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COMPARATIVE PHYTOCHEMICAL AND ANTIOXIDANT PROFILING OF CEYLON AND CHINESE CINNAMON BARK EXTRACTS*

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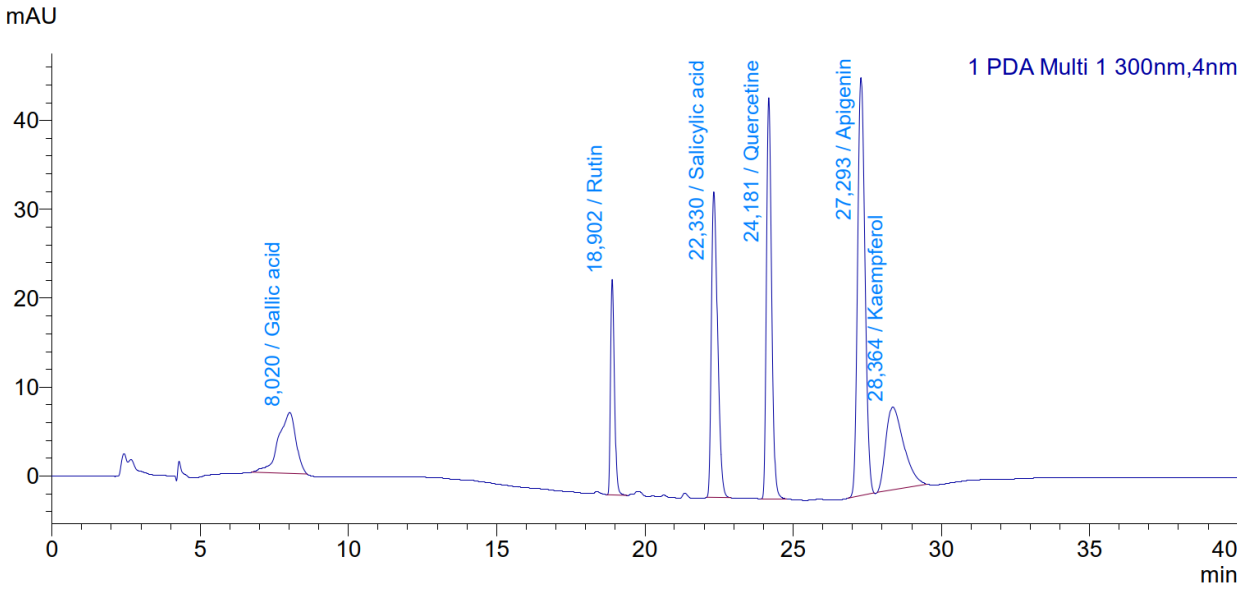


Fig. 1. Chromatogram of standards at 300 nm

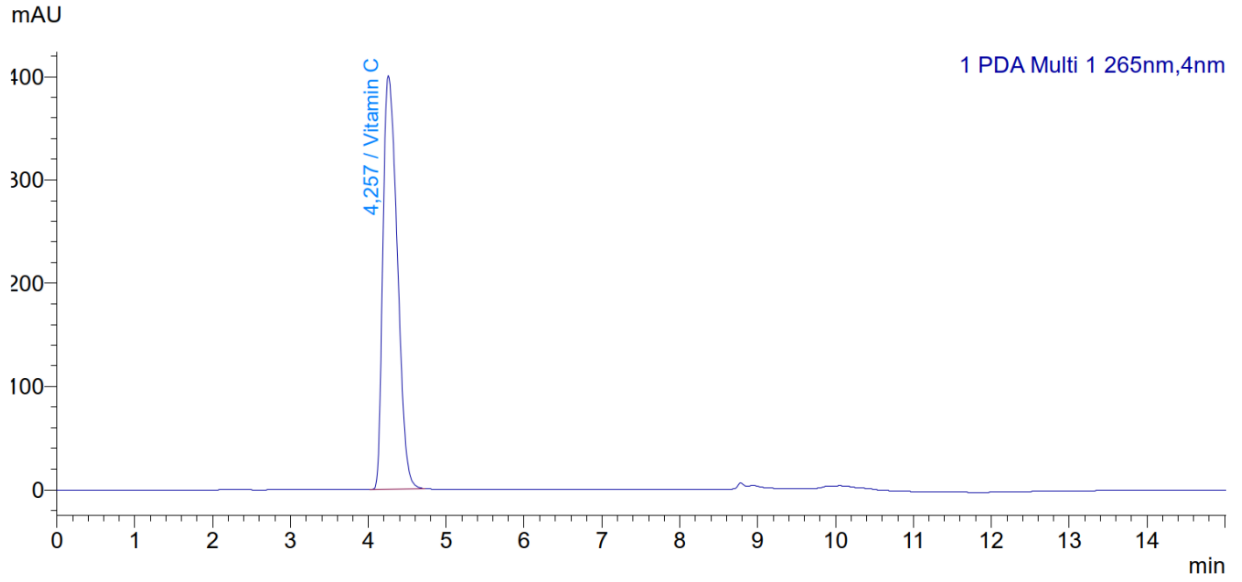


Fig. 2. Chromatogram of the Vitamin C standard solution

Table 1. Measured Optical Densities of Adrenaline and Samples

Time, s.	Adrenaline D_1	Cinnamon Verum alcoholic extract (D_2)	Cinnamon cassia alcoholic extract (D_2)	Cinnamon Verum water extract (D_2)	Cinnamon cassia water extract (D_2)
0	0.029	0.017	0.033	0.061	0.046
30	0.062	0.034	0.058	0.121	0.093
60	0.097	0.051	0.089	0.179	0.138
90	0.13	0.068	0.12	0.234	0.182
120	0.163	0.085	0.15	0.286	0.225
150	0.195	0.103	0.181	0.334	0.266
180	0.226	0.12	0.209	0.379	0.305
210	0.256	0.139	0.237	0.419	0.341
240	0.285	0.154	0.265	0.455	0.374
270	0.312	0.172	0.291	0.487	0.405
300	0.337	0.187	0.315	0.514	0.432
330	0.361	0.203	0.339	0.538	0.456
360	0.383	0.218	0.36	0.558	0.479
390	0.403	0.233	0.381	0.576	0.498
420	0.422	0.247	0.399	0.591	0.515
450	0.439	0.26	0.417	0.603	0.53
480	0.455	0.274	0.432	0.613	0.543
510	0.469	0.287	0.446	0.622	0.555
540	0.482	0.299	0.46	0.629	0.565
570	0.494	0.313	0.472	0.635	0.574
600	0.504	0.328	0.483	0.64	0.581

Table 2. Mobile phase gradient program for vitamin analysis

Time (min)	Mobile Phase A (Acetonitrile), %	Mobile Phase B (0.5% Acetic Acid in Water), %
0	0	100
3	0	100
14	20	80
17	50	50
18	0	100
25	Ending	

Table 3. Mobile phase gradient program for determining Vitamin C content

Time (min)	Mobile Phase A (Acetonitrile), %	Mobile Phase B (0.5% Acetic Acid in Water), %
0	0	100
2	0	100
6	50	50
6.01	0	100
15	Ending	

Formula (1). Determination of polyphenol content in the extract

$$X = \frac{C_{phen} \cdot V_{extract}}{m_{sample}} \cdot 100\ g$$

Where:

X is the amount of phenolic compounds in 100 grams of the sample, expressed in mg.

C_{phen} – is the concentration of phenolic compounds in the extract, determined using the HPLC method, expressed in mg/L.

$V_{extract}$ – is the volume of the sample extract, in litres.

m_{sample} – is the mass of the sample used for the extraction, in grams.

Formula (2). Determination of the amount of vitamins in the extract

$$X = \frac{C_{vit} \cdot V_{extract}}{m_{sample}} \cdot 100\ g$$

Where:
X is the amount of vitamins in 100 grams of fruit, expressed in mg.
C_{vit} –is the concentration of the vitamin in the extract, determined by the HPLC method, expressed in mg/L.
$V_{extract}$ – the volume of the sample extract, in litres.
m_{sample} –is the mass of the sample used for extraction, in grams.