PrePulite® Preparative Packing Media & Application Cases



"WePure" WeChat Offical

HPLC Packing Media

Advanced Technology **More Selection of Solid Phases**

Seamless Transfer from Analytical to Industrial Preparative HPLC for Global Pharmaceutical Companies

CATALOGUE

01 Company Introduction

04 PrePulite® Indsil Preparative Packing Media

09 PrePulite® Indxp Preparative Packing Media

16 PolyPulite® Preparative Packing Media

21 PrePulite® Gold Packing Media

21 PrePulite® Perfect Packing Media

22 PrePulite® XP Packing Media

23 PrePulite® PHS XP Packing Media

24 Suggestions for DAC Packing

About WePure

WePure has over 20 years of experience in the field of chromatography, with strong technical expertise in advanced high-pressure chromatographic packing media. The company offers a comprehensive portfolio covering the full workflow from analytical to industrial-scale purification, providing pharmaceutical companies worldwide with analytical and purification solutions for R&D, clinical development, and commercial manufacturing.

WePure operates a fully integrated in-house manufacturing process, from silica microsphere synthesis to finished columns and packing media, ensuring consistent product quality and a reliable supply chain. MicroPulite® analytical column series and PrePulite® preparative chromatographic media deliver performance comparable to leading international brands and are supplied to customers in more than 20 countries and regions.

With an annual production capacity of 25 metric tons of silica-based chromatographic packing media, WePure ensures stable supply and fast delivery. Its comprehensive product range supports key pharmaceutical applications from early research to large-scale production, enabling smooth method transfer and efficient scale-up.

Core Products

Analytical Columns



Product	Feature
MicroPulite® Gold Series	Preferred Choice for Cost-Effective Columns
MicroPulite® Platinum Series	New Standard for Pure Silica-based Columns
MicroPulite® XP Series	Hybrid Technology for More Flexible Method Development
MicroPulite® PHS XP Series	Solutions for Complex Separations
MicroPulite® Perfect Series	Balanced Retention for Polar Compounds
MicroPulite® HSS Series	Stronger Silica Coupled with Triple-Bonded Technology
BioPulite® Series	Suitable for Oligonucleotides, Peptides, ADC Linkers, LNPs, and More

UPLC
HPLC
Semi-Preparative

Packing Media



Product	Feature
Indsil Preparative Packing Media	The Preferred Cost-Effective Choice for Industrial Preparative Purification
Indxp Preparative Packing Media	The Top Alkali-Resistant Choice for Industrial Preparative Purification
PolyPulite Preparative Packing Media	High Mechanical Strength, Low Swelling, High Loading Capacity
Gold Packing Media	The Preferred High-Purity Silica Packing Media for Analytical to Semi-Preparative Applications
XP Packing Media	The Preferred Alkali-Resistant Packing Media for Analytical to Semi-Preparative Applications
PHS XP Packing Media	Delivers Unique Separation Selectivity, Excellent Peak Shape, and High-Performance Solutions
Customization	Fully customizable specifications including microsphere matrix, particle size, pore size, and bonded phase

》Stable Supply Supported by Complete In-House Particle Manufacturing

Guangdong Medical Valley, Nansha District, Guangzhou National-Level Incubation Park

1950m² R&D, production,and application development base

Wengyuan Innovation API Industrial Park(Guangdong)

Production Capacity: 25 Tons of Silica Packing Media, 10 Tons of Resin-based Packing Media, and 50 Tons of Functional Microspheres



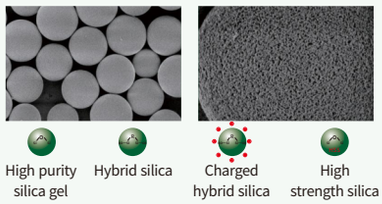


Patented Core Technologies

Robust Porous Microsphere Syntheses Technology

Granted Invention Patents:
ZL201010207767.3 ZL201310719498.2

WePure can produce microsphere in stable and large scale, include 1.7μm-100μm high purity silica, organic-inorganic structure hybrid silica(XP) and high-strength silica(HSS), inorganic-inorganic structure hybridizeo SiZ microspheres and so on.

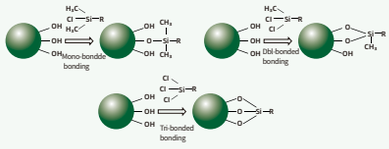


Silica Microspheres With Homogeneous Pore Structure

Advanced Surface Modification Technology

Granted Invention Patents:
ZL201010208014.4

Featuring Mono-, Di-, and Tri- Bonded Technologies, Covering C8, C18, NH_2, Amide, Phenyl, Pentafluorophenyl (PFP), Diol, RP18, T3, and Mixed-Mode Phases.

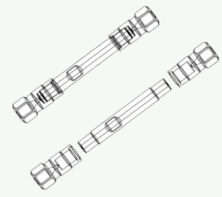


Diversified Bonded Phase; Tri-bonded Offers Enhanced Durability and Unique Selectivity

Top-Notched Column Packing Platform

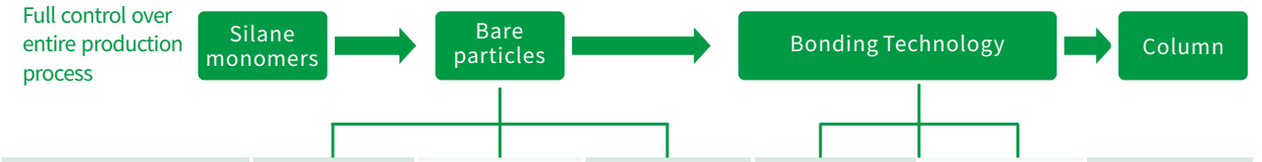
Invention Patents under Substantive Examination:
202411146259.7 202411239886.5

Highly efficient and stable Column Packing technique for UPLC, UHPLC, HPLC, and Semi-Preparative Columns.



Outstanding Stability and Reproducibility of LC Columns

Advanced HPLC Packing Media Production



	High-Purity Silica	Structural Hybridization	Charged Hybridization	Mono-bonded	Tri-bonded	Column
WePure	✓	✓	✓	✓	✓	✓
International brand :W	✓	✓	✓	✓	✓	✓
International brand : A	✓			✓		✓
International brand :P				✓		✓
Local brand:N	✓			✓		✓
Local brand:S				✓		✓

Complete in-house production assures complete product controll in "raw materials + technology + quality"

More Selections for HPLC packing Media "Seamless Transfer" for " Scale-Up"

	Packing media for Analytical HPLC				Packing media for Preparative HPLC		
	High-Purity Silica	Structural Hybridization	Charged Hybridization	Seamless Transfer	High-Purity Silica	Structural Hybridization	Charged Hybridization
WePure	✓	✓	✓		✓	✓	✓
International brand :W	✓	✓	✓				
International brand: A	✓						
International brand:P	✓						
International brand:K	✓				✓		
International brand:D	✓				✓		
Local brand:S	✓				✓		
Local brand:N	✓				✓		

Addressing core pain points in the pharmaceutical industry: seamless process transfer from R&D to production, eliminating the need for process re-development

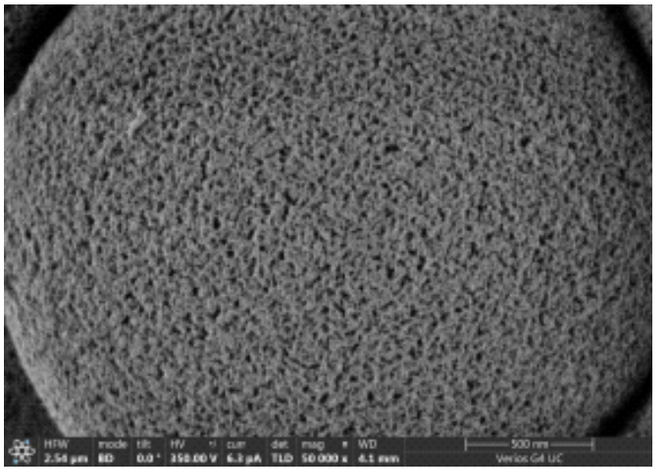
New Drug R&D → IND → Clinical Trials → Pilot Scale → CMC → NDA → Commercialization

Introduction to PrePulite® Indsil Packing Media

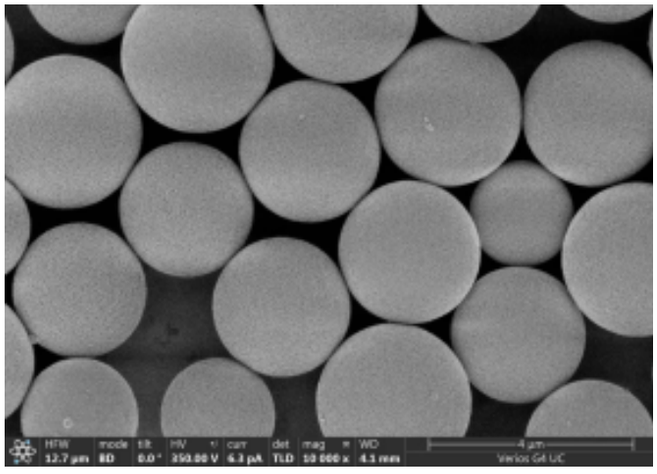
The Indsil series packing media are manufactured using high-purity silica microspheres as the matrix, bonded with various functional groups. The high-purity silica matrix endows the packing media with high loading capacity and ultra-high resolution, making it the preferred cost-effective choice for preparative separation.

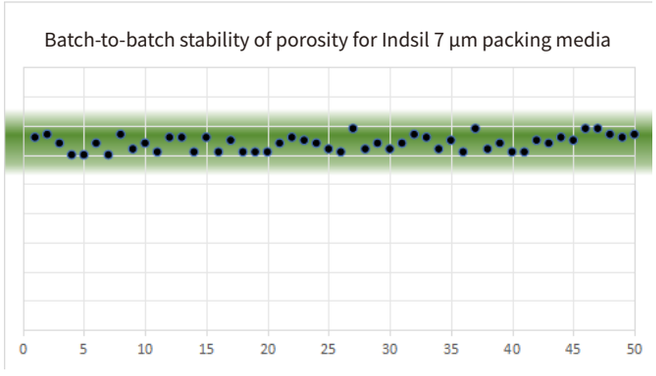
Product Performance

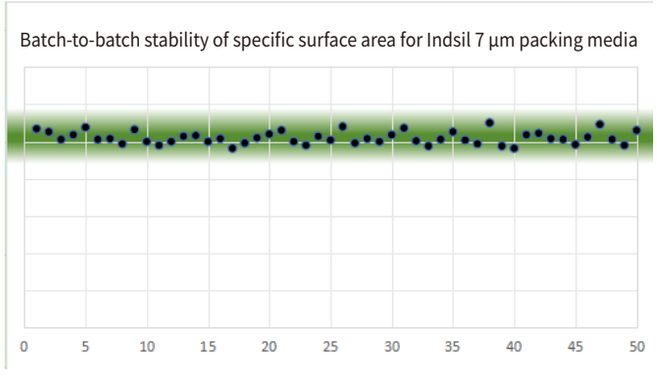
A uniform and interconnected pore structure serves as a solid guarantee for chromatographic performance.

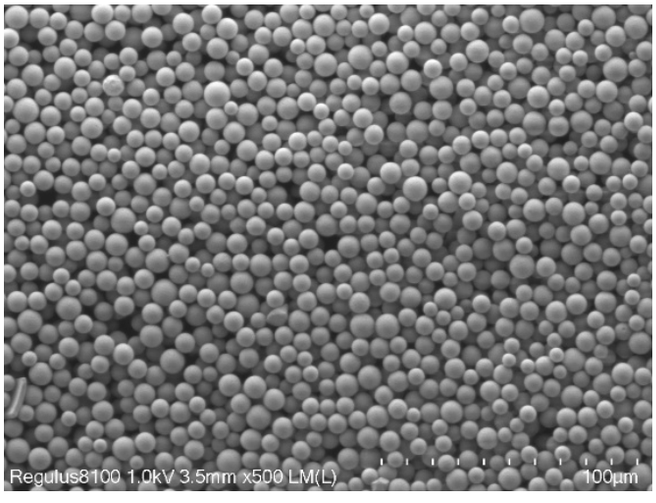


Precise control of particle size uniformity is a reliable guarantee for column efficiency.

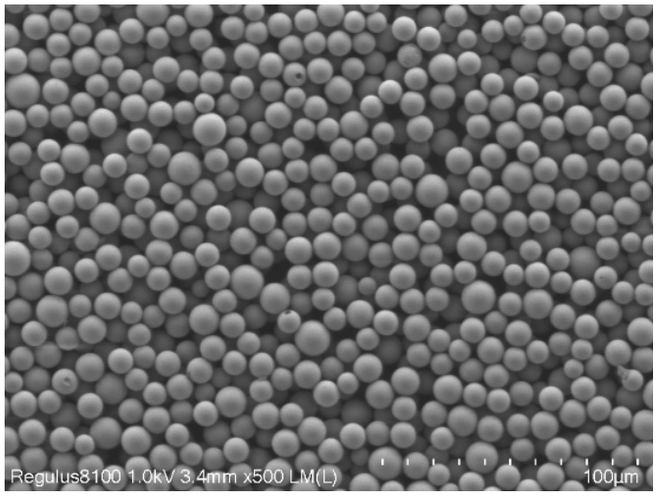






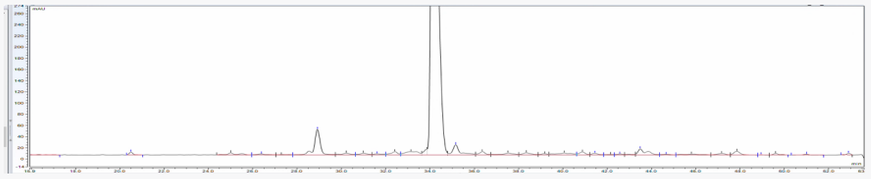


Indsil 7µm Packing Media



Indsil 10µm Packing Media

》 Case Study : PrePulite® Indsil Packing Media for Tirzepatide Preparative Purification



HPLC Chromatogram of the Crude Product (Purity: 77.9%)

Peak No.	Peak name	R.T. (min)	n.a.Sample size (n.a.)	Relative peak area %	Peak area mAU*min	Peak height mAU	Peak width (50%) min	Asymmetry EP	Degree of Separation EP	Theoretical plates (N, EP)
7		28.914	n.a.	4.03	13.8995	45 70	0.238	0.78	2.90	81890
8		30.215	n.a.	0.39	1.3360	3 18	0.291	n.a.	1.59	59737
9		30.994	n.a.	0.34	1.1713	3 11	0.288	n.a.	n.a.	64055
10		31.594	n.a.	0.22	0.7524	1 65	n.a.	n.a.	n.a.	n.a.
11		32.418	n.a.	0.59	2.0219	5.71	0.289	n.a.	n.a.	69825
12		33.124	n.a.	1.21	4.1852	5.78	n.a.	n.a.	n.a.	n.a.
13		33.874	n.a.	0.52	1.7991	10.16	n.a.	n.a.	n.a.	n.a.
14		34.116	n.a.	77.87	268.3511	787.37	0.319	1.93	2.16	63393
15		35.158	n.a.	1.94	6.6946	18.27	0.244	n.a.	2.80	114999
16		36.359	n.a.	0.53	1.8435	5.90	0.263	n.a.	2.24	105993
17		37.533	n.a.	0.55	1.8925	3.50	0.356	n.a.	1.33	61701
18		38.342	n.a.	0.48	1.6710	3.92	0.360	n.a.	n.a.	62760

Column Efficiency Test Before Purification

No.	Packing Media Manufacturer	Type	Particle Size	Tailing	Efficient N/m
1	WePure	Indsil-C8	10μm	1.02	51096
2	WePure	Indsil-C18	10μm	1.00	50368
3	Imported packing media	K brand -C8	10μm	0.97	55376
4	WePure	Indsil-C8	7μm	1.03	70811
5	WePure	Indsil-C18	7μm	1.04	69952

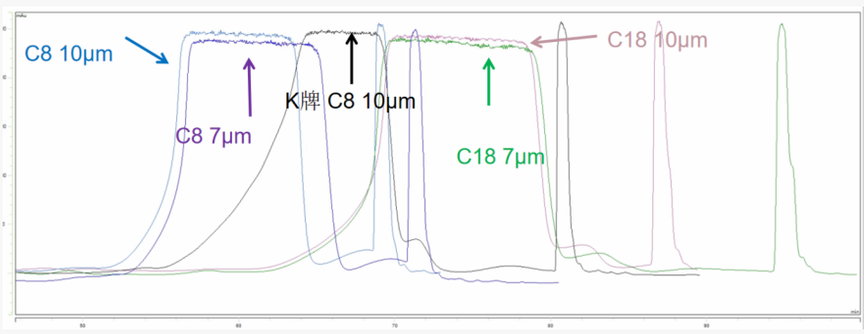
Column Efficiency Test Method:

Mobile Phase: Acetonitrile/Water = 70/30

Detection Wavelength: UV 254 nm

Flow Rate: 0.80 mL/min

Sample: Acenaphthene



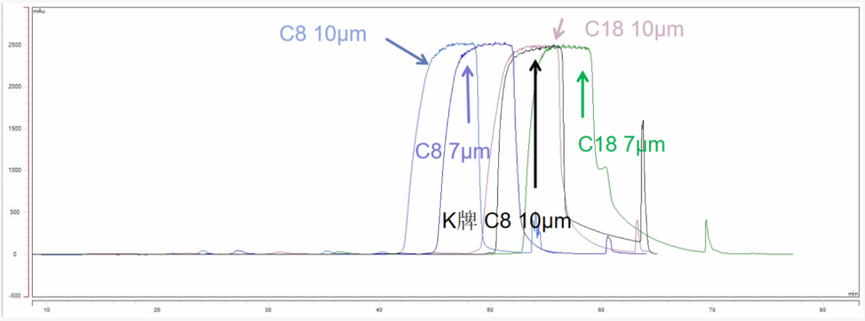
Typical First-Step Preparative Chromatogram

Key Parameters for First-Step Preparative Purification:

Packing Media: PrePulite® Indsil C8 / Indsil C18 (7 μm), Indsil C8 / Indsil C18 (10 μm), and imported K-brand C8 packing media (10 μm).

Loading Capacity: 1.2% of target product (7.8 g/L)

Linear Velocity: 3 cm/min



Second-Step Preparative Chromatogram

Key Parameters for Second-Step Preparative Purification:

Loading Capacity: ~0.9% of target product (6 g/L)

Mobile Phase: Acidic mobile phase + Acetonitrile

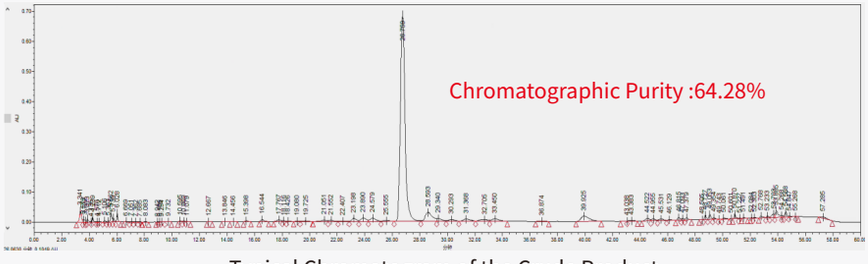
Linear Velocity: 3 cm/min

Fraction preparation results

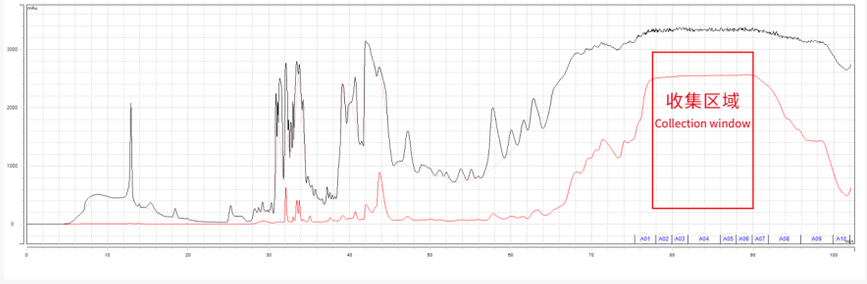
No.	Packing Media Manufacturer	Type	Particle Size	Purity after 1st Step	Yield after 1st Step	Purity after 2nd Step	Yield after 2nd Step	Overall Yield
1	WePure	Indsil-C18	10μm	98.51%	81.59%	99.43%	82.29%	67.14%
2	WePure	Indsil-C8	10μm	98.65%	82.01%	99.45%	86.32%	70.79%
3	Imported packing media	K brand-C8	10μm	98.71%	81.10%	99.42%	85.81%	69.59%
4	WePure	Indsil-C18	7μm	98.67%	86.21%	99.50%	86.97%	74.98%
5	WePure	Indsil-C8	7μm	98.81%	87.52%	99.52%	88.59%	77.53%

For the preparative purification of this sample, the PrePulite® Indsil series packing materials (7 μm and 10 μm) demonstrated comparable performance to imported packing materials, while significantly reducing costs and improving purification efficiency for users.

》 Case Study: PrePulite® Indsil Packing Media for Semaglutide Preparative Purification



Typical Chromatogram of the Crude Product



Key Parameters of the First-Step Purification

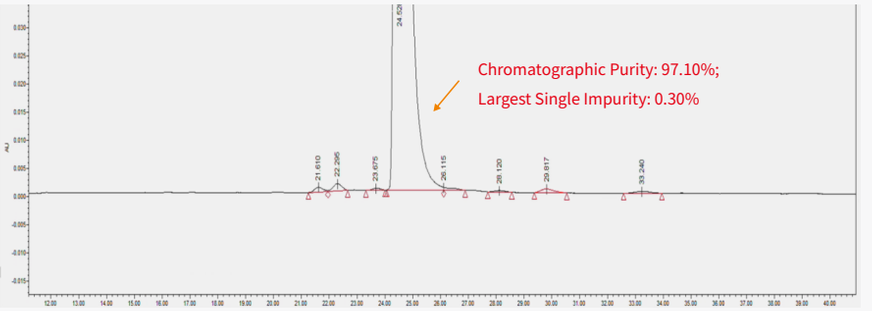
Packing Media:

PrePulite® Indsil C8, 7 μm

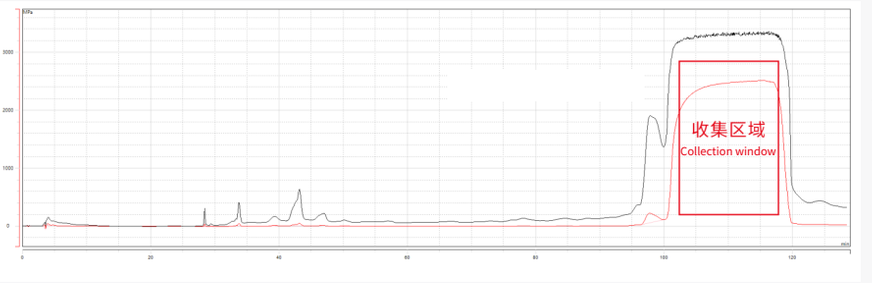
Linear Velocity: 2.3 cm/min

Crude Product Loading:

11.7 g/L (1.8%)



Chromatogram of Fractions from the First-Step Preparative Purification



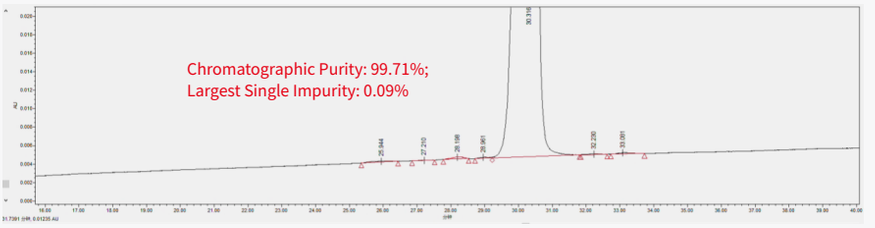
Typical Second-Step Preparative Chromatogram

Key Parameters of the Second-Step Purification

Packing Media: Indsil C8, 7 μm

Linear Velocity: 2.3 cm/min

Target Product Loading: 1.4%



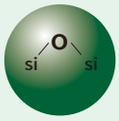
Chromatogram of Qualified Fractions from the Second Purification Step

Peak No.	Name	R.T.(min.)	Area (μV/s)	% area	Height (μV)	Points Type	Peak type
1		25.944	4362	0.07	119	bb	Unknown
2		27.210	485	0.01	32	bb	Unknown
3		28.198	5177	0.09	218	bb	Unknown
4		28.961	2203	0.04	115	bb	Unknown
5		30.316	5884978	99.71	205556	bb	Unknown
6		32.230	1135	0.02	56	bb	Unknown
7		33.081	3813	0.06	133	bb	Unknown

Preparative Purification Yield Summary

Preparative Step	Loading Capacity	Chromatographic Purity	Yield	Overall Yield
First Step	Crude Product1.8%	97.10% (0.30%)	83%	70.6%
Second Step	Target Product Loading1.4%	99.71% (0.09%)	85%	

Order Information

Packing Media	Bonded Phase	Particle Size (µm)	Pore Size (Å)	Pore Volume (mL/g)	Surface Area (m^2/g)	End-capped	Carbon Load (wt%)	Part No
	C18	7	120	0.9	300	YES	17%	INDC18-07-120
		10	120	0.9	300	YES	17%	INDC18-10-120
	C8	7	120	0.9	300	YES	10%	INDC08-07-120
		10	120	0.9	300	YES	10%	INDC08-10-120
	C4	7	120	0.9	300	YES	6%	INDC04-07-120
		10	120	0.9	300	YES	6%	INDC04-10-120
	C18-AQ	7	120	0.9	300	YES	12%	INDAQ-07-120
		10	120	0.9	300	YES	12%	INDAQ-10-120
	Silica	7	120	0.9	300	-	-	INDH-07-120
		10	120	0.9	300	-	-	INDH-10-120

Prepulite® Indxp Preparative Packing Media

Indxp series hybrid silica packing media are developed using advanced hybridization technology, combining the advantages of both organic and inorganic materials. They retain the excellent separation performance of traditional silica-based packings while offering the wide pH stability, low silanol activity, and enhanced durability typically associated with polymer-based packings. This unique structure ensures outstanding chromatographic performance while significantly extending column lifetime.

Indxp series is available in a variety of particle sizes and specifications, enabling seamless scale-up from semi-preparative chromatography columns to large-scale industrial DAC systems. This ensures smooth method transfer and process continuity, helping improve purification efficiency and overall productivity.

Advantages of PrePulite® Indxp hybrid silica

Conventional silica-based packing media consist of a Si–O–Si framework, which is susceptible to bonded phase loss under acidic conditions and silica dissolution under alkaline conditions. By incorporating organic groups into the silica backbone, Indxp hybrid silica significantly enhances resistance against silica dissolution and bonded phase hydrolysis, extending the usable pH range of the packing media from 2 to 12.

1.1 Chemical Stability and pH Tolerance

Broad pH Stability: Conventional pure silica materials may suffer from bonded phase loss under strongly acidic conditions (pH < 2) and silica dissolution under strongly alkaline conditions (pH > 8). By incorporating organic groups into the silica backbone, Indxp hybrid silica significantly enhances resistance to silica dissolution and bonded phase hydrolysis, extending the pH range from 2 to 12.
Hydrolytic Stability: The incorporation of organic groups enhances the chemical inertness of the silica framework, providing improved stability especially under alkaline mobile phase conditions and extending column lifetime.

1.2 Enhanced Separation Performance

Reduced Silanol Interaction: By reducing surface silanol activity, Indxp hybrid silica minimizes secondary interactions between basic analytes and silanol groups, leading to improved peak symmetry, reduced tailing, and superior chromatographic separation.

1.3 Mechanical Strength and Structural Stablity

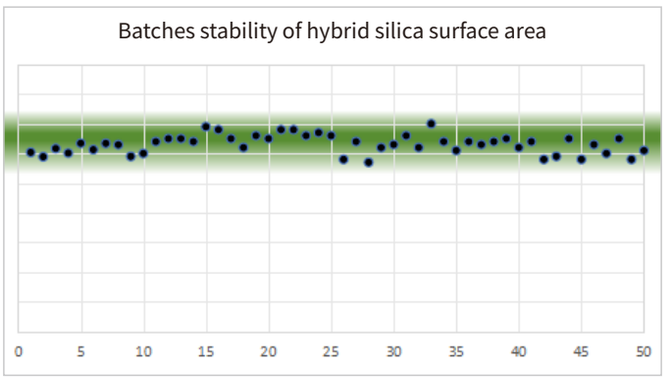
Highly rigid framework: Inheriting the excellent mechanical strength of pure silica, the hybrid silica framework can withstand high operating pressures while maintaining the flexibility of polymer-based materials, effectively reducing the risk of particle breakage.

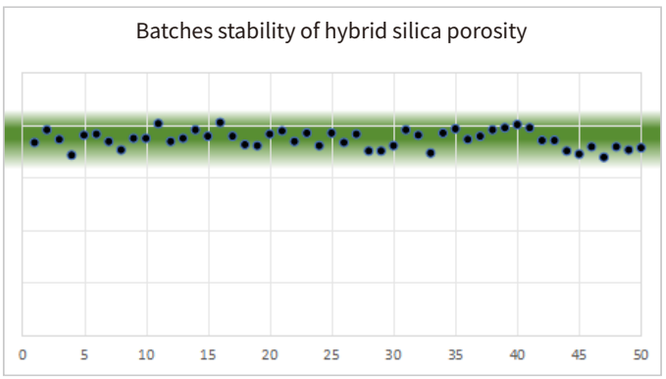
1.4 Extend application range

Industrial-scale purification and scale-up: The stable structure and excellent batch-to-batch consistency enable seamless scale-up from laboratory development to industrial production, improving overall operational efficiency.

2.Product Performance

2.1 The batch-to-batch stability of silica synthesis particle, ensure the consistency of subsequent products.





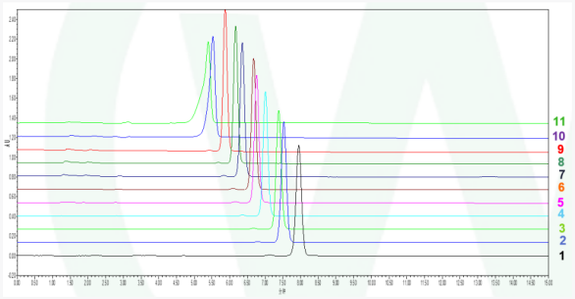
2.2 Alkaline resistance performance

Alkaline Wash Test Conditions :

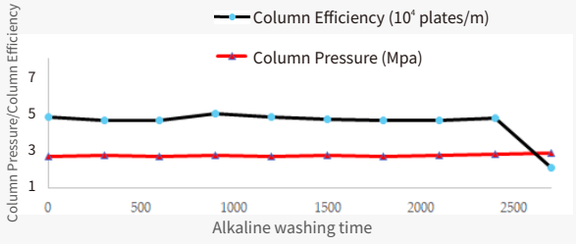
Packing Media:PrePulite® Indxp C8 10um
Column:4.6*250mm
Mobile Phase: ACN: 0.1mol NaOH Solution = 7:3
Flow Rate:1mL/min
Column Temperature:30°C
Alkaline Wash Time: 300 min/ time

Column Efficiency Test conditions :

Mobile Phase :ACN:Water=7:3
Flow Rate : 1mL/min
Column Temperature : 30°C
Standard Sample :1ml/mL Naphthalene 5μL



Column Efficiency Test After Alkaline Wash
Of Wepure Indxp Packing Media



Column Efficiency And Pressure Changes Afteralkaline
Wash Of Wepure Indxp Packing Media

Conclusion: Under the condition of pH=13, the continuous alkaline washing of Indxp C8 packing media results in a lifespan of 2400 minutes.

2.3 Acid resistance performance

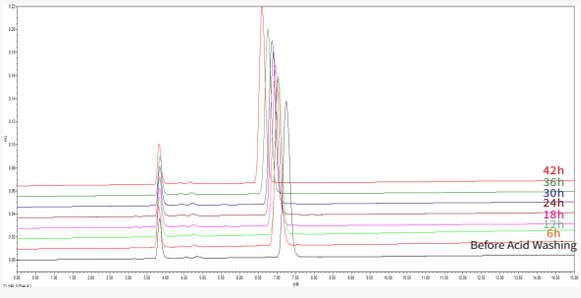
In reverse-phase purification processes, 0.1% TFA acidic mobile phase is commonly used elution system. However, traditional silica matrix packing media is prone to bonded phase breakage under long-term acidic environment. Indxp hybrid packing media show outstanding acid resistance in 0.1% TFA mobile phase.

Acid Wash Test Conditions :

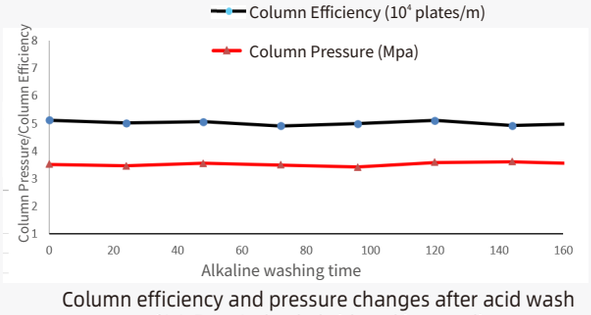
Packing Media： PrePulite® Indxp C8 10μm
Column： 4.6*250mm
Mobile Phase： ACN:0.1TFA Solution =7:3
Flow Rate： 1mL/min
Column Temperature： 60°C
Acid Wash Time： 6h/time

Column Efficiency Test Conditions :

Mobile Phase： ACN: Water =7:3
Flow Rate： 1mL/min
Column Temperature： 30°C
Standard Sample： 1ml/mL Naphthalene 5μL



Column Efficiency Test After Acid Wash
of WePure Indxp packing media

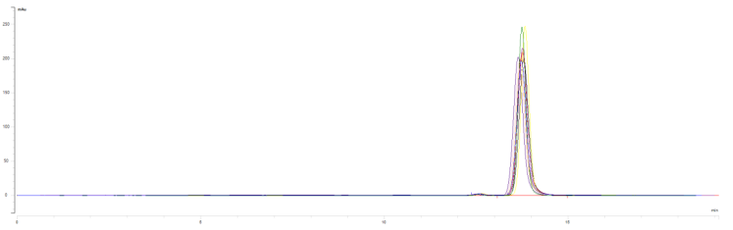


Column efficiency and pressure changes after acid wash
of WePure Indxp hybrid packing media

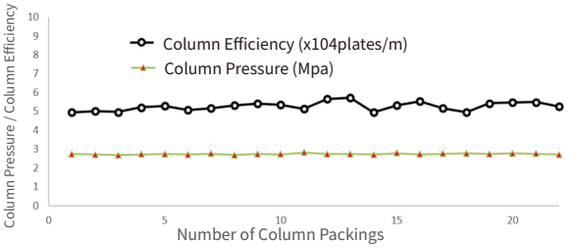
Conclusion: The Indxp packing is continuously flush at condition of 60°C and pH 1,the packing life is more than 160 hours.

2.4 Mechanical Strength

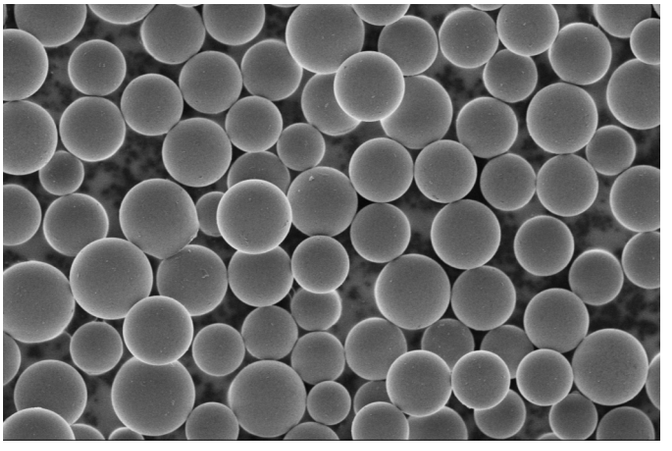
In industrial chromatography purification, the high-frequency loading and unloading operations of the dynamic axial compression (DAC) system put forward strict requirements for the mechanical properties of the packing media. The rigid skeleton design of the Indxp hybrid packing media (organic-inorganic hybrid) can effectively resist mechanical stress, avoid the production of fragments due to particle breakage, thereby maintaining the stability of the column bed porosity and preventing a sudden rise of column pressure. PrePulite® Indxp C8 10μm packing media is still intact after being loaded and unloaded 22 times in the DAC.



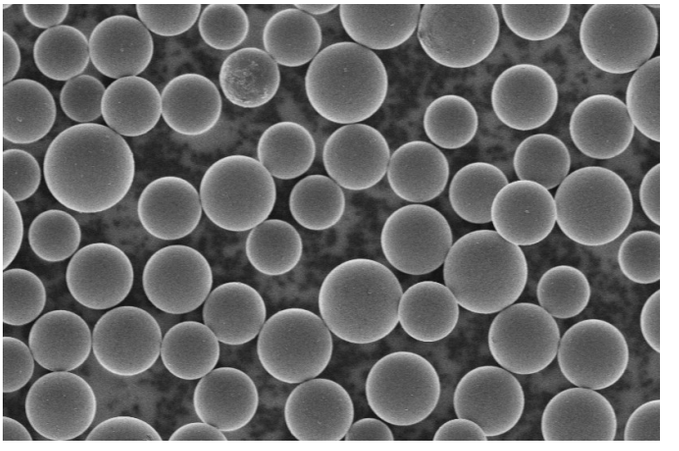
Column Efficiency after Repeated Packing Test of WePure Indxp Hybrid packing media



Column Efficiency and Pressure Changes After Repeated Packing of WePure Indxp Hybrid packing media



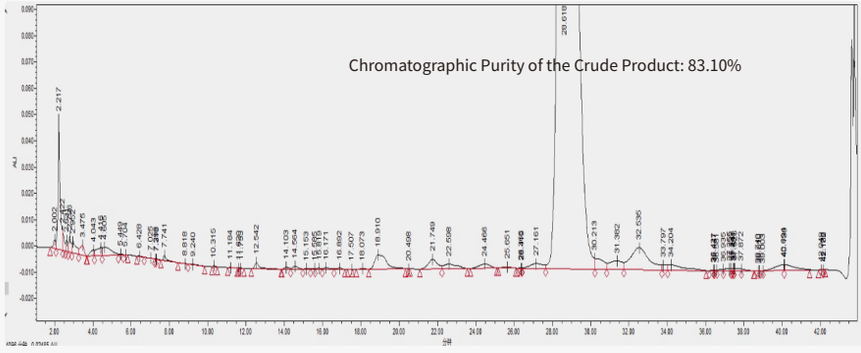
Before Packing the material



After Packing the material 20 Times

APPLICATION CASE

》Case Study: PrePulite® Indxp Packing Media for Tirzepatide Purification



HPLC Chromatogram of the Crude Product

First-Step Purification Conditions

Packing Media:

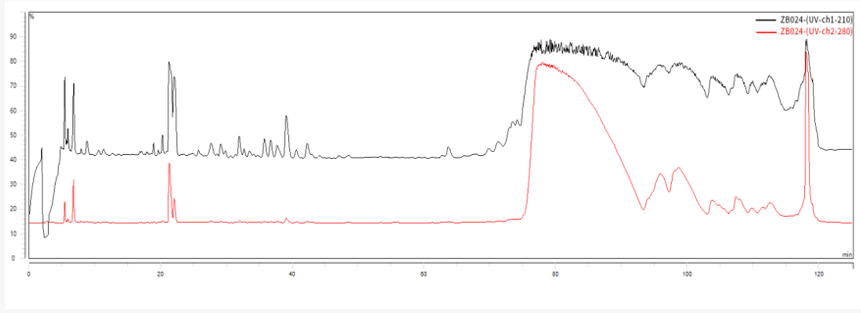
PrePulite® Indxp C8, 10 µm

Linear Velocity: 3 cm/min

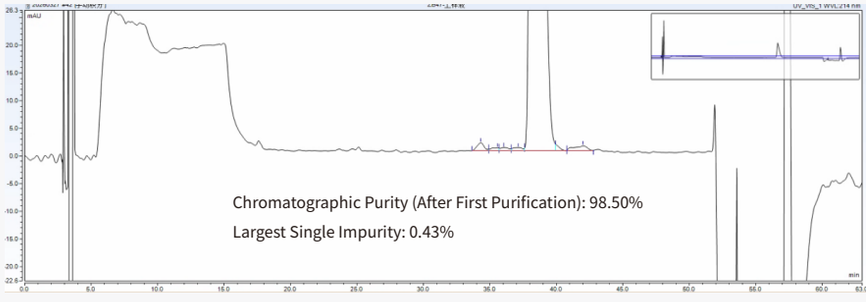
Loading Capacity:

7 g/L of target product (1.2%)

Column Pressure: 2.2 MPa

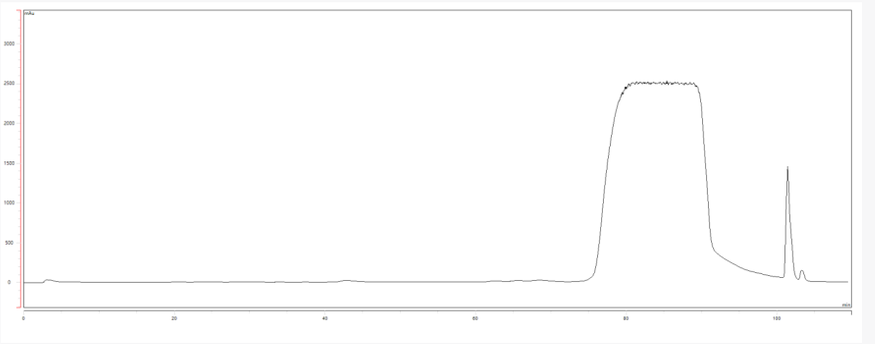


First-Step Preparative Chromatogram



Comparison of Fractions from the First Purification Step

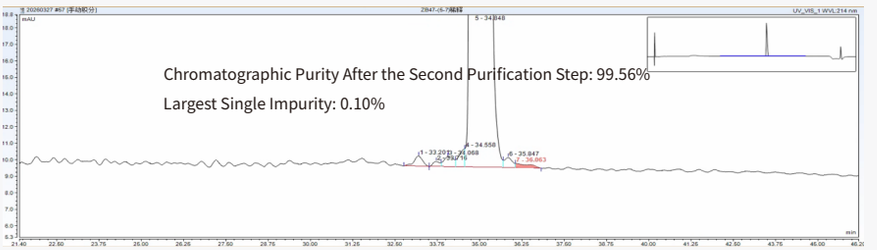
Peak No.	Peak name	R.T.(min.)	n.a.Sample size (n.a.)	Relative peak area %	Peak area mAU*min	Peak height mAU	Peak width (50%) min	Asymmetry EP	Degree of Separation EP	Theoretical plates (N, EP)
1		34.320	n.a.	0.40	0.8626	1.43	0.565	n.a.	n.a.	20460
2		35.567	n.a.	0.15	0.3243	0.50	n.a.	n.a.	n.a.	n.a.
3		36.048	n.a.	0.19	0.3978	0.57	n.a.	n.a.	n.a.	n.a.
4		37.148	n.a.	0.21	0.4480	0.52	n.a.	n.a.	n.a.	n.a.
5		38.290	n.a.	98.49	210.4919	265.43	0.732	1.77	n.a.	15139
6		39.983	n.a.	0.13	0.2782	1.04	n.a.	n.a.	n.a.	n.a.
7		42.014	n.a.	0.43	0.9156	0.83	1.398	n.a.	n.a.	5001
maximum			0.0000	98.49	210.4919	265.43	1.398	1.77	0.00	20460
minimum			0.0000	0.13	0.2782	0.50	0.565	1.77	0.00	5001
sum			0.0000	100.00	213.7183	270.32				



Second-Step Preparative Chromatogram

Second-Step Purification Conditions

Packing Media:
PrePulite® Indxp C8, 10 µm
Linear Velocity: 3 cm/min
Loading Capacity:
7 g/L of target product (1.2%)
Column Pressure: 2.3 MPa



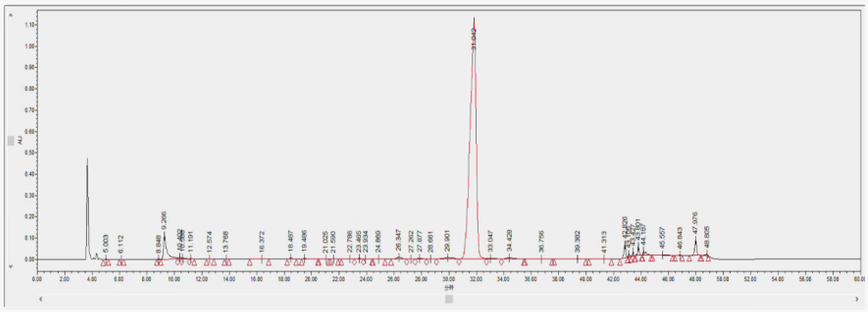
Analysis Results of Fractions from the Second Purification Step

Peak No.	Peak name	R.T.(min.)	n.a.Sample size (n.a.)	Relative peak area %	Peak area mAU*min	Peak height mAU	Peak width (50%) min	Asymmetry EP	Degree of Separation EP	Theoretical plates (N, EP)
1		33.201	n.a.	0.08	0.1758	0.62	0.249	0.83	n.a.	98393
2		33.716	n.a.	0.03	0.0673	0.30	n.a.	n.a.	n.a.	n.a.
3		34.068	n.a.	0.09	0.1971	0.60	n.a.	n.a.	n.a.	n.a.
4		34.558	n.a.	0.10	0.2180	1.11	n.a.	n.a.	n.a.	n.a.
5		34.848	n.a.	99.56	213.3561	675.19	0.296	2.03	n.a.	76672
6		35.847	n.a.	0.08	0.1621	0.61	n.a.	n.a.	n.a.	n.a.
7		36.063	n.a.	0.05	0.1161	0.26	n.a.	n.a.	n.a.	n.a.
maximum			0.0000	99.56	213.3561	675.19	0.296	2.03	0.00	98393
minimum			0.0000	0.03	0.0673	0.26	0.249	0.83	0.00	76672
sum			0.0000	100.00	214.2924	678.69				

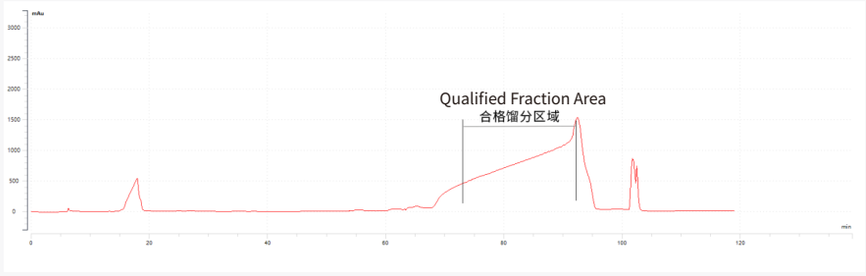
Summary of Preparative Results

Preparation Steps	Loading Capacity	Chromatographic Purity (Largest Single Impurity)	Yield	Overall Yield
First Step	Target Product Loading: 1.2% (7 g/L)	98.49% (0.43%)	88%	75.7%
Second Step	Target Product Loading: 1.2% (7 g/L)	99.56% (0.10%)	86%	

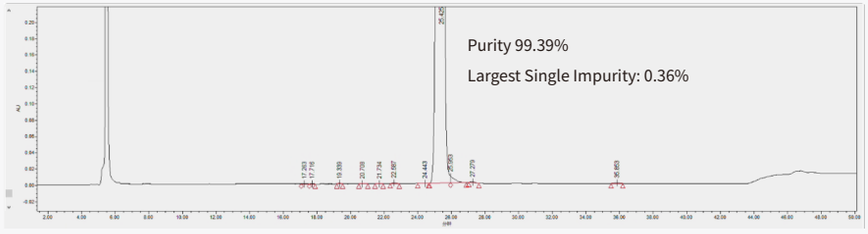
》 Case Study: PrePulite® Indxp Packing Media for Semaglutide Purification



Typical Chromatogram of the Crude Product (83.11%)



Typical First-Step Preparative Chromatogram

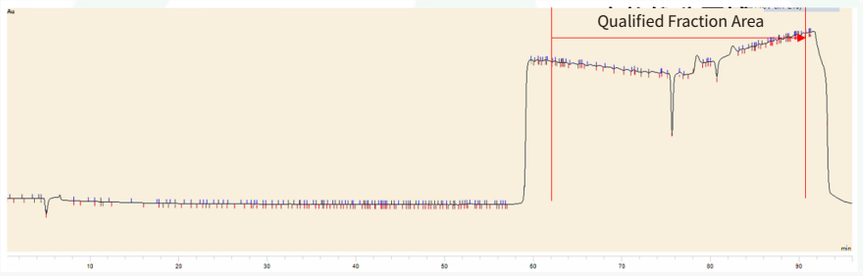


Typical Chromatogram of Qualified Fractions from the First-Step Preparative Purification

Key Parameters of the First-Step Purification

Packing Media:
PrePulite® Indxp C8 10μm
Linear Velocity:3cm/min
Loading Capacity:
Target Product Loading:
1.7% (10 g/L)
Qualified Fraction Control for the First Step:
Purity > 99.0%,
single impurity < 0.4%.
(Yield: 86%)

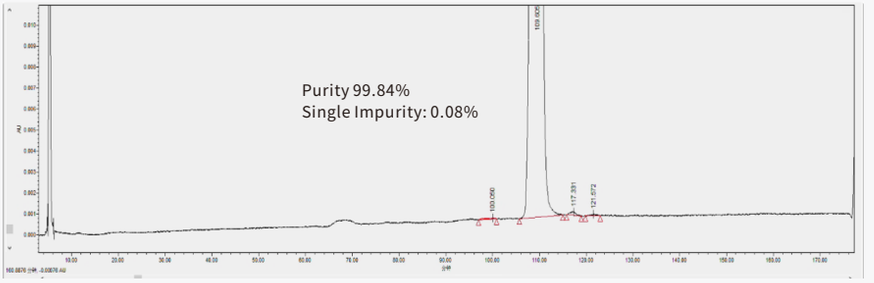
	Name	Retention Time (min)	Area (μV·s)	Area %	Int Type	Peak Type	Peak Code
1		17.263	6399	0.02	VV	Unknown	
2		17.716	4268	0.01	VB	Unknown	
3		19.339	5238	0.01	BB	Unknown	
4		20.708	2825	0.01	bb	Unknown	
5		21.734	2760	0.01	bb	Unknown	
6		22.587	19176	0.05	BB	Unknown	
7		24.443	7262	0.02	bb	Unknown	
8		25.425	37389851	99.39	BV	Unknown	
9		25.953	136516	0.36	Vb	Unknown	108
10		27.279	19825	0.05	BB	Unknown	
11		35.853	25338	0.07	BB	Unknown	



Typical Second-step Preparative Chromatogram

Key Parameters of the Second-Step Purification

Packing Media:
PrePulite® Indxp C8, 10 µm
Linear Velocity: 3 cm/min
Sample Loading: The qualified fractions collected from the first purification step were diluted twofold with water before pump injection.
Target Product Loading: 1.3% (8 g/L)



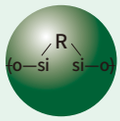
	Name	Retention Time (min)	Area (µV·s)	Area %	Height (µV)	Int Type	Peak Type
1		100.050	8188	0.04	59	bb	Unknown
2		109.605	18332871	99.84	179554	bb	Unknown
3		117.331	14156	0.08	162	bb	Unknown
4		121.572	6335	0.03	79	bb	Unknown

Chromatogram of Fractions from the Second Purification Step

Two-Step Yield Summary Table

Preparation Steps	Loading Capacity	Chromatographic Purity (Largest Single Impurity)	Yield	Overall Yield
First Step	Target Product Loading1.7% (10g/L)	99.39% (0.36%)	86%	72%
Second Step	Target Product Loading1.3% (8g/L)	99.84% (0.08%)	85%	

》Order Information

Packing Media	Bonded Phase	Particle Size (µm)	Pore Size (Å)	Pore Volume (mL/g)	Surface Area (m^2/g)	End-capped	Carbon Load (wt%)	Part No
	C18	7	130	0.7	185	YES	19%	INDXPC18-07-130
		10	130	0.7	185	YES	19%	INDXPC18-10-130
	C8	7	130	0.7	185	YES	13.5%	INDXPC8-07-130
		10	130	0.7	185	YES	13.5%	INDXPC8-10-130

PolyPulite® Preparative Packing Media

WePure PolyPulite® RP-1 is a novel reversed-phase PSDVB resin designed with high mechanical strength and a large surface area. It combines the high separation efficiency and pressure resistance typically associated with silica-based media with the excellent pH stability (pH 1–14) and high loading capacity of polymeric resins. In addition, it is fully compatible with conventional organic solvent gradient elution systems.

DAC columns are widely used for the purification of natural products, traditional herbal extracts, synthetic compounds, peptides, and proteins due to their simple and convenient operation during both column packing and media regeneration.

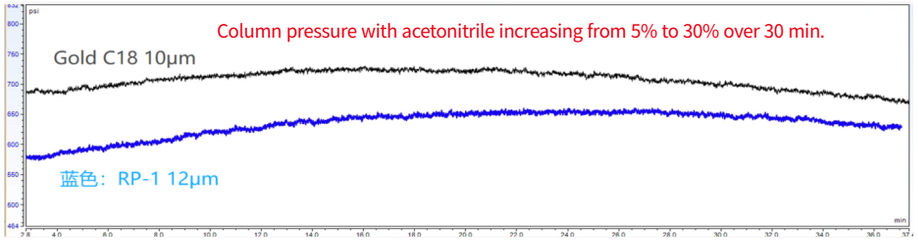
In purification projects where conventional silica-based media combined with DAC technology, or conventional polymeric resins used in medium- to low-pressure chromatography systems, fail to achieve the required purification performance, WePure PolyPulite® RP-1 has demonstrated outstanding separation and purification capability.

PolyPulite® RP-1 can be packed into prepacked columns or DAC columns for preparative purification applications, and can also be used as a conventional medium- and low-pressure chromatographic medium.

PolyPulite® RP-1 Parameters:

Test Items	Range
Surface Area（m^2/g）	800
Pore Size（Å）	60-80
Pore Volume（cm^3/g）	1.2
Particle Size（μm）	12-1000
pH Operating Range	1-14

WePure PolyPulite® RP-1 exhibit a low swelling coefficient and are suitable for use in DAC processes：



Packing formats of PolyPulite® RP-1：

Type	Recommended dimensions
Flanged column	4.6x250mm to 50x250mm
DAC	30x250mm to 1200x250mm
Flash column	milliliter to cubic meter scale

Purification type

Purification mode	Application range
Resin	Purification of natural products, small molecules, etc.
Normal phase	Purification of non-polar compounds
Reversed phase	Purification of polar and moderately polar compounds

》PolyPulite® RP-1 Application Cases

Application as a Resin-Based Packing Material: Purification of Iopamidol

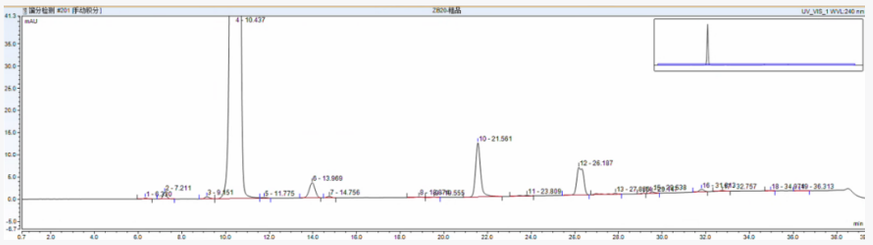


Figure 1. HPLC analysis of crude iopamidol sample

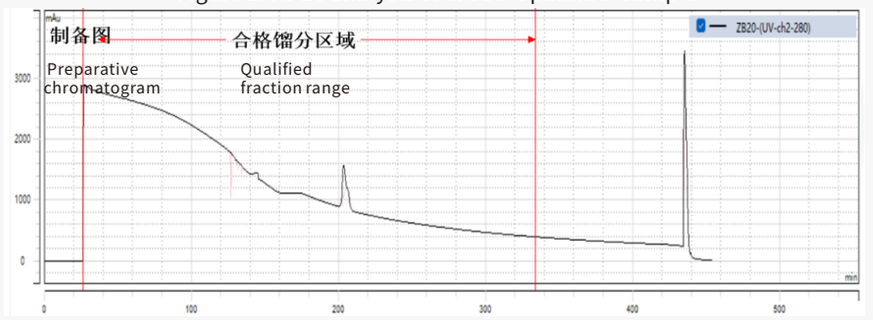
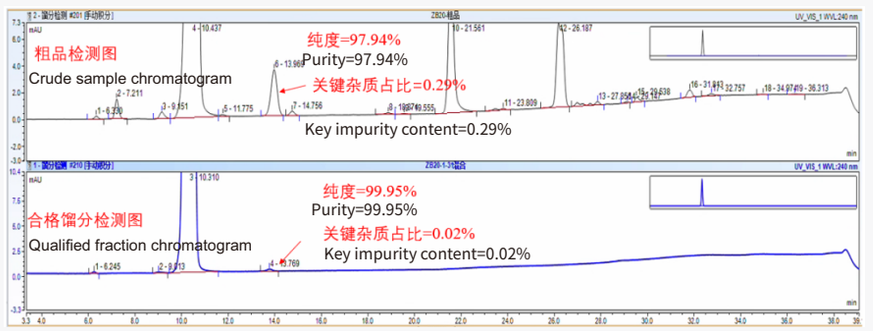


Figure 2. Preparative chromatogram of iopamidol



Key preparative parameters:

Column: 20 x 60 mm Flash column

Packing material:

PolyPulite® RP-1, 50 µm

Yield: ⩾90%

Loading capacity: ⩾90 g/L

Figure 3. Comparison of impurities before and after purification

Purification results: Purity >99.9%, key impurities ⩽0.02%.

Application as a Reversed-Phase Media – Case 1: Purification of an Innovative Drug

In a specific project, the customer evaluated various types of packing materials from both domestic and international suppliers. Under non-overloading injection conditions, impurity A and the target compound showed good resolution on conventional silica-based reversed-phase media across different types of columns.

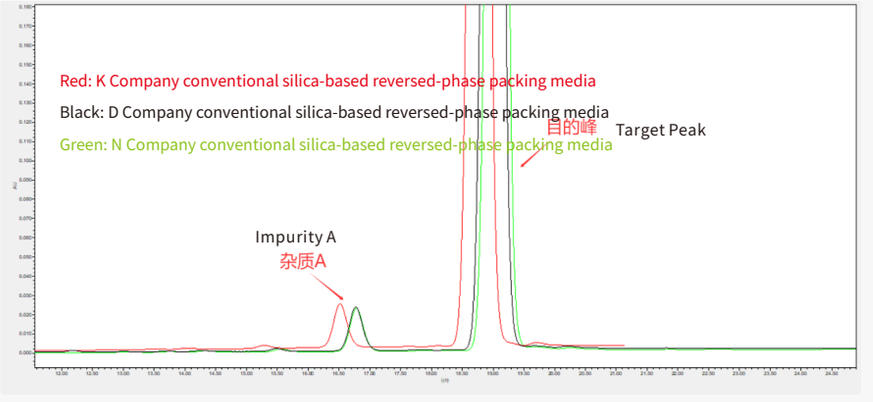


Figure 4. Typical analytical chromatogram on conventional silica-based reversed-phase packing media

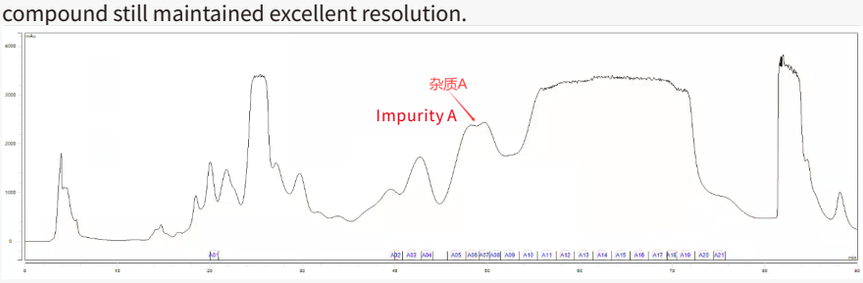
However, when the loading capacity reached 6 g/L during purification, impurity A co-eluted with the target compound across various packing materials from both domestic and international suppliers.



Preparative key parameters:
Column: 20 × 250 mm flanged column
Linear velocity: 6 cm/min
Column packing:
Reversed-phase C8/C18, 10 µm
Loading capacity: 6 g/L

Figure 5. Preparative chromatogram on conventional silica-based reversed-phase packing media

Due to its higher loading capacity compared with conventional reversed-phase media, PolyPulite® RP-1 is less prone to peak distortion under overloading conditions. In this case, the loading was increased to 12 g/L, while impurity A and the target compound still maintained excellent resolution.



Preparative key parameters
Column: 20 × 250 mm flanged column
Linear velocity: 6 cm/min
Packing material:
PolyPulite® RP-1, 12 µm
Loading capacity: 12 g/L
Mobile phase:
0.1% TFA + acetonitrile

Figure 6. Preparative chromatogram on PolyPulite® RP-1 packing media

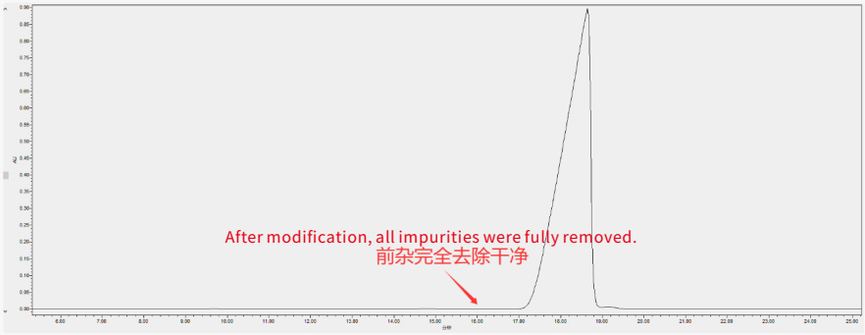


Figure 7. Purification performance of PolyPulite® RP-1 packing media

Application as a Reversed-Phase Media – Case 2: Separation of Vitamin Isomers

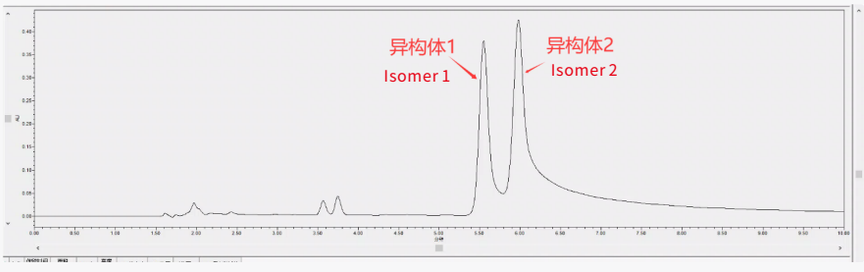


Figure 8. HPLC chromatogram of crude sample



Figure 9. Preparative chromatogram on conventional reversed-phase packing media

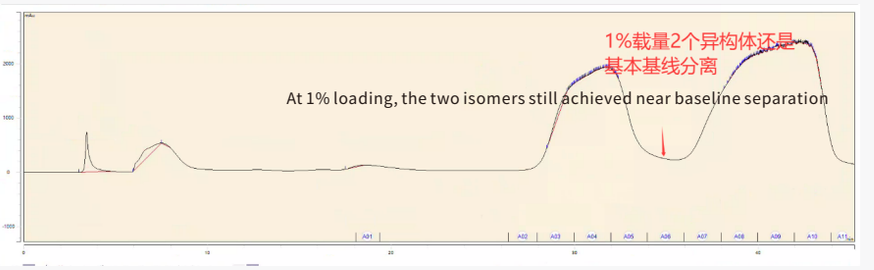


Figure 10. Preparative chromatogram on RP-1 packing media

Preparative key parameters

Packing material: conventional reversed-phase media, 10 µm

Loading capacity: 0.25%

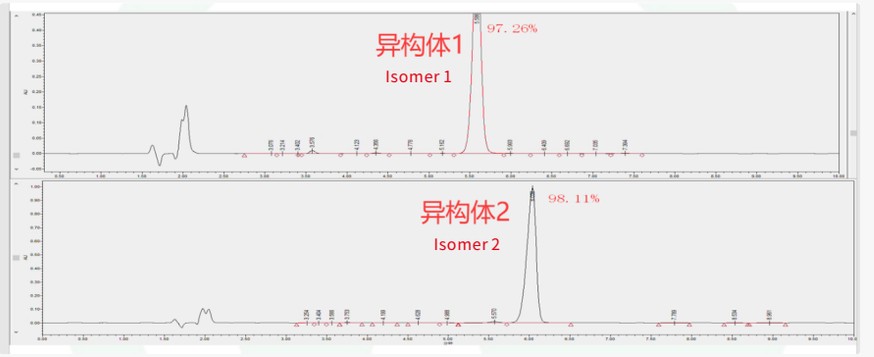


Figure 11. HPLC chromatogram of purified sample

Preparative key parameters

Column: 20 × 250 mm flanged column

Linear velocity: 6 cm/min

Packing material: PolyPulite® RP-1, 12 µm

Loading capacity: 1%

Mobile phase: buffer salt + methanol

Application as a Normal-Phase Media: Steroid Purification

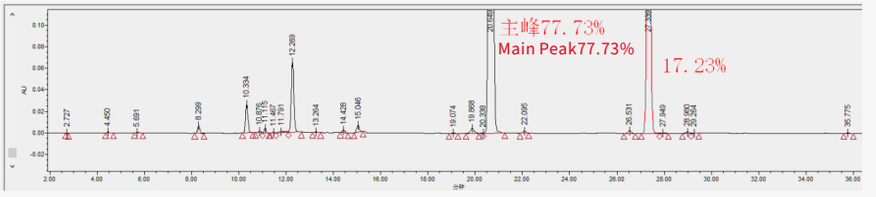


Figure 12. HPLC chromatogram of crude sample

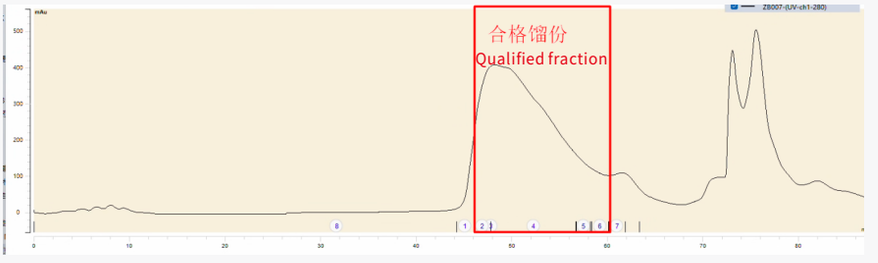


Figure 13. Preparative chromatogram on PolyPulite® RP-1 packing material

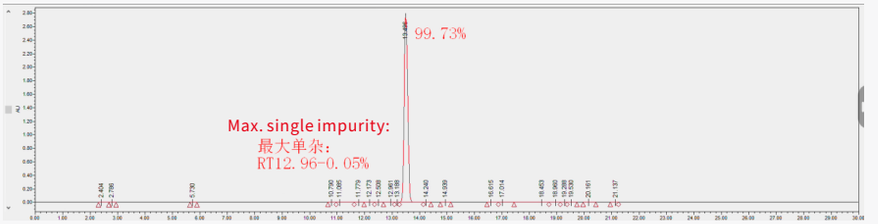


Figure 14. HPLC chromatogram of purified sample from 50 DAC column

Key preparative parameters

Column: 50 DAC column

Packing material: PolyPulite® RP-1, 30 µm

Loading capacity: 12 g/L

Yield: 85%

Mobile phase A: petroleum ether

Mobile phase B: ethyl acetate

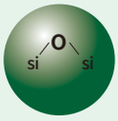
Elution mode: gradient elution

Order Information

Packing Media	Particle Size (µm)	Pore Size (Å)	Pore Volume (mL/g)	Surface Area (m^2/g)	Part No
PolyPulite® RP-1	12	80	1.2	800	RP1-12-80
	30	80	1.2	800	RP1-30-80
	50	80	1.2	800	RP1-50-80
	75	80	1.2	800	RP1-75-80
	120	80	1.2	800	RP1-120-80
	200	80	1.2	800	RP1-200-80

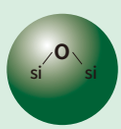
PrePulite® Gold Packing Media: The Preferred High-Purity Silica Packing Media for Analytical to Semi-Preparative Applications

Gold series packing media are prepared from high-purity silica microspheres by bonding different functional groups. Their high-purity silica matrix endows the packing media with high loading capacity and ultra-high resolution, making them the first choice for cost-effective packing media in preparative separation.

Packing Media	Bonded Phase	Particle Size (μm)	Pore Size (Å)	Pore Volume (mL/g)	Surface Area (m^2/g)	End-capped	Carbon Load (wt%)	Part No
	C18	7	120	0.9	300	YES	18%	GDC18-07-120
		10	120	0.9	300	YES	18%	GDC18-10-120
	C8	7	120	0.9	300	YES	10%	GDC08-07-120
		10	120	0.9	300	YES	10%	GDC08-10-120
	C4	7	120	0.9	300	YES	6%	GDC04-07-120
		10	120	0.9	300	YES	6%	GDC04-10-120
	HILIC	7	120	0.9	300	-	-	GDH-07-120
		10	120	0.9	300	-	-	GDH-10-120
	AQ-C18	7	120	0.9	300	YES	12%	GDAQ-07-120
		10	120	0.9	300	YES	12%	GDAQ-10-120
	Phenyl-Hexyl	7	120	0.9	300	YES	13%	GDPH-07-120
		10	120	0.9	300	YES	13%	GDPH-10-120

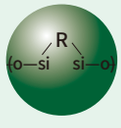
PrePulite® Perfect Packing Media: Preferred Choice for Unique Separation Selectivity

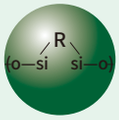
Designed specifically for polar compound purification, this series offers dedicated bonded phases for three separation modes: reversed-phase, normal-phase, and HILIC. It enables efficient handling of a wide range of compounds from weakly polar to highly polar molecules. The multi-mode separation capability significantly simplifies method development and provides an efficient and precise solution for the purification of polar compounds.

Packing Media	Bonded Phase	Particle Size (μm)	Pore Size (Å)	Pore Volume (mL/g)	Surface Area (m^2/g)	End-capped	Carbon Load (wt%)	Part No
	T3	10	120	1.0	300	YES	14%	PFTT3-10-120
	Diol	10	120	1.0	300	YES	5%	PFTD-10-120
	HILIC	10	120	1.0	300	NO	-	PFTH-10-120

》PrePulite® XP Packing Media：The Preferred Alkali-Resistant Packing Media for Analytical to Semi-Preparative Applications

The unique structural hybrid technology combines the advantages of organic and inorganic packing media, retaining the high efficiency of conventional silica-based packing media while significantly broadening the pH operating range. Under alkaline mobile phase conditions, its lifetime far exceeds that of ordinary surface hybrid packing media, offering greater flexibility in selecting preparative mobile phases and helping enterprises reduce costs and increase efficiency.

Packing Media	Bonded Phase	Particle Size (μm)	Pore Size (Å)	Pore Volume (mL/g)	Surface Area (m^2/g)	End-capped	Carbon Load (wt%)	Part No
	tC18	7	130	0.7	185	YES	18%	XPtC18-07-130
		10	130	0.7	185	YES	18%	XPtC18-10-130
	C18	7	130	0.7	185	YES	19%	XPC18-07-130
		10	130	0.7	185	YES	19%	XPC18-10-130
	tC8	7	130	0.7	185	YES	12.5%	XPtC8-07-130
		10	130	0.7	185	YES	12.5%	XPtC8-10-130
	C8	7	130	0.7	185	YES	13.5%	XPC8-07-130
		10	130	0.7	185	YES	13.5%	XPC8-10-130
	tC4	7	130	0.7	185	YES	9.5%	XPtC4-07-130
		10	130	0.7	185	YES	9.5%	XPtC4-10-130
	C4	7	130	0.7	185	YES	10%	XPC4-07-130
		10	130	0.7	185	YES	10%	XPC4-10-130
	T3	7	130	0.7	185	YES	15%	XPT3-07-130
		10	130	0.7	185	YES	15%	XPT3-10-130
	Phenyl-Hexyl	7	130	0.7	185	YES	15%	XPPH-07-130
		10	130	0.7	185	YES	15%	XPPH-10-130
	Silica	7	130	0.7	185	-	-	XPH-07-130
		10	130	0.7	185	-	-	XPH-10-130

Packing Media	Bonded Phase	Particle Size (µm)	Pore Size (Å)	Pore Volume (mL/g)	Surface Area (m^2/g)	End-capped	Carbon Load (wt%)	Part No
	Oligo tC18	7	130	0.7	185	YES	18%	XPOtC18-07-130
		10	130	0.7	185	YES	18%	XPOtC18-10-130
	tPFP	7	130	0.7	185	NO	11.5%	XPtPFP-07-130
		10	130	0.7	185	NO	11.5%	XPtPFP-10-130
	tC18/PFP	7	130	0.7	185	NO	15%	XPtFP18-07-130
		10	130	0.7	185	NO	15%	XPtFP18-10-130
	tC18/AX	7	130	0.7	185	YES	17.5%	XPtC18AX-07-130
		10	130	0.7	185	YES	17.5%	XPtC18AX-10-130
	Amide	10	130	0.7	185	NO	12.5%	XPA-10-130
	RP18 Plus	10	130	0.7	185	YES	17.5%	XPR18P-10-130

》PrePulite® PHS XP Packing Media：Delivers Unique Separation Selectivity, Excellent Peak Shape, and High-Performance Solutions

The surface-charged hybrid silica packing media improves the peak shape of basic compounds without the need for ion-pair reagents, enabling excellent chromatographic performance under conventional mobile phase conditions. Under overloaded preparative conditions, it effectively reduces co-elution and overlapping regions between compounds, resulting in enhanced product purity and improved purification yield.

Packing Media	Bonded Phase	Particle Size (µm)	Pore Size (Å)	Pore Volume (mL/g)	Surface Area (m^2/g)	End-capped	Carbon Load (wt%)	Part No
	tC18	7	130	0.7	185	YES	17.5%	XPtC18P-07-130
		10	130	0.7	185	YES	17.5%	XPtC18P-10-130
	Phenyl-Hexyl	7	130	0.7	185	YES	15%	PHSPH-07-130
		10	130	0.7	185	YES	15%	PHSPH-10-130
	tF5	7	130	0.7	185	NO	11%	PHStF5-07-130
		10	130	0.7	185	NO	11%	PHStF5-10-130

Suggestions for DAC Packing

Preparatory work

Major Equipment and Reagents

Table 1. Major Equipment and Reagents

Products	Specification	Q'ty	Main Uses	Remarks
Preparative Chromatography System	As required by the preparative system	1 set	Column packing and column efficiency testing	
Ultrasonic Cleaner	As required by the preparative system	1 unit	Frit cleaning and slurry preparation	Consult the equipment supplier for the required ultrasonic cleaner size for frit cleaning.
Air Compressor / Gas Supply	As required by the preparative system	1 set	DAC packing, unpacking and operation	Pressure and gas flow requirements should be confirmed with the equipment supplier in advance
Slurry Tank / Slurry Vessel	Refer to Appendix Table 3;	1 set	For packing slurry preparation	A slurry tank is recommended for DAC columns ⩾300 mm I.D.
Balance	Accuracy: 0.1 g	1 unit	Weighing packing media	
Graduated Cylinder	(1 L)	1 unit	Measuring solvents	
Ruler	⩾30 cm	1 piece	Measuring packing bed height	
Packing Material	As required by the process	Refer to Appendix Table 3	DAC column packing	
Isopropanol	Chromatographic Grade / Preparative Grade	As required	Slurry solvent and cleaning reagent	
Ethanol	Chromatographic Grade / Preparative Grade	As required	Slurry solvent and cleaning reagent	
Acetonitrile	Chromatographic Grade / Preparative Grade	As required	Mobile phase for column efficiency testing	
Water	Purified Water Recommended	As required	Cleaning purposes	
Sodium Hydroxide	Analytical Grade	As required	Frit cleaning	
Acetic Acid	Analytical Grade	As required	Frit cleaning	
Naphthalene	Analytical Grade	As required	Sample for column efficiency testing	

Packing Media

Select an appropriate chromatography column and packing media based on the manufacturing process. The required amount of packing media can be estimated using the following formula:

Amount of packing media(g) = DAC cross-sectional area (cm^2) × bed height (cm) × packing density (g/cm^3)

Example:

For packing a 150 mm DAC column with Indxp C8 10 µm packing media and a bed height of 250 mm, the required amount of packing media is calculated as follows:

Packing material = 3.14 × 7.5 × 7.5 × 25 × 0.65 = 2870 g

Table 2. Selected Packing Media Information from WePure

Packing media name	Particle size (µm)	Pore Size (Å)	Pore volume (cm^3/g)	Surface area (m^2/g)	Bonded phase	Packing pressure (Mpa)
Indxp C8	7/10	130	0.7	185	Single bond C8	8～10
Indxp C18	7/10	130	0.7	185	Single bond C18	8～10
Indxp tC18	7	130	0.7	185	tC18	8～10
Indxp tC8	7	130	0.7	185	tC8	8～10
Indsil C8	10	120	0.9	300	Single bond C8	7～9
Indsil C18	10	120	0.9	300	Single bond C18	7～9
Indsil C8	7	120	0.9	300	Single bond C8	8～10
Indsil C18	7	120	0.9	300	Single bond C18	8～10

Table 3. DAC Packing Data for Different Specifications

Column I.D.	Packing media amount	Slurry volume (L)	Solvent volume (L)
50	0.32	0.9	0.7
100	1.3	3.6	2.6
150	2.9	7.8	6
300	11.5	30	25
450	25.8	67	52
600	46.0	120	92

Remarks: A packing density of 0.65 g/mL is used for calculation; the column bed height is assumed to be 250 mm.
a. The packing density varies for different types of packing media. The actual packing density should be used for calculation, replacing the value of 0.65 g/cm^3 used in this case.
b. Packing media may be lost during repeated packing and unpacking processes. It is recommended to purchase 10–20% more than the theoretical amount.

3.Solvent

Select an appropriate slurry solvent based on the type of packing media. For reversed-phase packing media, isopropanol:ethanol (1:1, v/v) or pure isopropanol is commonly recommended as the slurry solvent. The typical slurry concentration is around 35%. A standard practice is to use a slurry solvent volume-to-packing material ratio of 2 mL:1 g.
For example, for a 150 mm DAC column, approximately 3 kg of packing media is required. The corresponding slurry solvent volume is approximately 6 L.

Column packing process

1.Clean

In line with the DAC manufacturer' s instructions, soak and clean the column frits and related components sequentially using an alkaline solution, purified water, and an organic solvent. Clean the inner surface of the column tube accordingly, and finally rinse thoroughly with the slurry solvent.

2.Leakage Test

It is recommended to use the slurry solvent or purified water to check the system for any leakage. During the test, the column pressure should be set 0.5–1 MPa higher than the actual packing pressure.

3.Slurry Preparation

Prepare the packing media and slurry solvent according to Table 3. For conventional packing media, isopropanol is recommended as the slurry solvent. While stirring, gradually add the packing media into the slurry vessel. Continue stirring until the packing media is fully dispersed, and then maintain stirring for at least 30 minutes.
To improve deaeration and remove air bubbles, the slurry may be subjected to ultrasonication for approximately 10 minutes.

4.Column Packing

Quickly transfer the prepared slurry into the chromatography column. Rinse any residual packing media from the column head. First, vent air through the upper frit, then continue introducing the slurry from the top frit to form a bed of approximately 5–10 cm. Switch to the lower frit to discharge the remaining slurry.

5.Column Efficiency Test

First, flush the column with the slurry solvent at a low flow rate for 1–2 column volumes. Then replace the slurry solvent with the mobile phase used for column efficiency testing. During solvent exchange, gradually increase the flow rate from low to high.
To prevent baseline instability caused by endothermic effects during solvent mixing, it is recommended to pre-mix the organic phase and water in the specified ratio and allow the mixture to equilibrate to room temperature before testing column efficiency.
After packing, the column bed is still not fully stabilized. If the column efficiency does not meet the acceptance criteria, the test may be repeated several times. If the results remain unsatisfactory after 3–5 measurements, it is recommended to let the column stand overnight before retesting, or to repack the column.

Test Conditions:
Mobile phase: Acetonitrile/Water (70/30, v/v)
Linear velocity: 3 cm/min
Detection wavelength: 254 nm
Naphthalene loading: 3 mg per kg of packing material

WEPURE, Preferred Choicefor HPLC Packing Media

WePure WeChat Official Account

WePure Biotech (Guangzhou) Co., Ltd.

Add: 9/F, Building 7,6 Nanjiang Second Rd., Zhujiang Street, Nansha District, Guangzhou, China
Tel: +86-20-3939 4992 Fax : +86-20-3939 4993
Url:www.wepuretech.com E-mail:support @wepuretech.com