

Report 6

This report includes updates and progress report for Task 2.

1.1. Scope

Tasks:	Task Goal/ Desired outcome	Progress
Task 1	PCR data management Extracting the data in (.csv) from original PCR results file(.eds)	Quant-Studio 5: Completed
		Quant-Studio 7: Completed
		Next instrument: QS-7500 I stopped for now
Task 2	GS-Call data work-flow <u>Goal:</u> This task aims to put the PCR result data into a proper format for further analysis in GS-Call software. <u>Desired outcome:</u> The application should open up in the web browser and take the user input info, then generate a specific formatted (.csv) file containing the information of samples/targets to be imported on the PCR machine by the user.	1- Coding 95%
		2- Deploying the app From next week
		3- Developing a data base in SQL and connecting that to the app
		4- Deploying the app with SQL database
		:D more challenges to come

1.2. Task 2 (GS-Call data flow) progress:

We are working on `GSL_Experiment_Setup` web application to generate the layout information for PCR experiment.

What the algorithm does:

The algorithm works based on the data (panels: targets vs filters) for each “kit/product” and the given samples names list/number. Then, assuming a predefined layout of master mixes/ sample location through 384/96 well plate (according to Figure 2 & 3), generates the csv file including the info for all wells (a sample is attached to the email).

GSL Experiment Setup workflow:

1- Basic use:

The application allows the user to choose the plate size, select the kits they want to test, and the instrument they are going to run their experiment. Then, the selected kits are labeled (A, B, C, ...) and will be shown in the right-hand side panel for them to check and allocate the kits in interactive plate map that is shown (Figure 1). For example as it is illustrated in figure 1 user chose 2 kits (RP003) and (RP007) which are labeled as A and B and allocated in the plate map.

GSL Experiment Setup

Select the plate size:

☒ 384
☐ 96

☐ R&D Designer

Select the Kits:

Coronavirus Det... x

Respiratory Path... x

Select the instrument:

☒ QS
☐ CFX

Download CSV

Kit Selection:


A: Coronavirus Detection Kit (RP003)

	Panel 1
FAM	Coronavirus HKU-1
HEX	LEPC
TEXRED	Coronavirus OC43
CYS	Coronavirus NL63/229E

B: Respiratory Pathogen Detection Kit (RP007)

	Panel 1	Panel 2	Panel 3	Panel 4	Panel 5
FAM	Influenza A	Influenza B	Parainfluenza 1/3	B.pertussis/B.parapertussis	Not Used
HEX	LEPC	LEPC	LEPC	EC	LEPC
TEXRED	Not Used	RSV-A/B	Enterovirus	M.pneumonia	N-Gene
CYS	Rhinovirus	Metapneumovirus	Parainfluenza 2	Adenovirus	E-Gene

Kit Allocation:



GSL Experiment Setup

Select the plate size:

☒ 384
☐ 96

☐ R&D Designer

Select the Kits:

Coronavirus Det.... x
o v

Respiratory Path.... x

Select the instrument:

☒ QS
☐ CFX

Download CSV

TEXRED	Not Used	RSV-A/B	Enterovirus	M.pneumonia	N-Gene
CYS	Rhinovirus	Metapneumovirus	Parainfluenza 2	Adenovirus	E-Gene

2) Kit Allocation:

Figure 1: GSL Experiment Setup. With the sidebar user has the option to choose the plate size 96/384, and instruments QS/CFX. The app runs in 2 simple steps: 1) Kit Selection, and 2) an interactive platemap to allocate the kits within the plate. And download the import file (csv).

2- *R&D use:

A new feature has been considered for R&D use named “Designer” if the feature is selected from the side bar an interactive fields and table will open up in the right-hand side panel. The user has the freedom to define the kit name and select how many panels they like to have and enter their desired target names. The kit will be labeled as shown in figure 2 (label C) and will be added to the list of the available kits so that the user can allocate the new kit as well.

3- Results:

Once the setup and allocation are completed, the user can download the csv importfile.

*Please notice that once the user is allocating the kits they don't need to be worried about the exact number of wells (vertically), the program will remove the excess rows that the complete kit panels cannot be assigned.

*At the moment the samples names are automatically assigned. For example for Kit A: (Negative control, 2A, 3A, ...NA, Positive Control), Kit B (Negative control, 2B, 3B, ...NB, Positive Control).

2) Kit Allocation:

[illegible]

for the above allocation, the resulting import file for QS:

[illegible]

Continues:

Excel window: GSI_exp_setup_Q55 - Excel

Formula Bar: *All inputs are case sensitive. For example: FAM is different from Fam

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC
665	165	E11	7B	Panel 1	Biogroup	LEPC	UNKNOWN	HEX	None																				
666	165	E11	7B	Panel 1	Biogroup	Not Used	UNKNOWN	TEXRED	None																				
667	165	E11	7B	Panel 1	Biogroup	Rhinoviru	UNKNOWN	CYS	None																				
668	166	F11	7B	Panel 2	Biogroup	Influenza	UNKNOWN	FAM	None																				
669	166	F11	7B	Panel 2	Biogroup	LEPC	UNKNOWN	HEX	None																				
670	166	F11	7B	Panel 2	Biogroup	RSV A/B	UNKNOWN	TEXRED	None																				
671	166	F11	7B	Panel 2	Biogroup	Metapne	UNKNOWN	CYS	None																				
672	167	G11	7B	Panel 3	Biogroup	Parainfl	UNKNOWN	FAM	None																				
673	167	G11	7B	Panel 3	Biogroup	LEPC	UNKNOWN	HEX	None																				
674	167	G11	7B	Panel 3	Biogroup	Enterovir	UNKNOWN	TEXRED	None																				
675	167	G11	7B	Panel 3	Biogroup	Parainfl	UNKNOWN	CYS	None																				
676	168	H11	7B	Panel 4	Biogroup	B.pertuss	UNKNOWN	FAM	None																				
677	168	H11	7B	Panel 4	Biogroup	EC	UNKNOWN	HEX	None																				
678	168	H11	7B	Panel 4	Biogroup	M.pneum	UNKNOWN	TEXRED	None																				
679	168	H11	7B	Panel 4	Biogroup	Adenovir	UNKNOWN	CYS	None																				
680	169	I11	7B	Panel 5	Biogroup	Not Used	UNKNOWN	FAM	None																				
681	169	I11	7B	Panel 5	Biogroup	LEPC	UNKNOWN	HEX	None																				
682	169	I11	7B	Panel 5	Biogroup	N-Gene	UNKNOWN	TEXRED	None																				
683	169	I11	7B	Panel 5	Biogroup	E-Gene	UNKNOWN	CYS	None																				
684	170	J11	Positive C	Panel 1	Biogroup	Influenza	UNKNOWN	FAM	None																				
685	170	J11	Positive C	Panel 1	Biogroup	LEPC	UNKNOWN	HEX	None																				
686	170	J11	Positive C	Panel 1	Biogroup	Not Used	UNKNOWN	TEXRED	None																				
687	170	J11	Positive C	Panel 1	Biogroup	Rhinoviru	UNKNOWN	CYS	None																				
688	171	K11	Positive C	Panel 2	Biogroup	Influenza	UNKNOWN	FAM	None																				
689	171	K11	Positive C	Panel 2	Biogroup	LEPC	UNKNOWN	HEX	None																				
690	171	K11	Positive C	Panel 2	Biogroup	RSV A/B	UNKNOWN	TEXRED	None																				
691	171	K11	Positive C	Panel 2	Biogroup	Metapne	UNKNOWN	CYS	None																				
692	172	L11	Positive C	Panel 3	Biogroup	Parainfl	UNKNOWN	FAM	None																				
693	172	L11	Positive C	Panel 3	Biogroup	LEPC	UNKNOWN	HEX	None																				
694	172	L11	Positive C	Panel 3	Biogroup	Enterovir	UNKNOWN	TEXRED	None																				
695	172	L11	Positive C	Panel 3	Biogroup	Parainfl	UNKNOWN	CYS	None																				
696	173	M11	Positive C	Panel 4	Biogroup	B.pertuss	UNKNOWN	FAM	None																				
697	173	M11	Positive C	Panel 4	Biogroup	EC	UNKNOWN	HEX	None																				
698	173	M11	Positive C	Panel 4	Biogroup	M.pneum	UNKNOWN	TEXRED	None																				
699	173	M11	Positive C	Panel 4	Biogroup	Adenovir	UNKNOWN	CYS	None																				
700	174	N11	Positive C	Panel 5	Biogroup	Not Used	UNKNOWN	FAM	None																				
701	174	N11	Positive C	Panel 5	Biogroup	LEPC	UNKNOWN	HEX	None																				
702	174	N11	Positive C	Panel 5	Biogroup	N-Gene	UNKNOWN	TEXRED	None																				

For CFX with the same layout:

Excel window: GSI_exp_setup_CFX - Excel

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC
43	K02	FAM	HEX	Texas Red	CYS	Unknown																							
44	L02	FAM	HEX	Texas Red	CYS	Unknown																							
45	M02	FAM	HEX	Texas Red	CYS	Unknown																							
46	N02	FAM	HEX	Texas Red	CYS	Unknown																							
47	O02	FAM	HEX	Texas Red	CYS	Unknown																							
48	P02	FAM	HEX	Texas Red	CYS	Unknown																							
49	A03	FAM	HEX	Texas Red	CYS	Unknown																							
50	B03	FAM	HEX	Texas Red	CYS	Unknown																							
51	C03	FAM	HEX	Texas Red	CYS	Unknown																							
52	D03	FAM	HEX	Texas Red	CYS	Unknown																							
53	E03	FAM	HEX	Texas Red	CYS	Unknown																							
54	F03	FAM	HEX	Texas Red	CYS	Unknown																							
55	G03	FAM	HEX	Texas Red	CYS	Unknown																							
56	H03	FAM	HEX	Texas Red	CYS	Unknown																							
57	I03	FAM	HEX	Texas Red	CYS	Unknown																							
58	J03	FAM	HEX	Texas Red	CYS	Unknown																							
59	K03	FAM	HEX	Texas Red	CYS	Unknown																							
60	L03	FAM	HEX	Texas Red	CYS	Unknown																							
61	M03	FAM	HEX	Texas Red	CYS	Unknown																							
62	N03	FAM	HEX	Texas Red	CYS	Unknown																							
63	O03	FAM	HEX	Texas Red	CYS	Unknown																							
64	P03	FAM	HEX	Texas Red	CYS	Unknown																							
65	A04	FAM	HEX	Texas Red	CYS	Unknown																							
66	B04	FAM	HEX	Texas Red	CYS	Unknown																							
67	C04	FAM	HEX	Texas Red	CYS	Unknown																							
68	D04	FAM	HEX	Texas Red	CYS	Unknown																							
69	E04	FAM	HEX	Texas Red	CYS	Unknown																							
70	F04	FAM	HEX	Texas Red	CYS	Unknown																							
71	G04	FAM	HEX	Texas Red	CYS	Unknown																							
72	H04	FAM	HEX	Texas Red	CYS	Unknown																							
73	I04	FAM	HEX	Texas Red	CYS	Unknown																							
74	J04	FAM	HEX	Texas Red	CYS	Unknown																							
75	K04	FAM	HEX	Texas Red	CYS	Unknown																							
76	L04	FAM	HEX	Texas Red	CYS	Unknown																							
77	M04	FAM	HEX	Texas Red	CYS	Unknown																							
78	N04	FAM	HEX	Texas Red	CYS	Unknown																							
79	O04	FAM	HEX	Texas Red	CYS	Unknown																							
80	P04	FAM	HEX	Texas Red	CYS	Unknown																							

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC
79	004	FAM	HEX	Texas Red CYS	Unknown																								
80	004	FAM	HEX	Texas Red CYS	Unknown																								
81	A05	FAM	HEX	Texas Red CYS	Unknown																								
82	B05	FAM	HEX	Texas Red CYS	Unknown						11	Coronavir	LEPC	Coronavir	Coronavirus N.63/22 Panel 1														
83	C05	FAM	HEX	Texas Red CYS	Unknown						12	Coronavir	LEPC	Coronavir	Coronavirus N.63/22 Panel 1														
84	D05	FAM	HEX	Texas Red CYS	Unknown						13	Coronavir	LEPC	Coronavir	Coronavirus N.63/22 Panel 1														
85	E05	FAM	HEX	Texas Red CYS	Unknown						14	Coronavir	LEPC	Coronavir	Coronavirus N.63/22 Panel 1														
86	F05	FAM	HEX	Texas Red CYS	Unknown						15	Coronavir	LEPC	Coronavir	Coronavirus N.63/22 Panel 1														
87	G05	FAM	HEX	Texas Red CYS	Unknown																								
88	H05	FAM	HEX	Texas Red CYS	Unknown																								
89	I05	FAM	HEX	Texas Red CYS	Unknown																								
90	J05	FAM	HEX	Texas Red CYS	Unknown																								
91	K05	FAM	HEX	Texas Red CYS	Unknown																								
92	L05	FAM	HEX	Texas Red CYS	Unknown																								
93	M05	FAM	HEX	Texas Red CYS	Unknown																								
94	N05	FAM	HEX	Texas Red CYS	Unknown																								
95	O05	FAM	HEX	Texas Red CYS	Unknown																								
96	P05	FAM	HEX	Texas Red CYS	Unknown																								
97	A06	FAM	HEX	Texas Red CYS	Unknown																								
98	B06	FAM	HEX	Texas Red CYS	Unknown						16	Coronavir	LEPC	Coronavir	Coronavirus N.63/22 Panel 1														
99	C06	FAM	HEX	Texas Red CYS	Unknown						17	Coronavir	LEPC	Coronavir	Coronavirus N.63/22 Panel 1														
100	D06	FAM	HEX	Texas Red CYS	Unknown						18	Coronavir	LEPC	Coronavir	Coronavirus N.63/22 Panel 1														
101	E06	FAM	HEX	Texas Red CYS	Unknown						19	Coronavir	LEPC	Coronavir	Coronavirus N.63/22 Panel 1														
102	F06	FAM	HEX	Texas Red CYS	Unknown																								
103	G06	FAM	HEX	Texas Red CYS	Unknown																								
104	H06	FAM	HEX	Texas Red CYS	Unknown																								
105	I06	FAM	HEX	Texas Red CYS	Unknown																								
106	J06	FAM	HEX	Texas Red CYS	Unknown																								
107	K06	FAM	HEX	Texas Red CYS	Unknown																								
108	L06	FAM	HEX	Texas Red CYS	Unknown																								
109	M06	FAM	HEX	Texas Red CYS	Unknown																								
110	N06	FAM	HEX	Texas Red CYS	Unknown																								
111	O06	FAM	HEX	Texas Red CYS	Unknown																								
112	P06	FAM	HEX	Texas Red CYS	Unknown																								
113	A07	FAM	HEX	Texas Red CYS	Unknown																								
114	B07	FAM	HEX	Texas Red CYS	Unknown																								
115	C07	FAM	HEX	Texas Red CYS	Unknown																								
116	D07	FAM	HEX	Texas Red CYS	Unknown																								
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A1																													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC
127	O07	FAM	HEX	Texas Red CYS	Unknown																								
128	P07	FAM	HEX	Texas Red CYS	Unknown																								
129	A08	FAM	HEX	Texas Red CYS	Unknown																								
130	B08	FAM	HEX	Texas Red CYS	Unknown																								
131	C08	FAM	HEX	Texas Red CYS	Unknown																								
132	D08	FAM	HEX	Texas Red CYS	Unknown																								
133	E08	FAM	HEX	Texas Red CYS	Negative - Negative Influenza LEPC																								
134	F08	FAM	HEX	Texas Red CYS	Negative - Negative Influenza LEPC																								
135	G08	FAM	HEX	Texas Red CYS	Negative - Negative Parainfluenza LEPC																								
136	H08	FAM	HEX	Texas Red CYS	Negative - Negative B.pertussis IEC																								
137	I08	FAM	HEX	Texas Red CYS	Negative - Negative Not Used LEPC																								
138	J08	FAM	HEX	Texas Red CYS	2 Influenza LEPC																								
139	K08	FAM	HEX	Texas Red CYS	Unknown																								
140	L08	FAM	HEX	Texas Red CYS	Unknown																								
141	M08	FAM	HEX	Texas Red CYS	Unknown																								
142	N08	FAM	HEX	Texas Red CYS	Unknown																								
143	O08	FAM	HEX	Texas Red CYS	Unknown																								
144	P08	FAM	HEX	Texas Red CYS	Unknown																								
145	A09	FAM	HEX	Texas Red CYS	Unknown																								
146	B09	FAM	HEX	Texas Red CYS	Unknown																								
147	C09	FAM	HEX	Texas Red CYS	Unknown																								
148	D09	FAM	HEX	Texas Red CYS	Unknown																								
149	E09	FAM	HEX	Texas Red CYS	Unknown																								
150	F09	FAM	HEX	Texas Red CYS	Unknown																								
151	G09	FAM	HEX	Texas Red CYS	Unknown																								
152	H09	FAM	HEX	Texas Red CYS	Unknown																								
153	I09	FAM	HEX	Texas Red CYS	Unknown																								
154	J09	FAM	HEX	Texas Red CYS	Unknown																								
155	K09	FAM	HEX	Texas Red CYS	Unknown																								
156	L09	FAM	HEX	Texas Red CYS	Unknown																								
157	M09	FAM	HEX	Texas Red CYS	Unknown																								
158	N09	FAM	HEX	Texas Red CYS	Unknown																								
159	O09	FAM	HEX	Texas Red CYS	Unknown																								
160	P09	FAM	HEX	Texas Red CYS	Unknown																								
161	A10	FAM	HEX	Texas Red CYS	Unknown																								
162	B10	FAM	HEX	Texas Red CYS	Unknown																								
163	C10	FAM	HEX	Texas Red CYS	Unknown																								
164	D10	FAM	HEX	Texas Red CYS	Unknown																								

Plate Header																												
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC
163 C10	FAM	HEX	Texas Red CYS	Unknown																								
164 D10	FAM	HEX	Texas Red CYS	Unknown																								
165 E10	FAM	HEX	Texas Red CYS	Unknown				5 Influenza LEPC	Not Used	Rhinovirus			Panel 1															
166 F10	FAM	HEX	Texas Red CYS	Unknown				5 Influenza LEPC	RSV-A/B	Metapneumovirus			Panel 2															
167 G10	FAM	HEX	Texas Red CYS	Unknown				5 ParainflFlu LEPC	Entrovirus	Paramfluenza 2			Panel 3															
168 H10	FAM	HEX	Texas Red CYS	Unknown				5 B.pertussis EC	M.pneum	Adenovirus			Panel 4															
169 I10	FAM	HEX	Texas Red CYS	Unknown				5 Not Used LEPC	N-Gene	E-Gene			Panel 5															
170 J10	FAM	HEX	Texas Red CYS	Unknown				6 Influenza LEPC	Not Used	Rhinovirus			Panel 1															
171 K10	FAM	HEX	Texas Red CYS	Unknown				6 Influenza LEPC	RSV-A/B	Metapneumovirus			Panel 2															
172 L10	FAM	HEX	Texas Red CYS	Unknown				6 ParainflFlu LEPC	Entrovirus	Paramfluenza 2			Panel 3															
173 M10	FAM	HEX	Texas Red CYS	Unknown				6 B.pertussis EC	M.pneum	Adenovirus			Panel 4															
174 N10	FAM	HEX	Texas Red CYS	Unknown				6 Not Used LEPC	N-Gene	E-Gene			Panel 5															
175 O10	FAM	HEX	Texas Red CYS	Unknown																								
176 P10	FAM	HEX	Texas Red CYS	Unknown																								
177 A11	FAM	HEX	Texas Red CYS	Unknown																								
178 B11	FAM	HEX	Texas Red CYS	Unknown																								
179 C11	FAM	HEX	Texas Red CYS	Unknown																								
180 D11	FAM	HEX	Texas Red CYS	Unknown																								
181 E11	FAM	HEX	Texas Red CYS	Unknown				7 Influenza LEPC	Not Used	Rhinovirus			Panel 1															
182 F11	FAM	HEX	Texas Red CYS	Unknown				7 Influenza LEPC	RSV-A/B	Metapneumovirus			Panel 2															
183 G11	FAM	HEX	Texas Red CYS	Unknown				7 ParainflFlu LEPC	Entrovirus	Paramfluenza 2			Panel 3															
184 H11	FAM	HEX	Texas Red CYS	Unknown				7 B.pertussis EC	M.pneum	Adenovirus			Panel 4															
185 I11	FAM	HEX	Texas Red CYS	Unknown				7 Not Used LEPC	N-Gene	E-Gene			Panel 5															
186 J11	FAM	HEX	Texas Red CYS	Positive C Positive	Influenza LEPC	Not Used	Rhinovirus						Panel 1															
187 K11	FAM	HEX	Texas Red CYS	Positive C Positive	Influenza LEPC	RSV-A/B	Metapneumovirus						Panel 2															
188 L11	FAM	HEX	Texas Red CYS	Positive C Positive	ParainflFlu LEPC	Entrovirus	Paramfluenza 2						Panel 3															
189 M11	FAM	HEX	Texas Red CYS	Positive C Positive	B.pertussis EC	M.pneum	Adenovirus						Panel 4															
190 N11	FAM	HEX	Texas Red CYS	Positive C Positive	Not Used LEPC	N-Gene	E-Gene						Panel 5															
191 O11	FAM	HEX	Texas Red CYS	Unknown																								
192 P11	FAM	HEX	Texas Red CYS	Unknown																								
193 A12	FAM	HEX	Texas Red CYS	Unknown																								
194 B12	FAM	HEX	Texas Red CYS	Unknown																								
195 C12	FAM	HEX	Texas Red CYS	Unknown																								
196 D12	FAM	HEX	Texas Red CYS	Unknown																								
197 E12	FAM	HEX	Texas Red CYS	Unknown																								
198 F12	FAM	HEX	Texas Red CYS	Unknown																								
199 G12	FAM	HEX	Texas Red CYS	Unknown																								
200 H12	FAM	HEX	Texas Red CYS	Unknown																								