Acidi nucleici, struttura

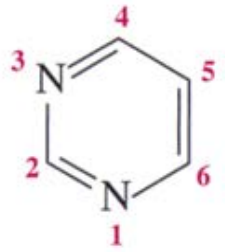
Sono dei biopolimeri formati da tre tipi di unità monomeriche:

1. basi azotate etereocicliche aromatiche;

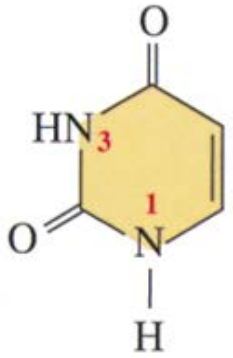
2. D-ribosio o da 2-deossi-D-ribosio

3. fosfato

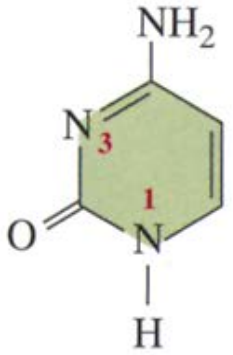
Basi azotate etereocicliche aromatiche



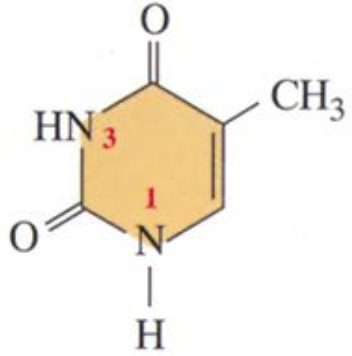
Primidina



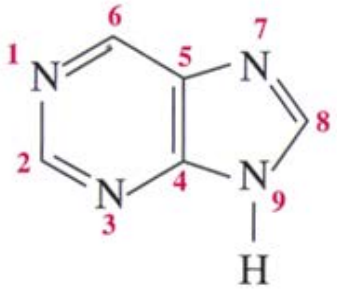
Uracile (U)



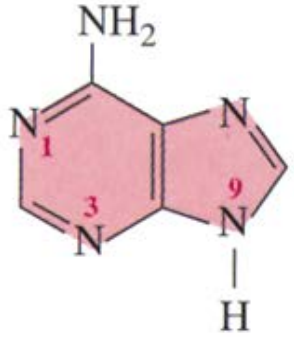
Citosina (C)



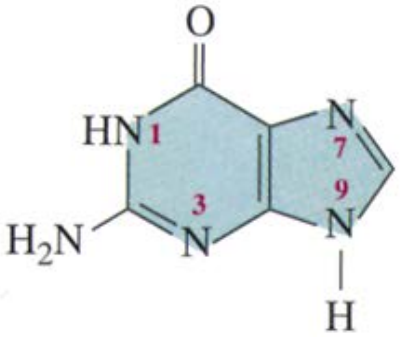
Timina (T)



Purina



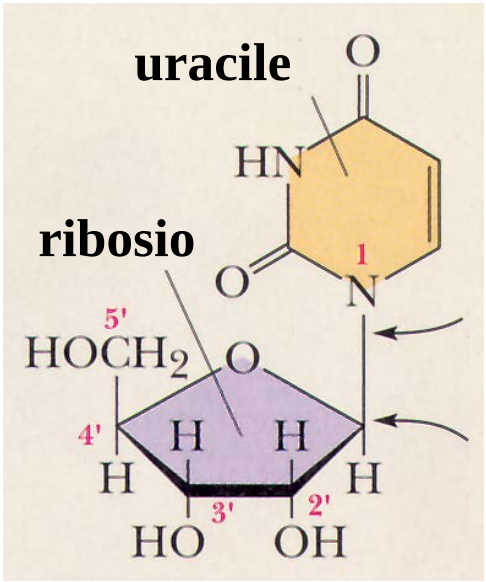
Adenina (A)



Guanina (G)

Nucleosidi

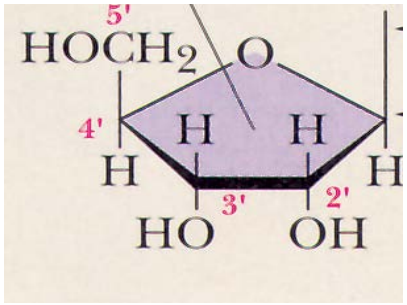
Composti contenenti una base azotata e il D-ribosio o il 2-deossi-D-ribosio



Legame N-glicosidico

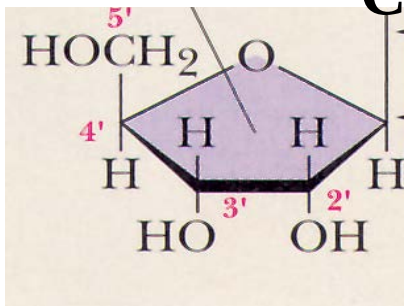
Questo nucleoside è: Uridina

A



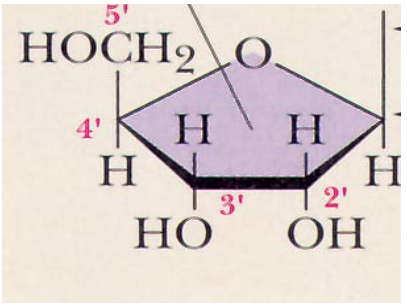
Adenosina

C



Citidina

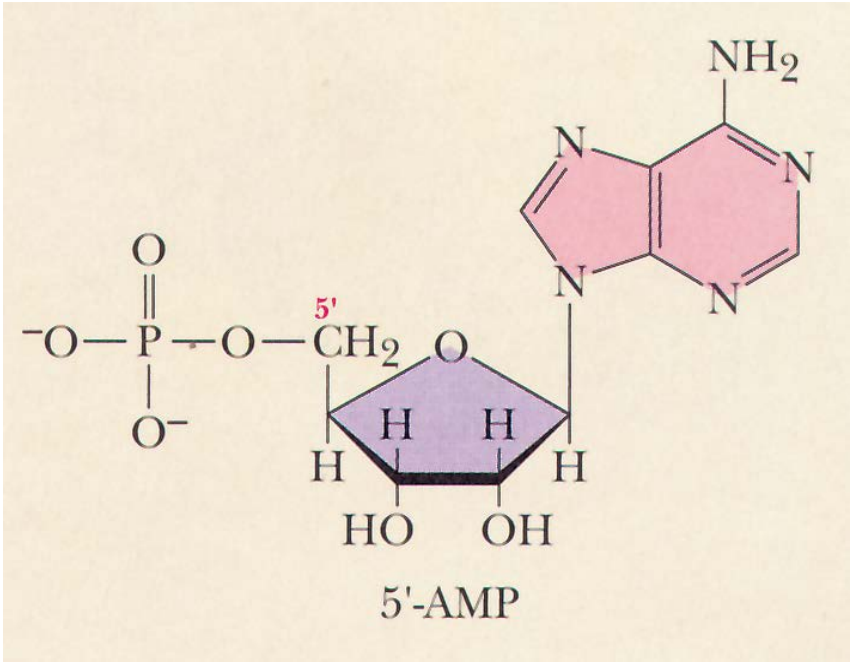
G



Guanosina

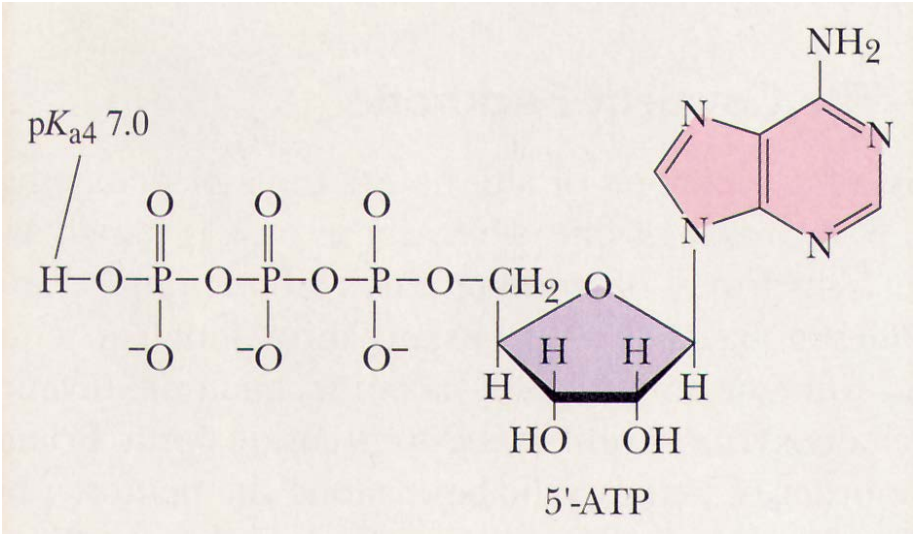
Nucleotide

È un nucleoside nel quale è presente un gruppo fosfato (o in 5’ o in 3’)



5'-AMP

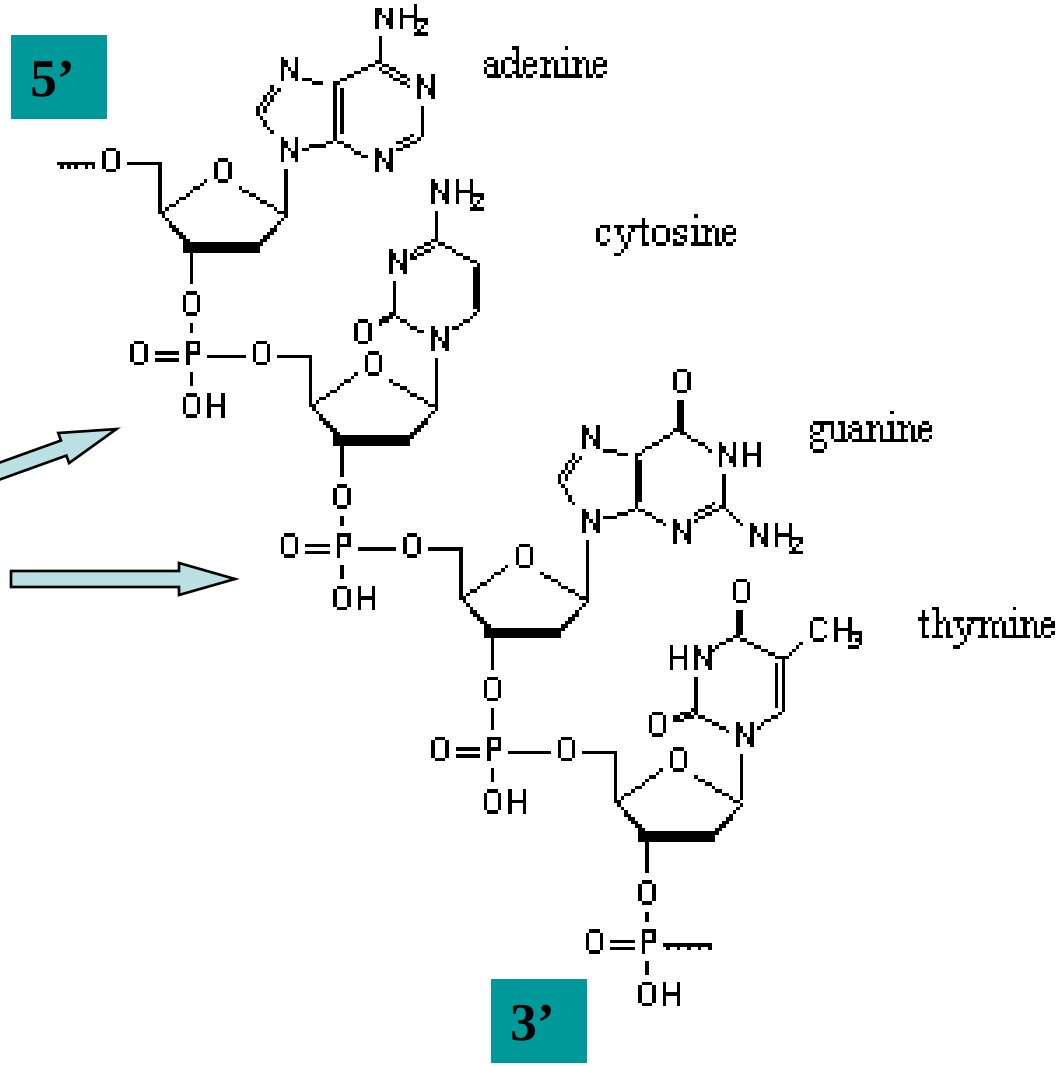
Adenosina-5’-monofosfato



5'-ATP

Adenosina trifosfato (ATP)

Una parte di catena di DNA (a singolo filamento)

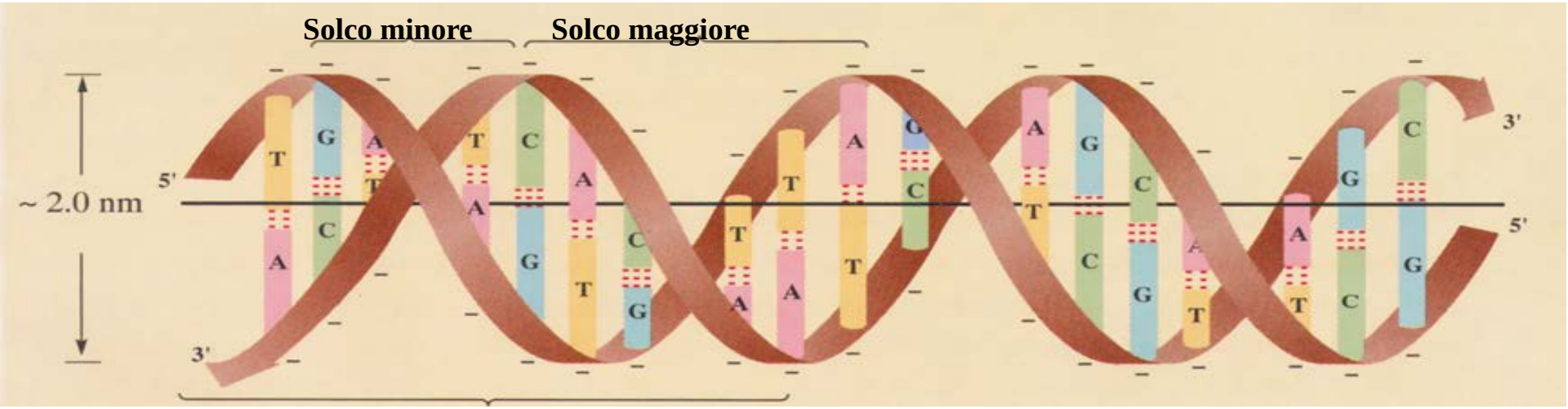


Le unità nucleosidiche sono legate da ponti (3’-5’) fosfodiesterei

DNA struttura secondaria a doppia elica

Struttura scoperta da J.D. Watson e F.C. Crick nel 1953

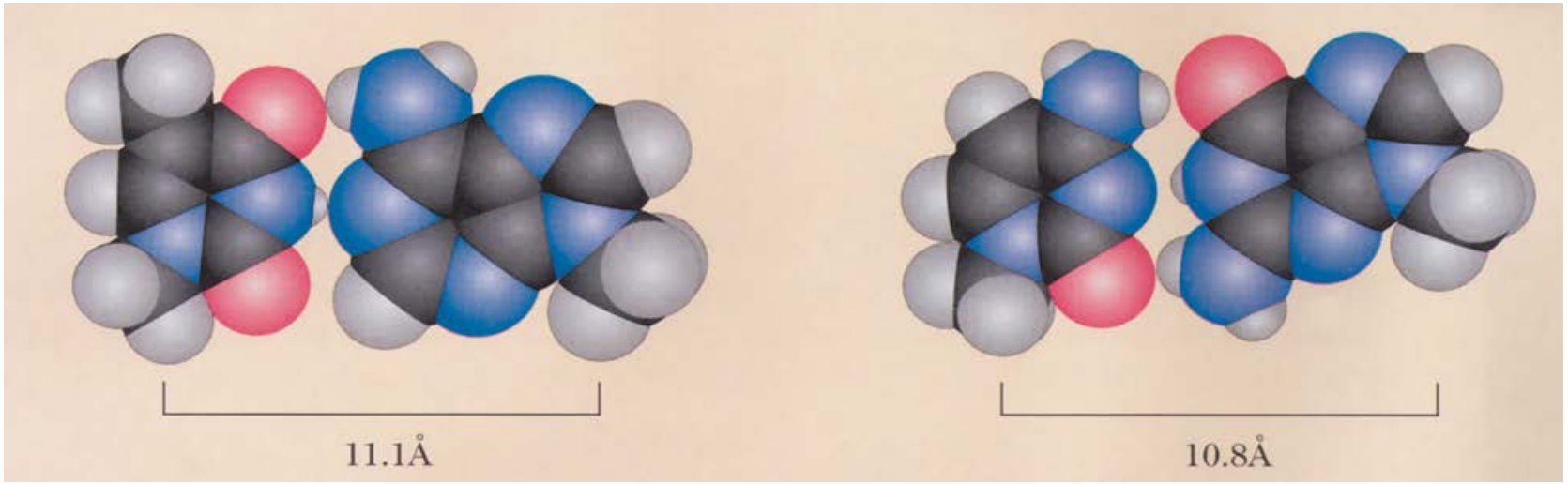
Essa consiste di due filamenti polinucleotidici antiparalleli con avvolgimento destrogiro intorno allo stesso asse.

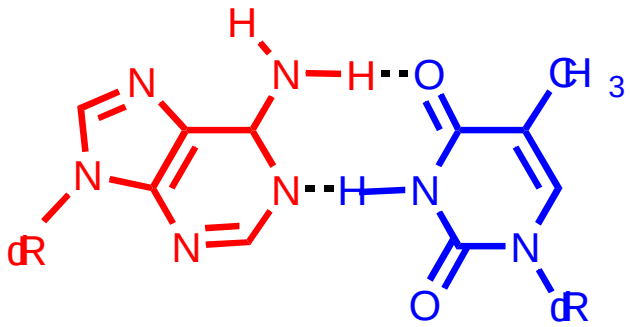


Passo dell'elica, ogni 10 basi

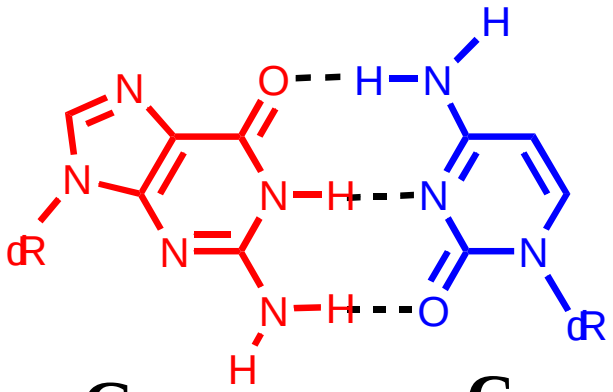
I due filamenti sono strettamente legati da legami idrogeno intercatena (tra basi di due filamenti diversi).

Timina **Adenina** **Citosina** **Guanina**





A **T**



G **C**