

GT

If this card does not show  
the GT logo on the reverse side,  
then all the cards are incorrect.  
Change the print parameters  
and reprint them.

Constructed by  
Loren Williams and Nick Hud

Serine  
Ser  
S

1

Valine  
Val  
V

2

Cysteine  
Cys  
C

3

Isoleucine  
Ile  
I

4

Alanine  
Ala  
A

5

Threonine  
Thr  
T

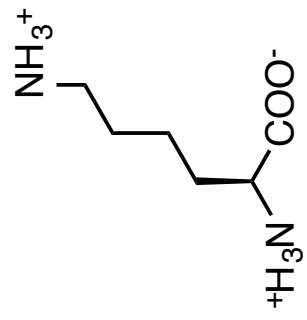
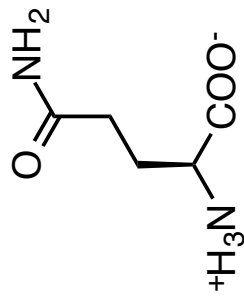
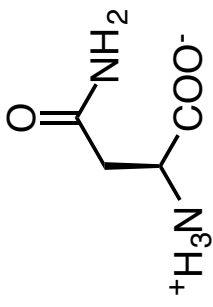
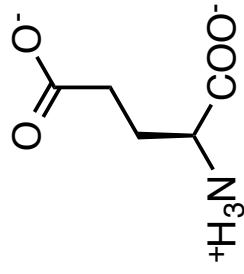
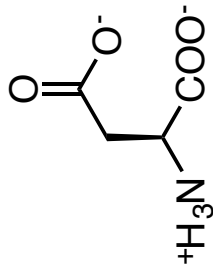
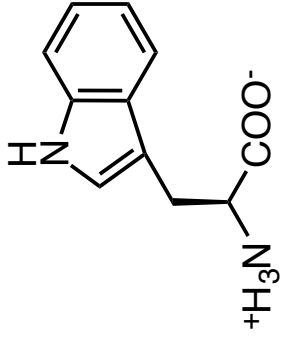
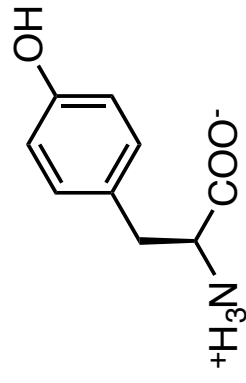
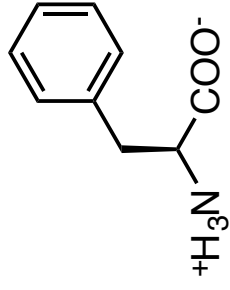
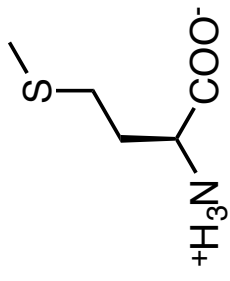
6

Leucine  
Leu  
L

7

Glycine  
Gly  
G

8



Lysine  
Lys  
K

9

Glutamic Acid  
Glu  
E

10

Tyrosine  
Tyr  
Y

11

Glutamine  
Gln  
Q

12

Aspartic Acid  
Asp  
D

13

Phenylalanine  
Phe  
F

14

Asparagine  
Asn  
N

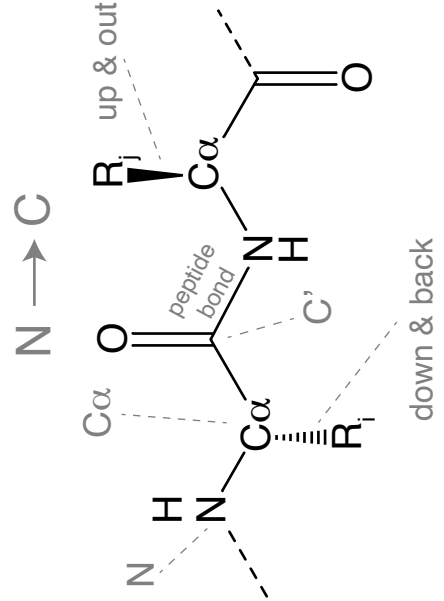
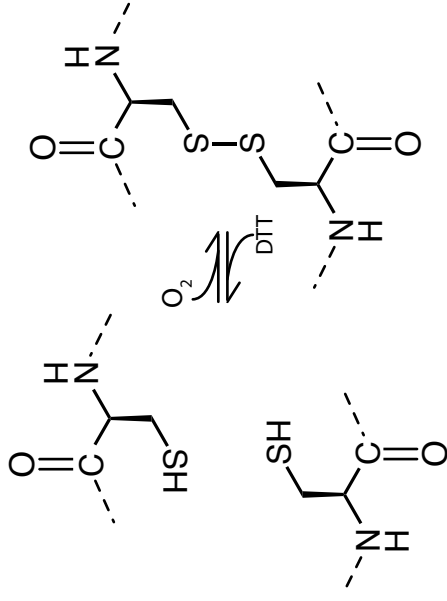
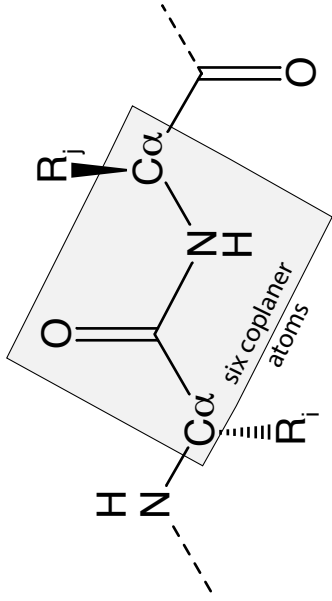
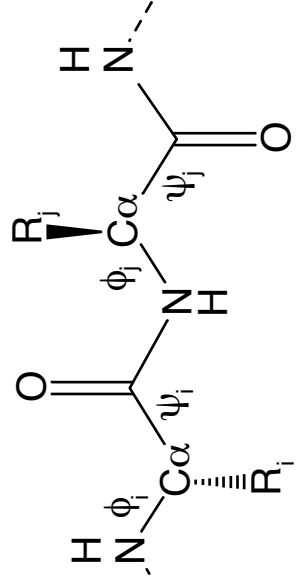
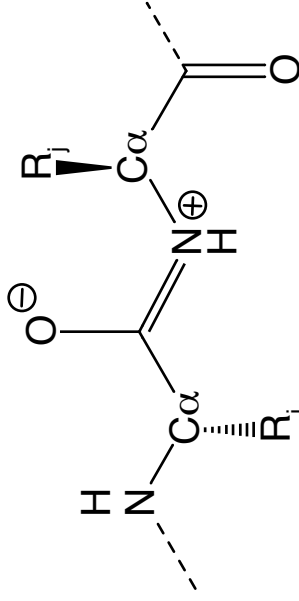
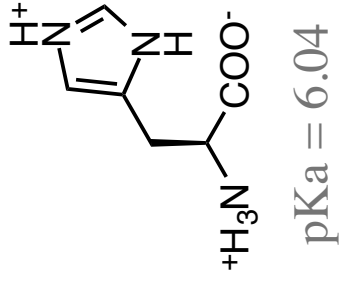
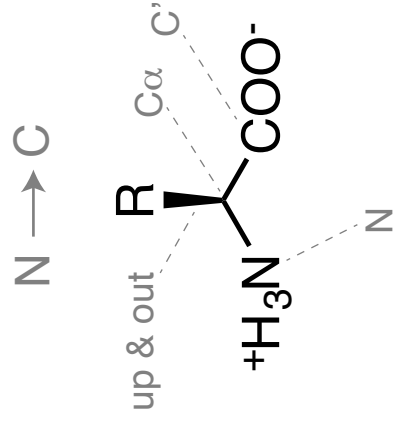
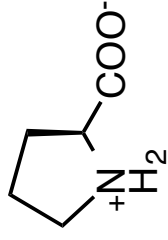
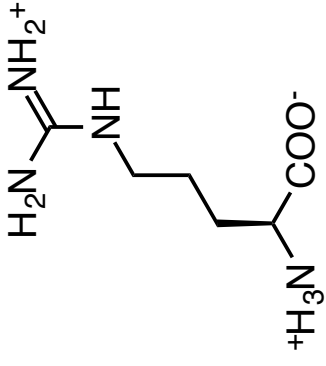
15

Tryptophan  
Trp  
W

16

Methionine  
Met  
M

17



Peptide Bond

21

Peptide Bond  
 $\phi\psi$

22

L- $\alpha$ -Amino Acid

18

Disulfide Formation

23

Peptide Bond  
resonance

24

Proline  
Pro  
P

19

Peptide Bond  
coplaner atoms

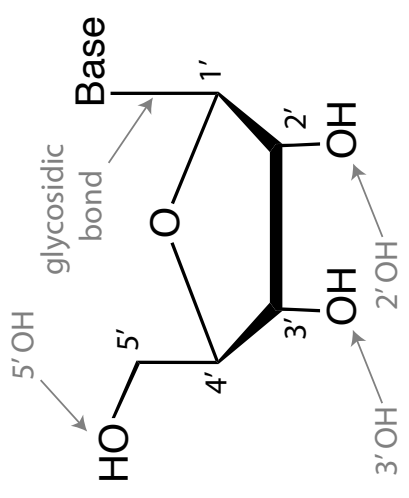
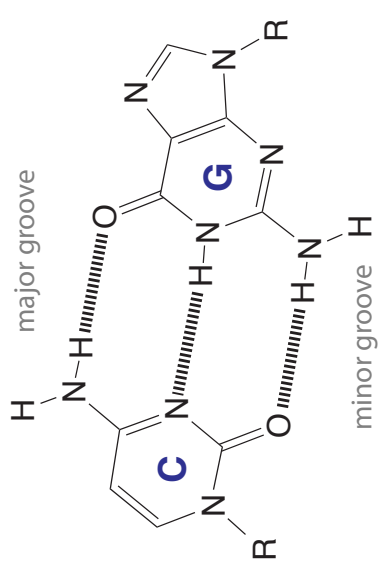
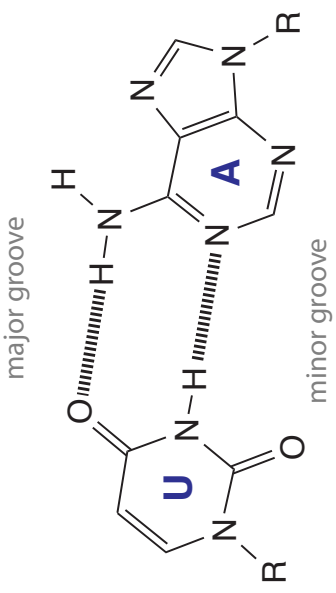
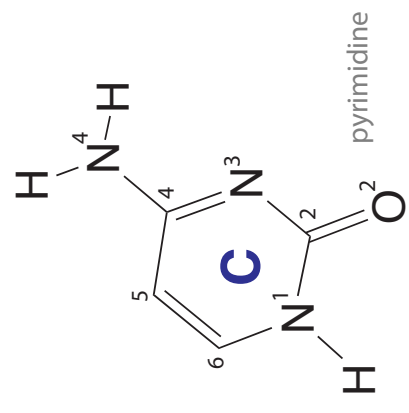
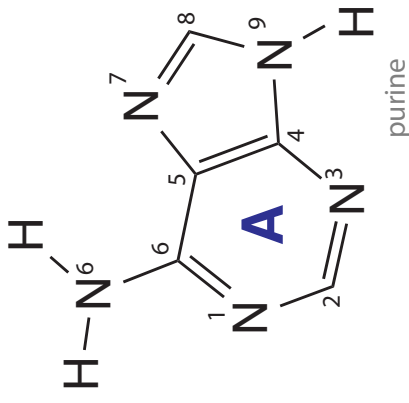
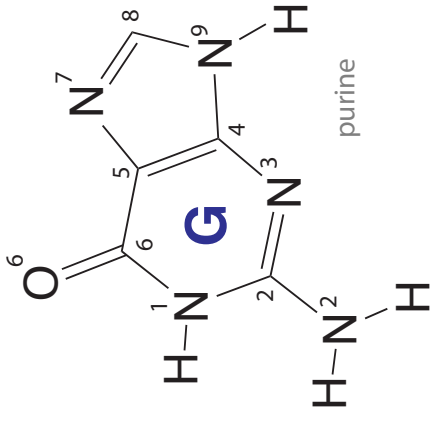
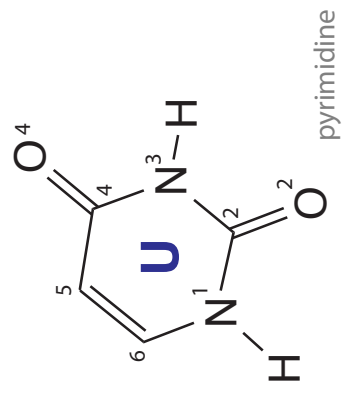
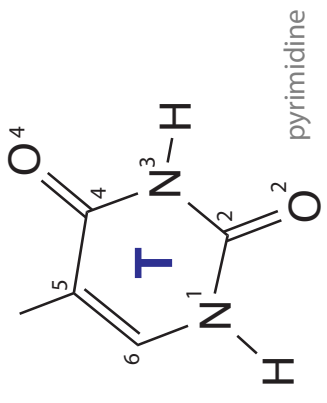
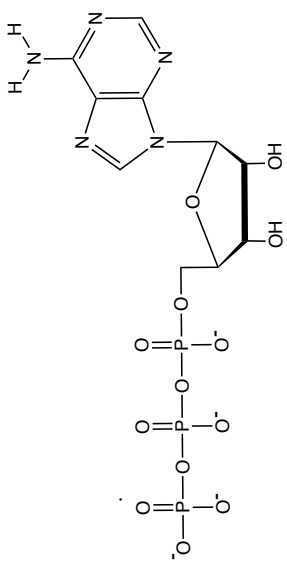
25

Histidine  
His  
H  
pKa

26

Arginine  
Arg  
R

20



**Nucleoside**  
atom numbers

27

**Cytosine**  
atom numbers

28

**Uracil**  
atom numbers

29

**C-G Base Pair**  
major/minor grooves

30

**Adenine**  
atom numbers

31

**Thymine**  
atom numbers

32

**U-A Base Pair**  
major/minor grooves

33

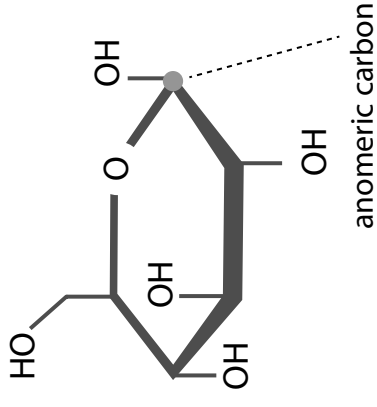
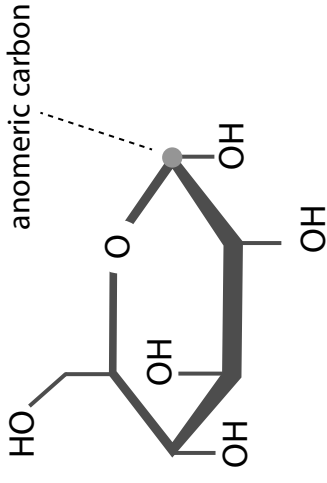
**Guanine**  
atom numbers

34

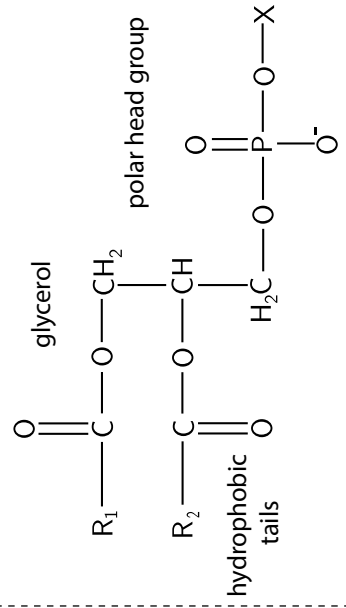
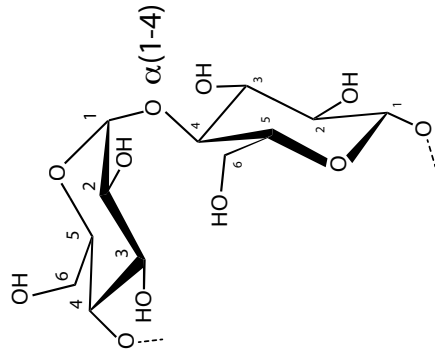
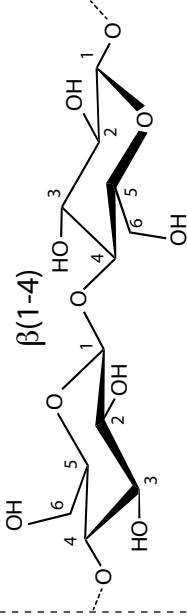
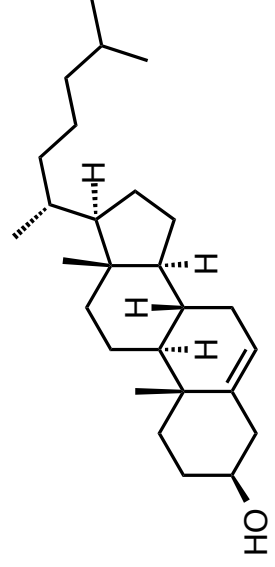
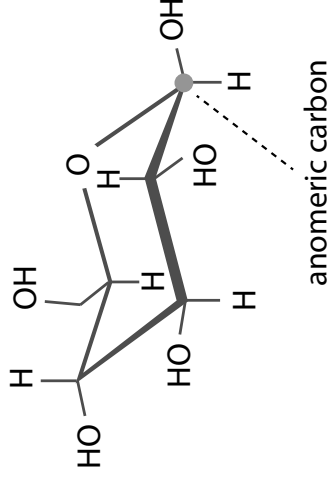
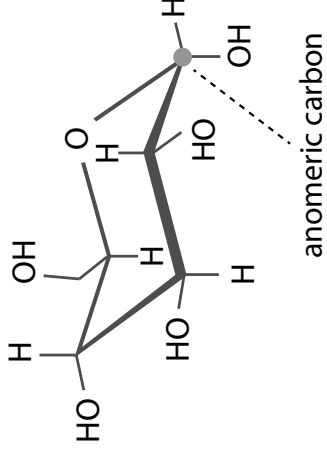
**ATP**

35





Short range repulsion  
 Electrostatic (interger charges)  
 Dipolar  
 Dipole-dipole  
 Dipole-induced dipole  
 Charge-dipole  
 London Dispersion  
 Cation- $\pi$   
 Hydrogen bonding



Phospholipid

36

Cholesterol

37

Molecular Interactions  
in a  
globular protein

38

Amylose

39

$\beta$ -D-Glucose  
(chair)

40

$\beta$ -D-Glucose  
(Haworth)

41

Cellulose

42

$\alpha$ -D-Glucose  
(chair)

43

$\alpha$ -D-Glucose  
(Haworth)

44