Table 1:

Contributions to the interaction second virial coefficient for Ar-CO_2. $B^{(0)}$ is the classical result; $B_{tr}^{(1)}$ is translational quantum correction; $B_{rot}^{(2)}$ is the rotational quantum correction. $B = B^{(0)} + B_{tr}^{(1)} + B_{rot}^{(1)}$ is the final estimate. Units are cm^3/mol.

$T(K)$	$B^{(0)}$	$B_{tr}^{(1)}$	$B_{rot}^{(1)}$	B	B_{exp}
213.0	−83.79	0.72	0.14	−82.93	−86.3 ± 5.0[a] −94.0 ± 7.0[b]
223.0	−76.09	0.65	0.13	−75.13	−75.5 ± 5.0[a]
233.0					−74.8 ± 1.0[c]
242.0	−63.68	0.54	0.11	−63.03	−62.9 ± 5.0[a] −70.0 ± 7.0[b]
248.2	−60.16	0.51	0.10	−59.55	−58.4 ± 1.0[c]
262.0	−53.06	0.45	0.09	−52.52	−50.8 ± 5.0[a]
273.2	−47.96	0.41	0.08	−47.47	−50.6 ± 1.0[c]
276.0	−46.75	0.40	0.08	−46.27	−43.4 ± 5.0[a] −51.0 ± 6.0[b]
288.2	−41.89	0.37	0.07	−41.45	−40.3 ± 2.0[d]
290.0	−41.21	0.36	0.07	−40.78	−45.2 ± 1.4[e] −46.4 ± 4.0[f]
295.0	−39.37	0.35	0.07	−38.95	−37.2 ± 5.0[a] −44.0 ± 6.0[b]
296.0	−39.02	0.35	0.07	−38.60	−37.0 ± 2.0[d]
296.15	−38.97	0.35	0.07	−38.55	−44.1 ± 5.0[b]
300.0	−37.63	0.34	0.07	−37.22	−40.8 ± 1.3[e] −41.7 ± 4.0[f]
303.15	−36.55	0.33	0.06	−36.16	−31.8 ± 4.6[g]
303.2	−36.55	0.33	0.06	−36.16	−34.2 ± 2.0[d]
310.0	−34.34	0.32	0.06	−33.96	−38.6 ± 4.0[f]
313.2	−33.34	0.31	0.06	−32.97	−31.2 ± 2.0[d]
320.0	−31.30	0.30	0.06	−30.94	−35.3 ± 1.3[e]
322.85	−30.48	0.29	0.06	−30.13	−30.1 ± 2.0[h]
323.1	−30.40	0.29	0.06	−30.05	−28.3 ± 2.0[d]
330.0	−28.48	0.28	0.05	−28.15	−27.3 ± 5.0[a] −35.0 ± 5.0[b]
333.15	−27.63	0.27	0.05	−27.95	−25.8 ± 4.2[g]
363.15	−20.46	0.23	0.04	−20.19	−19.6 ± 4.2[g]
365.0	−20.06	0.23	0.04	−19.79	−16.2 ± 5.0[a]
400.0	−13.39	0.19	0.04	−13.16	−6.0 ± 4.0[a] −13.0 ± 3.0[b]
425.0	−9.42	0.17	0.03	−9.22	−3.1 ± 4.0[a]
450.0	−5.97	0.16	0.03	−5.78	0.5 ± 4.0[a] −7.0 ± 2.0[b]
475.0	−2.94	0.14	0.03	−2.77	1.7 ± 4.0[a]

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