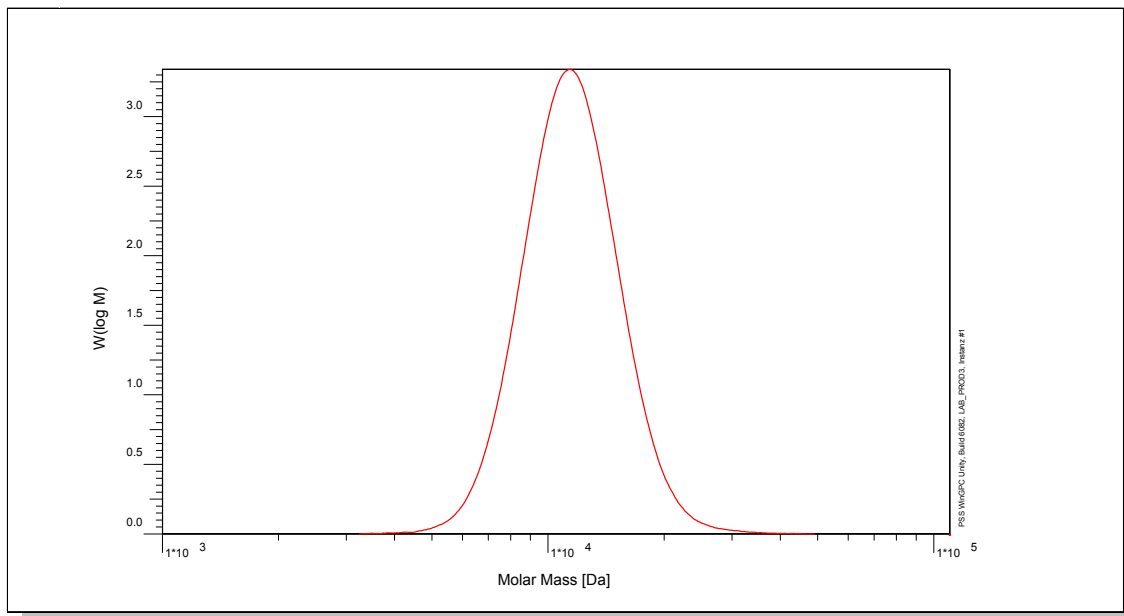


Certificate of Analysis

Polymer type: Pullulan
 Part No: PSS-pul12k
 Lot No: p-10

Molar Mass Distribution



GPC/SEC - Conditions

Sample concentration	1,00 g/l	Inject volume	20 µl
Solvent	Water, Sodium azide 0.05%	Flow rate	1,00 ml/min
Precolumn [8 x 50 mm]	PSS SUPREMA 10µm	Temperature	25,0° C
Columns [analytical, each 8 x 300 mm]	PSS SUPREMA 10µm 100Å / 3000Å / 3000Å		
Data Acquisition Software	PSS WinGPC	Operator	S. Fugmann

GPC/SEC - Results

Detector	Mw (Da)	Mn (Da)	Mp (Da)	PDI (Mw/Mn)
Agilent RID	11800	10700	11200	1,10

Note:


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).

Expiration date: 1 year after purchase date provided standard is stored as described above.

Purchase date:

Manufacture control according to PSS method of analysis


 Dr. T. Hofe
 production director