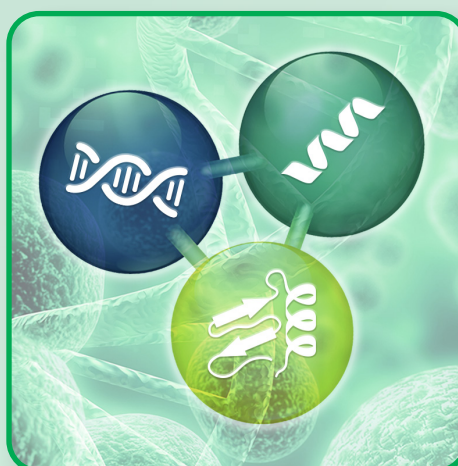


# Bioinert Columns

## YMC-Accura Triart

Oligonucleotides  
Peptides/proteins  
Metal coordinating  
compounds



Highly accurate results  
Exceptional peak shapes  
Excellent recoveries  
No carry-over

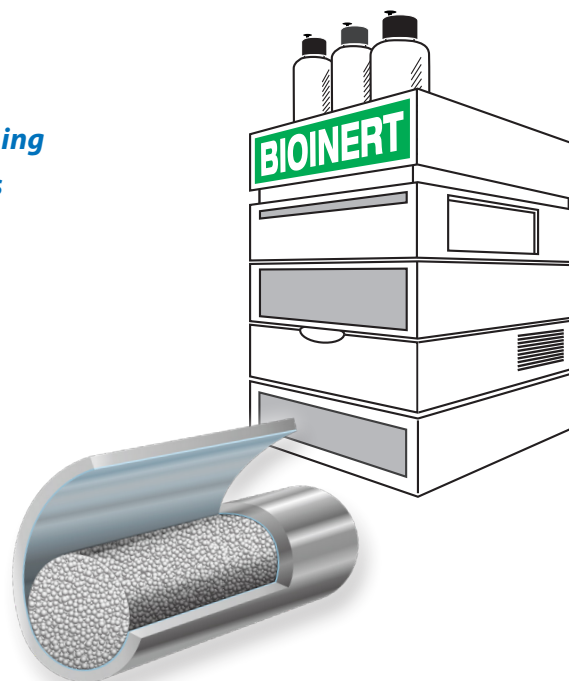
## Bioinert coated YMC-Accura Triart

### Features

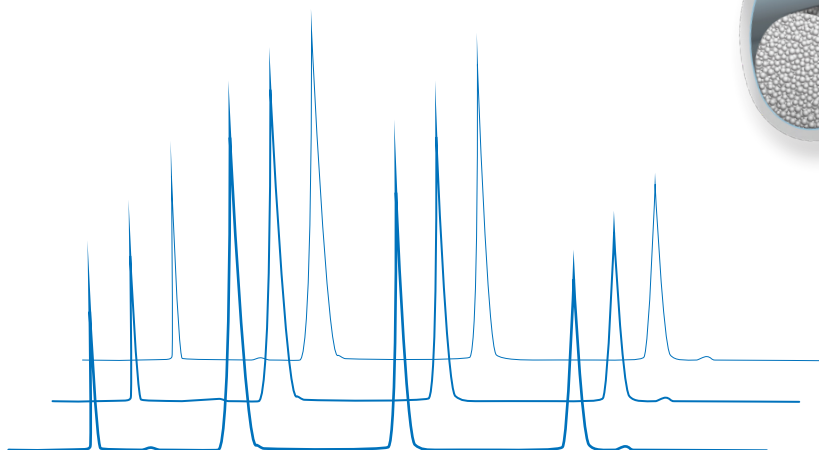
- *Exceptional peak shapes with high sensitivities*
- *Excellent recoveries without column preconditioning*
- *Superior reproducibility and no carry-over effects*
- *Ideal for highly sensitive LC/MS analyses*
- *New surface coated hardware*

### Ideal choice for

- *Oligonucleotides, nucleotides*
- *Peptides and proteins*
- *Metal coordinating compounds*



*Reliable results  
without  
preconditioning!*



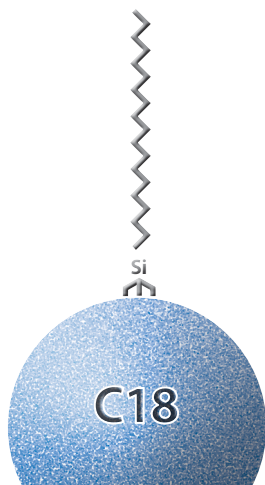
### Specifications

YMC-Triart Phases	C18, C18 ExRS, Bio C18, C8, Bio C4, Phenyl, PFP, Diol-HILIC
Particle Size	1.9, 3, 5 $\mu\text{m}$
Hardware	Bioinert coated stainless steel (all wetted parts incl. frits)
Pressure Limit	1.9 $\mu\text{m}$ : 100 MPa / 1,000 bar / 15,000 psi 3/5 $\mu\text{m}$ : 45 MPa / 450 bar / 6,525 psi
Column Connection	No special connections required

**YMC-Accura Triart** columns are an alternative to the already existing YMC-Triart metal-free, PEEK-lined columns from YMC. As the used column coating is less hydrophobic compared to the PEEK-lining, **YMC-Accura** columns are the ideal choice for e.g. more hydrophobic peptides which tend to show pronounced interactions with PEEK.

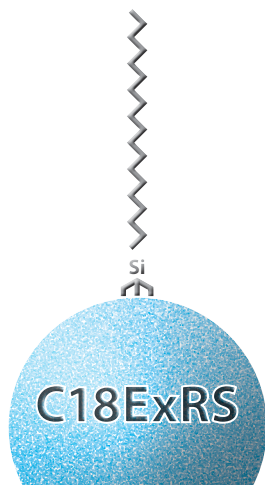
# Available inert stationary phases

YMC-Triart C18



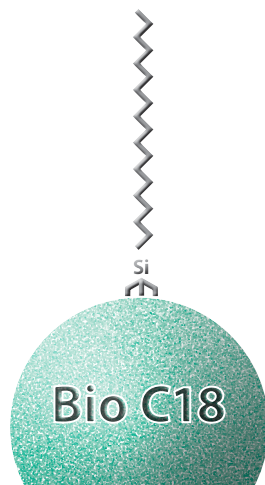
versatile applications  
first choice for  
method development  
pH 1–12/90 °C max.  
100% aqueous eluents ✓

YMC-Triart C18 ExRS



extended pH and stability  
hydrophobic substances  
positional isomers  
pH 1–12/90 °C max.

YMC-Triart Bio C18



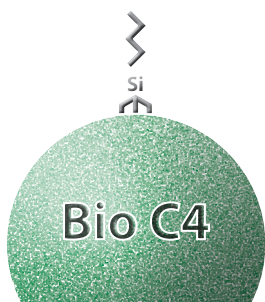
peptides/proteins/  
oligonucleotides  
300 Å widepore  
pH 1–12/90 °C max.  
100% aqueous eluents ✓

YMC-Triart C8



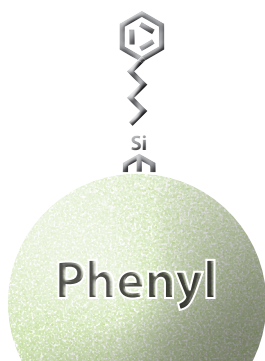
alternative to C18  
short retention time  
pH 1–12/90 °C max.

YMC-Triart Bio C4



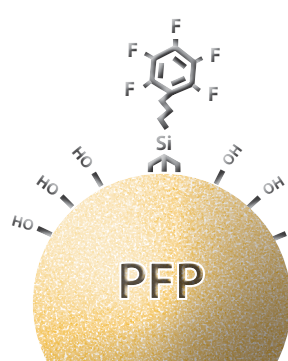
proteins/antibodies/peptides  
300 Å widepore  
pH 1–10/90 °C max.  
100% aqueous eluents ✓

YMC-Triart Phenyl



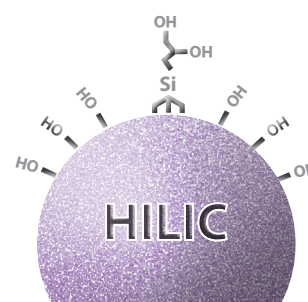
aromatic compounds  
( $\pi$ -electron donor)  
conjugated systems  
100% aqueous eluents ✓

YMC-Triart PFP



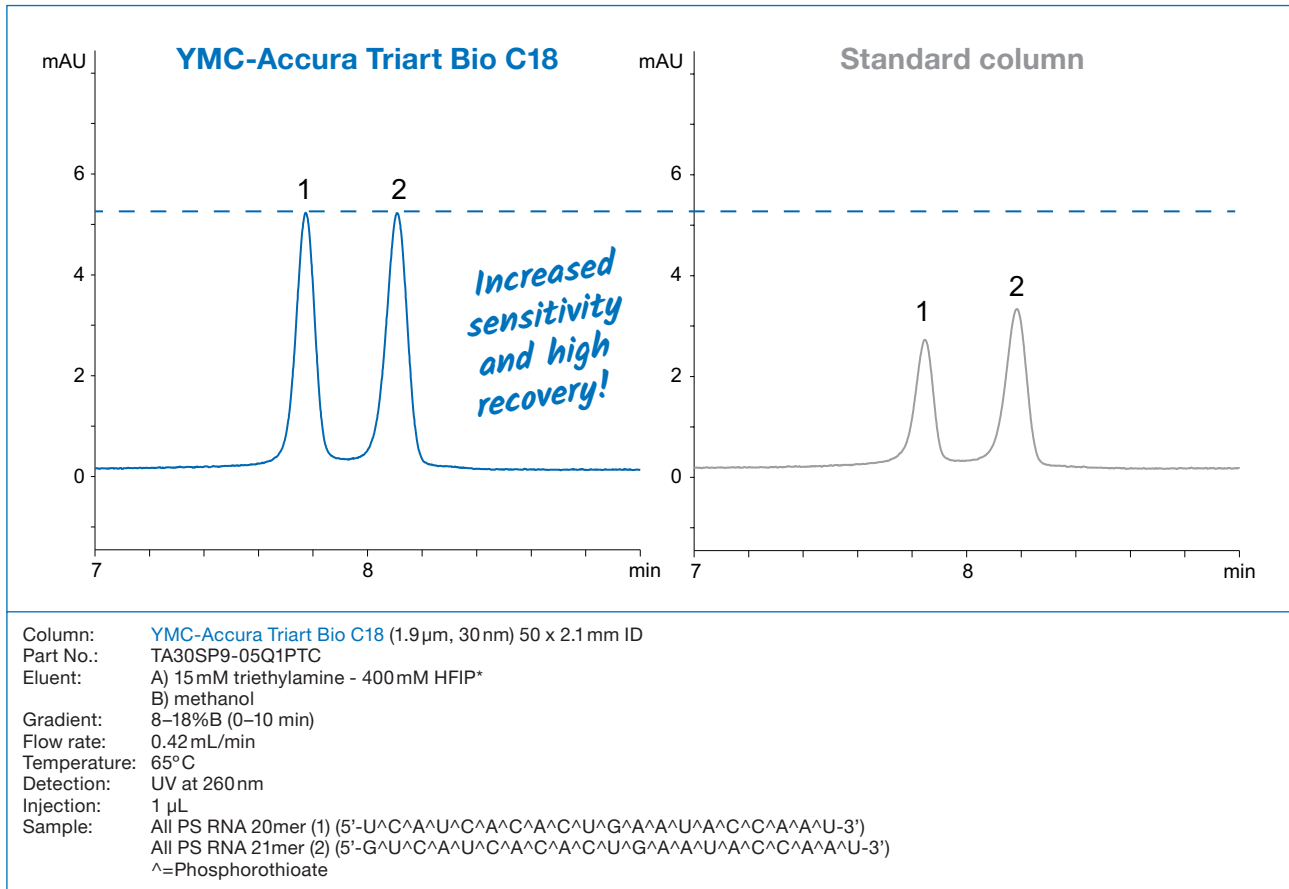
aromatic compounds  
( $\pi$ -electron donor)  
cis-trans isomers  
polar halogenated  
compounds  
100% aqueous eluents ✓

YMC-Triart Diol-HILIC



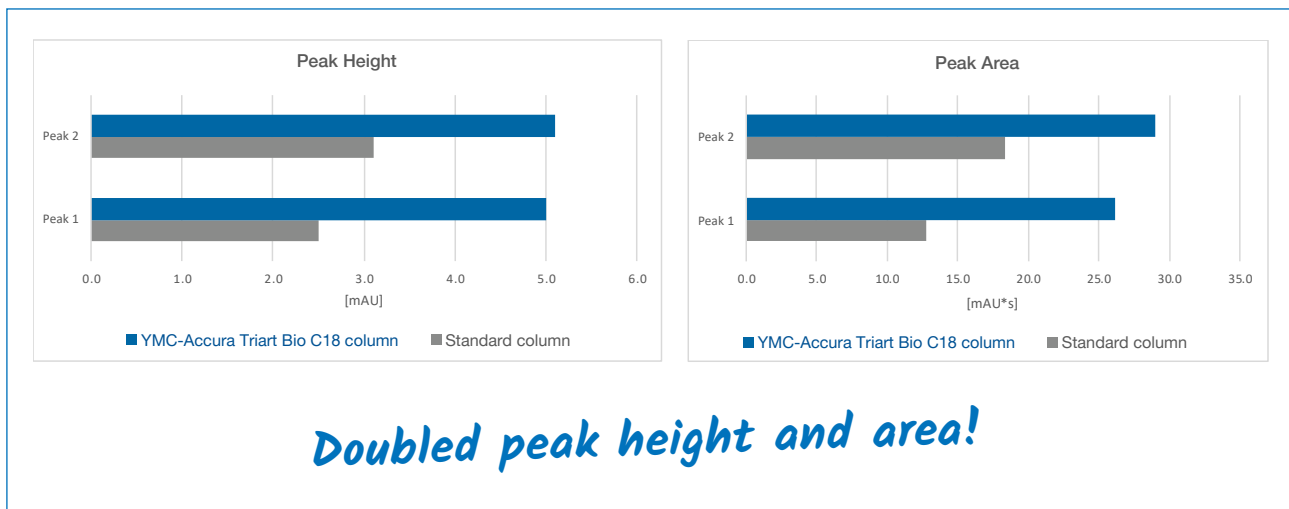
very polar compounds  
less ionic adsorption  
ideal choice for SFC  
100% aqueous eluents ✓

## Ideal choice for challenging analytes such as phosphorothioate oligonucleotides



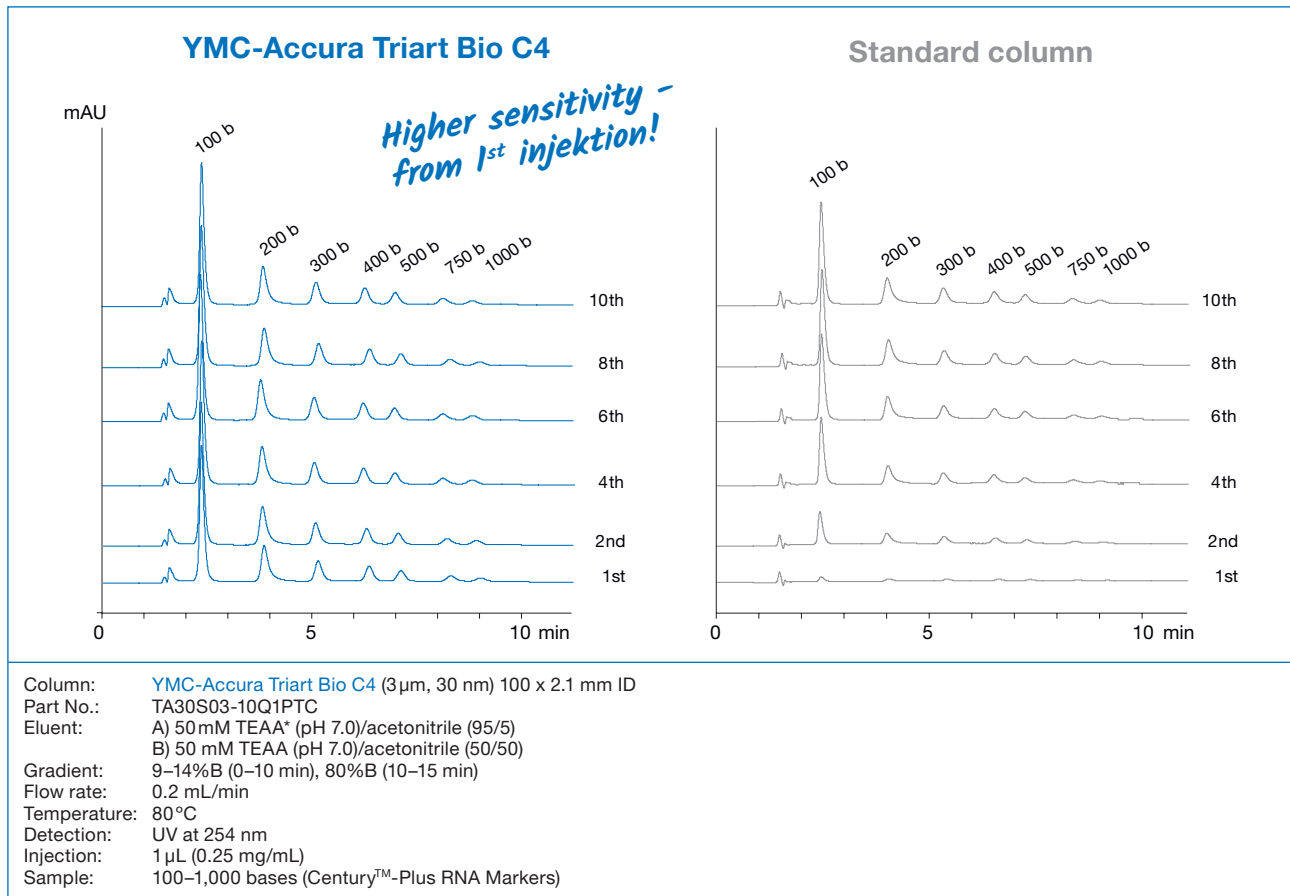
\*1,1,1,3,3,3-hexafluoro-2-propanol

## High sensitivity and recovery



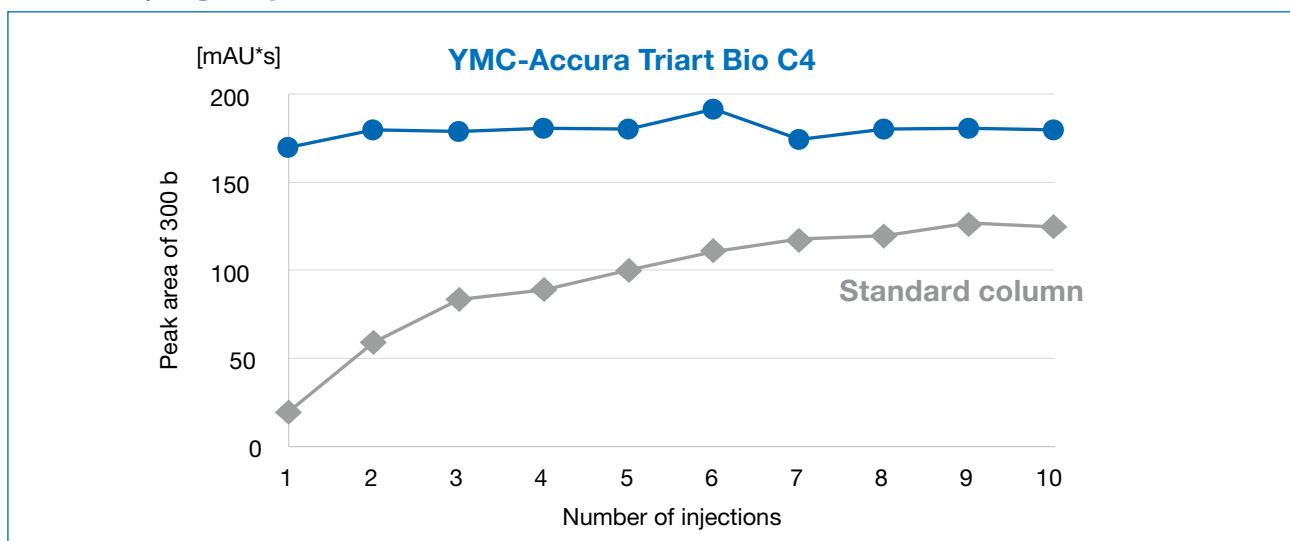
The **YMC-Accura Triart Bio C18** column provides double peak heights and peak areas for the oligonucleotides compared to those for regular stainless-steel columns. **YMC-Accura Triart** columns enhance the sensitivity significantly and help to save precious samples without any loss.

## No preconditioning required for reliable results from the 1<sup>st</sup> injection



\* Triethylammonium acetate

## Constantly higher peak areas and therefore recoveries

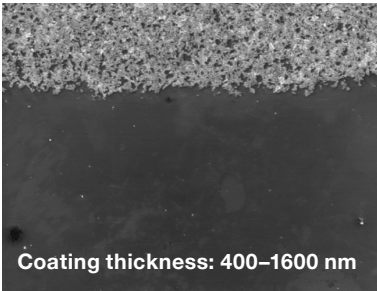


The **YMC-Accura Triart Bio C4** column shows stable peak areas from the first injection, while the standard stainless-steel column provides only 10% of the peak area (for the 300 base marker) with the first injection. Even after the tenth injection, the peak areas of the stainless-steel column are considerably less than those of the **YMC-Accura Triart** column.

# Robust coating for high inertness

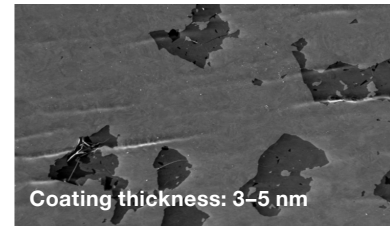


## Durable bioinert coating



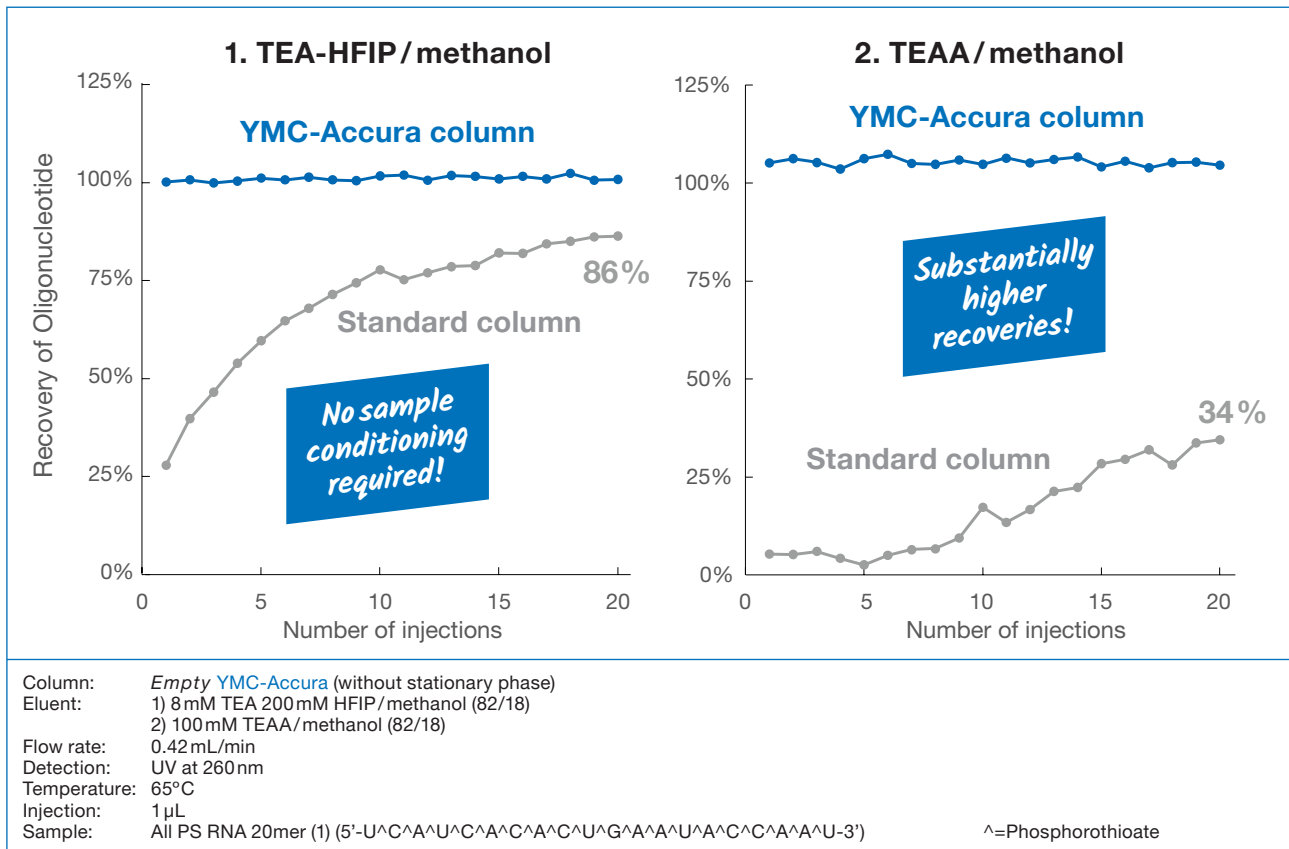
The robust bioinert coating used on **YMC-Accura** hardware is 130 to 320-fold thicker making it more durable than other similar hardware concepts. A long-term inertness against sensitive substances is ensured. In order to demonstrate its robustness, a **YMC-Accura** column was packed multiple times. Even though this is quite a challenge for the column surface, the coating remains unaffected (SEM\* picture: top area is bare steel for comparison).

Other coated columns can lose their inertness over time. This will again lead to adsorption of sensitive compounds on the uncovered metallic surfaces. Peak tailing, loss of recovery and sample carry-over are typical results of the delamination of the coating. After only unpacking a coated competitor column most of the coating is already delaminated (dark spots: remaining coating).



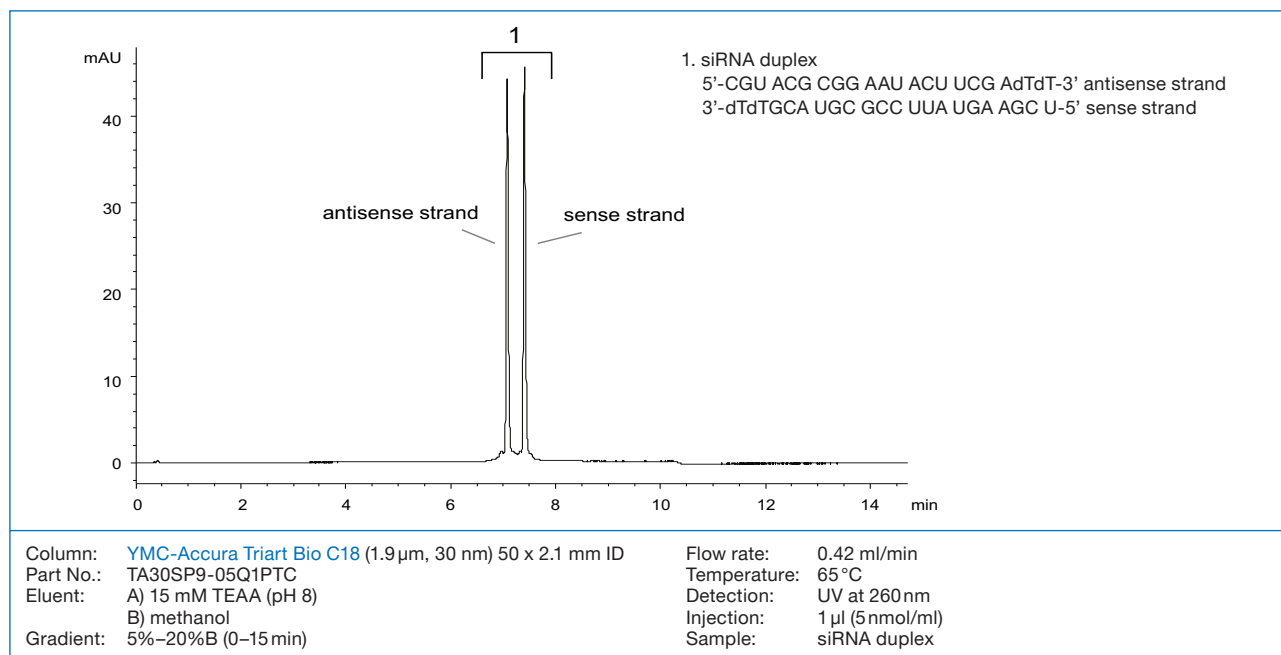
\*Scanning Electron Microscope

## High surface inertness without any adsorption

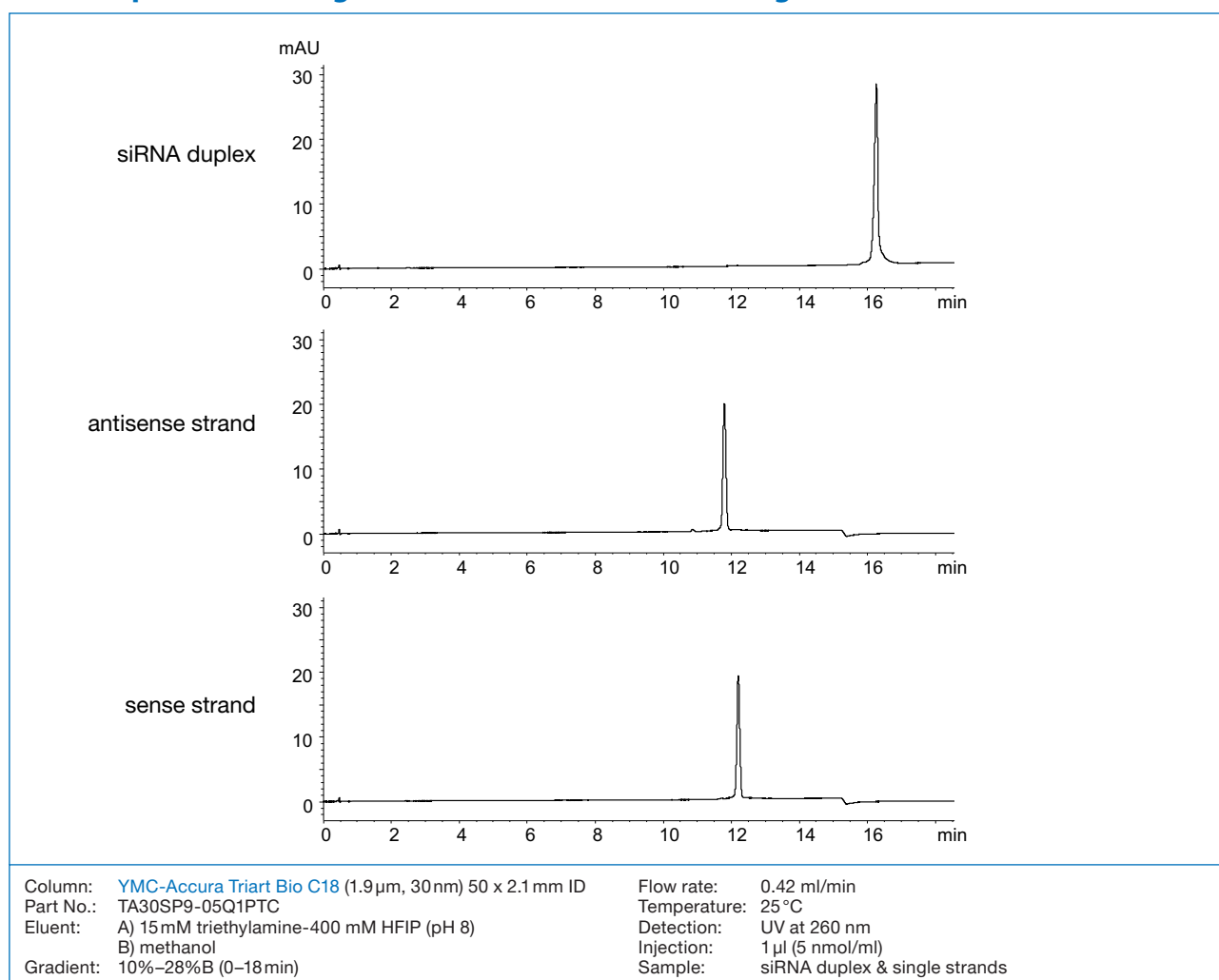


The **YMC-Accura** hardware with its inert surface area prevents adsorption of oligonucleotides using a range of different buffers. No sample conditioning is required. **YMC-Accura** columns further provide significantly higher recoveries and sensitivities that cannot be achieved with regular stainless steel columns – even after conditioning with 20 sample injections. These ready-to-use columns ensure high recovery and reproducibility from the very first use.

## siRNA duplex under denaturing conditions



## siRNA duplex and its single strands under non-denaturing conditions



## YMC-Accura Triart 1.9 µm UHPLC columns (max. pressure 1,000 bar)

Phase	Column ID (mm)	Column length (mm)		
		50	100	150
<b>C18</b>	2.1	TA12SP9-05Q1PTC	TA12SP9-10Q1PTC	TA12SP9-15Q1PTC
<b>C18 ExRS</b>	2.1	TAR08SP9-05Q1PTC	TAR08SP9-10Q1PTC	TAR08SP9-15Q1PTC
<b>Bio C18</b>	2.1	TA30SP9-05Q1PTC	TA30SP9-10Q1PTC	TA30SP9-15Q1PTC
<b>C8</b>	2.1	TO12SP9-05Q1PTC	TO12SP9-10Q1PTC	TO12SP9-15Q1PTC
<b>Bio C4</b>	2.1	TB30SP9-05Q1PTC	TB30SP9-10Q1PTC	TB30SP9-15Q1PTC
<b>Phenyl</b>	2.1	TPH12SP9-05Q1PTC	TPH12SP9-10Q1PTC	TPH12SP9-15Q1PTC
<b>PPF</b>	2.1	TPF12SP9-05Q1PTC	TPF12SP9-10Q1PTC	TPF12SP9-15Q1PTC
<b>Diol-HILIC</b>	2.1	TDH12SP9-05Q1PTC	TDH12SP9-10Q1PTC	TDH12SP9-15Q1PTC

## YMC-Accura Triart 3 µm HPLC columns (max. pressure 450 bar)

Phase	Column ID (mm)	Column length (mm)		
		50	100	150
<b>C18</b>	2.1	TA12S03-05Q1PTC	TA12S03-10Q1PTC	TA12S03-15Q1PTC
	4.6	TA12S03-0546PTC	TA12S03-1046PTC	TA12S03-1546PTC
<b>C18 ExRS</b>	2.1	TAR08S03-05Q1PTC	TAR08S03-10Q1PTC	TAR08S03-15Q1PTC
	4.6	TAR08S03-0546PTC	TAR08S03-1046PTC	TAR08S03-1546PTC
<b>Bio C18</b>	2.1	TA30S03-05Q1PTC	TA30S03-10Q1PTC	TA30S03-15Q1PTC
	4.6	TA30S03-0546PTC	TA30S03-1046PTC	TA30S03-1546PTC
<b>C8</b>	2.1	TO12S03-05Q1PTC	TO12S03-10Q1PTC	TO12S03-15Q1PTC
	4.6	TO12S03-0546PTC	TO12S03-1046PTC	TO12S03-1546PTC
<b>Bio C4</b>	2.1	TB30S03-05Q1PTC	TB30S03-10Q1PTC	TB30S03-15Q1PTC
	4.6	TB30S03-0546PTC	TB30S03-1046PTC	TB30S03-1546PTC
<b>Phenyl</b>	2.1	TPH12S03-05Q1PTC	TPH12S03-10Q1PTC	TPH12S03-15Q1PTC
	4.6	TPH12S03-0546PTC	TPH12S03-1046PTC	TPH12S03-1546PTC
<b>PPF</b>	2.1	TPF12S03-05Q1PTC	TPF12S03-10Q1PTC	TPF12S03-15Q1PTC
	4.6	TPF12S03-0546PTC	TPF12S03-1046PTC	TPF12S03-1546PTC
<b>Diol-HILIC</b>	2.1	TDH12S03-05Q1PTC	TDH12S03-10Q1PTC	TDH12S03-15Q1PTC
	4.6	TDH12S03-0546PTC	TDH12S03-1046PTC	TDH12S03-1546PTC

## YMC-Accura Triart 5 µm HPLC columns (max. pressure 450 bar)

Phase	Column ID (mm)	Column length (mm)		
		50	100	150
<b>C18</b>	2.1	TA12S05-05Q1PTC	TA12S05-10Q1PTC	TA12S05-15Q1PTC
	4.6	TA12S05-0546PTC	TA12S05-1046PTC	TA12S05-1546PTC
<b>C18 ExRS</b>	2.1	TAR08S05-05Q1PTC	TAR08S05-10Q1PTC	TAR08S05-15Q1PTC
	4.6	TAR08S05-0546PTC	TAR08S05-1046PTC	TAR08S05-1546PTC
<b>Bio C18</b>	2.1	TA30S05-05Q1PTC	TA30S05-10Q1PTC	TA30S05-15Q1PTC
	4.6	TA30S05-0546PTC	TA30S05-1046PTC	TA30S05-1546PTC
<b>C8</b>	2.1	TO12S05-05Q1PTC	TO12S05-10Q1PTC	TO12S05-15Q1PTC
	4.6	TO12S05-0546PTC	TO12S05-1046PTC	TO12S05-1546PTC
<b>Bio C4</b>	2.1	TB30S05-05Q1PTC	TB30S05-10Q1PTC	TB30S05-15Q1PTC
	4.6	TB30S05-0546PTC	TB30S05-1046PTC	TB30S05-1546PTC
<b>Phenyl</b>	2.1	TPH12S05-05Q1PTC	TPH12S05-10Q1PTC	TPH12S05-15Q1PTC
	4.6	TPH12S05-0546PTC	TPH12S05-1046PTC	TPH12S05-1546PTC
<b>PPF</b>	2.1	TPF12S05-05Q1PTC	TPF12S05-10Q1PTC	TPF12S05-15Q1PTC
	4.6	TPF12S05-0546PTC	TPF12S05-1046PTC	TPF12S05-1546PTC
<b>Diol-HILIC</b>	2.1	TDH12S05-05Q1PTC	TDH12S05-10Q1PTC	TDH12S05-15Q1PTC
	4.6	TDH12S05-0546PTC	TDH12S05-1046PTC	TDH12S05-1546PTC

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