

Manuscript Title: **Polymer Modifies the Critical Region of the Coexisting Liquid Phases**

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**Supporting Information Available Section.**

**TABLE 1S: Coexistence Curve Data for IW with and without Poly(ethylene oxide) (PEO). The Measured Data  $n_1 \pm 0.0004$  and  $n_2 \pm 0.0004$  are of the Average Refractive indices of Four Corners of Coquette Sample Cell for I Rich Phase and W Rich Phases, Respectively as a Function of Temperature, T. The Standard Deviation  $\sigma$  ( $n_i$ ) Indicates an Error of the Refractive Indices of Four Corners of Coquette Sample Cell.**

$T \pm 0.002$ ( $^{\circ}\text{C}$ )	$n_1$	$\sigma (n_1)$ $\times 10^{-4}$	$n_2$	$\sigma (n_2)$ $\times 10^{-4}$
$T_c = 26.921 \pm 0.002$ $^{\circ}\text{C}$ ; 0 mg/cc of PEO in IW				
23.002	1.3752	1	1.3516	1
23.505	1.3743	2	1.3518	1
23.902	1.3734	1	1.3520	1
24.280	1.3726	1	1.3523	3
24.625	1.3718	1	1.3526	1
24.955	1.3709	1	1.3528	1
25.265	1.3700	3	1.3529	1
25.525	1.3696	2	1.3532	1
25.770	1.3691	1	1.3538	1
26.002	1.3684	1	1.3543	1
26.195	1.3679	1	1.3549	1
26.345	1.3675	1	1.3554	1
26.475	1.3671	1	1.3558	1
26.575	1.3665	1	1.3563	1
26.640	1.3660	3	1.3566	1
26.699	1.3656	1	1.3568	2
26.749	1.3653	1	1.3571	3
26.799	1.3650	1	1.3574	1
26.823	1.3648	1	1.3575	1
26.845	1.3646	1	1.3577	1
26.858	1.3644	1	1.3579	1
26.870	1.3642	1	1.3582	1
26.878	1.3640	2	1.3585	1
26.887	1.3638	1	1.3588	1
26.895	1.3635	1	1.3590	1
26.902	1.3633	1	1.3592	1
26.908	1.3631	1	1.3594	1

26.912	1.3629	1	1.3597	1
26.915	1.3627	1	1.3599	1
26.916	1.3626	1	1.3600	1
26.917	1.3625	1	1.3601	1
26.918	1.3624	1	1.3602	1
26.919	1.3623	1	1.3603	1
26.920	1.3622	1	1.3604	2

$T_c = 26.626 \pm 0.002$  °C; 0.395 mg/cc of PEO in IW

22.501	1.3759	1	1.3513	1
23.012	1.3751	1	1.3517	1
23.509	1.3740	1	1.3520	3
23.912	1.3728	1	1.3524	1
24.275	1.3720	1	1.3527	1
24.629	1.3711	1	1.3530	1
24.961	1.3701	1	1.3533	1
25.275	1.3696	2	1.3536	1
25.520	1.3686	1	1.3543	1
25.755	1.3679	1	1.3547	1
25.991	1.3671	1	1.3553	1
26.155	1.3663	3	1.3557	1
26.252	1.3658	1	1.3560	1
26.327	1.3653	1	1.3561	1
26.397	1.3649	1	1.3565	2
26.467	1.3642	1	1.3570	2
26.501	1.3637	1	1.3573	1
26.525	1.3635	1	1.3575	1
26.555	1.3633	1	1.3579	1
26.575	1.3630	1	1.3582	1
26.587	1.3627	1	1.3584	1
26.597	1.3624	1	1.3585	1
26.603	1.3621	1	1.3587	1
26.606	1.3620	1	1.3589	1
26.609	1.3618	1	1.3590	1
26.612	1.3617	1	1.3590	1
26.614	1.3616	1	1.3591	1
26.616	1.3616	1	1.3592	1
26.618	1.3615	1	1.3593	1
26.620	1.3615	1	1.3594	1
26.621	1.3614	1	1.3595	1
26.622	1.3613	2	1.3596	2
26.623	1.3612	1	1.3597	1
26.623	1.3611	1	1.3598	1
26.624	1.3610	1	1.3599	3
26.625	1.3609	1	1.3600	1
26.625	1.3609	1	1.3600	1

$T_c = 25.353 \pm 0.002$  °C; 0.796 mg/cc of PEO in IW

22.449	1.3750	1	1.3514	1
22.975	1.3743	1	1.3519	1
23.501	1.3734	1	1.3522	1
23.901	1.3723	1	1.3526	1
24.251	1.3717	1	1.3530	1
24.505	1.3713	1	1.3533	1
24.704	1.3707	1	1.3536	1
24.879	1.3701	1	1.3540	1
25.055	1.3696	1	1.3543	1
25.204	1.3692	1	1.3546	1
25.355	1.3690	1	1.3550	2
25.510	1.3684	2	1.3554	1
25.655	1.3678	1	1.3556	1
25.779	1.3670	1	1.3559	1
25.875	1.3666	1	1.3561	1
25.970	1.3662	1	1.3563	2
26.045	1.3658	1	1.3565	1
26.120	1.3653	1	1.3567	1
26.185	1.3646	3	1.3569	1
26.241	1.3639	1	1.3571	1
26.285	1.3628	1	1.3573	1
26.311	1.3624	1	1.3576	1
26.321	1.3621	1	1.3578	1
26.327	1.3619	1	1.3580	1
26.332	1.3617	1	1.3582	3
26.337	1.3615	1	1.3584	1
26.341	1.3614	1	1.3586	1
26.343	1.3613	2	1.3588	1
26.345	1.3612	1	1.3590	1
26.346	1.3612	1	1.3591	1
26.347	1.3611	1	1.3592	1
26.348	1.3610	1	1.3593	1
26.349	1.3610	1	1.3594	1
26.350	1.3609	1	1.3595	1
26.351	1.3608	1	1.3596	1
26.352	1.3607	1	1.3597	1

$T_c = 25.817 \pm 0.002$  °C; 1.605mg/cc of PEO in IW

22.005	1.3751	1	1.3515	1
22.501	1.3743	1	1.3518	2
23.002	1.3736	1	1.3522	1
23.452	1.3726	1	1.3528	1

23.815	1.3720	1	1.3532	1
24.107	1.3714	2	1.3535	1
24.378	1.3709	1	1.3538	1
24.575	1.3703	1	1.3541	1
24.725	1.3700	1	1.3543	1
24.855	1.3694	1	1.3545	1
24.975	1.3689	1	1.3549	1
25.082	1.3685	1	1.3553	1
25.187	1.3682	1	1.3557	1
25.271	1.3679	1	1.3562	1
25.351	1.3676	1	1.3564	1
25.426	1.3673	1	1.3566	1
25.492	1.3669	1	1.3568	1
25.542	1.3665	1	1.357	1
25.585	1.3660	1	1.3572	1
25.625	1.3655	1	1.3574	1
25.661	1.3650	1	1.3576	1
25.692	1.3646	1	1.3577	1
25.716	1.3644	1	1.3578	1
25.736	1.3641	3	1.3581	1
25.754	1.3637	1	1.3583	1
25.769	1.3633	1	1.3586	1
25.781	1.3630	1	1.3588	1
25.791	1.3626	1	1.359	1
25.798	1.3623	1	1.3591	1
25.803	1.3621	1	1.3592	2
25.807	1.3617	1	1.3593	1
25.809	1.3616	1	1.3594	1
25.811	1.3616	1	1.3595	2
25.812	1.3615	1	1.3595	1
25.813	1.3614	1	1.3596	1
25.814	1.3613	1	1.3597	1
25.815	1.3612	1	1.3598	1
25.816	1.3611	2	1.3599	1

