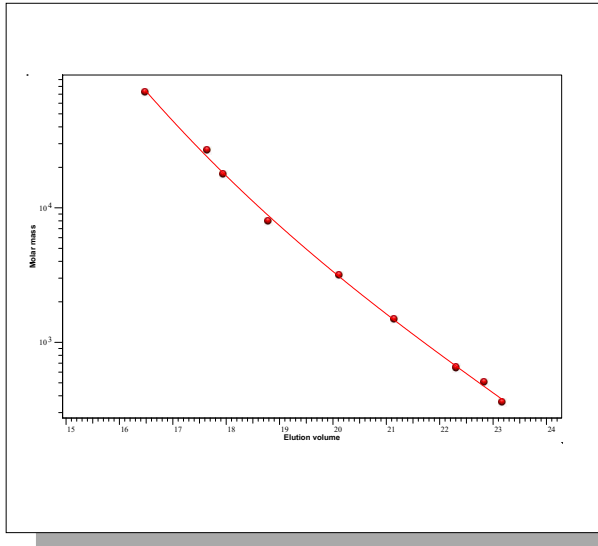


Certificate of Analysis

Product: Kit Poly(L-lactide)
 Part No: PSS-plakit
 Lot No: plakit-04

GPC/SEC - Calibration Curve



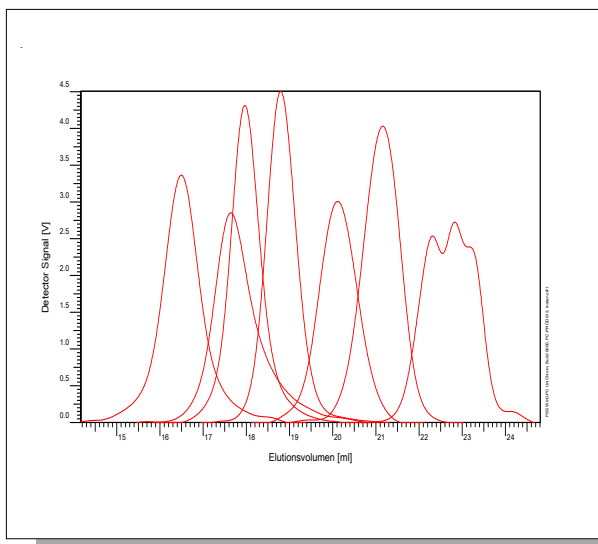
GPC/SEC - Calibration Table

Elution volume [ml]	Mp [Da]	Polymer Lot No:	Polymer Part No:
16,49	72200	pla111213	PSS-pla70k
17,65	26900	pla70304	PSS-pla28k
17,96	17700	pla150719	PSS-pla18k
18,79	7900	pla200614	PSS-pla8k
20,12	3140	pla140719	PSS-pla3k
21,15	1480	pla130719	PSS-pla1.5k
22,32	646	pla120719	PSS-pla500
22,83	502	pla120719	PSS-pla500
23,18	358	pla120719	PSS-pla500

Note:

Mp = Molar mass at the peak maximum

GPC/SEC - Polymer Overlay



GPC/SEC - Calibration Conditions

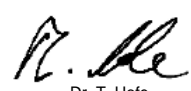
Solvent HFIP / 0.05M KTFAC
 Flow rate 1,00 ml/min
 Precolumn [8 x 50 mm] PSS PFG 7µm
 Columns [8 x 300 mm] PSS PFG 7µm linear M / linear M
 Temperature 23 °C
 Inject volume 20 µl
 Internal standard none
 Data Acquisition Software PSS WinGPC
 Calibration by J.Preis

Fit quality

Fit-type Polynomial 3
 R 0,999430

Storage: Store the tightly recapped polymer standards in a dry, dark, cool area; e.g. a refrigerator (4 °C).
Date of expiry: 2021/11/30 (See also product label.)
Date of approval: 2021/05/02

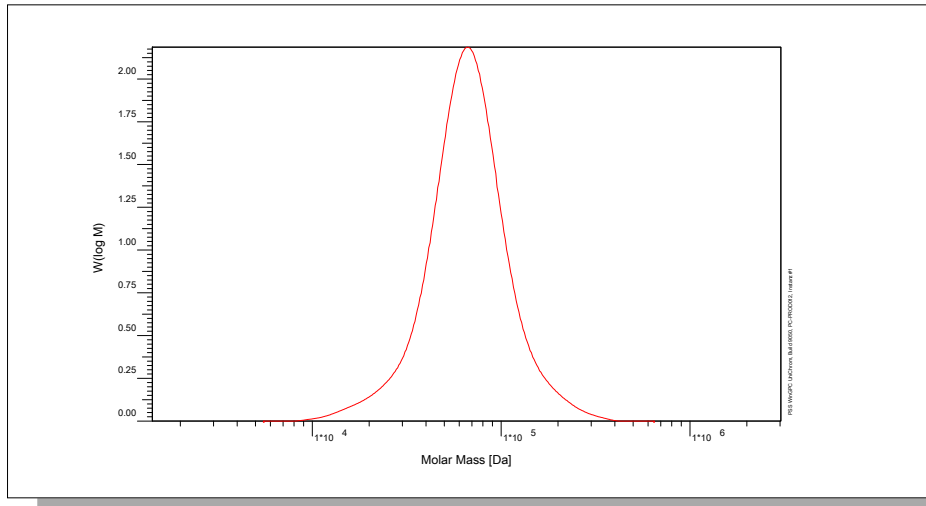
Manufacture control according to PSS method of analysis


 Dr. T. Hofe
 production director

Certificate of Analysis

Polymer type: Poly(L-lactide)
 Part No: PSS-pla70k
 Lot No: pla111213

Molar Mass Distribution



GPC/SEC - Conditions

Sample concentration	3,00 g/l	Inject volume	50 µl
Solvent	HFIP / 0.05M KTFAC	Flow rate	1,00 ml/min
Precolumn [8 x 50 mm]	PSS PFG 7µm	Temperature	23 °C
Columns [analytical, each 8 x 300 mm]	PSS PFG 7µm linear M / linear M	Operator	J.Preis
Data Acquisition Software	PSS WinGPC		

GPC/SEC - Results

Detector	Mw [Da]	Mn [Da]	Mp [Da]	PDI [Mw/Mn]
PSS SECcurity RI	74600	55100	72200	1,35

Additional Methods - Results

Method	Mw [Da]
Light Scattering, on-line (SLD7x00)	69000

Mw = Weight average molecular weight
 Mn = Number average molecular weight
 Mp = Molar mass at the peak maximum
 PDI = Polydispersity Index

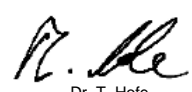
Light Scattering run on-line.

System and instrument validation based on reference materials Poly(methyl methacrylate) Lot No: mmg14125di.

Sample concentration 2,0234 g/L
 Inject volume 100µL

Storage: Store the tightly recapped polymer standard in a dry, dark, cool area; e.g. a refrigerator (4 °C).
Date of expiry: yyyy/mm/dd (See also product label.)
Date of approval: yyyy/mm/dd

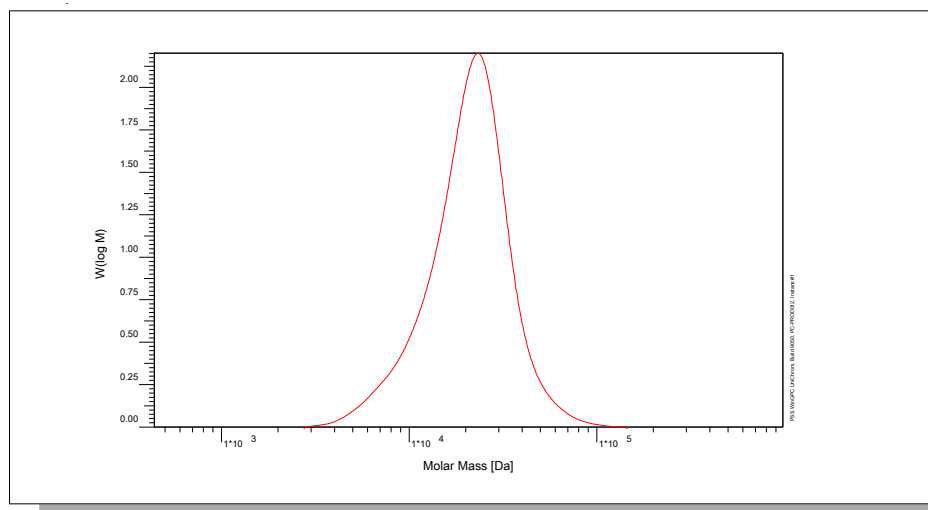
Manufacture control according to PSS method of analysis


 Dr. T. Hofe
 production director

Certificate of Analysis

Polymer type: Poly(L-lactide)
 Part No: PSS-pla28k
 Lot No: pla70304

Molar Mass Distribution



GPC/SEC - Conditions

Sample concentration	3,00 g/l	Inject volume	50 µl
Solvent	HFIP / 0.05M KTFAC	Flow rate	1,00 ml/min
Precolumn [8 x 50 mm]	PSS PFG 7µm	Temperature	23 °C
Columns [analytical, each 8 x 300 mm]	PSS PFG 7µm linear M / linear M	Operator	J.Preis
Data Acquisition Software	PSS WinGPC		

GPC/SEC - Results

Detector	Mw [Da]	Mn [Da]	Mp [Da]	PDI [Mw/Mn]
PSS SECcurity RI	27800	23300	26900	1,20

Additional Methods - Results

Method	Mw [Da]
Light Scattering, on-line (SLD7x00)	24400

Mw = Weight average molecular weight
 Mn = Number average molecular weight
 Mp = Molar mass at the peak maximum
 PDI = Polydispersity Index

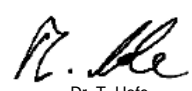
Light Scattering run on-line.

System and instrument validation based on reference materials Poly(methyl methacrylate) Lot No: mmg14125di.

Sample concentration 5,7291 g/L
 Inject volume 100µL

Storage: Store the tightly recapped polymer standard in a dry, dark, cool area; e.g. a refrigerator (4 °C).
Date of expiry: yyyy/mm/dd (See also product label.)
Date of approval: yyyy/mm/dd

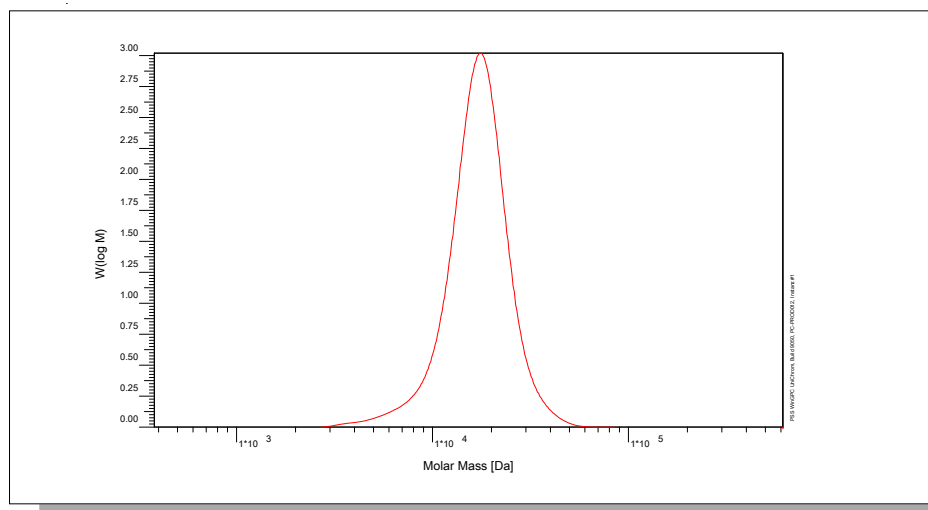
Manufacture control according to PSS method of analysis


 Dr. T. Hofe
 production director

Certificate of Analysis

Polymer type: Poly(L-lactide)
 Part No: PSS-pla18k
 Lot No: pla150719

Molar Mass Distribution



GPC/SEC - Conditions

Sample concentration	3,00 g/l	Inject volume	50 µl
Solvent	HFIP / 0.05M KTFAC	Flow rate	1,00 ml/min
Precolumn [8 x 50 mm]	PSS PFG 7µm	Temperature	23 °C
Columns [analytical, each 8 x 300 mm]	PSS PFG 7µm linear M / linear M	Operator	J.Preis
Data Acquisition Software	PSS WinGPC		

GPC/SEC - Results

Detector	Mw [Da]	Mn [Da]	Mp [Da]	PDI [Mw/Mn]
PSS SECcurity RI	18100	15700	17700	1,15

Additional Methods - Results

Method	Mw [Da]
Light Scattering, on-line (SLD7x00)	17800

Mw = Weight average molecular weight
 Mn = Number average molecular weight
 Mp = Molar mass at the peak maximum
 PDI = Polydispersity Index

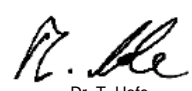
Light Scattering run on-line.

System and instrument validation based on reference materials Poly(methyl methacrylate) Lot No: mmg14125di.

Sample concentration 7,9238 g/L
 Inject volume 100µL

Storage: Store the tightly recapped polymer standard in a dry, dark, cool area; e.g. a refrigerator (4 °C).
Date of expiry: yyyy/mm/dd (See also product label.)
Date of approval: yyyy/mm/dd

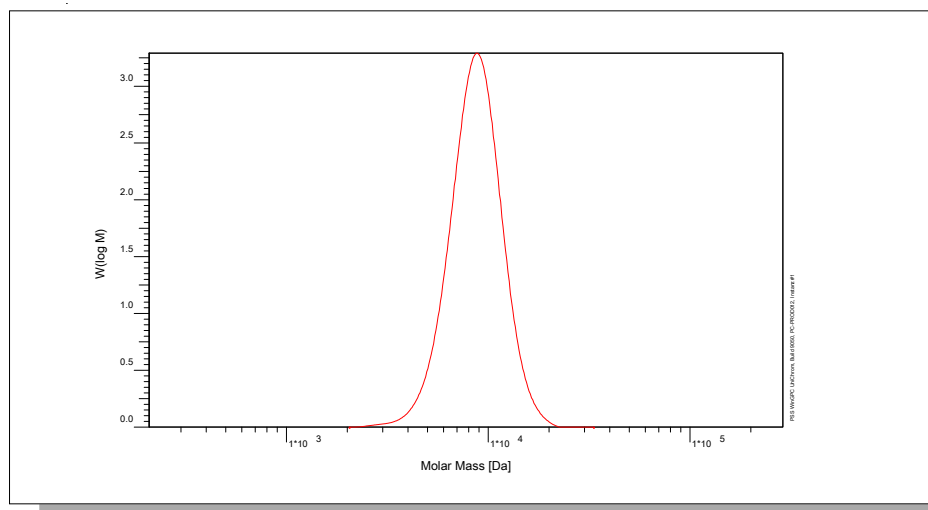
Manufacture control according to PSS method of analysis


 Dr. T. Hofe
 production director

Certificate of Analysis

Polymer type: Poly(L-lactide)
 Part No: PSS-pla8k
 Lot No: pla200614

Molar Mass Distribution



GPC/SEC - Conditions

Sample concentration	3,00 g/l	Inject volume	50 µl
Solvent	HFIP / 0.05M KTFAC	Flow rate	1,00 ml/min
Precolumn [8 x 50 mm]	PSS PFG 7µm	Temperature	23 °C
Columns [analytical, each 8 x 300 mm]	PSS PFG 7µm linear M / linear M	Operator	J.Preis
Data Acquisition Software	PSS WinGPC		

GPC/SEC - Results

Detector	Mw [Da]	Mn [Da]	Mp [Da]	PDI [Mw/Mn]
PSS SECcurity RI	8200	7600	7900	1,08

Additional Methods - Results

Method	Mw [Da]
Light Scattering, on-line (SLD7x00)	8600

Mw = Weight average molecular weight
 Mn = Number average molecular weight
 Mp = Molar mass at the peak maximum
 PDI = Polydispersity Index

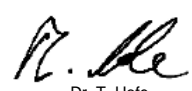
Light Scattering run on-line.

System and instrument validation based on reference materials Poly(methyl methacrylate) Lot No: mmg14125di.

Sample concentration 9,6866 g/L
 Inject volume 100µL

Storage: Store the tightly recapped polymer standard in a dry, dark, cool area; e.g. a refrigerator (4 °C).
Date of expiry: yyyy/mm/dd (See also product label.)
Date of approval: yyyy/mm/dd

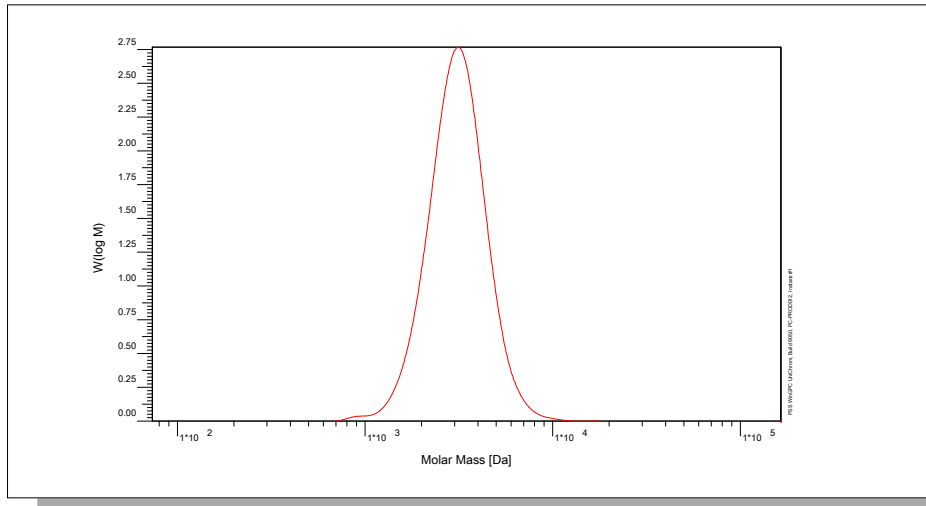
Manufacture control according to PSS method of analysis


 Dr. T. Hofe
 production director

Certificate of Analysis

Polymer type: Poly(L-lactide)
 Part No: PSS-pla3k
 Lot No: pla140719

Molar Mass Distribution



GPC/SEC - Conditions

Sample concentration	3,00 g/l	Inject volume	50 µl
Solvent	HFIP / 0.05M KTFAC	Flow rate	1,00 ml/min
Precolumn [8 x 50 mm]	PSS PFG 7µm	Temperature	23 °C
Columns [analytical, each 8 x 300 mm]	PSS PFG 7µm linear M / linear M	Operator	J.Preis
Data Acquisition Software	PSS WinGPC		

GPC/SEC - Results

Detector	Mw [Da]	Mn [Da]	Mp [Da]	PDI [Mw/Mn]
PSS SECcurity RI	3290	2920	3140	1,13

Additional Methods - Results

Method	Mw [Da]
Light Scattering, on-line (SLD7x00)	3180

Mw = Weight average molecular weight
 Mn = Number average molecular weight
 Mp = Molar mass at the peak maximum
 PDI = Polydispersity Index

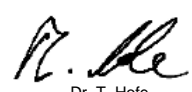
Light Scattering run on-line.

System and instrument validation based on reference materials Poly(methyl methacrylate) Lot No: mmg14125di.

Sample concentration 11,5930 g/L
 Inject volume 100µL

Storage: Store the tightly recapped polymer standard in a dry, dark, cool area; e.g. a refrigerator (4 °C).
Date of expiry: yyyy/mm/dd (See also product label.)
Date of approval: yyyy/mm/dd

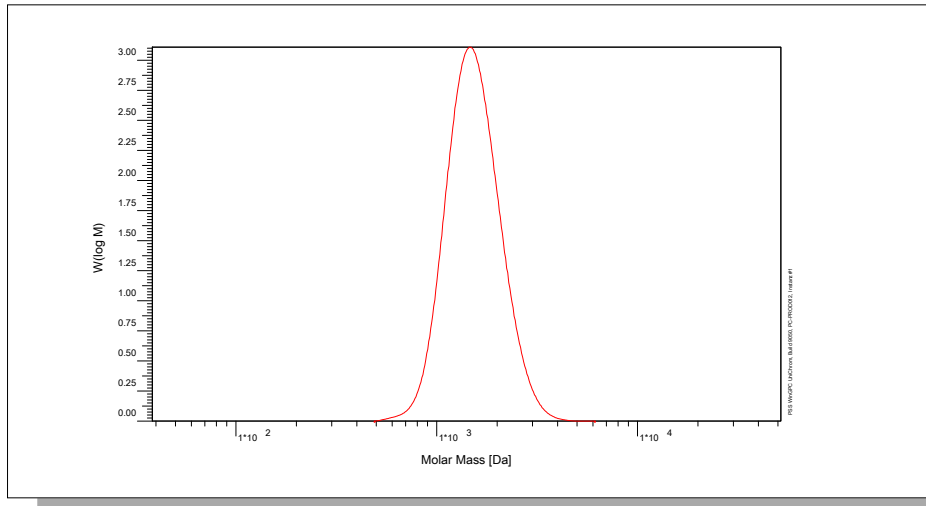
Manufacture control according to PSS method of analysis


 Dr. T. Hofe
 production director

Certificate of Analysis

Polymer type: Poly(L-lactide)
 Part No: PSS-pla1.5kA
 Lot No: pla130719

Molar Mass Distribution



GPC/SEC - Conditions

Sample concentration	3,00 g/l	Inject volume	50 µl
Solvent	HFIP / 0.05M KTFAC	Flow rate	1,00 ml/min
Precolumn [8 x 50 mm]	PSS PFG 7µm	Temperature	23 °C
Columns [analytical, each 8 x 300 mm]	PSS PFG 7µm linear M / linear M	Operator	R. Hofe
Data Acquisition Software	PSS WinGPC		

GPC/SEC - Results

Detector	Mw [Da]	Mn [Da]	Mp [Da]	PDI [Mw/Mn]
UV-Vis	1600	1460	1480	1,10

Additional Methods - Results

Method	Mw [Da]
Light Scattering, on-line (SLD7x00)	1620

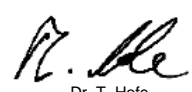
Mw = Weight average molecular weight
 Mn = Number average molecular weight
 Mp = Molar mass at the peak maximum
 PDI = Polydispersity Index

Light Scattering run on-line.

System and instrument validation based on reference materials Poly(methyl methacrylate) Lot No: mmg14125di.

Sample concentration 15,1572 g/L
 Inject volume 100µL

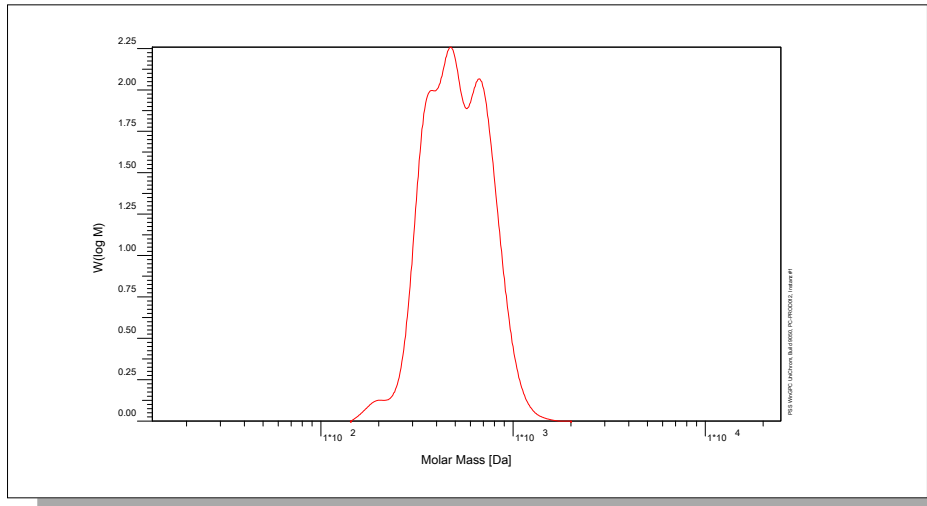
Storage: Store the tightly recapped polymer standard in a dry, dark, cool area; e.g. a refrigerator (4 °C).
Date of expiry: yyyy/mm/dd (See also product label.)
Date of approval: yyyy/mm/dd

Manufacture control according to PSS method of analysis

 Dr. T. Hofe
 production director

Certificate of Analysis

Polymer type: Poly(ε-caprolactone)
 Part No: PSS-pla500A
 Lot No: pla120719

Molar Mass Distribution



GPC/SEC - Conditions

Sample concentration	3,00 g/l	Inject volume	50 µl
Solvent	HFIP / 0.05M KTFAC	Flow rate	1,00 ml/min
Precolumn [8 x 50 mm]	PSS PFG 7µm	Temperature	23 °C
Columns [analytical, each 8 x 300 mm]	PSS PFG 7µm linear M / linear M	Operator	R. Hofe
Data Acquisition Software	PSS WinGPC		

GPC/SEC - Results

Detector	Mw [Da]	Mn [Da]	Mp [Da]	PDI [Mw/Mn]
UV-Vis	~1.5 x 10 ⁶	~1.0 x 10 ⁶	~2.5 x 10 ⁵	~1.5

Additional Methods - Results

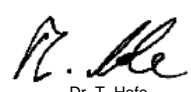
Method	Mn [Da]
Nuclear Magnetic Resonance spectroscopy	508

¹H-NMR (400MHz, CDCl₃)

Mw = Weight average molecular weight
 Mn = Number average molecular weight
 Mp = Molar mass at the peak maximum
 PDI = Polydispersity Index

Storage: Store the tightly recapped polymer standard in a dry, dark, cool area; e.g. a refrigerator (4 °C).

Date of expiry: yyyy/mm/dd (See also product label.)
Date of approval: yyyy/mm/dd

Manufacture control according to PSS method of analysis

 Dr. T. Hofe
 production director