



**Table 2** The research method of hydrogen production and acetic acid using *Bacillus circullans* in different substrates.

Inoculant	Substrate			Replication
	Sucrose 1%	Molasses 1%	Molasses 2%	
BC I	BC I-S11	BCI-M11	BCI-M21	1
	BC I-S12	BCI-M12	BCI-M22	2
	BC I-S13	BCI-M13	BCI-M23	3
BCII	BCII- S11	BCII- M11	BCII- M21	1
	BCII- S12	BCII- M12	BCII- M22	2
	BCII- S13	BCII- M13	BCII- M23	3
BCIII	BCIII- S11	BCIII- M11	BCIII- M21	1
	BCIII- S12	BCIII- M12	BCIII- M22	2
	BCIII- S13	BCIII- M13	BCIII- M23	3
BC(I+III)	BC(I+III)- S11	BC(I+III)- M11	BC(I+III)- M21	1
	BC(I+III)- S12	BC(I+III)- M12	BC(I+III)- M22	2
	BC(I+III)- S13	BC(I+III)- M13	BC(I+III)- M23	3
BC(I+II)	BC(I+II)- S11	BC(I+II)- M11	BC(I+II)- M21	1
	BC(I+II)- S12	BC(I+II)- M12	BC(I+II)- M22	2
	BC(I+II)- S13	BC(I+II)- M13	BC(I+II)- M23	3
BC(II+III)	BC(II+III)- S11	BC(II+III)- M11	BC(II+III)- M21	1
	BC(II+III)- S12	BC(II+III)- M12	BC(II+III)- M22	2
	BC(II+III)- S13	BC(II+III)- M13	BC(II+III)- M23	3
BC(I+II+III)	BC(I+II+III)- S11	BC(I+II+III)- M11	BC(I+II+III)-M21	1
	BC(I+II+III)- S12	BC(I+II+III)- M12	BC(I+II+III)-M22	2
	BC(I+II+III)- S13	BC(I+II+III)- M13	BC(I+II+III)-M23	3

### 3 Results and Discussion

#### 3.1. pH Measurement on inoculation *Bacillus circullans* in Sucrose and Molasses Substrate

Table 3 shows the pH measurement results of liquid fermentation medium by using *Bacillus circullans* (BC). This process used sucrose and molasses as substrates.