

# 國立臺灣師範大學 113 學年度博士班招生考試試題

科目：英文(美術類)

適用系所：美術學系美術創作理論組-文物保存維護科技

注意：1.本試題共 2 頁，請依序在答案卷上作答，並標明題號，不必抄題。2.答案必須寫在指定作答區內，否則依規定扣分。

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1. 請將下列文章翻譯成中文(30 points)

## How to make an iron modifier for natural dyeing

Published Sep 18, 2020 · By Anna Chesley · Leave a Comment

Iron has a long history as a tool of the natural dyer. Along with Copper and Tin, it's one of the metals that is commonly used when dyeing with plants. The uses of iron are two-fold: helping naturally-derived dyes bind to the fiber being dyed, and also altering the final color that's achieved.

### Iron as a mordant

A mordant is a substance used to help bind dyes on fabrics. In the case of iron, it forms what's called a "coordination complex" with the molecules of the dye, which then attaches to the fiber that you're dyeing. Think of it as giving your natural color "teeth" to bite into the fiber and hold on.

Indigo is one natural color that traditionally uses iron as part of the dye process.

For *most* dyes derived from plants, using iron as a mordant - either in the dye bath or as an after bath, will significantly alter the color derived from the dye plants. For that reason, other options like alum, copper, or milk, are more commonly used when a mordant is needed that won't darken the final color.

**Iron can also be tough on fiber. Wool, especially, can be damaged by prolonged immersion in an iron solution.** Because of this, other mordants are often preferable, unless you're *specifically* looking for the color-shifting magic that iron can provide.

### Iron as a color modifier

When something is used in dyeing to alter the color derived from plants, it's often called a modifier, a color shifter, or an assist.

When used with most plant dyes, Iron generally darkens the color derived from the plant. Yellows become green, greens can become brown, browns become blacks, and pinks can become a plum color. This is called "saddening" the color, but it can be used to achieve some absolutely wonderful shades.

For me, in my own natural dyeing habits, I tend to think of iron not so much as a mordant, but as a modifier. I treasure it for the ability to give me really dark, dusky browns when working with acorn dyes. I love the twilight greens it gives me when using evergreen needles, and the mossy mustard green that I

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sometimes succeed in achieving from onion skins.

An iron solution is a wonderful thing to have on hand, if you're a natural dyer, and it's easy to make!

## 2. 請將下列文章翻譯成英文(30 points)



Johannes Vermeer (1632-1675 年) 以其絢麗的藍色和頻繁使用昂貴的天然群青而聞名。本文揭示了《戴珍珠耳環的女孩》((c. 1665, Mauritshuis)) 頭巾中群青的新發現。作為「聚光燈下的女孩」研究計畫(2018 年)的一部分,使用一系列微觀和宏觀技術對這幅畫進行了檢查。使用 SEM-EDX 和 FTIR-ATR 對橫截面的微量樣品進行分析,並基於豐富的亮藍色青金石顆粒,顯示 Vermeer 在藍色頭巾中使用了高品質的群青。使用同步加速器分析表明,群青顏料有部分是由熱處理的青金石礦物製備而成。整幅畫還使用 MS-IRR、MA-XRF、RIS 和數位顯微鏡進行成像,以顯示頭巾材料的分佈,並更深入地了解 Vermeer 的繪畫過程。頭巾的陰影部分出現了明顯的斑駁外觀,這是由於油畫顏料劣化造成的,這可能與該區域的群青油漆中混合了大量 Vermeer 的白堊土有關。有人提出了這樣的問題:是否故意在油畫顏料中添加了額外的白堊土以調整處理性能或不透明度,或者白堊土是否是一種(現在已褪色的)黃色色澱的基材。為了研究添加白堊土或黃色色澱對油畫顏料的影響,進行了示意性的油畫顏料重建。分析和重建結果得到了一個假設,即藍色頭巾最初包含更廣泛的不同藍色色調:在左側(受光)區域,使用了一種不透明的淺藍色;在中間區域,則使用了略更亮的不透明藍色;而在陰影區域,則使用了很深的藍綠色釉料,並以交替的藍綠色釉料以筆觸點綴——現在這些區域的塗層在很大程度上受到了油畫顏料退化的影響。

## 3. Please describe two ways of ceramic conservation treatment in English. (40 points)