

Supplementary Information

Elucidation of the average molecular structure of Argentinian Asphaltenes

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Figure S1. Maps of Argentina with the origin regions of study crude oils.

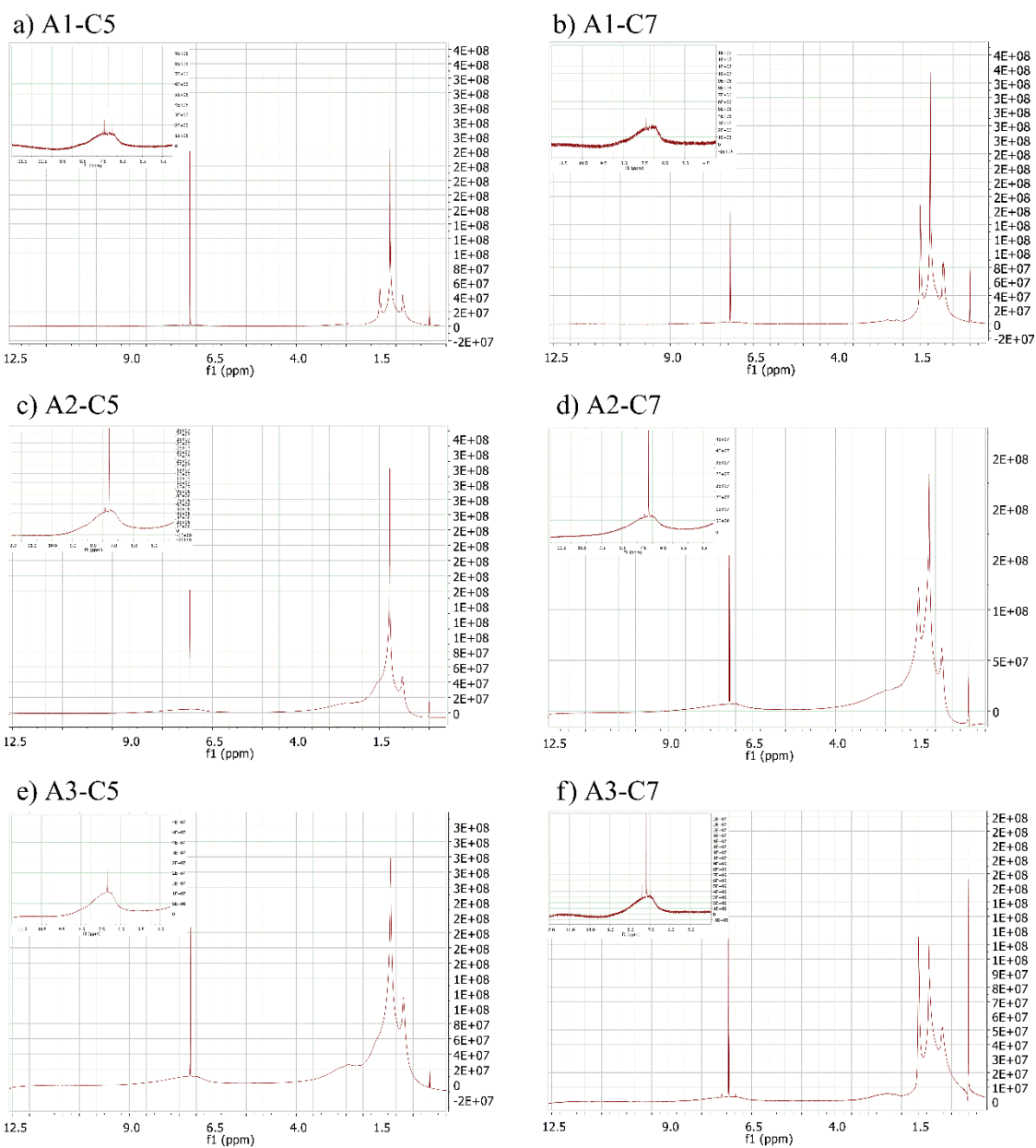


Figure S2. Solution-state $^1\text{H-NMR}$ spectrum of A1-C5, A1-C7, A2-C5, A2-C7, A3-C5 and A3-C7 asphaltenes in CDCl_3 .

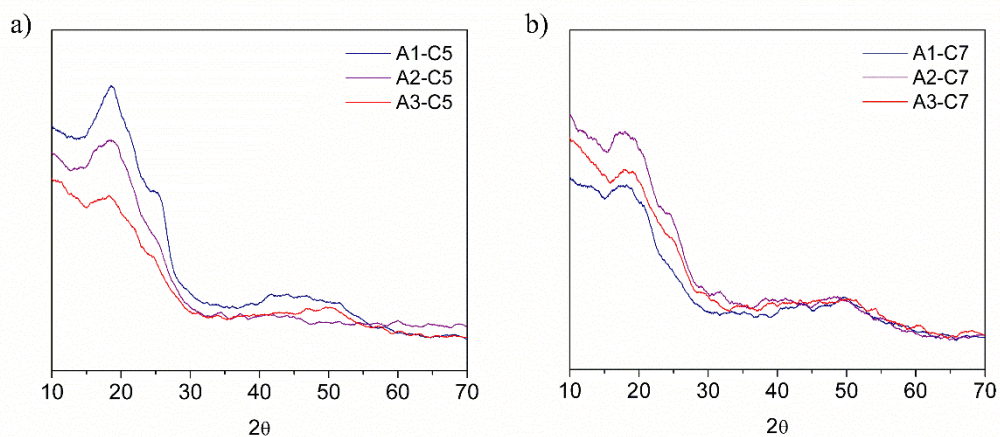


Figure S3. X-ray diffraction patterns for asphaltenes samples extracted with (a) n-pentane and (b) n-heptane solvents.

Table S1. Areas and the bandwidth at half-height ($B_{1/2}$) obtained from XRD patterns of the different asphaltene samples.

	A1-C5	A1-C7	A2-C5	A2-C7	A3-C5	A3-C7
$2\theta_{(10)}$	47.2	48.4	48.4	47.6	47.8	48.3
$2\theta_{(002)}$	25.4	24.7	25.0	25.0	24.7	24.7
$2\theta_{\gamma}$	19.2	18.7	18.8	18.7	18.7	19.0
$A_{(002)}$	3572.08	1627.76	1603.03	2990.78	2608.51	2956.39
A_{γ}	22774.9	10455.0	16102.3	9800.71	9686.01	9204.28
$B_{1/2(10)}$	0.0942521	0.0942521	0.0594216	0.0615201	0.0634742	0.07985
$B_{1/2(002)}$	0.0346505	0.040513	0.0346505	0.0312308	0.0319079	0.0369855

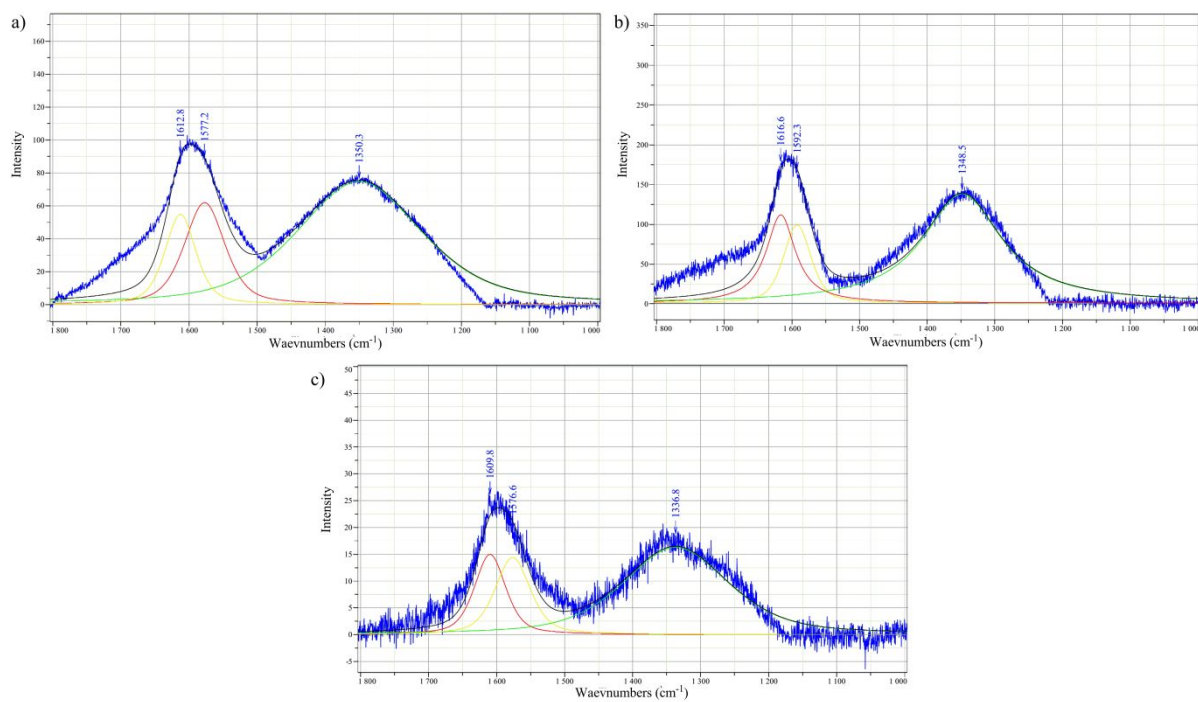


Figure S4. Raman spectra of three Argentinian asphaltenes extracted with n-heptane: a) A1-C7, b) A2-C7 ad c) A3-C7.