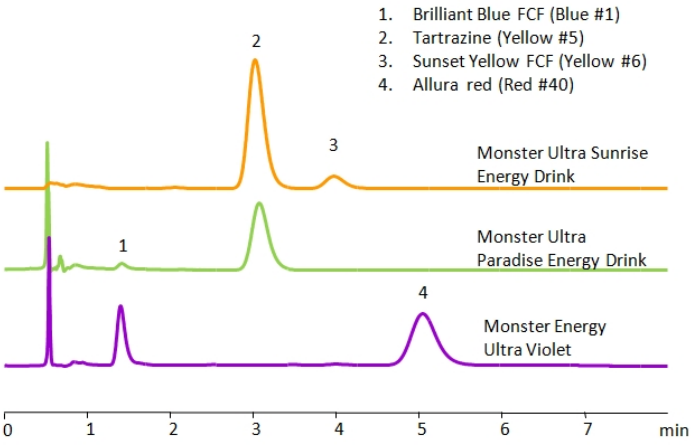
HPLC Method for Analysis of Brilliant Blue FCF Tartrazine, Sunset Yellow FCF and Allura Red in Monster Energy Drinks on Newcrom BH Column



Column:	Newcrom BH
Column size:	4.6 × 50 mm, 5 µm
Mobile phase:	MeOH/H2O – 75/25%
Buffer:	H2SO4 – 0.75%
Flow rate:	1 ml/min
Detection:	UV 400 nm

High Performance Liquid Chromatography (HPLC) Method for Analysis of Brilliant Blue FCF (Blue 1) , Tartrazine (FD&C Yellow 5) , Sunset Yellow (Yellow 6) , Allura Red (Red #40) .

Brilliant Blue FCF , also known as Blue 1 , is an compound classified as a triarylmethane dye. Dry, it has the appearance of a light-blue powder, but when dissolved in water, turns deeper blue.

Allura Red AC , also known as FD&C Red No. 40 , is a red azo dye that is the most commonly used red dye in the United States. It is used anywhere from tattoos to children's' medications to drinks and food. If used in food it also has the E number E129. Allura red is sold as a dark red sodium salt, but when dissolved in water, the solution appears orange-red.

Sunset Yellow FCF , also known as Orange Yellow S , C.I. 15985, or Yellow 6 , is a petroleum-derived orange azo dye. When in powder form, it is Reddish-orange, but when dissolved in water, the liquid becomes bright yellow.The dye is banned or restricted in Norway, Finland and Sweden.

Tartrazine is a yellow food coloring agent. It's a trisodium salt, and like many multi-charged molecules tends to exhibit significant tailing using reverse-phase HPLC columns.

By using a mixed-mode column, specifically designed in mind for multiple charges, Newcrom BH can retain and separate dyes with perfect peak shape using a mobile phase of methanol (MeOH) and water with sulfuric acid (H2SO4) to facilitate ion-exchange. UV detection at 400 nm.

You can find detailed UV spectra of Blue 1 and information about its various lambda maxima by visiting the following link.

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You can find detailed UV spectra of Red 40 and information about its various lambda maxima by visiting the following link.

You can find detailed UV spectra of Yellow 6 and information about its various lambda maxima by visiting the following link.

You can find detailed UV spectra of Yellow 5 and information about its various lambda maxima by visiting the following link.

Method Parameters

Column	Newcrom BH, 4.6 x 50 mm, 5 µm, 100 Å, dual ended
Mobile Phase	MeOH/H2O – 75/25%
Buffer	H2SO4 – 0.75%
Flow Rate	1.0 mL/min
Detection	UV 400 nm

Quelle: https://sielc.com/hplc-method-for-analysis-of-brilliant-blue-fcf-tartrazine-sunset-yellow-fcf-and-allura-red