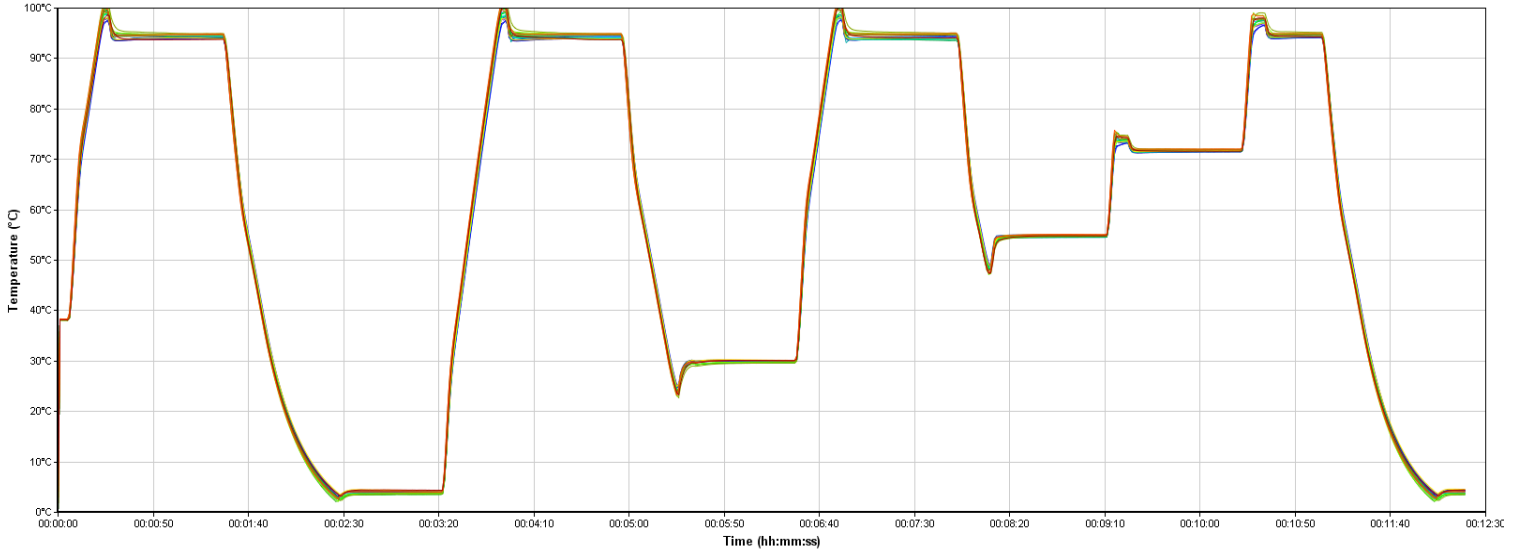


# Performance Certificate

Equipment Information	
Test Date:	5/04/2024
Cycler Serial Number:	2739421041419
Block Serial Number:	N/A
TAS Serial Number:	41116
Tester Name:	Martin Peet

Hain Lifescience UK Ltd
Unit 3&4 Byfleet Technical Centre
Canada Road
Byfleet
Surrey
KT14 7JX
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## Ramp rates

Measurement	90°C to 30°C Ramp	30°C to 90°C Ramp
Upper temperature	89.28°C	90.48°C
Lower temperature	30.55°C	29.63°C
Time (seconds)	23.00s	22.00s
Average Rate (°C/sec)	2.55°C/s	2.77°C/s

## Linear Thermal Uniformity and Accuracy

Temperature	Accuracy			Uniformity		
	Best	Average	@15s	Best	Average	@15s
55°C	54.80°C @ 00:08:37	54.78°C	54.74°C	0.55°C @ 00:08:25	0.59°C	0.56°C
72°C	71.72°C @ 00:09:48	71.71°C	71.68°C	0.64°C @ 00:09:44	0.67°C	0.70°C
95°C	94.54°C @ 00:10:59	94.53°C	94.51°C	1.04°C @ 00:11:01	1.13°C	1.25°C

## TAS and Probe information

Probe Position	Probe Serial Number	Calibration Date
A1	129877A10000008B	24\02\2022
A5	123B2C6D00000040	24\02\2022
A8	12D72B6D00000045	24\02\2022
A12	12BF2E6D000000F5	24\02\2022
C2	12463EA70000004F	24\02\2022
C4	12611D6D000000E8	24\02\2022
C9	127F256D0000001A	24\02\2022
C11	1210306D00000053	24\02\2022
F2	124768580000009A	24\02\2022
F4	12298BA700000035	24\02\2022
F9	12AE2F6D00000054	24\02\2022
F11	12AA3CA700000098	24\02\2022
H1	128A1D6D00000039	24\02\2022
H5	1281D8C800000019	24\02\2022
H8	1208C6C8000000BB	24\02\2022
H12	123CD3C7000000BE	24\02\2022

The Q-TAS Validation System is calibrated by immersion in a stirred high precision oil bath, monitored by a calibrated Temperature Reference Standard read through a calibrated 4-wire resistance meter. Calibration is traceable to the International Temperature Standard ITS90.