

**CORRIGENDUM TO “VOLUMETRIC PROPERTIES OF BINARY
MIXTURES OF ACRYLONITRILE WITH DIMETHYLSULFOXIDE (OR
DIETHYLSULFOXIDE) AT TEMPERATURES FROM 298.15 TO 323.15K”
[CHEMICAL JOURNAL OF ARMENIA 70 (2017) 462-476]**

H. H. GHAZOYAN

Yerevan State University
1, A. Manoukyan Str., Yerevan, 0025, Armenia
E-mail: shmarkar@ysu.am

This is corrigendum to our paper [1] in which the study of volumetric properties of binary mixtures of acrylonitrile (AN) with dimethylsulfoxide (DMSO) (or diethylsulfoxide (DESO)) over the full range of compositions at several temperatures was carried out. In our paper [1] errors in thermodynamic parameters calculation are noted especially for calculation of partial excess molar volumes, $\bar{V}_i^E$, for the individual mixture components. Although, we mentioned in the text that the partial molar volumes are mainly smaller than molar volumes of pure components for both AN-DMSO and AN-DESO systems at each temperature which thermodynamically consistent, however, there was technical error. Instead of as usually procedure [2, 3], to obtain the partial excess molar volumes by subtracting the pure component molar volumes from the partial molar volumes of components ($\bar{V}_i^E = \bar{V}_i - V_i^*$) we did opposite. The authors would like to apologize for any inconvenience caused. Now, the corrections are incorporated and final versions of calculated values of partial excess molar volumes are presented in Tables 1 and 2.

Table 1

**Partial excess molar volumes, $\bar{V}_i^E \times 10^6 (m^3 mol^{-1})$, for AN and DMSO
in binary AN(1)-DMSO(2) solutions at T= (298.15 to 323.15)K**

X_2	$\bar{V}_1^E$	$\bar{V}_2^E$	$\bar{V}_1^E$	$\bar{V}_2^E$	$\bar{V}_1^E$	$\bar{V}_2^E$
	T=298.15K		T=303.15K		T=308.15K	
0.1056	-0.120	-1.283	-0.057	-1.354	-0.012	-1.442
0.2079	-0.166	-0.587	-0.086	-0.639	-0.024	-0.676
0.2988	-0.261	-0.400	-0.171	-0.386	-0.110	-0.395
0.3968	-0.295	-0.120	-0.223	-0.090	-0.166	-0.060
0.5016	-0.353	0.058	-0.291	0.129	-0.257	0.175
0.5999	-0.391	0.196	-0.351	0.287	-0.336	0.352
0.6986	-0.453	0.279	-0.466	0.370	-0.491	0.439
0.7976	-0.625	0.280	-0.712	0.360	-0.802	0.422
0.8979	-0.955	0.195	-1.030	0.262	-1.087	0.318
	T=313.15K		T=318.15K		T=323.15K	
0.1056	-0.012	-1.552	0.008	-1.657	0.002	-1.781
0.2079	-0.024	-0.748	0.003	-0.812	-0.003	-0.899
0.2988	-0.114	-0.451	-0.093	-0.495	-0.103	-0.574
0.3968	-0.159	-0.073	-0.136	-0.076	-0.146	-0.135
0.5016	-0.274	0.152	-0.274	0.155	-0.284	0.111
0.5999	-0.361	0.340	-0.374	0.361	-0.396	0.318
0.6986	-0.562	0.419	-0.615	0.440	-0.618	0.414
0.7976	-0.820	0.429	-0.893	0.457	-0.903	0.433
0.8979	-1.141	0.320	-1.219	0.345	-1.309	0.319

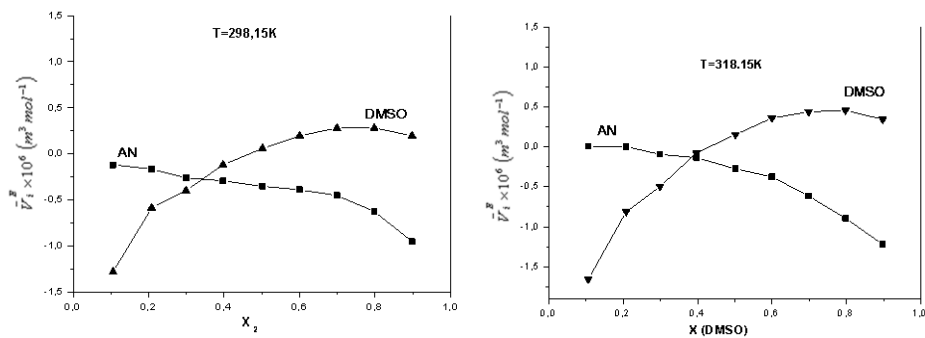
Table 2

Partial excess molar volumes, $\bar{V}_i^E \times 10^6 (m^3 mol^{-1})$, for AN and DESO in binary AN(1)-DESO(2) solutions at T= (298.15 to 323.15)K

X_2	$\bar{V}_1^E$	$\bar{V}_2^E$	$\bar{V}_1^E$	$\bar{V}_2^E$	$\bar{V}_1^E$	$\bar{V}_2^E$
	T=298.15K		T=303.15K		T=308.15K	
0.1014	-0.554	-2.205	-0.543	-2.279	-0.554	-2.387
0.1992	-0.852	-1.896	-0.844	-1.967	-0.860	-2.044
0.3033	-0.967	-1.475	-0.957	-1.506	-0.976	-1.557
0.4002	-1.127	-1.393	-1.106	-1.384	-1.127	-1.419
0.4927	-1.247	-1.266	-1.243	-1.264	-1.268	-1.290
0.6003	-1.383	-1.119	-1.369	-1.095	-1.396	-1.110
0.6914	-1.265	-0.885	-1.249	-0.854	-1.280	-0.864
0.7963	-1.318	-0.718	-1.309	-0.690	-1.348	-0.696
0.9003	-1.617	-0.481	-1.702	-0.472	-1.757	-0.476
	T=313.15K		T=318.15K		T=323.15K	
0.1014	-0.564	-2.489	-0.573	-2.608	-0.578	-2.733
0.1992	-0.877	-2.123	-0.892	-2.207	-0.899	-2.292
0.3033	-0.994	-1.605	-1.011	-1.660	-1.019	-1.708
0.4002	-1.148	-1.455	-1.168	-1.491	-1.180	-1.522
0.4927	-1.292	-1.315	-1.316	-1.340	-1.332	-1.357
0.6003	-1.419	-1.123	-1.445	-1.136	-1.464	-1.140
0.6914	-1.307	-0.873	-1.337	-0.880	-1.363	-0.879
0.7963	-1.382	-0.703	-1.425	-0.707	-1.461	-0.703
0.9003	-1.814	-0.481	-1.875	-0.484	-1.927	-0.480

The figures (Fig. 4 in [1]) in which presented partial excess molar volumes versus molar fractions of DMSO (or DESO) at T=(298.15 and 318.15)K are corrected in this corrigendum as well (Fig.).

a)



b)

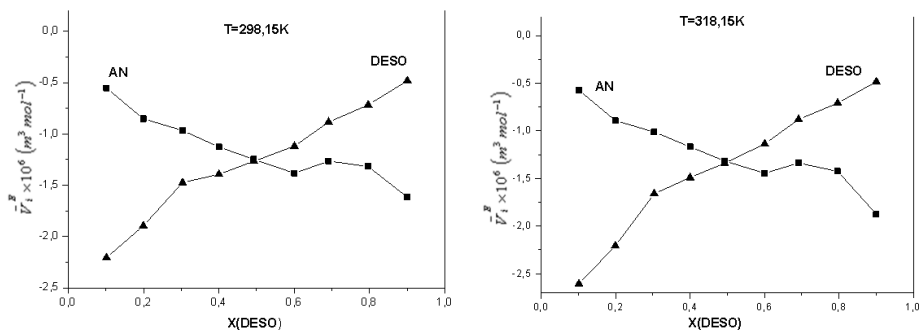


Fig. Excess partial molar volumes, $\bar{V}_i^E \times 10^6 (m^3 mol^{-1})$, of components in binary solutions of AN at $T = (298.15 \text{ and } 318.15) K$: (a) AN-DMSO; (b) AN-DESO.

REFERENCES

- [1] Ghazoyan H.H., Grigoryan Z.L., Markarian S.A. // Chem. J. of Armenia, 2017, v. 70, №4, p. 462.
- [2] Stec M., Tatarczuk A. // J. Solution Chem., 2014, v. 43, p. 959.
- [3] Torres R., Marchiore A., Volpe P. // J. Chem. Thermodynamics, 2006, v. 38, p. 526.