

Certificate of Analysis



Agilent Technologies, Inc. acquired Polymer Standards Service GmbH (PSS) on August 01st, 2022.

The Quality Certificate / Certificate of Analysis generated by PSS attached to this Letter is valid for the Product stated in the Certificate sold to You by Agilent Technologies, Inc or its subsidiaries.

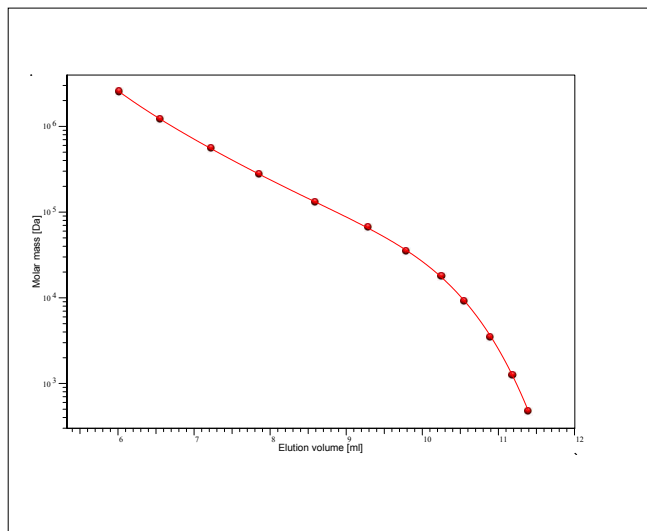
Patrick Kunzweiler

Quality Manager
Liquid Phase Separation Division

Certificate of Analysis

Product: EasyValid Validation Kit
 Part No: PSS-PSVAL
 Lot No: PSVAL03A

GPC/SEC - Calibration Curve



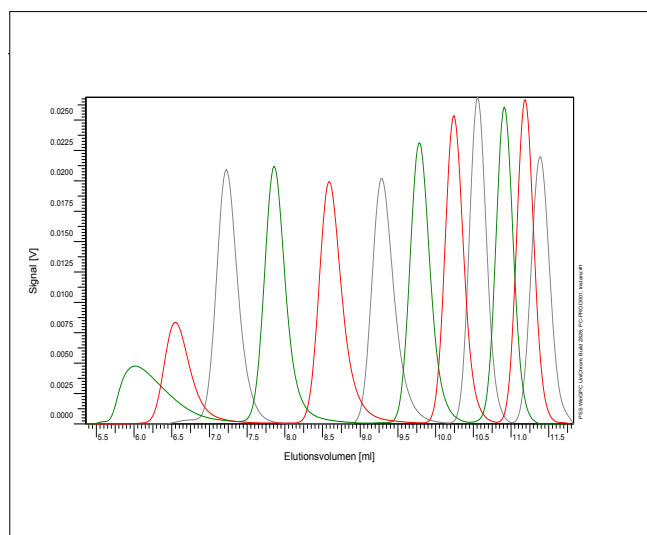
GPC/SEC - Calibration Table

Elution volume [ml]	Mp [Da]	Polymer Lot No:
6,02	2520000	PS090705
6,56	1210000	PS1087
7,23	549000	PS7077
7,86	277000	PS31059
8,59	130000	PS5124
9,29	66000	PS14057
9,79	34800	PS9029N
10,26	17600	PS250504
10,56	9130	PS21061
10,89	3470	PS6126
11,19	1250	PS171209
11,39	474	PS270710

Note:

Mp = Molar mass at the peak maximum

GPC/SEC - Polymer Overlay

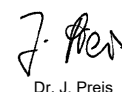


GPC/SEC - Calibration Conditions

Solvent	Tetrahydrofuran
Flow rate	1,00 ml/min
Columns [8 x 300 mm]	PSS EasyValid organic
Temperature	23 °C
Inject volume	20 µl
Internal standard	Toluene at 12,26 ml
Data Acquisition Software	PSS WinGPC
Calibration by	J.Preis
Fit quality	
Fit-type	Polynomial 5
R	0,999968

Storage: Store the tightly recapped polymer standards in a dry, dark, cool area; e.g. a refrigerator (4 °C).
 Date of expiry: 2033/04/30 (See also product label.)
 Date of approval: 2023/05/15

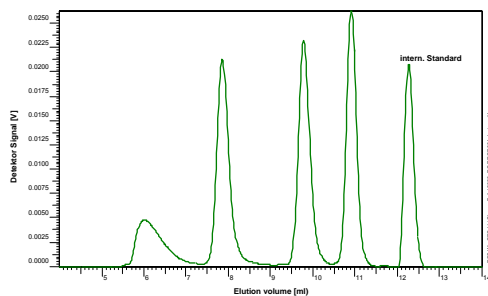
Manufacture and control according to PSS method of analysis



Dr. J. Preis
 production manager

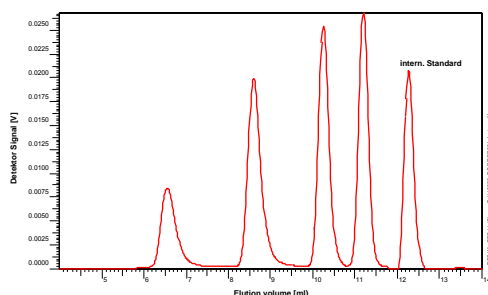
Product: EasyValid Validation Kit
 Part No: PSS-PSVAL
 Lot No: PSVAL03A

GPC/SEC – Elugram



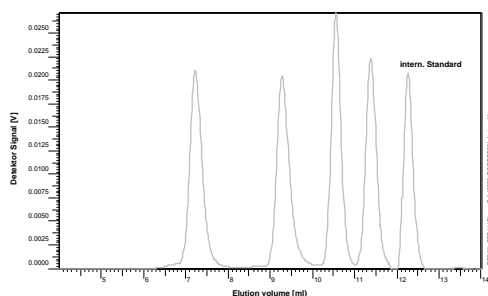
Colour code: Cap – green

Mp [Da]	Mw [Da]	Mn [Da]	Mass [mg]	Lot No:
2 520 000	2 460 000	2 300 000	0.75*	PS090705
277 000	271 000	265 000	1.50	PS31059
34 800	34 000	32 700	1.50	PS9029N
3 470	3 460	3 260	1.50	PS6126



Colour code: Cap – red

Mp [Da]	Mw [Da]	Mn [Da]	Mass [mg]	Lot No:
1 210 000	1 170 000	1 070 000	0.75*	PS1087
130 000	125 000	120 000	1.50	PS5124
17 600	17 300	16 900	1.50	PS250504
1 250	1 250	1 100	1.50	PS171209



Colour code: Cap – white

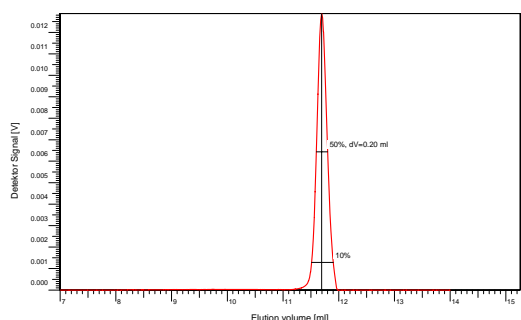
Mp [Da]	Mw [Da]	Mn [Da]	Mass [mg]	Lot No:
549 000	552 000	537 000	1.50	PS7077
66 000	62 500	59 300	1.50	PS14057
9 130	8 900	8 650	1.50	PS21061
474	570	492	1.50	PS270710

For exact determination of sample concentration, we recommend to add the solvent volume precisely.

Level of eluent	full
Volume of eluent	1.5 ml
Concentration	1 g/l resp. 0,5 g/l*

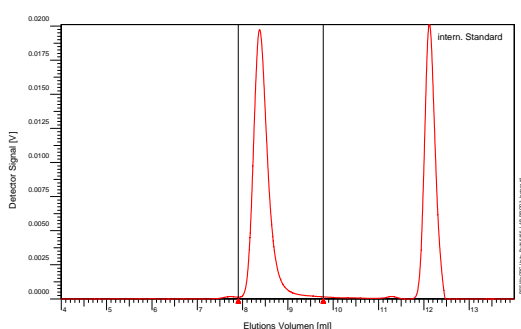
Product: EasyValid Validation Kit
 Part No: PSS-PSVAL
 Lot No: PSVAL03A

GPC/SEC – Elugram



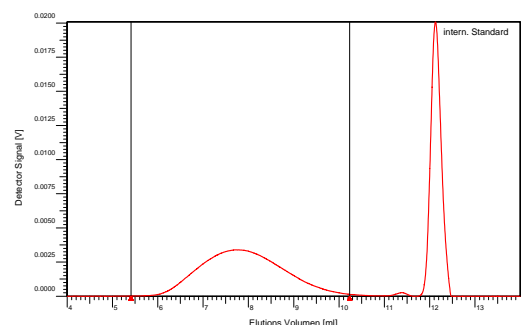
Colour code: Cap – black

Mp [Da]	Mw [Da]	Mn [Da]	Mass [mg]	Lot No:
220	220	220	1.50	BHT-01



Colour code: Cap – blue

Mp [Da]	Mw [Da]	Mn [Da]	Mass [mg]	Lot No:
82 800	79 600	74 000	1.50	PS2088



Colour code: Cap – yellow

Mp [Da]	Mw [Da]	Mn [Da]	Mass [mg]	Lot No:
266 700	311 800	139 000	3.75*	PS980422

For exact determination of sample concentration, we recommend to add the solvent volume precisely.

Level of eluent	full
Volume of eluent	1.5 ml
Concentration	1 g/l resp. 2.5 g/l*