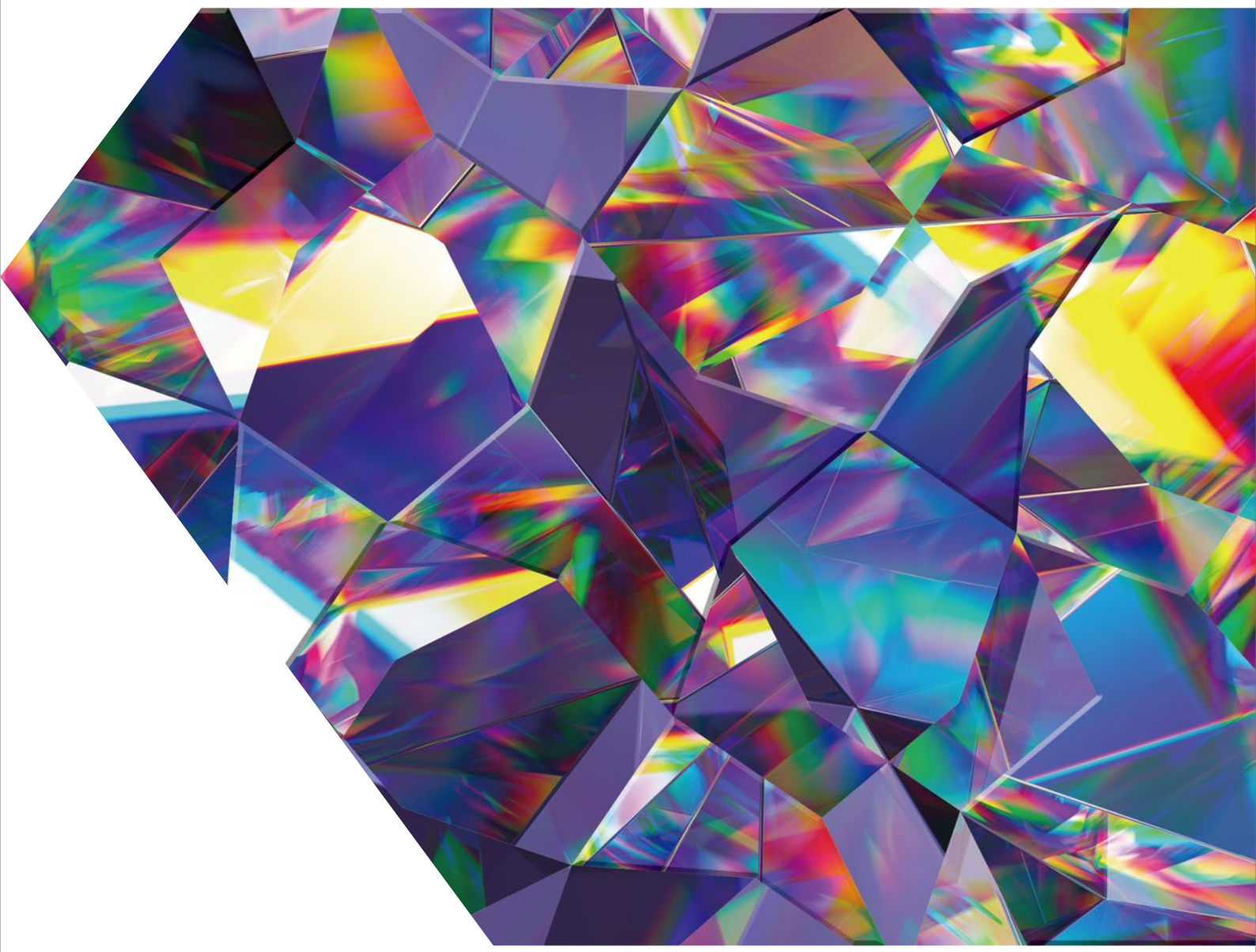
OSAKA SODA

CAPCELL PAK

ADME-HR / INERT ADME-HR



OSAKA SODA CO., LTD.

A Cage-Structured C_{12} column Achieving Strong Retention for Polar Analytes under Reversed-Phase Mode

CAPCELL PAK ADME-HR
CAPCELL PAK INERT ADME-HR

Best second choice

The introduction of Adamantylethyl groups provides a hydrophobic interaction while maintaining high surface polarity, resulting in retaining polar analytes even under water-rich mobile phases.

Physical property values

CAPCELL PAK ADME-HR

Particle Size (μm)	Pore Size (nm)	Surface Area (m^2/g)	Ligand Density (μmol/m^2)	C%	pH Range	Max. Pressure (MPa)
2	10	310	2.7	12	2~9	100
3	10	310	2.7	12	2~9	20
5	10	310	2.7	12	2~9	20

CAPCELL PAK INERT ADME-HR

Particle Size (μm)	Pore Size (nm)	Surface Area (m^2/g)	Ligand Density (μmol/m^2)	C%	pH Range	Max. Pressure (MPa)
3	10	310	2.7	12	2~9	50

Structure of INERT Column

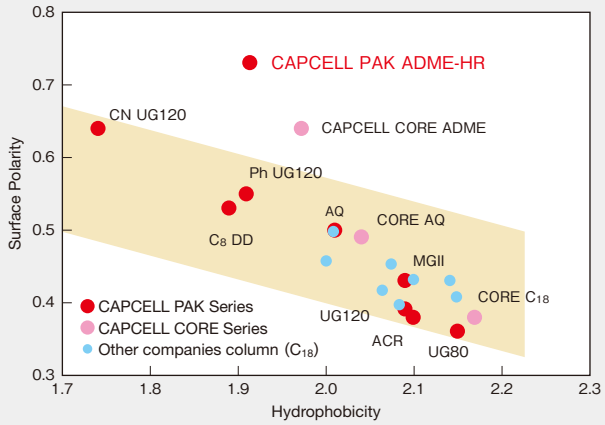
Inner Surface: PEEK
Filter: PEEK

What is ADME?

ADME is an abbreviation of Adamantane, which consists of ten carbons in a diamond-like structure. Ethyl groups are introduced to the Adamantane as a spacer and employed as a unique bonded phase for the CAPCELL PAK ADME-HR columns.

Adamantylethyl Groups
(ADME Groups)

Parameter Map

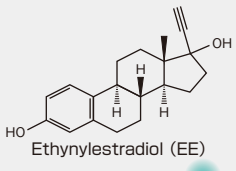


A Truly Unprecedented Balance of Hydrophobicity and Surface Polarity

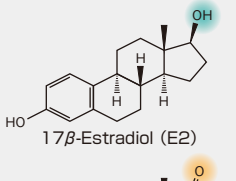
Comparison of Stereoselectivity

■ HPLC Conditions

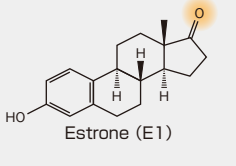
Column size : 2.1 mm i.d. x 50 mm
Mobile phase: H_2O / CH_3CN = 70 / 30
Flow rate : 0.4 mL/min
Temperature : 40 ℃
Detection : PDA 220 nm
Inj. vol. : 3 μL (50 μg/mL each)
Sample : 1. 17β-Estradiol (E2)
2. Estrone (E1)
3. Ethynylestradiol (EE)



Ethynylestradiol (EE)



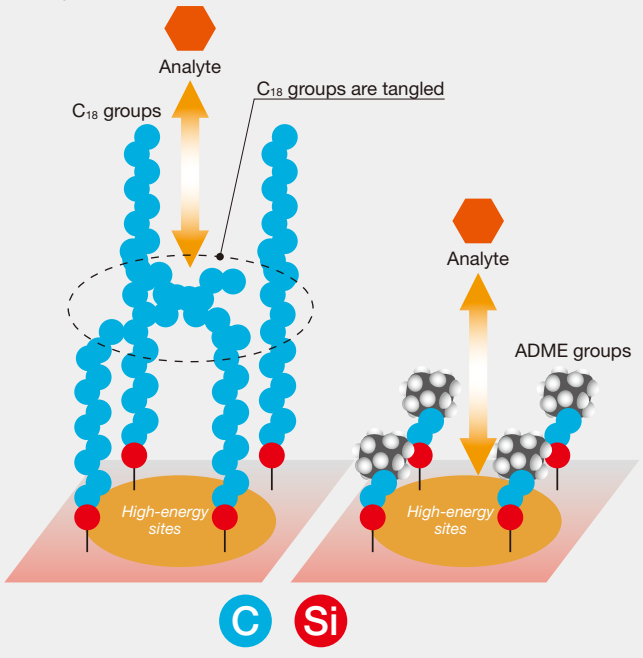
17β-Estradiol (E2)



Estrone (E1)

Comparison of Surface Polarity between a C_{18} and ADME column

■ C_{18} column ■ ADME column



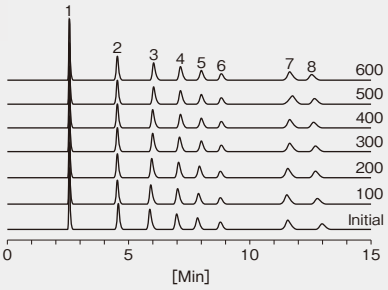
The caged-structured ADME groups offer interaction with the surface of the silica, resulting in providing a unique selectivity compared to a conventional C_{18} column.

Highly Stable under 100 % Water Mobile Phases

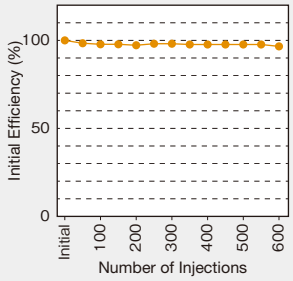
As shown on the right, the efficiency is very stable even after 600 injections under acidic mobile phase.

■ HPLC Conditions
Column size : 2.1 mm i.d. x 150 mm
Mobile phase: 10 mmol/L $HCOONH_4$ (Adjusted with formic acid at **pH 3**)
Flow rate : 0.2 mL/min
Temperature : 40 ℃
Detection : UV 254 nm
Inj. vol. : 1 μL
Sample : 1. Cytosine 2. Uracil 3. Guanine 4. Hypoxanthine 5. Xanthine 6. Oxipurinol 7. Allopurinol 8. Thymine

Results after 600 Consecutive Injections

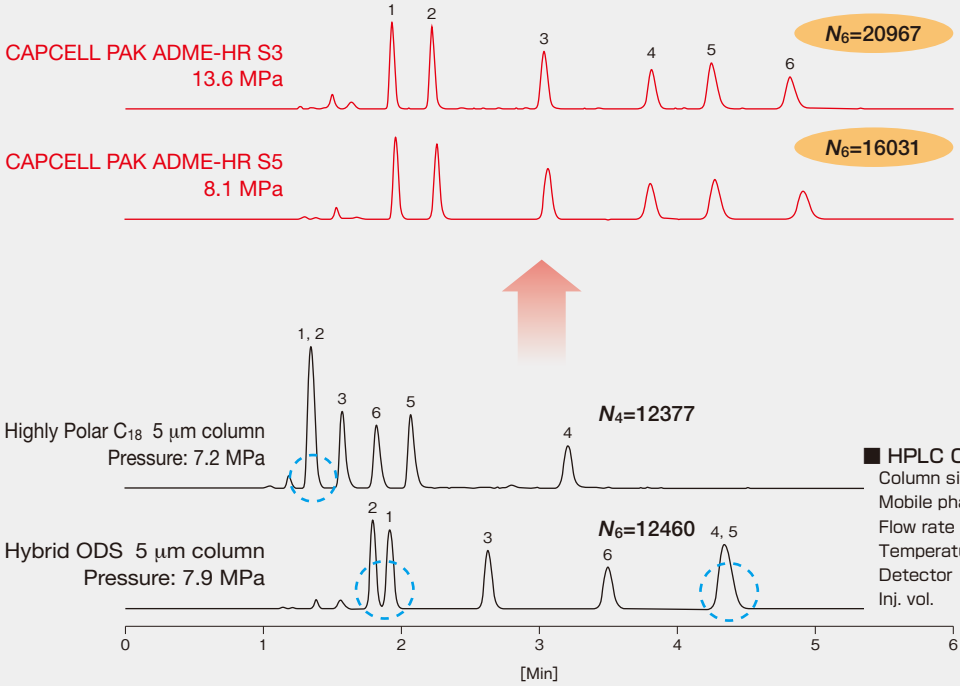


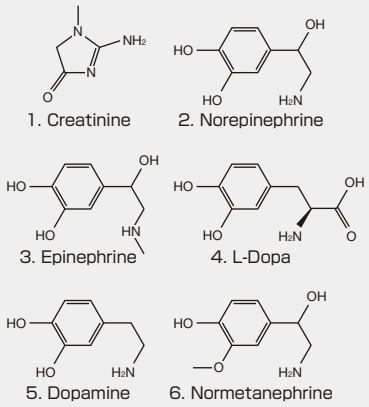
Variation of Efficiency of Thymine



Retention Behavior of Biogenic Amines under 100 % Water Mobile Phase

As shown below, CAPCELL PAK ADME-HR offers stronger retention of polar analytes, resulting in delivering complete separation for all analytes.

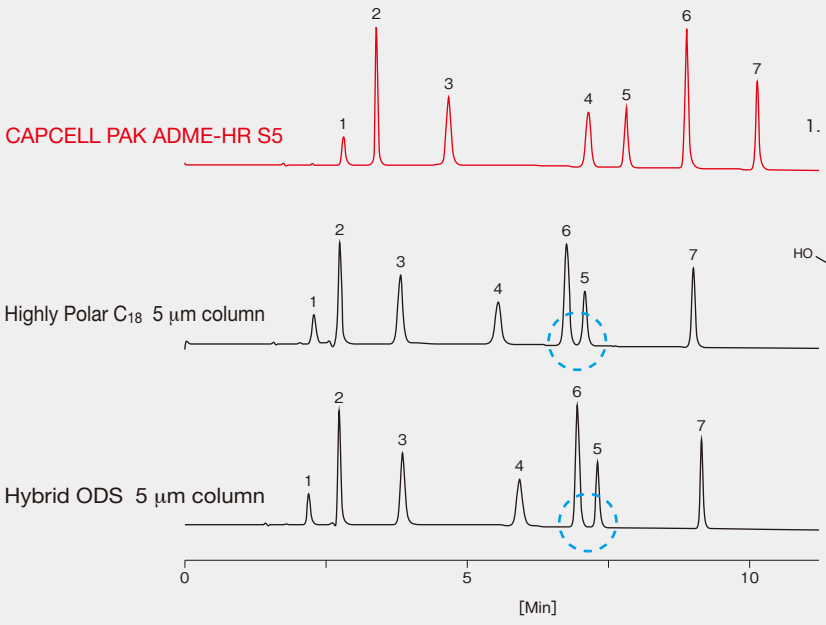


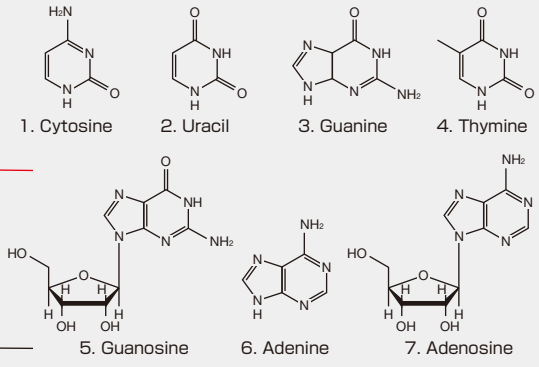


■ HPLC Conditions
Column size : 4.6 mm i.d. x 150 mm
Mobile phase: 0.1 vol% HCOOH
Flow rate : 1.0 mL/min
Temperature : 40 ℃
Detector : NQAD (Evaporation 60 °C, Nebulizer 30 °C)
Inj. vol. : 3 μL

Analysis of Nucleic-Acid Bases and Nucleosides via Gradient Elution

As shown below, the unique selectivity provided from CAPCELL PAK ADME-HR shows complete separation for all analytes, but with stronger retention of polar analytes.





■ HPLC Conditions
Column size : 2.0 or 2.1 mm i.d. x 150 mm
Mobile phase: A) 10 mmol/L $HCOONH_4$, H_2O
B) CH_3CN
B 1 % (0 min) -> 1 % (1 min) ->
40 % (15 min) -> 1 % (15.1 min) Gradient
Flow rate : 0.2 mL/min
Temperature : 40 ℃
Detection : UV 254 nm
Inj. vol. : 2 μL

Ordering Information

CAPCELL PAK ADME-HR

P/N	Description	Particle Size (μm)	I.D. (mm)	Length (mm)	List Price (JPY)
93300	ADME-HR	2	2.1	20	*
93301	ADME-HR	2	2.1	50	*
93302	ADME-HR	2	2.1	100	*
93310	ADME-HR(1/32)	3	0.3	100	110,000
93311	ADME-HR(1/32)	3	0.3	150	120,000
93312	ADME-HR	3	1.0	100	76,000
93320	ADME-HR	3	2.1	20	59,000
93321	ADME-HR	3	2.1	35	54,000
93322	ADME-HR	3	2.1	50	56,000
93323	ADME-HR	3	2.1	75	61,000
93324	ADME-HR	3	2.1	100	65,000
93325	ADME-HR	3	2.1	150	72,000
93326	ADME-HR	3	2.1	250	88,000
93330	ADME-HR	3	3.0	50	54,000
93331	ADME-HR	3	3.0	100	63,000
93332	ADME-HR	3	3.0	150	77,000
93340	ADME-HR	3	4.6	35	47,000
93341	ADME-HR	3	4.6	50	52,000
93342	ADME-HR	3	4.6	75	56,000
93343	ADME-HR	3	4.6	100	60,000
93344	ADME-HR	3	4.6	150	69,000
93345	ADME-HR	3	4.6	250	83,000
12600	ADME-HR CARTRIDGE (2PCS)	3	2.0	10	30,000
12601	ADME-HR CARTRIDGE (2PCS)	3	4.0	10	30,000
12415	CARTRIDGE HOLDER 10 (L)	–	–	10	20,000

P/N	Description	Particle Size (μm)	I.D. (mm)	Length (mm)	List Price (JPY)
93350	ADME-HR	5	2.1	20	59,000
93351	ADME-HR	5	2.1	35	54,000
93352	ADME-HR	5	2.1	50	56,000
93353	ADME-HR	5	2.1	75	61,000
93354	ADME-HR	5	2.1	100	65,000
93355	ADME-HR	5	2.1	150	72,000
93356	ADME-HR	5	2.1	250	88,000
93360	ADME-HR	5	3.0	150	77,000
93361	ADME-HR	5	3.0	250	99,000
93370	ADME-HR	5	4.6	35	47,000
93371	ADME-HR	5	4.6	50	52,000
93372	ADME-HR	5	4.6	75	56,000
93373	ADME-HR	5	4.6	100	60,000
93374	ADME-HR	5	4.6	150	69,000
93375	ADME-HR	5	4.6	250	83,000
93380	ADME-HR	5	10	35	100,000
93381	ADME-HR	5	10	150	210,000
93382	ADME-HR	5	10	250	270,000
93390	ADME-HR	5	20	35	170,000
93391	ADME-HR	5	20	50	240,000
93392	ADME-HR	5	20	100	340,000
93393	ADME-HR	5	20	150	450,000
93394	ADME-HR	5	20	250	750,000
12610	ADME-HR CARTRIDGE (2PCS)	5	2.0	10	30,000
12611	ADME-HR CARTRIDGE (2PCS)	5	4.0	10	30,000
12415	CARTRIDGE HOLDER 10 (L)	–	–	10	20,000

CAPCELL PAK INERT ADME-HR

P/N	Description	Particle Size (μm)	I.D. (mm)	Length (mm)	List Price (JPY)
95001	ADME-HR	3	2.0	50	74,000
95002	ADME-HR	3	2.0	100	83,000
95003	ADME-HR	3	2.0	150	90,000

* 2 μm columns will be available by the end of 2018

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2018.12 PUB