

Electronic supplementary information (ESI)

**The chemistry behind the body art: Unveiling the elemental profile
and heavy metal content of natural tattoos and dyes by ICP-MS**

Laura Rubio,^{*a,b} Pedro Barrulas,^{*c} Mafalda Costa,^c Carmen Garcia-Jares,^{a,b} Marta Lores^b and
Cristina Barrocas Dias^{c,d}

^a CRETUS, Department of Analytical Chemistry, Nutrition and Food Science, Universidade de Santiago de Compostela, E-15782, Santiago de Compostela, Spain; carmen.garcia.jares@usc.es (C. Garcia-Jares)

^b Laboratory of Research and Development of Analytical Solutions (LIDSA), Department of Analytical Chemistry, Nutrition and Food Science, Universidade de Santiago de Compostela, E-15782, Santiago de Compostela, Spain; marta.lores@usc.es (M. Lores)

^c HERCULES Laboratory, University of Évora, Palácio do Vimioso, Largo Marquês de Marialva 8, 7000-809, Évora, Portugal; mcosta@uevora.pt (M.Costa); cmbd@uevora.pt (C.Barrocas Dias)

^d Chemistry and Biochemistry Department, School of Sciences and Technology, Rua Romão Ramalho, 59, 7000-671, Évora, Portugal

Content:

Table S1. Details of the analyzed samples: type, color, composition information, and other remarkable comments on the labels. HT: Henna Tattoo; HD: Henna Dye; HTD: Henna Tattoo-Dye; JT: Jagua Tattoo; HPT: Herbaceous Plant Tattoo.

Table S2. Coefficient of determination (R^2) and instrumental detection limits (LODs) obtained for the different elements.

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Physical state	Sample code	Color	Labeled content	Other additional comments
Solid	HD-1	Greenish	Henna plant powder (<i>Lawsonia inermis</i>), <i>Juglans regia</i> , <i>Cassia obovata</i>	Green product, free of metal salts
	HD-2		<i>Indigofera tinctoria</i> , <i>Lawsonia inermis</i>	
	HD-3		<i>Indigofera tinctoria</i> , ferrous sulfate, <i>Haematoxylon campechianum</i> , <i>Cassia obovata</i>	
	HD-4		<i>Cassia obovata</i> , <i>Lawsonia inermis</i> , sodium picramate	
	HD-5		<i>Lawsonia inermis</i>	
	HD-6		<i>Cassia obovata</i> , <i>Curcuma longa</i> , <i>Chamomilla recutita</i>	
	HD-7		<i>Lawsonia inermis</i> (henna) leaf powder, Indian gooseberry (Amla), Soapnut (Ritha), <i>Acacia concina</i> (Shikakai), <i>Bacopa monnieri</i>	100% natural and pure, no dyes, does not contain heavy metals and other harmful compounds,

			(Brahmi), False daisy (Bhringraj)	Indian origin
	HTD-1		<i>Lawsonia inermis</i>	100% natural and pure, no added dyes, Marrakech origin
	HTD-2		Fresh henna leaves	100 % pure and natural
	HTD-3		Henna and Indigo	
	JT-4	Black	<i>Genipa americana</i> , sugar, xanthan gum	Non-permanent, 100% natural
Paste	HT-1	Black	None	100% VEG, Indian origin
	HT-2	Red		
	HT-3	White		
	HT-4	Orange		
	HT-5	Pink		
	HT-6	Reddish		
	HT-7	Green		
	HT-8	Blue		
	HT-9	Violet		
	HT-10	Black		
	HT-11	Brown		
	HT-12	Red		
	HT-13	Black		
	HT-14	Red		
	HT-15	Black		
	HT-16	Brown		
	HT-17	Blue		
	JT-1	Black	<i>Genipa americana</i> fruit juice, xanthan gum, potassium sorbate, <i>Lavandula angustifolia</i> flower oil	Pakistani origin
	JT-2	Black	<i>Genipa americana</i> , xanthan gum, potassium sorbate	100% VEG, Indian origin
	JT-3	Black	<i>Genipa americana</i> fruit extract, xanthan, <i>Lavandula angustifolia</i> herb oil, potassium sorbate	
	JT-5	Dark blue/black	<i>Genipa</i> juice, hazelnut extract, pure green plant extract	
	JT-6	Dark blue/black	Inorganic plan toner (28%)	Safe and natural, without toxic chemicals
	HPT	Black	None	Vegetable dye

Table S2. Coefficient of determination (R^2) and instrumental detection limits (LOD) obtained for the different elements.

Element	Solid samples		Paste samples	
	R^2	LOD ($\mu\text{g g}^{-1}$)	R^2	LOD ($\mu\text{g g}^{-1}$)
Al	0.9941	16	0.9997	1.8
Cr	0.9989	1.9	0.9986	0.05
Mn	0.9997	6.7	0.9999	0.05
Co	0.9998	0.10	0.9992	0.01
Ni	0.9997	0.61	1.0000	0.09
Cu	0.9995	0.35	0.9993	0.09
Zn	0.9997	0.63	0.9999	0.51
As	0.9997	0.02	0.9999	0.01
Cd	0.9996	0.004	0.9997	0.002
Ba	0.9996	0.29	0.9998	0.04
Pb	0.9998	0.05	0.9999	0.01

