Supplementary Materials

Novel Flavonoid Glycosides of quercetin from leaves and flowers of Gaiadendron punctatum G.Don. (violeta de campo), used by the Saraguro community in Southern Ecuador.

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¹Departamento de Química, Universidad Técnica Particular de Loja, Loja 1101608, Ecuador Figure S1. ¹H NMR spectrum of compound LR 29 – 13 or nicotiflorin in methanol – d_4 . Figure S2. ¹³C NMR spectrum of compound LR 29 – 13 or nicotiflorin in methanol – d_4 . Figure S3. DEPT NMR spectrum of compound LR 29 – 13 or nicotiflorin in methanol – $d_{4.}$ Figure S4. COSY NMR spectrum of compound LR 29 – 13 or nicotiflorin in methanol – $d_{4.}$ Figure S5. HSQC NMR spectrum of compound LR 29 – 13 or nicotiflorin in methanol – $d_{4.}$ Figure S6. HMBC spectrum of compound LR 29 – 13 or nicotiflorin in methanol – d_4 . Figure S7. ¹H NMR spectrum of compound LR 27 – 98 or rutin in methanol – d_4 . Figure S8. ¹³C NMR spectrum of compound LR 27 – 98 or rutin in methanol – d_4 . Figure S9. ¹H NMR spectrum of compound LR 28 - 90 or rutin in methanol $- d_4$. Figure S10. ¹³C NMR spectrum of compound LR 28 - 90 or rutin in methanol $- d_4$. Figure S11. DEPT NMR spectrum of compound LR 28 - 90 or rutin in methanol $-d_4$. Figure S12. COSY NMR spectrum of compound LR 28 - 90 or rutin in methanol $-d_{4}$. Figure S13. HSQC NMR spectrum of compound LR 28 - 90 or rutin in methanol $-d_{4}$. Figure S14. HMBC NMR spectrum of compound LR 28 – 90 or rutin in methanol – d_4 . Figure S15. Comparison of ¹H NMR spectrum of compound LR 27 – 98 and LR 28- 90 in methanol – d_4 . Figure S16. ¹H NMR spectrum of compound LR 665 or artabotryside A in methanol $-d_4$. Figure S17. ¹³C NMR spectrum of compound LR 665 or artabotryside A in methanol $-d_4$. Figure S18. DEPT NMR spectrum of compound LR 665 or artabotryside A in methanol $-d_4$. Figure S19. COSY NMR spectrum of compound LR 665 or artabotryside A in methanol $-d_{4}$. Figure S20. HSQC NMR spectrum of compound LR 665 or artabotryside A in methanol $-d_4$. Figure S21. HMBC spectrum of compound LR 665 or artabotryside A in methanol $-d_4$. Figure S22. IR spectrum of compound LR 24-61 or hecpatrin. Figure S23. MS spectrum of compound LR 24 – 61 or hecpatrin. Figure S24. ¹H NMR spectrum of compound LR 24 – 61 or hecpatrin in methanol – d_4 . Figure S25. ¹³C NMR spectrum of compound LR 24 - 61 or hecpatrin in methanol $- d_4$. Figure S26. DEPT NMR spectrum of compound LR 24 – 61 or hecpatrin in methanol – d_4 .

Figure S27. COSY NMR spectrum of compound LR 24 - 61 or hecpatrin in methanol $- d_4$. Figure S28. HSQC NMR spectrum of compound LR 24 – 61 or hecpatrin in methanol – d_4 . Figure S29. HMBC NMR spectrum of compound LR 24 - 61 or hecpatrin in methanol $-d_4$. Figure S30. NOESY NMR spectrum of compound LR 24 - 61 or hecpatrin in methanol $- d_4$. Figure S31. ROESY NMR spectrum of compound LR 24 - 61 or hecpatrin in methanol $-d_4$. Figure S32. TOCSY NMR spectrum of compound LR 24 - 61 or hecpatrin in methanol $-d_4$. Figure S33. Cromatogram of compound LR 24 - 61 or hecpatrin in methanol $- d_4$. Figure S34. IR spectrum of compound LR 24-57 or gaiadendrin. Figure S35. MS spectrum of compound LR 24 – 57 or gaiadendrin. Figure S36. ¹H NMR spectrum of compound LR 24 – 57 or gaiadendrin in methanol – d_4 . Figure S37. ¹³C NMR spectrum of compound LR 24 – 57 or gaiadendrin in methanol – d_4 . Figure S38. DEPT NMR spectrum of compound LR 24 – 57 or gaiadendrin in methanol – d_4 . Figure S39. COSY NMR spectrum of compound LR 24 - 57 or gaiadendrin in methanol $-d_{4}$. Figure S40. HSQC NMR spectrum of compound LR 24 – 57 or gaiadendrin in methanol – $d_{4.}$ Figure S41. HMBC spectrum of compound LR 24 – 57 or gaiadendrin in methanol – d_4 . Figure S42. NOESY spectrum of compound LR 24 – 57 or gaiadendrin in deuterium oxide. Figure S43. ROESY spectrum of compound LR 24 – 57 or gaiadendrin in deuterium oxide. Figure S44. TOCSY spectrum of compound LR 24 – 57 or gaiadendrin in deuterium oxide. Figure S45. Cromatogram of compound LR 24 – 57 or gaiadendrin. Figure S46. IR spectrum of compound LR 29-15 or puchikrin. Figure S47. MS spectrum of compound LR 29 – 15 or puchikrin. Figure S48. ¹H NMR spectrum of compound LR 29 – 15 or puchikrin in methanol – d_4 . Figure S49. ¹³C NMR spectrum of compound LR 29 – 15 or puchikrin in methanol – d_4 . Figure S50. DEPT NMR spectrum of compound LR 29 – 15 or puchikrin in methanol – d_4 . Figure S51. COSY NMR spectrum of compound LR 29 – 15 or puchikrin in methanol – d_4 . Figure S52. HSQC NMR spectrum of compound LR 29 – 15 or puchikrin in methanol – d_4 .

- Figure S53. HMBC NMR spectrum of compound LR 29 15 or puchikrin in methanol d_4 .
- Figure S54. NOESY NMR spectrum of compound LR 29 15 or puchikrin in deuterium oxide.
- Figure S55. ROESY NMR spectrum of compound LR 29 15 or puchikrin in deuterium oxide.
- Figure S56. TOCSY NMR spectrum of compound LR 29 15 or puchikrin in deuterium oxide.
- Figure S57. Cromatogram of compound LR 29 15 or puchikrin.
- Figure S58. Comparison of ¹H NMR spectrum of compound LR 24 57 and LR 29- 15 in deuterium oxide at 20°C.
- Figure S59. Comparison of ¹H NMR spectrum of compound LR 24 57 and LR 29- 15 in deuterium oxide at 30°C.
- Figure S60. Comparison of ¹H NMR spectrum of compound LR 24 57 and LR 29- 15 in deuterium oxide at 40°C.























Figure S11. DEPT NMR spectrum of compound LR 28 - 90 or rutin in methanol $- d_{4}$.









Figure S15. Comparison of ¹H NMR spectrum of compound LR 27 – 98 and LR 28- 90 in methanol – d_4 .







Figure S18. DEPT NMR spectrum of compound LR 665 or artabotryside A in methanol $-d_{4.}$









Figure S22. IR spectrum of compound LR 24-61 or hecpatrin

Mass Spectrum Deconvolution Report

Analysis Info Analysis Name Method	D:\Data\bruker enero paulo.m	18\Metodo 2018\PA	Acquisition Date R_24_61_MS.d Operator	4/8/2019 12:31:59 PM BDAL@DE		
Sample Name LR_24_61_MS Comment				Instrument	amaZon speed	
Acquisition Para	meter					
Ion Source Type Mass Range Mode Accumulation Time SPS Target Mass	ESI UltraScan 72845 µs 400 m/z	Ion Polarity Scan Begin RF Level Averages	Positive 100 m/z 63 % 5 Spectra	Alternating Ion F Scan End Trap Drive n/a	Polarity off 1000 m/z 54.1 n/a	
Intens. x10 ⁴					+MS, 0.1-1.7min #5-192	
1.00		472.24		729.63		
0.75						
0.50				240 70 767 12		
0.25		2+ 403.88	538.35	040.70	304.83 1+	
0.00	284.62 200 300	400	500 600	700	967.80 800 900 m/z	

Figure S23. MS spectrum of compound LR 24 – 61 or hecpatrin







Figure S26. DEPT NMR spectrum of compound LR 24 - 61 or hecpatrin in methanol $-d_4$.













Figure S32. TOCSY NMR spectrum of compound LR 24 - 61 or hecpatrin in methanol $- d_4$.



Figure S33. Cromatogram of compound LR 24 - 61 or hecpatrin in methanol $- d_4$.



Figure S34. IR spectrum of compound LR 24-57 or gaiadendrin.

Mass Spectrum Deconvolution Report

Analysis Info Analysis Name	D:\Data\bruker energ	18\Metodo 2018\P/	Acquisition Date R_24_57_MS.d	4/8/2019 1:03:44 PM BDAL@DE amaZon speed		
Method Sample Name Comment	paulo.m LR_24_57_MS		Operator Instrument			
Acquisition Para	meter					
Ion Source Type Mass Range Mode Accumulation Time SPS Target Mass	ESI UltraScan 200000 µs 400 m/z	Ion Polarity Scan Begin RF Level Averages	Positive 100 m/z 63 % 5 Spectra	Alternating Ion F Scan End Trap Drive n/a	Polarity off 1000 m/ 54.1 n/a	z
Intens. x10 ⁶					+MS, 1.5-3.4m	in #127-585
1.25		467.7	0			
1.00						
0.75		1		779.	34	
0.50			1+			
0.25			541.37 615	.24		
100	200 300	400	500 600	700	800 900	m/z

Figure S35. MS spectrum of compound LR 24 – 57 or gaiadendrin







Figure S38. DEPT NMR spectrum of compound LR 24 - 57 or gaiadendrin in methanol $-d_4$











Figure S43. ROESY spectrum of compound LR 24 – 57 or gaiadendrin in deuterium oxide.



Figure S44. TOCSY spectrum of compound LR 24 – 57 or gaiadendrin in deuterium oxide.



Figure S45. Cromatogram of compound LR 24 – 57 or gaiadendrin.



Figure S46. IR spectrum of compound LR 29-15 or puchikrin.

Mass Spectrum Deconvolution Report

Analysis Info Analysis Name Method	D:\Data\bruker enero18\Metodo 2018\PAULO CEDENO\LR_29 paulo.m LR_29_15_MS				Acquisition Date LR_29_15_MS.d Operator Instrument	4/8/2019 1:46:24 PM BDAL@DE amaZon speed		
Sample Name Comment								
Acquisition Para	meter							
Ion Source Type Mass Range Mode Accumulation Time SPS Target Mass	ESI UltraScan 2782 µs 400 m/z	Ion Polarity Scan Begin RF Level Averages	Positive 100 m/z 63 % 5 Spectra		Alternating Ion F Scan End Trap Drive n/a	Polarity	off 1000 m/z 54.1 n/a	
Intens. x10 ⁵						+N	IS, 1.3-1.6min #	89-140
1.5					780.	52		
1.0								
0.5			470.87 538.34	623.78	711.34	1	899.84	
100	200 300	400	500	600	700	800	900	m/z

Figure S47. MS spectrum of compound LR 29 – 15 or puchikrin.





Figure S49. ¹³C NMR spectrum of compound LR 29 – 15 or puchikrin in methanol – d_4 .













Figure S55. ROESY NMR spectrum of compound LR 29 – 15 or puchikrin in deuterium oxide.





Figure S57. Cromatogram of compound LR 29 – 15 or puchikrin.



Figure S58. Comparison of ¹H NMR spectrum of compound LR 24 – 57 and LR 29- 15 in deuterium oxide at 20°C.



Figure S59. Comparison of ¹H NMR spectrum of compound LR 24 – 57 and LR 29- 15 in deuterium oxide at 30°C.



Figure S60. Comparison of ¹H NMR spectrum of compound LR 24 - 57 and LR 29-15 in deuterium oxide at 20° C.