

Table S1. The critical volume fractions of the droplet and the critical temperatures for microemulsions $\{(1-\phi_2) n\text{-decane} + \phi_2 (\text{AOT} + \text{water/PEG})\}$ with $\omega=37.9$ and various concentrations c_{PEG} of PEG.

c_{PEG} (g·L ⁻¹)	$\phi_{2,c}$	T_c (K)
0 ^a	0.096	311.256
15	0.098	308.270
25	0.097	306.835
50	0.101	303.675
80	0.104	300.485
100	0.108	298.838

^a Results from Ref [31] in manuscript.

Table S2. Coexistence curves of (T, n) and (T, ϕ_2) for $\{(1-\phi_2) n\text{-decane} + \phi_2 (\text{AOT} + \text{water/PEG})\}$ with $\omega=37.9$ and various PEG concentrations c_{PEG} . Refractive indices n were measured at wavelength $\lambda = 632.8$ nm. Superscripts “+” and “-” denote the upper and the lower phases, respectively.

$T-T_c$ (K)	n^+	n^-	ϕ_2^+	ϕ_2^-	$T-T_c$ (K)	n^+	n^-	ϕ_2^+	ϕ_2^-
$c_{\text{PEG}} = 15 \text{g}\cdot\text{L}^{-1}, T_c = 308.270 \text{ K}$									
0.011	1.4018	1.4008	0.079	0.123	1.126	1.4027	1.3985	0.014	0.205
0.026	1.4019	1.4007	0.074	0.128	1.328	1.4026	1.3982	0.014	0.215
0.046	1.402	1.4005	0.069	0.136	1.541	1.4026	1.3980	0.010	0.220
0.072	1.4021	1.4004	0.064	0.140	1.797	1.4025	1.3977	0.009	0.229
0.095	1.4022	1.4003	0.059	0.144	2.107	1.4024	1.3974	0.007	0.236
0.125	1.4023	1.4002	0.053	0.148	2.518	1.4023	1.3970	0.003	0.247
0.164	1.4024	1.4001	0.048	0.152	3.011	1.4021	1.3966	0.001	0.257
0.21	1.4024	1.4000	0.047	0.155	3.598	1.4018	1.3961	0.003	0.269
0.263	1.4025	1.3999	0.041	0.159	4.304	1.4015	1.3956	0.005	0.279
0.319	1.4025	1.3997	0.04	0.166	5.099	1.4011	1.3950	0.004	0.293
0.388	1.4026	1.3996	0.034	0.170	6.016	1.4007	1.3944	0.004	0.305
0.466	1.4026	1.3994	0.033	0.177	7.020	1.4002	1.3937	0.003	0.321
0.555	1.4026	1.3993	0.031	0.180	8.039	1.3998	1.3931	0.001	0.331
0.659	1.4027	1.3991	0.024	0.187	9.038	1.3993	1.3925	0.002	0.343
0.804	1.4027	1.3989	0.021	0.193	10.043	1.3989	1.3920	0.001	0.350
0.949	1.4027	1.3987	0.018	0.199					
$c_{\text{PEG}} = 25 \text{g}\cdot\text{L}^{-1}, T_c = 306.835 \text{ K}$									

0.026	1.4026	1.4015	0.070	0.119	1.170	1.4033	1.3991	0.016	0.204
0.043	1.4027	1.4014	0.065	0.123	1.381	1.4032	1.3989	0.016	0.209
0.065	1.4028	1.4012	0.060	0.131	1.642	1.4031	1.3985	0.015	0.222
0.092	1.4029	1.4011	0.055	0.135	1.948	1.403	1.3982	0.013	0.230
0.127	1.4030	1.4009	0.050	0.143	2.305	1.4029	1.3978	0.010	0.242
0.168	1.4030	1.4008	0.049	0.147	2.719	1.4028	1.3974	0.006	0.253
0.211	1.4031	1.4007	0.044	0.150	3.215	1.4026	1.397	0.005	0.262
0.262	1.4031	1.4005	0.043	0.158	3.819	1.4023	1.3965	0.006	0.274
0.325	1.4032	1.4004	0.037	0.162	4.511	1.4021	1.396	0.006	0.285
0.402	1.4032	1.4002	0.036	0.169	5.319	1.4018	1.3955	0.004	0.295
0.493	1.4032	1.4001	0.034	0.172	6.222	1.4013	1.3949	0.005	0.307
0.601	1.4033	1.3999	0.027	0.179	7.275	1.4009	1.3942	0.002	0.322
0.731	1.4033	1.3997	0.025	0.185	8.301	1.4004	1.3936	0.002	0.333
0.881	1.4033	1.3995	0.022	0.191	9.456	1.3998	1.3929	0.006	0.347
1.005	1.4033	1.3993	0.019	0.198					

$c_{\text{PEG}}=50\text{g}\cdot\text{L}^{-1}, T_c = 303.675\text{ K}$

0.021	1.4039	1.4027	0.073	0.128	0.994	1.4046	1.4005	0.021	0.211
0.038	1.4040	1.4026	0.068	0.132	1.196	1.4046	1.4002	0.017	0.221
0.055	1.4041	1.4025	0.063	0.136	1.453	1.4046	1.3999	0.011	0.230
0.077	1.4042	1.4023	0.058	0.145	1.762	1.4045	1.3995	0.009	0.243
0.106	1.4042	1.4022	0.058	0.149	2.132	1.4044	1.3992	0.009	0.250
0.143	1.4043	1.4021	0.052	0.153	2.595	1.4042	1.3987	0.007	0.266
0.189	1.4044	1.4019	0.047	0.161	3.166	1.4040	1.3982	0.006	0.279
0.245	1.4045	1.4018	0.041	0.165	3.871	1.4037	1.3977	0.004	0.290
0.305	1.4045	1.4016	0.040	0.173	4.733	1.4033	1.3970	0.004	0.309
0.377	1.4046	1.4015	0.034	0.176	5.655	1.4029	1.3963	0.003	0.327
0.459	1.4046	1.4013	0.032	0.184	6.795	1.4024	1.3956	0.002	0.341
0.560	1.4046	1.4011	0.030	0.191	7.905	1.4019	1.3949	0.002	0.357
0.683	1.4046	1.4009	0.027	0.198	9.205	1.4013	1.3942	0.002	0.369
0.825	1.4046	1.4007	0.024	0.204					

$c_{\text{PEG}}=80\text{ g}\cdot\text{L}^{-1}, T_c = 300.485\text{ K}$

0.019	1.4051	1.4039	0.076	0.132	0.878	1.406	1.4017	0.018	0.219
0.030	1.4052	1.4038	0.072	0.136	0.979	1.406	1.4017	0.016	0.217
0.044	1.4053	1.4037	0.067	0.141	1.084	1.4059	1.4015	0.018	0.225
0.051	1.4053	1.4036	0.067	0.145	1.208	1.4059	1.4013	0.015	0.232

0.075	1.4054	1.4035	0.062	0.149	1.356	1.4059	1.4011	0.012	0.239
0.103	1.4055	1.4034	0.056	0.153	1.559	1.4058	1.4009	0.013	0.245
0.137	1.4056	1.4032	0.051	0.162	1.871	1.4058	1.4004	0.008	0.264
0.186	1.4056	1.403	0.050	0.171	2.417	1.4056	1.3999	0.007	0.279
0.241	1.4057	1.4029	0.045	0.174	2.913	1.4054	1.3995	0.006	0.290
0.291	1.4058	1.4028	0.039	0.178	3.659	1.4051	1.3989	0.004	0.306
0.371	1.4059	1.4026	0.033	0.186	4.683	1.4046	1.3981	0.003	0.329
0.437	1.4059	1.4025	0.031	0.189	5.709	1.4042	1.3974	0.002	0.347
0.510	1.4059	1.4023	0.030	0.198	7.093	1.4035	1.3965	0.003	0.369
0.603	1.4059	1.4022	0.028	0.201	8.469	1.4029	1.3958	0.002	0.382
0.684	1.406	1.4021	0.022	0.204	10.001	1.4022	1.3949	0.002	0.404
0.779	1.4059	1.4019	0.024	0.212					
$c_{\text{PEG}} = 100 \text{ g}\cdot\text{L}^{-1}, T_c = 298.838 \text{ K}$									
0.013	1.4059	1.4049	0.086	0.134	0.863	1.4068	1.4025	0.024	0.233
0.025	1.4060	1.4047	0.081	0.143	0.950	1.4067	1.4024	0.027	0.236
0.036	1.4061	1.4046	0.076	0.148	1.056	1.4067	1.4022	0.024	0.244
0.052	1.4062	1.4045	0.071	0.152	1.182	1.4067	1.4020	0.021	0.251
0.073	1.4063	1.4044	0.065	0.156	1.339	1.4067	1.4018	0.018	0.258
0.098	1.4064	1.4042	0.060	0.166	1.535	1.4066	1.4016	0.018	0.264
0.130	1.4064	1.4041	0.059	0.170	1.835	1.4066	1.4013	0.012	0.273
0.175	1.4065	1.4039	0.053	0.178	2.420	1.4064	1.4007	0.010	0.292
0.223	1.4065	1.4038	0.052	0.182	3.019	1.4062	1.4002	0.007	0.306
0.274	1.4066	1.4036	0.046	0.191	3.703	1.4059	1.3996	0.006	0.323
0.344	1.4067	1.4035	0.040	0.194	4.712	1.4055	1.3989	0.004	0.340
0.420	1.4067	1.4033	0.038	0.202	5.730	1.4050	1.3983	0.003	0.352
0.513	1.4067	1.4031	0.036	0.210	7.065	1.4044	1.3973	0.002	0.380
0.606	1.4068	1.4030	0.029	0.213	8.471	1.4037	1.3966	0.005	0.391
0.693	1.4068	1.4028	0.027	0.221	9.968	1.4031	1.3957	0.001	0.413
0.773	1.4068	1.4027	0.026	0.225					

Table S3. Refractive indices n at wavelength $\lambda = 632.8 \text{ nm}$ for pure n -Decane and $\{(1 - \phi_2) n\text{-Decane} + \phi_2$ (AOT + water/PEG) with $\omega = 37.9$ and various PEG concentrations c_{PEG} .

$c_{\text{PEG}} = 15 \text{ g}\cdot\text{L}^{-1}$						
ϕ_2	T/K	n	T/K	n	T/K	n

0 (<i>n</i> -decane)	307.828	1.4038	311.873	1.4019	318.555	1.3988
	308.844	1.4033	312.885	1.4014	320.620	1.3979
	309.829	1.4028	314.439	1.4007		
	310.868	1.4023	316.513	1.3997		
0.0300	299.865	1.4067	304.621	1.4045	308.563	1.4028
	301.666	1.4059	306.217	1.4038		
	303.061	1.4052	307.545	1.4032		
0.0604	298.652	1.4065	303.132	1.4045	307.611	1.4025
	300.112	1.4058	304.612	1.4038		
	301.611	1.4051	306.110	1.4032		
0.0902	297.880	1.4061	302.436	1.4041	306.821	1.4022
	299.467	1.4054	303.923	1.4035		
	300.944	1.4047	305.443	1.4028		
0.1104	297.317	1.4058	301.767	1.4039	306.261	1.4020
	298.780	1.4052	303.262	1.4033		
	300.267	1.4045	304.762	1.4026		
0.1499	297.897	1.4046	302.475	1.4027	307.008	1.4008
	299.473	1.4039	303.985	1.4021		
	300.989	1.4033	305.483	1.4014		
0.2000	297.896	1.4032	302.384	1.4013	306.892	1.3996
	299.389	1.4026	303.909	1.4008		
	300.886	1.4020	305.386	1.4002		
0.2504	300.727	1.4008	305.281	1.3991	309.807	1.3973
	302.227	1.4002	306.803	1.3985		
	303.776	1.3997	308.277	1.3979		
0.3000	306.793	1.3974	311.288	1.3957		
	308.281	1.3968	312.264	1.3953		
	309.778	1.3962	313.237	1.3950		
0.4001	311.756	1.3932	314.961	1.3921	317.979	1.3911
	312.928	1.3928	316.005	1.3917		
	313.965	1.3924	316.997	1.3914		

$c_{\text{PEG}} = 25 \text{ g}\cdot\text{L}^{-1}$

ϕ_2	T/K	n	T/K	n	T/K	n
0 (<i>n</i> -decane)	297.845	1.4083	303.095	1.4059	309.838	1.4028
	299.126	1.4078	304.690	1.4052	311.731	1.4019
	300.330	1.4072	306.220	1.4045	313.845	1.4010
	301.565	1.4066	307.992	1.4037		
0.0348	296.045	1.4083	299.889	1.4066	303.567	1.4049
	297.332	1.4077	300.951	1.4061	305.109	1.4042
	298.508	1.4072	302.359	1.4055		
0.0691	296.985	1.4070	300.825	1.4053	304.848	1.4036
	298.391	1.4064	302.136	1.4048	306.256	1.4030
	299.768	1.4058	303.183	1.4043		

0.0970	297.728	1.4059	301.429	1.4044	305.467	1.4026
	298.941	1.4055	302.788	1.4038	306.769	1.4021
	300.277	1.4049	304.202	1.4032		
0.1657	297.093	1.4045	300.989	1.4029	304.880	1.4013
	298.202	1.4040	302.248	1.4024	306.553	1.4006
	299.485	1.4035	303.734	1.4017		
0.2009	296.015	1.4040	300.028	1.4024	304.598	1.4006
	297.513	1.4034	301.764	1.4017	306.233	1.3999
	298.884	1.4028	302.947	1.4012		
0.2661	296.861	1.4020	300.438	1.4007	304.915	1.3989
	298.240	1.4015	301.906	1.4001	306.259	1.3984
	299.381	1.4011	303.262	1.3996		
0.3218	297.437	1.4004	301.169	1.3990	305.160	1.3975
	298.549	1.4000	302.213	1.3986	306.650	1.3970
	299.898	1.3995	303.523	1.3981		
0.3992	296.491	1.3988	300.415	1.3974	304.769	1.3959
	297.790	1.3983	301.905	1.3969	306.507	1.3953
	299.253	1.3978	303.189	1.3964		

$c_{\text{PEG}} = 50 \text{ g}\cdot\text{L}^{-1}$

ϕ_2	T/K	n	T/K	n	T/K	n
0 (<i>n</i> -decane)	293.630	1.4101	300.882	1.4068	309.048	1.4031
	295.288	1.4094	302.580	1.4061	310.890	1.4022
	297.107	1.4085	304.573	1.4052		
	299.098	1.4077	306.639	1.4042		
0.0295	293.409	1.4095	297.570	1.4076	302.252	1.4055
	295.038	1.4088	298.964	1.4070	303.871	1.4048
	296.517	1.4081	300.498	1.4063		
0.0684	293.658	1.4084	298.102	1.4065	302.327	1.4046
	294.961	1.4079	299.454	1.4059		
	296.406	1.4072	301.083	1.4052		
0.1010	294.242	1.4074	297.800	1.4059	301.758	1.4042
	295.300	1.4070	299.150	1.4053	303.639	1.4034
	296.482	1.4064	300.206	1.4049		
0.1496	293.337	1.4066	297.783	1.4047	302.126	1.4030
	294.840	1.4060	298.938	1.4043	303.657	1.4023
	296.070	1.4054	300.502	1.4036		
0.2025	293.391	1.4054	297.648	1.4036	302.211	1.4018
	294.914	1.4047	299.407	1.4029	303.907	1.4011
	296.100	1.4042	300.460	1.4025		
0.2555	293.496	1.4039	297.873	1.4022	302.300	1.4005
	294.822	1.4034	299.270	1.4017	303.851	1.3999
	296.395	1.4028	300.492	1.4012		
0.3233	293.251	1.4023	296.980	1.4009	301.266	1.3994

	294.378	1.4019	297.966	1.4006	303.095	1.3987
	295.687	1.4014	299.463	1.4001		
	293.691	1.4003	297.937	1.3988	302.534	1.3972
0.3994	295.145	1.3998	299.675	1.3982	304.395	1.3966
	296.365	1.3994	300.734	1.3978		

$c_{\text{PEG}} = 80 \text{ g}\cdot\text{L}^{-1}$

ϕ_2	T/K	n	T/K	n	T/K	n
0 (<i>n</i> -decane)	299.499	1.4073	305.544	1.4045	311.586	1.4017
	301.000	1.4065	307.066	1.4038		
	302.513	1.4059	308.587	1.4031		
	304.018	1.4051	310.089	1.4024		
0.0300	293.857	1.4092	296.818	1.4079	299.859	1.4065
	294.812	1.4088	297.821	1.4074		
	295.815	1.4083	298.835	1.4070		
0.0609	293.547	1.4085	296.561	1.4072	299.820	1.4058
	294.547	1.4081	297.565	1.4067		
	295.551	1.4077	298.561	1.4063		
0.0854	293.346	1.4080	296.357	1.4067	299.500	1.4054
	294.346	1.4076	297.356	1.4062		
	295.345	1.4071	298.378	1.4058		
0.1091	293.509	1.4074	296.502	1.4061	299.542	1.4048
	294.496	1.4070	297.499	1.4057		
	295.498	1.4065	298.504	1.4053		
0.1494	293.825	1.4064	296.871	1.4051	299.883	1.4039
	294.844	1.4060	297.867	1.4047		
	295.853	1.4055	298.871	1.4043		
0.2002	294.699	1.4048	297.760	1.4036	300.835	1.4024
	295.716	1.4045	298.784	1.4032		
	296.710	1.4040	299.802	1.4028		
0.2499	295.622	1.4034	298.573	1.4023	301.614	1.4011
	296.704	1.4030	299.594	1.4019		
	297.548	1.4027	300.606	1.4015		
0.2996	297.124	1.4017	300.133	1.4006	303.156	1.3994
	298.122	1.4013	301.142	1.4002		
	299.136	1.4009	302.243	1.3998		
0.4047	298.231	1.3990	301.723	1.3978	305.125	1.3966
	299.262	1.3986	302.737	1.3974		
	300.328	1.3983	303.787	1.3971		

$c_{\text{PEG}} = 100 \text{ g}\cdot\text{L}^{-1}$

ϕ_2	T/K	n	T/K	n	T/K	n
0	298.826	1.4077	304.090	1.4053	309.364	1.4029
(<i>n</i> -decane)	300.128	1.4071	305.381	1.4047	310.571	1.4023

	301.398	1.4065	306.676	1.4041		
	302.797	1.4059	308.017	1.4035		
0.0344	298.255	1.4073	295.469	1.4085	292.903	1.4097
	297.331	1.4077	294.603	1.4089		
	296.405	1.4081	293.729	1.4093		
0.0617	297.961	1.4068	295.224	1.4080	292.422	1.4092
	296.979	1.4072	294.291	1.4084		
	295.979	1.4076	293.354	1.4088		
0.0946	291.738	1.4088	294.802	1.4075	297.964	1.4061
	292.751	1.4083	295.832	1.4070		
	293.772	1.4079	296.964	1.4065		
0.1144	298.144	1.4055	295.054	1.4069	291.782	1.4082
	297.159	1.4060	293.948	1.4073		
	296.086	1.4064	292.849	1.4078		
0.1579	292.421	1.4070	295.409	1.4058	298.258	1.4046
	293.420	1.4066	296.350	1.4054		
	294.443	1.4062	297.271	1.4050		
0.1953	293.333	1.4059	296.291	1.4047	299.313	1.4035
	294.338	1.4055	297.245	1.4043		
	295.310	1.4051	298.309	1.4039		
0.2490	299.495	1.4023	296.405	1.4035	293.307	1.4047
	298.462	1.4027	295.363	1.4039		
	297.421	1.4031	294.339	1.4043		
0.3004	295.198	1.4028	298.405	1.4016	301.612	1.4004
	296.284	1.4024	299.470	1.4012		
	297.344	1.4020	300.536	1.4008		
0.3960	307.030	1.3966	303.930	1.3976	300.887	1.3987
	305.985	1.3969	302.939	1.3980		
	304.966	1.3973	301.841	1.3984		