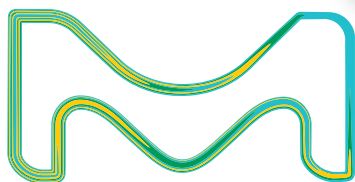


Hellma® BestCellers

Quality Exceeding Expectations

- Absorption Cells
- Fluorescence Cells
- Cells for Special Applications
- TrayCell™ Microvolume Cells
- Calibration Standards
- Cleaning Solution and Other Accessories



We offer a comprehensive range of high quality absorption and fluorescence cells from Hellma® Analytics, ranging from the finest Suprasil® quartz cuvettes to low priced optical glass cells.

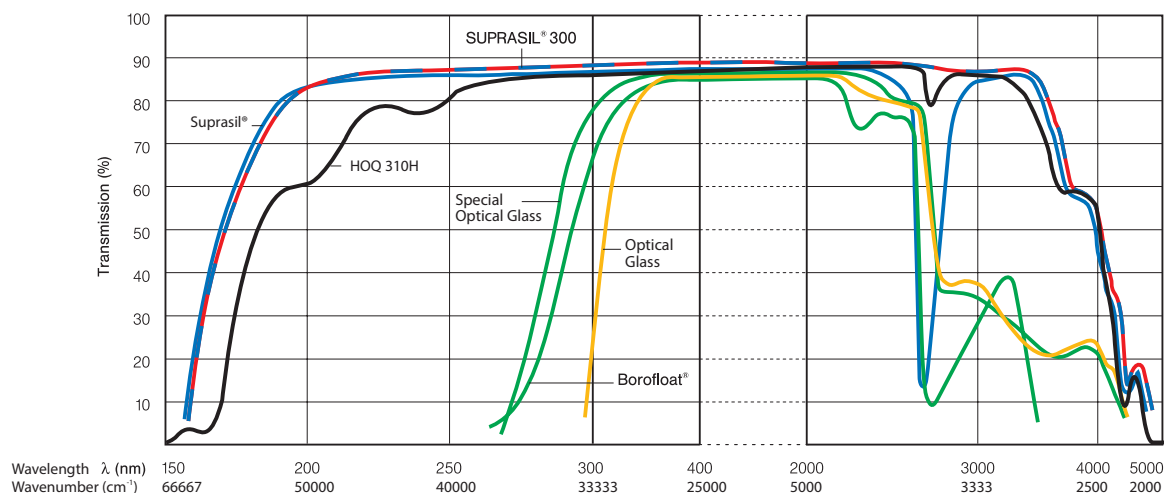


Find our complete product list for UV/VIS and fluorescence spectroscopy at SigmaAldrich.com/uvvis or SigmaAldrich.com/hellma

Optical Properties of Cell Window Materials

Cells from Hellma® Analytics are available in different materials ranging from inexpensive optical glass to high-performance Suprasil® 300 quartz. The cell selected for a specific application should exhibit high transmission in the spectral range of interest to facilitate the highest level of sensitivity in the measurement. The figure below shows the transmission spectra of these materials as obtained from empty cells. The maximum of 80–90% transmission is caused by the reflection loss at the four glass/air boundaries. When filled with common solvents, the cells will exhibit significantly higher maximum transmissions.

Material	Type (Abbreviation)	Wavelength Range (nm)
Optical glass	OG	360–2500
Borofloat®	BF	330–2500
Special optical glass	OS	320–2500
HOQ 310H	UV	260–2500
Suprasil® quartz	QS	200–2500
Suprasil® 300 quartz	QX	200–3500



Absorption Cells

Hellma® Type	Material	Spectral Range Limit (nm)	Optical Path Length (mm)	Chamber Volume (µL)	Remarks	Cat. No.
Ultra Micro, Micro and Semi Micro						
110-QS	Suprasil® quartz	200 – 2500	1	350	–	Z800015
110-QS	Suprasil® quartz	200 – 2500	2	700	–	Z800120
105.210-QS	Suprasil® quartz	200 – 2500	5	2.5	center height: 8.5 mm	Z803030
105-210-QS	Suprasil® quartz	200 – 2500	5	2.5	center height: 15 mm	Z802921
104-QS	Suprasil® quartz	200 – 2500	5	700	–	Z801062
105.210-QS	Suprasil® quartz	200 – 2500	10	5	center height: 15 mm	Z627046
105.210-QS	Suprasil® quartz	200 – 2500	10	5	center height: 8.5 mm	Z627062
105.202-QS	Suprasil® quartz	200 – 2500	10	50	center height: 15 mm	Z600393
105.202-QS	Suprasil® quartz	200 – 2500	10	50	center height: 8.5 mm	Z600415
105.201-QS	Suprasil® quartz	200 – 2500	10	100	center height: 15 mm	Z600350
105.201-QS	Suprasil® quartz	200 – 2500	10	100	center height: 8.5 mm	Z600377
105.020-QS	Suprasil® quartz	200 – 2500	10	120	–	Z802719
105.025-QS	Suprasil® quartz	200 – 2500	10	120	–	Z802824
105.200-QS	Suprasil® quartz	200 – 2500	10	160	center height: 15 mm	Z600318
105.200-QS	Suprasil® quartz	200 – 2500	10	160	center height: 8.5 mm	Z600334
105B-QS	Suprasil® quartz	200 – 2500	10	300	black sidewalls and base	Z600563
105-QS	Suprasil® quartz	200 – 2500	10	300	–	Z600598
115B-QS	Suprasil® quartz	200 – 2500	10	400	black sidewalls and base	Z600806
115-QS	Suprasil® quartz	200 – 2500	10	400	–	Z600822
108.002B-QS	Suprasil® quartz	200 – 2500	10	500	black sidewalls and base	Z802492
108.002-QS	Suprasil® quartz	200 – 2500	10	500	–	Z802387
104.002B-QS	Suprasil® quartz	200 – 2500	10	700	black sidewalls and base	Z600199
104.002-QS	Suprasil® quartz	200 – 2500	10	700	–	Z600210
104.002B-OS	Optical glass	320 – 2500	10	700	black sidewalls and base	Z802166
104.002-OS	Optical glass	320 – 2500	10	700	–	Z802867
108B-QS	Suprasil® quartz	200 – 2500	10	1000	black sidewalls and base	Z801712
108-QS	Suprasil® quartz	200 – 2500	10	1000	–	Z801607
104B-QS	Suprasil® quartz	200 – 2500	10	1400	black sidewalls and base	Z600237
104-QS	Suprasil® quartz	200 – 2500	10	1400	–	Z600288
114B-QS	Suprasil® quartz	200 – 2500	10	1400	black sidewalls and base	Z600733
114-QS	Suprasil® quartz	200 – 2500	10	1400	–	Z600784
104-QX	Suprasil® 300 quartz	200 – 3500	10	1400	–	Z801275
6040-UV	Herasil quartz	260 – 2500	10	1400	–	Z600075
104B-OS	Optical glass	320 – 2500	10	1400	black sidewalls and base	Z801380
104-OS	Optical glass	320 – 2500	10	1400	–	Z801216
114-OS	Optical glass	320 – 2500	10	1400	–	Z801836
6040-OG	Optical glass	360 – 2500	10	1400	–	Z600024
104-QS	Suprasil® quartz	200 – 2500	50	7000	–	Z801178
104-OS	Optical glass	320 – 2500	50	7000	–	Z800899
Macro						
100-OS	Optical glass	320 – 2500	1	350	glass lid	Z802689
100-OS	Optical glass	320 – 2500	2	700	glass lid	Z802794
100-OS	Optical glass	320 – 2500	5	1750	–	Z802891
100-OS	Optical glass	320 – 2500	10	300	–	Z600059
100-OS	Optical glass	320 – 2500	20	7000	–	Z800686
100-OS	Optical glass	320 – 2500	40	14000	–	Z800783
100-OS	Optical glass	320 – 2500	100	35000	glass lid	Z803006
100-QS	Suprasil® quartz	200 – 2500	1	350	glass lid	Z803111



PTFE Lid



PTFE Stopper



PE Stopper



Septum Screw Cap



Solid Top Screw Cap

Absorption Cells (continued)



Cylindrical
Absorption
Cuvette (**Z804657**)



Cylindrical
Absorption
Cuvette (**Z803008**)

Hellma® Type	Material	Spectral Range Limit (nm)	Optical Path Length (mm)	Chamber Volume (µL)	Remarks	Cat. No.
Macro						
100-QS	Suprasil® quartz	200-2500	2	700	glass lid	Z803227
100-QS	Suprasil® quartz	200-2500	5	1750	–	Z800244
100-QS	Suprasil® quartz	200-2500	10	300	–	Z600091
100-QS	Suprasil® quartz	200-2500	20	7000	–	Z600113
100-QS	Suprasil® quartz	200-2500	40	14000	–	Z800457
100-QS	Suprasil® quartz	200-2500	50	17500	–	Z600148
100-QS	Suprasil® quartz	200-2500	100	35000	glass lid	Z800570
100-QX	Suprasil® 300 quartz	200-3500	1	350	glass lid	Z805009
100-QX	Suprasil® 300 quartz	200-3500	2	700	glass lid	Z805114
100-QX	Suprasil® 300 quartz	200-3500	5	1750	–	Z805238
100-QX	Suprasil® 300 quartz	200-3500	10	300	–	Z600156
100-QX	Suprasil® 300 quartz	200-3500	20	7000	–	Z805335
100-QX	Suprasil® 300 quartz	200-3500	40	14000	–	Z800945
100-QX	Suprasil® 300 quartz	200-3500	50	17500	–	Z805440
100-QX	Suprasil® 300 quartz	200-3500	100	35000	glass lid	Z805556
110-OS	Optical glass	320-2500	1	350	–	Z805653
110-OS	Optical glass	320-2500	2	700	–	Z805777
110-OS	Optical glass	320-2500	5	1750	–	Z805882
110-OS	Optical glass	320-2500	10	300	–	Z600628
110-OS	Optical glass	320-2500	50	17500	–	Z805998
110-QS	Suprasil® quartz	200-2500	5	1750	–	Z800074
110-QS	Suprasil® quartz	200-2500	10	300	–	Z600644
110-QS	Suprasil® quartz	200-2500	20	7000	–	Z600660
110-QS	Suprasil® quartz	200-2500	40	14000	–	Z803448
110-QS	Suprasil® quartz	200-2500	50	17500	–	Z600687
110-QS	Suprasil® quartz	200-2500	100	35000	–	Z803545
110-QX	Suprasil® 300 quartz	200-3500	1	350	–	Z800171
110-QX	Suprasil® 300 quartz	200-3500	2	700	–	Z800295
110-QX	Suprasil® 300 quartz	200-3500	5	1750	–	Z800406
110-QX	Suprasil® 300 quartz	200-3500	10	300	–	Z600695
110-QX	Suprasil® 300 quartz	200-3500	20	7000	–	Z800511
220-QS*	Suprasil® quartz	200-2500	10	3500	–	Z800740
402.000-OG	Optical glass	360-2500	10	6000	–	Z800627
402.000-OG	Optical glass	360-2500	20	12000	–	Z800732
402.000-OG	Optical glass	360-2500	50	30000	–	Z801224
404.000-QX	Suprasil® 300 quartz	200-3500	1	700	–	Z801321
404.000-QX	Suprasil® 300 quartz	200-3500	2	1400	–	Z801437
404.000-QX	Suprasil® 300 quartz	200-3500	10	7000	–	Z800848
6030-OG	Optical glass	360-2500	10	300	–	Z600008
6030-OG	Optical glass	360-2500	20	7000	–	Z801003
6030-OG	Optical glass	360-2500	40	14000	–	Z801119
6030-OG	Optical glass	360-2500	50	17500	–	Z801542
6030-UV	Herasil quartz	260-2500	10	300	–	Z626902

*Cells with tubes

Absorption Cells (continued)

Hellma® Type	Material	Spectral Range Limit (nm)	Optical Path Length (mm)	Chamber Volume (µL)	Remarks	Cat. No.
Cylindrical						
121.000-QS	Suprasil® quartz	200-2500	0.1	160	glass lid	Z804320
121.000-QS	Suprasil® quartz	200-2500	0.2	170	–	Z804444
121.000-QS	Suprasil® quartz	200-2500	0.5	210	–	Z804541
165-QS*	Suprasil® quartz	200-2500	1	160	–	Z801283
120-QS	Suprasil® quartz	200-2500	1	280	–	Z803871
121.000-QS	Suprasil® quartz	200-2500	1	280	–	Z804657
120-QS	Suprasil® quartz	200-2500	2	560	glass lid	Z803995
120-QS	Suprasil® quartz	200-2500	5	1400	glass lid	Z804118
165-QS*	Suprasil® quartz	200-2500	10	800	glass lid	Z801399
120-QS	Suprasil® quartz	200-2500	10	2800	–	Z803308
120-QX	Suprasil® 300 quartz	200-3500	10	2800	–	Z801186
120-OS	Optical glass	320-2500	10	2800	–	Z800856
120-QS	Suprasil® quartz	200-2500	20	5600	–	Z803405
120-QS	Suprasil® quartz	200-2500	50	14000	–	Z803510
120-OS	Optical glass	320-2500	50	14000	–	Z800953
120-QS	Suprasil® quartz	200-2500	100	28000	–	Z803634
120-OS	Optical glass	320-2500	100	28000	–	Z801070
*Temperature-controlled cells						
For Magnetic Stirrers						
109.004-QS	Suprasil® quartz	200-2500	10	1500	–	Z803774
109.000-QS	Suprasil® quartz	200-2500	10	3500	–	Z803669
119.004-QS	Suprasil® quartz	200-2500	10	1500	–	Z802050
109.000-QS	Suprasil® quartz	200-2500	10	3500	–	Z801933
Sealable, for Anaerobic Applications						
117.100-QS	Suprasil® quartz	200-2500	10	3500	open screw cap	Z801313
117.200-QS	Suprasil® quartz	200-2500	10	3500	closed screw cap	Z802751
117.104-QS	Suprasil® quartz	200-2500	10	1400	open screw cap	Z801429
117.204-QS	Suprasil® quartz	200-2500	10	1400	closed screw cap	Z800635
Flow-Through						
170.700-QS	Suprasil® quartz	200-2500	0.1	6.2	–	Z801550
170.700-QS	Suprasil® quartz	200-2500	0.2	12.4	–	Z801666
170.700-QS	Suprasil® quartz	200-2500	0.5	31	–	Z801763
170.700-QS	Suprasil® quartz	200-2500	1	62	–	Z626929
170-QS	Suprasil® quartz	200-2500	1	120	–	Z802174
137-QS	Suprasil® quartz	200-2500	1	260	–	Z801720
170.700-QS	Suprasil® quartz	200-2500	2	124	–	Z626937
137-QS	Suprasil® quartz	200-2500	2	520	–	Z801844
176.700-QS	Suprasil® quartz	200-2500	5	195	–	Z626945
176.700-QS	Suprasil® quartz	200-2500	5	195	–	Z626953
137-QS	Suprasil® quartz	200-2500	5	1300	–	Z801941
178.712-QS	Suprasil® quartz	200-2500	10	18	–	Z804592
178.712-QS	Suprasil® quartz	200-2500	10	18	–	Z804703
178.712-OS	Optical glass	320-2500	10	18	–	Z804487
178.765-OS*	Optical glass	320-2500	10	18	–	Z802565
178.011-OS	Optical glass	320-2500	10	30	–	Z803812
178.011-OS	Optical glass	320-2500	10	30	–	Z803936
178.711-OS	Optical glass	320-2500	10	30	–	Z804266

*T design

Absorption Cells (continued)



Screw Connectors M
6 X 1
and FEP Tubes



In/outlet Tubes

Hellma® Type	Material	Spectral Range Limit (nm)	Optical Path Length (mm)	Chamber Volume (µL)	Remarks	Cat. No.
Flow-Through						
178.711-OS	Optical glass	320–2500	10	30	–	Z804363
178.010-QS	Suprasil® quartz	200–2500	10	80	–	Z804320
178.010-QS	Suprasil® quartz	200–2500	10	80	center height: 8.5 mm	Z804444
178.010-QS	Suprasil® quartz	200–2500	10	80	center height: 15 mm	Z804541
178.710-QS	Suprasil® quartz	200–2500	10	80	center height: 20 mm	Z801283
178.710-QS	Suprasil® quartz	200–2500	10	80	center height: 15 mm	Z803871
178.710-QS	Suprasil® quartz	200–2500	10	80	center height: 8.5 mm	Z804657
178.010-OS	Optical glass	320–2500	10	80	–	Z803375
178.010-OS	Optical glass	320–2500	10	80	–	Z803480
178.710-OS	Optical glass	320–2500	10	80	–	Z804037
178.710-OS	Optical glass	320–2500	10	80	–	Z804150
176.703-QS	Suprasil® quartz	200–2500	10	160	–	Z803162
176.703-QS	Suprasil® quartz	200–2500	10	160	–	Z803278
170-QS	Suprasil® quartz	200–2500	10	240	–	Z802271
176.700-QS	Suprasil® quartz	200–2500	10	390	–	Z626988
176.700-QS	Suprasil® quartz	200–2500	10	390	–	Z626996
176.000-QS	Suprasil® quartz	200–2500	10	450	–	Z802948
176.000-QS	Suprasil® quartz	200–2500	10	450	–	Z803049
175.000-QS	Suprasil® quartz	200–2500	10	750	–	Z802611
175.000-QS	Suprasil® quartz	200–2500	10	750	–	Z802727
175.000-OS	Optical glass	320–2500	10	750	–	Z802395
175.000-OS	Optical glass	320–2500	10	750	–	Z802506
174-QS	Suprasil® quartz	200–2500	10	1500	–	Z802832
137-QS	Suprasil® quartz	200–2500	10	2600	–	Z802069
130-QS	Suprasil® quartz	200–2500	10	3200	–	Z801615
178.010-QS	Suprasil® quartz	200–2500	50	370	–	Z803596
178.010-QS	Suprasil® quartz	200–2500	50	370	–	Z803707
178.710-QS	Suprasil® quartz	200–2500	50	370	–	Z804770
178.710-QS	Suprasil® quartz	200–2500	50	370	–	Z804886
176.700-QS	Suprasil® quartz	200–2500	50	1950	–	Z801887
176.700-QS	Suprasil® quartz	200–2500	50	1950	–	Z801992
176.000-QS	Suprasil® quartz	200–2500	50	2250	–	Z802107
176.000-QS	Suprasil® quartz	200–2500	50	2250	–	Z802212

Fluorescence Cells

Hellma® Type	Material	Spectral Range Limit (nm)	Optical Path Length (mm)	Chamber Volume (µL)	Remarks	Cat. No.
Ultra Micro, Micro and Semi Micro						
105.252-QS	Suprasil® quartz	200–2500	1.5 x 1.5	12	center height: 15 mm	Z800090
105.252-QS	Suprasil® quartz	200–2500	1.5 x 1.5	12	center height: 8.5 mm	Z800201
105.250-QS	Suprasil® quartz	200–2500	10 x 2	100	center height: 15 mm	Z802549
105.250-QS	Suprasil® quartz	200–2500	10 x 2	100	center height: 8.5 mm	Z802662
115F-QS	Suprasil® quartz	200–2500	10 x 2	400	–	Z802778
104.002F-QS	Suprasil® quartz	200–2500	10 x 2	700	–	Z802875

Hellma® Type	Material	Spectral Range Limit (nm)	Optical Path Length (mm)	Chamber Volume (µL)	Remarks	Cat. No.
104F-QS	Suprasil® quartz	200–2500	10 x 4	1400	–	Z600253
114F-QS	Suprasil® quartz	200–2500	10 x 4	1400	–	Z600768
105.251-QS	Suprasil® quartz	200–2500	3 x 3	45	center height: 15 mm	Z802336
105.251-QS	Suprasil® quartz	200–2500	3 x 3	45	center height: 8.5 mm	Z802433
111.057-QS	Suprasil® quartz	200–2500	5 x 5	850	–	Z805904
013.011	–	–	–	–	holder for cell type 111.057 and 101.057	Z806013
Macro						
101-QS	Suprasil® quartz	200–2500	10 x 10	3500	with PTFE lid	Z600172
111-QS	Suprasil® quartz	200–2500	10 x 10	3500	with PTFE stopper	Z600717
117.100F-QS	Suprasil® quartz	200–2500	10 x 10	3500	with septum screw cap	Z803197
117.200F-QS	Suprasil® quartz	200–2500	10 x 10	3500	with solid top screw cap	Z803073
101-OS	Optical glass	320–2500	10 x 10	3500	with PTFE lid	Z802980
111-OS	Optical glass	320–2500	10 x 10	3500	with PTFE stopper	Z803081
221-QS	Suprasil® quartz	200–2500	10 x 10	3500	Duran® glass tube diameter 8 mm, tube length 80 mm	Z801194
221.001-QS	Suprasil® quartz	200–2500	10 x 10 ± 2	3500	Duran® glass tube diameter 8 mm, tube length 80 mm, for measurements at high and low temperatures	Z801291
Flow-Through						
131-QS	Suprasil® quartz	200–2500	10 x 10	3300	center height: all	Z804983
176.754-QS	Suprasil® quartz	200–2500	10 x 2.5	275	center height: 15 mm	Z805092
176.751-QS	Suprasil® quartz	200–2500	3 x 3	100	–	Z801739
All-quartz Flow-Through with Two Optical Path Lengths						
176.760-QS	Suprasil® quartz	200–2500	5 and 10	550	center height: 15 mm	Z801852
176.760-QS	Suprasil® quartz	200–2500	5 and 10	550	center height: 8.5 mm	Z802239
176.761-QS	Suprasil® quartz	200–2500	2.5 and 5	140	center height: 15 mm	Z801968
176.761-QS	Suprasil® quartz	200–2500	2.5 and 5	140	center height: 8.5 mm	Z802352
176.762-QS	Suprasil® quartz	200–2500	1.5 and 3	50	center height: 15 mm	Z802077
176.762-QS	Suprasil® quartz	200–2500	1.5 and 3	50	center height: 8.5 mm	Z802468
176.765-QS	Suprasil® quartz	200–2500	1 and 10	110	center height: 15 mm	Z802182
176.765-QS	Suprasil® quartz	200–2500	1 and 10	110	center height: 8.5 mm	Z802298
176.766-QS	Suprasil® quartz	200–2500	2 and 10	220	center height: 15 mm	Z802409
176.766-QS	Suprasil® quartz	200–2500	2 and 10	220	center height: 8.5 mm	Z802514
For Magnetic Stirrers						
109.000F-QS	Suprasil® quartz	200–2500	10 x 10	3500	with PTFE lid	Z800317
119.000F-QS	Suprasil® quartz	200–2500	10 x 10	3500	with PTFE stopper	Z800422
109.004F-QS	Suprasil® quartz	200–2500	10 x 4	1500	with PTFE lid	Z800546
119.004F-QS	Suprasil® quartz	200–2500	10 x 4	1500	with PTFE stopper	Z800643
Sealable, for Anaerobic Applications						
117.100F-QS	Suprasil® quartz	200–2500	10 x 10	3500	Open screw cap	Z803197
117.200F-QS	Suprasil® quartz	200–2500	10 x 10	3500	Closed screw cap	Z800864
117.104F-QS	Suprasil® quartz	200–2500	10 x 4	1400	Open screw cap	Z800961
117.204F-QS	Suprasil® quartz	200–2500	10 x 4	1400	Closed screw cap	Z801089



All-Quartz Flow-Through Cell (Z802239)

Note: With ISO thread GL 14 and screw cap with silicone rubber seal

TrayCell™

The TrayCell™ is a fiber-optic ultra-micro cell designed for the UV/Vis micro-volume analysis of DNA/RNA and proteins, enabling highly accurate analysis of extremely small samples with remarkable reproducibility. The dimensions of the TrayCell™ are equivalent to a standard cuvette in order to work in most spectrophotometers. Due to the integrated beam deflection and the use of fiber-optic cables, it is possible to measure the sample directly on the surface of the optical window.



TrayCell™ –
Ultra Micro Cell
(Z802697)

Hellma® Type	Material	Height; Center Height (mm)	Optical Path Length (mm)	Volume (µL)	Cat. No.
Large					
105.800-UVS	Suprasil® quartz	68.5; 8.5 75; 15 80; 20	0.2 (factor 50) 1.0 (factor 10)	0.7 – 10	Z802573
105.810-UVS	Suprasil® quartz	53; 8.5 59.5; 15 64.5; 20	0.2 (factor 50) 1.0 (factor 10)	0.7 – 10	Z802697
665.703	Stainless steel cap with integrated mirror (Suprasil® quartz glass with aluminum layer)		1 (factor 10)	3 – 5	Z802808
665.704	Stainless steel cap with integrated mirror (Suprasil® quartz glass with aluminum layer)		0.2 (factor 50)	0.7 – 4	Z802905
665.705	Stainless steel cap with integrated mirror (Suprasil® quartz glass with aluminum layer)		2 (factor 5)	6 – 10	Z803014
665.706	Stainless steel cap with integrated mirror (Suprasil® quartz glass with aluminum layer)		0.1 (factor 100)	0.7 – 3	Z803138

Note: Factor = dilution factor compared to a standard cell with a path length of 10 nm.

Cells for Special Applications

Hellma® Type	Material	Spectral Range Limit (nm)	Optical Path Length (mm)	Chamber Volume (µL)	Cat. No.
Large					
700.000-OG	Optical glass	360 – 2500	10 ± 0.2	20000	Z805319
700.000-OG	Optical glass	360 – 2500	20 ± 0.2	40000	Z805424
700.010-OG	Optical glass	360 – 2500	20 ± 0.2	56000	Z805521
700.016-OG	Optical glass	360 – 2500	18 ± 0.2	10000	Z805637
704.001-OG	Optical glass	360 – 2500	30 ± 0.2	22500	Z805866
704.003-OG	Optical glass	360 – 2500	50 ± 0.5	88000	Z805750
Demountable					
106-QS	Suprasil® quartz	200 – 2500	0.1 ± 0.005	26	Z805963
106-QS	Suprasil® quartz	200 – 2500	0.5 ± 0.010	130	Z800058
For Reflection Measurements					
692.091-OG	Optical glass	360 – 2500	—	12000	Z800384
692.103-BF	Borofloat®	330 – 2500	—	32000	Z800481
692.104-BF	Borofloat®	330 – 2500	—	73000	Z800600
For Light Scattering					
540.110-QS	Suprasil® quartz	200 – 2500	—	2800	Z803200
540.111-QS	Suprasil® quartz	200 – 2500	—	2800	Z803316
540.135-QS	Suprasil® quartz	200 – 2500	—	14000	Z803413
Two Chambers					
238-QS	Suprasil® quartz	200 – 2500	2 x 4.375	2 x 1000	Z801518

Calibration Standards

Hellma® Analytics calibration standards for UV/VIS spectroscopy meet internationally recognized standards and provide for highest process transparency. They ensure dependable examination of the spectral resolution, the wavelength accuracy, as well as checking for stray light and photometric accuracy. The standards are produced in a DIN EN ISO 17025 accredited calibration laboratory, are traceable to NIST and are in accordance with the most important pharmacopeias.

Hellma® Type	Material/Content	Description	Wavelength (nm)*	Cat. No.
Calibration Standards				
666-F1	Holmium Oxide glass filter F1	for testing the wavelength accuracy	279; 361; 454; 536; 638	Z801658
666-F7W	Didymium glass filter F7W	for testing the wavelength accuracy	329; 472; 512; 681; 875	Z800929
666-F2	Neutral Density Glass Filter F2	for testing the photometric accuracy	440; 465; 546,1; 590; 635. Nominal value of the absorption 0.25	Z801755
666-F201	neutral density glass filter F201	for testing the photometric accuracy	440; 465; 546,1; 590; 635. Nominal value of the absorption 0.3	Z801046
666-F202	neutral density glass filter F202	for testing the photometric accuracy	440; 465; 546,1; 590; 635. Nominal value of the absorption 1.5	Z801143
666-F203	neutral density glass filter F203	for testing the photometric accuracy	440; 465; 546,1; 590; 635. Nominal value of the absorption 2.0	Z801259
666-F3	neutral density glass filter F3	for testing the photometric accuracy	440; 465; 546,1; 590; 635. Nominal value of the absorption 0.5	Z801879
666-F301	neutral density glass filter F301	for testing the photometric accuracy	440; 465; 546,1; 590; 635. Nominal value of the absorption 2.5	Z803693
666-F303	neutral density glass filter F303	for testing the photometric accuracy	440; 465; 546,1; 590; 635. Nominal value of the absorption 3.0	Z803804
666-F390	neutral density glass filter F390	for testing the photometric accuracy	440; 465; 546,1; 590; 635. Nominal value of the absorption 0.04	Z803472
666-F4	neutral density glass filter F4	for testing the photometric accuracy	440; 465; 546,1; 590; 635. Nominal value of the absorption 1.0	Z801984
666-F7A	Didymium glass filter F7A	for testing the photometric accuracy	270; 280; 297; 320; 340. Nominal value of the absorption ~0.5-1.0	Z801364
666-F7	Didymium glass filter F7	for testing the wavelength accuracy and the photometric accuracy	A: 270; 280; 297; 320; 340 W: 329; 472; 512; 681; 875	Z801461
666-F0	Empty Filter Mount for Calibration Standards	—	—	Z802093
Calibration Standards Sets				
666-S000	Glass Filter Set: F1, F2, F3, F4, F0	for testing the photometric accuracy and the wavelength accuracy	A: 440; 465; 546,1; 590; 635 W: 279; 361; 454; 554; 536; 638	Z600040
666-S001	Glass Filter Set: F3, F4, F7	for testing the photometric accuracy and the wavelength accuracy	A: 270; 280; 297; 320; 340; 440; 465; 546,1; 590; 635 W: 329; 472; 512; 681; 875	Z801585
666-S002	Glass Filter Set: F2, F3, F4	for testing the photometric accuracy and the wavelength accuracy	A: 440; 465; 546,1; 590; 635	Z801690
666-S004	Glass Filter Set: F201, F202, F203, F0	for testing the photometric accuracy and the wavelength accuracy	A: 440; 465; 546,1; 590; 635	Z803928
666-S300	Glass Filter Set: F390, F301, F303	for testing the photometric accuracy and the wavelength accuracy	A: 440; 465; 546,1; 590; 635	Z804029

*A: Wavelengths for absorbance, W: Wavelengths for wavelength accuracy, S: Wavelengths for stray light, R: Wavelengths for spectral resolution



Set of Glass Filters (Z600040)



Set of Liquid Filters (Z802204)



Liquid Filters



Glass Filters

Hellma® Type	Material/Content	Description	Wavelength (nm)*	Cat. No.
Liquid Calibration Standards				
667-UV1	UV1, Potassium iodide 12 g/L in pure water	for testing the stray light	200 (cut-off)	Z806005
667-UV10	UV10, Sodium iodide 12 g/L in pure water	for testing the stray light	259 (cut-off)	Z800082
667-UV11	UV11, Sodium nitrite 50 g/L in pure water	for testing the stray light	385 (cut-off)	Z800198
667-UV12	UV12, pure water (reference filter)	for testing the stray light	198; 200; 300; 400	Z800414
667-UV19	UV19, Acetone	for testing the stray light	325 (cut-off)	Z800309
667-UV14	UV14, Perchloric acid (reference filter)	for testing the photometric accuracy	235; 257; 313; 350	Z802034
667-UV20	UV20, 20 mg Potassium dichromate in perchloric acid	for testing the photometric accuracy	235; 257; 313; 350	Z803251
667-UV40	UV40, 40 mg Potassium dichromate in perchloric acid	for testing the photometric accuracy	235; 257; 313; 350	Z803367
667-UV60	UV60, 60 mg potassium dichromate in perchloric acid	for testing the photometric accuracy	235; 257; 313; 350	Z801801
667-UV600	UV600, 600 mg potassium dichromate in perchloric acid	for testing the photometric accuracy	430	Z804258
667-UV80	UV80, 80 mg potassium dichromate in perchloric acid	for testing the photometric accuracy	235; 257; 313; 350	Z804142
667-UV0100	UV0100, 100 mg Potassium dichromate in perchloric acid	for testing the photometric accuracy	235; 257; 313; 350	Z801917
667-UV5	UV5, Holmium oxide in perchloric acid	for testing the wavelength accuracy	241; 287; 361; 536; 640	Z802328
667-UV25	UV25, Didymium in perchloric acid	for testing the wavelength accuracy	329; 469; 575; 740, 864	Z804355
667-UV35	UV35, Rare earth in perchloric acid	for testing the wavelength accuracy	201; 211; 222; 239; 252	Z804479
667-UV45	UV45, Holmium, Didymium in perchloric acid	for testing the wavelength accuracy	221; 444; 575; 641, 864	Z804584
667-UV6	UV6, Toluene in n-Hexane	for testing the spectral resolution	265-270 (scan)	Z805017
667-UV9	UV9, n-Hexane	for testing the spectral resolution	265-270 (scan)	Z805122
Liquid Calibration Standards Sets				
667-UV100	UV1: Potassium chloride 12 g/L in pure water, UV12: Pure water (reference filter)	for testing the stray light	200 (cut-off)	Z802425
667-UV101	UV10: Sodium iodide in pure water, UV12: Pure water (reference filter)	for testing the stray light	259 (cut-off)	Z802360
667-UV102	UV11: Sodium nitrite in pure water, UV12: pure water (reference filter)	for testing the stray light	385 (cut-off)	Z802476
667-UV103	UV1: Potassium chloride 12 g/L in pure water, UV10: Sodium iodide in pure water, UV11: Sodium nitrite in pure water, UV12: pure water (reference filter)	for testing the stray light	200; 259; 385 (cut-off)	Z805246
667-UV104	UV10: Sodium iodide in pure water, UV11: Sodium nitrite in pure water, UV12: pure water (reference filter)	for testing the stray light	259; 385 (cut-off)	Z805343
667-UV100H	UV1: Potassium chloride 12 g/L in pure water (PL: 10 mm), UV1H: Potassium chloride in pure water (PL: 5 mm, reference filter)	for testing the stray light acc. to USP 857	S: 200 (cut-off) R: 190-250	Z805459
667-UV101H	UV10: Sodium iodide in pure water (PL: 10 mm), UV10H: Sodium iodide in pure water (PL: 5 mm, reference filter)	for testing the stray light acc. to USP 857	S: 259 (cut-off) R: 210-259	Z805564
667-UV102H	UV11: Sodium nitrite in pure water (PL: 10 mm), UV11H: Sodium nitrite in pure water (PL: 5 mm, reference filter)	for testing the stray light acc. to USP 857	S: 385 (cut-off) R: 300-385	Z805661

*A: Wavelengths for absorbance, W: Wavelengths for wavelength accuracy, S: Wavelengths for stray light, R: Wavelengths for spectral resolution

Hellma® Type	Material/Content	Description	Wavelength (nm)*	Cat. No.
Liquid Calibration Standards Sets (continued)				
667-UV105H	UV1: Potassium chloride 12 g/L in pure water (PL: 10 mm), UV1H: Potassium chloride in pure water (PL: 5 mm, reference filter), UV10: Sodium iodide in pure water (PL: 10 mm), UV10H: Sodium iodide in pure water (PL: 5 mm, reference filter), UV11: Sodium nitrite in pure water (PL: 10 mm), UV11H: Sodium nitrite in pure water (PL: 5 mm, reference filter), UV19: Acetone (PL: 10 mm), UV19H: Acetone (PL: 5 mm, reference filter)	for testing the stray light acc. to USP 857	200; 259; 325; 385 (cut-off)	Z805890
667-UV119H	UV19: Acetone (PL: 10 mm), UV19H: Acetone (PL: 5 mm, reference filter)	for testing the stray light acc. to USP 857	S: 325 (cut-off) R: 250-320	Z805785
667-UV301	UV60: 60 mg Potassium dichromate in perchloric acid, UV14: Perchloric acid (reference filter)	for testing the photometric accuracy	235; 257; 313; 350	Z802131
667-UV304	UV600: 600 mg Potassium dichromate in perchloric acid, UV14: Perchloric acid (reference filter)	for testing the photometric accuracy	430	Z803154
667-UV305	UV60: 60 mg Potassium dichromate in perchloric acid, UV600: 600 mg Potassium dichromate in perchloric acid, UV14: Perchloric acid (reference filter)	for testing the photometric accuracy	235; 257; 313; 350; 430	Z802654
667-UV400	UV5: Holmium oxide in perchloric acid, UV14: Perchloric acid (reference filter)	for testing the wavelength accuracy	241; 287; 261; 536; 640	Z804681
667-UV425	UV5: Holmium oxide in perchloric acid, UV25: Didymium in perchloric acid	for testing the wavelength accuracy acc. to USP 857	UV5: 241; 250; 278; 287; 333; 345; 361; 385; 416; 42; 468; 485; 536; 640 UV25: 732; 740; 794; 801; 864	Z804800
667-UV200	UV6: Toluene in n-hexane, UV9: n-hexane (reference filter)	for testing the spectral resolution	265-270 (scan)	Z802530
667-UV307	UV20: 20 mg Potassium dichromate in perchloric acid, UV40: 40 mg Potassium dichromate in perchloric acid, UV60: 60 mg Potassium dichromate in perchloric acid, UV80: 80 mg Potassium dichromate in perchloric acid, UV100: 100 mg Potassium dichromate in perchloric acid, UV14: Perchloric acid (reference filter)	for testing the linearity of the absorption	235; 257; 313; 350	Z802247
667-UV003	UV1: Potassium chloride 12 g/L in pure water, UV12: Pure water (reference filter), UV6: Toluene in n-hexane, UV9: n-hexane (reference filter), UV60: 60 mg Potassium dichromate in perchloric acid, UV600: 600 mg Potassium dichromate in perchloric acid, UV14: Perchloric acid (reference filter), UV5: Holmium oxide in perchloric acid	Complete Filter set for testing spectrophotometers according to Ph. Eur.	A: 235; 257; 313; 350; 430 W: 241; 287; 361; 536; 640 S: 200 (cut-off) R: 265-270 (scan)	Z802204
667-UV004	F0: Empty filter mount, F2: Neutral Density Glass Filter, F3: Neutral Density Glass Filter, F4 Neutral Density Glass Filter, UV60: 60 mg potassium dichromate in perchloric acid, UV14: Perchloric acid (reference filter), UV5 Holmium oxide in perchloric acid	Liquid Filter Set according to USP	A: 440; 465; 546.1; 590; 635 A: 235; 257; 313; 350 W: 241; 250; 278; 287; 333; 345; 361; 385; 416; 452; 468; 485; 536; 640	Z804916
Reference Plate for Qualifying Microplate Readers				
666-R013	Neutral Density Glass Filter NG 11 [0.25], NG 5 [0.5], NG4 [1.0], NG 3 [1.5], [2.5]	To check photometric accuracy	405; 450; 490; 650	Z800716
666-R113	Neutral Density Glass Filter NG 5 [0.5], NG 4 [1.0], NG 3 [1.5], [2.0], Holmium Oxide Glass Filter	To check photometric accuracy and wavelength accuracy	405; 450; 490; 650; 279; 361; 453; 536; 638	Z800813

*A: Wavelengths for absorbance, W: Wavelengths for wavelength accuracy, S: Wavelengths for stray light, R: Wavelengths for spectral resolution

Cleaning Solution and Other Accessories

Hellmanex™ III is an alkaline liquid concentrate which can simply be mixed with water to yield an effective cleaning solution for quartz and glass cells. It can also be used to clean other sensitive optical components made of glass, quartz, sapphire, and porcelain.

Hellma® Type	Name	Description	Cat. No.
320.003	Hellmanex™	Special Cleaning Concentrate for cuvettes, 1.3 kg PE bottle (1.0 L)	Z805939
325.000	SAV-a-CELL plastic cell holder	For 4 cells with 10 mm light path for cleaning purposes	Z801038
013.101	Aluminum spacer	38 mm x 12.5 mm x 9 mm, to fit cells with 1 mm light path into 10 mm cell holder	Z801135
013.102	Aluminum spacer	38 mm x 12.5 mm x 8 mm, to fit cells with 2 mm light path into 10 mm cell holder	Z801240
013.105	Aluminum spacer	38 mm x 12.5 mm x 5 mm, to fit cells with 5 mm light path into 10 mm cell holder	Z801356
040.111	FEP tubing set	500 mm long, outside ø 1.9 mm, inside ø 1.1 mm, for compact and 3-in-1 cells, with one short and one long screw fitting	Z800155
040.222	PTFE tubing set	500 mm long, with Omnifit gripper, outside ø 1.6 mm, inside ø 1.0 mm, for compact and 3-in-1 cells, with one short and one long Omnifit gripper	Z800279
011.600	Open screw caps	With ISO GL 14 thread and silicone seal (septum). For cell models: 117.100; 117.100F, 117.104, 117.104F, 120.510	Z804894
011.601	Closed screw caps	With ISO GL 14 thread and silicone seal (septum). For cell models: 117.100; 117.100F, 117.104, 117.104F, 120.510	Z804991
011.650	Replacement silicone rubber seals (septum)	For cell models: 117.100; 117.100F, 117.104, 117.104F, 120.510	Z805106
011.651	Replacement silicone rubber seals (septum), PTFE coated on one side	For cell models: 117.100; 117.100F, 117.104, 117.104F, 120.510	Z805211
332.300	PTFE-coated magnetic stir bar	ø ca. 3–4 mm, Length 6–7 mm. For cell models: 109.000, 109.004, 119.000, 119.004, 109.000F, 109.004F, 119.000F, 119.004F	Z805327



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