

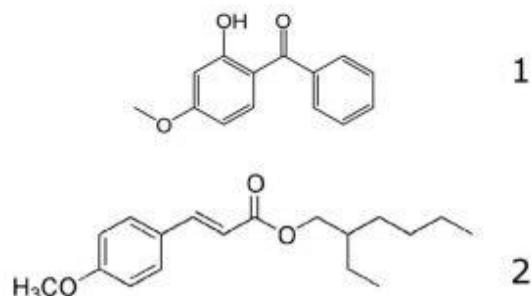
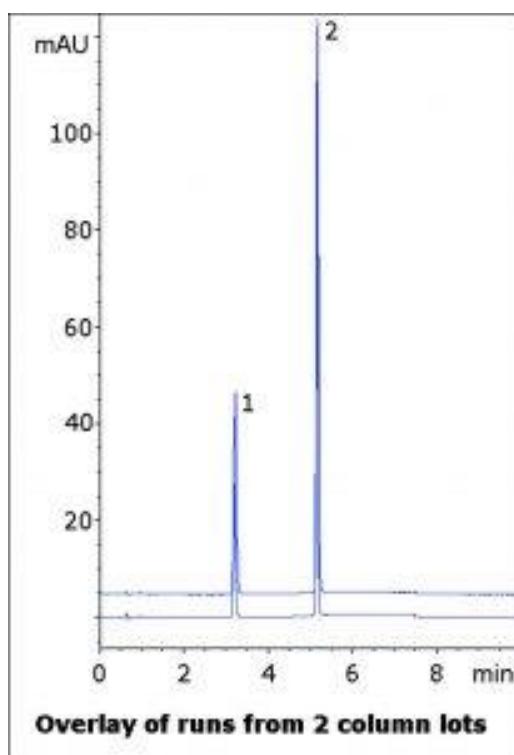


Oxybenzone and Octinoxate Analyzed by HPLC - AppNote

Separation of Two APIs in Chap Stick® Extract

This Method shows how two common ingredients found in sunscreens and lip balms can be separated. The two compounds are very hydrophobic, so a Mobile Phase Gradient with significant organic content was used in order to avoid excessive retention.

Likewise, a highly organic diluent should be used to adequately extract the compounds from the lip balm material. The *figure* below shows an overlay of two runs from different Column lots, demonstrating the robustness and precision of the Method.



Peaks:

1. Oxybenzone

Method Conditions

Column: Cogent Bidentate C18™, 4µm, 100Å

Catalog No.: 40018-75P

Dimensions: 4.6 x 75mm

Mobile Phase:

A: DI Water / 0.1% Formic Acid (v/v)

B: Acetonitrile / 0.1% Formic Acid (v/v)

Gradient:

Time (minutes)	%B
0	60
1	60
4	100
6	100
7	60

Temperature: 40°C

Post Time: 3 minutes

Injection vol.: 2µL

Flow rate: 1.0mL / minute

Detection: UV @ 288nm

Sample Preparation: 250mg of ChapStick containing 7.5% Octinoxate and 3.5% Oxybenzone was weighed in a 25mL volumetric flask and a portion of 90:10 Acetonitrile / DI Water was added. It was sonicated for 30 minutes and diluted to mark. Then a portion was filtered with a 0.45µm Nylon Syringe Filter (MICROSOLV Tech Corp.). The filtrate was diluted 1:10 for injections.

t₀: 0.9 minutes.

Note: These two compounds exhibit strong absorbance in the UV range, hence the wavelength of 288nm that was chosen. This behavior accounts for their use as sunscreen agents; UV radiation that is absorbed by the compounds is then prevented from reaching the skin and causing damage.



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