

Table 1. DNS Standard Calibration Data (Glucose, $\lambda = 530-540$ nm)

Tube	Glucose Concentration ($\mu\text{g/mL}$)	Absorbance (530-540 nm)
Blank	0	0.000
1	200	0.07
2	400	0.15
3	600	0.21
4	800	0.32
5	1000	0.38

Table 2. Reducing Sugar Concentrations Before and After 14-Day Fermentation (DNS Colorimetric Method)

Sample	Raw ($\mu\text{g/mL}$)	Post-Ferm. RT ($\mu\text{g/mL}$)	Post-Ferm. 37°C ($\mu\text{g/mL}$)	Sugar Used RT	Sugar Used 37°C
Chikoo	950	640	505	310 (32.6%)	445 (46.8%)
Dragon Fruit	480	320	270	160 (33.3%)	210 (43.8%)
Mandarin Orange	800	600	1000*	-200 (net increase)	450 (apparent only)

Table 3. Ethanol Content (% v/v) in Fruit Wines Determined by the Dichromate Oxidimetric Method

Sample	Ethanol % v/v (RT)	Ethanol (37°C)	% v/v	Blank (mL)	Titre
Chikoo Wine	3.50	2.87		46	
Dragon Fruit Wine	3.95	3.98		46	
Mandarin Orange Wine	6.50	6.20		48	

Table 4. DPPH Radical Scavenging Activity of Fruit Wines

Sample	A0 (Before DPPH)	As (After DPPH)	Scavenging Activity (%)
Chikoo Wine	1.46	1.21	17.12
Dragon Fruit Wine	1.72	1.00	41.86
Mandarin Orange Wine	1.03	0.78	27.27

Table 5. RP-HPLC Quercetin Quantification in Fruit Wines (External Standard: 50 µg/mL; tR approx. 2.783 min; lambda = 280 nm)

Sample	AUC (uV. sec)	Quercetin Concentration (mg/L)
Quercetin Standard (50 µg/mL)	743,844	50.00 (reference)
Port Wine (positive control)	1,263,328	84.91
Chikoo Wine	305,176	20.51
Dragon Fruit Wine	305,835	20.50
Mandarin Orange Wine	665,822	44.76

Table 6. Organoleptic Properties of the Three Fruit Wines After 14-Day Fermentation

Attribute	Chikoo Wine	Dragon Fruit Wine	Mandarin Orange Wine
Color	Dark maroon	White	Bright orange
Odor	Alcoholic	Pungent	Citrusy
Flavour	Distinct; woody notes	Unfavourable; requires improvement	Citrusy; pleasant; favourable
Texture	Thick; viscous	Thin; fluid	Smooth; velvety

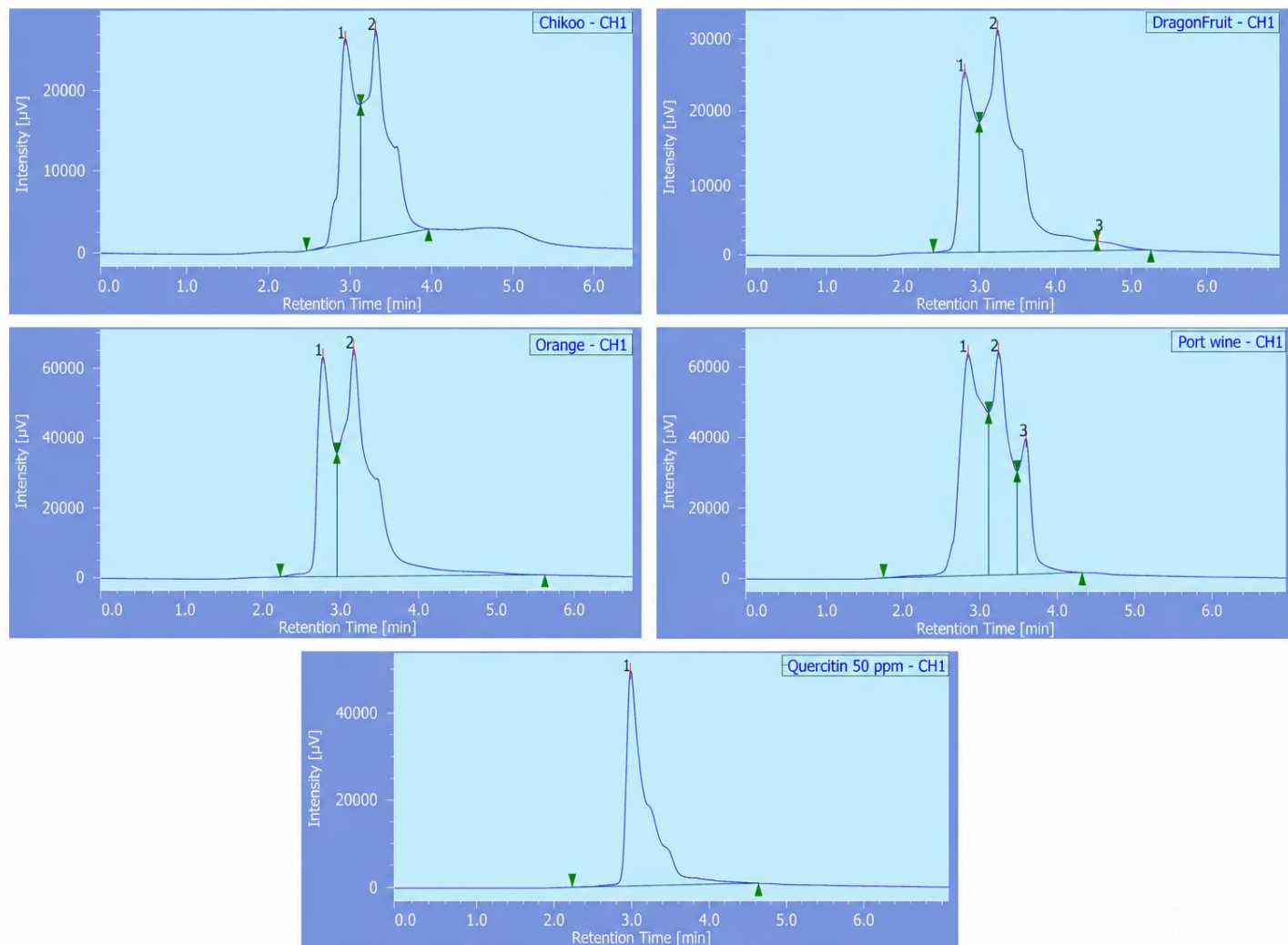


Figure 1. Chromatograms for estimation of quercetin in various samples top; (a) Chickoo (b) Dragon fruit, middle; (c) Orange (d) Port wine, bottom; (e) Quercetin (50 ppm)

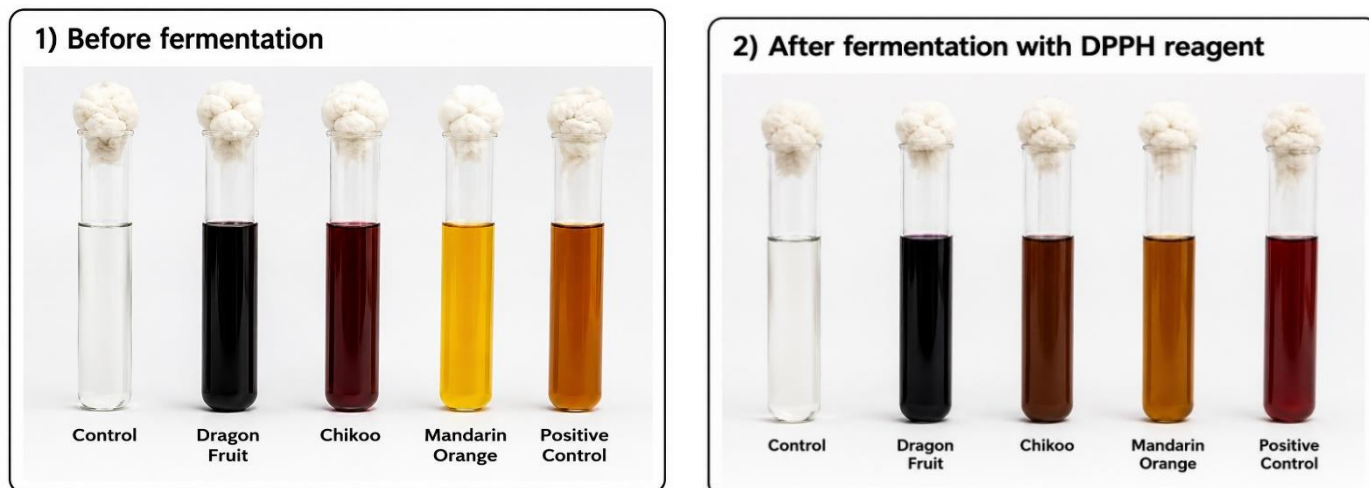


Figure 2: Comparative antioxidant activity of fruit juice samples before and after fermentation and ethanol estimation by the dichromate oxidimetric method. (1) DPPH radical scavenging assay of fruit juices before fermentation. (2) DPPH radical scavenging assay of fermented fruit wines.