Figures

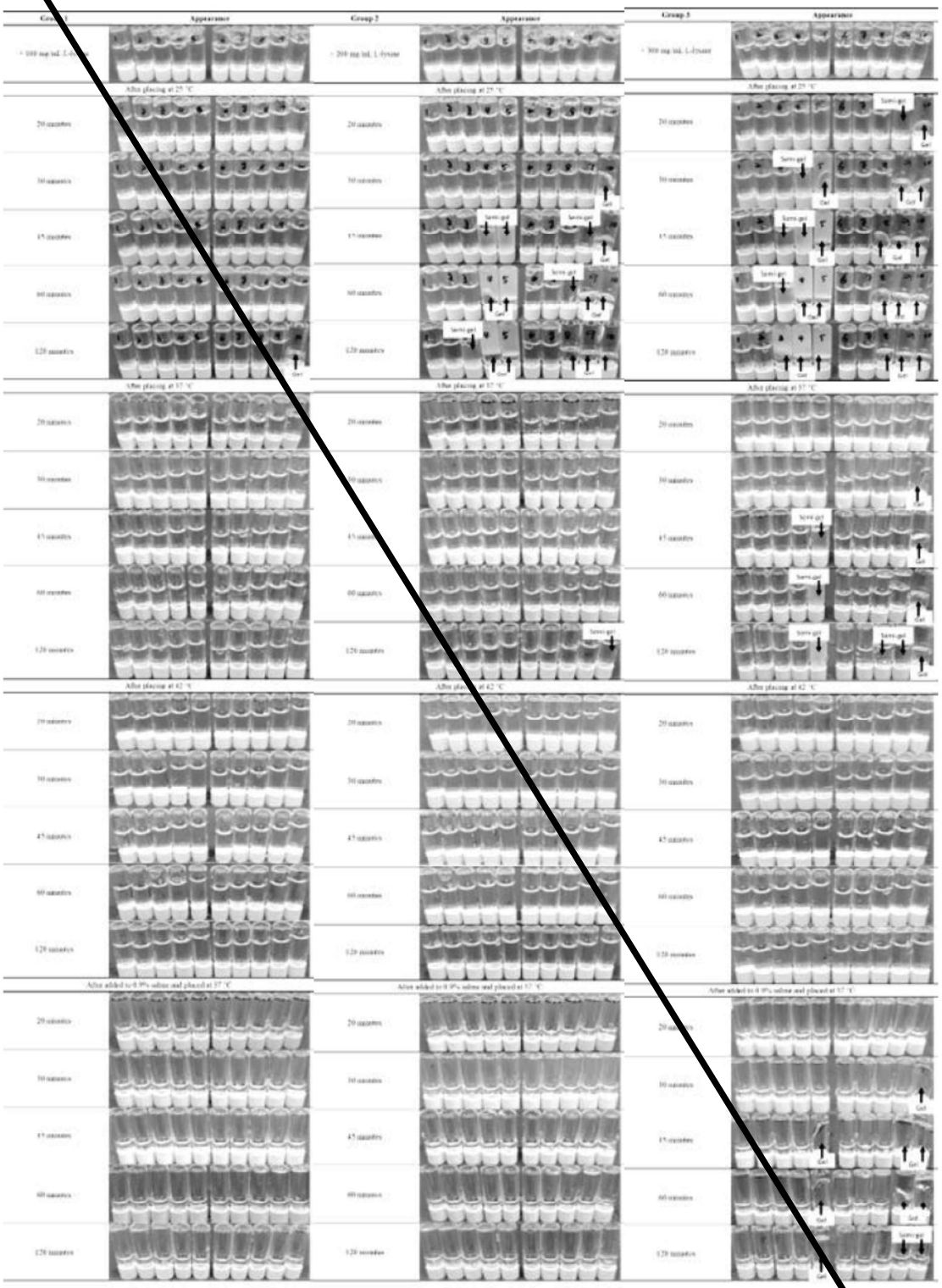


FIG. 1a FIG. 1b FIG. 1c

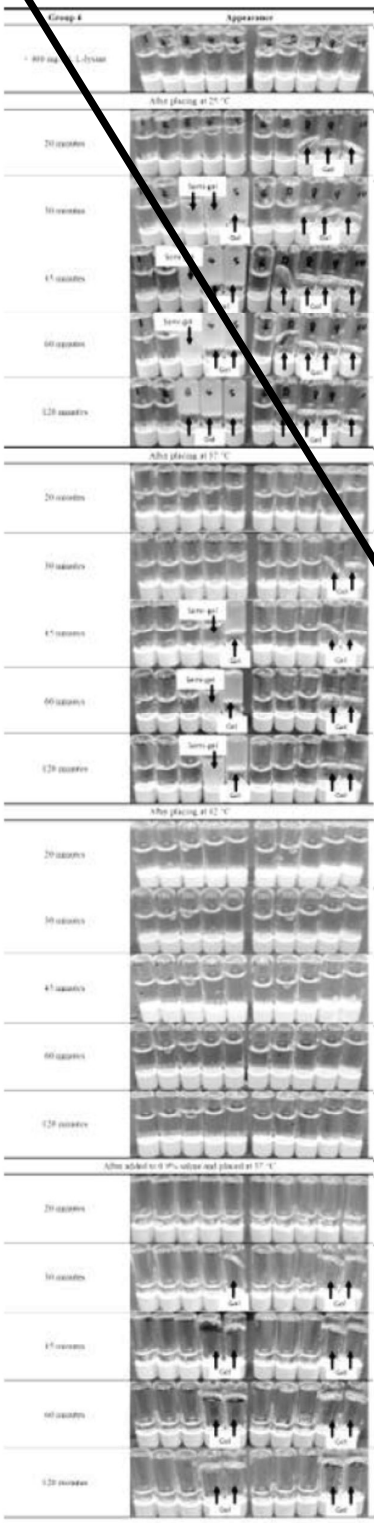


FIG. 1d

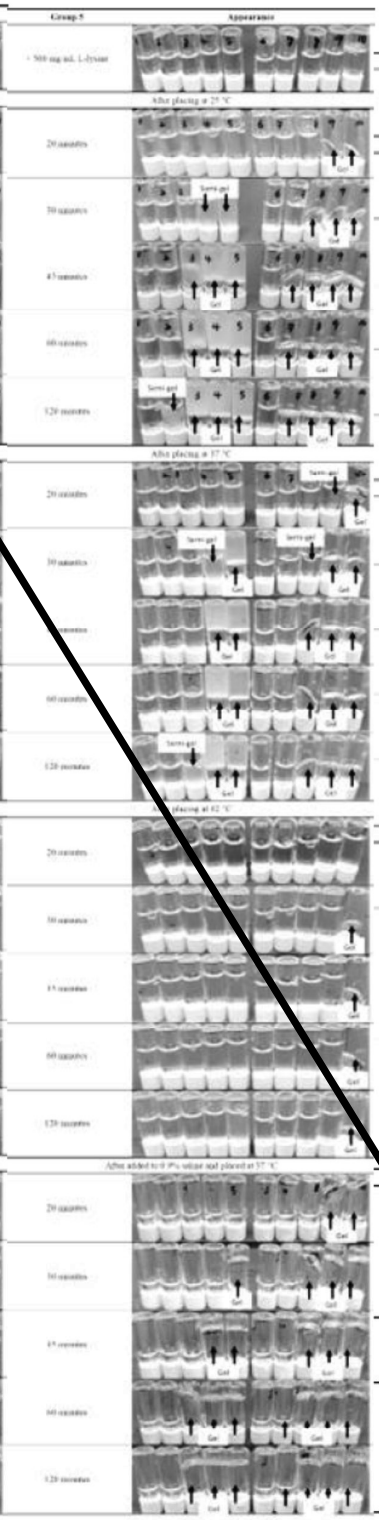


FIG. 1e

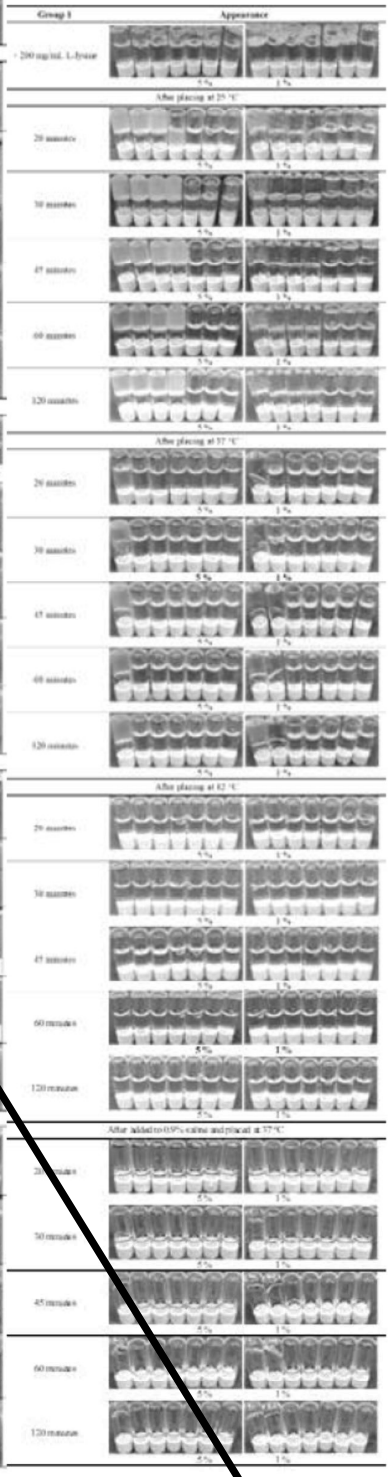


FIG. 2a

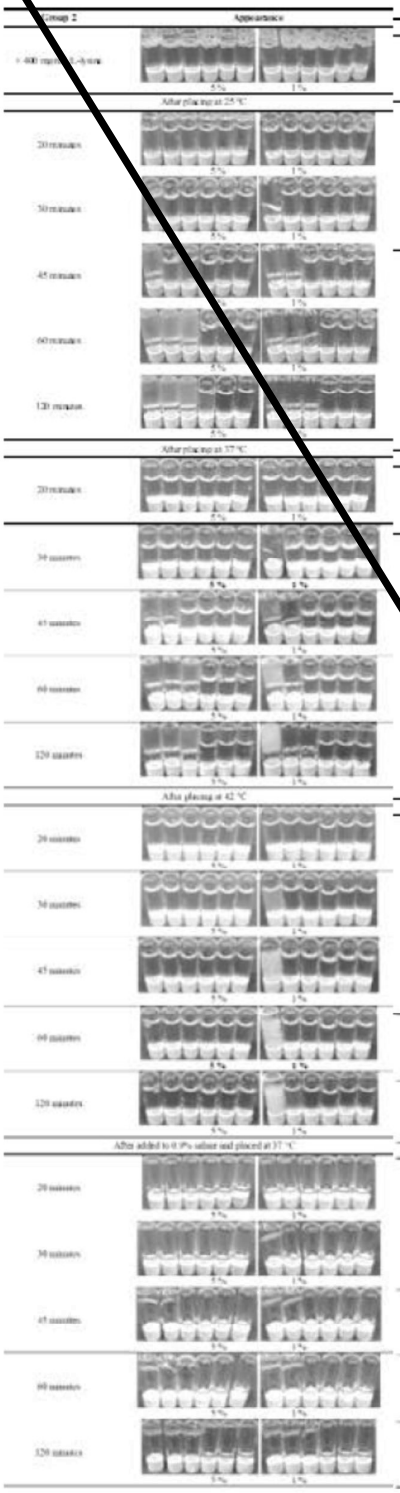


FIG. 2b

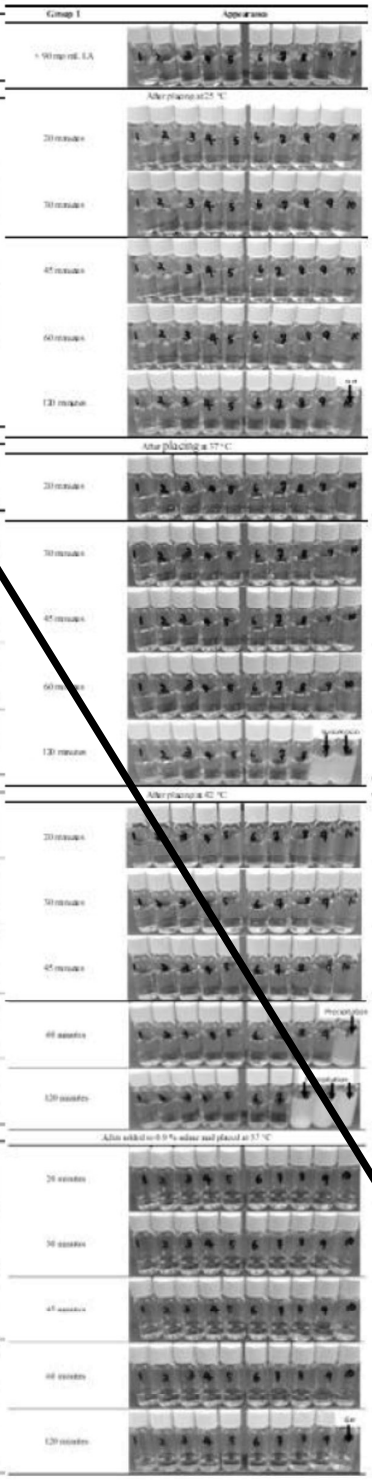


FIG. 3a

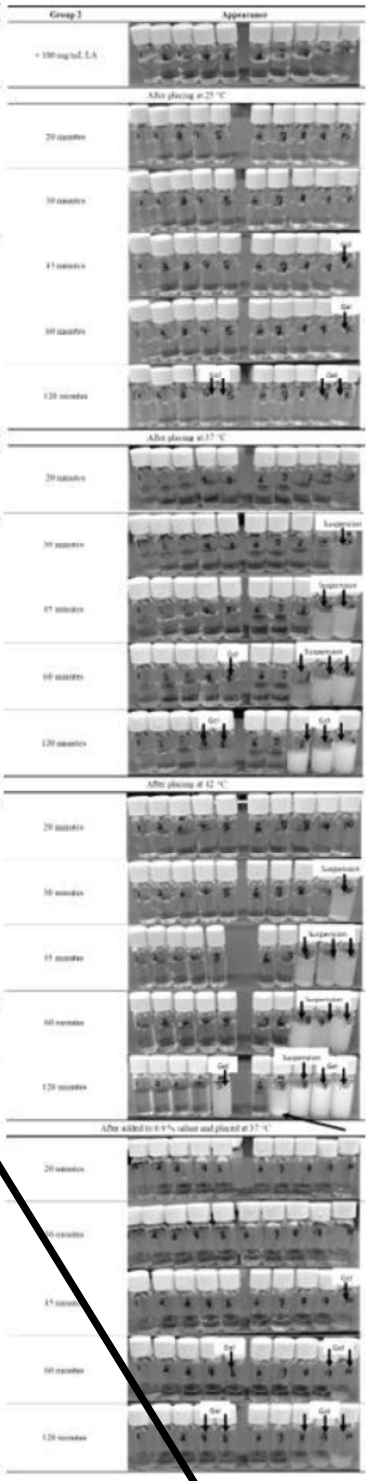


FIG. 3b

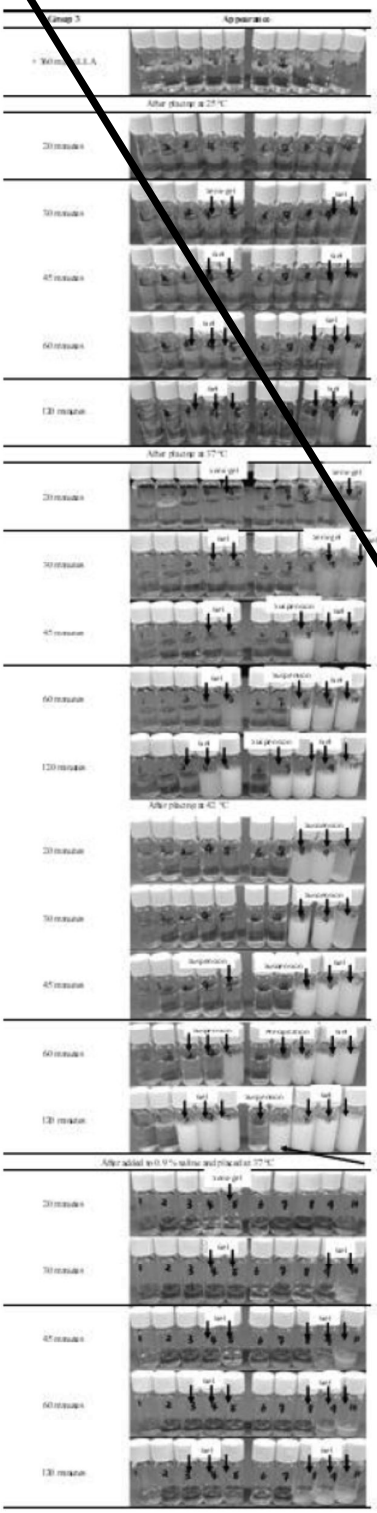


FIG. 3c

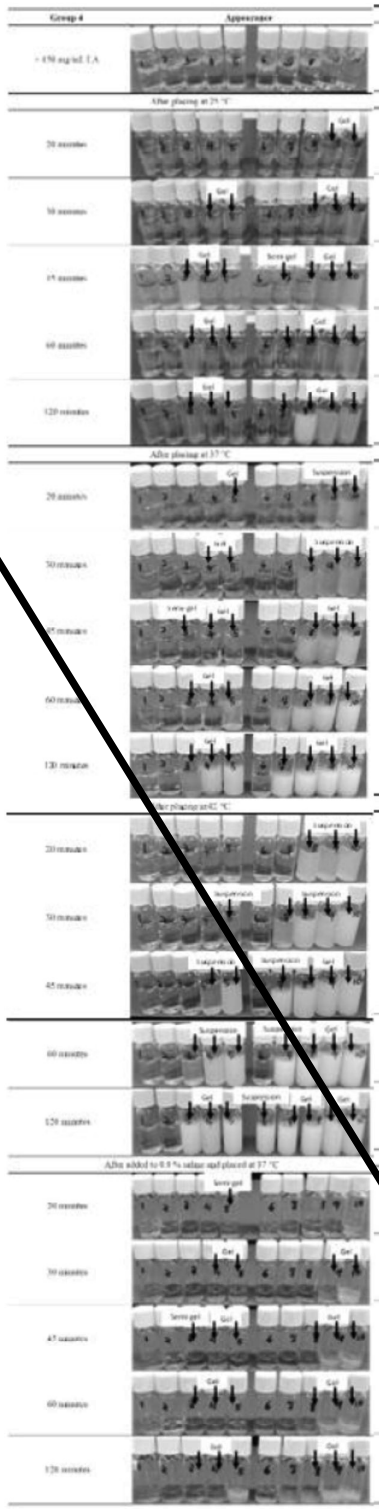


FIG. 3d

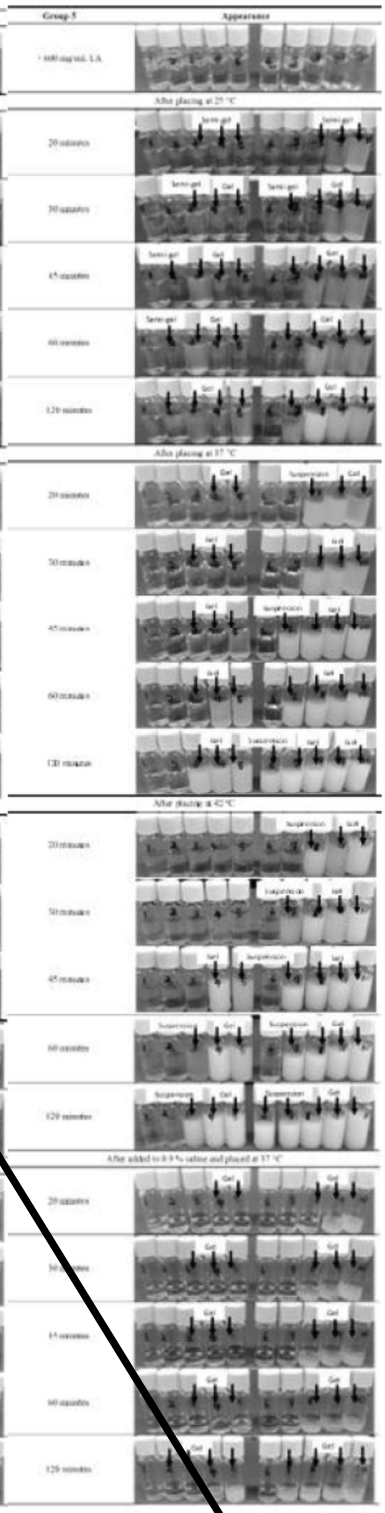


FIG. 3e

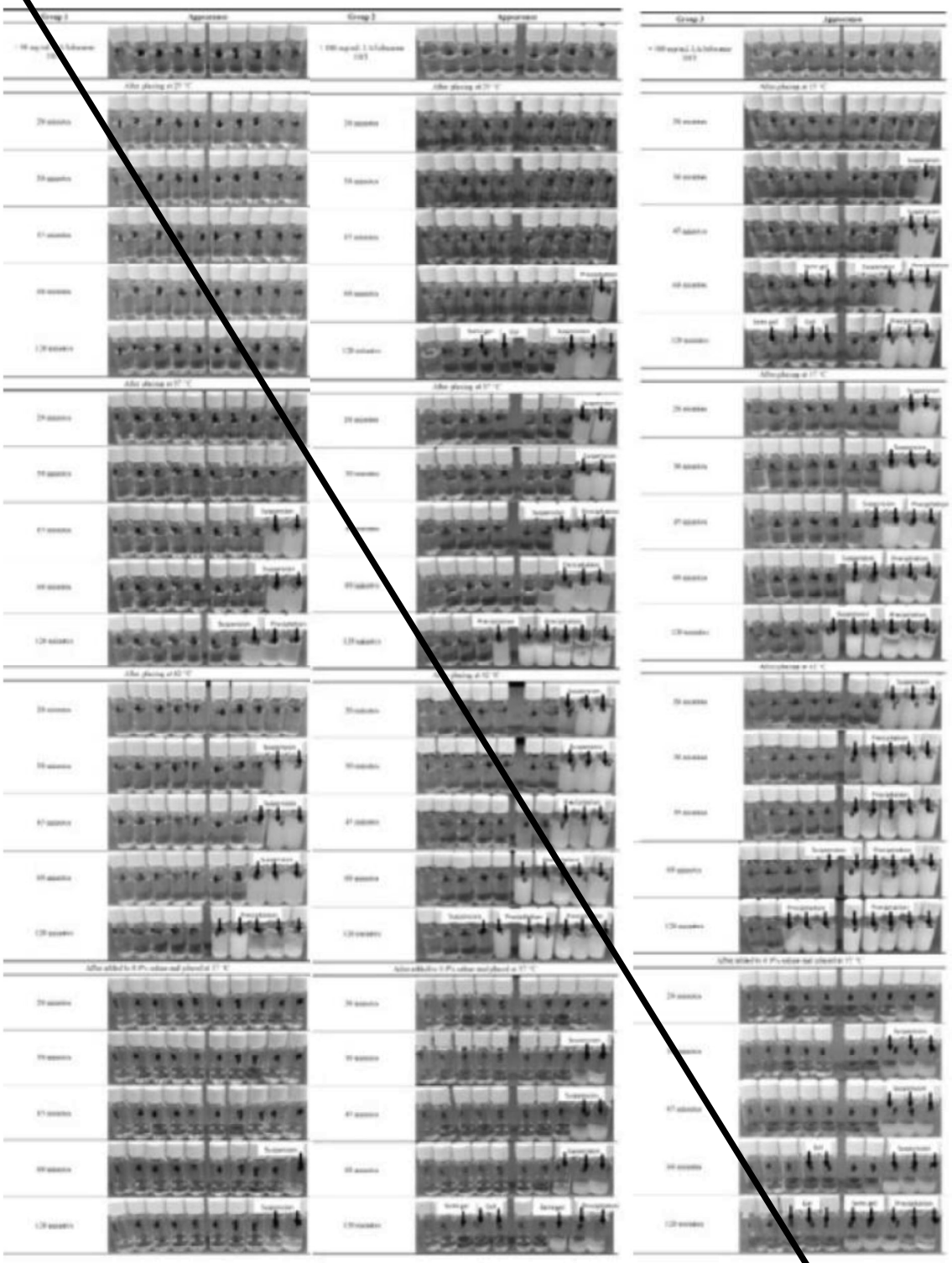


FIG. 4a FIG. 4b FIG. 4c

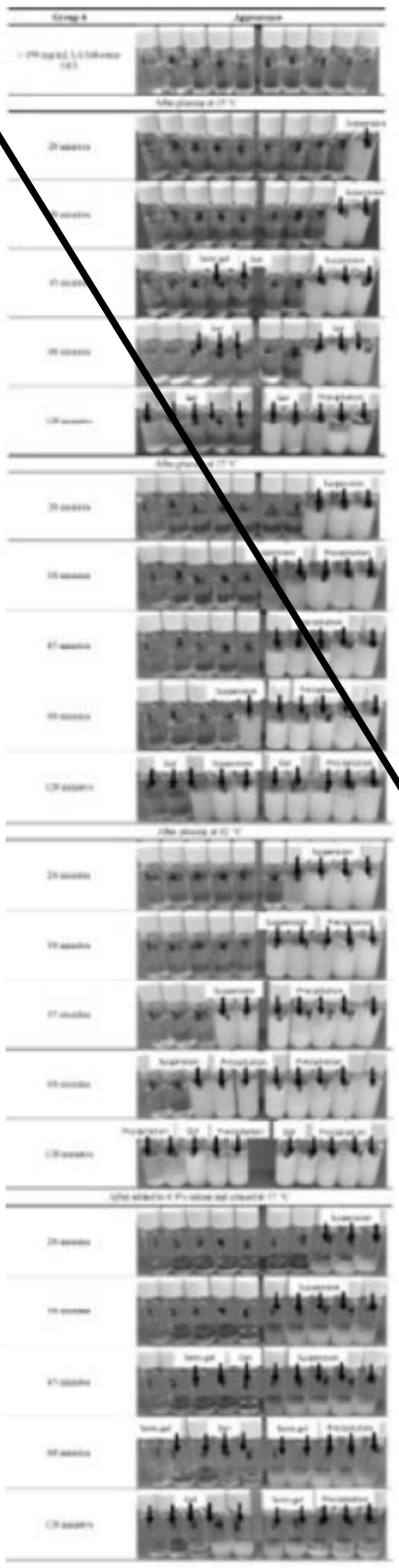


FIG. 4d

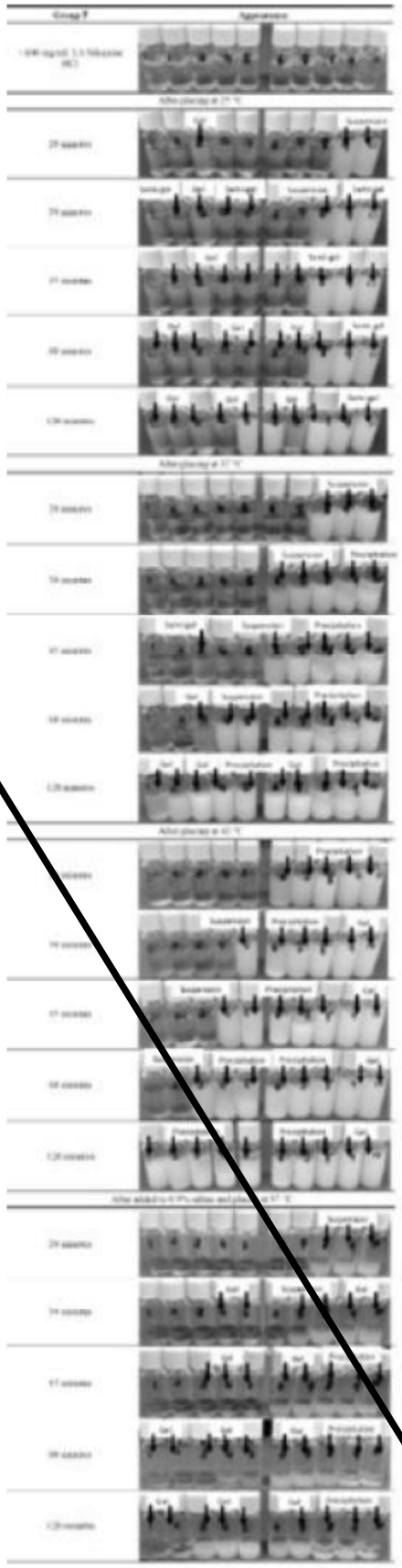


FIG. 4e



FIG. 5a



FIG. 5b



FIG. 5c



FIG. 5d

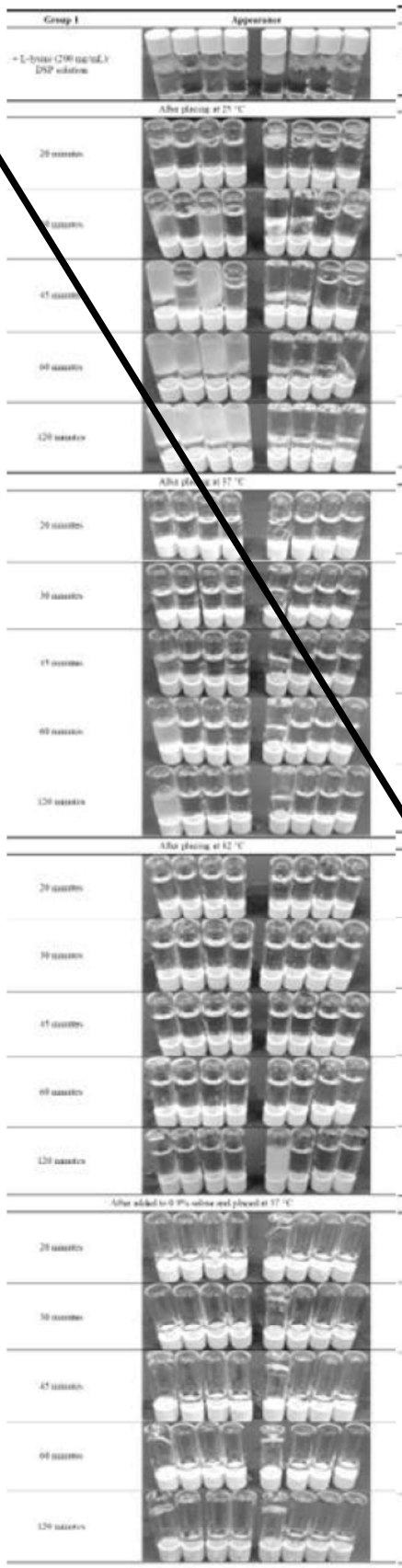

Group 1
Appearance
After placing at 25 °C
After placing at 37 °C
After placing at 42 °C

FIG. 6a

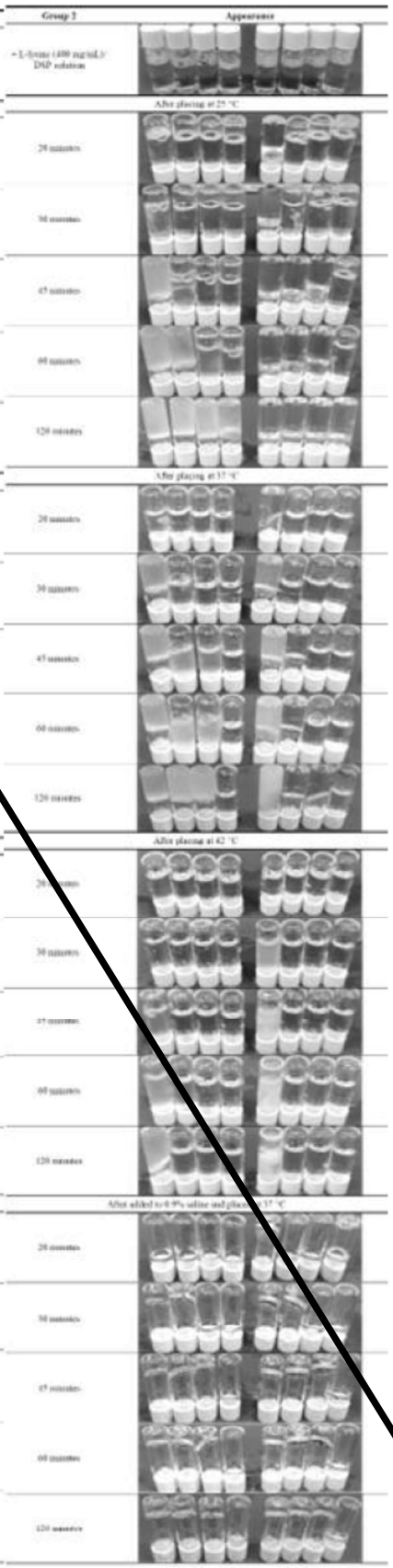

Group 2
Appearance
After placing at 25 °C
After placing at 37 °C
After placing at 42 °C

FIG. 6b

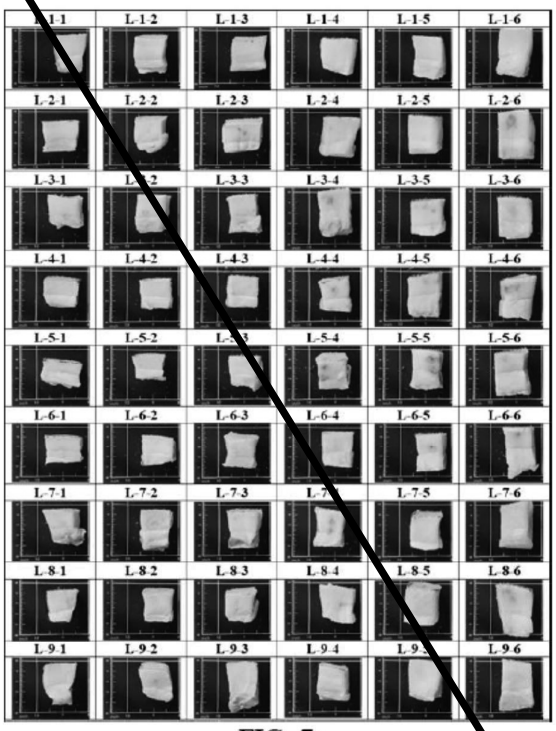


FIG. 7a

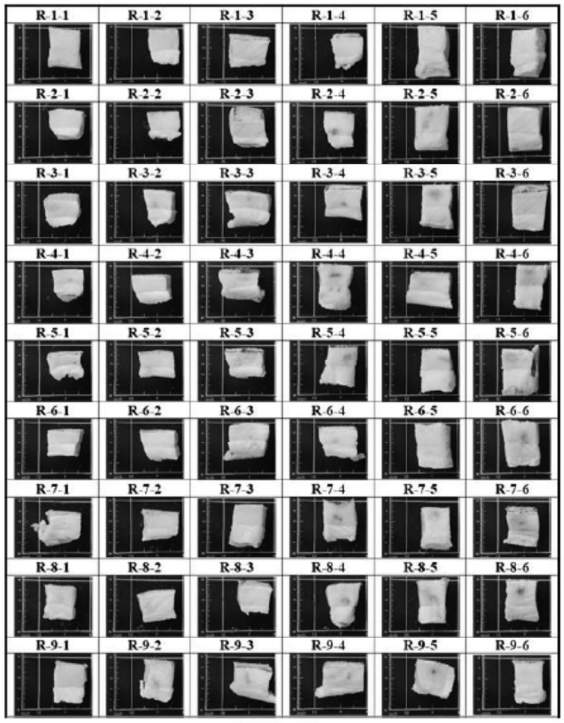


FIG. 7b

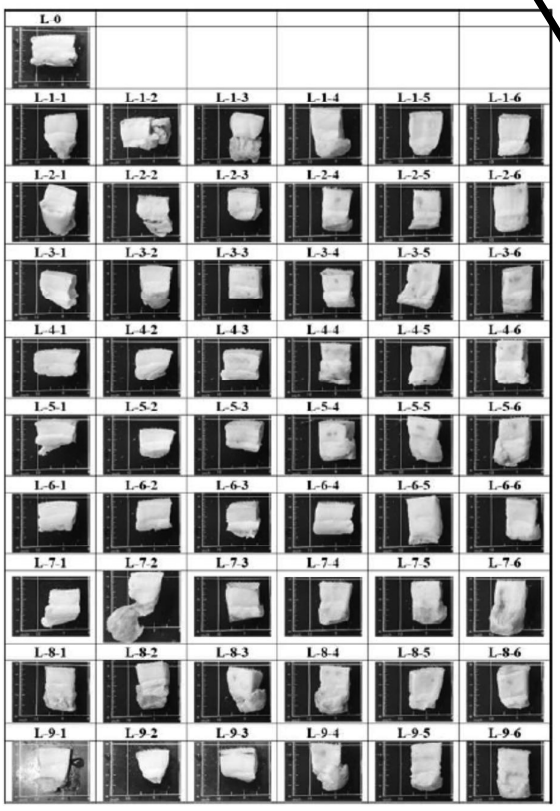
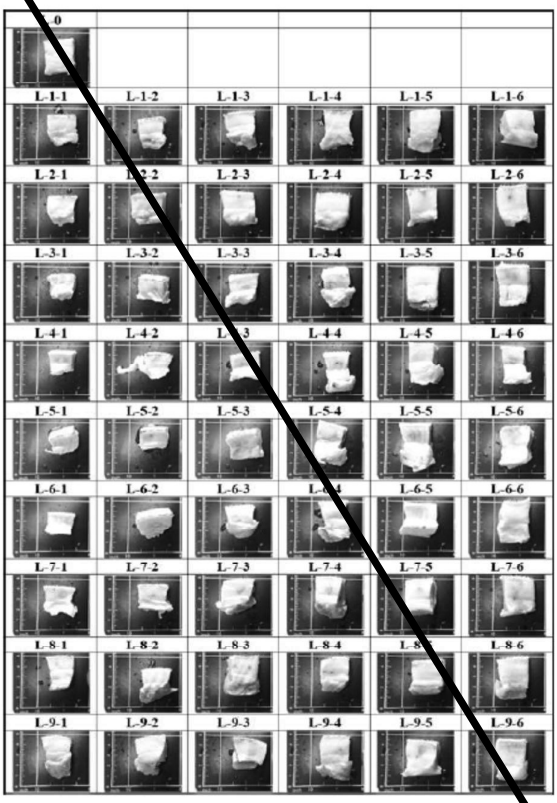


FIG. 7c



FIG. 7d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L-1-1
L-1-2
L-1-3
L-1-4
L-1-5
L-1-6
L-2-1
L-2-2
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L-2-4
L-2-5
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L-7-6
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L-8-4
L-8-5
L-8-6
L-9-1
L-9-2
L-9-3
L-9-4
L-9-5
L-9-6

FIG. 7e


R-0
R-1-1
R-1-2
R-1-3
R-1-4
R-1-5
R-1-6
R-2-1
R-2-2
R-2-3
R-2-4
R-2-5
R-2-6
R-3-1
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R-8-5
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R-9-2
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R-9-4
R-9-5
R-9-6

FIG. 7f

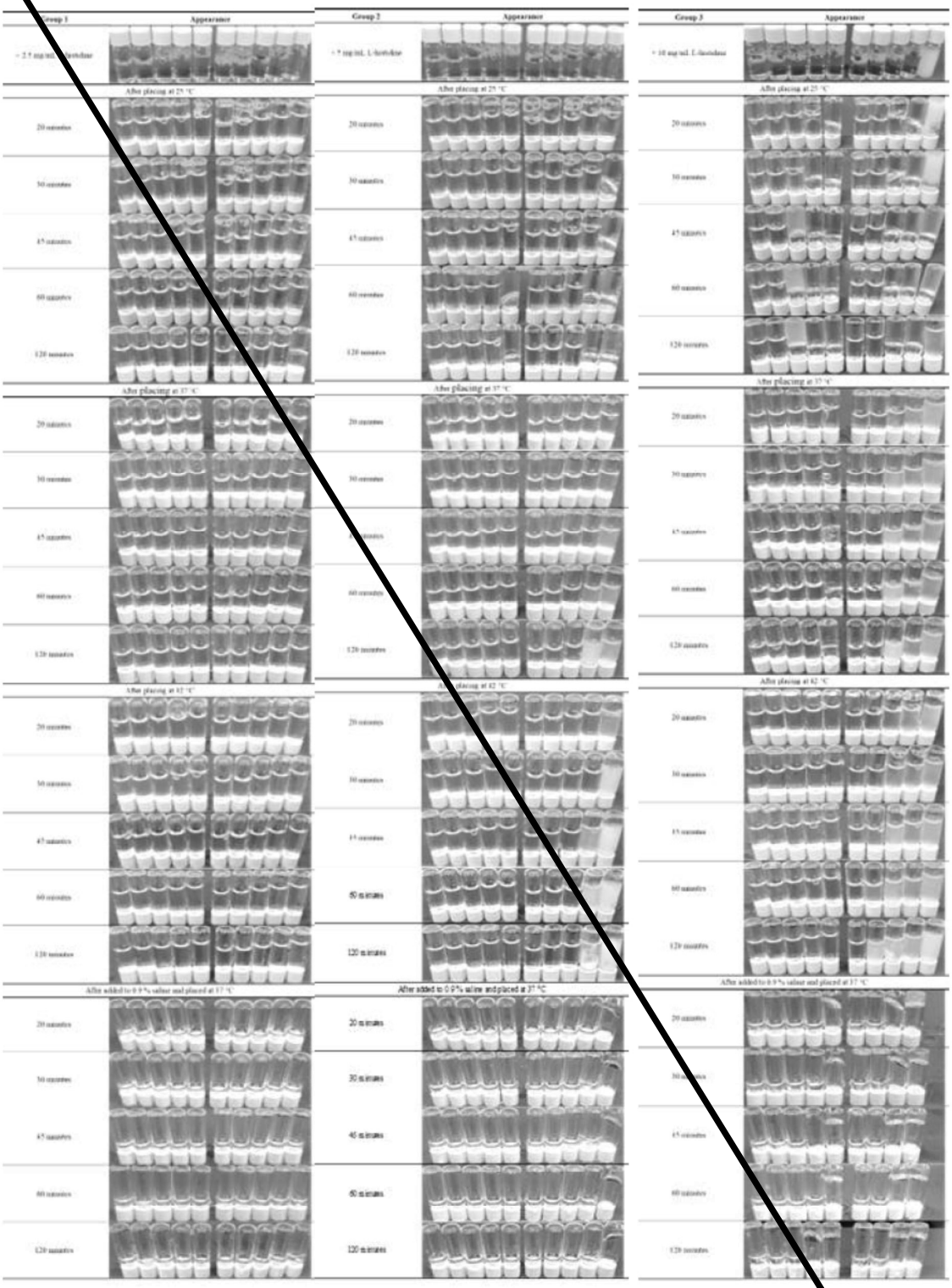


FIG. 8a FIG. 8b FIG. 8c

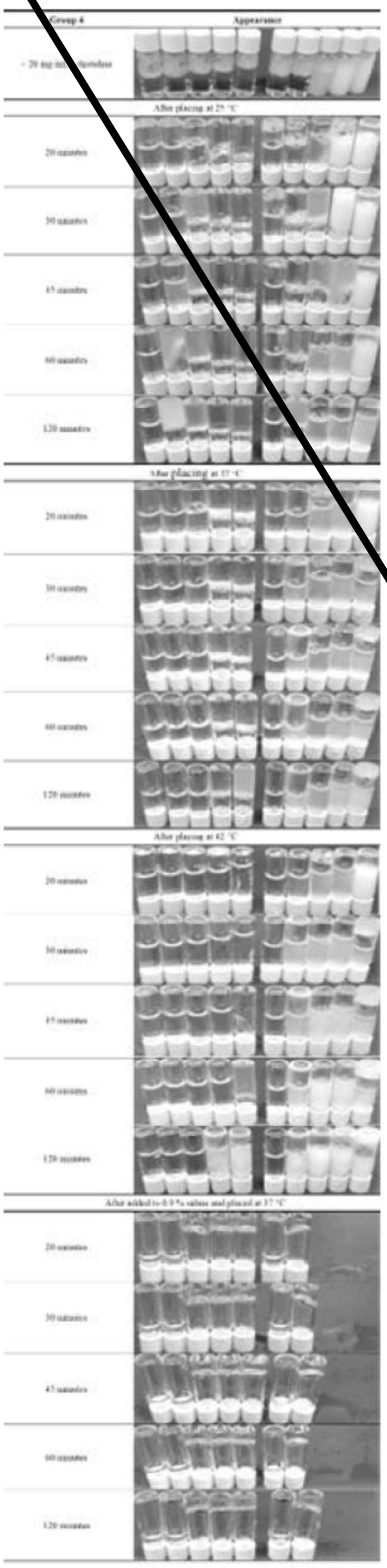


FIG. 8d

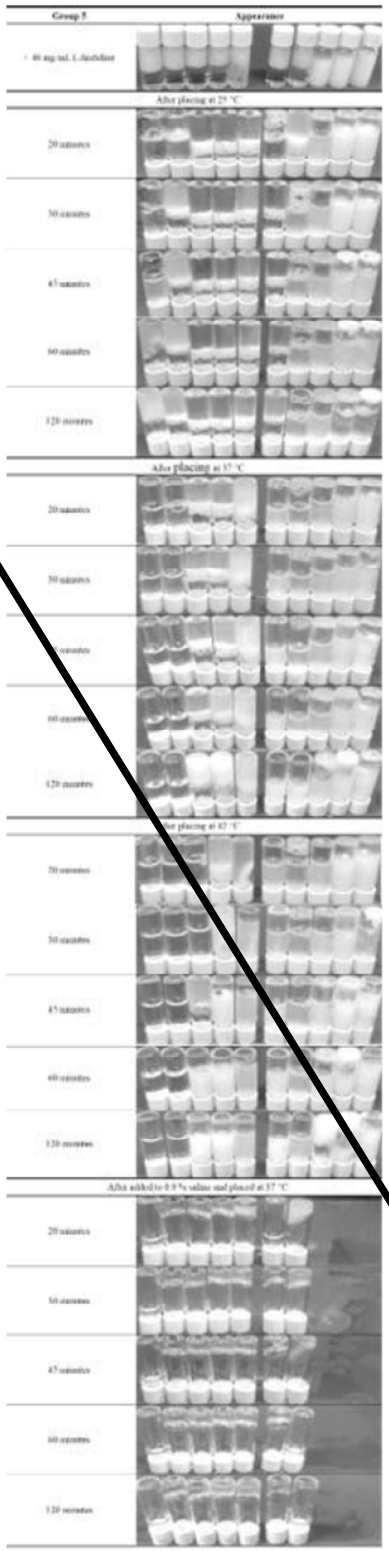


FIG. 8e

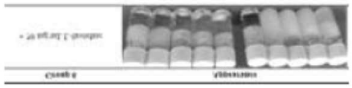


FIG. 8f

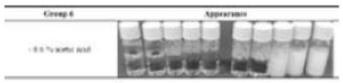


FIG. 10f

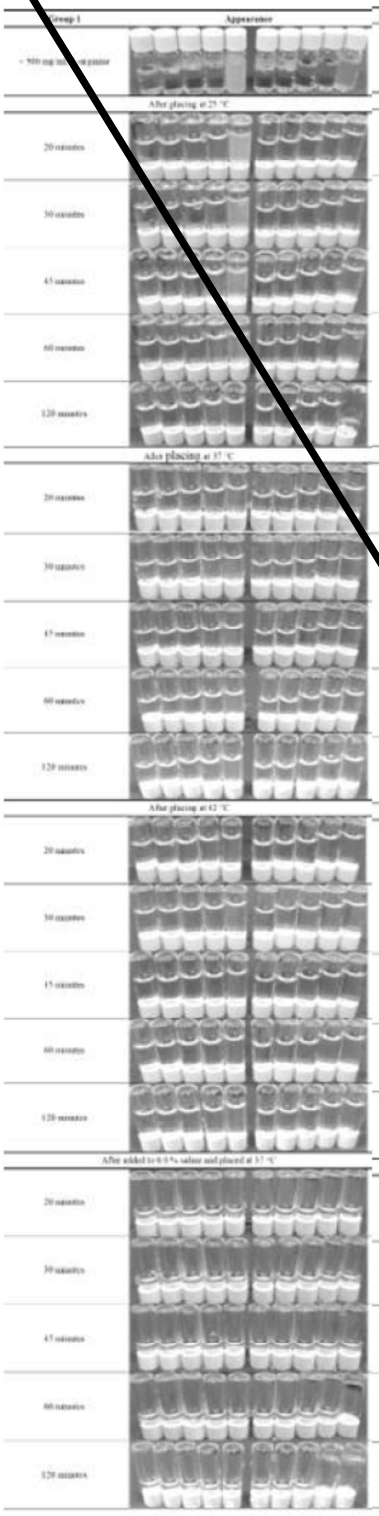


FIG. 9

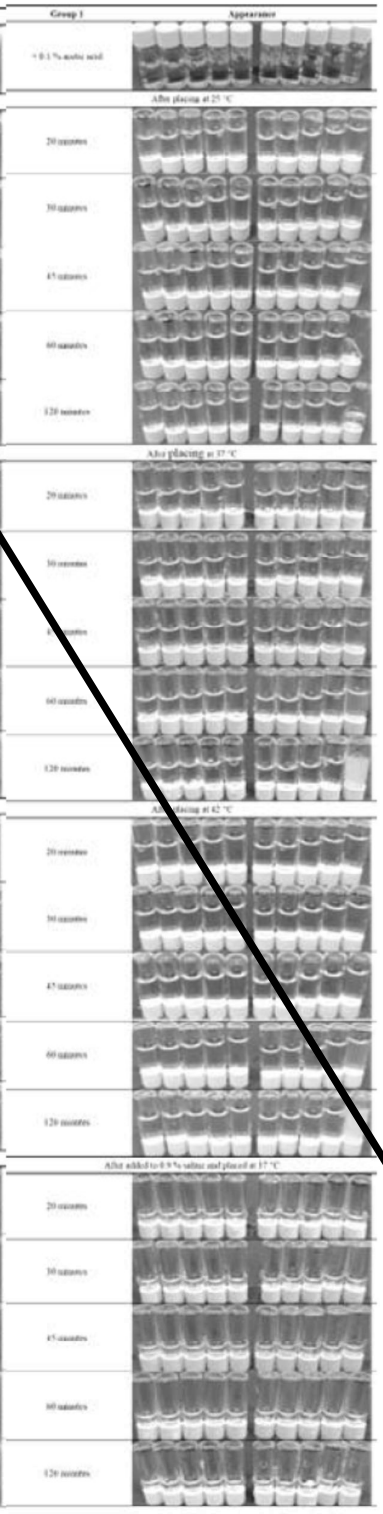


FIG. 10a

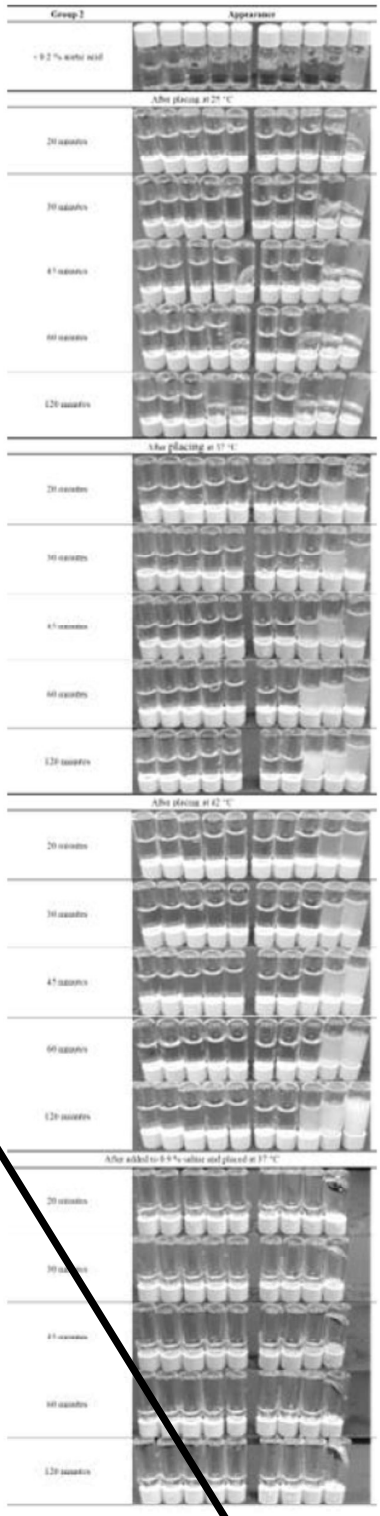


FIG. 10b

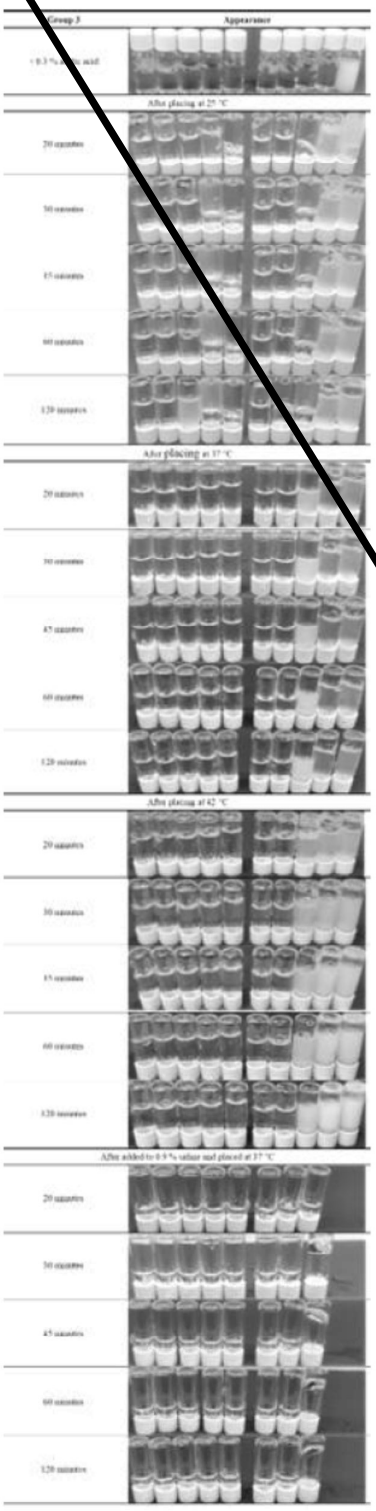


FIG. 10c

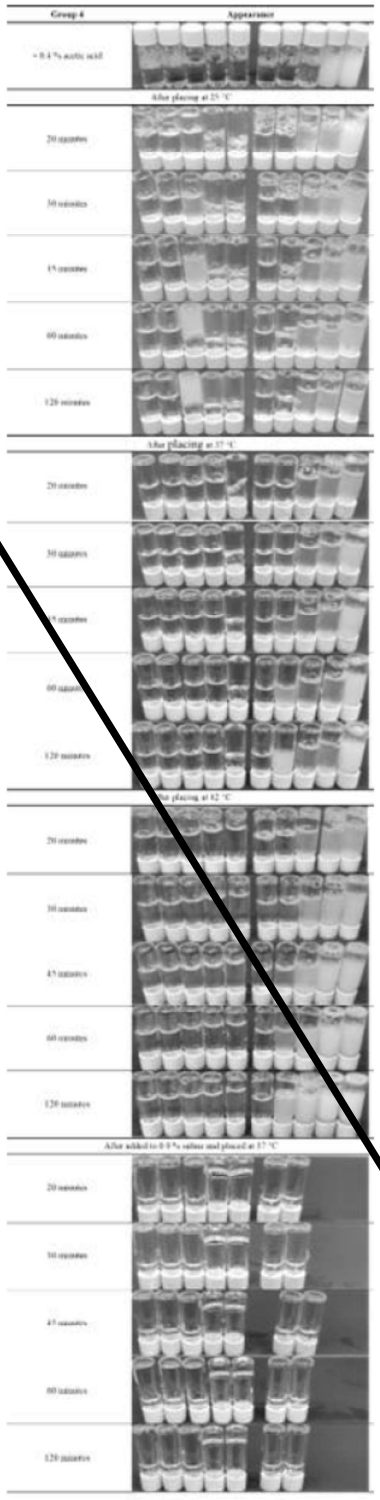


FIG. 10d

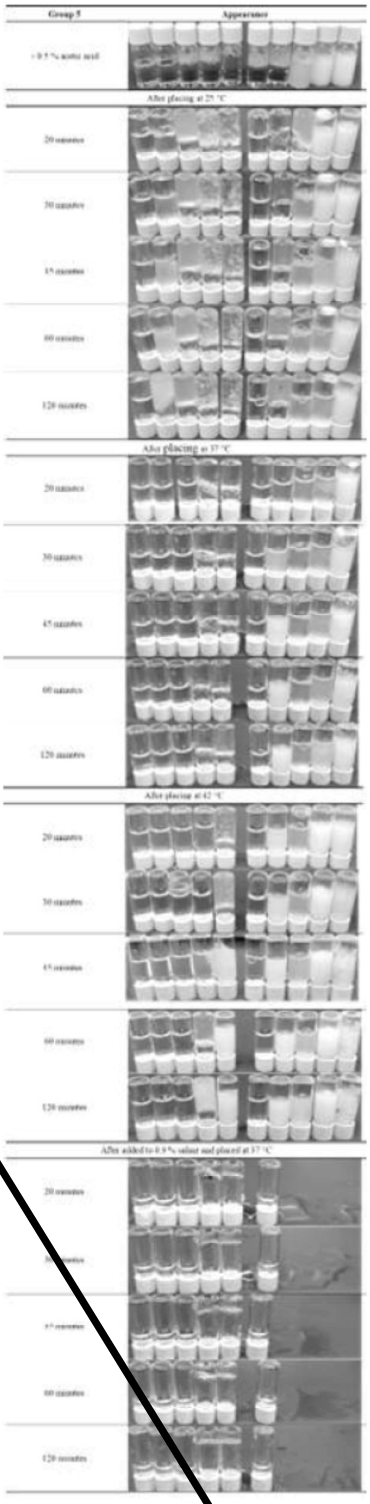


FIG. 10e

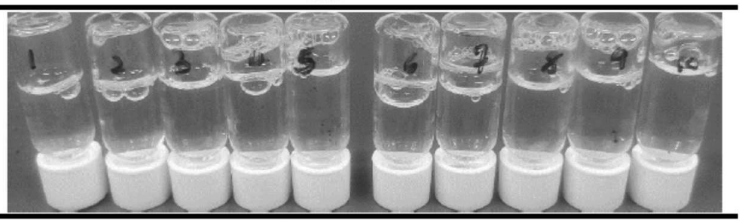
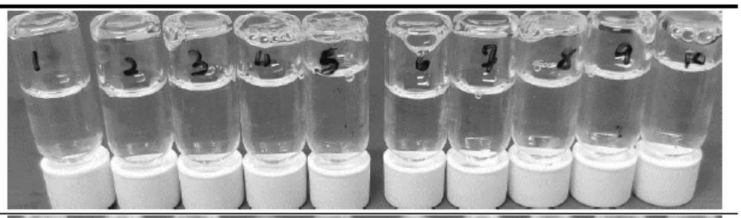
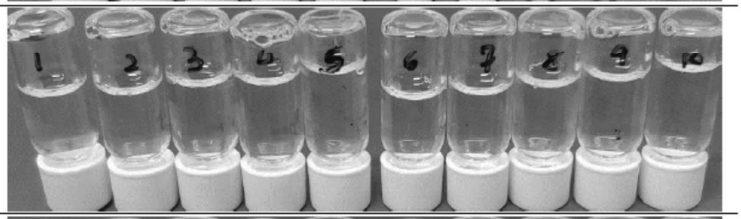
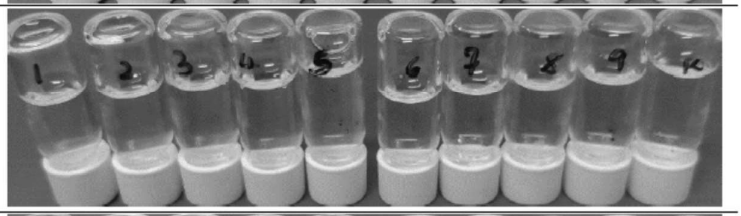
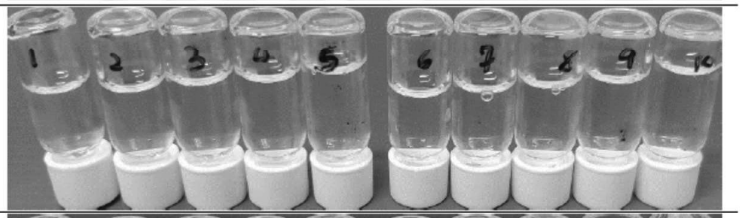
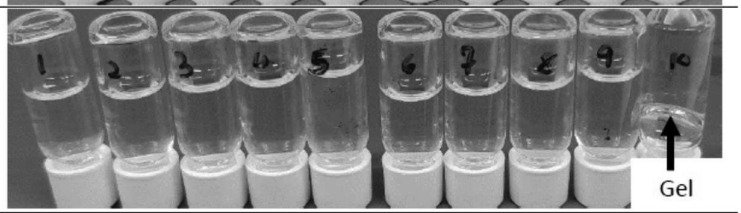
Group 1	Appearance
+ 100 mg/mL L-lysine	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 1a

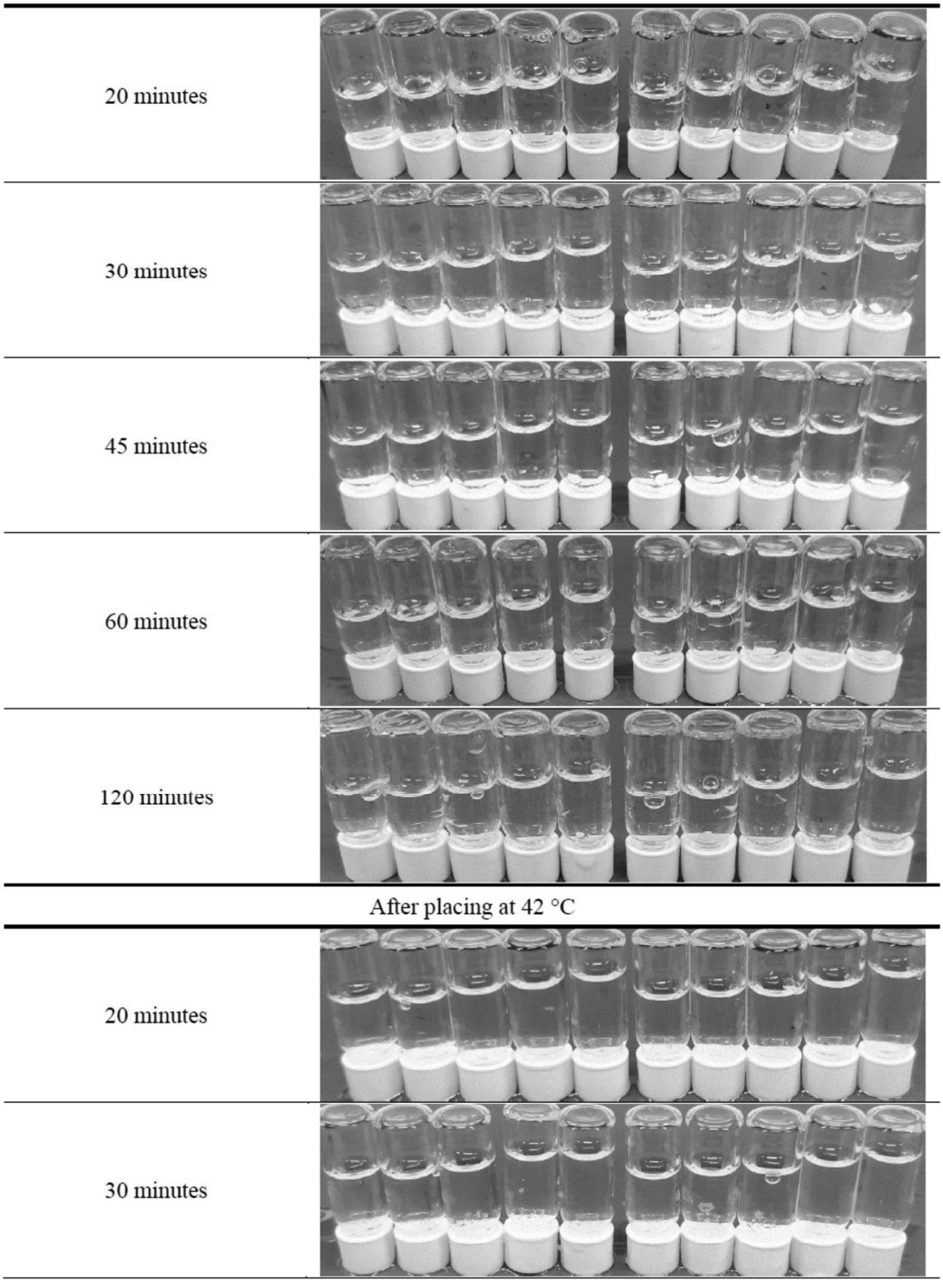


Figure 1a (continued)

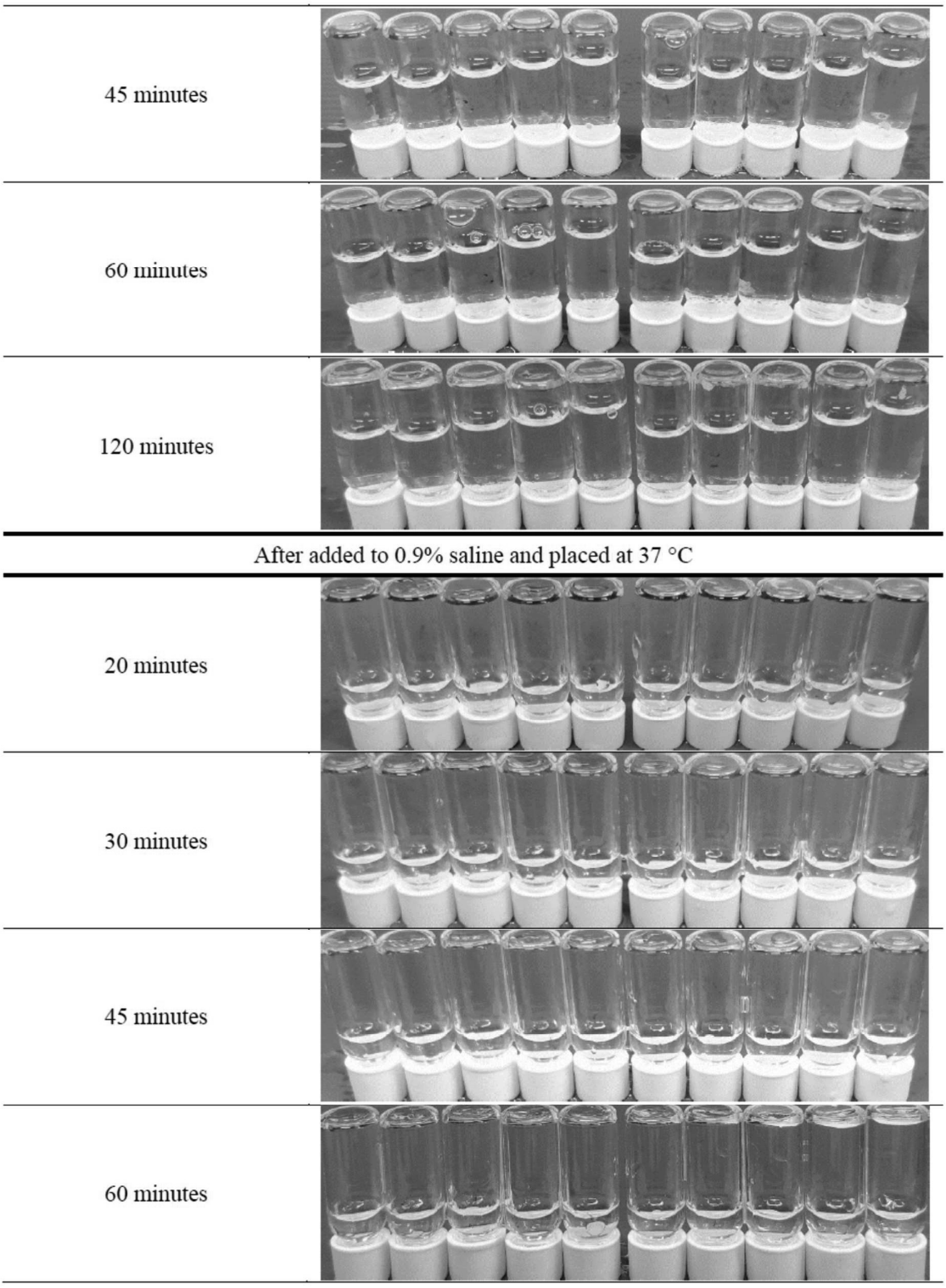


Figure 1a (continued)

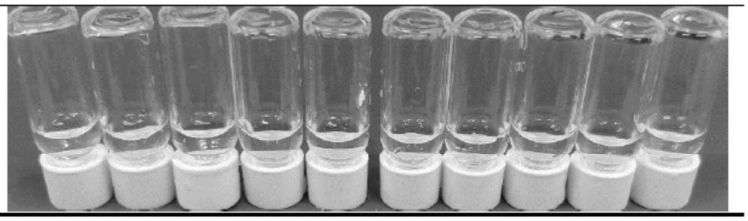
120 minutes	

Figure 1a (continued)

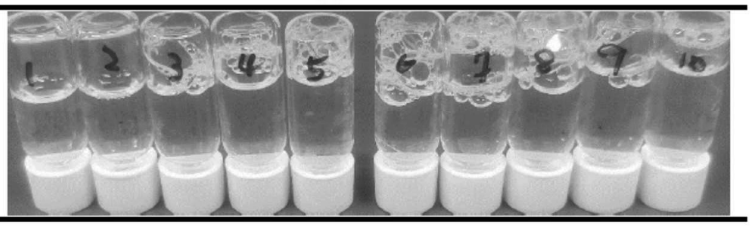
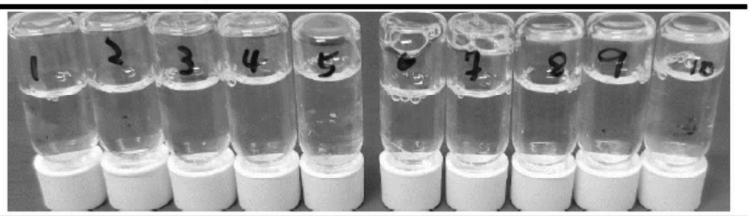
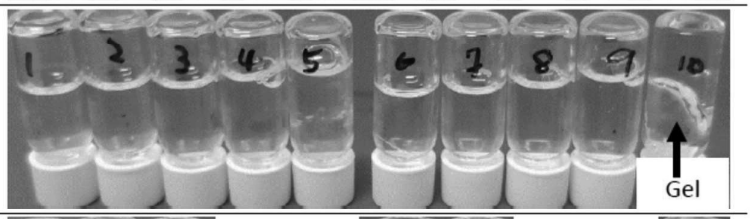
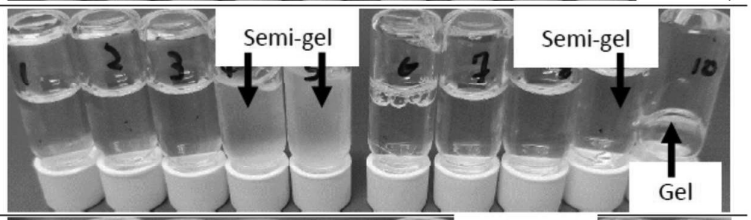
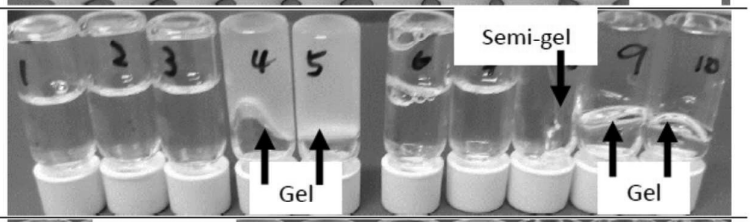
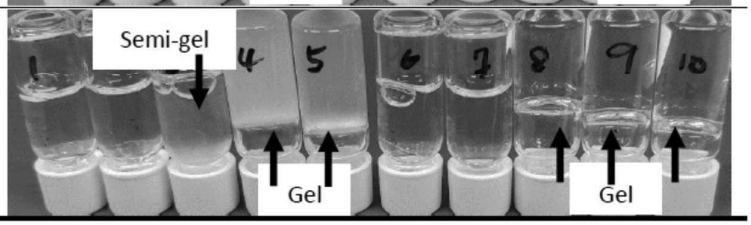
Group 2	Appearance
+ 200 mg/mL L-lysine	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 1b

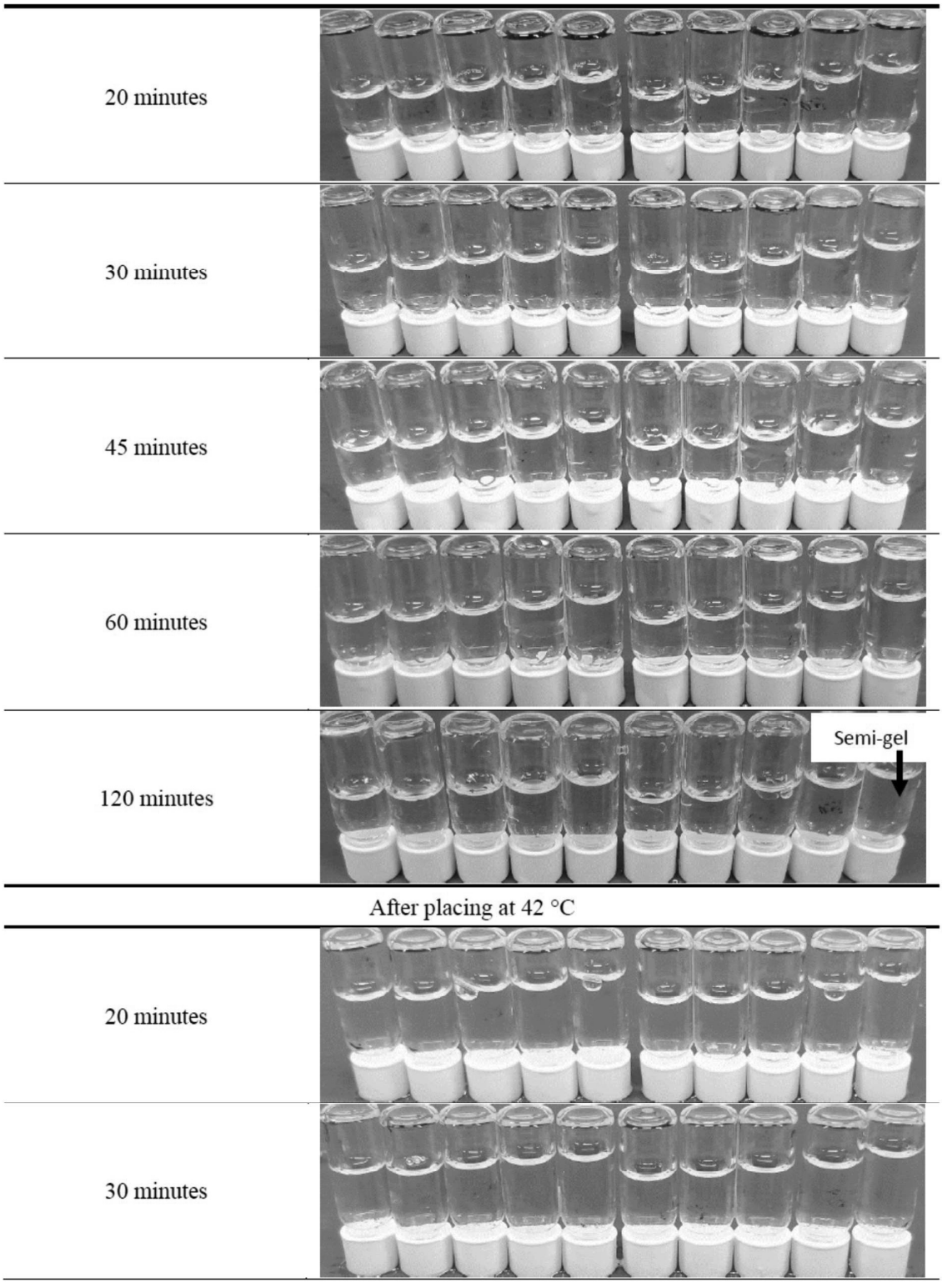


Figure 1b (continued)

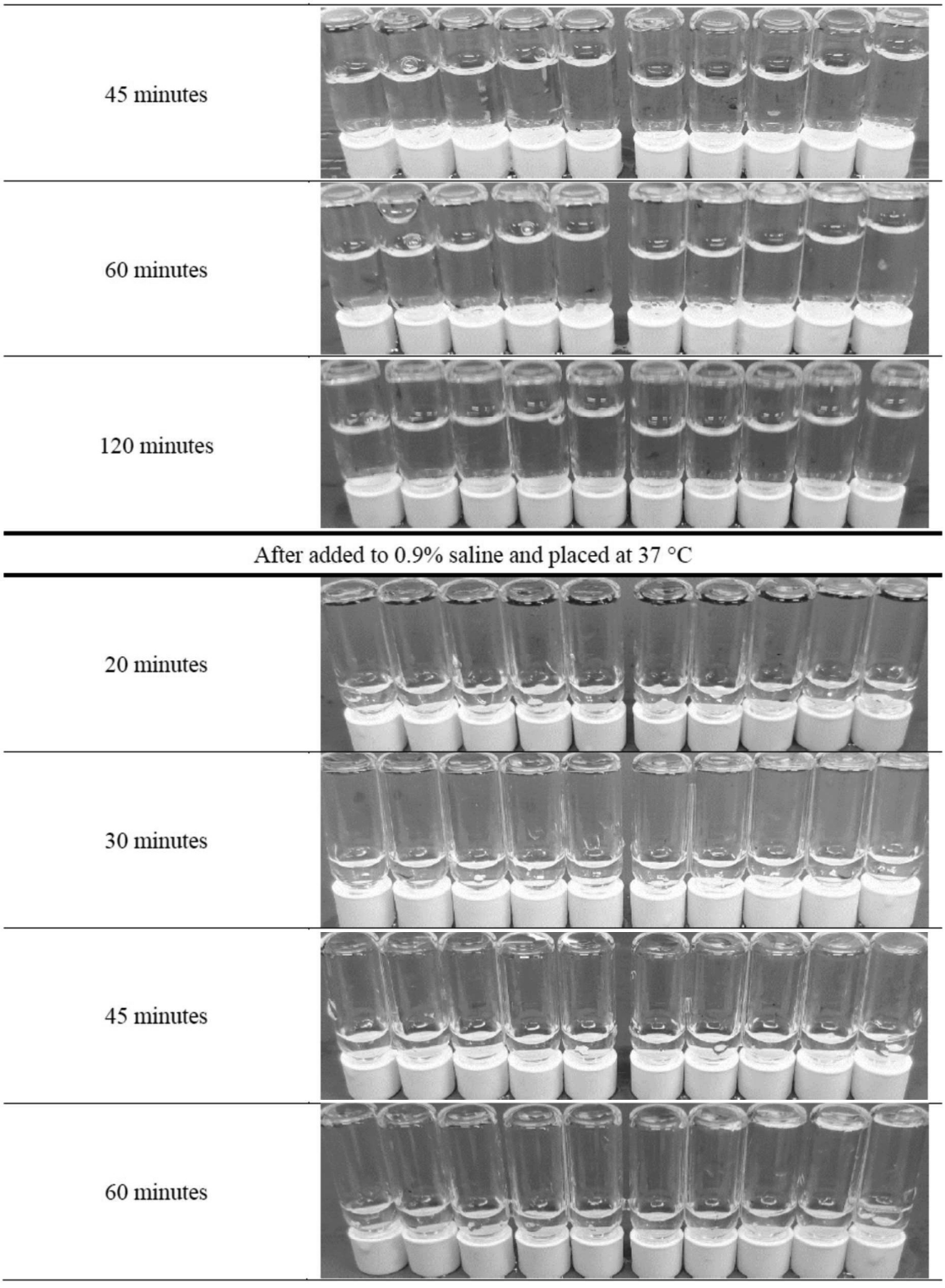


Figure 1b (continued)

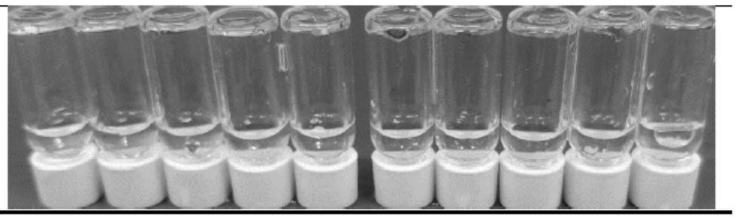
120 minutes	

Figure 1b (continued)

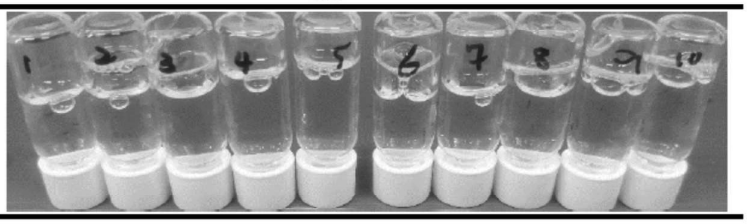
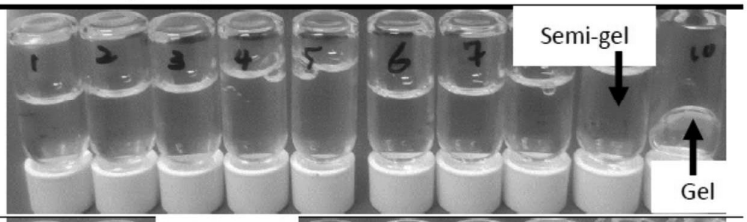
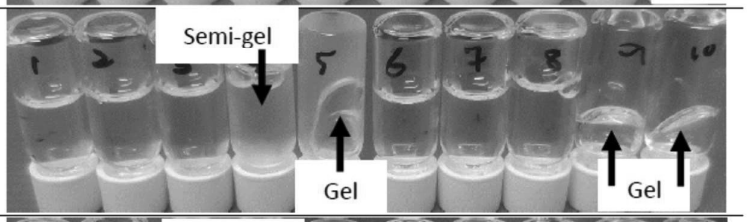
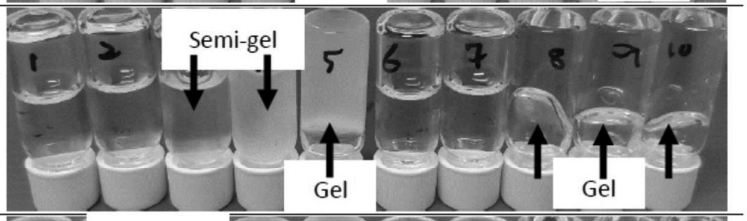
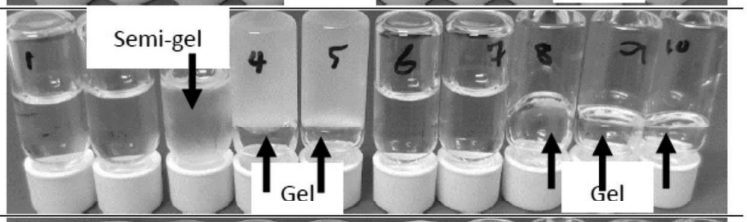
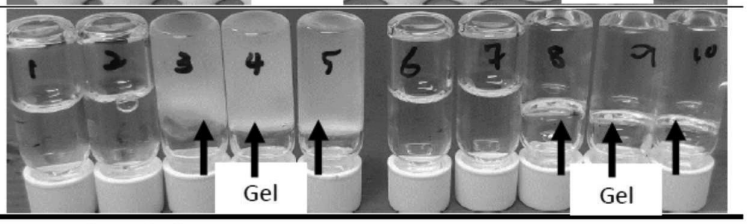
Group 3	Appearance
+ 300 mg/mL L-lysine	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 1c

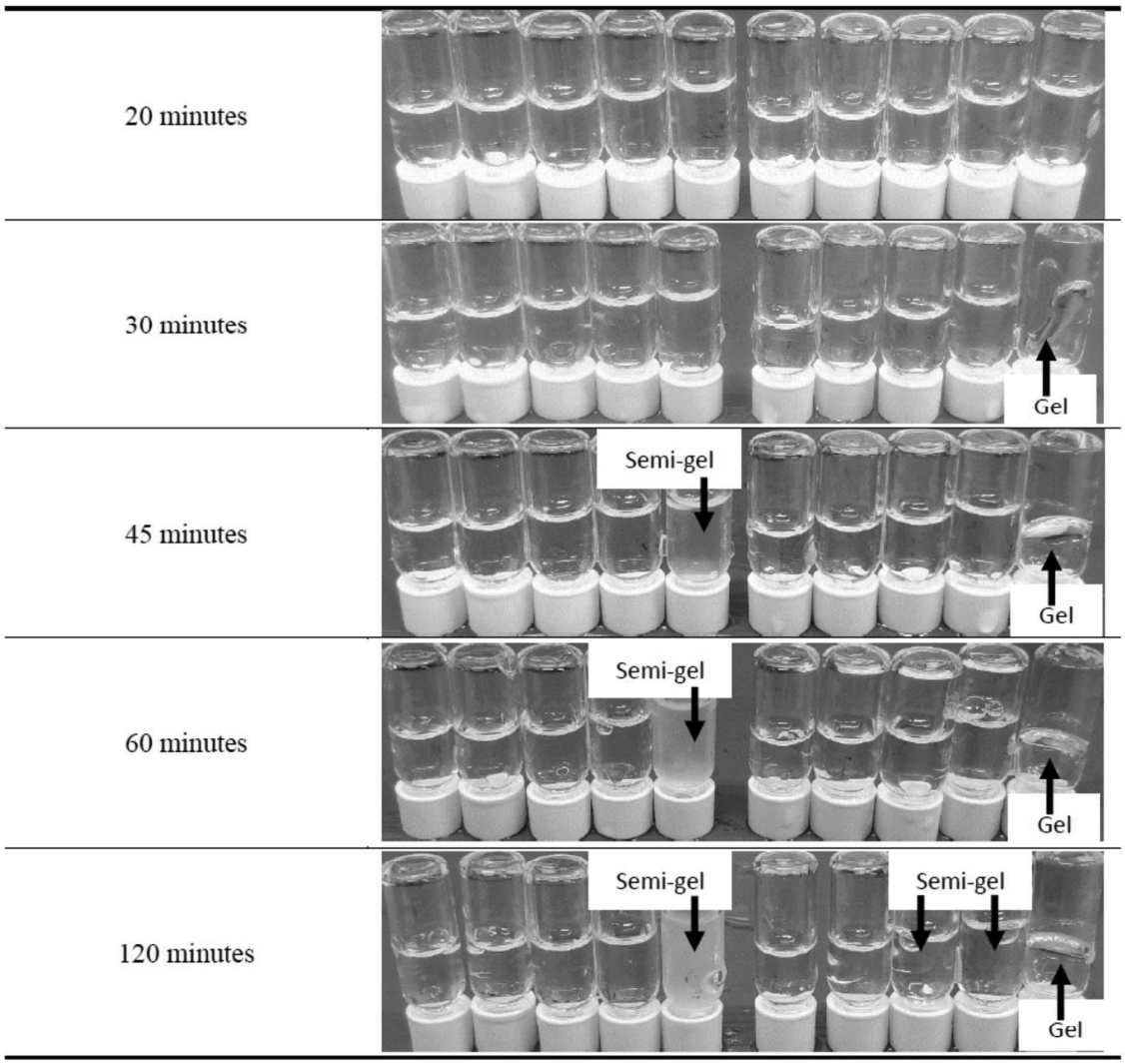


Figure 1c (continued)

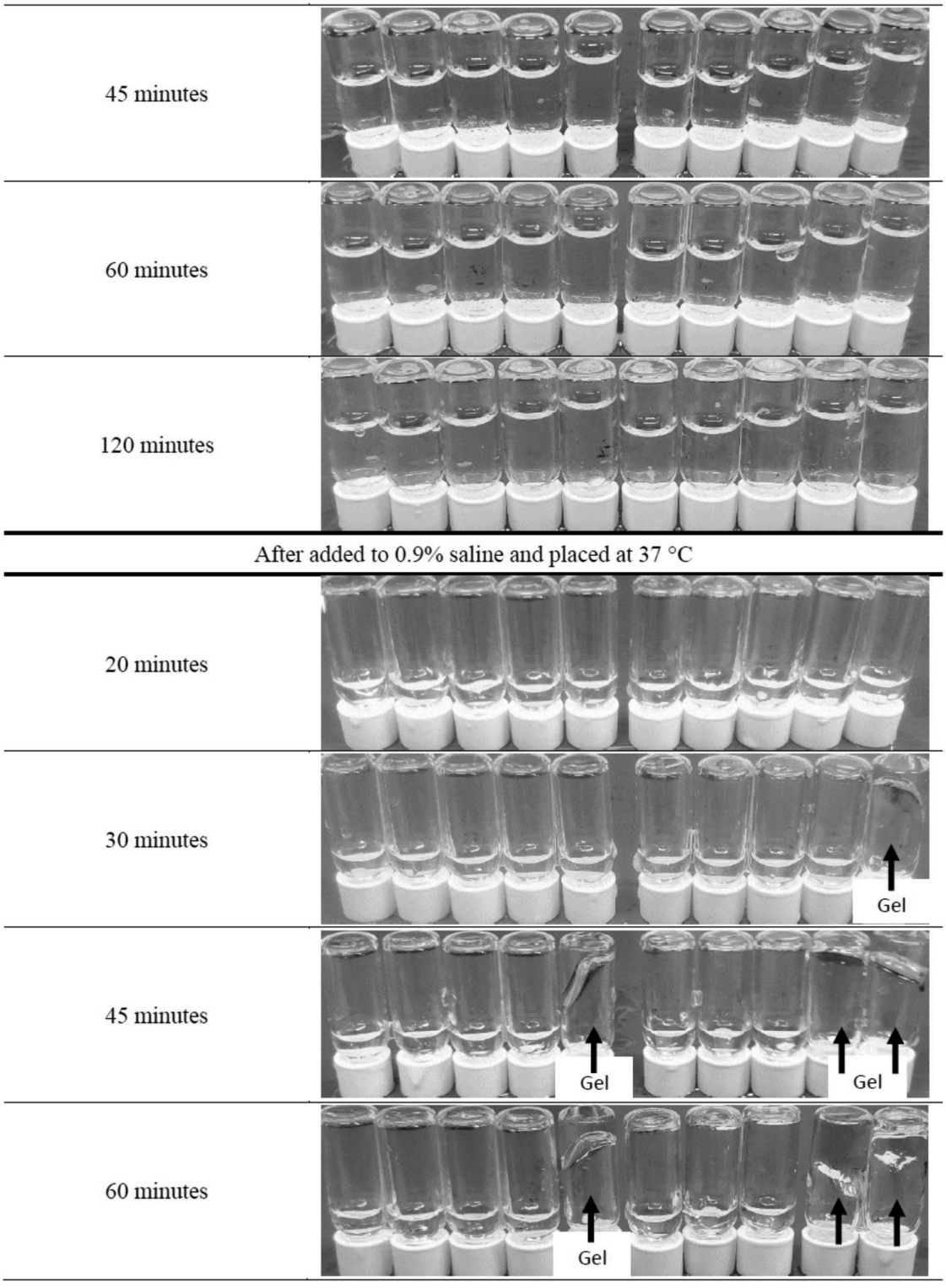


Figure 1c (continued)

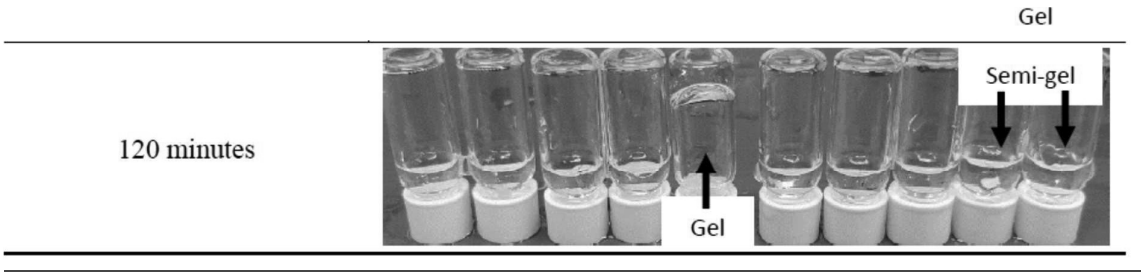


Figure 1c (continued)

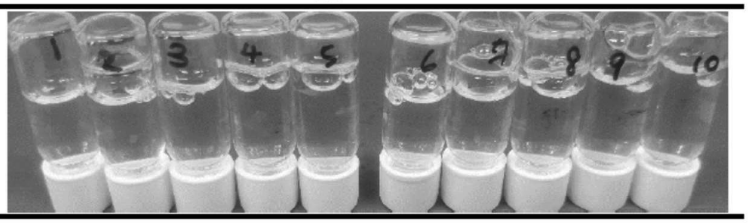
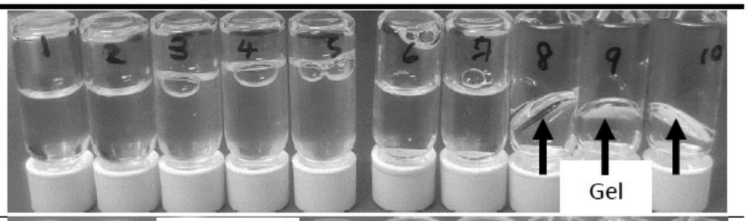
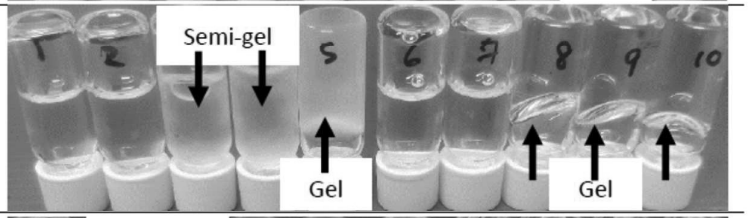
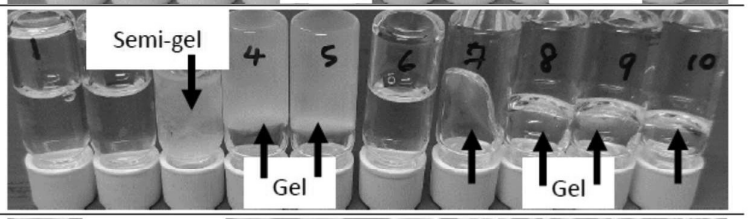
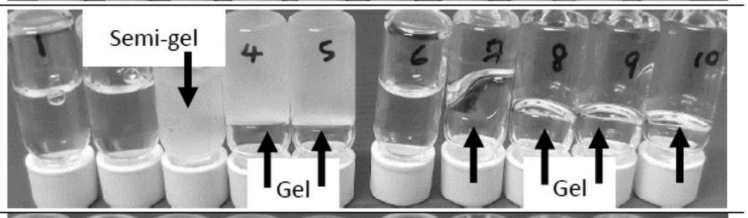
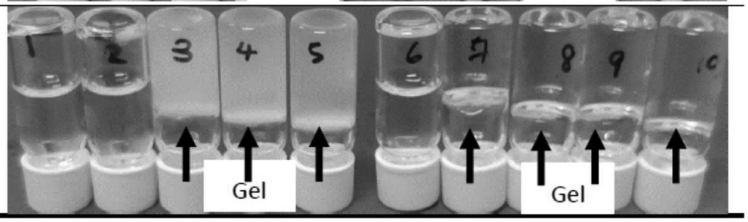
Group 4	Appearance
+ 400 mg/mL L-lysine	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 1d

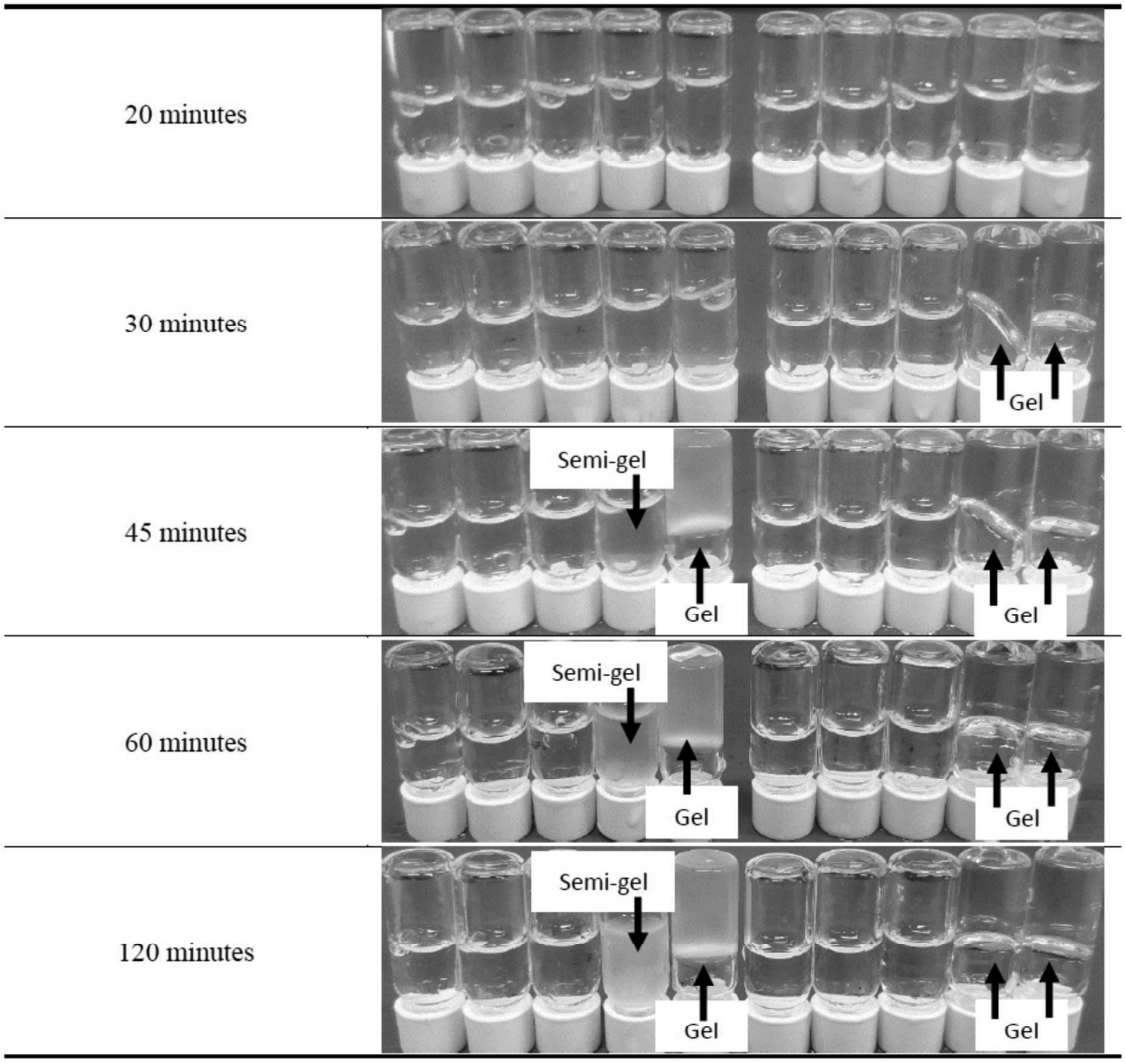


Figure 1d (continued)

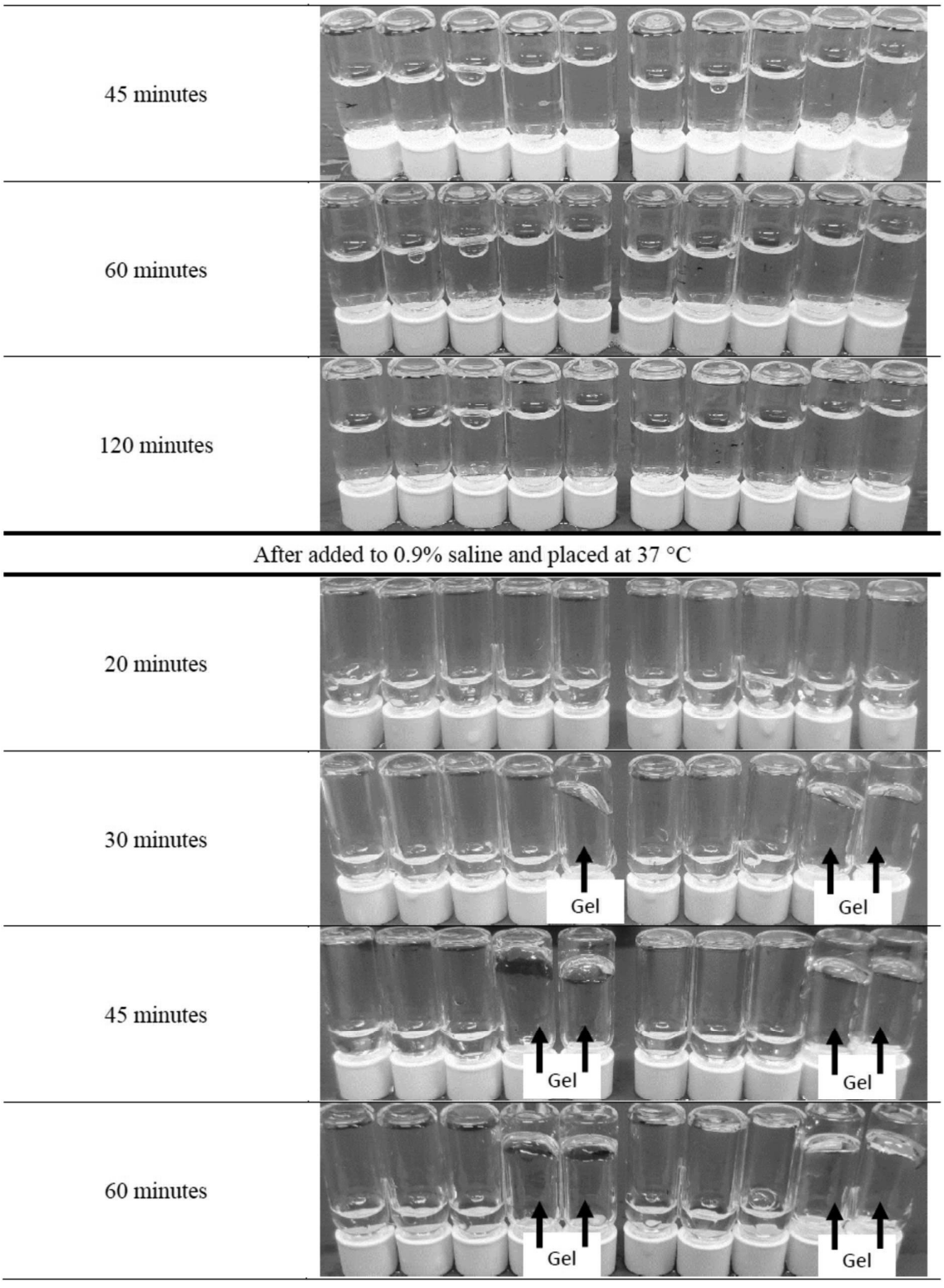


Figure 1d (continued)

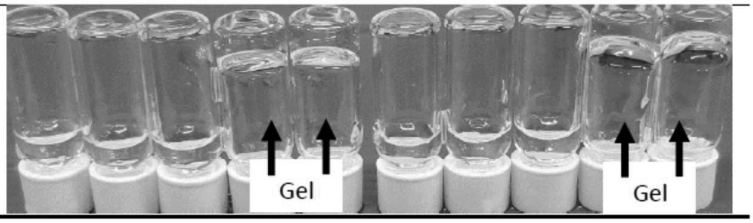
120 minutes	

Figure 1d (continued)

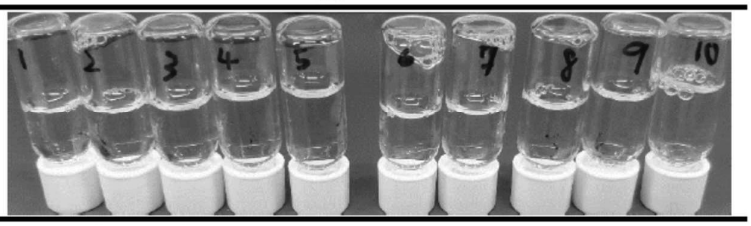
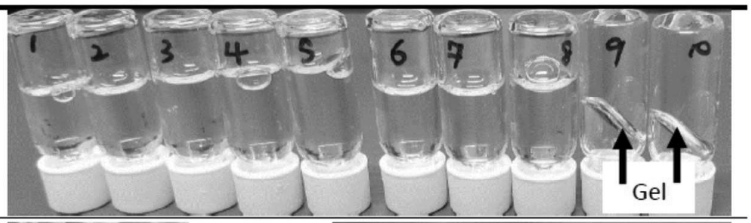
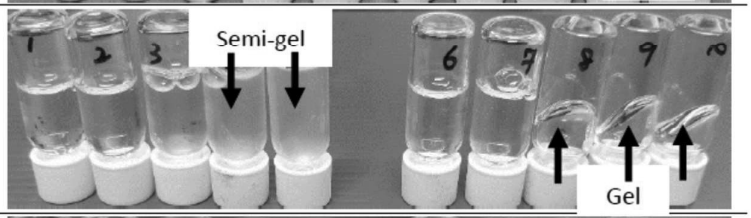
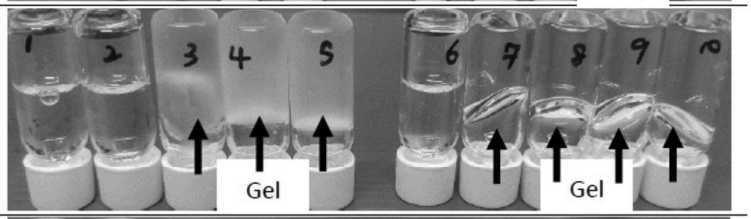
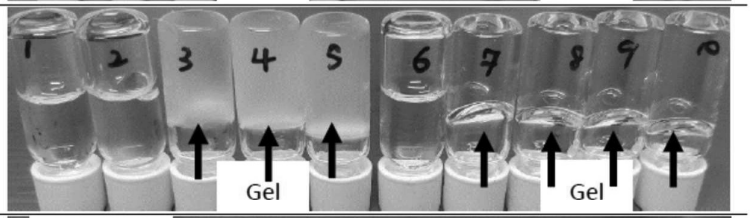
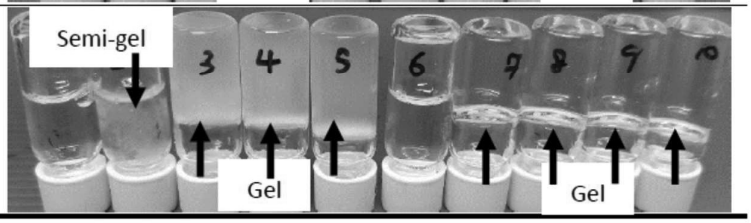
Group 5	Appearance
+ 500 mg/mL L-lysine	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 1e

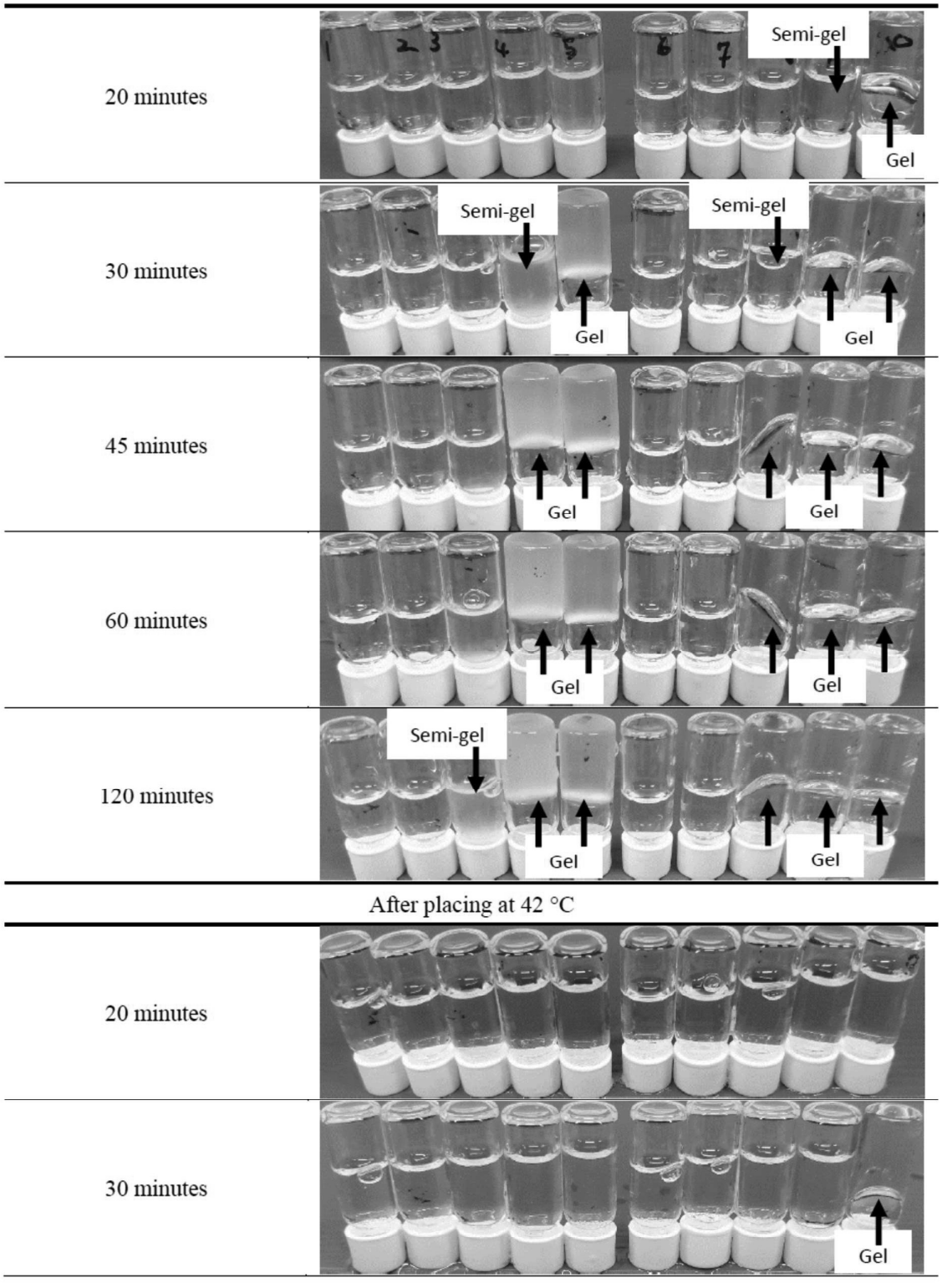


Figure 1e (continued)

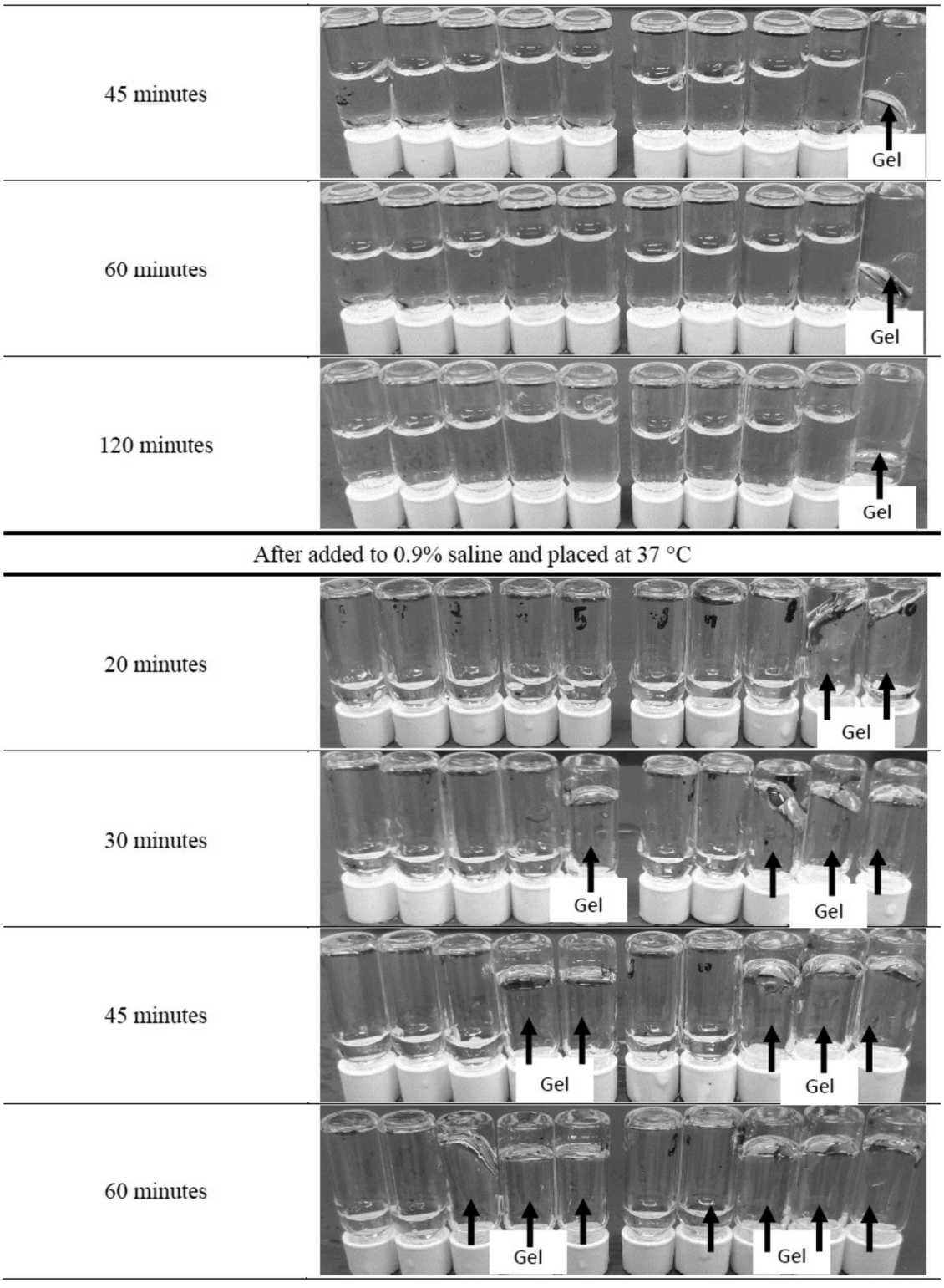


Figure 1e (continued)

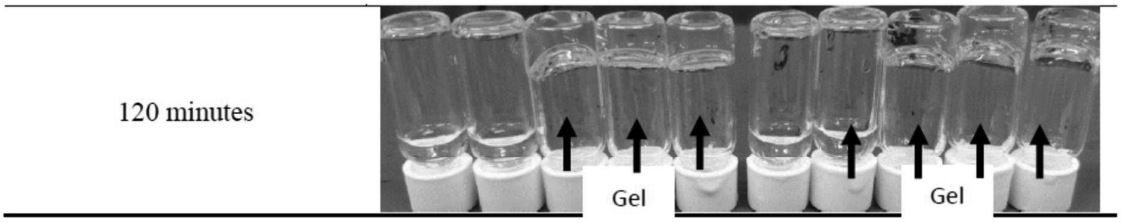


Figure 1e (continued)

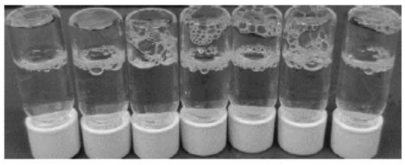
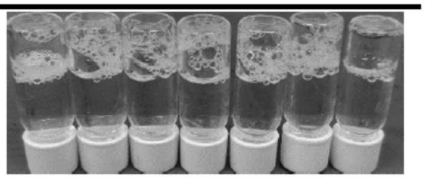
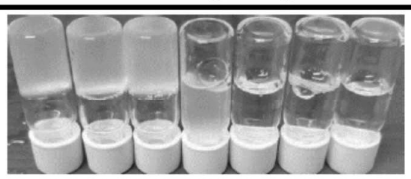
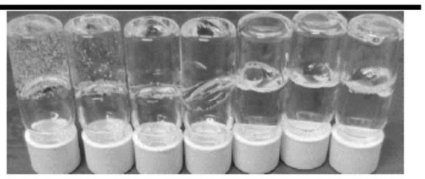
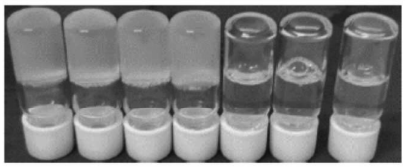
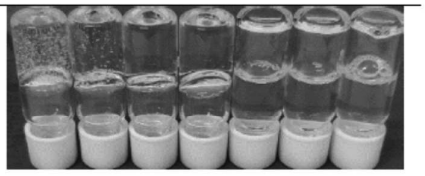
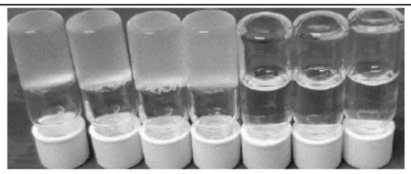
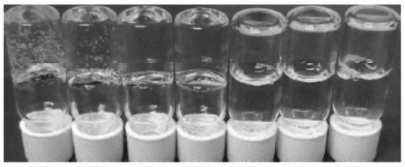
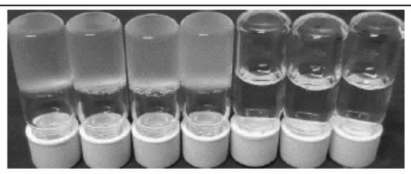
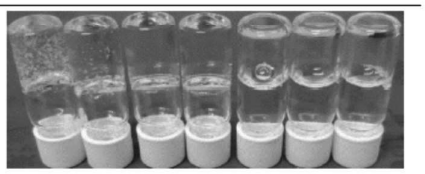
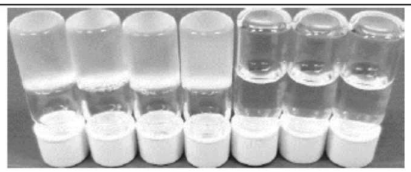
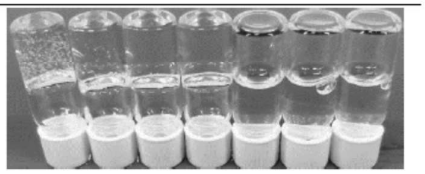
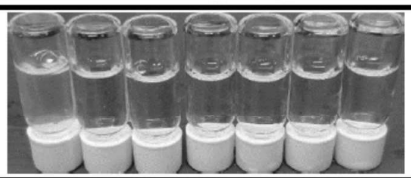
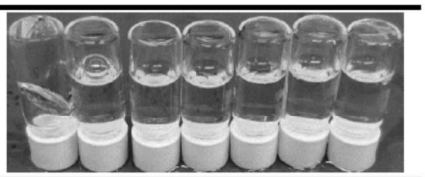
Group 1	Appearance	
+ 200 mg/mL L-lysine		
	5 %	1 %
After placing at 25 °C		
20 minutes		
	5 %	1 %
30 minutes		
	5 %	1 %
45 minutes		
	5 %	1 %
60 minutes		
	5 %	1 %
120 minutes		
	5 %	1 %
After placing at 37 °C		
20 minutes		

Figure 2a

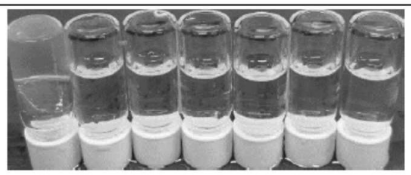
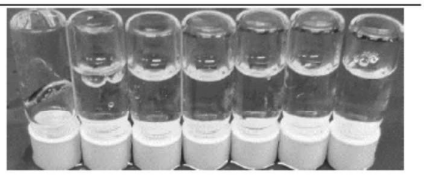
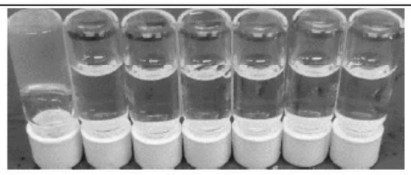
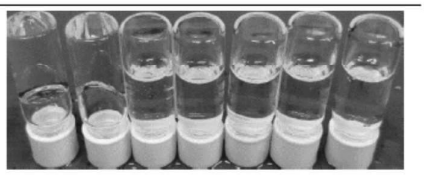
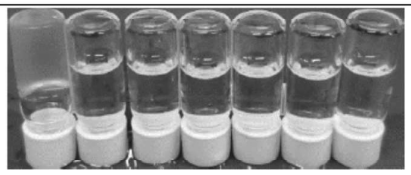
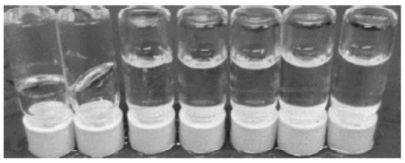
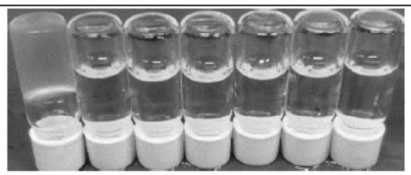
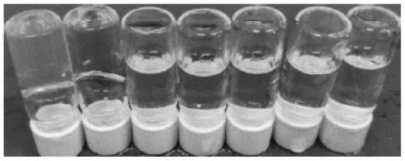
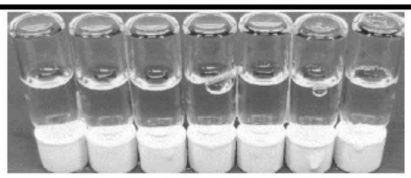
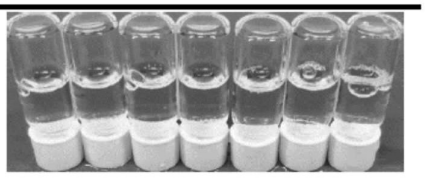
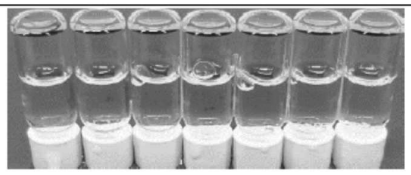
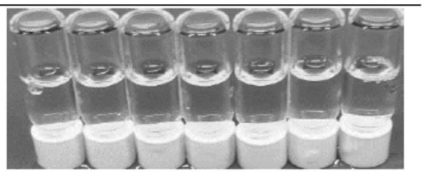
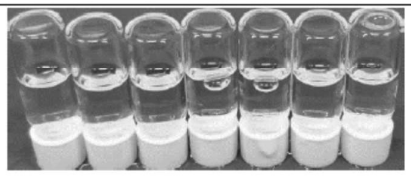
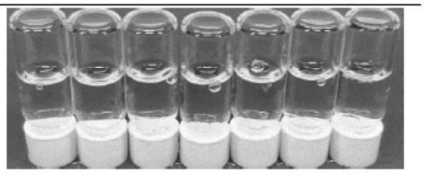
	5 %	1 %
30 minutes		
	5 %	1 %
45 minutes		
	5 %	1 %
60 minutes		
	5 %	1 %
120 minutes		
	5 %	1 %
After placing at 42 °C		
20 minutes		
	5 %	1 %
30 minutes		
	5 %	1 %
45 minutes		
	5 %	1 %

Figure 2a (continued)

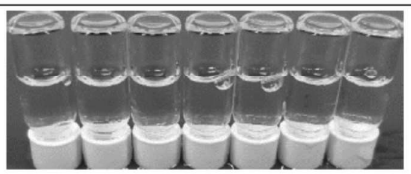
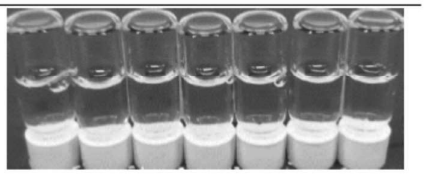
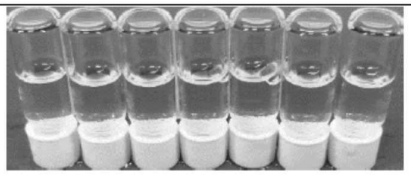
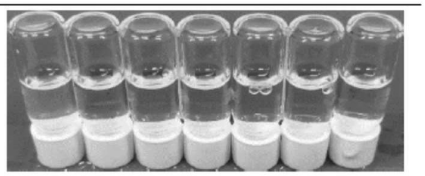
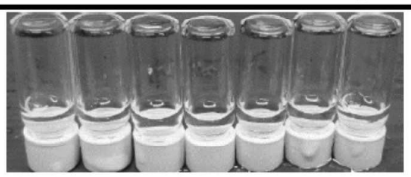
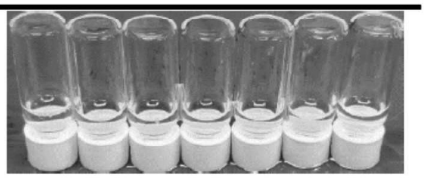
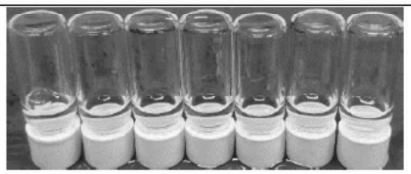
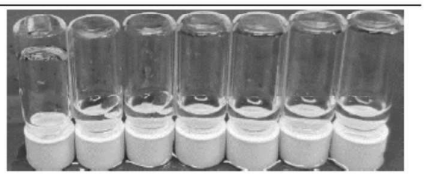
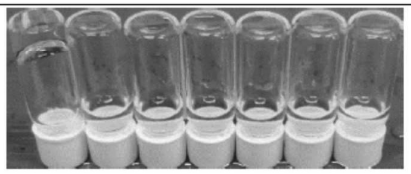
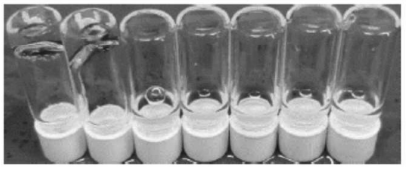
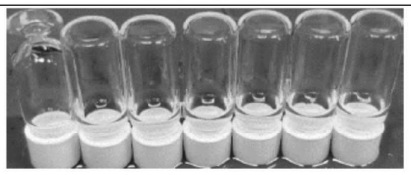
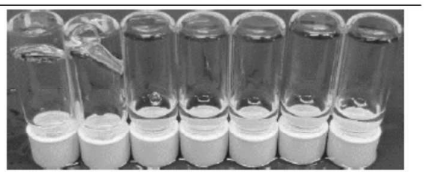
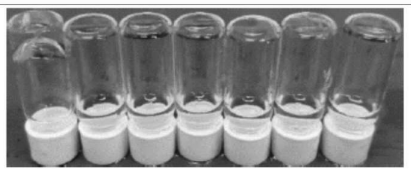
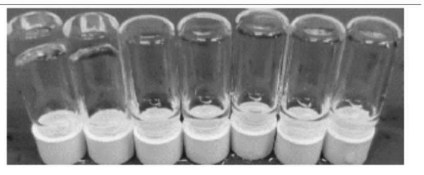
60 minutes		
	5 %	1 %
120 minutes		
	5 %	1 %
	After added to 0.9% saline and placed at 37 °C	
20 minutes		
	5 %	1 %
30 minutes		
	5 %	1 %
45 minutes		
	5 %	1 %
60 minutes		
	5 %	1 %
120 minutes		
	5 %	1 %

Figure 2a (continued)

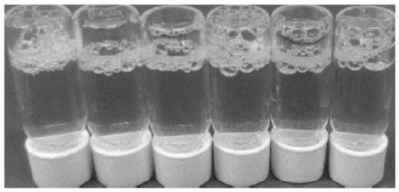
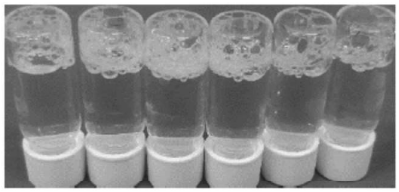
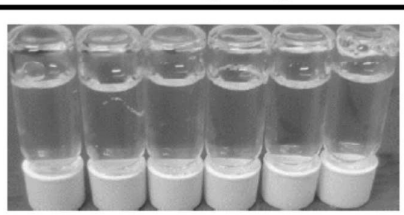
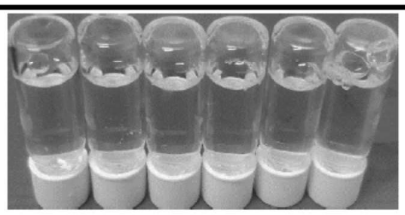
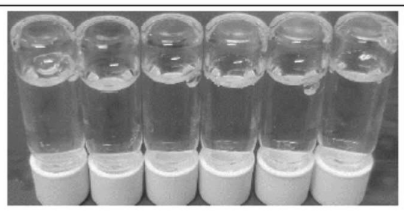
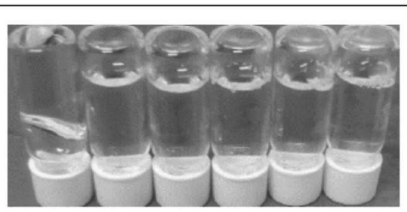
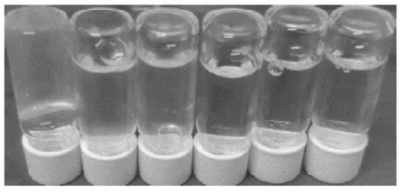
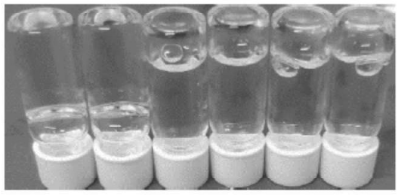
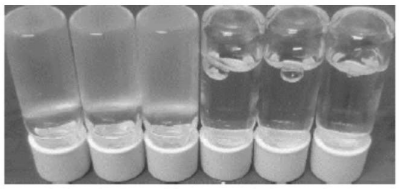
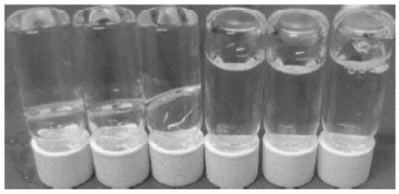
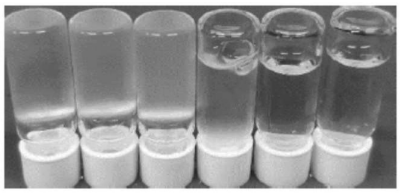
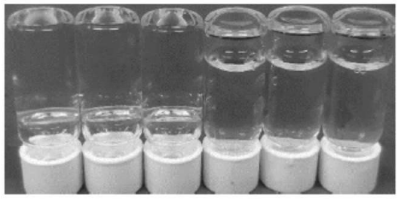
Group 2	Appearance	
+ 400 mg/mL L-lysine		
	5 %	1 %
	After placing at 25 °C	
20 minutes		
	5 %	1 %
30 minutes		
	5 %	1 %
45 minutes		
	5 %	1 %
60 minutes		
	5 %	1 %
120 minutes		

Figure 2b

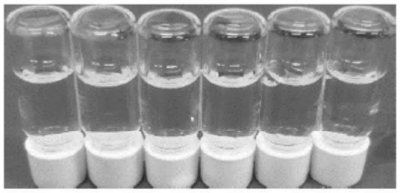
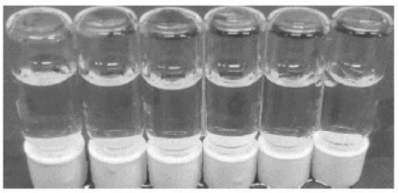
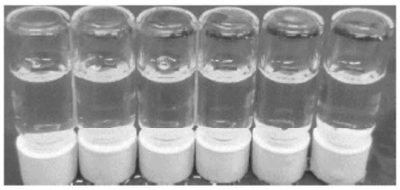
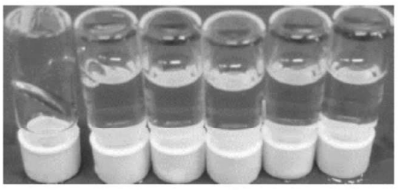
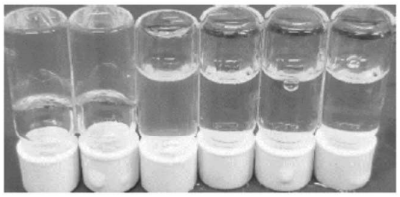
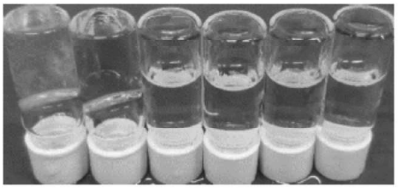
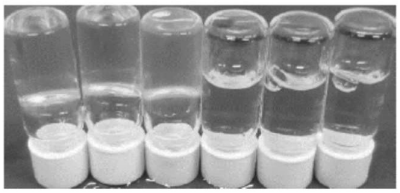
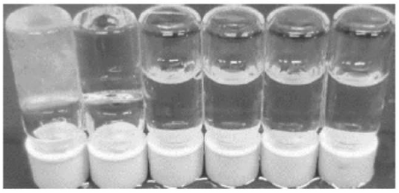
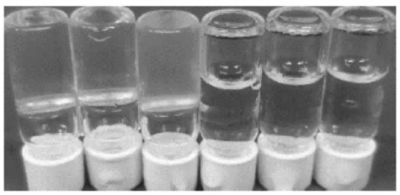
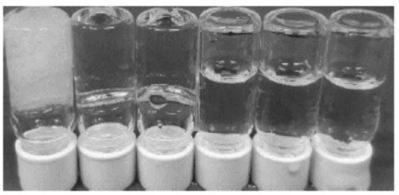
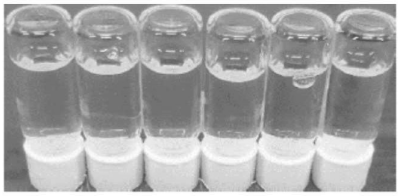
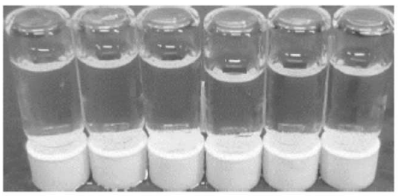
	5 %	1 %
After placing at 37 °C		
20 minutes		
	5 %	1 %
30 minutes		
	5 %	1 %
45 minutes		
	5 %	1 %
60 minutes		
	5 %	1 %
120 minutes		
	5 %	1 %
After placing at 42 °C		
20 minutes		
	5 %	1 %

Figure 2b (continued)

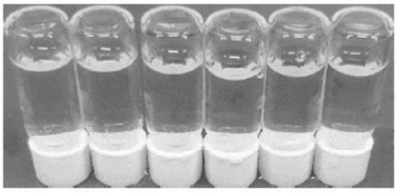
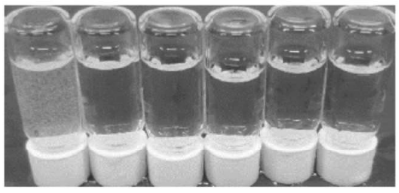
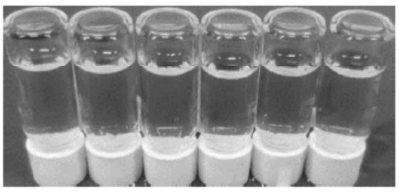
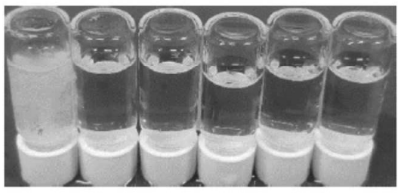
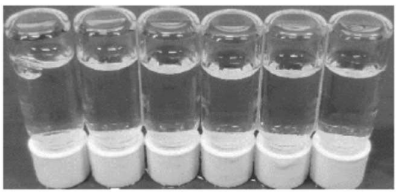
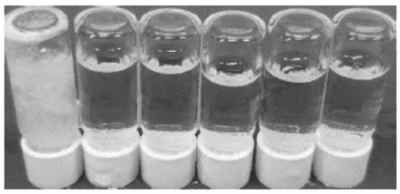
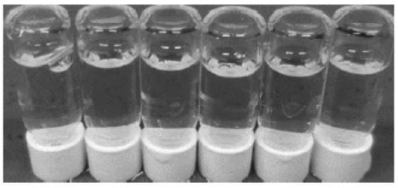
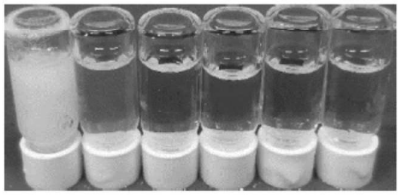
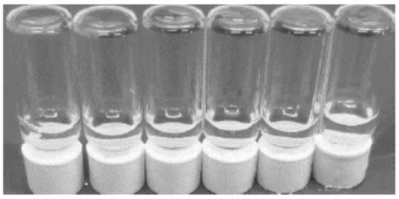
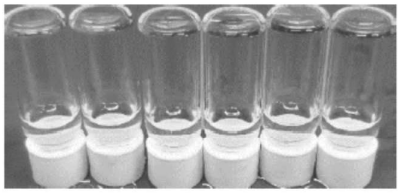
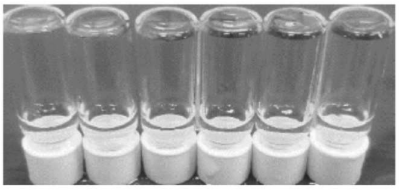
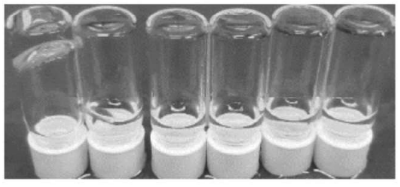
30 minutes		
	5 %	1 %
45 minutes		
	5 %	1 %
60 minutes		
	5 %	1 %
120 minutes		
	5 %	1 %
After added to 0.9% saline and placed at 37 °C		
20 minutes		
	5 %	1 %
30 minutes		
	5 %	1 %

Figure 2b (continued)

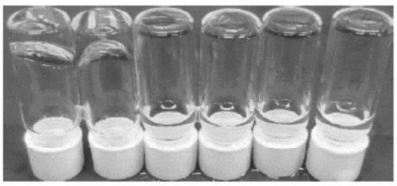
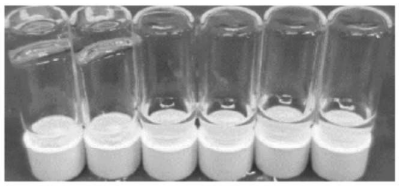
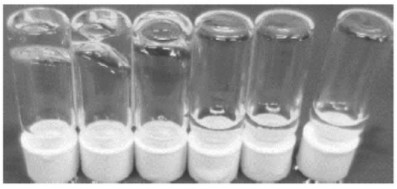
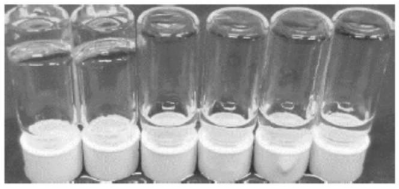
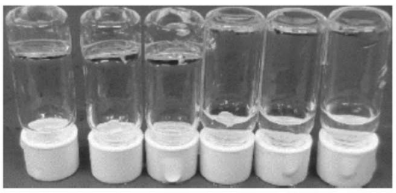
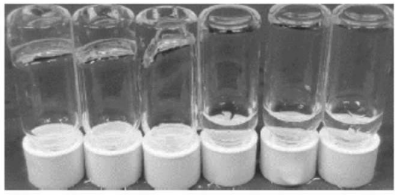
45 minutes		
	5 %	1 %
60 minutes		
	5 %	1 %
120 minutes		
	5 %	1 %

Figure 2b (continued)

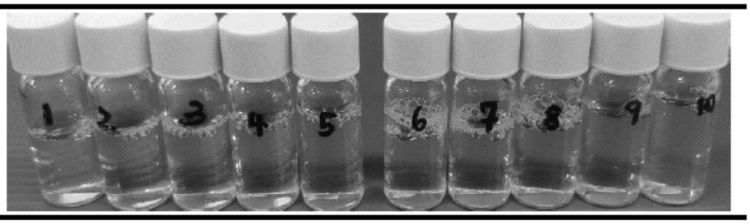
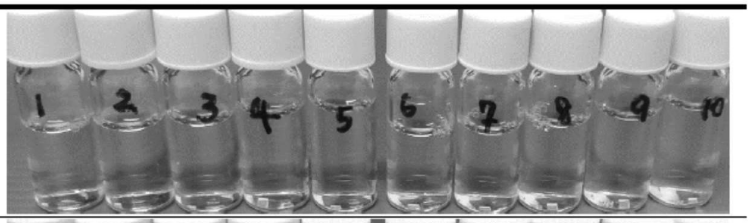
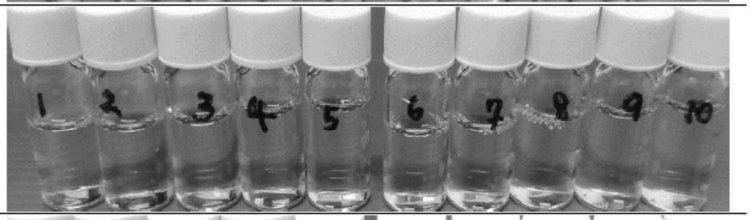
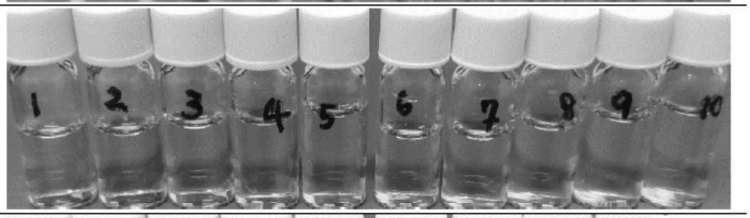
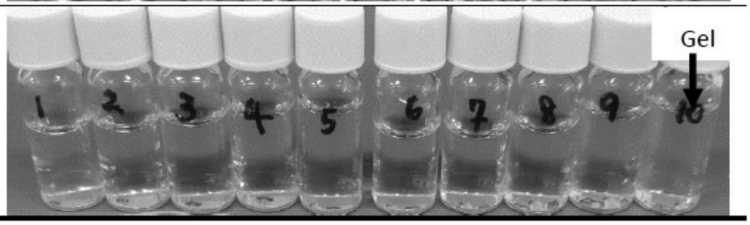
Group 1	Appearance
+ 90 mg/mL LA	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 3a

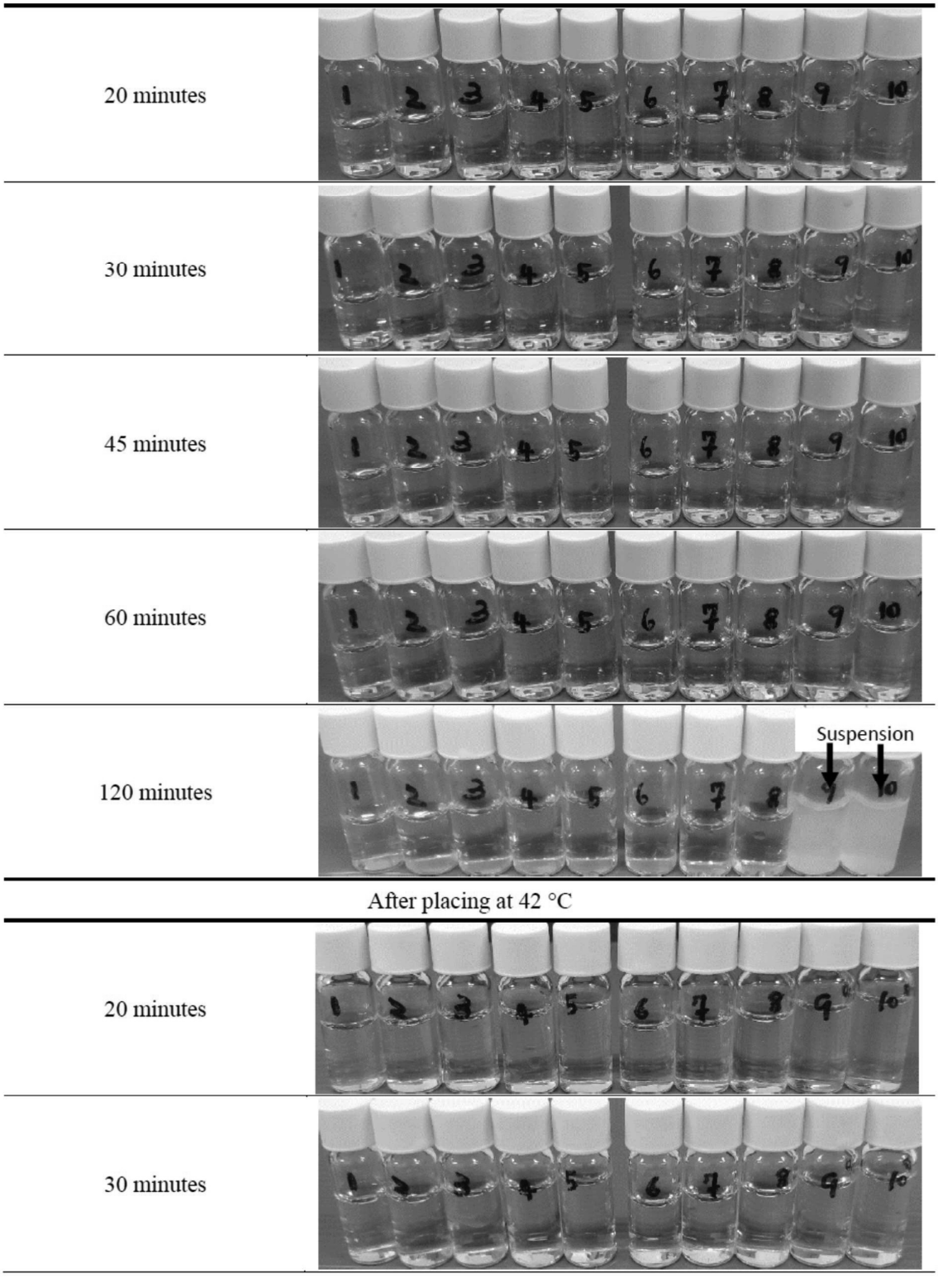


Figure 3a (continued)

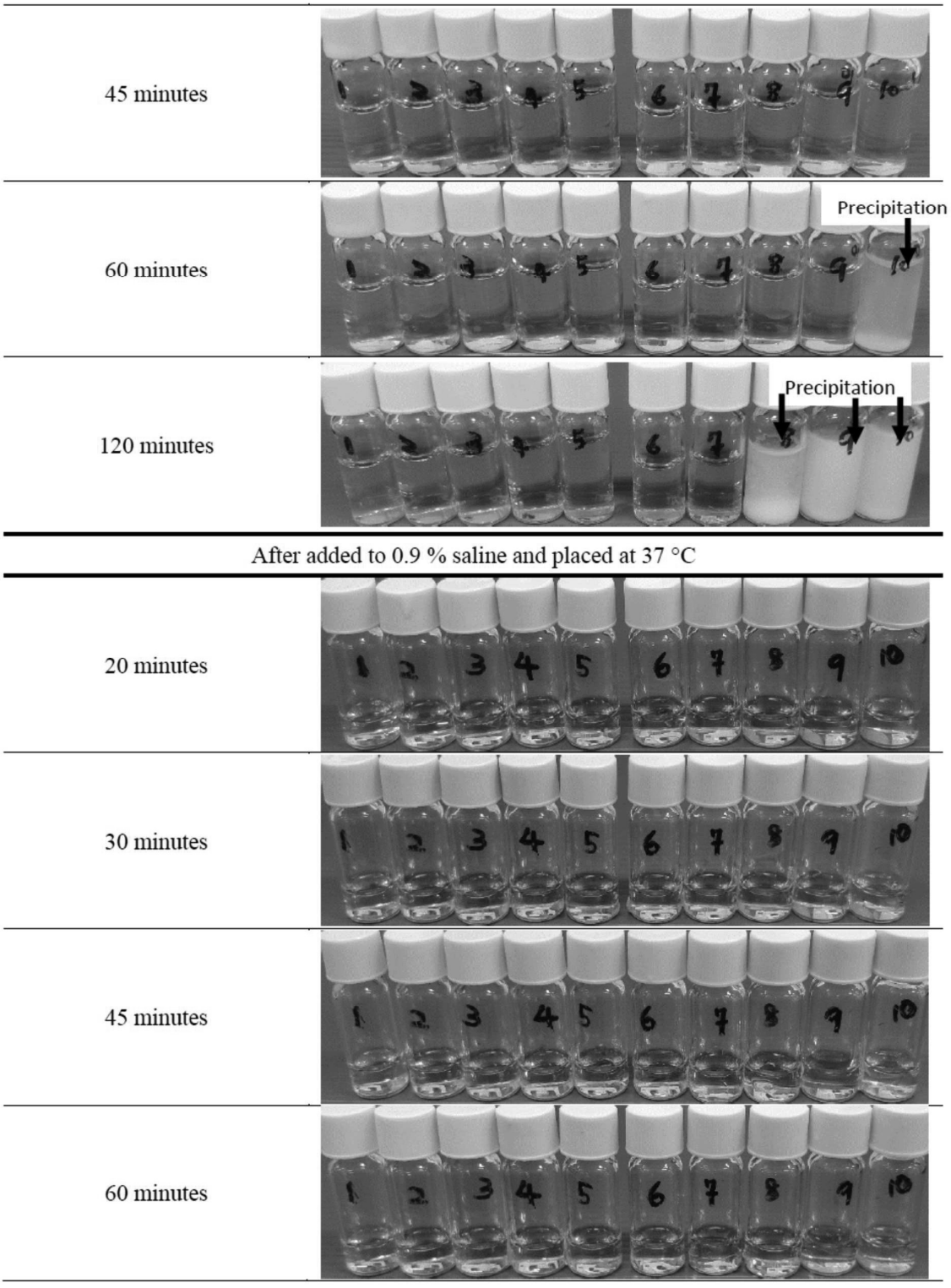


Figure 3a (continued)

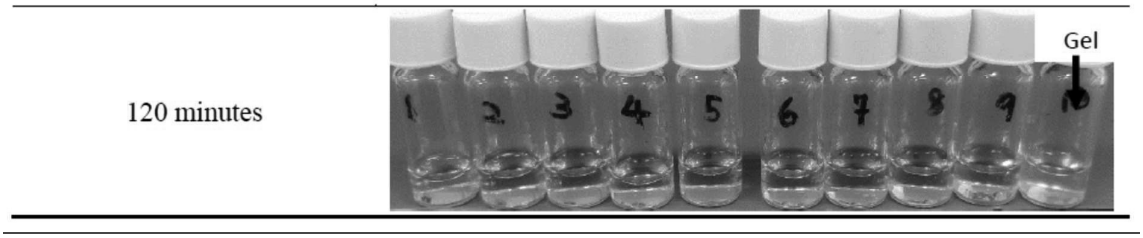


Figure 3a (continued)

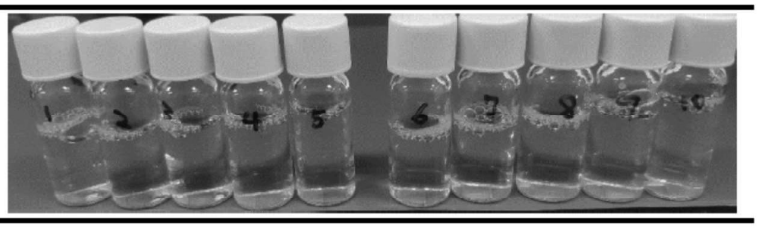
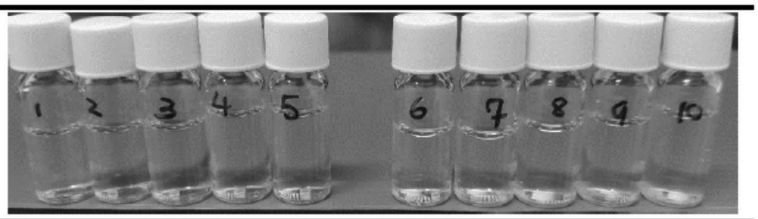
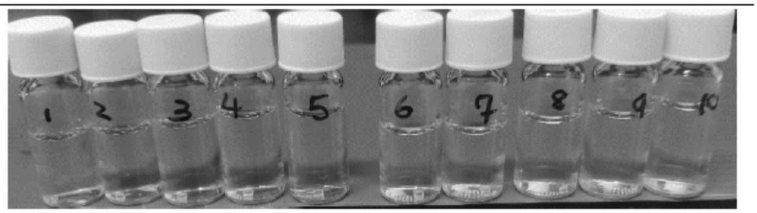
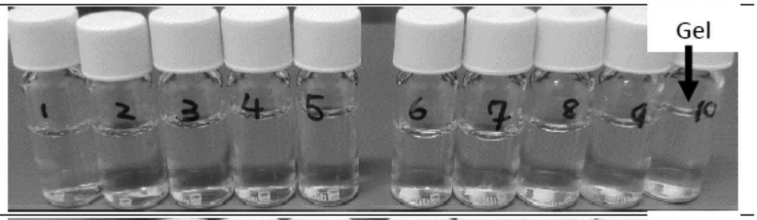
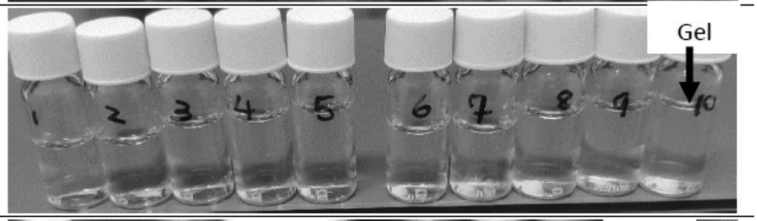
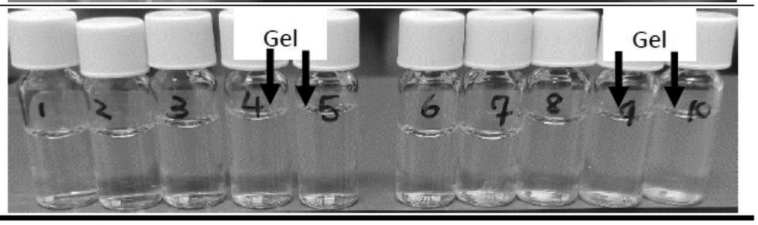
Group 2	Appearance
+ 180 mg/mL LA	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 3b

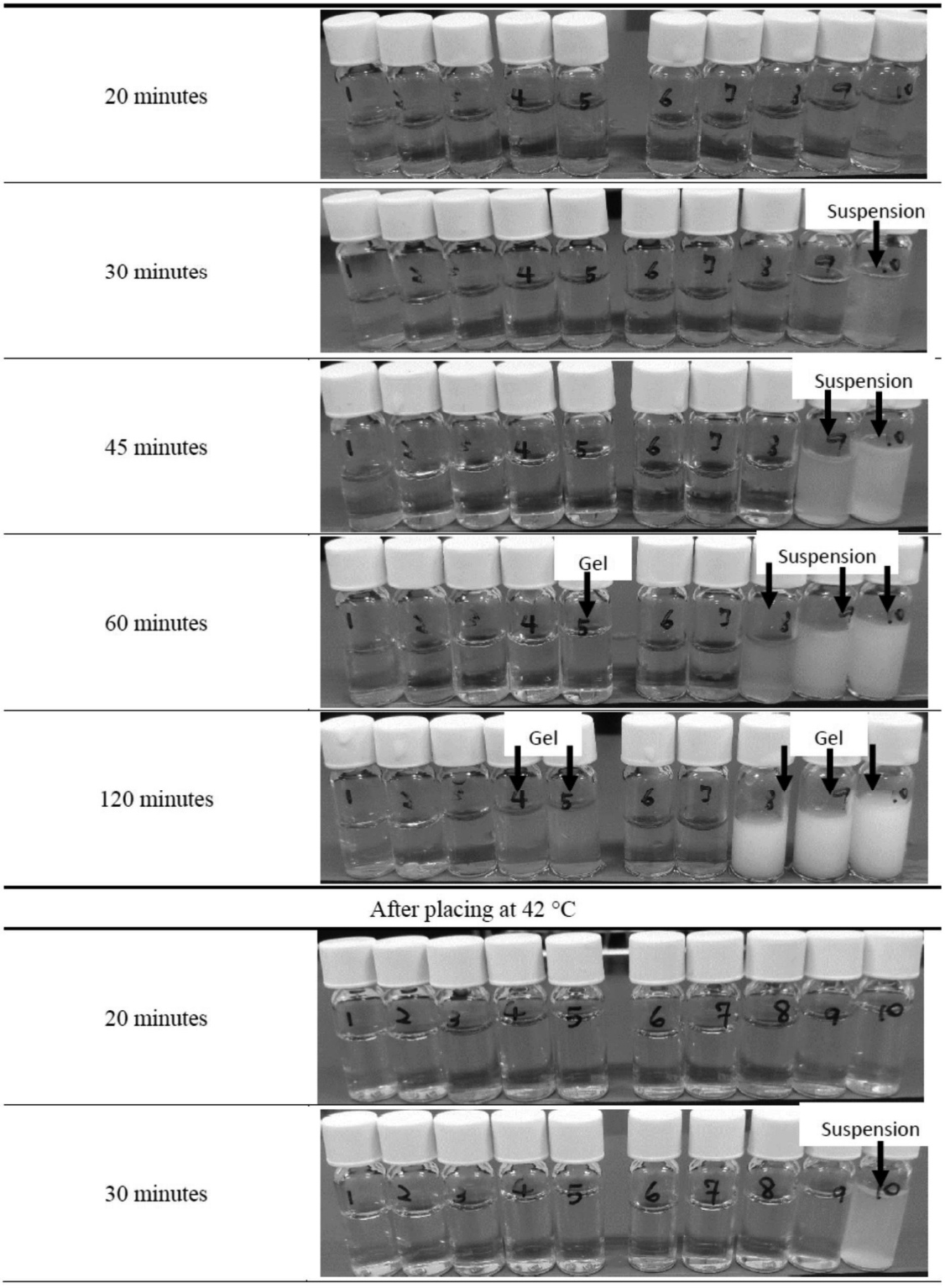


Figure 3b (continued)

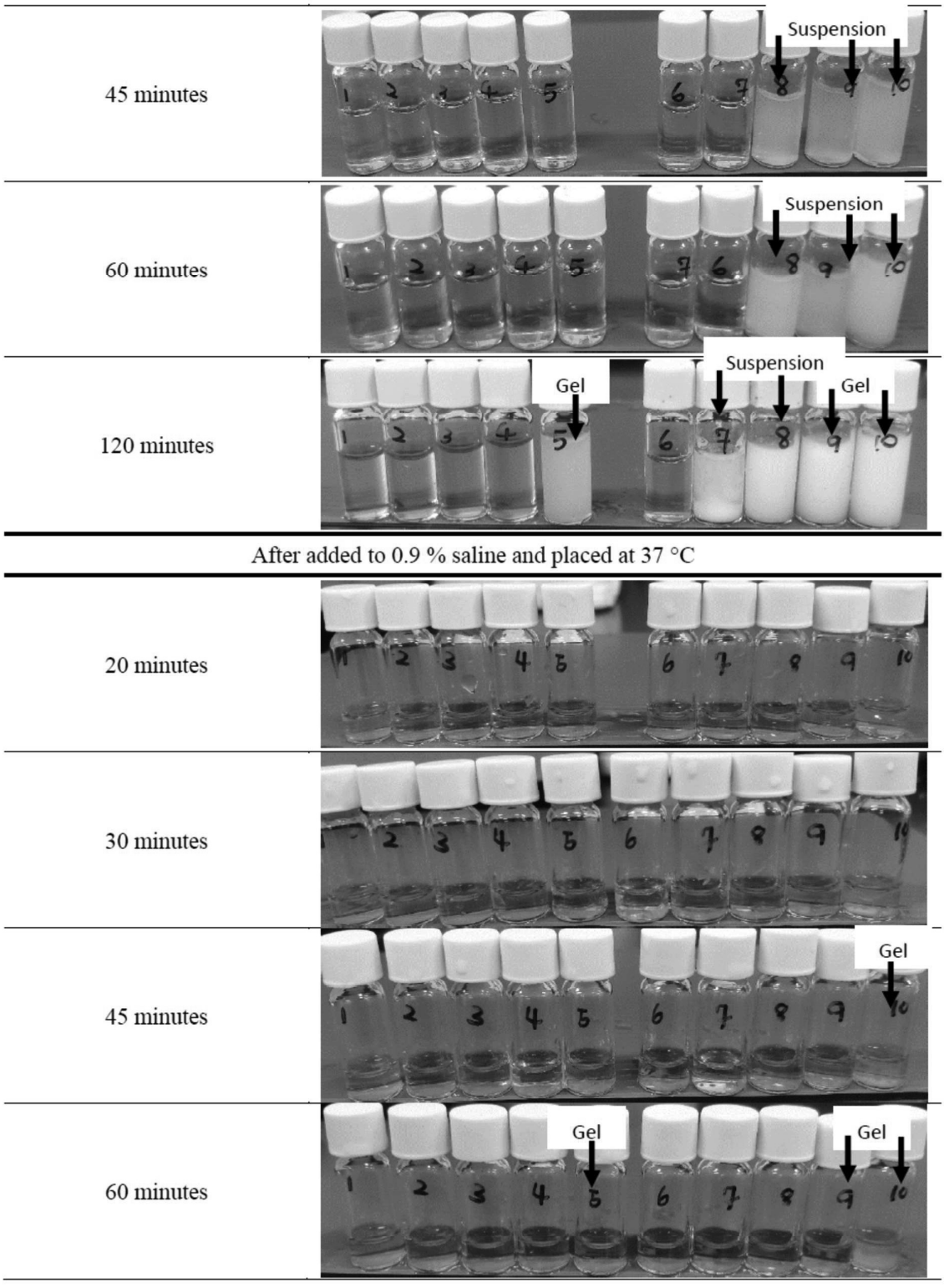


Figure 3b (continued)

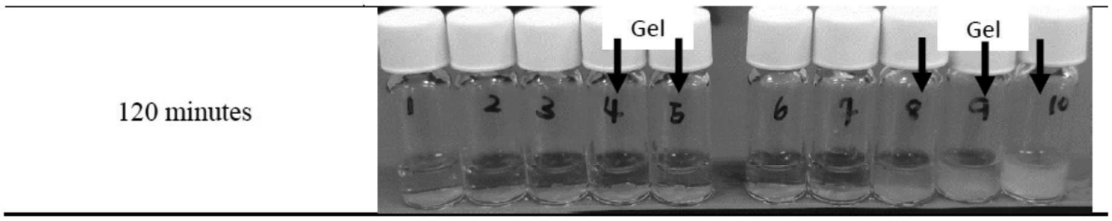


Figure 3b (continued)

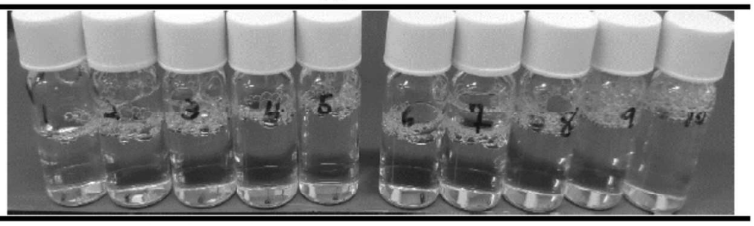
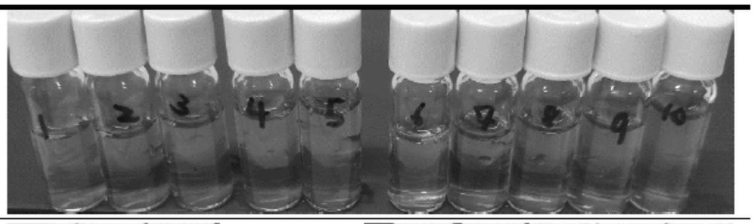
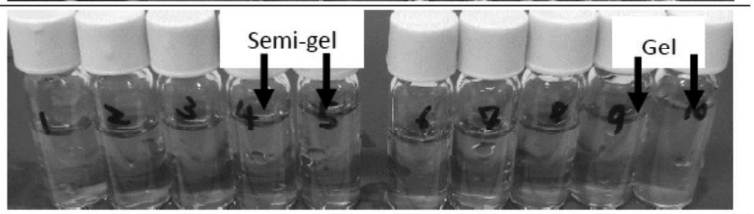
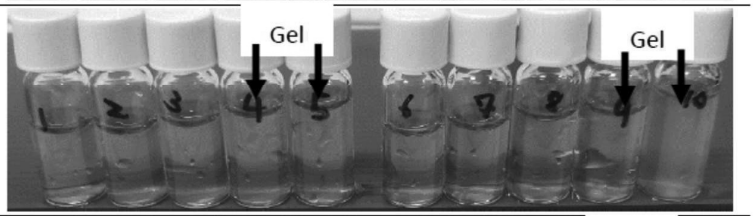
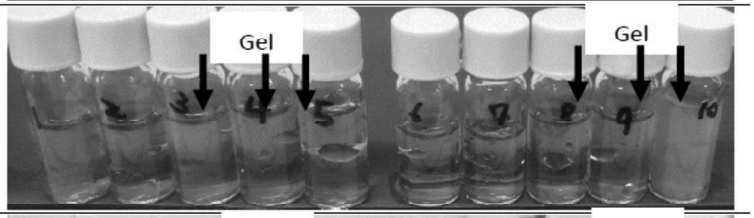
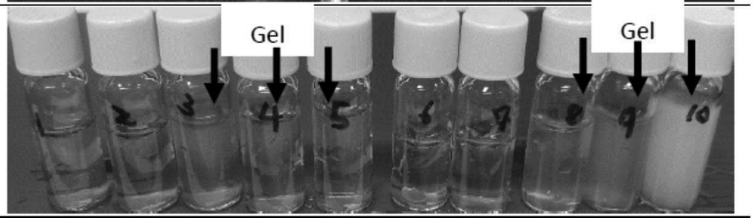
Group 3	Appearance
+ 360 mg/mL LA	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 3c

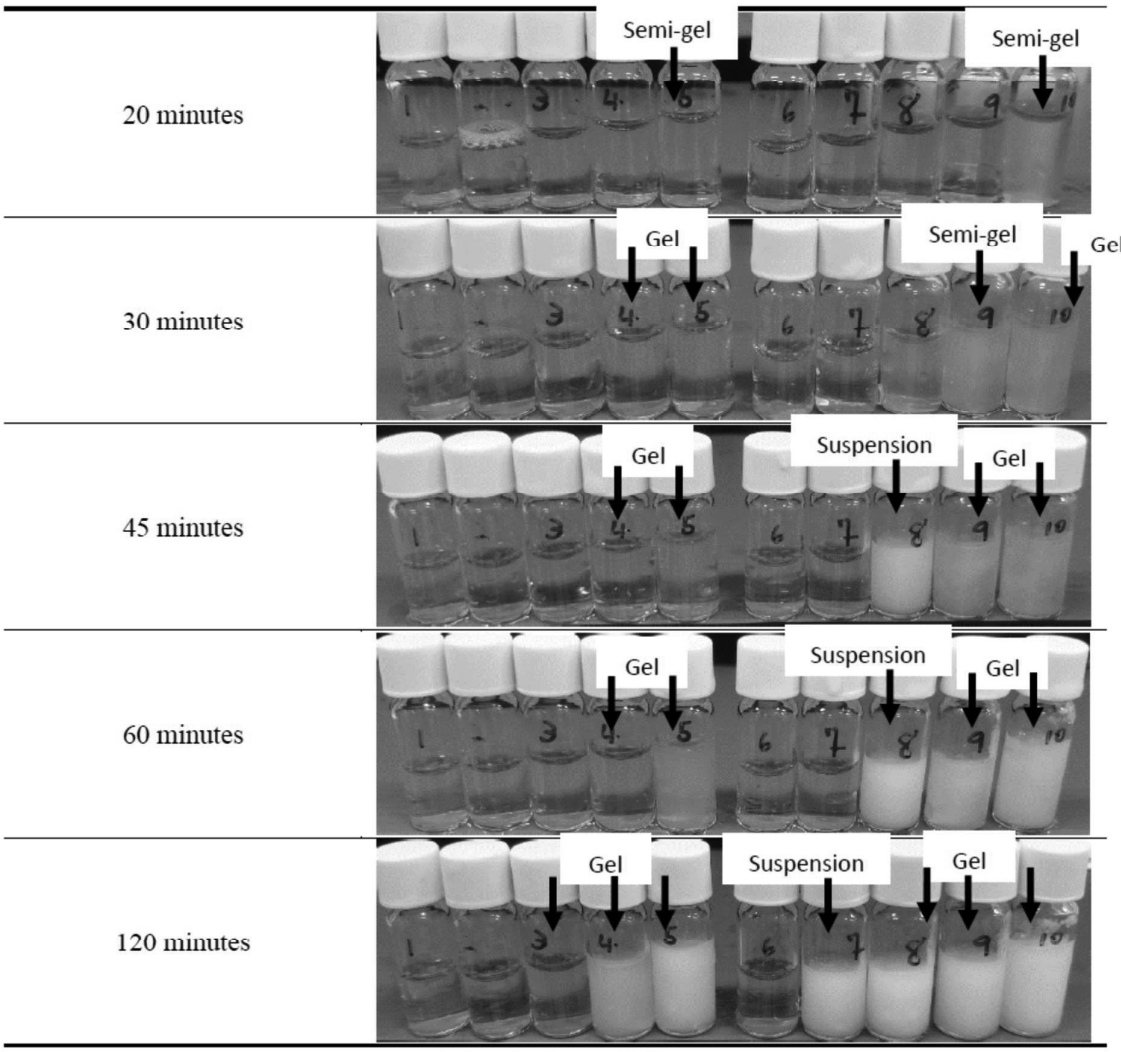


Figure 3c (continued)

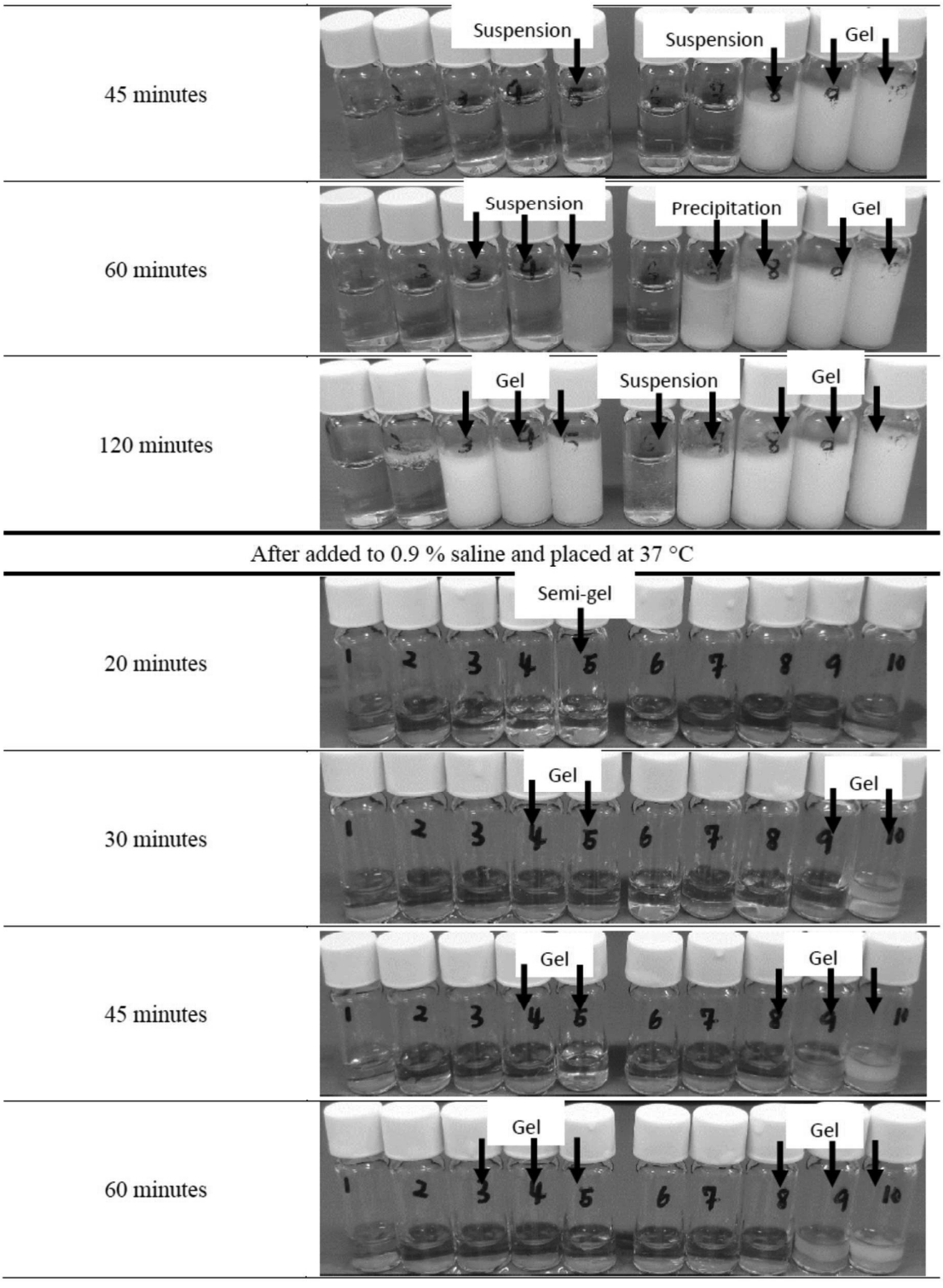


Figure 3c (continued)

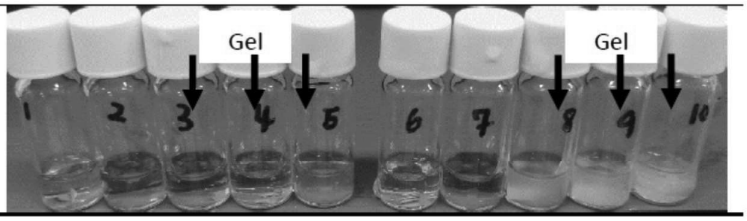
120 minutes	

Figure 3c (continued)

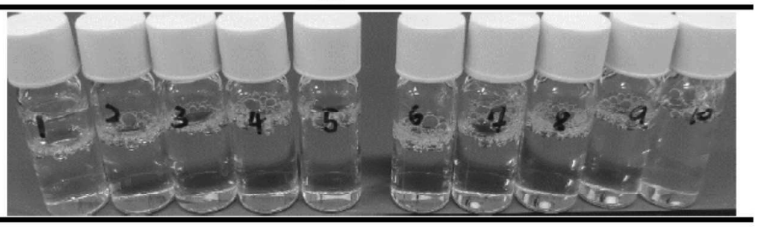
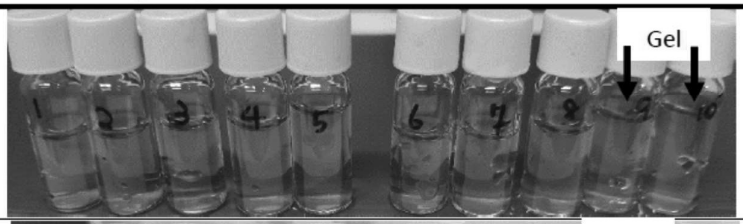
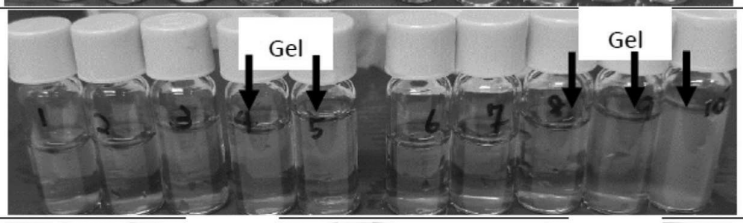
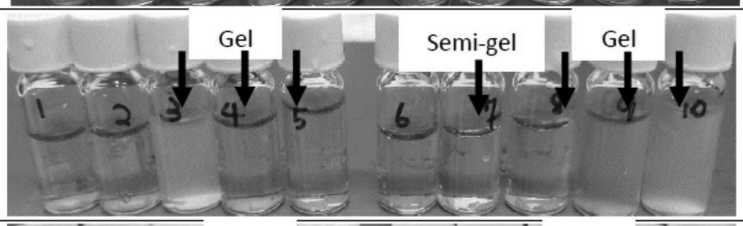
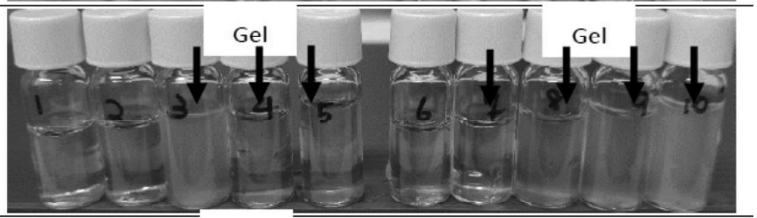
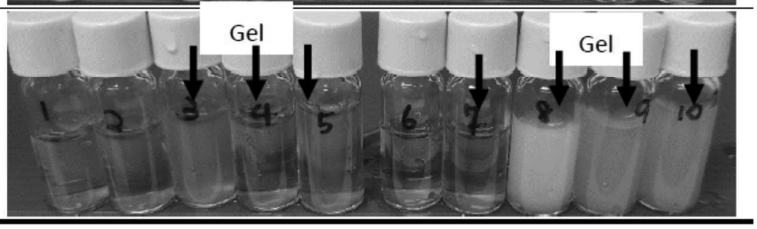
Group 4	Appearance
+ 450 mg/mL LA	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 3d

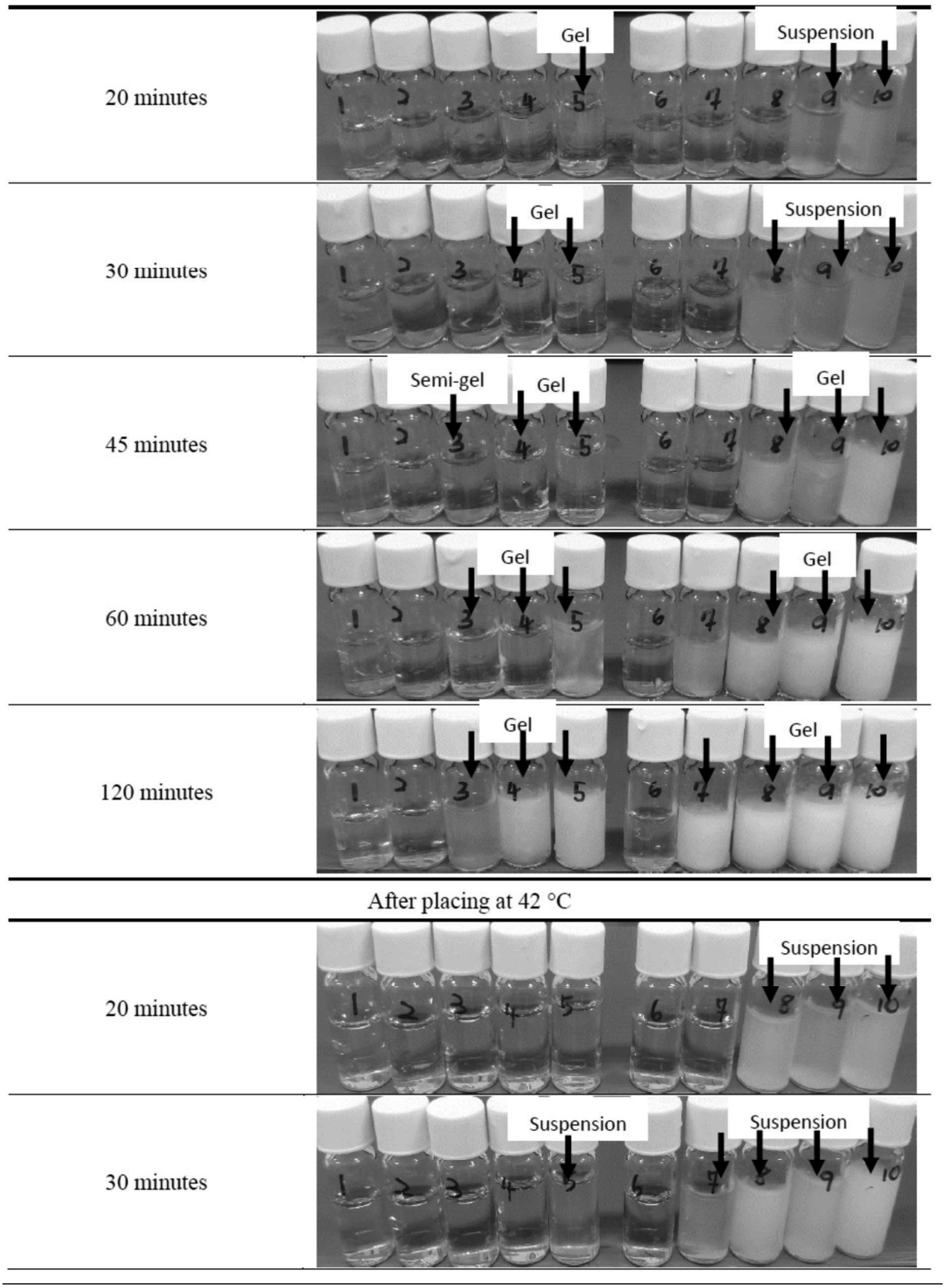


Figure 3d (continued)

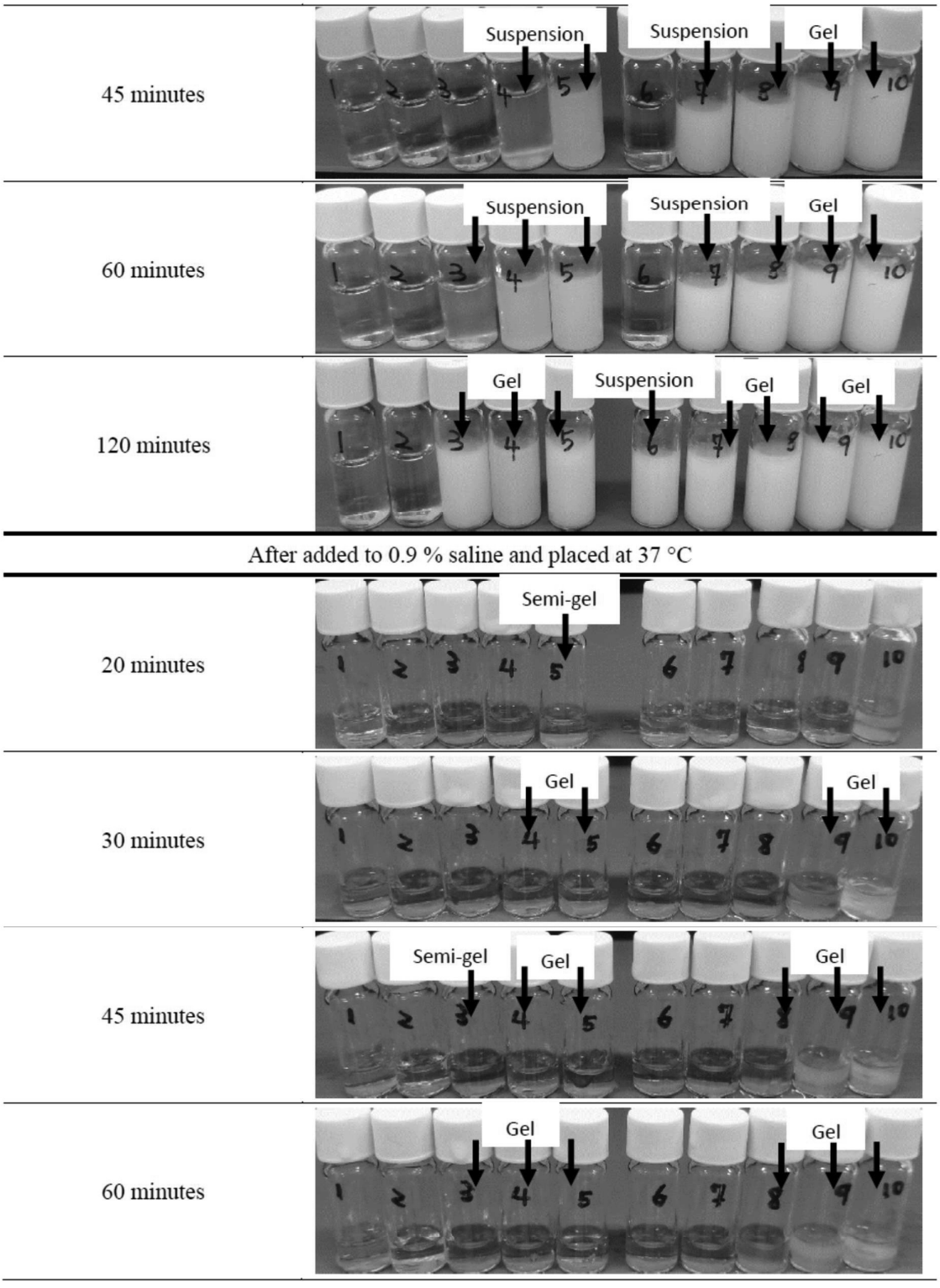


Figure 3d (continued)

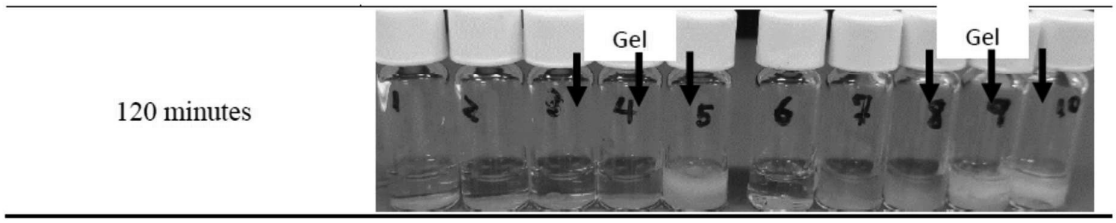


Figure 3d (continued)

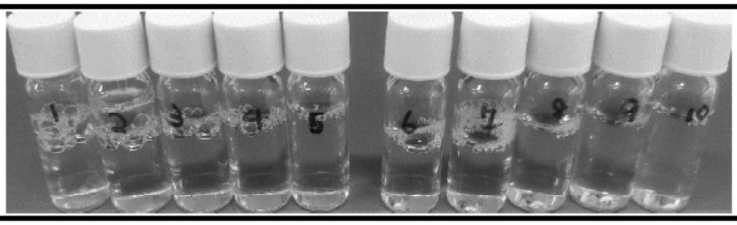
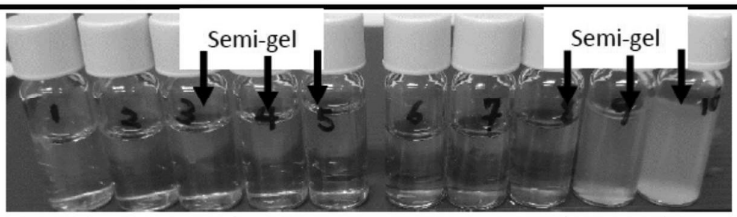
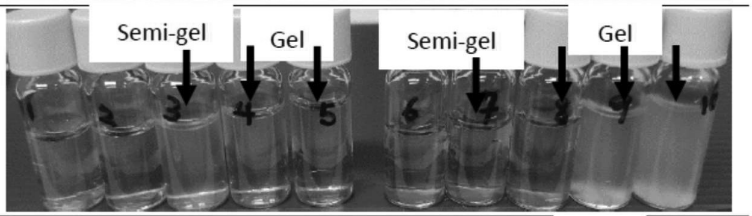
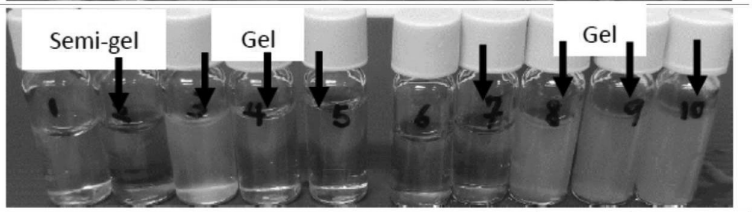
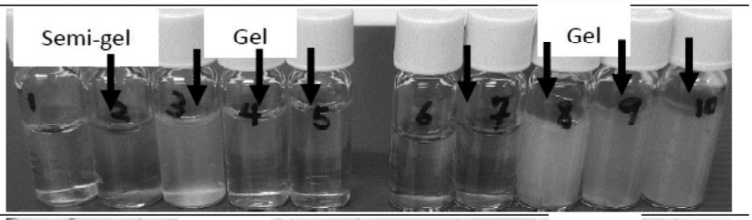
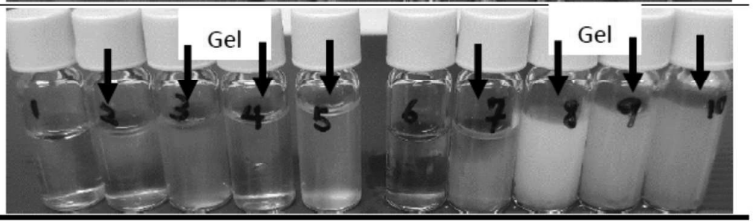
Group 5	Appearance
+ 600 mg/mL LA	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 3e

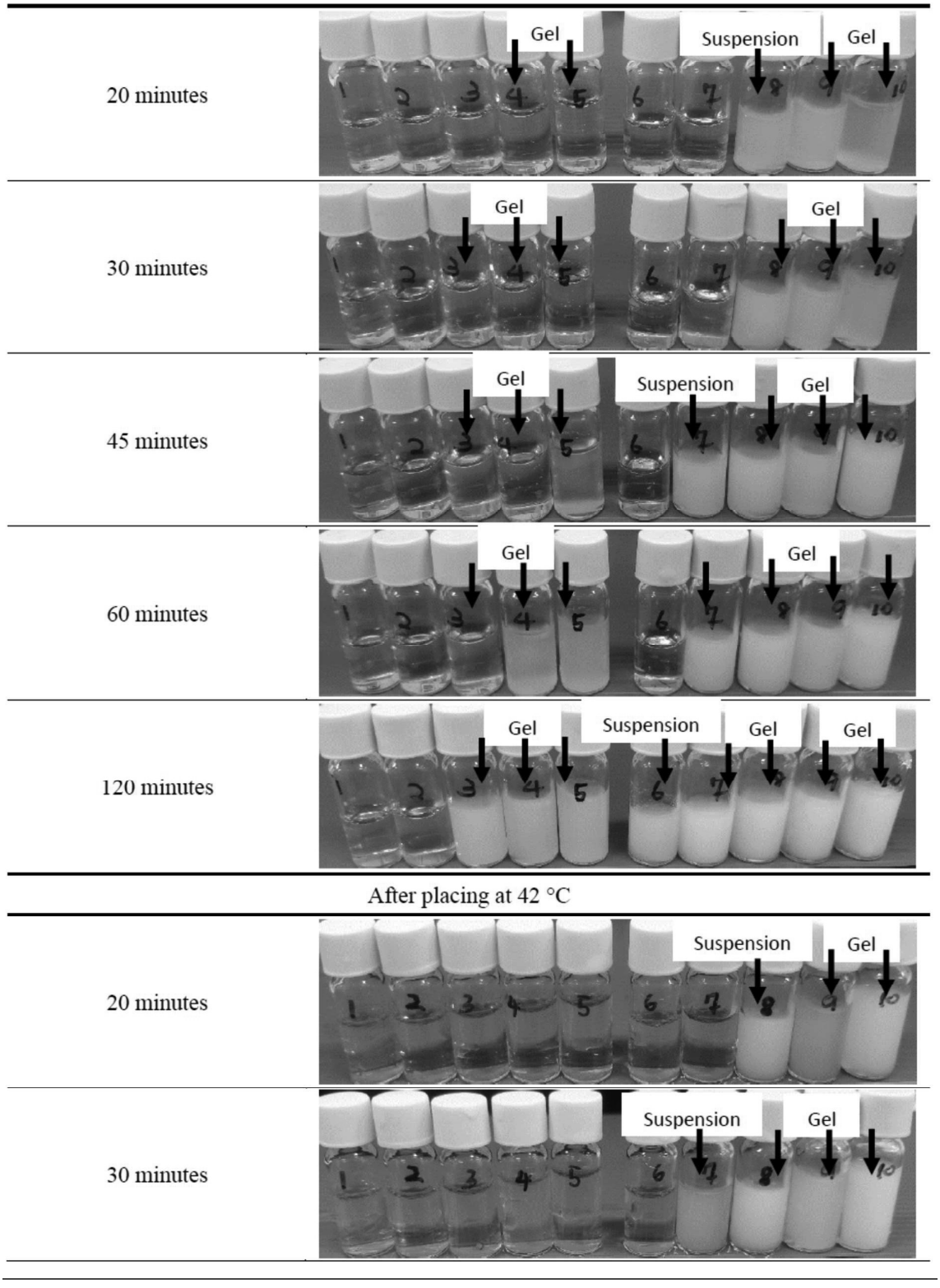


Figure 3e (continued)

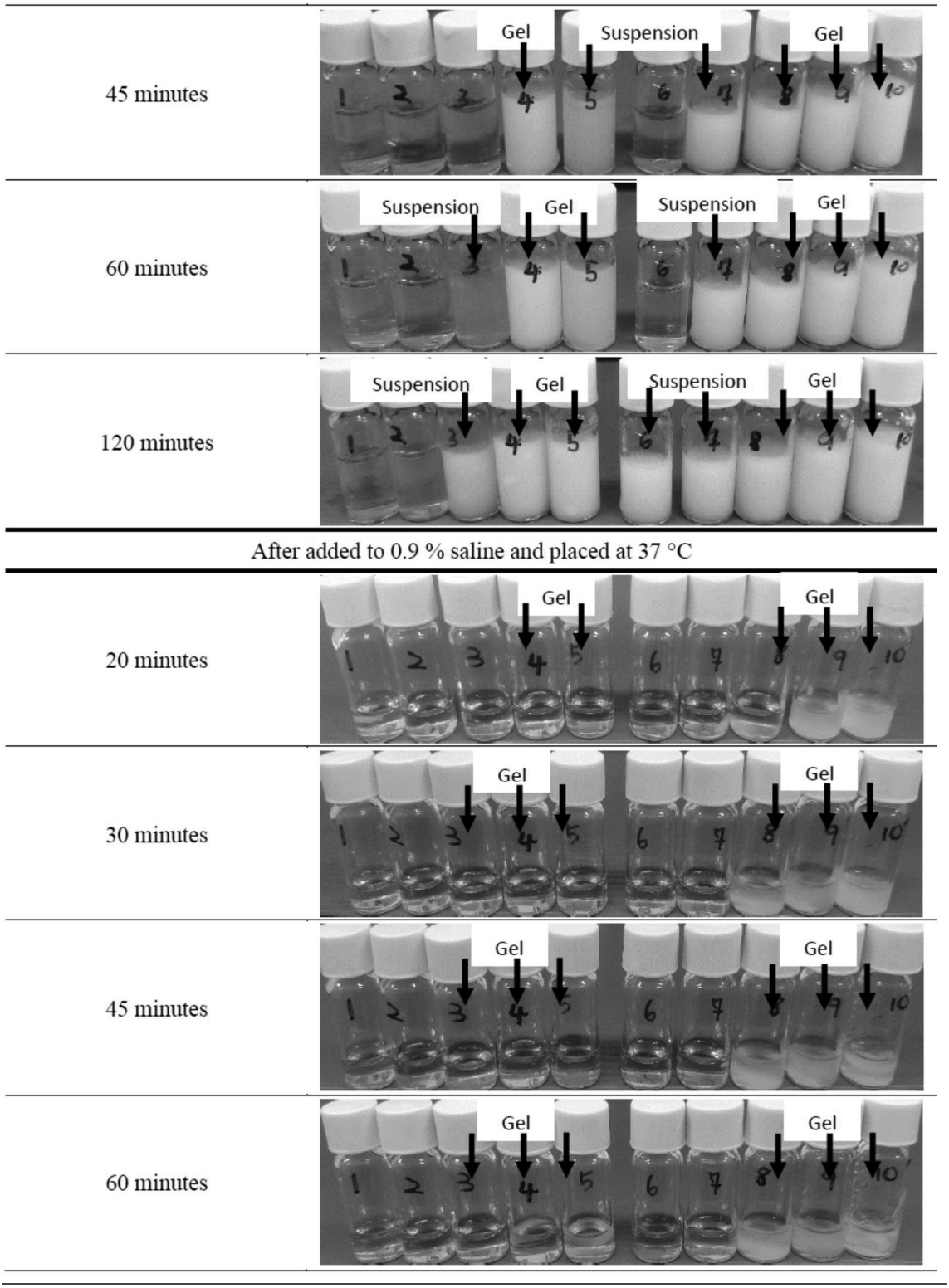


Figure 3e (continued)

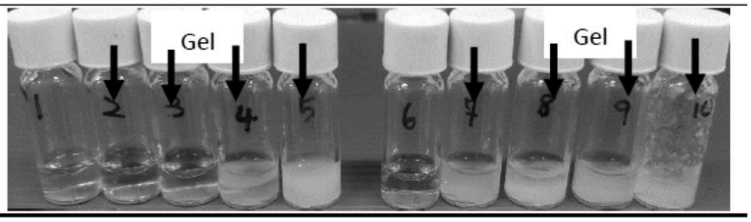
120 minutes	

Figure 3e (continued)

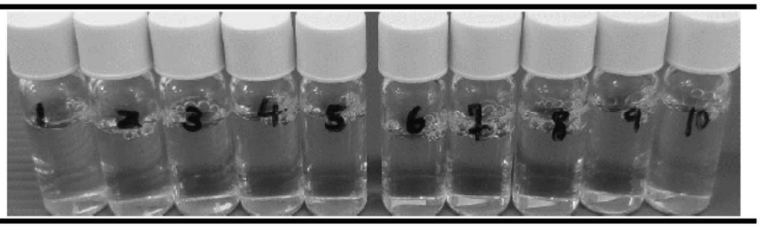
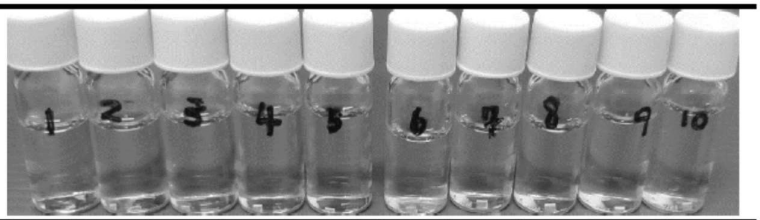
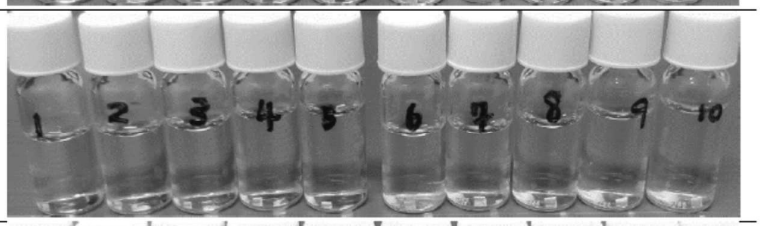
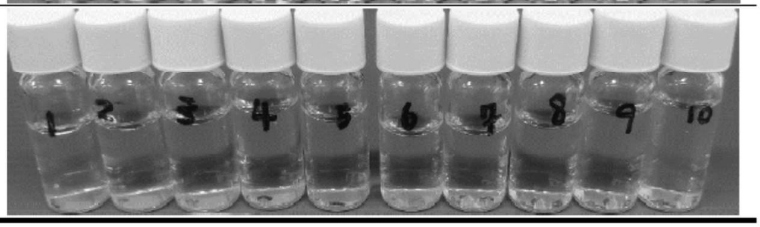
Group 1	Appearance
+ 90 mg/mL LA/lidocaine HCl	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 4a

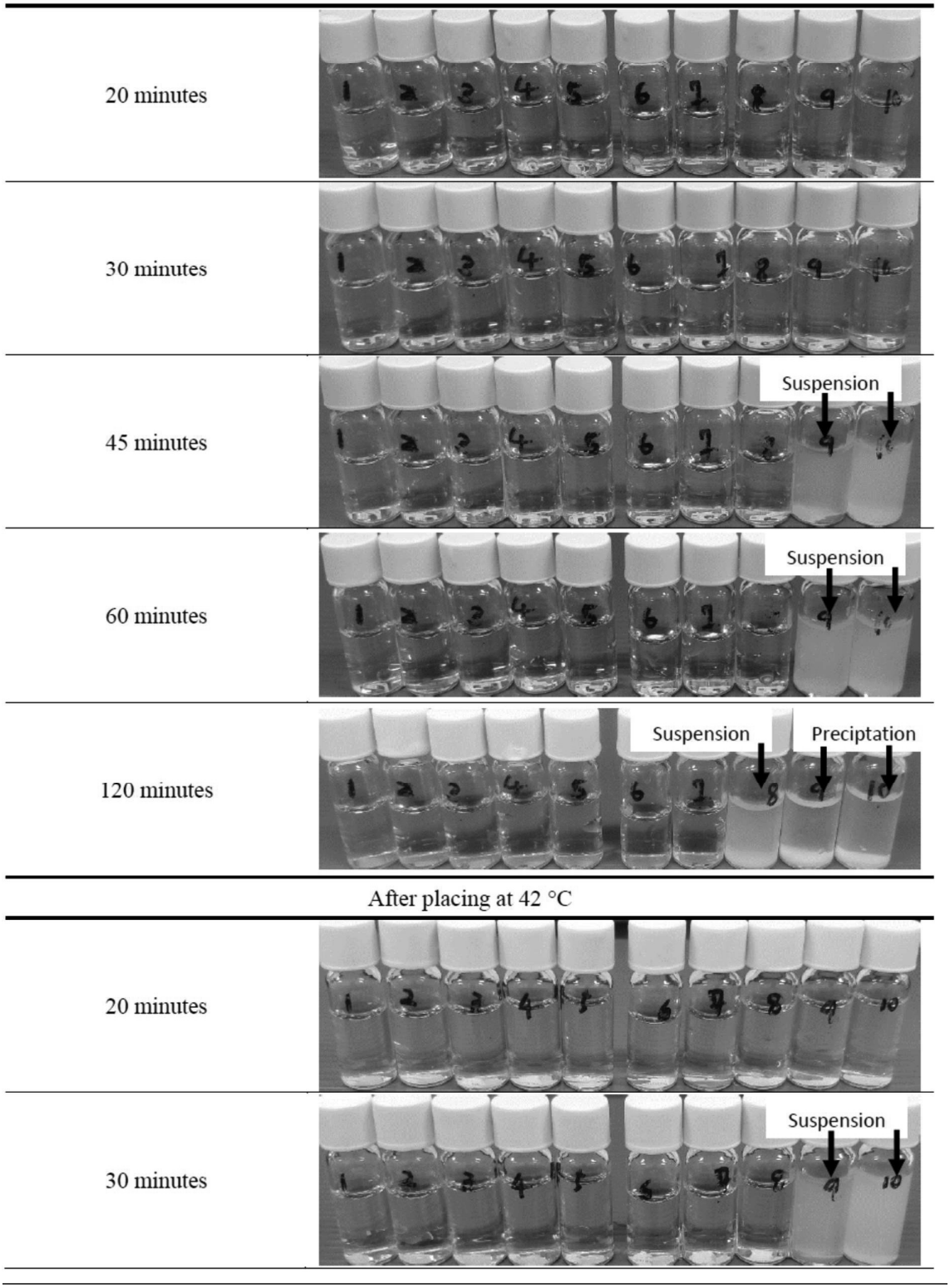


Figure 4a (continued)

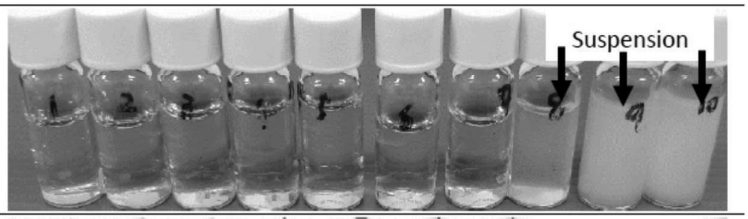
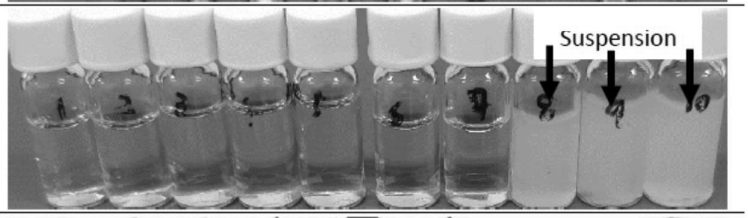
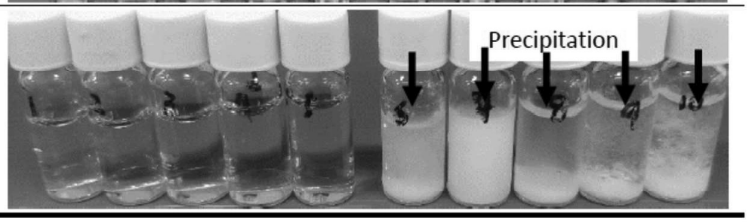
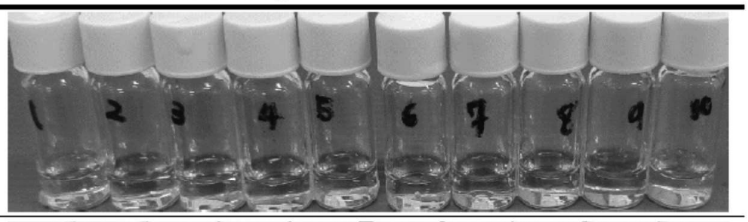
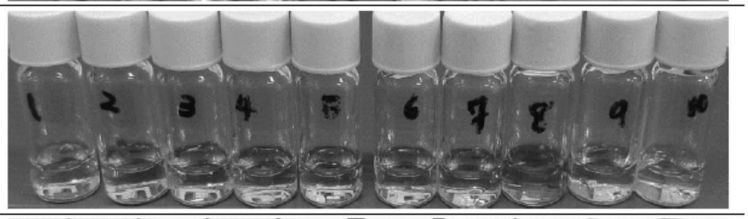
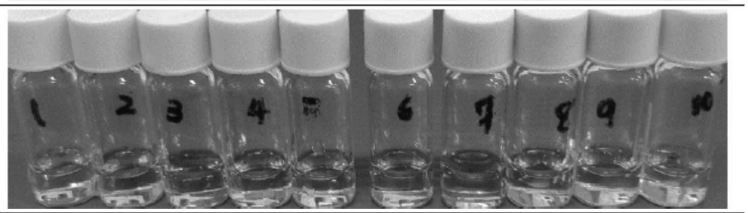
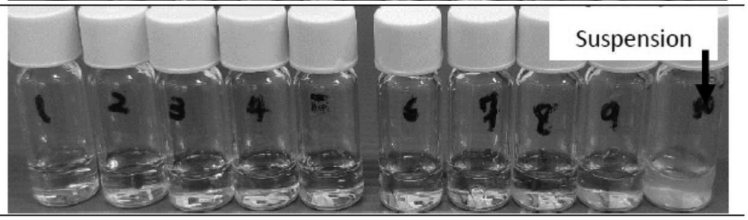
45 minutes	
60 minutes	
120 minutes	
After added to 0.9% saline and placed at 37 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	

Figure 4a (continued)

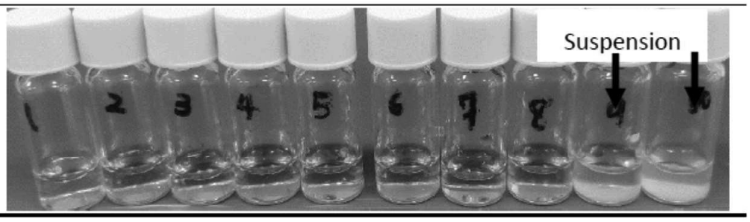
120 minutes	

Figure 4a (continued)

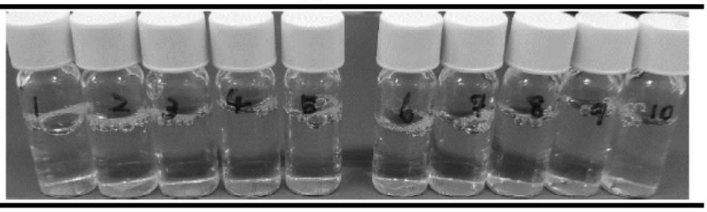
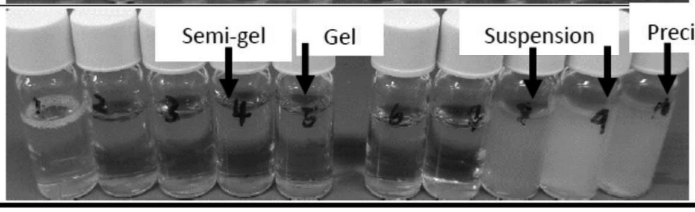
Group 2	Appearance
+ 180 mg/mL LA/lidocaine HCl	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 4b

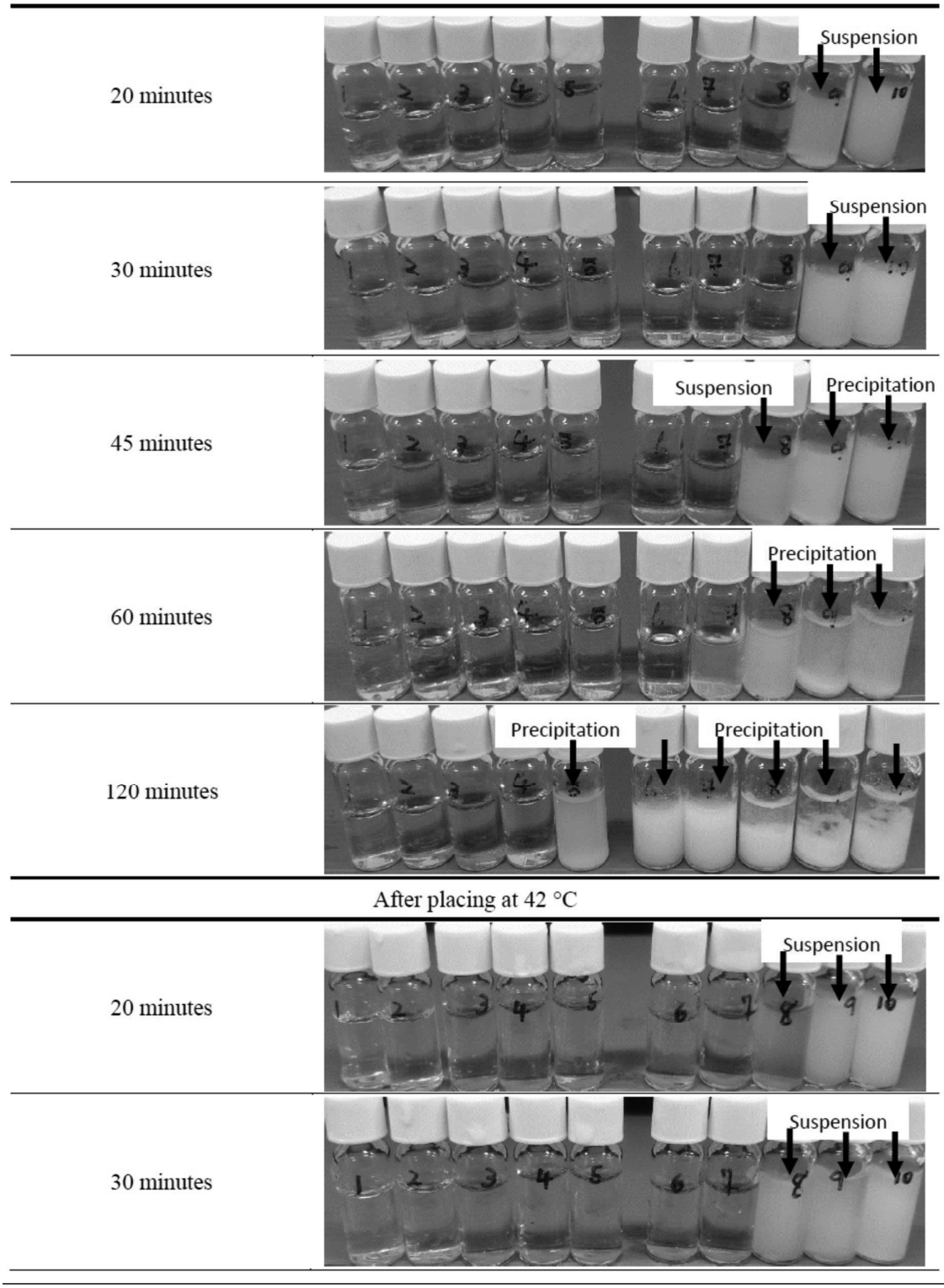


Figure 4b (continued)

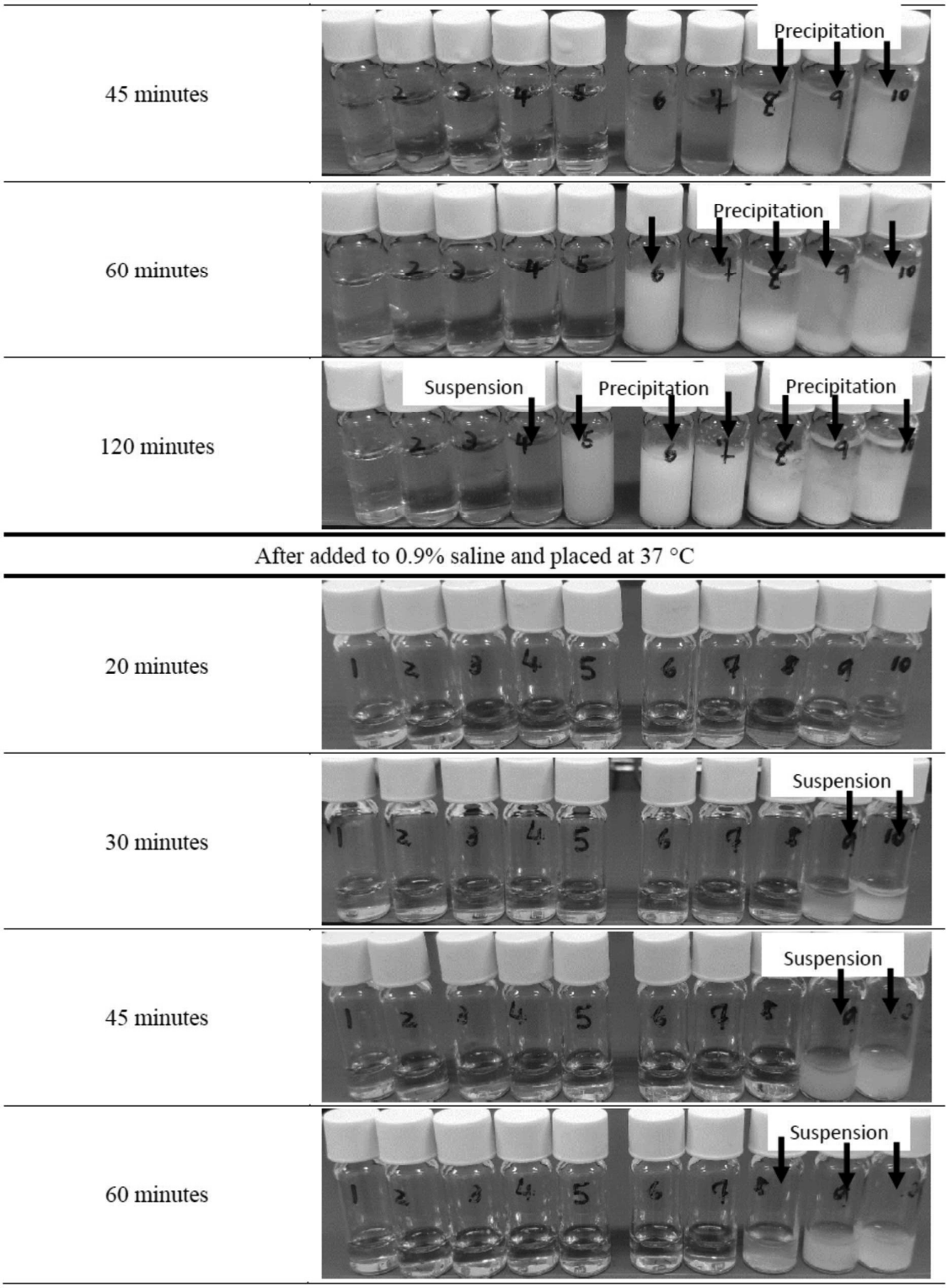


Figure 4b (continued)

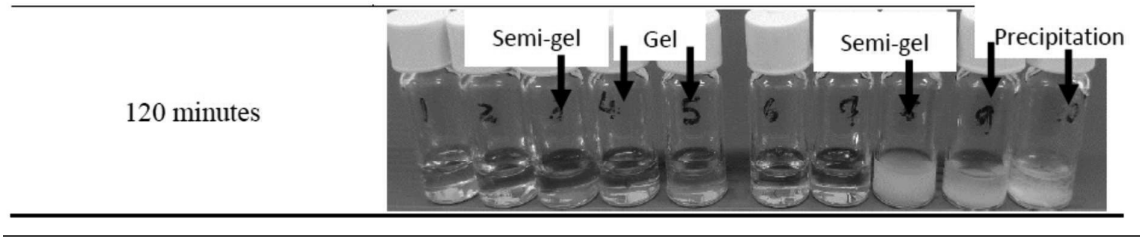


Figure 4b (continued)

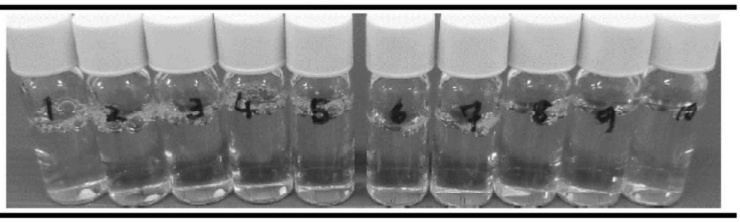
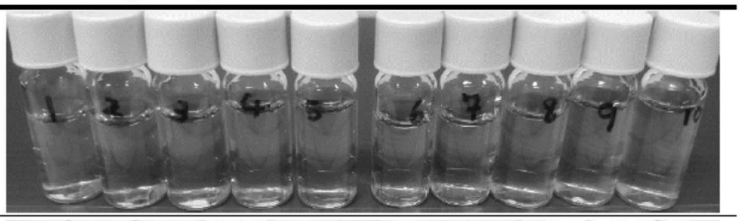
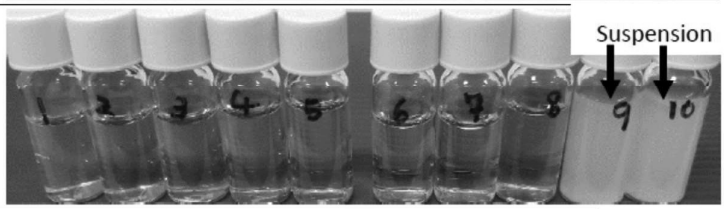
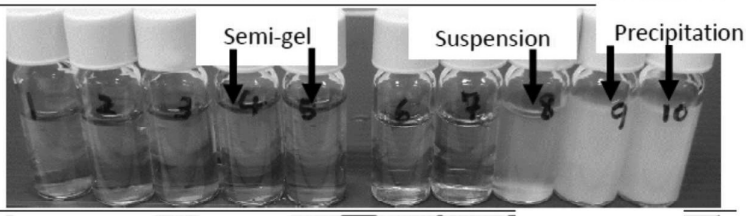
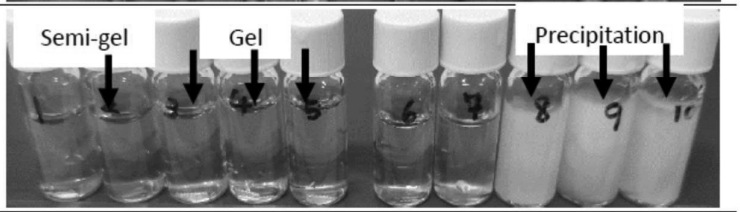
Group 3	Appearance
+ 300 mg/mL LA/lidocaine HCl	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 4c

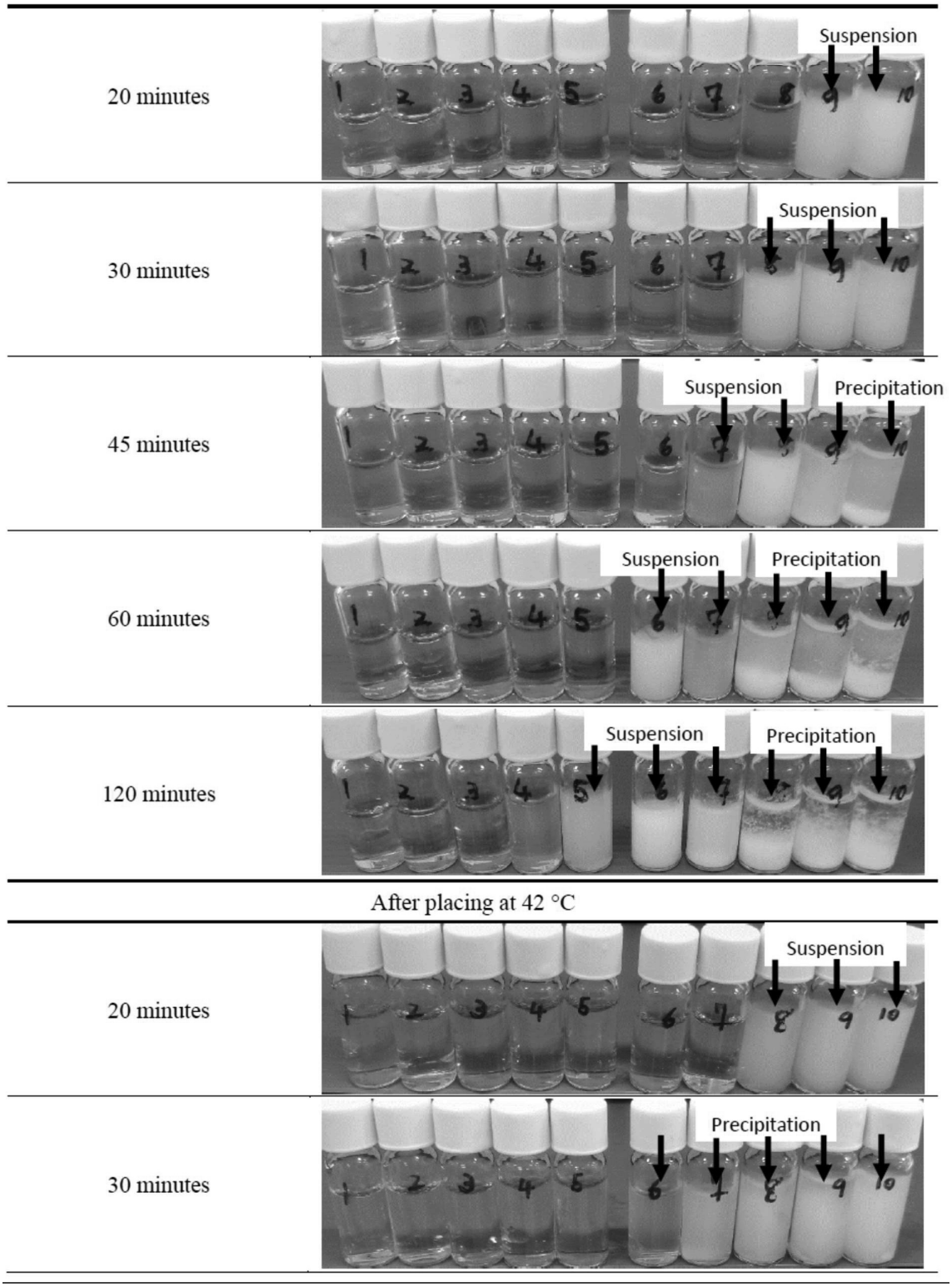
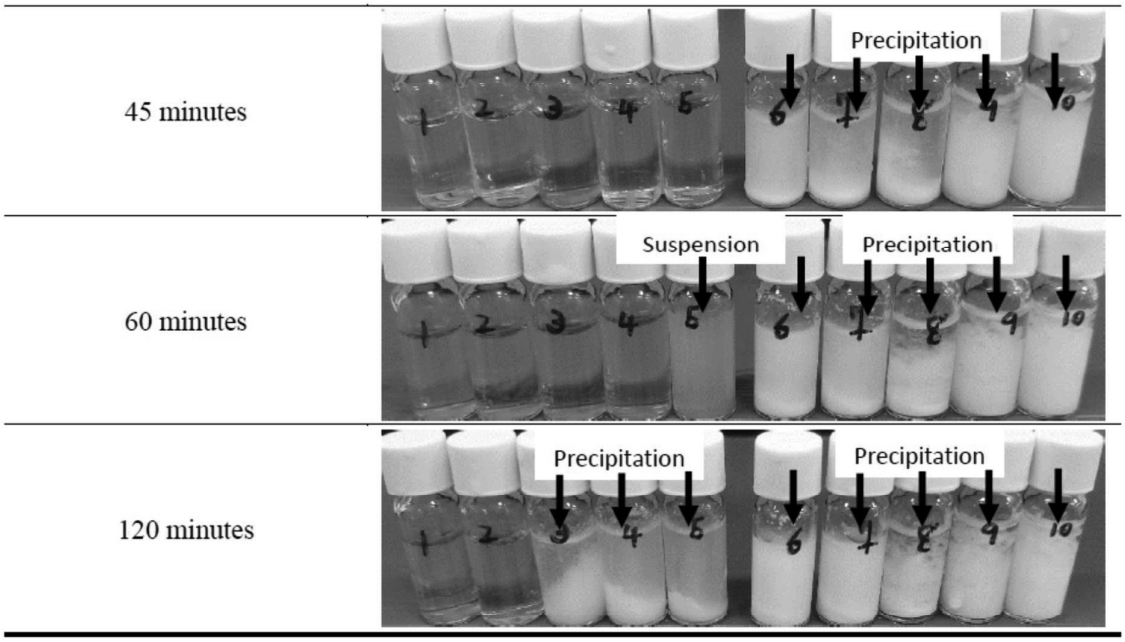


Figure 4c (continued)



After added to 0.9% saline and placed at 37 °C

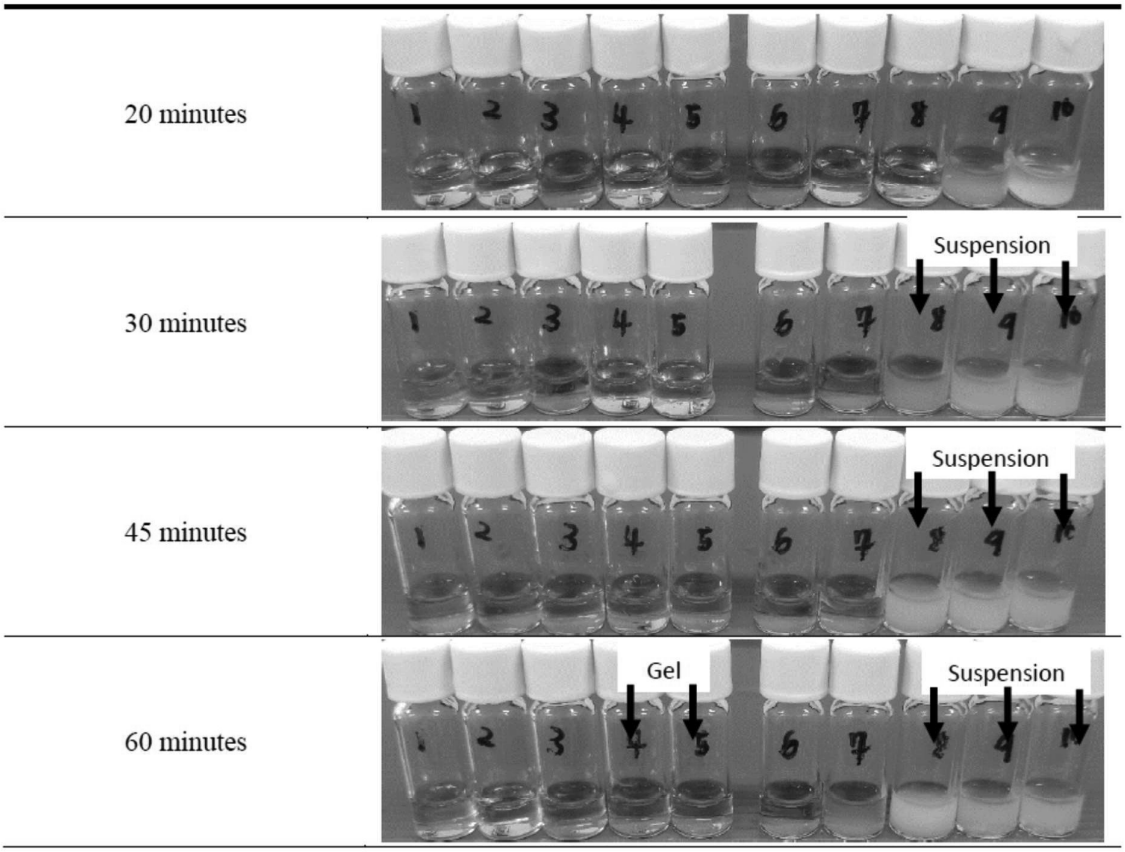


Figure 4c (continued)

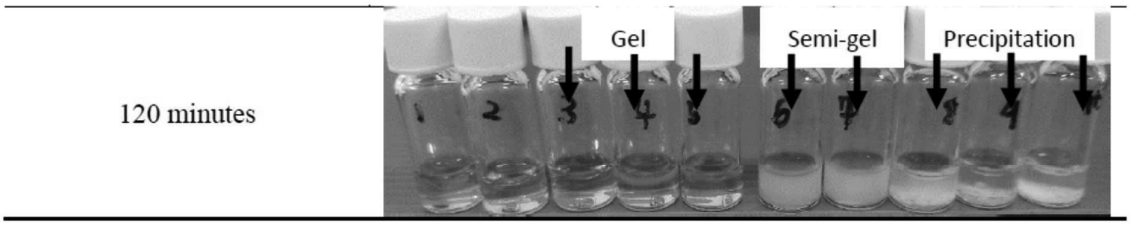


Figure 4c (continued)

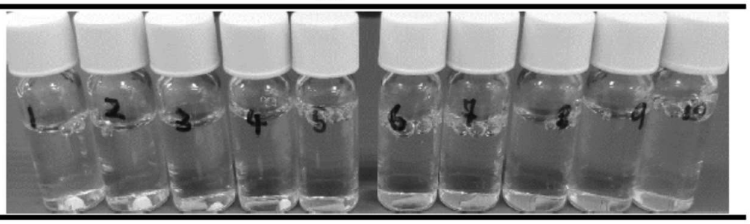
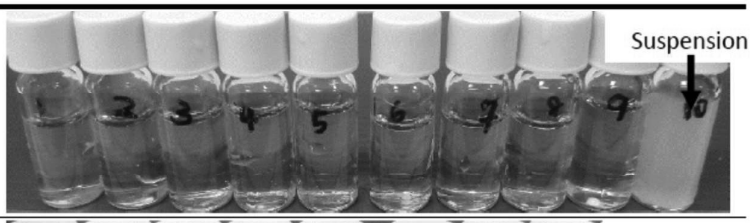
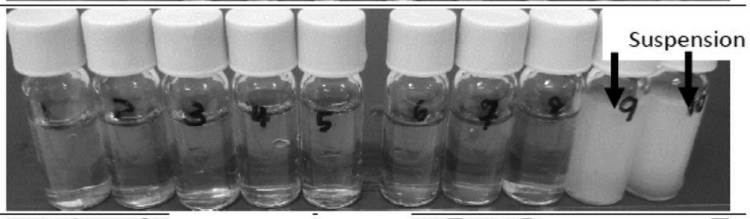
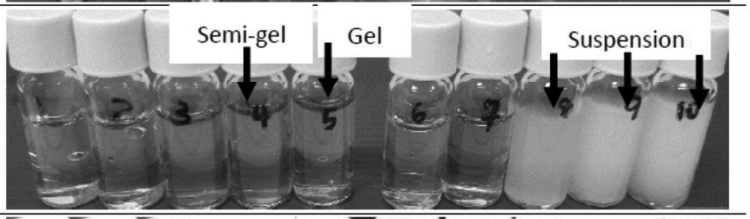
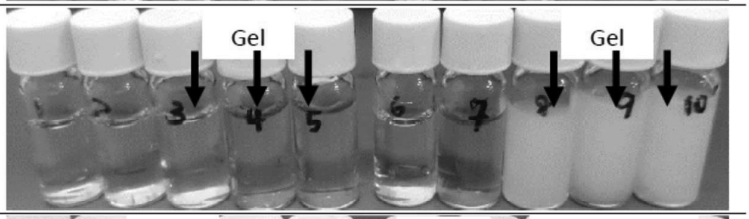
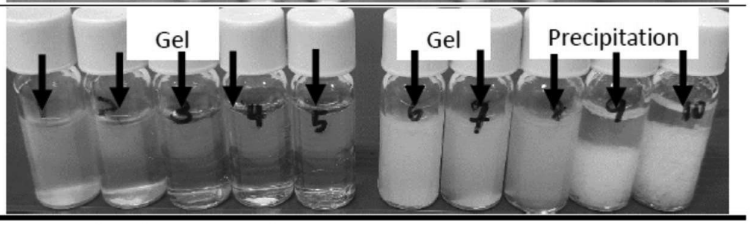
Group 4	Appearance
+ 450 mg/mL LA/lidocaine HCl	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 4d

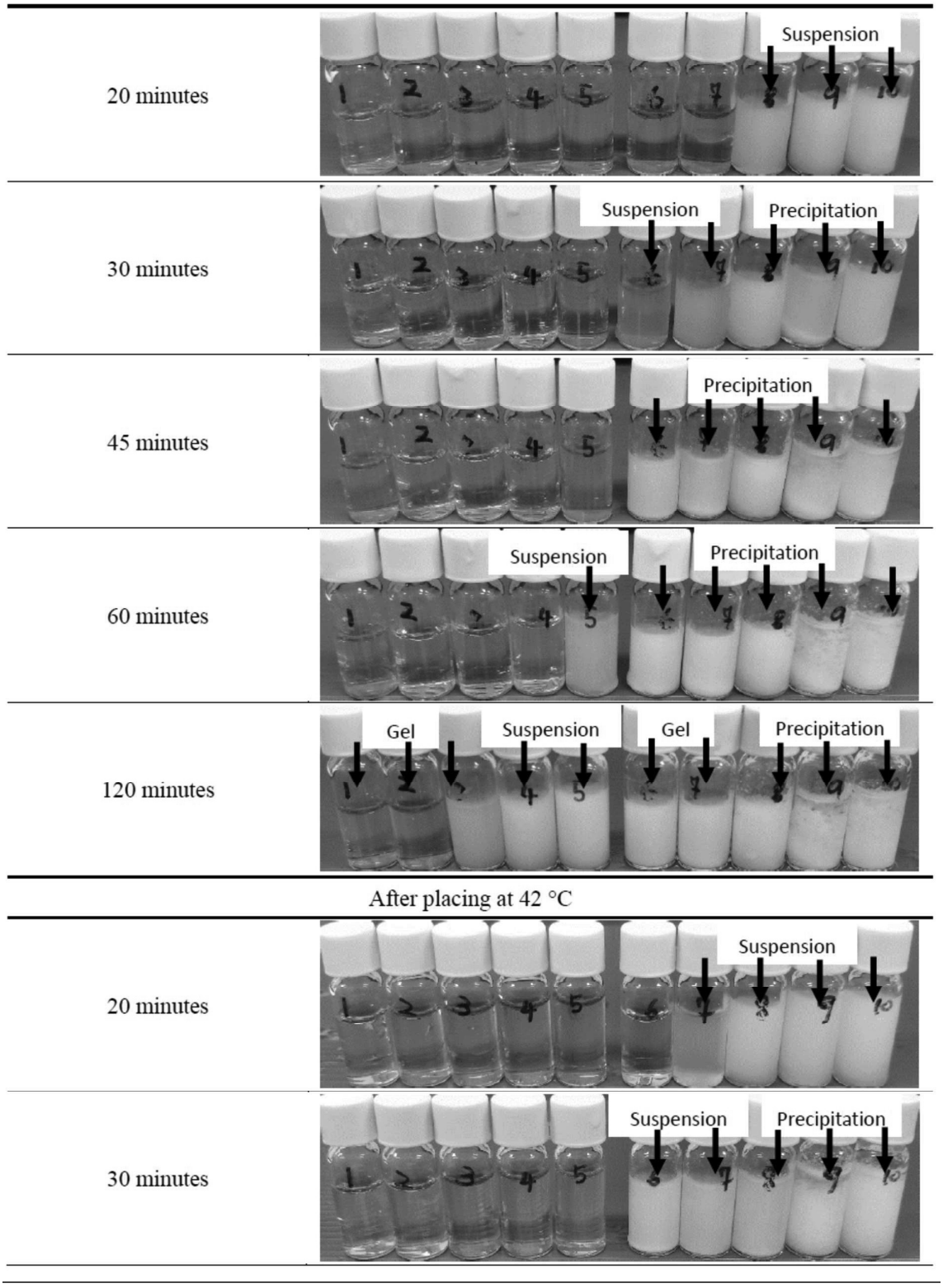


Figure 4d (continued)

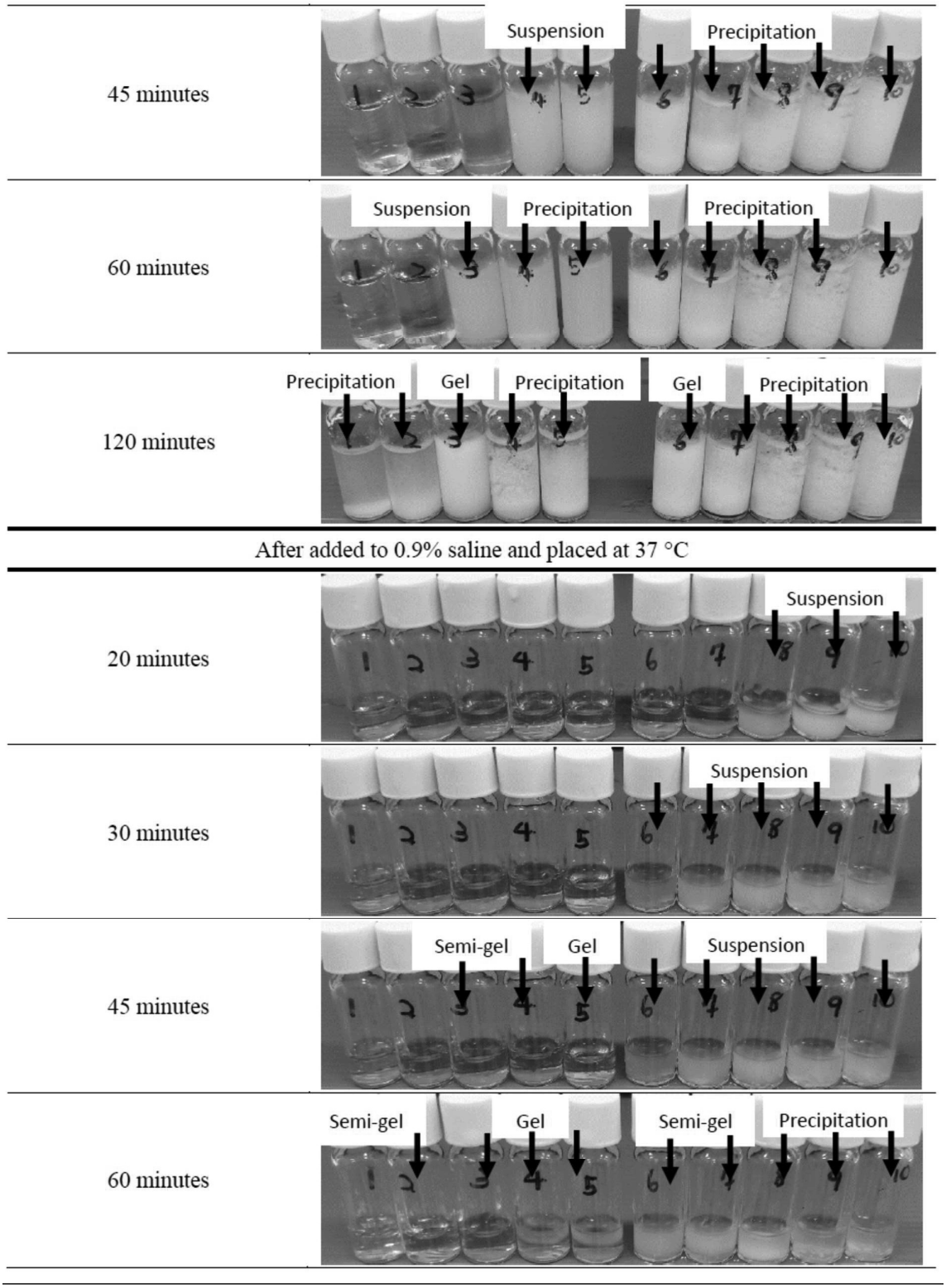


Figure 4d (continued)

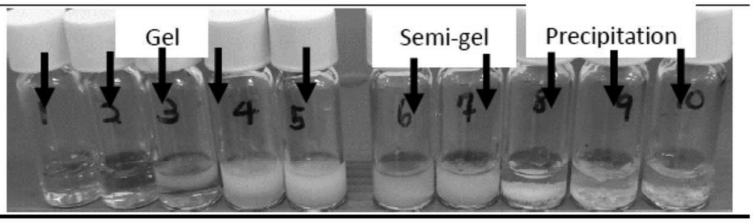
120 minutes	

Figure 4d (continued)

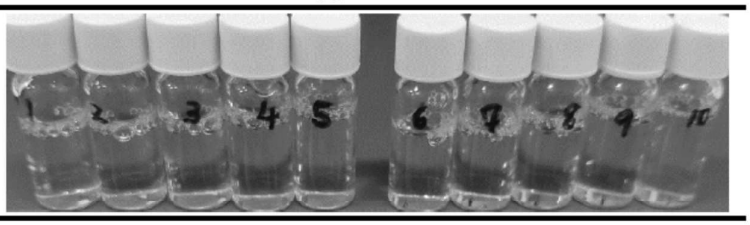
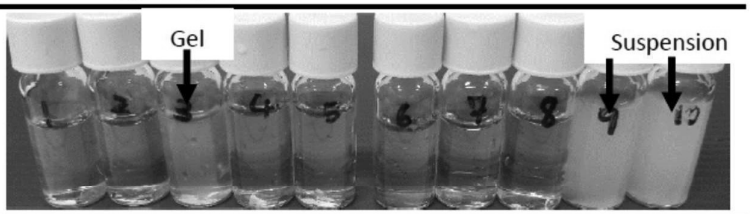
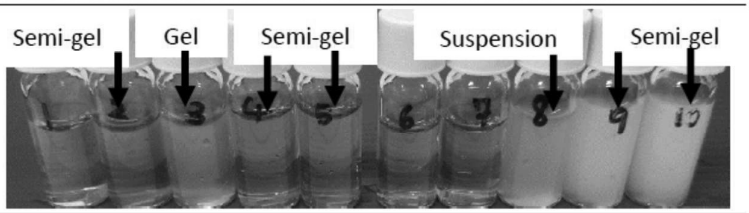
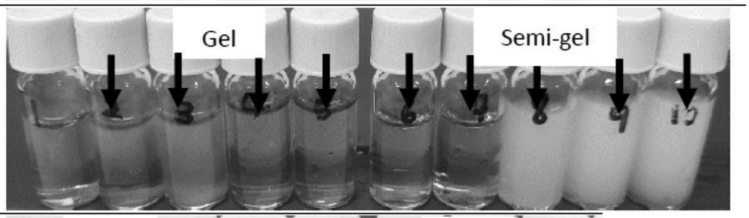
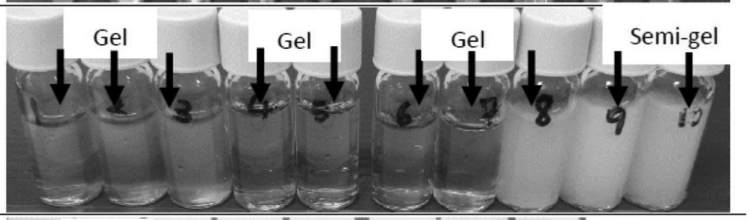
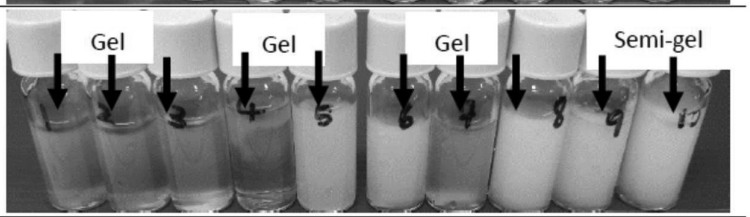
Group 5	Appearance
+ 600 mg/mL LA/lidocaine HCl	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 4e

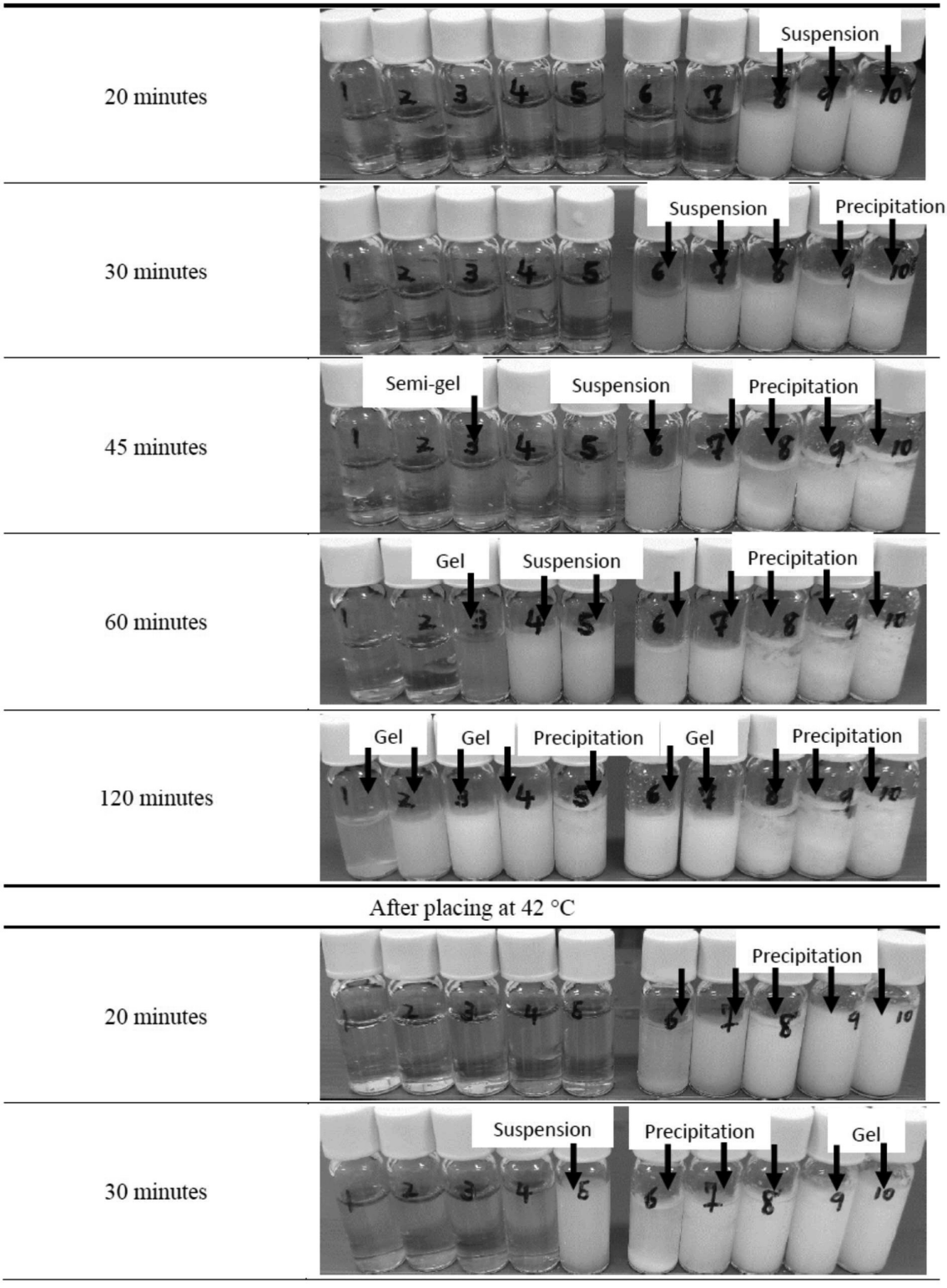


Figure 4e (continued)

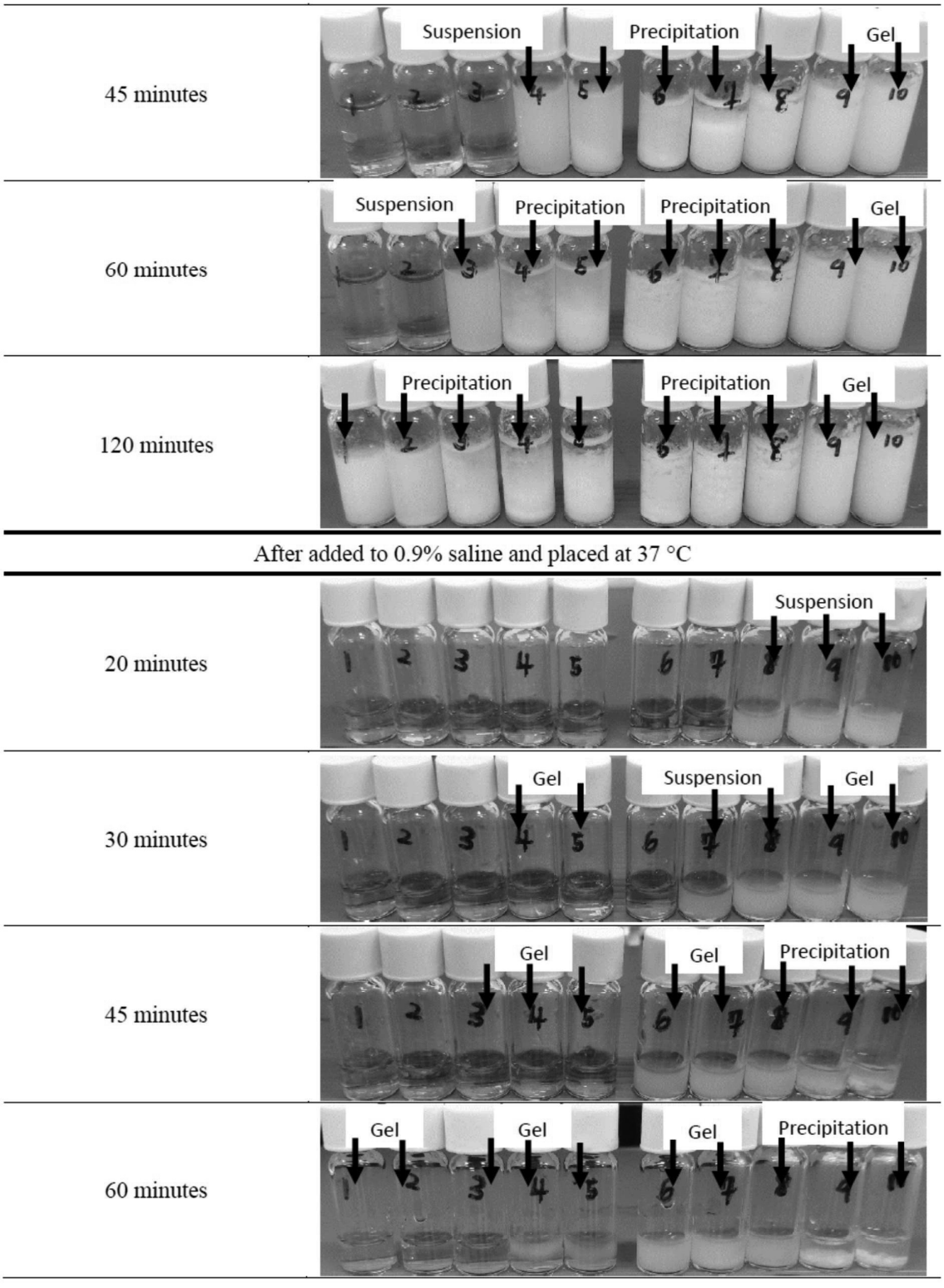


Figure 4e (continued)

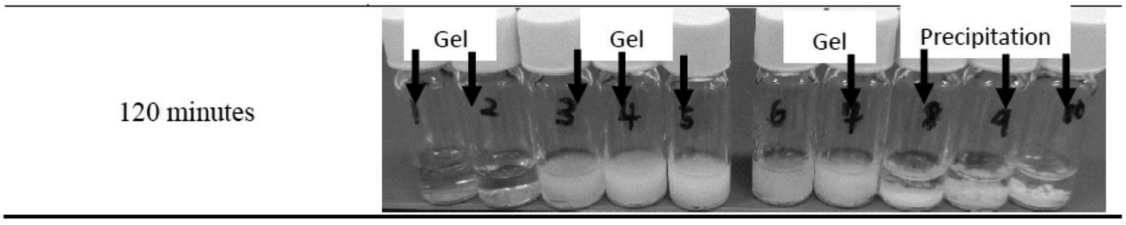


Figure 4e (continued)



FIG. 5a



FIG. 5b



FIG. 5c



FIG. 5d

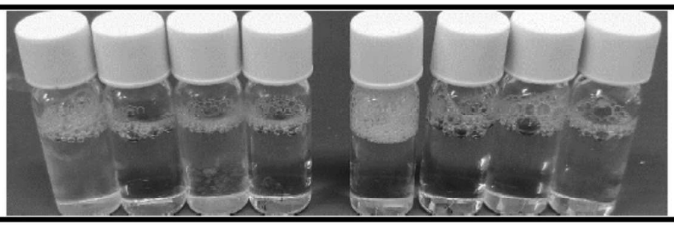
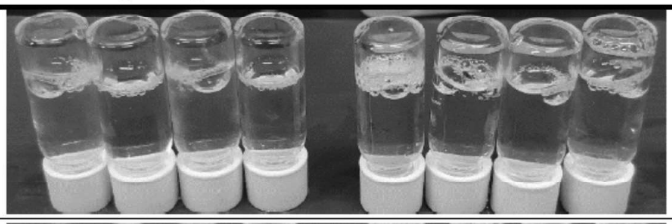
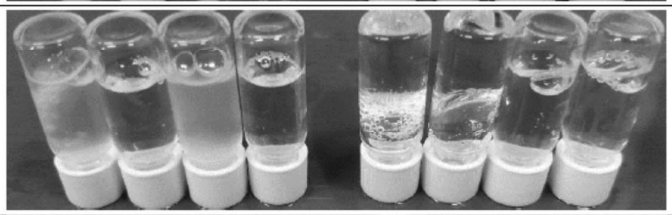
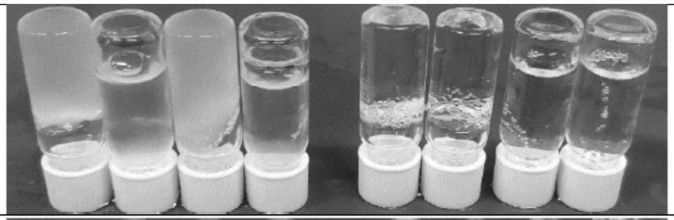
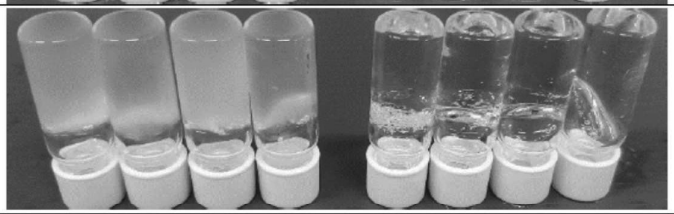
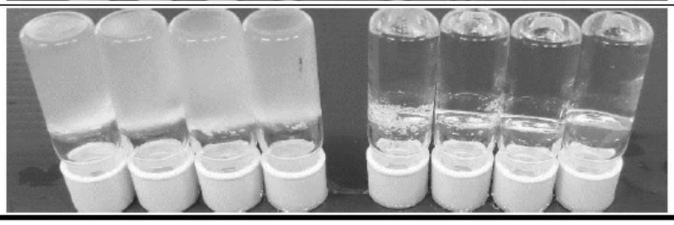
Group 1	Appearance
+ L-lysine (200 mg/mL)/ DSP solution	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 6a

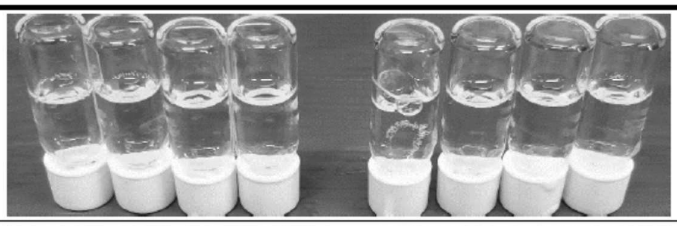
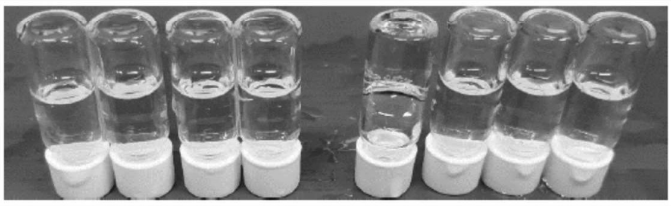
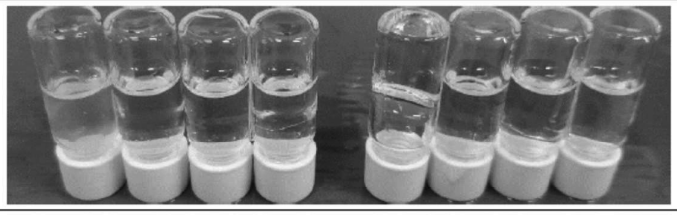
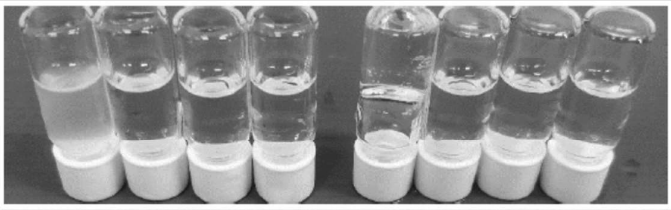
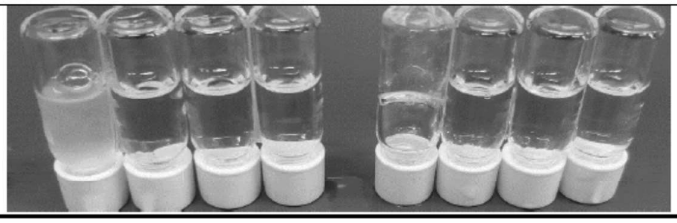
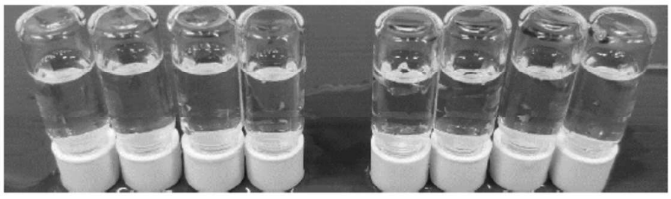
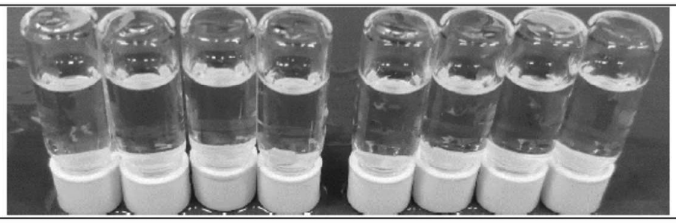
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 42 °C	
20 minutes	
30 minutes	

Figure 6a (continued)

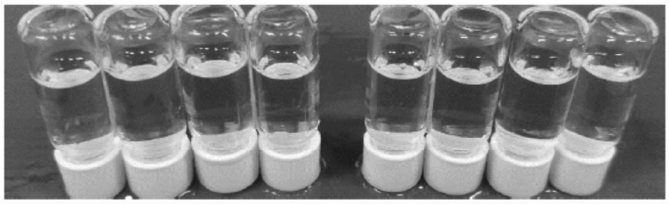
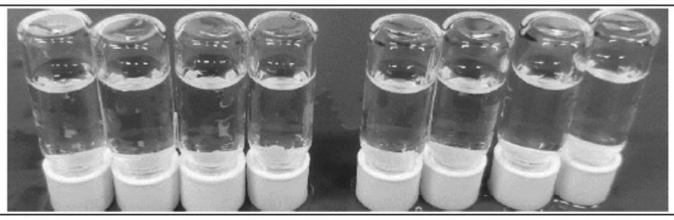
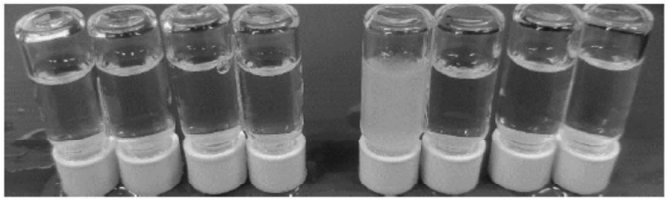
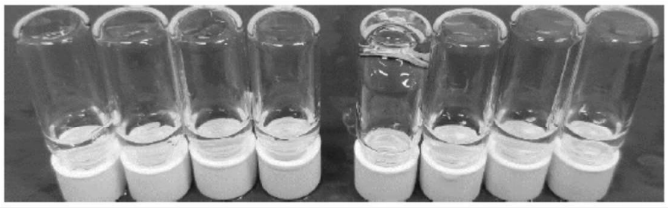
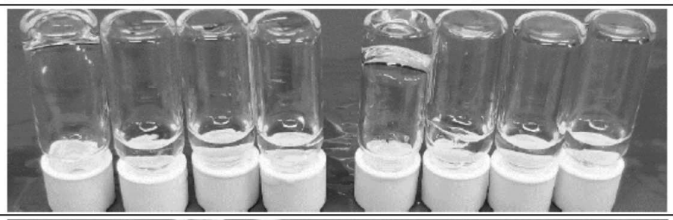
45 minutes	
60 minutes	
120 minutes	
After added to 0.9% saline and placed at 37 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	

Figure 6a (continued)

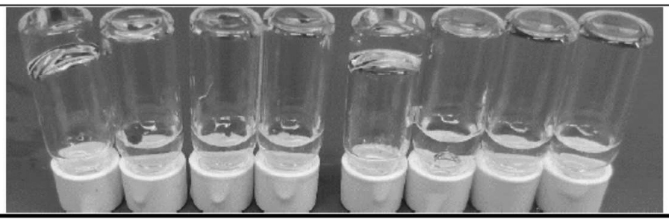
120 minutes	

Figure 6a (continued)

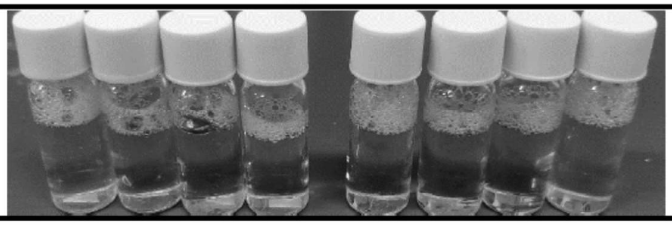
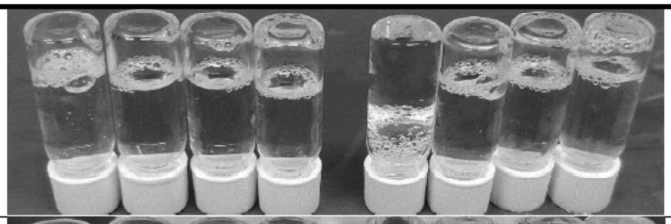
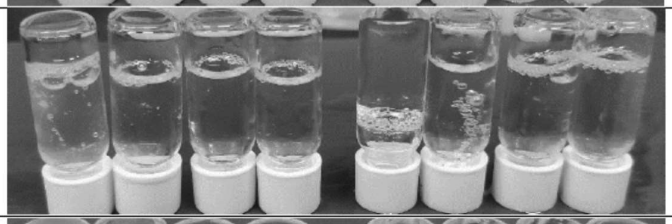
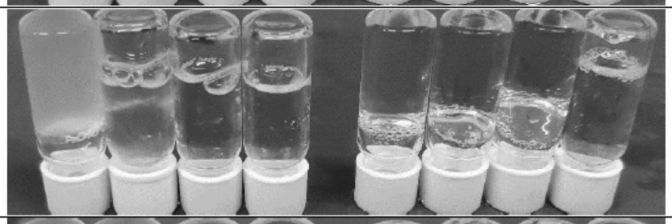
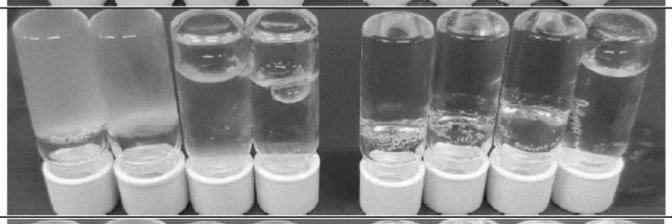
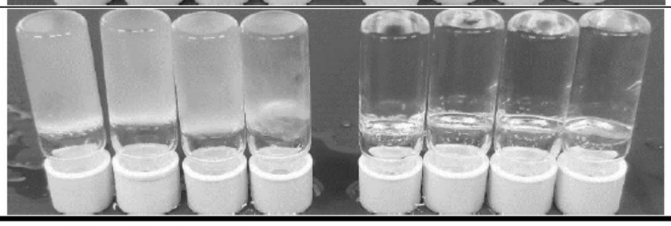
Group 2	Appearance
+ L-lysine (400 mg/mL)/ DSP solution	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 6b

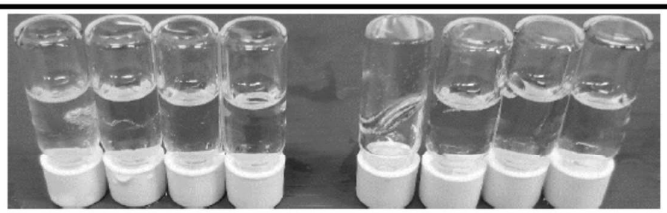
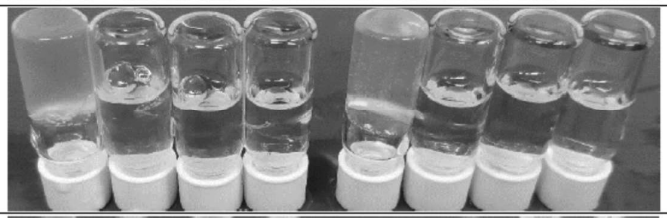
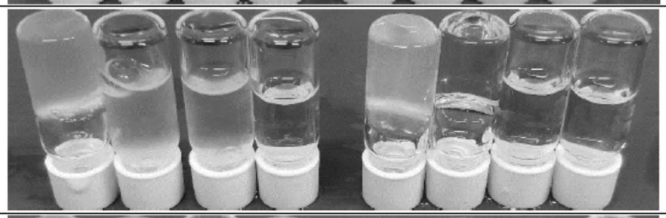
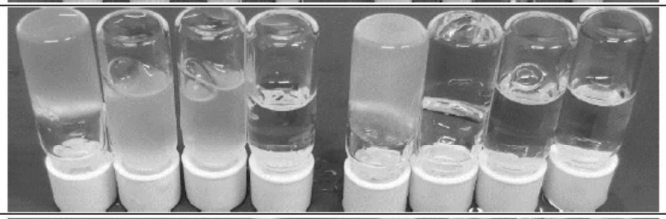
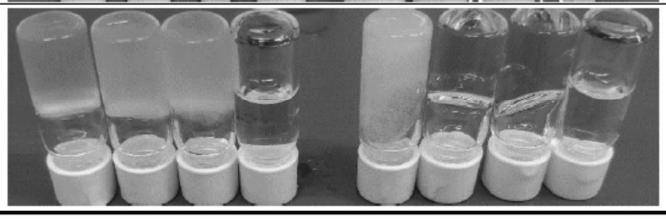
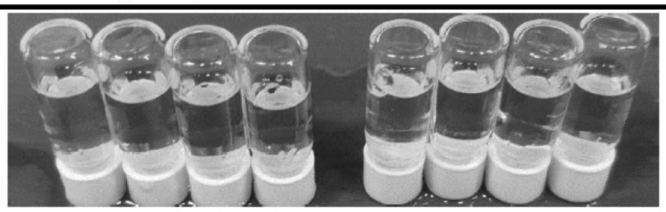
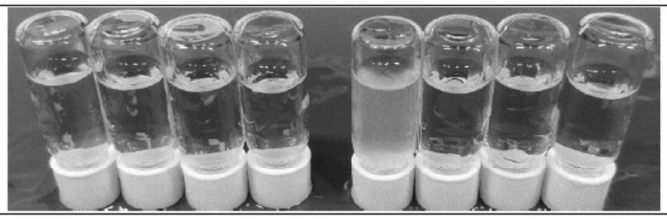
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 42 °C	
20 minutes	
30 minutes	

Figure 6b (continued)

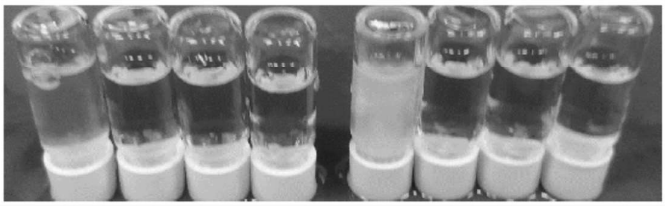
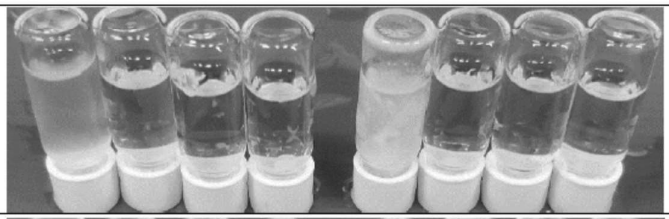
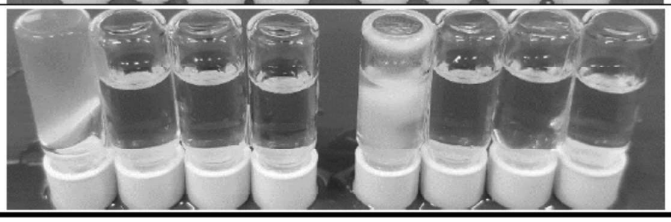
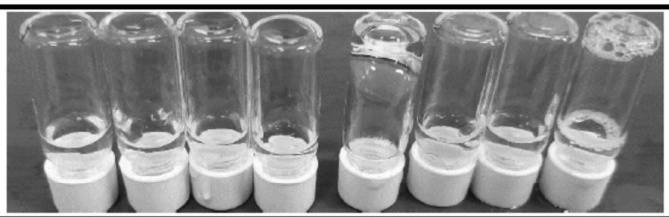
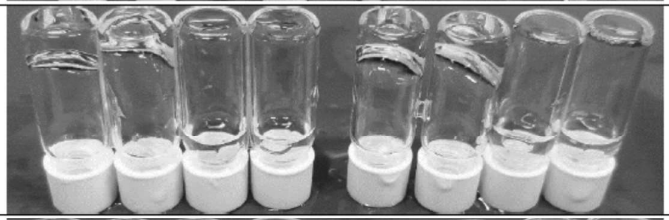
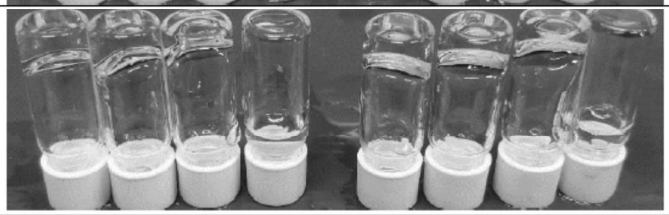
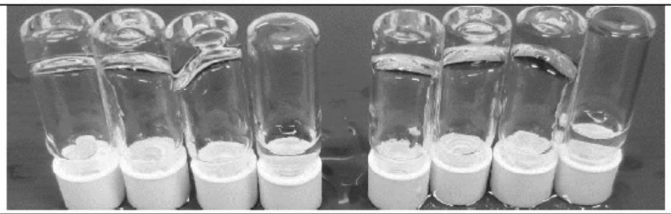
45 minutes	
60 minutes	
120 minutes	
After added to 0.9% saline and placed at 37 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	

Figure 6b (continued)

120 minutes	

Figure 6b (continued)

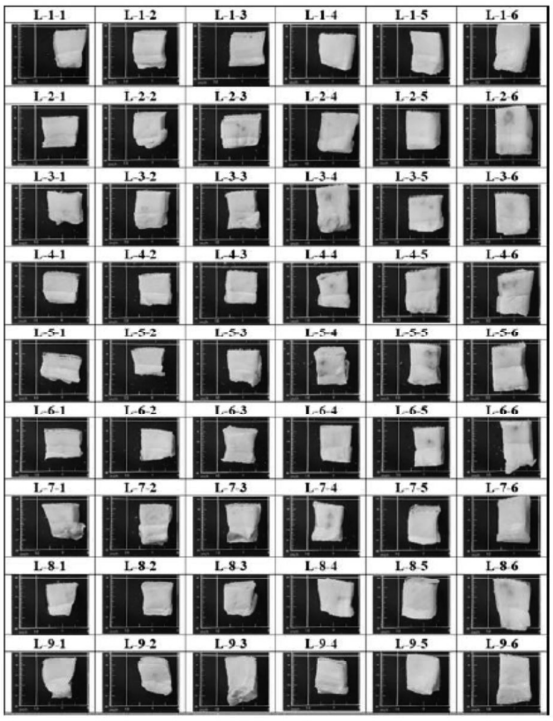


FIG. 7a

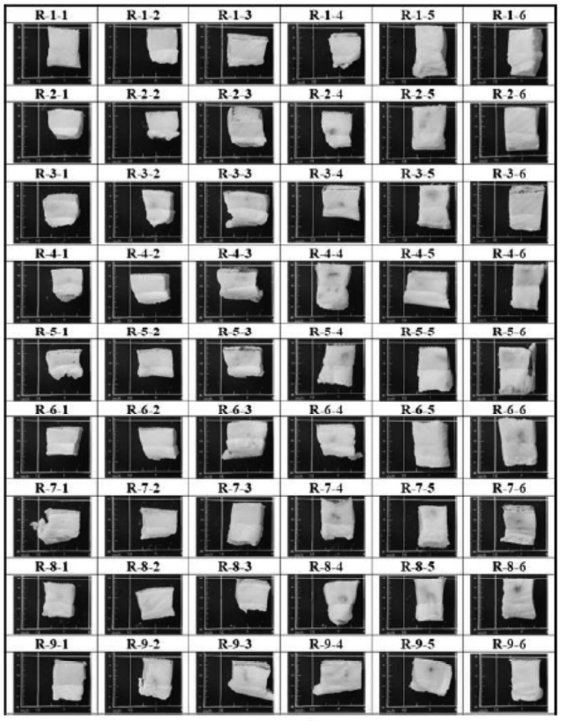


FIG. 7b

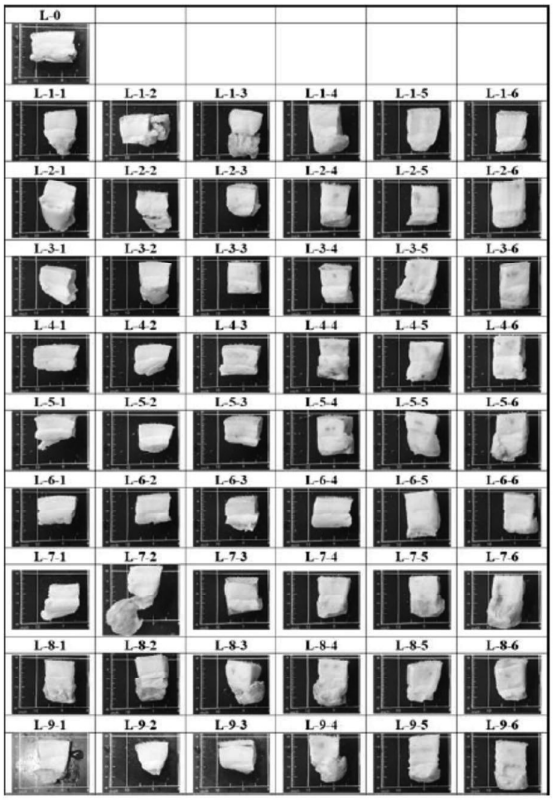


FIG. 7c

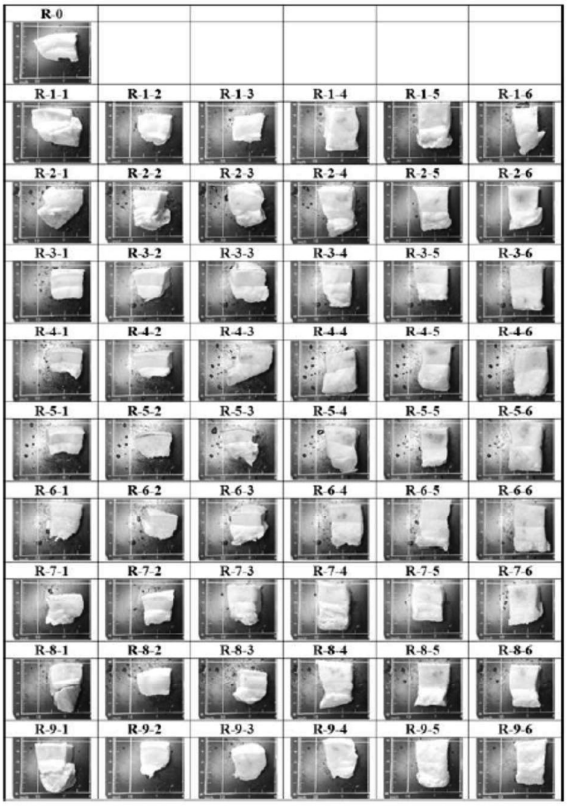


FIG. 7d


L-0
L-1-1 L-1-2 L-1-3 L-1-4 L-1-5 L-1-6
L-2-1 L-2-2 L-2-3 L-2-4 L-2-5 L-2-6
L-3-1 L-3-2 L-3-3 L-3-4 L-3-5 L-3-6
L-4-1 L-4-2 L-4-3 L-4-4 L-4-5 L-4-6
L-5-1 L-5-2 L-5-3 L-5-4 L-5-5 L-5-6
L-6-1 L-6-2 L-6-3 L-6-4 L-6-5 L-6-6
L-7-1 L-7-2 L-7-3 L-7-4 L-7-5 L-7-6
L-8-1 L-8-2 L-8-3 L-8-4 L-8-5 L-8-6
L-9-1 L-9-2 L-9-3 L-9-4 L-9-5 L-9-6

FIG. 7e


R-0
R-1-1 R-1-2 R-1-3 R-1-4 R-1-5 R-1-6
R-2-1 R-2-2 R-2-3 R-2-4 R-2-5 R-2-6
R-3-1 R-3-2 R-3-3 R-3-4 R-3-5 R-3-6
R-4-1 R-4-2 R-4-3 R-4-4 R-4-5 R-4-6
R-5-1 R-5-2 R-5-3 R-5-4 R-5-5 R-5-6
R-6-1 R-6-2 R-6-3 R-6-4 R-6-5 R-6-6
R-7-1 R-7-2 R-7-3 R-7-4 R-7-5 R-7-6
R-8-1 R-8-2 R-8-3 R-8-4 R-8-5 R-8-6
R-9-1 R-9-2 R-9-3 R-9-4 R-9-5 R-9-6

FIG. 7f

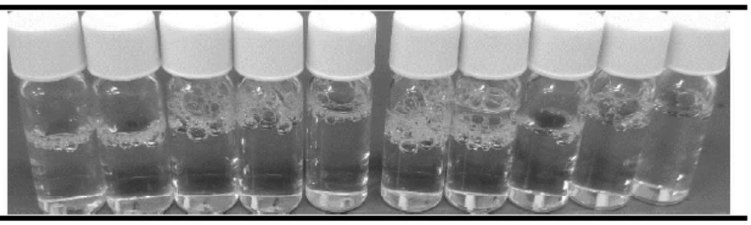
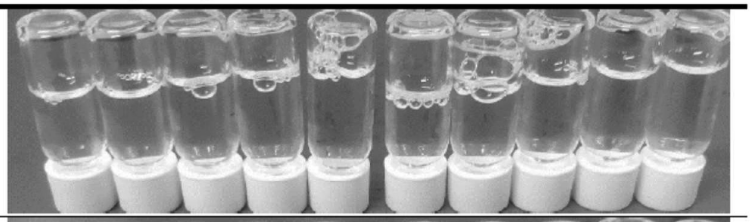
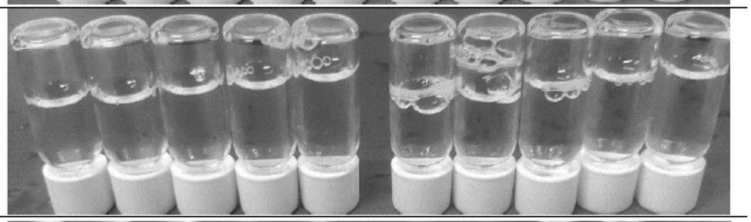
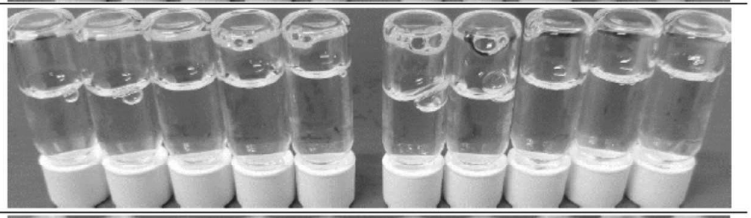
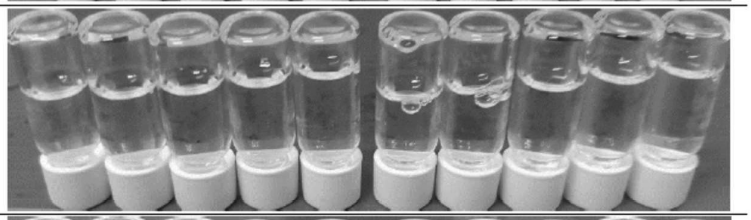
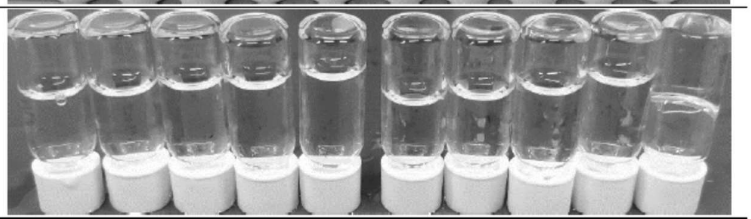
Group 1	Appearance
+ 2.5 mg/mL L-histidine	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 8a

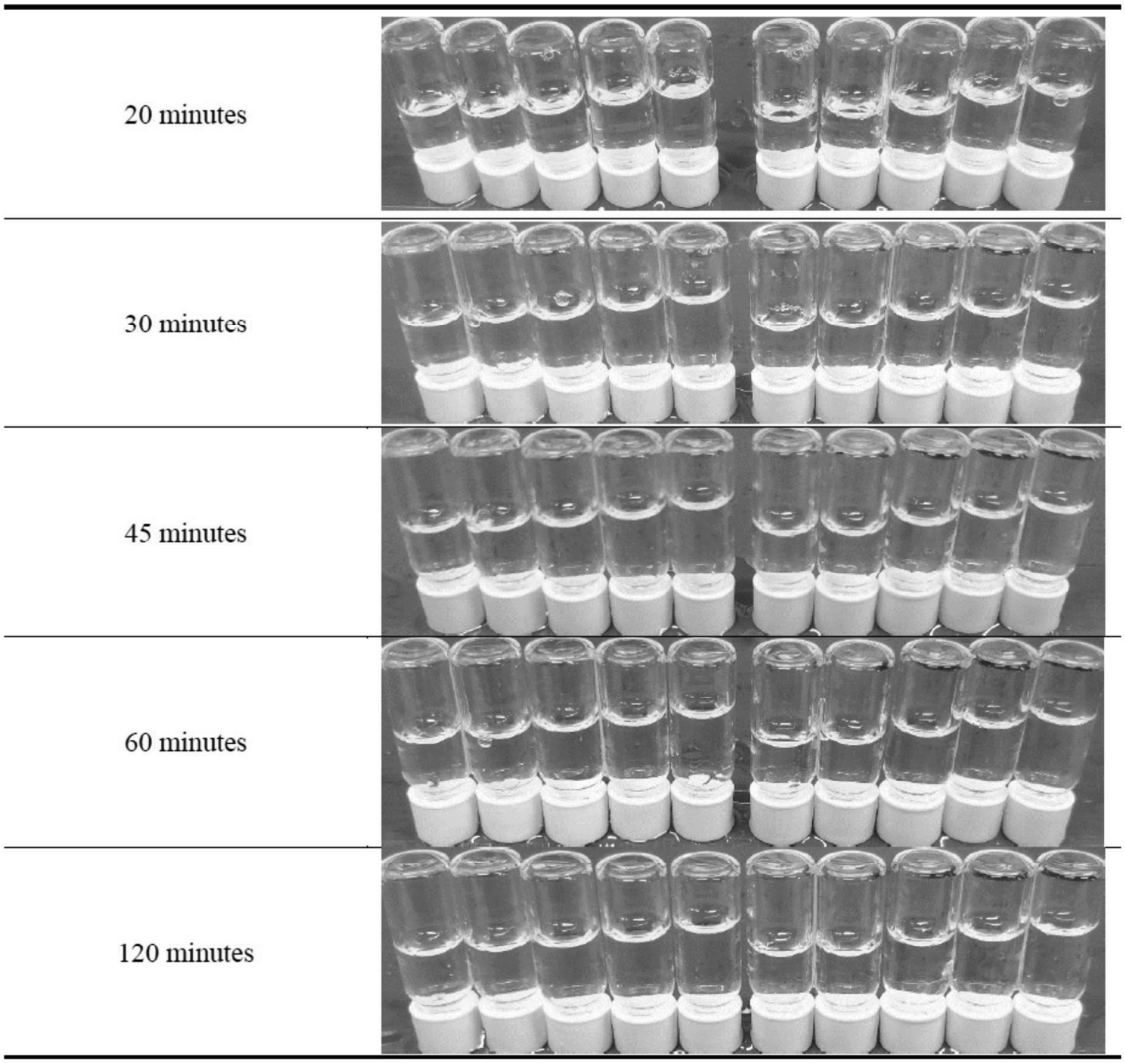


Figure 8a (continued)

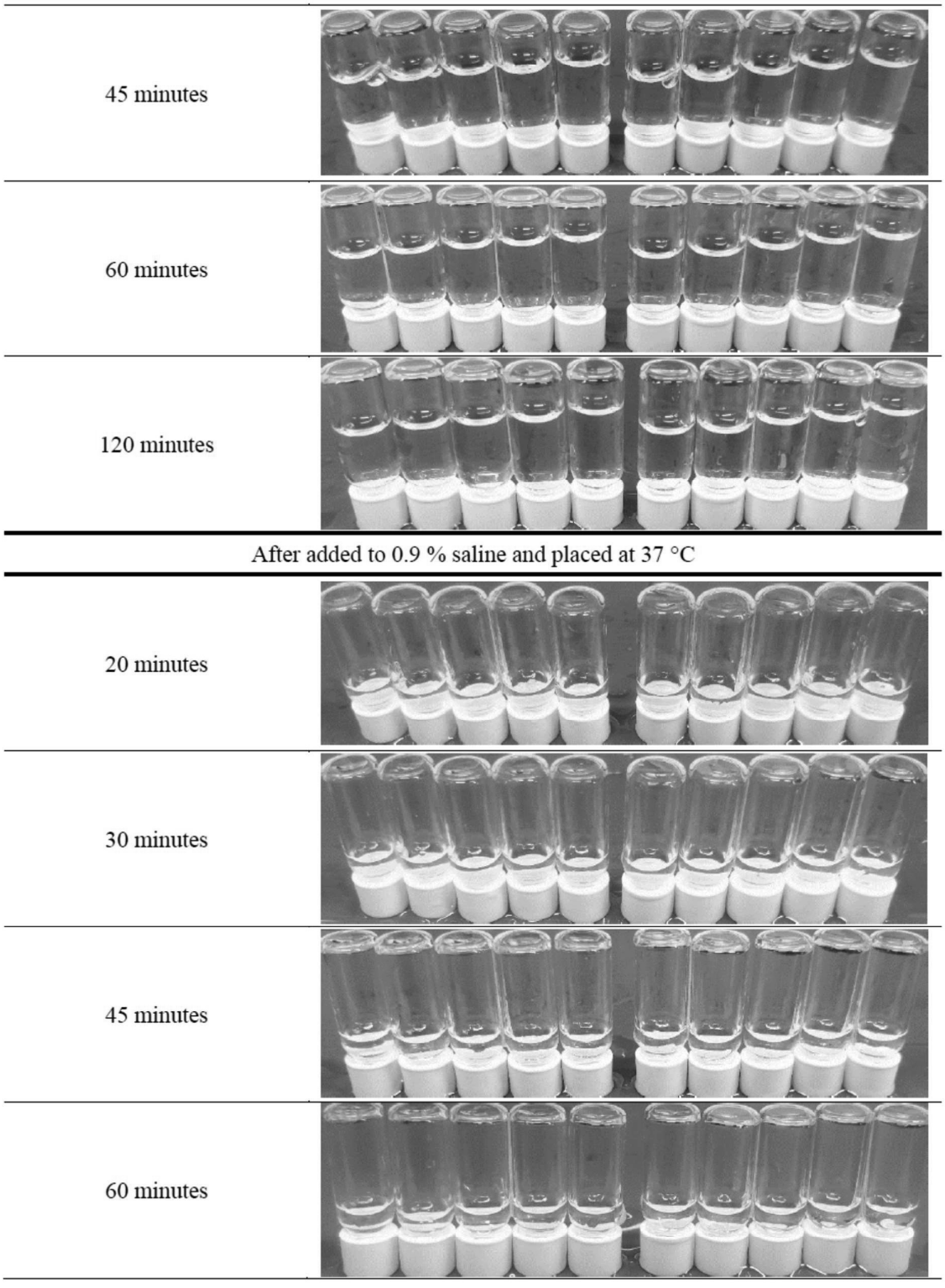


Figure 8a (continued)

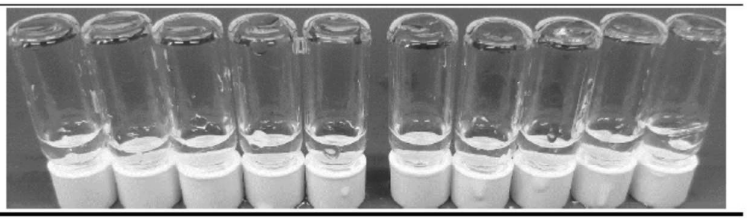
120 minutes	

Figure 8a (continued)

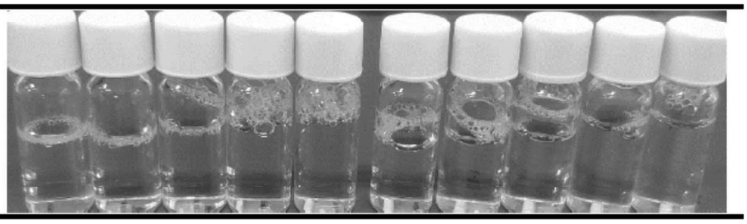
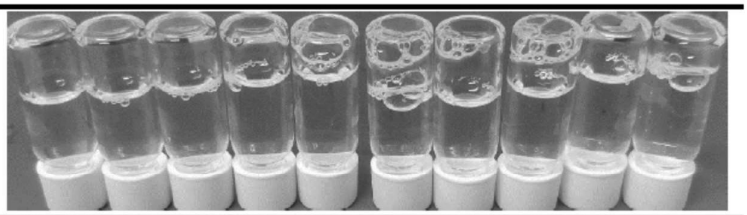
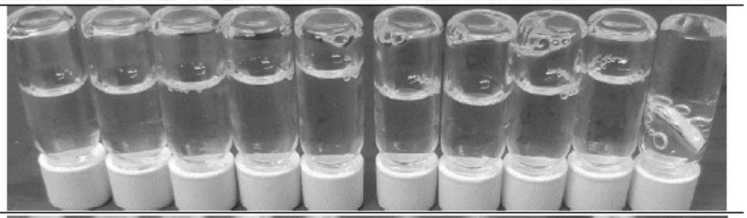
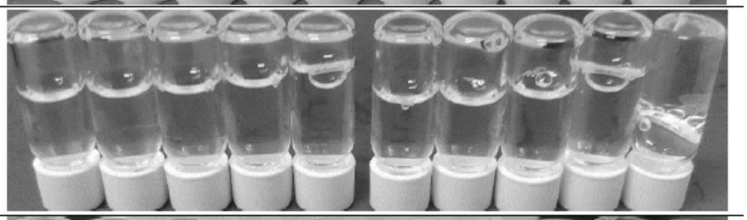
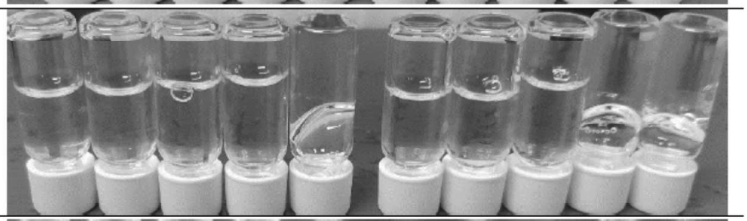
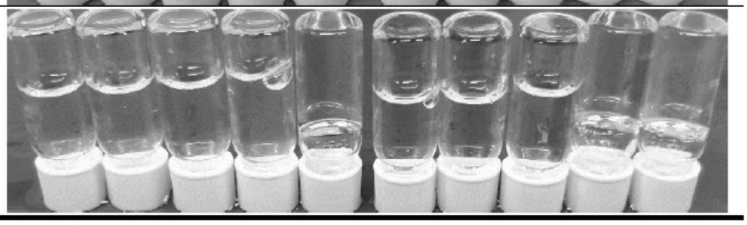
Group 2	Appearance
+ 5 mg/mL L-histidine	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 8b

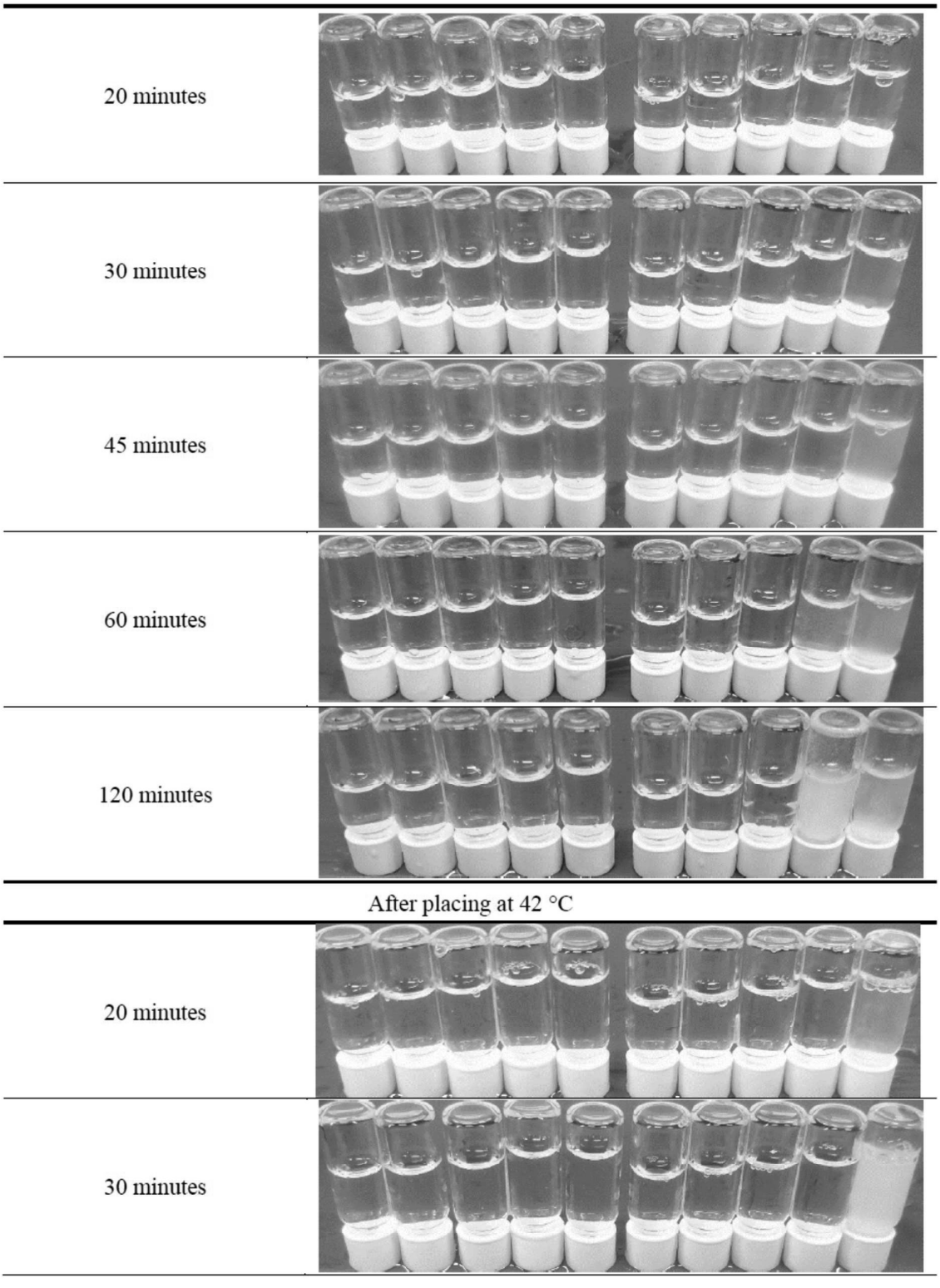


Figure 8b (continued)

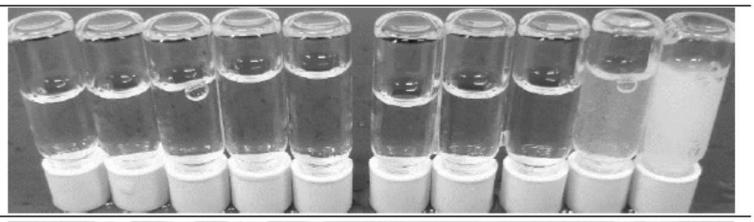
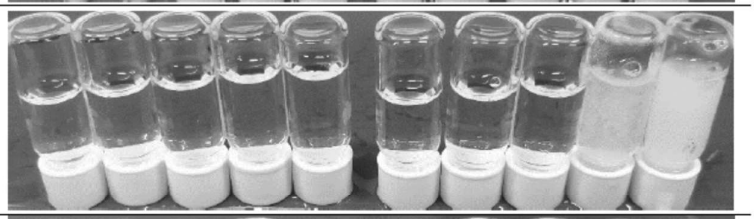
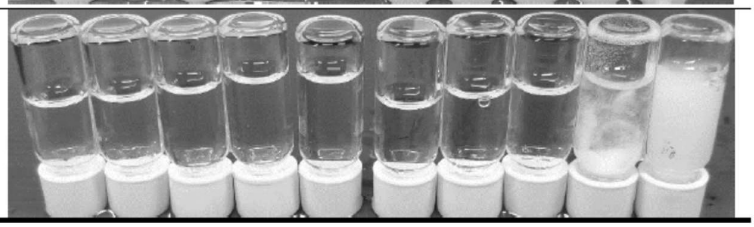
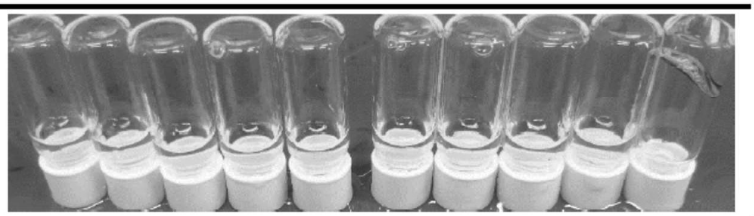
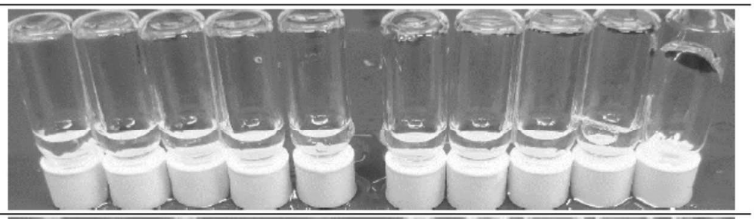
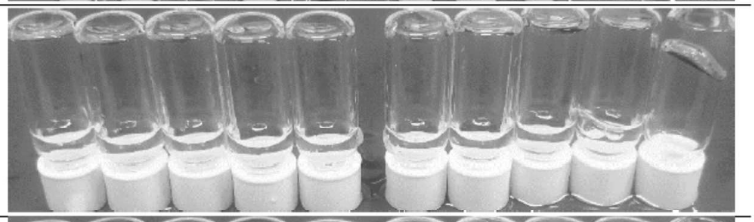
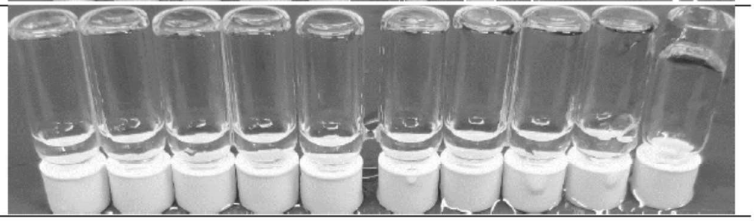
45 minutes	
60 minutes	
120 minutes	
After added to 0.9 % saline and placed at 37 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	

Figure 8b (continued)

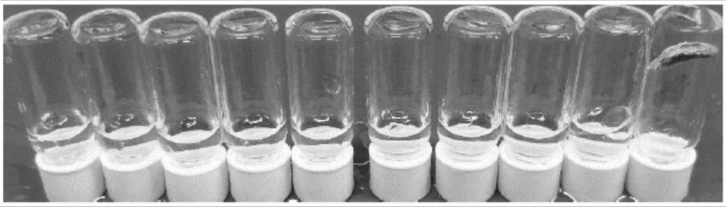
120 minutes	

Figure 8b (continued)

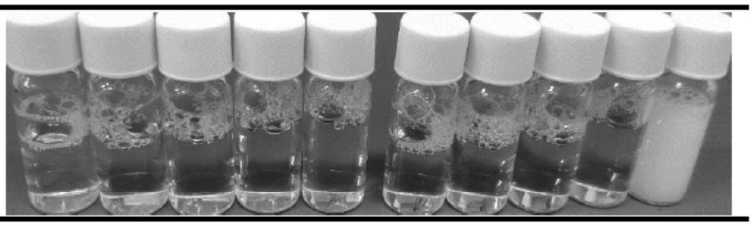
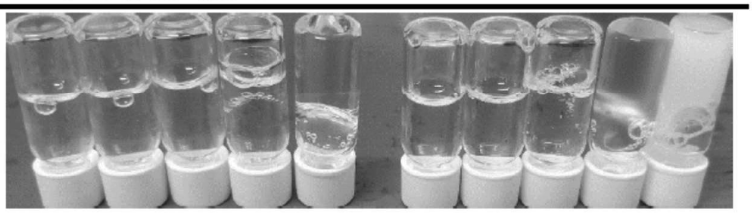
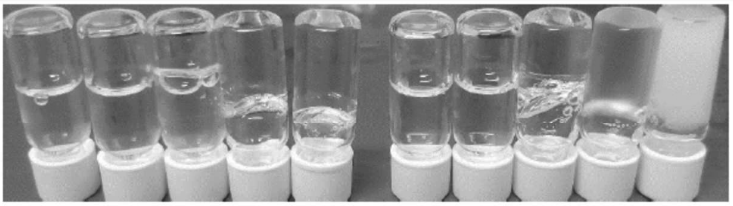
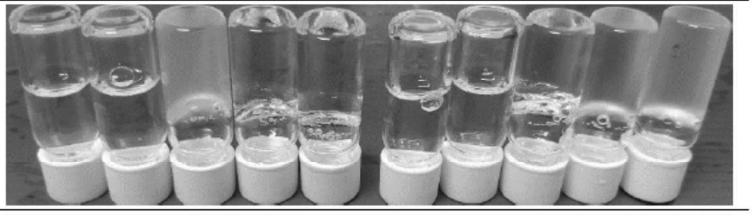
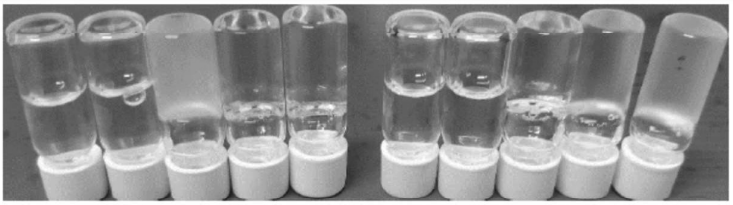
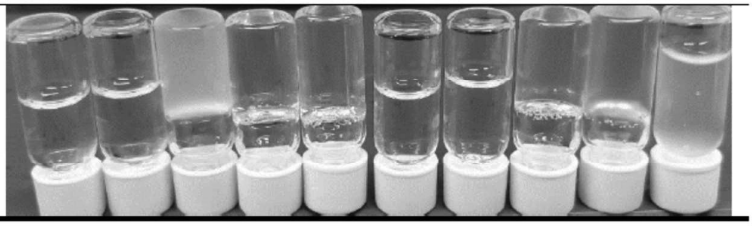
Group 3	Appearance
+ 10 mg/mL L-histidine	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 8c

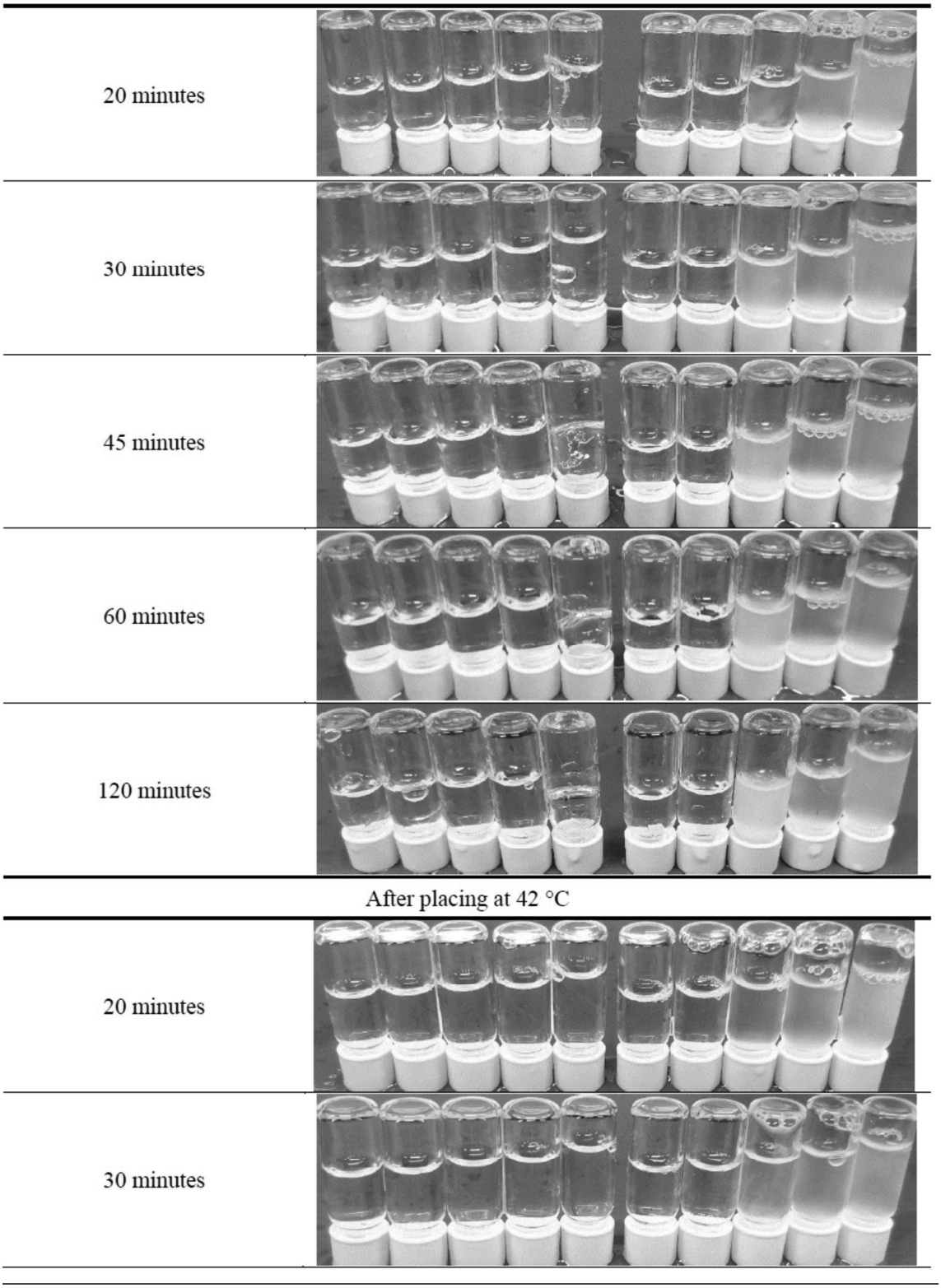


Figure 8c (continued)

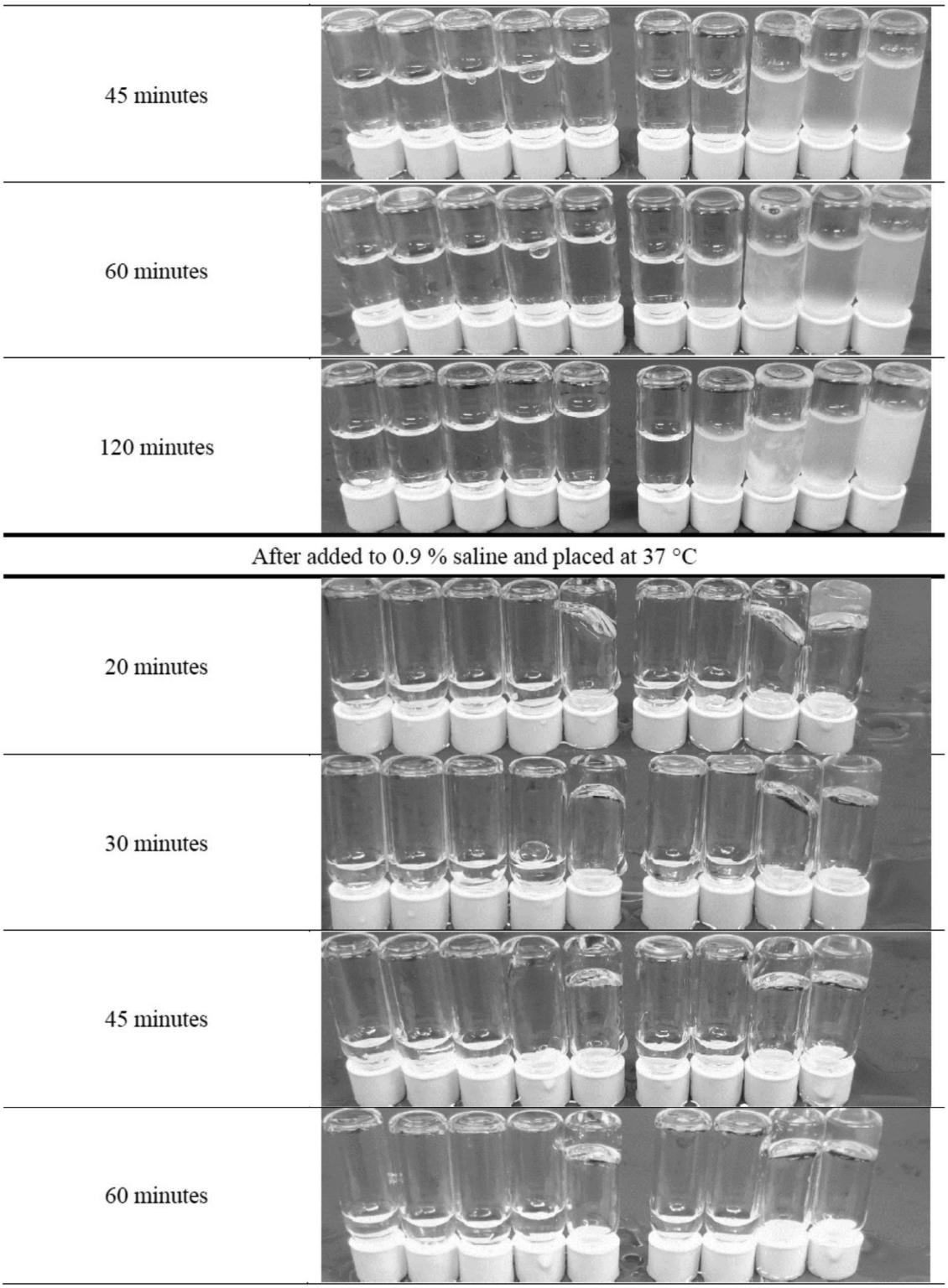


Figure 8c (continued)

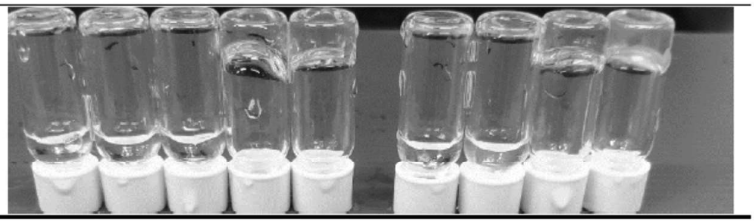
120 minutes	

Figure 8c (continued)

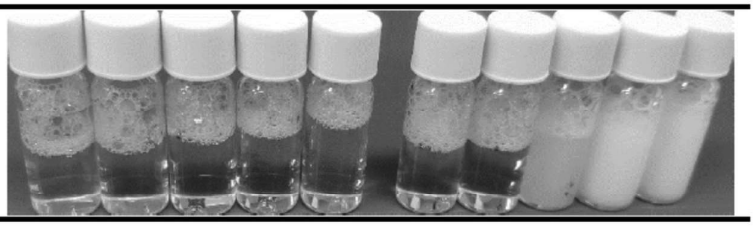
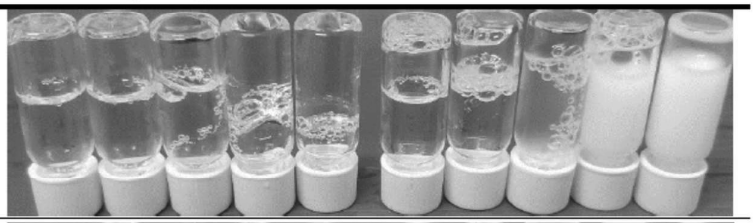
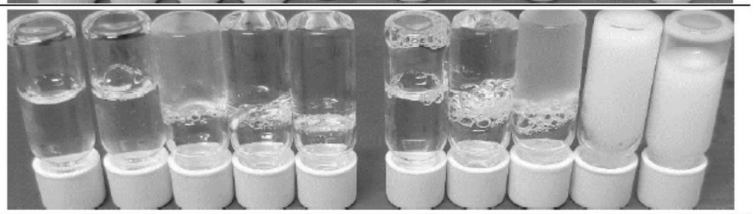
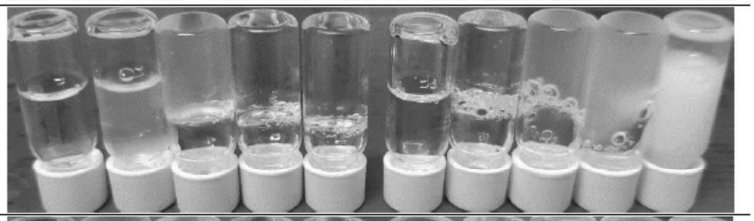
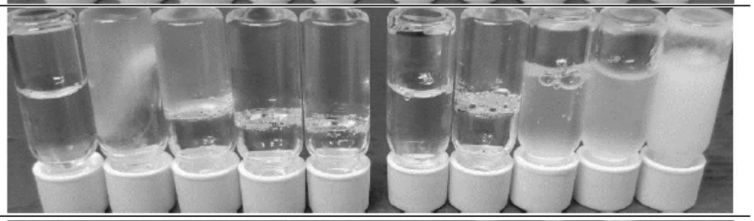
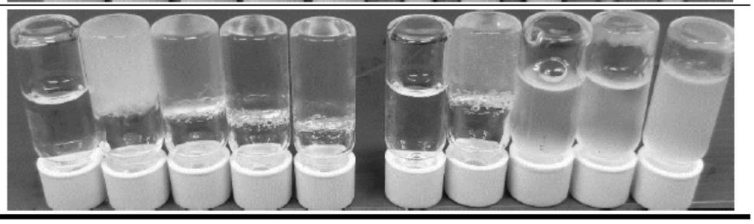
Group 4	Appearance
+ 20 mg/mL L-histidine	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 8d

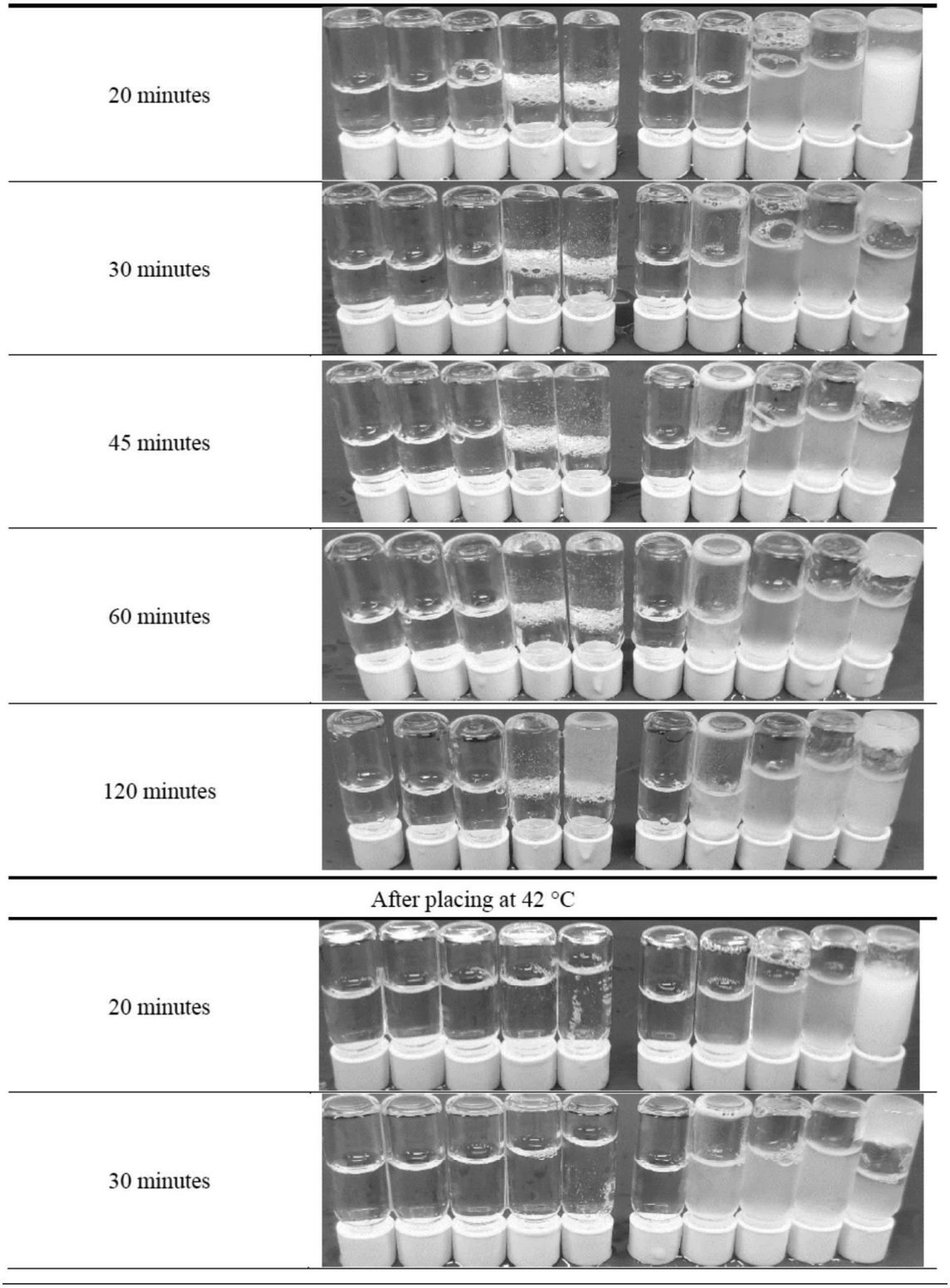


Figure 8d (continued)

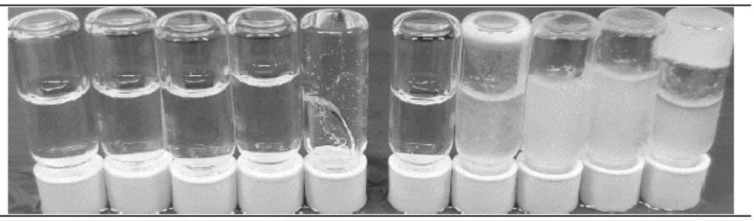
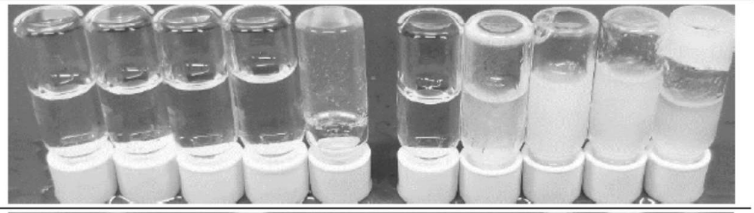
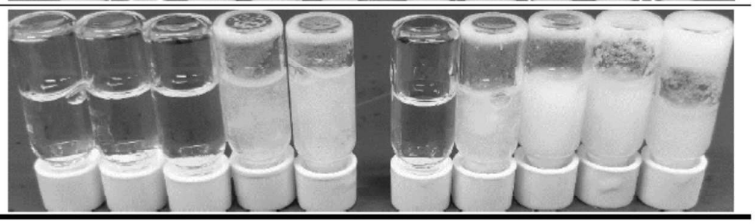
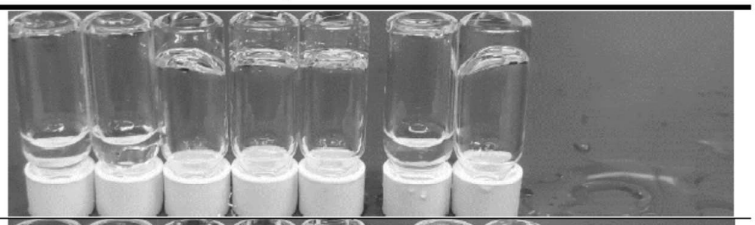
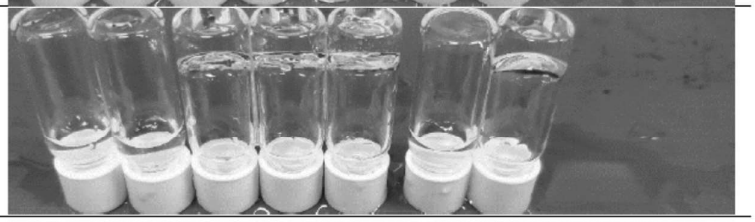
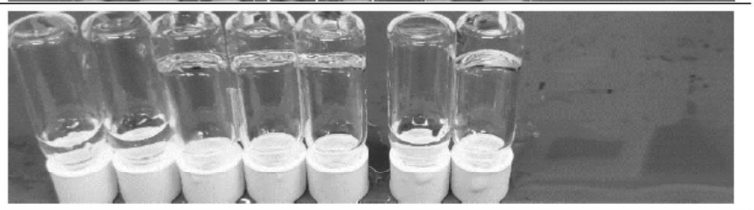
45 minutes	
60 minutes	
120 minutes	
After added to 0.9 % saline and placed at 37 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	

Figure 8d (continued)

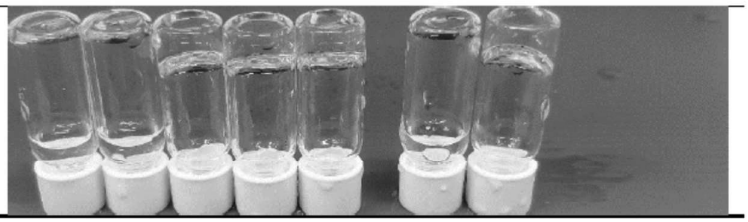
120 minutes	

Figure 8d (continued)

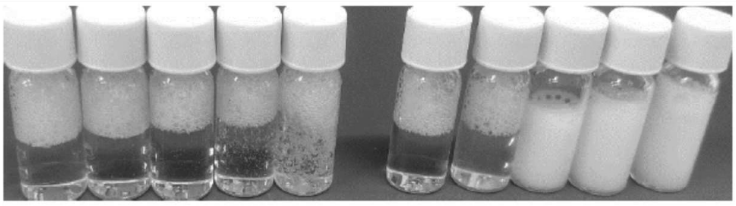
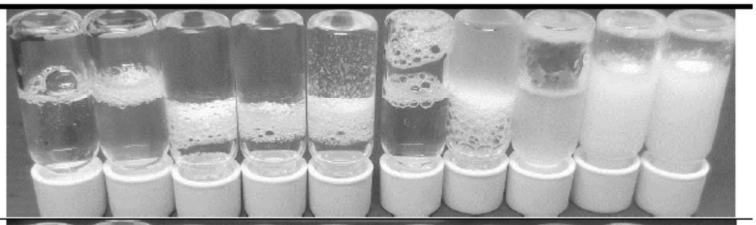
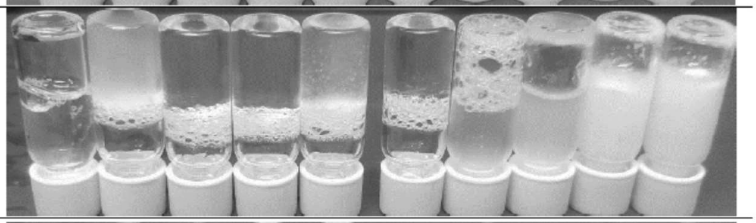
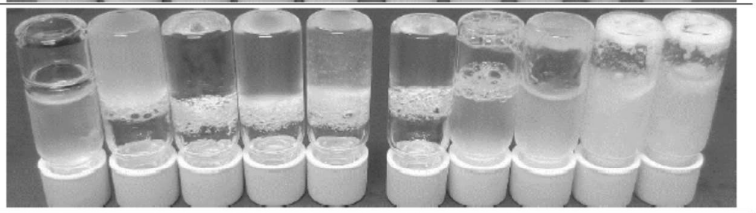
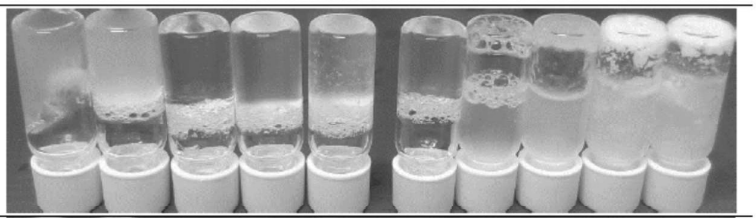
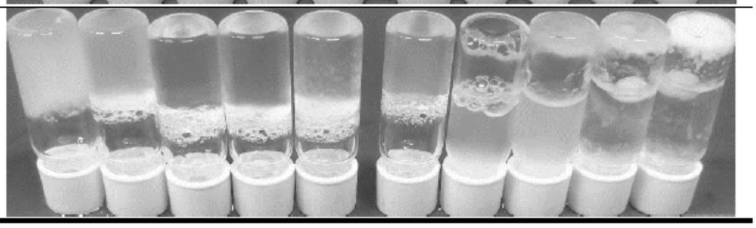
Group 5	Appearance
+ 40 mg/mL L-histidine	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 8e

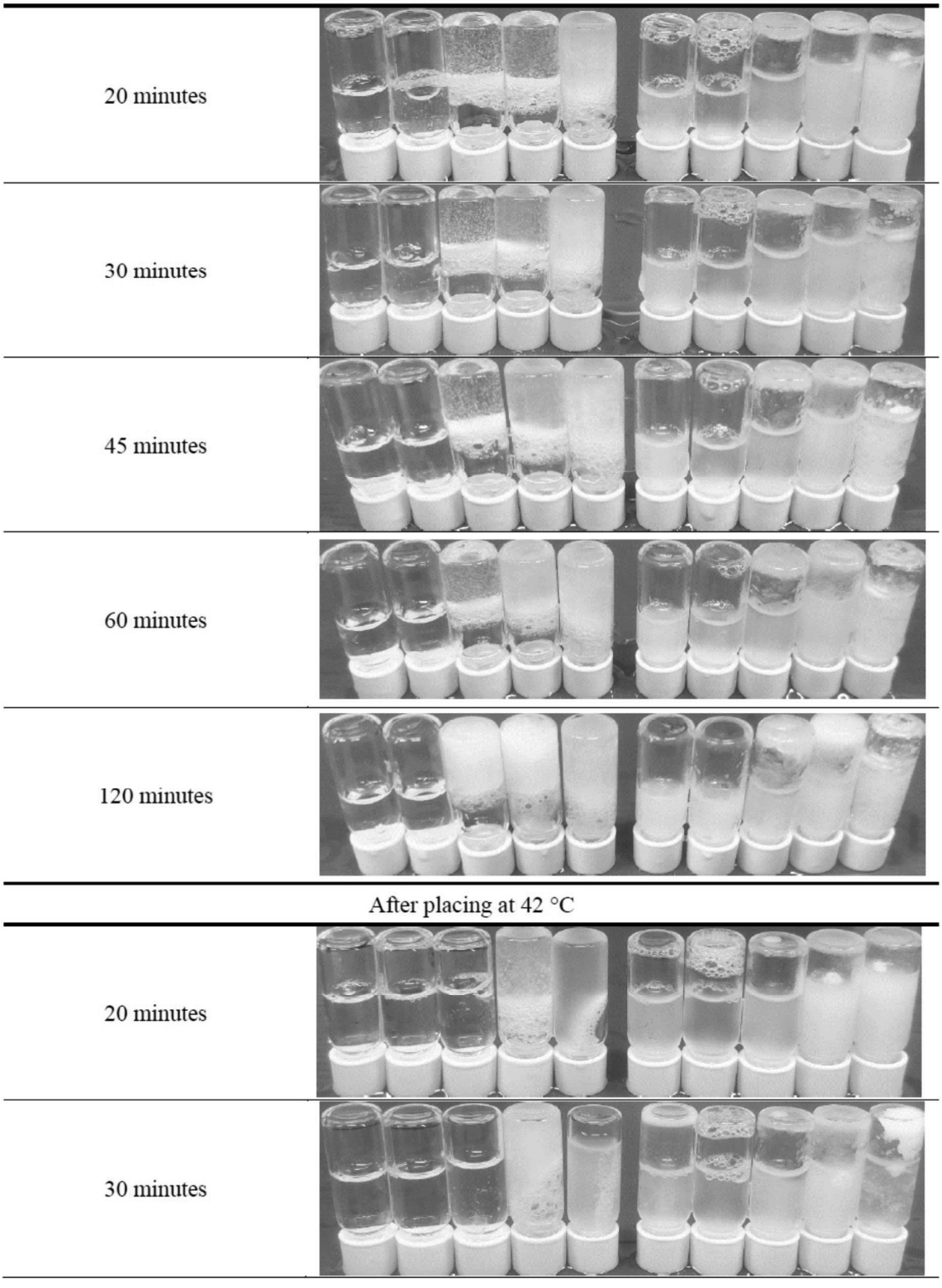


Figure 8e (continued)

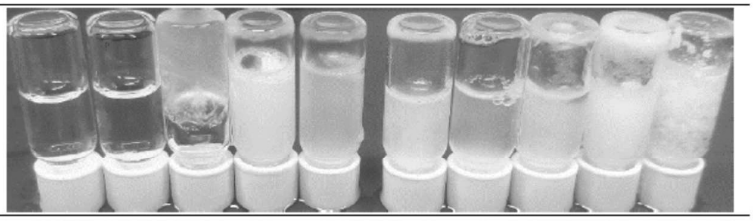
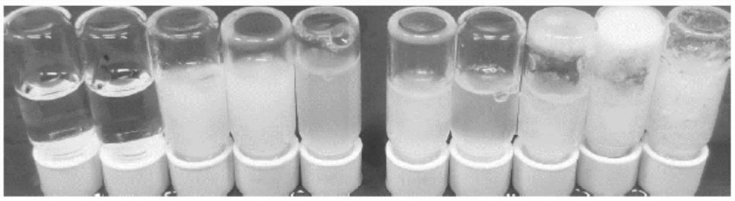
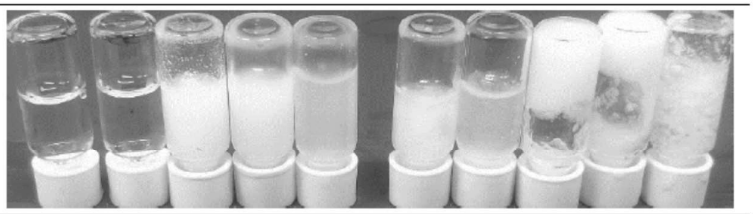
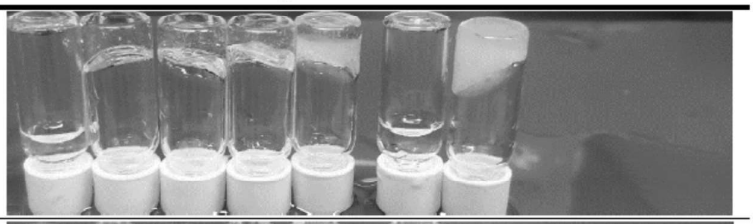
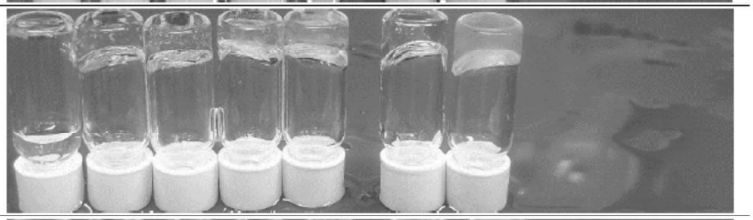
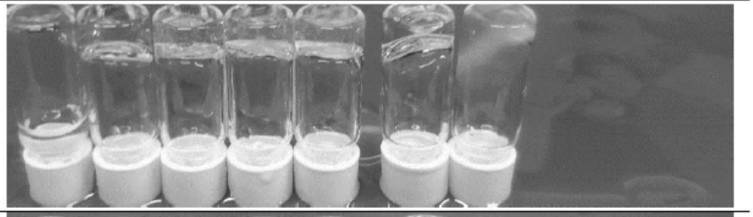
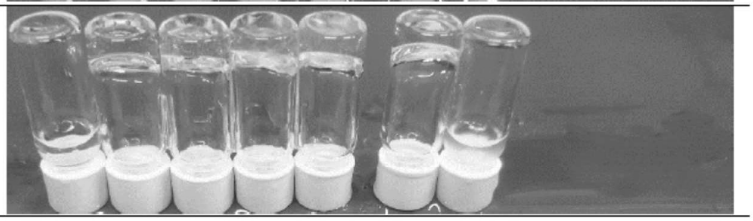
45 minutes	
60 minutes	
120 minutes	
After added to 0.9 % saline and placed at 37 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	

Figure 8e (continued)

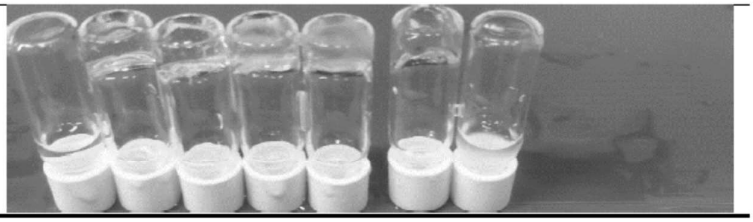
120 minutes	

Figure 8e (continued)

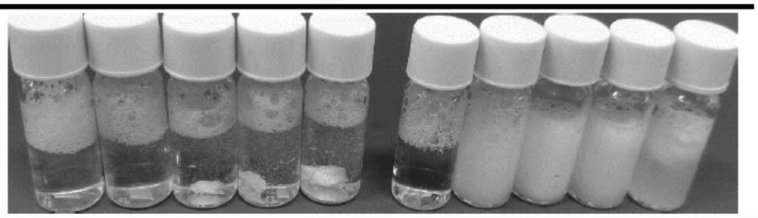
Group 5	Appearance
+ 50 mg/mL L-histidine	

Figure 8f

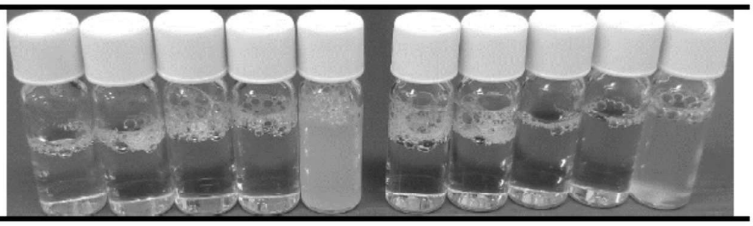
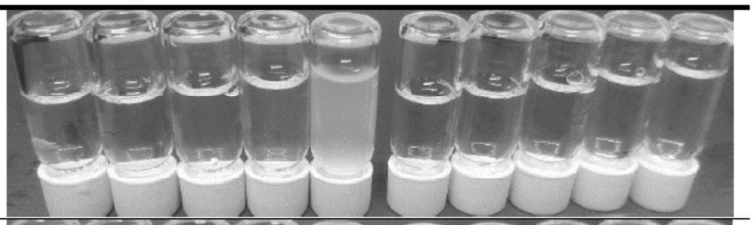
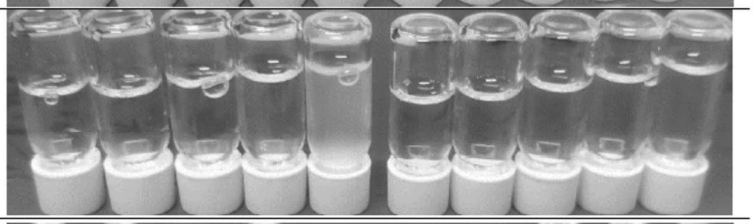
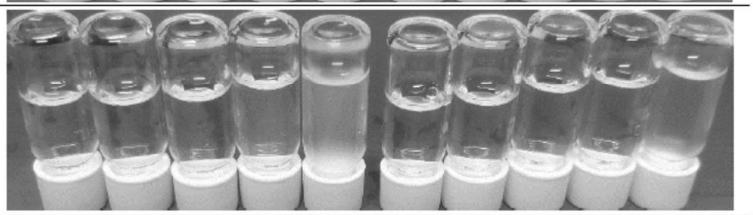
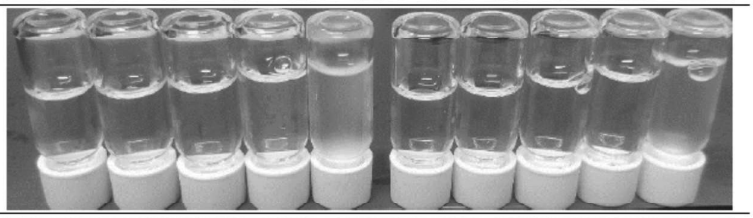
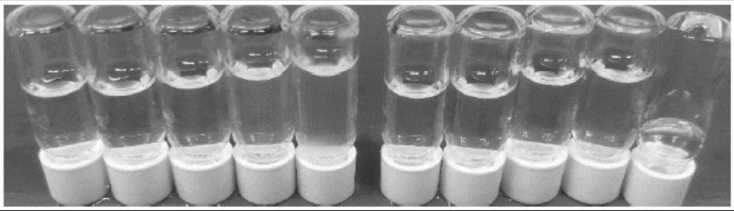
Group 1	Appearance
+ 500 mg/mL L-arginine	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 9

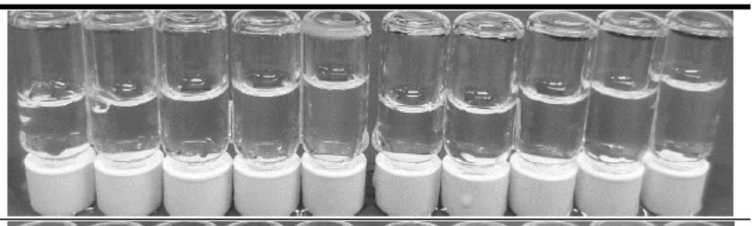
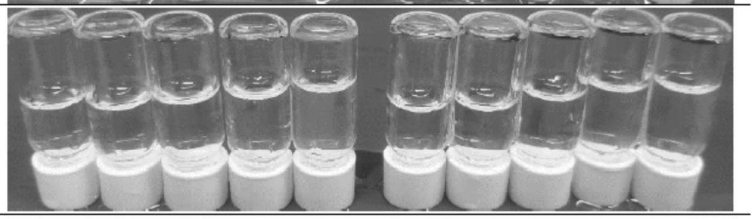
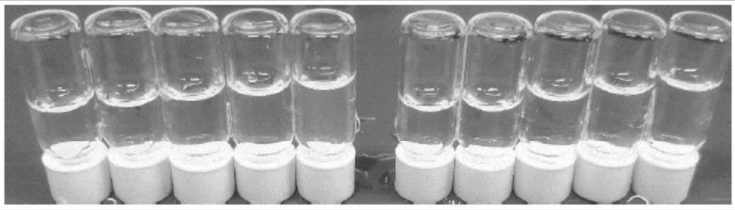
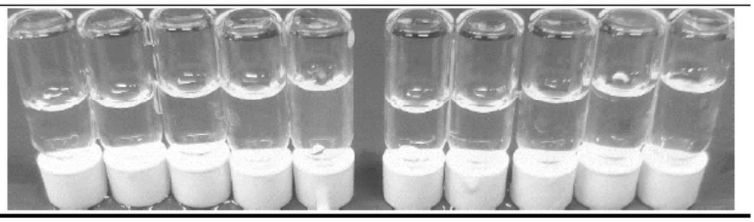
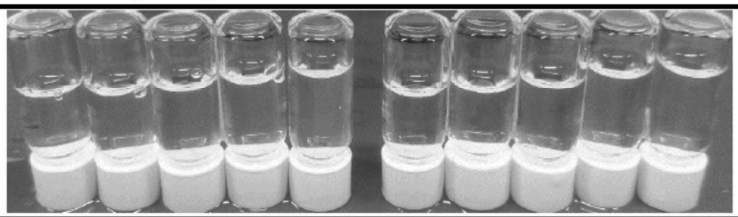
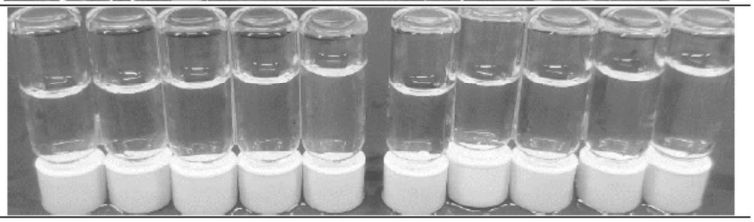
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 42 °C	
20 minutes	
30 minutes	

Figure 9 (continued)

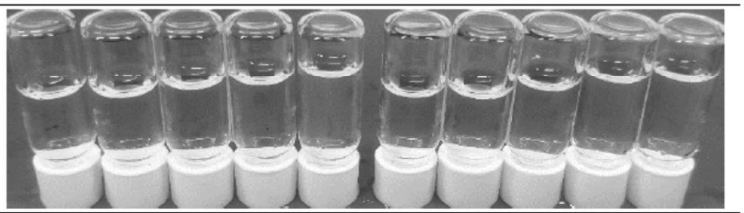
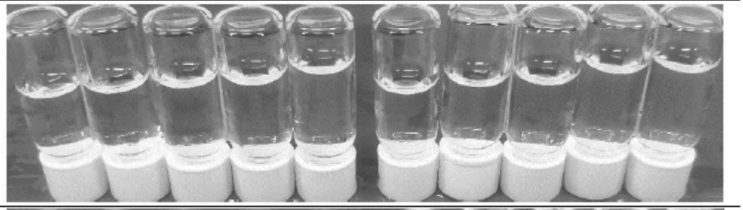
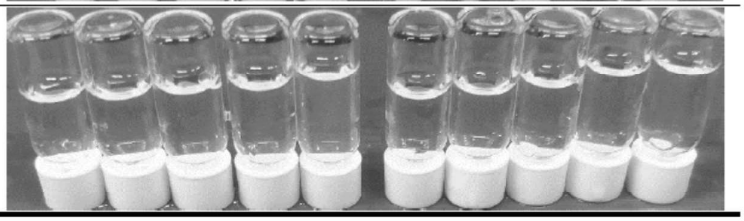
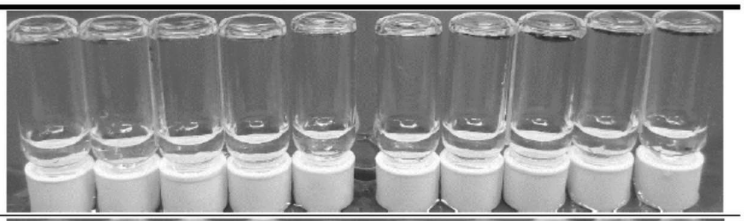
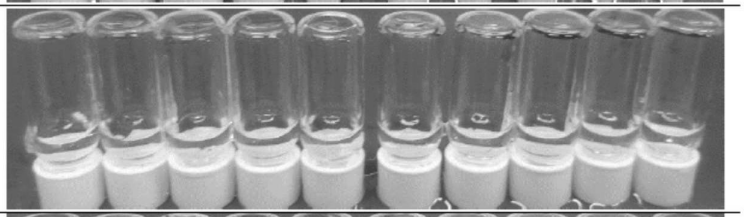
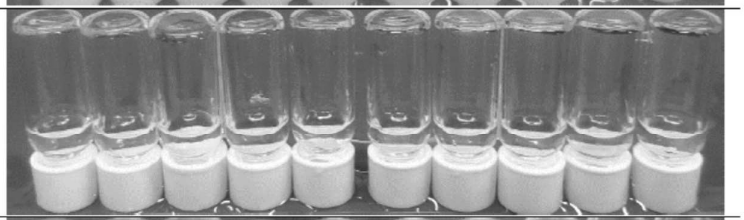
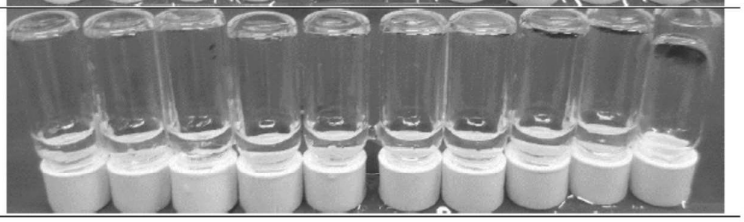
45 minutes	
60 minutes	
120 minutes	
After added to 0.9 % saline and placed at 37 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	

Figure 9 (continued)

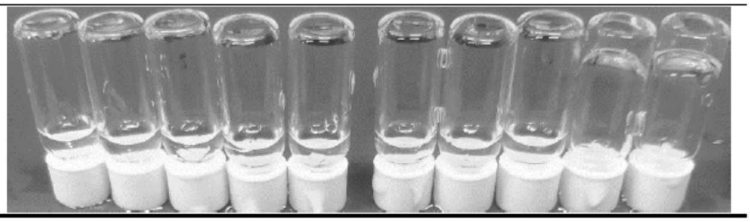
120 minutes	

Figure 9 (continued)

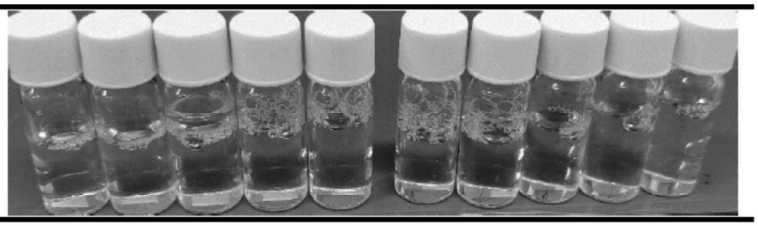
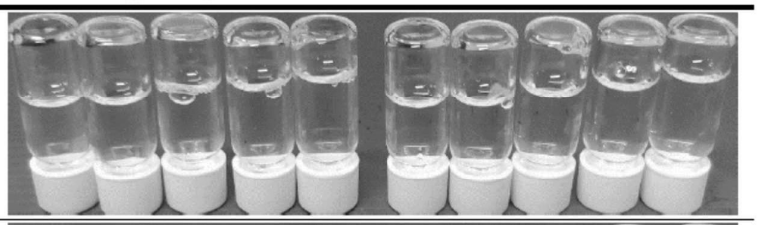
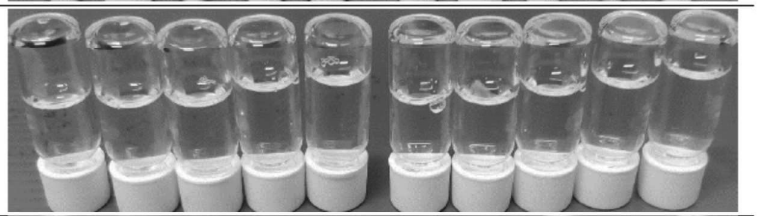
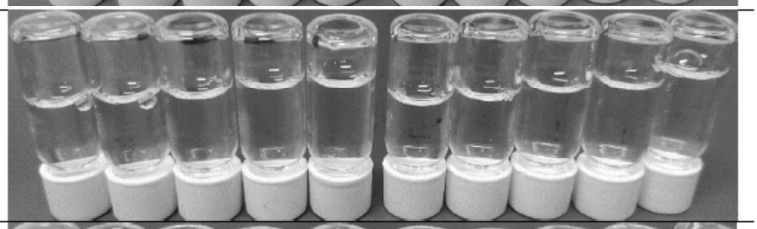
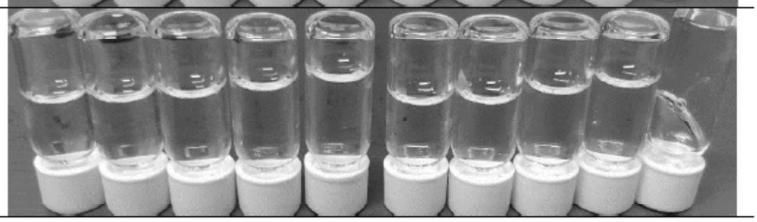
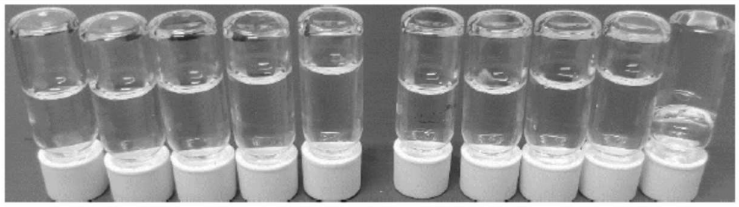
Group 1	Appearance
+ 0.1 % acetic acid	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 10a

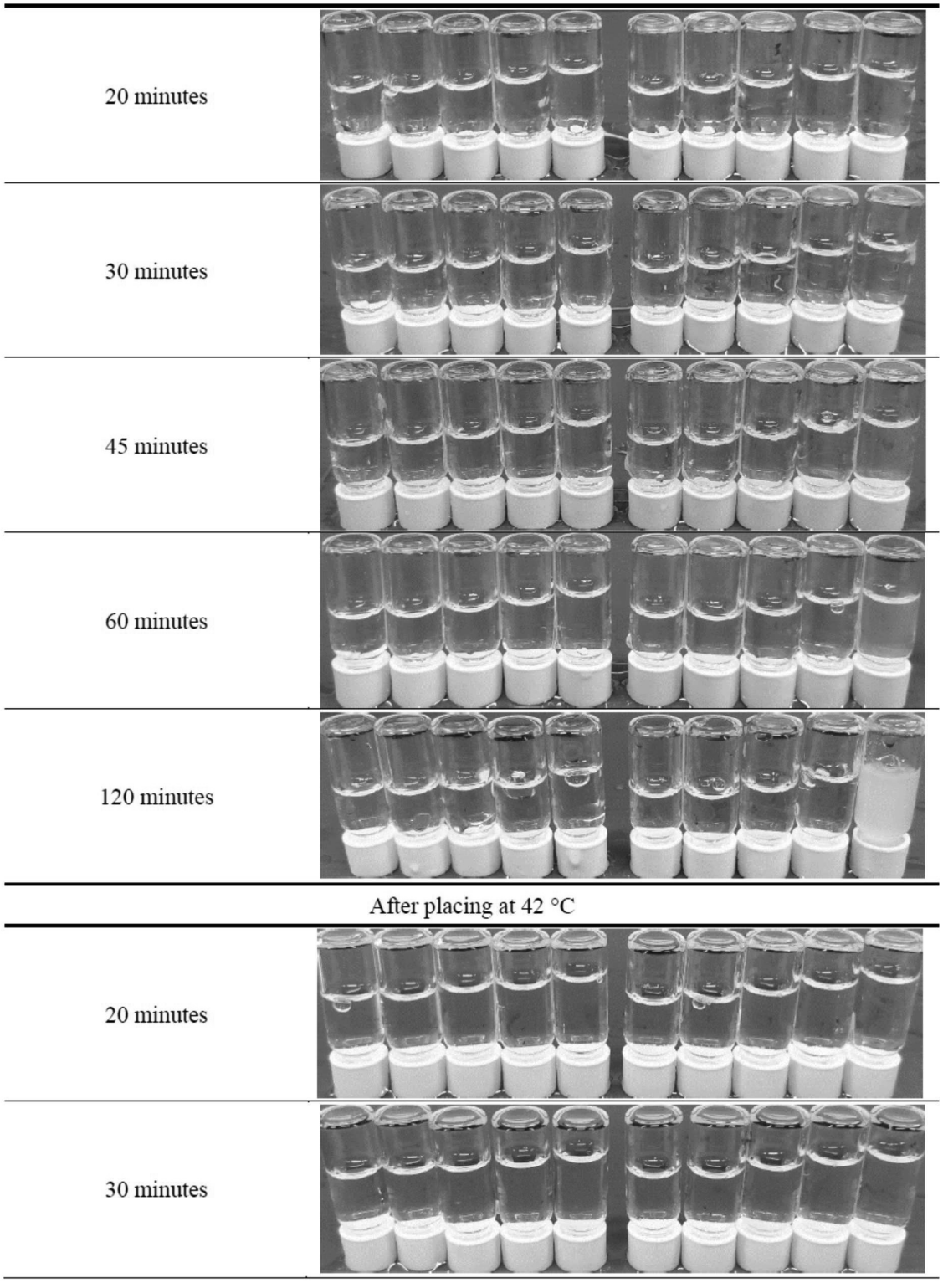


Figure 10a (continued)

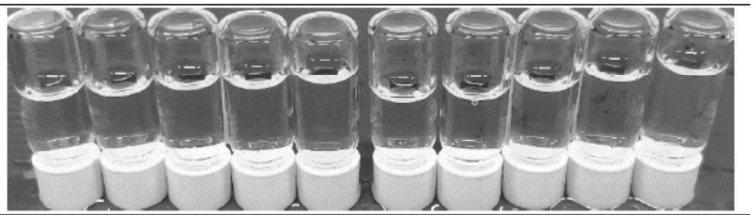
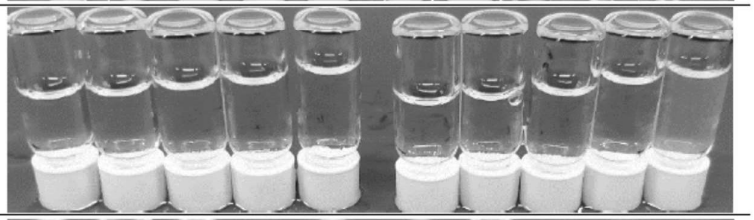
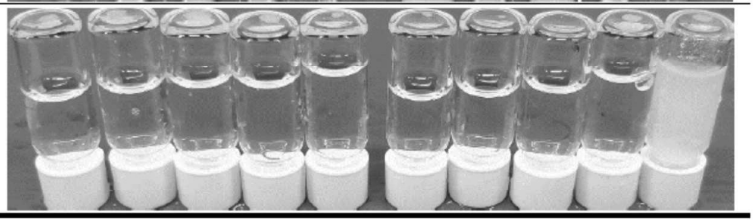
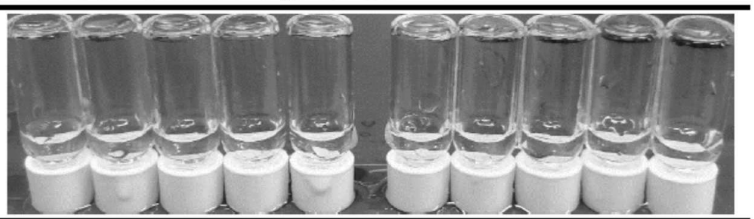
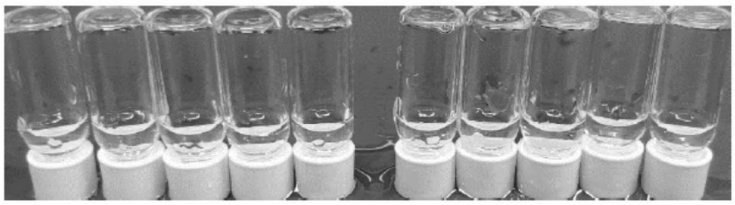
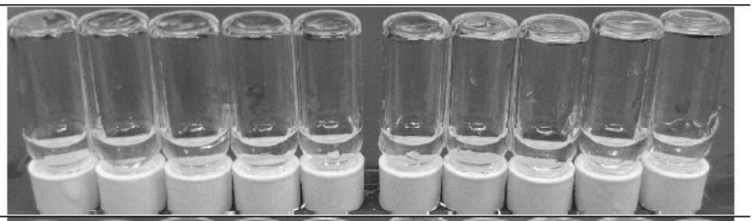
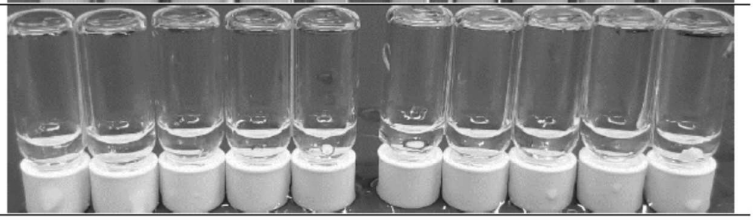
45 minutes	
60 minutes	
120 minutes	
After added to 0.9 % saline and placed at 37 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	

Figure 10a (continued)

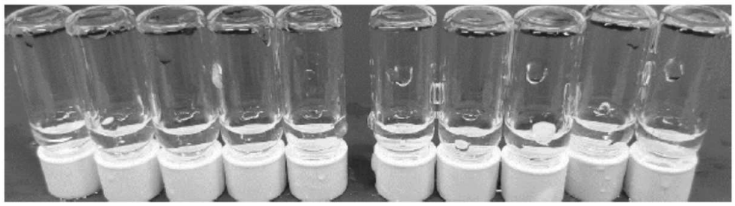
120 minutes	

Figure 10a (continued)

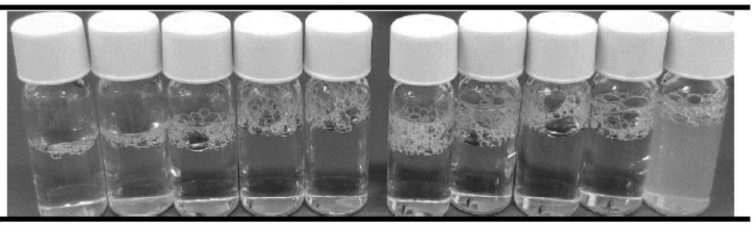
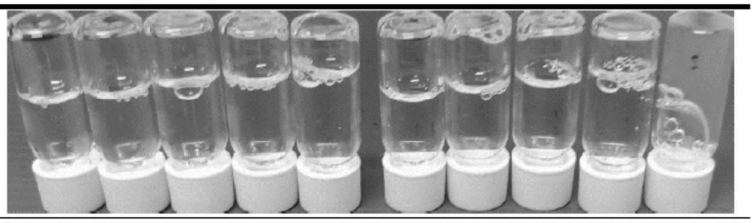
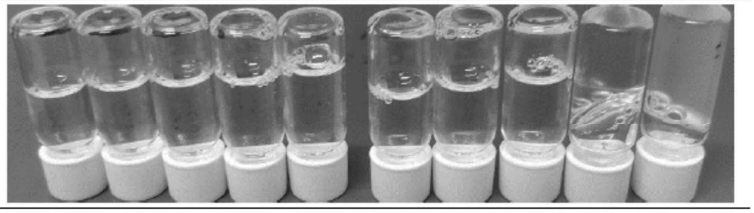
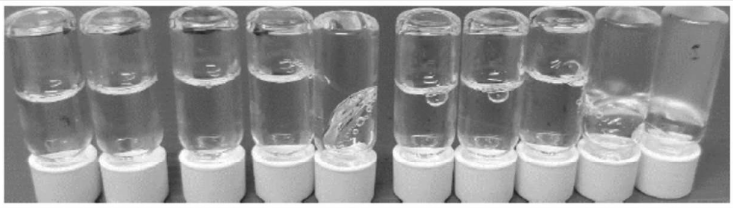
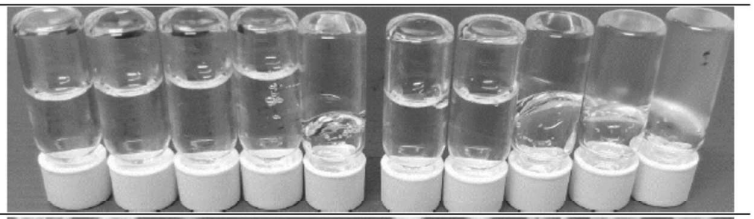
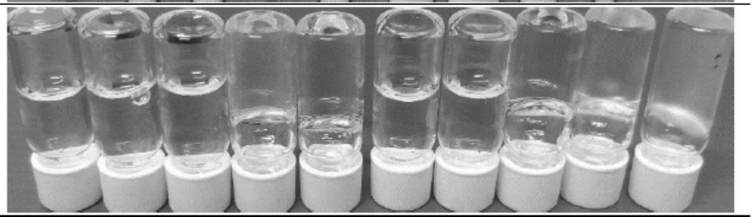
Group 2	Appearance
+ 0.2 % acetic acid	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 10b

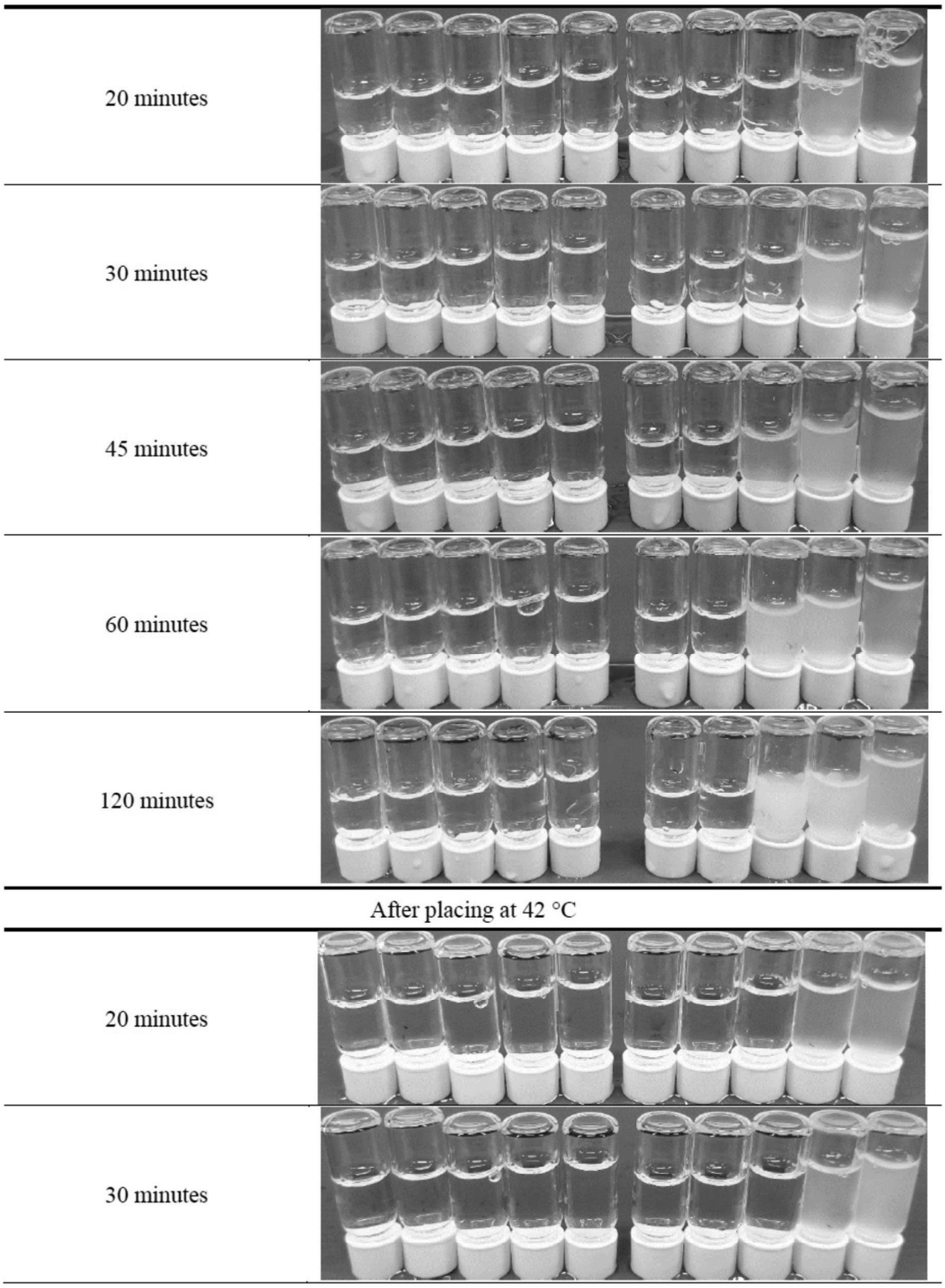


Figure 10b (continued)

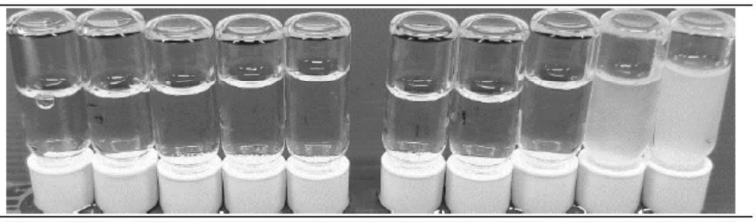
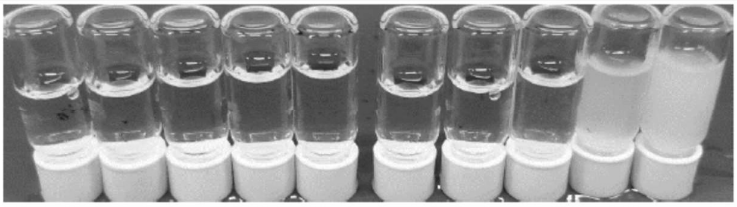
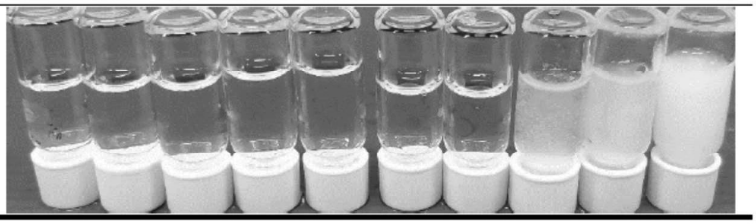
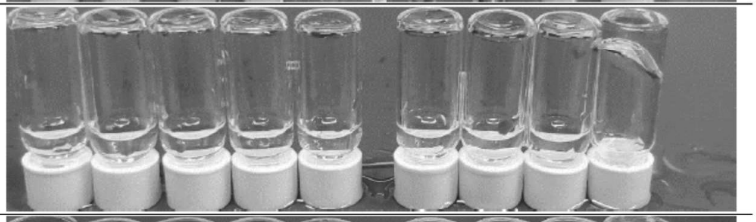
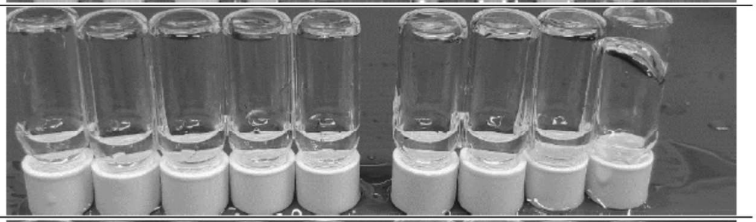
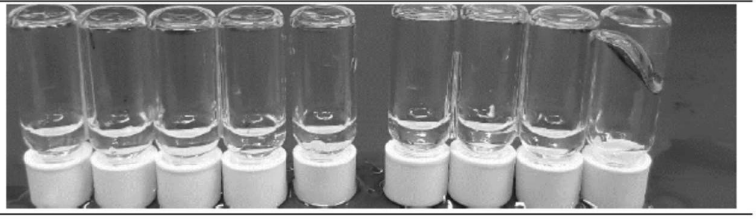
45 minutes	
60 minutes	
120 minutes	
After added to 0.9 % saline and placed at 37 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	

Figure 10b (continued)

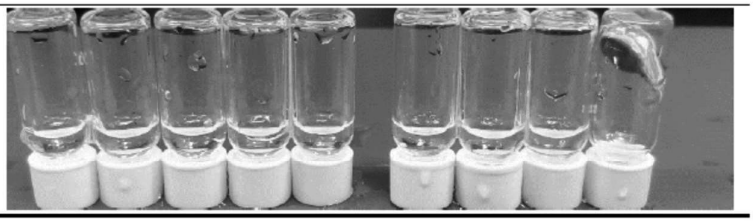
120 minutes	

Figure 10b (continued)

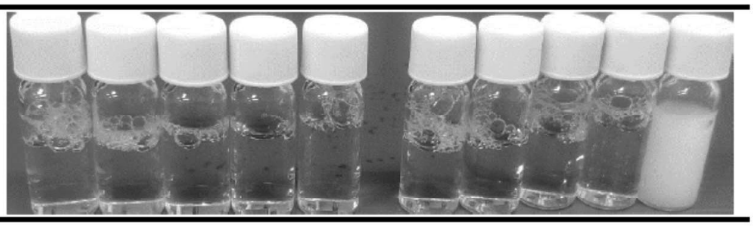
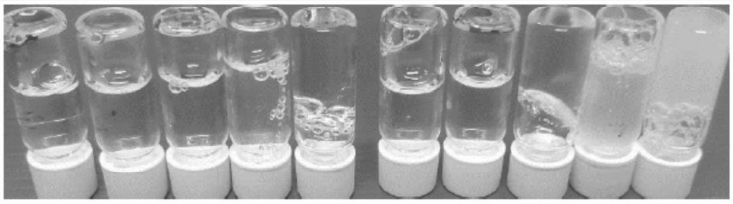
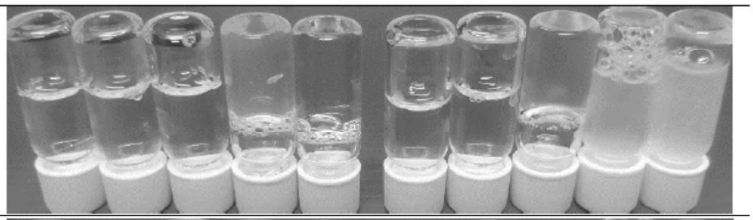
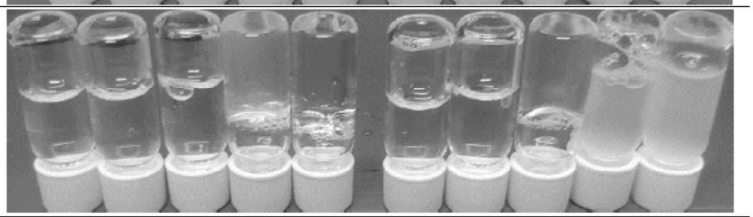
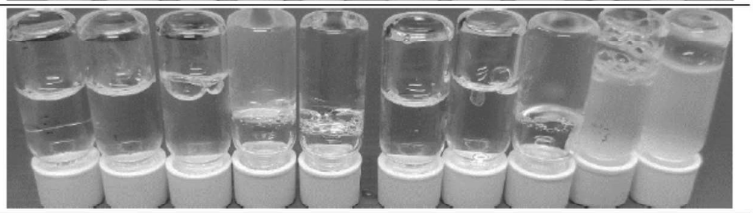
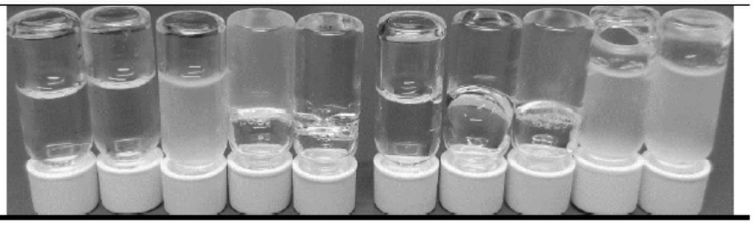
Group 3	Appearance
+ 0.3 % acetic acid	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 10c

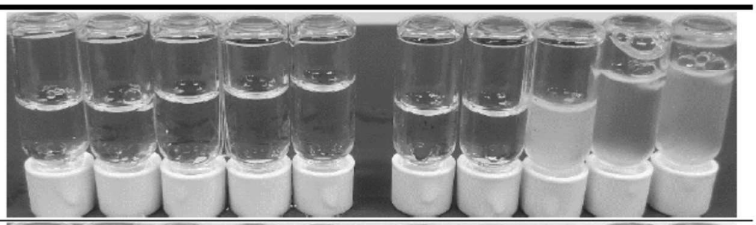
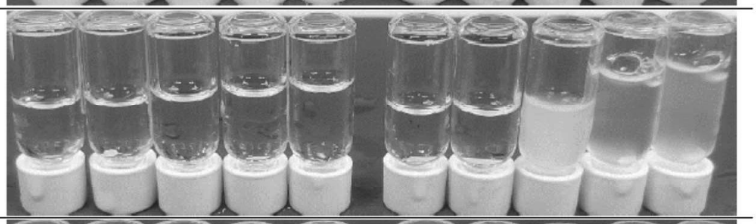
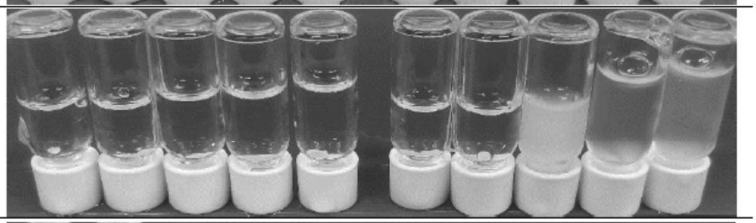
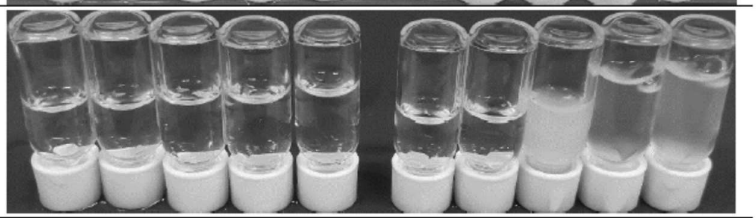
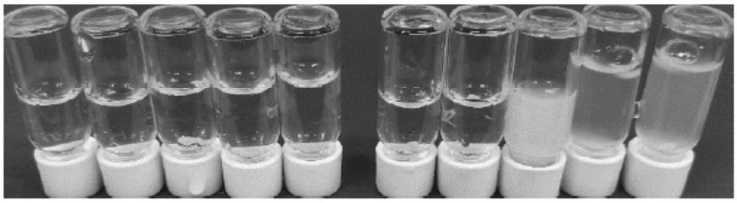
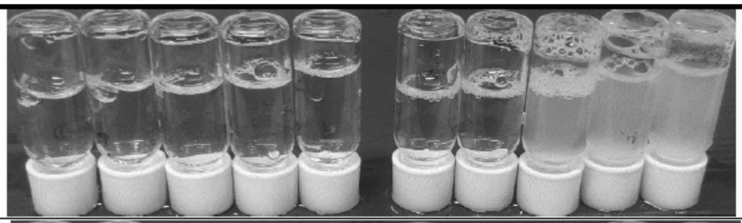
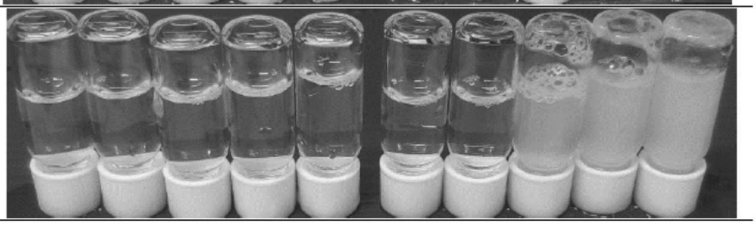
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 42 °C	
20 minutes	
30 minutes	

Figure 10c (continued)

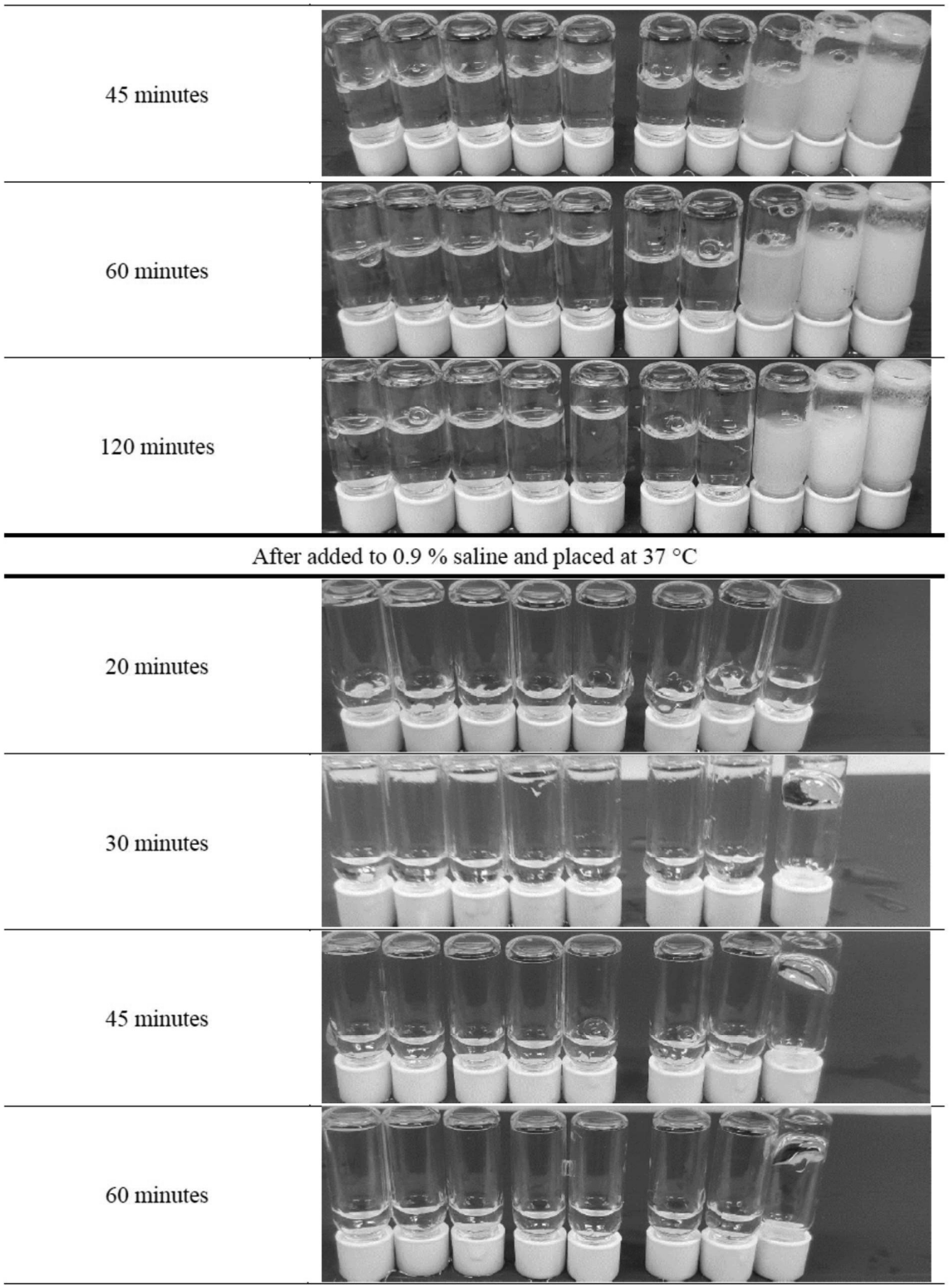


Figure 10c (continued)

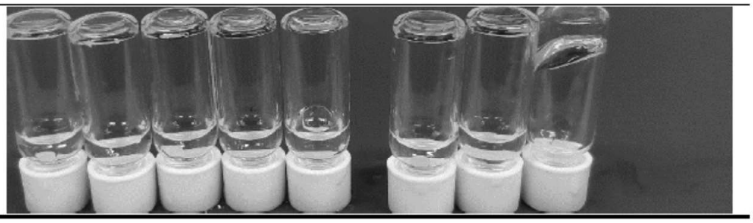
120 minutes	

Figure 10c (continued)

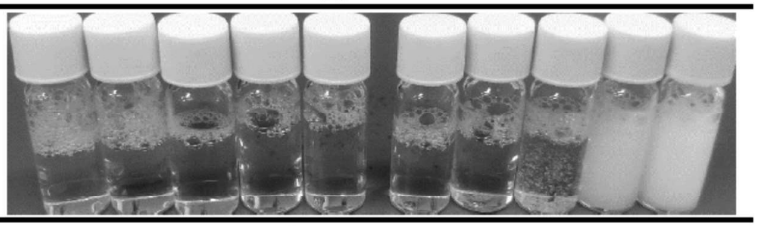
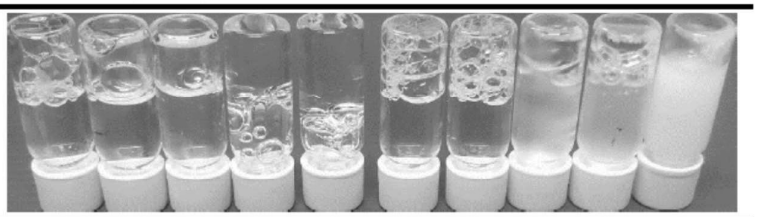
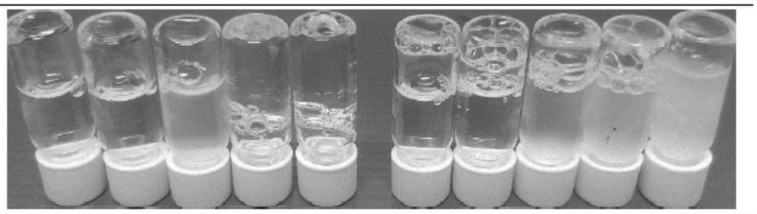
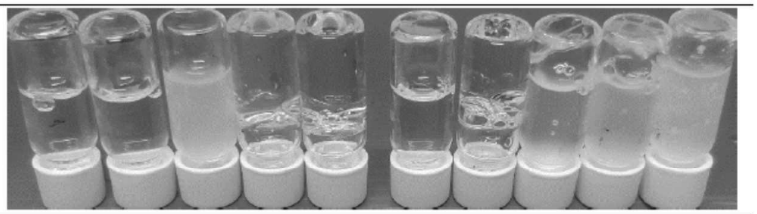
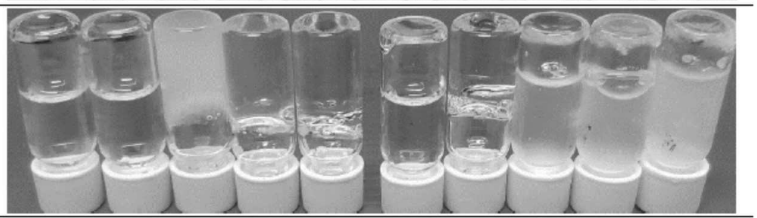
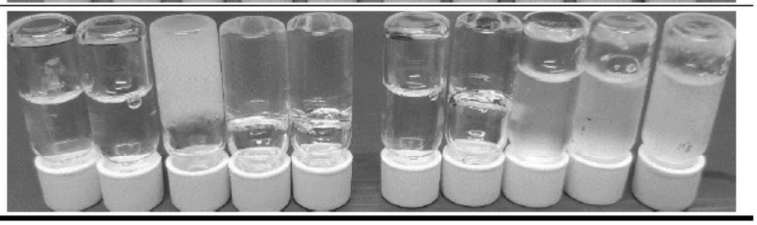
Group 4	Appearance
+ 0.4 % acetic acid	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 10d

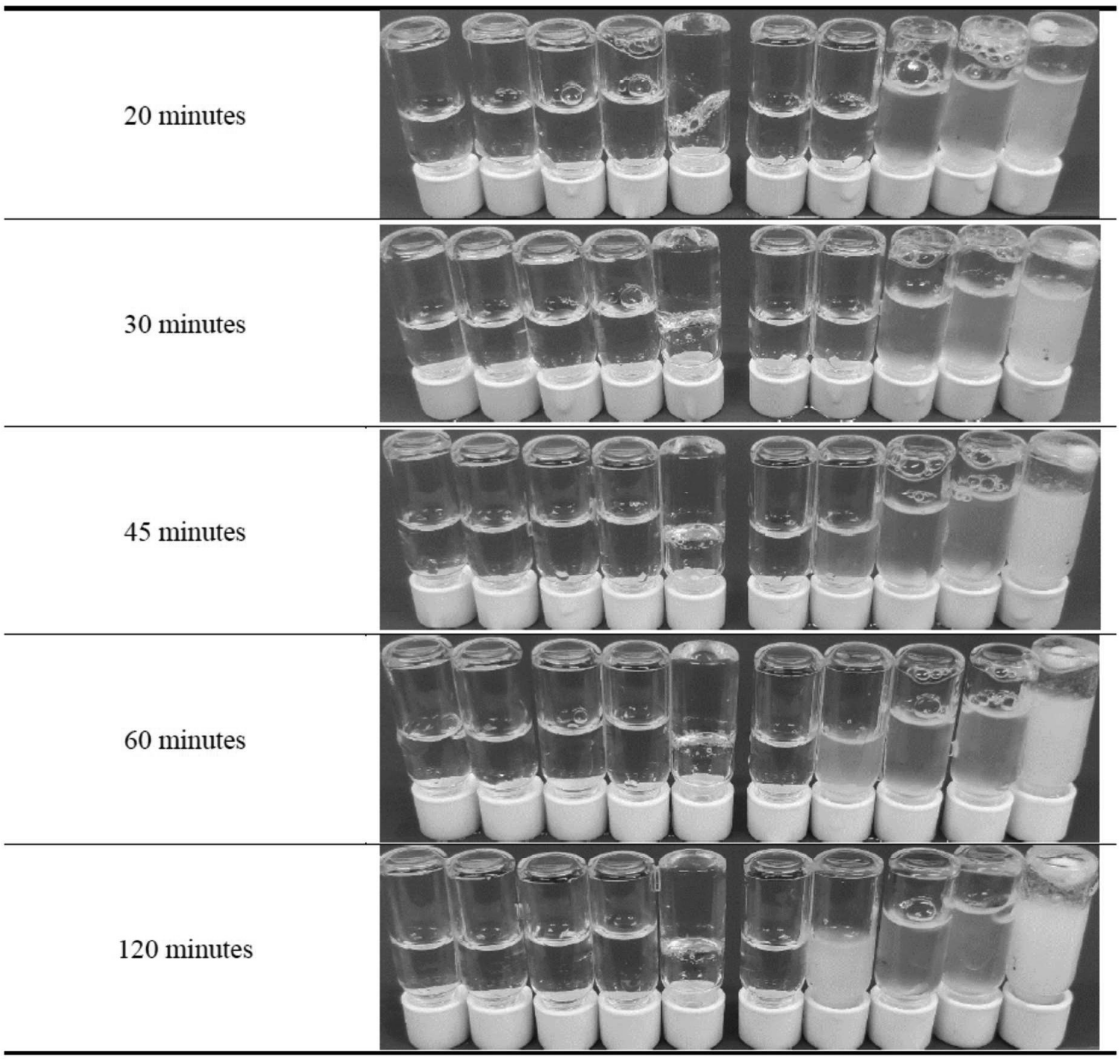


Figure 10d (continued)

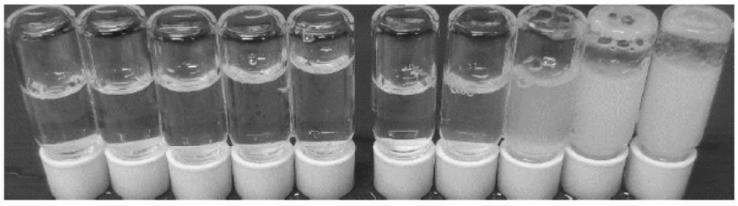
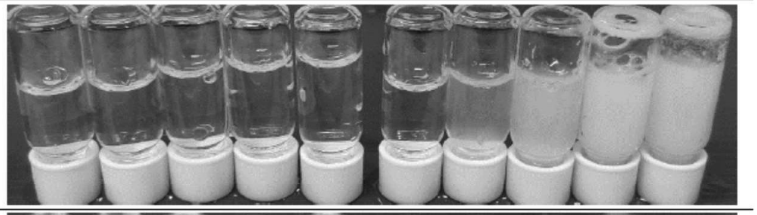
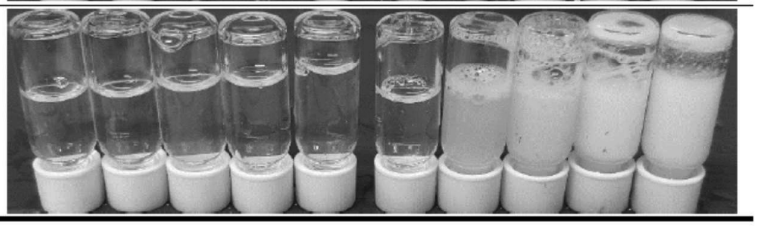
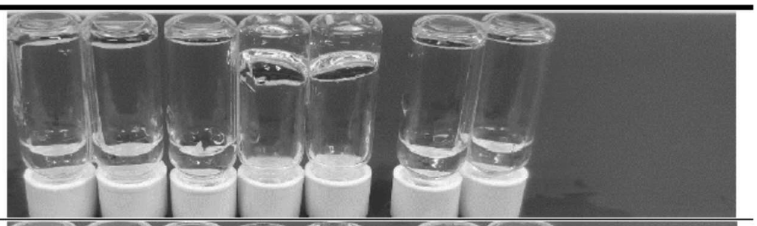
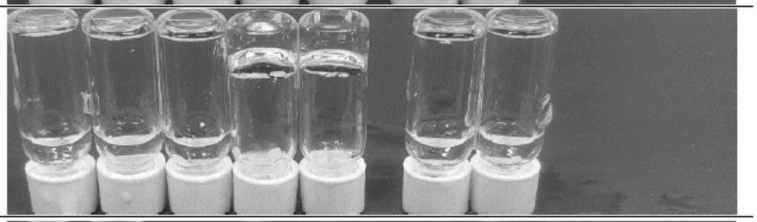
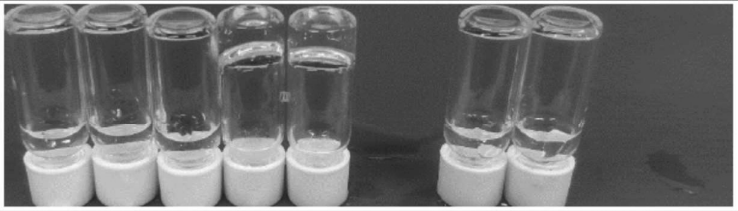
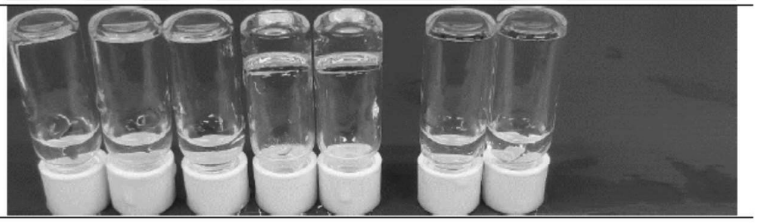
45 minutes	
60 minutes	
120 minutes	
After added to 0.9 % saline and placed at 37 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	

Figure 10d (continued)

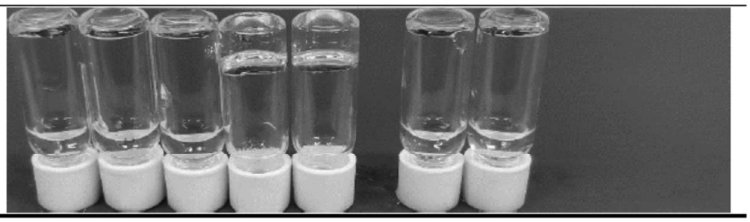
120 minutes	

Figure 10d (continued)

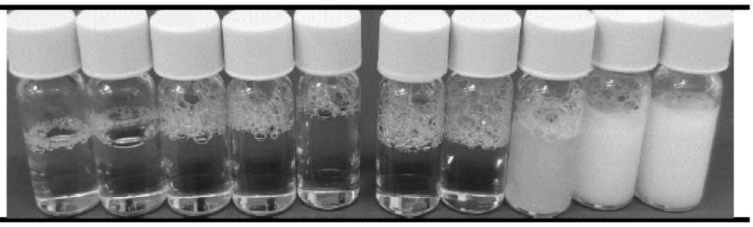
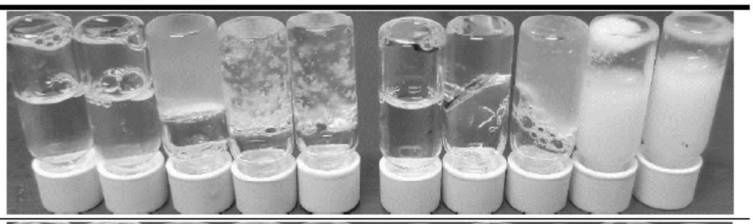
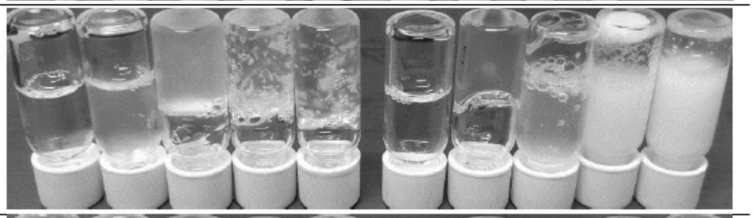
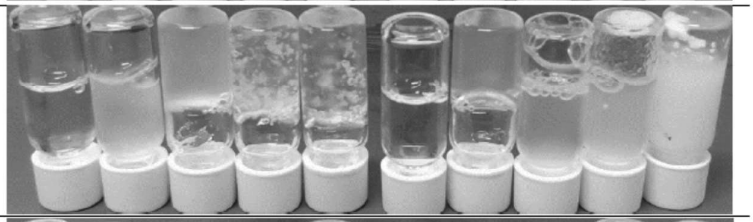
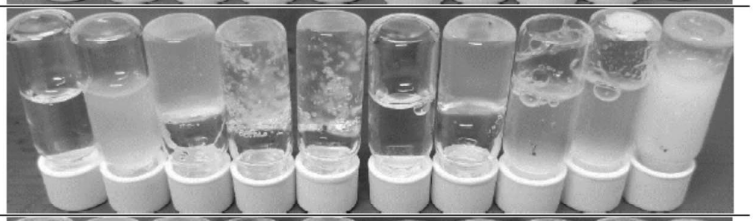
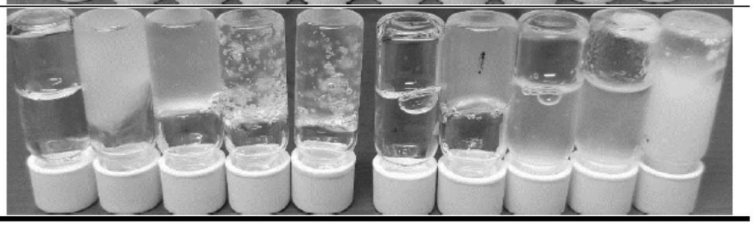
Group 5	Appearance
+ 0.5 % acetic acid	
After placing at 25 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 37 °C	

Figure 10e

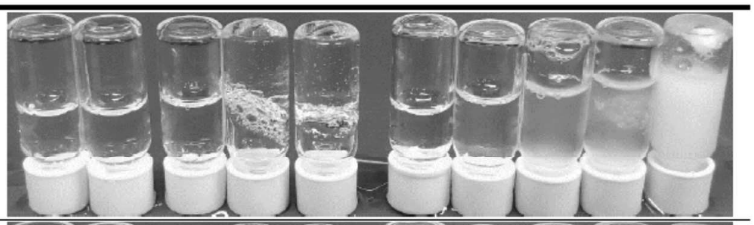
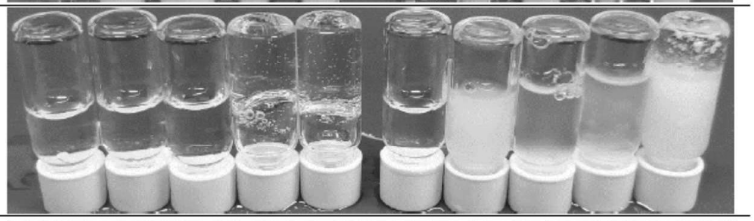
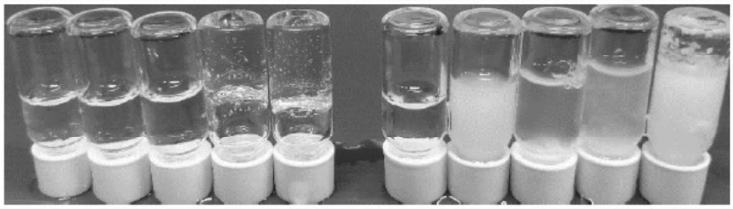
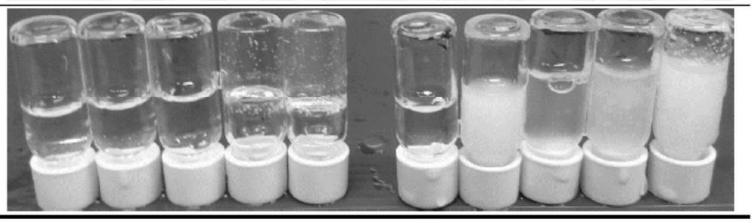
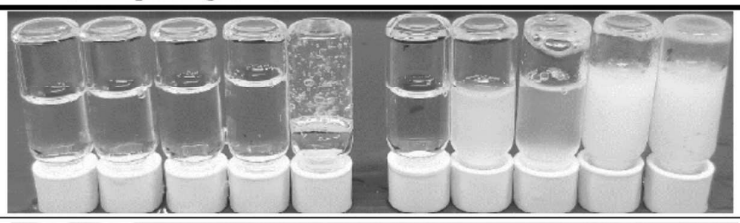
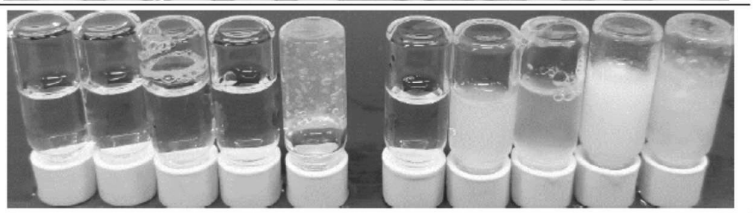
20 minutes	
30 minutes	
45 minutes	
60 minutes	
120 minutes	
After placing at 42 °C	
20 minutes	
30 minutes	

Figure 10e (continued)

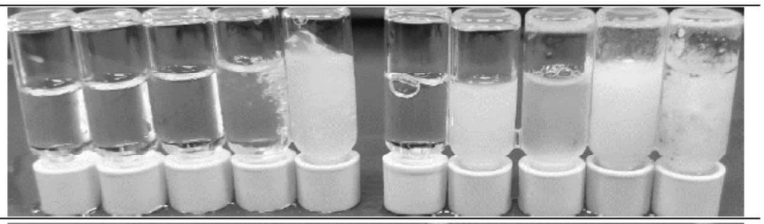
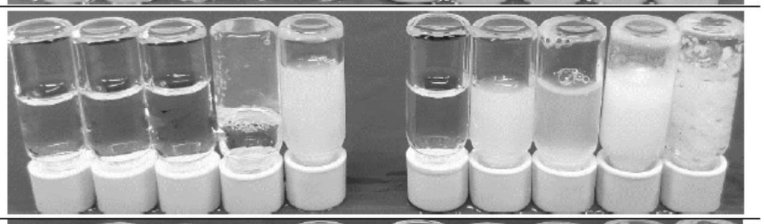
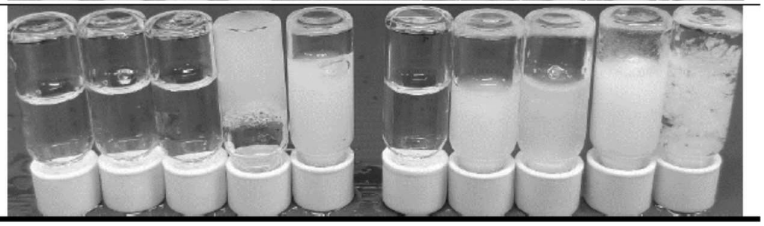
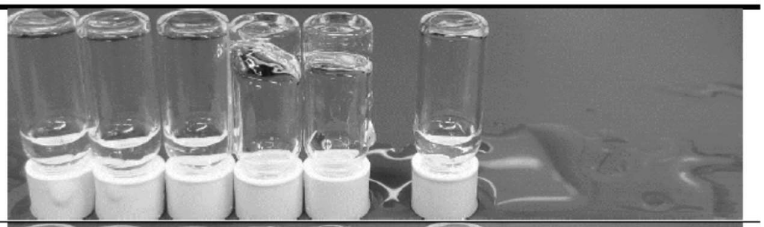
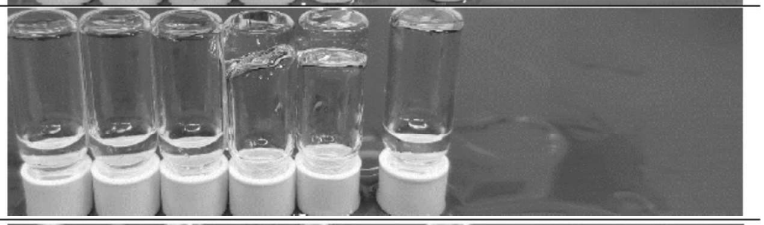
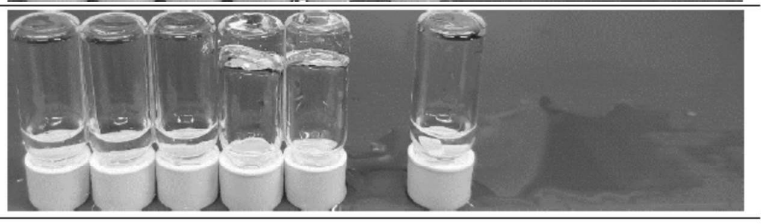
45 minutes	
60 minutes	
120 minutes	
After added to 0.9 % saline and placed at 37 °C	
20 minutes	
30 minutes	
45 minutes	
60 minutes	

Figure 10e (continued)

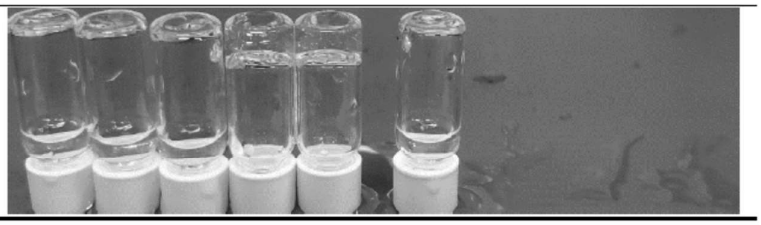
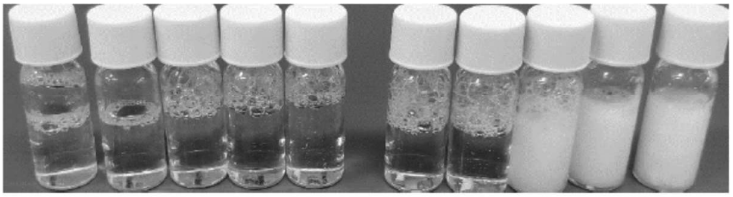
120 minutes	

Figure 10e (continued)

Group 6	Appearance
+ 0.6 % acetic acid	

Figure