CHAPTER III

RESULTS

1. Studies on lactic acid were produced by S. mutans and S. sanguis after cultivation in various concentrations of sugars

1.1 S. mutans in various concentrations of sugars, anaerobic condition.

Table 1 Lactic acid production of S. mutans after incubation for 24 hrs in various concentration of sugars.

Absorbancy at 570 nm / Conc. of sugar (%)	sugars				
	Xylitol	Sucrose	Mannitol	Lactose	Glucose
0.01	0	0.08	0.1	0.015	0.22
0.02	0	0.161	0.102	0.04	0.19
0.03	0	0.103	0.1	0.261	0.28
0.05	0	0.181	0.015	0.408	0.401
0.1	0	0.101	0.103	0.389	0.36
1	0	0.101	0.19	0.35	0.704
3	0	0.16	0.206	0.36	1.37

This sumarrized table collected from table 9 ⟶ 15.

(Table 9 ⟶ 15 appeared in Appendix, page 61⟶64)

1.2 S. mutans in various concentrations of sugars, aerobic condition

Table 2 Lactic acid production of S. mutans after incubation for 24 hrs in various concentrations of sugars

Absorbancy at 570 nm / Conc. of sugar (%)	sugars				
	Xylitol	Sucrose	Mannitol	Lactose	Glucose
0.01	0.06	0	0.102	0.22	0.04
0.02	0.02	0.061	0.011	0.22	0.141
0.03	0	0	0.102	0.22	0.35
0.05	0.02	0	0.15	0.221	0.35
0.1	0.06	0	0.111	0.165	0.39
1	0.112	0.18	0.17	0.202	0.35
3	0.17	0.25	0.17	0.221	0.35

This summarized table collected from table 23 ⟶ 29

(Table 23 ⟶ 29 appeared in Appendix, page 69⟶72)

1.3 S. sanguis in various concentrations of sugars, anaerobic condition.

Table 3 Lactic acid production of S. snaguis after incubation for 24 hrs in various concentrations of sugars.

Absorbancy at 570 nm / Conc. of sugar (%)	sugars				
	Xylitol	Sucrose	Mannitol	Lactose	Glucose
0.01	0	0	0	0.204	0
0.02	0	0	0	0.302	0.05
0.03	0	0.011	0	0.203	0
0.05	0	0.1	0	0.25	0.05
0.1	0	0.1	0	0.205	0
1	0.03	0.105	0	0.19	0.02
3	0.4	0.15	0	0.25	0.08

This summarized table collected from table 16 ⟶ 22

(Table 16 ⟶ 22 appeared in Appendix, page 65 ⟶ 68)

1.4 S. sanguis in various concentrations of sugars, aerobic condition

Table 4 Lactic acid production of S. sanguis after incubation for 24 hrs in various concentrations of sugars.

Absorbancy at 570 nm / Conc. of sugar (%)	sugars				
	Xylitol	Sucrose	Mannitol	Lactose	Glucose
0.01	0	0	0	0	0.26
0.02	0	0.07	0	0.05	0.33
0.03	0	0.07	0	0.02	0.221
0.05	0	0.105	0	0.04	0.203
0.1	0	0.125	0	0	0.333
1	0	0.14	0	0.081	0.282
3	0	0.14	0	0.13	0.35

This summarized table collected from table 30 ⟶ 36
(Table 30 ⟶ 36 appeared in Appendix, page 73 ⟶ 76)

2. Study on the effects of pH on lactic acid production of S. mutans and S. sanguis

2.1 S. mutans in verious pH of sugars, anaerobic condition.

Table 5 Lactic acid production of S. mutans after incubation for 24 hrs in various pH of sugars.

Absorbancy at 570 nm / sugars	pH				
	5	6	7	8	9
Mannitol (1%)	0	0.575	1.075	0.875	0
Glucose (3%)	0.28	0.33	0.26	0.195	0.205
Lactose (1%)	0	0.08	0.075	0.085	0.085
Sucrose (1%)	0.14	0.22	0.23	0.15	0.17
Xylitol (0.01%)	0.025	0.025	0.02	0.02	0.01

This summarized table collected from table 37 ⟶ 41
(Table 37 ⟶ 41 appeared in Appendix, page 77 ⟶ 79)

2.2 S. mutans in various pH of sugars, aerobic condition

Table 6 Lactic acid production of S. mutans after incubation for 24 hrs in various pH of sugars.

Absorbancy at 570 nm / sugars	pH				
	5	6	7	8	9
Manitol (0.05%)	0	0.005	0	0	0
Glucose (3%)	0.17	0.25	0.2	0.215	0.2
Lactose (3%)	0	0.036	0.04	0.045	0.045
Sucrose (3%)	0.09	0.1	0.1	0.09	0.095
Xylitol (0.01%)	0	0	0	0	0

This summarized table collected from table 47 ⟶ 51
(Table 47 ⟶ 51 appeared in Appendix, page 83⟶85)

2.3 S. sanguis in various pH of sugars, anaerobic condition

Table 7 Lactic acid production of S. sanguis after incubation for 24 hrs in various pH of sugars

Absorbancy at 570 nm / sugars	pH				
	5	6	7	8	9
Mannitol (1%)	0	0.105	0.095	0	0
Glucose (0.1%)	0	0.26	0.22	0.19	0.19
Lactose (3%)	0	0	0	0	0.04
Sucrose (3%)	0.08	0.1	0.1	0.1	0.1
Xylitol (0.01%)	0	0	0	0	0

This summarized table collected from table 42 ⟶ 46
(Table 42 ⟶ 46 appeared in Appendix, page 80 ⟶ 82)

2.4 S. sanguis in various pH of sugars, aerobic condition

Table 8 Lactic acid production of S. sanguis after incubation for 24 hrs in various pH of sugars.

Absorbancy at 570 nm / sugars	pH				
	5	6	7	8	9
Mannitol (1%)	0	0.015	0.164	0	0.025
Glucose (0.1%)	0	0.08	0.09	0.07	0
Lactose (3%)	0	0	0.018	0.01	0.04
Sucrose (3%)	0.08	0.1	0.09	0.095	0.095
Xylitol (0.01%)	0	0	0	0	0

This summarized table collected from table 52 ⟶56

(Table 52 ⟶56 appeared in Appendix, page 86 ⟶88)