How old is red ?

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Any observer of an artwork speculates about two details: who is the artist and when was the object created. Answering these queries is not an easy task. However, the second question may be addressed by radiocarbon (^{14}C) dating. Historical textiles in museum collections are seldom well dated. With the exception of some textile objects which date of manufacture has been woven or printed on, the great majority of textile heritage is dated based on the study of the technical construction of the object, the materials present (fibres, metal threads, etc.), or comparisons with depictions in well-dated historical paintings and other decorative arts. Radiocarbon dating has been used for decades to date the textile fibre substrate of an object, and therefore, draw more interpretations about its origin.[1] Nowadays, the substantial decrease in sample size requirements has allowed the combined and sequential use of dye analysis and ^{14}C dating from a single-colored yarn.[2] This strategy demonstrated the complementarity of the two methods in terms of information output and compatibility. It furthermore paved the way towards the present research in which not only the textile but also the isolated natural organic dyes may be ^{14}C dated. [3, 4] With the focus on red anthraquinone dyes used in historical dyed textiles, preliminary results in the development of a new protocol combining dye analysis by ultra-high-performance liquid chromatography (HPLC) and compound-specific radiocarbon analysis (CSRA) will be presented. Blank assessment and constant contamination modelling are key parameters in highlighting the associated ^{14}C constraints within the different steps of the methodology. The complementary combination of both techniques has the potential to support art historical interpretations about the origins of a group of textile objects selected for this study, offering a more specific chronological time window on the objects' production, and furthering discussion on historical dyeing traditions.

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