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Ready-to-Use HPLC Applications - June 2020

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The aim of this project is to provide our customers with reasonably priced (25-100$), state-of-the-art HPLC approaches that can be used to develop the most cost-effective commercial HPLC methods easily and quickly.

Given HPLC solutions are optimized to be used with optical detectors (UV/Vis, RID, FLD). We can:

- optimize them to be used with evaporative (ELSD, MS) detectors,
- fine-tune method performance to meet your requirements, or
- develop the complete HPLC method based on the given application upon request.

Ready-to-Use HPLC Applications - June 2020

Contents

Document #022920-02.
Revision 01, 29 February 2020

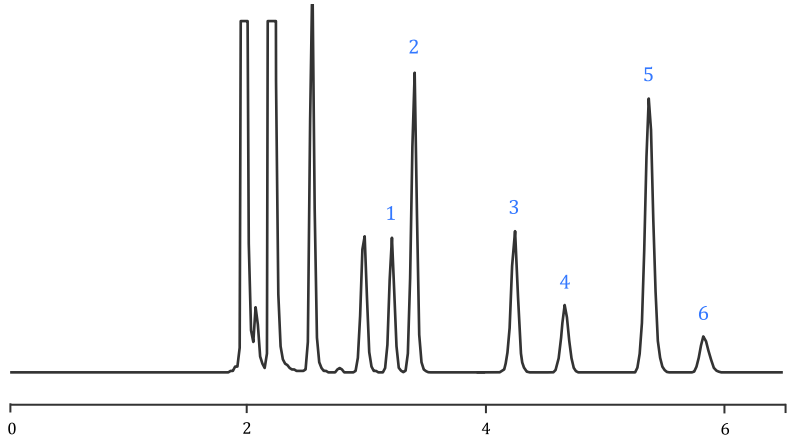
Simultaneous Specific Determination of Six Antihistamine Drugs Using Isocratic HPLC-UV

The method is intended for the highly selective determination of six anti-histamine drugs in various pharmaceutical and biological samples using simple isocratic 400 bar HPLC system with a conventional UV detector.

The method is capable to determine antihistamines in complex matrices that contain any neutral or acidic matrix compounds, as well as various basic compounds like drotaverine, dextro-methorphan, phenylephrine, etc.

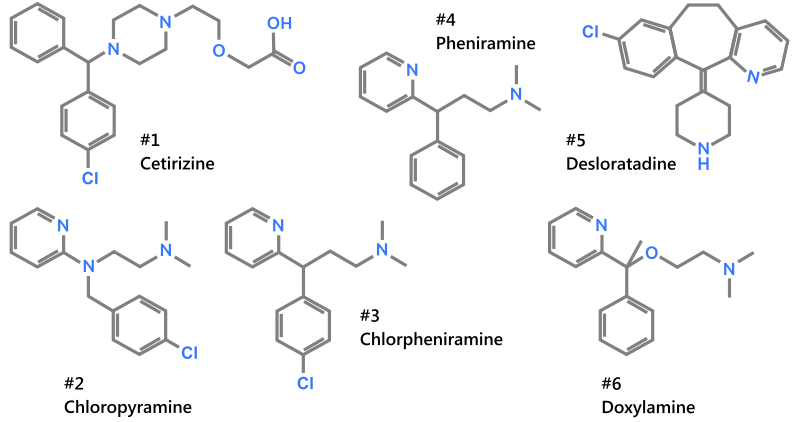
Chromatogram

Figure 1. Specific determination of six antihistamines. Sample: mixture of six medications; each of them contains one of the analytes. Detection: UV 260 nm.



Analytes

1. Cetirizine, **2.** Chloropyramine, **3.** Chlorpheniramine, **4.** Pheniramine, **5.** Desloratadine, **6.** Doxylamine



Document #030120-03.
Revision 01, 01 March 2020

Simultaneous Specific Determination of Five Fluoroquinolone Antibiotics Using Isocratic HPLC-UV

The method is intended for the highly selective determination of five fluoroquinolone antibiotics (sparfloxacin, enrofloxacin, ofloxacin, ciprofloxacin, norfloxacin) in various pharmaceutical and biological samples using simple isocratic 400 bar HPLC system with a conventional UV detector.

The method is capable to determine fluoroquinolone antibiotics in complex matrices that contain any neutral or basic matrix compounds.

Chromatogram

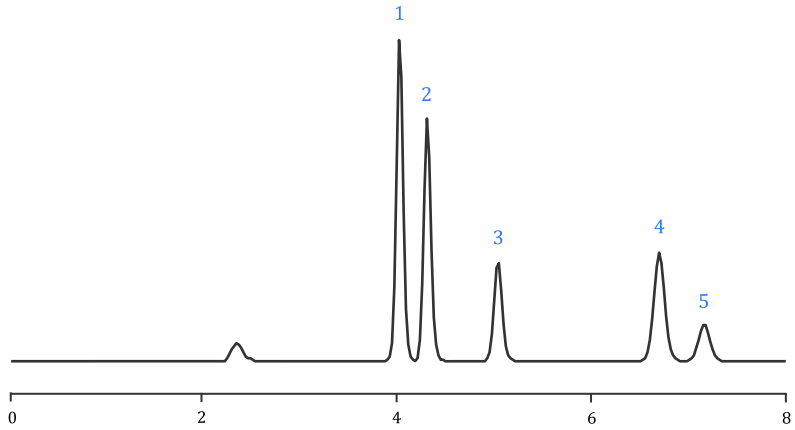
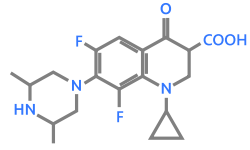


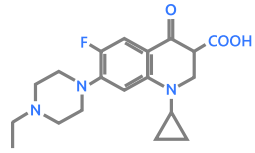
Figure 1. Specific determination of five fluoroquinolone antibiotics.
Detection: UV 290 nm

Analytes

1. Sparfloxacin, **2.** Enrofloxacin, **3.** Ofloxacin, **4.** Ciprofloxacin, **5.** Norfloxacin



#1
Sparfloxacin



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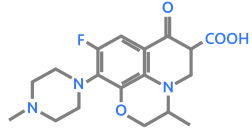
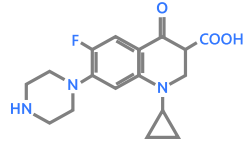
Enrofloxacin



#3
Ofloxacin



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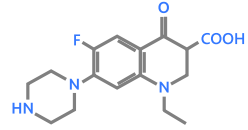
Cyprofloxacin



#5
Norfloxacin

Document #030320-04.
Revision 01, 03 March 2020

Simultaneous Isocratic Determination of Five Nonsteroidal Anti-Inflammatory Drugs (NSAIDs) Using HPLC-UV

The method is intended for the isocratic determination of five nonsteroidal anti-inflammatory drugs (acetylsalicylic acid, ketoprofen, naproxen, ibuprofen, ketorolac) in various pharmaceutical and biological samples using simple isocratic 400 bar HPLC system with a conventional UV detector.

Chromatogram

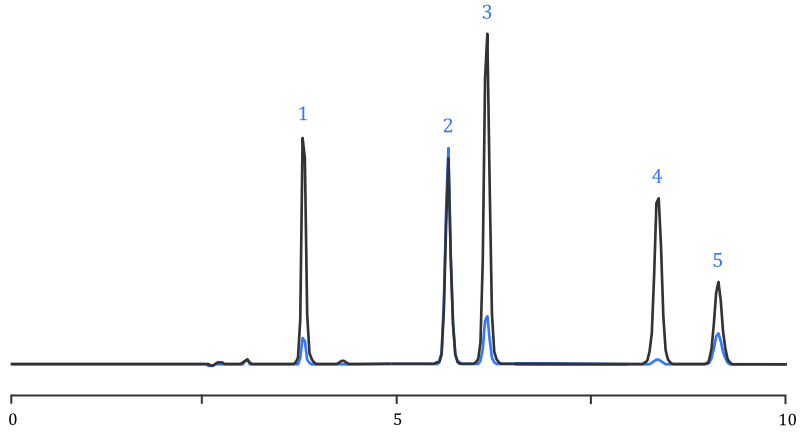
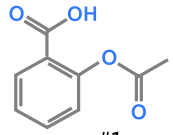


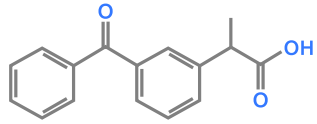
Figure 1. Isocratic determination of five nonsteroidal anti-inflammatory drugs. Detection: UV 215 nm, 260 nm

Analytes

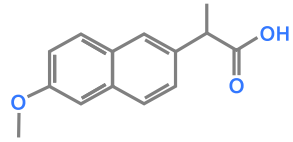
1. Acetylsalicylic acid, **2.** Ketoprofen, **3.** Naproxen, **4.** Ibuprofen, **5.** Ketorolac



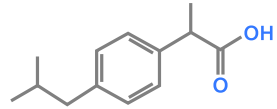
#1
Acetylsalicylic acid



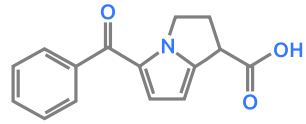
#2
Ketoprofen



#3
Naproxen



#4
Ibuprofen



#5
Ketorolac

Document No. 030320-05. Revision 01, 03 March 2020

Simultaneous Isocratic Determination of Three Lipid-Lowering Drugs Using HPLC-UV

The method is intended for the isocratic determination of three lipid-lowering drugs (rosuvastatin, bezafibrate, atorvastatin) in various pharmaceutical and biological samples using simple isocratic 400 bar HPLC system with a conventional UV detector.

Chromatogram

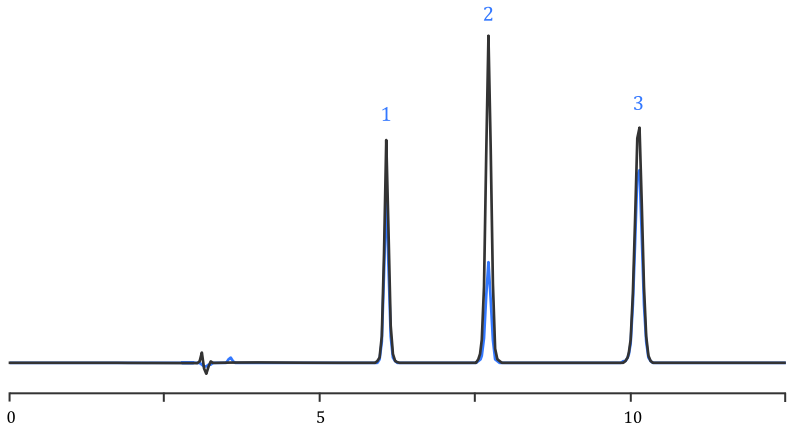
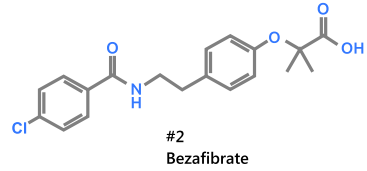
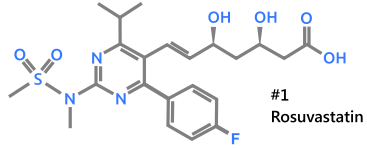


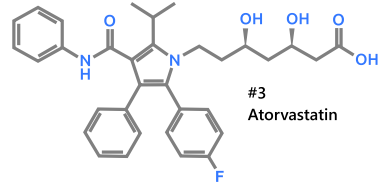
Figure 1. Isocratic determination of three lipid-lowering drugs.
Detection: UV 215 nm + 260 nm

Analytes

1. Rosuvastatin, **2.** Bezafibrate, **3.** Atorvastatin







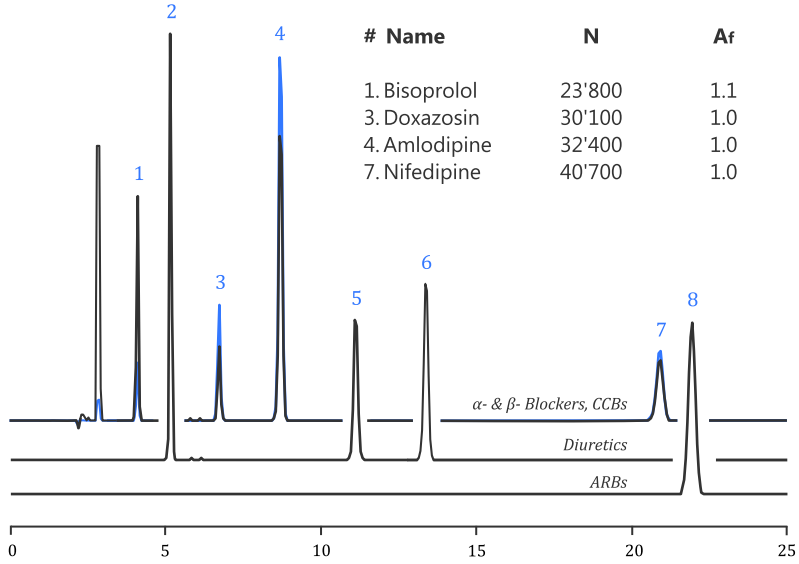
Document #030420-06.
Revision 01, 04 March
2020

Simultaneous Isocratic Determination of Eight Antihypertensive Drugs Including Alfa & Beta Blockers, CCBs, ARBs And Diuretics Using HPLC-UV

The method is intended for the isocratic determination of eight antihypertensive drugs including alfa & beta blockers, CCBs, ARBs and diuretics (bisoprolol, hydrochlorothiazide, doxazosin, amlodipine, furosemide, indapamide, nifedipine, valsartan) in various pharmaceutical and biological samples using simple isocratic 400 bar HPLC system with a conventional UV detector.

Chromatogram

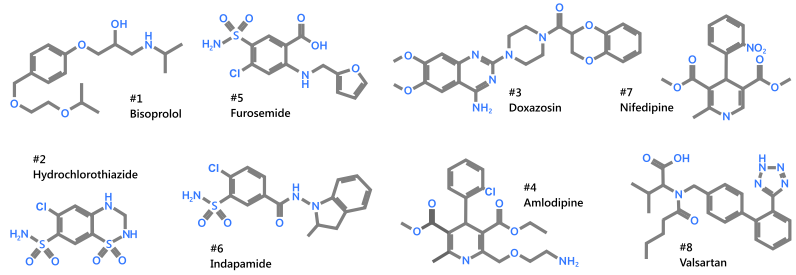
Figure 1. Isocratic determination of eight antihypertensive drugs including alfa & beta blockers, CCBs, ARBs and diuretics.
Detection: UV 225 nm + 235 nm



#	Name	N	Af
1.	Bisoprolol	23'800	1.1
3.	Doxazosin	30'100	1.0
4.	Amlodipine	32'400	1.0
7.	Nifedipine	40'700	1.0

Analytes

1. Bisoprolol, **2.** Hydrochlorothiazide, **3.** Doxazosin, **4.** Amlodipine, **5.** Furosemide, **6.** Indapamide, **7.** Nifedipine, **8.** Valsartan



Document #030820-07.
Revision 01, 08 March 2020

Simultaneous Isocratic Determination of Eight Drugs in Cough & Cold Preparations That Include Acetaminophen & Caffeine Using HPLC-UV

The method is intended for the isocratic determination of eight drugs (phenylephrine, acetaminophen, pseudoephedrine, metamizole, codeine, guaifenesin, caffeine, phenobarbital) in in cough & cold preparations using simple isocratic 400 bar HPLC system with a conventional UV detector.

Chromatogram

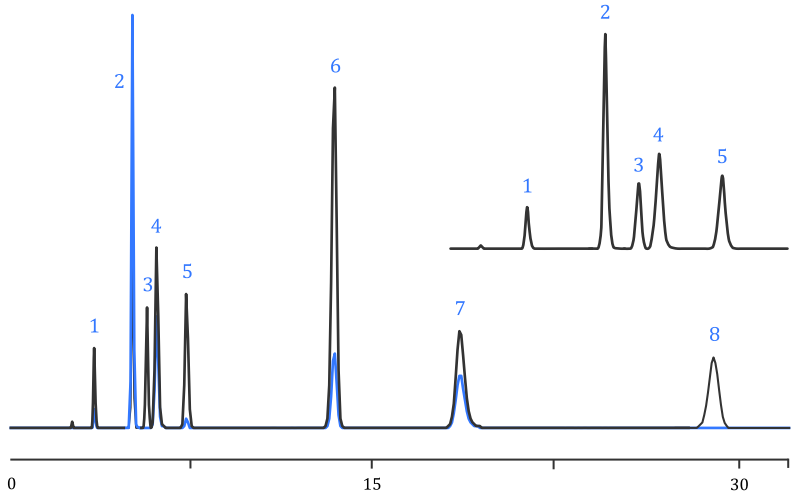
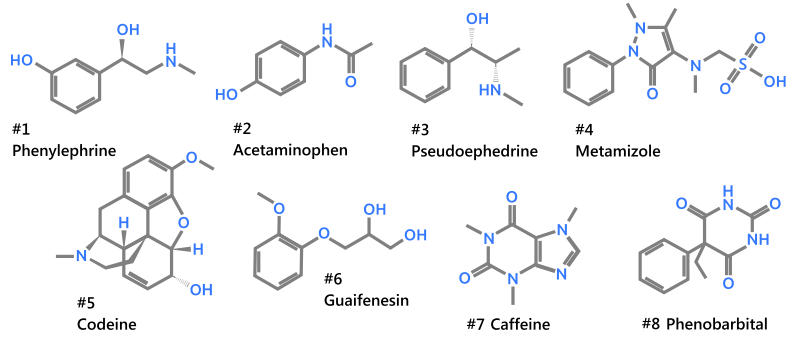


Figure 1. Isocratic determination of eight drugs in cough & cold preparations.
Detection: UV 215 nm + 280 nm

Analytes

1. Phenylephrine, **2.** Acetaminophen, **3.** Pseudoephedrine, **4.** Metamizole, **5.** Codeine, **6.** Guaifenesin, **7.** Caffeine, **8.** Phenobarbital



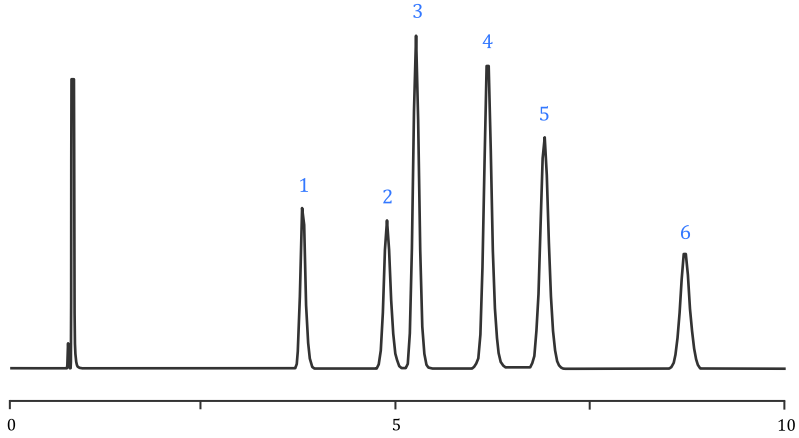
Document #030820-08.
Revision 01, 08 March 2020

Simultaneous Isocratic Determination of Five Catecholamines and Serotonin Under Soft Conditions Using HPLC-UV

The method is intended for the isocratic determination of five catecholamines (norepinephrine, epinephrine, dopamine, normetanephrine, metanephrine) and serotonin under soft conditions in various pharmaceutical and biological samples using simple isocratic 400 bar HPLC system with a conventional UV detector.

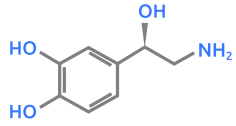
Chromatogram

Figure 1. Isocratic determination of five catecholamines and serotonin.
Detection: UV 215 nm

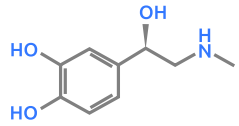


Analytes

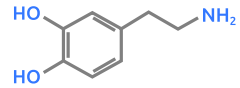
1. Norepinephrine, **2.** Epinephrine, **3.** Dopamine, **4.** Normetanephrine, **5.** Metanephrine, **6.** Serotonin



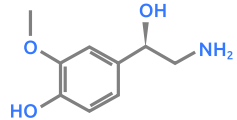
#1
Norepinephrine



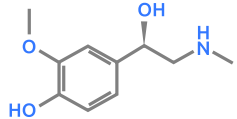
#2
Epinephrine



#3
Dopamine

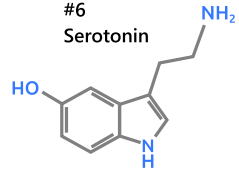


#4
Normetanephrine



#5
Metanephrine

#6
Serotonin



Document #031020-09.
Revision 01, 10 March 2020

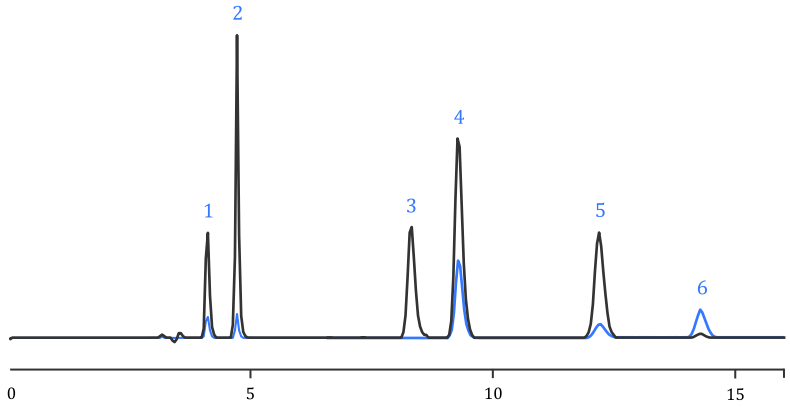
Simultaneous Isocratic Determination of Acesulfame, Succharine, Aspartame, Caffeine, Benzoic and Sorbic Acids In Non-Alcoholic Beverages, Beverage Concentrates & Syrups Using HPLC-UV

The method is intended for the isocratic determination of acesulfame, succharine, aspartame, caffeine, benzoic and sorbic acids in non-alcoholic beverages, beverage concentrates and syrups using simple isocratic 400 bar HPLC system with a conventional UV detector.

The method is capable to determine analytes in the presence of the most of synthetic dyes.

Chromatogram

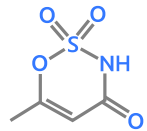
Figure 1. Isocratic determination of five catecholamines and serotonin.
Detection: UV 210 nm, 260 nm



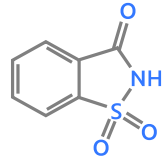
Analytes

1. Acesulfame, **2.** Succharine, **3.** Aspartame, **4.** Caffeine, **5.** Benzoic acid, **6.** Sorbic acid

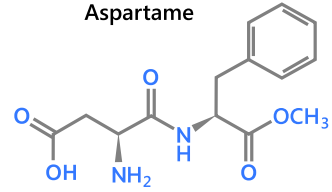
#1
Acesulfame



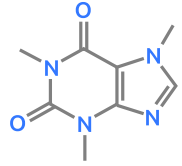
#2
Saccharine



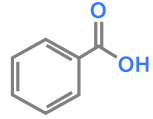
#3
Aspartame



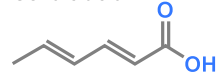
#4
Caffeine



#5
Benzoic acid



#6
Sorbic acid



Document #031020-10.
Revision 01, 10 March 2020

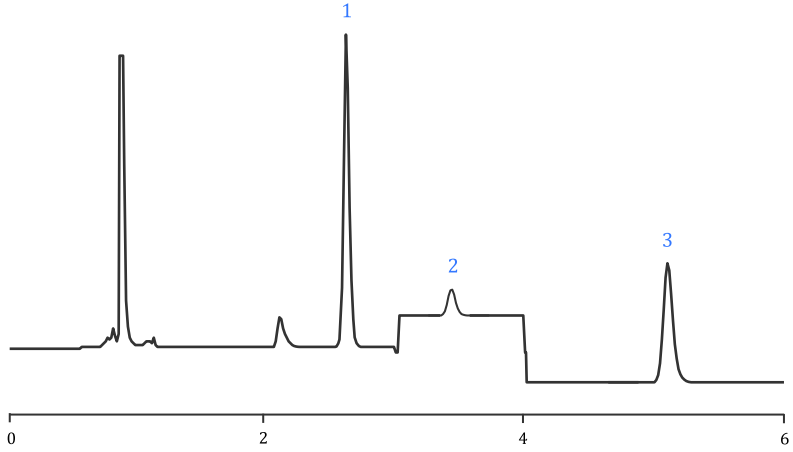
Simultaneous Specific Determination of Caffeine, Riboflavin & Pyridoxine in Non-Alcoholic Beverages, Beverage Concentrates and Syrups Using Isocratic HPLC-UV

The method is intended for the highly selective determination of caffeine, riboflavin & pyridoxine in beverage, beverage concentrate and syrup samples using simple isocratic 400 bar HPLC system with a conventional UV detector.

The method is capable to determine caffeine in complex matrices that contain water-soluble vitamins (C, B1, B3, B9), preservatives, natural and synthetic dyes, UV-absorbing flavoring agents (vanillin, ethylvanillin, benzaldehyde, etc.), natural compounds including hydroxybenzoic & hydroxycinnamic acids and aldehydes.

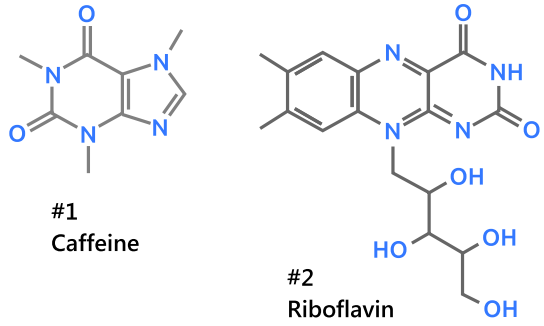
Chromatogram

Figure 1. Isocratic determination of caffeine, riboflavin, and pyridoxine in the beverage concentrate #1. Detection: 0-3 min UV 270 nm, 3-4 min UV 360 nm, 4-5.5 min UV 300 nm



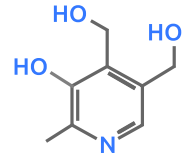
Analytes

1. Caffeine, **2.** Riboflavin, **3.** Pyridoxine



#1
Caffeine

#2
Riboflavin



#3
Pyridoxine

Document #031120-11.
Revision 01, 11 March 2020

Simultaneous Determination of Added Methionine, Threonine, and Lysine in Premixes Using Isocratic HPLC-RID

The method is intended for the isocratic determination of added methionine, threonine, and lysine in premixes using simple isocratic 400 bar HPLC system with a conventional RID detector.

Chromatogram

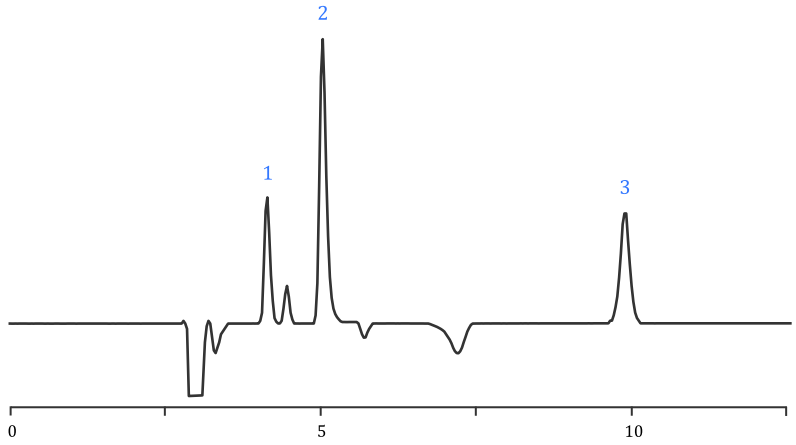
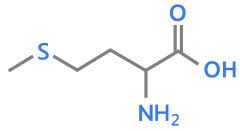


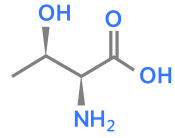
Figure 1. Isocratic determination of added methionine, threonine, and lysine in the premix sample #1. Detection: RID

Analytes

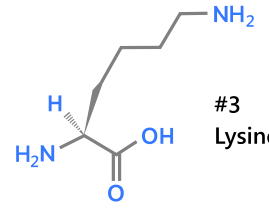
1. Methioine, **2.** Threonine, **3.** Lysine



#1
Methionine



#2
Threonine



#3
Lysine

Document #031120-12.
Revision 01, 11 March 2020

Simultaneous Isocratic Determination of Eight Organic Fruit Acids in Juices And Non-Alcoholic Beverages Using HPLC-UV

The method is intended for the isocratic determination of eight organic fruit acids in juices and non-alcoholic beverages using simple isocratic 400 bar HPLC system with a conventional UV detector.

Chromatogram

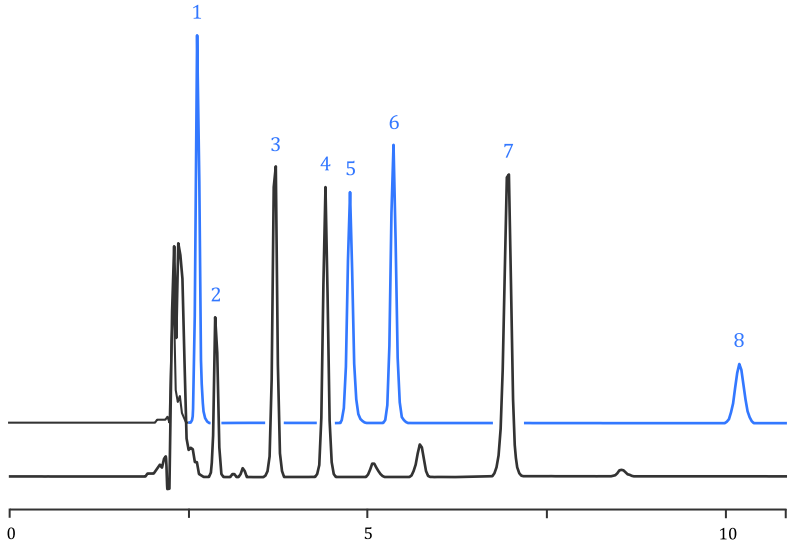
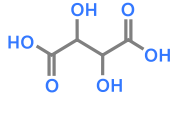


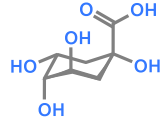
Figure 1. Isocratic determination of eight organic fruit acids.
Detection: UV 210 nm

Analytes

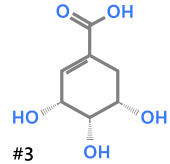
1. Tartaric acid, **2.** Quinic acid, **3.** Shikimic acid, **4.** Malic acid, **5.** Lactic acid, **6.** Acetic acid, **7.** Citric acid, **8.** Succinic acid



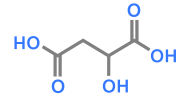
#1
Tartaric acid



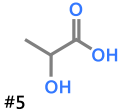
#2
Quinic acid



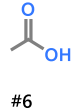
#3
Shikimic acid



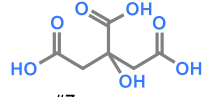
#4
Malic acid



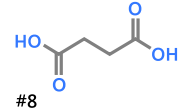
#5
Lactic acid



#6
Acetic acid



#7
Citric acid



#8
Succinic acid

Document #060420-13.
Revision 01, 04 June 2020

Simultaneous Isocratic Determination of Five Banned Azo Dyes in Juices, Wines And Non-Alcoholic Beverages Using HPLC-UV

The method is intended for the specific isocratic determination of five banned azo dyes in juices, wines, and beverages using simple isocratic 400 bar HPLC system with a conventional UV detector.

The method is capable to determine azo dyes in complex matrices that contain natural polyphenolic compounds including anthocyanes.

Chromatogram

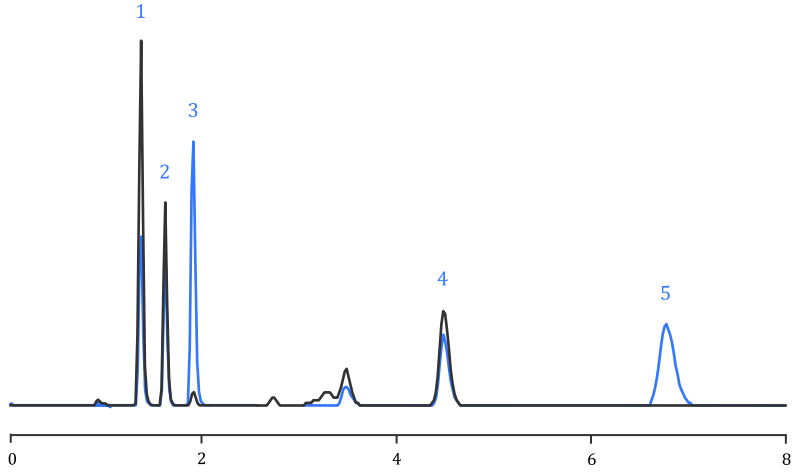
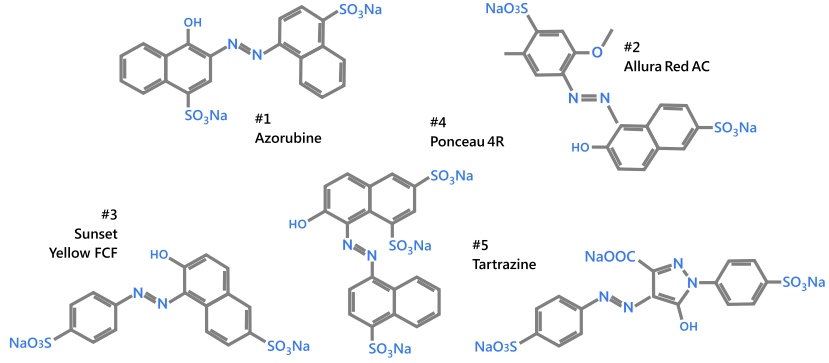


Figure 1. Isocratic determination of five banned dyes (added to cranberry juice used as the model matrix). Detection: UV 450, 550 nm

Analytes

1. Azorubine, **2.** Allura Red AC, **3.** Sunset Yellow FCF, **4.** Ponceau 4R, **5.** Tartrazine



Document #060420-14.
Revision 01, 04 June 2020

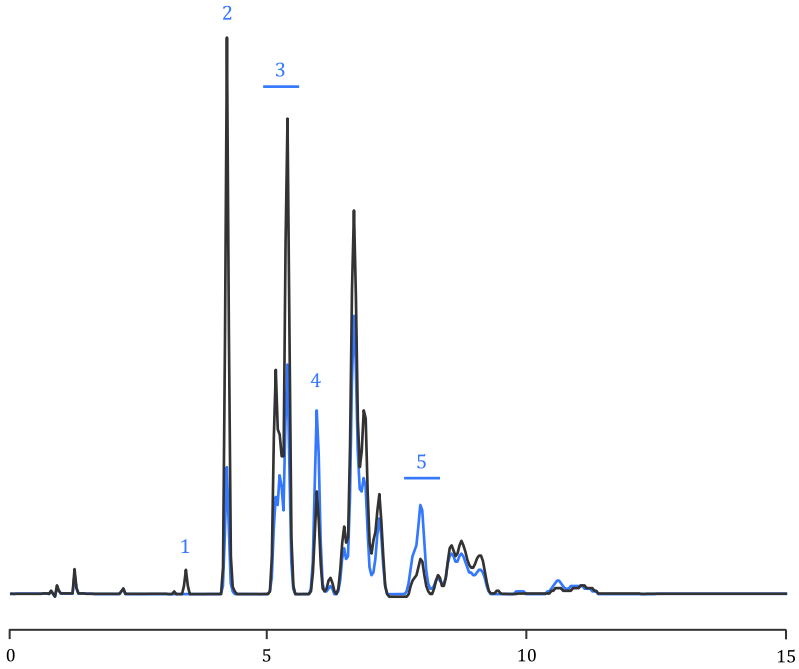
Simple Test for Gasoline Adulteration Detection Using HPLC-UV

The method is intended for gasoline adulteration detection using simple isocratic 400 bar HPLC system with a conventional UV detector.

The method is capable to determine benzene, toluene, naphthalene, sum of xylenes and ethylbenzene, and the sum of methyl naphthalenes in the presence of gasoline additives.

Chromatogram

Figure 1. Specific isocratic analysis of gasoline aromatic compounds .
Detection: UV 210 nm, 220 nm



Analytes

1. Benzene, **2.** Toluene, **3.** Sum of Xylenes & Ethylbenzene, **4.** Naphthalene, **5.** Sum of Methyl Naphthalenes.

Document #060420-15.
Revision 01, 04 June 2020

Simultaneous Isocratic Determination of Eight Cannabinoids Using HPLC-UV

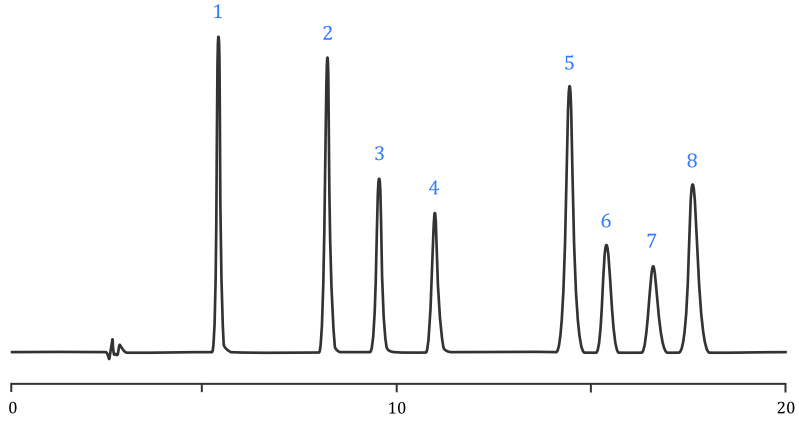
The method is intended for the isocratic determination of eight cannabinoids in hemp extracts and hemp oil using simple isocratic 400 bar HPLC system with a conventional UV detector.

The distinguishing features of the method are:

- more RP-like elution order of CBDA (#1) and THCA (#2);
- high tolerance to overloading by CBDA and THCA;
- excellent separation of TCH8 and THC9 unachievable with the use of any other commercial or compendial HPLC method.

Chromatogram

Figure 1. Isocratic determination of eight cannabinoids.
Detection: UV 225 nm



Analytes

1. CBDA, **2.** THCA, **3.** CBN, **4.** CBC, **5.** CBD, **6.** THC8, **7.** THC9, **8.** CBG