

Assay ID: 17J-07006 Instrument ID: T311053
Filename: C:\Sirius_T3\Mehtap\20171006_exp14_pKa\17J-07006_D08_UV-metric psKa.t3r

Yasuda-Shedlovsky result

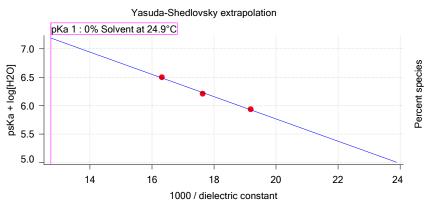
Extrapolation type pKa 0% SD Intercept Slope R² Ionic strength Temperature

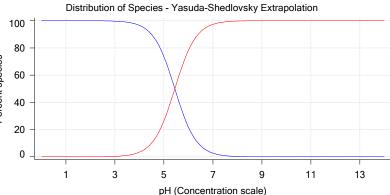
Yasuda-Shedlovsky 5.45 ±0.06 9.68 -195.8810 0.9960 0.167 M 24.9°C

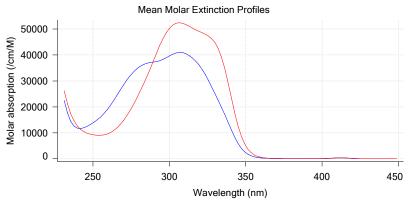
Component assay results

Titration	Methanol	Direction	Result	Dielectric	[H2O]	Ionic	Temperature		psKa
	weight%		type	constant		strength			1
17J-07006 Points 4 to 58	58.99 %	Up	UV-metric pKa	52.1	19.6 M	0.158 M	24.9°C	<u></u>	4.64
17J-07006 Points 60 to 130	49.30 %	Up	UV-metric pKa	56.7	24.8 M	0.168 M	24.9°C	<u></u>	4.81
17J-07006 Points 132 to 203	39.42 %	Up	UV-metric pKa	61.3	30.3 M	0.176 M	24.9°C	<u></u>	5.02

Graphs







UV-metric psKa Titration 1 of 3 17J-07006 Points 4 to 58

Results

pKa 1 4.64
RMSD 0.004 0.002
Chi squared 0.0110
PCA calculated number of pKas 3

Average ionic strength
Average temperature

0.158 M
24.9°C

Analyte concentration range 29.3 μM to 27.4 μM

Methanol weight %59.0 %Dielectric constant52.1Water concentration19.6 M

Number of pKas source Predicted

Wavelength clipping 230.0 nm to 450.0 nm

Report by: Dorothy Levorse 10/11/2017 10:28:03 AM



Assay ID: 17J-07006 Instrument ID: T311053 Filename: C:\Sirius_T3\Mehtap\20171006_exp14_pKa\17J-07006_D08_UV-metric psKa.t3r

Results (continued)

pH clipping 1.470 to 12.515

Warnings and errors

Errors None

Warnings PCA calculation disagrees with predicted number of pKas

Assay Settings

Setting Value Original Value Date/Time changed Imported from

Buffer in use Yes

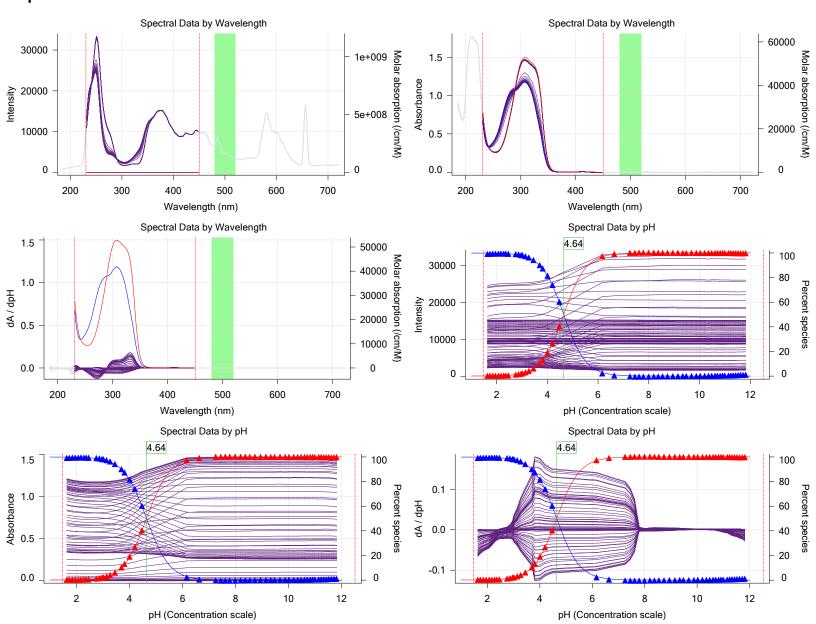
Buffer type Phosphate Buffer

Assay Medium

Volume of buffer introduced 0.025000 mL Add buffer manually

Manual

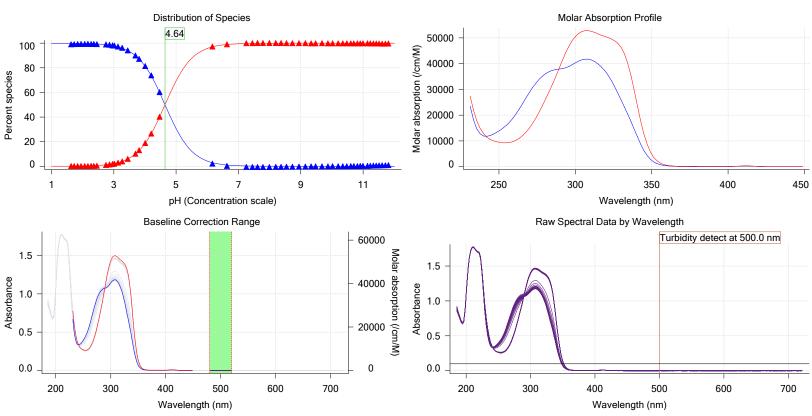
Graphs





17J-07006 Instrument ID: Assay ID: T311053 Filename: C:\Sirius_T3\Mehtap\20171006_exp14_pKa\17J-07006_D08_UV-metric psKa.t3r

Graphs (continued)



Titration 2 of 3 17J-07006 Points 60 to 130 UV-metric psKa

Results

pKa 1 4.81 RMSD 0.003 0.002 Chi squared 0.0039 PCA calculated number of pKas

Average ionic strength

0.168 M Average temperature 24.9°C Analyte concentration range

24.9 μM to 23.4 μM

Methanol weight % 49.3 % Dielectric constant 56.7 Water concentration 24.8 M

Number of pKas source Wavelength clipping

Predicted 230.0 nm to 450.0 nm

1.437 to 12.533

Warnings and errors

Errors

pH clipping

Warnings PCA calculation disagrees with predicted number of pKas

Assay Settings

Original Value Date/Time changed Imported from Setting Value

Buffer in use Yes Buffer type

Phosphate Buffer

Assay Medium



Sample name: D08 Experiment start time: 10/7/2017 8:42:52 AM **UV-metric psKa** Assay name: Analyst: **Dorothy Levorse**

Assay ID: 17J-07006 Instrument ID: T311053 Filename: C:\Sirius_T3\Mehtap\20171006_exp14_pKa\17J-07006_D08_UV-metric psKa.t3r

Assay Settings (continued)

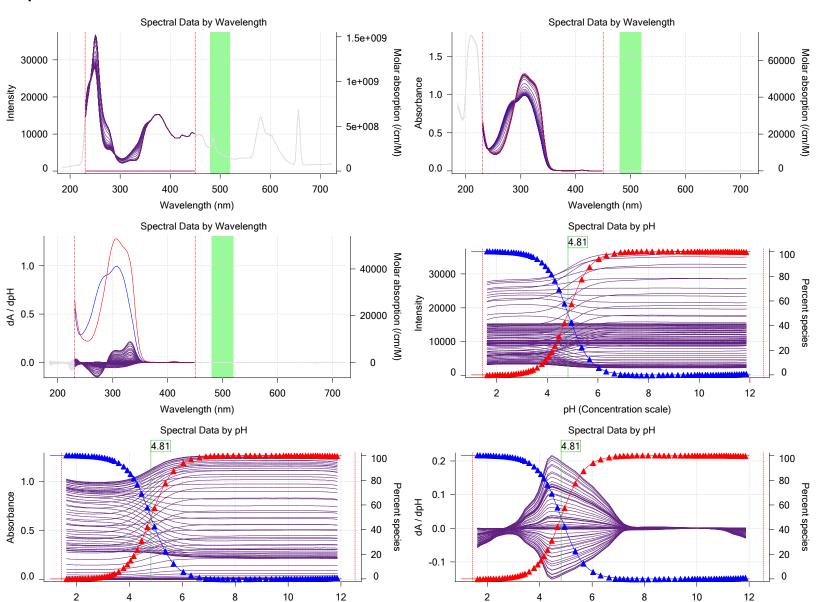
Setting Value Volume of buffer introduced 0.025000 mL

Manual

Original Value Date/Time changed Imported from

Graphs

Add buffer manually



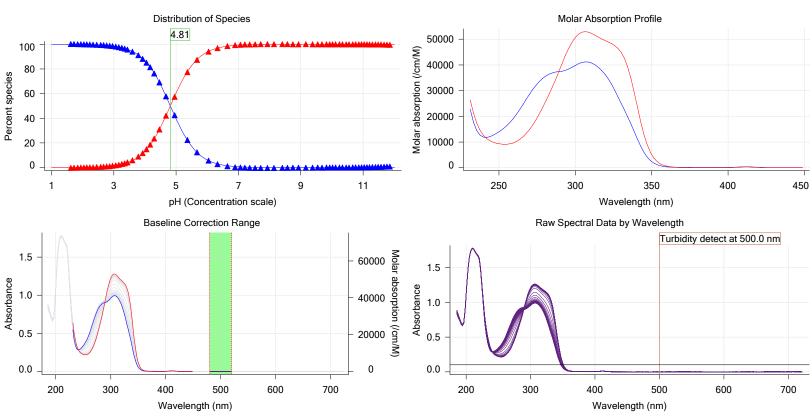
pH (Concentration scale)

pH (Concentration scale)



17J-07006 Instrument ID: Assay ID: T311053 Filename: C:\Sirius_T3\Mehtap\20171006_exp14_pKa\17J-07006_D08_UV-metric psKa.t3r

Graphs (continued)



Titration 3 of 3 17J-07006 Points 132 to 203 UV-metric psKa

Results

pKa 1 5.02 RMSD 0.005 0.004 Chi squared 0.0141 PCA calculated number of pKas

Average ionic strength

0.176 M Average temperature 24.9°C

Analyte concentration range 20.3 μM to 19.1 μM

Methanol weight % 39.4 % Dielectric constant 61.3 Water concentration 30.3 M

Number of pKas source Wavelength clipping

230.0 nm to 450.0 nm

pH clipping 1.429 to 12.546

Warnings and errors

Errors

Warnings PCA calculation disagrees with predicted number of pKas

Predicted

Assay Settings

Original Value Date/Time changed Imported from Setting Value

Buffer in use Yes Buffer type

Phosphate Buffer

Assay Medium

Report by: Dorothy Levorse 10/11/2017 10:28:03 AM



Assay ID: 17J-07006 Instrument ID: T311053
Filename: C:\Sirius_T3\Mehtap\20171006_exp14_pKa\17J-07006_D08_UV-metric psKa.t3r

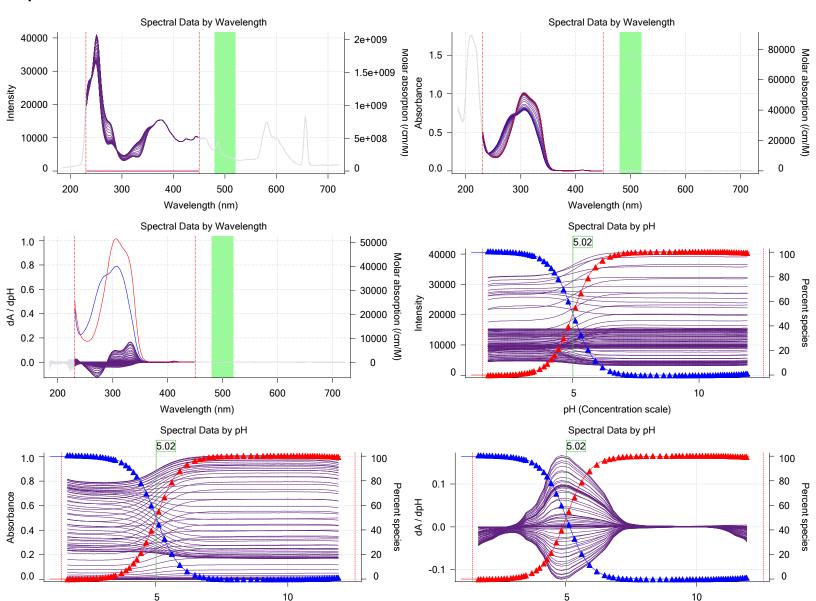
Assay Settings (continued)

Setting Value Original Value Date/Time changed Imported from

Volume of buffer introduced 0.025000 mL Add buffer manually Manual

0.025000 mL Manual

Graphs



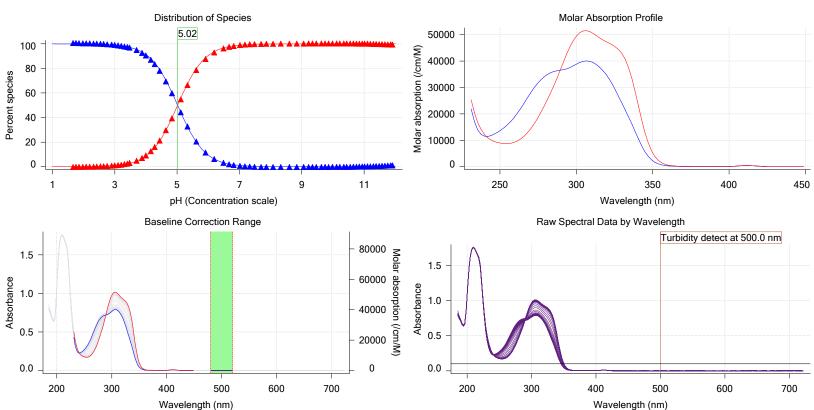
pH (Concentration scale)

pH (Concentration scale)



Assay ID: 17J-07006 Instrument ID: T311053
Filename: C:\Sirius_T3\Mehtap\20171006_exp14_pKa\17J-07006_D08_UV-metric psKa.t3r

Graphs (continued)



Assay Model

noody model			
Settings	Value	Date/Time changed	Imported from
Sample name	D08	10/2/2017 12:57:31 PM	User entered value
Sample by	Volume		Default value
Sample volume	0.0010 mL	10/6/2017 6:10:30 PM	User entered value
Solvent	DMSO		Default value
Sample concentration	0.047100 M	10/2/2017 12:59:19 PM	User entered value
Solubility	Unknown		Default value
Molecular weight	420.46	9/29/2017 6:40:43 PM	User entered value
Individual pKa ionic environments	No		Default value
Number of pKas	1	9/29/2017 6:40:34 PM	User entered value
Sample is a	Base	9/29/2017 6:40:34 PM	User entered value
pKa 1	6.16	9/29/2017 6:40:34 PM	User entered value
logp (XH +)	-10.00		Default value
logP (neutral X)	-10.00	9/29/2017 6:40:34 PM	User entered value

Events

10:48.4 Data point 9

ıme	Event	vvater	ACIO	base	wietnanoi	вищег	рп	apn/at	рп R-square
3:09.6	Dark spectrum								• ,
3:11.0	Reference spectrum								
3:38.7	Volume reset due to vial change								,
8:43.1	Initial pH = 7.97								ľ
9:02.2	Data point 4	0.15005 mL	0.07338 mL	0.00000 mL	1.35995 mL	0.02500 mL	1.970	-0.04515	0.98029
9:30.7	Data point 5	0.15005 mL	0.07338 mL	0.01583 mL	1.35995 mL	0.02500 mL	2.071	0.00844	0.23845
9:47.5	Data point 6	0.15005 mL	0.07338 mL	0.02822 mL	1.35995 mL	0.02500 mL	2.181	-0.00362	0.10685
10:04.5	Data point 7	0.15005 mL	0.07338 mL	0.03782 mL	1.35995 mL	0.02500 mL	2.289	0.00689	0.75600
10:21.2	Data point 8	0.15005 mL	0.07338 mL	0.04532 mL	1.35995 mL	0.02500 mL	2.406	0.00701	0.71076

0.15005 mL 0.07338 mL 0.05151 mL 1.35995 mL 0.02500 mL 2.509 0.00758



17J-07006 Instrument ID: T311053 Assay ID:

Filename: C:\Sirius T3\Mehtap\20171006 exp14 pKa\17J-07006 D08 UV-metric psKa.t3r

Filename	e: C:\Sirius_T3\I	Mehtap\2017	1006_exp14_	pKa\17J-0700	06_D08_UV-n	netric psKa.t	3r				
Events (continued)											
Time	Event	Water	Acid	Base	Methanol	Buffer	рН	dpH/dt	pH R-squared	pH SD	
11:05.2	Data point 10	0.15005 mL	0.07338 mL	0.05607 mL	1.35995 mL	0.02500 mL	2.613	0.01376	0.88647	0.00	
11:21.9	Data point 11	0.15005 mL	0.07338 mL	0.05964 mL	1.35995 mL	0.02500 mL	2.697	0.01879	0.89563	0.00	
11:43.8	Data point 12	0.15005 mL	0.07338 mL	0.06171 mL	1.35995 mL	0.02500 mL	2.794	0.03688	0.94026	0.00	
12:21.4	Data point 13	0.15005 mL	0.07338 mL	0.07352 mL	1.35995 mL	0.02500 mL	3.083	0.01372	0.83028	0.00	
12:53.5	Data point 14	0.15005 mL	0.07338 mL	0.07488 mL	1.35995 mL	0.02500 mL	3.191	0.01403	0.94181	0.00	
13:10.2	Data point 15	0.15005 mL	0.07338 mL	0.07582 mL	1.35995 mL	0.02500 mL	3.289	0.01621	0.93330	0.00	
13:26.8	Data point 16	0.15005 mL	0.07338 mL	0.07658 mL	1.35995 mL	0.02500 mL	3.343	0.01874	0.94657	0.00	
13:48.6	Data point 17	0.15005 mL	0.07338 mL	0.07745 mL	1.35995 mL	0.02500 mL	3.463	0.01641	0.93665	0.00	
14:10.3	Data point 18			0.07813 mL				0.03448	0.98699	0.00	
14:32.0	Data point 19			0.07874 mL				0.08917	0.99469	0.00	
14:53.7	Data point 20	0.15005 mL	0.07338 mL	0.07916 mL	1.35995 mL	0.02500 mL	4.015	0.07429	0.98890	0.00	
15:15.5				0.07942 mL				0.10060	0.99486	0.00	
	Data point 22			0.07961 mL				0.10023	0.99335	0.00	
	Data point 23			0.07973 mL				0.07939	0.76705	0.00	
17:15.6	Data point 24			0.07987 mL				0.09874	0.98614	0.00	
18:13.4	Data point 25			0.08006 mL				0.32526	0.97802	0.0	
19:30.1	Data point 26	0.15005 mL	0.07338 mL	0.08020 mL	1.35995 mL	0.02500 mL	6.911	0.09791	0.97980	0.00	
20:23.8	Data point 27	0.15005 mL	0.07338 mL	0.08024 mL	1.35995 mL	0.02500 mL	7.523	0.09742	0.96381	0.00	
21:27.4	Data point 28			0.08036 mL				0.09757	0.99076	0.00	
22:12.3	Data point 29			0.08046 mL				0.09383	0.95664	0.00	
22:57.9	Data point 30			0.08055 mL				0.09820	0.98539	0.00	
23:53.3	Data point 31			0.08067 mL				0.09969	0.99259	0.00	
24:50.4	Data point 32			0.08079 mL				0.09919	0.98585	0.00	
25:35.0	Data point 33			0.08088 mL				0.09937	0.98182	0.00	
26:08.1	Data point 34			0.08095 mL				0.09790	0.94302	0.00	
26:41.4	Data point 35			0.08102 mL				0.09725	0.94103	0.00	
27:14.5	Data point 36			0.08109 mL				0.09181	0.90697	0.00	
	Data point 37			0.08116 mL				0.08623	0.91636	0.00	
28:19.9	Data point 38			0.08123 mL				0.09321	0.88635	0.00	
28:51.7	Data point 39			0.08130 mL				0.09216	0.94528	0.00	
29:23.0	Data point 40			0.08140 mL				0.09231	0.95220	0.00	
29:57.9	Data point 41			0.08151 mL				0.09254	0.92116	0.00	
30:29.6	Data point 42			0.08166 mL				0.09330	0.88388	0.00	
30:53.8	Data point 43			0.08184 mL				0.09607	0.98010	0.00	
	Data point 44			0.08208 mL					0.98157	0.00	
	Data point 45			0.08238 mL					0.96223	0.00	
	Data point 46			0.08278 mL					0.97421	0.00	
	Data point 47			0.08325 mL					0.97032	0.00	
	Data point 48			0.08377 mL						0.00	
	Data point 49			0.08443 mL					0.38230	0.00	
	Data point 50			0.08525 mL					0.36973	0.00	
	Data point 51			0.08723 mL						0.00	
	Data point 52			0.08841 mL						0.00	
	Data point 53			0.08970 mL						0.00	
	Data point 54			0.09170 mL						0.00	
	Data point 55			0.09436 mL						0.00	
	Data point 56			0.09767 mL						0.00	
	Data point 57			0.10181 mL						0.00	
	Data point 58	0.15005 mL	0.07338 mL	0.10708 mL	1.35995 mL	0.02500 mL	12.015	-0.00558	0.56866	0.00	
	Reference spectrum										
	Data point 60	0.22001 mL	0.18024 mL	0.10710 mL	1.35995 mL	0.02500 mL	1.937	-0.05243	0.93631	0.00	
20.12.7	Data point 61	0.22001 ml	0.18024 ml	0.12/11 ml	1 35005 ml	0.02500 ml	2 038	0.00508	0.33084	0.00	

0.22001 mL 0.18024 mL 0.14819 mL 1.35995 mL 0.02500 mL 2.258

39:12.7 Data point 61

39:29.6 Data point 62

39:56.7 Data point 63

40:18.5 Data point 64

40:40.5 Data point 65

41:07.6 Data point 66

0.0

0.0

0.0

0.00

0.00

0.00

0.00598 0.32984

0.02306 0.93296

0.00994 0.52200

0.91933

0.96207

0.29173

0.01923

0.01510



Experiment start time: 10/7/2017 8:42:52 AM Sample name: **D08**

Assay name: **UV-metric psKa** Analyst: **Dorothy Levorse**

17J-07006 Instrument ID: Assay ID: T311053 Filename:

C:\Sirius_T3\Mehtap\20171006_exp14_pKa\17J-07006_D08_UV-metric psKa.t3r

Events (continued)									
Time	Event	Water	Acid	Base	Methanol	Buffer	рН	dpH/dt	pH R-squared	
41:34.5	Data point 67					0.02500 mL		0.00638	0.62430	0.00040
41:51.2	Data point 68			0.17392 mL				0.01194	0.79448	0.00066
42:23.4	Data point 69			0.17745 mL				-0.00018		0.00026
42:45.2	Data point 70			0.17919 mL		0.02500 mL		0.00293	0.22129	0.0003
43:12.2	Data point 71			0.18060 mL				0.01250	0.85426	0.00067
43:39.1	Data point 72			0.18175 mL				0.01178	0.86078	0.00063
44:05.9	Data point 73			0.18274 mL				0.00855	0.91549	0.00044
44:22.5	Data point 74			0.18361 mL				0.00996	0.86204	0.00053
44:39.0	Data point 75			0.18431 mL				0.01188	0.77730	0.00067
44:55.4	Data point 76		0.18024 mL			0.02500 mL		0.01685	0.96803	0.0008
45:12.0	Data point 77		0.18024 mL					0.02114	0.97846	0.00106
45:28.5 45:50.2	Data point 78			0.18568 mL		0.02500 mL		0.01901	0.90547	0.00099
45:50.2 46:17.1	Data point 79			0.18622 mL				0.03460	0.97814	0.00173
46:17.1 46:38.7	Data point 80			0.18678 mL				0.03826	0.95573	0.00193
46:38.7 47:05.5	Data point 81			0.18702 mL 0.18721 mL				0.06107	0.99226 0.98160	0.00303
47:05.5 47:27.2	Data point 82			0.18721 ML 0.18732 ML				0.10033 0.09343	0.98160 0.91662	0.00500 0.0048
47:27.2 47:54.7	Data point 83			0.18732 ML 0.18742 mL				0.09343	0.98401	0.0048
47:54.7 48:29.9	Data point 84 Data point 85			0.18742 ML 0.18751 mL				0.09876	0.98401	0.0049
46.29.9 49:11.1	Data point 86			0.18761 mL				0.09926	0.99590	0.00492
49.11.1 50:00.7	Data point 87			0.18761 IIIL 0.18768 mL		0.02500 mL		0.10099	0.98211	0.0049
50:59.0	Data point 88			0.18775 mL		0.02500 mL		0.09367	0.98894	0.0047
50.59.0 51:56.2	Data point 89		0.18024 mL			0.02500 mL		0.09902	0.99203	0.0049
52:48.8	Data point 99			0.18784 mL		0.02500 mL		0.10020	0.83264	0.00490
53:48.5	Data point 91			0.18789 mL				0.10059	0.98933	0.00409
54:52.3	Data point 92			0.18796 mL				0.10039	0.98455	0.00498
55:43.0	Data point 93			0.18803 mL				0.09874	0.98717	0.0049
56:26.7	Data point 94			0.18810 mL				0.09863	0.98612	0.0049
57:05.9	Data point 95			0.18817 mL		0.02500 mL		0.09992	0.99440	0.00494
57:40.3	Data point 96		0.18024 mL		1.35995 mL			0.10052	0.99277	0.00498
58:15.9	Data point 97			0.18831 mL		0.02500 mL		0.10010	0.98296	0.00498
58:54.6	Data point 98			0.18838 mL				0.09670	0.98145	0.00482
59:31.5	Data point 99			0.18845 mL		0.02500 mL		0.09806	0.96957	0.0049
1:00:10.1				0.18852 mL		0.02500 mL		0.09839	0.99125	0.00488
1:00:50.3	•		0.18024 mL		1.35995 mL	0.02500 mL		0.09751	0.99439	0.00483
			0.18024 mL		1.35995 mL	0.02500 mL		0.10014	0.99270	0.00496
	Data point 103					0.02500 mL		0.09626	0.97018	0.00482
1:02:38.4	Data point 104	0.22001 mL	0.18024 mL	0.18874 mL	1.35995 mL	0.02500 mL	9.146	0.09967	0.98520	0.0049
	·							0.09564	0.97203	0.00479
1:03:57.7	Data point 106	0.22001 mL	0.18024 mL	0.18888 mL	1.35995 mL	0.02500 mL	9.592	0.09483	0.97536	0.00474
1:04:33.0	Data point 107	0.22001 mL	0.18024 mL	0.18895 mL	1.35995 mL	0.02500 mL	9.757	0.09934	0.97314	0.00497
	Data point 108							0.09965	0.97193	0.00499
	Data point 109								0.97337	0.0048
	Data point 110								0.97541	0.00332
	Data point 111								0.98940	0.00244
	Data point 112								0.96301	0.0013
	Data point 113								0.89890	0.00118
	Data point 114								0.76414	0.0005
1:07:22.9	Data point 115	0.22001 mL	0.18024 mL	0.19007 mL	1.35995 mL	0.02500 mL	10.655	0.00820	0.70150	0.00048
4.07.44 5	Data maint 110	0.000041	0.40004	0.40040 1	4 25005	0.00500!	40 747	0.00450	0.44000	~ ~ ~ ~ ~ ~

1:07:44.5 Data point 116 0.22001 mL 0.18024 mL 0.19040 mL 1.35995 mL 0.02500 mL 10.747 0.00453 0.44896

1:08:01.1 Data point 117 0.22001 mL 0.18024 mL 0.19085 mL 1.35995 mL 0.02500 mL 10.863 -0.00129 0.05066 1:08:27.7 Data point 118 0.22001 mL 0.18024 mL 0.19144 mL 1.35995 mL 0.02500 mL 10.955 -0.00276 0.32506 1:08:44.3 Data point 119 0.22001 mL 0.18024 mL 0.19215 mL 1.35995 mL 0.02500 mL 11.055 -0.00354 0.36497

1:09:00.9 Data point 120 0.22001 mL 0.18024 mL 0.19304 mL 1.35995 mL 0.02500 mL 11.143 -0.00194 0.17355

1:09:17.4 Data point 121 0.22001 mL 0.18024 mL 0.19412 mL 1.35995 mL 0.02500 mL 11.228 -0.00498 0.53616

1:09:34.1 Data point 122 0.22001 mL 0.18024 mL 0.19544 mL 1.35995 mL 0.02500 mL 11.314 -0.00703 0.75619

1:09:50.6 Data point 123 0.22001 mL 0.18024 mL 0.19704 mL 1.35995 mL 0.02500 mL 11.395 -0.00597 0.66423

0.00033

0.00028 0.000240.00029

0.00023

0.00034

0.00040



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Filename: C:\Sirius_T3\Mehtap\20171006_exp14_pKa\17J-07006_D08_UV-metric psKa.t3r

Filename:	C:\Sirius_T3\M	ehtap\201710	06_exp14_pl	Ka∖17J-07006	_D08_UV-me	tric psKa.t3r				
Events ((continued)									
Time	Event	Water	Acid	Base	Methanol	Buffer	рН	dpH/dt	pH R-squared	pl Si
1:10:12.3	Data point 124	0.22001 mL	0.18024 mL	0.19866 mL	1.35995 mL	0.02500 mL	11.485	-0.00463	0.61939	0.
1:10:39.3	Data point 125	0.22001 mL	0.18024 mL	0.20101 mL	1.35995 mL	0.02500 mL	11.580	-0.00541	0.65198	0.
1:10:55.9	Data point 126	0.22001 mL	0.18024 mL	0.20400 mL	1.35995 mL	0.02500 mL	11.669	-0.00431	0.49191	0.
1:11:12.6	Data point 127	0.22001 mL	0.18024 mL	0.20769 mL	1.35995 mL	0.02500 mL	11.760	-0.00446	0.46482	0.
1:11:29.4	Data point 128	0.22001 mL	0.18024 mL	0.21223 mL	1.35995 mL	0.02500 mL	11.854	-0.00412	0.42072	0.
1:11:46.1	Data point 129	0.22001 mL	0.18024 mL	0.21794 mL	1.35995 mL	0.02500 mL	11.945	-0.00680	0.70814	0.
1:12:03.0	Data point 130	0.22001 mL	0.18024 mL	0.22502 mL	1.35995 mL	0.02500 mL	12.033	-0.00583	0.60186	0.
1:13:45.3	Reference spectrum									
1:15:05.9	Data point 132		0.31761 mL					-0.07070	0.93164	0.
1:15:28.2	Data point 133		0.31761 mL					0.00316	0.28474	0.
1:15:55.5	Data point 134	0.39005 mL	0.31761 mL	0.25713 mL	1.35995 mL	0.02500 mL	2.119	-0.00351	0.15384	0.
1:16:28.1	Data point 135		0.31761 mL					0.01981	0.92763	0.
1:16:55.3			0.31761 mL					0.01308	0.92960	0.
1:17:12.2			0.31761 mL					0.01234	0.83444	0.
1:17:29.1	Data point 138		0.31761 mL					0.00769	0.68470	0.
1:17:51.1	Data point 139		0.31761 mL					0.01056	0.77859	0.
1:18:07.6	•		0.31761 mL					0.00589	0.56744	0.
1:18:34.6			0.31761 mL					0.00166	0.07851	0.
1:18:51.2			0.31761 mL					-0.00430		0.
1:19:07.8	Data point 143		0.31761 mL					-0.00092		0.
1:19:34.7	•		0.31761 mL					0.00797	0.67498	0.
1:19:51.3	•		0.31761 mL					0.00482	0.47676	0.
1:20:07.9			0.31761 mL					0.00811	0.65002	0.
1:20:24.5	-		0.31761 mL					0.01015	0.75587	0.
1:20:41.1	Data point 148		0.31761 mL					0.00870	0.63312	0.
1:20:57.7	•		0.31761 mL					0.01693	0.95196	0.
1:21:24.6	Data point 150		0.31761 mL					0.02497	0.94516	0.
1:21:46.3	•		0.31761 mL					0.03603	0.96427	0.
1:22:08.0	•		0.31761 mL					0.05816	0.98223	0.
1:22:29.6			0.31761 mL					0.08320	0.98251	0.
1:22:51.2			0.31761 mL					0.10037	0.98987	0.
1:23:20.0	Data point 155		0.31761 mL					0.09975	0.98849	0.
1:23:54.4			0.31761 mL					0.09725	0.96956	0.
1:24:33.6			0.31761 mL					0.09858	0.98743	0.
	Data point 158		0.31761 mL					0.09511	0.97701	0.
	Data point 159		0.31761 mL					0.09646	0.96685	0.
1:26:50.1	Data point 160		0.31761 mL					0.09900 0.09937	0.99180 0.98669	0. 0.
1:27:41.8 1:28:32.4			0.31761 mL 0.31761 mL					0.09937	0.99473	0.
1:29:19.0			0.31761 mL					0.09937	0.98511	0. 0.
1:29:56.0			0.31761 mL					0.09912	0.97490	0.
1:30:28.1	Data point 165		0.31761 mL					0.09773	0.99338	0.
1:31:06.4	-		0.31761 mL					0.09092	0.98713	0.
1:31:41.6			0.31761 mL					0.10020	0.98240	0.
1:32:14.9			0.31761 mL					0.10013	0.98482	0.
1:32:49.5			0.31761 mL					0.10013	0.98007	0.
1:33:24.8			0.31761 mL					0.09617	0.97565	0.
1:33:57.0			0.31761 mL					0.09792	0.98162	0.
1:34:30.1	Data point 171		0.31761 mL					0.09734	0.95560	0.
1:35:04.3	-		0.31761 mL					0.09766	0.98226	0.
1:35:41.1	Data point 173		0.31761 mL					0.097884	0.96430	0.
1:36:18.7			0.31761 mL					0.09160	0.94795	0.
1:36:52.1			0.31761 mL					0.09492	0.95536	0.
1:37:25.7			0.31761 mL					0.09798	0.97294	0.
	Data point 178		0.31761 mL					0.09975	0.97893	0.
	Data point 179		0.31761 mL					0.09194	0.95665	0.
	Data point 170		0.31761 mL					0.00154		0.

0.39005 mL 0.31761 mL 0.31691 mL 1.35995 mL 0.02500 mL 9.800 0.09553 0.98261

1:38:52.2 Data point 180



Assay ID: 17J-07006 Instrument ID: T311053

Filename: C:\Sirius_T3\Mehtap\20171006_exp14_pKa\17J-07006_D08_UV-metric psKa.t3r

Events (continued)

Time	Event	Water	Acid	Base	Methanol	Buffer	рН	dpH/dt	pH R-squared	pH SD
1:39:15.4	Data point 181	0.39005 mL	0.31761 mL	0.31698 mL	1.35995 mL	0.02500 mL	9.918	0.08276	0.94810	0.0041
1:39:37.1	Data point 182	0.39005 mL	0.31761 mL	0.31705 mL	1.35995 mL	0.02500 mL	10.026	0.06128	0.96875	0.0030
1:39:58.6	Data point 183	0.39005 mL	0.31761 mL	0.31717 mL	1.35995 mL	0.02500 mL	10.149	0.03482	0.96390	0.0017
1:40:15.1	Data point 184	0.39005 mL	0.31761 mL	0.31733 mL	1.35995 mL	0.02500 mL	10.281	0.01580	0.83644	0.0008
1:40:36.8	Data point 185	0.39005 mL	0.31761 mL	0.31755 mL	1.35995 mL	0.02500 mL	10.385	0.01502	0.87508	0.0007
1:40:53.3	Data point 186	0.39005 mL	0.31761 mL	0.31780 mL	1.35995 mL	0.02500 mL	10.509	0.00050	0.00965	0.0002
1:41:19.9	Data point 187	0.39005 mL	0.31761 mL	0.31818 mL	1.35995 mL	0.02500 mL	10.601	0.00361	0.24790	0.0003
1:41:36.6	Data point 188	0.39005 mL	0.31761 mL	0.31863 mL	1.35995 mL	0.02500 mL	10.713	-0.00668	0.56888	0.0004
1:41:53.3	Data point 189	0.39005 mL	0.31761 mL	0.31919 mL	1.35995 mL	0.02500 mL	10.816	-0.00639	0.70853	0.0003
1:42:09.8	Data point 190	0.39005 mL	0.31761 mL	0.31990 mL	1.35995 mL	0.02500 mL	10.913	-0.00840	0.78022	0.0004
1:42:26.4	Data point 191	0.39005 mL	0.31761 mL	0.32079 mL	1.35995 mL	0.02500 mL	11.004	-0.00995	0.82256	0.0005
1:42:43.0	Data point 192	0.39005 mL	0.31761 mL	0.32190 mL	1.35995 mL	0.02500 mL	11.094	-0.01020	0.86528	0.0005
1:42:59.6	Data point 193	0.39005 mL	0.31761 mL	0.32324 mL	1.35995 mL	0.02500 mL	11.169	-0.00997	0.87872	0.0005
1:43:26.6	Data point 194	0.39005 mL	0.31761 mL	0.32519 mL	1.35995 mL	0.02500 mL	11.260	-0.00825	0.73165	0.0004
1:43:48.4	Data point 195	0.39005 mL	0.31761 mL	0.32674 mL	1.35995 mL	0.02500 mL	11.350	-0.00832	0.74868	0.0004
1:44:15.3	Data point 196	0.39005 mL	0.31761 mL	0.32907 mL	1.35995 mL	0.02500 mL	11.445	-0.00615	0.65026	0.0003
1:44:32.0	Data point 197	0.39005 mL	0.31761 mL	0.33210 mL	1.35995 mL	0.02500 mL	11.535	-0.00983	0.83929	0.0005
1:44:48.6	Data point 198	0.39005 mL	0.31761 mL	0.33587 mL	1.35995 mL	0.02500 mL	11.628	-0.00955	0.82036	0.0005
1:45:05.3	Data point 199	0.39005 mL	0.31761 mL	0.34052 mL	1.35995 mL	0.02500 mL	11.721	-0.00810	0.76135	0.0004
1:45:22.1	Data point 200	0.39005 mL	0.31761 mL	0.34636 mL	1.35995 mL	0.02500 mL	11.812	-0.00727	0.80402	0.0004
1:45:38.8	Data point 201	0.39005 mL	0.31761 mL	0.35362 mL	1.35995 mL	0.02500 mL	11.899	-0.01135	0.83996	0.0006
1:45:55.6	Data point 202	0.39005 mL	0.31761 mL	0.36258 mL	1.35995 mL	0.02500 mL	11.990	-0.00949	0.78051	0.0005
1:46:12.2	Data point 203	0.39005 mL	0.31761 mL	0.36898 mL	1.35995 mL	0.02500 mL	12.046	-0.00558	0.61981	0.0003

Assay Settings

Setting	Value	Original Value	Date/Time changed	Imported from
General Settings				

1:48:11.6 Assay volumes 0.64005 mL 0.45200 mL 0.36898 mL 1.35995 mL 0.02500 mL

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Δ	na	lve	t r	am	۵		

Analyst name Dorothy Levorse Separate reference vial Yes

Standard Francisco viai

Standard Experiment SettingsNumber of titrations3Minimum pH2.000Maximum pH12.000pH step between points of0.100Minimum titrant addition0.00002 mLMaximum titrant addition0.10000 mL

Argon flow rate 100%

Start titration using Cautious pH adjust

Advanced General Settings

Detect turbidity using

Monitor at a wavelength of
Absorbance threshold of
Collect turbidity sensor data
Stir after titrant addition for
For titrant addition, stir at
Spectrometer
500.0 nm
0.100
No
5 seconds

Titrant Pre-Dose

Titrant pre-dose None

Assay Medium

Buffer type

Cosolvent in use
Cosolvent type
Cosolvent volume
Cosolvent added
ISA water volume
Water added
Buffer in use
Yes
Methanol
1.35 mL
Automatic
0.15 mL
Automatic
Yes

Report by: Dorothy Levorse 10/11/2017 10:28:03 AM

Phosphate Buffer

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Assay name: UV-metric psKa Analyst: Dorothy Lev Assay ID: 17J-07006 Instrument ID: T311053

Assay ID: 17J-07006 Instrument ID: T31105
Filename: C:\Sirius_T3\Mehtap\20171006_exp14_pKa\17J-07006_D08_UV-metric psKa.t3r

Assay Settings (continued)

etting	Value	Original Value	Date/Time changed	Imported from

Volume of buffer introduced 0.025000 mL
Add buffer manually Manual
After medium addition, stir for 5 seconds

Sample Sonication

Sonicate Yes Adjust pH for sonication No

Sonicate for 120 seconds
After sonication stir for 60 seconds

Sample Dissolution

Perform a dissolution stage No

Carbonate purge

Perform a carbonate purge No

Temperature Control

Wait for temperature Yes
Required start temperature 25.0°C
Acceptable deviation 0.5°C
Time to wait 60 seconds

Stir speed of 15%

Titration 1

Titrate from Low to high pH

Adjust to start pH Yes

After pH adjust stir for 10 seconds

Titration 2

Titrate from Low to high pH

Additional cosolvent volume 0.00 mL
Add additional water 0.07 mL
Additional water added Automatic
After pH adjust stir for 10 seconds

Titration 3

Titrate from Low to high pH

Additional cosolvent volume 0.00 mL

Add additional water 0.17 mL

Additional water added Automatic

After pH adjust stir for 10 seconds

Data Point Stability

Stir during data point collection
For point collection, stir at
Delay before data point collection
Number of points to average
Time interval between points
Required maximum standard deviation
Stability timeout after
Yes
15%
0 seconds
0 seconds
0.50 seconds
0.00500 dpH/dt

Experiment cleanup

Adjust pH to cleanup To start pH
And then stir for 60 seconds
For cleaning, stir at 20%
Then add water volume 0.25 mL
And then stir for 30 seconds

Calibration Settings

Setting	Value	Date/Time changed	Imported from
Four-Plus alpha	0.161	10/7/2017 8:42:52 AM	C:\Sirius_T3\17J-06018_Blank standardisation.t3r
Four-Plus S	0.9927	10/7/2017 8:42:52 AM	C:\Sirius_T3\17J-06018_Blank standardisation.t3r
Four-Plus jH	0.5	10/7/2017 8:42:52 AM	C:\Sirius_T3\17J-06018_Blank standardisation.t3r
Four-Plus jOH	-0.7	10/7/2017 8:42:52 AM	C:\Sirius_T3\17J-06018_Blank standardisation.t3r
Base concentration factor	1.011	10/7/2017 8:42:52 AM	C:\Sirius_T3\KOH17I22.t3r
Acid concentration factor	1.003	10/7/2017 8:42:52 AM	C:\Sirius_T3\17J-06018_Blank standardisation.t3r



Sample name: D08 Experiment start time: 10/7/2017 8:42:52 AM

Assay name: UV-metric psKa Analyst: Dorothy Levorse

Assay ID: 17J-07006 Instrument ID: T311053
Filename: C:\Sirius_T3\Mehtap\20171006_exp14_pKa\17J-07006_D08_UV-metric psKa.t3r

Instrument Settings

Setting Instrument owner	Value Merck	Batch Id	Install date
Instrument ID	T311053		
Instrument type	T3 Simulator		
Software version	1.1.3.0		
Dispenser module		T3DM1100253	3/31/2009 6:24:52 AM
Dispenser 0	Water		3/31/2009 6:25:05 AM
Syringe volume	2.5 mL		
Firmware version	1.2.1(r2)		
Titrant	Water (0.15 M KCl)	8-18-17	9/26/2017 9:05:04 AM
Dispenser 2	Acid		3/31/2009 6:25:11 AM
Syringe volume	0.5 mL		
Firmware version Titrant	1.2.1(r2)	166040 and 172075	10/6/2017 2:55:40 PM
Dispenser 1	Acid (0.5 M HCI) Base	100940 and 172075	3/31/2009 6:25:21 AM
Syringe volume	0.5 mL		3/31/2009 0.23.21 AW
Firmware version	1.2.1(r2)		
Titrant	Base (0.5 M KOH)	9-22-17	9/22/2017 4:02:42 PM
Dispenser 5	Cosolvent	· · ·	3/31/2009 6:26:24 AM
Syringe volume	2.5 mL		
Firmware version	1.2.1(r2)		
Distribution valve 5	Distribution Valve		3/31/2009 6:28:19 AM
Firmware version	1.1.3		
Port A	Methanol (80%, 0.15 M KCl)	9-26-17	10/5/2017 5:02:03 PM
Port B	Cyclohexane		9/19/2017 2:15:02 PM
Port C	MeCN (50%, 0.15 M KCI)	10-2-17	10/2/2017 11:28:55 AM
Dispenser 3	Buffer		8/3/2010 6:05:16 AM
Syringe volume	0.5 mL		
Firmware version Titrant	1.2.1(r2)		9/12/2017 12:32:29 PM
Dispenser 6	Phosphate Buffer Octanol		10/22/2010 11:52:43 AM
Syringe volume	0.5 mL		10/22/2010 11:32:43 AW
Firmware version	1.2.1(r2)		
Titrant	Octanol	9-14-17	9/14/2017 10:30:38 AM
Titrator		T3TM1100153	3/31/2009 6:24:17 AM
Horizontal axis firmware version	1.17 Al1Dl2DO2 Stepper 2		
Vertical axis firmware version	1.17 Al1Dl2DO2 Stepper 2		
Chassis I/O firmware version	1.11 Al1Dl0DO4 Norgren I/O		
Probe I/O firmware version	1.1.1		
Electrode	T3 Electrode	T3E0769	8/15/2017 10:21:54 AM
E0 calibration	-7.88 mV	1401.00=	10/7/2017 8:43:16 AM
Filling solution	3M KCI	KCL095	10/4/2017 3:50:10 PM
Liquids Wash 1	50% IPA:50% Water		10/6/2017 2:50:09 DM
Wash 2	0.5% Trition X-100 in H20		10/6/2017 2:50:08 PM 10/6/2017 2:50:11 PM
Buffer position 1	pH7 Wash		10/6/2017 2:50:17 PM
Buffer position 2	pH 7		10/6/2017 2:50:17 PM
Storage position	p		10/6/2017 2:50:25 PM
Wash water	8.5e+003 mL	10-6-17	10/6/2017 3:04:25 PM
Waste	1.5e+003 mL		10/6/2017 3:04:33 PM
Temperature controller			8/5/2010 7:35:13 AM
Turbidity detector			3/31/2009 6:24:45 AM
Spectrometer		072390	11/23/2010 12:22:28 PM
Dip probe		11086	
Wavelength coefficient A0	185.563		
Wavelength coefficient A1	2.17439		
Wavelength coefficient A2	-0.000285622		44/00/0040 40 00 00 51
Total lamp lit time	391:10:29		11/23/2010 12:22:28 PM
Calibrated on	10/5/2017 10:23:25 AM		



Assay ID: 17J-07006 Instrument ID: T311053
Filename: C:\Sirius_T3\Mehtap\20171006_exp14_pKa\17J-07006_D08_UV-metric psKa.t3r

Instrument Settings (continued)

Setting	Value	Batch Id	Install date
Integration time	11		

Scans averaged 10

Autoloader T3AL1100237 11/10/2015 10:34:13 AM

Left-right axis firmware version

Front-back axis firmware version

Vertical axis firmware version

Chassis I/O firmware version

1.17 Al1Dl2DO2 Stepper 2
1.17 Al1Dl2DO2 Stepper 2
1.17 Al1Dl2DO2 Stepper 2
1.11 Al1Dl0DO4 Norgren I/O

Configuration

Alternate titration position Titration position
Alternate reference position Reference position

Alternate reference position

Maximum standard vial volume

Maximum alternate vial volume

Automatic action idle period

Titrant tube volume

Syringe flush count

Flowing wash pump volume

Flowing wash stir duration

Reference position

3.50 mL

5 minute(s)

1.3 mL

3.50

Flowing wash pump volume

20.0 mL

Flowing wash stir duration 5 s Flowing wash stir speed 30% Solvent wash stir duration 5 s 30% Solvent wash stir speed 5 s Surfactant wash stir duration 30% Surfactant wash stir speed E0 calibration minimum number of points 10 E0 calibration maximum standard deviation 0.01500

E0 calibration timeout period 60 s E0 calibration stir duration 5 s E0 calibration preparation stir speed 30% E0 calibration buffer wash stir duration 5 s 30% E0 calibration buffer wash stir speed E0 calibration reading stir speed 0% Spectrometer calibration stir duration 5 s Spectrometer calibration stir speed 30% Spectrometer calibration wash pump volume 20.0 mL Spectrometer calibration wash stir duration 5 s Spectrometer calibration wash stir speed 30%

Overhead dispense height 10000

Refinement Settings

Setting	Value	Default value
Turbidity detection method	Spectrometer	Spectrometer
Turbidity wavelength to assess	500.0 nm	500.0 nm
Turbidity maximum absorbance	0.100	0.100
Turbidity probe threshold	50.00	50.00
Exclude turbid points	Yes	Yes
Low intensity warning threshold	100	100
Minimum absorbance change threshold	0.100	0.100
Eigenvector autocorrelation threshold	0.80	0.80
Maximum RMSD severe warning	0.250	0.250
Maximum RMSD warning	0.050	0.050

Tray Information

Title

Location G1