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GT-3001

Ghost Peak Trap Column

EPCC / PRODUCTS / APPLICATION / SOFTWARE / ACCESSORIES / CONSUMABLES / SERVICES

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Ghost peak is a collective term for chromatographic peaks that appear sporadically or inexplicably during chromatographic analysis.There are many reasons for ghost peaks, such as impurities in the mobile phase,residual samples in the pipeline,other impurities in the mixer, etc., but ghost peaks caused by impurities in the mobile phase are the most common.

Ghost Peak Trap Column Function:

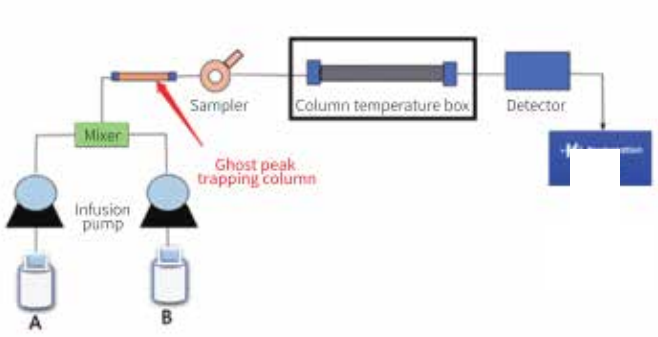
Can effectively inhibit the appearance of ghost peaks in the gradient analysis to ensure the accuracy of experimental results.

Reduces baseline noise and increases detection sensitivity.

Ghost Trap Column can effectively trap impurities in the mobile phase, flow path and mixer, especially can significantly reduce the impact of ghost peaks on analytes in the analytical chromatogram during gradient elution, thus shortening the time for method validation and impurity analysis, improving work efficiency and ensuring the accuracy of results.

Connection of Ghost Trap Column:

The Ghost Trap Column is installed between the pump system and the injection system in the following position.



Use of Ghost Trap Columns:

The ghost trap column should be connected after the convergence of the gradient mixer or pump and before the injector, otherwise it may cause strong adsorption of the sample.

Before using the ghost column, please do not connect to the back of thesystem, rinse with 85% methanol solution, 1mL/min for 30min, and then connect to the equipment.

Before and after the use of buffer salt, please pay attention to the use of a high proportion of water transition, to avoid the buffer salt crystals precipitation, resulting in packing blockage.When the trapping effect is found to be less than satisfactory, try to rinse the column with pure acetonitrile.

Information:

Product Name	Specification	Volume	Pressure	Application equipment
GT-3001	4.6 x 50mm	800μL	40MPa	HPLC
Ghost Trap Column	2.1 x 50mm	200μL	100MPa	UHPLC

Practical cases:

Case 1: Trifluoroacetic acid solution

Mobile phase： A: 0.05% TFA aqueous solution

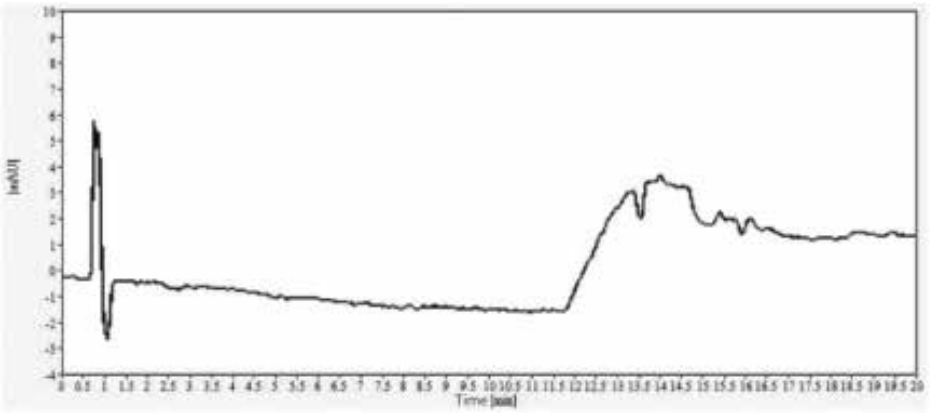
B: 0.045% TFA acetonitrile solution

Column temperature: 40°C .

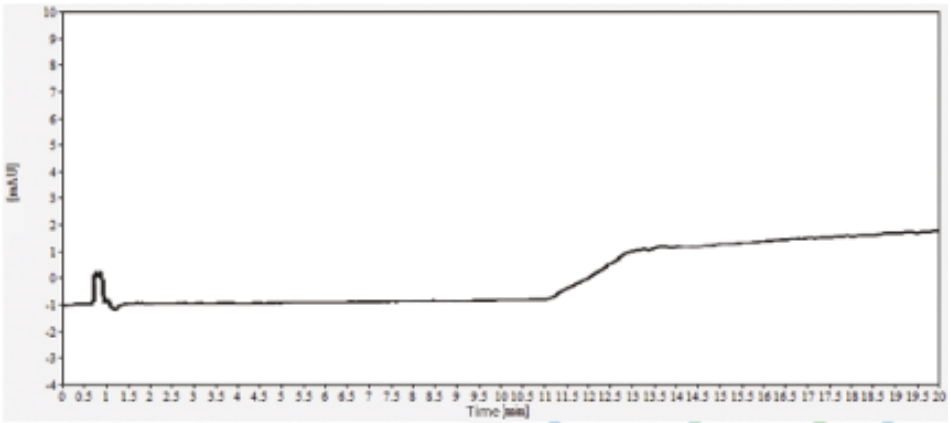
Wavelength: 275nm

Gradient:

Time	0	10	12	20	22	25
Mobile phase B	30	30	56	65	95	30
Flow rate (mL/min)	1.5	1.5	1.5	1.5	2.0	1.5



Blank spectrum without ghost peak trapping column



Blank spectrum of column with ghost peak

Case 2: Phosphoric acid solution

Mobile phase：A: 0.1% aqueous phosphoric acid solution

B: methanol

Column temperature: 35℃

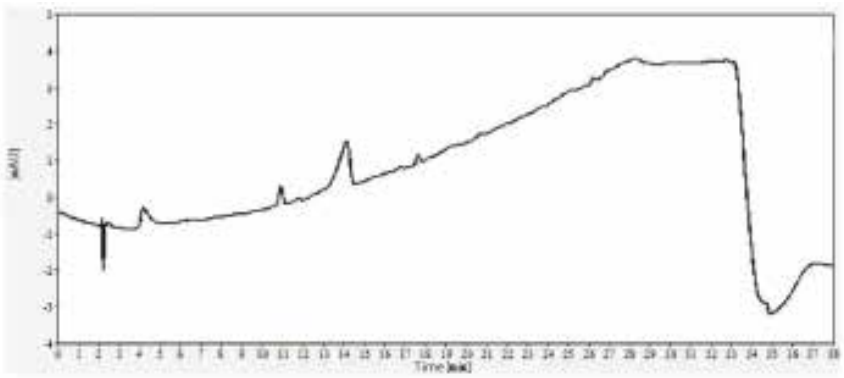
Flow rate:1.0mL/min

Wavelength:225nm

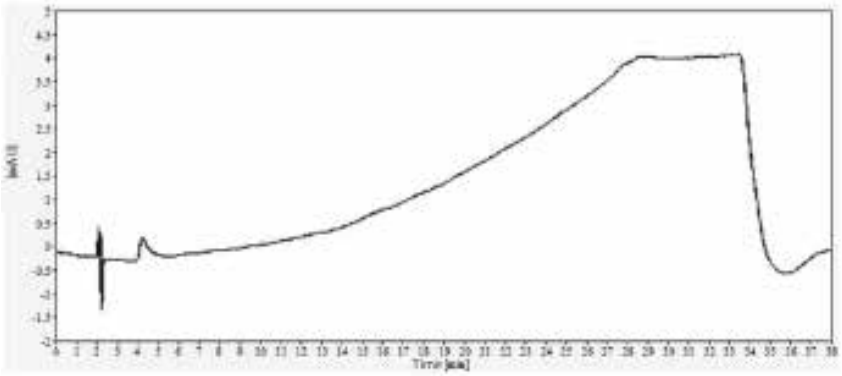
Wavelength:225nm

Gradient.

Time	0	10	25	30	31	38
Mobile phase B	60	70	90	90	60	60



Blank spectrum without ghost peak trapping column



Blank spectrum of column with ghost peak

Precautions for use of Ghost Trap Columns:

The ghost trap column should be connected to the gradient mixer or pump after the sink outlet,the lagging volume is the same as the column volume.

The ghost trap column must be connected before the injector,otherwise the sample may be adsorbed; if ion-pair reagents are used in the mobile phase, the trap column may have certain adsorption effect on the ion-pair reagents,which may affect the retention time of the components or the peak shape.

Thoroughly flush the system lines with the mobile phase before connecting the column (close to the final concentration in the gradient analysis).

The actual lifetime of the trap column will vary depending on the mobile phase used. Not all impurities in the flow path can be removed, so please use it according to the actual situation.

Case 3:Ammonium phosphate solution

Mobile phase： A: 5mmol/L aqueous diammonium hydrogen phosphate:10mmol/L dihydrogen phosphate Ammonium phosphate aqueous solution=1:1
B: Acetonitrile

Column temperature: 30° C

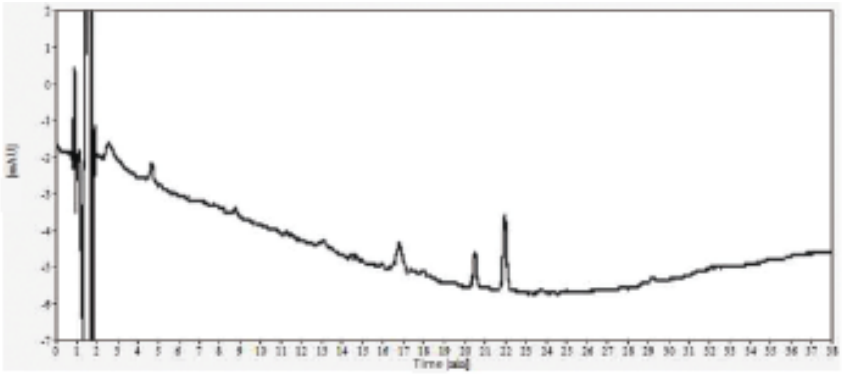
Flow rate:1.2mL/min

Flow rate:1.2mL/min

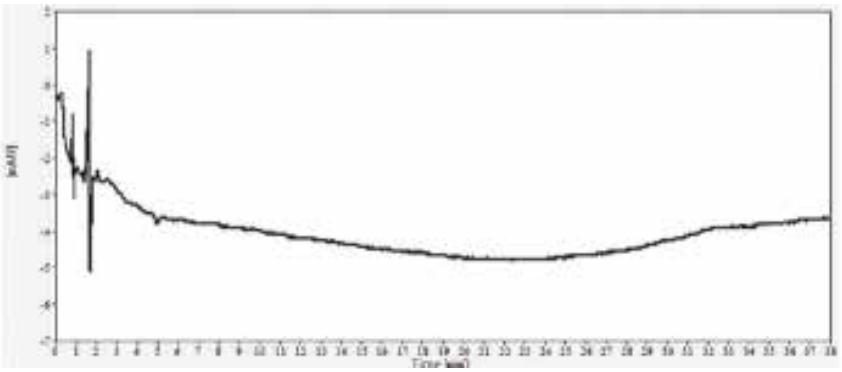
Wavelength: 275nm

Gradient.

Time	0	30	40	40.1	47
Mobile phase B	25	75	75	25	25



Blank spectrum without ghost peak trapping column



Blank spectrum of column with ghost peak

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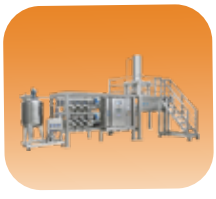

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