

Dyes and pigments

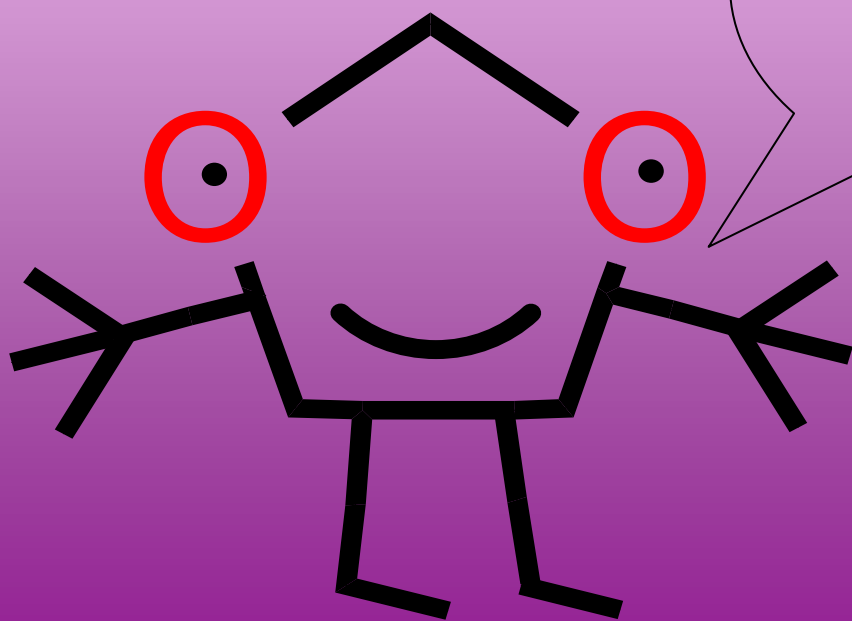
In celebration of the discovery of the first synthetic aniline dye mauveine by William Perkin in 1856.



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G R Jones, g.r.jones@keele.ac.uk
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Please make a
selection from
the names
shown.

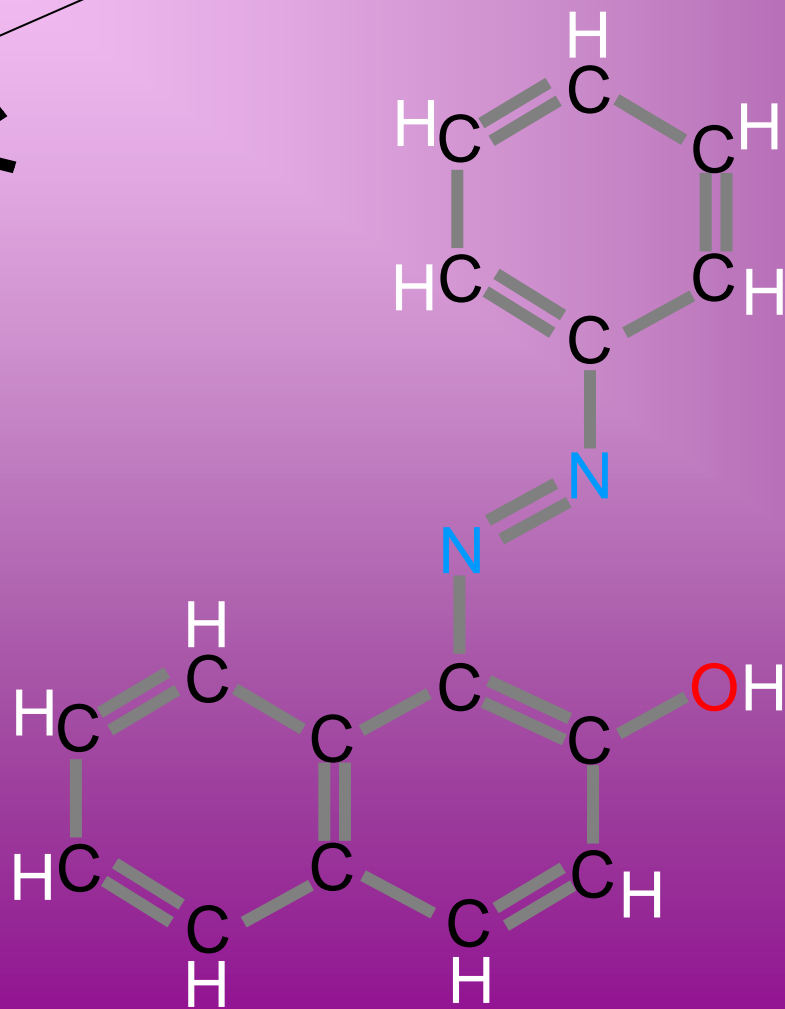
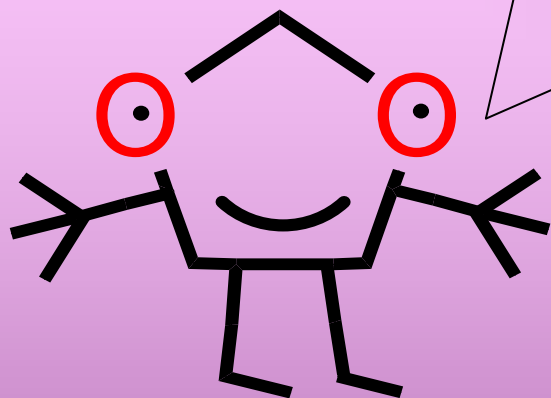


Sudan 1
Fake Tan
Liquid
Crystal
Heat
Sensitive
Dye

Indigo
Tyrian Red
Juglone
Alizarin
Mauveine
Cochineal

Sudan 1

A red dye that made the news in 2005 because it was improperly used to colour chili powder.



Atoms and bonds:

12 C Carbon

12 H Hydrogen

1 O Oxygen

2 N Nitrogen
(light Blue)

12 — short bonds

18 == long bonds



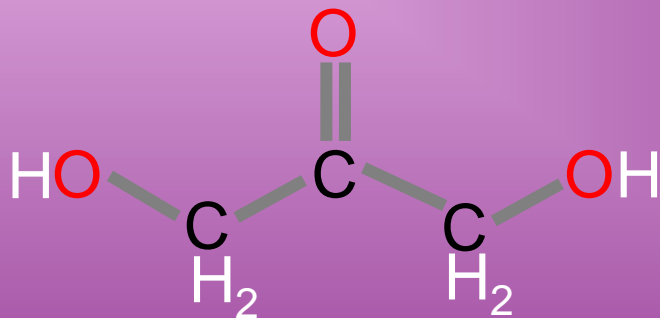
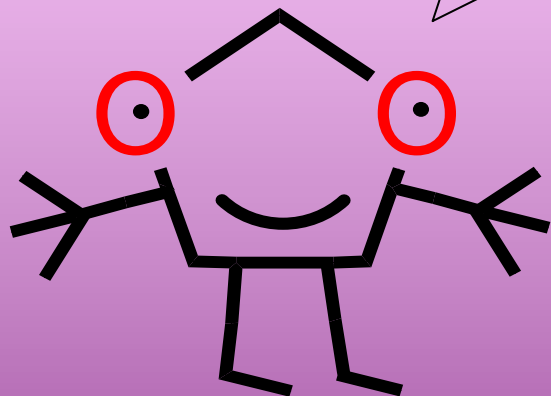
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Fake Tan

Dihydroxyacetone is found in fake tanning products. It reacts with the proteins on the surface of your skin and turns them brown in an identical process to browning in cooking.



Atoms and bonds:

3 C Carbon

6 H Hydrogen

3 O Oxygen

4 — short bonds

2 == long bonds



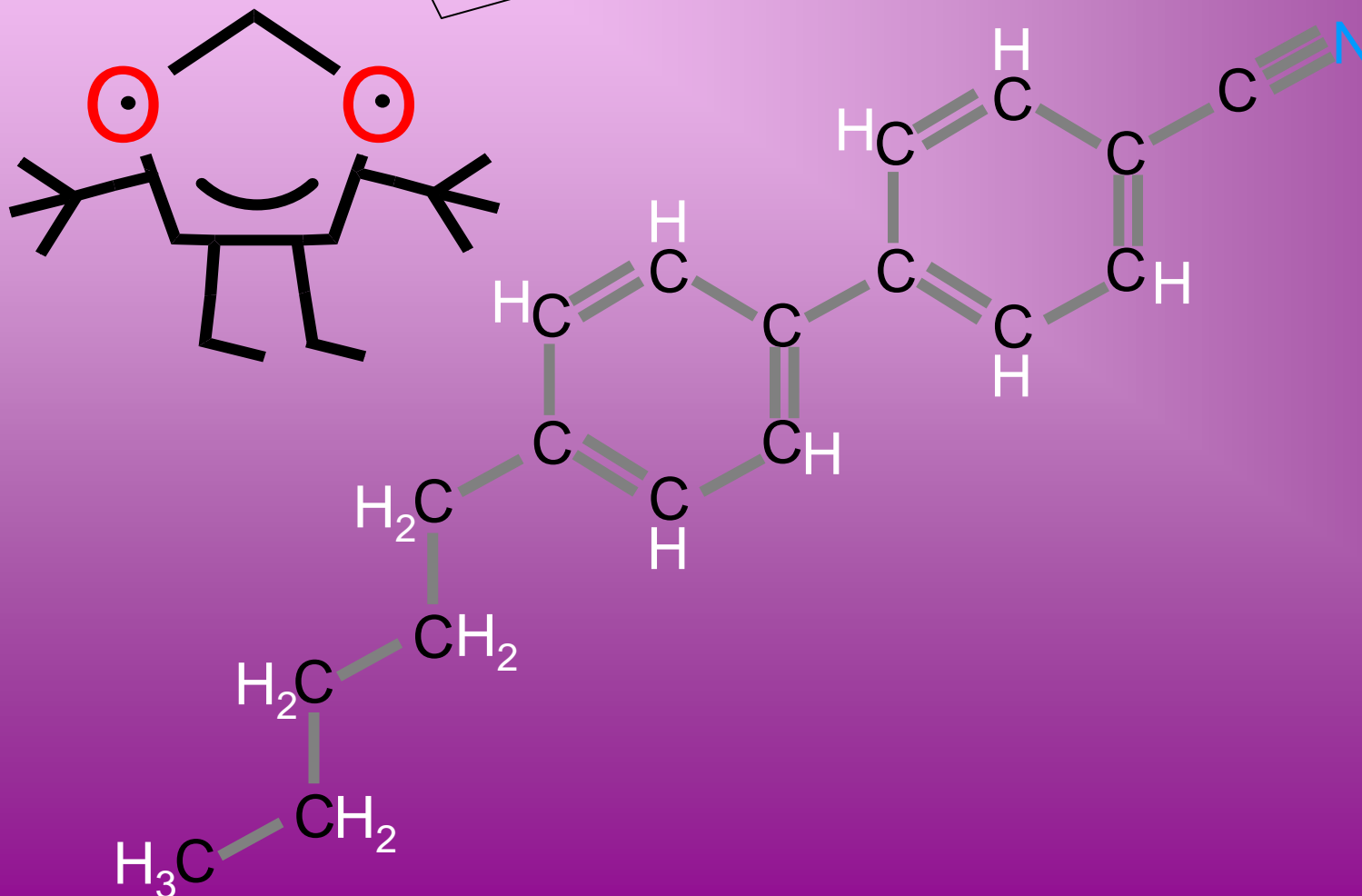
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Liquid Crystal

As crystals of this molecule are heated up they change colour. LCD's are widely used in electronic good such as computers and calculators.



Atoms and bonds:

18 C Carbon

19 H Hydrogen

1 N Nitrogen
(light Blue)

13 — short bonds

15 == long bonds



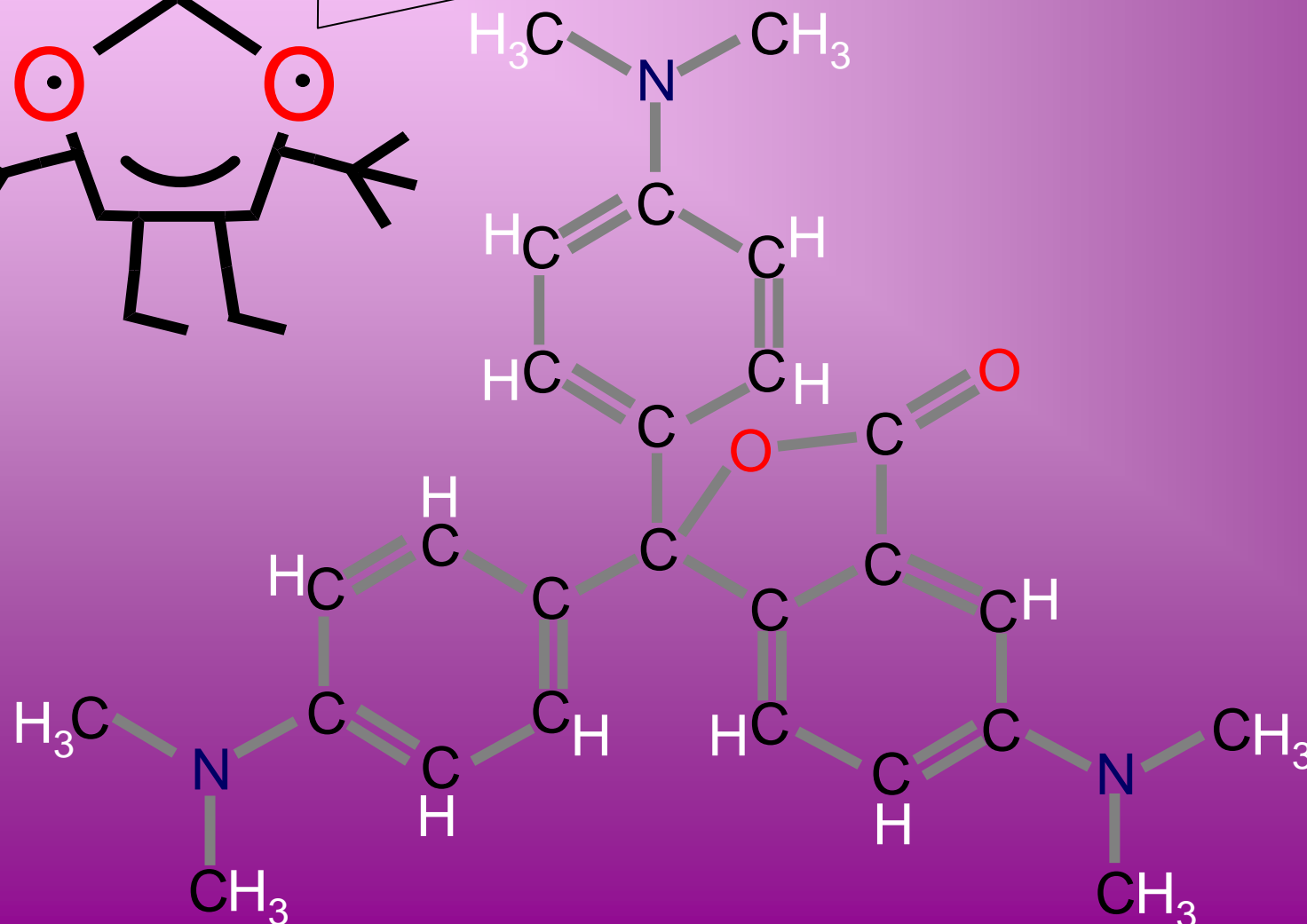
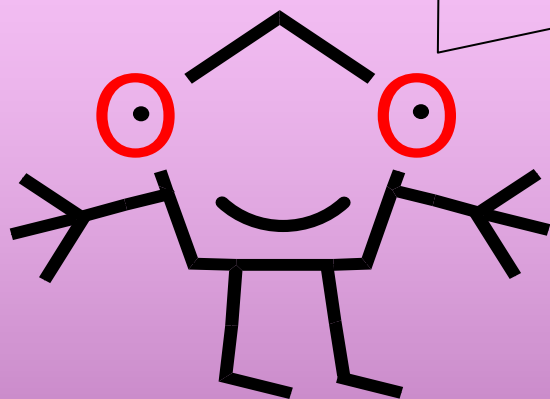
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Heat Sensitive Dye

In the presence of an acid this dye turns from colourless to purple when heated. This thermochromic property has lots of uses in safety devices.



Atoms and bonds:

15 C Carbon

29 H Hydrogen

2 O Oxygen

3 N Nitrogen
(Dark Blue)

21 — short bonds

20 == long bonds



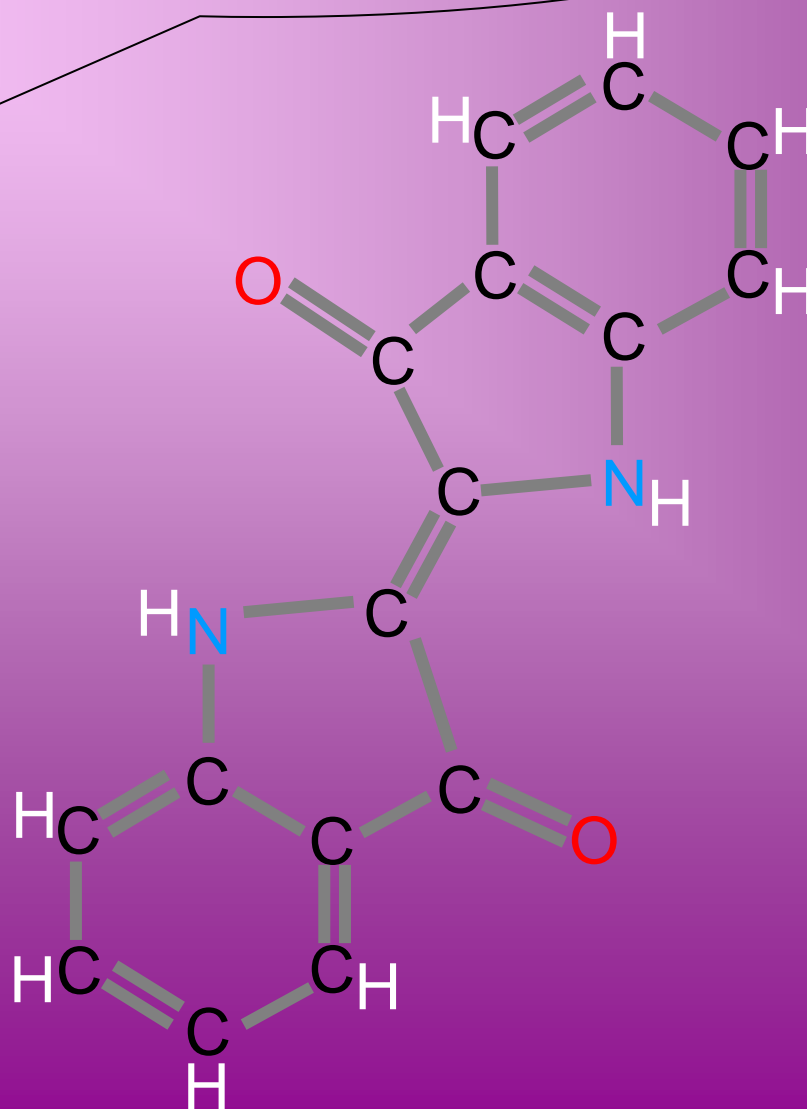
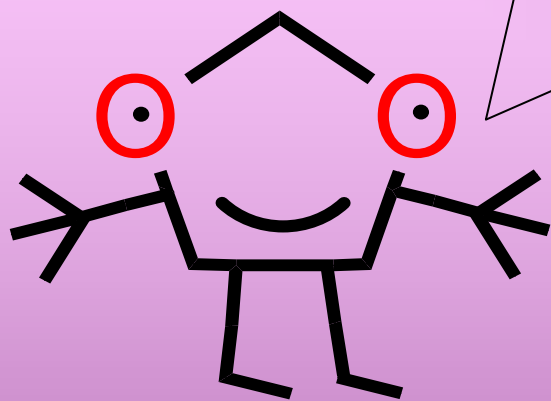
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Indigo

An ancient dye that was made from woad, used for tattooing and nowadays as the blue dye in jeans.



Atoms and bonds:

16 C Carbon

10 H Hydrogen

2 O Oxygen

2 N Nitrogen
(Light Blue)

14 — short bonds

18 == long bonds



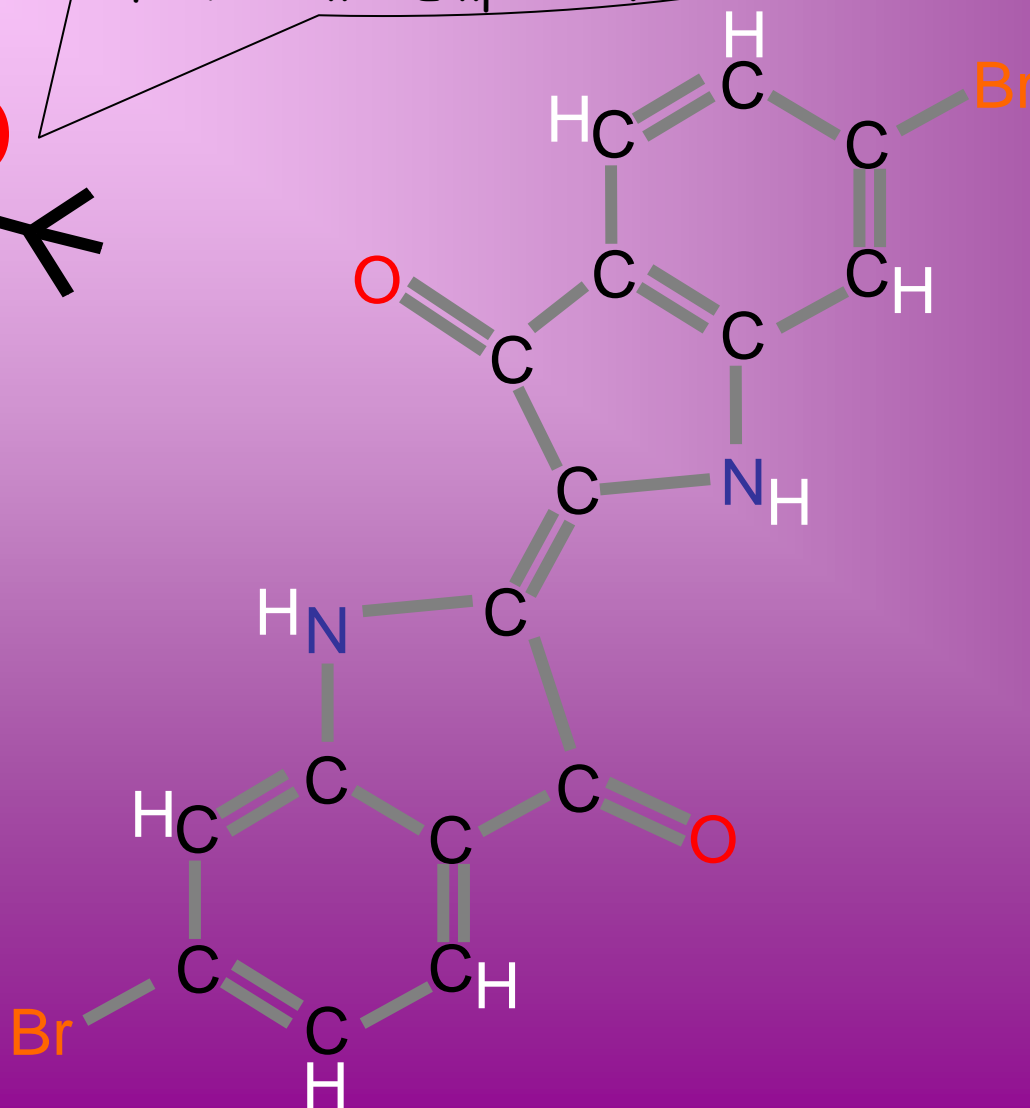
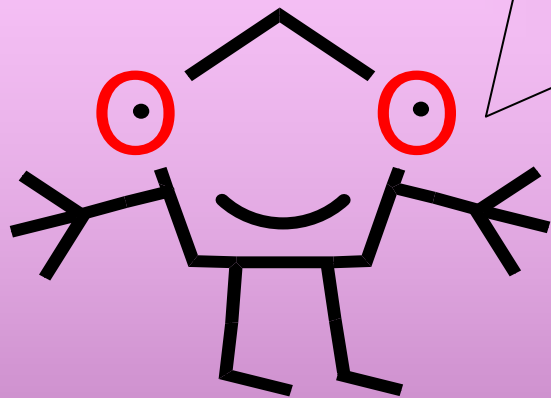
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Tyrian Purple

Extracted from marine molluscs and also known as royal purple it was used to dye ceremonial togas of the Roman Emperors.



Atoms and bonds:

16 C Carbon

10 H Hydrogen

2 O Oxygen

2 N Nitrogen
(Dark Blue)

2 Br Bromine

14 — short bonds

18 == long bonds



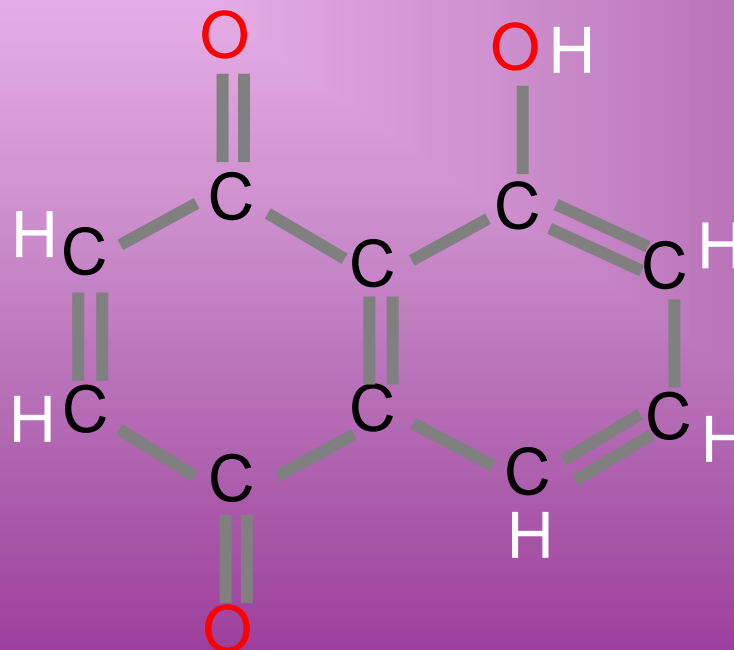
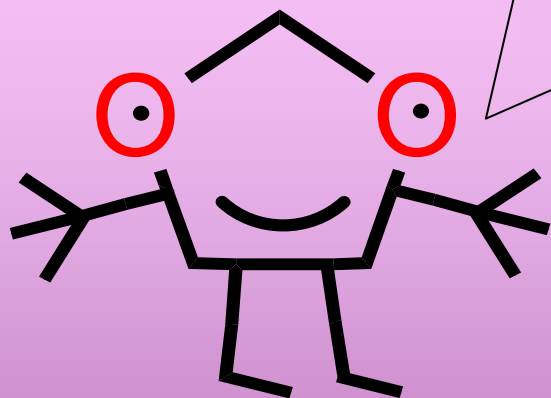
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Juglone

A natural brown dye found in the black walnut tree that is used for dying hair.



Atoms and bonds:

10 C Carbon

6 H Hydrogen

3 O Oxygen

8 — short bonds

12 == long bonds



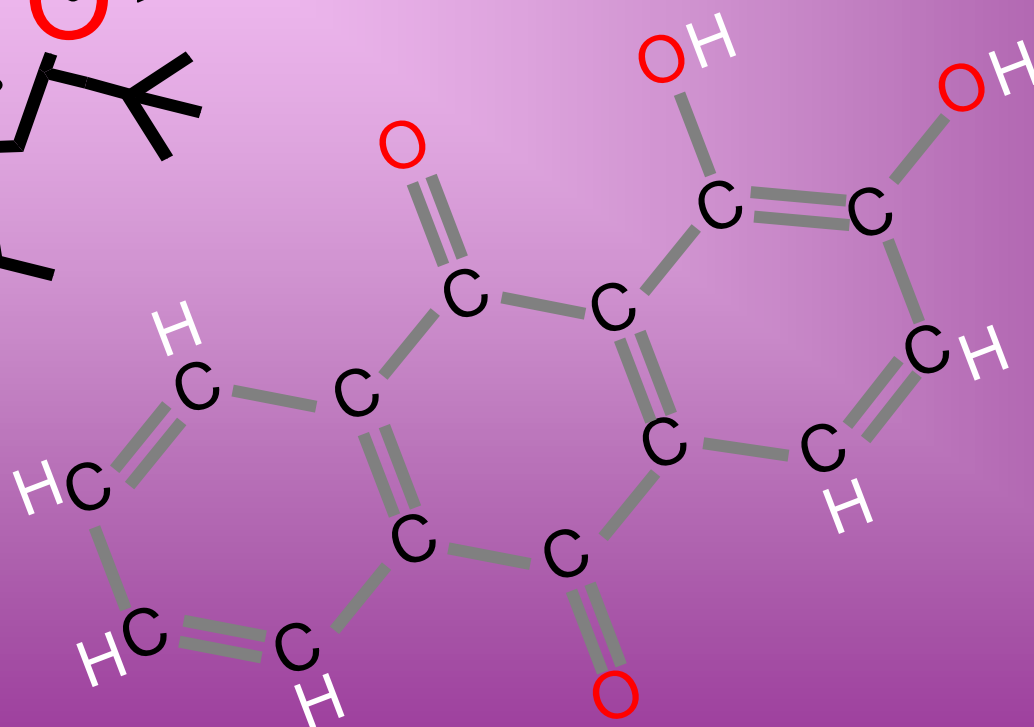
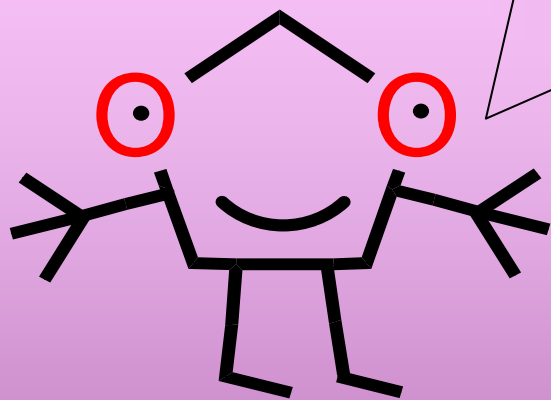
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Alizarin

Originally extracted from the madder plant in 1869
Alizarin red became the first natural dye to be made
in the laboratory.



Atoms and bonds:

14 C Carbon

8 H Hydrogen

4 O Oxygen

12 — short bonds

16 == long bonds



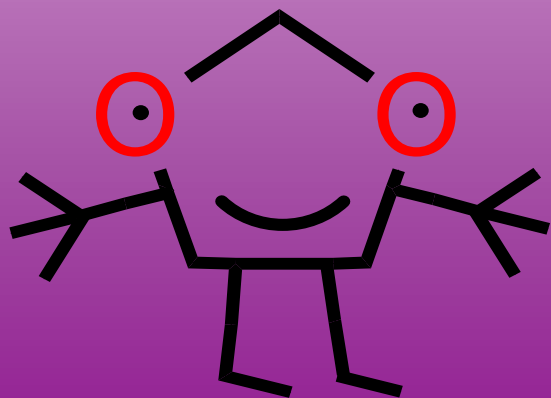
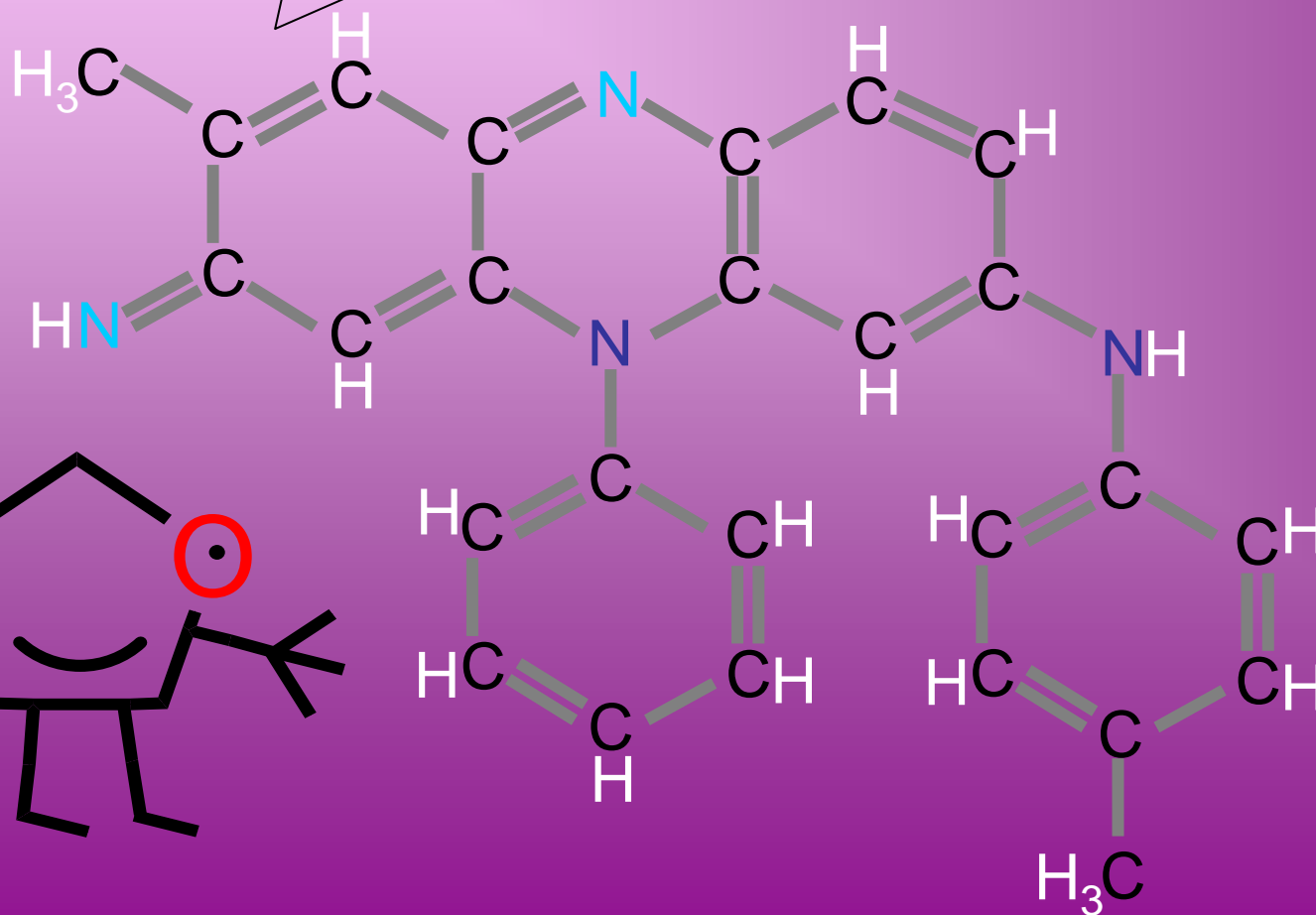
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Mauveine

The first synthetic dye discovered in 1856 by William Perkin when he was 18 years old which started the modern chemical industry and made him a packet.



Atoms and bonds:

26 C Carbon

22 H Hydrogen

2 N Nitrogen
(dark blue)

2 N Nitrogen
(light blue)

21 — short bonds

26 == long bonds



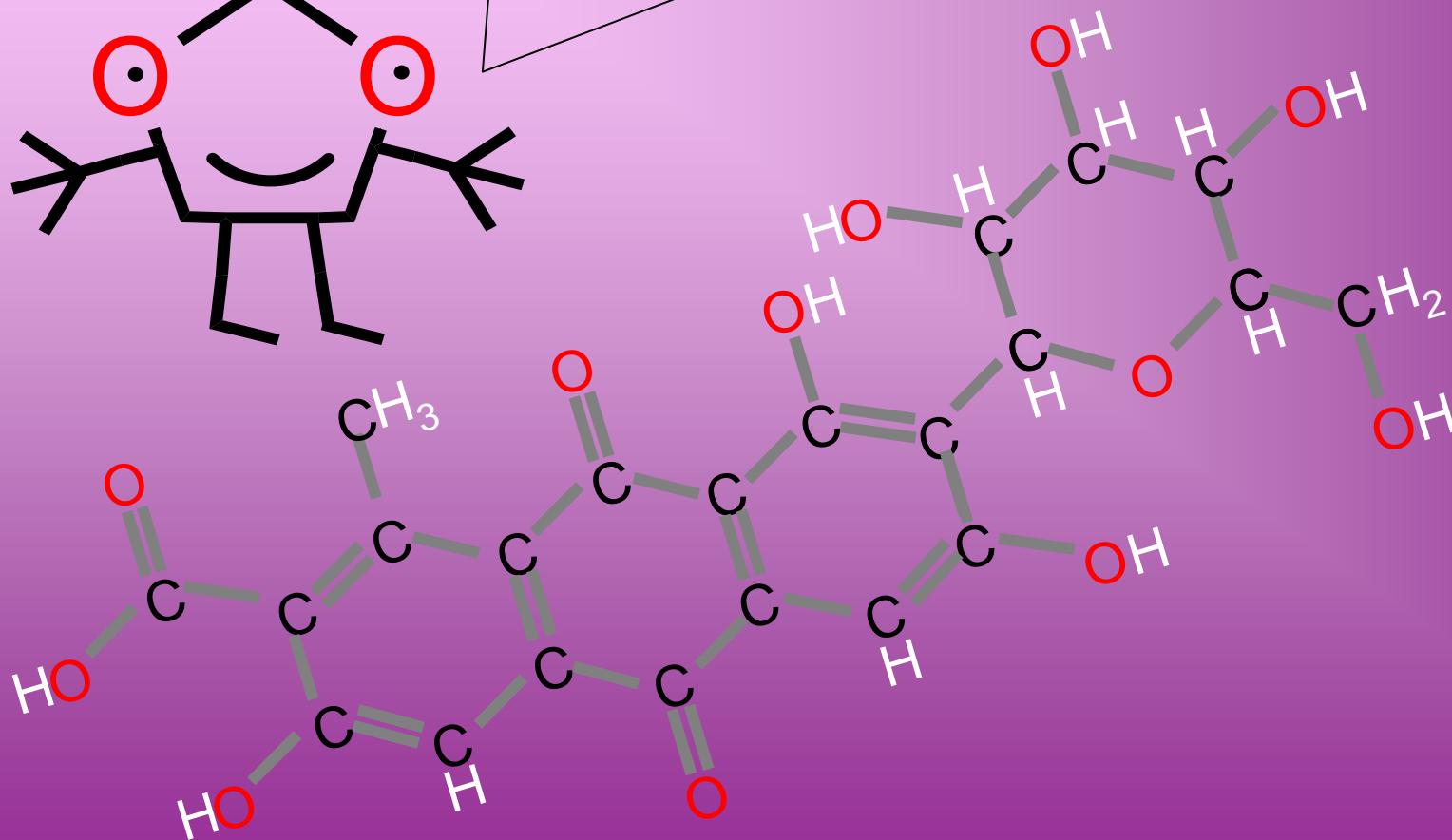
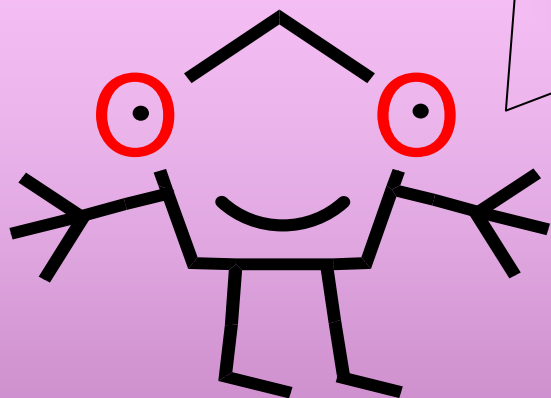
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Cochineal

A red dye used in food, paints, cosmetics and inks which is extracted from the cochineal bug which lives in South America.



Atoms and bonds:

21 C Carbon

20 H Hydrogen

12 O Oxygen

28 — short bonds

18 == long bonds



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