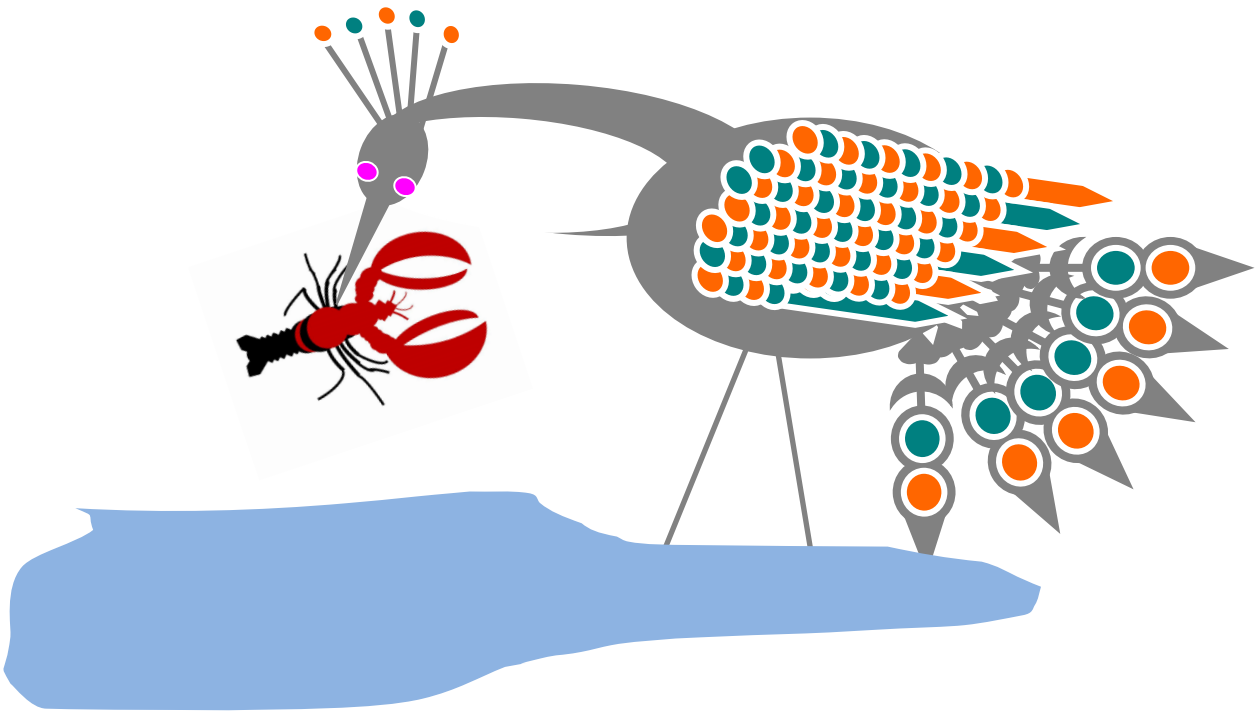
Separation for Hydrophilic compounds

CHROMATOREX®

ARG SILICA

（For HILIC）



FUJI SILYSIA CHEMICAL LTD.

CH 29

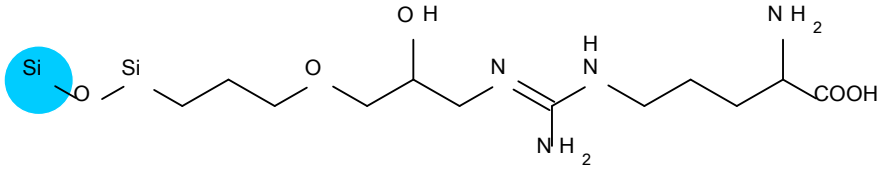
Introduction

Hydrophilic compounds have been separated in reversed-phased (RP) mode by using a media such as C18 (ODS) silica gel in combination with aqueous solvent mixtures. However, there are still many high hydrophilic compounds which cannot be separated using typical RP mode. Recently, a technique of Hydrophilic Interaction Chromatography (HILIC) has been developed and it is possible to separate high hydrophilic compounds. Fuji Silysia Chemical Ltd. (FSC) developed “ARG Silica” for HILIC mode (Patent applied in Japan). ARG Silica can separate hydrophilic compounds such as amino acid, peptide, vitamin and nucleic acid. Various particle size of ARG Silica are available for analysis and large scale purification. ARG Silica is dedicated to the separation of various hydrophilic compounds.

ARG Silica

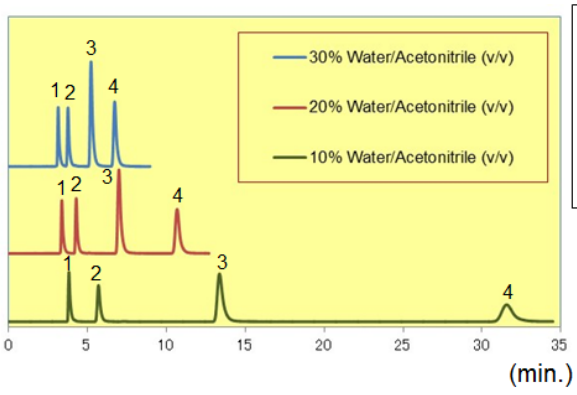
ARG Silica is based on a chemical surface modification with the amino acid arginine. ARG Silica has strong affinity to hydrophilic compounds and indicates high separation performance and different selectivity compared with other grades.

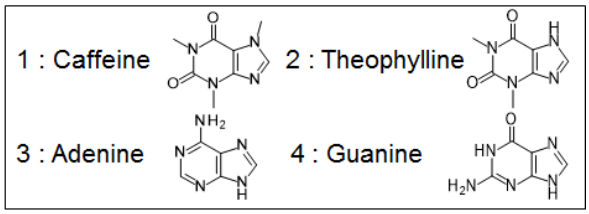
【Surface functinal group of ARG Silica】



In HILIC mode, mainly acetonitrile/water mixtures are preliminary choice for mobile phase. High polarity elutes are strongly retained to ARG Silica by hydrophilic interaction. As water content increases, elution time is getting shorter. Thus, separation pattern of ARG Silica is different from RP mode that retention time is getting longer as water content increases.

Influence of water in retention time when using ARG Silica in HILIC mode

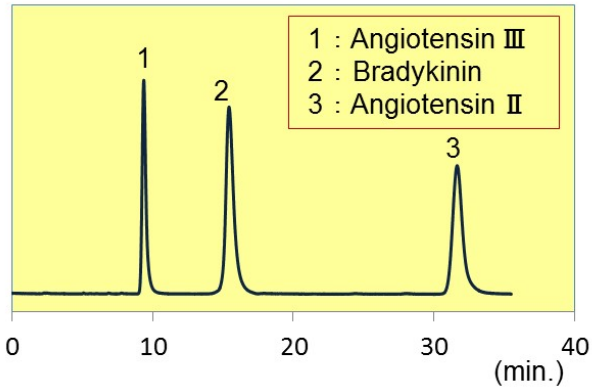




Media	:	ARG SPS100-5
Column	:	Φ4.6mm×250mm
Flow rate	:	1 ml/min.
Detector	:	UV254 nm.

Applications Separation of Hydrophilic compounds

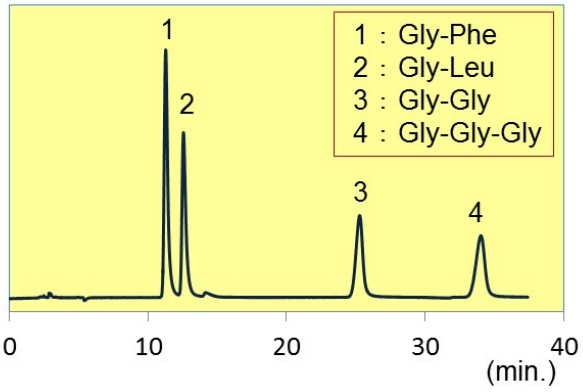
1. Separation of Polypeptide



Media	: ARG SPS100-5
Column	: Φ4.6mm × 250mm
Mobile phase	: Acetonitrile / 50mM Tris-HCl pH=8.5 (70 : 30) (v/v)
Flow rate	: 1 ml/min.
Detector	: UV220 nm

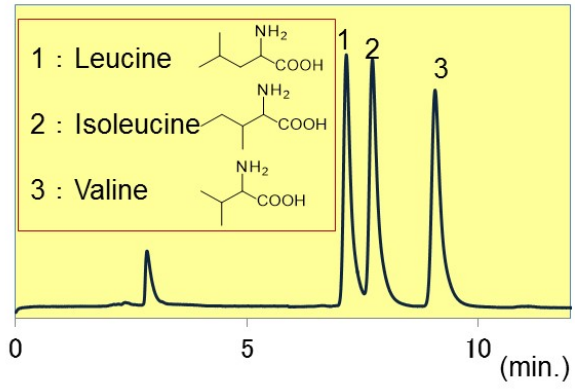
Amino acid sequence
1 : (Arg-Val-Tyr-Ile-His-Pro-Phe)
2 : (Arg-Pro-Pro-Gly-Phe-Ser-Pro-Phe-Arg)
3 : (Asp-Arg-Val-Tyr-Ile-His-Pro-Phe)

2. Separation of Oligopeptide



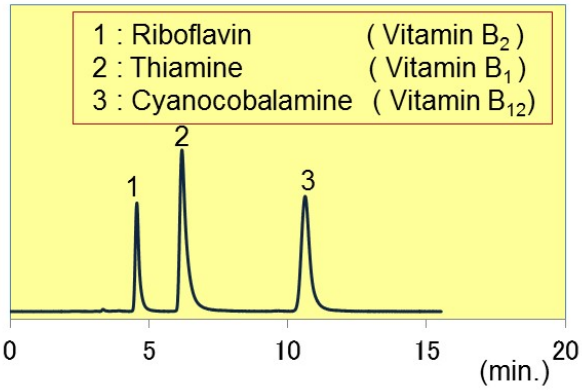
Media	: ARG SPS100-5
Column	: Φ4.6mm × 250mm
Mobile phase	: Acetonitrile / 50mM Tris-HCl pH=8.5 (70 : 30) (v/v)
Flow rate	: 1 ml/min.
Detector	: UV220 nm

3. Separation of Amino acid



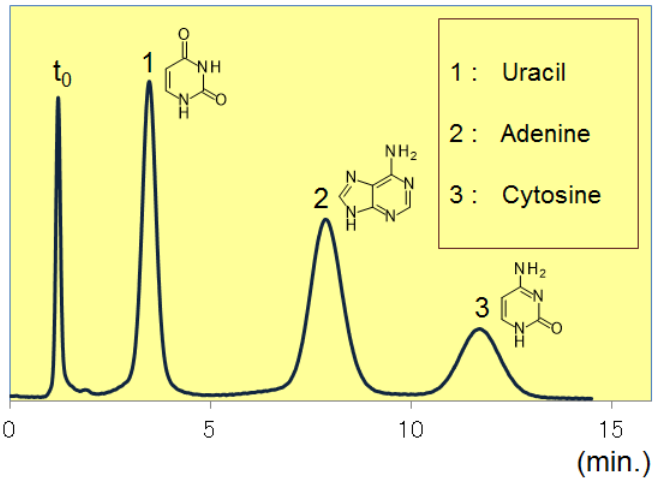
Media	: ARG SPS100-5
Column	: Φ4.6mm × 250mm
Mobile phase	: Acetonitrile / 50mM AcONa pH=4.5 (70 : 30) (v/v)
Flow rate	: 1 ml/min.
Detector	: UV220 nm

4. Separation of Vitamin



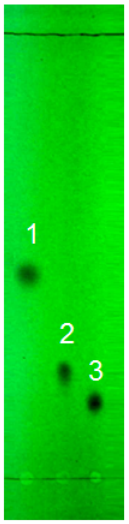
Media	: ARG SPS100-5
Column	: Φ4.6mm × 250mm
Mobile phase	: Acetonitrile / 50mM Tris-HCl pH=8.5 (70 : 30) (v/v)
Flow rate	: 1 ml/min.
Detector	: UV254 nm

5. Separation of Nucleic acid base by Disposable Cartridges and TLC Plates



Media	:	ARG SMB100-20/45
Column	:	Φ28mm × 100mm
Mobil phase	:	Acetonitrile / Water (90 : 10) (v/v)
Flow rate	:	30 ml/min.
Detector	:	UV254 nm

ARG TLC / UV 254nm



Acetonitrile / Water
(9 : 1) (v/v)

Grades

Grades	Net (kg)
ARG MB 100-75/200	5
ARG MB 100-40/75	1
	5
ARG SMB 100-20/45	1
ARG SPS 100-5	0.1

Grades	Pieces
ARG TLC (20cm×20cm) Thickness 0.25 mm	Glass plates 10 pieces

FUJI SILYSIA CHEMICAL LTD.

23F, Nagoya International Center Bldg., 1-47-1,

Nagono, Nakamura-ku, Nagoya-shi,

Aichi-ken, Japan 450-0001

Phone : +81 52 587 0451

Fax : +81 52 587 0455

Website: http://www.fuji-silysia.co.jp

E-mail : chromato-jpn@fuji-silysia.co.jp

FUJI SILYSIA CHEMICAL S.A.

International Chromatography Center

En Budron E 9

CH-1052 Le Mont-sur-Lausanne, Switzerland

Phone : +41 21 652 3436

Fax : +41 21 652 4737

E-mail: Fuji.Silysia.SA@fuji-silysia.co.jp

Jul. 2015