

Supplimentary table S1 Sensory evaluation standards of fermented and control lemon juice

Items	Description	Score
Clarity/20	The fruit juice is uniform in texture, clear and without precipitation	16-20
	The fruit juice is slightly clear with a small amount of floccule	11-15
	The fruit juice is uneven in texture with a small amount of precipitation	6-10
	The fruit juice is uneven in texture, cloudy and precipitated	1-5
Fruity/30	Typical lemon flavor, pleasant and gentle aroma	21-30
	Exhibits lemons aroma but a little bit lighter	11-20
	No lemons aroma	0-10
Taste/30	Sweet and sour, refreshing on the mouth, good palatability	26-30
	A little bit tart , average flavor, average palatability	21-25
	Distinctly sour, with no bitter taste	16-20
	Distinctly sour, astringent, bitter	0-15
Overall acceptability /20	High acceptance	16-20
	Average acceptance	11-15
	Poor acceptance	1-10
Total score/100		100

Supplimentary table S2 Pearson correlation matrix of physicochemical properties and antioxidant activity in fermented lemon juice

	Total titratable acidity	Total sugar	Reducing sugar	pH	Total Phenolic	Total flavonoid	ABTS ⁺ radical scavenging activity	Total reductive ability
Total titratable acidity	1							
Total sugar	0.789*	1						
Reducing sugar	0.890*	0.928*	1					
pH	-0.924*	-0.568	-0.722*	1				
Total Phenolic	0.812*	0.856*	0.787*	-0.711*	1			
Total flavonoid	0.892*	0.864*	0.963*	-0.690*	0.665*	1		
ABTS ⁺ radical scavenging activity	0.832*	0.838*	0.820*	-0.590	0.815*	0.840*	1	
Total reductive ability	0.890*	0.630*	0.758*	-0.802*	0.719*	0.750*	0.835*	1

* Significant correlation at 0.05 level (two-tailed).