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Supplemental Table (1) and Figures (1–11)

Aljubran, B.A., Ross, K.E., Alexander, U.N., & Lenehan, C.E. (2025). Decoding tattoo inks: Multiple analysis techniques reveal discrepancies in ingredient composition and elemental content when compared against label claims. *Journal of Environmental Health*, *88*(2), 8–18. https://doi.org/10.70387/001c.143999

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Note. The authors submitted this supplemental table and figures as an extra resource for readers. The *Journal of Environmental Health* did not copy edit or format the text.

Table S1: Infrared peaks of pigments and tattoo inks(dried (D) and extracted (E). The label (x) indicate the presence of absorption peaks from the sample.

Functional group	Wavenumber (cm^{-1})	PY14	PY65	PO13	LY		GY		GR		BO	
					D	E	D	E	D	E	D	E
C-O	1026	-	x	-	-	-	-	-	-	-	-	-
O=N=O	1400-1420	-	x	-	-	-	-	-	-	-	-	-
C-Cl	800 - 714	x		x	x	x	x	x	x	x	x	x
N-H	3300-3500	x	-	-	x	x	x	x	x	x	x	x
N-C=O	1670	x	x	x	x	x	x	x	x	x	x	x
C-H C=N	2000–4000	x	x	x	x	x	x	x	x	x	x	x
C=N	1400-1600	-	-	x	-	-	-	-	-	-	-	-

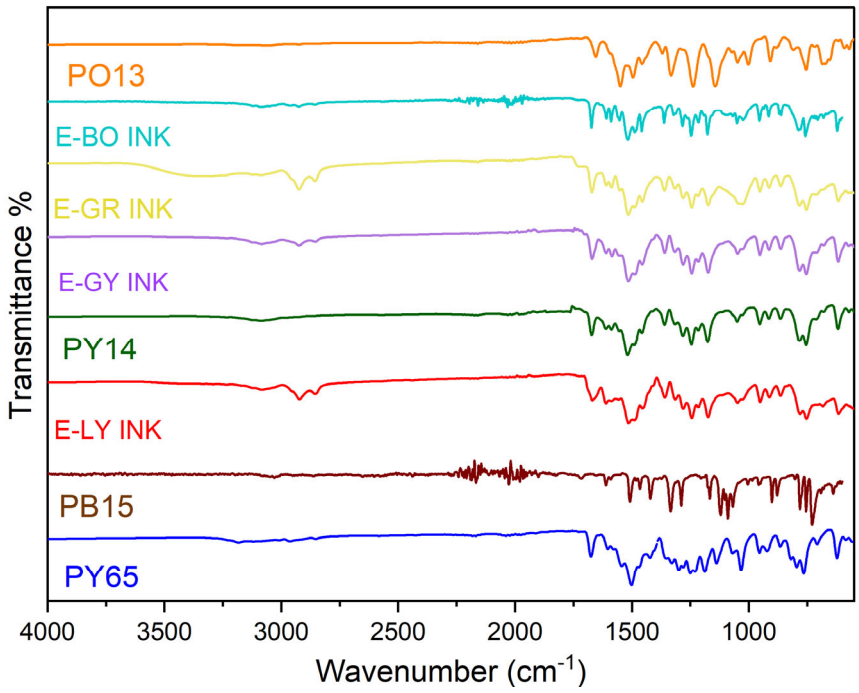

Figure S1: The full range of the FT-IR spectrum (4000 cm^{-1} to 550 cm^{-1}) of pigments and inks obtained using the Perkin Elmer Spectrum 100 FTIR. IR spectra comparison of inks and pigments reveals the presence of PY14 instead of PY65 in the LY ink. GY, GR, and BO inks did not have PO13.

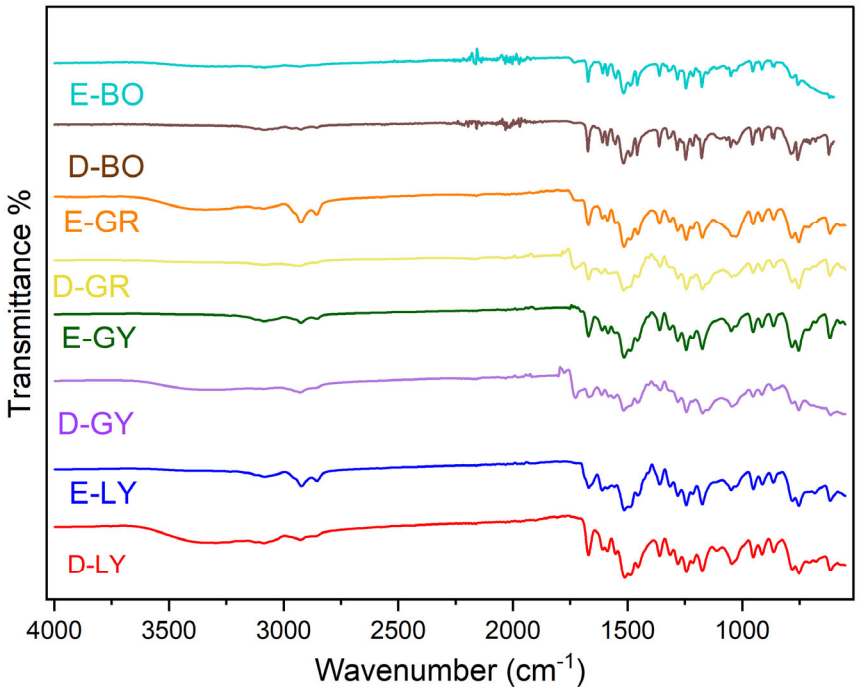

Figure S2: FTIR spectra from the dried inks (D-LY, D-GY, D-GR and D-BO) were consistent with those of the extracted inks.

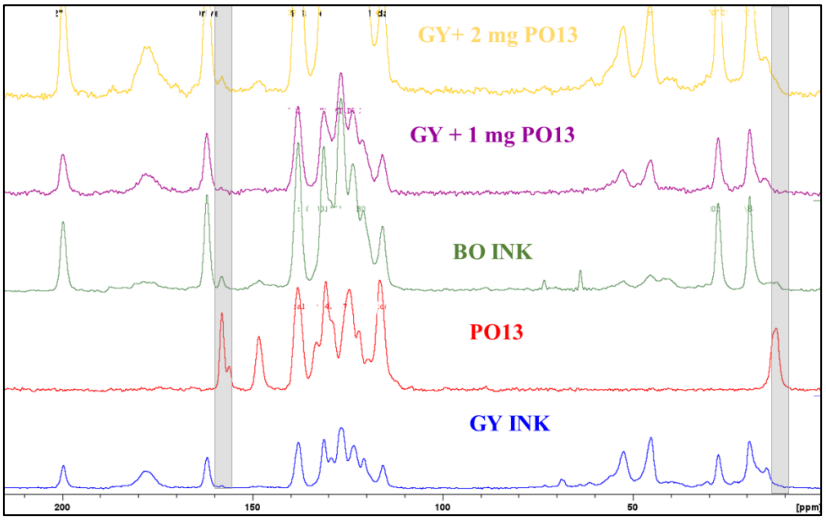

Figure S3: ^{13}C NMR spectrum of BO, GY, PO13, and mixture of GY-PO13 to identify the limits of detection of the NMR instrument.

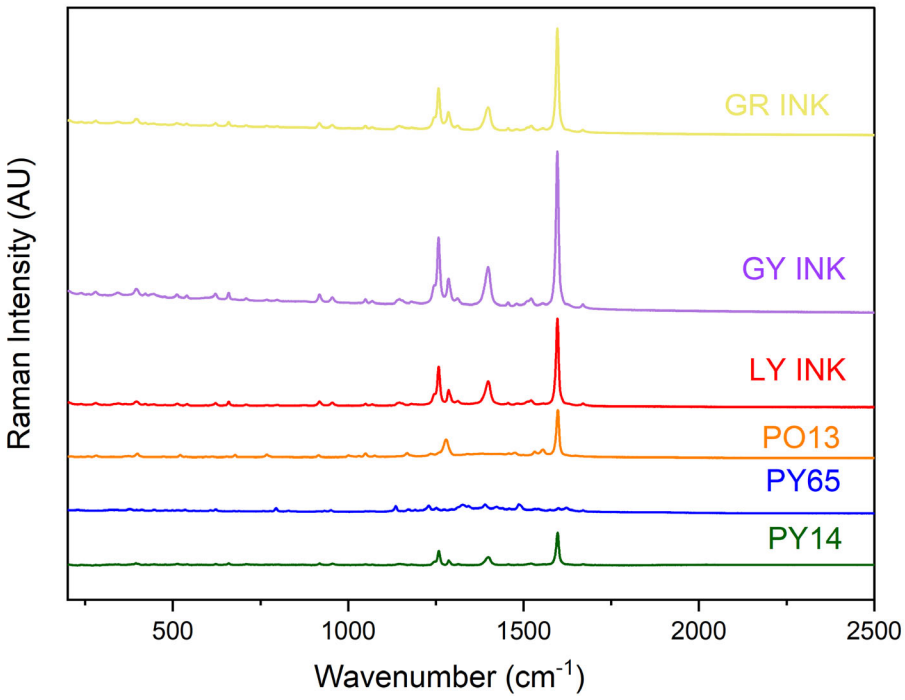

Figure S4: Baseline-corrected Raman spectra of LY, GY, GR inks and PY14, PY65, PO13. The Raman data was collected at 786 and 532 nm. The analysis was carried out at 10 and 25% filters from 200 cm^{-1} to 3000 cm^{-1} wavenumbers. For each sample, 12 scans of 20-second pulses were recorded.

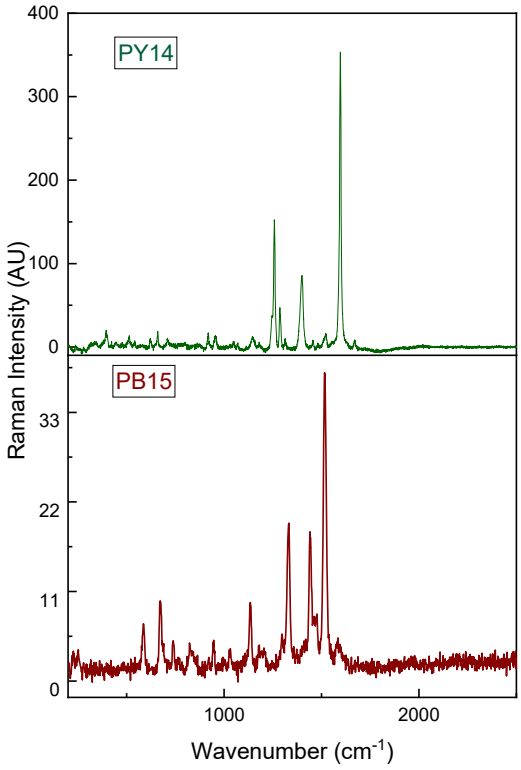

Figure S5: Baseline-corrected Raman spectra of PB15 and PY14. The Raman data was collected at 786 and 532 nm . The analysis was carried out at 10 and 25% filters from 200 cm^{-1} to 3000 cm^{-1} wavenumbers. For each sample, 12 scans of 20-second pulses were recorded. That Raman intensity for both pigments was differed which clarified the overlap between the peaks in the LY Raman analysis.

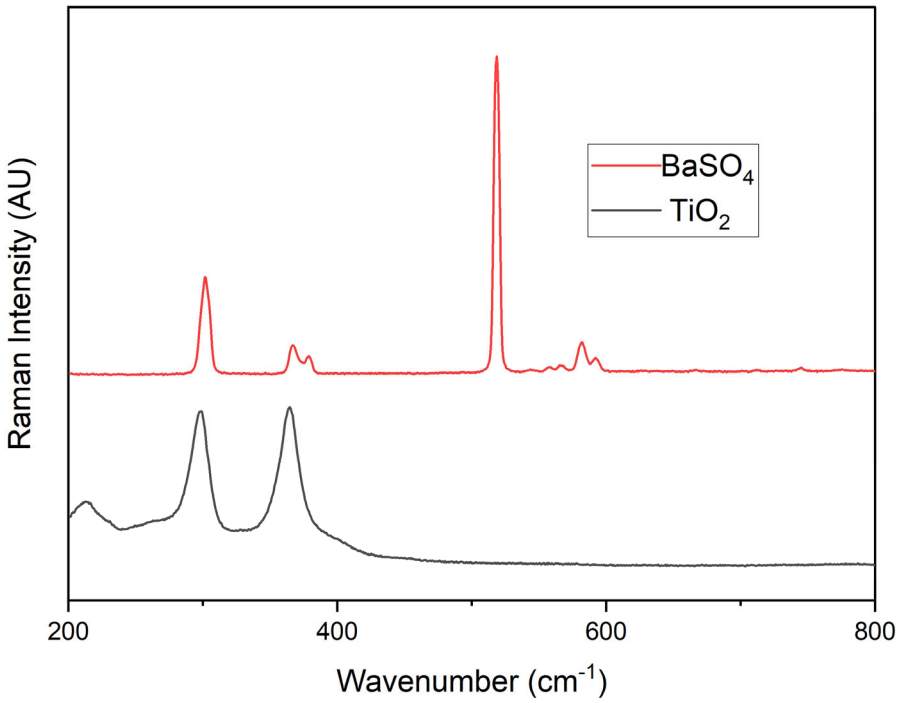

Figure S6: Baseline-corrected Raman spectra of TiO_2 and $BaSO_4$.

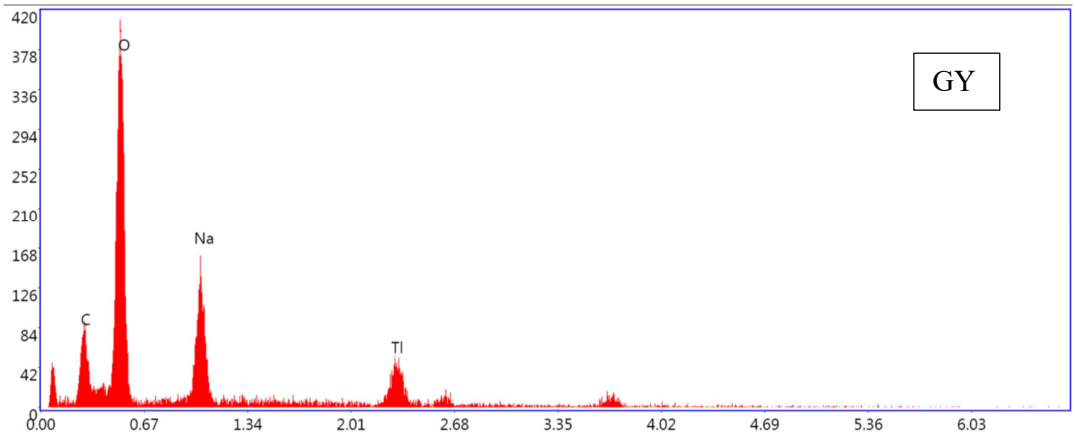

Figure S7: Element composition analysis of GY ink using EDX.

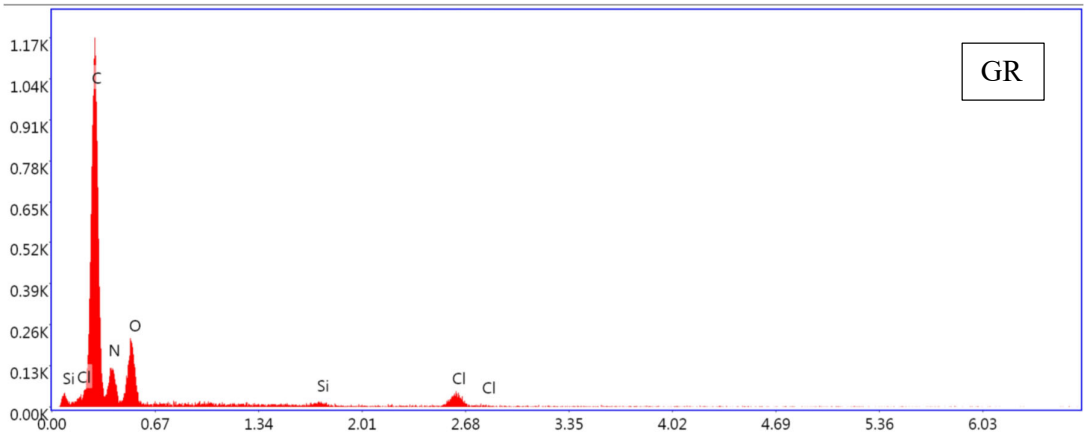

Figure S8: Element composition analysis of GR ink using EDX.

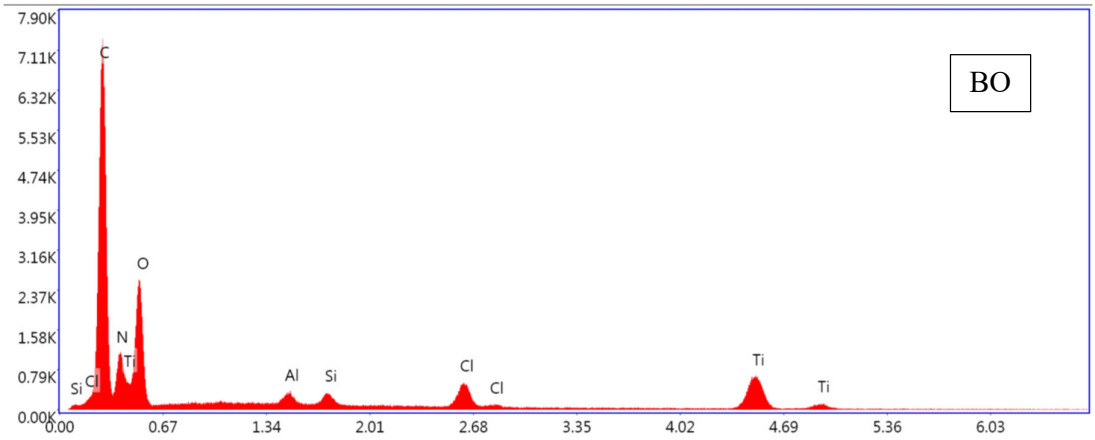

Figure S9: Element composition analysis of BO ink using EDX.

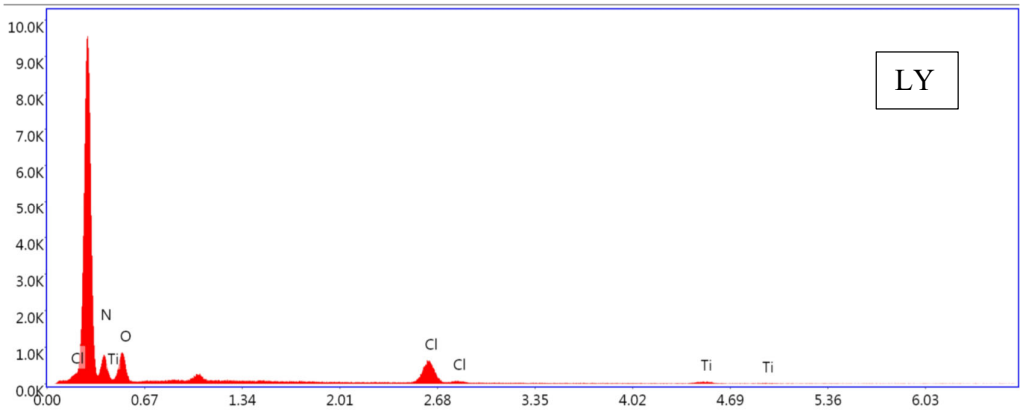

Figure S10: Element composition analysis of LY ink using EDX.

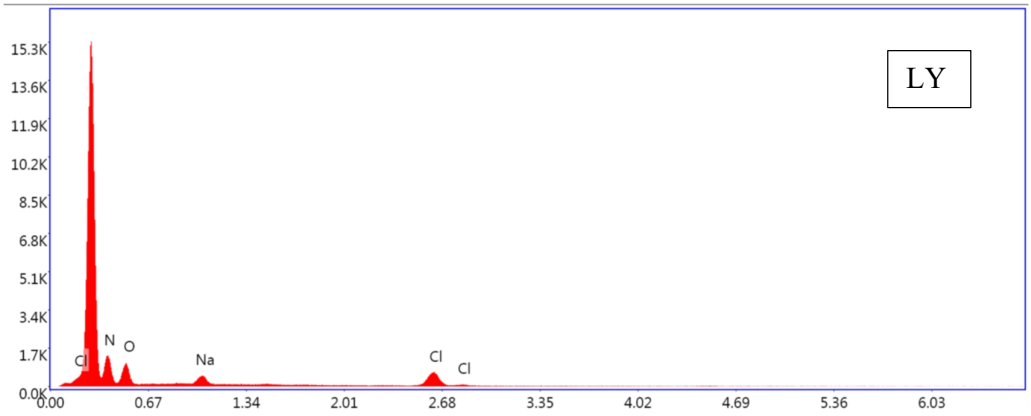

Figure S11: Element composition analysis of LY ink using EDX.