



VKR TEX - Tutorials

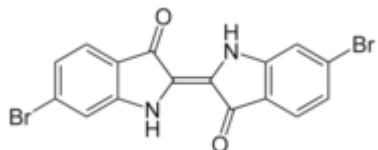
Manufacture of All Kinds of Auto loom Fabrics and Natural Dye Fabrics.

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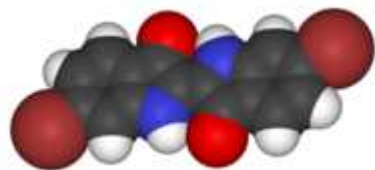
Tyrian purple



Murex brandaris, also known as the Spiny dye-murex



The chemical structure of **6,6'-dibromoindigo**, the main component of **Tyrian Purple**



A space-filling model of 6,6'-dibromoindigo

Tyrian purple (Greek: πορφύρα, *porphyra*, Latin: *purpura*), also known as *royal purple* or *imperial purple*, is a **purple-red** dye used by the ancient Phoenicians in the city of Tyre.

The dye consists of a mucus-secretion of the hypobranchial gland of a medium-sized predatory sea snail, the marine gastropod *Murex brandaris*, commonly called the spiny dye-murex, a species in the family Muricidae, the murex or rock shells.

In nature the snails use the secretion as part of their predatory behaviour, but the snail also secretes this substance when it is poked or physically attacked.

Certain other species within the family Muricidae (e.g. *Purpura patula* from the western Atlantic ocean) can also produce a similar substance which turns into an enduring purple dye when exposed to sunlight.

The Phoenicians also made a **purple-blue** indigo dye, called *royal blue* or *hyacinth purple*, which was made from a closely-related species of marine snail, called *Murex* (or *Hexaplex*) *trunculus*, the Banded dye-murex.

Tyrian purple was expensive: the fourth-century BC historian Theopompus reported, "Purple for dyes fetched its weight in silver at Colophon" in Asia Minor.

Overview



6,6'-dibromoindigo, the major component of Tyrian purple

The fast, non-fading dye was an item of luxury trade, prized by Romans, who used it to colour ceremonial robes. It is believed that the intensity of the purple hue improved, rather than faded, as the dyed cloth aged. Pliny the Elder described the dyeing process of two purples in his *Natural History*.

“ ... the Tyrian hue ... is considered of the best quality when it has exactly the colour of clotted blood, and is of a blackish hue to the sight, but of a shining appearance when held up to the light; hence it is that we find Homer speaking of "purple blood." ”

Archaeological data from Tyre indicate that the snails were collected in large vats and left to decompose. This produced a hideous stench that was actually mentioned by ancient authors. Not much is known about the subsequent steps, and the actual ancient method for mass-producing the two murex dyes has not yet been successfully reconstructed; this special "blackish clotted blood" colour, which was prized above all others, is believed to be achieved by double-dipping the cloth, once in the indigo dye of *H. trunculus* and once in the purple-red dye of *M. brandaris*.

The Roman mythographer Julius Pollux, writing in the second century BC, asserted (*Onomasticon* I, 45–49) that the purple dye was first discovered by Heracles, or rather, by his dog, whose mouth was stained purple from chewing on snails along the coast of the Levant. Recently, the archaeological discovery of substantial numbers of *Murex* shells on Crete suggests that the Minoans may have pioneered the extraction of Imperial purple centuries before the Tyrians. Dating from collocated pottery suggests the dye may have been produced during the Middle Minoan period in the 20th–18th century BC. The main chemical constituent of the Tyrian dye was discovered by Paul Friedländer in

1909 to be **6,6'-dibromoindigo**, a substance that had previously been synthesized in 1903. However, it has never been synthesized commercially.

Modern output

Tyrian purple

The true colour of Tyrian purple, like most high chroma pigments, cannot be accurately displayed on a computer display, nor are ancient reports entirely consistent, but these swatches give an indication of the likely range in which it appeared:



This is the sRGB colour #990024, intended for viewing on an output device with a gamma of 2.2. It is a representation of RHS colour code 66A, which has been equated to "Tyrian red", a term which is often used as a synonym for Tyrian purple.

Shades of Tyrian purple colour comparison chart

Modern research shows, as discussed above, that various formulations of Tyrian purple existed on a continuous spectrum within approximately the following range of colours:

- Bright Tyrian Purple (Bright Imperial Purple) (Tyrian Pink)
- Medium Tyrian Purple (Medium Imperial Purple) (Tyrian Red)
- Tyrian Purple (Imperial Purple)

