

Pharmaceutical drugs

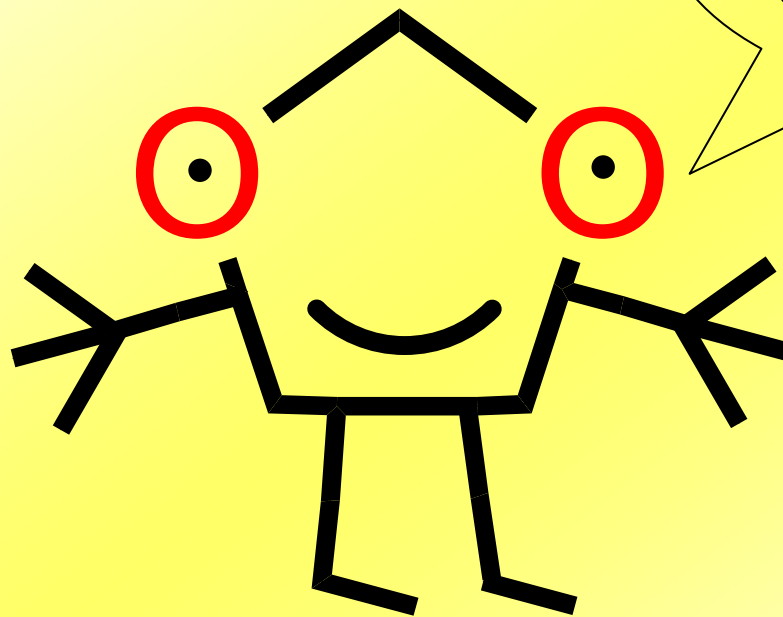
Pharmaceutical drugs are drugs that are used medically to treat diseases, illnesses and injuries.



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G R Jones, Keele University, UK
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Please make a selection from the pharmaceutical drugs shown.



Hydrocortisone

Salbutamol

Aspirin

Paracetamol

Ibuprofen

Tamoxifen

Penicillin

Calpol

Viagra

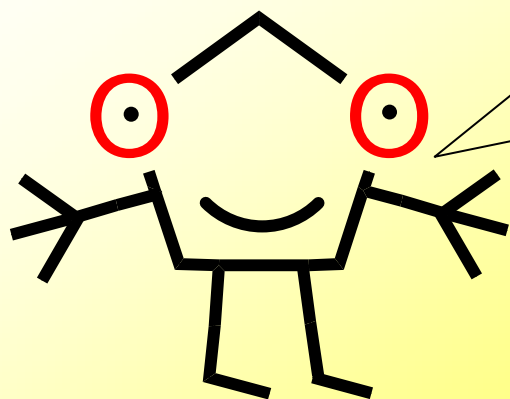
Valium

Prozac

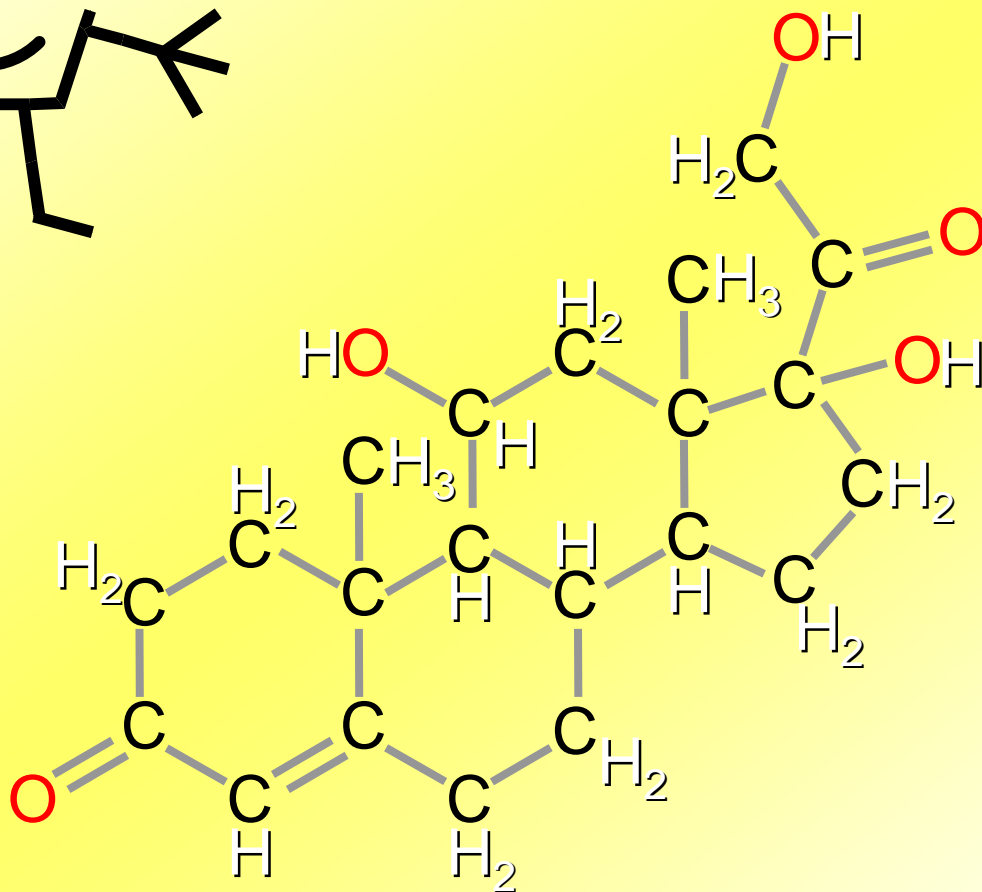
Ritalin

Digoxin

Thalidomide



This is
Hydrocortisone
an anti-inflammatory
corticosteroid.



What you will need:

21 C Carbon (black)

30 H Hydrogen
(white)

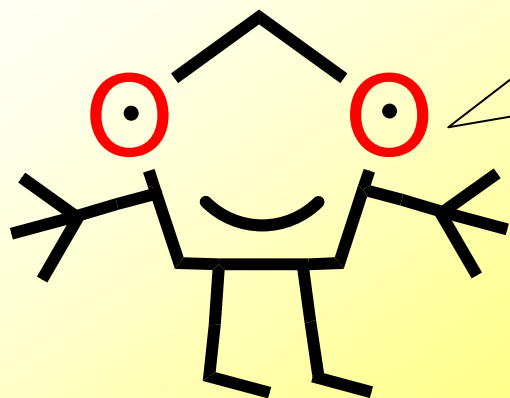
5 O Oxygen (red)

26 — short gray
single bond

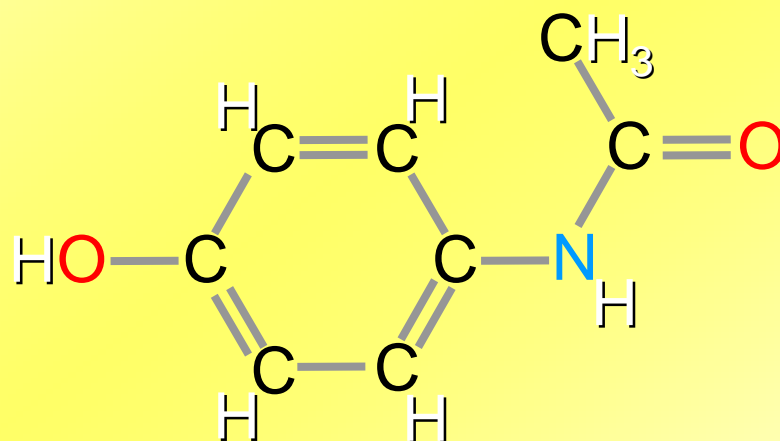
6 == long gray
double bond



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This is
Paracetamol
 which is found in Calpol



What you will need:

8 C Carbon (black)

9 H Hydrogen
(white)

2 O Oxygen (red)

1 N Nitrogen
(light blue)

7 — short gray
single bond

8 == long gray
double bond



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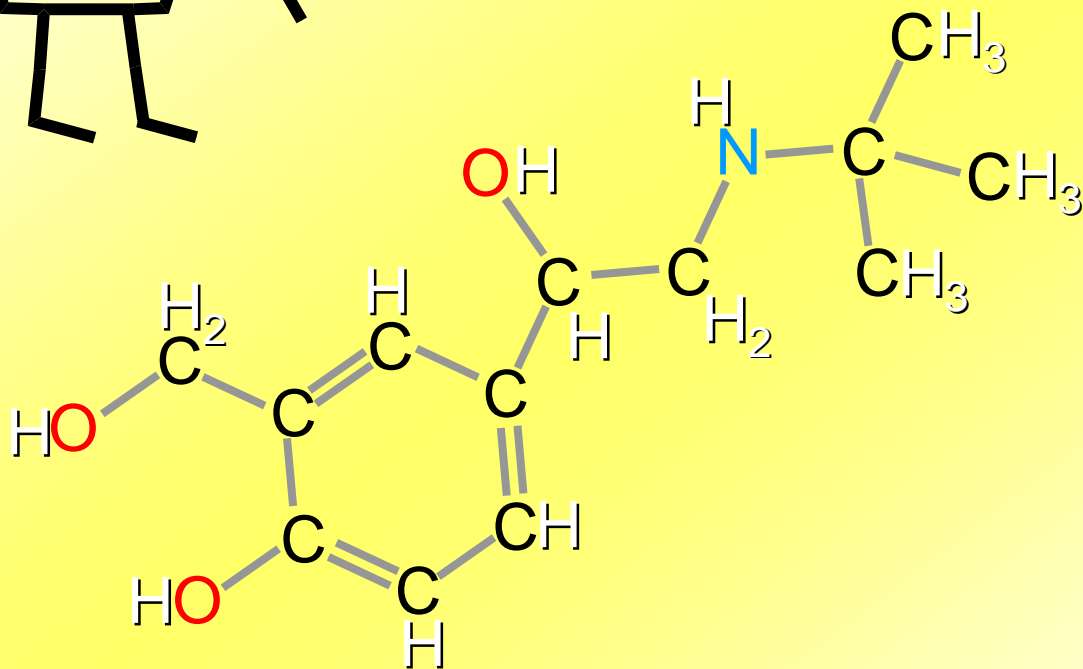
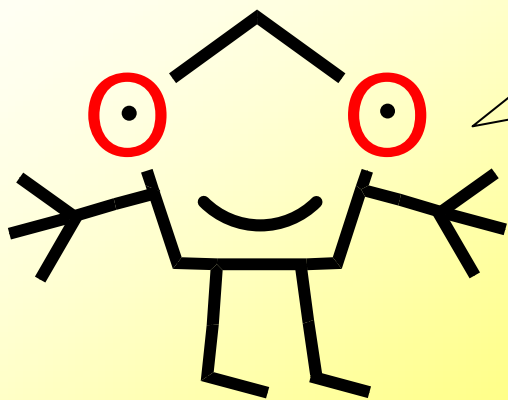
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Research Council

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This is
Salbutamol
which is found in
asthma inhalers.



What you will need:

13 C Carbon (black)

21 H Hydrogen
(white)

3 O Oxygen (red)

1 N Nitrogen
(light blue)

14 — short gray
single bond

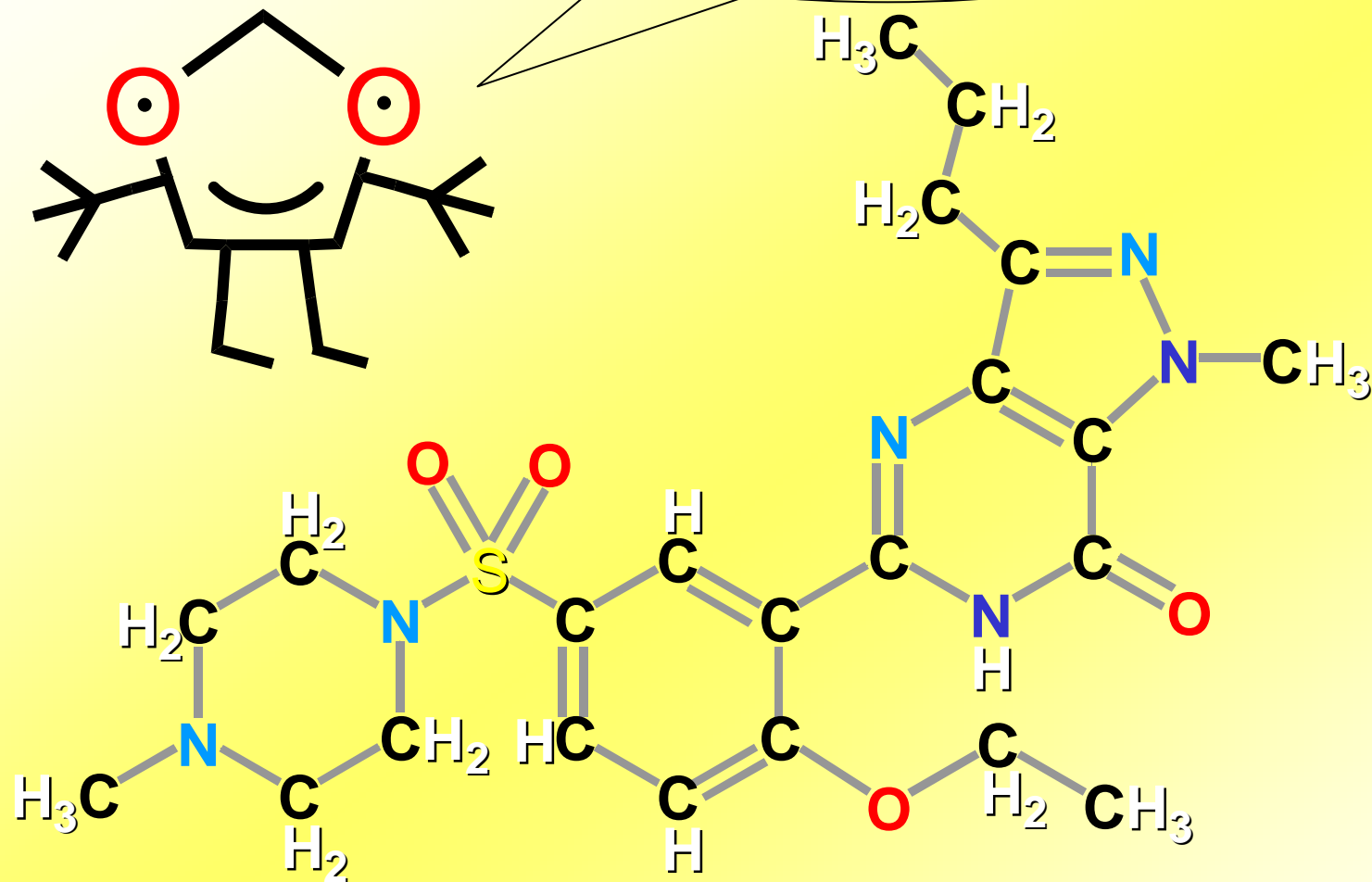
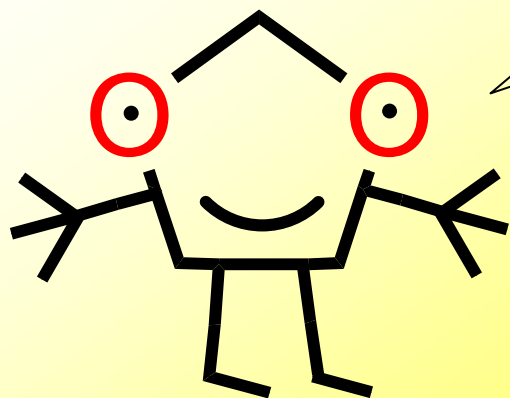
6 == long gray
double bond



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This is **Viagra** known as the "Pfizer Riser"



What you will need:

- 22 C Carbon (black)
- 30 H Hydrogen (white)
- 4 O Oxygen (red)
- 4 N Nitrogen (light blue)
- 2 N Nitrogen (dark blue)
- 1 S Sulphur (yellow)

27 — short gray single bond

18 == long gray double bond



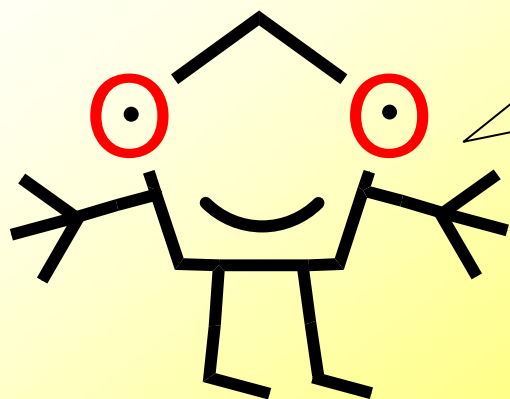
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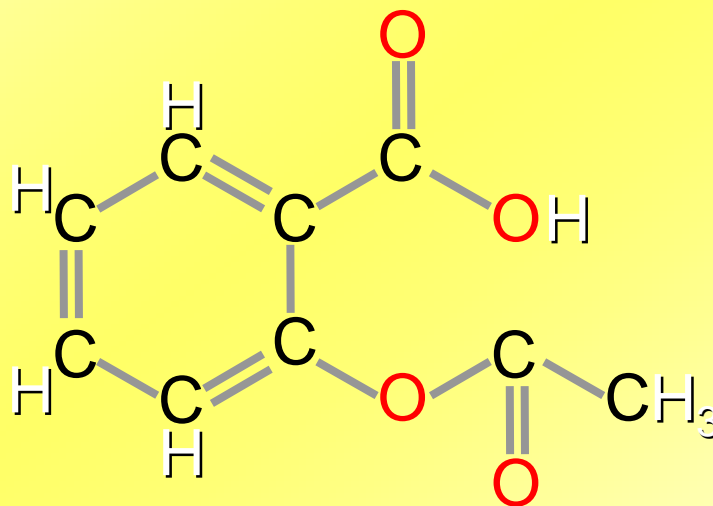
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This is **Aspirin**
which is used for
pain relief and to
reduce fever.



What you will need:

9 C Carbon (black)

8 H Hydrogen
(white)

4 O Oxygen (red)

8 — short gray
single bond

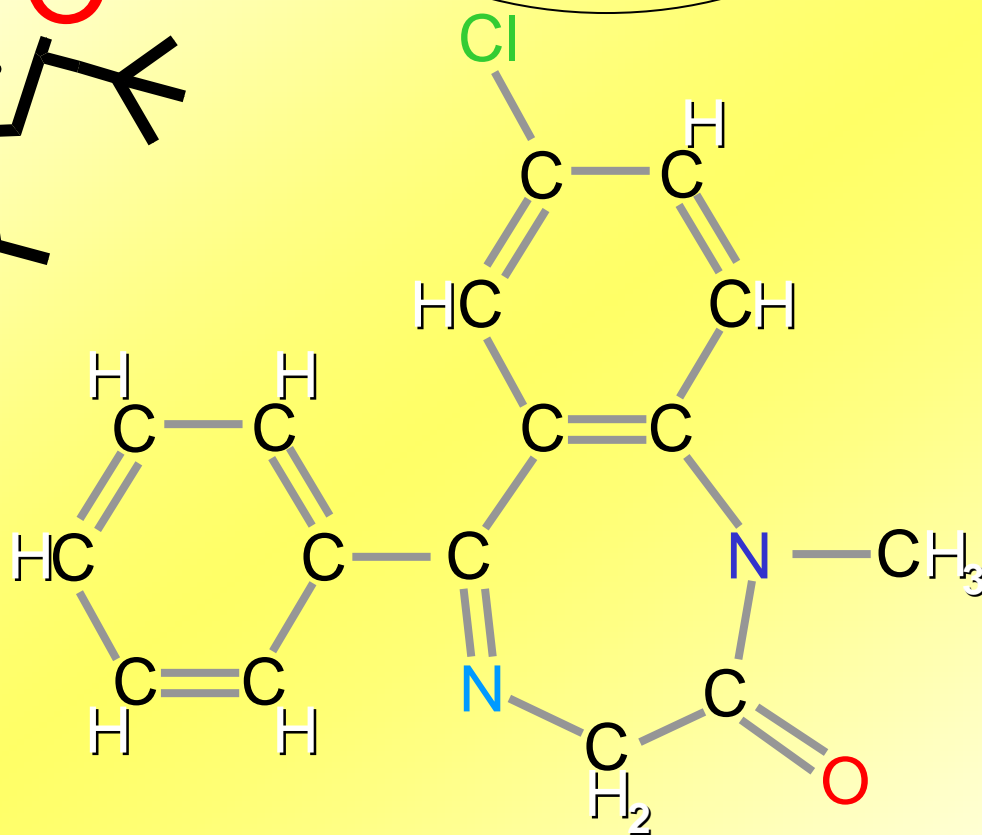
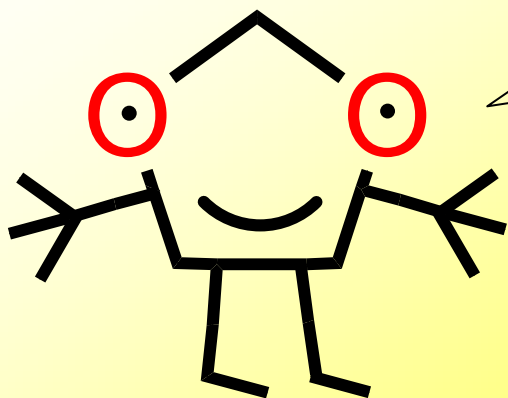
10 == long gray
double bond



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This is
Diazepam
 a tranquilliser
 and a sedative.



What you will need:

- 16 C Carbon (black)
- 13 H Hydrogen (white)
- 1 O Oxygen (red)
- 1 Cl Chlorine (green)
- 1 N Nitrogen (light blue)
- 1 N Nitrogen (dark blue)
- 14 — short gray single bond
- 16 == long gray double bond



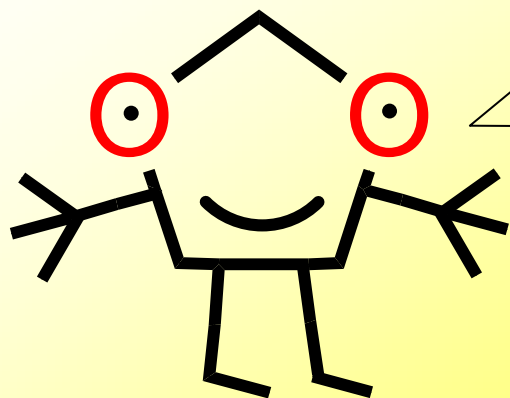
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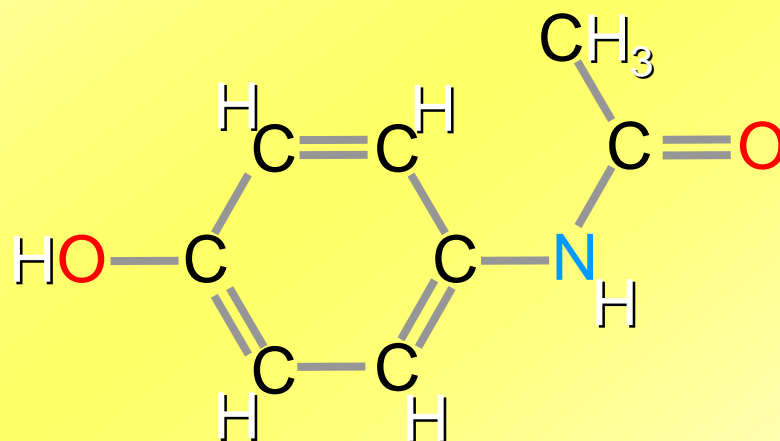
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This is
Paracetamol
 widely used to
 relieve pain and to
 reduce fever.



What you will need:

8 C Carbon (black)

9 H Hydrogen
(white)

2 O Oxygen (red)

1 N Nitrogen
(light blue)

7 — short gray
single bond

8 == long gray
double bond



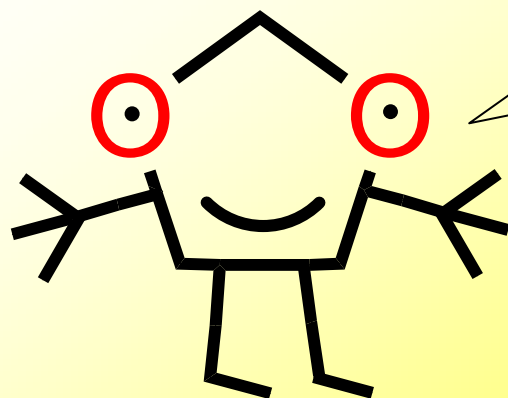
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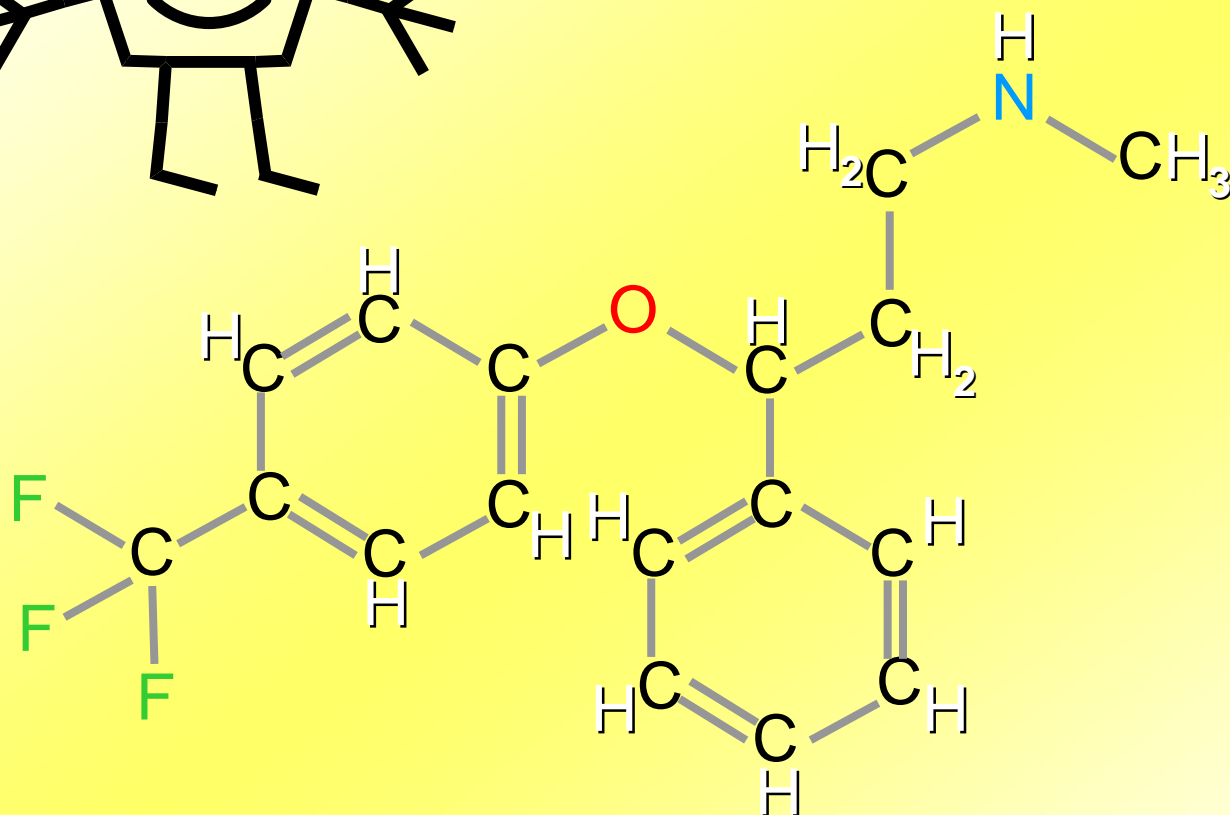
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This is **Prozac**
an antidepressant
drug.



What you will need:

17 C Carbon (black)

18 H Hydrogen
(white)

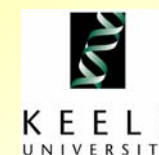
3 F Fluorine
(green)

1 O Oxygen (red)

1 N Nitrogen
(light blue)

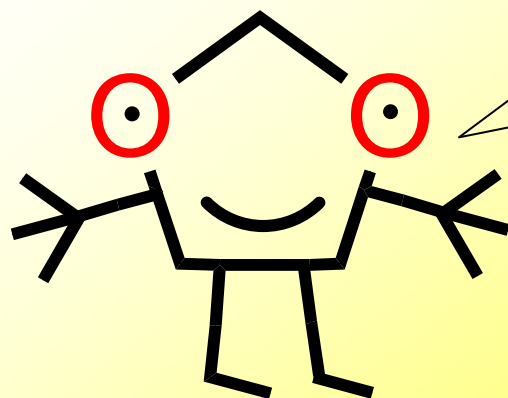
17 — short gray
single bond

12 == long gray
double bond

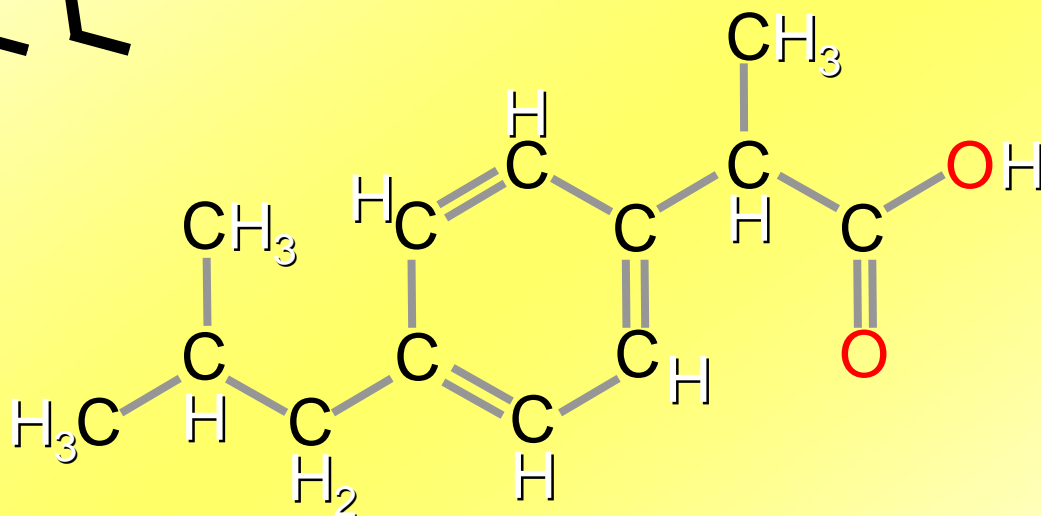


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This is
Ibuprofen
 used to relieve pain.



What you will need:

- 17 C Carbon (black)
- 18 H Hydrogen (white)
- 3 F Fluorine (green)
- 1 O Oxygen (red)
- 1 N Nitrogen (light blue)

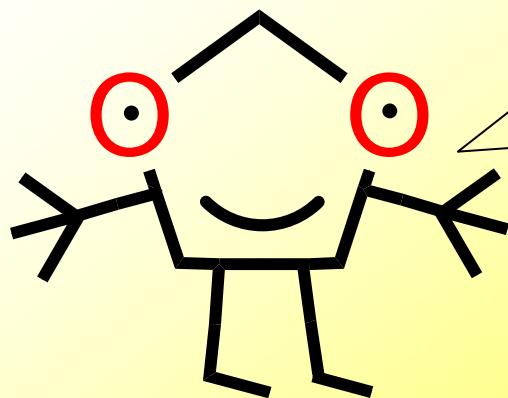
17 — short gray single bond

12 == long gray double bond

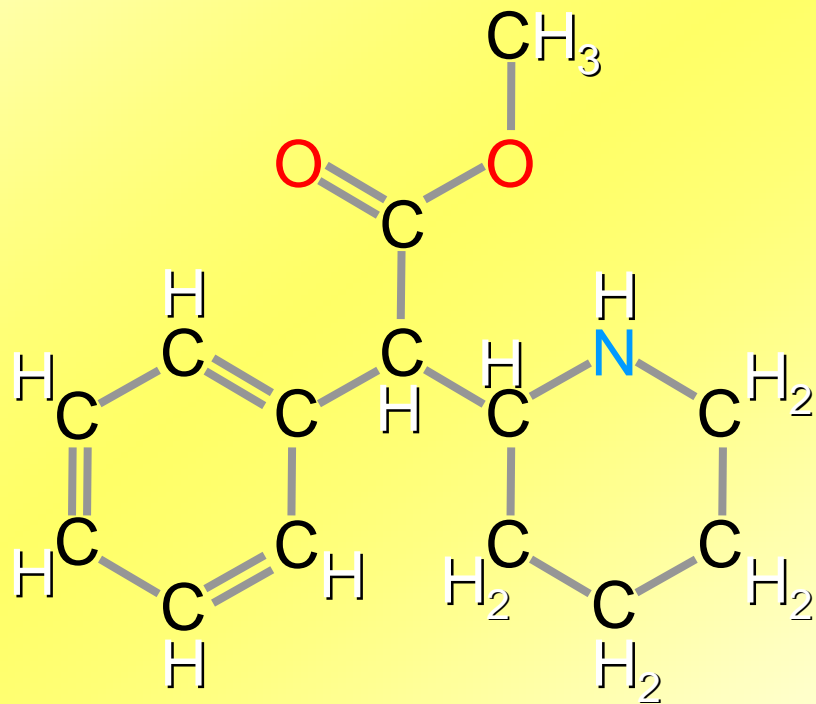


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This is **Ritalin**
a controversial
drug used on
children.



What you will need:

14 C Carbon (black)

19 H Hydrogen
(white)

2 O Oxygen (red)

1 N Nitrogen
(light blue)

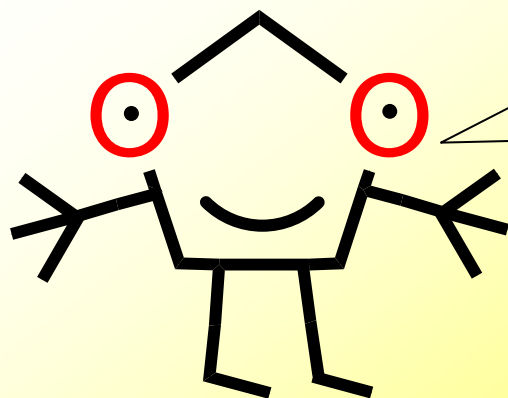
14 — short gray
single bond

8 == long gray
double bond

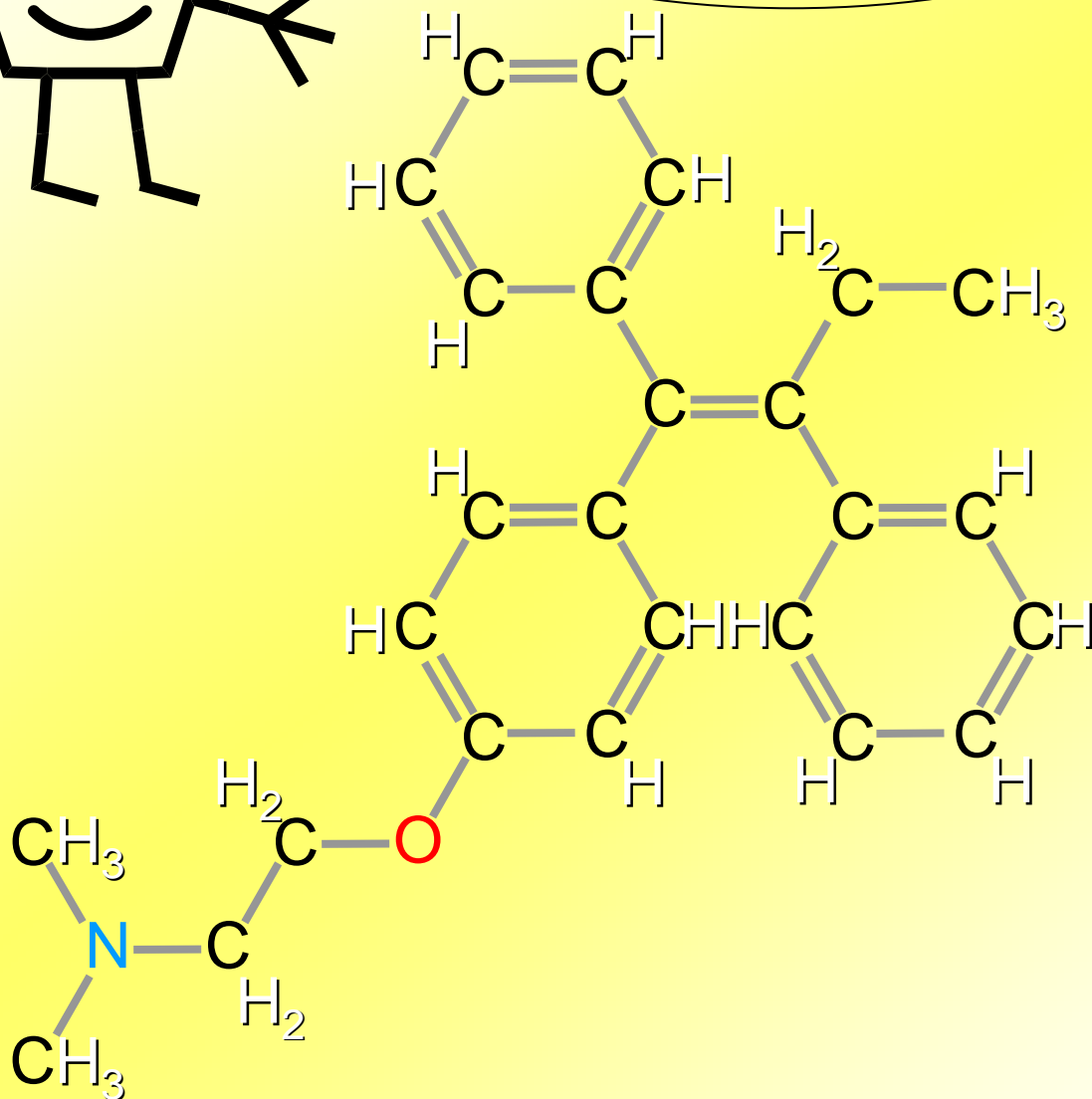


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This is **Tamoxifen**
used to combat breast
cancer.



What you will need:

26 C Carbon (black)

29 H Hydrogen
(white)

1 O Oxygen (red)

1 N Nitrogen
(light blue)

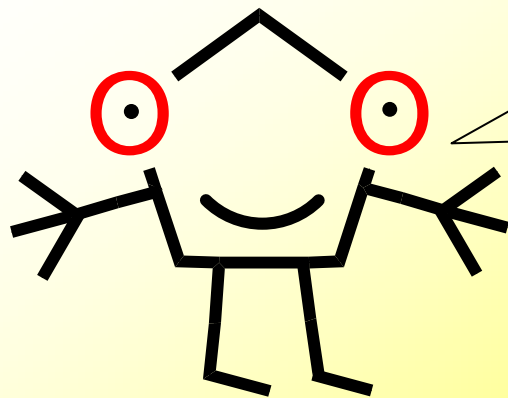
20 — short gray
single bond

20 == long gray
double bond

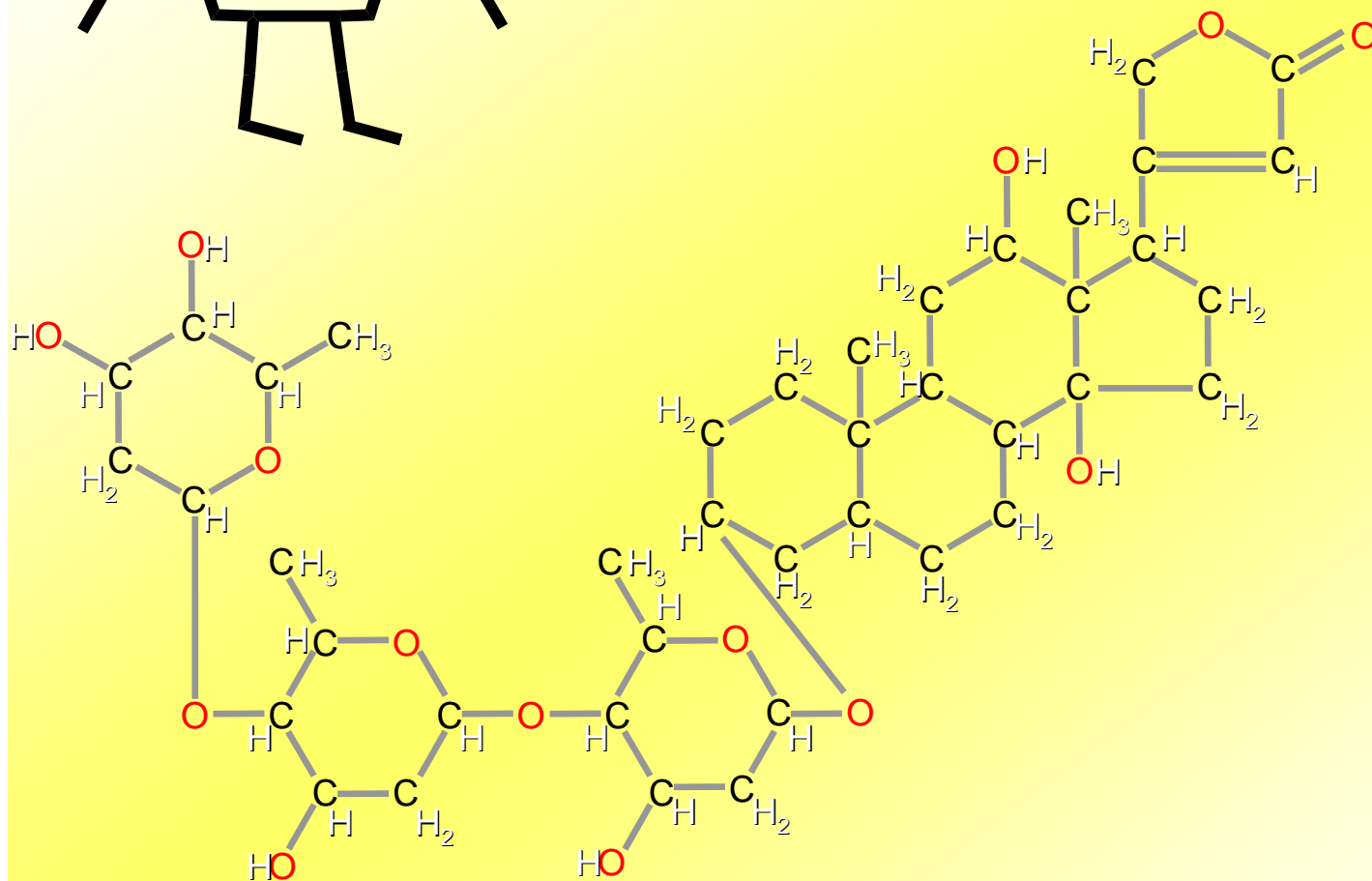


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This is **Digoxin**
used to treat heart
problems.



What you will need:

41 C Carbon (black)

64 H Hydrogen
(white)

14 O Oxygen (red)

62 — short gray
single bond

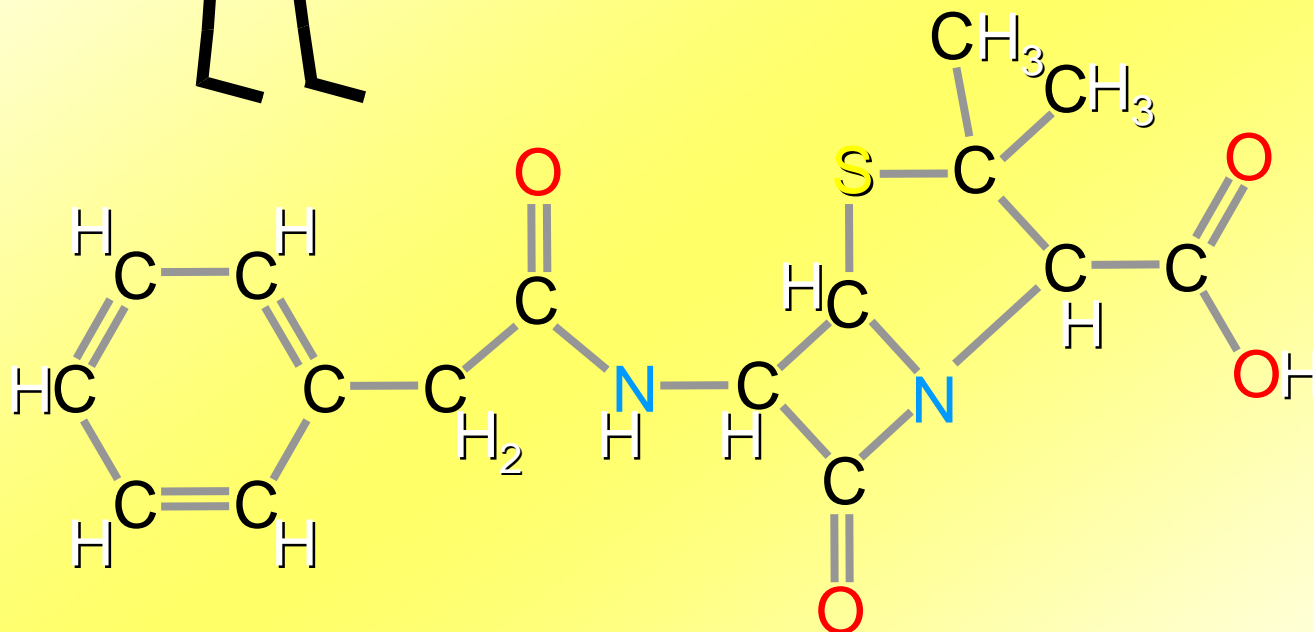
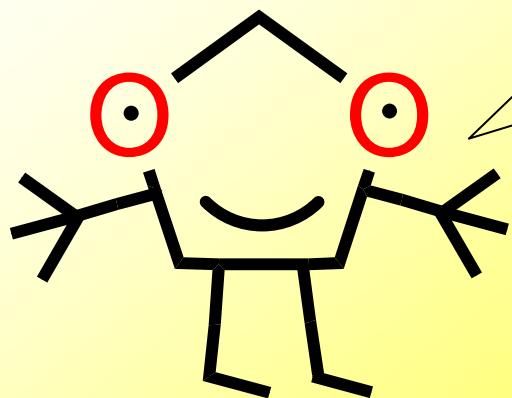
4 == long gray
double bond



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This is
Penicillin
 an antibiotic drug.



What you will need:

16 C Carbon (black)

18 H Hydrogen
(white)

4 O Oxygen (red)

2 N Nitrogen
(light blue)

1 S Sulphur

19 — short gray
single bond

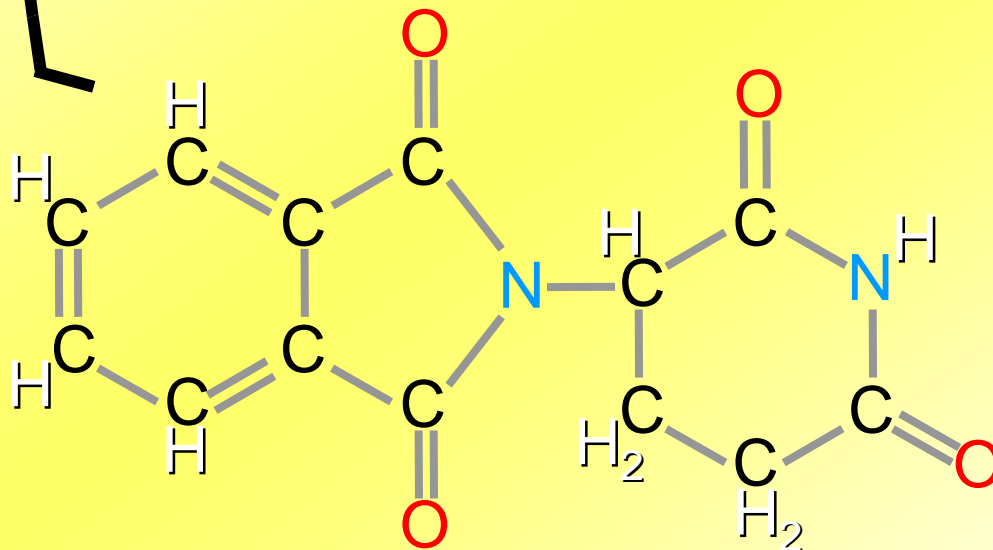
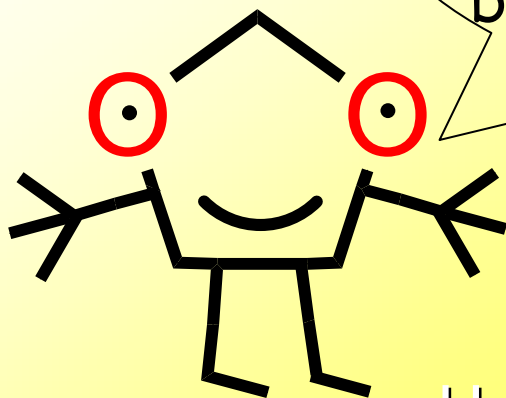
12 == long gray
double bond



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This is **Thalidomide**
the controversial drug that
caused the "thalidomide
babies" of the early 1960's.



What you will need:

16 C Carbon (black)

18 H Hydrogen
(white)

4 O Oxygen (red)

2 N Nitrogen
(light blue)

14 — short gray
single bond

14 == long gray
double bond



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