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BONNA-AGELA TECHNOLOGIES



Flash Chromatography

- CHEETAH™ Flash Purification System
- FLEXA™ Modular Purification Components

Better Solutions for Chromatography

ABN:ZL-03106



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About Bonna-Agela Technologies



Bonna-Agela Technologies Inc. is a separation technology company that serves chemists and biochemists in the field of drug discovery, food analysis, environmental analysis and chemical research. We offer a full line of products designed to meet your separation and purification needs from bulk separation media, chromatography columns and SPE cartridges to purification instruments.

Bonna-Agela Technologies conduct business in North America, Asia and Europe. We sell our products to end users, distributors and OEM partners. Because of our unique business structure and superior production process, we are able to provide products of the highest quality at very competitive prices. We are also very proud of our full support for customers' applications, and we are willing to customize our products to meet any specific requirement of our customers. We are here to assist you in choosing the most appropriate technique and products for your separation needs. Our expertise in separation and unmatched business flexibility make us a very favorable source of collaboration for many customers in hopes to meet their specific needs.

Purification Products

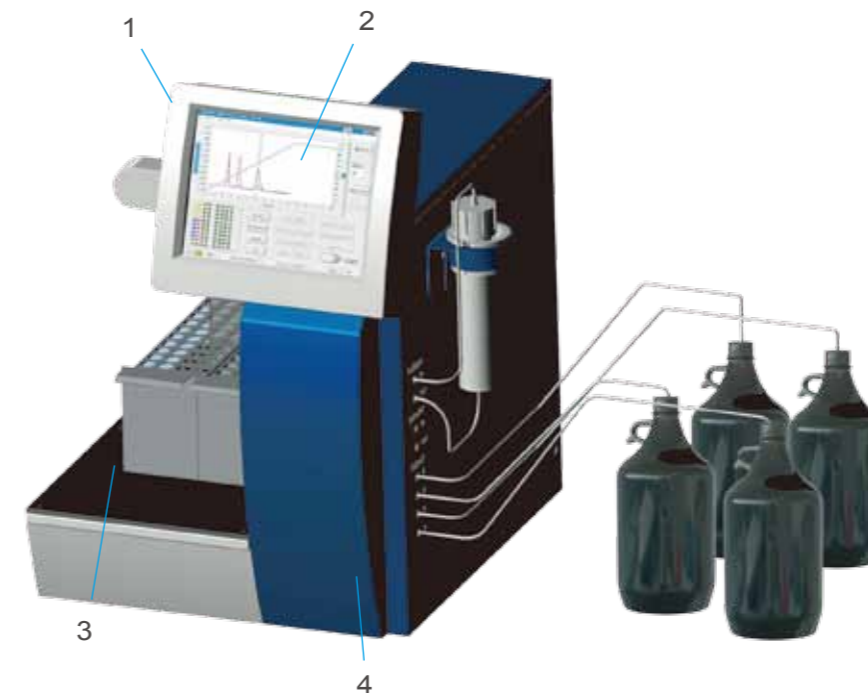
- ◆ **CHEETAH™ Purification Products**
CHEETAH™ MP Series Purification Systems
CHEETAH™ HP Series Prep HPLC
CHEETAH™ Software
- ◆ **FLEXA™ MP Modular Purification Components**
Pumps
Detectors
Fraction Collector
PC Based Control System
- ◆ **FLEXA™ HP Modular Purification Components**
Pumps
Detectors
Fraction Collector
- ◆ **Accessories**
Auto Sampler
Column Switcher
cMS
ELSD
RI
Column Heater

CHEETAH™ MP Series Purification Systems

Bonna-Agela Technologies introduce CHEETAH™ MP Series preparative chromatography system to significantly improve the throughput of purification in synthetic and natural product chemistry. CHEETAH™ MP Series are designed to automate purification process with online peak detection and fraction collection. The series include two platforms, CHEETAH™ MP 100 and MP 200 with different flow capacities. The systems are a revolutionized replacement of traditional column chromatography.

Features

- ◆ User-friendly interfaces
- ◆ Binary or quaternary gradient elution
- ◆ Built-in method conversion from TLC Rf values to column gradient
- ◆ Fraction management: All/Volume, Knee Point, Slope, Threshold or Time Windows



1. Centered control of purification with 12.1 inch touch screen computer
2. Dual UV wavelength detection and monitoring and peak-to-tube tracking
3. Oxidized coating to avoid solvent corrosion
4. Integrated design for convenient bench-top operation



Specifications

CHEETAH MP				
MP 100	FS-8200T	FS-8204T	FS-8200S	FS-8204S
MP 200	FS-9200T	FS-9204T	FS-9200S	FS-9204S
Solvent Delivery Pump	Binary	Quaternary	Binary	Quaternary
	CHEETAH MP 100: Max.Flow Rate: 100 mL/min; Max. pressure: 200 psi CHEETAH MP 200: Max.Flow Rate: 200 mL/min; Max. pressure: 200 psi			
Solvent Management	Leakage alarm, usage tracking, solvent backpressure monitoring and waste alarm.			
Gradient	Linear or step or linear/step elution with on-the-fly editing feature			
Detector	Wavelength Range: 200-400 nm; Wavelength Accuracy: ±1 nm; Absorbance Range: ≤5 AU		Wavelength Range: 200-800 nm; Wavelength Accuracy: ±1 nm; Absorbance Range: ≤5 AU	
	UV-Vis / Dual variable wavelength detector(VWD) - (Standard) / PDA (Optional) Compatible with other detector such as ELSD and RI/MS			
Light Source	Deuterium Lamp (200-400 nm) and Deuterium-tungsten lamp (200-800 nm)			
System Control	CHEETAH™ purification software: Integral instrument control, data acquisition and fraction collection management Microsoft XP operating platform Computer: 2 GB memory, 12.1 inch touch screen, Processor: 1.6 GHz System can be control by PC through LAN			
Collector	13, 15, 18 or 25 mm tube; and 100mL round-bottomed flask; and self defined coordinates for customized collection, No-Limit collection volume; Large volume collection.			
Dimensions	59.33 × 60.2 × 69.52 cm			
Weight	60 kg			
Power	110 V/220 V, 50/60 Hz, 360 w			
Certifications	CE certified & ISO Certified			

Functions

	Description
Co-solvent	In Quaternary system, a co-solvent can be added any time during the run (as a fixed or user set percentage) to avoid sample precipitation during purification.
Column History	In built feature in method tab to select column size and stationary phase according to method requirement, this feature enables in all column format like pre-pack, empty or glass columns of Agela make and other manufacturer also.
System protection	Built-in tracking of system backpressure. Alarm will be triggered if pressure exceeds maximum setting to protect the system
LAN Function	Can be remote access of system via LAN communication
Multi Detector Option	System has a facility to attach with second detector externally like ELSD (Evaporative Light-scattering), RI(Refractive Index), MS(Compact Mass Spectrometer)} of Agela or third party make.
Compatibility	Compatible with any make flash columns available in the market such as disposable and glass columns starting from 4 gm to 1500 gm pre-pack or empty columns depending on sample nature and stationary phase. System is compatible with maximum stationary phases from Agela or other manufacturer like Standard Silica, Deactivated Silica, Reverse Phase (C18), Amide (HILIC), NH ₂ , C8, SAX, SCX, Alumina Neutral, Alumina Basic, Alumina Acidic, AQ C18, Spherical Silica with particle size of 40 - 60um and 20-45um with customize scalability.
System Washing	Washing Step can be added during gradient setting for automated system washing at the end of run according to column size and chemistry (like Pre-pack, Reusable or Glass columns)
Loading Capacity	Delivers a wide range of sample loading facility from 0.1 gm to (Depending on the sample nature & Stationary phase)
Parameters Editing	Maximum parameters can be edited during run like Flow rate, Collection volume, Collection or fractionation mode, Solvent composition.
Initial Waste	This function is used to directly discharge any left-over fluid from previous experiment to the first test tube known waste to avoid any carryover of fluid or cross contamination to concurrent experiment.



Column Holder



Injector



Features of MP100/200 flash system

MP100 or MP200 flash system uses a common software platform. Many of the features of the system are implemented via interaction of a user with the software. A typical list of the features is summarized in the following:

Fraction collection pattern

The movement of collecting head follows X, Y direction movement

Supported collecting vessel

13 mm (10 ml), 15 mm(18 ml), 18 mm(30 ml), 25 mm(70 ml), 100 ml round bottom flask or customized definition of collection.

Racks can be added or remove during the run

Large volume collection could achieve through rack infinite loop

Minimum No. of Fractions

Unlike other flash systems, CHEETAH™ series are particularly designed with no limit for collection volume for a given type of vessel for maximum flexibility to users . Minimum 192 fractions can be collected in a single run.

Fraction identification & Color coded fractionation

Fraction position and chromatogram are synchronized for easy fraction identification with coded color of fractions matching corresponding chromatogram

Intelligent control for fractions

Collection of fractions at both detection and monitoring wavelength to avoid missing of collection of a peak during purification and collection on all wavelengths between two selected wavelengths range (with PDA detector)

CHEETAH™ HP Series Prep HPLC

CHEETAH™ HP 100 is an automated high pressure preparative LC system from Bonna-Agela Technologies. It is an integrated system featuring binary gradient pump, UV detector and fraction collector. The maximum backpressure of the system is 20 MPa, and the max flow speed is 100 mL/min. The design of the system emphasized small footprint and simple operation. It is a solution to purify complex sample employing high-solutions columns packed with small particle media.

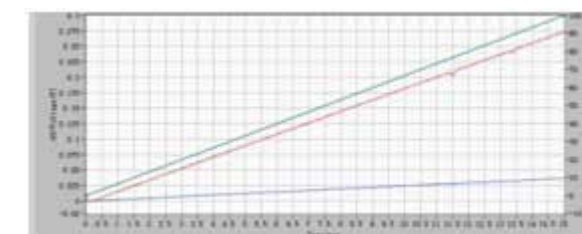
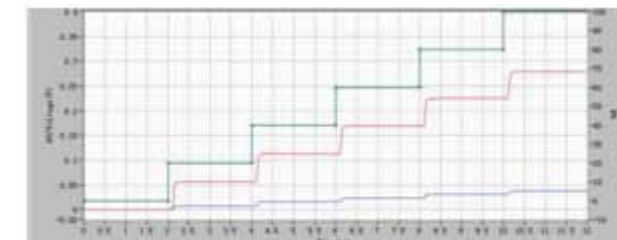
Main Features

- ◆ One point control via touch screen PC
- ◆ User friendly interfaces
- ◆ Dual wavelength detection/monitor via UV detector
- ◆ Intelligent fraction collecting: All/Volume, knee point, slope/threshold and time windows

Applications

- ◆ Purification of synthetic compounds
- ◆ Purification complex mixture of synthetic compounds
- ◆ Isolation of biopolymers such as peptides and nucleotides
- ◆ Separation of combichem arrays
- ◆ Purification of natural products

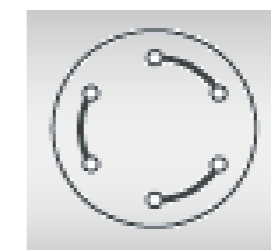
Pump



- ◆ Proprietary technology of cam compensation produces low delivery pulse
- ◆ Multiple-point calibration ensure accurate flow delivery
- ◆ Floating design of plunger extends lifetime of seals

Injection Valve

- ◆ 6 port manual valve
- ◆ 2 mL Loop (Standard), 1-10 mL is optional
- ◆ Max Pressure 5000 psi, 1/16" tubing



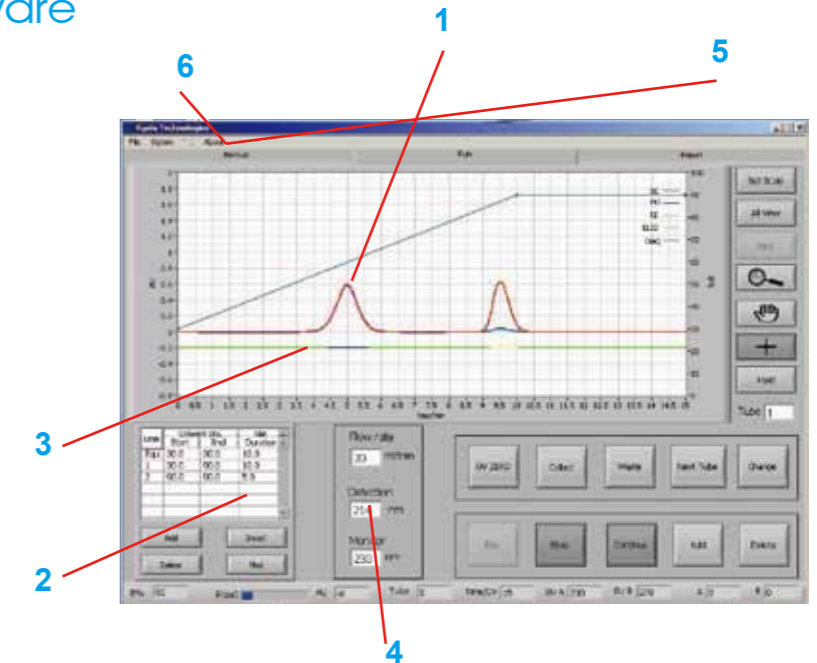


Specifications

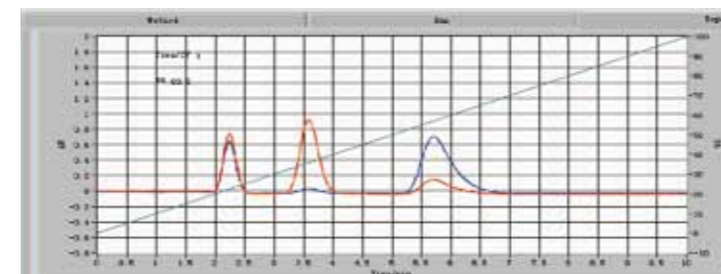
CHEETAH HP 100		
Cat. No	HS-1000	HS-1000S
Solvent Delivery Pump	Binary Flow Rate: 0.1-100.0 mL/min; Max. pressure: 20 MPa Increment: 0.1mL/min	
Detector	Wavelength Range: 200-400 nm Wavelength Accuracy: ± 1 nm; Absorbance Range: ≤ 5 AU	Wavelength Range: 200-800 nm Wavelength Accuracy: ± 1 nm; Absorbance Range: ≤ 5 AU
Control system	RAM 2 GB, Screen 12.1', remote control available	
Collection container	13, 15, 18 or 25 mm tube; and 100 mL round-bottomed flask customized test tube rack is available	
Collection mode	By peak, Volume/All, window, manual	
Safety	Leakage alarm, usage tracking and solvent backpressure monitoring, waste alarm	



CHEETAH™ Software



1. Dual-wavelength



The fraction can be collected under collection wavelength or monitoring wavelength. The difference of absorbance from the two channels can also be calculated.

2. Rapid Modification of Gradient Curve On Time

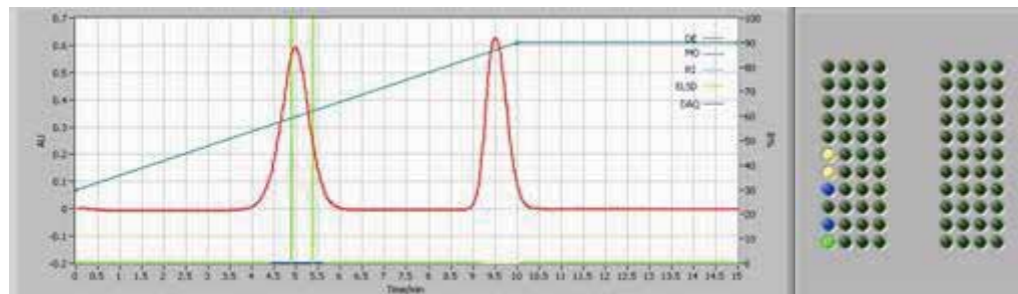
During a run, by a simple click, users can easily edit the running gradient profile.

Line	Solvent B% Start	Solvent B% End	Min Duration
Equ	30.0	30.0	10.0
1	30.0	90.0	10.0
2	90.0	90.0	5.0

Buttons: Add, Insert, Delete, Mod



3. Rapid seeking for the components



Fraction map and peak view are dynamically linked when click on either area or spot.

4. Various modes for collection and detection



Fraction can be collected through different way.

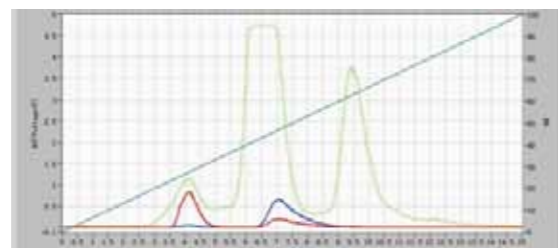
5. Direct Control of Collector by User

Definition of collection coordinates is accessible to users. Besides the default tubes, User can define coordinated for customized applications.



6. RI/ELSD

Built-in interface for RI and ELSD detectors for mass-type detection of compounds such as polysaccharides. The collection through a RI/ELSD detector is available.



FLEXA™ MP Series Modular Purification Components

Bonna-Agela Technologies offer a line of modular components for LC purification. The FLEXA™ series provide flexibility of choosing a customized system based on user's specification. The option includes a variety of stand-alone pumps, detectors, and PC based control unit.



Pumps

- ◆ Different Flow Options
- ◆ Back Pressure Setting and Display
- ◆ Current Flow Display
- ◆ Touch Pad Control and LCD Display



Mid-pressure

Catalog Number	FL-GP 100	FL-GP 200	*FL-GP030
Max Pressure	200 psi	200 psi	100 psi
Flow Range	1-100 mL/min	1-200 mL/min	0.1-30 mL/min
Flow Precision	±2 %	±2 %	±2 %
Gradient Precision	±1 %	±1 %	±1 %
Gradient Type	Binary	Binary	Binary
Gradient Range	0-100%	0-100 %	0-100%

* FL-GP030 is specialized for biocompounds

Detectors

- ◆ Different Wavelength Options
- ◆ Auto-Zero and Attenuation Function
- ◆ Optional Bio Flow Cell





	UV Detector	UV-Vis Variable Wavelength Detector	UV-Vis Variable Wavelength Detector; Biocompatible	UV Detector, Biocompatible
Catalog No	FL-UV2040	FL-UV2080	FL-UV2080B	FL-UV2040B
Wavelength	200-400 nm	200-800 nm	200-800 nm	200-400 nm
Channel	Dual-wavelength	Dual-wavelength	Dual-wavelength	Dual-wavelength
Range	≤5 AU	≤5 AU	≤5 AU	≤5 AU
Light Source	Deuterium lamp	Deuterium lamp Tungsten lamp	Deuterium lamp Tungsten lamp	Deuterium lamp
Auto Zero	By Digital			
Screen	320×240 Pixels			

Fraction Collector

- ◆ Stand-alone Operation
- ◆ Time/Volume based Triggering
- ◆ Choice of forced collection or waste vending
- ◆ Highlighted collecting position
- ◆ Customized definition of coordinates



Catalog No	FL-C100
Collecting Configuration	Preset for 13 mm, 15 mm, 18 mm, 25 mm tubes and 100 mL flask; self-configuration program available 15 mm test tube:100
Communication Port	RS 232
Collection Mode	By peak (threshold), volume; Forced collection and forced waste

PC Based Control System

A PC based control system is available to users for streamlined operation or automation.



Memory	2 GB
Screen	12.1", SVGA TFT LCD 1024×768 Pixels
CPU	Intel Atom™1.6 GHz
Graphics Card	Intel GMA950 224 MB

FLEXA™ HP Series Modular Purification Components

Bonna-Agela FLEXA™ series HPLC system is a flexible option for analytical or semi-preparative applications. The system is configured with binary gradient pumps, dual UV-Vis detector, injection valve and optional accessories.

- ◆ Dual Wavelength UV-Vis Detector
- ◆ Interchangeable Pump Head
- ◆ High Precision Gradient Mixing
- ◆ Low Noise and Low Drifting



Pumps

Catalog Number	HP-Q-P010	HP-Q-P050	HP-Q-P100
Max Pressure	42 MPa	30 MPa	20 MPa
Pump Head	316 L	316 L	316 L
Flow Rate	≤ 10 mL/min	≤ 50 mL/min	≤ 100 mL/min
Flow Precision	±0.5 %	±0.5 %	±1 %
Flow Repeatability	RSD ≤ 0.1 %	RSD ≤ 0.1 %	RSD ≤ 0.3 %

Catalog Number	HP-Q-P300	HP-Q-P600	HP-Q-P1000	HP-Q-P3000
Max Pressure	15 MPa	10 MPa	10 MPa	10 MPa
Pump Head	316 L	316 L	316 L	316 L
Flow Rate	≤ 300 mL/min	≤ 600 mL/min	≤ 1 L/min	≤ 3 L/min
Flow Precision	±1 %	±1 %	±1 %	±1.5 %
Flow Repeatability	RSD ≤ 0.5 %	RSD ≤ 0.5 %	RSD ≤ 0.5 %	RSD ≤ 1 %



Detectors

System Parameters	Description
Lamp	Deuterium lamp: 200 nm-400 nm Tungsten lamp: 400 nm-800 nm
Flow Cell	Analytical cell: 10 mm optical path and 10 µL dwell volume; Optional preparative cell available
Bandwith Resolution	±1 nm
Wavelength Accuracy	0.2 nm
Wavelength Range	200 nm-800 nm
Detection Range	≤5 AU
Baseline Noise	±0.5×10 ⁻⁵ AU/h; Methanol: water = 80:20 at 254 nm
Baseline Drift	1.5×10 ⁻⁴ AU/h; Dry Flow Cell; Room Temperature ±2 °C, 254 nm
Time constant	16 Levels
Signal	±2.0 V
Auto Zero	Full range
Power Supply	86-264 VAC, 50 Hz/60Hz, 80 W
Size	398×149×267 mm
GLP	System runtime; Serial number and Manufacturing date.

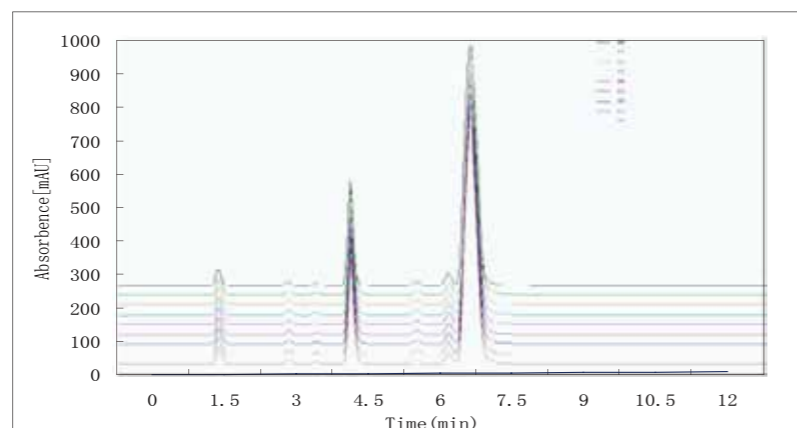
Fraction Collector

Refer to FLEXA™ MP Series Modular Purification Components: Fraction Collector.

Replicability of System Performance

No	1	2	3	4	5	6	7	8	9	RSD%
Retention Time	3.668	3.678	3.676	3.675	3.676	3.675	3.675	3.674	3.673	0.07%

Column: Venusil XBP C18, 4.6×250mm, 5µm
Mobile Phase: methanol
Flow Rate: 1.000mL/min
Wavelength: 254nm
Column Temperature: 30 °C



Reproducibility of Retention Time

Accessories

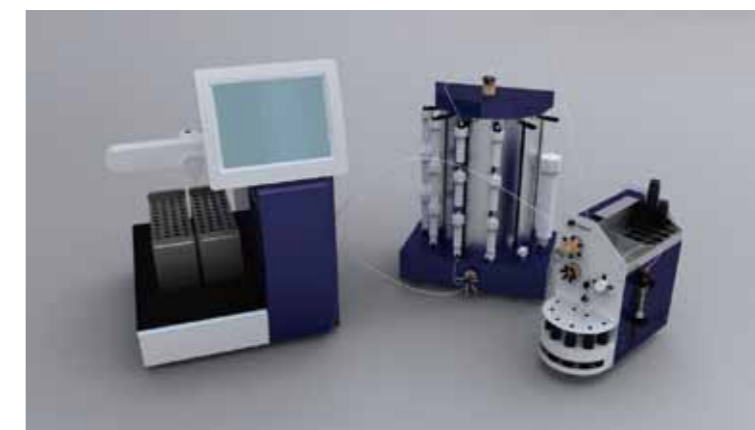
To make your purification more easy and efficient, different accessories are needed from sampler injection and detection.

Still purify your sample by hand?

Free yourself by choosing a fully automatic purification kit !

Just build a connection between

- ◆ ATS Auto-Sampler
- ◆ ACQ-06 Column Switcher
- ◆ CHEETAH™ System



Auto-sampler

ATS Auto-Sampler is an efficient product for sample injection, which provides fast and reliable purification by connected with a prep LC system.



- ◆ Zero Contamination
- ◆ Continuous Sampling (up to a thousand times)
- ◆ Excessive Large Sampling Volume
- ◆ Good Compatibility (Compatible with the purification system from most of the manufactures in the market)



Cat.No	TS-051
Sample channel	5
Cleaning channel	1
Sample loop	5 mL for Mid.pressure, 2 mL for high pressure
Single Sample Size	1-25 mL
Cleaning	Automatic/Manual
Language	Chinese/English
Temperature	20-35 °C
Size	361 × 208.5 × 344.4 mm (length × width × height)
Weight	11.4 kg
Power	110/220 VAC, 50 Hz/60 Hz

Column Switcher

ACQ-06 column switcher allows chemists to switch automatically from one column to another, without evaporating solvents. It also offers multi-stationary phases for a complete chromatography solution.

◆ Time Saving

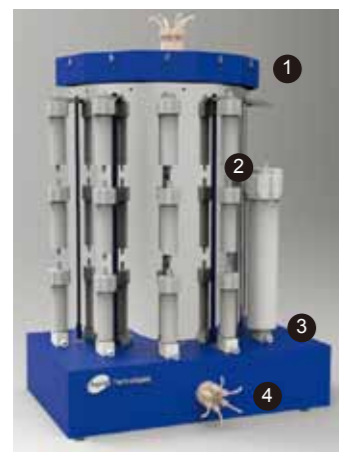
Start a new run by switching to a new column

◆ Efficient Purification

Further purification can be achieved through tandemed columns

◆ Good Compatibility

Compatible with the purification system from most of the manufacturers in the market



- 1 Indicator Lamps
Observe the status of the channels
- 2 Column Support
Suitable for columns of different specifications
Enable column tandem
- 3 Standard Adaptor
Compatible with flash columns from other manufacturers
- 4 Channel Switcher
Avoid cross contamination

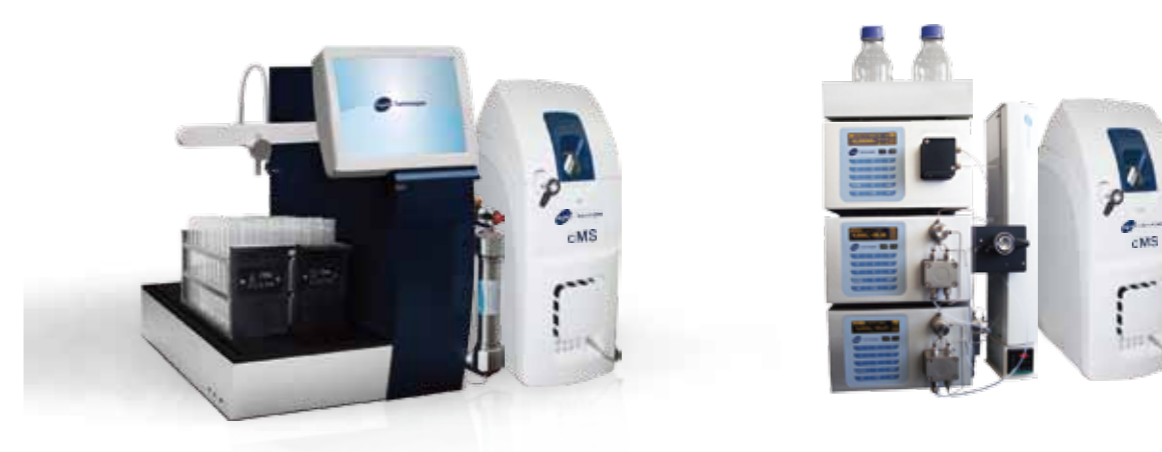
cMS - A flying wing for your purification solutions



- Ultra-slim size, could be placed into fume hood
- vacuum pumps with Low noise
- Atmospheric Pressure Ionization Interface
- Pump and source exhaust are bi-directional (left or right hand) to allow for optimal hood or bench location
- Ion Sources: ESI and APCI (Switchable with minimal effort)
- Support Flow Injection Reaction Monitoring (FIA/CMS)
- Multiple I/O interface
- Easy-to-use package
- Affordable price

Specifications

- Ion Sources: ESI and APCI (Switchable with minimal effort)
- Polarity: +ve and -ve ion in sequential analyses
- Atmospheric Pressure Ionization Interface: Patent-pending design reduces contamination, allows for small vacuum pumps and reduces size and cost
- Flow rate range: 10 µL/min to 500 µL/min (2:1 split if running at 1 ml/min LC flow rate)
- m/z Range: m/z 10 to m/z 1,200 (ideal for small molecules, natural products and small peptides)
- Acquisition rate: 5,000 m/z units/sec (compatible with UPLC)
- Resolution: 0.5-0.7 m/z units (FWHM) at 1000 m/z units/sec over entire acquisition range
- Sensitivity: 10 pg Reserpine (FIA - 5µL injection at 100 µL/min) 100:1 S/N (RMS) with SIM of m/z 609.28. 100 pg Reserpine (FIA - 5µL injection at 100 µL/min) 100:1 S/N (RMS) with Full-Scan acquisition from m/z 100 to m/z 1200.
- Accuracy: 0.1 m/z units over the entire acquisition range
- Stability: 0.1 m/z units over 12 hour period (59 °F to 75 °F (15 °C to 24 °C) operating temperature)





ELSD

The Evaporative Light Scattering Detector ZAM 4000 is an universal detector for HPLC. It is used to analyze components which do not have UV absorption, cannot be separated with an isocratic solvent and must use a gradient elution, which cannot be used with a refractive index detector. Only mobile phases without any buffers should be used.

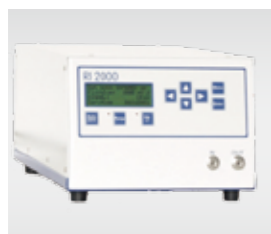
Cat.No	HP-ELSD4000
Light source	Tungsten lamp, photomultiplier
Temperature	Room temp. ~ 85 °C
Flow rate for Atomizing carrier gas	1.7 L/min
Required pressure	3~5 bar
Power-saving mode	programmed shut off of



RI

The RI 2000 Differential Refractive Index Detector series offers the sensitivity, stability and reproducibility required for optimal RI detection.

The thermal isolated optic with a countercurrent heat exchanger and with its programmable temperature control, results in an extremely stable baseline and an optimal Signal / Noise ratio.



Cat.No	HP-RI2000P
Flow range	1.0-50.0 mL/min
Flow cell volume	7 µL/5 °C angle
Pressure tolerance of flow cell	6 kg/cm ²
Dead volume	Into cell 88 or 353 µL
Liner range	0-20000 µRIU
Noise	10×10 ⁻⁸

CT-100-T Analytical Column Heater

Cat.No	CT-100-T
Temperature	Room temperature-100 °C
Accuracy for Temperature Measurement	±0.1 °C
Accuracy for Temperature Setting	±0.1 °C
Working Ambient temperature	-10-50 °C
Power:	220 VAC, 50/60 HZ
Weight	4 Kg
Dimensions (H × W × D)	(H × W × D)510 mm × 110 mm × 65 mm
Compatible Column Quantity and Length	2 × 300 mm



Claricep™ Flash Columns

Bonna-Agela's unique packing technique ensures the performance of the cartridge and good reproducibility.

The tubes made by polypropylene and Teflon materials guarantee the compatibility with various solvents. Our products are widely used with the advantages of high pressure and great performance.



Main Features:

- ◆ High Pressure Tolerance
- ◆ Complete Line of Chemistry and Column Sizes
- ◆ Consistent High Performance
- ◆ In-column Sample Loading Available

Specification	4 g	12 g	20 g	40 g	80 g	120 g	330 g
Cat. No	CS140004-0	CS140012-0	CS140020-0	CS140040-0	CS140080-0	CS140120-0	CS140330-0
Loading Capacity ΔCV=1	0.01- 0.02 g	0.03- 0.06 g	0.05- 0.1 g	0.1- 0.2 g	0.2- 0.4 g	0.3- 0.6 g	0.75- 1.5 g
Loading Capacity ΔCV=2 Ratio	0.02- 0.08 g	0.06 -0.24 g	0.1- 0.4 g	0.2- 0.8 g	0.4- 1.6 g	0.6- 2.4 g	1.5- 6.0 g
Loading Capacity ΔCV=6t	0.08- 0.4 g	0.24- 1.2 g	0.4- 2.0 g	0.8- 4.0 g	1.6- 8.0 g	2.4- 12.0 g	6.0- 33.0 g
Column Volume(mL)	8	24	40	80	160	240	600
Lowest Flow Rate(mL/min)	5	8	10	20	25	35	50
Highest Flow Rate(mL/min)	18	20	25	40	50	80	100
Pressure (PSI)	180						
Length (cm)	7.0	9.0	11.0	14.0	21.0	23.5	23.5
Diameter (cm)	1.5	2.1	2.6	3.1	3.2	4.1	5.7
Diameter / Height	4.7	4.3	4.2	4.5	6.6	5.7	4.1



Claricep™ Glass Columns

In addition to the pre-packed columns, glass columns are still used for the following reasons

- (1) re-usable: One column tube can be used many times, saving the cost.
- (2) good visibility: Separation bands are shown through glass column. The glass columns from Bonna-Agela Technologies have improved design featuring secured flange structure, higher pressure tolerance and solid sample loading accessories.

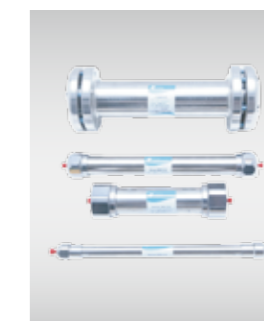
	Cat.No		Tolerance Pressure (bar)	ID (mm)	Length (mm)	40-60 μm (g)
	Flash Columns	HPLC Columns				
Glass Columns	G31015-1	G31015-2	50-40	15	310	45
	G46015-1	G46015-2	50-40	15	460	70
	G31026-1	G31026-2	40-30	26	310	130
	G46026-1	G46026-2	40-30	26	460	200
	G46036-1	G46036-2	40-30	36	460	350
	G31049-1	G31049-2	30-20	49	310	450
	G46049-1	G46049-2	30-20	49	460	650
Pre-separation column	YFLZ-2		40	26	100	45



HPLC Prep Columns

Bonna-Agela Technologies have a full line of preparative HPLC columns to meet a variety of application needs for customers.

- ◆ Great scalability
- ◆ Excellent bed stability
- ◆ High loading capacity
- ◆ Broad solvent compatibility, from 100% aqueous to 100% organic solvents (Unisol C18, Unisol Amide, and Venusil ASB C18)
- ◆ Broad pH range, 1.0-12.0 (Durashell)
- ◆ Unique selectivity (Unisol Amide and Venusil ASB C18)



ID (mm)	Sample Loading (mg)	Sample Loading (mL)	Recommended Flow Rate (mL/min)	Innoval C18 (5 μm 100 Å)	Venusil PrepG C18 (10 μm 60 Å)	Venusil HILIC (10 μm 100 Å)
4.6×250	0.2-7	0.6	1	IX952 505-0	VX902 505-A	VH902 505-0
10×250	5-25	2.3	3	IX962 510-0	VX902 510-A	VH902 510-0
21.2×250	96	5	13	IX962 520-0	VX902 520-A	VH902 520-0
30×250	200	10	25	IX962 530-0	VX902 530-A	VH902 530-0
50×250	600	20	60		VX902 550-A	VH902 550-0



TLC Plates

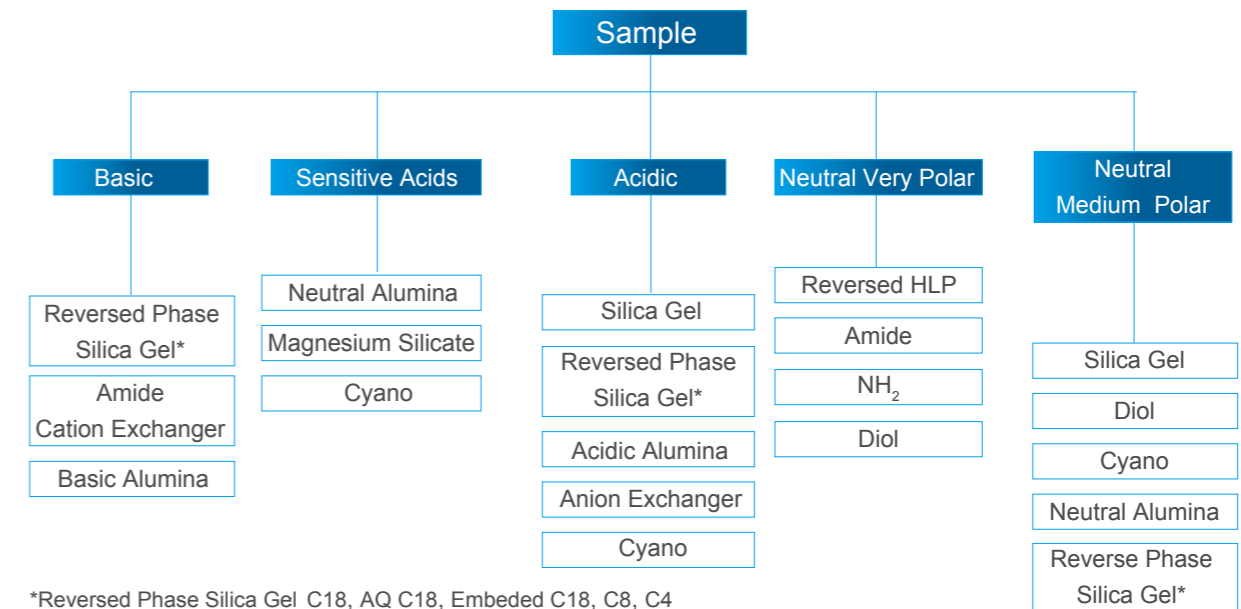
Bonna-Agela's TLC plate is made of 1 or 2 mm thick for preparation purpose on glass coated with 10 µm silica bonded with different functional groups, and analytical TLC plate's silica layer is 250 µm thick, used for the separation of small quantity sample.

We can provide the TLC plates with the specifications ranging from 25×75 mm to 200×200 mm in size and with the types of G, GF254, according to the application need. According to customers' need, we developed many kinds of coating materials, such as silica, deactivated silica, HILIC, NH₂ etc. They can be used in the separation and purification process of most compounds.

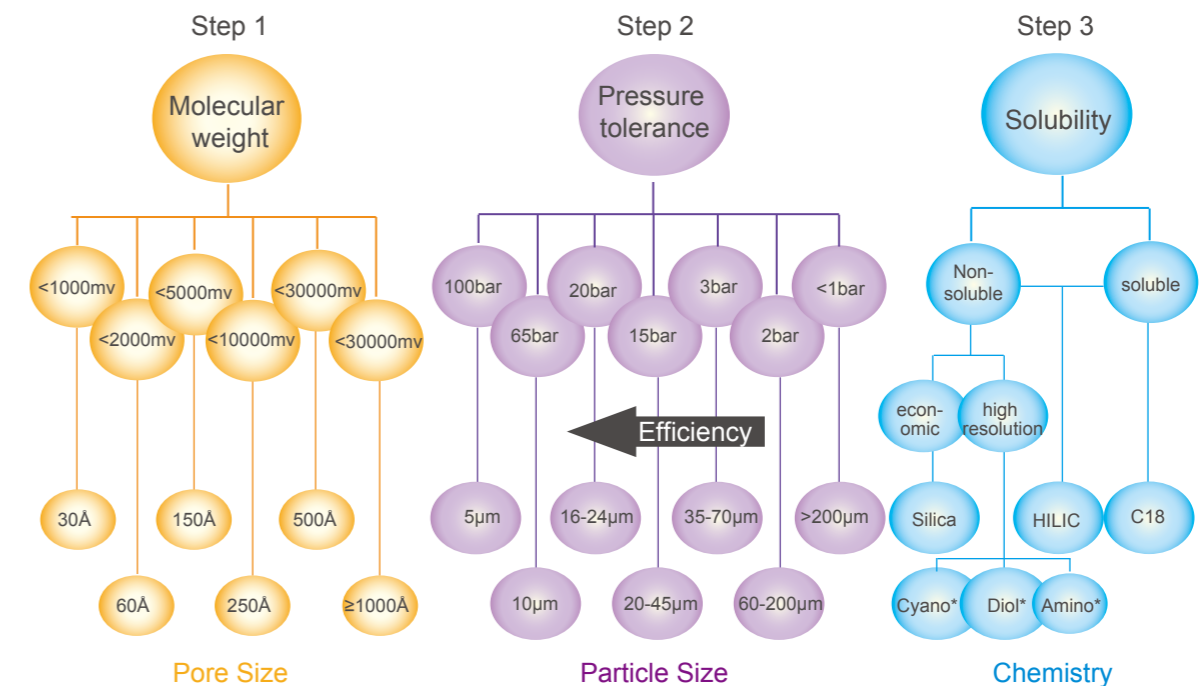


Media	Cat.No	Specification/mm	Pack (pieces/box)
Conventional Silica Gel	T-CS7525-0	25×75 mm, 60 Å, G	50
	T-CSF7525-0	25×75 mm, 60 Å, GF 254	50
Deactivated Silica Gel	T-CM7525-0	25×75 mm, 60 Å, G	50
	T-CMF7525-0	25×75 mm, 60 Å, GF 254	50
Amide Bonded Silica Gel (HILIC)	T-CH7525-0	25×75 mm, 60 Å, G	50
Amino Bonded Silica Gel	T-NH7525-0	25×75 mm, 60 Å, G	50
	T-NHF7525-0	25×75 mm, 60 Å, GF 254	50
Acid treated	T-CS7525-M	25×75 mm, 60 Å, M, pH=5	50
	T-CSF7525-M	25×75 mm, 60Å, MF 254, pH=5	50
	T-CSF200200-A	200×200 mm, 60Å, MF 254, Aluminum	50

Purification Media



*Reversed Phase Silica Gel C18, AQ C18, Embedded C18, C8, C4



**4.6×250 mm HPLC Columns, 1mL/min, kinetic viscosity: 1 cP or Pa.S

1 bar = 0.1 MPa = 1.0197 Kgf/cm² = 0.987 atm = 14.503 psi

*60 Å, 100 Å; 10 µm or 50 µm is optional



Bulk Silica Gel Media from Bonna-Agela Technologies (Average Pore Size: 60 Å)

Part. No.	Grade	Particle Size	Pack
CS605001-P	P	40-60 µm	1 kg
CS605002-P	P	40-60 µm	2.5 kg
CS605005-P	P	40-60 µm	5 kg
CS605025-P	P	40-60 µm	25 kg
CS605001-G	G	40-60 µm	1 kg
CS605002-G	G	40-60 µm	2.5 kg
CS605005-G	G	40-60 µm	5 kg
CS605025-G	G	40-60 µm	25 kg
CS608001-P	P	70-90 µm	1 kg
CS608002-P	P	70-90 µm	2.5 kg
CS608005-P	P	70-90 µm	5 kg
CS608025-P	P	70-90 µm	25 kg
CS608001-G	G	70-90 µm	1 kg
CS608002-G	G	70-90 µm	2.5 kg
CS608005-G	G	70-90 µm	5 kg
CS608025-G	G	70-90 µm	25 kg

Irregular Silica; Average Particle Size: 40-60 µm; Average Pore Size: 100 Å.

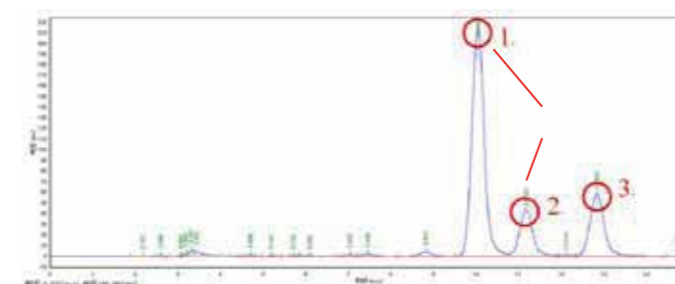
Type	Part. No.	Pore Size (Å)	Pack (g)
Claricep C18	FCO240100-0	100	100
	FCO2401000-0	100	1000
	FCO2405000-0	100	5000

for more information of bulk media from Bonna-Agela, please refer to "PURIFICATION PRODUCTS" catalog

Application Examples

The Separation of Phenolic Compounds in Sesame Oil

The HPLC Analysis of Crude Sample

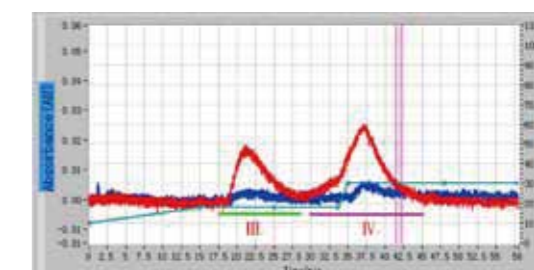


Columns: Venusil XBP C18, 3 µm
Mobile Phase: methanol: water=75:25
Wavelength: 287 nm
Flow Rate: 0.6 mL/min

The First Purification



The Second Purification

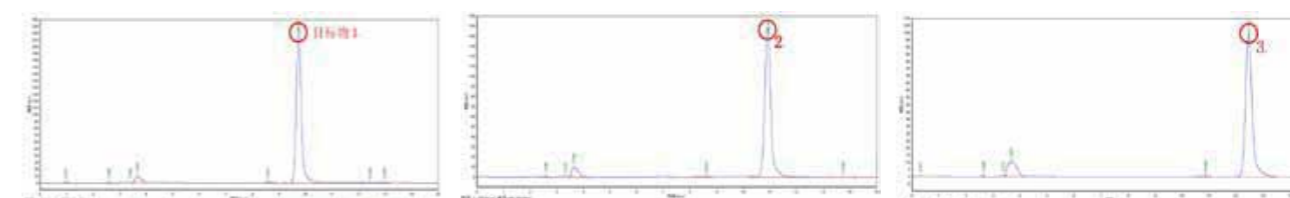


Purification Method:

Columns: Claricep Flash column Silica (CS) 12 g×3 (CS140012)
Mobile Phase: Petroleum ether - ethyl acetate
Wavelength: 287, 254 nm
Flow Rate: 15 mL/min
Sample Loading: 1 mL crude sample
Collection: peak collection by threshold

Columns: Claricep Flash column Al₂O₃, 12 g (CA140012-N)
Mobile Phase: petroleum ether - ethyl acetate
Wavelength: 287 nm, 254 nm
Flow Rate: 15 mL/min
Sample Loading: 1 mL
Collection: total collection, 10 mL/tube

The HPLC Analysis after Second Purification



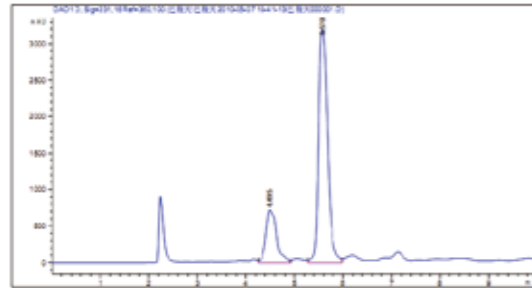
Columns: Venusil XBP C18, 3 µm
Mobile Phase: methanol: water=75:25
Detection: UV 287 nm
Flow Rate: 0.6 mL/min



Separation of *Morinda officinalis* extracts

Sample HPLC analysis before purification

HPLC column: Venusil AQ C18, 5 µm, 100 A, 4.6 × 150 mm



HPLC chromatogram of sample before purification (target compound at 5.570 min)

Sample Preparation

Flash Chromatography Condition:

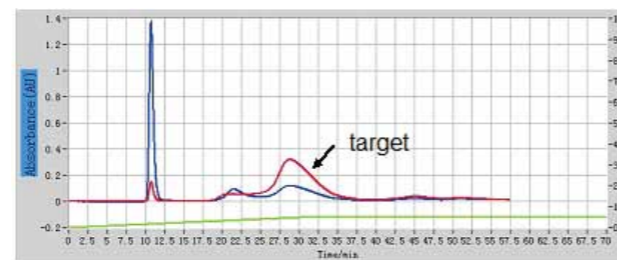
Mobile phase: Methanol-Water-Formic acid (0.1 %)

Wavelength: 231 nm (detection), 214 nm (monitor)

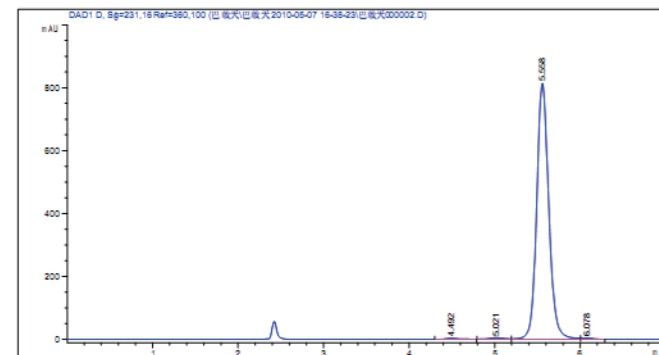
Flash column: Bonna-Agela AQ-C18 flash column, particle size: 20-45 µm, 12 g.

Flow rate: 10 ml/min

Sample loading: 800 µl.



Purity test



No	Retention time (min)	Peak area	Concentration (%)
1	4.492	31.445	0.064
2	5.588	4886.574	99.36
Total		4918.019	100

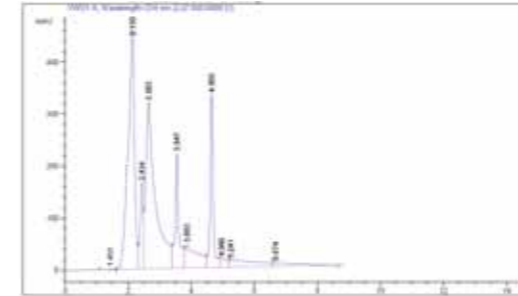
Conclusion

Bonna-Agela's AQ C18-silica gel flash column can efficiently separate a target compound from *Morinda officinalis* extracts with its impurity. After purification, purity of the sample is above 99 %.

Separation of oligopeptides

Sample HPLC analysis before purification

HPLC column: Venusil XBP C18, 5 µm, 100 A, 4.6 × 150 mm



HPLC chromatogram of sample before purification (target compound at 4.650 min)

Sample Preparation

Flash Chromatography Condition:

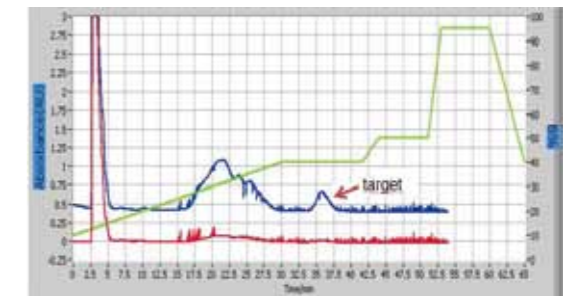
Mobile phase: Methanol-Water

Wavelength: 254 nm (detection), 214 nm (monitor)

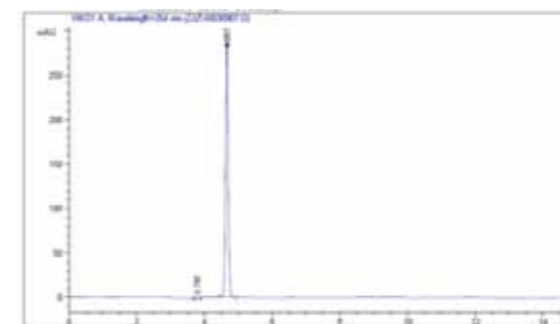
Flash column: Bonna-Agela ODS-B flash column, particle size: 40-60 µm.

Flow rate: 15 ml/min

Sample loading: 1 ml



Purity test



No	Retention time (min)	Peak area	Concentration (%)
1	3.787	18.486	1.15
2	4.661	1588.195	98.85
Total		1606.681	100

Purity found was 98.85 % after C18-Flash column purification

Conclusion

Bonna-Agela's Flash C18-silica gel column is efficient to separate an oligopeptide from its impurity. After purification, purity of the sample is above 98 %.