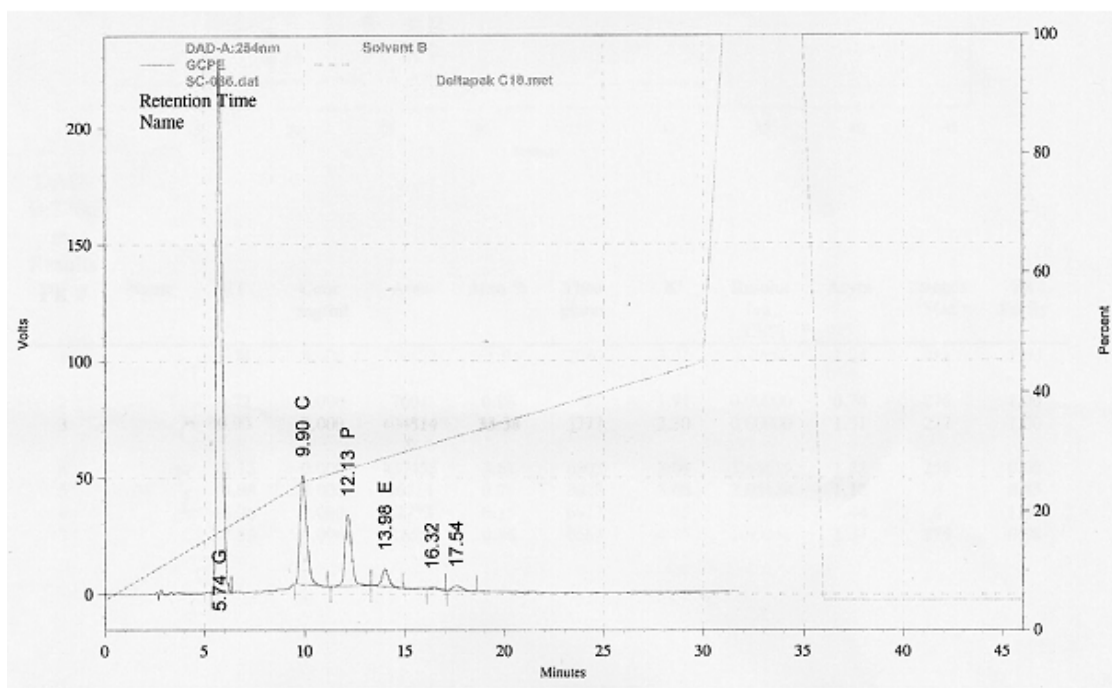


ELECTRONIC SUPPLEMENTARY INFORMATION

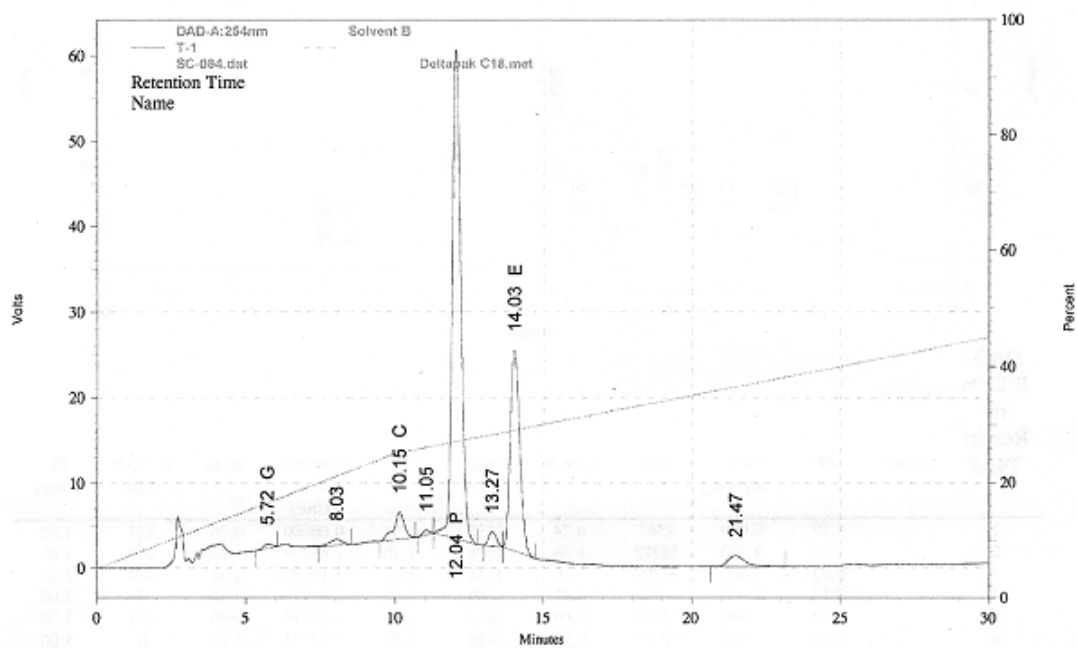
ESI –S1 : pH values of the extracted products

Product	pH value
DIMCARB extracted product from catecheu	6.61
DIMCARB extracted product from myrobalan nut	8.56
Water extracted product from catecheu	4.52
Water extracted product from myrobalan nut	3.50
Pure gallic acid	4.56

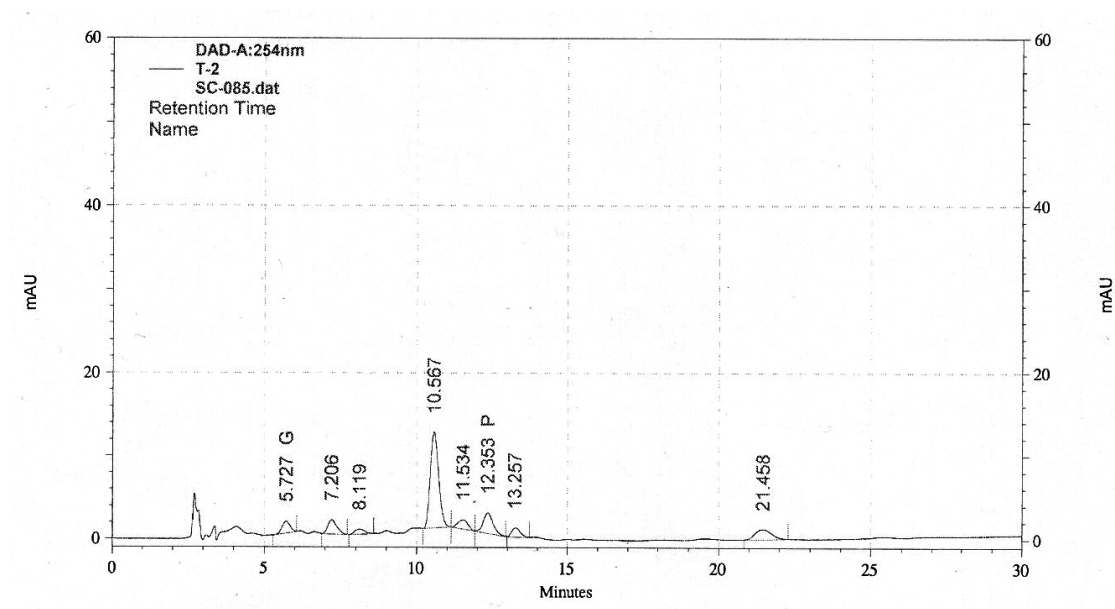
ESI - S2: HPLC chromatogram of mixture of Pure substances. G = gallic acid; C = catechin hydrate; P = pyrocatechol, E = ellagic acid.



ESI - S3: HPLC Chromatogram of myrobalan extract using DIMCARB ionic liquid



ESI - S4: HPLC Chromatogram of myrobalan extract using water



ESI - S5 LC-MS analysis of extracted tannins

Sample	Mass
Gallic acid (pure)	170.12
Ellagic acid (pure)	302.19
Catecheu (DIMCARB extract)	113.18, 131.21, 191.31, 333.23, 463.24, 609.28, 739.33 (- ve scan) 151.13, 179.2, 215.24, 149.19, 291.24, 313.23, 266.36, 282.37, 210.4 (+ ve scan)
Catecheu (Water extract)	117.06, 191.3, 577.22, 289.29 (- ve scan) 179.15, 180.22, 149.17, 193.25, 215.21, 414.23, 219.25, 313 (+ ve scan)
Myrobalan nut (DIMCARB extract)	191.3, 113.18, 300.18, 344.16, 476.26, 301.2, 711.5, 695.5 (- ve scan) 116.21, 130.21, 176.26, 198.26, 298.32, 143.21, 210.3 (+ ve scan)
Myrobalan nut (Water extract)	191.3, 355.2, 325.22, 485.21, 301.2, 169.25, 711.5 (- ve scan) 119.11, 120.2, 171.29, 310.27, 309.22, 327.2, 340.5679.63, 701.61 (+ ve scan)

ESI – S6 Microbiological test results of raw materials and extracted products

Sample	Nutrient Agar 37°C	Horse Blood Agar 37°C	Nutrient Agar Room Temp.	Malt Extract Agar 30°C
Catecheu (DIMCARB extract)	No colonies	No colonies	No colonies	Mould/Fungal growth
Catecheu (Water extract)	No colonies	No colonies	>300 colonies Large Gram positive cells	No growth
Catecheu (Raw)	32 colonies of several different types Gram negative rods	32 colonies of several different types, some haemolytic Gram negative rods	No colonies	6 colonies of several different types Gram negative rods
Myrobalan nut (DIMCARB extract)	No colonies	No colonies	No colonies	No growth
Myrobalan nut (Water extract)	No colonies	No colonies	No colonies	Mould/Fungal growth
Myrobalan nut (Raw)	No colonies	Small amount of Mould/Fungal growth	No colonies	No growth

ESI - S7: Fungal growth on hyde powder – effect of ionic liquid treatment



ESI - S8 Fungal growth on hyde powder – effect of water

