

Fully-Porous Silica C30 Column

Shim-pack™ SR-C30

CoreFocus



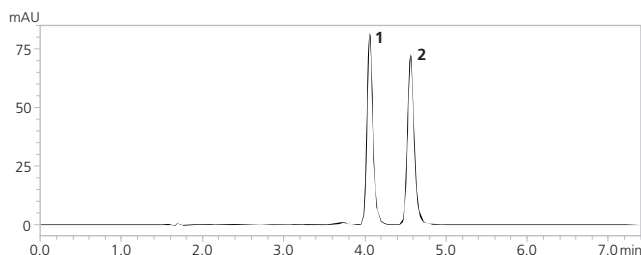
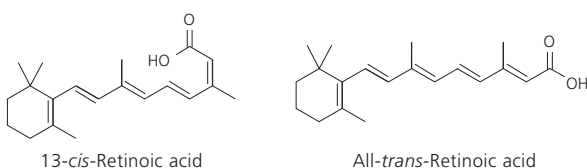
The Shim-pack SR-C30 is a reversed-phase column with triacontyl (C30) groups bound to a silica gel base material. This column is ideal for separating isomers that are difficult to resolve with typical C18 columns, contributing to improved reliability and efficiency across applications from regulatory environmental analysis to research use.

High Isomer Separation Capability

The long C30 chains of the SR-C30 provide hydrophobic retention capacity and responsiveness to structure, enabling clear separation of isomer peaks that have insufficient resolution when run on C18 columns. That makes it the perfect column for analyzing isomers of retinoic acid or aldehydes regulated by U.S. Environmental Protection Agency (EPA) 8315A or the Japanese Offensive Odor Control Law.

Analyzing Retinoic Acid Isomers

Although geometric isomers of retinoic acid, such as all-*trans*, 9-*cis*, and 13-*cis*, can be separated using a typical C18 column, sufficient resolution is not always achieved due to their similar hydrophobic and structural properties. Here, a baseline separation of all-*trans* and 13-*cis*-retinoic acid isomers using a Shim-pack SR-C30 column is shown.



1. 13-*cis*-Retinoic acid (1 mg/mL)
2. All-*trans*-Retinoic acid (1 mg/mL)

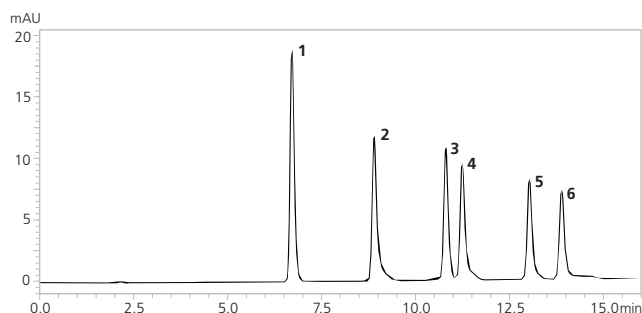
Mobile Phase : 0.1 % Formic acid/Methanol=10/90
Flow Rate : 1.0 mL/min
Inj. Vol. : 1 µL
Detection : 350 nm

Simultaneous Analysis of Six Aldehydes Specified in the Offensive Odor Control Law

The Offensive Odor Control Law¹⁾ specifically designates 22 substances as offensive odors. Here, results from an analysis of six DNPH-derivatized aldehydes specified as offensive odor substances (Table 1) are shown.

Table 1: Six Aldehydes Specified in the Offensive Odor Control Law

- | | |
|---------------------------|--------------------|
| • Acetaldehyde | • Propionaldehyde |
| • <i>n</i> -Butyraldehyde | • Isobutyraldehyde |
| • <i>n</i> -Valeraldehyde | • Isovaleraldehyde |



- | | |
|--------------------------|----------------------------------|
| 1. DNPH-Acetaldehyde | 2. DNPH-Propionaldehyde |
| 3. DNPH-Isobutyraldehyde | 4. DNPH- <i>n</i> -Butyraldehyde |
| 5. DNPH-Isovaleraldehyde | 6. DNPH- <i>n</i> -Valeraldehyde |

¹⁾ Ministry of the Environment Methods for Measuring Specific Offensive Odor Substances—Attached Table 4
<https://www.env.go.jp/hourei/10/000022.html>
(Described in only Japanese, April 1, 2026)

For more details, clicks the application button.

Application



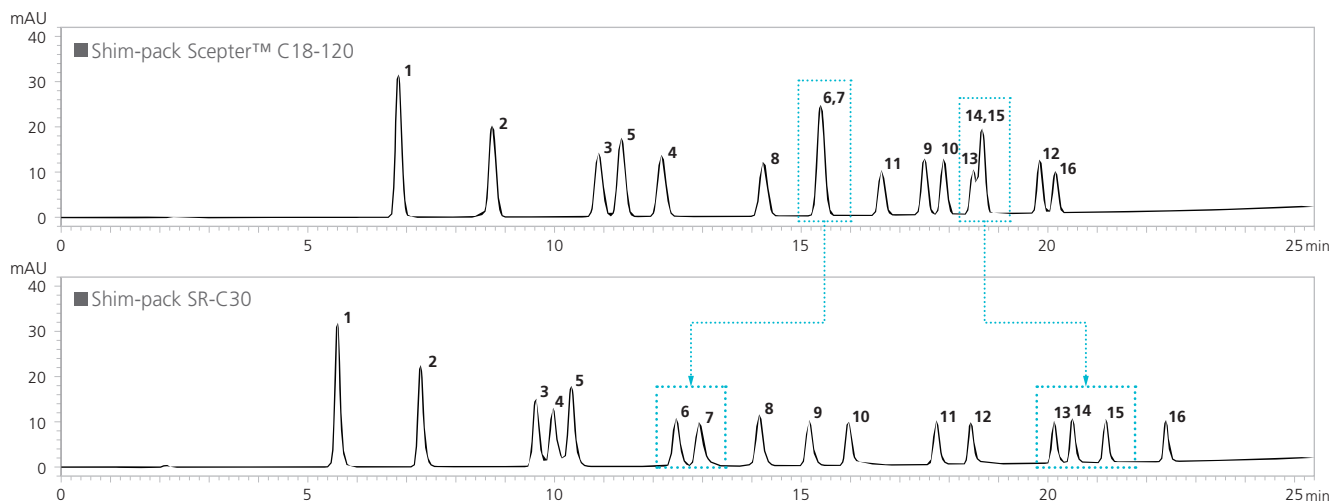
Simultaneous Analysis of 16 Components Including 15 Aldehydes Specified by the EPA

EPA 8315A²⁾ specifies analyzing 15 aldehyde components in indoor air (Table 2). Here, an example of the simultaneous analysis of 16 DNP^H-derivatized components, including the 15 components listed in Table 2 and isobutyraldehyde, is shown.

Due to the multiple aldehyde isomers among the 16 components and the 6 components specified in the Offensive Odor Control Law mentioned above, some of the components are difficult to separate using a typical C18 column. This example compares a typical C18 column and the Shim-pack SR-C30 for analysis of the 16 components, highlighting differences in resolution and elution order. Using the C30 column enabled separation of components that were not adequately separated using the C18 column.

Table 2: 15 Aldehyde Components Specified in EPA 8315A

- Formaldehyde
- Propionaldehyde
- Acetone
- Crotonaldehyde
- Isovaleraldehyde
- *n*-Hexanal
- *m*-Tolualdehyde
- 2,5-Dimethylbenzaldehyde
- Acetaldehyde
- Acrolein
- *n*-Butyraldehyde
- *n*-Valeraldehyde
- Benzaldehyde
- *o*-Tolualdehyde
- *p*-Tolualdehyde



- | | | | |
|---|--|---|--|
| 1. DNP ^H -Formaldehyde | 2. DNP ^H -Acetaldehyde | 3. DNP ^H -Acetone | 4. DNP ^H -Propionaldehyde |
| 5. DNP ^H -Acrolein | 6. DNP ^H -Isobutyraldehyde | 7. DNP ^H - <i>n</i> -Butyraldehyde | 8. DNP ^H -Crotonaldehyde |
| 9. DNP ^H -Isovaleraldehyde | 10. DNP ^H - <i>n</i> -Valeraldehyde | 11. DNP ^H -Benzaldehyde | 12. DNP ^H - <i>n</i> -Hexanal |
| 13. DNP ^H - <i>o</i> -Tolualdehyde | 14. DNP ^H - <i>m</i> -Tolualdehyde | 15. DNP ^H - <i>p</i> -Tolualdehyde | 16. DNP ^H -2,5-Dimethylbenzaldehyde |

²⁾ U.S. Environmental Protection Agency METHOD 8315A
<https://www.epa.gov/sites/default/files/2015-07/documents/epa-8315a.pdf>

For more details, clicks the application button.

Application

Product Line

Analytical Columns

P/N	Particle Size [μm]	Length [mm]	Internal Diameter [mm]
227-31218-01	3	100	4.6
227-31218-02	3	150	4.6
227-31218-03	5	150	4.6
227-31218-04	5	250	4.6



Guard Column

P/N	Description	Particle Size [μm]	Length [mm]	Internal Diameter [mm]	Qty.
227-31218-05	Cartridge	3	10	4.0	5
227-31218-06	Cartridge	3	20	4.0	5
227-31218-07	Cartridge	5	10	4.0	5
227-31218-08	Cartridge	5	20	4.0	5
227-31172-03	Holder	-	10	-	1
227-31172-04	Holder	-	20	-	1



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