Flexibility and Hydration of Amphiphilic Hyperbranched Arabinogalactan-protein from Plant exudate: A volumetric perspective

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Table S1. Amino acid composition of Acacia gums in dry basis (mean ± standard deviation).

Amino acid ($mg \cdot g^{-1}$)	A. *senegal*	HIC-F1	HIC-F2	HIC-F3	A. *seyal*
Ala	0.49 ± 0.04	0.04 ± 0.01	0.77 ± 0.06	3.10 ± 0.17	0.22 ± 0.01
Arg	0.31± 0.05	0.05 ± 0.01	0.48 ± 0.12	2.59 ± 0.07	0.12 ± 0.00
Asp	1.24 ± 0.04	0.11 ± 0.02	2.28 ± 0.15	9.36 ± 0.27	0.49 ± 0.04
Cys	0.00 ± 0.00	0.08 ± 0.01	0.22 ± 0.05	0.90 ± 0.05	0.00 ± 0.00
Glu	0.92 ± 0.01	0.12 ± 0.02	2.16 ± 0.24	6.56 ± 0.11	0.28 ± 0.003
Gly	0.79 ± 0.004	0.13 ± 0.01	1.51 ± 0.07	4.42 ± 0.08	0.25 ± 0.07
His	1.37 ± 0.6	0.29 ± 0.03	3.07 ± 0.24	7.40 ± 0.45	0.27 ± 0.07
Hyp	6.26 ± 0.52	1.47 ± 0.16	13.30 ± 0.36	22.66 ± 0.79	2.13 ± 0.19
Ile	0.31 ± 0.02	0.00 ± 0.00	0.51 ± 0.03	2.61 ± 0.03	0.13 ± 0.01
Leu	1.83 ± 0.04	0.31 ± 0.04	4.18 ± 0.04	10.91 ± 0.05	0.60 ± 0.03
Lys	0.63 ± 0.02	0.06 ± 0.01	1.04 ± 0.09	5.34 ± 0.22	0.12 ± 0.03
Phe	0.82 ± 0.05	0.07 ± 0.02	2.14 ± 0.02	6.58 ± 0.07	0.21 ± 0.01
Pro	1.61 ± 0.14	0.27 ± 0.04	3.42 ± 0.07	8.17 ± 0.17	0.56 ± 0.001
Ser	2.50 ± 0.05	0.60 ± 0.06	5.69 ± 0.23	12.05 ± 0.41	0.95 ± 0.03
Thr	1.42 ± 0.02	0.33 ± 0.04	3.46 ± 0.09	7.22 ± 0.13	0.34 ± 0.02
Tyr	0.31 ± 0.04	0.04 ± 0.01	0.28 ± 0.03	1.73 ± 0.09	0.14 ± 0.02
Val	0.71 ± 0.0001	0.07 ± 0.01	1.63 ± 0.04	6.22 ± 0.03	0.31 ± 0.16
Total amino acids	21.5 ± 0.47	4.04 ± 0.45	46.17 ± 1.59	117.98 ± 2.68	7.1 ± 0.16

Amino acid content was determined by acid hydrolysis followed by analysis by Ionic Exchange Chromatography according to the procedure explained by Lopez et al (2015).

Table S2. Branching degree of Acacia gums and its HIC fractions.

Type of Acacia gum or fraction	D	L	Branching degree
A. *senegal*	41.10	22.90	0.78
HIC-F1	38.50	23.10	0.77
HIC-F2	39.50	23.40	0.77
HIC-F3	36.00	24.00	0.75
A. *seyal*	34.70	47.90	0.59

Branching degree was calculated according to Holter et al (1997), using the equation: DB = 2D/(2D+L), where: D is the fraction of dendritic monomeric units and L is the fraction of linear monomeric units. Values of D and L were obtained by methylation analysis, according to the procedure explained by Lopez et al (2015).