

Table S1 Properties of Pure Components: densities r (g cm⁻³), viscosities h (mPa s) and refractive indices n_D at 298.15 K

<i>Compound</i>	<i>r</i>		<i>h</i>		<i>n_D</i>	
	<i>Expt.</i>	<i>Literature</i>	<i>Expt.</i>	<i>Literature</i>	<i>Expt.</i>	<i>Literature</i>
NMP	1.02832	1.0286 ²⁰ 1.0259 ³³ 1.0283 ³⁴	1.66	1.667 ²⁰ 1.666 ³³	1.4689	1.4675 ¹
Methanol	0.78663	0.78637 ³³ 0.7864 ³⁵	0.553	0.5513 ³³ 0.547 ³⁹	1.3271	1.32652 ³³ 1.3267 ³⁵
Ethanol	0.78525	0.78493 ³³ 0.7852 ³⁵	1.09	1.0826 ³³	1.3596	1.35941 ³³ 1.3593 ³⁵
1-Propanol	0.79954	0.79960 ³³ 0.7995 ³⁵	1.95	1.9430 ³³	1.3835	1.38370 ³³ 1.3832 ³⁵
1-Butanol	0.80575	0.80575 ³³ 0.8054 ³⁵	2.53	2.5710 ³³	1.3976	1.39741 ³³ 1.3967 ³⁵
1-Pentanol	0.81098	0.81080 ³³ 0.8109 ³⁵	3.47	3.5128 ³³	1.4082	1.4080 ³³ 1.4074 ³⁵
1-Hexanol	0.81501	0.81501 ³⁶ 0.81505 ³⁷	4.59	4.590 ^{40,41} 4.5406 ⁴²	1.4164	1.4157 ^{33,35}
1-Heptanol	0.81865	0.81878 ³⁷ 0.81871 ³⁸	5.97	5.758 ⁴³ 5.690 ⁴⁴	1.4224	1.4216 ³⁵
1-Octanol	0.82169	0.82161 ³⁷ 0.82167 ³⁸	7.59	7.6596 ⁴² 7.363 ⁴⁵	1.4277	1.4276 ³³ 1.4267 ³⁵
1-Nonanol	0.82415	0.82428 ³⁶ 0.82422 ³⁷	9.51	8.965 ⁴⁶	1.4320	1.4309 ³⁵
1-Decanol	0.82615	0.82615 ³⁶ 0.82642 ³⁸	11.50	11.798 ³⁵ 11.9154 ⁴²	1.4356	1.4345 ³⁵

Table S2 Densities r (g cm⁻³) of mixtures NMP (1) + 1-alkanols (2) at 298.15 K

x_1	r	x_1	r	x_1	r	x_1	r	x_1	r
NMP + Methanol									
0.03597	0.80903	0.20822	0.88825	0.38937	0.94158	0.54793	0.97329	0.78295	1.00697
0.06571	0.82536	0.23385	0.89719	0.40100	0.94413	0.59273	0.98101	0.87204	1.01679
0.07334	0.82981	0.28625	0.91388	0.44052	0.95301	0.64773	0.98942	0.92147	1.02172
0.09244	0.83939	0.31392	0.92187	0.46334	0.95762	0.71335	0.99836	0.92291	1.02214
0.13831	0.86058	0.36325	0.93507	0.52786	0.97016				
NMP + Ethanol									
0.09401	0.82372	0.24961	0.87604	0.42303	0.92283	0.63237	0.96870	0.77218	0.99391
0.09457	0.82360	0.25027	0.87601	0.46089	0.93186	0.63429	0.96870	0.87766	1.01046
0.14227	0.84091	0.31571	0.89493	0.56936	0.95570	0.76812	0.99290	0.93751	1.01934
0.20256	0.86115	0.36100	0.90715						
NMP + 1-Propanol									
0.03476	0.81039	0.17141	0.84978	0.34705	0.89511	0.50785	0.93259	0.74432	0.98178
0.05728	0.81627	0.24130	0.86846	0.37065	0.90087	0.58236	0.94881	0.82230	0.99661
0.12165	0.83590	0.29955	0.88338	0.44033	0.91743	0.66273	0.96554	0.91374	1.01321
NMP + 1-Butanol									
0.04982	0.81783	0.22688	0.85975	0.38857	0.89683	0.52154	0.92660	0.78885	0.98466
0.05939	0.82016	0.25630	0.86659	0.45537	0.91186	0.59197	0.94212	0.88882	1.00578
0.12171	0.83504	0.28274	0.87274	0.46341	0.91377	0.65284	0.95541	0.94882	1.01837
0.18960	0.85106	0.32183	0.88166	0.49553	0.92089	0.71680	0.96924		
NMP + 1-Pentanol									
0.06921	0.82451	0.23876	0.85914	0.46572	0.90684	0.72179	0.96311	0.86867	0.99722
0.07959	0.82674	0.31192	0.87431	0.52603	0.91986	0.73919	0.96732	0.93329	1.01238
0.11583	0.83386	0.38715	0.89010	0.60005	0.93608	0.81431	0.98458	0.95647	1.01754
0.16136	0.84329	0.44498	0.90216	0.67038	0.95174				
NMP + 1-Hexanol									
0.05330	0.82404	0.27856	0.86430	0.46698	0.90146	0.75449	0.96519	0.89789	1.00088
0.13483	0.83816	0.29465	0.86745	0.49971	0.90818	0.80189	0.97668	0.93209	1.00979
0.13773	0.83866	0.30813	0.86991	0.57620	0.92467	0.83984	0.98606	0.96629	1.01909
0.20134	0.85006	0.36355	0.88063						
NMP + 1-Heptanol									
0.06216	0.82780	0.18405	0.84663	0.32146	0.86957	0.66138	0.93783	0.81901	0.97641
0.07765	0.83005	0.19009	0.84750	0.32374	0.87007	0.71332	0.94993	0.89508	0.99708
0.08282	0.83089	0.25745	0.85860	0.52689	0.90868	0.74505	0.95764	0.93297	1.00799
0.15223	0.84150	0.30854	0.86740	0.56798	0.91723				
NMP + 1-Octanol									
0.10013	0.83465	0.36958	0.87551	0.60216	0.91993	0.78951	0.96457	0.84426	0.97955
0.17128	0.84457	0.42548	0.88528	0.64623	0.92956	0.80751	0.96933	0.90857	0.99846
0.22842	0.85292	0.48990	0.89718	0.73625	0.94952	0.84419	0.97948	0.93316	1.00609
0.25209	0.85651								
NMP + 1-Nonanol									
0.09635	0.83523	0.36388	0.87225	0.56725	0.90854	0.71339	0.94090	0.85032	0.97782
0.15372	0.84233	0.39776	0.87771	0.59146	0.91353	0.73987	0.94752	0.93248	1.00406
0.18737	0.84680	0.40401	0.87878	0.64186	0.92430	0.80649	0.96515	0.93947	1.00643
0.23408	0.85329	0.41745	0.88102	0.66448	0.92921				
NMP + 1-Decanol									
0.09930	0.83653	0.33862	0.86653	0.55837	0.90317	0.69003	0.93121	0.81308	0.96348
0.19859	0.84798	0.39499	0.87495	0.60484	0.91244	0.74074	0.94365	0.87091	0.98113
0.27999	0.85840	0.48214	0.88917	0.63341	0.91842	0.80867	0.96222	0.95227	1.00916
0.28706	0.85940								

Table S3 Viscosities η (mPa s) of mixtures NMP (1) + 1-alkanols (2) at 298.15 K

x_1	η	x_1	η	x_1	η	x_1	η	x_1	η
NMP + Methanol									
0.06571	0.611	0.17089	0.720	0.32972	0.888	0.54793	1.13	0.84814	1.45
0.09594	0.642	0.22402	0.776	0.38937	0.952	0.68038	1.27	0.92291	1.53
0.13517	0.683	0.27588	0.830	0.46334	1.03				
NMP + Ethanol									
0.09457	1.05	0.25027	1.08	0.42303	1.16	0.63429	1.31	0.87766	1.51
0.14227	1.05	0.31571	1.10	0.46089	1.19	0.76812	1.42	0.93751	1.56
0.20256	1.06	0.36100	1.13	0.56936	1.26				
NMP + 1-Propanol									
0.05728	1.75	0.24130	1.53	0.44033	1.49	0.66273	1.52	0.82230	1.56
0.12165	1.64	0.29955	1.51	0.50785	1.49	0.74432	1.54	0.91374	1.58
0.17141	1.58	0.37065	1.49	0.58236	1.50				
NMP + 1-Butanol									
0.06511	2.24	0.26409	1.82	0.45121	1.68	0.65236	1.63	0.82778	1.61
0.12937	2.04	0.32536	1.76	0.52926	1.65	0.70315	1.62	0.92290	1.60
0.19423	1.91	0.39122	1.71	0.58378	1.64				
NMP + 1-Pentanol									
0.07959	2.88	0.31192	2.16	0.52603	1.90	0.73919	1.74	0.86867	1.67
0.16136	2.52	0.38715	2.04	0.60005	1.84	0.81431	1.70	0.93329	1.63
0.23876	2.30	0.46572	1.95	0.67038	1.79				
NMP + 1-Hexanol									
0.14726	3.43	0.33138	2.68	0.52434	2.25	0.71211	1.98	0.87796	1.78
0.23901	2.98	0.43600	2.43	0.61273	2.11	0.79878	1.87	0.91159	1.75
NMP + 1-Heptanol									
0.15475	4.33	0.31635	3.41	0.52077	2.70	0.66291	2.31	0.84500	1.92
0.22809	3.83	0.43222	2.95	0.58282	2.50	0.76542	2.10		
NMP + 1-Octanol									
0.13016	5.72	0.42861	3.48	0.62316	2.70	0.81386	2.11	0.89090	1.93
0.20923	4.93	0.50311	3.17	0.64623	2.61	0.84426	2.02	0.93316	1.82
0.32859	4.02	0.58821	2.83	0.72601	2.38				
NMP + 1-Nonanol									
0.13995	6.95	0.33938	4.77	0.50156	3.68	0.70819	2.67	0.91020	1.91
0.23408	5.74	0.35391	4.65	0.52266	3.56	0.79757	2.31	0.94656	1.81
0.26193	5.47	0.45794	3.92	0.59627	3.21	0.82127	2.24		
NMP + 1-Decanol									
0.14966	8.28	0.38612	5.26	0.55097	3.94	0.76202	2.70	0.91342	1.97
0.2544	6.70	0.45298	4.65	0.67492	3.17	0.84897	2.28		

Table S4 Refractive Indices n_D of Mixtures NMP (1) + 1-alkanols (2) at 298.15 K

x_1	n_D	x_1	n_D	x_1	n_D	x_1	n_D	x_1	n_D
NMP + Methanol									
0.07134	1.3529	0.20891	1.3855	0.40336	1.4204	0.58480	1.4387	0.83527	1.4593
0.11250	1.3610	0.26588	1.3947	0.48736	1.4311	0.69915	1.4509	0.89405	1.4628
0.15810	1.3756	0.33019	1.4150						
NMP + Ethanol									
0.04827	1.3702	0.21289	1.3956	0.41521	1.4229	0.66981	1.4460	0.87956	1.4636
0.09963	1.3788	0.27555	1.4038	0.49334	1.4290	0.76996	1.4539	0.92405	1.4636
0.15439	1.3875	0.34281	1.4139	0.57793	1.4378				
NMP + 1-Propanol									
0.06101	1.3930	0.25735	1.4115	0.47634	1.4309	0.63693	1.4445	0.80090	1.4582
0.12416	1.3957	0.32764	1.4186	0.55506	1.4378	0.72214	1.4504	0.90344	1.4629
0.18956	1.4052	0.40059	1.4255						
NMP + 1-Butanol									
0.07366	1.4046	0.29781	1.4221	0.52681	1.4375	0.68224	1.4485	0.83996	1.4586
0.14785	1.4074	0.37359	1.4255	0.60424	1.4426	0.76081	1.4534	0.91967	1.4641
0.22256	1.4155	0.44992	1.4322						
NMP + 1-Pentanol									
0.08589	1.4132	0.33383	1.4276	0.56812	1.4419	0.71727	1.4512	0.86114	1.4596
0.17013	1.4179	0.41339	1.4329	0.64337	1.4472	0.78984	1.4559	0.93118	1.4649
0.52576	1.4243	0.49147	1.4378						
NMP + 1-Hexanol									
0.08907	1.4202	0.35816	1.4327	0.5963	1.4449	0.72986	1.4519	0.86811	1.4605
0.17692	1.4240	0.43354	1.4364	0.6735	1.4490	0.79235	1.4555	0.92778	1.4640
0.28215	1.4294	0.51815	1.4408						
NMP + 1-Heptanol									
0.10367	1.4264	0.39279	1.4375	0.63112	1.4478	0.77218	1.4541	0.89086	1.4611
0.20587	1.4303	0.45495	1.4392	0.70574	1.4495	0.82946	1.4566	0.95082	1.4645
0.3141	1.4344	0.54746	1.4425						
NMP + 1-Octanol									
0.11422	1.4311	0.41957	1.4400	0.65504	1.4496	0.79339	1.4563	0.89354	1.4621
0.20692	1.4336	0.49971	1.4432	0.71317	1.4522	0.84710	1.4594	0.95516	1.4655
0.33473	1.4378	0.58791	1.4468						
NMP + 1-Nonanol									
0.12156	1.4347	0.41152	1.4425	0.62172	1.4496	0.76598	1.4556	0.90257	1.4628
0.19985	1.4370	0.49612	1.4451	0.70007	1.4523	0.84484	1.4594	0.95946	1.4664
0.32770	1.4395	0.57656	1.4478						
NMP + 1-Decanol									
0.12756	1.4387	0.43492	1.4449	0.67507	1.4521	0.78305	1.4569	0.90881	1.4630
0.24241	1.4401	0.60832	1.4496	0.73565	1.4545	0.85308	1.4604	0.97307	1.4675
0.34501	1.4421	0.62498	1.4498						