

SUPPLEMENTARY MATERIAL TO  
**Ultrasonic and spectroscopic investigations of molecular interactions in binary mixture of PEG-400 and DMSO at different temperatures**

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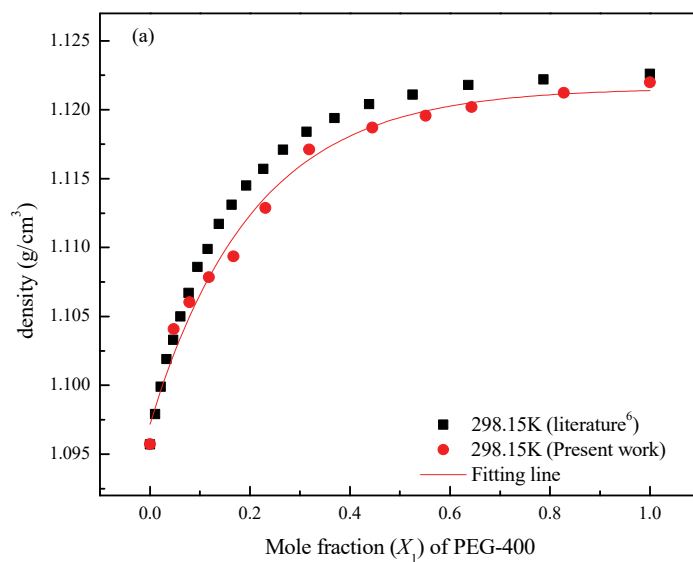
Table S-1. Calculated density ( $d^*$ ) (using Equation 1), Literature<sup>1</sup> ( $d$ ) density along with AAPD for PEG-400 + DMSO at 298.15 K and 308.15 K.

$X_1^6$	$d^6$	$d^*$	% deviation
298.15 K			
0.0102	1.0979	1.0984	0.0427
0.0213	1.0999	1.0996	0.0284
0.0333	1.1019	1.1008	0.0969
0.0466	1.1033	1.1021	0.1060
0.0611	1.105	1.1035	0.1400
0.0773	1.1067	1.1048	0.1694
0.0952	1.1086	1.1062	0.2146
0.1152	1.1099	1.1076	0.2034
0.1378	1.1117	1.1091	0.2346
0.1633	1.1131	1.1105	0.2293
0.1927	1.1145	1.1120	0.2228
0.2266	1.1157	1.1135	0.1999
0.2662	1.1171	1.1149	0.1979
0.313	1.1184	1.1163	0.1921
0.3691	1.1194	1.1175	0.1676
0.4382	1.1204	1.1187	0.1532
0.5253	1.1211	1.1197	0.1262
0.637	1.1218	1.1205	0.1174
0.787	1.1222	1.1211	0.1020
AAPD			0.1550

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Table S-I. Continued

$X_1^6$	$d^6$	$d^*$	% deviation
308.15 K			
0.0102	1.0867	1.0892	0.2311
0.0213	1.0889	1.0903	0.1293
0.0333	1.0911	1.0914	0.0310
0.0466	1.0927	1.0926	0.0066
0.0611	1.0949	1.0939	0.0957
0.0773	1.0966	1.0951	0.1333
0.0952	1.0985	1.0965	0.1854
0.1152	1.1001	1.0978	0.2061
0.1378	1.1015	1.0993	0.2041
0.1633	1.1035	1.1007	0.2534
0.1927	1.1047	1.1022	0.2264
0.2266	1.1063	1.1037	0.2336
0.2662	1.1076	1.1052	0.2131
0.313	1.1088	1.1067	0.1849
0.3691	1.11	1.1082	0.1606
0.4382	1.111	1.1096	0.1244
0.5253	1.112	1.1109	0.0985
0.637	1.1128	1.1120	0.0713
0.787	1.1133	1.1129	0.0378
AAPD			0.1488

Fig. S-1. Density values from Literature<sup>1</sup> and present work with fitting equation at 298.15 K.

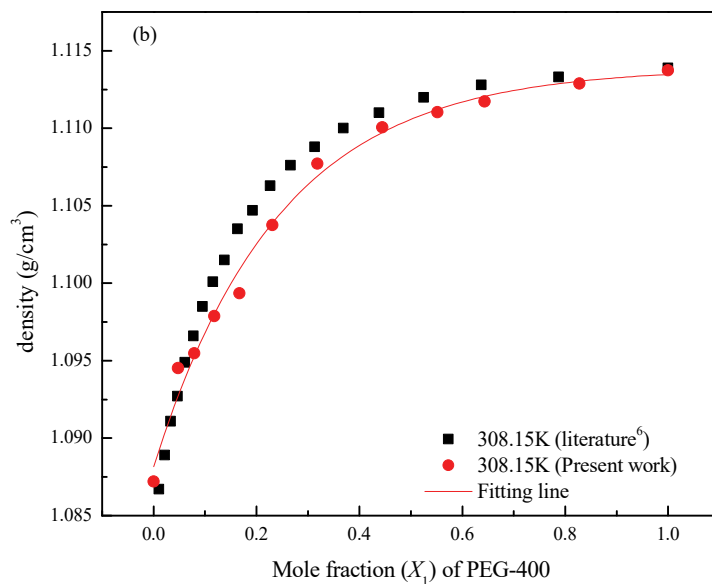


Fig. S-2. Density values from Literature<sup>1</sup> and present work with fitting equation at 308.15 K.

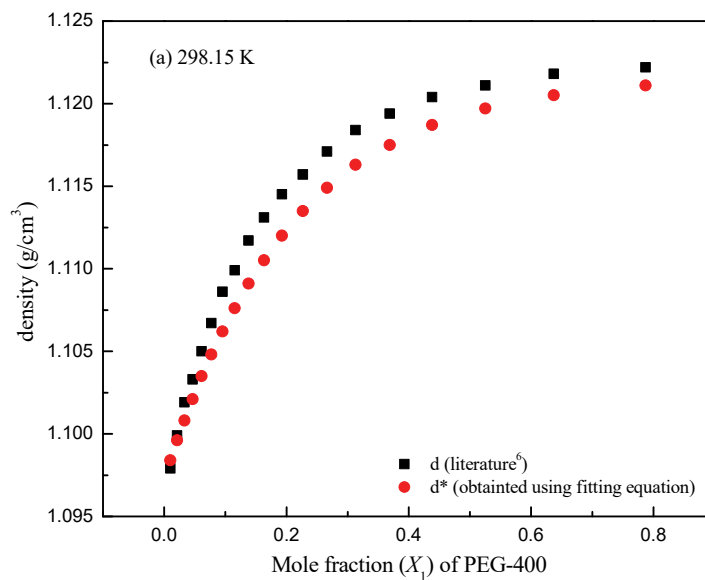


Fig. S-3. Literature<sup>1</sup> and computed density ( $d^*$ ) values 298.15 K.

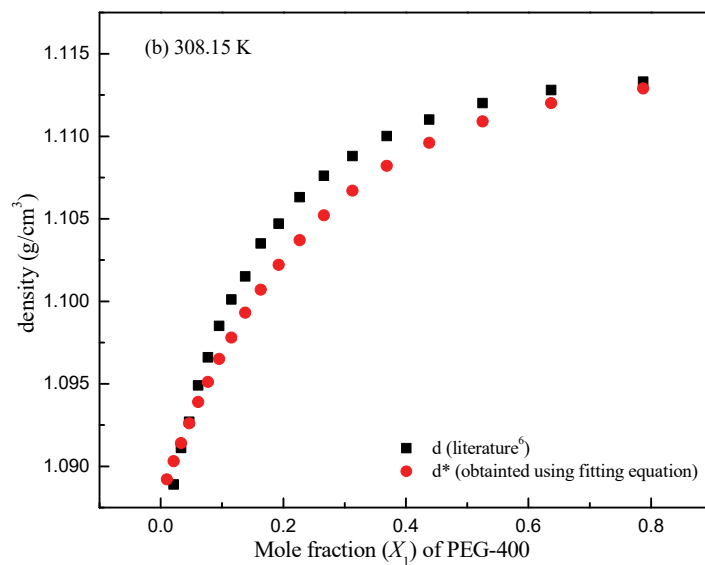


Fig. S-4. Literature<sup>1</sup> and computed density ( $d^*$ ) values 308.15 K.

#### REFERENCES

1. K. Zhang, J. Yang, X. Yu, J. Zhang, X. Wei, *J. Chem. Eng. Data* **56** (2011) 3083 (<https://doi.org/10.1021/je200148u>).