

Supporting Information

Laser-induced acoustic desorption coupled to electrospray ionization mass spectrometry for rapid qualitative and quantitative analysis of glucocorticoids illegally added in creams

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Fig. S1 Main ingredient information of the three kinds of creams. (a) Cream DR. Principal ingredients: paeonol, oil of cloves; auxiliary materials: octadecanoic acid, glycerin monostearate, Glycerin, triethanolamine, potassium carbonate. (b) Cream TAEN. Principal ingredients: 10 mg g⁻¹ econazole nitrate, 1mg g⁻¹ Triamcinolone; auxiliary materials: albolene, glycerin, glycerin monostearate, glyceride distearate, hexadecanol, liquid paraffin, benzoic acid, polyacetylene (40) stearate, EDTA, butylated hydroxytoluene, water. (c) Cream HB. Principal ingredients: 1mg/g hydrocortisone; auxiliary materials: glycerin, propanediol, geoline, octadecanol, liquid paraffin, peregol A – 20, citric acid, sodium citrate, ethylparaben, water.

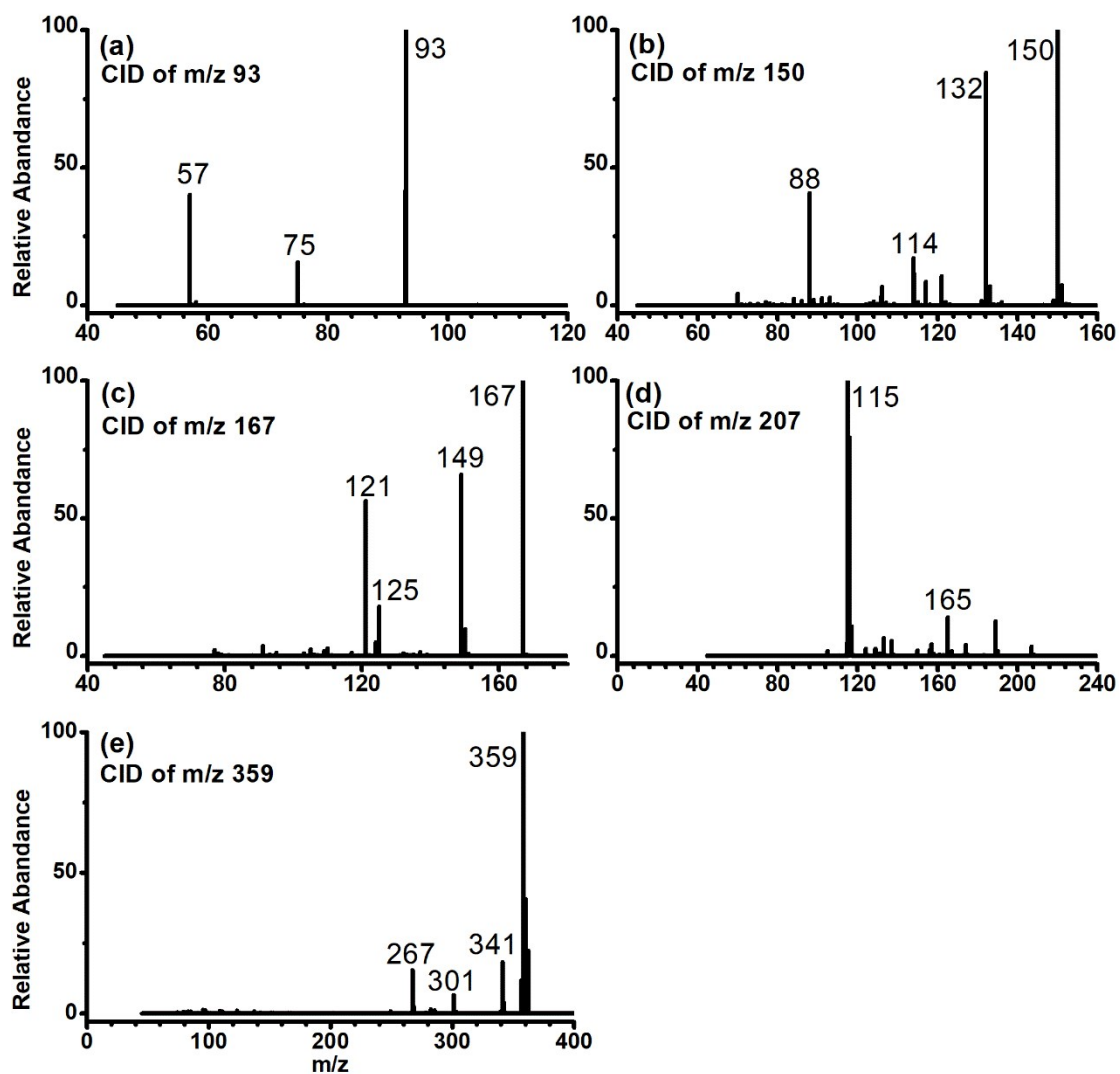


Fig. S2 Collision-induced dissociation (CID) spectra for five precursor ions using LIAD/ESI/MS for analysis of cream DR in positive mode. (a) m/z 93; (b) m/z 150; (c) m/z 167; (d) m/z 207; (e) m/z 359.

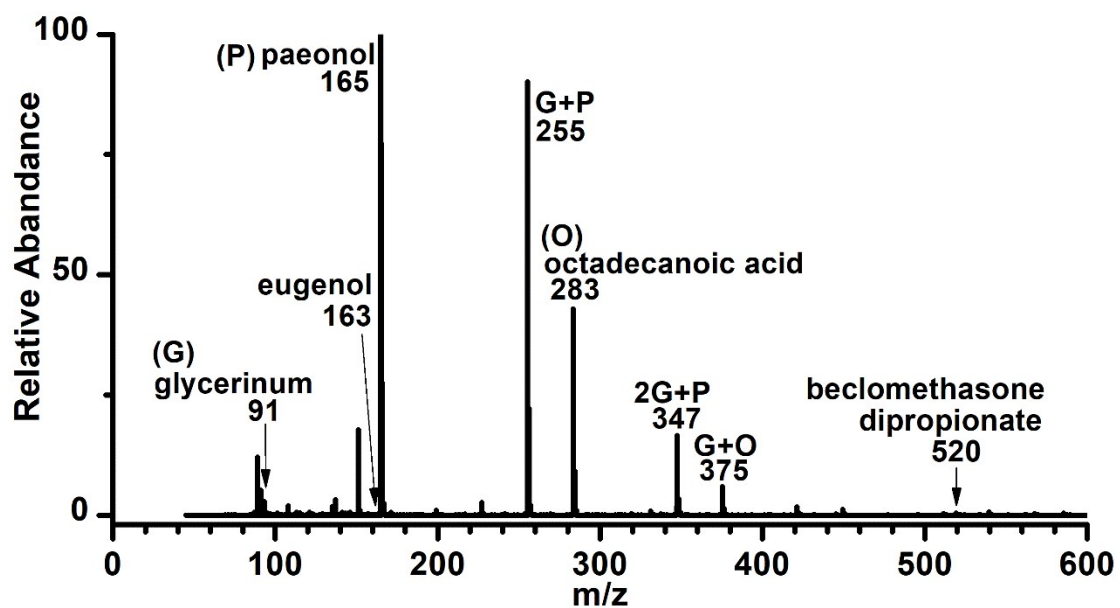


Fig. S3 Negative-ion LIAD/ESI mass spectrum of cream DR spiked with $50 \mu\text{g g}^{-1}$ dexamethasone 21-acetate and 1mg g^{-1} beclomethasone dipropionate performed on LIAD/ESI/MS. The absolute ion intensities of paeonol (m/z 165) is 1.83×10^7 Counts.

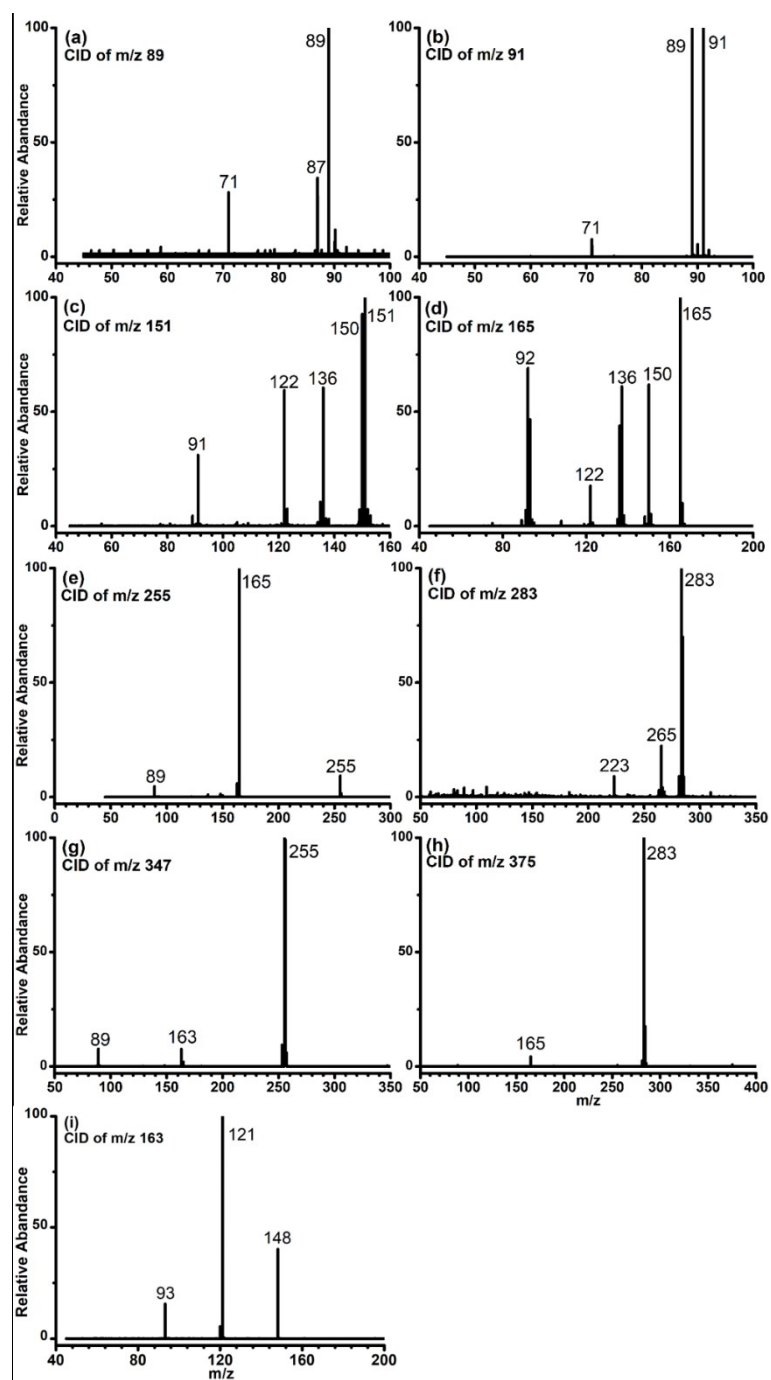


Fig. S4 Collision-induced dissociation (CID) spectra of nine product ions using LIAD/ESI/MS for analysis of cream DR in negative mode. (a) m/z 89; (b) m/z 91; (c) m/z 151; (d) m/z 165; (e) m/z 255; (f) m/z 283; (g) m/z 347; (h) m/z 375; (i) m/z 163.

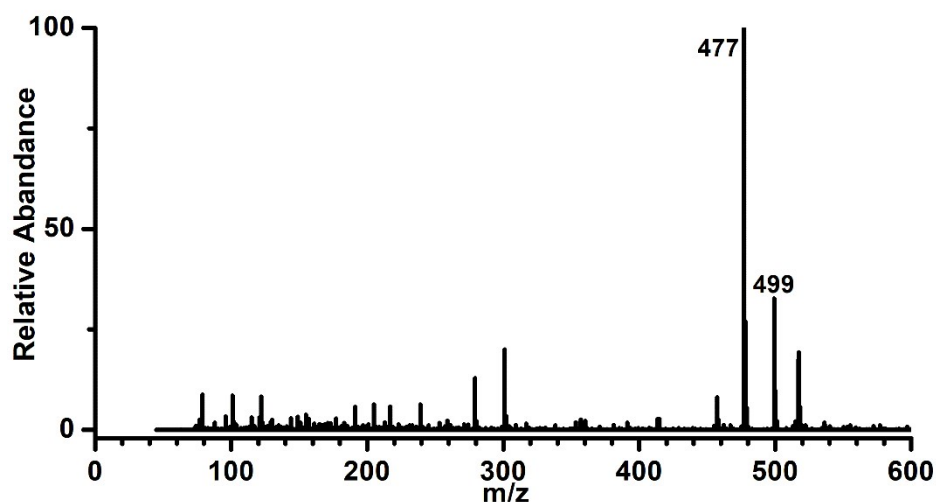


Fig. S5 Positive-ion LIAD/ESI mass spectrum of triamcinolone. Triamcinolone is dissolved in methanol to 1 mg ml⁻¹, then 30 μL of the standard solutions were deposited on the Ti foil. After drying, the foil was examined with LIAD/ESI/MS.

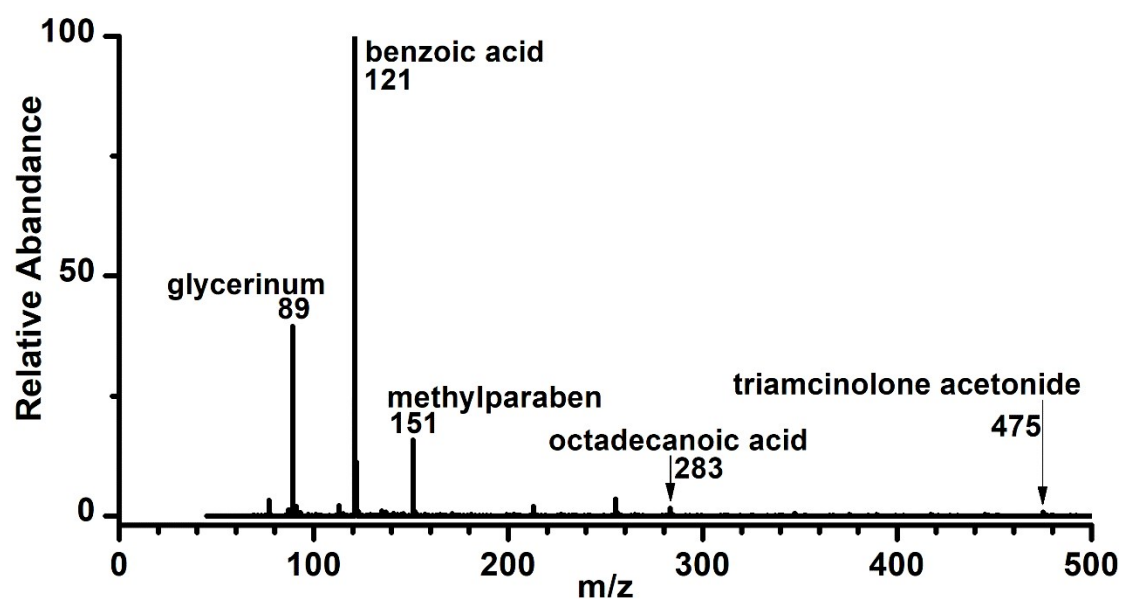


Fig. S6 Negative-ion LIAD/ESI mass spectrum of cream TAEN (triamcinolone acetonide 1 mg/g, econazole nitrate 10 mg/g). The absolute ion intensities of benzoic acid (m/z 121) is 1.84×10^7 Counts.

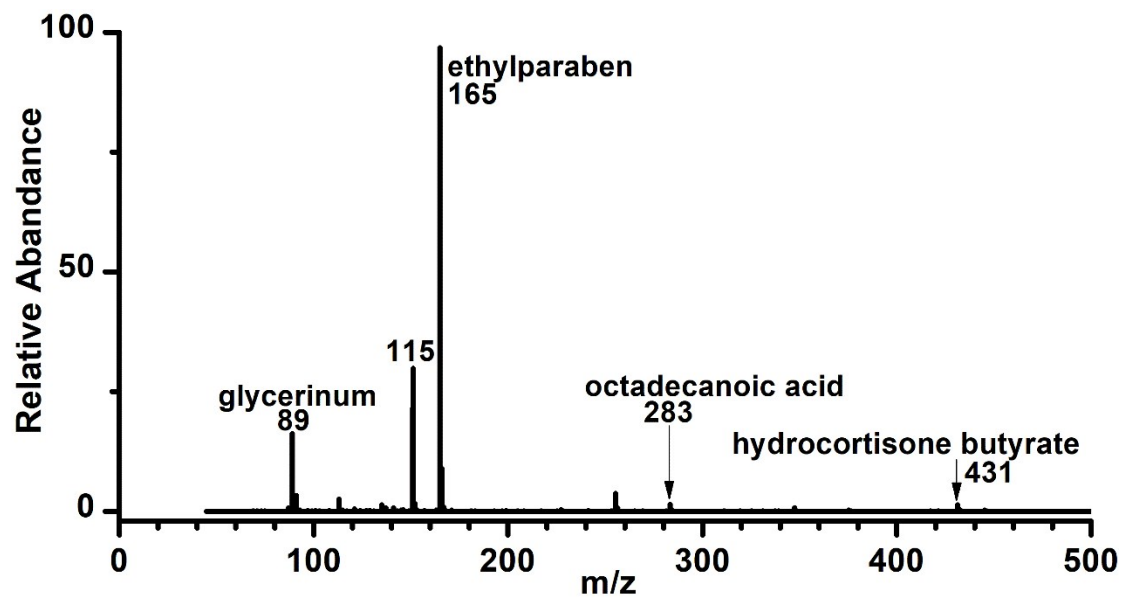


Fig. S7 Negative-ion LIAD/ESI mass spectrum of cream HB (Hydrocortisone Butyrate 1 mg g^{-1}). The absolute ion intensities of ethylparaben (m/z 165) is 3.0×10^6 Counts.