IDENTIFICATION AND CHARACTERIZATION OF NATURAL YELLOW DYE SOURCES OF PERSIAN CARPET USING HIGH PRESSURE LIQUID CHROMATOGRAPHY –TANDEM MASS SPECTROMETRY HPLC-MS^N

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Abstract

The application of natural dyes in Persian textiles has a long history, which has been developed according to different cultures living in the geography of Iran during previous centuries. Following our previous literature review [1] we have focused on the identification and characterization of the natural yellow dye sources in Persian textiles; *Reseda luteola, Vitis vinifera, Eremostachys Bge., Prangos L., Pistacia L., Punica granatum linn., Morus Alba, Querqus brantii, Calendula L., Artemisia L.,* and *Anthemis L.,*

The samples from the plants which are more common were collected from nature in Isfahan, some were gathered from the few remained dyeing workshops in 70 km to Isfahan, and the other samples were bought from herbalist's shop in Isfahan, Tabriz, and Tehran.

Textile samples were dyed with these plants, according to a recipe provided by Dominique Cardon. The extracts from the material sources and dyed textiles were analyzed and characterized by HPLC_DAD-MS, with the aim of identifying markers which would be helpful in identifying dyes in Persian textiles. The results of our study, with an exception, showed that the principal aglycones can be compared to the previous studies [3] [4] [5] and proved the possible existence of these plants as sources of historic textiles.

References:

[1] S. Sharif, MJ. Melo ,P. Nabais, A. Clemente, MC. Oliveira. 2017, submitted.

[2] X. ZHAnG & R. A. Laursen. 2005, 77(7), 2022-2025.

[3] D. Cardon. 2007, London: Archetype Publications.

[4] C. Mouri, V. Mozaffarian, X. Zhang & R. Laursen. 2014), 100, 135-141.

[5] H. Böhmer, N. Enez, R. Karadağ, C. Kwon & L. E. Fogelberg. 2002, Rehmöb-Verlag Dr. Harald Böhmer