

Dyeing and the weight of sorrow: Endurance of natural dyes on Victorian mourning dress.

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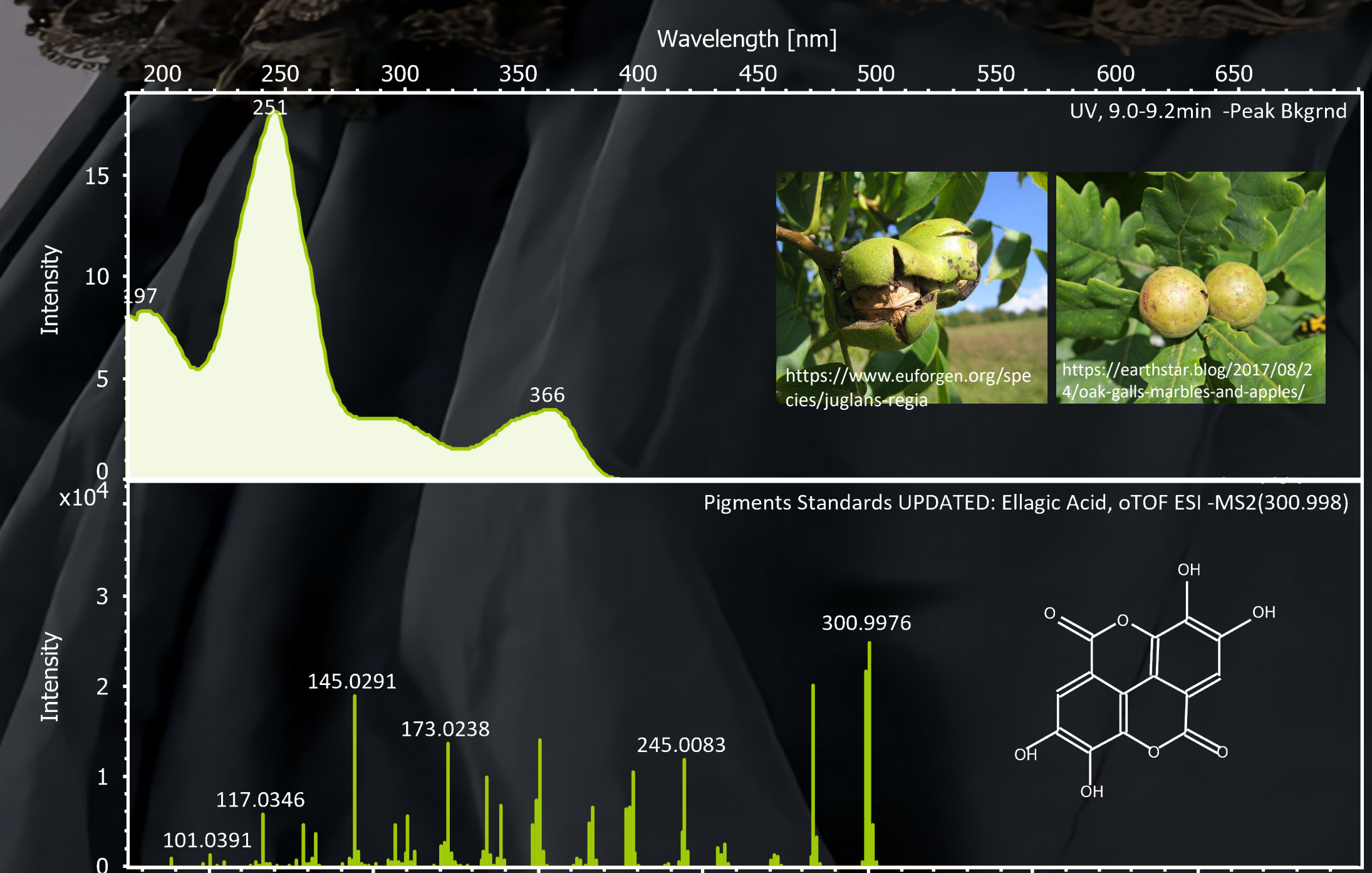
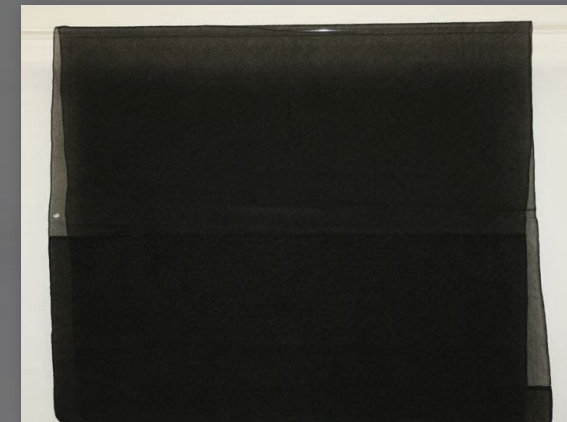
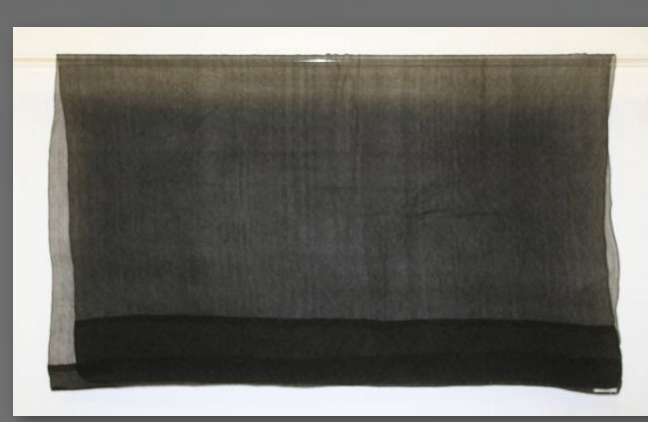
Introduction



The end the 19th century was marked by groundbreaking technological advances in the European chemical industry. In 1856, William Henry Perkin, a PhD student at the Royal College of Chemistry in London, accidentally obtained the first synthetic dye, mauveine. Queen Victoria helped to popularize the colour by wearing a mauve dress for her daughter's wedding in 1858, and synthetic dyes flooded the market. Only three years later, in 1861, she switched her wardrobe to exclusively black after the passing of her beloved husband, Prince Albert, custom that she maintained during her whole life, establishing a trend in mourning protocols that would rapidly spread worldwide.

Methodology

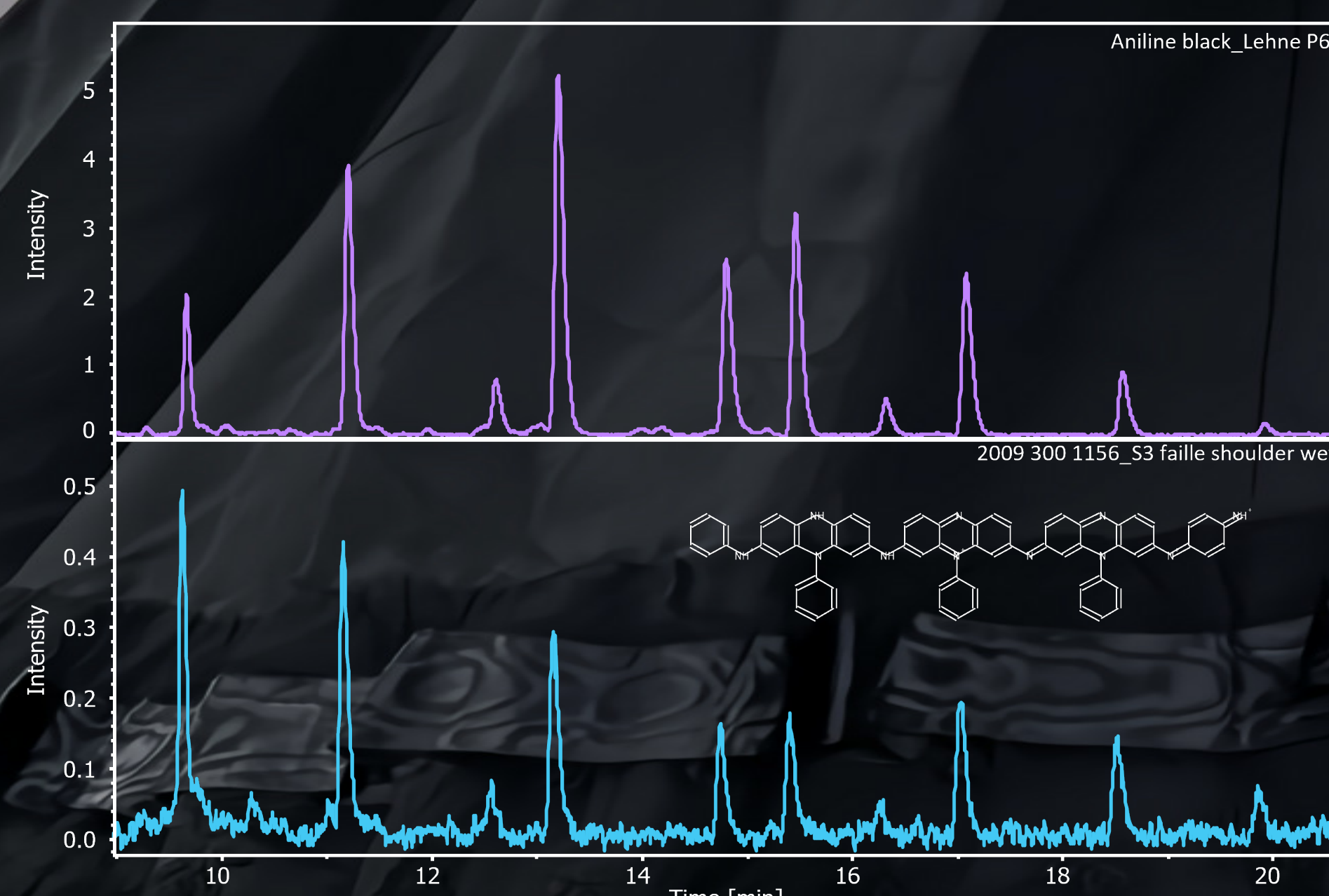
With the goal of studying the use and effects of early synthetic dyes in relation with the new established mourning etiquette, we started a survey on a group of black garments from The MET collection. Despite historical accounts of synthetic dyes having drastically replaced natural dyes by this time period, analysis with x-ray fluorescence, scanning electron microscopy and liquid chromatography-mass spectrometry found that only natural dyes were used on dresses and veils from late 1800s to early 1900s except on one detail from the left shoulder from Queen Victoria's dress (2009.300.1156).



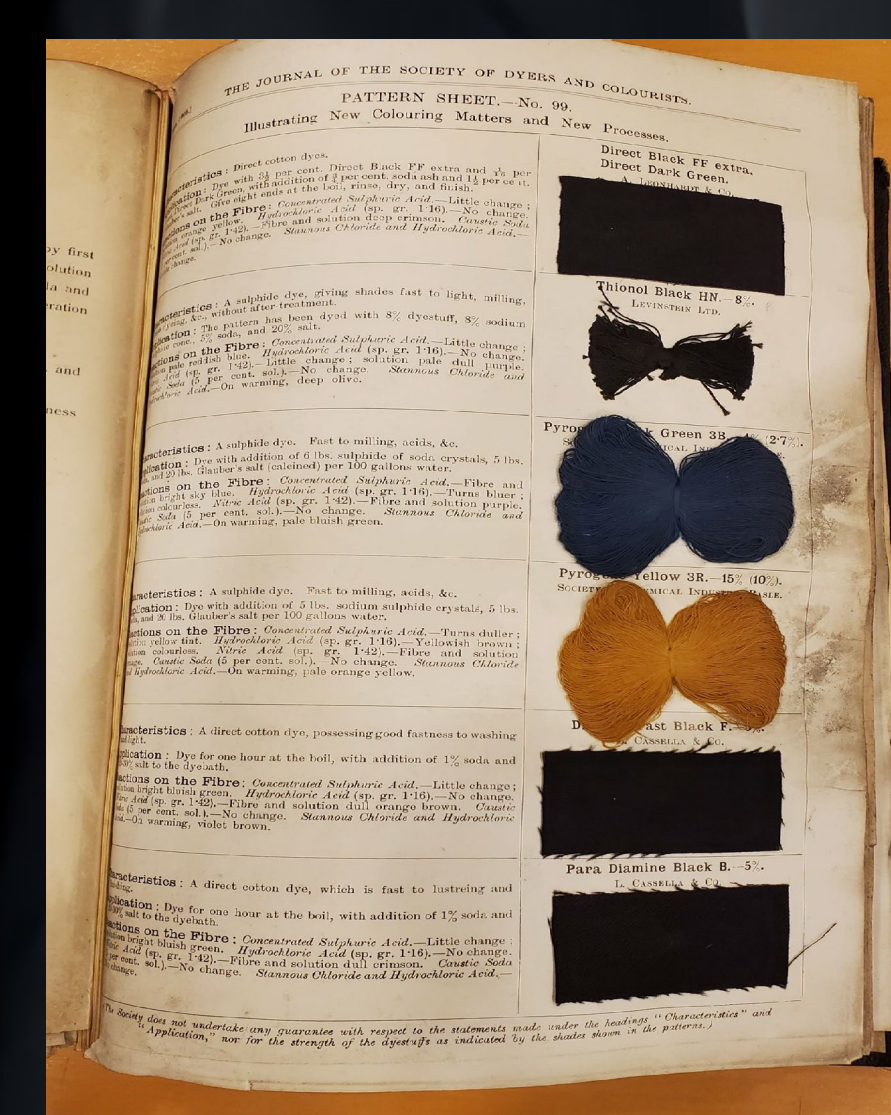
UV-visible spectra (top) and mass spectra (bottom) of peak at 9.2 min that corresponds with ellagic acid (m/z 300.9984)

Results and next steps

Tannin-based dyes were applied to weight the dull crape required for the grieving process in an apt metaphor representing the weight of sorrow that the first stages of mourning attire embodied. These color and fabric requirements would lead to the continued use of natural dyes to obtain black silk textiles even after synthetic dyes were fully present in the market. Historical sources provided recipes on how to dye silk with aniline black soon after its discovery in 1863. Next steps on this project involve tracing its introduction in garments from the Victorian and posterior eras and how the fabrication processes of mourning textiles, influenced the continuity of the use of natural dyes for black silk dyeing on different types of attires.



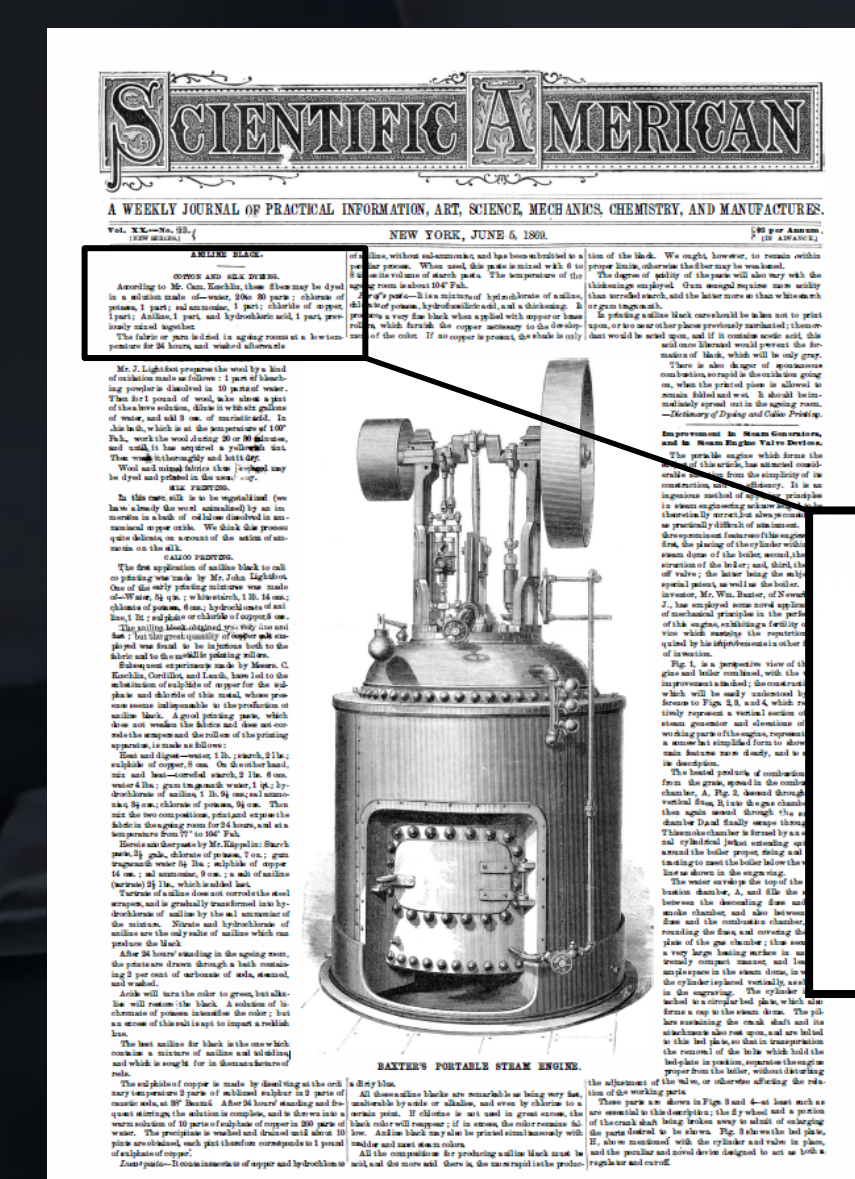
Detail of UV chromatogram at 500nm (baseline subtracted) of reference material of aniline black from 1893 (top) and sample from left shoulder of Queen Victoria's mourning dress (bottom). Peaks represent degradation compounds traditionally found for triarylmethane dyes.



The Journal Of The Society Of Dyers And Colourists 1905.



Tabellarische Uebersicht über die künstlichen organischen. Adolf Lehne. J. Springer 1893



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