Performance Qualification

• Injector and Flow Precision

• Instruments and Fluidics

Instrument Name	Model	Supplier's Name	Serial Number
Pump	**HPG-3400RS**	**Thermo Scientific**	**8125299**
Autosampler	**WPS-3000TRS**	**Thermo Scientific**	**8125443**
Column Oven	TCC-3000SD	Thermo Scientific	06012832
UV Detector	DAD-3000RS	Thermo Scientific	8043573
Chromeleon Datasystem	V. 6.80 SR16 Build 5387	Thermo Scientific	40640

Accessories	Description
Back Pressure Device	Capillary (L:15 m; ID:0,18 mm)
Sample 4	Caffeine in Water 140 µg/ml
Solvent A	Water (HPLC-Grade)

• Additional Information

Customer:	Customer's Name
Operator:	Operator's Name Operator's Jobtitle
Execution Date:	2020-avr-07
Next Qualification:	2020-oct

• Limits, Values and Test Results

	Limit	Observed Value	Result
Injector Precision - Area	<= 0,500 % RSD	0,233 % RSD	**Test passed**
Flow Precision - Ret. Time	<= 0,100 % RSD OR <= 0,0200 min SD	0,034 % RSD 0,0005 min SD	**Test passed**

• Signatures

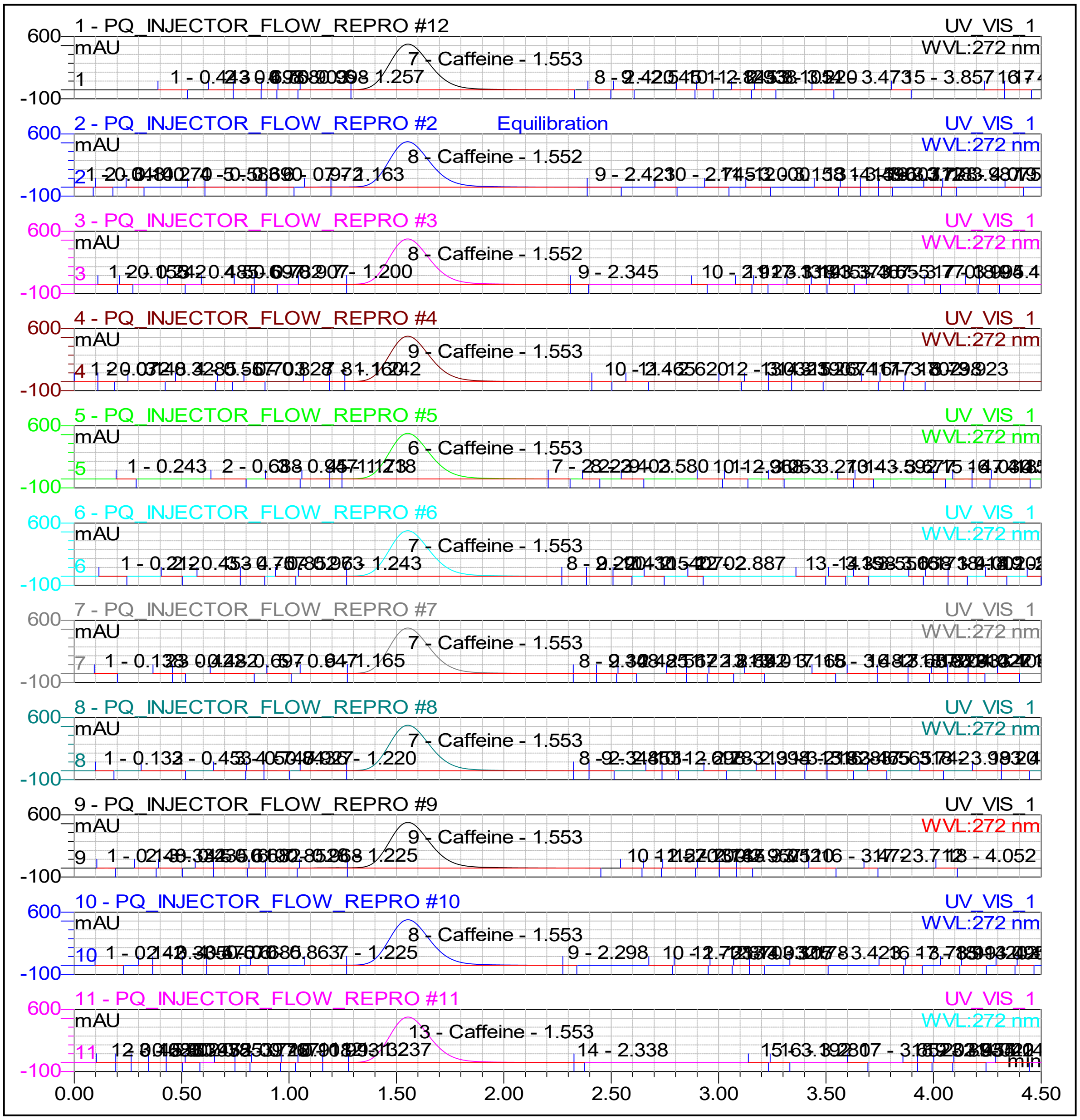
	Signature	Date
Submitter / Operator:	{seq.submitOperator.userName}	{seq.submitTime}
Reviewer:	{seq.reviewOperator.userName}	{seq.reviewTime}
Approver (e-sig. only):	{seq.approveOperator.userName}	{seq.approveTime}

• Data for Injector and Flow Precision Test: Volume 5,0 µl

Sample Name	Ret.Time min Caffeine UV_VIS_1	Area mAU*min Caffeine UV_VIS_1
Injector and flow reproducibility_1	1,5517	116,540
Injector and flow reproducibility_2	1,5533	116,696
Injector and flow reproducibility_3	1,5533	116,385
Injector and flow reproducibility_4	1,5533	116,573
Injector and flow reproducibility_5	1,5533	116,347
Injector and flow reproducibility_6	1,5533	116,787
Injector and flow reproducibility_7	1,5533	116,879
Injector and flow reproducibility_8	1,5533	116,199
Injector and flow reproducibility_9	1,5533	116,235
Injector and flow reproducibility_10	1,5533	116,048
Average:	**1,5532**	**116,469**
RSD:	**0,034 %**	**0,233 %**
RSD Limit:	**<= 0,100 %**	**<= 0,500 %**
SD:	**0,0005**	
SD Limit:	**<= 0,0200**	
Result:	**ok**	**ok**

• *Charts for Injector and Flow Precision Test*

• *Chromatogram Overlay*



Injection and Retention Time Precision

Name	*Area*	*Ret.Time*	*Sample No.*	*Area*

	mAU*min Caffeine UV_VIS_1	min Caffeine UV_VIS_1		Dev. from mean [%]
Injector and flow reproducibility_1	116,540	1,552	1	0,061
Injector and flow reproducibility_2	116,696	1,553	2	0,195
Injector and flow reproducibility_3	116,385	1,553	3	-0,072
Injector and flow reproducibility_4	116,573	1,553	4	0,089
Injector and flow reproducibility_5	116,347	1,553	5	-0,105
Injector and flow reproducibility_6	116,787	1,553	6	0,273
Injector and flow reproducibility_7	116,879	1,553	7	0,352
Injector and flow reproducibility_8	116,199	1,553	8	-0,232
Injector and flow reproducibility_9	116,235	1,553	9	-0,201
Injector and flow reproducibility_10	116,048	1,553	10	-0,362
Average:	**116,469**	**1,553**		
RSD:	**0,233 %**	**0,034 %**		
SD:		**0,001 min**		

Calculation of RSD and Average

	Area:	Retention Time:
Sum of x:	1164,688041	15,53166667
sum of sq(x):	135650,4876	24,12326944
Sq of sum (x):	1356498,234	241,2326694
STD:	0,27166761	0,000527046
Average:	116,4688041	1,553166667
RSD:	0,002332535	0,000339337
Number of samples:	10	10

Determination of Pump Unit for Dionex DGPs

Sequence name:	PQ_INJECTOR_FLOW_REPRO
Right end of the sequence name :	EPRO
Pump's model number:	HPG-3400RS
Pump's model variant:	HPG
Pump unit:	

Evaluation of Accessories (Following autosampler uses standard 3 or 5 instead of st

ModelNo	Loop Volume	Evaluation*)	Reference value for report
WPS-3000	40	0	S4
ACC-3000	200	0	
ACC-3000T	200	0	
WPS-3000	344	0	
WPS-3000	250	0	
Gina 50		0	
Gina 160		0	
Accela Sampler		0	
Accela Open Sampler		0	
OAS-3000		0	
VH-A10-A		0	
VR-A12-A		0	
VR-A13-A		0	
VR-A14-A		0	

VR-A15-A		0
VF-A10-A		0

**) ModelNos without loop volume setting uses different evaluation formulas compared to ModelNos with loop volume setting.*

No.	Ret. Time

	Deviation from the mean value [%]
1	-0,097
2	0,011
3	0,011
4	0,011
5	0,011
6	0,011
7	0,011
8	0,011
9	0,011
10	0,011

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