Electronic Supporting Information (ESI)

High Performance Liquid Chromatography (HPLC) performed on the seized street samples, below is a summary of how this was performed (see reference 2 for more information):

Reverse phase high-performance liquid chromatography was performed with an integrated Agilent HP Series 1100 Liquid Chromatograph (Agilent Technologies, Wokingham, UK) fitted with an in-line degasser, 100-place autoinjector and single channel, tunable UV absorbance detector (264 nm). Data analysis was carried out using ChemStation for LC (Ver. 10.02) software (Agilent Technologies, Wokingham, UK). The HPLC system was run in binary gradient mode. Solvent A was aqueous ammonium formate buffer (10 mM, pH 3.5 ± 0.02) and solvent B was methanol; the flow rate was 0.8 mL min−1 with an injection volume of 10 μL. Six replicate injections of each calibration standard were performed. The stationary phase (ACE 3 C18, 150 mm × 4.6 mm i.d., particle size: 3 μm) used in the study was obtained from HiChrom Limited (Reading, UK). The column was fitted with a guard cartridge (ACE 3 C18) and maintained at an isothermal temperature of 22 °C with an Agilent S3 HP Series 1100 column oven with a programmable controller (Agilent Technologies, Wokingham, UK). The gradient programme was as follows: 30% B (0 min) to 60% B at 7 min to 60% B at 12 min to 30% B at 18 min.

Preparation of aqueous ammonium formate buffer (10 mM, pH 3.5 ± 0.02): 1.30 g

Ammonium formate was dissolved in 1.8 L ultra-pure deionised water and the pH of the solution adjusted by dropwise addition of formic acid (98–100%) to pH 3.5 (±0.02). The mixture was transferred to a 2 L clear glass volumetric flask and diluted to volume with ultrapure deionised water. Prior to use, all mobile phases were vacuum filtered through a 0.45 mm pore filter paper and degassed for 10 min at 25 °C using an ultrasonic bath.

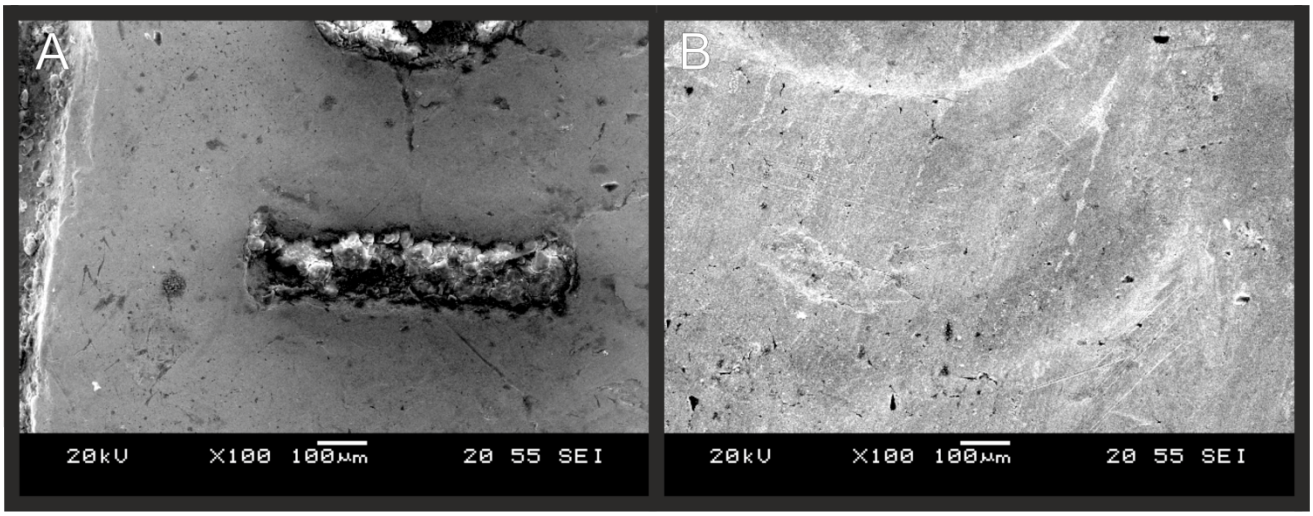
Calibration standards (4-MMC, 4-MEC, caffeine and benzocaine):

2.0 mg of each component were weighed accurately into 100.0 mL clear glass volumetric flasks and diluted to volume with mobile phase to give solutions containing all components at 20.0 μg mL−1. This solution was then further diluted with mobile phase to give calibration standards containing 10.0 μg mL^{-1}, 5.0 μg mL^{-1}, 2.5 μg mL^{-1}, 1 μg mL^{-1} and 0.5 μg L^{-1} of each analyte.

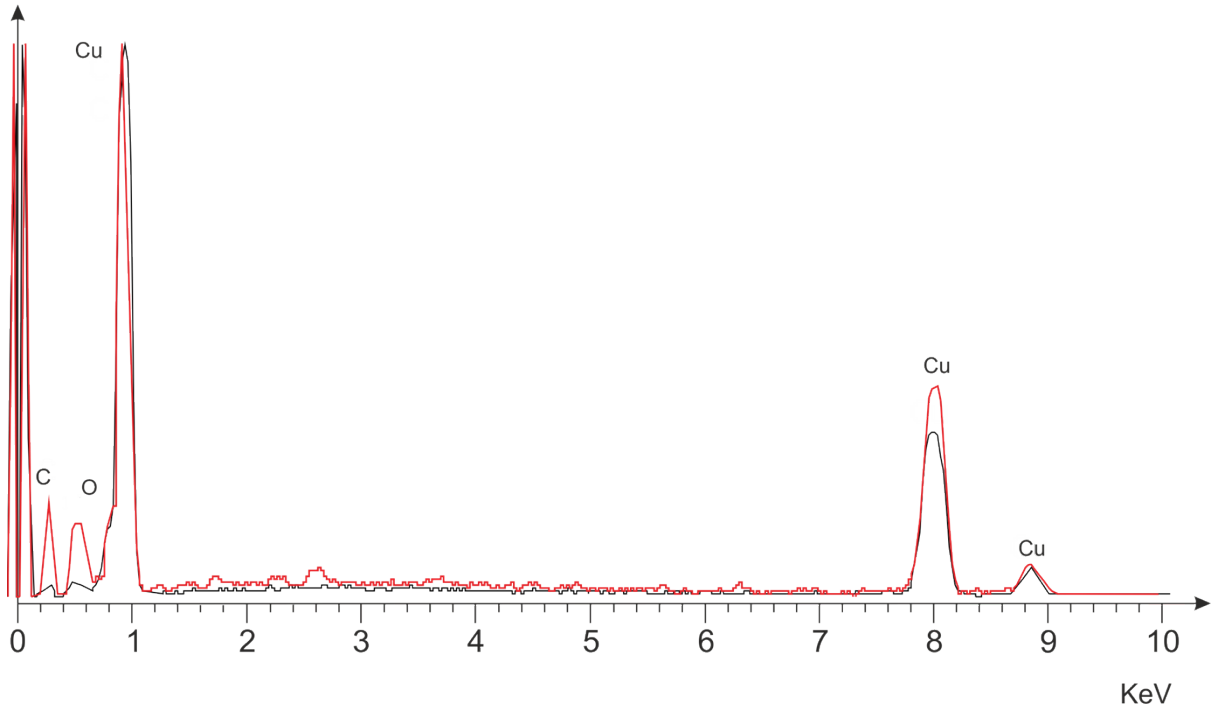
Test solutions: Samples of NRG-2 were obtained from four independent Internet vendors as white crystalline powders in clear zip-lock bags. 10.0 mg of each substance was weighed (in triplicate) accurately into a 100.0 mL clear glass volumetric flask and diluted to volume with mobile phase. This solution was then further diluted (1:10) with mobile phase to give the test solution.

Electronic Supporting Information:

ESI Figure 1 – SEM of a A: British 1 pence coin minted pre-1992 and B: British 1 pence coin minted post-1992.



ESI Figure 2 - EDX spectra obtained from a pre-1992 (red) and post-1992 (black) British 1 pence coin following analysis; mean % composition is listed in the table below.



	Pre-1992			Post-1992	
Element	Weight %	Atomic %	Element	Weight%	Atomic%
C	26.97	57.53	C	7.36	28.13
O	10.69	17.13	O	1.92	5.54
Cu	**61.71**	**24.89**	**Cu**	**90.72**	**66.33**
Cl	0.93	0.68			
Total	100.31	100.23	Total	100.00	100.00