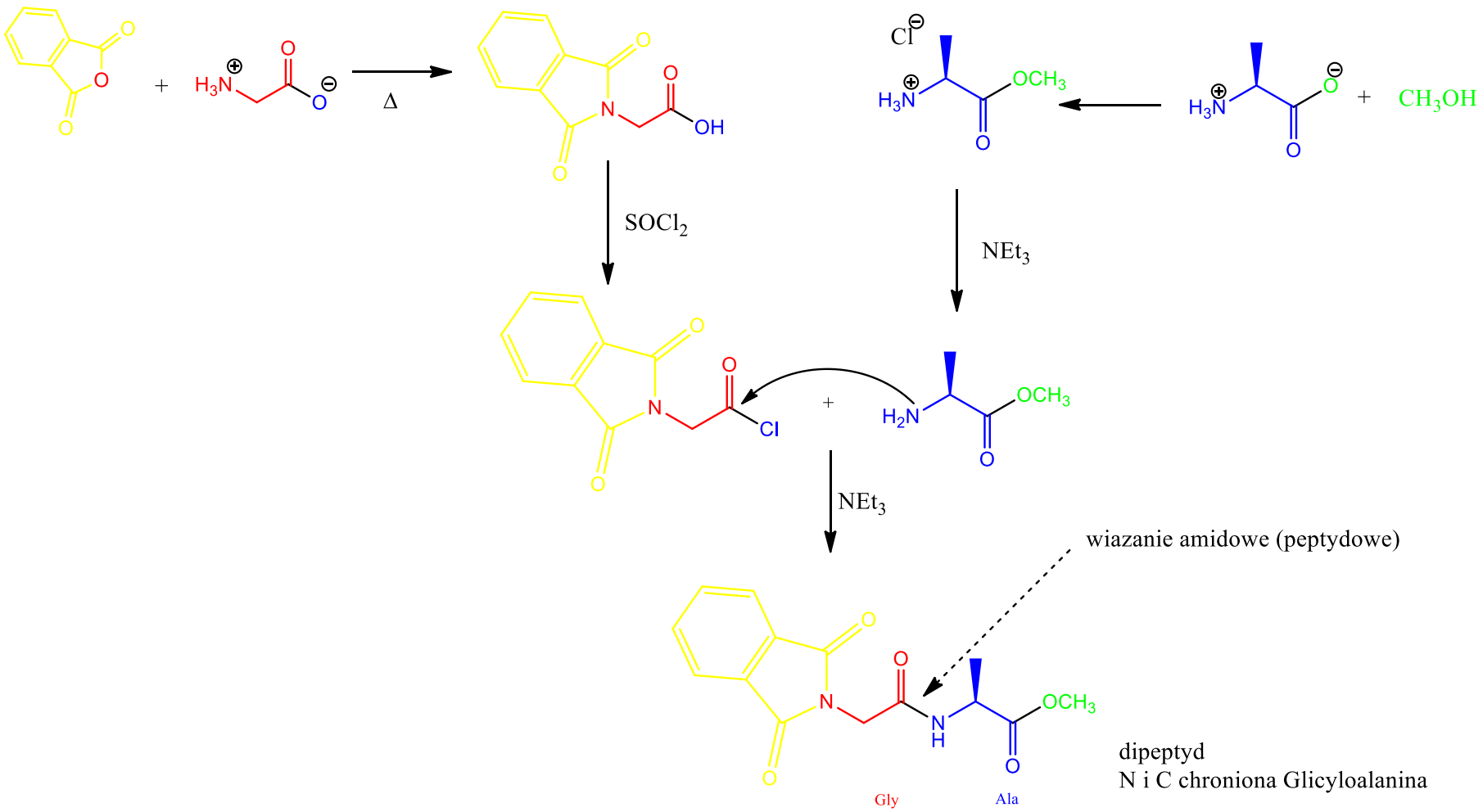


Tryptofan
Trp



Lizyna
Lys

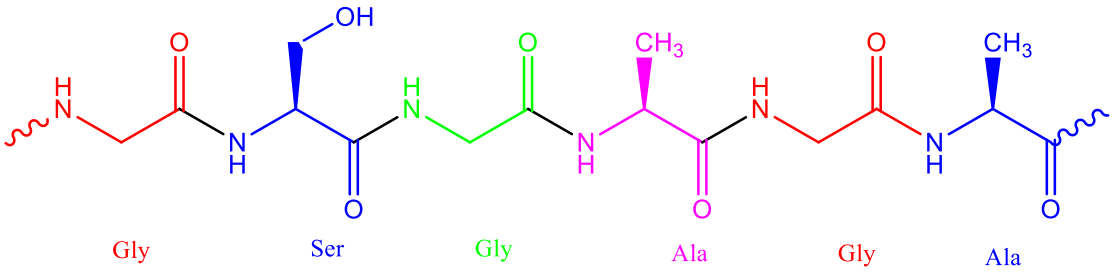
Wiązanie amidowe



dipeptyd
N i C chroniona Glicyloalanina

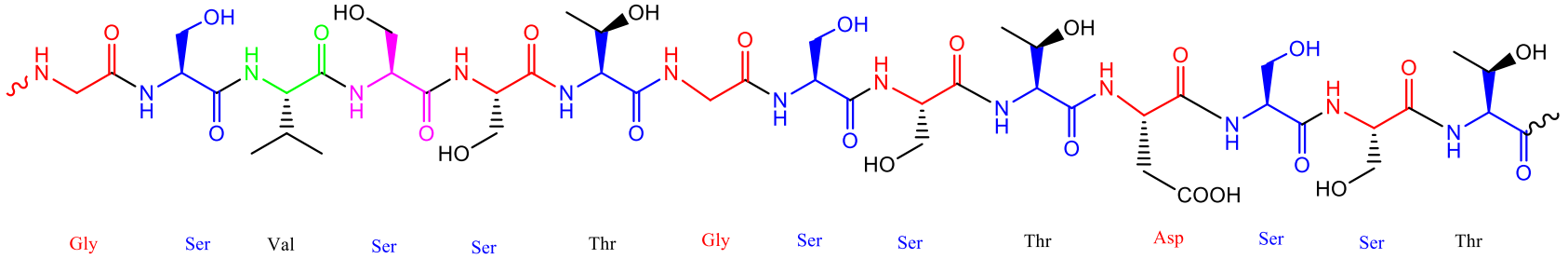
ester metylowy N-ftaloilo glicyloalaniny

Jedwab i nić pajęcza



Bialko Firboinowe

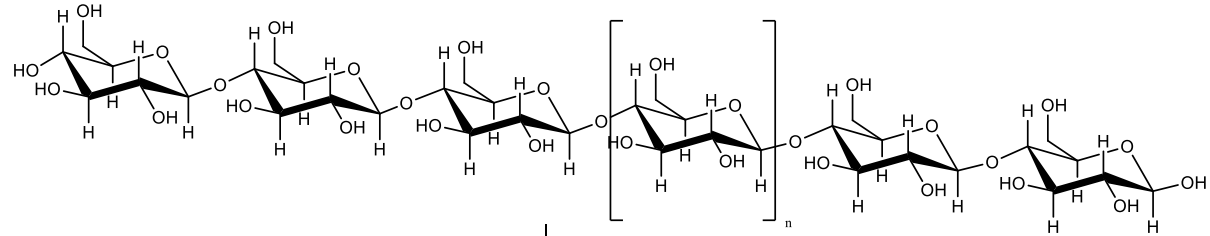
Struktura naturalnego jedwabiu.



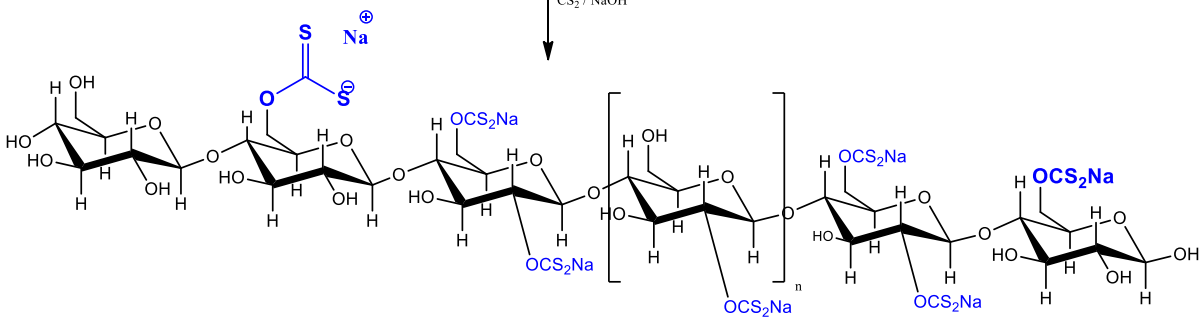
Serycyna - klej jedwabny

[Gly-Ser-Val-Ser-Ser-Thr-Gly-Ser-Ser-Thr-Asp-Ser-Ser-Thr]n

Jedwab sztuczny - wiskoza

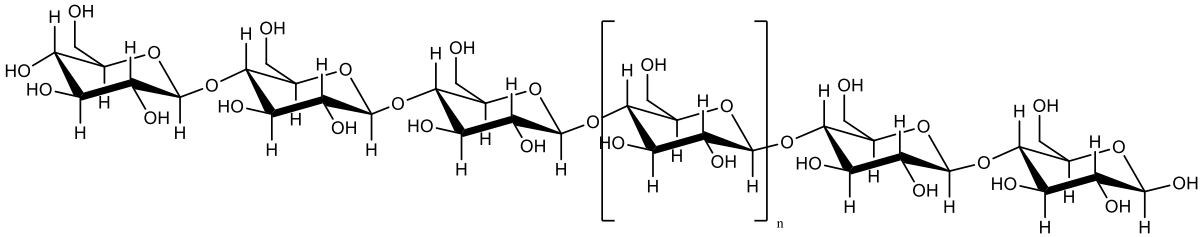


CS_2 / NaOH



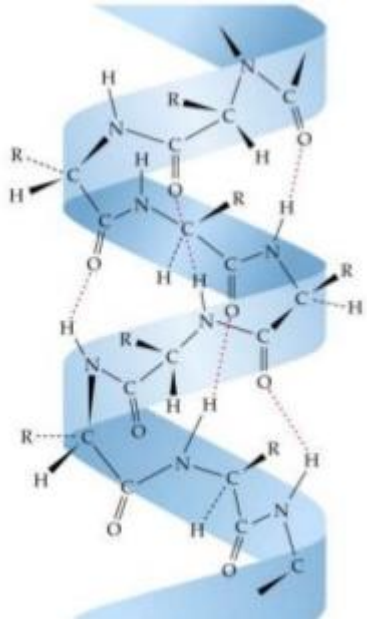
Ksantogenian celulozy - rozpuszczalny w H_2O/ NaOH

H_2SO_4 / H_2O

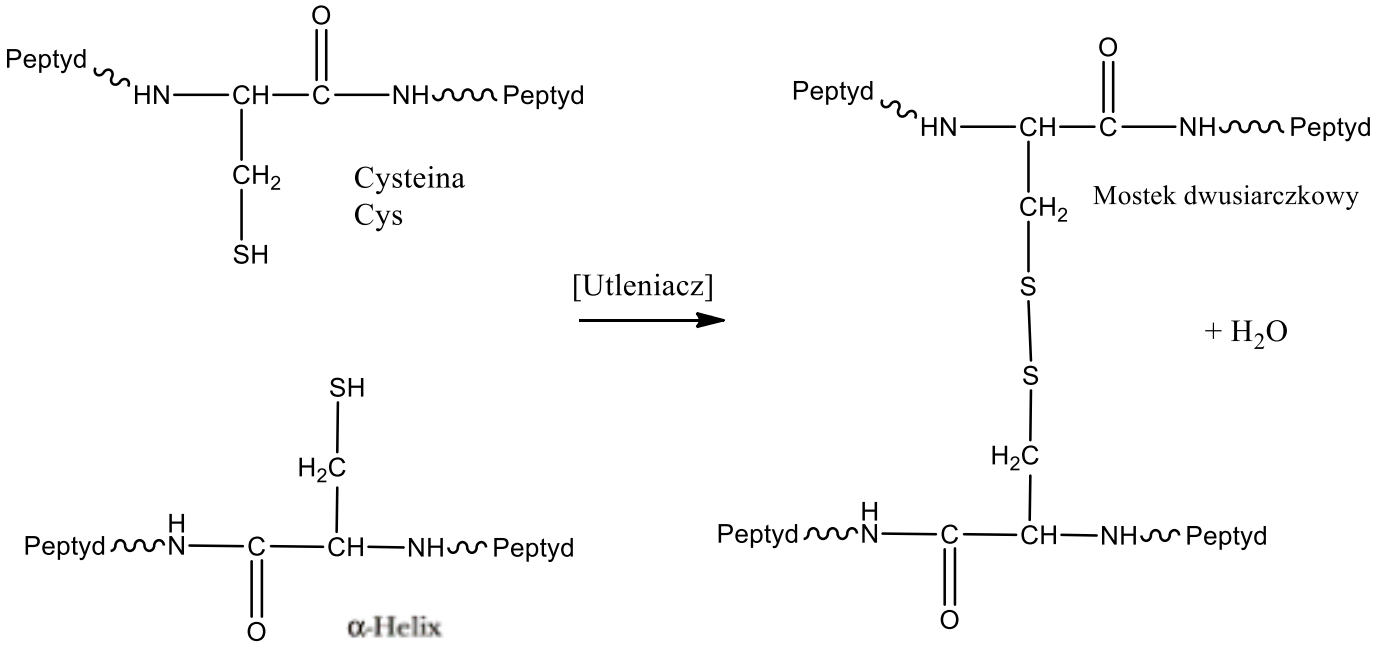


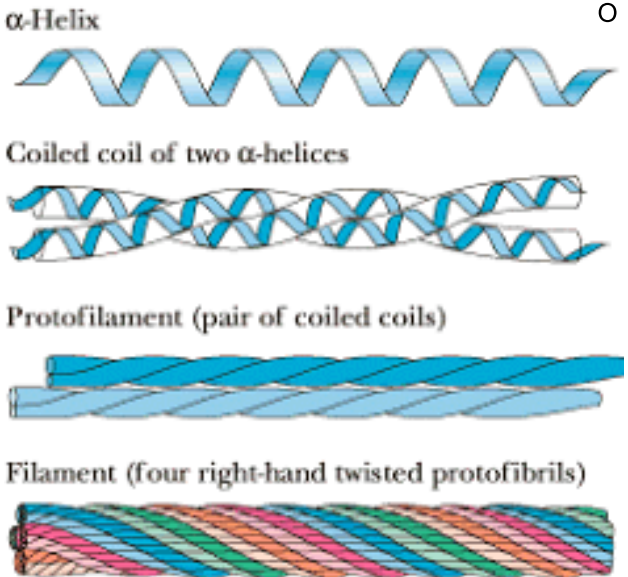
Celuloza w postaci nitki

Wełna i skóra



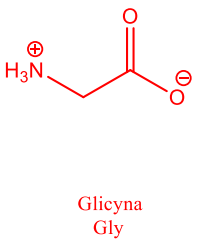
Helisa α-keratyny



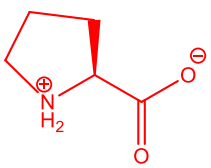


Kolagen

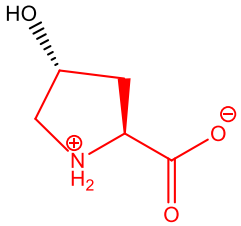
- Kolagen stanowi 30% wszystkich białek w organizmie ssaków
- Struktura kolagenu – trzy peptydowe helisy skręcone razem
- Skład aminokwasowy kolagenu: glicyna 30%, prolina 10%, **Hydroksyprolina 10% i Hydroksylizyna 1% (aminokwasy niekodowane)**



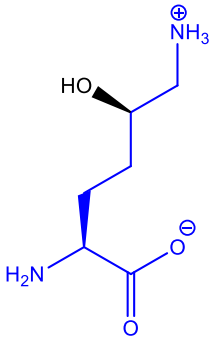
Glicyna
Gly



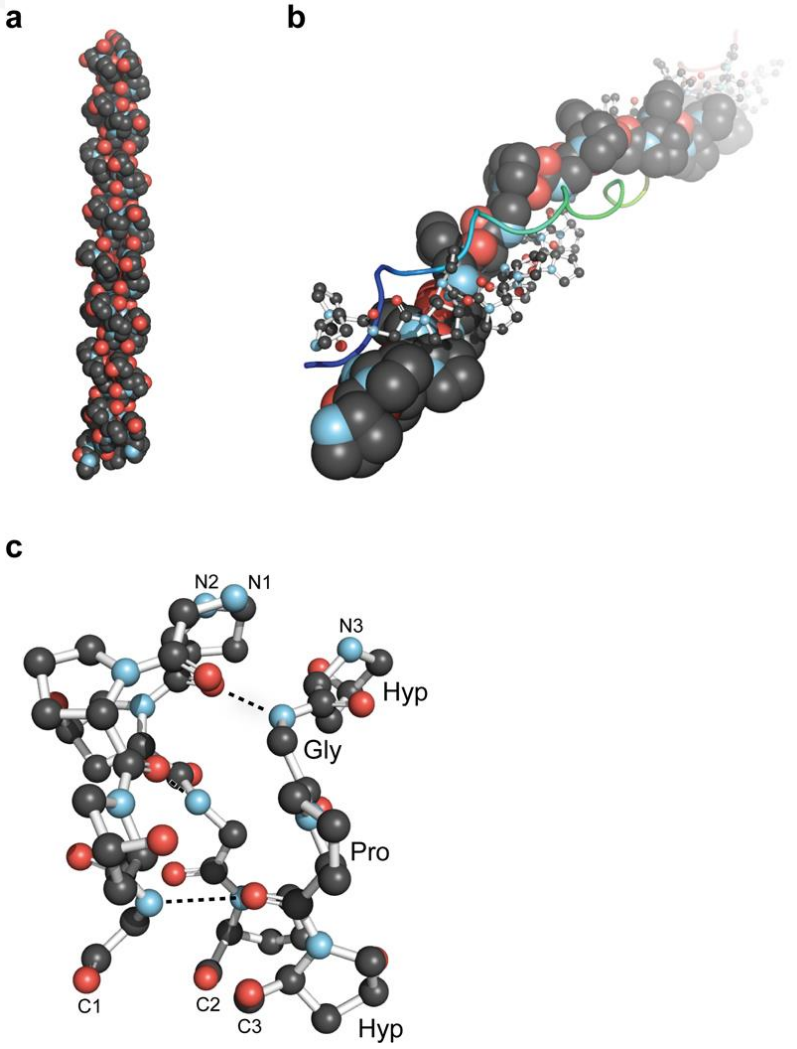
Prolina
Pro



Hydroksyprolina
Hyp



Hydroksylizyna
Hyl



(*a*) potrójna helisa kolagenu, utworzona z $(ProHypGly)_4$–(ProHypAla)–$(ProHypGly)_5$
(*b*) Widok wzdłuż osi potrójnej helisy.
(*c*)Fragment portójnej helisy z wiązaniami wodorowymi pomiędzy łańcuchami

Annu Rev Biochem. 2009; 78: 929–958.