



Programme & Abstracts

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[P5] STUDY OF THE IMPACT OF NATURAL DISCOLORING MEDIA ON BODY TATTOO AND PERMANENT MAKE UP (PMU) COLORANTS

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Aim: The aim of this work was the assessment of natural origin discoloring media on the alteration of color intensity of tattoo and PMU colorants.

Methods: Body tattoo and PMU colorants (Table 1a) dispersed in water in concentration 1mg/30ml were incubated with natural origin extracts (Table 1b) in 1/10 (v/v) ratio and incubated at 37°C. A commercial tattoo discoloring product was used as control. The spectra of the colorants dispersed in water and their mixture with the discoloration media was obtained by ultraviolet-visible (UV/Vis) spectrophotometry (UV-1800 UV-Vis Spectrophotometer, SHIMADZU, Kyoto, Japan). The discoloration potential of each media was assessed by calculating the alteration of absorption (A) maximum in the visible range (400 nm – 800 nm) of each colorant before and after incubation with each discoloration media.

Results: The results (Table 2) showed a good discoloration of 810 (85,47%) and 702 (93,18%). Although 712 and 710 have the same colorant composition the performance of the discoloration media differed. This results is an indication of the significance of the presence of other ingredients in the colorant formula.

Conclusions: Natural origin discoloring media may act as efficient alternatives of laser tattoo removal.

Table 1: Colorant ingredients and discoloration media

a		b
Body tattoo and PMU colorants	Colorant ingredients (CI)	Discoloration media
DB	CI77891, CI77492, CI77266	Malva infusion
Ti	CI77266	
152	CI77499, CI77492, CI77491	Geranium infusion
712	CI77891, CI56300, CI56110, CI77266	Malva/geranium infusion
702	CI77891, CI56300, CI56110, CI 77266	
Sunset	CI77891, CI56110, CI77491	Agaricus infusion
810	CI 77891, CI56300, CI77491, CI77288, CI77499	Commercial discoloration product
816	CI 77891, CI77288, CI77499, CI77492, CI77266	
288	CI 77891, CI77499, CI77491, CI77492	

Table 2. UV absorption of colorant dilutions in water and their mixtures with discoloration media

Colorant	A max (nm)	Ink diluted in water	Ink diluted in water incubated with discoloring media				
			malva	geranium	malva / geranium	Agaricus	Control
DB	566	0.085	0.166	0.108	0.12	0.186	0.176
Ti	440	0.167	0.166	0.082	0.085	0.096	0.153
152	780	0.171	0.252	0.073	0.139	0.199	0.402
712	600	0.341	0.708	0.273	1.647	0.853	0.705
702	600	0.425	0.743	0.029	0.421	0.492	0.77
sunset	476	0.422	0.31	0.407	0.314	0.612	0.348
810	800	0.289	0.264	0.042	0.292	0.392	0.481
816	735	0.684	0.839	0.05	0.612	0.771	0.984
288	790	0.1448	0.264	0.042	0.292	0.392	0.481