

CoreFocus
Report
No.437

LC Reversed-phase Shim-pack™ Series

Shim-pack Scepter™ C18-120
Shim-pack UFPLC
Preparative Purification of Ibuprofen and
Its Related Substance

Keywords: NSAIDs, anti-inflammatory, cold medicine

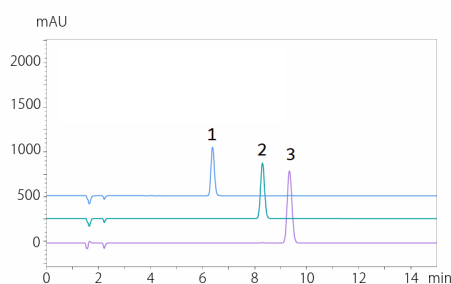


Fig.1 Chromatogram of Fraction Obtained by Nexera UFPLC (Nexera XR)

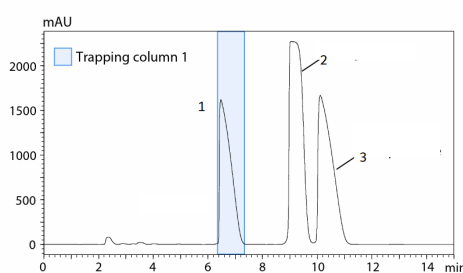


Fig. 2 Preparative LC Chromatogram of Ibuprofen (2000µL Injection, Nexera UFPLC)

1. Ibuprofen
2. Valerophenone
3. 4-Isobutyl-acetophenone (1.0 µmol/L each)

Table 1 Analytical Conditions for Purity Verification

System	: Nexera™ XR*1
Column	: Shim-pack Scepter C18-120 (150 mm L x 4.6 mm I.D., 5 µm), P/N : 227-31020-05
Mobile phase	: A) 1% (wt/v) Chloroacetic acid in water (pH 3*2) B) Acetonitrile A/B = 40 : 60 (v/v)
Flow rate	: 0.8 mL/min
Column temp.	: 30 °C
Detection	: 230 nm (SPD-40V, Standard flow cell)
Injection vol.	: 10 µL

*1 600 mm x 0.3 mm I.D. tubing was used to connect the SIL-40C XR autosampler to the column inlet

*2 pH 3.0 adjusted with ammonium hydroxide

Table 2 Preparative and Purification LC

System	: Nexera UFPLC
Preparative LC Conditions	
Column	: Shim-pack Scepter C18-120 (150 mm L x 20 mm I.D., 5 µm), P/N : 227-31102-03
Mobile phase	: A) 1% (wt/v) Chloroacetic acid in water (pH 3*2) B) Acetonitrile A/B = 40 : 60 (v/v)
Flow rate	: 20 mL/min
Column temp.	: Ambient
Detection	: 230 nm (SPD-M40, High pressure prepared flow cell)
Injection vol.	: 2000 µL
Rinsing Conditions	
Column	: Shim-pack UFPLC 20 x 30 (30 mm L x 20 mm I.D., 20 - 30 µm), P/N : 228-80220-41
Rinse solvent	: A) Acetonitrile/water = 2 : 98 (v/v) B) 0.2 % Formic acid in water C) Water
Time program	: A 40 mL/min (0.01-3 min) → B 15 mL/min (3.01-11 min) → C 40 mL/min (11.01-15.9 min)
Elution Conditions	
Eluent	: Acetonitrile
Flow rate	: 9 mL/min
Detection	: 230 nm (SPD-40V, Preparative flow cell)

Source : Application News an_01-00464 ([JP](#), [ENG](#))

CoreFocus, Shim-pack, Shim-pack Scepter and Nexera are trademarks of Shimadzu Corporation or its affiliated companies in Japan and/or other countries.

Shimadzu Corporation
www.shimadzu.com/an/

For Research Use Only. Not for use in diagnostic procedures.

This publication may contain references to products that are not available in your country. Please contact us to check the availability of these products in your country.

The content of this publication shall not be reproduced, altered or sold for any commercial purpose without the written approval of Shimadzu.

Company names, products/service names and logos used in this publication are trademarks and trade names of Shimadzu Corporation, its subsidiaries or its affiliates, whether or not they are used with trademark symbol "TM" or "®". Third-party trademarks and trade names may be used in this publication to refer to either the entities or their products/services, whether or not they are used with trademark symbol "TM" or "®".

Shimadzu disclaims any proprietary interest in trademarks and trade names other than its own.

The information contained herein is provided to you "as is" without warranty of any kind including without limitation warranties as to its accuracy or completeness. Shimadzu does not assume any responsibility or liability for any damage, whether direct or indirect, relating to the use of this publication. This publication is based upon the information available to Shimadzu on or before the date of publication, and subject to change without notice.

➤ Please fill out the survey

Related Products

Some products may be updated to newer models.



Related Solutions

➤ Small Molecule
Pharmaceutical

➤ 低分子医薬品

➤ Price Inquiry

➤ Product Inquiry

➤ Technical Service /
Support Inquiry

➤ Other Inquiry