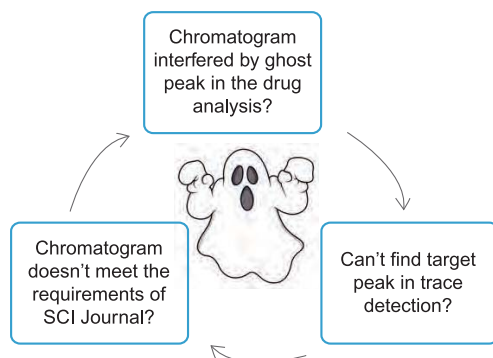


Ghost-Buster Column

welch



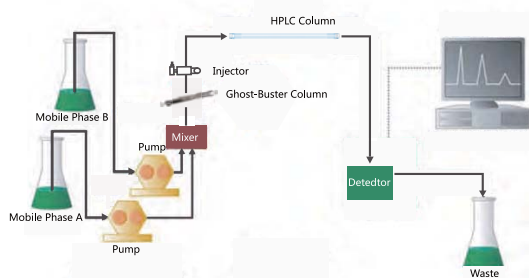
In HPLC analysis, especially in gradient elution, some unexpected peaks, which are usually called Ghost peaks, may appear in a chromatogram.

There are several reasons for the appearance of ghost peaks, including residual in injection valve, water pollution impurities and unknown components in sample. But in general, they are caused by impurities from the mobile phase.

Welch's Ghost-Buster column can solve these problems easily!



Welch's Ghost-Buster column can efficiently adsorb and remove the impurities from the mobile phase to eliminate their interference to the target peaks.



Installed between the gradient mixer and the sampler, Ghost-Buster column can trap most ghost peaks before chromatographic analysis.

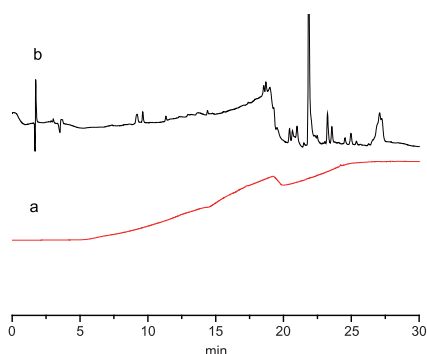


Figure 1. Chromatograms without Ghost-Buster column (b) and with Ghost-Buster column (4.6×50mm) (a)

Example 1

Conditions:

Column: Ultisil™ XB-C18, 4.6×250 mm, 5μm

Flow Rate: 1.0mL/min Injection Volume: 10μL

Wavelength: 210nm Column Temperature: 40℃

Sample Preparation Solution: ultrapure water Mobile

Phase A: ultrapure water

Mobile Phase B: acetonitrile

Gradient Program:

Time (min)	Mobile Phase A (%)	Mobile Phase B (%)
10	90	10
20	10	90
30	10	90
30.1	90	10
38	90	10

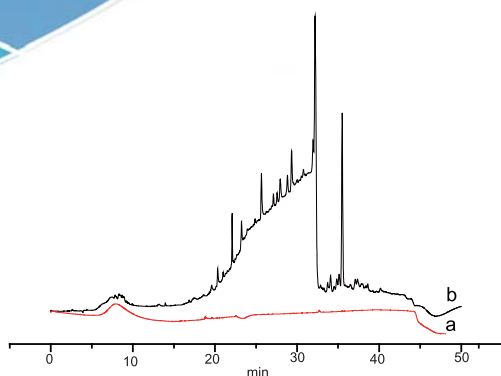


Figure 2. Chromatograms without Ghost-Buster column)(b and with Ghost-Buster column (4.6×50mm) (a)

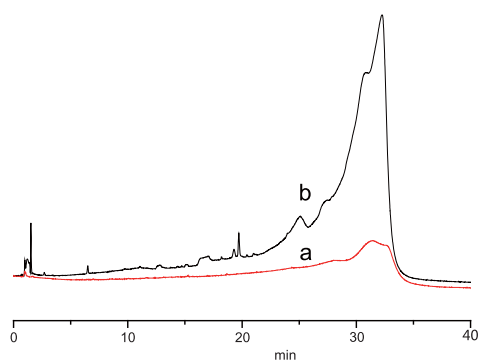


Figure 3. Chromatograms without Ghost-Buster column (b) and with Ghost-Buster column (4.6×50mm) (a)

Example 2

Conditions:

Column: Ultisil™ XB-C18, 4.6×250mm, 5μm

Flow Rate: 1.0mL/min

Injection Volume: 20μL

Wavelength: 280nm Column Temperature: 40°C

Sample Preparation Solution: ultrapure water

Mobile Phase A: 1.54g/L ammonium acetate, adjust pH to 4.0 with glacial acetic acid

Mobile Phase B: acetonitrile

Gradient Program:

Time(min)	Mobile Phase A (%)	Mobile Phase B (%)
0	98	2
10	80	20
20	40	60
35	20	80
40	20	80
41	98	2
50	98	2

Example 3

Conditions:

Column: Ultisil™ XB-C18, 4.6×150mm, 3μm

Flow Rate: 1.0mL/min Injection Volume: 20μL

Wavelength: 254nm Column

Temperature: 30°C

Sample Preparation Solution: ultrapure water

Mobile Phase A: 20 mmol/L diammonium phosphate

solution, adjust pH to 6.0 with phosphoric acid

Mobile Phase B: acetonitrile

Gradient Program:

Time(min)	Mobile Phase A (%)	Mobile Phase B (%)
0	85	15
30	45	55
30.1	85	15
40	85	15

From Figures 1~3, one can observe that Welch's the Ghost-Buster column effectively eliminates the impurities in the mobile phase.

Ordering Information

Item	P/N	Dimension	Maximum Pressure	Instruments
Ghost-Buster Column	06100-31000	4.6×50mm	40MPa	HPLC
Ghost-Buster HP Column	06100-31001	2.1×33mm	100MPa	UHPLC

Notes:

- * It should be noted that not all impurities can be removed from the mobile phase
- * Ghost-Buster column is installed between the gradient mixer and the sampler. If it is installed like a guard column, target peaks may disappear
- * If ion-pairing reagents are used in the analysis, it is possible that the reagents may be retained by the Ghost-Buster column, impacting the analysis's retention time and peak shape
- * It is not recommended to flush the Ghost-Buster column with 100% water for a long time
- * Ghost-Buster column's service life differs by analysis conditions, mobile phase and its purity. New column is recommended when result is not ideal

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