

SUPPLEMENTARY MATERIAL

The Application of Pipette-Tip and Magnetic Dummy-Template Molecularly Imprinted Solid-Phase Extraction Coupled with High-Performance Liquid Chromatography with Diode Array and Spectrofluorimetric Detection for the Determination of Coumarins in Cosmetic Samples

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Table S1. Applications of MIP-based extractions as sample pre-treatment methods in cosmetics analysis

Analyte	Template / Monomer / Cross-linker	MIP preparation	Sample matrix/ Mode of MIP extraction	Recovery (%)	Analytical method	LOD	Ref.
Prednisone	Prednisone / APTES/TEOS	Surface imprinting on MWCNTs	Cream/ SPE(MIP-MWCNTs)	83-106	HPLC-UV	$5 \times 10^{-3} \mu\text{g.mL}^{-1}$	27
Bisphenol A	Bisphenol A / APTES/TEOS	MIP layer-coated silica nanoparticles	Shampoo, Bath lotion, Cream/ MISPE	87-97	HPLC-UV/FL	$1 \times 10^{-6} \mu\text{mol.mL}^{-1}$	28
Benzylparaben	Benzylparaben / MAA/EGDMA	Surface imprinting on silica particles	Sunscreen cream/ On-line MISPE	99	HPLC-UV	$3.34 \times 10^{-3} \mu\text{g.mL}^{-1}$	29
Metronidazole	Metronidazole / MAA/EGMRA	Surface imprinting on magnetic particles	Toner, Powder, Cream/ MMIP	84-100	HPLC-UV	$3 \times 10^{-3} \mu\text{g.mL}^{-1}$	30
o-hydroxybenzoic acid	o-Hydroxybenzoic acid / APTES/TEOS	Surface imprinting on the carrier by the sol-gel process	Cosmetics (unspecified type)/ MISPE	87 - 105	HPLC-UV	-	31
Triclosan	Triclosan / AA+MMA/ DVB+TRIM	Precipitation polymerization	Toothpaste/ MIP based sensor (ISE)	96 - 106	Potentiometry	$1.9 \times 10^{-6} \mu\text{mol.mL}^{-1}$	32
Dexamethasone	Dexamethasone / MAA/EGDMA	Surface imprinting on magnetic particles	Cosmetics (unspecified type)/ MSPE	94 – 99	HPLC-UV	$0.05 \mu\text{g.mL}^{-1}$	33
Bupivacaine Benzocaine Lidocaine	Bupivacaine / MAA/EGDMA	Bulk polymerization, packed into a hollow fiber	Body lotion/ HF- μ SPE	99 – 99	GC-MS	$0.01 \mu\text{g.mL}^{-1}$ $0.04 \mu\text{g.mL}^{-1}$ $0.01 \mu\text{g.mL}^{-1}$	34
Methylparaben Thylparaben Propylparaben	Methylparaben / chitosan / sulfuric acid	Precipitation polymerization	Powder sunscreen/ MIP-MSPD	91-103	HPLC-UV	$0.04\text{-}10 \mu\text{g.g}^{-1}$	35
Kojic acid	Kojic acid / APTES/TEOS	Surface imprinting on magnetic particles	Serum, Cream, Lotion/ MSPE	92-105	UV-VIS spectrometry	$0.021 \mu\text{g.mL}^{-1}$	36
Metylparaben, Ethylparaben Propylparaben	Propylparaben / DES (Choline chloride-MAA)/ TRIM	Surface imprinting on magnetic particles	Shampoo, Deodorant Face cleanser Moisturizer, Lotion, Toner/ MSPE	44-65 52-64 76-113	UV-VIS spectrometry	$0.03\text{-}0.5 \mu\text{g.mL}^{-1}$	37

AA- acrylamide; APTES- 3-aminopropyltriethoxysilane; DES- Deep eutectic solvent; DVB- divinylbenzene; EGDMA- ethylene glycol dimethacrylate; EGMRA- ethylene glycol maleic rosinat acrylate; GC-MS- gas chromatography with mass spectrometry; HF- μ SPE- hollow fiber micro-SPE; HPLC-UV- high performance liquid chromatography with UV spectrophotometric detection; ISE- ion-selective electrode; MAA- methacrylic acid; MMA- methyl methacrylate; MIP- molecularly imprinted polymer; MISPE- solid phase extraction with MIP adsorbent; MSPD- matrix solid-phase dispersion; MSPE- solid phase magnetic extraction; MWCNTs- multi-walled carbon nanotubes; TEOS- triethoxysilane; TRIM- trimethylolpropane trimethacrylate.