Supplementary Material: Estimating binary liquid composition from density and refractive index measurements

Franco Pretorius[1], Walter W Focke[1], René Androsch[2], Elizabeth du Toit[1]

[1]UP Institute for Sustainable Malaria Control & MRC Collaborating Centre for Malaria Research, University of Pretoria, Private Bag X20, Hatfield 0028, Pretoria, South Africa, Pretoria, South Africa
[2]Interdisciplinary Center for Transfer-oriented Research in Natural Sciences, Martin Luther University Halle-Wittenberg, D-06099 Halle/Saale, Germany

Table S1. Measured refractive index values for selected alkanes

	Dodecane	Hexadecane	Eicosane	Tetracosane	Octacosane	Dotriacontane
T, °C	C12	C16	C20	C24	C28	C32
15	1.4241					
20	1.4219	1.4345				
25	1.4197	1.4325				
30	1.4174	1.4305				
35	1.4152	1.4283				
40	1.4128	1.4264	1.4344			
45	1.4108	1.4241	1.4324			
50	1.4085	1.4221	1.4303			
55	1.4063	1.4199	1.4283			
60	1.4041	1.4178	1.4263	1.4319		
65		1.4156	1.4242	1.4299	1.4343	
70	1.3995	1.4137	1.4221	1.4279	1.4323	
75	1.3973	1.4114	1.4202	1.4261	1.4303	1.4335
80	1.3950	1.4093	1.4181	1.4240	1.4284	1.4316
85		1.4071	1.4167	1.4221	1.4264	1.4296
90	1.3904	1.4051	1.4140	1.4201	1.4244	1.4277
95			1.4120	1.4181	1.4224	1.4257
100	1.3857	1.4007	1.4099	1.4160	1.4205	1.4238

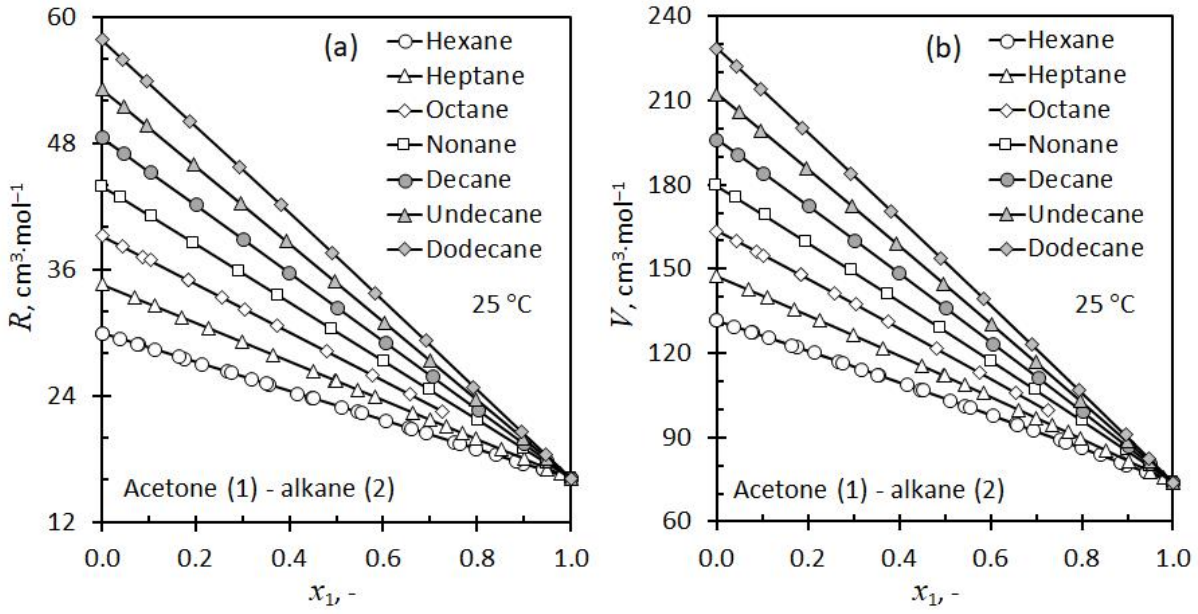

Figure S1. The Lorentz-Lorenz molar refraction *R* and molar volume *V* at 25 °C for binary mixtures of acetone with selected alkanes calculated using the data sources listed in Table 4 of the main text.

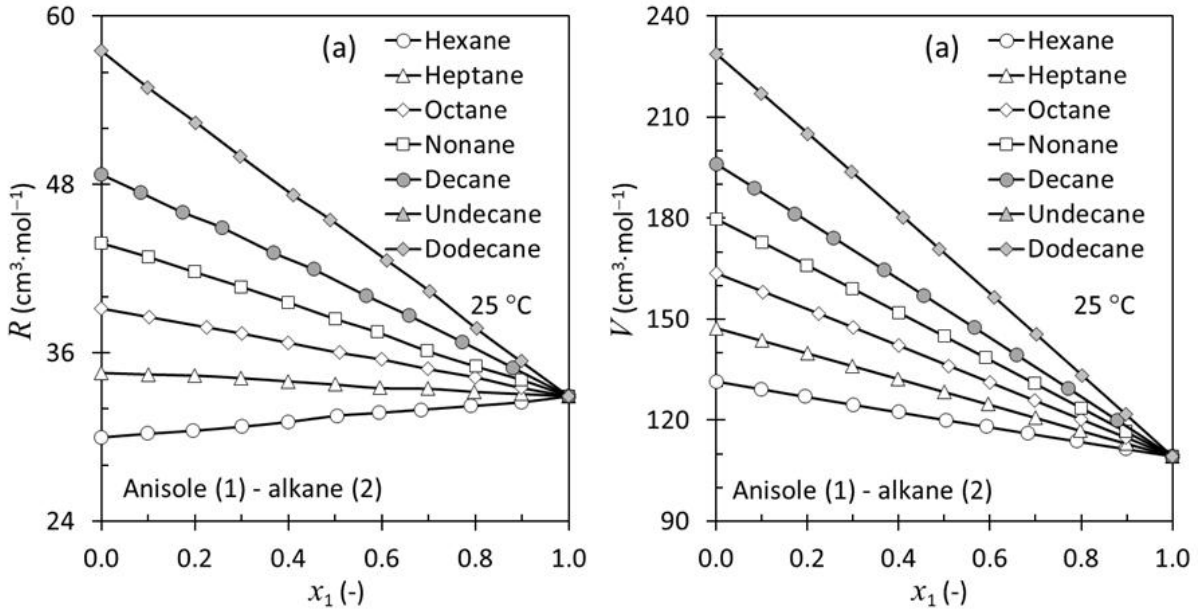

Figure S2. The Lorentz-Lorenz molar refraction *R* and molar volume *V* at 25 °C for binary mixtures of anisole with selected alkanes calculated using the data sources listed in Table 4 of the main text.

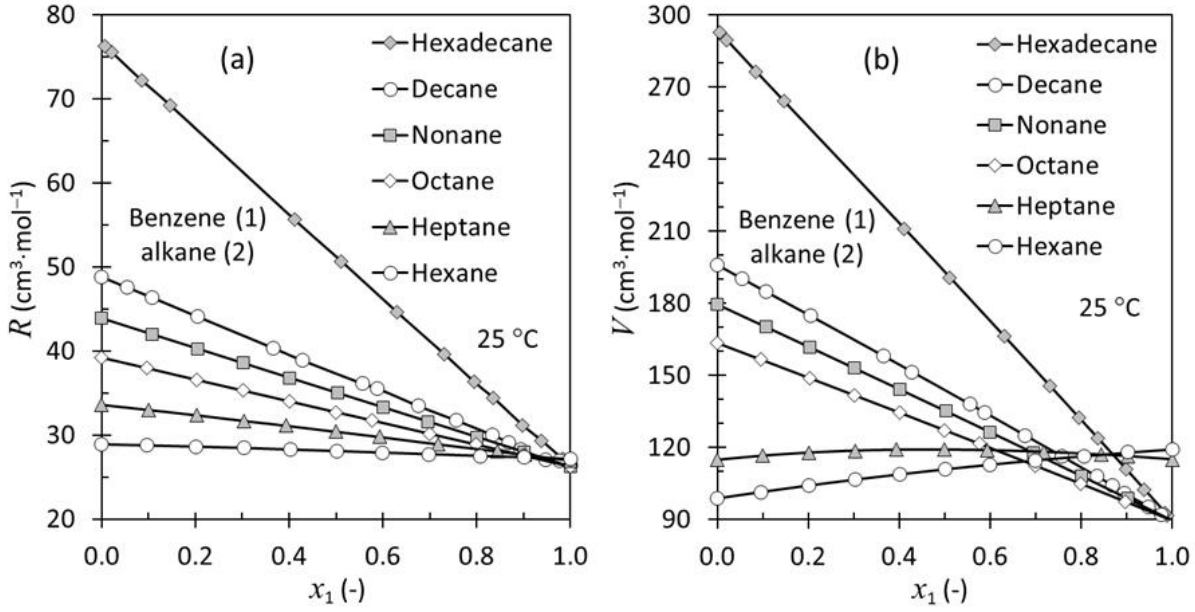

Figure S3. The Lorentz-Lorenz molar refraction R and molar volume V at 25 °C for binary mixtures of acetone with selected alkanes calculated using the data sources listed in Table 4 of the main text. Note the curvature of the V vs. x_1 lines!

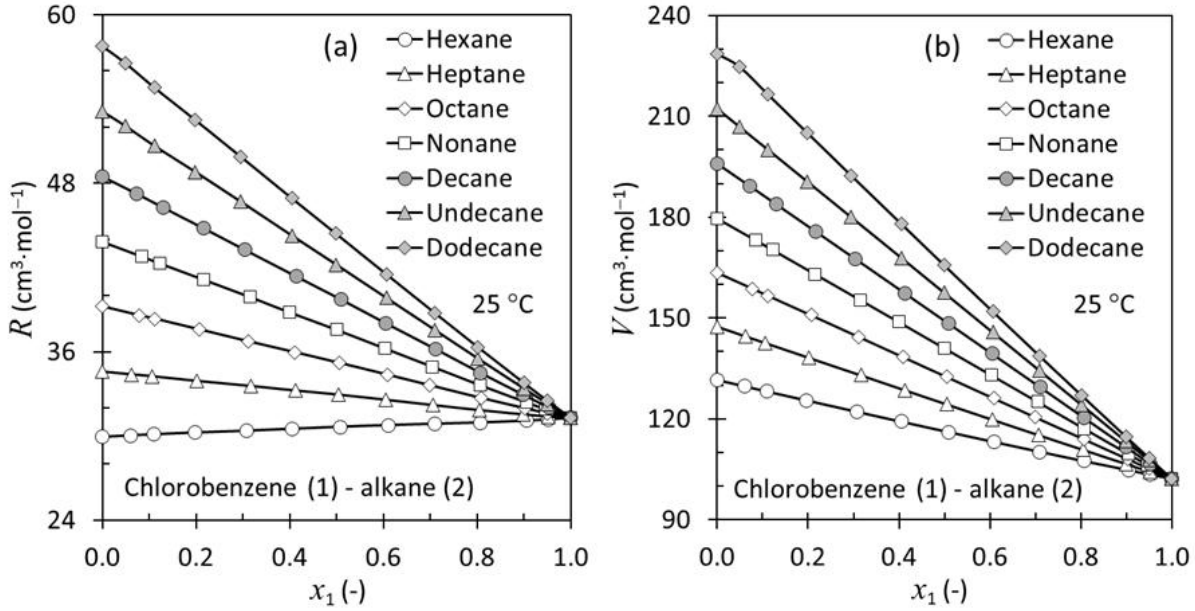

Figure S4. The Lorentz-Lorenz molar refraction R and molar volume V at 25 °C for binary mixtures of anisole with selected alkanes calculated using the data sources listed in Table 4 of the main text.

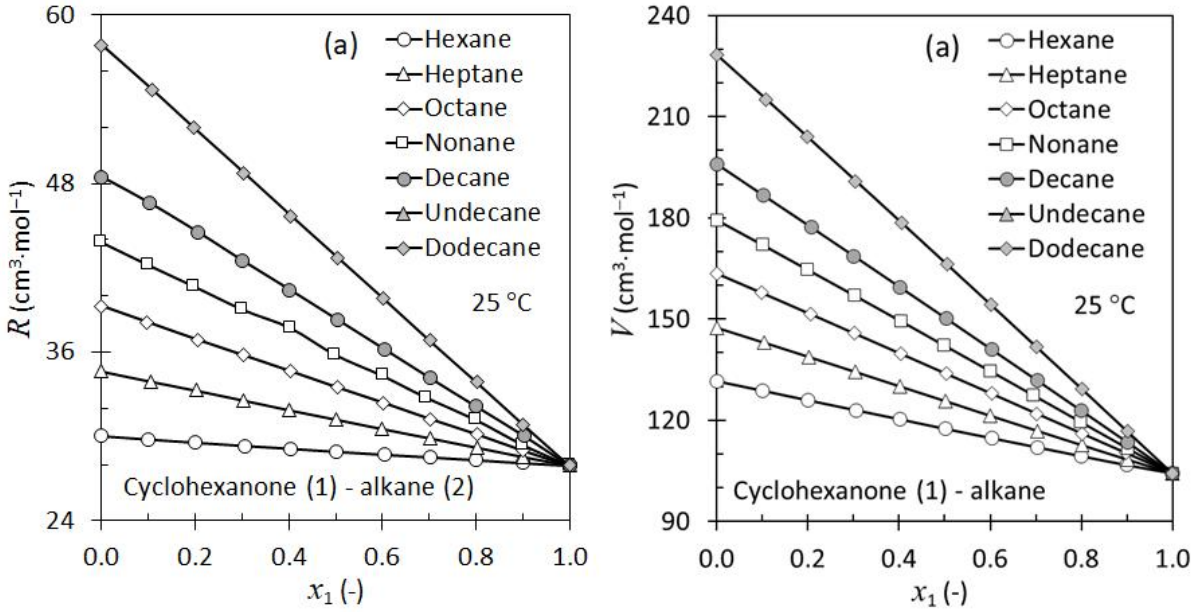

Figure S5. The Lorentz-Lorenz molar refraction *R* and molar volume *V* at 25 °C for binary mixtures of anisole with selected alkanes calculated using the data sources listed in Table 4 of the main text.

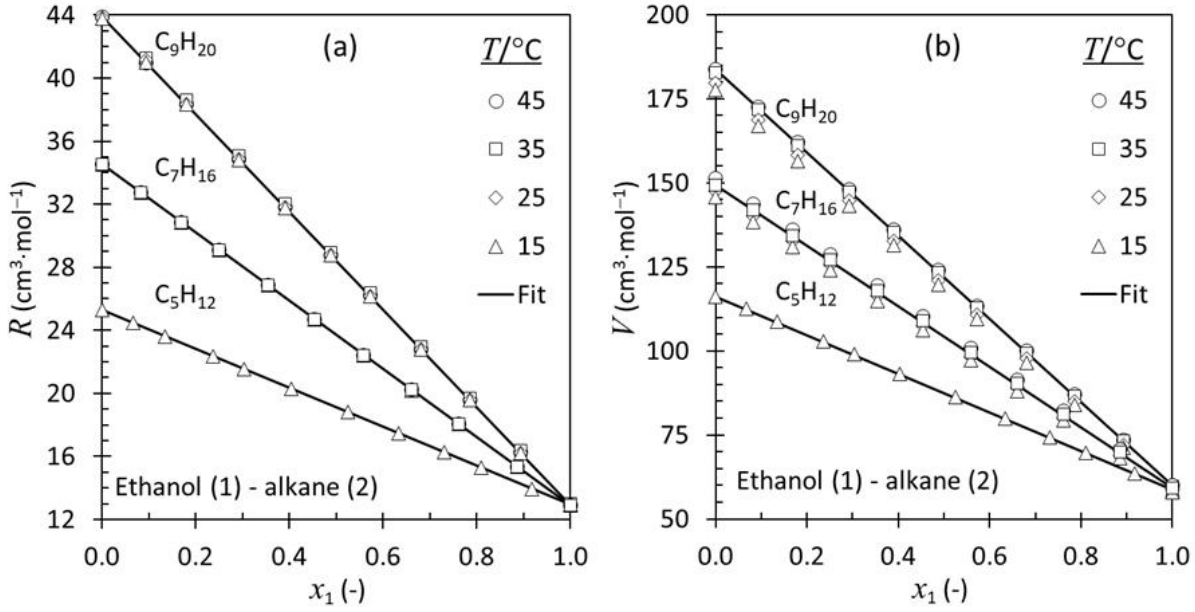

Figure S6. The temperature dependence of the Lorentz-Lorenz molar refraction *R* and molar volume *V* for binary mixtures of benzene with pentane or heptane or nonane.