ThermoFisher SCIENTIFIC

Performance Qualification

• Injector and Flow Precision

• Instruments and Fluidics

Instrument Name	Model	Supplier's Name	Serial Number
Pump	**LPG-3400RS**	**Thermo Scientific**	**8043253**
Autosampler	**WPS-3000TSL**	**Thermo Scientific**	**8013202**
Column Oven	TCC-3000SD	Thermo Scientific	Demo
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-09
Next Qualification:	2020-oct

• Limits, Values and Test Results

	Limit	Observed Value	Result
Injector Precision - Area	<= 0,500 % RSD	0,419 % RSD	**Test passed**
Flow Precision - Ret. Time	<= 0,100 % RSD OR <= 0,0200 min SD	0,000 % RSD 0,0000 min SD	**Test passed**

• Signatures

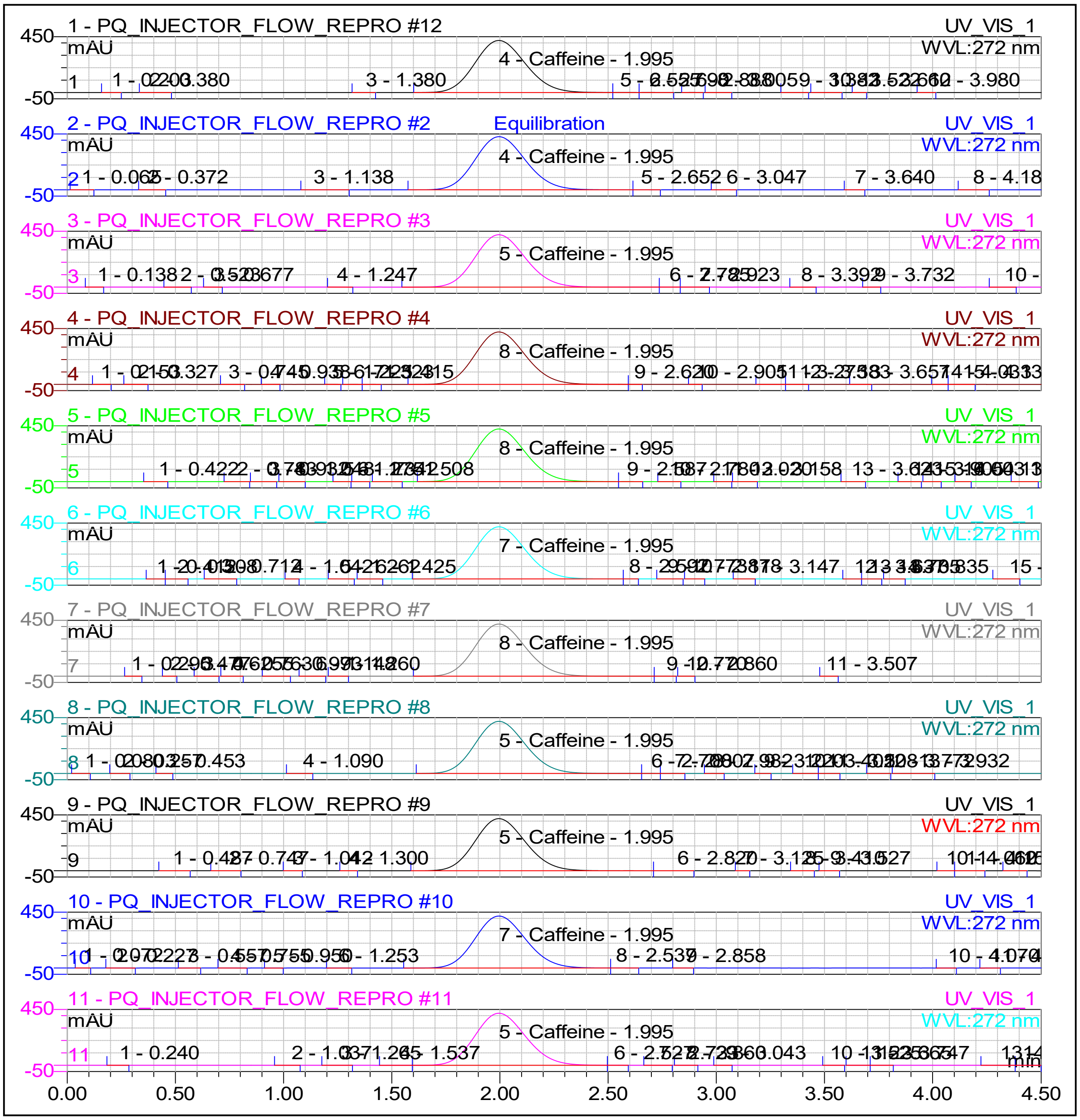
	Signature	Date
Submitter / Operator:	{seq.submitOperator.userName}	{seq.submitTime}
Reviewer:	{seq.reviewOperator.userName}	{seq.reviewTime}
Approver (e-sig. only):	{seq.approveOperator.userName}	{seq.approveTime}

• *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	1,9950	115,036
Injector and flow reproducibility_2	1,9950	114,837
Injector and flow reproducibility_3	1,9950	115,070
Injector and flow reproducibility_4	1,9950	114,075
Injector and flow reproducibility_5	1,9950	114,034
Injector and flow reproducibility_6	1,9950	113,904
Injector and flow reproducibility_7	1,9950	113,923
Injector and flow reproducibility_8	1,9950	113,995
Injector and flow reproducibility_9	1,9950	114,459
Injector and flow reproducibility_10	1,9950	113,971
Average:	***1,9950***	***114,330***
RSD:	***0,000 %***	***0,419 %***
RSD Limit:	***<= 0,100 %***	***<= 0,500 %***
SD:	***0,0000***	
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	115,036	1,995	1	0,617
Injector and flow reproducibility_2	114,837	1,995	2	0,443
Injector and flow reproducibility_3	115,070	1,995	3	0,647
Injector and flow reproducibility_4	114,075	1,995	4	-0,224
Injector and flow reproducibility_5	114,034	1,995	5	-0,259
Injector and flow reproducibility_6	113,904	1,995	6	-0,373
Injector and flow reproducibility_7	113,923	1,995	7	-0,357
Injector and flow reproducibility_8	113,995	1,995	8	-0,294
Injector and flow reproducibility_9	114,459	1,995	9	0,113
Injector and flow reproducibility_10	113,971	1,995	10	-0,314
Average:	***114,330***	***1,995***		
RSD:	***0,419 %***	***0,000 %***		
SD:		***0,000 min***		

Calculation of RSD and Average

	Area:	Retention Time:	
Sum of x:	1143,302879	19,95	
sum of sq(x):	130716,2089	39,80025	
Sq of sum (x):	1307141,474	398,0025	
STD:	0,478604359	0	
Average:	114,3302879	1,995	
RSD:	0,004186155	0	
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:	LPG-3400RS
Pump's model variant:	LPG
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	0,000
2	0,000
3	0,000
4	0,000
5	0,000
6	0,000
7	0,000
8	0,000
9	0,000
10	0,000

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