

Method transfer HPLC ↔ UHPLC

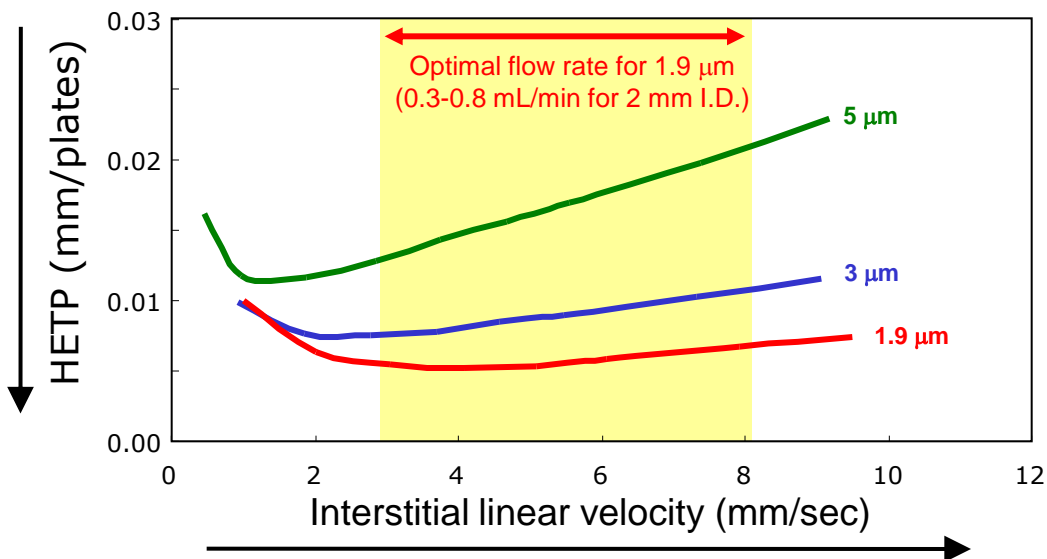
Guide of choice of particle size and column length

- Combination of particle size and column length that shows identical chromatographic performance

Particle size	5 μm	3 μm	1.9 μm
Column length	250 mm	150 mm	100 mm
	150 mm	100 mm	50 mm

The short column with small particle is expected to give identical performance to the long column with large particle.

- Merit of 1.9 μm particle



Column : YMC-Triart C18
 50 X 2.0 mmI.D.
 Eluent : acetonitrile/water (60/40)
 Temperature : 25°C
 Sample : Butyl benzoate

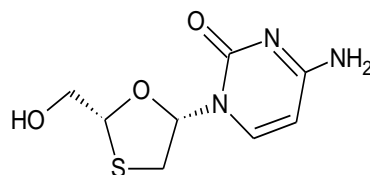
- 1.9 μm particle exhibits higher efficiency and maintains efficiency over a wide range of flow rate compared to 5 μm and 3 μm particles.
- 1.9 μm YMC-Triart columns enable ultra high throughput analysis by using shorter length column and increasing flow rate.

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Lamivudine and Lamivudine diastereomer (1)

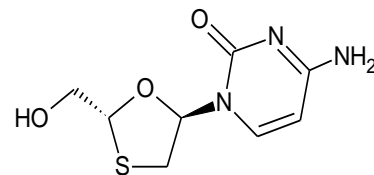
Assay (USP34)

1.



Lamivudine

2.



Lamivudine diastereomer

Column	: Triart C18 (5 μm, 12 nm) 250 X 4.6 mmI.D. Triart C18 (3 μm, 12 nm) 150 X 3.0 mmI.D. Triart C18 (1.9 μm, 12 nm) 100 X 2.0 mmI.D.
Eluent:	: methanol/buffer* (5/95) *buffer: Dissolve 1.9 g of ammonium acetate in 900 mL of water, adjust pH 3.8 with acetic acid, and add water to make 1000 mL.
Flow rate	: 1.0 mL/min for 4.6 mmI.D., 0.425 mL/min for 3 mmI.D. 0.2 or 0.6 mL/min for 2 mmI.D.
Injection	: 10 μL for 4.6 mmI.D., 5 μL for 3 mmI.D., 2 μL for 2 mmI.D.
Detection	: UV at 277 nm
Temperature	: 35°C
Sample	: 0.25 mg/mL USP Lamivudine Resolution Mixture B

System suitability requirement : $R_s(1, 2) \geq 1.5$

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Lamivudine and Lamivudine diastereomer (2)

