



# Recycling Chromatographic Separation of Functional Molecules

**YMC CO., LTD.**

(D141201AE)

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# Recycle Preparative HPLC System LC-Forte/R



- Preparative device designed for both high/medium pressure chromatography  
Ideal for purification in the crude stage through to the final stage.
- 3 variable-wavelengths UV detector available as a standard feature.
- User friendly operation provided by touch input on graphic screen.
- Compact design but equipped with multiple functions such as recycling function, automatic programming function, etc.



LC-Forte/R

<http://www.ymc.co.jp/en/chromato/forte/index.html>

# SEC (GPC) Preparative Column YMC-GPC

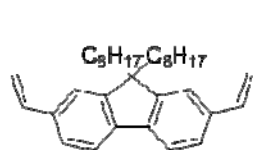
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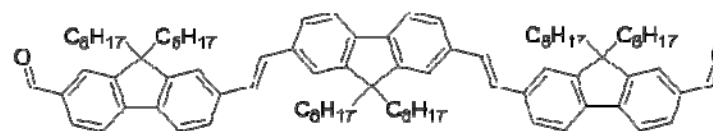
- Suitable for separation of polymers or oligomers on the basis of molecular weight
- Compatible with organic solvents with various polarities
- High resolution and long lifetime under a high flow rate condition
- High productivity by fast separation
- Ideal for recycling GPC that can improve resolution



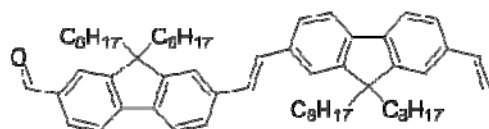
# Recycling Purification of Polyfluorene Oligomers (1)



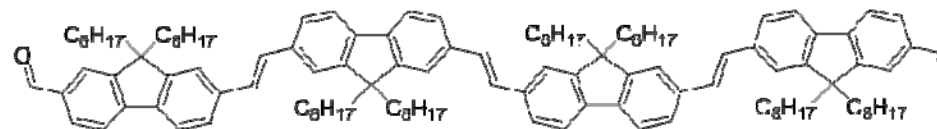
Molecular Weight: 442.73



Molecular Weight: 1276.03



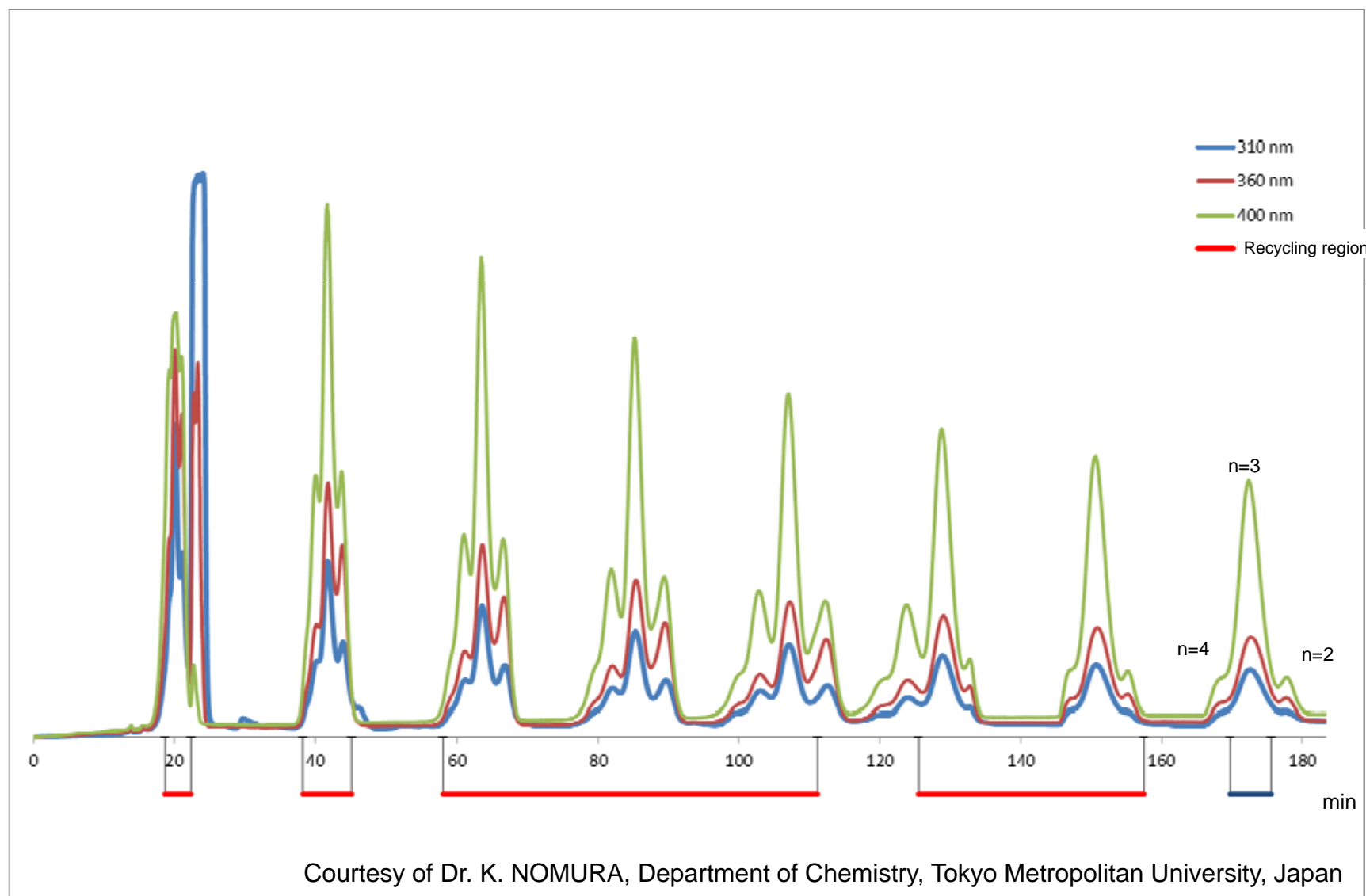
Molecular Weight: 659.36



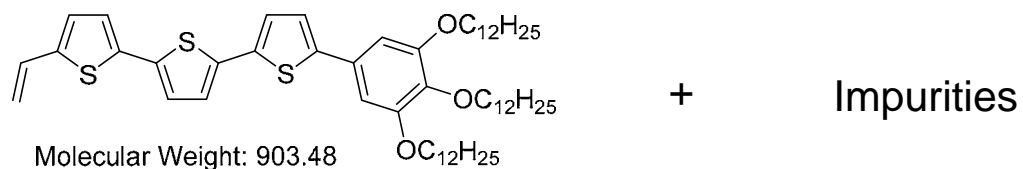
Molecular Weight: 1688.73

Column	: YMC-GPC T4000 (10 μm, 10 nm) + T30000 (10 μm, 50 nm) 600 X 20 mm I.D. X 2
Eluent	: chloroform
Flow rate	: 10 mL/min
Detection	: UV at 310, 360, 400 nm
Recycling separation	: 7 cycles (180 min)
Sample	: Polyfluorene derivatives (mixture of oligomers)
Injection	: 10 mL (30 mg/mL)
System	: LC-Forte/R

# Recycling Purification of Polyfluorene Oligomers (2)

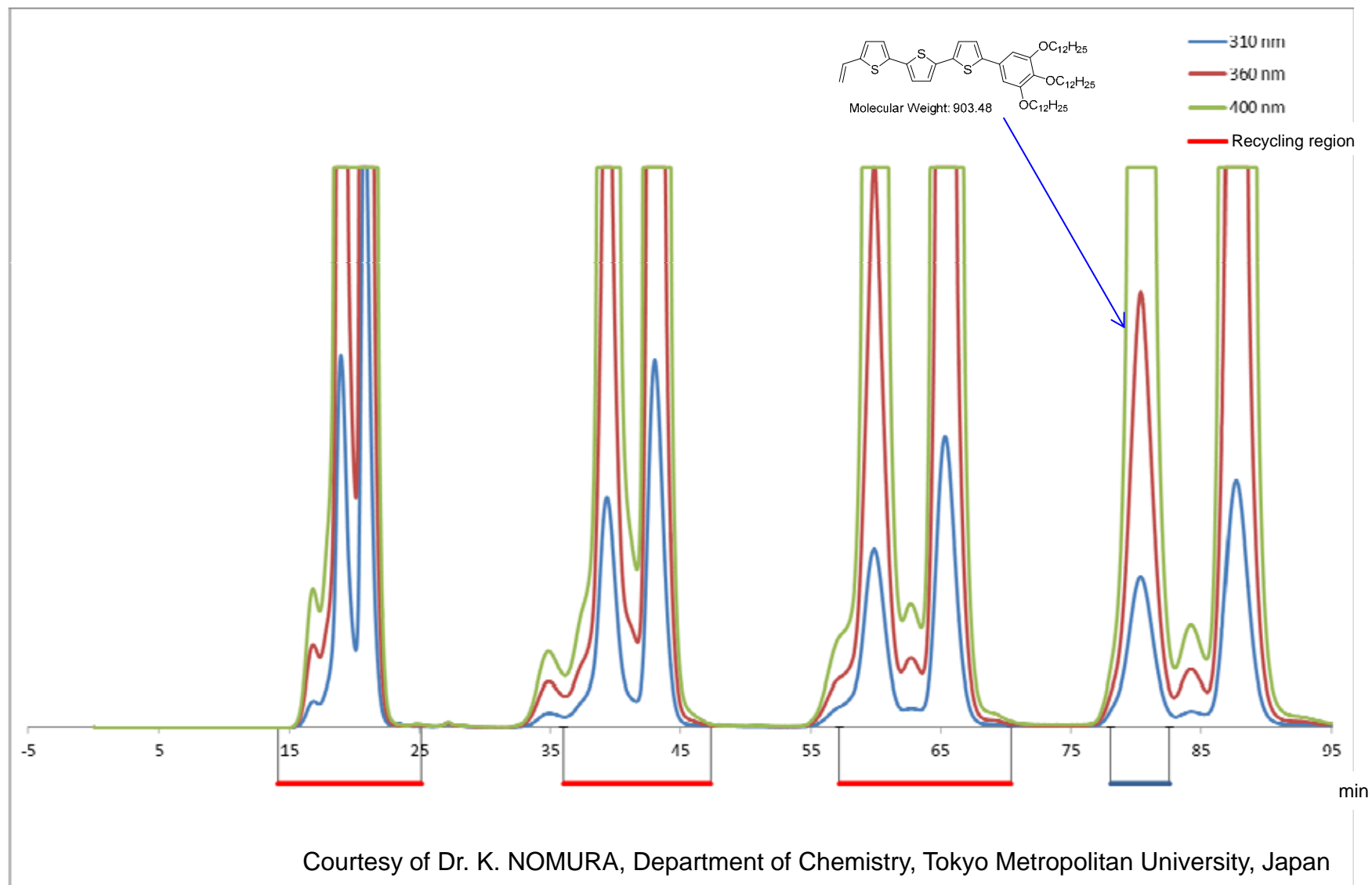


# Recycling Purification of Thiophene Derivative (1)



Column	: YMC-GPC T4000 (10 μm, 10 nm) + T30000 (10 μm, 50 nm) 600 X 20 mm I.D. X 2
Eluent	: chloroform
Flow rate	: 10 mL/min
Detection	: UV at 310, 360, 400 nm
Recycling separation	: 3 cycles (95 min)
Sample	: Thiophene derivative
Injection	: 10 mL (30 mg/mL)
System	: LC-Forte/R

# Recycling Purification of Thiophene Derivative (2)



Courtesy of Dr. K. NOMURA, Department of Chemistry, Tokyo Metropolitan University, Japan