

TABLE 13.3
R_f Values, Height and Area Peaks of Polyphenols
and Unknown Compounds

Track	Peak	R _f	Height	Area	Assigned Substance
A	1	0.01	587.0	14041.9	Polyphenol 1
A	2	0.11	129.1	3462.6	Polyphenol 2
A	3	0.17	150.2	5001.3	Polyphenol 3
A	4	0.20	199.2	5959.5	Unknown
A	5	0.40	125.6	7870.0	Polyphenol 4
A	6	0.52	116.2	3753.0	Polyphenol 5
A	7	0.63	31.7	951.1	Unknown
A	8	0.70	30.9	772.0	Unknown
A	9	0.87	19.5	733.3	Unknown

13.6 HIGH-PERFORMANCE LIQUID CHROMATOGRAPHY PROFILE OF *M. CALABURA* FRUITS

Further, in order to separate and detect individual polyphenols in *M. calabura* fruits, analytical high-performance liquid chromatography (HPLC) techniques were used, which revealed the presence of flavonol, a quercetin compound in the fruit.

Quercetin (which contains the highest amount of flavanols in food) and their derivatives (gallic acid and catechol) are reported to possess potent antimutagenesis, antitumor and antimetastasis properties (Vessal et al. 2003). In addition, the combination of quercetin, ellagic acid and some other flavanoids found in *M. calabura* fruits have been credited with health-promoting potential. Further investigations reported phenolic compounds, along with their mass and the compound properties of *M. calabura* fruits. Table 13.4 clearly states the compounds present and their biological properties.

M. calabura fruit is enriched with polyphenols, especially cinnamic acids and their derivatives. The role of hydroxycinnamic acid compounds as antioxidants and radical scavengers demonstrates that they are a precursor for anthocyanins, which are also present in the fruit. Each of the identified compounds has its correlation with the other, for instance, the total flavonoid content and total phenolic content. All these compounds are directly or indirectly related due to their antioxidant potential. Likewise, flavonols, anthocyanin and flavonoids (such as quercetin) show an indispensable relation with flavonols, owing to their antioxidant activities.