Viscosity and *pVT*–Second Virial Coefficient of Binary Noble–Globular Gas and Globular–Globular Gas Mixtures Calculated by Means of an Isotropic Temperature-Dependent Potential

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This work presents results of an extension of our earlier studies of the transport and equilibrium properties of pure heavy globular gases. It demonstrates a simple and reliable procedure for estimating the equilibrium and transport properties of their mixtures using the pure gas potentials of interaction when there are no available experimental data. Here we consider binary gas mixtures of globular gases between themselves and with the noble gases as well. The gases involved are: BF_3, CH_4, CF_4, SiF_4, $SiCl_4$, CCl_4, SF_6, MoF_6, WF_6, UF_6, $C(CH_3)_4$, $Si(CH_3)_4$, Ar, Kr, and Xe. The calculations were performed by means of the so called isotropic temperature–dependent potential (ITDP) introduced by us earlier and applied to some binary mixtures (CH_4–CF_4, CH_4–SF_6, CF_4–SF_6). The CH_4–CH_4 and noble gases potentials of interactions have been determined in a $(n-6)$ Lennard-Jones shape in the temperature range 200–1000 K by fitting a large number of viscosity and *pVT*–second virial coefficient data measured by different authors with different experimental techniques. The ITDP parameters of molecular gases were taken from the tables we have determined and published earlier [L. Zarkova and U. Hohm, J. Phys. Chem. Ref. Data **31**, 183 (2002)]. Simple combination rules allow us to take into account the influence of the temperature on the thermophysical properties of the binary gas mixtures containing heavy globular molecules. Tables with potential parameters of equal and unequal particles and properties of the equimolar mixtures are given for all mixtures in the temperature range 200–900 (1000) K. The deviations between experimental and calculated viscosity and second virial coefficient data of some more examined mixtures permit to evaluate the quality of the proposed approach. © *2003 American Institute of Physics.* [DOI: 10.1063/1.1562633]

Key words: binary mixtures of gases; globular gases; isotropic temperature-dependent potential; noble gases; second virial coefficient of gas mixtures; viscosity of gas mixtures.

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List of Symbols

A^*	ratio of collision integrals
B_{12}	interaction second virial coefficient
B_{mix}	mixed second virial coefficient
C_k	enlargement of the highly excited states with respect to the enlargement of the first excited state
k_B	Boltzmann constant
M	molar mass
n	repulsive parameter
r	intermolecular distance
r_m	equilibrium distance
T	temperature
U	intermolecular force potential
x	mole fraction
x_k	relative population of the vibrational state
Z	vibrational partition function
δ	first vibrationally excited level enlargement
ε	potential well depth
η_{mix}	mixed viscosity
$\Omega^{(i,j)*}$	reduced collision integral

1. Introduction

There exists a strong interest of the industry and research in the thermophysical properties of gas mixtures. Particularly, such data for mixtures of globular gases with noble gases are needed for modeling and designing the processes and the equipment in different branches of microelectronics, chemical production, etc.

This paper is concerned with the application of an isotropic temperature-dependent potential (ITDP) for the pairwise interactions between a globular (spherical or nearly spherical) molecule with another globular molecule or with a noble gas atom. Usually, the interactions between unequal molecules are described by means of the extended law of corresponding states. For example, Kestin *et al.*[1] have reproduced with high accuracy their own measurements of viscosity (η_{mix}) of binary mixtures of noble gases, methane, sulfur hexafluoride and carbon tetrafluoride. There are several calculations of interaction (B_{12}) or mixed (B_{mix}) second pVT–virial coefficients approximating measurements. The last systematic research on more than 50 binary mixtures was performed in 1990 by Bzowski *et al.*,[2] who have published calculated data of equimolar interaction second virial coefficient, mixed viscosity, diffusion and reduced thermal diffusion factor. Unfortunately, the agreement between the calculated and experimental B_{12} data was not satisfactory for the mixtures containing heavy globular gases, such as SF_6 or CF_4. In 1997 we have applied our ITDP approach to three of these mixtures[3] CH_4-CF_4, CH_4-SF_6, and CF_4-SF_6. The obtained agreement for the viscosity was in the frame of 1% and that for the second virial coefficient at low temperatures was better compared to some data given by Bzowski *et al.*[2]

The present study extends our work on the thermophysical properties of pure molecular gases calculated by means of the ITDP. The mixed second virial coefficients and viscosities of 102 binary gas mixtures are calculated and given in the odd-numbered Tables 5–207. The gases involved are Ar, Kr, Xe, BF_3, CH_4, CF_4, SiF_4, CCl_4, $SiCl_4$, SF_6, MoF_6, WF_6, UF_6, $C(CH_3)_4$, and $Si(CH_3)_4$. Only for some of the here considered 102 binary mixtures experimental thermophysical data are available in the literature, e.g., CF_4-CH_4, CF_4-SF_6, and CH_4-SF_6 (see Table 1). For most of the binary mixtures thermophysical data are presented for the first time.

2. ITDP Application to the Binary Mixtures Containing Heavy Globular Gases. Combination Rules

There are three types of interactions between the particles in the binary mixture. Each one is specified by a different set of potential parameters: two sets for the particles of the same sort and one for the particles of different sorts. In order to obtain the potential parameters of the third set from the first two we use the simple combination rules given by Hirschfelder *et al.*[4]

For the mixtures considered here we applied two types of interaction potentials for equal particles: $(n-6)$ Lennard-Jones (for noble gases or methane) and ITDP (for heavy globular molecules). Generally speaking, there is no difference between the ITDP and the $(n-6)$ Lennard-Jones potential except for the temperature dependence of the potential parameters which can be understood as the influence of the vibrational excitation on the equilibrium distance r_m.

The ITDP was introduced and discussed in details in our earlier works.[3,5] The potential parameters for pure globular gases were obtained earlier by Zarkova and Hohm.[6] The $(n-6)$ Lennard-Jones potential parameters for noble gases have been also determined previously by Zarkova *et al.*[7] and by Zarkova[3] for CH_4.

The potential function $U(r,T)$ for the interaction between each pair of particles will be written as

$$U(r,T)=\frac{\varepsilon(T)}{n-6}\left[6\left(\frac{r_m(T)}{r}\right)^n-n\left(\frac{r_m(T)}{r}\right)^6\right], \qquad (1)$$

TABLE 1. Experimental data

Mixture	Author	Ref.	Property	M	ΔT(K)
$Ar+CH_4$	Thomaes *et al.* (1962)	13	B_{12}	2	240–295
	Byrne *et al.* (1968)	14	B_{12}	3	209–274
	Lichtenthaler and Schäfer (1969)	9	B_{12}	5	288–323
	Strein *et al.* (1971)	10	B_{12}	11	296–493
	Bellm *et al.* (1974)	11	B_{12}	10	300–550
	Hahn *et al.* (1974)	12	B_{12}	5	201–272
	Rakshit *et al.* (1973)	15	η_{mix}	20	238–308
$Ar+CF_4$	Siebert and Knobler (1971)	17	B_{12}	1	373
	Dunlop *et al.* (1986)	16	B_{12}	3	290–320
	Kestin *et al.* (1977)	1	η_{mix}	32	298–673
$Ar+SF_6$	Bellm *et al.* (1974)	11	B_{12}	10	300–550
	Santafe *et al.* (1974)	19	B_{12}	6	273–323
	Martin *et al.* (1982)	18	B_{12}	3	290–320
	Kestin *et al.* (1977)	1	η_{mix}	10	298–473
$Kr+CH_4$	Byrne *et al.* (1968)	14	B_{12}	13	119–271
$Kr+CF_4$	Dunlop *et al.* (1986)	16	B_{12}	3	290–320
$Kr+SF_6$	Martin *et al.* (1982)	18	B_{12}	3	290–320
	Schramm *et al.* (1984)	20	B_{12}	10	201–465
$Xe+CF_4$	Dunlop *et al.* (1986)	16	B_{12}	3	290–320
$Xe+SF_6$	Martin *et al.* (1982)	18	B_{12}	3	290–320
CF_4+CH_4	Douslin *et al.* (1967)	21	B_{12}	16	273–623
			B_{mix}	48	273–623
	Dantzler-Siebert and Knobler (1971)	17	B_{12}	3	298–373
	Schramm *et al.* (2000)	22	B_{12}	2	296–353
	Kestin *et al.* (1977)	1	η_{mix}	20	296–473
CF_4+SF_6	Dantzler-Siebert and Knobler (1971)	17	B_{12}	1	323
	Sigmund *et al.* (1972)	23	B_{12}	6	272–423
			B_{mix}	25	272–423
	Raw and Tang (1963)	24	η_{mix}	12	303–324
	Kestin *et al.* (1977)	1	η_{mix}	20	297–477
$CF_4+C(CH_3)_4$	Dantzler-Siebert and Knobler (1971)	17	B_{12}	1	323
SF_6+CH_4	Hamann *et al.* (1955)	26	B_{12}	5	313–393
	Bellm *et al.* (1974)	11	B_{12}	10	300–550
	M. Martin *et al.* (1982)	18	B_{12}	3	290–320
	Kestin *et al.* (1977)	1	η_{mix}	20	296–473
$SF_6+C(CH_3)_4$	Bellm *et al.* (1974)	11	B_{12}	10	300–550
$SF_6+Si(CH_3)_4$	Bellm *et al.* (1974)	11	B_{12}	10	300–550
CCl_4+CH_4	Gupta and King Jr. (1972)	25	B_{12}	4	273–348
$C(CH_3)_4+CH_4$	Hamann *et al.* (1955)	26	B_{12}	8	303–403
			B_{mix}	32	303–403
	Strein *et al.* (1971)	10	B_{12}	11	296–493
	Bellm *et al.* (1974)	11	B_{12}	10	300–550
	Baughman *et al.* (1974)	27	B_{12}	7	200–258
$Si(CH_3)_4+CH_4$	Hamann *et al.* (1955)	26	B_{12}	7	323–403
	Bellm *et al.* (1974)	11	B_{12}	10	300–550
$C(CH_3)_4+Si(CH_3)_4$	Bellm *et al.* (1974)	11	B_{12}	10	300–550
UF_6+MoF_6	Morizot *et al.* (1973)	28	η_{mix}	4	354.15
UF_6+WF_6	Morizot *et al.* (1973)	28	η_{mix}	4	354.15

where r is the distance between two particles n, $r_m(T)$ and $\varepsilon(T)$ are potential parameters: repulsive parameter, equilibrium distance, and potential well depth, respectively.

The repulsive parameter for unlike interaction is supposed to be independent of the temperature

$$n_{12}=(n_1+n_2)/2. \tag{2}$$

The equal particles separation is given by the expression

$$r_m(T)=r_m(T=0)+\delta(T), \tag{3}$$

where $\delta(T)$ is the effective enlargement of the first vibrational level. The effective equilibrium distance between unequal particles is defined as

$$r_{m12}(T)=(r_{m1}(T)+r_{m2}(T))/2. \tag{4}$$

Respectively, the potential well depth for unequal particles is

$$\varepsilon_{12}(T)=\sqrt{\varepsilon_1(T)\varepsilon_2(T)}. \tag{5}$$

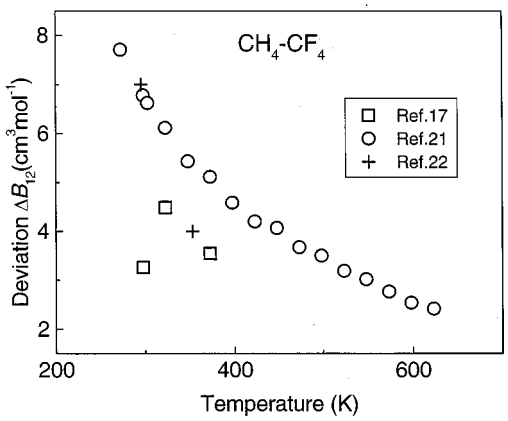

FIG. 1. Deviation plot for $B_{12}(T)$ of CH_4-CF_4 mixture.

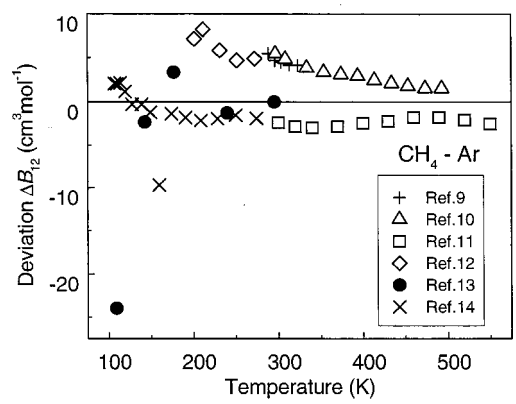

FIG. 3. Deviation plot for $B_{12}(T)$ of CH_4-Ar mixture.

With the reasonable assumption that the attractive long-range part of the interaction potential does not depend on the temperature we obtain for the well depth of equal molecules

$$\varepsilon(T)=\varepsilon(T=0)(r_m(T=0)/r_m(T))^6. \tag{6}$$

Thus, if we use the combination rule Eq. (4) for the effective equilibrium distance between unequal molecules 1 and 2 the potential well depth for this pair is obtained by the combination rule

$$\varepsilon_{12}(T)=\left(\frac{r_{m1}(T=0)r_{m2}(T=0)}{r_{m1}(T)r_{m2}(T)}\right)^3\sqrt{\varepsilon_1(T=0)\varepsilon_2(T=0)}. \tag{7}$$

The influence of the temperature on the pair interactions is incorporated in the temperature dependence of the effective equilibrium distance and the depth of the potentials via the effective enlargement of the excited states over all excited states at a given temperature

$$\delta(T)=\left\langle \sum_{k,l} \delta(C_k x_k(T)+C_l x_l(T))\right\rangle, \tag{8}$$

where $x_k(T)$ is the relative population of the kth vibrationally excited state at this temperature T ($\Sigma x_k(T)\equiv 1$) and $C_{k,l}$ are known constants for the harmonic oscillator[8] equal to the enlargement of the excited level k normalized to the enlargement δ of the first level. For the noble gas atoms and the light globular molecules (CH_4) the average size of the molecules does not depend on the temperature ($\delta=0$), while for the heavy globular molecules we found $\delta\neq 0$. The averaged sum in Eq. (8) is calculated by means of the vibrational partition function $Z(T)$ for a number of equidistant T in the whole temperature range and then interpolated by a cubic spline. The obtained relation (8) defines the behavior of the potential parameters for the binary gas mixture.

The second pVT–virial coefficient B_{mix} and viscosity η_{mix} of a binary mixture are defined as[4]

$$B_{\mathrm{mix}}(T)=B_{11}(T)x_1^2+2B_{12}(T)x_1x_2+B_{22}(T)x_2^2 \tag{9}$$

and

$$\frac{1}{\eta_{\mathrm{mix}}}=\frac{X_\eta+Y_\eta}{1+Z_\eta}=X_\eta\frac{1+(Y_\eta/X_\eta)}{1+Z_\eta}, \tag{10}$$

where

$$X_\eta=\frac{x_1^2}{\eta_1}+\frac{2x_1x_2}{\eta_{12}}+\frac{x_2^2}{\eta_2}, \tag{11}$$

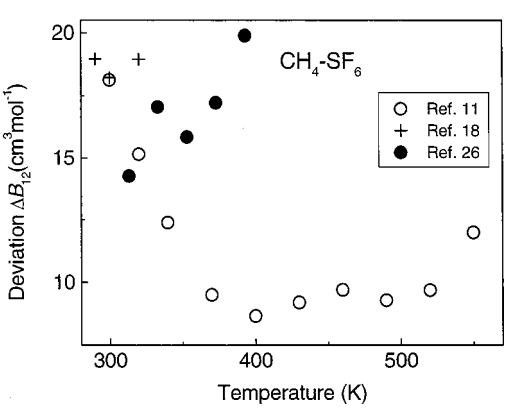

FIG. 2. Deviation plot for $B_{12}(T)$ of CH_4-SF_6 mixture.

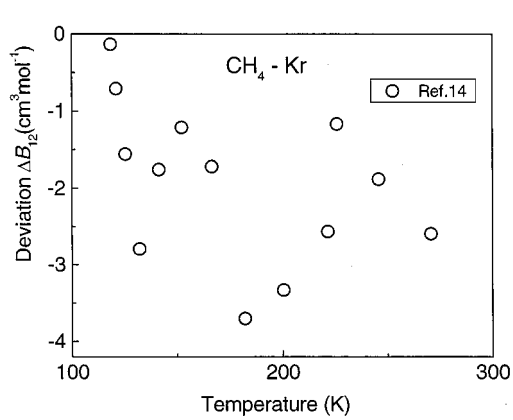

FIG. 4. Deviation plot for $B_{12}(T)$ of CH_4-Kr mixture.

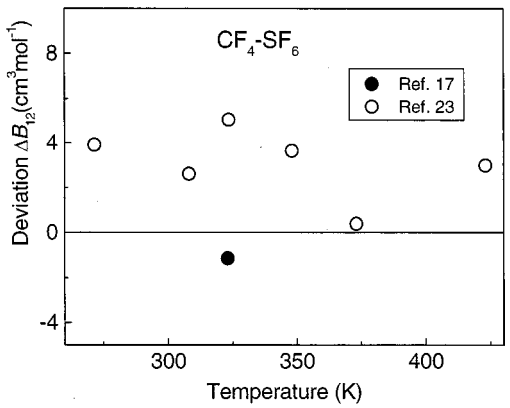

FIG. 5. Deviation plot for $B_{12}(T)$ of CF_4-SF_6 mixture.

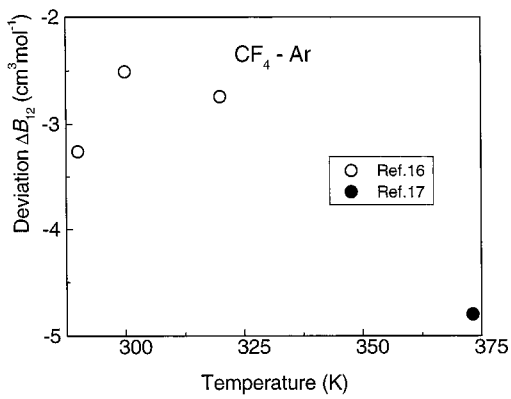

FIG. 6. Deviation plot for $B_{12}(T)$ of CF_4-Ar mixture.

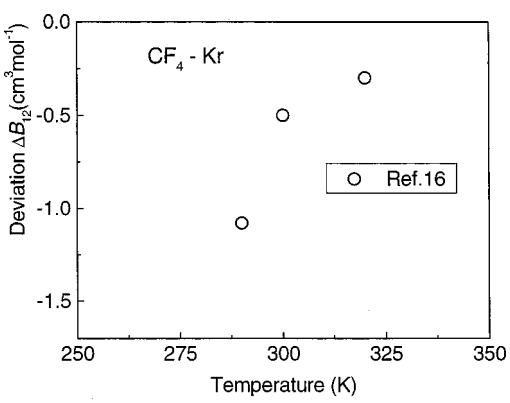

FIG. 7. Deviation plot for $B_{12}(T)$ of CF_4-Kr mixture.

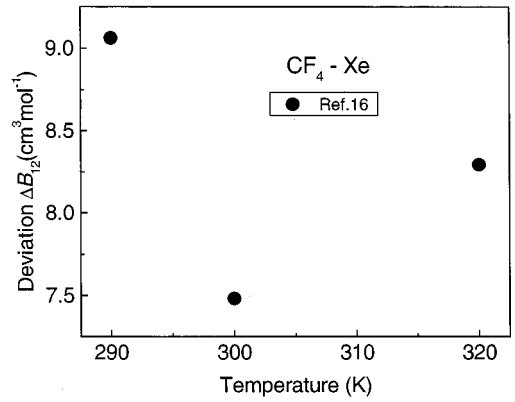

FIG. 8. Deviation plot for $B_{12}(T)$ of CF_4-Xe mixture.

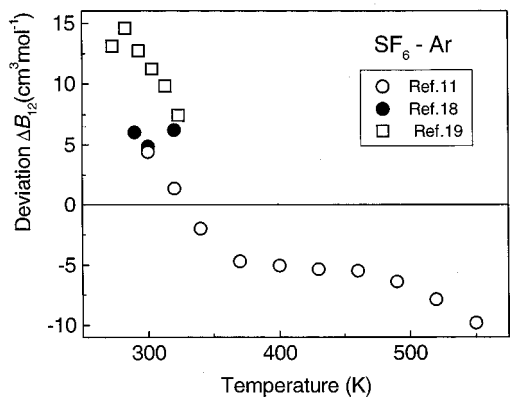

FIG. 9. Deviation plot for $B_{12}(T)$ of SF_6-Ar mixture.

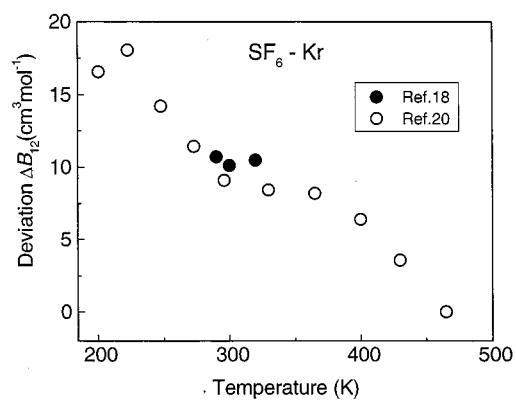

FIG. 10. Deviation plot for $B_{12}(T)$ of SF_6-Kr mixture.

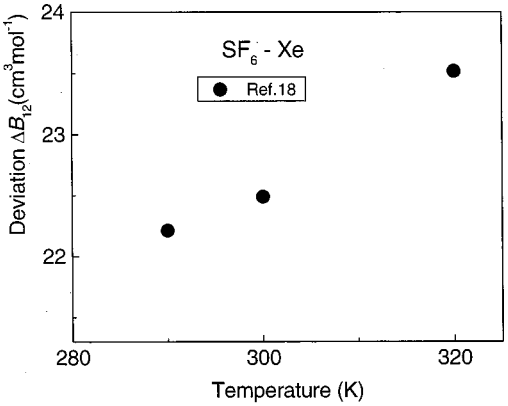

FIG. 11. Deviation plot for $B_{12}(T)$ of SF_6-Xe mixture.

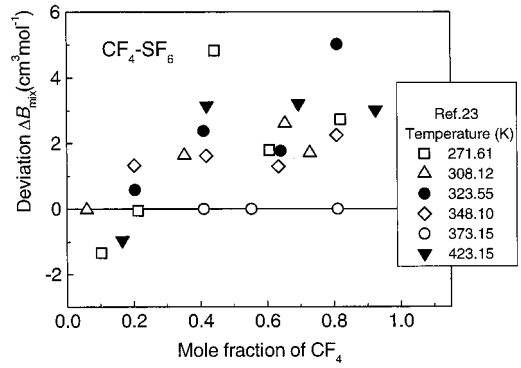

FIG. 14. Deviation plot for $B_{mix}(T)$ of CF_4-SF_6 mixture.

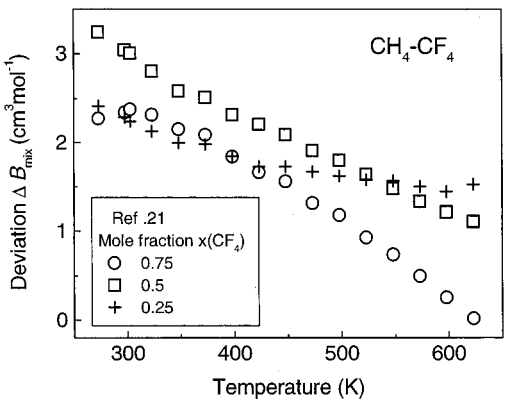

FIG. 12. Deviation plot for $B_{mix}(T)$ of CH_4-CF_4 mixture.

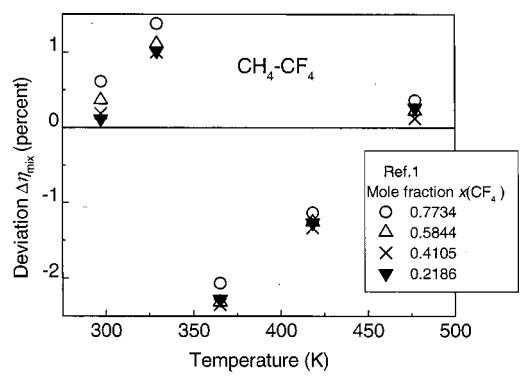

FIG. 15. Deviation plot for $\eta_{mix}(T)$ of CH_4-CF_4 mixture.

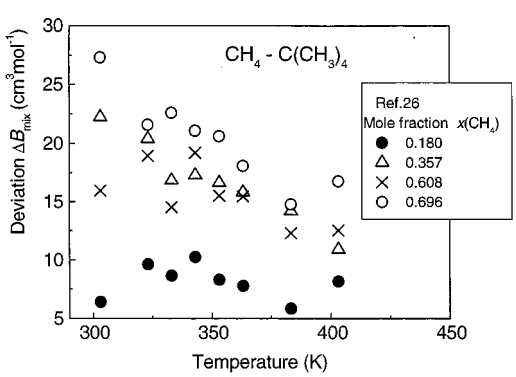

FIG. 13. Deviation plot for $B_{mix}(T)$ of $CH_4-C(CH_3)_4$ mixture.

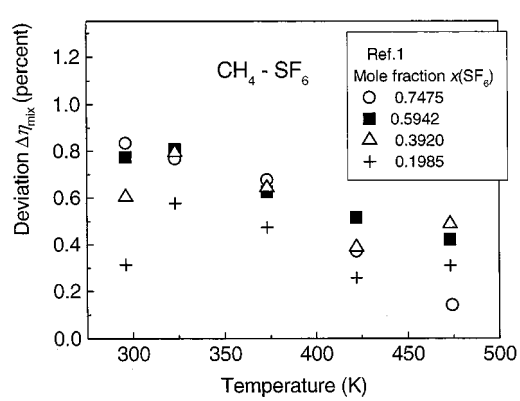

FIG. 16. Deviation plot for $\eta_{mix}(T)$ of CH_4-SF_6 mixture.

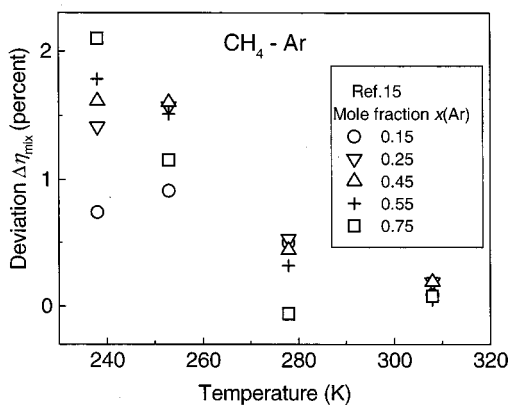

FIG. 17. Deviation plot for $\eta_{mix}(T)$ of CH_4-Ar mixture.

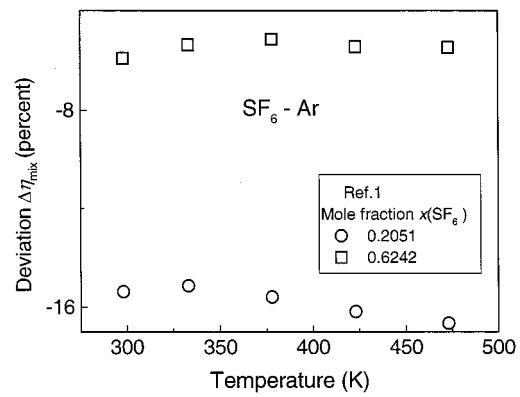

FIG. 20. Deviation plot for $\eta_{mix}(T)$ of SF_6-Ar mixture.

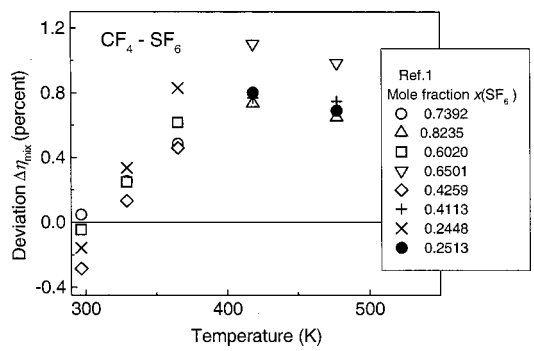

FIG. 18. Deviation plot for $\eta_{mix}(T)$ of CF_4-SF_6 mixture.

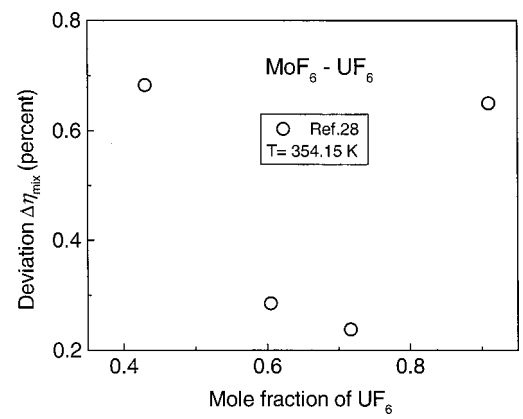

FIG. 21. Deviation plot for $\eta_{mix}(T)$ of MoF_6-UF_6 mixture.

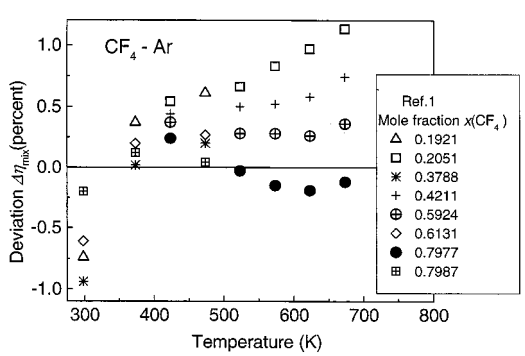

FIG. 19. Deviation plot for $\eta_{mix}(T)$ of CF_4-Ar mixture.

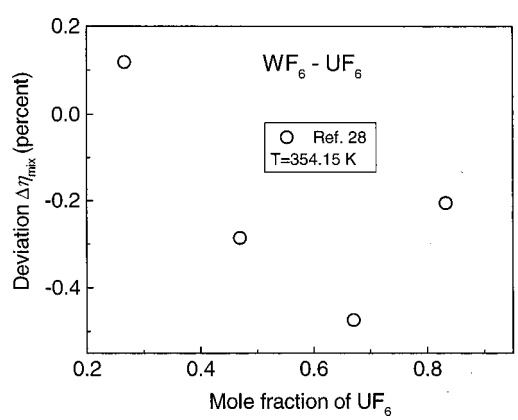

FIG. 22. Deviation plot for $\eta_{mix}(T)$ of WF_6-UF_6 mixture.

TABLE 2. Potential parameters at $T=0$ K for pure gases and their mixtures: repulsive parameter n

	BF_3	CH_4	CF_4	SiF_4	CCl_4	$SiCl_4$	SF_6	MoF_6	WF_6	UF_6	$C(CH_3)_4$	$Si(CH_3)_4$	Ar	Kr	Xe
BF_3	23.00	22.9	37.85	17.92	20.8	24.53	28.88	25.60	20.11	25.44	25.51	21.90	20.50	20.34	20.45
	CH_4	22.8	37.75	17.82	20.7	24.43	28.78	25.50	20.01	25.34	25.41	21.80	20.40	20.24	20.35
		CF_4	52.7	32.77	35.65	39.38	43.73	40.46	34.96	40.28	40.36	36.75	35.35	35.19	35.3
			SiF_4	12.83	15.72	19.44	23.80	20.51	15.03	20.35	20.43	16.81	15.41	15.26	15.37
				CCl_4	18.6	22.33	26.68	23.40	17.91	23.24	23.31	19.70	18.30	18.14	18.25
					$SiCl_4$	26.05	30.41	27.12	21.64	26.96	27.04	23.42	22.02	21.87	21.98
						SF_6	34.76	31.47	25.99	31.32	31.39	27.78	26.38	26.22	26.33
							MoF_6	28.19	22.71	28.03	28.11	24.49	23.09	22.94	23.05
								WF_6	17.22	22.55	22.62	19.01	17.61	17.45	17.56
									UF_6	27.87	27.95	24.33	22.93	22.78	22.89
										$C(CH_3)_4$	28.02	24.41	23.01	22.85	22.96
											$Si(CH_3)_4$	20.79	19.39	19.24	19.35
												Ar	17.99	17.83	17.95
													Kr	17.68	17.79
														Xe	17.9

$$Y_\eta=\frac{3}{5}A_{12}^*\left\{\frac{x_1^2}{\eta_1}\frac{M_1}{M_2}+\frac{2x_1x_2}{\eta_{12}}\left(\frac{(M_1+M_2)^2}{4M_1M_2}\right)\left(\frac{\eta_{12}^2}{\eta_1\eta_2}\right)+\frac{x_2^2}{\eta_2}\frac{M_2}{M_1}\right\} \tag{12}$$

$$Z_\eta=\frac{3}{5}A_{12}^*\left\{x_1^2\frac{M_1}{M_2}+2x_1x_2\left[\frac{(M_1+M_2)^2}{4M_1M_2}\left(\frac{\eta_{12}}{\eta_1}+\frac{\eta_{12}}{\eta_2}\right)-1\right]+x_2^2\frac{M_2}{M_1}\right\}. \tag{13}$$

Subscripts 1 and 2 denote the pure components, whereas subscript 12 refers to the mixture. x_1 and x_2 are the mole fractions of the components 1 and 2, M_1 and M_2 are the molar masses, and $A_{12}^*=\Omega^{(2,2)*}/\Omega^{(1,1)*}$, $\Omega^{(i,j)*}$—collision integrals. B_{mix} and η_{mix} are the mixture (or mixed) properties while B_{12} and η_{12} are interaction coefficients. In contrast to Bzowski *et al.*,[2] we do not use correction factors to improve the temperature dependence of the mixture's properties. The main advantage of our ITDP model is that the temperature influence is taken into account by means of the temperature-dependent potential parameters.

3. Comparison with the Available Experimental Data (Deviation Plots) and the Calculated Results of Other Authors

Not all mixtures are equally well investigated. While different combinations of SF_6, CF_4, CH_4, and the noble gases are relatively well examined, there are practically no data for mixtures containing SiF_4, $SiCl_4$, and BF_3. Here we present deviation plots for the interaction second virial coefficient B_{12} (Figs. 1–11), for mixed second pVT–virial coefficient B_{mix} (Figs. 12–14), and for mixed viscosity η_{mix} (Figs. 15–22) only for those of the mixtures for which we could find enough reliable experimental data. The experimental data are given in Table 1.

The advantage of our approach is that it could be applied

TABLE 3. Potential parameters at $T=0$ K for pure gases and their mixtures: equilibrium distance r_m, 10^{-10} m

	BF_3	CH_4	CF_4	SiF_4	CCl_4	$SiCl_4$	SF_6	MoF_6	WF_6	UF_6	$C(CH_3)_4$	$Si(CH_3)_4$	Ar	Kr	Xe
BF_3	4.196	4.006	4.262	4.733	4.892	4.955	4.618	4.595	4.636	4.594	4.988	5.051	3.893	4.033	4.223
	CH_4	3.815	4.072	4.542	4.702	4.765	4.428	4.405	4.446	4.404	4.797	4.86	3.703	3.842	4.033
		CF_4	4.329	4.799	4.959	5.022	4.685	4.662	4.703	4.661	5.054	5.117	3.960	4.099	4.290
			SiF_4	5.270	5.429	5.492	5.155	5.133	5.173	5.131	5.525	5.588	4.43	4.566	4.76
				CCl_4	5.589	5.652	5.315	5.292	5.333	5.291	5.684	5.747	4.590	4.729	4.920
					$SiCl_4$	5.715	5.378	5.355	5.396	5.354	5.747	5.81	4.653	4.792	4.983
						SF_6	5.041	5.018	5.058	5.062	5.41	5.473	4.316	4.455	4.646
							MoF_6	4.995	5.035	4.994	5.387	5.45	4.293	4.433	4.623
								WF_6	5.076	5.034	5.428	5.491	4.333	4.473	4.663
									UF_6	4.992	5.386	5.449	4.291	4.431	4.621
										$C(CH_3)_4$	5.779	5.842	4.685	4.824	5.015
											$Si(CH_3)_4$	5.905	4.748	4.887	5.078
												Ar	3.59	3.730	3.92
													Kr	3.869	4.060
														Xe	4.25

TABLE 4. Potential parameters at $T=0$ K for pure gases and their mixtures: potential well depth ε/k_B, K

	BF_3	CH_4	CF_4	SiF_4	CCl_4	$SiCl_4$	SF_6	MoF_6	WF_6	UF_6	$C(CH_3)_4$	$Si(CH_3)_4$	Ar	Kr	Xe
BF_3	310.5	265.4	319.3	249.3	465.0	490.6	360.2	506.8	470.5	568.3	426.6	457.7	222.1	261.4	305.2
	CH_4	226.8	272.9	213.1	397.4	419.3	307.8	433.2	403.7	485.6	364.3	391.2	189.8	223.4	261.8
		CF_4	328.4	256.4	478.2	504.6	370.4	521.2	483.8	584.4	438.8	470.7	228.4	268.9	313.8
			SiF_4	200.2	373.4	393.9	289.2	406.9	377.8	456.3	342.6	367.5	178.3	209.9	245.0
				CCl_4	696.4	734.7	539.4	769.0	704.6	851.0	638.1	685.5	332.5	391.5	457.0
					$SiCl_4$	775.2	569.1	800.0	743.3	897.9	674.2	723.2	350.9	413.1	482.2
						SF_6	417.8	587.9	545.7	659.2	494.9	530.9	257.6	303.2	354.0
							MoF_6	823.3	767.9	927.6	696.6	747.1	362.5	426.7	498.1
								WF_6	712.8	860.1	646.5	693.5	336.4	336.4	485.0
									UF_6	1040	780.5	837.7	406.4	478.4	558.5
										$C(CH_3)_4$	586.3	628.1	305.1	359.2	419.3
											$Si(CH_3)_4$	674.7	327.3	385.4	449.8
												Ar	158.8	187.0	218.2
													Kr	220.1	256.9
														Xe	299.5

to any mixture provided that the ITDP parameters are known for the neat components. Since the potential parameters have been obtained and validated in our previous work[6] we are persuaded of the reliability of the presented data for the mixtures even when there are no experimental data to compare with. Our model was checked and proved itself on the example of the widely investigated gases, such as SF_6, CF_4, CH_4, etc.

A comparison with the prediction of Bzowski *et al.*[2] shows that generally the agreement of the results for η_{mix}

TABLE 5. Potential parameters and thermophysical properties of equimolar BF_3-CH_4 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	262.741	4.012	159.05	166.04	10.42
210	262.235	4.014	144.23	150.45	10.90
220	261.683	4.015	131.23	136.80	11.38
230	261.092	4.017	119.74	124.76	11.85
240	260.465	4.019	109.50	114.03	12.33
250	259.802	4.020	100.30	104.41	12.80
260	259.104	4.022	92.00	95.74	13.27
270	258.374	4.024	84.47	87.89	13.73
280	257.615	4.026	77.61	80.73	14.20
290	256.830	4.028	71.34	74.20	14.66
300	256.019	4.031	65.57	68.20	15.11
310	255.185	4.033	60.26	62.67	15.56
320	254.329	4.035	55.35	57.56	16.01
330	253.454	4.038	50.79	52.82	16.45
340	252.561	4.040	46.55	48.42	16.89
350	251.652	4.043	42.59	44.31	17.32
360	250.729	4.046	38.89	40.47	17.75
370	249.792	4.048	35.42	36.87	18.17
380	248.843	4.051	32.16	33.49	18.59
390	247.883	4.054	29.09	30.31	19.00
400	246.914	4.056	26.19	27.32	19.41
420	244.952	4.062	20.87	21.81	20.21
440	242.964	4.068	16.09	16.86	20.98
460	240.957	4.074	11.77	12.39	21.74
480	238.939	4.080	7.84	8.33	22.47
500	236.912	4.086	4.26	4.62	23.19
520	234.884	4.093	0.97	1.23	23.88
540	232.857	4.099	−2.06	−1.90	24.56
560	230.834	4.105	−4.86	−4.79	25.22
580	228.820	4.112	−7.46	−7.47	25.85
600	226.815	4.118	−9.87	−9.97	26.47
650	221.864	4.134	−15.25	−15.51	27.95
700	217.016	4.151	−19.84	−20.25	29.33
750	212.291	4.167	−23.82	−24.36	30.62
800	207.704	4.184	−27.31	−27.97	31.83
850	203.266	4.200	−30.41	−31.16	32.97
900	198.989	4.217	−33.17	−34.02	34.05

TABLE 6. Fit parameters according to Eqs. (14) and (15) for an equimolar BF_3-CH_4 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	3.9931(11)	$4.5(7.0)\times10^{-6}$	$4.77(13)\times10^{-7}$	$-2.300(81)\times10^{-10}$
ε_{12}/k_B/K	$2.7205(41)\times10^{2}$	$-1.81(26)\times10^{-2}$	$-1.463(51)\times10^{-4}$	$8.51(31)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$7.865(12)\times10^{1}$	$-4.146(15)\times10^{4}$	$8.14(59)\times10^{5}$	$-4.070(68)\times10^{8}$
B_{mix}/cm^3 mol^{-1}	$8.096(13)\times10^{1}$	$-4.286(17)\times10^{4}$	$9.30(63)\times10^{5}$	$-4.485(73)\times10^{8}$
η_{mix}/μPa s	$-1.080(54)$	$6.356(34)\times10^{-2}$	$-3.368(66)\times10^{-5}$	$7.10(40)\times10^{-9}$

and B_{12} is satisfactory. In some cases, when heavy globular molecules are involved, our deviations for B_{12} are smaller than those of Bzowski *et al.*[2] (CH_4-CF_4, CF_4-SF_6, CF_4–Kr, CF_4–Xe, SF_6–Ar, and SF_6–Kr presented in Figs. 1, 5, 7, 8, 9, and 10, respectively). In the case of CH_4-SF_6 the results for B_{12} of Bzowski *et al.*[2] (deviation $\Delta B_{12}=B_{exp}-B_{calc}\cong-10$ to 1 cm^3 mol^{-1}) are better than ours ($\Delta B_{12}\cong 8.25-20$ cm^3 mol^{-1}, Fig. 2). The reason for this higher deviation of our ITDP approach is not clear. Since the pure SF_6 molecule was very well examined by Zarkova[3] we are convinced in the accuracy of the SF_6-SF_6 potential. It gave good agreement with Bzowski *et al.*[2] for other investigated mixtures with CF_4, Ar, Kr, and Xe. The CH_4-CH_4 potential has also been successfully applied to these mixtures (see Figs. 1 and 4), and the experimental data of η_{mix} (CH_4-CF_4, SF_6-CF_4, and CH_4-SF_6) and of B_{mix} (CH_4-CF_4 and SF_6-CF_4) were well reproduced. We have obtained better results for CH_4-CF_4, CH_4-SF_6, and CF_4-SF_6, in our earlier paper,[3] where the potential parameters of the mixtures were obtained by minimizing the root mean square (rms) deviation between the calculated and the experimental values of the second virial coefficient and the viscosity data of the mixtures. With the exception of n_{12} for

TABLE 7. Potential parameters and thermophysical properties of equimolar BF_3-CF_4 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	315.479	4.271	220.73	226.52	12.10
210	314.746	4.273	199.06	204.45	12.63
220	313.944	4.274	180.20	185.25	13.16
230	313.083	4.276	163.62	168.37	13.68
240	312.169	4.278	148.92	153.41	14.20
250	311.206	4.281	135.79	140.06	14.72
260	310.191	4.283	123.99	128.06	15.24
270	309.130	4.285	113.33	117.22	15.75
280	308.029	4.288	103.66	107.38	16.26
290	306.890	4.291	94.83	98.41	16.77
300	305.715	4.293	86.75	90.20	17.27
310	304.508	4.296	79.32	82.65	17.77
320	303.271	4.299	72.46	75.69	18.26
330	302.006	4.302	66.11	69.24	18.75
340	300.717	4.305	60.21	63.25	19.24
350	299.405	4.308	54.72	57.67	19.72
360	298.074	4.311	49.59	52.47	20.20
370	296.724	4.315	44.79	47.59	20.67
380	295.359	4.318	40.28	43.02	21.13
390	293.979	4.321	36.04	38.73	21.59
400	292.586	4.325	32.04	34.68	22.04
420	289.771	4.332	24.70	27.24	22.94
440	286.924	4.339	18.12	20.58	23.81
460	284.055	4.346	12.17	14.56	24.66
480	281.174	4.353	6.76	9.09	25.49
500	278.288	4.361	1.82	4.11	26.30
520	275.404	4.368	−2.71	−0.47	27.08
540	272.527	4.376	−6.88	−4.68	27.85
560	269.662	4.384	−10.74	−8.57	28.59
580	266.814	4.392	−14.32	−12.18	29.32
600	263.986	4.399	−17.66	−15.53	30.02
650	257.022	4.419	−25.10	−23.01	31.70
700	250.240	4.439	−31.48	−29.41	33.28
750	243.666	4.459	−37.04	−34.97	34.75
800	237.322	4.479	−41.94	−39.86	36.14
850	231.225	4.498	−46.30	−44.20	37.44
900	225.392	4.518	−50.21	−48.09	38.67

TABLE 8. Fit parameters according to Eqs. (14) and (15) for an equimolar BF_3-CF_4 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.2470(12)	$8.3(7.4)\times10^{-6}$	$5.78(14)\times10^{-7}$	$-2.818(87)\times10^{-10}$
ε_{12}/k_B/K	$3.2948(61)\times10^{2}$	$-2.98(38)\times10^{-2}$	$-2.058(75)\times10^{-4}$	$1.234(45)\times10^{-7}$
B_{12}/cm^3 mol^{-1}	$1.1524(25)\times10^{2}$	$-6.088(31)\times10^{4}$	$2.80(12)\times10^{6}$	$-8.15(14)\times10^{8}$
B_{mix}/cm^3 mol^{-1}	$1.1253(21)\times10^{2}$	$-5.980(27)\times10^{4}$	$2.31(10)\times10^{6}$	$-7.83(12)\times10^{8}$
η_{mix}/μPa s	$-3.35(59)\times10^{-1}$	$6.802(37)\times10^{-2}$	$-3.229(73)\times10^{-5}$	$5.35(44)\times10^{-9}$

TABLE 9. Potential parameters and thermophysical properties of equimolar BF_3-SiF_4 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	243.807	4.751	262.70	268.43	11.25
210	242.964	4.754	238.54	243.90	11.78
220	242.077	4.756	217.31	222.36	12.31
230	241.150	4.759	198.50	203.28	12.84
240	240.184	4.763	181.69	186.24	13.37
250	239.178	4.766	166.58	170.92	13.91
260	238.135	4.769	152.91	157.08	14.44
270	237.060	4.773	140.49	144.51	14.96
280	235.958	4.776	129.17	133.04	15.46
290	234.831	4.780	118.79	122.54	15.96
300	233.681	4.784	109.25	112.89	16.46
310	232.510	4.788	100.45	103.99	16.95
320	231.322	4.792	92.30	95.75	17.44
330	230.117	4.796	84.73	88.10	17.93
340	228.897	4.800	77.68	80.98	18.40
350	227.666	4.804	71.10	74.33	18.87
360	226.423	4.808	64.95	68.12	19.33
370	225.172	4.812	59.17	62.29	19.79
380	223.913	4.817	53.74	56.81	20.24
390	222.649	4.821	48.63	51.65	20.69
400	221.379	4.825	43.81	46.79	21.14
420	218.830	4.834	34.94	37.84	22.01
440	216.274	4.843	26.96	29.81	22.85
460	213.719	4.853	19.75	22.54	23.67
480	211.171	4.862	13.19	15.94	24.45
500	208.636	4.871	7.21	9.92	25.22
520	206.118	4.881	1.72	4.40	25.97
540	203.620	4.890	−3.34	−0.68	26.70
560	201.146	4.900	−8.01	−5.38	27.41
580	198.699	4.909	−12.34	−9.73	28.11
600	196.280	4.919	−16.37	−13.77	28.79
650	190.371	4.943	−25.30	−22.74	30.41
700	184.676	4.967	−32.93	−30.39	31.93
750	179.211	4.991	−39.51	−36.99	33.37
800	173.990	5.014	−45.26	−42.74	34.72
850	169.021	5.037	−50.32	−47.81	35.98
900	164.314	5.060	−54.80	−52.30	37.19

TABLE 10. Fit parameters according to Eqs. (14) and (15) for an equimolar BF_3-SiF_4 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.7043(12)	$1.253(79)\times10^{-4}$	$5.61(15)\times10^{-7}$	$-2.906(92)\times10^{-10}$
ε_{12}/k_B/K	$2.6158(48)\times10^{2}$	$-6.38(30)\times10^{-2}$	$-1.268(59)\times10^{-4}$	$8.67(35)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.2924(10)\times10^{2}$	$-6.684(13)\times10^{4}$	$3.88(50)\times10^{5}$	$-5.404(57)\times10^{8}$
B_{mix}/cm^3 mol^{-1}	$1.265\,05(99)\times10^{2}$	$-6.637(12)\times10^{4}$	$1.51(47)\times10^{5}$	$-5.354(55)\times10^{8}$
η_{mix}/μPa s	−1.545(31)	$7.160(20)\times10^{-2}$	$-4.170(38)\times10^{-5}$	$1.107(23)\times10^{-8}$

TABLE 11. Potential parameters and thermophysical properties of equimolar BF_3-CCl_4 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	462.724	4.895	925.67	1536.08	8.73
210	462.086	4.896	832.56	1355.02	9.11
220	461.368	4.897	754.05	1207.45	9.49
230	460.583	4.898	687.00	1085.22	9.87
240	459.736	4.899	629.07	982.55	10.25
250	458.828	4.900	578.53	895.24	10.64
260	457.861	4.901	534.10	820.19	11.02
270	456.839	4.903	494.75	755.07	11.40
280	455.766	4.904	459.68	698.09	11.78
290	454.644	4.906	428.25	647.85	12.16
300	453.476	4.908	399.92	603.24	12.54
310	452.267	4.909	374.26	563.39	12.92
320	451.019	4.911	350.90	527.59	13.31
330	449.735	4.913	329.57	495.25	13.69
340	448.418	4.915	309.99	465.92	14.07
350	447.071	4.917	291.98	439.19	14.46
360	445.695	4.919	275.35	414.73	14.84
370	444.294	4.921	259.94	392.28	15.22
380	442.870	4.923	245.64	371.60	15.60
390	441.424	4.926	232.32	352.48	15.98
400	439.958	4.928	219.89	334.76	16.36
420	436.977	4.933	197.35	302.95	17.12
440	433.939	4.937	177.47	275.20	17.87
460	430.857	4.942	159.80	250.79	18.62
480	427.741	4.947	143.99	229.16	19.35
500	424.600	4.952	129.77	209.84	20.07
520	421.443	4.958	116.90	192.50	20.79
540	418.276	4.963	105.20	176.84	21.51
560	415.105	4.968	94.52	162.62	22.21
580	411.936	4.974	84.72	149.66	22.91
600	408.773	4.979	75.72	137.80	23.59
650	400.918	4.993	56.06	112.11	25.26
700	393.171	5.007	39.66	90.88	26.88
750	385.566	5.021	25.77	73.04	28.45
800	378.128	5.036	13.86	57.82	29.95
850	370.876	5.050	3.51	44.67	31.39
900	363.830	5.064	−5.56	33.19	32.78

CH_4-SF_6, the coincidence of the potential parameters is acceptably good and by using the mixing rules we observed only slightly worse reproduction of the experimental data. In the exceptional case of CH_4-SF_6 the larger disagreement between calculated and experimental data, particularly in B_{12}, is explained with the larger discrepancy in n_{12} [optimized[3] $n_{12}=28.8$ while the simple combination rule gives $n_{12}=(n_1+n_2)/2=39.1$]. It is noteworthy, however, that the aim of the present paper is to introduce a general approach for calculating the thermophysical properties of binary mixtures. Our concept is also applicable when there are no experimental data of binary mixtures that could be used for the optimization of the potential parameters. There are three experimental measurements of B_{mix}; CH_4-CF_4, (Fig. 12),[21] CF_4-SF_6 (Fig. 14),[17] and $C(CH_3)_4-CH_4$ (Fig. 13).[26] The absolute deviations for all of them are in the frames of two experimental errors.

The calculated η_{mix} data of the mixtures of UF_6 with MoF_6 and WF_6 describe the experimental values[28] with deviations of less than 1%.

We believe that this discussion is sufficient to demonstrate the quality and to give confidence to the results for all con-

TABLE 12. Fit parameters according to Eqs. (14) and (15) for an equimolar BF_3-CCl_4 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.8872(12)	$-5.25(77)\times10^{-5}$	$4.74(15)\times10^{-7}$	$-2.195(90)\times10^{-10}$
ε_{12}/k_B/K	$4.7310(68)\times10^{2}$	$-0.4(4.3)\times10^{-3}$	$-2.648(84)\times10^{-4}$	$1.456(50)\times10^{-7}$
B_{12}/cm^3 mol^{-1}	$1.5587(82)\times10^{2}$	$-1.335(10)\times10^{5}$	$3.16(39)\times10^{6}$	$-3.932(45)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$1.910(37)\times10^{2}$	$-2.250(47)\times10^{5}$	$3.60(18)\times10^{7}$	$-1.196(21)\times10^{10}$
η_{mix}/μPa s	$8.64(44)\times10^{-1}$	$3.890(28)\times10^{-2}$	$2.49(55)\times10^{-6}$	$-7.07(33)\times10^{-9}$

TABLE 13. Potential parameters and thermophysical properties of equimolar BF_3-SiCl_4 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	470.031	4.994	948.59	1605.35	8.72
210	467.842	4.998	847.64	1395.42	9.09
220	465.580	5.002	762.97	1227.20	9.47
230	463.258	5.006	690.99	1089.88	9.84
240	460.881	5.011	629.06	975.97	10.21
250	458.449	5.015	575.22	880.16	10.58
260	455.969	5.020	528.03	798.58	10.96
270	453.445	5.024	486.36	728.40	11.33
280	450.886	5.029	449.32	667.46	11.70
290	448.295	5.034	416.19	614.08	12.08
300	445.676	5.039	386.38	566.97	12.45
310	443.034	5.043	359.43	525.11	12.82
320	440.372	5.048	334.94	487.68	13.20
330	437.694	5.054	312.59	454.01	13.57
340	435.004	5.059	292.12	423.58	13.94
350	432.303	5.064	273.29	395.94	14.32
360	429.596	5.069	255.93	370.73	14.69
370	426.886	5.074	239.86	347.65	15.06
380	424.173	5.079	224.94	326.44	15.43
390	421.461	5.085	211.06	306.87	15.80
400	418.751	5.090	198.10	288.77	16.17
420	413.348	5.100	174.64	256.35	16.90
440	407.975	5.111	153.94	228.16	17.62
460	402.645	5.122	135.54	203.40	18.34
480	397.365	5.133	119.07	181.49	19.05
500	392.144	5.144	104.25	161.96	19.75
520	386.988	5.154	90.83	144.43	20.44
540	381.901	5.165	78.62	128.61	21.12
560	376.887	5.176	67.46	114.25	21.79
580	371.951	5.187	57.22	101.17	22.45
600	367.094	5.198	47.78	89.18	23.09
650	355.313	5.225	27.14	63.22	24.66
700	344.070	5.251	9.87	41.77	26.14
750	333.386	5.277	−4.81	23.72	27.56
800	323.274	5.303	−17.43	8.35	28.90
850	313.737	5.328	−28.41	−4.91	30.19
900	304.782	5.352	−38.03	−16.43	31.40

sidered mixtures regardless of the availability of the experimental data. We strongly recommend the tables of reference data given here in this paper for the gas mixtures containing BF_3, SiF_4, $SiCl_4$, CCl_4, MoF_6, WF_6, UF_6, $C(CH_3)_4$, and $Si(CH_3)_4$, which are published for the first time.

4. Description of the Tables

The potential parameters ε, r_m, and n of all pure gases and their mixtures at $T/\mathrm{K}=0$ are shown in Tables 2–4, respectively.

Tables with recommended potential parameters r_{m12} and ε_{12}, interaction second virial coefficients B_{12}, mixed second pVT–virial coefficients B_{mix}, and mixed viscosities η_{mix} of equimolar mixtures are presented for all 102 mixtures in the temperature range 200–900(1000) K for all 12 globular gases, Ar, Kr and Xe (odd numbered Tables 5–207). In order to allow an acceptable interpolation the temperature step is suitably changed from 10 K at 200–400 K, 20 K at 420–600 K, and 50 K over 600 K. The potential parameters n_{12}, $r_{m12}(T)$ and $\varepsilon_{12}(T)$ could be used for more accurate estimations at different temperatures and mole fractions. For further

TABLE 14. Fit parameters according to Eqs. (14) and (15) for an equimolar BF_3-SiCl_4 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.9185(11)	$2.927(71)\times10^{-4}$	$4.44(14)\times10^{-7}$	$-2.614(83)\times10^{-10}$
ε_{12}/k_B/K	$5.1853(80)\times10^{2}$	$-2.142(51)\times10^{-1}$	$-1.390(98)\times10^{-4}$	$1.266(59)\times10^{-7}$
B_{12}/cm^3 mol^{-1}	$2.0356(91)\times10^{2}$	$-1.525(11)\times10^{5}$	$9.07(43)\times10^{6}$	$-4.918(50)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.728(57)\times10^{2}$	$-2.752(72)\times10^{5}$	$6.08(27)\times10^{7}$	$-1.609(31)\times10^{10}$
η_{mix}/μPa s	$9.56(56)\times10^{-1}$	$3.841(36)\times10^{-2}$	$2.57(69)\times10^{-6}$	$-8.58(42)\times10^{-9}$

TABLE 15. Potential parameters and thermophysical properties of equimolar BF_3-SF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	354.424	4.631	395.10	421.54	11.19
210	353.375	4.633	356.91	380.50	11.68
220	352.259	4.635	323.93	345.17	12.17
230	351.080	4.638	295.16	314.44	12.66
240	349.835	4.640	269.84	287.46	13.15
250	348.520	4.643	247.39	263.59	13.64
260	347.140	4.646	227.33	242.31	14.13
270	345.703	4.649	209.31	223.22	14.62
280	344.216	4.652	193.04	206.01	15.11
290	342.684	4.656	178.26	190.41	15.59
300	341.111	4.659	164.79	176.21	16.07
310	339.500	4.663	152.45	163.22	16.55
320	337.856	4.666	141.11	151.30	17.03
330	336.181	4.670	130.64	140.31	17.50
340	334.478	4.674	120.96	130.15	17.97
350	332.751	4.678	111.97	120.72	18.44
360	331.002	4.682	103.60	111.96	18.91
370	329.235	4.686	95.78	103.79	19.37
380	327.452	4.690	88.48	96.15	19.83
390	325.656	4.694	81.62	88.99	20.28
400	323.848	4.698	75.18	82.27	20.73
420	320.207	4.707	63.39	69.99	21.62
440	316.544	4.716	52.86	59.03	22.49
460	312.872	4.725	43.40	49.19	23.34
480	309.203	4.734	34.84	40.30	24.17
500	305.546	4.743	27.06	32.23	24.99
520	301.911	4.752	19.96	24.87	25.78
540	298.305	4.761	13.44	18.13	26.56
560	294.737	4.770	7.44	11.92	27.31
580	291.213	4.779	1.89	6.19	28.05
600	287.739	4.789	−3.25	0.89	28.78
650	279.304	4.811	−14.61	−10.80	30.50
700	271.274	4.834	−24.22	−20.66	32.12
750	263.682	4.856	−32.45	−29.09	33.64
800	256.535	4.877	−39.60	−36.38	35.09
850	249.823	4.898	−45.85	−42.73	36.45
900	243.529	4.918	−51.36	−48.32	37.75

calculations the quantities $r_{m12}/(10^{-10}\ \mathrm{m})$, $\varepsilon_{12}/(k_B\ \mathrm{K})$, $\eta_{mix}/(\mu\mathrm{Pa\,s})$ are fitted to a polynomial in powers of the temperature T of the form

$$P=\sum_{i=1}^{4} A_i(T/\mathrm{K})^{i-1}, \tag{14}$$

whereas the second pVT–virial coefficients $B_{mix}(T)$ and $B_{12}(T)$ are represented by

$$B(T)/(\mathrm{cm}^3\,\mathrm{mol}^{-1})=\sum_{i=1}^{4} A_i(T/\mathrm{K})^{1-i}. \tag{15}$$

The fit parameters A_i are given in Tables 6–208 (even numbered tables). It should be mentioned that the fits are only valid in the temperature ranges for which the corresponding properties are calculated (see odd numbered Tables 5–207).

5. Conclusions

ITDP is used to calculate mixed second virial coefficients and mixed viscosity data in a large temperature range between 200 and 900 (1000) K of 102 binary mixtures of atoms

TABLE 16. Fit parameters according to Eqs. (14) and (15) for an equimolar BF_3-SF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.5998(15)	$1.20(97)\times10^{-5}$	$7.55(19)\times10^{-7}$	$-4.19(11)\times10^{-10}$
ε_{12}/k_B/K	$3.7512(83)\times10^{2}$	$-5.47(52)\times10^{-2}$	$-2.51(10)\times10^{-4}$	$1.670(61)\times10^{-7}$
B_{12}/cm^3 mol^{-1}	$1.438\,50(71)\times10^{2}$	$-8.3120(90)\times10^{4}$	$1.339(34)\times10^{6}$	$-1.2535(40)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$1.4237(17)\times10^{2}$	$-8.402(21)\times10^{4}$	$1.093(79)\times10^{6}$	$-1.3668(92)\times10^{9}$
η_{mix}/μPa s	$-2.12(82)\times10^{-1}$	$6.060(52)\times10^{-2}$	$-2.05(10)\times10^{-5}$	—

TABLE 17. Potential parameters and thermophysical properties of equimolar BF_3-MoF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	474.573	4.649	768.41	1196.36	10.95
210	471.609	4.654	684.42	1034.15	11.42
220	468.580	4.660	614.20	905.06	11.88
230	465.502	4.665	554.68	800.27	12.35
240	462.377	4.670	503.59	713.74	12.81
250	459.207	4.676	459.27	641.23	13.28
260	455.998	4.681	420.50	579.70	13.74
270	452.757	4.687	386.33	526.89	14.21
280	449.492	4.693	356.00	481.13	14.67
290	446.208	4.699	328.91	441.13	15.14
300	442.909	4.704	304.57	405.88	15.60
310	439.598	4.710	282.58	374.58	16.07
320	436.280	4.716	262.62	346.62	16.54
330	432.959	4.722	244.42	321.50	17.00
340	429.638	4.729	227.75	298.80	17.47
350	426.320	4.735	212.44	278.19	17.93
360	423.008	4.741	198.33	259.40	18.40
370	419.704	4.747	185.27	242.19	18.86
380	416.412	4.753	173.15	226.38	19.32
390	413.133	4.760	161.88	211.80	19.78
400	409.869	4.766	151.37	198.30	20.24
420	403.393	4.779	132.32	174.13	21.15
440	396.997	4.791	115.52	153.09	22.05
460	390.693	4.804	100.59	134.60	22.95
480	384.489	4.817	87.23	118.22	23.83
500	378.395	4.830	75.20	103.61	24.69
520	372.418	4.842	64.31	90.49	25.55
540	366.567	4.855	54.40	78.64	26.39
560	360.850	4.868	45.34	67.88	27.21
580	355.274	4.880	37.04	58.08	28.02
600	349.845	4.893	29.39	49.12	28.81
650	336.952	4.923	12.71	29.74	30.72
700	325.063	4.952	−1.18	13.81	32.51
750	314.168	4.979	−12.89	0.52	34.22
800	304.210	5.005	−22.90	−10.70	35.84
850	295.099	5.030	−31.53	−20.30	37.37
900	286.756	5.053	−39.04	−28.60	38.83

and globular molecules. The potential parameters of the ITDP for unlike interactions are obtained from the ITDP parameters of the interaction between equal molecules which are given by Zarkova and Hohm.[6] This earlier study of neat gases has shown the high quality of the ITDP in view of the calculation of second *pVT*–virial coefficients, viscosities, and self-diffusion coefficients. The same very good agreement is obtained in the present paper for binary mixtures. However, due to the existence of only very few reliable thermophysical data of binary mixtures of globular molecules [CH_4 with Ar, Kr, SF_6, CCl_4, $C(CH_3)_4$, $Si(CH_3)_4$ and CF_4, CF_4 with Ar, Kr, Xe, SF_6, and $C(CH_3)_4$, SF_6 with Ar, Kr, Xe, $C(CH_3)_4$, and $Si(CH_3)_4$, $C(CH_3)_4$ with $Si(CH_3)_4$, and UF_6 with MoF_6 and WF_6] our approach is successfully proved only for a very limited number of these mixtures. Our systematic tables present for the first time reliable mixed second virial coefficients and mixed viscosities for most of the mixtures between Ar, Kr, Xe, BF_3, CH_4, CF_4, SiF_4, CCl_4, $SiCl_4$, SF_6, MoF_6, WF_6, UF_6, $C(CH_3)_4$, and $Si(CH_3)_4$. There is a strong need for further experimental studies on the thermophysical properties of binary mixtures which can help to check and improve our approach of the application of the ITDP to mixtures.

TABLE 18. Fit parameters according to Eqs. (14) and (15) for an equimolar BF_3-MoF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.5586(13)	$3.427(82)\times10^{-4}$	$6.11(16)\times10^{-7}$	$-4.254(96)\times10^{-10}$
ε_{12}/k_B/K	$5.4130(93)\times10^{2}$	$-3.152(59)\times10^{-1}$	$-9.1(1.1)\times10^{-5}$	$1.424(69)\times10^{-7}$
B_{12}/cm^3 mol^{-1}	$1.730(11)\times10^{2}$	$-1.235(14)\times10^{5}$	$8.03(53)\times10^{6}$	$-4.183(61)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.268(53)\times10^{2}$	$-2.155(66)\times10^{5}$	$5.05(25)\times10^{7}$	$-1.278(29)\times10^{10}$
η_{mix}/μPa s	1.149(88)	$4.860(56)\times10^{-2}$	$2.4(1.1)\times10^{-6}$	$-1.110(66)\times10^{-8}$

TABLE 19. Potential parameters and thermophysical properties of equimolar BF_3-WF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	438.195	4.695	739.04	1051.39	12.12
210	434.633	4.702	659.86	918.87	12.65
220	431.018	4.709	593.34	811.54	13.19
230	427.356	4.716	536.68	723.03	13.72
240	423.643	4.723	487.82	648.88	14.26
250	419.879	4.730	445.26	585.91	14.81
260	416.076	4.738	407.89	531.86	15.35
270	412.246	4.745	374.84	485.01	15.91
280	408.402	4.753	345.43	444.05	16.47
290	404.552	4.761	319.09	407.96	17.03
300	400.698	4.769	295.36	375.93	17.60
310	396.847	4.777	273.88	347.31	18.17
320	393.002	4.785	254.34	321.59	18.74
330	389.168	4.793	236.49	298.35	19.31
340	385.349	4.801	220.12	277.25	19.87
350	381.548	4.809	205.05	258.00	20.44
360	377.770	4.817	191.13	240.38	21.02
370	374.016	4.826	178.24	224.19	21.59
380	370.289	4.834	166.27	209.25	22.16
390	366.592	4.842	155.11	195.43	22.73
400	362.925	4.851	144.69	182.60	23.28
420	355.692	4.867	125.79	159.52	24.38
440	348.600	4.884	109.08	139.33	25.50
460	341.660	4.901	94.21	121.51	26.61
480	334.879	4.917	80.87	105.67	27.67
500	328.262	4.934	68.84	91.48	28.70
520	321.817	4.951	57.93	78.70	29.70
540	315.549	4.967	48.00	67.13	30.70
560	309.464	4.984	38.91	56.61	31.69
580	303.568	5.000	30.57	47.00	32.63
600	297.867	5.016	22.88	38.19	33.55
650	284.489	5.054	6.11	19.12	35.72
700	272.377	5.091	−7.83	3.44	37.75
750	261.490	5.125	−19.57	−9.61	39.66
800	251.737	5.157	−29.54	−20.61	41.45
850	242.989	5.187	−38.11	−29.96	43.14
900	235.131	5.215	−45.52	−38.00	44.74

TABLE 20. Fit parameters according to Eqs. (14) and (15) for an equimolar BF_3-WF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.5723(15)	$4.689(98)\times10^{-4}$	$8.06(19)\times10^{-7}$	$-5.96(11)\times10^{-10}$
ε_{12}/k_B/K	$5.231(11)\times10^{2}$	$-4.248(68)\times10^{-1}$	$1.4(1.3)\times10^{-5}$	$1.150(79)\times10^{-7}$
B_{12}/cm^3 mol^{-1}	$1.775(11)\times10^{2}$	$-1.191(14)\times10^{5}$	$5.10(51)\times10^{6}$	$-3.575(60)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.102(36)\times10^{2}$	$-1.743(45)\times10^{5}$	$2.96(17)\times10^{7}$	$-8.99(20)\times10^{9}$
η_{mix}/μPa s	−0.06(22)	$5.98(14)\times10^{-2}$	$3.2(2.7)\times10^{-6}$	$-1.62(16)\times10^{-8}$

TABLE 21. Potential parameters and thermophysical properties of equimolar BF_3-UF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	518.375	4.670	951.32	1925.27	12.56
210	514.197	4.677	840.05	1602.19	13.08
220	509.972	4.683	748.29	1358.07	13.61
230	505.722	4.690	671.47	1168.84	14.13
240	501.456	4.697	606.26	1018.87	14.66
250	497.177	4.704	550.29	897.70	15.18
260	492.890	4.711	501.77	798.14	15.71
270	488.601	4.718	459.35	715.12	16.23
280	484.314	4.726	421.99	644.98	16.75
290	480.033	4.733	388.84	585.05	17.28
300	475.763	4.740	359.24	533.30	17.80
310	471.508	4.747	332.66	488.21	18.32
320	467.271	4.755	308.65	448.60	18.84
330	463.056	4.762	286.87	413.53	19.37
340	458.864	4.769	267.02	382.28	19.89
350	454.699	4.777	248.85	354.27	20.42
360	450.563	4.784	232.17	329.01	20.94
370	446.457	4.792	216.79	306.13	21.47
380	442.384	4.799	202.57	285.30	21.99
390	438.346	4.807	189.37	266.26	22.51
400	434.342	4.814	177.11	248.78	23.04
420	426.448	4.829	154.97	217.81	24.08
440	418.709	4.844	135.54	191.20	25.11
460	411.135	4.859	118.35	168.08	26.14
480	403.733	4.874	103.02	147.81	27.15
500	396.511	4.889	89.26	129.88	28.16
520	389.476	4.903	76.84	113.90	29.15
540	382.636	4.918	65.59	99.58	30.13
560	375.998	4.932	55.33	86.67	31.09
580	369.572	4.946	45.95	74.98	32.04
600	363.360	4.960	37.34	64.35	32.96
650	348.797	4.994	18.64	41.59	35.21
700	335.602	5.026	3.19	23.12	37.33
750	323.699	5.055	−9.77	7.88	39.34
800	312.961	5.083	−20.77	−4.89	41.26
850	303.236	5.109	−30.22	−15.73	43.09
900	294.403	5.133	−38.43	−25.03	44.82

TABLE 22. Fit parameters according to Eqs. (14) and (15) for an equimolar BF_3-UF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.5442(14)	$5.364(91)\times10^{-4}$	$5.22(18)\times10^{-7}$	$-4.38(11)\times10^{-10}$
ε_{12}/k_B/K	$6.1533(96)\times10^{2}$	$-4.981(61)\times10^{-1}$	$7.7(1.2)\times10^{-5}$	$9.08(71)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.939(21)\times10^{2}$	$-1.489(26)\times10^{5}$	$1.657(99)\times10^{7}$	$-6.49(11)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$3.85(18)\times10^{2}$	$-4.57(22)\times10^{5}$	$1.643(84)\times10^{8}$	$-3.279(97)\times10^{10}$
η_{mix}/μPa s	1.990(91)	$5.120(58)\times10^{-2}$	$1.00(11)\times10^{-5}$	$-1.573(68)\times10^{-8}$

TABLE 23. Potential parameters and thermophysical properties of equimolar $BF_3-C(CH_3)_4$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	417.079	5.007	730.38	980.25	7.44
210	415.573	5.010	657.05	873.30	7.77
220	413.997	5.013	594.73	784.15	8.09
230	412.362	5.016	541.11	708.80	8.42
240	410.670	5.019	494.48	644.30	8.74
250	408.920	5.023	453.55	588.49	9.07
260	407.115	5.026	417.35	539.77	9.40
270	405.257	5.030	385.11	496.87	9.72
280	403.349	5.034	356.23	458.82	10.05
290	401.394	5.038	330.21	424.86	10.37
300	399.394	5.042	306.65	394.36	10.70
310	397.352	5.046	285.20	366.80	11.02
320	395.270	5.050	265.60	341.80	11.35
330	393.153	5.055	247.62	318.99	11.67
340	391.006	5.059	231.06	298.12	11.99
350	388.832	5.063	215.76	278.94	12.31
360	386.633	5.068	201.58	261.26	12.63
370	384.414	5.073	188.40	244.90	12.95
380	382.178	5.077	176.12	229.73	13.26
390	379.928	5.082	164.65	215.61	13.58
400	377.666	5.087	153.90	202.45	13.89
420	373.117	5.097	134.35	178.61	14.51
440	368.547	5.107	116.99	157.59	15.12
460	363.967	5.117	101.48	138.91	15.72
480	359.389	5.127	87.52	122.19	16.31
500	354.821	5.137	74.89	107.12	16.88
520	350.271	5.148	63.40	93.48	17.45
540	345.747	5.159	52.89	81.06	18.01
560	341.256	5.169	43.25	69.70	18.56
580	336.804	5.180	34.37	59.27	19.09
600	332.396	5.191	26.15	49.64	19.61
650	321.594	5.218	8.06	28.56	20.85
700	311.139	5.245	−7.23	10.85	22.03
750	301.059	5.273	−20.34	−4.26	23.14
800	291.379	5.300	−31.74	−17.33	24.18
850	282.114	5.328	−41.75	−28.76	25.16
900	273.256	5.355	−50.64	−38.87	26.08

TABLE 24. Fit parameters according to Eqs. (14) and (15) for an equimolar $BF_3-C(CH_3)_4$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.9605(14)	$1.077(88)\times10^{-4}$	$6.47(17)\times10^{-7}$	$-3.12(10)\times10^{-10}$
ε_{12}/k_B/K	$4.4636(83)\times10^{2}$	$-9.78(53)\times10^{-2}$	$-2.50(10)\times10^{-4}$	$1.625(62)\times10^{-7}$
B_{12}/cm^3 mol^{-1}	$1.9855(28)\times10^{2}$	$-1.3569(36)\times10^{5}$	$5.76(14)\times10^{6}$	$-3.151(16)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.168(11)\times10^{2}$	$-1.698(14)\times10^{5}$	$1.559(55)\times10^{7}$	$-5.885(63)\times10^{9}$
η_{mix}/μPa s	$2.71(55)\times10^{-1}$	$3.662(35)\times10^{-2}$	$-4.35(68)\times10^{-6}$	$-5.03(41)\times10^{-9}$

TABLE 25. Potential parameters and thermophysical properties of equimolar $BF_3-Si(CH_3)_4$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	429.468	5.111	880.34	1304.92	7.24
210	426.846	5.116	788.83	1149.28	7.56
220	424.166	5.122	711.57	1021.83	7.88
230	421.440	5.128	645.49	915.78	8.20
240	418.674	5.134	588.31	826.27	8.52
250	415.867	5.140	538.36	749.80	8.84
260	413.023	5.146	494.38	683.77	9.17
270	410.146	5.152	455.37	626.23	9.49
280	407.242	5.158	420.55	575.67	9.82
290	404.314	5.165	389.28	530.90	10.15
300	401.364	5.171	361.06	491.01	10.47
310	398.397	5.178	335.44	455.22	10.80
320	395.416	5.184	312.10	422.95	11.13
330	392.424	5.191	290.73	393.70	11.45
340	389.424	5.198	271.09	367.07	11.78
350	386.420	5.205	252.99	342.72	12.10
360	383.413	5.211	236.25	320.37	12.43
370	380.407	5.218	220.71	299.78	12.75
380	377.403	5.225	206.26	280.74	13.07
390	374.404	5.232	192.77	263.10	13.40
400	371.412	5.239	180.17	246.70	13.71
420	365.457	5.254	157.25	217.11	14.34
440	359.549	5.268	136.95	191.16	14.96
460	353.701	5.282	118.84	168.20	15.57
480	347.921	5.297	102.57	147.73	16.18
500	342.216	5.311	87.87	129.36	16.77
520	336.593	5.326	74.51	112.77	17.35
540	331.058	5.340	62.32	97.71	17.91
560	325.613	5.355	51.14	83.97	18.46
580	320.262	5.370	40.84	71.38	18.99
600	315.007	5.384	31.33	59.80	19.52
650	302.300	5.421	10.39	34.49	20.77
700	290.208	5.457	−7.27	13.32	21.94
750	278.728	5.494	−22.41	−4.70	23.03
800	267.862	5.530	−35.57	−20.25	24.05
850	257.598	5.565	−47.12	−33.83	25.00
900	247.882	5.600	−57.38	−45.83	25.88

TABLE 26. Fit parameters according to Eqs. (14) and (15) for an equimolar $BF_3-Si(CH_3)_4$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.0084(12)	$4.122(76)\times10^{-4}$	$5.27(15)\times10^{-7}$	$-2.838(89)\times10^{-10}$
ε_{12}/k_B/K	$4.8755(97)\times10^{2}$	$-2.713(62)\times10^{-1}$	$-9.1(1.2)\times10^{-5}$	$1.085(72)\times10^{-7}$
B_{12}/cm^3 mol^{-1}	$2.3102(53)\times10^{2}$	$-1.6196(67)\times10^{5}$	$1.003(26)\times10^{7}$	$-4.410(30)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.753(27)\times10^{2}$	$-2.315(34)\times10^{5}$	$3.52(13)\times10^{7}$	$-1.037(15)\times10^{10}$
η_{mix}/μPa s	$1.57(80)\times10^{-1}$	$3.542(51)\times10^{-2}$	$-6.1(9.8)\times10^{-7}$	$-7.85(59)\times10^{-9}$

TABLE 27. Potential parameters and thermophysical properties of equimolar BF_3–Ar mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	219.824	3.900	109.86	127.79	13.48
210	219.400	3.901	99.43	115.56	14.11
220	218.939	3.903	90.21	104.81	14.73
230	218.444	3.905	82.00	95.28	15.35
240	217.920	3.906	74.65	86.77	15.96
250	217.365	3.908	68.01	79.13	16.55
260	216.781	3.910	62.00	72.24	17.15
270	216.170	3.912	56.52	65.97	17.74
280	215.535	3.914	51.52	60.26	18.32
290	214.878	3.916	46.92	55.03	18.91
300	214.200	3.918	42.68	50.22	19.48
310	213.502	3.921	38.76	45.78	20.05
320	212.786	3.923	35.13	41.67	20.61
330	212.054	3.926	31.74	37.86	21.16
340	211.307	3.928	28.59	34.31	21.70
350	210.546	3.931	25.64	30.99	22.24
360	209.774	3.933	22.87	27.89	22.77
370	208.990	3.936	20.28	24.97	23.30
380	208.196	3.939	17.83	22.24	23.81
390	207.393	3.941	15.53	19.66	24.32
400	206.582	3.944	13.35	17.22	24.83
420	204.940	3.950	9.33	12.74	25.81
440	203.277	3.956	5.71	8.72	26.77
460	201.598	3.962	2.43	5.07	27.70
480	199.909	3.968	−0.56	1.75	28.61
500	198.214	3.974	−3.30	−1.28	29.49
520	196.517	3.980	−5.81	−4.07	30.34
540	194.821	3.987	−8.13	−6.64	31.17
560	193.129	3.993	−10.28	−9.01	31.98
580	191.443	3.999	−12.28	−11.22	32.77
600	189.766	4.006	−14.14	−13.27	33.53
650	185.623	4.022	−18.30	−17.85	35.36
700	181.568	4.039	−21.86	−21.78	37.07
750	177.615	4.055	−24.96	−25.19	38.68
800	173.777	4.072	−27.69	−28.20	40.20
850	170.064	4.088	−30.11	−30.87	41.63
900	166.485	4.104	−32.28	−33.26	42.98

TABLE 28. Fit parameters according to Eqs. (14) and (15) for an equimolar BF_3–Ar mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	3.8801(10)	$9.4(6.6)\times10^{-6}$	$4.68(13)\times10^{-7}$	$-2.250(77)\times10^{-10}$
ε_{12}/k_B/K	$2.2762(34)\times10^{2}$	$-1.51(22)\times10^{-2}$	$-1.224(42)\times10^{-4}$	$7.12(26)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$6.826(12)\times10^{1}$	$-3.311(15)\times10^{4}$	$8.61(55)\times10^{5}$	$-2.739(64)\times10^{8}$
B_{mix}/cm^3 mol^{-1}	$7.279(13)\times10^{1}$	$-3.645(17)\times10^{4}$	$1.072(63)\times10^{6}$	$-3.621(73)\times10^{8}$
η_{mix}/μPa s	−1.292(34)	$8.303(21)\times10^{-2}$	$-4.976(41)\times10^{-5}$	$1.350(25)\times10^{-8}$

TABLE 29. Potential parameters and thermophysical properties of equimolar BF_3–Kr mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	258.829	4.039	168.02	174.37	14.36
210	258.331	4.041	152.67	158.31	15.03
220	257.787	4.042	139.19	144.23	15.71
230	257.205	4.044	127.26	131.78	16.37
240	256.587	4.046	116.62	120.70	17.04
250	255.933	4.047	107.07	110.77	17.70
260	255.246	4.049	98.46	101.81	18.36
270	254.527	4.051	90.65	93.70	19.01
280	253.780	4.053	83.53	86.32	19.65
290	253.006	4.056	77.02	79.56	20.29
300	252.207	4.058	71.04	73.37	20.93
310	251.385	4.060	65.52	67.65	21.56
320	250.542	4.062	60.42	62.38	22.18
330	249.681	4.065	55.69	57.48	22.80
340	248.801	4.067	51.29	52.93	23.41
350	247.906	4.070	47.18	48.69	24.01
360	246.996	4.073	43.34	44.72	24.60
370	246.073	4.075	39.74	41.00	25.19
380	245.138	4.078	36.36	37.51	25.77
390	244.193	4.081	33.17	34.23	26.35
400	243.238	4.084	30.17	31.13	26.91
420	241.305	4.089	24.65	25.44	28.03
440	239.347	4.095	19.70	20.34	29.11
460	237.370	4.101	15.22	15.72	30.17
480	235.381	4.107	11.16	11.54	31.20
500	233.385	4.113	7.44	7.71	32.21
520	231.387	4.120	4.04	4.21	33.19
540	229.390	4.126	0.91	0.99	34.15
560	227.397	4.132	−1.98	−1.99	35.08
580	225.413	4.139	−4.66	−4.75	35.98
600	223.438	4.145	−7.16	−7.32	36.85
650	218.560	4.162	−12.69	−13.02	38.96
700	213.785	4.178	−17.42	−17.89	40.95
750	209.131	4.195	−21.50	−22.10	42.83
800	204.612	4.211	−25.08	−25.79	44.61
850	200.240	4.227	−28.25	−29.06	46.30
900	196.026	4.244	−31.06	−31.98	47.90

TABLE 30. Fit parameters according to Eqs. (14) and (15) for an equimolar BF_3–Kr mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.0198(11)	$6.7(7.0)\times10^{-6}$	$4.73(14)\times10^{-7}$	$-2.274(82)\times10^{-10}$
ε_{12}/k_B/K	$2.6800(40)\times10^{2}$	$-1.78(26)\times10^{-2}$	$-1.441(50)\times10^{-4}$	$8.38(30)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$7.7342(10)\times10^{1}$	$-4.180(13)\times10^{4}$	$4.77(48)\times10^{5}$	$-3.871(55)\times10^{8}$
B_{mix}/cm^3 mol^{-1}	$7.981(12)\times10^{1}$	$-4.339(15)\times10^{4}$	$6.85(57)\times10^{5}$	$-4.356(66)\times10^{8}$
η_{mix}/μPa s	−1.634(57)	$8.862(36)\times10^{-2}$	$-4.776(70)\times10^{-5}$	$1.156(42)\times10^{-8}$

TABLE 31. Potential parameters and thermophysical properties of equimolar BF_3–Xe mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	301.975	4.230	257.63	258.66	13.94
210	301.394	4.231	234.24	235.21	14.59
220	300.759	4.232	213.84	214.77	15.25
230	300.080	4.234	195.91	196.80	15.90
240	299.359	4.236	180.02	180.88	16.55
250	298.597	4.237	165.85	166.67	17.20
260	297.795	4.239	153.12	153.92	17.84
270	296.956	4.241	141.64	142.42	18.49
280	296.084	4.243	131.22	131.98	19.14
290	295.181	4.246	121.72	122.47	19.79
300	294.249	4.248	113.04	113.76	20.43
310	293.290	4.250	105.05	105.76	21.07
320	292.307	4.252	97.69	98.39	21.69
330	291.301	4.255	90.89	91.57	22.31
340	290.275	4.257	84.57	85.25	22.92
350	289.231	4.260	78.70	79.36	23.52
360	288.169	4.263	73.22	73.88	24.13
370	287.092	4.265	68.09	68.74	24.73
380	286.002	4.268	63.29	63.94	25.33
390	284.899	4.271	58.79	59.42	25.92
400	283.785	4.274	54.54	55.17	26.51
420	281.530	4.279	46.77	47.38	27.67
440	279.245	4.285	39.81	40.42	28.79
460	276.939	4.291	33.55	34.14	29.89
480	274.618	4.297	27.87	28.46	30.95
500	272.290	4.303	22.71	23.29	32.00
520	269.958	4.310	18.00	18.57	33.03
540	267.628	4.316	13.67	14.23	34.03
560	265.304	4.322	9.68	10.23	35.01
580	262.989	4.329	5.99	6.54	35.97
600	260.685	4.335	2.57	3.11	36.91
650	254.994	4.352	−5.00	−4.48	39.16
700	249.422	4.368	−11.42	−10.92	41.28
750	243.992	4.385	−16.94	−16.47	43.29
800	238.720	4.401	−21.76	−21.31	45.19
850	233.619	4.418	−25.99	−25.57	47.00
900	228.703	4.434	−29.75	−29.36	48.74

TABLE 32. Fit parameters according to Eqs. (14) and (15) for an equimolar BF_3–Xe mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.2106(12)	$2.2(7.5)\times10^{-6}$	$4.80(15)\times10^{-7}$	$-2.312(88)\times10^{-10}$
ε_{12}/k_B/K	$3.1268(47)\times10^{2}$	$-2.07(30)\times10^{-2}$	$-1.682(58)\times10^{-4}$	$9.78(35)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$9.0970(68)\times10^{1}$	$-5.4453(86)\times10^{4}$	$4.1(3.2)\times10^{4}$	$-6.191(38)\times10^{8}$
B_{mix}/cm^3 mol^{-1}	$9.0956(86)\times10^{1}$	$-5.495(11)\times10^{4}$	$1.80(41)\times10^{5}$	$-6.354(48)\times10^{8}$
η_{mix}/μPa s	−1.407(76)	$8.294(48)\times10^{-2}$	$-3.491(93)\times10^{-5}$	$5.11(56)\times10^{-9}$

TABLE 33. Potential parameters and thermophysical properties of equimolar CH_4-CF_4 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	272.323	4.074	141.65	151.76	11.11
210	272.215	4.074	127.75	136.95	11.59
220	272.094	4.074	115.57	123.99	12.06
230	271.963	4.075	104.79	112.55	12.53
240	271.821	4.075	95.20	102.38	13.00
250	271.674	4.075	86.60	93.28	13.47
260	271.518	4.076	78.86	85.09	13.93
270	271.354	4.076	71.85	77.69	14.38
280	271.183	4.077	65.47	70.96	14.84
290	271.007	4.077	59.65	64.81	15.29
300	270.825	4.078	54.30	59.18	15.73
310	270.637	4.078	49.38	54.01	16.17
320	270.444	4.079	44.84	49.23	16.61
330	270.246	4.079	40.63	44.80	17.04
340	270.044	4.080	36.72	40.69	17.47
350	269.837	4.080	33.08	36.87	17.89
360	269.627	4.081	29.68	33.30	18.31
370	269.413	4.081	26.50	29.96	18.72
380	269.195	4.082	23.52	26.84	19.13
390	268.975	4.083	20.72	23.90	19.54
400	268.752	4.083	18.08	21.13	19.94
420	268.298	4.084	13.24	16.06	20.73
440	267.835	4.086	8.91	11.53	21.51
460	267.366	4.087	5.01	7.45	22.27
480	266.890	4.088	1.49	3.76	23.01
500	266.410	4.090	−1.72	0.40	23.73
520	265.926	4.091	−4.65	−2.66	24.45
540	265.439	4.092	−7.34	−5.47	25.15
560	264.950	4.094	−9.81	−8.06	25.83
580	264.459	4.095	−12.09	−10.44	26.50
600	263.968	4.096	−14.21	−12.65	27.16
650	262.741	4.100	−18.87	−17.52	28.74
700	261.522	4.103	−22.80	−21.63	30.26
750	260.319	4.106	−26.16	−25.15	31.72
800	259.141	4.110	−29.07	−28.19	33.11
850	257.995	4.113	−31.61	−30.84	34.45
900	256.893	4.116	−33.84	−33.17	35.74
950	255.839	4.119	−35.82	−35.24	36.99
1000	254.842	4.122	−37.58	−37.08	38.20

TABLE 34. Fit parameters according to Eqs. (14) and (15) for an equimolar CH_4-CF_4 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.068 79(58)	$5.8(3.4)\times10^{-6}$	$9.51(62)\times10^{-8}$	$-4.79(34)\times10^{-11}$
ε_{12}/k_B/K	$2.743\,21(69)\times10^{2}$	$-3.30(41)\times10^{-3}$	$-3.373(72)\times10^{-5}$	$1.762(40)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$6.9663(29)\times10^{1}$	$-3.0528(38)\times10^{4}$	$-1.305(15)\times10^{6}$	$-2.080(18)\times10^{8}$
B_{mix}/cm^3 mol^{-1}	$7.0672(30)\times10^{1}$	$-3.2064(41)\times10^{4}$	$-1.238(16)\times10^{6}$	$-2.488(19)\times10^{8}$
η_{mix}/μPa s	$1.94(12)\times10^{-1}$	$6.0170(73)\times10^{-2}$	$-3.023(13)\times10^{-5}$	$8.068(72)\times10^{-9}$

TABLE 35. Potential parameters and thermophysical properties of equimolar CH_4-SiF_4 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	210.456	4.553	175.71	189.73	10.33
210	210.133	4.555	159.51	172.56	10.83
220	209.807	4.556	145.21	157.38	11.30
230	209.477	4.558	132.48	143.88	11.77
240	209.141	4.559	121.08	131.78	12.24
250	208.796	4.560	110.82	120.87	12.72
260	208.446	4.562	101.52	111.00	13.21
270	208.091	4.563	93.07	102.02	13.68
280	207.733	4.565	85.35	93.81	14.14
290	207.373	4.566	78.27	86.29	14.58
300	207.012	4.568	71.76	79.36	15.01
310	206.648	4.570	65.75	72.97	15.43
320	206.283	4.571	60.18	67.05	15.86
330	205.917	4.573	55.02	61.56	16.28
340	205.550	4.574	50.21	56.44	16.70
350	205.182	4.576	45.72	51.66	17.11
360	204.814	4.578	41.52	47.20	17.52
370	204.447	4.579	37.58	43.01	17.93
380	204.079	4.581	33.89	39.08	18.33
390	203.712	4.582	30.41	35.38	18.72
400	203.345	4.584	27.13	31.89	19.12
420	202.613	4.587	21.11	25.48	19.89
440	201.886	4.590	15.71	19.74	20.64
460	201.162	4.594	10.84	14.56	21.35
480	200.444	4.597	6.42	9.86	22.05
500	199.731	4.600	2.41	5.59	22.73
520	199.024	4.603	−1.27	1.68	23.40
540	198.324	4.606	−4.64	−1.90	24.06
560	197.631	4.609	−7.74	−5.20	24.72
580	196.945	4.613	−10.61	−8.24	25.36
600	196.267	4.616	−13.27	−11.07	25.99
650	194.607	4.623	−19.12	−17.28	27.51
700	193.002	4.631	−24.06	−22.52	28.96
750	191.459	4.638	−28.28	−26.98	30.35
800	189.986	4.645	−31.92	−30.83	31.67
850	188.590	4.652	−35.08	−34.17	32.95
900	187.279	4.658	−37.85	−37.09	34.18

TABLE 36. Fit parameters according to Eqs. (14) and (15) for an equimolar CH_4-SiF_4 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.525 58(73)	$1.231(47)\times10^{-4}$	$8.11(90)\times10^{-8}$	$-6.00(55)\times10^{-11}$
ε_{12}/k_B/K	$2.172\,34(58)\times10^{2}$	$-3.107(37)\times10^{-2}$	$-1.447(71)\times10^{-5}$	$1.339(43)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$8.2568(66)\times10^{1}$	$-3.7538(84)\times10^{4}$	$-2.243(32)\times10^{6}$	$-1.153(37)\times10^{8}$
B_{mix}/cm^3 mol^{-1}	$8.4173(88)\times10^{1}$	$-3.924(11)\times10^{4}$	$-2.632(42)\times10^{6}$	$-9.45(49)\times10^{7}$
η_{mix}/μPa s	$-8.94(43)\times10^{-1}$	$6.338(27)\times10^{-2}$	$-3.856(53)\times10^{-5}$	$1.276(32)\times10^{-8}$

TABLE 37. Potential parameters and thermophysical properties of equimolar CH_4-CCl_4 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	399.427	4.697	595.77	1289.48	7.71
210	399.646	4.697	540.20	1134.44	8.05
220	399.867	4.696	492.68	1008.55	8.38
230	400.089	4.696	451.61	904.62	8.71
240	400.315	4.695	415.78	817.59	9.05
250	400.545	4.695	384.26	743.80	9.38
260	400.777	4.694	356.34	680.53	9.71
270	401.012	4.694	331.45	625.76	10.04
280	401.248	4.693	309.11	577.93	10.37
290	401.485	4.693	288.97	535.84	10.70
300	401.722	4.692	270.71	498.53	11.03
310	401.961	4.691	254.10	465.26	11.36
320	402.200	4.691	238.91	435.41	11.70
330	402.440	4.690	224.98	408.49	12.03
340	402.680	4.690	212.15	384.10	12.36
350	402.920	4.689	200.31	361.91	12.70
360	403.160	4.689	189.33	341.62	13.03
370	403.400	4.688	179.14	323.02	13.36
380	403.640	4.688	169.66	305.91	13.70
390	403.879	4.687	160.80	290.10	14.03
400	404.118	4.686	152.52	275.47	14.36
420	404.595	4.685	137.46	249.24	15.02
440	405.070	4.684	124.12	226.40	15.68
460	405.542	4.683	112.24	206.35	16.33
480	406.011	4.682	101.58	188.60	16.98
500	406.476	4.681	91.97	172.78	17.63
520	406.938	4.680	83.26	158.60	18.27
540	407.396	4.679	75.33	145.82	18.90
560	407.850	4.678	68.08	134.24	19.53
580	408.300	4.677	61.43	123.70	20.15
600	408.746	4.676	55.31	114.07	20.77
650	409.838	4.673	41.95	93.27	22.32
700	410.897	4.671	30.81	76.17	23.81
750	411.918	4.669	21.40	61.88	25.25
800	412.892	4.667	13.34	49.77	26.66
850	413.815	4.665	6.37	39.37	28.06
900	414.680	4.663	0.29	30.37	29.42

TABLE 38. Fit parameters according to Eqs. (14) and (15) for an equimolar CH_4-CCl_4 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.707 80(72)	$-4.92(46)\times10^{-5}$	$-1.78(89)\times10^{-8}$	$1.87(54)\times10^{-11}$
ε_{12}/k_B/K	$3.949\,39(24)\times10^{2}$	$2.090(15)\times10^{-2}$	$8.27(29)\times10^{-6}$	$-7.92(18)\times10^{-9}$
B_{12}/cm^3 mol^{-1}	$9.732(42)\times10^{1}$	$-8.242(53)\times10^{4}$	$-2.74(20)\times10^{6}$	$-1.694(23)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$1.516(36)\times10^{2}$	$-1.838(45)\times10^{5}$	$3.15(17)\times10^{7}$	$-1.041(20)\times10^{10}$
η_{mix}/μPa s	$9.86(33)\times10^{-1}$	$3.324(21)\times10^{-2}$	$2.41(40)\times10^{-6}$	$-4.76(24)\times10^{-9}$

TABLE 39. Potential parameters and thermophysical properties of equimolar CH_4-SiCl_4 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	405.735	4.796	617.78	1404.75	7.75
210	404.624	4.799	557.41	1218.48	8.08
220	403.517	4.802	505.98	1069.77	8.40
230	402.413	4.804	461.67	948.83	8.73
240	401.312	4.807	423.14	848.85	9.06
250	400.214	4.810	389.33	765.04	9.38
260	399.121	4.812	359.44	693.90	9.71
270	398.033	4.815	332.84	632.87	10.03
280	396.952	4.818	309.02	579.99	10.35
290	395.878	4.820	287.57	533.78	10.68
300	394.813	4.823	268.15	493.08	11.00
310	393.755	4.825	250.50	456.98	11.32
320	392.706	4.828	234.38	424.76	11.64
330	391.665	4.831	219.61	395.83	11.97
340	390.633	4.833	206.02	369.73	12.29
350	389.611	4.836	193.48	346.05	12.61
360	388.597	4.838	181.87	324.50	12.93
370	387.594	4.841	171.09	304.78	13.25
380	386.599	4.843	161.06	286.69	13.57
390	385.614	4.846	151.70	270.03	13.89
400	384.639	4.848	142.94	254.63	14.21
420	382.717	4.853	127.03	227.10	14.84
440	380.834	4.858	112.95	203.22	15.47
460	378.987	4.863	100.39	182.30	16.10
480	377.179	4.868	89.13	163.82	16.72
500	375.406	4.872	78.97	147.38	17.33
520	373.669	4.877	69.76	132.67	17.94
540	371.968	4.881	61.37	119.41	18.55
560	370.301	4.886	53.69	107.41	19.15
580	368.668	4.890	46.64	96.50	19.74
600	367.069	4.895	40.15	86.53	20.32
650	363.218	4.905	25.96	65.01	21.75
700	359.583	4.915	14.10	47.32	23.13
750	356.171	4.925	4.06	32.55	24.47
800	352.995	4.934	−4.54	20.04	25.76
850	350.061	4.942	−11.98	9.33	27.01
900	347.379	4.950	−18.46	0.08	28.21

TABLE 40. Fit parameters according to Eqs. (14) and (15) for an equimolar CH_4-SiCl_4 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.739 76(65)	$2.904(42)\times10^{-4}$	$-3.51(81)\times10^{-8}$	$-3.12(49)\times10^{-11}$
ε_{12}/k_B/K	$4.303\,93(44)\times10^{2}$	$-1.3156(28)\times10^{-1}$	$4.261(55)\times10^{-5}$	$1.16(33)\times10^{-9}$
B_{12}/cm^3 mol^{-1}	$1.2543(47)\times10^{2}$	$-9.277(59)\times10^{4}$	$-4.5(2.3)\times10^{5}$	$-2.137(26)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.147(55)\times10^{2}$	$-2.329(70)\times10^{5}$	$5.46(27)\times10^{7}$	$-1.448(31)\times10^{10}$
η_{mix}/μPa s	1.117(25)	$3.303(16)\times10^{-2}$	$1.36(31)\times10^{-6}$	$-5.15(19)\times10^{-9}$

TABLE 41. Potential parameters and thermophysical properties of equimolar CH_4-SF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	305.941	4.433	259.29	318.43	10.41
210	305.625	4.434	235.05	287.72	10.86
220	305.302	4.435	213.96	261.24	11.31
230	304.969	4.436	195.42	238.17	11.76
240	304.619	4.437	179.01	217.88	12.21
250	304.249	4.438	164.38	199.91	12.66
260	303.861	4.439	151.24	183.88	13.11
270	303.457	4.440	139.39	169.48	13.55
280	303.041	4.441	128.65	156.50	13.99
290	302.616	4.442	118.87	144.72	14.43
300	302.181	4.444	109.93	134.00	14.86
310	301.737	4.445	101.72	124.19	15.30
320	301.286	4.446	94.15	115.18	15.73
330	300.827	4.447	87.16	106.88	16.16
340	300.361	4.449	80.68	99.21	16.59
350	299.889	4.450	74.66	92.09	17.01
360	299.412	4.451	69.05	85.48	17.44
370	298.931	4.453	63.81	79.32	17.85
380	298.446	4.454	58.90	73.56	18.26
390	297.958	4.456	54.29	68.16	18.67
400	297.467	4.457	49.96	63.10	19.08
420	296.479	4.460	42.04	53.86	19.88
440	295.485	4.463	34.96	45.63	20.67
460	294.489	4.465	28.60	38.26	21.45
480	293.495	4.468	22.86	31.61	22.22
500	292.504	4.471	17.64	25.59	22.96
520	291.520	4.474	12.89	20.12	23.69
540	290.546	4.477	8.54	15.11	24.41
560	289.586	4.480	4.54	10.52	25.12
580	288.643	4.483	0.85	6.30	25.82
600	287.719	4.485	−2.55	2.40	26.50
650	285.518	4.492	−10.02	−6.14	28.14
700	283.505	4.498	−16.28	−13.26	29.72
750	281.703	4.504	−21.58	−19.27	31.23
800	280.120	4.509	−26.11	−24.39	32.68
850	278.747	4.513	−30.01	−28.79	34.07
900	277.565	4.516	−33.41	−32.61	35.42
950	276.550	4.520	−36.38	−35.94	36.73
1000	275.682	4.522	−39.00	−38.87	38.00

TABLE 42. Fit parameters according to Eqs. (14) and (15) for an equimolar CH_4-SF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.418 03(84)	$3.36(50)\times10^{-5}$	$2.210(89)\times10^{-7}$	$-1.514(49)\times10^{-10}$
ε_{12}/k_B/K	$3.1239(26)\times10^{2}$	$-1.97(15)\times10^{-2}$	$-6.33(27)\times10^{-5}$	$4.67(15)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$8.799(25)\times10^{1}$	$-4.519(34)\times10^{4}$	$-3.10(13)\times10^{6}$	$-3.47(16)\times10^{8}$
B_{mix}/cm^3 mol^{-1}	$9.429(36)\times10^{1}$	$-5.125(48)\times10^{4}$	$-3.05(19)\times10^{6}$	$-6.36(23)\times10^{8}$
η_{mix}/μPa s	$-2.0(4.2)\times10^{-2}$	$5.611(25)\times10^{-2}$	$-2.262(44)\times10^{-5}$	$4.50(24)\times10^{-9}$

TABLE 43. Potential parameters and thermophysical properties of equimolar CH_4-MoF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	409.655	4.452	494.94	1024.42	10.32
210	407.882	4.456	445.25	882.74	10.75
220	406.118	4.459	403.03	770.54	11.19
230	404.362	4.463	366.73	679.90	11.62
240	402.615	4.467	335.21	605.39	12.05
250	400.875	4.470	307.61	543.23	12.48
260	399.146	4.474	283.24	490.68	12.91
270	397.429	4.478	261.57	445.73	13.34
280	395.725	4.481	242.19	406.91	13.76
290	394.036	4.485	224.76	373.06	14.19
300	392.361	4.489	208.99	343.31	14.62
310	390.701	4.492	194.67	316.96	15.04
320	389.056	4.496	181.60	293.48	15.47
330	387.428	4.500	169.63	272.42	15.90
340	385.815	4.503	158.62	253.43	16.32
350	384.218	4.507	148.46	236.22	16.75
360	382.637	4.510	139.06	220.56	17.17
370	381.073	4.514	130.34	206.25	17.60
380	379.526	4.518	122.22	193.11	18.02
390	377.995	4.521	114.65	181.02	18.44
400	376.480	4.525	107.56	169.84	18.87
420	373.500	4.531	94.70	149.87	19.71
440	370.586	4.538	83.30	132.53	20.54
460	367.738	4.545	73.15	117.34	21.37
480	364.957	4.552	64.03	103.92	22.19
500	362.243	4.558	55.81	91.98	23.00
520	359.601	4.565	48.36	81.29	23.81
540	357.033	4.571	41.57	71.66	24.60
560	354.544	4.577	35.37	62.94	25.38
580	352.138	4.584	29.68	55.02	26.16
600	349.821	4.589	24.45	47.80	26.92
650	344.449	4.603	13.05	32.28	28.78
700	339.719	4.616	3.60	19.64	30.55
750	335.640	4.627	−4.30	9.20	32.26
800	332.178	4.636	−11.00	0.49	33.91
850	329.265	4.644	−16.71	−6.88	35.50
900	326.833	4.651	−21.63	−13.16	37.03

TABLE 44. Fit parameters according to Eqs. (14) and (15) for an equimolar CH_4-MoF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.381 05(83)	$3.351(53)\times10^{-4}$	$1.38(10)\times10^{-7}$	$-1.976(61)\times10^{-10}$
ε_{12}/k_B/K	$4.4755(15)\times10^{2}$	$-1.9740(95)\times10^{-1}$	$3.20(19)\times10^{-5}$	$4.29(11)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.0588(73)\times10^{2}$	$-7.184(92)\times10^{4}$	$-1.09(35)\times10^{6}$	$-1.706(40)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$1.742(52)\times10^{2}$	$-1.772(65)\times10^{5}$	$4.44(25)\times10^{7}$	$-1.131(29)\times10^{10}$
η_{mix}/μPa s	1.517(51)	$4.369(32)\times10^{-2}$	$2.57(62)\times10^{-6}$	$-8.15(38)\times10^{-9}$

TABLE 45. Potential parameters and thermophysical properties of equimolar CH_4-WF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	378.253	4.498	483.29	888.32	11.77
210	375.902	4.503	435.46	774.84	12.29
220	373.563	4.508	394.65	683.27	12.81
230	371.227	4.514	359.43	608.01	13.32
240	368.887	4.519	328.74	545.17	13.83
250	366.543	4.525	301.76	491.99	14.35
260	364.202	4.531	277.86	446.46	14.88
270	361.868	4.536	256.56	407.09	15.41
280	359.550	4.542	237.47	372.75	15.95
290	357.250	4.547	220.25	342.55	16.49
300	354.968	4.553	204.64	315.79	17.04
310	352.705	4.559	190.44	291.92	17.58
320	350.463	4.564	177.46	270.51	18.14
330	348.242	4.570	165.54	251.19	18.69
340	346.043	4.576	154.57	233.67	19.24
350	343.868	4.581	144.43	217.71	19.79
360	341.717	4.587	135.04	203.13	20.35
370	339.590	4.592	126.30	189.73	20.90
380	337.489	4.598	118.17	177.39	21.45
390	335.412	4.604	110.57	165.99	22.00
400	333.361	4.609	103.46	155.42	22.54
420	329.334	4.620	90.51	136.43	23.61
440	325.409	4.631	79.02	119.85	24.71
460	321.586	4.642	68.76	105.26	25.81
480	317.866	4.652	59.53	92.30	26.86
500	314.251	4.663	51.20	80.73	27.87
520	310.741	4.673	43.63	70.33	28.86
540	307.341	4.683	36.73	60.93	29.86
560	304.056	4.693	30.41	52.40	30.85
580	300.889	4.703	24.61	44.64	31.81
600	297.847	4.712	19.26	37.54	32.73
650	290.819	4.735	7.62	22.25	34.93
700	284.657	4.755	−2.02	9.79	37.02
750	279.361	4.773	−10.08	−0.48	39.01
800	274.881	4.789	−16.87	−9.03	40.90
850	271.122	4.802	−22.64	−16.21	42.69
900	267.994	4.813	−27.57	−22.29	44.41

TABLE 46. Fit parameters according to Eqs. (14) and (15) for an equimolar CH_4-WF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.394 03(88)	$4.649(56)\times10^{-4}$	$3.28(11)\times10^{-7}$	$-3.649(65)\times10^{-10}$
ε_{12}/k_B/K	$4.3130(26)\times10^{2}$	$-2.786(17)\times10^{-1}$	$6.50(32)\times10^{-5}$	$4.82(19)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.1324(79)\times10^{2}$	$-7.219(99)\times10^{4}$	$-2.08(38)\times10^{6}$	$-1.460(44)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$1.591(35)\times10^{2}$	$-1.384(44)\times10^{5}$	$2.45(17)\times10^{7}$	$-7.70(19)\times10^{9}$
η_{mix}/μPa s	$4.0(2.0)\times10^{-1}$	$5.49(13)\times10^{-2}$	$8.0(2.4)\times10^{-6}$	$-1.65(15)\times10^{-8}$

TABLE 47. Potential parameters and thermophysical properties of equimolar CH_4-UF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	447.465	4.473	605.09	1716.96	12.31
210	444.715	4.478	540.97	1420.82	12.83
220	441.992	4.483	487.07	1198.53	13.34
230	439.300	4.488	441.19	1027.31	13.85
240	436.643	4.494	401.71	892.43	14.35
250	434.023	4.499	367.41	784.09	14.85
260	431.440	4.504	337.35	695.54	15.36
270	428.892	4.509	310.81	622.07	15.86
280	426.381	4.514	287.20	560.27	16.36
290	423.906	4.519	266.07	507.67	16.86
300	421.466	4.524	247.06	462.43	17.35
310	419.062	4.529	229.87	423.15	17.85
320	416.693	4.534	214.24	388.75	18.35
330	414.359	4.539	199.98	358.40	18.85
340	412.060	4.544	186.91	331.43	19.35
350	409.795	4.549	174.89	307.31	19.85
360	407.563	4.554	163.81	285.63	20.35
370	405.364	4.559	153.54	266.02	20.85
380	403.197	4.563	144.02	248.22	21.35
390	401.063	4.568	135.15	231.98	21.84
400	398.960	4.573	126.88	217.11	22.34
420	394.846	4.582	111.89	190.82	23.34
440	390.854	4.591	98.67	168.32	24.34
460	386.979	4.600	86.92	148.84	25.33
480	383.223	4.609	76.40	131.81	26.31
500	379.586	4.617	66.95	116.79	27.29
520	376.071	4.626	58.39	103.45	28.26
540	372.683	4.634	50.62	91.53	29.23
560	369.427	4.642	43.54	80.82	30.18
580	366.310	4.650	37.05	71.15	31.12
600	363.336	4.657	31.10	62.39	32.05
650	356.558	4.674	18.20	43.74	34.32
700	350.733	4.690	7.58	28.76	36.50
750	345.822	4.703	−1.26	16.52	38.58
800	341.733	4.714	−8.70	6.39	40.61
850	338.345	4.723	−15.04	−2.11	42.55
900	335.550	4.731	−20.48	−9.33	44.42

TABLE 48. Fit parameters according to Eqs. (14) and (15) for an equimolar CH_4-UF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.367 69(91)	$5.209(58)\times10^{-4}$	$6.8(1.1)\times10^{-8}$	$-2.220(67)\times10^{-10}$
ε_{12}/k_B/K	$5.0845(24)\times10^{2}$	$-3.360(15)\times10^{-1}$	$1.511(30)\times10^{-4}$	$1.01(18)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.169(12)\times10^{2}$	$-8.41(15)\times10^{4}$	$1.43(57)\times10^{6}$	$-2.685(66)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$3.28(17)\times10^{2}$	$-4.12(22)\times10^{5}$	$1.552(82)\times10^{8}$	$-3.066(95)\times10^{10}$
η_{mix}/μPa s	2.523(55)	$4.732(35)\times10^{-2}$	$1.108(68)\times10^{-5}$	$-1.334(41)\times10^{-8}$

TABLE 49. Potential parameters and thermophysical properties of equimolar $CH_4-C(CH_3)_4$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	360.026	4.809	481.58	820.66	5.95
210	359.418	4.811	436.32	731.10	6.21
220	358.811	4.813	397.35	656.54	6.46
230	358.202	4.814	363.47	593.58	6.72
240	357.591	4.816	333.75	539.77	6.98
250	356.977	4.818	307.48	493.29	7.23
260	356.358	4.819	284.09	452.75	7.49
270	355.733	4.821	263.14	417.11	7.74
280	355.101	4.823	244.27	385.52	8.00
290	354.462	4.824	227.18	357.35	8.25
300	353.813	4.826	211.63	332.06	8.50
310	353.154	4.828	197.42	309.24	8.76
320	352.485	4.830	184.38	288.54	9.01
330	351.808	4.832	172.38	269.69	9.26
340	351.123	4.834	161.30	252.44	9.51
350	350.432	4.836	151.03	236.60	9.76
360	349.734	4.838	141.49	222.01	10.01
370	349.031	4.839	132.60	208.52	10.25
380	348.324	4.841	124.31	196.02	10.50
390	347.614	4.843	116.54	184.40	10.74
400	346.900	4.845	109.26	173.57	10.99
420	345.468	4.850	95.98	153.98	11.47
440	344.028	4.854	84.16	136.73	11.95
460	342.583	4.858	73.58	121.43	12.42
480	341.132	4.862	64.04	107.75	12.88
500	339.676	4.866	55.41	95.45	13.34
520	338.216	4.870	47.54	84.33	13.79
540	336.755	4.875	40.35	74.23	14.24
560	335.292	4.879	33.75	65.00	14.68
580	333.831	4.883	27.67	56.54	15.11
600	332.373	4.888	22.05	48.75	15.54
650	328.750	4.899	9.69	31.74	16.56
700	325.166	4.910	−0.73	17.54	17.56
750	321.635	4.920	−9.64	5.48	18.51
800	318.168	4.931	−17.34	−4.89	19.41
850	314.776	4.942	−24.09	−13.91	20.28
900	311.447	4.953	−30.04	−21.84	21.12

TABLE 50. Fit parameters according to Eqs. (14) and (15) for an equimolar $CH_4-C(CH_3)_4$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.782 25(79)	$1.044(50)\times10^{-4}$	$1.669(97)\times10^{-7}$	$-8.03(59)\times10^{-11}$
ε_{12}/k_B/K	$3.704\,91(98)\times10^{2}$	$-4.250(62)\times10^{-2}$	$-5.38(12)\times10^{-5}$	$3.136(72)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.2661(13)\times10^{2}$	$-8.490(17)\times10^{4}$	$-2.17(64)\times10^{5}$	$-1.4239(74)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$1.619(12)\times10^{2}$	$-1.319(15)\times10^{5}$	$1.114(56)\times10^{7}$	$-4.794(65)\times10^{9}$
η_{mix}/μPa s	$4.33(24)\times10^{-1}$	$2.834(15)\times10^{-2}$	$-3.96(30)\times10^{-6}$	$-2.25(18)\times10^{-9}$

TABLE 51. Potential parameters and thermophysical properties of equimolar $CH_4-Si(CH_3)_4$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	370.720	4.913	625.76	1347.16	5.87
210	369.168	4.918	567.61	1188.85	6.13
220	367.623	4.922	517.80	1059.67	6.38
230	366.088	4.926	474.70	952.55	6.64
240	364.560	4.930	437.05	862.48	6.89
250	363.041	4.934	403.89	785.80	7.14
260	361.529	4.939	374.48	719.84	7.40
270	360.025	4.943	348.23	662.57	7.65
280	358.529	4.947	324.66	612.42	7.90
290	357.040	4.951	303.38	568.18	8.15
300	355.558	4.956	284.08	528.87	8.40
310	354.083	4.960	266.51	493.75	8.66
320	352.616	4.964	250.43	462.17	8.91
330	351.155	4.968	235.66	433.65	9.16
340	349.703	4.972	222.07	407.76	9.41
350	348.258	4.977	209.50	384.17	9.66
360	346.821	4.981	197.86	362.58	9.91
370	345.393	4.985	187.03	342.75	10.16
380	343.972	4.989	176.95	324.48	10.41
390	342.560	4.994	167.54	307.59	10.66
400	341.156	4.998	158.72	291.94	10.91
420	338.375	5.006	142.69	263.83	11.40
440	335.629	5.015	128.49	239.32	11.89
460	332.919	5.023	115.81	217.75	12.38
480	330.246	5.032	104.43	198.64	12.86
500	327.609	5.040	94.17	181.58	13.34
520	325.009	5.048	84.85	166.27	13.81
540	322.447	5.057	76.37	152.44	14.28
560	319.922	5.065	68.61	139.90	14.75
580	317.435	5.073	61.49	128.48	15.21
600	314.986	5.081	54.92	118.03	15.67
650	309.026	5.101	40.57	95.41	16.80
700	303.292	5.121	28.59	76.78	17.89
750	297.777	5.141	18.43	61.15	18.95
800	292.488	5.161	9.72	47.87	19.98
850	287.422	5.180	2.16	36.44	20.99
900	282.526	5.198	−4.45	26.50	21.98

TABLE 52. Fit parameters according to Eqs. (14) and (15) for an equimolar $CH_4-Si(CH_3)_4$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.828 80(76)	$4.178(48)\times10^{-4}$	$2.92(93)\times10^{-8}$	$-4.14(56)\times10^{-11}$
ε_{12}/k_B/K	$4.037\,47(53)\times10^{2}$	$-1.7308(34)\times10^{-1}$	$4.043(66)\times10^{-5}$	$2.57(40)\times10^{-9}$
B_{12}/cm^3 mol^{-1}	$1.1047(38)\times10^{2}$	$-9.011(48)\times10^{4}$	$-2.60(18)\times10^{6}$	$-1.760(21)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$1.668(33)\times10^{2}$	$-1.916(42)\times10^{5}$	$2.89(16)\times10^{7}$	$-1.018(18)\times10^{10}$
η_{mix}/μPa s	$6.37(19)\times10^{-1}$	$2.632(12)\times10^{-2}$	$-5.0(2.4)\times10^{-7}$	$-2.69(14)\times10^{-9}$

TABLE 53. Potential parameters and thermophysical properties of equimolar CH_4–Ar mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	189.754	3.703	70.02	72.67	12.10
210	189.754	3.703	63.14	65.57	12.65
220	189.754	3.703	57.04	59.28	13.19
230	189.754	3.703	51.61	53.68	13.72
240	189.754	3.703	46.73	48.65	14.25
250	189.754	3.703	42.32	44.12	14.77
260	189.754	3.703	38.33	40.02	15.29
270	189.754	3.703	34.69	36.28	15.79
280	189.754	3.703	31.37	32.87	16.29
290	189.754	3.703	28.32	29.73	16.79
300	189.754	3.703	25.51	26.85	17.27
310	189.754	3.703	22.92	24.19	17.76
320	189.754	3.703	20.52	21.73	18.23
330	189.754	3.703	18.28	19.44	18.70
340	189.754	3.703	16.21	17.31	19.16
350	189.754	3.703	14.27	15.33	19.62
360	189.754	3.703	12.45	13.47	20.07
370	189.754	3.703	10.75	11.73	20.52
380	189.754	3.703	9.16	10.09	20.95
390	189.754	3.703	7.66	8.56	21.39
400	189.754	3.703	6.24	7.11	21.82
420	189.754	3.703	3.65	4.46	22.66
440	189.754	3.703	1.32	2.08	23.48
460	189.754	3.703	−0.77	−0.06	24.28
480	189.754	3.703	−2.67	−2.00	25.07
500	189.754	3.703	−4.39	−3.76	25.84
520	189.754	3.703	−5.96	−5.37	26.60
540	189.754	3.703	−7.40	−6.84	27.34
560	189.754	3.703	−8.72	−8.19	28.06
580	189.754	3.703	−9.94	−9.43	28.78
600	189.754	3.703	−11.07	−10.58	29.48
650	189.754	3.703	−13.54	−13.10	31.19
700	189.754	3.703	−15.61	−15.22	32.83
750	189.754	3.703	−17.37	−17.01	34.41
800	189.754	3.703	−18.87	−18.55	35.94
850	189.754	3.703	−20.18	−19.88	37.42
900	189.754	3.703	−21.31	−21.04	38.86
950	189.754	3.703	−22.31	−22.06	40.26
1000	189.754	3.703	−23.20	−22.96	41.62

TABLE 54. Fit parameters according to Eqs. (14) and (15) for an equimolar CH_4–Ar mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	3.703	—	—	—
ε_{12}/k_B/K	189.754	—	—	—
B_{12}/cm^3 mol^{-1}	$3.8874(57)\times10^1$	$-1.3910(76)\times10^4$	$-1.726(30)\times10^6$	$3.13(35)\times10^7$
B_{mix}/cm^3 mol^{-1}	$3.8962(57)\times10^1$	$-1.4207(75)\times10^4$	$-1.744(30)\times10^6$	$2.49(35)\times10^7$
η_{mix}/μPa s	$-6.7(4.1)\times10^{-2}$	$6.856(24)\times10^{-2}$	$-4.006(44)\times10^{-5}$	$1.323(24)\times10^{-8}$

TABLE 55. Potential parameters and thermophysical properties of equimolar CH_4–Kr mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	223.423	3.842	109.24	109.78	13.88
210	223.423	3.842	99.24	99.75	14.53
220	223.423	3.842	90.41	90.90	15.19
230	223.423	3.842	82.58	83.04	15.83
240	223.423	3.842	75.57	76.01	16.46
250	223.423	3.842	69.27	69.70	17.08
260	223.423	3.842	63.58	63.99	17.69
270	223.423	3.842	58.41	58.80	18.30
280	223.423	3.842	53.70	54.08	18.91
290	223.423	3.842	49.38	49.75	19.51
300	223.423	3.842	45.42	45.77	20.11
310	223.423	3.842	41.76	42.11	20.71
320	223.423	3.842	38.38	38.72	21.29
330	223.423	3.842	35.25	35.57	21.86
340	223.423	3.842	32.34	32.65	22.43
350	223.423	3.842	29.62	29.93	22.98
360	223.423	3.842	27.09	27.39	23.54
370	223.423	3.842	24.71	25.00	24.08
380	223.423	3.842	22.48	22.77	24.62
390	223.423	3.842	20.39	20.67	25.16
400	223.423	3.842	18.42	18.70	25.69
420	223.423	3.842	14.81	15.07	26.73
440	223.423	3.842	11.58	11.83	27.75
460	223.423	3.842	8.67	8.92	28.76
480	223.423	3.842	6.05	6.29	29.74
500	223.423	3.842	3.66	3.89	30.70
520	223.423	3.842	1.49	1.71	31.65
540	223.423	3.842	−0.50	−0.29	32.57
560	223.423	3.842	−2.33	−2.12	33.48
580	223.423	3.842	−4.02	−3.81	34.36
600	223.423	3.842	−5.57	−5.37	35.24
650	223.423	3.842	−8.99	−8.79	37.36
700	223.423	3.842	−11.85	−11.66	39.41
750	223.423	3.842	−14.28	−14.10	41.39
800	223.423	3.842	−16.37	−16.19	43.31
850	223.423	3.842	−18.17	−18.01	45.16
900	223.423	3.842	−19.75	−19.59	46.96
950	223.423	3.842	−21.14	−20.98	48.71
1000	223.423	3.842	−22.37	−22.22	50.42

TABLE 56. Fit parameters according to Eqs. (14) and (15) for an equimolar CH_4–Kr mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	3.842	—	—	—
ε_{12}/k_B/K	223.423	—	—	—
B_{12}/cm^3 mol^{-1}	$4.4180(67)\times10^1$	$-1.9573(89)\times10^4$	$-2.141(35)\times10^6$	$-1.53(42)\times10^7$
B_{mix}/cm^3 mol^{-1}	$4.4090(66)\times10^1$	$-1.9629(88)\times10^4$	$-2.149(35)\times10^6$	$-1.51(41)\times10^7$
η_{mix}/μPa s	$-7.53(27)\times10^{-1}$	$8.154(16)\times10^{-2}$	$-4.421(29)\times10^{-5}$	$1.388(16)\times10^{-8}$

TABLE 57. Potential parameters and thermophysical properties of equimolar CH_4–Xe mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	172.559	4.033	169.32	179.30	13.68
210	172.559	4.033	154.28	163.39	14.32
220	172.559	4.033	141.10	149.46	14.97
230	172.559	4.033	129.45	137.17	15.60
240	172.559	4.033	119.08	126.25	16.24
250	172.559	4.033	109.80	116.48	16.87
260	172.559	4.033	101.45	107.70	17.50
270	172.559	4.033	93.89	99.76	18.12
280	172.559	4.033	87.01	92.55	18.75
290	172.559	4.033	80.74	85.98	19.38
300	172.559	4.033	74.99	79.95	20.00
310	172.559	4.033	69.70	74.42	20.61
320	172.559	4.033	64.82	69.32	21.21
330	172.559	4.033	60.31	64.60	21.80
340	172.559	4.033	56.12	60.22	22.39
350	172.559	4.033	52.22	56.15	22.97
360	172.559	4.033	48.59	52.35	23.55
370	172.559	4.033	45.19	48.81	24.13
380	172.559	4.033	42.01	45.49	24.71
390	172.559	4.033	39.02	42.37	25.28
400	172.559	4.033	36.21	39.45	25.84
420	172.559	4.033	31.07	34.09	26.96
440	172.559	4.033	26.48	29.31	28.05
460	172.559	4.033	22.36	25.02	29.12
480	172.559	4.033	18.63	21.15	30.16
500	172.559	4.033	15.26	17.64	31.19
520	172.559	4.033	12.18	14.44	32.20
540	172.559	4.033	9.37	11.52	33.20
560	172.559	4.033	6.79	8.84	34.18
580	172.559	4.033	4.42	6.37	35.14
600	172.559	4.033	2.23	4.09	36.09
650	172.559	4.033	−2.58	−0.90	38.41
700	172.559	4.033	−6.61	−5.08	40.63
750	172.559	4.033	−10.03	−8.63	42.78
800	172.559	4.033	−12.97	−11.67	44.84
850	172.559	4.033	−15.51	−14.31	46.85
900	172.559	4.033	−17.74	−16.62	48.80
950	172.559	4.033	−19.70	−18.65	50.70
1000	172.559	4.033	−21.43	−20.45	52.55

TABLE 58. Fit parameters according to Eqs. (14) and (15) for an equimolar CH_4–Xe mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.033	—	—	—
ε_{12}/k_B/K	172.559	—	—	—
B_{12}/cm^3 mol^{-1}	$5.2211(87)\times10^1$	$-2.786(12)\times10^4$	$-2.706(46)\times10^6$	$-1.154(54)\times10^8$
B_{mix}/cm^3 mol^{-1}	$5.2372(93)\times10^1$	$-2.893(12)\times10^4$	$-2.743(49)\times10^6$	$-1.462(58)\times10^8$
η_{mix}/μPa s	$-9.92(23)\times10^{-1}$	$7.986(13)\times10^{-2}$	$-3.572(24)\times10^{-5}$	$9.39(13)\times10^{-9}$

TABLE 59. Potential parameters and thermophysical properties of equimolar CF_4-SiF_4 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	252.699	4.812	212.63	237.82	11.61
210	252.211	4.814	191.29	215.02	12.13
220	251.708	4.815	172.52	194.99	12.63
230	251.190	4.817	155.89	177.25	13.13
240	250.656	4.819	141.05	161.42	13.64
250	250.108	4.821	127.72	147.21	14.15
260	249.545	4.823	115.69	134.39	14.66
270	248.969	4.825	104.77	122.76	15.16
280	248.385	4.827	94.81	112.16	15.65
290	247.793	4.829	85.70	102.46	16.13
300	247.195	4.831	77.33	93.55	16.59
310	246.590	4.833	69.61	85.34	17.06
320	245.979	4.835	62.47	77.75	17.52
330	245.363	4.837	55.84	70.71	17.98
340	244.742	4.839	49.68	64.16	18.43
350	244.117	4.841	43.93	58.06	18.88
360	243.489	4.843	38.55	52.35	19.33
370	242.859	4.845	33.51	47.01	19.77
380	242.227	4.848	28.78	41.99	20.20
390	241.593	4.850	24.33	37.27	20.64
400	240.958	4.852	20.13	32.82	21.06
420	239.686	4.857	12.41	24.65	21.90
440	238.413	4.861	5.49	17.33	22.71
460	237.142	4.865	−0.77	10.72	23.49
480	235.875	4.870	−6.44	4.73	24.25
500	234.613	4.874	−11.62	−0.73	25.00
520	233.358	4.879	−16.36	−5.72	25.73
540	232.112	4.883	−20.72	−10.30	26.46
560	230.874	4.888	−24.74	−14.53	27.17
580	229.647	4.892	−28.46	−18.44	27.86
600	228.431	4.897	−31.92	−22.07	28.54
650	225.446	4.908	−39.58	−30.08	30.16
700	222.550	4.919	−46.09	−36.87	31.71
750	219.755	4.930	−51.68	−42.69	33.19
800	217.077	4.940	−56.55	−47.73	34.59
850	214.529	4.950	−60.81	−52.13	35.93
900	212.128	4.959	−64.57	−56.00	37.22

TABLE 60. Fit parameters according to Eqs. (14) and (15) for an equimolar CF_4-SiF_4 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.781 24(67)	$1.173(43)\times10^{-4}$	$1.975(83)\times10^{-7}$	$-1.199(50)\times10^{-10}$
ε_{12}/k_B/K	$2.6273(14)\times10^{2}$	$-4.102(90)\times10^{-2}$	$-4.69(17)\times10^{-5}$	$3.35(11)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.266\,40(36)\times10^{2}$	$-5.4744(46)\times10^{4}$	$-5.55(17)\times10^{5}$	$-4.137(20)\times10^{8}$
B_{mix}/cm^3 mol^{-1}	$1.194\,97(27)\times10^{2}$	$-5.5093(35)\times10^{4}$	$-1.393(13)\times10^{6}$	$-3.759(15)\times10^{8}$
η_{mix}/μPa s	$-3.78(24)\times10^{-1}$	$6.694(15)\times10^{-2}$	$-3.782(29)\times10^{-5}$	$1.096(17)\times10^{-8}$

TABLE 61. Potential parameters and thermophysical properties of equimolar CF_4-CCl_4 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	479.600	4.956	843.22	1489.28	9.20
210	479.673	4.956	757.91	1312.44	9.58
220	479.724	4.955	685.93	1168.41	9.96
230	479.759	4.955	624.46	1049.22	10.35
240	479.781	4.955	571.41	949.22	10.73
250	479.796	4.955	525.22	864.29	11.11
260	479.798	4.955	484.65	791.39	11.48
270	479.789	4.955	448.76	728.19	11.86
280	479.769	4.955	416.80	672.94	12.23
290	479.740	4.955	388.17	624.27	12.61
300	479.702	4.955	362.37	581.08	12.98
310	479.654	4.955	339.02	542.54	13.36
320	479.597	4.954	317.78	507.94	13.73
330	479.532	4.954	298.38	476.72	14.11
340	479.458	4.954	280.61	448.41	14.48
350	479.377	4.954	264.25	422.64	14.85
360	479.289	4.954	249.16	399.07	15.22
370	479.193	4.954	235.20	377.46	15.59
380	479.091	4.955	222.23	357.55	15.97
390	478.983	4.955	210.16	339.17	16.33
400	478.869	4.955	198.91	322.14	16.70
420	478.625	4.955	178.52	291.60	17.44
440	478.360	4.955	160.55	265.00	18.16
460	478.078	4.955	144.60	241.63	18.88
480	477.779	4.955	130.34	220.94	19.59
500	477.466	4.956	117.52	202.49	20.30
520	477.140	4.956	105.94	185.94	21.01
540	476.802	4.956	95.42	171.01	21.71
560	476.454	4.956	85.82	157.49	22.40
580	476.096	4.957	77.04	145.17	23.08
600	475.731	4.957	68.96	133.91	23.76
650	474.785	4.958	51.38	109.57	25.41
700	473.803	4.959	36.77	89.54	27.03
750	472.795	4.960	24.43	72.75	28.62
800	471.768	4.961	13.89	58.49	30.16
850	470.734	4.963	4.77	46.22	31.65
900	469.702	4.964	−3.19	35.56	33.10

TABLE 62. Fit parameters according to Eqs. (14) and (15) for an equimolar CF_4-CCl_4 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.962 13(78)	$-4.81(49)\times10^{-5}$	$8.78(96)\times10^{-8}$	$-3.59(58)\times10^{-11}$
ε_{12}/k_B/K	$4.770\,32(92)\times10^{2}$	$2.447(58)\times10^{-2}$	$-6.07(11)\times10^{-5}$	$2.726(68)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.3528(87)\times10^{2}$	$-1.161(11)\times10^{5}$	$1.90(42)\times10^{6}$	$-3.553(48)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$1.750(38)\times10^{2}$	$-2.111(48)\times10^{5}$	$3.43(18)\times10^{7}$	$-1.168(21)\times10^{10}$
η_{mix}/μPa s	1.339(23)	$3.979(14)\times10^{-2}$	$-2.20(28)\times10^{-6}$	$-3.14(17)\times10^{-9}$

TABLE 63. Potential parameters and thermophysical properties of equimolar CF_4-SiCl_4 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	487.174	5.055	896.62	1573.79	9.12
210	485.648	5.058	800.89	1366.79	9.50
220	484.104	5.061	720.55	1201.01	9.88
230	482.546	5.064	652.25	1065.78	10.25
240	480.976	5.067	593.56	953.72	10.62
250	479.400	5.070	542.61	859.57	10.99
260	477.815	5.073	498.01	779.50	11.36
270	476.225	5.076	458.66	710.67	11.73
280	474.633	5.079	423.70	650.94	12.10
290	473.041	5.082	392.44	598.67	12.47
300	471.451	5.085	364.33	552.57	12.84
310	469.862	5.089	338.92	511.63	13.20
320	468.276	5.092	315.85	475.05	13.57
330	466.693	5.095	294.80	442.17	13.94
340	465.115	5.098	275.53	412.47	14.30
350	463.542	5.101	257.82	385.52	14.66
360	461.976	5.104	241.49	360.95	15.03
370	460.417	5.107	226.38	338.46	15.39
380	458.865	5.110	212.36	317.81	15.75
390	457.322	5.113	199.32	298.77	16.11
400	455.787	5.117	187.15	281.17	16.47
420	452.744	5.123	165.13	249.67	17.18
440	449.739	5.129	145.72	222.31	17.89
460	446.774	5.135	128.48	198.31	18.58
480	443.850	5.141	113.07	177.09	19.28
500	440.969	5.147	99.20	158.20	19.96
520	438.132	5.153	86.65	141.26	20.64
540	435.338	5.159	75.25	125.99	21.31
560	432.588	5.164	64.84	112.15	21.97
580	429.883	5.170	55.29	99.55	22.62
600	427.224	5.176	46.50	88.03	23.26
650	420.777	5.190	27.32	63.12	24.83
700	414.633	5.203	11.31	42.59	26.35
750	408.809	5.216	−2.23	25.40	27.80
800	403.330	5.228	−13.84	10.80	29.19
850	398.210	5.240	−23.89	−1.72	30.54
900	393.472	5.251	−32.64	−12.56	31.83

TABLE 64. Fit parameters according to Eqs. (14) and (15) for an equimolar CF_4-SiCl_4 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.993 78(74)	$2.942(47)\times10^{-4}$	$6.47(91)\times10^{-8}$	$-8.21(55)\times10^{-11}$
ε_{12}/k_B/K	$5.2062(61)\times10^{2}$	$-1.671(10)\times10^{-1}$	$-0.2(2.0)\times10^{-6}$	$3.23(12)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.844(10)\times10^{2}$	$-1.386(13)\times10^{5}$	$7.59(49)\times10^{6}$	$-4.606(57)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.575(58)\times10^{2}$	$-2.631(73)\times10^{5}$	$5.90(28)\times10^{7}$	$-1.584(32)\times10^{10}$
η_{mix}/μPa s	1.378(27)	$3.913(17)\times10^{-2}$	$-1.53(34)\times10^{-6}$	$-4.88(20)\times10^{-9}$

TABLE 65. Potential parameters and thermophysical properties of equimolar CF_4-SF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	367.350	4.692	379.91	408.38	11.53
210	366.824	4.693	342.78	368.17	12.01
220	366.274	4.694	310.75	333.60	12.50
230	365.697	4.695	282.84	303.55	12.98
240	365.088	4.697	258.31	277.21	13.47
250	364.447	4.698	236.58	253.91	13.95
260	363.773	4.700	217.19	233.17	14.43
270	363.070	4.701	199.79	214.58	14.90
280	362.344	4.703	184.08	197.84	15.38
290	361.600	4.704	169.85	182.68	15.85
300	360.838	4.706	156.88	168.89	16.32
310	360.059	4.708	145.01	156.29	16.79
320	359.263	4.710	134.12	144.73	17.26
330	358.454	4.712	124.08	134.09	17.72
340	357.631	4.713	114.80	124.26	18.18
350	356.796	4.715	106.19	115.15	18.63
360	355.950	4.717	98.19	106.69	19.08
370	355.096	4.719	90.72	98.81	19.53
380	354.234	4.721	83.75	91.45	19.98
390	353.365	4.723	77.21	84.56	20.42
400	352.490	4.725	71.08	78.10	20.86
420	350.726	4.729	59.87	66.30	21.73
440	348.948	4.733	49.89	55.80	22.58
460	347.162	4.737	40.93	46.39	23.42
480	345.374	4.742	32.85	37.91	24.23
500	343.589	4.746	25.52	30.23	25.04
520	341.811	4.750	18.84	23.24	25.83
540	340.045	4.754	12.73	16.85	26.60
560	338.297	4.758	7.12	10.98	27.37
580	336.570	4.763	1.95	5.58	28.11
600	334.870	4.767	−2.83	0.59	28.84
650	330.764	4.777	−13.32	−10.36	30.61
700	326.907	4.786	−22.13	−19.52	32.29
750	323.336	4.795	−29.61	−27.28	33.91
800	320.064	4.803	−36.02	−33.93	35.45
850	317.088	4.811	−41.57	−39.67	36.93
900	314.394	4.818	−46.41	−44.66	38.36
950	311.960	4.824	−50.66	−49.04	39.74
1000	309.769	4.829	−54.41	−52.90	41.08

TABLE 66. Fit parameters according to Eqs. (14) and (15) for an equimolar CF_4-SF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.6718(10)	$3.84(60)\times10^{-5}$	$3.19(11)\times10^{-7}$	$-2.009(59)\times10^{-10}$
ε_{12}/k_B/K	$3.784\,0(41)\times10^{2}$	$-3.30(24)\times10^{-2}$	$-1.105(44)\times10^{-4}$	$7.54(24)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.2573(31)\times10^{2}$	$-6.810(41)\times10^{4}$	$-1.85(16)\times10^{6}$	$-9.47(19)\times10^{8}$
B_{mix}/cm^3 mol^{-1}	$1.2650(37)\times10^{2}$	$-7.001(50)\times10^{4}$	$-2.02(20)\times10^{6}$	$-1.070(23)\times10^{9}$
η_{mix}/μPa s	$3.17(47)\times10^{-1}$	$6.021(28)\times10^{-2}$	$-2.372(50)\times10^{-5}$	$4.23(27)\times10^{-9}$

TABLE 67. Potential parameters and thermophysical properties of equimolar CF_4-MoF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	491.881	4.711	734.93	1174.04	11.30
210	489.558	4.714	654.33	1013.85	11.77
220	487.223	4.718	586.90	886.43	12.23
230	484.882	4.723	529.75	783.07	12.69
240	482.536	4.727	480.75	697.82	13.15
250	480.192	4.731	438.31	626.47	13.61
260	477.845	4.735	401.23	565.98	14.07
270	475.502	4.739	368.56	514.12	14.52
280	473.166	4.743	339.58	469.22	14.98
290	470.839	4.747	313.71	429.99	15.44
300	468.523	4.751	290.47	395.45	15.89
310	466.218	4.755	269.48	364.81	16.34
320	463.924	4.760	250.44	337.46	16.80
330	461.644	4.764	233.09	312.89	17.25
340	459.378	4.768	217.21	290.72	17.70
350	457.126	4.772	202.63	270.60	18.15
360	454.891	4.776	189.18	252.26	18.60
370	452.672	4.780	176.75	235.49	19.05
380	450.470	4.784	165.23	220.08	19.49
390	448.285	4.789	154.51	205.88	19.94
400	446.118	4.793	144.51	192.75	20.38
420	441.840	4.801	126.41	169.25	21.26
440	437.637	4.809	110.47	148.82	22.13
460	433.512	4.817	96.31	130.89	23.00
480	429.468	4.825	83.65	115.03	23.85
500	425.508	4.833	72.26	100.90	24.70
520	421.636	4.841	61.96	88.23	25.54
540	417.859	4.848	52.60	76.80	26.35
560	414.181	4.856	44.06	66.45	27.16
580	410.609	4.863	36.23	57.03	27.96
600	407.150	4.871	29.04	48.42	28.74
650	399.034	4.888	13.40	29.88	30.65
700	391.727	4.904	0.46	14.73	32.47
750	385.244	4.918	−10.39	2.16	34.22
800	379.545	4.931	−19.58	−8.39	35.89
850	374.554	4.942	−27.44	−17.34	37.50
900	370.199	4.952	−34.22	−25.01	39.05

TABLE 68. Fit parameters according to Eqs. (14) and (15) for an equimolar CF_4-MoF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.635 86(82)	$3.322(52)\times10^{-4}$	$2.54(10)\times10^{-7}$	$-2.600(61)\times10^{-10}$
ε_{12}/k_B/K	$5.4191(28)\times10^{2}$	$-2.520(18)\times10^{-1}$	$1.0(3.4)\times10^{-6}$	$7.50(21)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.567(13)\times10^{2}$	$-1.111(17)\times10^{5}$	$6.05(63)\times10^{6}$	$-3.882(73)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.129(54)\times10^{2}$	$-2.040(69)\times10^{5}$	$4.84(26)\times10^{7}$	$-1.253(30)\times10^{10}$
η_{mix}/μPa s	1.651(53)	$4.874(34)\times10^{-2}$	$-2.00(65)\times10^{-6}$	$-6.72(39)\times10^{-9}$

TABLE 69. Potential parameters and thermophysical properties of equimolar CF_4-WF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	454.176	4.756	666.12	1009.35	12.48
210	451.174	4.762	593.79	880.58	13.00
220	448.167	4.768	532.96	776.38	13.53
230	445.149	4.773	481.14	690.53	14.05
240	442.114	4.779	436.47	618.70	14.57
250	439.067	4.785	397.61	557.80	15.10
260	436.011	4.791	363.51	505.59	15.63
270	432.956	4.797	333.35	460.38	16.16
280	429.912	4.803	306.52	420.89	16.70
290	426.883	4.810	282.48	386.12	17.24
300	423.871	4.816	260.83	355.29	17.78
310	420.878	4.822	241.23	327.76	18.33
320	417.904	4.828	223.40	303.04	18.87
330	414.952	4.834	207.11	280.71	19.41
340	412.023	4.840	192.17	260.46	19.95
350	409.120	4.847	178.42	242.00	20.50
360	406.243	4.853	165.72	225.11	21.04
370	403.395	4.859	153.95	209.59	21.58
380	400.575	4.865	143.02	195.29	22.11
390	397.784	4.871	132.83	182.06	22.65
400	395.023	4.877	123.32	169.79	23.18
420	389.592	4.889	106.06	147.72	24.22
440	384.286	4.902	90.80	128.45	25.28
460	379.105	4.914	77.20	111.45	26.33
480	374.054	4.926	65.02	96.35	27.34
500	369.133	4.937	54.02	82.84	28.32
520	364.348	4.949	44.05	70.68	29.28
540	359.701	4.960	34.97	59.69	30.24
560	355.200	4.972	26.66	49.70	31.19
580	350.850	4.983	19.04	40.58	32.11
600	346.658	4.994	12.02	32.24	32.99
650	336.905	5.020	−3.29	14.22	35.11
700	328.236	5.043	−15.98	−0.53	37.12
750	320.648	5.064	−26.61	−12.75	39.03
800	314.078	5.083	−35.59	−22.97	40.84
850	308.414	5.100	−43.24	−31.61	42.56
900	303.553	5.114	−49.81	−38.96	44.21

TABLE 70. Fit parameters according to Eqs. (14) and (15) for an equimolar CF_4-WF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.6471(10)	$4.741(66)\times10^{-4}$	$4.18(13)\times10^{-7}$	$-4.106(78)\times10^{-10}$
ε_{12}/k_B/K	$5.2263(45)\times10^{2}$	$-3.536(29)\times10^{-1}$	$5.67(56)\times10^{-5}$	$7.38(33)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.694(12)\times10^{2}$	$-1.072(15)\times10^{5}$	$4.19(57)\times10^{6}$	$-3.219(66)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.005(37)\times10^{2}$	$-1.632(46)\times10^{5}$	$2.81(18)\times10^{7}$	$-8.71(20)\times10^{9}$
η_{mix}/μPa s	$7.7(1.6)\times10^{-1}$	$5.84(10)\times10^{-2}$	$-1.1(2.0)\times10^{-6}$	$-1.15(12)\times10^{-8}$

TABLE 71. Potential parameters and thermophysical properties of equimolar CF_4-UF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	537.281	4.731	913.17	1900.62	12.82
210	533.766	4.737	806.12	1579.97	13.35
220	530.262	4.742	717.80	1337.84	13.87
230	526.777	4.748	643.86	1150.31	14.39
240	523.320	4.754	581.18	1001.83	14.91
250	519.898	4.759	527.44	882.00	15.42
260	516.506	4.765	480.92	783.63	15.93
270	513.146	4.770	440.27	701.69	16.45
280	509.821	4.776	404.48	632.52	16.96
290	506.531	4.781	372.74	573.46	17.47
300	503.278	4.787	344.40	522.51	17.97
310	500.060	4.792	318.96	478.14	18.48
320	496.879	4.798	295.99	439.19	18.99
330	493.734	4.803	275.16	404.73	19.49
340	490.627	4.809	256.18	374.05	20.00
350	487.556	4.814	238.82	346.56	20.50
360	484.523	4.820	222.87	321.80	21.01
370	481.526	4.825	208.18	299.38	21.51
380	478.566	4.830	194.60	278.98	22.02
390	475.643	4.836	182.00	260.34	22.52
400	472.757	4.841	170.29	243.25	23.03
420	467.092	4.851	149.17	212.98	24.03
440	461.571	4.862	130.64	187.01	25.02
460	456.195	4.872	114.26	164.48	26.00
480	450.963	4.882	99.66	144.73	26.98
500	445.879	4.892	86.57	127.30	27.96
520	440.948	4.901	74.76	111.78	28.92
540	436.175	4.911	64.07	97.89	29.87
560	431.568	4.920	54.34	85.39	30.80
580	427.134	4.929	45.45	74.08	31.72
600	422.879	4.938	37.31	63.82	32.62
650	413.061	4.959	19.67	41.91	34.84
700	404.428	4.978	5.18	24.22	36.96
750	396.931	4.994	−6.89	9.70	38.98
800	390.463	5.009	−17.06	−2.37	40.93
850	384.883	5.021	−25.73	−12.55	42.81
900	380.072	5.032	−33.17	−21.23	44.61

TABLE 72. Fit parameters according to Eqs. (14) and (15) for an equimolar CF_4-UF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.620 57(94)	$5.325(60)\times10^{-4}$	$1.52(12)\times10^{-7}$	$-2.631(70)\times10^{-10}$
ε_{12}/k_B/K	$6.1557(40)\times10^{2}$	$-4.216(25)\times10^{-1}$	$1.470(49)\times10^{-4}$	$3.48(30)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.770(23)\times10^{2}$	$-1.362(29)\times10^{5}$	$1.44(11)\times10^{7}$	$-6.11(13)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$3.71(18)\times10^{2}$	$-4.45(22)\times10^{5}$	$1.621(85)\times10^{8}$	$-3.250(98)\times10^{10}$
η_{mix}/μPa s	2.397(56)	$5.168(36)\times10^{-2}$	$4.07(69)\times10^{-6}$	$-1.051(42)\times10^{-8}$

TABLE 73. Potential parameters and thermophysical properties of equimolar $CF_4-C(CH_3)_4$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	432.291	5.068	690.80	954.89	7.94
210	431.390	5.070	621.02	850.03	8.27
220	430.469	5.072	561.68	762.66	8.60
230	429.530	5.074	510.64	688.83	8.93
240	428.575	5.076	466.30	625.71	9.26
250	427.608	5.078	427.45	571.16	9.59
260	426.620	5.080	393.12	523.57	9.92
270	425.615	5.082	362.59	481.72	10.24
280	424.592	5.084	335.26	444.63	10.57
290	423.551	5.087	310.65	411.54	10.89
300	422.492	5.089	288.37	381.84	11.22
310	421.413	5.091	268.11	355.03	11.54
320	420.315	5.093	249.61	330.71	11.86
330	419.201	5.096	232.64	308.56	12.18
340	418.072	5.098	217.02	288.29	12.50
350	416.929	5.101	202.60	269.68	12.81
360	415.775	5.103	189.24	252.53	13.13
370	414.610	5.106	176.83	236.67	13.44
380	413.436	5.108	165.28	221.97	13.76
390	412.255	5.111	154.49	208.31	14.07
400	411.067	5.114	144.40	195.57	14.37
420	408.678	5.119	126.03	172.52	14.98
440	406.274	5.124	109.75	152.22	15.59
460	403.857	5.130	95.20	134.21	16.18
480	401.431	5.135	82.14	118.10	16.77
500	398.999	5.141	70.32	103.61	17.35
520	396.562	5.146	59.58	90.50	17.91
540	394.125	5.152	49.78	78.57	18.47
560	391.691	5.158	40.79	67.68	19.02
580	389.262	5.163	32.52	57.69	19.56
600	386.843	5.169	24.87	48.48	20.10
650	380.847	5.183	8.07	28.36	21.38
700	374.947	5.198	−6.08	11.53	22.61
750	369.169	5.212	−18.18	−2.79	23.79
800	363.537	5.226	−28.65	−15.12	24.91
850	358.072	5.240	−37.82	−25.87	25.99
900	352.772	5.254	−45.93	−35.34	27.01

TABLE 74. Fit parameters according to Eqs. (14) and (15) for an equimolar $CF_4-C(CH_3)_4$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.037 88(80)	$9.73(51)\times10^{-5}$	$2.876(99)\times10^{-7}$	$-1.435(59)\times10^{-10}$
ε_{12}/k_B/K	$4.4812(24)\times10^{2}$	$-5.75(15)\times10^{-2}$	$-1.153(30)\times10^{-4}$	$6.87(18)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.8099(34)\times10^{2}$	$-1.2270(43)\times10^{5}$	$4.36(16)\times10^{6}$	$-2.933(19)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.023(13)\times10^{2}$	$-1.580(16)\times10^{5}$	$1.382(60)\times10^{7}$	$-5.680(70)\times10^{9}$
η_{mix}/μPa s	$7.82(28)\times10^{-1}$	$3.710(18)\times10^{-2}$	$-6.91(34)\times10^{-6}$	$-2.18(21)\times10^{-9}$

TABLE 75. Potential parameters and thermophysical properties of equimolar $CF_4-Si(CH_3)_4$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	445.131	5.172	806.36	1262.36	7.74
210	443.091	5.177	721.68	1110.45	8.07
220	441.042	5.181	650.12	986.13	8.39
230	438.986	5.186	588.90	882.75	8.71
240	436.928	5.190	535.98	795.60	9.04
250	434.872	5.195	489.81	721.24	9.36
260	432.811	5.199	449.19	657.10	9.68
270	430.750	5.204	413.18	601.25	10.00
280	428.690	5.209	381.06	552.22	10.33
290	426.632	5.213	352.22	508.83	10.65
300	424.576	5.218	326.18	470.19	10.97
310	422.522	5.223	302.57	435.56	11.29
320	420.471	5.228	281.05	404.34	11.61
330	418.423	5.232	261.35	376.07	11.93
340	416.381	5.237	243.26	350.34	12.25
350	414.343	5.242	226.59	326.83	12.57
360	412.312	5.247	211.17	305.27	12.89
370	410.287	5.252	196.86	285.40	13.20
380	408.270	5.256	183.55	267.05	13.52
390	406.261	5.261	171.14	250.05	13.83
400	404.261	5.266	159.53	234.25	14.14
420	400.288	5.276	138.43	205.78	14.75
440	396.355	5.285	119.75	180.82	15.36
460	392.466	5.295	103.08	158.76	15.96
480	388.621	5.305	88.11	139.10	16.55
500	384.824	5.314	74.59	121.48	17.13
520	381.077	5.324	62.30	105.58	17.70
540	377.380	5.334	51.08	91.16	18.26
560	373.736	5.343	40.79	78.01	18.80
580	370.144	5.353	31.32	65.97	19.35
600	366.606	5.362	22.56	54.90	19.88
650	357.997	5.386	3.31	30.75	21.15
700	349.724	5.409	−12.94	10.58	22.35
750	341.785	5.433	−26.86	−6.54	23.49
800	334.196	5.455	−38.95	−21.28	24.57
850	326.956	5.478	−49.56	−34.12	25.59
900	320.013	5.499	−58.98	−45.44	26.56

TABLE 76. Fit parameters according to Eqs. (14) and (15) for an equimolar $CF_4-Si(CH_3)_4$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.084 42(77)	$4.106(49)\times10^{-4}$	$1.514(95)\times10^{-7}$	$-1.063(57)\times10^{-10}$
ε_{12}/k_B/K	$4.8864(20)\times10^{2}$	$-2.191(13)\times10^{-1}$	$8.1(2.5)\times10^{-6}$	$3.04(15)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$2.1920(53)\times10^{2}$	$-1.4981(67)\times10^{5}$	$9.70(25)\times10^{6}$	$-4.145(29)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.636(27)\times10^{2}$	$-2.202(35)\times10^{5}$	$3.39(13)\times10^{7}$	$-1.014(15)\times10^{10}$
η_{mix}/μPa s	$7.36(50)\times10^{-1}$	$3.565(32)\times10^{-2}$	$-3.34(61)\times10^{-6}$	$-4.93(37)\times10^{-9}$

TABLE 77. Potential parameters and thermophysical properties of equimolar CF_4–Ar mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	227.841	3.961	91.58	113.09	13.90
210	227.751	3.962	81.99	101.59	14.51
220	227.649	3.962	73.53	91.48	15.10
230	227.539	3.962	65.99	82.55	15.69
240	227.421	3.963	59.25	74.59	16.28
250	227.298	3.963	53.18	67.45	16.85
260	227.167	3.963	47.69	61.01	17.43
270	227.030	3.964	42.70	55.18	17.99
280	226.887	3.964	38.14	49.87	18.55
290	226.739	3.965	33.96	45.02	19.11
300	226.587	3.965	30.11	40.57	19.65
310	226.430	3.966	26.56	36.46	20.19
320	226.269	3.966	23.28	32.67	20.72
330	226.103	3.967	20.22	29.16	21.25
340	225.934	3.967	17.38	25.90	21.77
350	225.761	3.968	14.73	22.85	22.29
360	225.585	3.968	12.25	20.01	22.81
370	225.406	3.969	9.92	17.35	23.31
380	225.224	3.970	7.74	14.86	23.81
390	225.040	3.970	5.68	12.51	24.30
400	224.853	3.971	3.74	10.30	24.79
420	224.473	3.972	0.18	6.25	25.74
440	224.086	3.973	−3.02	2.61	26.68
460	223.693	3.975	−5.90	−0.66	27.59
480	223.295	3.976	−8.52	−3.62	28.48
500	222.893	3.977	−10.90	−6.32	29.36
520	222.488	3.979	−13.08	−8.78	30.21
540	222.081	3.980	−15.08	−11.04	31.05
560	221.672	3.981	−16.93	−13.12	31.87
580	221.261	3.983	−18.63	−15.04	32.68
600	220.850	3.984	−20.21	−16.83	33.47
650	219.824	3.987	−23.71	−20.76	35.37
700	218.804	3.991	−26.66	−24.08	37.20
750	217.797	3.994	−29.19	−26.92	38.94
800	216.811	3.997	−31.38	−29.38	40.61
850	215.853	4.001	−33.30	−31.53	42.22
900	214.931	4.004	−34.98	−33.43	43.77
950	214.049	4.007	−36.48	−35.10	45.28
1000	213.215	4.010	−37.81	−36.59	46.73

TABLE 78. Fit parameters according to Eqs. (14) and (15) for an equimolar CF_4–Ar mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	3.955 93(61)	$8.4(3.6)\times10^{-6}$	$9.09(64)\times10^{-8}$	$-4.56(36)\times10^{-11}$
ε_{12}/k_B/K	$2.295\,13(57)\times10^{2}$	$-2.77(34)\times10^{-3}$	$-2.822(61)\times10^{-5}$	$1.474(33)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$6.2145(17)\times10^{1}$	$-2.3194(23)\times10^{4}$	$-1.0166(92)\times10^{6}$	$-9.85(11)\times10^{7}$
B_{mix}/cm^3 mol^{-1}	$6.3953(23)\times10^{1}$	$-2.6179(30)\times10^{4}$	$-9.70(12)\times10^{5}$	$-1.749(14)\times10^{8}$
η_{mix}/μPa s	$2.81(16)\times10^{-1}$	$7.6018(95)\times10^{-2}$	$-4.190(17)\times10^{-5}$	$1.2359(94)\times10^{-8}$

TABLE 79. Potential parameters and thermophysical properties of equimolar CF_4–Kr mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	268.269	4.101	144.31	156.95	14.67
210	268.162	4.101	130.24	141.84	15.33
220	268.043	4.101	117.90	128.61	15.98
230	267.913	4.102	106.99	116.92	16.62
240	267.774	4.102	97.27	106.53	17.25
250	267.630	4.102	88.56	97.24	17.88
260	267.475	4.103	80.72	88.87	18.50
270	267.314	4.103	73.61	81.30	19.11
280	267.146	4.104	67.14	74.42	19.73
290	266.972	4.104	61.23	68.14	20.34
300	266.792	4.105	55.81	62.38	20.95
310	266.608	4.105	50.82	57.08	21.55
320	266.418	4.106	46.21	52.19	22.14
330	266.223	4.106	41.94	47.67	22.72
340	266.023	4.107	37.97	43.47	23.30
350	265.820	4.107	34.28	39.55	23.86
360	265.612	4.108	30.83	35.90	24.43
370	265.402	4.108	27.60	32.49	24.99
380	265.187	4.109	24.57	29.29	25.54
390	264.970	4.110	21.73	26.28	26.09
400	264.750	4.110	19.05	23.45	26.63
420	264.303	4.111	14.14	18.26	27.70
440	263.848	4.113	9.74	13.62	28.75
460	263.385	4.114	5.79	9.45	29.77
480	262.917	4.115	2.21	5.67	30.77
500	262.443	4.117	−1.05	2.24	31.76
520	261.966	4.118	−4.02	−0.90	32.72
540	261.487	4.119	−6.75	−3.77	33.66
560	261.005	4.121	−9.26	−6.42	34.58
580	260.522	4.122	−11.58	−8.86	35.49
600	260.038	4.123	−13.72	−11.12	36.37
650	258.829	4.127	−18.45	−16.09	38.52
700	257.628	4.130	−22.44	−20.29	40.58
750	256.443	4.133	−25.85	−23.89	42.55
800	255.282	4.137	−28.80	−26.99	44.45
850	254.154	4.140	−31.37	−29.70	46.27
900	253.068	4.143	−33.63	−32.08	48.03
950	252.030	4.146	−35.63	−34.19	49.73
1000	251.048	4.149	−37.41	−36.06	51.39

TABLE 80. Fit parameters according to Eqs. (14) and (15) for an equimolar CF_4–Kr mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.095 50(59)	$7.8(3.5)\times10^{-6}$	$9.10(63)\times10^{-8}$	$-4.54(35)\times10^{-11}$
ε_{12}/k_B/K	$2.702\,37(67)\times10^{2}$	$-3.26(40)\times10^{-3}$	$-3.323(71)\times10^{-5}$	$1.735(39)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$6.9847(34)\times10^{1}$	$-3.0777(45)\times10^{4}$	$-1.411(18)\times10^{6}$	$-1.995(21)\times10^{8}$
B_{mix}/cm^3 mol^{-1}	$7.0271(35)\times10^{1}$	$-3.2550(47)\times10^{4}$	$-1.367(19)\times10^{6}$	$-2.418(22)\times10^{8}$
η_{mix}/μPa s	$-1.16(15)\times10^{-1}$	$8.1747(86)\times10^{-2}$	$-4.184(15)\times10^{-5}$	$1.1606(85)\times10^{-8}$

TABLE 81. Potential parameters and thermophysical properties of equimolar CF_4–Xe mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	312.989	4.291	226.20	237.38	14.26
210	312.864	4.291	204.78	215.22	14.89
220	312.725	4.291	186.13	195.93	15.52
230	312.574	4.292	169.74	178.99	16.15
240	312.412	4.292	155.23	163.99	16.77
250	312.243	4.292	142.31	150.63	17.39
260	312.063	4.293	130.72	138.65	18.01
270	311.874	4.293	120.27	127.85	18.63
280	311.678	4.294	110.80	118.07	19.24
290	311.475	4.294	102.17	109.16	19.85
300	311.266	4.295	94.29	101.02	20.46
310	311.050	4.295	87.06	93.55	21.06
320	310.829	4.296	80.41	86.67	21.65
330	310.601	4.296	74.25	80.32	22.24
340	310.368	4.297	68.55	74.43	22.82
350	310.131	4.297	63.26	68.96	23.40
360	309.889	4.298	58.32	63.87	23.98
370	309.643	4.298	53.72	59.11	24.55
380	309.393	4.299	49.40	54.66	25.11
390	309.140	4.300	45.36	50.48	25.68
400	308.884	4.300	41.56	46.56	26.23
420	308.362	4.301	34.61	39.38	27.33
440	307.830	4.303	28.40	32.98	28.41
460	307.291	4.304	22.83	27.23	29.46
480	306.744	4.305	17.80	22.03	30.50
500	306.192	4.307	13.24	17.32	31.51
520	305.635	4.308	9.08	13.03	32.51
540	305.076	4.309	5.27	9.10	33.49
560	304.514	4.311	1.77	5.49	34.45
580	303.950	4.312	−1.45	2.17	35.39
600	303.385	4.313	−4.43	−0.91	36.32
650	301.975	4.317	−10.99	−7.67	38.57
700	300.574	4.320	−16.50	−13.36	40.73
750	299.191	4.323	−21.21	−18.21	42.80
800	297.837	4.327	−25.26	−22.40	44.79
850	296.521	4.330	−28.80	−26.05	46.70
900	295.254	4.333	−31.90	−29.25	48.55
950	294.043	4.336	−34.64	−32.08	50.35
1000	292.897	4.339	−37.07	−34.59	52.09

TABLE 82. Fit parameters according to Eqs. (14) and (15) for an equimolar CF_4–Xe mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.285 50(59)	$7.8(3.5)\times10^{-6}$	$9.10(63)\times10^{-8}$	$-4.54(35)\times10^{-11}$
ε_{12}/k_B/K	$3.152\,86(79)\times10^{2}$	$-3.81(46)\times10^{-3}$	$-3.875(83)\times10^{-5}$	$2.024(46)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$8.1360(68)\times10^{1}$	$-4.1925(90)\times10^{4}$	$-1.868(35)\times10^{6}$	$-4.087(42)\times10^{8}$
B_{mix}/cm^3 mol^{-1}	$8.0297(68)\times10^{1}$	$-4.3284(91)\times10^{4}$	$-1.907(36)\times10^{6}$	$-4.273(42)\times10^{8}$
η_{mix}/μPa s	$-2.08(32)\times10^{-1}$	$7.849(19)\times10^{-2}$	$-3.411(34)\times10^{-5}$	$7.90(19)\times10^{-9}$

TABLE 83. Potential parameters and thermophysical properties of equimolar SiF_4-CCl_4 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	370.643	5.436	925.22	1551.22	8.56
210	370.277	5.437	841.65	1374.03	8.96
220	369.907	5.437	769.91	1228.97	9.35
230	369.531	5.438	707.69	1108.31	9.74
240	369.145	5.439	653.23	1006.58	10.13
250	368.749	5.440	605.19	919.77	10.53
260	368.343	5.441	562.51	844.89	10.93
270	367.932	5.442	524.36	779.71	11.33
280	367.515	5.443	490.07	722.49	11.71
290	367.095	5.444	459.08	671.88	12.10
300	366.672	5.445	430.95	626.82	12.48
310	366.245	5.446	405.30	586.46	12.86
320	365.816	5.447	381.82	550.11	13.24
330	365.384	5.448	360.25	517.21	13.62
340	364.950	5.449	340.37	487.30	14.01
350	364.515	5.450	321.99	459.98	14.40
360	364.078	5.451	304.94	434.94	14.79
370	363.641	5.452	289.09	411.91	15.18
380	363.203	5.453	274.32	390.66	15.56
390	362.764	5.454	260.52	370.98	15.93
400	362.326	5.455	247.60	352.72	16.30
420	361.448	5.458	224.09	319.88	17.03
440	360.572	5.460	203.25	291.16	17.76
460	359.699	5.462	184.64	265.85	18.48
480	358.828	5.464	167.94	243.37	19.20
500	357.962	5.466	152.86	223.28	19.92
520	357.101	5.468	139.19	205.22	20.62
540	356.246	5.470	126.73	188.89	21.31
560	355.396	5.472	115.33	174.07	21.99
580	354.554	5.475	104.87	160.54	22.66
600	353.718	5.477	95.23	148.16	23.32
650	351.664	5.482	74.17	121.34	24.94
700	349.665	5.487	56.60	99.20	26.54
750	347.731	5.492	41.74	80.63	28.10
800	345.872	5.497	29.01	64.83	29.61
850	344.097	5.502	18.00	51.24	31.05
900	342.420	5.506	8.40	39.44	32.45

TABLE 84. Fit parameters according to Eqs. (14) and (15) for an equimolar SiF_4-CCl_4 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.419 93(62)	$6.26(39)\times10^{-5}$	$8.70(77)\times10^{-8}$	$-5.61(46)\times10^{-11}$
ε_{12}/k_B/K	$3.781\,43(75)\times10^{2}$	$-3.280(48)\times10^{-2}$	$-2.424(92)\times10^{-5}$	$1.848(56)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.4495(58)\times10^{2}$	$-1.2844(73)\times10^{5}$	$-5.70(28)\times10^{6}$	$-2.276(32)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$1.868(37)\times10^{2}$	$-2.208(47)\times10^{5}$	$2.96(18)\times10^{7}$	$-1.093(20)\times10^{10}$
η_{mix}/μPa s	$4.4(3.5)\times10^{-2}$	$4.419(23)\times10^{-2}$	$-8.80(44)\times10^{-6}$	$-3.2(2.6)\times10^{-10}$

TABLE 85. Potential parameters and thermophysical properties of equimolar SiF_4-SiCl_4 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	376.496	5.535	904.73	1598.79	8.57
210	374.889	5.539	817.43	1394.79	8.96
220	373.284	5.543	742.78	1230.69	9.34
230	371.678	5.547	678.24	1096.26	9.72
240	370.065	5.551	621.92	984.36	10.11
250	368.444	5.555	572.35	889.92	10.49
260	366.821	5.559	528.41	809.27	10.88
270	365.198	5.563	489.20	739.66	11.27
280	363.580	5.568	454.02	679.02	11.65
290	361.969	5.572	422.27	625.75	12.02
300	360.365	5.576	393.49	578.60	12.40
310	358.768	5.580	367.28	536.59	12.77
320	357.180	5.584	343.31	498.93	13.14
330	355.601	5.588	321.30	464.98	13.52
340	354.032	5.593	301.04	434.23	13.90
350	352.474	5.597	282.31	406.24	14.27
360	350.927	5.601	264.95	380.66	14.64
370	349.392	5.605	248.83	357.19	15.01
380	347.869	5.609	233.80	335.59	15.38
390	346.359	5.613	219.76	315.63	15.74
400	344.861	5.617	206.63	297.14	16.10
420	341.903	5.625	182.72	263.96	16.82
440	338.998	5.633	161.53	235.02	17.53
460	336.146	5.641	142.62	209.57	18.23
480	333.347	5.649	125.63	187.01	18.92
500	330.600	5.657	110.29	166.87	19.59
520	327.907	5.665	96.36	148.77	20.26
540	325.265	5.673	83.67	132.42	20.92
560	322.676	5.680	72.05	117.59	21.57
580	320.138	5.688	61.38	104.05	22.21
600	317.652	5.695	51.54	91.66	22.84
650	311.662	5.713	30.00	64.83	24.38
700	305.998	5.731	12.00	42.68	25.86
750	300.671	5.748	−3.25	24.11	27.27
800	295.697	5.764	−16.32	8.34	28.62
850	291.084	5.779	−27.60	−5.17	29.92
900	286.847	5.793	−37.41	−16.85	31.17

TABLE 86. Fit parameters according to Eqs. (14) and (15) for an equimolar SiF_4-SiCl_4 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.452 86(67)	$3.979(43)\times10^{-4}$	$7.42(83)\times10^{-8}$	$-1.068(50)\times10^{-10}$
ε_{12}/k_B/K	$4.1251(13)\times10^{2}$	$-1.8766(82)\times10^{-1}$	$4.10(16)\times10^{-5}$	$1.384(96)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.9891(63)\times10^{2}$	$-1.3877(80)\times10^{5}$	$-2.32(30)\times10^{6}$	$-2.806(35)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.717(56)\times10^{2}$	$-2.667(71)\times10^{5}$	$5.31(27)\times10^{7}$	$-1.483(31)\times10^{10}$
η_{mix}/μPa s	$2.42(30)\times10^{-1}$	$4.309(19)\times10^{-2}$	$-7.70(37)\times10^{-6}$	$-2.27(22)\times10^{-9}$

TABLE 87. Potential parameters and thermophysical properties of equimolar SiF_4-SF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	283.895	5.172	388.09	433.40	10.83
210	283.165	5.174	351.74	392.36	11.33
220	282.428	5.176	320.01	356.79	11.81
230	281.676	5.178	292.06	325.64	12.29
240	280.900	5.181	267.26	298.12	12.78
250	280.097	5.183	245.08	273.64	13.27
260	279.270	5.186	225.13	251.70	13.76
270	278.424	5.188	207.10	231.95	14.24
280	277.565	5.191	190.73	214.07	14.72
290	276.695	5.194	175.80	197.80	15.18
300	275.815	5.197	162.12	182.95	15.65
310	274.927	5.199	149.55	169.33	16.11
320	274.030	5.202	137.95	156.79	16.56
330	273.127	5.205	127.22	145.21	17.02
340	272.218	5.208	117.25	134.49	17.47
350	271.305	5.211	107.98	124.52	17.92
360	270.388	5.214	99.33	115.24	18.36
370	269.468	5.217	91.25	106.58	18.80
380	268.548	5.220	83.67	98.47	19.23
390	267.626	5.223	76.55	90.86	19.67
400	266.704	5.226	69.85	83.71	20.10
420	264.862	5.232	57.57	70.63	20.94
440	263.026	5.238	46.58	58.96	21.76
460	261.200	5.244	36.69	48.47	22.56
480	259.388	5.250	27.74	39.00	23.34
500	257.593	5.256	19.61	30.40	24.10
520	255.818	5.262	12.18	22.56	24.85
540	254.067	5.268	5.37	15.38	25.59
560	252.342	5.274	−0.89	8.79	26.32
580	250.647	5.280	−6.68	2.72	27.03
600	248.985	5.286	−12.03	−2.90	27.72
650	244.991	5.300	−23.80	−15.22	29.39
700	241.257	5.314	−33.69	−25.55	30.98
750	237.807	5.327	−42.09	−34.30	32.50
800	234.652	5.339	−49.29	−41.79	33.95
850	231.785	5.350	−55.51	−48.23	35.34
900	229.198	5.360	−60.92	−53.83	36.68

TABLE 88. Fit parameters according to Eqs. (14) and (15) for an equimolar SiF_4-SF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.132 75(85)	$1.284(54)\times10^{-4}$	$3.59(10)\times10^{-7}$	$-2.471(63)\times10^{-10}$
ε_{12}/k_B/K	$2.9850(25)\times10^{2}$	$-5.79(16)\times10^{-2}$	$-8.08(31)\times10^{-5}$	$6.65(19)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.5088(31)\times10^{2}$	$-7.618(39)\times10^{4}$	$-3.33(15)\times10^{6}$	$-5.95(17)\times10^{8}$
B_{mix}/cm^3 mol^{-1}	$1.4714(41)\times10^{2}$	$-7.890(51)\times10^{4}$	$-3.27(19)\times10^{6}$	$-8.30(22)\times10^{8}$
η_{mix}/μPa s	$-5.33(34)\times10^{-1}$	$6.208(21)\times10^{-2}$	$-2.888(42)\times10^{-5}$	$6.47(25)\times10^{-9}$

TABLE 89. Potential parameters and thermophysical properties of equimolar SiF_4-MoF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	380.134	5.190	741.46	1198.25	10.52
210	377.907	5.195	667.86	1040.34	10.99
220	375.690	5.200	605.06	914.08	11.45
230	373.478	5.205	550.89	811.13	11.92
240	371.266	5.211	503.70	725.75	12.38
250	369.053	5.216	462.23	653.91	12.85
260	366.844	5.221	425.51	592.69	13.33
270	364.644	5.226	392.80	539.96	13.80
280	362.457	5.231	363.47	494.07	14.26
290	360.284	5.237	337.03	453.81	14.72
300	358.127	5.242	313.08	418.20	15.17
310	355.986	5.247	291.28	386.49	15.63
320	353.861	5.252	271.37	358.07	16.08
330	351.754	5.257	253.09	332.45	16.54
340	349.665	5.263	236.27	309.25	17.00
350	347.595	5.268	220.73	288.12	17.46
360	345.545	5.273	206.34	268.82	17.91
370	343.515	5.278	192.96	251.10	18.36
380	341.504	5.283	180.51	234.78	18.80
390	339.515	5.288	168.88	219.70	19.25
400	337.545	5.293	157.99	205.72	19.69
420	333.669	5.304	138.19	180.62	20.57
440	329.876	5.314	120.64	158.71	21.43
460	326.168	5.324	104.97	139.42	22.28
480	322.545	5.334	90.90	122.30	23.12
500	319.009	5.343	78.20	107.00	23.94
520	315.561	5.353	66.67	93.24	24.75
540	312.206	5.363	56.17	80.81	25.55
560	308.945	5.372	46.56	69.53	26.33
580	305.784	5.381	37.75	59.24	27.10
600	302.726	5.390	29.63	49.84	27.86
650	295.557	5.412	11.94	29.52	29.70
700	289.094	5.432	−2.73	12.88	31.45
750	283.339	5.450	−15.04	−0.94	33.12
800	278.259	5.466	−25.45	−12.54	34.72
850	273.792	5.481	−34.36	−22.39	36.25
900	269.881	5.494	−42.02	−30.82	37.73

TABLE 90. Fit parameters according to Eqs. (14) and (15) for an equimolar SiF_4-MoF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.090 97(85)	$4.605(54)\times10^{-4}$	$2.19(10)\times10^{-7}$	$-2.601(63)\times10^{-10}$
ε_{12}/k_B/K	$4.2940(20)\times10^{2}$	$-2.575(13)\times10^{-1}$	$5.35(24)\times10^{-5}$	$4000(15)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.719(10)\times10^{2}$	$-1.096(13)\times10^{5}$	$-3.16(49)\times10^{6}$	$-2.278(57)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.275(53)\times10^{2}$	$-2.069(67)\times10^{5}$	$4.28(25)\times10^{7}$	$-1.162(29)\times10^{10}$
η_{mix}/μPa s	$2.81(55)\times10^{-1}$	$5.296(35)\times10^{-2}$	$-9.73(68)\times10^{-6}$	$-3.27(41)\times10^{-9}$

TABLE 91. Potential parameters and thermophysical properties of equimolar SiF_4–WF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	350.995	5.236	763.85	1079.16	11.56
210	348.278	5.243	689.76	948.29	12.10
220	345.574	5.250	626.33	841.63	12.64
230	342.873	5.256	571.41	753.15	13.18
240	340.164	5.263	523.41	678.62	13.72
250	337.446	5.270	481.09	615.02	14.28
260	334.727	5.277	443.52	560.17	14.83
270	332.017	5.285	409.96	512.40	15.39
280	329.323	5.292	379.81	470.45	15.93
290	326.649	5.299	352.59	433.34	16.48
300	323.997	5.306	327.90	400.27	17.04
310	321.366	5.313	305.38	370.62	17.61
320	318.759	5.321	284.78	343.88	18.18
330	316.177	5.328	265.86	319.65	18.74
340	313.620	5.335	248.42	297.59	19.29
350	311.092	5.342	232.29	277.41	19.82
360	308.591	5.349	217.34	258.90	20.36
370	306.120	5.357	203.44	241.84	20.90
380	303.679	5.364	190.48	226.07	21.44
390	301.267	5.371	178.37	211.46	21.99
400	298.885	5.378	167.03	197.87	22.54
420	294.213	5.392	146.39	173.38	23.61
440	289.662	5.406	128.07	151.89	24.65
460	285.233	5.420	111.71	132.90	25.67
480	280.927	5.434	97.01	115.98	26.66
500	276.744	5.448	83.72	100.81	27.62
520	272.685	5.461	71.67	87.15	28.57
540	268.753	5.475	60.68	74.77	29.52
560	264.951	5.488	50.63	63.51	30.46
580	261.282	5.501	41.41	53.23	31.37
600	257.749	5.513	32.93	43.81	32.25
650	249.539	5.543	14.46	23.47	34.33
700	242.237	5.571	−0.80	6.80	36.29
750	235.831	5.596	−13.54	−6.99	38.18
800	230.263	5.619	−24.26	−18.53	39.98
850	225.445	5.639	−33.35	−28.26	41.69
900	221.295	5.656	−41.11	−36.53	43.32

TABLE 92. Fit parameters according to Eqs. (14) and (15) for an equimolar SiF_4–WF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.1050(10)	$5.856(63)\times10^{-4}$	$4.13(12)\times10^{-7}$	$-4.275(74)\times10^{-10}$
ε_{12}/k_B/K	$4.1397(33)\times10^{2}$	$-3.345(21)\times10^{-1}$	$1.031(40)\times10^{-4}$	$3.46(24)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.728(12)\times10^{2}$	$-1.077(15)\times10^{5}$	$-6.50(59)\times10^{6}$	$-1.871(68)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.091(37)\times10^{2}$	$-1.670(47)\times10^{5}$	$2.18(18)\times10^{7}$	$-7.93(21)\times10^{9}$
η_{mix}/μPa s	−1.11(15)	$6.531(96)\times10^{-2}$	$-1.34(19)\times10^{-5}$	$-50(11)\times10^{-9}$

TABLE 93. Potential parameters and thermophysical properties of equimolar SiF_4–UF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	415.220	5.211	899.29	1914.62	11.92
210	412.033	5.218	805.35	1599.31	12.45
220	408.876	5.224	726.02	1360.53	12.97
230	405.747	5.231	658.23	1174.97	13.49
240	402.644	5.238	599.66	1027.52	14.01
250	399.569	5.244	548.59	908.05	14.53
260	396.524	5.251	503.70	809.60	15.06
270	393.512	5.258	463.94	727.24	15.58
280	390.536	5.264	428.50	657.45	16.10
290	387.596	5.271	396.72	597.61	16.62
300	384.693	5.277	368.06	545.79	17.13
310	381.826	5.284	342.10	500.49	17.64
320	378.998	5.290	318.46	460.57	18.15
330	376.206	5.297	296.85	425.14	18.66
340	373.451	5.303	277.03	393.48	19.17
350	370.734	5.310	258.78	365.02	19.68
360	368.054	5.316	241.92	339.30	20.20
370	365.411	5.323	226.30	315.94	20.71
380	362.805	5.329	211.79	294.63	21.21
390	360.235	5.335	198.27	275.11	21.72
400	357.701	5.342	185.65	257.16	22.22
420	352.739	5.354	162.75	225.26	23.21
440	347.917	5.366	142.53	197.77	24.20
460	343.234	5.378	124.54	173.82	25.18
480	338.689	5.390	108.43	152.76	26.14
500	334.282	5.402	93.93	134.10	27.09
520	330.015	5.414	80.81	117.46	28.02
540	325.891	5.425	68.88	102.52	28.95
560	321.915	5.436	58.00	89.04	29.86
580	318.091	5.447	48.04	76.83	30.75
600	314.422	5.458	38.90	65.73	31.64
650	305.946	5.483	19.05	41.97	33.78
700	298.467	5.505	2.71	22.72	35.82
750	291.935	5.526	−10.92	6.91	37.76
800	286.264	5.544	−22.40	−6.26	39.63
850	281.342	5.560	−32.17	−17.37	41.42
900	277.079	5.574	−40.55	−26.83	43.14

TABLE 94. Fit parameters according to Eqs. (14) and (15) for an equimolar SiF_4–UF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.078 97(95)	$6.409(61)\times10^{-4}$	$1.52(12)\times10^{-7}$	$-2.821(71)\times10^{-10}$
ε_{12}/k_B/K	$4.8755(22)\times10^{2}$	$-3.972(14)\times10^{-1}$	$1.805(27)\times10^{-4}$	$1.5(1.6)\times10^{-9}$
B_{12}/cm^3 mol^{-1}	$1.862(16)\times10^{2}$	$-1.246(21)\times10^{5}$	$-6.6(7.8)\times10^{5}$	$-3.550(91)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$3.83(17)\times10^{2}$	$-4.43(22)\times10^{5}$	$1.536(83)\times10^{8}$	$-3.111(96)\times10^{10}$
η_{mix}/μPa s	$8.86(61)\times10^{-1}$	$5.590(39)\times10^{-2}$	$-3.40(75)\times10^{-6}$	$-7.37(45)\times10^{-9}$

TABLE 95. Potential parameters and thermophysical properties of equimolar $SiF_4-C(CH_3)_4$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	334.082	5.548	705.44	983.15	7.54
210	333.005	5.551	639.65	879.07	7.88
220	331.927	5.554	582.84	791.80	8.22
230	330.843	5.557	533.29	717.64	8.56
240	329.748	5.560	489.71	653.86	8.90
250	328.639	5.563	451.07	598.46	9.25
260	327.519	5.566	416.60	549.88	9.59
270	326.388	5.569	385.64	506.97	9.94
280	325.248	5.573	357.70	468.77	10.27
290	324.100	5.576	332.36	434.56	10.60
300	322.942	5.579	309.26	403.74	10.93
310	321.775	5.583	288.13	375.82	11.26
320	320.598	5.586	268.71	350.42	11.60
330	319.414	5.589	250.81	327.21	11.92
340	318.224	5.593	234.26	305.91	12.25
350	317.030	5.596	218.90	286.31	12.57
360	315.832	5.600	204.63	268.20	12.89
370	314.631	5.604	191.32	251.42	13.21
380	313.429	5.607	178.87	235.83	13.52
390	312.227	5.611	167.22	221.31	13.84
400	311.025	5.614	156.28	207.74	14.15
420	308.626	5.622	136.30	183.15	14.77
440	306.236	5.629	118.50	161.42	15.38
460	303.856	5.636	102.54	142.07	15.97
480	301.489	5.644	88.15	124.74	16.54
500	299.135	5.651	75.09	109.12	17.11
520	296.795	5.659	63.20	94.96	17.67
540	294.473	5.666	52.32	82.06	18.22
560	292.170	5.673	42.32	70.27	18.76
580	289.888	5.681	33.10	59.44	19.30
600	287.628	5.688	24.57	49.45	19.82
650	282.086	5.707	5.80	27.60	21.08
700	276.710	5.725	−10.03	9.30	22.28
750	271.517	5.744	−23.56	−6.26	23.43
800	266.524	5.762	−35.25	−19.65	24.52
850	261.744	5.779	−45.46	−31.29	25.56
900	257.176	5.796	−54.44	−41.51	26.56

TABLE 96. Fit parameters according to Eqs. (14) and (15) for an equimolar $SiF_4-C(CH_3)_4$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.494 94(84)	$2.142(53)\times10^{-4}$	$2.73(10)\times10^{-7}$	$-1.542(62)\times10^{-10}$
ε_{12}/k_B/K	$3.5536(19)\times10^{2}$	$-9.60(12)\times10^{-2}$	$-5.53(24)\times10^{-5}$	$4.55(14)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$2.0099(18)\times10^{2}$	$-1.2817(23)\times10^{5}$	$-1.170(87)\times10^{6}$	$-1.887(10)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.193(12)\times10^{2}$	$-1.644(15)\times10^{5}$	$1.010(58)\times10^{7}$	$-5.046(67)\times10^{9}$
η_{mix}/μPa s	$-1.82(27)\times10^{-1}$	$4.104(17)\times10^{-2}$	$-1.335(33)\times10^{-5}$	$8.2(2.0)\times10^{-10}$

TABLE 97. Potential parameters and thermophysical properties of equimolar $SiF_4-Si(CH_3)_4$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	344.005	5.652	870.33	1315.29	7.32
210	342.038	5.657	787.66	1163.16	7.66
220	340.080	5.663	716.61	1037.95	8.00
230	338.126	5.669	654.93	933.25	8.33
240	336.174	5.674	600.87	844.50	8.67
250	334.222	5.680	553.13	768.38	9.02
260	332.271	5.686	510.67	702.41	9.37
270	330.326	5.691	472.66	644.71	9.71
280	328.387	5.697	438.45	593.83	10.05
290	326.457	5.703	407.50	548.63	10.38
300	324.535	5.709	379.36	508.23	10.72
310	322.621	5.714	353.67	471.89	11.06
320	320.717	5.720	330.12	439.03	11.40
330	318.822	5.726	308.45	409.18	11.74
340	316.937	5.732	288.46	381.94	12.07
350	315.063	5.738	269.94	356.98	12.39
360	313.201	5.743	252.75	334.03	12.71
370	311.351	5.749	236.74	312.84	13.04
380	309.513	5.755	221.79	293.23	13.36
390	307.687	5.761	207.81	275.02	13.68
400	305.875	5.767	194.71	258.07	14.01
420	302.290	5.778	170.80	227.45	14.65
440	298.760	5.790	149.53	200.52	15.26
460	295.285	5.802	130.49	176.66	15.86
480	291.868	5.813	113.35	155.36	16.45
500	288.508	5.825	97.82	136.22	17.03
520	285.206	5.836	83.69	118.93	17.59
540	281.962	5.848	70.77	103.23	18.15
560	278.777	5.859	58.92	88.90	18.70
580	275.650	5.871	48.00	75.77	19.25
600	272.581	5.882	37.91	63.69	19.78
650	265.162	5.910	15.73	37.33	21.05
700	258.095	5.937	−2.94	15.32	22.24
750	251.377	5.964	−18.89	−3.33	23.38
800	245.012	5.991	−32.66	−19.36	24.45
850	238.998	6.017	−44.66	−33.27	25.48
900	233.295	6.042	−55.24	−45.49	26.45

TABLE 98. Fit parameters according to Eqs. (14) and (15) for an equimolar $SiF_4-Si(CH_3)_4$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.540 62(80)	$5.329(51)\times10^{-4}$	$1.257(99)\times10^{-7}$	$-1.103(59)\times10^{-10}$
ε_{12}/k_B/K	$3.8724(54)\times10^{2}$	$-2.263(34)\times10^{-1}$	$5.40(66)\times10^{-5}$	$8.3(4.0)\times10^{-9}$
B_{12}/cm^3 mol^{-1}	$1.833(22)\times10^{2}$	$-9.31(18)\times10^{4}$	$-2.307(33)\times10^{7}$	–
B_{mix}/cm^3 mol^{-1}	$2.753(27)\times10^{2}$	$-2.252(34)\times10^{5}$	$2.82(13)\times10^{7}$	$-9.31(15)\times10^{9}$
η_{mix}/μPa s	$-4.59(49)\times10^{-1}$	$4.088(31)\times10^{-2}$	$-1.142(60)\times10^{-5}$	$-9.1(3.6)\times10^{-10}$

TABLE 99. Potential parameters and thermophysical properties of equimolar SiF_4–Ar mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	176.079	4.441	128.37	152.41	12.88
210	175.809	4.442	116.29	138.45	13.48
220	175.537	4.444	105.58	126.07	14.07
230	175.260	4.445	96.00	115.02	14.65
240	174.979	4.447	87.39	105.10	15.24
250	174.690	4.448	79.60	96.13	15.84
260	174.397	4.450	72.53	88.00	16.42
270	174.100	4.451	66.08	80.58	16.99
280	173.801	4.453	60.18	73.80	17.53
290	173.500	4.454	54.75	67.57	18.06
300	173.197	4.456	49.75	61.83	18.58
310	172.893	4.457	45.12	56.52	19.10
320	172.588	4.459	40.83	51.60	19.61
330	172.281	4.460	36.84	47.02	20.12
340	171.974	4.462	33.12	42.76	20.63
350	171.667	4.464	29.64	38.78	21.13
360	171.359	4.465	26.38	35.05	21.62
370	171.051	4.467	23.33	31.55	22.11
380	170.744	4.468	20.45	28.27	22.60
390	170.437	4.470	17.75	25.17	23.08
400	170.130	4.472	15.19	22.25	23.55
420	169.518	4.475	10.50	16.89	24.47
440	168.909	4.478	6.28	12.07	25.35
460	168.303	4.481	2.47	7.72	26.20
480	167.702	4.484	−0.99	3.78	27.03
500	167.106	4.488	−4.14	0.19	27.85
520	166.515	4.491	−7.02	−3.10	28.66
540	165.929	4.494	−9.66	−6.11	29.47
560	165.349	4.497	−12.10	−8.88	30.25
580	164.775	4.500	−14.35	−11.45	31.03
600	164.208	4.503	−16.44	−13.82	31.78
650	162.819	4.511	−21.04	−19.05	33.60
700	161.476	4.519	−24.92	−23.46	35.35
750	160.186	4.526	−28.23	−27.22	37.02
800	158.953	4.533	−31.09	−30.46	38.61
850	157.785	4.540	−33.57	−33.27	40.14
900	156.688	4.546	−35.73	−35.72	41.63

TABLE 100. Fit parameters according to Eqs. (14) and (15) for an equimolar SiF_4–Ar mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.414 06(69)	$1.179(44)\times10^{-4}$	$9.09(86)\times10^{-8}$	$-6.56(52)\times10^{-11}$
ε_{12}/k_B/K	$1.81750(48)\times10^{2}$	$-2.600(30)\times10^{-2}$	$-1.211(59)\times10^{-5}$	$1.120(36)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$7.0793(65)\times10^{1}$	$-2.9221(82)\times10^{4}$	$-2.009(31)\times10^{6}$	$-2.20(36)\times10^{7}$
B_{mix}/cm^3 mol^{-1}	$7.5314(85)\times10^{1}$	$-3.285(11)\times10^{4}$	$-2.394(41)\times10^{6}$	$-2.83(47)\times10^{7}$
η_{mix}/μPa s	$-7.91(69)\times10^{-1}$	$7.773(44)\times10^{-2}$	$-4.920(85)\times10^{-5}$	$1.696(51)\times10^{-8}$

TABLE 101. Potential parameters and thermophysical properties of equimolar SiF_4–Kr mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	207.323	4.441	193.51	202.48	13.59
210	207.004	4.442	176.35	184.60	14.26
220	206.684	4.444	161.18	168.80	14.91
230	206.359	4.445	147.69	154.74	15.53
240	206.027	4.447	135.60	142.14	16.15
250	205.687	4.448	124.72	130.79	16.77
260	205.342	4.450	114.86	120.51	17.41
270	204.993	4.451	105.89	111.15	18.04
280	204.640	4.453	97.70	102.61	18.66
290	204.286	4.454	90.20	94.77	19.26
300	203.929	4.456	83.29	87.56	19.85
310	203.571	4.457	76.92	80.91	20.42
320	203.212	4.459	71.01	74.74	20.98
330	202.851	4.460	65.53	69.02	21.54
340	202.489	4.462	60.43	63.69	22.10
350	202.127	4.464	55.67	58.72	22.65
360	201.765	4.465	51.22	54.07	23.20
370	201.403	4.467	47.05	49.71	23.74
380	201.041	4.468	43.13	45.62	24.27
390	200.679	4.470	39.45	41.77	24.80
400	200.317	4.472	35.97	38.14	25.32
420	199.597	4.475	29.59	31.47	26.36
440	198.880	4.478	23.87	25.49	27.37
460	198.167	4.481	18.71	20.10	28.34
480	197.459	4.484	14.04	15.22	29.29
500	196.757	4.488	9.79	10.78	30.20
520	196.061	4.491	5.90	6.72	31.11
540	195.371	4.494	2.34	2.99	31.99
560	194.689	4.497	−0.94	−0.43	32.87
580	194.013	4.500	−3.97	−3.60	33.73
650	191.710	4.511	−12.95	−12.98	36.63
700	190.129	4.519	−18.15	−18.41	38.60
750	188.609	4.526	−22.59	−23.04	40.48
800	187.158	4.533	−26.41	−27.02	42.29
850	185.782	4.540	−29.73	−30.48	44.04
900	184.491	4.546	−32.63	−33.50	45.72

TABLE 102. Fit parameters according to Eqs. (14) and (15) for an equimolar SiF_4–Kr mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.414 06(69)	$1.179(44)\times10^{-4}$	$9.09(86)\times10^{-8}$	$-6.56(52)\times10^{-11}$
ε_{12}/k_B/K	$2.140\,01(57)\times10^{2}$	$-3.062(36)\times10^{-2}$	$-1.424(70)\times10^{-5}$	$1.318(42)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$7.9304(85)\times10^{1}$	$-3.883(11)\times10^{4}$	$-2.667(41)\times10^{6}$	$-9.50(47)\times10^{7}$
B_{mix}/cm^3 mol^{-1}	$8.206(10)\times10^{1}$	$-4.027(13)\times10^{4}$	$-2.911(48)\times10^{6}$	$-8.24(56)\times10^{7}$
η_{mix}/μPa s	−1.357(47)	$8.430(30)\times10^{-2}$	$-5.084(58)\times10^{-5}$	$1.706(35)\times10^{-8}$

TABLE 103. Potential parameters and thermophysical properties of equimolar SiF_4–Xe mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	241.883	4.771	288.44	289.42	13.21
210	241.511	4.772	263.44	264.26	13.84
220	241.137	4.773	241.48	242.17	14.47
230	240.758	4.775	222.03	222.61	15.11
240	240.371	4.776	204.69	205.17	15.76
250	239.975	4.777	189.14	189.52	16.40
260	239.572	4.779	175.10	175.41	17.03
270	239.164	4.780	162.38	162.62	17.64
280	238.753	4.782	150.80	150.98	18.24
290	238.340	4.784	140.21	140.33	18.84
300	237.924	4.785	130.50	130.56	19.43
310	237.506	4.787	121.55	121.57	20.03
320	237.086	4.788	113.28	113.26	20.63
330	236.666	4.790	105.62	105.56	21.21
340	236.244	4.791	98.51	98.41	21.79
350	235.821	4.793	91.88	91.74	22.35
360	235.399	4.795	85.69	85.52	22.90
370	234.976	4.796	79.90	79.70	23.45
380	234.553	4.798	74.47	74.24	24.00
390	234.131	4.799	69.37	69.12	24.54
400	233.710	4.801	64.56	64.29	25.08
420	232.869	4.804	55.76	55.44	26.15
440	232.032	4.807	47.88	47.52	27.19
460	231.201	4.811	40.79	40.40	28.20
480	230.375	4.814	34.38	33.96	29.18
500	229.556	4.817	28.55	28.10	30.15
520	228.744	4.820	23.24	22.76	31.11
540	227.939	4.823	18.36	17.87	32.05
560	227.143	4.827	13.89	13.37	32.97
580	226.354	4.830	9.76	9.23	33.87
600	225.575	4.833	5.94	5.39	34.75
650	223.667	4.840	−2.47	−3.04	36.88
700	221.823	4.848	−9.53	−10.13	38.95
750	220.049	4.855	−15.55	−16.17	40.94
800	218.356	4.862	−20.73	−21.36	42.84
850	216.751	4.869	−25.23	−25.86	44.66
900	215.245	4.875	−29.16	−29.79	46.44

TABLE 104. Fit parameters according to Eqs. (14) and (15) for an equimolar SiF_4–Xe mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.743 68(77)	$1.169(49)\times10^{-4}$	$9.22(95)\times10^{-8}$	$-6.62(57)\times10^{-11}$
ε_{12}/k_B/K	$2.496\,74(66)\times10^{2}$	$-3.571(42)\times10^{-2}$	$-1.662(81)\times10^{-5}$	$1.538(49)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$9.206(12)\times10^{1}$	$-5.227(15)\times10^{4}$	$-3.527(57)\times10^{6}$	$-2.466(66)\times10^{8}$
B_{mix}/cm^3 mol^{-1}	$9.276(13)\times10^{1}$	$-5.219(17)\times10^{4}$	$-3.637(64)\times10^{6}$	$-2.407(74)\times10^{8}$
η_{mix}/μPa s	−1.571(26)	$8.192(17)\times10^{-2}$	$-4.343(33)\times10^{-5}$	$1.300(20)\times10^{-8}$

TABLE 105. Potential parameters and thermophysical properties of equimolar CCl_4-SiCl_4 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	714.556	5.679	4031.73	4052.00	7.20
210	712.991	5.681	3482.03	3498.63	7.49
220	711.433	5.683	3045.61	3059.54	7.79
230	709.882	5.685	2692.75	2704.69	8.08
240	708.340	5.687	2402.88	2413.31	8.37
250	706.807	5.689	2161.42	2170.65	8.67
260	705.285	5.692	1957.79	1966.08	8.96
270	703.774	5.694	1784.18	1791.70	9.25
280	702.276	5.696	1634.73	1641.61	9.54
290	700.790	5.698	1504.93	1511.28	9.83
300	699.317	5.700	1391.31	1397.20	10.12
310	697.857	5.702	1291.13	1296.63	10.42
320	696.412	5.704	1202.22	1207.38	10.71
330	694.980	5.706	1122.85	1127.71	11.01
340	693.563	5.708	1051.60	1056.20	11.31
350	692.160	5.710	987.34	991.70	11.61
360	690.771	5.712	929.10	933.25	11.91
370	689.397	5.714	876.11	880.07	12.21
380	688.037	5.716	827.69	831.48	12.52
390	686.691	5.718	783.31	786.93	12.82
400	685.360	5.720	742.47	745.95	13.12
420	682.741	5.724	669.92	673.14	13.73
440	680.177	5.727	607.45	610.44	14.33
460	677.669	5.731	553.12	555.92	14.94
480	675.214	5.735	505.47	508.09	15.55
500	672.812	5.738	463.35	465.81	16.16
520	670.460	5.742	425.86	428.17	16.76
540	668.158	5.745	392.27	394.46	17.36
560	665.905	5.749	362.03	364.10	17.96
580	663.700	5.752	334.65	336.61	18.56
600	661.542	5.756	309.75	311.62	19.16
650	656.353	5.764	256.39	258.04	20.64
700	651.462	5.771	212.95	214.41	22.09
750	646.883	5.779	176.93	178.23	23.49
800	642.631	5.785	146.64	147.79	24.86
850	638.714	5.792	120.84	121.87	26.21
900	635.146	5.798	98.66	99.57	27.53

TABLE 106. Fit parameters according to Eqs. (14) and (15) for an equimolar CCl_4-SiCl_4 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.633 29(66)	$2.373(42)\times10^{-4}$	$-4.56(82)\times10^{-8}$	$-1.68(49)\times10^{-11}$
ε_{12}/k_B/K	$7.493\,05(69)\times10^{2}$	$-1.8783(44)\times10^{-1}$	$7.210(85)\times10^{-5}$	$-4.92(51)\times10^{-9}$
B_{12}/cm^3 mol^{-1}	$4.56(17)\times10^{2}$	$-6.25(21)\times10^{5}$	$1.718(80)\times10^{8}$	$-4.501(93)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$4.60(17)\times10^{2}$	$-6.32(22)\times10^{5}$	$1.745(82)\times10^{8}$	$-4.546(94)\times10^{10}$
η_{mix}/μPa s	1.812(24)	$2.499(15)\times10^{-2}$	$1.168(29)\times10^{-5}$	$-8.59(18)\times10^{-9}$

TABLE 107. Potential parameters and thermophysical properties of equimolar CCl_4-SF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	538.806	5.315	1506.41	1928.73	8.77
210	538.544	5.316	1344.13	1702.67	9.14
220	538.272	5.316	1209.27	1518.13	9.50
230	537.984	5.317	1095.63	1365.10	9.87
240	537.670	5.317	998.71	1236.47	10.24
250	537.325	5.318	915.17	1127.02	10.60
260	536.951	5.318	842.49	1032.90	10.97
270	536.552	5.319	778.75	951.21	11.33
280	536.132	5.319	722.44	879.71	11.70
290	535.694	5.320	672.36	816.66	12.06
300	535.241	5.321	627.56	760.68	12.43
310	534.773	5.321	587.26	710.68	12.79
320	534.291	5.322	550.83	665.76	13.16
330	533.795	5.323	517.74	625.21	13.53
340	533.286	5.323	487.56	588.42	13.89
350	532.766	5.324	459.93	554.91	14.26
360	532.236	5.325	434.55	524.26	14.62
370	531.696	5.326	411.15	496.13	14.99
380	531.149	5.327	389.51	470.23	15.35
390	530.595	5.328	369.45	446.29	15.72
400	530.035	5.328	350.80	424.12	16.08
420	528.898	5.330	317.18	384.34	16.80
440	527.743	5.332	287.72	349.67	17.53
460	526.578	5.334	261.70	319.20	18.25
480	525.406	5.336	238.55	292.21	18.96
500	524.232	5.337	217.84	268.16	19.66
520	523.063	5.339	199.19	246.58	20.36
540	521.903	5.341	182.33	227.12	21.06
560	520.757	5.343	167.00	209.48	21.75
580	519.633	5.345	153.02	193.43	22.43
600	518.535	5.346	140.22	178.76	23.11
650	515.945	5.350	112.52	147.10	24.76
700	513.630	5.354	89.72	121.12	26.38
750	511.633	5.357	70.67	99.46	27.97
800	509.962	5.360	54.56	81.14	29.51
850	508.597	5.362	40.77	65.47	31.00
900	507.498	5.364	28.85	51.92	32.46

TABLE 108. Fit parameters according to Eqs. (14) and (15) for an equimolar CCl_4-SF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.314 38(74)	$-4.08(47)\times10^{-5}$	$2.569(92)\times10^{-7}$	$-1.676(55)\times10^{-10}$
ε_{12}/k_B/K	$5.4109(26)\times10^{2}$	$1.56(17)\times10^{-2}$	$-1.483(33)\times10^{-4}$	$9.99(20)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.818(26)\times10^{2}$	$-1.906(33)\times10^{5}$	$1.17(13)\times10^{7}$	$-8.18(15)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.138(49)\times10^{2}$	$-2.614(62)\times10^{5}$	$3.87(23)\times10^{7}$	$-1.436(27)\times10^{10}$
η_{mix}/μPa s	1.317(30)	$3.696(19)\times10^{-2}$	$1.99(37)\times10^{-6}$	$-5.15(23)\times10^{-9}$

TABLE 109. Potential parameters and thermophysical properties of equimolar CCl_4-MoF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	721.461	5.334	3372.07	3403.27	8.71
210	718.732	5.337	2897.71	2926.80	9.07
220	716.018	5.341	2523.17	2550.56	9.42
230	713.320	5.344	2221.82	2247.77	9.78
240	710.639	5.347	1975.32	2000.03	10.13
250	707.975	5.350	1770.76	1794.38	10.49
260	705.330	5.353	1598.85	1621.48	10.84
270	702.706	5.356	1452.73	1474.47	11.19
280	700.105	5.359	1327.28	1348.22	11.54
290	697.528	5.363	1218.61	1238.80	11.89
300	694.974	5.366	1123.69	1143.20	12.25
310	692.445	5.369	1040.17	1059.05	12.61
320	689.941	5.372	966.19	984.47	12.96
330	687.461	5.375	900.25	917.99	13.33
340	685.007	5.378	841.15	858.38	13.69
350	682.579	5.381	787.92	804.67	14.05
360	680.176	5.384	739.74	756.04	14.41
370	677.799	5.387	695.95	711.82	14.78
380	675.448	5.390	655.98	671.46	15.14
390	673.122	5.393	619.38	634.48	15.51
400	670.822	5.396	585.73	600.48	15.88
420	666.298	5.402	526.02	540.12	16.61
440	661.875	5.408	474.68	488.19	17.35
460	657.554	5.413	430.09	443.07	18.08
480	653.335	5.419	391.01	403.51	18.82
500	649.221	5.424	356.51	368.57	19.55
520	645.218	5.430	325.84	337.48	20.28
540	641.331	5.435	298.40	309.67	21.01
560	637.569	5.440	273.72	284.64	21.73
580	633.942	5.445	251.42	262.01	22.45
600	630.457	5.450	231.18	241.46	23.17
650	622.436	5.462	188.00	197.57	24.94
700	615.474	5.472	153.13	162.06	26.65
750	609.593	5.480	124.49	132.85	28.32
800	604.734	5.488	100.63	108.47	29.94
850	600.770	5.494	80.50	87.86	31.52
900	597.580	5.499	63.32	70.24	33.06

TABLE 110. Fit parameters according to Eqs. (14) and (15) for an equimolar CCl_4-MoF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.273 22(82)	$2.895(52)\times10^{-4}$	$1.14(10)\times10^{-7}$	$-1.758(61)\times10^{-10}$
ε_{12}/k_B/K	$7.7889(27)\times10^{2}$	$-2.981(17)\times10^{-1}$	$3.89(33)\times10^{-5}$	$7.67(20)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$4.02(16)\times10^{2}$	$-5.33(21)\times10^{5}$	$1.554(78)\times10^{8}$	$-3.972(90)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$4.03(16)\times10^{2}$	$-5.41(21)\times10^{5}$	$1.565(78)\times10^{8}$	$-3.987(90)\times10^{10}$
η_{mix}/μPa s	2.202(35)	$3.001(23)\times10^{-2}$	$1.518(44)\times10^{-5}$	$-1.164(26)\times10^{-8}$

TABLE 111. Potential parameters and thermophysical properties of equimolar CCl_4-WF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	666.157	5.380	3096.06	3134.98	9.54
210	662.380	5.385	2677.39	2713.64	9.94
220	658.621	5.390	2343.99	2377.89	10.35
230	654.867	5.395	2073.57	2105.41	10.75
240	651.108	5.400	1850.71	1880.74	11.15
250	647.342	5.405	1664.46	1692.91	11.55
260	643.579	5.410	1506.97	1534.01	11.95
270	639.830	5.415	1372.37	1398.16	12.36
280	636.106	5.420	1256.25	1280.91	12.78
290	632.409	5.425	1155.22	1178.85	13.20
300	628.741	5.430	1066.61	1089.32	13.63
310	625.105	5.435	988.35	1010.21	14.06
320	621.500	5.440	918.78	939.87	14.49
330	617.929	5.445	856.58	876.97	14.93
340	614.394	5.450	800.67	820.40	15.36
350	610.896	5.456	750.17	769.30	15.80
360	607.436	5.461	704.35	722.92	16.25
370	604.016	5.466	662.61	680.66	16.69
380	600.634	5.471	624.42	641.99	17.14
390	597.293	5.476	589.38	606.49	17.58
400	593.991	5.481	557.11	573.80	18.03
420	587.508	5.490	499.68	515.61	18.91
440	581.188	5.500	450.15	465.39	19.81
460	575.029	5.510	407.01	421.64	20.71
480	569.035	5.519	369.12	383.19	21.59
500	563.207	5.529	335.58	349.16	22.47
520	557.550	5.538	305.70	318.82	23.35
540	552.071	5.547	278.93	291.63	24.23
560	546.778	5.556	254.82	267.13	25.09
580	541.680	5.565	233.01	244.95	25.93
600	536.788	5.573	213.19	224.79	26.75
650	525.524	5.593	170.88	181.69	28.78
700	515.717	5.611	136.71	146.81	30.75
750	507.380	5.627	108.69	118.15	32.62
800	500.425	5.640	85.43	94.29	34.42
850	494.685	5.651	65.87	74.17	36.16
900	489.998	5.661	49.25	57.05	37.84

TABLE 112. Fit parameters according to Eqs. (14) and (15) for an equimolar CCl_4-WF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.287 81(98)	$4.102(62)\times10^{-4}$	$3.21(12)\times10^{-7}$	$-3.532(73)\times10^{-10}$
ε_{12}/k_B/K	$7.5051(43)\times10^{2}$	$-4.401(28)\times10^{-1}$	$8.47(53)\times10^{-5}$	$9.27(32)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$3.66(13)\times10^{2}$	$-4.54(17)\times10^{5}$	$1.166(63)\times10^{8}$	$-3.264(73)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$3.66(13)\times10^{2}$	$-4.62(16)\times10^{5}$	$1.177(62)\times10^{8}$	$-3.284(72)\times10^{10}$
η_{mix}/μPa s	1.89(11)	$3.367(71)\times10^{-2}$	$2.49(14)\times10^{-5}$	$-2.003(83)\times10^{-8}$

TABLE 113. Potential parameters and thermophysical properties of equimolar CCl_4-UF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	788.050	5.355	4485.36	4597.37	9.96
210	783.636	5.360	3785.29	3860.82	10.37
220	779.267	5.364	3244.61	3297.24	10.77
230	774.953	5.369	2818.18	2856.13	11.18
240	770.701	5.374	2475.65	2503.99	11.58
250	766.516	5.379	2196.05	2217.98	11.98
260	762.395	5.383	1964.52	1982.13	12.38
270	758.338	5.388	1770.37	1785.01	12.78
280	754.341	5.392	1605.70	1618.29	13.18
290	750.404	5.397	1464.62	1475.76	13.58
300	746.527	5.401	1342.64	1352.77	13.98
310	742.709	5.406	1236.31	1245.71	14.38
320	738.950	5.410	1142.92	1151.79	14.78
330	735.249	5.415	1060.34	1068.84	15.19
340	731.605	5.419	986.86	995.09	15.59
350	728.017	5.423	921.12	929.14	16.00
360	724.484	5.427	861.99	869.86	16.41
370	721.004	5.432	808.55	816.30	16.83
380	717.577	5.436	760.05	767.71	17.24
390	714.202	5.440	715.84	723.43	17.65
400	710.878	5.444	675.40	682.92	18.07
420	704.378	5.452	604.07	611.50	18.90
440	698.073	5.460	543.21	550.56	19.74
450	694.993	5.464	516.03	523.34	20.16
460	691.959	5.468	490.72	497.99	20.57
480	686.035	5.476	445.00	452.20	21.41
500	680.303	5.483	404.85	411.98	22.25
520	674.770	5.491	369.34	376.38	23.09
540	669.443	5.498	337.72	344.68	23.92
560	664.334	5.505	309.41	316.28	24.75
580	659.454	5.512	283.94	290.71	25.57
600	654.814	5.518	260.92	267.59	26.39
650	644.316	5.533	212.13	218.52	28.42
700	635.429	5.546	173.06	179.16	30.39
750	628.088	5.556	141.21	147.00	32.29
800	622.130	5.565	114.84	120.33	34.14
850	617.338	5.573	92.70	97.88	35.95
900	613.517	5.579	73.87	78.77	37.71

TABLE 114. Fit parameters according to Eqs. (14) and (15) for an equimolar CCl_4-UF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.2596(10)	$4.788(65)\times10^{-4}$	$3.5(1.3)\times10^{-8}$	$-1.940(76)\times10^{-10}$
ε_{12}/k_B/K	$8.8508(45)\times10^{2}$	$-5.348(29)\times10^{-1}$	$2.376(55)\times10^{-4}$	$2.44(33)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$5.94(31)\times10^{2}$	$-8.33(39)\times10^{5}$	$2.98(15)\times10^{8}$	$-6.65(17)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$6.47(35)\times10^{2}$	$-9.19(45)\times10^{5}$	$3.37(17)\times10^{8}$	$-7.21(20)\times10^{10}$
η_{mix}/μPa s	2.789(41)	$3.262(26)\times10^{-2}$	$1.983(51)\times10^{-5}$	$-1.447(31)\times10^{-8}$

TABLE 115. Potential parameters and thermophysical properties of equimolar $CCl_4-C(CH_3)_4$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	634.057	5.692	2865.14	2952.72	6.24
210	633.334	5.693	2515.31	2588.44	6.50
220	632.612	5.694	2231.49	2293.56	6.76
230	631.891	5.695	1997.50	2050.92	7.02
240	631.169	5.696	1801.85	1848.40	7.28
250	630.446	5.697	1636.22	1677.23	7.53
260	629.718	5.698	1494.47	1530.94	7.79
270	628.982	5.700	1371.97	1404.68	8.05
280	628.235	5.701	1265.18	1294.74	8.31
290	627.473	5.702	1171.35	1198.25	8.57
300	626.695	5.703	1088.31	1112.95	8.83
310	625.899	5.704	1014.36	1037.05	9.09
320	625.086	5.706	948.12	969.12	9.35
330	624.257	5.707	888.47	907.99	9.61
340	623.414	5.708	834.49	852.72	9.88
350	622.557	5.710	785.44	802.52	10.14
360	621.688	5.711	740.68	756.74	10.41
370	620.808	5.713	699.68	714.84	10.67
380	619.919	5.714	662.00	676.34	10.94
390	619.021	5.715	627.26	640.86	11.20
400	618.116	5.717	595.13	608.06	11.47
420	616.290	5.720	537.62	549.39	12.00
440	614.442	5.723	487.66	498.45	12.53
460	612.573	5.726	443.86	453.82	13.06
480	610.684	5.729	405.16	414.41	13.59
500	608.775	5.732	370.71	379.34	14.12
520	606.848	5.735	339.85	347.94	14.64
540	604.905	5.739	312.05	319.67	15.16
560	602.950	5.742	286.88	294.08	15.68
580	600.985	5.745	263.98	270.80	16.19
600	599.013	5.749	243.06	249.54	16.71
650	594.066	5.757	197.89	203.66	17.98
700	589.109	5.766	160.74	165.93	19.21
750	584.157	5.774	129.64	134.37	20.40
800	579.229	5.783	103.24	107.57	21.57
850	574.335	5.792	80.54	84.53	22.71
900	569.448	5.801	60.81	64.51	23.81

TABLE 116. Fit parameters according to Eqs. (14) and (15) for an equimolar $CCl_4-C(CH_3)_4$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.676 50(71)	$4.54(45)\times10^{-5}$	$1.678(88)\times10^{-7}$	$-7.24(53)\times10^{-11}$
ε_{12}/k_B/K	$6.4484(13)\times10^{2}$	$-3.698(86)\times10^{-2}$	$-9.30(17)\times10^{-5}$	$4.572(100)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$3.395(77)\times10^{2}$	$-4.098(97)\times10^{5}$	$7.54(37)\times10^{7}$	$-2.420(43)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$3.487(83)\times10^{2}$	$-4.27(10)\times10^{5}$	$8.27(40)\times10^{7}$	$-2.573(46)\times10^{10}$
η_{mix}/μPa s	1.342(20)	$2.306(12)\times10^{-2}$	$8.52(24)\times10^{-6}$	$-7.15(15)\times10^{-9}$

TABLE 117. Potential parameters and thermophysical properties of equimolar $CCl_4-Si(CH_3)_4$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	652.891	5.796	3511.31	3525.49	6.10
210	650.513	5.799	3057.24	3069.49	6.36
220	648.150	5.803	2692.72	2703.43	6.61
230	645.802	5.807	2395.03	2404.48	6.87
240	643.470	5.811	2148.24	2156.66	7.12
250	641.156	5.814	1940.94	1948.49	7.37
260	638.857	5.818	1764.76	1771.58	7.63
270	636.571	5.822	1613.49	1619.67	7.88
280	634.298	5.825	1482.38	1488.03	8.14
290	632.037	5.829	1367.81	1372.99	8.40
300	629.786	5.833	1266.94	1271.71	8.66
310	627.546	5.836	1177.52	1181.93	8.92
320	625.317	5.840	1097.76	1101.85	9.19
330	623.099	5.844	1026.22	1030.02	9.45
340	620.892	5.847	961.72	965.26	9.72
350	618.695	5.851	903.30	906.61	9.99
360	616.510	5.855	850.15	853.25	10.26
370	614.336	5.858	801.60	804.51	10.53
380	612.173	5.862	757.09	759.83	10.80
390	610.021	5.866	716.15	718.73	11.07
400	607.882	5.869	678.37	680.80	11.34
420	603.638	5.877	610.95	613.10	11.88
440	599.442	5.884	552.57	554.50	12.42
460	595.294	5.891	501.56	503.28	12.96
480	591.196	5.899	456.60	458.14	13.50
500	587.148	5.906	416.69	418.07	14.04
520	583.151	5.913	381.02	382.26	14.58
540	579.205	5.921	348.95	350.06	15.11
560	575.310	5.928	319.97	320.95	15.64
580	571.468	5.935	293.64	294.51	16.16
600	567.677	5.942	269.63	270.39	16.68
650	558.424	5.960	217.89	218.42	17.96
700	549.479	5.978	175.44	175.77	19.20
750	540.827	5.995	139.97	140.12	20.40
800	532.478	6.012	109.90	109.89	21.55
850	524.425	6.029	84.09	83.93	22.66
900	516.569	6.046	61.64	61.35	23.74

TABLE 118. Fit parameters according to Eqs. (14) and (15) for an equimolar $CCl_4-Si(CH_3)_4$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.722 88(71)	$3.603(45)\times10^{-4}$	$2.83(88)\times10^{-8}$	$-3.32(53)\times10^{-11}$
ε_{12}/k_B/K	$7.028\,19(64)\times10^{2}$	$-2.6179(41)\times10^{-1}$	$6.091(79)\times10^{-5}$	$1.6(4.8)\times10^{-10}$
B_{12}/cm^3 mol^{-1}	$4.36(12)\times10^{2}$	$-5.35(15)\times10^{5}$	$1.230(56)\times10^{8}$	$-3.460(65)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$4.39(12)\times10^{2}$	$-5.39(15)\times10^{5}$	$1.240(56)\times10^{8}$	$-3.479(65)\times10^{10}$
η_{mix}/μPa s	1.380(33)	$2.133(21)\times10^{-2}$	$1.302(41)\times10^{-5}$	$-1.018(25)\times10^{-8}$

TABLE 119. Potential parameters and thermophysical properties of equimolar CCl_4–Ar mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	334.183	4.585	420.95	1234.87	9.56
210	334.366	4.584	384.11	1086.46	9.99
220	334.551	4.584	352.22	966.10	10.41
230	334.737	4.583	324.35	866.89	10.84
240	334.926	4.583	299.82	783.93	11.26
250	335.118	4.582	278.06	713.69	11.68
260	335.313	4.582	258.63	653.56	12.10
270	335.509	4.581	241.18	601.57	12.51
280	335.706	4.581	225.43	556.21	12.93
290	335.905	4.580	211.14	516.34	13.34
300	336.103	4.580	198.13	481.03	13.75
310	336.303	4.579	186.22	449.56	14.16
320	336.503	4.579	175.30	421.36	14.58
330	336.704	4.578	165.23	395.96	15.00
340	336.904	4.577	155.93	372.95	15.41
350	337.105	4.577	147.32	352.03	15.83
360	337.306	4.576	139.31	332.93	16.23
370	337.507	4.576	131.85	315.42	16.64
380	337.708	4.575	124.89	299.32	17.04
390	337.908	4.575	118.37	284.47	17.44
400	338.108	4.574	112.27	270.72	17.84
420	338.507	4.573	101.13	246.10	18.64
440	338.904	4.572	91.23	224.69	19.43
460	339.299	4.571	82.38	205.91	20.22
480	339.691	4.570	74.43	189.30	21.01
500	340.081	4.569	67.24	174.52	21.78
520	340.467	4.568	60.71	161.28	22.54
540	340.851	4.567	54.75	149.35	23.30
560	341.230	4.566	49.30	138.56	24.04
580	341.607	4.565	44.30	128.74	24.79
600	341.979	4.564	39.69	119.77	25.52
650	342.893	4.561	29.61	100.44	27.32
700	343.780	4.559	21.19	84.57	29.10
750	344.633	4.557	14.07	71.31	30.85
800	345.449	4.554	7.97	60.07	32.55
850	346.221	4.552	2.69	50.43	34.19
900	346.944	4.550	−1.93	42.05	35.80

TABLE 120. Fit parameters according to Eqs. (14) and (15) for an equimolar CCl_4–Ar mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.595 17(68)	$-4.86(43)\times10^{-5}$	$-1.64(84)\times10^{-8}$	$1.66(51)\times10^{-11}$
ε_{12}/k_B/K	$3.304\,28(20)\times10^{2}$	$1.749(13)\times10^{-2}$	$6.92(25)\times10^{-6}$	$-6.63(15)\times10^{-9}$
B_{12}/cm^3 mol^{-1}	$7.407(24)\times10^{1}$	$-5.896(30)\times10^{4}$	$-4.43(11)\times10^{6}$	$-7.13(13)\times10^{8}$
B_{mix}/cm^3 mol^{-1}	$1.281(35)\times10^{2}$	$-1.730(44)\times10^{5}$	$3.09(17)\times10^{7}$	$-1.011(19)\times10^{10}$
η_{mix}/μPa s	$6.43(27)\times10^{-1}$	$4.598(17)\times10^{-2}$	$-7.24(33)\times10^{-6}$	$-4.9(2.0)\times10^{-10}$

TABLE 121. Potential parameters and thermophysical properties of equimolar CCl_4–Kr mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	393.480	4.724	634.70	1359.24	10.27
210	393.696	4.724	576.95	1199.01	10.74
220	393.913	4.723	527.51	1068.68	11.20
230	394.133	4.723	484.74	960.96	11.66
240	394.355	4.722	447.41	870.67	12.12
250	394.581	4.722	414.57	794.05	12.58
260	394.810	4.721	385.46	728.33	13.03
270	395.041	4.721	359.49	671.39	13.49
280	395.274	4.720	336.19	621.64	13.95
290	395.507	4.720	315.17	577.83	14.40
300	395.741	4.719	296.12	538.99	14.86
310	395.976	4.718	278.77	504.33	15.31
320	396.212	4.718	262.92	473.23	15.77
330	396.448	4.717	248.37	445.18	16.22
340	396.684	4.717	234.98	419.75	16.66
350	396.921	4.716	222.61	396.61	17.11
360	397.157	4.716	211.16	375.46	17.56
370	397.394	4.715	200.52	356.06	18.01
380	397.630	4.715	190.62	338.20	18.47
390	397.866	4.714	181.38	321.71	18.92
400	398.102	4.714	172.73	306.45	19.37
420	398.572	4.712	157.02	279.08	20.26
440	399.039	4.711	143.11	255.25	21.13
460	399.504	4.710	130.72	234.33	21.99
480	399.966	4.709	119.61	215.82	22.84
490	400.196	4.709	114.47	207.34	23.27
500	400.425	4.708	109.59	199.32	23.70
520	400.880	4.707	100.53	184.54	24.55
540	401.331	4.706	92.28	171.21	25.39
560	401.778	4.705	84.74	159.14	26.23
580	402.221	4.704	77.83	148.16	27.05
600	402.660	4.703	71.47	138.13	27.86
650	403.736	4.701	57.60	116.47	29.85
700	404.780	4.698	46.06	98.67	31.80
750	405.785	4.696	36.31	83.80	33.72
800	406.745	4.694	27.98	71.18	35.59
850	407.654	4.692	20.77	60.34	37.41
900	408.506	4.690	14.47	50.93	39.19

TABLE 122. Fit parameters according to Eqs. (14) and (15) for an equimolar CCl_4–Kr mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.734 63(71)	$-4.87(45)\times10^{-5}$	$-1.66(88)\times10^{-8}$	$1.70(53)\times10^{-11}$
ε_{12}/k_B/K	$3.890\,59(24)\times10^{2}$	$2.059(15)\times10^{-2}$	$8.15(29)\times10^{-6}$	$-7.81(18)\times10^{-9}$
B_{12}/cm^3 mol^{-1}	$8.530(45)\times10^{1}$	$-8.323(56)\times10^{4}$	$-3.80(21)\times10^{6}$	$-1.665(25)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$1.362(36)\times10^{2}$	$-1.877(45)\times10^{5}$	$3.10(17)\times10^{7}$	$-1.060(20)\times10^{10}$
η_{mix}/μPa s	$5.66(36)\times10^{-1}$	$4.961(23)\times10^{-2}$	$-5.80(45)\times10^{-6}$	$-1.85(27)\times10^{-9}$

TABLE 123. Potential parameters and thermophysical properties of equimolar CCl_4–Xe mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	459.072	4.914	977.45	1570.10	10.23
210	459.324	4.914	882.95	1388.12	10.69
220	459.577	4.913	803.08	1239.68	11.14
230	459.833	4.913	734.80	1116.68	11.60
240	460.093	4.912	675.82	1013.35	12.06
250	460.357	4.912	624.42	925.50	12.51
260	460.624	4.911	579.24	850.00	12.97
270	460.894	4.911	539.26	784.49	13.42
280	461.165	4.910	503.63	727.18	13.88
290	461.437	4.910	471.70	676.65	14.34
300	461.710	4.909	442.94	631.79	14.80
310	461.984	4.909	416.89	591.73	15.26
320	462.259	4.908	393.20	555.75	15.71
330	462.535	4.907	371.57	523.26	16.17
340	462.810	4.907	351.74	493.80	16.62
350	463.086	4.906	333.50	466.97	17.08
360	463.362	4.906	316.67	442.43	17.53
370	463.638	4.905	301.10	419.91	17.98
380	463.914	4.905	286.65	399.17	18.43
390	464.189	4.904	273.20	380.01	18.89
400	464.464	4.904	260.66	362.27	19.33
420	465.012	4.902	237.95	330.43	20.23
440	465.558	4.901	217.95	302.70	21.14
460	466.100	4.900	200.21	278.33	22.03
480	466.639	4.899	184.36	256.76	22.92
500	467.174	4.898	170.12	237.53	23.79
520	467.705	4.897	157.27	220.29	24.65
540	468.231	4.896	145.60	204.74	25.50
560	468.753	4.895	134.97	190.66	26.35
580	469.270	4.894	125.25	177.84	27.19
600	469.782	4.893	116.32	166.12	28.03
650	471.038	4.891	96.91	140.82	30.10
700	472.255	4.888	80.81	120.01	32.13
750	473.428	4.886	67.25	102.61	34.11
800	474.548	4.884	55.68	87.85	36.02
850	475.609	4.882	45.69	75.16	37.89
900	476.602	4.880	36.99	64.15	39.72

TABLE 124. Fit parameters according to Eqs. (14) and (15) for an equimolar CCl_4–Xe mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.924 35(70)	$-4.66(44)\times10^{-5}$	$-2.07(86)\times10^{-8}$	$1.95(52)\times10^{-11}$
ε_{12}/k_B/K	$4.539\,16(27)\times10^{2}$	$2.401(17)\times10^{-2}$	$9.53(34)\times10^{-6}$	$-9.13(20)\times10^{-9}$
B_{12}/cm^3 mol^{-1}	$1.0509(96)\times10^{2}$	$-1.225(12)\times10^{5}$	$-1.7(4.6)\times10^{5}$	$-3.713(53)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$1.505(39)\times10^{2}$	$-2.126(49)\times10^{5}$	$3.25(19)\times10^{7}$	$-1.171(21)\times10^{10}$
η_{mix}/μPa s	$8.17(35)\times10^{-1}$	$4.709(22)\times10^{-2}$	$-2(428)\times10^{-9}$	$-4.81(26)\times10^{-9}$

TABLE 125. Potential parameters and thermophysical properties of equimolar $SiCl_4-SF_6$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	547.315	5.415	1573.74	2020.20	8.73
210	545.252	5.418	1394.32	1760.62	9.09
220	543.186	5.422	1246.20	1551.88	9.45
230	541.109	5.425	1122.11	1381.01	9.81
240	539.009	5.429	1016.81	1238.95	10.17
250	536.882	5.433	926.44	1119.23	10.53
260	534.732	5.436	848.14	1017.15	10.89
270	532.566	5.440	779.70	929.21	11.25
280	530.392	5.444	719.43	852.76	11.61
290	528.214	5.448	665.98	785.74	11.97
300	526.035	5.451	618.29	726.55	12.32
310	523.856	5.455	575.49	673.93	12.68
320	521.678	5.459	536.86	626.85	13.04
330	519.503	5.463	501.85	584.51	13.40
340	517.332	5.467	469.96	546.22	13.76
350	515.168	5.471	440.81	511.45	14.12
360	513.011	5.475	414.07	479.73	14.48
370	510.863	5.479	389.44	450.69	14.84
380	508.726	5.483	366.69	424.01	15.19
390	506.600	5.486	345.61	399.40	15.55
400	504.486	5.490	326.03	376.64	15.91
420	500.298	5.498	290.77	335.89	16.62
440	496.167	5.506	259.90	300.48	17.32
460	492.098	5.513	232.65	269.41	18.02
480	488.095	5.521	208.42	241.94	18.71
500	484.161	5.529	186.73	217.48	19.40
520	480.300	5.536	167.22	195.55	20.08
540	476.516	5.543	149.56	175.79	20.76
560	472.813	5.551	133.50	157.89	21.43
580	469.194	5.558	118.85	141.60	22.08
600	465.664	5.565	105.43	126.71	22.73
650	457.255	5.582	76.34	94.59	24.31
700	449.486	5.598	52.35	68.22	25.84
750	442.392	5.613	32.28	46.24	27.32
800	435.983	5.627	15.29	27.68	28.73
850	430.240	5.640	0.77	11.85	30.10
900	425.134	5.651	−11.76	−1.77	31.42

TABLE 126. Fit parameters according to Eqs. (14) and (15) for an equimolar $SiCl_4-SF_6$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.346 44(82)	$2.999(52)\times10^{-4}$	$2.35(10)\times10^{-7}$	$-2.135(61)\times10^{-10}$
ε_{12}/k_B/K	$5.9155(34)\times10^{2}$	$-2.128(22)\times10^{-1}$	$-4.72(42)\times10^{-5}$	$8.73(26)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$2.450(32)\times10^{2}$	$-2.197(40)\times10^{5}$	$2.20(15)\times10^{7}$	$-1.013(18)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$3.033(71)\times10^{2}$	$-3.167(89)\times10^{5}$	$6.58(34)\times10^{7}$	$-1.896(39)\times10^{10}$
η_{mix}/μPa s	1.415(38)	$3.605(24)\times10^{-2}$	$3.36(47)\times10^{-6}$	$-7.14(28)\times10^{-9}$

TABLE 127. Potential parameters and thermophysical properties of equimolar $SiCl_4-MoF_6$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	732.854	5.433	3606.55	3624.77	8.68
210	727.684	5.440	3072.86	3089.81	9.03
220	722.555	5.446	2655.53	2671.32	9.38
230	717.463	5.452	2322.61	2337.34	9.73
240	712.408	5.459	2052.34	2066.12	10.08
250	707.390	5.465	1829.56	1842.49	10.43
260	702.414	5.471	1643.45	1655.61	10.78
270	697.486	5.478	1486.11	1497.58	11.12
280	692.609	5.484	1351.69	1362.53	11.47
290	687.787	5.490	1235.73	1246.01	11.82
300	683.020	5.497	1134.84	1144.60	12.16
310	678.309	5.503	1046.37	1055.67	12.51
320	673.654	5.509	968.25	977.12	12.86
330	669.056	5.515	898.81	907.29	13.21
340	664.515	5.522	836.75	844.87	13.57
350	660.032	5.528	780.96	788.75	13.92
360	655.608	5.534	730.58	738.07	14.27
370	651.241	5.540	684.87	692.07	14.63
380	646.932	5.546	643.23	650.17	14.99
390	642.681	5.552	605.14	611.84	15.34
400	638.487	5.558	570.19	576.66	15.70
420	630.268	5.570	508.26	514.32	16.41
440	622.273	5.581	455.12	460.82	17.13
460	614.497	5.593	409.04	414.42	17.84
480	606.939	5.604	368.72	373.81	18.55
500	599.596	5.616	333.15	337.99	19.27
520	592.469	5.627	301.55	306.15	19.98
540	585.559	5.638	273.30	277.69	20.68
560	578.870	5.648	247.90	252.09	21.38
580	572.407	5.659	224.95	228.96	22.07
600	566.174	5.669	204.13	207.97	22.76
650	551.633	5.693	159.70	163.15	24.45
700	538.611	5.716	123.81	126.90	26.08
750	527.095	5.736	94.32	97.09	27.65
800	517.006	5.755	69.75	72.24	29.19
850	508.213	5.771	49.04	51.26	30.66
900	500.596	5.786	31.39	33.36	32.08

TABLE 128. Fit parameters according to Eqs. (14) and (15) for an equimolar $SiCl_4-MoF_6$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.305 40(75)	$6.280(48)\times10^{-4}$	$9.98(93)\times10^{-8}$	$-2.280(56)\times10^{-10}$
ε_{12}/k_B/K	$8.4930(20)\times10^{2}$	$-6.349(13)\times10^{-1}$	$2.650(24)\times10^{-4}$	$1.14(15)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$4.99(20)\times10^{2}$	$-6.30(26)\times10^{5}$	$2.014(98)\times10^{8}$	$-4.76(11)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$5.00(20)\times10^{2}$	$-6.33(26)\times10^{5}$	$2.014(97)\times10^{8}$	$-4.76(11)\times10^{10}$
η_{mix}/μPa s	2.247(35)	$2.981(22)\times10^{-2}$	$1.441(43)\times10^{-5}$	$-1.194(26)\times10^{-8}$

TABLE 129. Potential parameters and thermophysical properties of equimolar $SiCl_4-WF_6$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	676.677	5.479	3214.78	3298.60	9.53
210	670.631	5.487	2757.61	2829.18	9.93
220	664.633	5.495	2396.81	2458.88	10.32
230	658.671	5.503	2106.48	2161.04	10.72
240	652.729	5.511	1868.87	1917.40	11.11
250	646.807	5.520	1671.54	1715.16	11.51
260	640.919	5.528	1505.58	1545.15	11.90
270	635.077	5.536	1364.45	1400.61	12.31
280	629.295	5.544	1243.23	1276.50	12.71
290	623.578	5.553	1138.16	1168.97	13.13
300	617.927	5.561	1046.34	1075.01	13.54
310	612.343	5.569	965.49	992.30	13.96
320	606.829	5.578	893.82	919.01	14.38
330	601.385	5.586	829.91	853.65	14.80
340	596.014	5.594	772.58	795.05	15.22
350	590.717	5.602	720.91	742.23	15.65
360	585.495	5.610	674.11	694.41	16.08
370	580.348	5.618	631.54	650.91	16.50
380	575.277	5.626	592.66	611.19	16.93
390	570.281	5.634	557.02	574.79	17.36
400	565.359	5.642	524.24	541.31	17.79
420	555.739	5.658	466.00	481.84	18.65
440	546.413	5.674	415.85	430.64	19.51
460	537.377	5.690	372.22	386.12	20.38
480	528.626	5.705	333.93	347.05	21.24
500	520.157	5.720	300.06	312.50	22.08
520	511.968	5.735	269.91	281.74	22.92
540	504.061	5.750	242.89	254.18	23.75
560	496.437	5.764	218.56	229.37	24.57
580	489.101	5.778	196.55	206.91	25.38
600	482.056	5.792	176.55	186.51	26.17
650	465.745	5.825	133.82	142.89	28.10
700	451.312	5.855	99.27	107.60	29.94
750	438.715	5.883	70.93	78.60	31.71
800	427.829	5.907	47.38	54.47	33.39
850	418.471	5.929	27.59	34.16	35.00
900	410.474	5.948	10.79	16.91	36.55

TABLE 130. Fit parameters according to Eqs. (14) and (15) for an equimolar $SiCl_4-WF_6$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.318 83(78)	$7.555(50)\times10^{-4}$	$2.910(96)\times10^{-7}$	$-3.941(58)\times10^{-10}$
ε_{12}/k_B/K	$8.1805(40)\times10^{2}$	$-7.761(26)\times10^{-1}$	$3.621(50)\times10^{-4}$	$-2.6(3.0)\times10^{-9}$
B_{12}/cm^3 mol^{-1}	$4.49(16)\times10^{2}$	$-5.24(20)\times10^{5}$	$1.505(77)\times10^{8}$	$-3.820(89)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$4.56(16)\times10^{2}$	$-5.41(21)\times10^{5}$	$1.566(78)\times10^{8}$	$-3.946(91)\times10^{10}$
η_{mix}/μPa s	1.95(11)	$3.379(67)\times10^{-2}$	$2.24(13)\times10^{-5}$	$-1.931(78)\times10^{-8}$

TABLE 131. Potential parameters and thermophysical properties of equimolar $SiCl_4-UF_6$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	800.494	5.454	4823.77	4870.84	9.89
210	793.396	5.462	4031.38	4059.29	10.29
220	786.381	5.470	3426.11	3442.57	10.69
230	779.454	5.478	2953.37	2962.90	11.09
240	772.620	5.486	2576.91	2582.19	11.48
250	765.883	5.494	2271.94	2274.64	11.88
260	759.244	5.501	2021.12	2022.26	12.27
270	752.704	5.509	1812.06	1812.27	12.66
280	746.265	5.517	1635.71	1635.40	13.05
290	739.925	5.525	1485.35	1484.77	13.44
300	733.686	5.532	1355.91	1355.23	13.83
310	727.547	5.540	1243.50	1242.82	14.23
320	721.506	5.547	1145.12	1144.51	14.62
330	715.564	5.555	1058.41	1057.89	15.02
340	709.719	5.562	981.47	981.08	15.41
350	703.970	5.570	912.80	912.55	15.81
360	698.315	5.577	851.18	851.06	16.21
370	692.753	5.584	795.61	795.62	16.61
380	687.283	5.592	745.26	745.40	17.01
390	681.903	5.599	699.45	699.71	17.42
400	676.612	5.606	657.60	657.97	17.82
420	666.290	5.620	583.95	584.52	18.63
440	656.306	5.634	521.24	521.98	19.44
460	646.650	5.648	467.24	468.13	20.25
480	637.317	5.661	420.27	421.29	21.06
500	628.302	5.674	379.08	380.19	21.88
520	619.605	5.687	342.66	343.86	22.69
540	611.227	5.700	310.26	311.52	23.49
560	603.171	5.713	281.26	282.57	24.29
580	595.443	5.725	255.18	256.52	25.09
600	588.047	5.737	231.60	232.96	25.87
650	571.024	5.764	181.62	182.99	27.81
700	556.074	5.790	141.58	142.91	29.69
750	543.086	5.812	108.92	110.19	31.49
800	531.879	5.833	81.89	83.06	33.24
850	522.228	5.850	59.19	60.26	34.94
900	513.947	5.866	39.92	40.89	36.57

TABLE 132. Fit parameters according to Eqs. (14) and (15) for an equimolar $SiCl_4-UF_6$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.292 52(91)	$8.132(58)\times10^{-4}$	$2.6(1.1)\times10^{-8}$	$-2.470(68)\times10^{-10}$
ε_{12}/k_B/K	$9.6322(31)\times10^{2}$	$-9.177(19)\times10^{-1}$	$5.322(38)\times10^{-4}$	$-7.42(23)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$7.36(38)\times10^{2}$	$-9.97(48)\times10^{5}$	$3.76(18)\times10^{8}$	$-7.93(21)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$7.67(41)\times10^{2}$	$-1.045(52)\times10^{6}$	$3.98(20)\times10^{8}$	$-8.23(23)\times10^{10}$
η_{mix}/μPa s	2.813(42)	$3.237(27)\times10^{-2}$	$1.884(52)\times10^{-5}$	$-1.464(32)\times10^{-8}$

TABLE 133. Potential parameters and thermophysical properties of equimolar $SiCl_4-C(CH_3)_4$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	644.069	5.791	3030.81	3139.82	6.30
210	641.222	5.795	2641.65	2727.04	6.56
220	638.387	5.799	2328.41	2396.59	6.81
230	635.561	5.804	2071.96	2127.32	7.07
240	632.741	5.808	1858.87	1904.49	7.33
250	629.926	5.812	1679.47	1717.56	7.58
260	627.116	5.817	1526.70	1558.88	7.84
270	624.310	5.821	1395.25	1422.74	8.09
280	621.509	5.825	1281.12	1304.82	8.35
290	618.711	5.830	1181.20	1201.82	8.61
300	615.916	5.834	1093.06	1111.15	8.86
310	613.122	5.839	1014.80	1030.79	9.12
320	610.330	5.843	944.88	959.11	9.38
330	607.544	5.847	882.08	894.82	9.64
340	604.764	5.852	825.37	836.85	9.90
350	601.993	5.856	773.94	784.34	10.16
360	599.232	5.861	727.10	736.56	10.42
370	596.483	5.865	684.27	692.91	10.68
380	593.747	5.870	644.96	652.90	10.94
390	591.026	5.874	608.76	616.08	11.20
400	588.322	5.879	575.33	582.10	11.46
420	582.965	5.888	515.60	521.45	11.98
440	577.678	5.897	463.80	468.93	12.50
460	572.462	5.906	418.46	423.00	13.02
480	567.317	5.915	378.45	382.50	13.54
500	562.241	5.923	342.88	346.53	14.05
520	557.236	5.932	311.05	314.36	14.56
540	552.301	5.941	282.39	285.41	15.07
560	547.438	5.950	256.45	259.23	15.57
580	542.649	5.959	232.86	235.43	16.07
600	537.936	5.967	211.32	213.71	16.57
650	526.490	5.989	164.83	166.86	17.78
700	515.539	6.010	126.60	128.37	18.96
750	505.101	6.030	94.62	96.19	20.10
800	495.201	6.050	67.49	68.90	21.20
850	485.850	6.069	44.19	45.48	22.26
900	477.030	6.088	23.97	25.18	23.28

TABLE 134. Fit parameters according to Eqs. (14) and (15) for an equimolar $SiCl_4-C(CH_3)_4$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.708 35(70)	$3.867(44)\times10^{-4}$	$1.461(86)\times10^{-7}$	$-1.193(52)\times10^{-10}$
ε_{12}/k_B/K	$7.0394(21)\times10^{2}$	$-3.040(13)\times10^{-1}$	$2.12(26)\times10^{-5}$	$4.06(15)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$4.149(97)\times10^{2}$	$-4.66(12)\times10^{5}$	$1.009(46)\times10^{8}$	$-2.897(54)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$4.35(11)\times10^{2}$	$-4.99(14)\times10^{5}$	$1.175(54)\times10^{8}$	$-3.196(62)\times10^{10}$
η_{mix}/μPa s	1.407(19)	$2.314(12)\times10^{-2}$	$8.02(24)\times10^{-6}$	$-7.51(14)\times10^{-9}$

TABLE 135. Potential parameters and thermophysical properties of equimolar $SiCl_4-Si(CH_3)_4$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	663.201	5.895	3663.73	3705.97	6.17
210	658.616	5.902	3165.27	3198.94	6.43
220	654.067	5.909	2768.52	2795.90	6.68
230	649.553	5.915	2446.93	2469.61	6.93
240	645.073	5.922	2182.10	2201.17	7.19
250	640.627	5.929	1960.96	1977.21	7.44
260	636.216	5.936	1774.01	1788.03	7.69
270	631.843	5.943	1614.24	1626.46	7.95
280	627.507	5.950	1476.36	1487.12	8.20
290	623.211	5.957	1356.32	1365.89	8.46
300	618.954	5.963	1251.00	1259.56	8.72
310	614.735	5.970	1157.91	1165.64	8.98
320	610.556	5.977	1075.12	1082.14	9.24
330	606.417	5.984	1001.04	1007.46	9.50
340	602.317	5.991	934.41	940.30	9.76
350	598.259	5.998	874.18	879.61	10.02
360	594.241	6.004	819.48	824.52	10.29
370	590.264	6.011	769.61	774.30	10.55
380	586.328	6.018	723.95	728.34	10.81
390	582.434	6.025	682.02	686.13	11.08
400	578.580	6.031	643.36	647.24	11.34
420	570.996	6.045	574.50	577.96	11.87
440	563.575	6.058	514.99	518.11	12.40
460	556.315	6.071	463.06	465.91	12.93
480	549.213	6.084	417.35	419.97	13.46
500	542.268	6.097	376.81	379.23	13.98
520	535.476	6.110	340.61	342.87	14.51
540	528.835	6.123	308.09	310.20	15.02
560	522.343	6.136	278.70	280.68	15.53
580	515.997	6.148	252.01	253.89	16.04
600	509.795	6.161	227.68	229.46	16.54
650	494.903	6.192	175.24	176.83	17.77
700	480.858	6.222	132.22	133.66	18.95
750	467.635	6.251	96.28	97.61	20.08
800	455.233	6.279	65.81	67.06	21.17
850	443.630	6.307	39.67	40.85	22.21
900	432.733	6.333	16.98	18.10	23.21

TABLE 136. Fit parameters according to Eqs. (14) and (15) for an equimolar $SiCl_4-Si(CH_3)_4$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.755 36(73)	$6.965(46)\times10^{-4}$	$1.82(90)\times10^{-8}$	$-8.76(54)\times10^{-11}$
ε_{12}/k_B/K	$7.6596(98)\times10^{2}$	$-5.611(62)\times10^{-1}$	$2.48(12)\times10^{-4}$	$-4000(73)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$5.27(14)\times10^{2}$	$-6.07(18)\times10^{5}$	$1.578(69)\times10^{8}$	$-4.059(80)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$5.34(15)\times10^{2}$	$-6.18(19)\times10^{5}$	$1.634(72)\times10^{8}$	$-4.162(83)\times10^{10}$
η_{mix}/μPa s	1.443(32)	$2.158(21)\times10^{-2}$	$1.211(40)\times10^{-5}$	$-1.029(24)\times10^{-8}$

TABLE 137. Potential parameters and thermophysical properties of equimolar $SiCl_4$–Ar mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	339.460	4.684	422.61	1293.51	9.51
210	338.531	4.687	383.21	1118.87	9.93
220	337.605	4.689	349.19	979.88	10.34
230	336.681	4.692	319.55	867.15	10.75
240	335.760	4.695	293.50	774.20	11.16
250	334.842	4.697	270.43	696.45	11.57
260	333.927	4.700	249.85	630.60	11.98
270	333.017	4.703	231.40	574.21	12.38
280	332.112	4.705	214.76	525.43	12.78
290	331.214	4.708	199.68	482.87	13.18
300	330.322	4.711	185.94	445.44	13.59
310	329.437	4.713	173.39	412.28	13.99
320	328.559	4.716	161.87	382.72	14.39
330	327.689	4.718	151.26	356.21	14.79
340	326.826	4.721	141.46	332.31	15.18
350	325.970	4.723	132.37	310.66	15.58
360	325.122	4.726	123.93	290.95	15.97
370	324.282	4.729	116.07	272.95	16.36
380	323.450	4.731	108.73	256.43	16.75
390	322.626	4.734	101.85	241.23	17.14
400	321.811	4.736	95.41	227.20	17.52
420	320.203	4.741	83.65	202.12	18.29
440	318.627	4.746	73.18	180.38	19.04
460	317.082	4.751	63.81	161.36	19.80
480	315.569	4.755	55.38	144.57	20.54
500	314.086	4.760	47.74	129.64	21.27
520	312.633	4.765	40.79	116.28	22.00
540	311.209	4.769	34.45	104.26	22.71
560	309.814	4.774	28.63	93.38	23.41
580	308.448	4.778	23.27	83.48	24.11
600	307.110	4.782	18.33	74.44	24.79
650	303.889	4.793	7.48	54.95	26.47
700	300.847	4.803	−1.62	38.94	28.08
750	297.993	4.812	−9.35	25.58	29.63
800	295.335	4.821	−15.99	14.27	31.13
850	292.880	4.830	−21.74	4.59	32.58
900	290.637	4.838	−26.76	−3.75	33.98

TABLE 138. Fit parameters according to Eqs. (14) and (15) for an equimolar $SiCl_4$–Ar mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.627 60(68)	$2.895(44)\times10^{-4}$	$-3.30(84)\times10^{-8}$	$-3.25(51)\times10^{-11}$
ε_{12}/k_B/K	$3.600\,90(37)\times10^{2}$	$-1.1006(24)\times10^{-1}$	$3.564(46)\times10^{-5}$	$9.8(2.8)\times10^{-10}$
B_{12}/cm^3 mol^{-1}	$1.0840(22)\times10^{2}$	$-6.954(27)\times10^{4}$	$-2.24(10)\times10^{6}$	$-1.016(12)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.032(54)\times10^{2}$	$-2.190(68)\times10^{5}$	$5.38(26)\times10^{7}$	$-1.389(30)\times10^{10}$
η_{mix}/μPa s	$7.89(25)\times10^{-1}$	$4.499(16)\times10^{-2}$	$-6.90(31)\times10^{-6}$	$-2.37(18)\times10^{-9}$

TABLE 139. Potential parameters and thermophysical properties of equimolar $SiCl_4$–Kr mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	399.694	4.824	639.16	1419.29	10.21
210	398.600	4.826	577.38	1232.09	10.66
220	397.509	4.829	524.70	1082.57	11.11
230	396.422	4.831	479.28	960.89	11.56
240	395.337	4.834	439.76	860.27	12.00
250	394.256	4.837	405.06	775.87	12.45
260	393.179	4.839	374.37	704.21	12.89
270	392.107	4.842	347.05	642.70	13.33
280	391.042	4.845	322.57	589.39	13.77
290	389.984	4.847	300.52	542.78	14.21
300	388.934	4.850	280.56	501.72	14.66
310	387.892	4.853	262.41	465.29	15.10
320	386.859	4.855	245.83	432.76	15.54
330	385.834	4.858	230.63	403.55	15.97
340	384.817	4.860	216.65	377.18	16.41
350	383.810	4.863	203.74	353.27	16.84
360	382.812	4.865	191.79	331.48	17.28
370	381.823	4.868	180.69	311.56	17.71
380	380.843	4.870	170.36	293.26	18.14
390	379.873	4.873	160.73	276.41	18.57
400	378.912	4.875	151.71	260.84	19.00
420	377.019	4.880	135.33	233.00	19.84
440	375.163	4.885	120.82	208.83	20.68
460	373.345	4.890	107.89	187.66	21.51
480	371.563	4.895	96.29	168.96	22.33
500	369.817	4.899	85.83	152.31	23.15
520	368.106	4.904	76.35	137.41	23.95
540	366.430	4.908	67.71	123.99	24.75
560	364.788	4.913	59.81	111.84	25.53
580	363.179	4.917	52.55	100.78	26.30
600	361.604	4.922	45.87	90.68	27.06
650	357.811	4.932	31.26	68.88	28.92
700	354.229	4.942	19.07	50.96	30.71
750	350.868	4.952	8.75	35.99	32.44
800	347.739	4.961	−0.09	23.32	34.11
850	344.849	4.969	−7.73	12.47	35.72
900	342.207	4.977	−14.39	3.11	37.28

TABLE 140. Fit parameters according to Eqs. (14) and (15) for an equimolar $SiCl_4$–Kr mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.767 73(69)	$2.853(44)\times10^{-4}$	$-2.66(85)\times10^{-8}$	$-3.56(51)\times10^{-11}$
ε_{12}/k_B/K	$4.239\,85(44)\times10^{2}$	$-1.2960(28)\times10^{-1}$	$4.198(54)\times10^{-5}$	$1.15(33)\times10^{-9}$
B_{12}/cm^3 mol^{-1}	$1.2378(48)\times10^{2}$	$-9.437(61)\times10^{4}$	$-9.8(2.3)\times10^{5}$	$-2.125(27)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.134(56)\times10^{2}$	$-2.341(70)\times10^{5}$	$5.43(27)\times10^{7}$	$-1.447(31)\times10^{10}$
η_{mix}/μPa s	$7.62(37)\times10^{-1}$	$4.825(23)\times10^{-2}$	$-5.06(45)\times10^{-6}$	$-3.90(27)\times10^{-9}$

TABLE 141. Potential parameters and thermophysical properties of equimolar $SiCl_4$–Xe mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	466.321	5.014	987.61	1632.99	10.19
210	465.045	5.016	886.28	1422.65	10.63
220	463.773	5.019	801.09	1253.98	11.07
230	462.504	5.021	728.58	1116.23	11.52
240	461.239	5.024	666.19	1001.96	11.96
250	459.977	5.027	611.99	905.86	12.40
260	458.720	5.029	564.50	824.05	12.85
270	457.470	5.032	522.57	753.68	13.29
280	456.227	5.035	485.31	692.57	13.73
290	454.994	5.037	451.98	639.06	14.18
300	453.769	5.040	422.01	591.83	14.63
310	452.553	5.043	394.91	549.88	15.07
320	451.347	5.045	370.30	512.37	15.51
330	450.151	5.048	347.86	478.66	15.95
340	448.965	5.050	327.32	448.19	16.39
350	447.790	5.053	308.44	420.53	16.83
360	446.625	5.055	291.03	395.32	17.27
370	445.472	5.058	274.94	372.24	17.71
380	444.329	5.060	260.01	351.04	18.15
390	443.197	5.063	246.13	331.50	18.59
400	442.076	5.065	233.19	313.44	19.02
420	439.867	5.070	209.77	281.11	19.90
440	437.702	5.075	189.16	253.02	20.76
460	435.580	5.080	170.87	228.40	21.61
480	433.501	5.085	154.54	206.65	22.46
500	431.464	5.089	139.87	187.28	23.29
520	429.468	5.094	126.62	169.93	24.12
540	427.513	5.098	114.59	154.29	24.94
560	425.597	5.103	103.62	140.14	25.75
580	423.720	5.107	93.58	127.26	26.55
600	421.882	5.112	84.36	115.49	27.34
650	417.457	5.122	64.28	90.08	29.28
700	413.278	5.132	47.60	69.19	31.15
750	409.357	5.142	33.54	51.74	32.95
800	405.706	5.151	21.55	36.96	34.70
850	402.334	5.159	11.21	24.31	36.39
900	399.252	5.167	2.23	13.38	38.02

TABLE 142. Fit parameters according to Eqs. (14) and (15) for an equimolar $SiCl_4$–Xe mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.957 35(68)	$2.881(43)\times10^{-4}$	$-3.28(84)\times10^{-8}$	$-3.14(50)\times10^{-11}$
ε_{12}/k_B/K	$4.946\,61(51)\times10^{2}$	$-1.5120(33)\times10^{-1}$	$4.896(63)\times10^{-5}$	$1.34(38)\times10^{-9}$
B_{12}/cm^3 mol^{-1}	$1.503(11)\times10^{2}$	$-1.356(14)\times10^{5}$	$4.26(55)\times10^{6}$	$-4.514(63)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.310(59)\times10^{2}$	$-2.599(74)\times10^{5}$	$5.66(28)\times10^{7}$	$-1.574(33)\times10^{10}$
η_{mix}/μPa s	$9.72(44)\times10^{-1}$	$4.605(28)\times10^{-2}$	$3.6(5.4)\times10^{-7}$	$-6.49(33)\times10^{-9}$

TABLE 143. Potential parameters and thermophysical properties of equimolar SF_6-MoF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	552.604	5.070	1305.65	1567.25	10.56
210	549.642	5.075	1152.52	1360.06	10.99
220	546.687	5.079	1026.59	1194.32	11.43
230	543.730	5.084	921.46	1059.23	11.86
240	540.759	5.088	832.51	947.30	12.30
250	537.769	5.093	756.38	853.25	12.73
260	534.766	5.098	690.56	773.24	13.16
270	531.758	5.103	633.16	704.44	13.60
280	528.752	5.108	582.71	644.73	14.03
290	525.755	5.112	538.05	592.46	14.46
300	522.768	5.117	498.25	546.34	14.90
310	519.793	5.122	462.58	505.37	15.33
320	516.830	5.127	430.44	468.75	15.77
330	513.883	5.132	401.32	435.82	16.20
340	510.951	5.137	374.84	406.06	16.63
350	508.037	5.142	350.65	379.04	17.07
360	505.142	5.147	328.47	354.40	17.50
370	502.269	5.152	308.06	331.84	17.93
380	499.418	5.157	289.22	311.11	18.36
390	496.589	5.162	271.78	292.00	18.79
400	493.784	5.166	255.58	274.31	19.23
420	488.249	5.176	226.42	242.65	20.09
440	482.816	5.186	200.91	215.12	20.94
460	477.491	5.196	178.41	190.96	21.78
480	472.279	5.205	158.41	169.58	22.62
500	467.185	5.215	140.51	150.54	23.45
520	462.218	5.224	124.42	133.47	24.27
540	457.384	5.233	109.86	118.08	25.08
560	452.694	5.242	96.64	104.14	25.88
580	448.157	5.251	84.59	91.47	26.66
600	443.784	5.260	73.56	79.90	27.43
650	433.627	5.280	49.76	55.02	29.32
700	424.655	5.299	30.27	34.75	31.13
750	416.890	5.315	14.13	18.01	32.86
800	410.272	5.330	0.60	4.02	34.52
850	404.681	5.342	−10.84	−7.79	36.12
900	399.989	5.352	−20.62	−17.86	37.66

TABLE 144. Fit parameters according to Eqs. (14) and (15) for an equimolar SF_6-MoF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.987 26(85)	$3.449(54)\times10^{-4}$	$4.12(11)\times10^{-7}$	$-3.847(63)\times10^{-10}$
ε_{12}/k_B/K	$6.1621(50)\times10^{2}$	$-3.148(32)\times10^{-1}$	$-2.85(61)\times10^{-5}$	$1.246(37)\times10^{-7}$
B_{12}/cm^3 mol^{-1}	$2.115(34)\times10^{2}$	$-1.800(43)\times10^{5}$	$1.95(16)\times10^{7}$	$-8.79(19)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.558(67)\times10^{2}$	$-2.516(84)\times10^{5}$	$5.46(32)\times10^{7}$	$-1.535(37)\times10^{10}$
η_{mix}/μPa s	1.688(59)	$4.362(37)\times10^{-2}$	$4.52(73)\times10^{-6}$	$-9.62(44)\times10^{-9}$

TABLE 145. Potential parameters and thermophysical properties of equimolar SF_6–WF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	510.243	5.116	1196.10	1382.19	11.54
210	506.548	5.122	1058.82	1210.21	12.03
220	502.864	5.128	945.23	1070.56	12.52
230	499.174	5.135	849.83	955.18	13.01
240	495.459	5.141	768.67	858.40	13.50
250	491.713	5.148	698.84	776.16	13.99
260	487.948	5.155	638.20	705.52	14.49
270	484.178	5.161	585.09	644.27	14.99
280	480.417	5.168	538.25	590.70	15.50
290	476.672	5.175	496.64	543.50	16.01
300	472.947	5.182	459.46	501.60	16.52
310	469.243	5.189	426.04	464.18	17.03
320	465.562	5.196	395.84	430.55	17.55
330	461.907	5.202	368.43	400.18	18.06
340	458.280	5.209	343.43	372.62	18.58
350	454.684	5.216	320.55	347.50	19.10
360	451.121	5.223	299.53	324.51	19.61
370	447.593	5.230	280.15	303.39	20.13
380	444.101	5.237	262.24	283.93	20.64
390	440.647	5.244	245.62	265.93	21.16
400	437.230	5.251	230.16	249.23	21.66
420	430.513	5.265	202.28	219.24	22.68
440	423.957	5.279	177.82	193.04	23.69
460	417.565	5.292	156.18	169.96	24.71
480	411.341	5.306	136.91	149.47	25.70
500	405.289	5.319	119.63	131.16	26.65
520	399.415	5.332	104.06	114.69	27.59
540	393.725	5.345	89.95	99.82	28.53
560	388.229	5.358	77.11	86.32	29.46
580	382.934	5.371	65.39	74.02	30.36
600	377.849	5.383	54.65	62.78	31.24
650	366.112	5.412	31.45	38.56	33.33
700	355.827	5.438	12.45	18.80	35.32
750	346.988	5.462	−3.27	2.51	37.22
800	339.505	5.482	−16.40	−11.06	39.02
850	333.221	5.500	−27.47	−22.47	40.73
900	327.979	5.514	−36.88	−32.15	42.38

TABLE 146. Fit parameters according to Eqs. (14) and (15) for an equimolar SF_6–WF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.0004(12)	$4.755(75)\times10^{-4}$	$5.98(15)\times10^{-7}$	$-5.477(87)\times10^{-10}$
ε_{12}/k_B/K	$5.9468(68)\times10^{2}$	$-4.332(43)\times10^{-1}$	$5.50(84)\times10^{-5}$	$1.090(50)\times10^{-7}$
B_{12}/cm^3 mol^{-1}	$2.172(30)\times10^{2}$	$-1.650(38)\times10^{5}$	$1.26(14)\times10^{7}$	$-7.19(16)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.399(48)\times10^{2}$	$-2.051(60)\times10^{5}$	$3.18(23)\times10^{7}$	$-1.106(27)\times10^{10}$
η_{mix}/μPa s	$9.3(1.6)\times10^{-1}$	$5.14(10)\times10^{-2}$	$7.2(1.9)\times10^{-6}$	$-1.48(12)\times10^{-8}$

TABLE 147. Potential parameters and thermophysical properties of equimolar SF_6-UF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	603.607	5.091	1646.22	2374.99	11.87
210	599.276	5.097	1436.89	1992.47	12.35
220	594.979	5.103	1267.53	1700.76	12.84
230	590.709	5.109	1128.22	1472.79	13.32
240	586.463	5.115	1011.91	1290.79	13.81
250	582.236	5.122	913.57	1142.80	14.29
260	578.032	5.128	829.47	1020.50	14.77
270	573.856	5.134	756.85	918.00	15.25
280	569.714	5.140	693.58	831.02	15.73
290	565.610	5.147	638.01	756.39	16.21
300	561.547	5.153	588.87	691.74	16.69
310	557.524	5.159	545.12	635.23	17.17
320	553.543	5.165	505.93	585.45	17.65
330	549.605	5.172	470.65	541.29	18.13
340	545.709	5.178	438.72	501.85	18.61
350	541.856	5.184	409.69	466.44	19.10
360	538.048	5.190	383.20	434.46	19.58
370	534.285	5.196	358.92	405.45	20.06
380	530.567	5.202	336.60	379.01	20.54
390	526.895	5.208	316.00	354.82	21.02
400	523.269	5.215	296.94	332.60	21.50
420	516.153	5.227	262.79	293.19	22.46
440	509.221	5.239	233.07	259.31	23.42
460	502.475	5.250	206.99	229.86	24.38
480	495.917	5.262	183.90	204.03	25.32
500	489.552	5.273	163.33	181.19	26.26
520	483.388	5.285	144.90	160.86	27.19
540	477.433	5.296	128.29	142.64	28.11
560	471.698	5.307	113.25	126.25	29.02
580	466.193	5.317	99.59	111.42	29.92
600	460.928	5.327	87.13	97.95	30.80
650	448.870	5.351	60.37	69.22	32.95
700	438.423	5.373	38.63	46.05	35.02
750	429.538	5.391	20.73	27.10	36.99
800	422.074	5.407	5.81	11.37	38.90
850	415.841	5.421	−6.77	−1.83	40.73
900	410.656	5.432	−17.48	−13.03	42.49

TABLE 148. Fit parameters according to Eqs. (14) and (15) for an equimolar SF_6-UF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.9730(11)	$5.388(71)\times10^{-4}$	$3.22(14)\times10^{-7}$	$-3.947(83)\times10^{-10}$
ε_{12}/k_B/K	$7.0024(55)\times10^{2}$	$-5.139(35)\times10^{-1}$	$1.487(67)\times10^{-4}$	$7.30(40)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$2.521(59)\times10^{2}$	$-2.375(74)\times10^{5}$	$4.32(28)\times10^{7}$	$-1.424(33)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$4.24(20)\times10^{2}$	$-5.09(25)\times10^{5}$	$1.760(94)\times10^{8}$	$-3.69(11)\times10^{10}$
η_{mix}/μPa s	2.355(64)	$4.594(41)\times10^{-2}$	$1.021(79)\times10^{-5}$	$-1.310(47)\times10^{-8}$

TABLE 149. Potential parameters and thermophysical properties of equimolar $SF_6-C(CH_3)_4$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	485.656	5.428	1190.81	1312.74	7.78
210	484.335	5.430	1064.95	1169.11	8.10
220	483.006	5.433	959.40	1049.56	8.43
230	481.660	5.435	869.71	948.67	8.76
240	480.287	5.438	792.62	862.46	9.08
250	478.879	5.440	725.69	788.02	9.41
260	477.439	5.443	667.06	723.14	9.74
270	475.969	5.446	615.32	666.11	10.06
280	474.473	5.449	569.34	615.62	10.39
290	472.952	5.452	528.22	570.62	10.71
300	471.408	5.455	491.23	530.27	11.04
310	469.840	5.458	457.79	493.89	11.36
320	468.248	5.461	427.41	460.91	11.69
330	466.637	5.464	399.69	430.90	12.01
340	465.008	5.467	374.30	403.46	12.33
350	463.363	5.471	350.96	378.29	12.66
360	461.705	5.474	329.43	355.12	12.98
370	460.037	5.477	309.51	333.71	13.30
380	458.360	5.481	291.03	313.88	13.62
390	456.677	5.484	273.84	295.46	13.93
400	454.988	5.487	257.80	278.30	14.25
420	451.604	5.494	228.76	247.29	14.88
440	448.215	5.501	203.16	220.01	15.50
460	444.828	5.508	180.42	195.83	16.11
480	441.447	5.515	160.08	174.24	16.72
500	438.080	5.522	141.78	154.85	17.32
520	434.730	5.530	125.23	137.33	17.91
540	431.406	5.537	110.18	121.42	18.50
560	428.113	5.544	96.44	106.90	19.07
580	424.859	5.551	83.84	93.61	19.63
600	421.650	5.558	72.25	81.40	20.19
650	413.863	5.576	46.98	54.78	21.54
700	406.465	5.593	25.94	32.65	22.84
750	399.495	5.609	8.18	13.97	24.07
800	392.969	5.625	−7.01	−1.99	25.26
850	386.874	5.640	−20.13	−15.78	26.39
900	381.159	5.654	−31.58	−27.82	27.48

TABLE 150. Fit parameters according to Eqs. (14) and (15) for an equimolar $SF_6-C(CH_3)_4$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.389 93(93)	$1.062(59)\times10^{-4}$	$4.53(11)\times10^{-7}$	$-2.727(69)\times10^{-10}$
ε_{12}/k_B/K	$5.0931(45)\times10^{2}$	$-8.59(28)\times10^{-2}$	$-1.753(55)\times10^{-4}$	$1.258(33)\times10^{-7}$
B_{12}/cm^3 mol^{-1}	$2.299(15)\times10^{2}$	$-1.801(19)\times10^{5}$	$8.89(72)\times10^{6}$	$-5.919(84)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.423(20)\times10^{2}$	$-1.998(26)\times10^{5}$	$1.559(98)\times10^{7}$	$-7.54(11)\times10^{9}$
η_{mix}/μPa s	$8.56(37)\times10^{-1}$	$3.495(23)\times10^{-2}$	$-1.73(46)\times10^{-6}$	$-4.76(27)\times10^{-9}$

TABLE 151. Potential parameters and thermophysical properties of equimolar $SF_6-Si(CH_3)_4$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	500.082	5.532	1408.23	1671.15	7.58
210	497.472	5.537	1252.51	1472.98	7.90
220	494.869	5.542	1122.90	1310.57	8.22
230	492.263	5.547	1013.52	1175.37	8.53
240	489.647	5.552	920.08	1061.25	8.85
250	487.014	5.557	839.40	963.78	9.18
260	484.367	5.563	769.10	879.65	9.50
270	481.712	5.568	707.34	806.35	9.82
280	479.052	5.573	652.67	741.97	10.14
290	476.392	5.579	603.98	685.01	10.47
300	473.733	5.584	560.34	634.27	10.79
310	471.076	5.590	521.01	588.79	11.11
320	468.422	5.595	485.40	547.81	11.44
330	465.771	5.601	452.99	510.70	11.76
340	463.127	5.606	423.38	476.93	12.09
350	460.489	5.612	396.22	446.08	12.41
360	457.860	5.617	371.22	417.78	12.73
370	455.241	5.623	348.14	391.74	13.05
380	452.633	5.629	326.76	367.69	13.37
390	450.037	5.634	306.89	345.41	13.69
400	447.455	5.640	288.39	324.71	14.01
420	442.333	5.651	254.95	287.44	14.64
440	437.273	5.662	225.54	254.79	15.27
460	432.280	5.674	199.46	225.96	15.89
480	427.360	5.685	176.17	200.31	16.51
500	422.517	5.696	155.25	177.32	17.11
520	417.754	5.707	136.34	156.61	17.71
540	413.077	5.719	119.17	137.85	18.29
560	408.488	5.730	103.51	120.77	18.86
580	403.992	5.741	89.16	105.15	19.43
600	399.592	5.752	75.96	90.82	19.99
650	389.033	5.778	47.20	59.65	21.33
700	379.121	5.805	23.25	33.79	22.60
750	369.862	5.830	3.02	11.98	23.81
800	361.252	5.854	−14.29	−6.64	24.97
850	353.254	5.877	−29.27	−22.73	26.06
900	345.764	5.900	−42.39	−36.81	27.11

TABLE 152. Fit parameters according to Eqs. (14) and (15) for an equimolar $SF_6-Si(CH_3)_4$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.437 01(90)	$4.159(57)\times10^{-4}$	$3.24(11)\times10^{-7}$	$-2.401(67)\times10^{-10}$
ε_{12}/k_B/K	$5.5582(84)\times10^{2}$	$-2.762(54)\times10^{-1}$	$-1.5(1.0)\times10^{-5}$	$6.97(63)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$2.767(21)\times10^{2}$	$-2.201(26)\times10^{5}$	$1.87(10)\times10^{7}$	$-8.39(12)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$3.080(38)\times10^{2}$	$-2.684(47)\times10^{5}$	$3.79(18)\times10^{7}$	$-1.263(21)\times10^{10}$
η_{mix}/μPa s	$8.22(59)\times10^{-1}$	$3.340(37)\times10^{-2}$	$1.96(72)\times10^{-6}$	$-7.44(43)\times10^{-9}$

TABLE 153. Potential parameters and thermophysical properties of equimolar SF_6–Ar mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	255.968	4.321	175.57	262.92	12.61
210	255.703	4.322	158.95	237.16	13.16
220	255.433	4.323	144.35	214.94	13.72
230	255.154	4.324	131.43	195.56	14.27
240	254.861	4.325	119.92	178.51	14.81
250	254.552	4.326	109.58	163.38	15.35
260	254.227	4.327	100.26	149.88	15.89
270	253.889	4.328	91.81	137.75	16.43
280	253.541	4.329	84.11	126.80	16.96
290	253.185	4.330	77.07	116.86	17.49
300	252.821	4.331	70.61	107.81	18.01
310	252.450	4.333	64.66	99.52	18.53
320	252.072	4.334	59.16	91.91	19.04
330	251.689	4.335	54.06	84.88	19.55
340	251.299	4.336	49.32	78.39	20.06
350	250.904	4.338	44.90	72.37	20.56
360	250.505	4.339	40.77	66.77	21.06
370	250.102	4.340	36.91	61.54	21.55
380	249.697	4.342	33.28	56.66	22.04
390	249.288	4.343	29.88	52.08	22.52
400	248.878	4.345	26.67	47.79	23.00
420	248.051	4.347	20.77	39.94	23.95
440	247.219	4.350	15.49	32.95	24.87
460	246.386	4.353	10.74	26.68	25.78
480	245.554	4.356	6.43	21.02	26.67
500	244.725	4.359	2.51	15.90	27.53
520	243.902	4.362	−1.07	11.23	28.39
540	243.087	4.365	−4.36	6.97	29.22
560	242.284	4.368	−7.38	3.05	30.04
580	241.494	4.370	−10.17	−0.55	30.85
600	240.722	4.373	−12.75	−3.88	31.64
650	238.881	4.380	−18.43	−11.16	33.55
700	237.196	4.386	−23.20	−17.23	35.37
750	235.689	4.391	−27.24	−22.36	37.11
800	234.364	4.396	−30.69	−26.73	38.79
850	233.216	4.400	−33.67	−30.48	40.41
900	232.226	4.404	−36.26	−33.72	41.98
950	231.378	4.407	−38.52	−36.55	43.50
1000	230.651	4.410	−40.52	−39.04	44.97

TABLE 154. Fit parameters according to Eqs. (14) and (15) for an equimolar SF_6–Ar mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.305 94(92)	$3.43(54)\times10^{-5}$	$2.171(97)\times10^{-7}$	$-1.484(54)\times10^{-10}$
ε_{12}/k_B/K	$2.6136(22)\times10^{2}$	$-1.65(13)\times10^{-2}$	$-5.30(23)\times10^{-5}$	$3.90(13)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$7.811(20)\times10^{1}$	$-3.457(27)\times10^{4}$	$-2.61(10)\times10^{6}$	$-1.23(12)\times10^{8}$
B_{mix}/cm^3 mol^{-1}	$8.639(33)\times10^{1}$	$-4.372(44)\times10^{4}$	$-2.68(18)\times10^{6}$	$-5.05(21)\times10^{8}$
η_{mix}/μPa s	$-1.57(30)\times10^{-1}$	$6.984(18)\times10^{-2}$	$-3.321(32)\times10^{-5}$	$8.48(18)\times10^{-9}$

TABLE 155. Potential parameters and thermophysical properties of equimolar SF_6–Kr mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	301.386	4.460	267.18	326.23	13.23
210	301.074	4.461	242.48	295.06	13.82
220	300.757	4.462	220.96	268.17	14.41
230	300.428	4.463	202.04	244.74	15.00
240	300.084	4.464	185.29	224.13	15.59
250	299.719	4.465	170.53	205.96	16.17
260	299.337	4.466	156.93	189.56	16.74
270	298.939	4.467	144.82	174.93	17.32
280	298.530	4.468	133.85	161.72	17.89
290	298.110	4.469	123.85	149.74	18.46
300	297.682	4.471	114.71	138.82	19.03
310	297.245	4.472	106.31	128.84	19.60
320	296.800	4.473	98.58	119.67	20.15
330	296.348	4.474	91.43	111.22	20.71
340	295.889	4.476	84.81	103.41	21.26
350	295.424	4.477	78.65	96.17	21.81
360	294.954	4.478	72.91	89.43	22.35
370	294.480	4.480	67.54	83.16	22.88
380	294.003	4.481	62.52	77.29	23.41
390	293.522	4.483	57.81	71.80	23.94
400	293.038	4.484	53.38	66.64	24.46
420	292.065	4.487	45.28	57.23	25.49
440	291.086	4.490	38.04	48.85	26.51
460	290.105	4.493	31.54	41.34	27.51
480	289.125	4.495	25.66	34.57	28.49
500	288.149	4.498	20.33	28.43	29.44
520	287.180	4.501	15.47	22.85	30.38
540	286.221	4.504	11.02	17.76	31.30
560	285.275	4.507	6.93	13.08	32.20
580	284.345	4.510	3.17	8.78	33.09
600	283.435	4.512	−0.31	4.81	33.96
650	281.267	4.519	−7.95	−3.88	36.06
700	279.284	4.525	−14.34	−11.13	38.08
750	277.509	4.531	−19.75	−17.25	40.01
800	275.950	4.536	−24.37	−22.46	41.87
850	274.597	4.540	−28.35	−26.94	43.66
900	273.432	4.544	−31.81	−30.83	45.40
950	272.433	4.547	−34.84	−34.22	47.08
1000	271.578	4.549	−37.51	−37.20	48.72

TABLE 156. Fit parameters according to Eqs. (14) and (15) for an equimolar SF_6–Kr mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.445 01(82)	$3.37(48)\times10^{-5}$	$2.212(87)\times10^{-7}$	$-1.517(48)\times10^{-10}$
ε_{12}/k_B/K	$3.0774(25)\times10^{2}$	$-1.94(15)\times10^{-2}$	$-6.24(27)\times10^{-5}$	$4.60(15)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$8.724(26)\times10^{1}$	$-4.566(34)\times10^{4}$	$-3.39(13)\times10^{6}$	$-3.28(16)\times10^{8}$
B_{mix}/cm^3 mol^{-1}	$9.344(37)\times10^{1}$	$-5.186(49)\times10^{4}$	$-3.27(19)\times10^{6}$	$-6.24(23)\times10^{8}$
η_{mix}/μPa s	$-4.13(44)\times10^{-1}$	$7.398(26)\times10^{-2}$	$-3.239(47)\times10^{-5}$	$7.51(26)\times10^{-9}$

TABLE 157. Potential parameters and thermophysical properties of equimolar SF_6-Xe mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	351.627	4.650	409.21	436.72	12.92
210	351.263	4.651	371.08	395.47	13.50
220	350.892	4.652	338.17	359.99	14.08
230	350.509	4.653	309.49	329.15	14.65
240	350.107	4.654	284.27	302.10	15.23
250	349.681	4.655	261.92	278.17	15.80
260	349.235	4.656	241.98	256.87	16.37
270	348.772	4.657	224.09	237.78	16.94
280	348.293	4.658	207.95	220.58	17.51
290	347.804	4.659	193.31	205.02	18.08
300	347.304	4.661	179.99	190.86	18.65
310	346.795	4.662	167.80	177.93	19.21
320	346.276	4.663	156.62	166.07	19.77
330	345.748	4.664	146.32	155.16	20.33
340	345.213	4.666	136.80	145.08	20.88
350	344.671	4.667	127.97	135.75	21.43
360	344.123	4.668	119.77	127.08	21.97
370	343.569	4.670	112.13	119.01	22.51
380	343.012	4.671	105.00	111.48	23.05
390	342.451	4.673	98.32	104.44	23.59
400	341.887	4.674	92.05	97.83	24.12
420	340.751	4.677	80.62	85.78	25.18
440	339.609	4.680	70.44	75.07	26.21
460	338.465	4.683	61.33	65.49	27.23
480	337.321	4.685	53.13	56.87	28.22
500	336.183	4.688	45.71	49.07	29.21
520	335.052	4.691	38.95	41.98	30.17
540	333.933	4.694	32.79	35.51	31.13
560	332.829	4.697	27.14	29.58	32.06
580	331.745	4.700	21.94	24.13	32.98
600	330.683	4.702	17.15	19.10	33.88
650	328.154	4.709	6.66	8.12	36.07
700	325.839	4.715	−2.09	−1.04	38.17
750	323.769	4.721	−9.48	−8.77	40.18
800	321.950	4.726	−15.79	−15.35	42.12
850	320.372	4.730	−21.22	−21.01	43.99
900	319.013	4.734	−25.93	−25.92	45.80
950	317.847	4.737	−30.05	−30.21	47.56
1000	316.849	4.739	−33.69	−33.99	49.26

TABLE 158. Fit parameters according to Eqs. (14) and (15) for an equimolar SF_6-Xe mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.634 84(82)	$3.47(49)\times10^{-5}$	$2.194(87)\times10^{-7}$	$-1.506(48)\times10^{-10}$
ε_{12}/k_B/K	$3.5904(30)\times10^{2}$	$-2.26(18)\times10^{-2}$	$-7.28(31)\times10^{-5}$	$5.36(17)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.0121(38)\times10^{2}$	$-6.219(51)\times10^{4}$	$-4.05(20)\times10^{6}$	$-7.80(24)\times10^{8}$
B_{mix}/cm^3 mol^{-1}	$1.0468(45)\times10^{2}$	$-6.528(59)\times10^{4}$	$-3.91(23)\times10^{6}$	$-9.31(28)\times10^{8}$
η_{mix}/μPa s	$-3.24(59)\times10^{-1}$	$7.056(35)\times10^{-2}$	$-2.515(63)\times10^{-5}$	$4.13(35)\times10^{-9}$

TABLE 159. Potential parameters and thermophysical properties of equimolar MoF_6-WF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	683.215	5.135	2663.90	2704.26	11.18
210	676.030	5.144	2274.44	2307.93	11.64
220	668.917	5.153	1968.71	1997.07	12.10
230	661.861	5.162	1723.87	1748.28	12.56
240	654.847	5.171	1524.31	1545.63	13.02
250	647.876	5.180	1359.18	1378.03	13.48
260	640.960	5.190	1220.75	1237.60	13.95
270	634.114	5.199	1103.36	1118.56	14.42
280	627.350	5.208	1002.78	1016.61	14.89
290	620.675	5.218	915.80	928.47	15.37
300	614.089	5.227	839.94	851.62	15.85
310	607.594	5.236	773.26	784.08	16.34
320	601.190	5.245	714.24	724.33	16.83
330	594.879	5.255	661.68	671.11	17.32
340	588.662	5.264	614.59	623.46	17.81
350	582.541	5.273	572.19	580.55	18.31
360	576.515	5.282	533.82	541.73	18.80
370	570.586	5.291	498.95	506.45	19.30
380	564.751	5.301	467.13	474.26	19.80
390	559.012	5.310	437.97	444.78	20.30
400	553.367	5.319	411.17	417.68	20.80
420	542.355	5.337	363.57	369.56	21.80
440	531.710	5.354	322.61	328.16	22.81
460	521.426	5.372	286.99	292.17	23.82
480	511.496	5.389	255.74	260.60	24.82
500	501.919	5.406	228.10	232.69	25.79
520	492.693	5.423	203.50	207.85	26.76
540	483.823	5.440	181.47	185.61	27.73
560	475.313	5.456	161.63	165.59	28.68
580	467.171	5.471	143.69	147.49	29.61
600	459.405	5.487	127.41	131.07	30.53
650	441.677	5.523	92.71	96.07	32.73
700	426.381	5.556	64.80	67.93	34.84
750	413.425	5.585	42.06	45.01	36.84
800	402.599	5.610	23.31	26.12	38.75
850	393.611	5.631	7.67	10.36	40.57
900	386.196	5.649	−5.50	−2.90	42.32

TABLE 160. Fit parameters according to Eqs. (14) and (15) for an equimolar MoF_6-WF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.9610(12)	$7.942(74)\times10^{-4}$	$4.79(14)\times10^{-7}$	$-5.713(86)\times10^{-10}$
ε_{12}/k_B/K	$8.5156(53)\times10^{2}$	$-9.328(34)\times10^{-1}$	$4.724(66)\times10^{-4}$	$-1.05(39)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$3.96(15)\times10^{2}$	$-4.52(19)\times10^{5}$	$1.361(72)\times10^{8}$	$-3.341(83)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$3.99(15)\times10^{2}$	$-4.60(19)\times10^{5}$	$1.396(74)\times10^{8}$	$-3.412(85)\times10^{10}$
η_{mix}/μPa s	2.29(14)	$3.968(88)\times10^{-2}$	$2.61(17)\times10^{-5}$	$-2.32(10)\times10^{-8}$

TABLE 161. Potential parameters and thermophysical properties of equimolar MoF_6-UF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	808.229	5.110	4031.92	4156.01	11.50
210	799.784	5.118	3350.37	3439.13	11.97
220	791.449	5.127	2833.20	2898.36	12.43
230	783.229	5.136	2431.59	2480.55	12.89
240	775.127	5.145	2113.38	2150.94	13.35
250	767.148	5.154	1856.74	1886.09	13.80
260	759.292	5.163	1646.50	1669.82	14.26
270	751.562	5.172	1471.87	1490.67	14.71
280	743.958	5.181	1325.01	1340.38	15.16
290	736.481	5.189	1200.14	1212.85	15.62
300	729.130	5.198	1092.91	1103.53	16.07
310	721.904	5.207	999.98	1008.96	16.53
320	714.802	5.215	918.81	926.46	16.98
330	707.822	5.224	847.38	853.96	17.44
340	700.964	5.232	784.11	789.80	17.90
350	694.225	5.241	727.70	732.67	18.36
360	687.604	5.249	677.15	681.51	18.83
370	681.099	5.257	631.60	635.45	19.29
380	674.708	5.266	590.37	593.79	19.76
390	668.429	5.274	552.89	555.94	20.22
400	662.259	5.282	518.68	521.41	20.69
420	650.243	5.298	458.50	460.73	21.63
440	638.645	5.314	407.32	409.16	22.57
460	627.456	5.330	363.27	364.82	23.51
480	616.666	5.345	324.99	326.30	24.46
500	606.273	5.361	291.42	292.54	25.40
520	596.277	5.375	261.76	262.72	26.34
540	586.685	5.390	235.38	236.22	27.27
560	577.505	5.404	211.78	212.52	28.19
580	568.746	5.418	190.57	191.22	29.10
600	560.416	5.431	171.42	172.00	30.01
650	541.517	5.463	130.94	131.38	32.24
700	525.355	5.490	98.68	99.03	34.37
750	511.780	5.514	72.56	72.85	36.42
800	500.513	5.535	51.10	51.35	38.42
850	491.203	5.552	33.23	33.44	40.33
900	483.548	5.567	18.17	18.35	42.16

TABLE 162. Fit parameters according to Eqs. (14) and (15) for an equimolar MoF_6-UF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.9327(12)	$8.619(79)\times10^{-4}$	$1.95(15)\times10^{-7}$	$-4.135(92)\times10^{-10}$
ε_{12}/k_B/K	$1.001\,83(53)\times10^{3}$	$-1.0945(34)$	$6.419(65)\times10^{-4}$	$-7.21(39)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$6.52(35)\times10^{2}$	$-8.73(45)\times10^{5}$	$3.38(17)\times10^{8}$	$-6.96(20)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$6.94(39)\times10^{2}$	$-9.38(49)\times10^{5}$	$3.70(19)\times10^{8}$	$-7.46(22)\times10^{10}$
η_{mix}/μPa s	3.318(58)	$3.721(37)\times10^{-2}$	$2.308(72)\times10^{-5}$	$-1.838(43)\times10^{-8}$

TABLE 163. Potential parameters and thermophysical properties of equimolar $MoF_6-C(CH_3)_4$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	650.293	5.446	2549.53	2580.27	7.89
210	646.385	5.452	2212.29	2232.70	8.22
220	642.501	5.457	1942.16	1955.71	8.54
230	638.639	5.462	1721.96	1730.87	8.86
240	634.795	5.468	1539.67	1545.40	9.18
250	630.967	5.473	1386.73	1390.24	9.50
260	627.156	5.478	1256.87	1258.84	9.82
270	623.362	5.484	1145.43	1146.33	10.14
280	619.588	5.489	1048.92	1049.05	10.46
290	615.831	5.495	964.60	964.21	10.79
300	612.091	5.500	890.37	889.62	11.11
310	608.366	5.505	824.58	823.58	11.43
320	604.659	5.511	765.89	764.73	11.76
330	600.971	5.516	713.25	711.98	12.08
340	597.304	5.522	665.79	664.46	12.40
350	593.660	5.527	622.79	621.44	12.73
360	590.041	5.533	583.67	582.31	13.05
370	586.449	5.538	547.93	546.58	13.38
380	582.884	5.544	515.16	513.84	13.71
390	579.348	5.550	485.01	483.72	14.03
400	575.842	5.555	457.18	455.93	14.36
420	568.925	5.566	407.50	406.34	15.01
440	562.134	5.577	364.47	363.40	15.66
460	555.470	5.588	326.85	325.86	16.31
480	548.934	5.599	293.67	292.76	16.96
500	542.528	5.610	264.19	263.36	17.60
520	536.256	5.620	237.83	237.06	18.24
540	530.126	5.631	214.12	213.42	18.87
560	524.143	5.641	192.69	192.04	19.50
580	518.319	5.652	173.23	172.62	20.12
600	512.660	5.662	155.49	154.92	20.73
650	499.284	5.687	117.34	116.84	22.22
700	487.059	5.710	86.20	85.73	23.66
750	475.984	5.732	60.38	59.91	25.05
800	465.998	5.752	38.66	38.17	26.38
850	456.987	5.771	20.16	19.63	27.65
900	448.815	5.789	4.23	3.65	28.88

TABLE 164. Fit parameters according to Eqs. (14) and (15) for an equimolar $MoF_6-C(CH_3)_4$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.349 12(86)	$4.332(55)\times10^{-4}$	$3.19(11)\times10^{-7}$	$-2.878(64)\times10^{-10}$
ε_{12}/k_B/K	$7.3317(39)\times10^{2}$	$-4.259(25)\times10^{-1}$	$4.78(48)\times10^{-5}$	$8.34(29)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$3.635(97)\times10^{2}$	$-3.95(12)\times10^{5}$	$9.15(46)\times10^{7}$	$-2.565(54)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$3.79(11)\times10^{2}$	$-4.19(14)\times10^{5}$	$1.029(51)\times10^{8}$	$-2.735(59)\times10^{10}$
η_{mix}/μPa s	1.753(35)	$2.892(22)\times10^{-2}$	$1.077(43)\times10^{-5}$	$-1.053(26)\times10^{-8}$

TABLE 165. Potential parameters and thermophysical properties of equimolar $MoF_6-Si(CH_3)_4$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	669.609	5.550	3084.23	3097.31	7.67
210	663.918	5.558	2652.32	2662.80	7.98
220	658.282	5.566	2310.33	2319.05	8.30
230	652.699	5.574	2034.39	2041.88	8.61
240	647.166	5.582	1808.05	1814.65	8.92
250	641.685	5.590	1619.71	1625.63	9.24
260	636.257	5.598	1460.99	1466.39	9.55
270	630.884	5.606	1325.72	1330.71	9.87
280	625.568	5.614	1209.28	1213.92	10.18
290	620.310	5.621	1108.13	1112.48	10.50
300	615.110	5.629	1019.55	1023.65	10.82
310	609.967	5.637	941.41	945.29	11.14
320	604.883	5.645	872.02	875.70	11.47
330	599.856	5.653	810.02	813.52	11.79
340	594.888	5.661	754.32	757.66	12.11
350	589.978	5.669	704.02	707.21	12.44
360	585.127	5.676	658.40	661.45	12.77
370	580.335	5.684	616.84	619.76	13.09
380	575.601	5.692	578.83	581.62	13.42
390	570.925	5.700	543.94	546.61	13.75
400	566.307	5.707	511.80	514.36	14.07
420	557.245	5.723	454.58	456.93	14.73
440	548.410	5.738	405.18	407.35	15.39
460	539.802	5.753	362.11	364.10	16.04
480	531.416	5.768	324.23	326.06	16.69
500	523.254	5.783	290.64	292.32	17.34
520	515.316	5.798	260.67	262.21	17.98
540	507.602	5.813	233.76	235.17	18.62
560	500.116	5.827	209.47	210.76	19.24
580	492.861	5.842	187.44	188.61	19.86
600	485.841	5.856	167.37	168.43	20.48
650	469.329	5.890	124.29	125.08	21.96
700	454.294	5.922	89.16	89.70	23.39
750	440.678	5.953	60.02	60.32	24.75
800	428.387	5.982	35.52	35.59	26.05
850	417.275	6.009	14.64	14.49	27.28
900	407.138	6.034	−3.39	−3.74	28.46

TABLE 166. Fit parameters according to Eqs. (14) and (15) for an equimolar $MoF_6-Si(CH_3)_4$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.395 94(78)	$7.443(49)\times10^{-4}$	$1.873(96)\times10^{-7}$	$-2.525(58)\times10^{-10}$
ε_{12}/k_B/K	$7.9740(95)\times10^{2}$	$-7.002(61)\times10^{-1}$	$3.14(12)\times10^{-4}$	$-1.92(71)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$4.65(14)\times10^{2}$	$-5.22(18)\times10^{5}$	$1.434(68)\times10^{8}$	$-3.597(78)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$4.72(14)\times10^{2}$	$-5.31(18)\times10^{5}$	$1.463(69)\times10^{8}$	$-3.637(80)\times10^{10}$
η_{mix}/μPa s	1.760(50)	$2.694(32)\times10^{-2}$	$1.513(62)\times10^{-5}$	$-1.351(37)\times10^{-8}$

TABLE 167. Potential parameters and thermophysical properties of equimolar MoF_6–Ar mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	342.740	4.340	335.00	930.80	12.18
210	341.257	4.343	302.90	799.06	12.71
220	339.781	4.347	275.25	695.15	13.24
230	338.312	4.351	251.19	611.51	13.76
240	336.850	4.354	230.07	542.99	14.28
250	335.395	4.358	211.38	485.98	14.80
260	333.948	4.362	194.74	437.92	15.31
270	332.511	4.365	179.83	396.92	15.83
280	331.086	4.369	166.38	361.58	16.34
290	329.672	4.373	154.21	330.83	16.85
300	328.271	4.376	143.13	303.84	17.36
310	326.882	4.380	133.01	279.99	17.87
320	325.506	4.384	123.72	258.76	18.37
330	324.144	4.387	115.17	239.74	18.88
340	322.794	4.391	107.27	222.62	19.38
350	321.458	4.395	99.95	207.12	19.89
360	320.136	4.398	93.15	193.03	20.39
370	318.827	4.402	86.82	180.16	20.88
380	317.532	4.405	80.90	168.36	21.38
390	316.251	4.409	75.37	157.50	21.87
400	314.984	4.412	70.17	147.48	22.36
420	312.491	4.419	60.69	129.58	23.33
440	310.053	4.426	52.26	114.06	24.30
460	307.670	4.433	44.71	100.47	25.25
480	305.343	4.439	37.90	88.48	26.19
500	303.073	4.446	31.74	77.81	27.12
520	300.862	4.453	26.13	68.27	28.04
540	298.714	4.459	21.01	59.68	28.94
560	296.631	4.465	16.31	51.91	29.82
580	294.618	4.471	11.99	44.85	30.70
600	292.680	4.477	8.01	38.41	31.56
650	288.185	4.491	−0.69	24.59	33.65
700	284.228	4.503	−7.92	13.36	35.64
750	280.815	4.514	−14.00	4.09	37.56
800	277.919	4.524	−19.15	−3.63	39.41
850	275.481	4.532	−23.55	−10.15	41.19
900	273.447	4.539	−27.34	−15.70	42.91

TABLE 168. Fit parameters according to Eqs. (14) and (15) for an equimolar MoF_6–Ar mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.268 27(82)	$3.377(52)\times10^{-4}$	$1.34(10)\times10^{-7}$	$-1.962(61)\times10^{-10}$
ε_{12}/k_B/K	$3.7445(13)\times10^{2}$	$-1.6517(80)\times10^{-1}$	$2.68(16)\times10^{-5}$	$3.585(93)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$9.139(46)\times10^{1}$	$-5.342(58)\times10^{4}$	$-2.54(22)\times10^{6}$	$-7.61(25)\times10^{8}$
B_{mix}/cm^3 mol^{-1}	$1.640(50)\times10^{2}$	$-1.657(63)\times10^{5}$	$4.38(24)\times10^{7}$	$-1.082(28)\times10^{10}$
η_{mix}/μPa s	1.034(53)	$5.745(33)\times10^{-2}$	$-8.68(65)\times10^{-6}$	$-3.91(39)\times10^{-9}$

TABLE 169. Potential parameters and thermophysical properties of equimolar MoF_6–Kr mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	403.556	4.479	511.02	1036.31	12.69
210	401.809	4.483	460.24	893.86	13.24
220	400.071	4.486	417.05	780.99	13.80
230	398.342	4.490	379.90	689.75	14.35
240	396.620	4.494	347.62	614.71	14.90
250	394.907	4.497	319.33	552.06	15.44
260	393.204	4.501	294.35	499.07	15.99
270	391.512	4.505	272.13	453.74	16.53
280	389.833	4.508	252.24	414.55	17.08
290	388.169	4.512	234.35	380.38	17.63
300	386.519	4.516	218.16	350.33	18.17
310	384.884	4.519	203.45	323.70	18.71
320	383.264	4.523	190.03	299.97	19.26
330	381.659	4.527	177.72	278.67	19.79
340	380.070	4.530	166.41	259.47	20.33
350	378.497	4.534	155.97	242.06	20.87
360	376.940	4.537	146.31	226.21	21.41
370	375.400	4.541	137.35	211.72	21.94
380	373.875	4.545	129.00	198.42	22.47
390	372.367	4.548	121.22	186.18	23.00
400	370.875	4.552	113.94	174.86	23.53
420	367.939	4.559	100.70	154.62	24.57
440	365.068	4.565	88.99	137.05	25.61
460	362.263	4.572	78.55	121.66	26.63
480	359.523	4.579	69.18	108.05	27.65
500	356.850	4.585	60.73	95.94	28.65
520	354.247	4.592	53.07	85.09	29.64
540	351.717	4.598	46.10	75.32	30.61
560	349.265	4.604	39.73	66.48	31.57
580	346.895	4.611	33.88	58.45	32.51
600	344.613	4.616	28.50	51.12	33.43
650	339.321	4.630	16.80	35.37	35.68
700	334.661	4.643	7.11	22.54	37.84
750	330.642	4.654	−1.01	11.96	39.92
800	327.232	4.663	−7.87	3.11	41.92
850	324.362	4.671	−13.73	−4.37	43.84
900	321.967	4.678	−18.77	−10.74	45.70

TABLE 170. Fit parameters according to Eqs. (14) and (15) for an equimolar MoF_6–Kr mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.407 89(82)	$3.356(52)\times10^{-4}$	$1.39(10)\times10^{-7}$	$-1.989(61)\times10^{-10}$
ε_{12}/k_B/K	$4.4089(15)\times10^{2}$	$-1.9447(94)\times10^{-1}$	$3.15(18)\times10^{-5}$	$4.22(11)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.0465(74)\times10^{2}$	$-7.277(94)\times10^{4}$	$-1.58(36)\times10^{6}$	$-1.689(41)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$1.732(52)\times10^{2}$	$-1.780(65)\times10^{5}$	$4.41(25)\times10^{7}$	$-1.130(29)\times10^{10}$
η_{mix}/μPa s	$9.49(66)\times10^{-1}$	$5.989(42)\times10^{-2}$	$-6.24(81)\times10^{-6}$	$-5.72(49)\times10^{-9}$

TABLE 171. Potential parameters and thermophysical properties of equimolar MoF_6–Xe mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	470.828	4.669	798.25	1219.40	12.41
210	468.789	4.673	713.99	1056.85	12.94
220	466.762	4.676	643.38	927.36	13.48
230	464.744	4.680	583.44	822.21	14.02
240	462.736	4.684	531.98	735.36	14.56
250	460.737	4.687	487.37	662.60	15.09
260	458.749	4.691	448.35	600.86	15.63
270	456.776	4.695	413.97	547.88	16.16
280	454.817	4.698	383.44	501.97	16.70
290	452.876	4.702	356.18	461.84	17.24
300	450.951	4.706	331.69	426.49	17.78
310	449.043	4.709	309.58	395.11	18.32
320	447.153	4.713	289.51	367.09	18.86
330	445.281	4.717	271.23	341.92	19.39
340	443.427	4.720	254.50	319.19	19.93
350	441.592	4.724	239.14	298.56	20.46
360	439.775	4.728	224.99	279.76	20.99
370	437.978	4.731	211.90	262.56	21.52
380	436.199	4.735	199.78	246.77	22.06
390	434.439	4.738	188.50	232.21	22.59
400	432.698	4.742	178.00	218.74	23.12
420	429.273	4.749	159.00	194.65	24.17
440	425.924	4.755	142.28	173.72	25.22
460	422.651	4.762	127.45	155.36	26.25
480	419.454	4.769	114.21	139.13	27.28
500	416.336	4.775	102.32	124.68	28.29
520	413.299	4.782	91.59	111.73	29.29
540	410.348	4.788	81.85	100.07	30.27
560	407.486	4.795	72.99	89.51	31.24
580	404.721	4.801	64.88	79.91	32.21
600	402.059	4.806	57.44	71.15	33.16
650	395.885	4.820	41.32	52.32	35.47
700	390.448	4.833	28.04	36.97	37.68
750	385.759	4.844	16.96	24.29	39.82
800	381.781	4.853	7.62	13.67	41.87
850	378.433	4.861	−0.34	4.69	43.85
900	375.638	4.868	−7.19	−2.99	45.77

TABLE 172. Fit parameters according to Eqs. (14) and (15) for an equimolar MoF_6–Xe mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.597 84(80)	$3.358(51)\times10^{-4}$	$1.391(99)\times10^{-7}$	$-1.993(60)\times10^{-10}$
ε_{12}/k_B/K	$5.1438(17)\times10^{2}$	$-2.269(11)\times10^{-1}$	$3.68(21)\times10^{-5}$	$4.92(13)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.277(14)\times10^{2}$	$-1.059(18)\times10^{5}$	$2.90(67)\times10^{6}$	$-3.733(78)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$1.890(55)\times10^{2}$	$-1.998(70)\times10^{5}$	$4.61(26)\times10^{7}$	$-1.241(31)\times10^{10}$
η_{mix}/μPa s	1.185(69)	$5.599(44)\times10^{-2}$	$7.9(8.5)\times10^{-7}$	$-8.94(52)\times10^{-9}$

TABLE 173. Potential parameters and thermophysical properties of equimolar WF_6-UF_6 mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	746.274	5.155	3506.10	3762.82	12.19
210	737.078	5.166	2940.12	3131.00	12.69
220	728.005	5.177	2505.79	2651.57	13.19
230	719.047	5.187	2164.97	2279.01	13.69
240	710.194	5.198	1892.28	1983.40	14.19
250	701.447	5.209	1670.36	1744.58	14.68
260	692.817	5.220	1487.10	1548.59	15.18
270	684.315	5.230	1333.77	1385.49	15.68
280	675.950	5.241	1204.00	1248.08	16.19
290	667.726	5.252	1093.00	1131.03	16.70
300	659.642	5.262	997.16	1030.32	17.21
310	651.699	5.273	913.69	942.89	17.73
320	643.895	5.284	840.43	866.38	18.25
330	636.231	5.294	775.69	798.92	18.78
340	628.706	5.305	718.10	739.06	19.30
350	621.319	5.315	666.58	685.61	19.83
360	614.070	5.326	620.24	637.63	20.37
370	606.956	5.336	578.35	594.33	20.90
380	599.976	5.346	540.32	555.07	21.44
390	593.128	5.357	505.65	519.33	21.98
400	586.409	5.367	473.91	486.66	22.51
420	573.352	5.387	417.89	429.08	23.59
440	560.790	5.407	370.02	379.98	24.68
460	548.709	5.427	328.67	337.62	25.77
480	537.097	5.446	292.58	300.72	26.85
500	525.949	5.465	260.84	268.30	27.91
520	515.259	5.484	232.71	239.60	28.97
540	505.031	5.502	207.62	214.04	30.03
560	495.266	5.520	185.13	191.13	31.07
580	485.972	5.538	164.86	170.52	32.09
600	477.153	5.554	146.53	151.89	33.09
650	457.204	5.594	107.69	112.44	35.52
700	440.205	5.630	76.68	81.00	37.85
750	425.967	5.661	51.57	55.56	40.05
800	414.181	5.687	30.98	34.70	42.16
850	404.465	5.710	13.87	17.39	44.18
900	396.496	5.729	−0.49	2.86	46.11

TABLE 174. Fit parameters according to Eqs. (14) and (15) for an equimolar WF_6-UF_6 mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.9453(14)	$9.963(90)\times10^{-4}$	$3.75(17)\times10^{-7}$	$-5.74(11)\times10^{-10}$
ε_{12}/k_B/K	$9.6386(48)\times10^{2}$	−1.2393(31)	$7.878(60)\times10^{-4}$	$-1.227(36)\times10^{-7}$
B_{12}/cm^3 mol^{-1}	$5.57(27)\times10^{2}$	$-6.99(34)\times10^{5}$	$2.53(13)\times10^{8}$	$-5.48(15)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$6.28(33)\times10^{2}$	$-8.12(42)\times10^{5}$	$3.08(16)\times10^{8}$	$-6.37(18)\times10^{10}$
η_{mix}/μPa s	3.02(13)	$4.003(85)\times10^{-2}$	$3.28(17)\times10^{-5}$	$-2.701(10)\times10^{-8}$

TABLE 175. Potential parameters and thermophysical properties of equimolar $WF_6-C(CH_3)_4$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	600.445	5.492	2311.52	2330.98	8.97
210	595.706	5.499	2015.53	2031.32	9.35
220	590.998	5.506	1776.61	1789.85	9.73
230	586.306	5.513	1580.42	1591.86	10.11
240	581.617	5.520	1416.89	1427.02	10.48
250	576.929	5.528	1278.81	1287.97	10.87
260	572.249	5.535	1160.90	1169.33	11.25
270	567.586	5.542	1059.22	1067.08	11.64
280	562.949	5.550	970.77	978.18	12.04
290	558.339	5.557	893.19	900.25	12.44
300	553.757	5.564	824.64	831.41	12.84
310	549.203	5.572	763.67	770.20	13.24
320	544.678	5.579	709.12	715.44	13.65
330	540.187	5.587	660.05	666.19	14.06
340	535.732	5.594	615.68	621.67	14.47
350	531.315	5.602	575.39	581.24	14.87
360	526.941	5.609	538.65	544.38	15.29
370	522.609	5.617	505.01	510.63	15.70
380	518.322	5.625	474.11	479.62	16.11
390	514.082	5.632	445.62	451.04	16.52
400	509.889	5.640	419.28	424.61	16.93
420	501.650	5.655	372.14	377.31	17.75
440	493.606	5.670	331.19	336.22	18.57
460	485.757	5.684	295.28	300.19	19.40
480	478.105	5.699	263.54	268.33	20.21
500	470.649	5.714	235.29	239.96	20.99
520	463.394	5.729	209.97	214.54	21.77
540	456.343	5.743	187.16	191.63	22.55
560	449.504	5.757	166.51	170.89	23.32
580	442.884	5.771	147.74	152.03	24.07
600	436.492	5.785	130.60	134.81	24.80
650	421.547	5.818	93.73	97.72	26.55
700	408.116	5.850	63.64	67.41	28.23
750	396.174	5.879	38.72	42.28	29.83
800	385.619	5.905	17.82	21.17	31.34
850	376.291	5.929	0.10	3.23	32.78
900	368.015	5.951	−15.11	−12.18	34.15

TABLE 176. Fit parameters according to Eqs. (14) and (15) for an equimolar $WF_6-C(CH_3)_4$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.361 88(92)	$5.657(59)\times10^{-4}$	$5.01(11)\times10^{-7}$	$-4.487(69)\times10^{-10}$
ε_{12}/k_B/K	$7.0714(60)\times10^{2}$	$-5.609(38)\times10^{-1}$	$1.399(74)\times10^{-4}$	$7.28(45)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$3.472(79)\times10^{2}$	$-3.426(99)\times10^{5}$	$6.71(38)\times10^{7}$	$-2.087(43)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$3.520(81)\times10^{2}$	$-3.53(10)\times10^{5}$	$7.13(39)\times10^{7}$	$-2.147(45)\times10^{10}$
η_{mix}/μPa s	1.26(12)	$3.536(77)\times10^{-2}$	$1.65(15)\times10^{-5}$	$-1.708(90)\times10^{-8}$

TABLE 177. Potential parameters and thermophysical properties of equimolar $WF_6-Si(CH_3)_4$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	618.280	5.596	2840.61	2845.22	8.64
210	611.865	5.606	2457.34	2462.31	9.01
220	605.513	5.615	2151.28	2156.45	9.38
230	599.213	5.625	1902.38	1907.64	9.74
240	592.952	5.635	1696.69	1701.98	10.11
250	586.729	5.644	1524.36	1529.64	10.48
260	580.553	5.654	1378.25	1383.49	10.86
270	574.434	5.664	1253.06	1258.23	11.25
280	568.382	5.674	1144.78	1149.87	11.63
290	562.400	5.684	1050.32	1055.32	12.03
300	556.488	5.694	967.27	972.17	12.43
310	550.648	5.704	893.74	898.53	12.83
320	544.880	5.713	828.23	832.91	13.23
330	539.185	5.723	769.51	774.08	13.64
340	533.564	5.733	716.61	721.07	14.04
350	528.020	5.743	668.73	673.07	14.45
360	522.552	5.753	625.18	629.41	14.86
370	517.161	5.763	585.42	589.55	15.27
380	511.846	5.772	548.98	553.00	15.69
390	506.608	5.782	515.47	519.39	16.10
400	501.446	5.792	484.55	488.36	16.51
420	491.351	5.811	429.36	432.98	17.32
440	481.555	5.831	381.57	385.00	18.15
460	472.056	5.850	339.79	343.05	18.99
480	462.848	5.869	302.96	306.05	19.80
500	453.929	5.888	270.25	273.18	20.59
520	445.298	5.906	241.00	243.78	21.36
540	436.954	5.925	214.70	217.34	22.14
560	428.898	5.943	190.93	193.43	22.91
580	421.132	5.961	169.35	171.72	23.66
600	413.658	5.979	149.68	151.91	24.39
650	396.255	6.021	107.43	109.33	26.13
700	380.662	6.062	73.00	74.58	27.78
750	366.788	6.099	44.52	45.77	29.35
800	354.496	6.134	20.64	21.57	30.83
850	343.591	6.166	0.39	1.00	32.23
900	333.841	6.196	−17.01	−16.72	33.54

TABLE 178. Fit parameters according to Eqs. (14) and (15) for an equimolar $WF_6-Si(CH_3)_4$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.4092(10)	$8.731(67)\times10^{-4}$	$3.78(13)\times10^{-7}$	$-4.200(78)\times10^{-10}$
ε_{12}/k_B/K	$7.6805(88)\times10^{2}$	$-8.290(56)\times10^{-1}$	$4.23(11)\times10^{-4}$	$-4.14(66)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$4.33(12)\times10^{2}$	$-4.51(15)\times10^{5}$	$1.089(55)\times10^{8}$	$-2.973(64)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$4.37(11)\times10^{2}$	$-4.56(14)\times10^{5}$	$1.096(54)\times10^{8}$	$-2.976(63)\times10^{10}$
η_{mix}/μPa s	1.2(1.4)	$3.317(91)\times10^{-2}$	$2.11(18)\times10^{-5}$	$-2.01(11)\times10^{-8}$

TABLE 179. Potential parameters and thermophysical properties of equimolar WF_6–Ar mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	316.468	4.385	339.08	802.56	13.52
210	314.501	4.391	307.10	698.15	14.13
220	312.543	4.396	279.46	614.18	14.74
230	310.589	4.402	255.34	545.35	15.35
240	308.632	4.407	234.10	488.02	15.95
250	306.671	4.413	215.26	439.61	16.55
260	304.711	4.418	198.43	398.24	17.16
270	302.759	4.424	183.32	362.53	17.78
280	300.820	4.430	169.67	331.43	18.40
290	298.895	4.435	157.28	304.11	19.03
300	296.986	4.441	145.99	279.93	19.66
310	295.093	4.446	135.66	258.39	20.29
320	293.217	4.452	126.17	239.09	20.91
330	291.359	4.458	117.42	221.68	21.53
340	289.519	4.463	109.32	205.91	22.15
350	287.699	4.469	101.81	191.56	22.76
360	285.900	4.475	94.83	178.44	23.38
370	284.120	4.480	88.32	166.41	24.01
380	282.362	4.486	82.23	155.33	24.63
390	280.624	4.491	76.52	145.09	25.24
400	278.908	4.497	71.16	135.60	25.85
420	275.539	4.508	61.37	118.57	27.03
440	272.255	4.519	52.64	103.71	28.23
460	269.057	4.529	44.81	90.63	29.42
480	265.945	4.540	37.74	79.03	30.57
500	262.920	4.550	31.33	68.67	31.67
520	259.983	4.561	25.50	59.36	32.76
540	257.139	4.571	20.15	50.95	33.85
560	254.390	4.581	15.25	43.32	34.93
580	251.741	4.591	10.74	36.37	35.97
600	249.195	4.600	6.58	30.02	36.96
650	243.316	4.623	−2.52	16.36	39.34
700	238.160	4.643	−10.09	5.24	41.61
750	233.729	4.661	−16.42	−3.92	43.78
800	229.981	4.676	−21.76	−11.52	45.84
850	226.836	4.689	−26.30	−17.89	47.80
900	224.218	4.701	−30.18	−23.28	49.69

TABLE 180. Fit parameters according to Eqs. (14) and (15) for an equimolar WF_6–Ar mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.281 65(98)	$4.658(62)\times10^{-4}$	$3.26(12)\times10^{-7}$	$-3.640(73)\times10^{-10}$
ε_{12}/k_B/K	$3.6085(22)\times10^{2}$	$-2.331(14)\times10^{-1}$	$5.44(27)\times10^{-5}$	$4.03(16)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$9.711(56)\times10^{1}$	$-5.539(70)\times10^{4}$	$-3.10(27)\times10^{6}$	$-6.49(31)\times10^{8}$
B_{mix}/cm^3 mol^{-1}	$1.481(34)\times10^{2}$	$-1.278(42)\times10^{5}$	$2.42(16)\times10^{7}$	$-7.28(19)\times10^{9}$
η_{mix}/μPa s	$-3.4(1.9)\times10^{-1}$	$7.03(12)\times10^{-2}$	$-8.2(2.3)\times10^{-6}$	$-9.2(1.4)\times10^{-9}$

TABLE 181. Potential parameters and thermophysical properties of equimolar WF_6–Kr mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	372.621	4.525	510.69	905.86	13.81
210	370.306	4.530	460.88	791.18	14.44
220	368.001	4.536	418.35	698.56	15.07
230	365.700	4.541	381.63	622.38	15.70
240	363.395	4.546	349.61	558.72	16.32
250	361.086	4.552	321.45	504.80	16.95
260	358.779	4.558	296.50	458.62	17.59
270	356.481	4.563	274.25	418.66	18.23
280	354.197	4.569	254.30	383.79	18.87
290	351.931	4.575	236.30	353.10	19.52
300	349.683	4.580	220.00	325.90	20.16
310	347.454	4.586	205.15	301.63	20.81
320	345.245	4.591	191.57	279.84	21.47
330	343.057	4.597	179.12	260.18	22.13
340	340.891	4.603	167.64	242.35	22.78
350	338.748	4.608	157.04	226.10	23.43
360	336.629	4.614	147.22	211.24	24.08
370	334.534	4.620	138.09	197.60	24.71
380	332.464	4.625	129.59	185.02	25.34
390	330.418	4.631	121.64	173.40	25.97
400	328.397	4.636	114.21	162.62	26.60
420	324.430	4.647	100.68	143.26	27.85
440	320.564	4.658	88.67	126.36	29.11
460	316.798	4.669	77.96	111.47	30.36
480	313.134	4.679	68.33	98.25	31.56
500	309.572	4.690	59.63	86.44	32.71
520	306.115	4.700	51.73	75.83	33.84
540	302.765	4.710	44.53	66.24	34.98
560	299.529	4.720	37.95	57.54	36.10
580	296.409	4.730	31.90	49.61	37.18
600	293.412	4.740	26.34	42.37	38.23
650	286.489	4.762	14.23	26.77	40.75
700	280.419	4.782	4.21	14.06	43.15
750	275.202	4.800	−4.16	3.58	45.42
800	270.789	4.816	−11.20	−5.14	47.60
850	267.086	4.829	−17.19	−12.46	49.68
900	264.004	4.840	−22.30	−18.67	51.68

TABLE 182. Fit parameters according to Eqs. (14) and (15) for an equimolar WF_6–Kr mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.421 30(90)	$4.646(57)\times10^{-4}$	$3.27(11)\times10^{-7}$	$-3.637(67)\times10^{-10}$
ε_{12}/k_B/K	$4.2488(26)\times10^{2}$	$-2.745(16)\times10^{-1}$	$6.41(32)\times10^{-5}$	$4.75(19)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.1029(82)\times10^{2}$	$-7.34(10)\times10^{4}$	$-2.89(39)\times10^{6}$	$-1.447(46)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$1.571(35)\times10^{2}$	$-1.394(44)\times10^{5}$	$2.41(17)\times10^{7}$	$-7.69(19)\times10^{9}$
η_{mix}/μPa s	$-5.0(1.9)\times10^{-1}$	$7.23(12)\times10^{-2}$	$-7.0(2.4)\times10^{-6}$	$-1.01(14)\times10^{-8}$

TABLE 183. Potential parameters and thermophysical properties of equimolar WF_6–Xe mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	434.736	4.715	784.24	1082.11	13.36
210	432.034	4.720	703.31	948.50	13.96
220	429.345	4.726	635.15	840.17	14.56
230	426.661	4.731	577.03	750.77	15.17
240	423.972	4.737	526.91	675.85	15.78
250	421.278	4.742	483.28	612.24	16.39
260	418.586	4.748	444.99	557.64	17.00
270	415.905	4.753	411.12	510.32	17.63
280	413.241	4.759	380.99	468.95	18.25
290	410.597	4.765	354.00	432.50	18.89
300	407.974	4.770	329.71	400.15	19.52
310	405.374	4.776	307.72	371.26	20.16
320	402.796	4.782	287.73	345.30	20.80
330	400.244	4.787	269.48	321.85	21.42
340	397.717	4.793	252.76	300.58	22.05
350	395.217	4.798	237.38	281.19	22.68
360	392.744	4.804	223.18	263.44	23.32
370	390.300	4.810	210.05	247.14	23.96
380	387.885	4.815	197.85	232.11	24.61
390	385.498	4.821	186.51	218.22	25.24
400	383.140	4.826	175.92	205.33	25.87
420	378.512	4.837	156.74	182.18	27.10
440	374.001	4.848	139.83	161.96	28.33
460	369.607	4.859	124.80	144.15	29.56
480	365.332	4.869	111.37	128.34	30.76
500	361.176	4.880	99.29	114.22	31.94
520	357.143	4.890	88.37	101.53	33.09
540	353.236	4.900	78.45	90.06	34.23
560	349.459	4.910	69.40	79.66	35.34
580	345.820	4.920	61.12	70.18	36.43
600	342.323	4.930	53.53	61.53	37.49
650	334.246	4.952	37.06	42.88	40.04
700	327.163	4.972	23.50	27.67	42.49
750	321.078	4.990	12.23	15.12	44.83
800	315.928	5.006	2.75	4.66	47.04
850	311.608	5.019	−5.28	−4.14	49.15
900	308.012	5.030	−12.14	−11.63	51.18

TABLE 184. Fit parameters according to Eqs. (14) and (15) for an equimolar WF_6–Xe mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.611 64(87)	$4.634(55)\times10^{-4}$	$3.28(11)\times10^{-7}$	$-3.641(65)\times10^{-10}$
ε_{12}/k_B/K	$4.9570(30)\times10^{2}$	$-3.202(19)\times10^{-1}$	$7.47(37)\times10^{-5}$	$5.54(22)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$7.90(26)\times10^{1}$	$-3.27(22)\times10^{4}$	$-2.738(40)\times10^{7}$	$-2.738(40)\times10^{7}$
B_{mix}/cm^3 mol^{-1}	$1.726(38)\times10^{2}$	$-1.595(48)\times10^{5}$	$2.52(18)\times10^{7}$	$-8.65(21)\times10^{9}$
η_{mix}/μPa s	−0.09(18)	$6.64(12)\times10^{-2}$	$2.2(2.3)\times10^{-6}$	$-1.42(14)\times10^{-8}$

TABLE 185. Potential parameters and thermophysical properties of equimolar $UF_6-C(CH_3)_4$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	710.313	5.467	3310.84	3598.38	9.42
210	704.756	5.474	2828.78	3031.17	9.80
220	699.257	5.481	2450.37	2595.78	10.19
230	693.819	5.488	2147.45	2253.79	10.57
240	688.447	5.495	1900.79	1979.75	10.95
250	683.140	5.501	1696.91	1756.29	11.33
260	677.896	5.508	1526.11	1571.27	11.71
270	672.713	5.515	1381.31	1415.98	12.09
280	667.586	5.522	1257.26	1284.08	12.47
290	662.514	5.529	1149.97	1170.85	12.85
300	657.495	5.536	1056.38	1072.71	13.22
310	652.527	5.542	974.12	986.94	13.60
320	647.611	5.549	901.30	911.39	13.98
330	642.747	5.556	836.45	844.38	14.37
340	637.936	5.563	778.35	784.59	14.75
350	633.179	5.569	726.04	730.93	15.13
360	628.477	5.576	678.71	682.52	15.52
370	623.830	5.583	635.69	638.64	15.90
380	619.239	5.590	596.44	598.69	16.29
390	614.704	5.596	560.48	562.17	16.67
400	610.226	5.603	527.44	528.67	17.06
420	601.440	5.616	468.78	469.33	17.83
440	592.877	5.630	418.32	418.43	18.61
460	584.534	5.643	374.46	374.28	19.38
480	576.409	5.656	336.00	335.62	20.15
500	568.502	5.668	302.00	301.50	20.92
520	560.818	5.681	271.74	271.17	21.69
540	553.363	5.694	244.64	244.03	22.45
560	546.147	5.706	220.24	219.61	23.20
580	539.178	5.718	198.17	197.54	23.94
600	532.465	5.730	178.13	177.50	24.68
650	516.835	5.758	135.30	134.71	26.49
700	502.851	5.784	100.63	100.08	28.22
750	490.425	5.808	72.08	71.55	29.89
800	479.403	5.830	48.21	47.70	31.50
850	469.589	5.850	27.97	27.47	33.04
900	460.785	5.869	10.60	10.09	34.52

TABLE 186. Fit parameters according to Eqs. (14) and (15) for an equimolar $UF_6-C(CH_3)_4$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.3352(11)	$6.247(68)\times10^{-4}$	$2.35(13)\times10^{-7}$	$-3.017(80)\times10^{-10}$
ε_{12}/k_B/K	$8.3272(45)\times10^{2}$	$-6.653(29)\times10^{-1}$	$2.648(55)\times10^{-4}$	$1.78(33)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$4.81(18)\times10^{2}$	$-5.73(23)\times10^{5}$	$1.740(86)\times10^{8}$	$-4.19(10)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$5.86(27)\times10^{2}$	$-7.36(34)\times10^{5}$	$2.54(13)\times10^{8}$	$-5.43(15)\times10^{10}$
η_{mix}/μPa s	2.386(41)	$3.265(26)\times10^{-2}$	$1.570(50)\times10^{-5}$	$-1.373(30)\times10^{-8}$

TABLE 187. Potential parameters and thermophysical properties of equimolar $UF_6-Si(CH_3)_4$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	731.412	5.571	4034.33	4209.82	9.10
210	723.873	5.581	3411.04	3532.39	9.47
220	716.431	5.590	2928.05	3013.88	9.85
230	709.093	5.599	2545.86	2607.79	10.22
240	701.864	5.609	2237.85	2283.33	10.59
250	694.744	5.618	1985.59	2019.54	10.96
260	687.734	5.628	1776.04	1801.73	11.33
270	680.829	5.637	1599.73	1619.43	11.69
280	674.030	5.646	1449.73	1465.00	12.07
290	667.333	5.656	1320.80	1332.77	12.44
300	660.738	5.665	1208.98	1218.45	12.81
310	654.244	5.674	1111.20	1118.78	13.18
320	647.850	5.683	1025.08	1031.18	13.56
330	641.554	5.692	948.70	953.67	13.94
340	635.355	5.702	880.56	884.63	14.32
350	629.252	5.711	819.42	822.78	14.70
360	623.243	5.720	764.28	767.08	15.08
370	617.327	5.729	714.32	716.67	15.46
380	611.502	5.738	668.86	670.84	15.84
390	605.768	5.747	627.32	629.01	16.23
400	600.122	5.755	589.22	590.68	16.61
420	589.093	5.773	521.81	522.90	17.39
440	578.403	5.791	464.02	464.87	18.16
460	568.046	5.808	413.95	414.63	18.93
480	558.015	5.825	370.16	370.72	19.71
500	548.306	5.842	331.54	332.01	20.47
520	538.918	5.859	297.24	297.65	21.24
540	529.853	5.875	266.58	266.93	21.99
560	521.111	5.892	239.02	239.33	22.74
580	512.697	5.908	214.12	214.39	23.48
600	504.610	5.923	191.52	191.77	24.21
650	485.827	5.961	143.32	143.48	26.00
700	469.023	5.996	104.33	104.41	27.70
750	454.047	6.029	72.23	72.22	29.33
800	440.710	6.059	45.39	45.28	30.90
850	428.782	6.088	22.62	22.41	32.39
900	417.996	6.114	3.04	2.73	33.81

TABLE 188. Fit parameters according to Eqs. (14) and (15) for an equimolar $UF_6-Si(CH_3)_4$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.3808(11)	$9.438(67)\times10^{-4}$	$8.7(1.3)\times10^{-8}$	$-2.573(78)\times10^{-10}$
ε_{12}/k_B/K	$9.038(10)\times10^{2}$	$-9.748(64)\times10^{-1}$	$5.83(12)\times10^{-4}$	$-1.099(75)\times10^{-7}$
B_{12}/cm^3 mol^{-1}	$6.32(26)\times10^{2}$	$-7.77(33)\times10^{5}$	$2.64(13)\times10^{8}$	$-5.85(15)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$7.04(32)\times10^{2}$	$-8.87(41)\times10^{5}$	$3.16(15)\times10^{8}$	$-6.65(18)\times10^{10}$
η_{mix}/μPa s	2.386(56)	$3.018(35)\times10^{-2}$	$2.037(69)\times10^{-5}$	$-1.687(41)\times10^{-8}$

TABLE 189. Potential parameters and thermophysical properties of equimolar UF_6–Ar mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	374.374	4.360	405.56	1603.54	13.93
210	372.073	4.366	365.18	1320.42	14.52
220	369.795	4.371	330.69	1108.84	15.11
230	367.543	4.376	300.91	946.55	15.70
240	365.320	4.381	274.95	819.22	16.29
250	363.128	4.387	252.14	717.32	16.87
260	360.966	4.392	231.93	634.33	17.45
270	358.835	4.397	213.92	565.68	18.03
280	356.734	4.402	197.76	508.12	18.60
290	354.663	4.407	183.19	459.27	19.18
300	352.622	4.412	169.98	417.36	19.75
310	350.610	4.417	157.95	381.05	20.32
320	348.629	4.422	146.94	349.33	20.89
330	346.676	4.427	136.85	321.39	21.46
340	344.752	4.432	127.54	296.61	22.03
350	342.857	4.437	118.95	274.49	22.60
360	340.990	4.441	110.98	254.63	23.17
370	339.150	4.446	103.57	236.71	23.73
380	337.338	4.451	96.67	220.45	24.30
390	335.552	4.456	90.22	205.64	24.86
400	333.792	4.460	84.17	192.09	25.42
420	330.351	4.470	73.18	168.18	26.54
440	327.010	4.479	63.42	147.74	27.64
460	323.769	4.488	54.69	130.08	28.74
480	320.626	4.496	46.85	114.65	29.83
500	317.583	4.505	39.77	101.07	30.91
520	314.642	4.513	33.34	89.02	31.98
540	311.808	4.522	27.47	78.26	33.03
560	309.084	4.530	22.10	68.60	34.07
580	306.475	4.537	17.18	59.88	35.09
600	303.987	4.545	12.65	51.99	36.10
650	298.316	4.562	2.79	35.22	38.56
700	293.443	4.577	−5.36	21.76	40.91
750	289.334	4.590	−12.17	10.80	43.16
800	285.913	4.601	−17.91	1.74	45.34
850	283.078	4.611	−22.80	−5.85	47.44
900	280.740	4.619	−27.00	−12.28	49.46

TABLE 190. Fit parameters according to Eqs. (14) and (15) for an equimolar UF_6–Ar mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.2534(10)	$5.358(65)\times10^{-4}$	$3.6(1.3)\times10^{-8}$	$-2.018(76)\times10^{-10}$
ε_{12}/k_B/K	$4.2540(20)\times10^{2}$	$-2.811(13)\times10^{-1}$	$1.264(25)\times10^{-4}$	$8.5(1.5)\times10^{-9}$
B_{12}/cm^3 mol^{-1}	$9.917(71)\times10^{1}$	$-6.046(90)\times10^{4}$	$-2.13(34)\times10^{6}$	$-1.187(39)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$3.16(17)\times10^{2}$	$-3.98(21)\times10^{5}$	$1.536(81)\times10^{8}$	$-2.989(94)\times10^{10}$
η_{mix}/μPa s	1.910(58)	$6.048(37)\times10^{-2}$	$-5.7(7.2)\times10^{-7}$	$-8.89(43)\times10^{-9}$

TABLE 191. Potential parameters and thermophysical properties of equimolar UF_6–Kr mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	440.803	4.500	623.76	1730.14	14.18
210	438.094	4.505	558.33	1433.12	14.79
220	435.411	4.510	503.27	1210.06	15.40
230	432.759	4.515	456.36	1038.15	16.00
240	430.142	4.521	415.97	902.67	16.61
250	427.561	4.526	380.85	793.78	17.21
260	425.016	4.531	350.05	704.73	17.81
270	422.507	4.536	322.84	630.81	18.41
280	420.033	4.541	298.63	568.60	19.00
290	417.594	4.546	276.96	515.64	19.60
300	415.191	4.551	257.45	470.06	20.20
310	412.822	4.556	239.79	430.47	20.80
320	410.489	4.561	223.75	395.78	21.39
330	408.190	4.566	209.10	365.17	21.99
340	405.925	4.571	195.68	337.95	22.58
350	403.693	4.576	183.33	313.61	23.17
360	401.495	4.581	171.94	291.72	23.76
370	399.329	4.586	161.39	271.92	24.35
380	397.194	4.590	151.60	253.93	24.95
390	395.092	4.595	142.49	237.52	25.54
400	393.020	4.600	133.98	222.49	26.12
420	388.968	4.609	118.58	195.91	27.29
440	385.034	4.618	104.98	173.16	28.45
460	381.218	4.627	92.91	153.44	29.60
480	377.517	4.636	82.10	136.21	30.74
500	373.935	4.644	72.38	121.00	31.87
520	370.472	4.653	63.59	107.50	32.99
540	367.135	4.661	55.61	95.43	34.10
560	363.927	4.669	48.33	84.58	35.18
580	360.856	4.677	41.67	74.79	36.25
600	357.926	4.684	35.56	65.91	37.31
650	351.249	4.701	22.32	47.02	39.87
700	345.511	4.717	11.42	31.83	42.34
750	340.674	4.730	2.35	19.43	44.70
800	336.646	4.741	−5.28	9.16	46.99
850	333.307	4.750	−11.77	0.54	49.19
900	330.554	4.758	−17.35	−6.78	51.30

TABLE 192. Fit parameters according to Eqs. (14) and (15) for an equimolar UF_6–Kr mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.394 69(91)	$5.209(58)\times10^{-4}$	$6.8(1.1)\times10^{-8}$	$-2.220(67)\times10^{-10}$
ε_{12}/k_B/K	$5.0088(24)\times10^{2}$	$-3.310(15)\times10^{-1}$	$1.488(29)\times10^{-4}$	$100(1.8)\times10^{-9}$
B_{12}/cm^3 mol^{-1}	$1.154(12)\times10^{2}$	$-8.49(15)\times104$	$8.0(5.7)\times10^{5}$	$-2.664(66)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$3.27(17)\times10^{2}$	$-4.13(22)\times10^{5}$	$1.548(82)\times10^{8}$	$-3.064(95)\times10^{10}$
η_{mix}/μPa s	1.760(71)	$6.203(45)\times10^{-2}$	$1.46(87)\times10^{-6}$	$-1.035(53)\times10^{-8}$

TABLE 193. Potential parameters and thermophysical properties of equimolar UF_6–Xe mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	514.284	4.690	987.31	1951.39	13.74
210	511.123	4.695	875.67	1627.91	14.32
220	507.993	4.700	783.34	1383.31	14.91
230	504.899	4.705	705.88	1193.60	15.49
240	501.845	4.711	640.11	1043.22	16.07
250	498.834	4.716	583.64	921.69	16.65
260	495.865	4.721	534.68	821.83	17.24
270	492.937	4.726	491.88	738.55	17.82
280	490.051	4.731	454.15	668.18	18.40
290	487.206	4.736	420.67	608.04	18.99
300	484.402	4.741	390.78	556.12	19.58
310	481.639	4.746	363.93	510.87	20.16
320	478.916	4.751	339.69	471.13	20.74
330	476.234	4.756	317.70	435.96	21.32
340	473.591	4.761	297.67	404.62	21.90
350	470.988	4.766	279.35	376.54	22.49
360	468.423	4.771	262.52	351.23	23.07
370	465.895	4.776	247.03	328.30	23.65
380	463.406	4.780	232.71	307.44	24.23
390	460.952	4.785	219.43	288.38	24.82
400	458.535	4.790	207.10	270.90	25.40
420	453.807	4.799	184.87	239.94	26.56
440	449.218	4.808	165.39	213.38	27.72
460	444.766	4.817	148.19	190.34	28.86
480	440.448	4.826	132.89	170.17	30.00
500	436.269	4.834	119.19	152.35	31.12
520	432.229	4.843	106.86	136.51	32.24
540	428.335	4.851	95.71	122.35	33.34
560	424.593	4.859	85.58	109.60	34.43
580	421.009	4.867	76.35	98.09	35.50
600	417.591	4.874	67.90	87.65	36.57
650	409.801	4.891	49.68	65.39	39.16
700	403.107	4.907	34.77	47.47	41.65
750	397.463	4.920	22.41	32.81	44.04
800	392.763	4.931	12.04	20.64	46.35
850	388.869	4.940	3.24	10.41	48.57
900	385.656	4.948	−4.31	1.71	50.72

TABLE 194. Fit parameters according to Eqs. (14) and (15) for an equimolar UF_6–Xe mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.584 11(95)	$5.249(61)\times10^{-4}$	$6.0(1.2)\times10^{-8}$	$-2.169(71)\times10^{-10}$
ε_{12}/k_B/K	$5.8438(28)\times10^{2}$	$-3.861(18)\times10^{-1}$	$1.737(34)\times10^{-4}$	$1.16(20)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.458(24)\times10^{2}$	$-1.301(30)\times10^{5}$	$1.06(11)\times10^{7}$	$-5.96(13)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$3.46(18)\times10^{2}$	$-4.41(22)\times10^{5}$	$1.595(85)\times10^{8}$	$-3.237(99)\times10^{10}$
η_{mix}/μPa s	1.980(74)	$5.744(47)\times10^{-2}$	$8.27(91)\times10^{-6}$	$-1.335(55)\times10^{-8}$

TABLE 195. Potential parameters and thermophysical properties of equimolar $C(CH_3)_4-Si(CH_3)_4$ mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	588.487	5.908	2652.03	2684.12	5.03
210	585.033	5.914	2326.38	2352.67	5.24
220	581.601	5.919	2061.61	2083.53	5.45
230	578.189	5.925	1842.84	1861.41	5.65
240	574.795	5.931	1659.54	1675.49	5.86
250	571.416	5.937	1504.05	1517.92	6.07
260	568.050	5.943	1370.70	1382.89	6.28
270	564.695	5.949	1255.22	1266.04	6.50
280	561.349	5.955	1154.35	1164.03	6.71
290	558.011	5.961	1065.53	1074.26	6.92
300	554.677	5.967	986.79	994.71	7.14
310	551.348	5.973	916.52	923.75	7.35
320	548.024	5.979	853.45	860.09	7.57
330	544.706	5.985	796.56	802.68	7.79
340	541.397	5.991	744.98	750.66	8.00
350	538.099	5.997	698.02	703.31	8.22
360	534.812	6.003	655.10	660.03	8.44
370	531.538	6.010	615.72	620.34	8.66
380	528.280	6.016	579.46	583.80	8.87
390	525.037	6.022	545.96	550.05	9.09
400	521.813	6.028	514.94	518.80	9.31
420	515.422	6.041	459.28	462.75	9.75
440	509.109	6.053	410.76	413.90	10.18
460	502.876	6.066	368.09	370.96	10.61
480	496.725	6.078	330.27	332.90	11.04
500	490.656	6.091	296.50	298.93	11.47
520	484.671	6.104	266.16	268.41	11.89
540	478.772	6.116	238.75	240.84	12.31
560	472.961	6.129	213.85	215.81	12.72
580	467.239	6.141	191.13	192.97	13.12
600	461.609	6.154	170.31	172.04	13.52
650	447.938	6.185	125.13	126.64	14.49
700	434.834	6.216	87.68	89.02	15.43
750	422.290	6.247	56.08	57.29	16.31
800	410.320	6.277	29.04	30.15	17.15
850	398.914	6.307	5.61	6.63	17.95
900	387.971	6.336	−14.96	−14.01	18.71

TABLE 196. Fit parameters according to Eqs. (14) and (15) for an equimolar $C(CH_3)_4-Si(CH_3)_4$ mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.798 12(70)	$5.082(45)\times10^{-4}$	$2.239(87)\times10^{-7}$	$-1.383(52)\times10^{-10}$
ε_{12}/k_B/K	$6.6094(91)\times10^{2}$	$-3.720(58)\times10^{-1}$	$4.8(1.1)\times10^{-5}$	$3.22(68)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$4.250(66)\times10^{2}$	$-4.212(83)\times10^{5}$	$7.53(31)\times10^{7}$	$-2.272(36)\times10^{10}$
B_{mix}/cm^3 mol^{-1}	$4.292(69)\times10^{2}$	$-4.284(87)\times10^{5}$	$7.85(33)\times10^{7}$	$-2.336(38)\times10^{10}$
η_{mix}/μPa s	$9.56(36)\times10^{-1}$	$1.889(23)\times10^{-2}$	$8.38(44)\times10^{-6}$	$-8.33(26)\times10^{-9}$

TABLE 197. Potential parameters and thermophysical properties of equimolar $C(CH_3)_4$–Ar mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	301.218	4.697	331.40	731.91	8.05
210	300.709	4.699	301.01	650.95	8.41
220	300.201	4.700	274.57	583.65	8.76
230	299.692	4.702	251.36	526.91	9.12
240	299.181	4.704	230.82	478.47	9.47
250	298.667	4.705	212.53	436.68	9.82
260	298.149	4.707	196.13	400.26	10.17
270	297.626	4.709	181.34	368.27	10.51
280	297.098	4.710	167.94	339.93	10.86
290	296.562	4.712	155.75	314.67	11.20
300	296.019	4.714	144.59	292.01	11.55
310	295.468	4.716	134.35	271.57	11.89
320	294.909	4.718	124.92	253.04	12.22
330	294.342	4.719	116.21	236.16	12.56
340	293.770	4.721	108.13	220.72	12.89
350	293.191	4.723	100.62	206.55	13.23
360	292.607	4.725	93.62	193.50	13.55
370	292.019	4.727	87.08	181.43	13.88
380	291.428	4.729	80.96	170.25	14.21
390	290.833	4.731	75.21	159.86	14.53
400	290.236	4.733	69.81	150.18	14.85
420	289.038	4.737	59.93	132.66	15.48
440	287.833	4.741	51.10	117.24	16.10
460	286.624	4.745	43.16	103.57	16.72
480	285.410	4.750	35.98	91.34	17.32
500	284.192	4.754	29.46	80.35	17.91
520	282.971	4.758	23.51	70.41	18.49
540	281.748	4.762	18.05	61.38	19.07
560	280.524	4.767	13.03	53.13	19.63
580	279.302	4.771	8.40	45.56	20.19
600	278.082	4.775	4.10	38.60	20.73
650	275.051	4.786	−5.38	23.39	22.05
700	272.052	4.797	−13.40	10.69	23.31
750	269.097	4.808	−20.27	−0.10	24.52
800	266.197	4.819	−26.25	−9.38	25.67
850	263.359	4.830	−31.48	−17.46	26.77
900	260.574	4.841	−36.12	−24.57	27.83

TABLE 198. Fit parameters according to Eqs. (14) and (15) for an equimolar $C(CH_3)_4$–Ar mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.671 27(75)	$9.54(48)\times10^{-5}$	$1.839(93)\times10^{-7}$	$-9.00(56)\times10^{-11}$
ε_{12}/k_B/K	$3.099\,73(82)\times10^{2}$	$-3.556(52)\times10^{-2}$	$-4.50(10)\times10^{-5}$	$2.624(61)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.110\,29(51)\times10^{2}$	$-6.5659(65)\times10^{4}$	$-7.87(25)\times10^{5}$	$-7.552(28)\times10^{8}$
B_{mix}/cm^3 mol^{-1}	$1.511(11)\times10^{2}$	$-1.200(14)\times10^{5}$	$1.097(53)\times10^{7}$	$-4.440(61)\times10^{9}$
η_{mix}/μPa s	$2.26(21)\times10^{-1}$	$4.149(13)\times10^{-2}$	$-1.257(26)\times10^{-5}$	$5.9(1.6)\times10^{-10}$

TABLE 199. Potential parameters and thermophysical properties of equimolar $C(CH_3)_4$–Kr mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	354.666	4.836	498.09	832.76	9.11
210	354.067	4.838	451.79	742.47	9.52
220	353.469	4.840	411.91	667.25	9.93
230	352.869	4.841	377.21	603.71	10.34
240	352.267	4.843	346.76	549.38	10.74
250	351.662	4.845	319.83	502.43	11.14
260	351.052	4.846	295.85	461.47	11.55
270	350.437	4.848	274.36	425.44	11.95
280	349.814	4.850	255.00	393.51	12.35
290	349.184	4.851	237.45	365.01	12.75
300	348.545	4.853	221.49	339.43	13.15
310	347.896	4.855	206.90	316.34	13.54
320	347.237	4.857	193.51	295.39	13.94
330	346.570	4.859	181.19	276.30	14.33
340	345.896	4.861	169.80	258.83	14.72
350	345.214	4.863	159.25	242.79	15.10
360	344.527	4.865	149.45	228.02	15.49
370	343.835	4.867	140.33	214.35	15.87
380	343.138	4.869	131.80	201.69	16.25
390	342.438	4.871	123.82	189.91	16.63
400	341.735	4.873	116.34	178.94	17.00
420	340.324	4.877	102.69	159.08	17.74
440	338.906	4.881	90.54	141.60	18.48
460	337.482	4.885	79.67	126.08	19.20
480	336.053	4.889	69.87	112.22	19.91
500	334.618	4.893	61.00	99.75	20.61
520	333.181	4.897	52.92	88.47	21.30
540	331.741	4.902	45.54	78.22	21.98
560	330.300	4.906	38.76	68.86	22.65
580	328.861	4.910	32.51	60.28	23.30
600	327.425	4.915	26.74	52.39	23.94
650	323.855	4.926	14.05	35.14	25.50
700	320.325	4.937	3.37	20.74	27.00
750	316.846	4.948	−5.76	8.52	28.44
800	313.431	4.958	−13.65	−1.99	29.82
850	310.090	4.969	−20.55	−11.12	31.14
900	306.810	4.980	−26.64	−19.16	32.41

TABLE 200. Fit parameters according to Eqs. (14) and (15) for an equimolar $C(CH_3)_4$–Kr mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.808 30(70)	$1.112(44)\times10^{-4}$	$1.538(86)\times10^{-7}$	$-7.27(52)\times10^{-11}$
ε_{12}/k_B/K	$3.649\,75(96)\times10^{2}$	$-4.188(61)\times10^{-2}$	$-5.30(12)\times10^{-5}$	$3.089(71)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.2515(14)\times10^{2}$	$-8.617(18)\times10^{4}$	$-6.46(68)\times10^{5}$	$-1.4073(79)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$1.607(12)\times10^{2}$	$-1.329(15)\times10^{5}$	$1.085(57)\times10^{7}$	$-4.783(65)\times10^{9}$
η_{mix}/μPa s	$1.59(31)\times10^{-1}$	$4.699(20)\times10^{-2}$	$-1.197(39)\times10^{-5}$	$-5.0(2.3)\times10^{-10}$

TABLE 201. Potential parameters and thermophysical properties of equimolar $C(CH_3)_4$–Xe mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	413.787	5.026	759.75	1003.07	9.31
210	413.089	5.028	686.29	895.83	9.72
220	412.391	5.030	623.75	806.39	10.14
230	411.691	5.031	569.91	730.75	10.55
240	410.989	5.033	523.11	666.04	10.97
250	410.283	5.035	482.08	610.07	11.38
260	409.571	5.036	445.82	561.24	11.80
270	408.853	5.038	413.55	518.26	12.21
280	408.127	5.040	384.67	480.16	12.62
290	407.392	5.042	358.65	446.16	13.04
300	406.646	5.043	335.11	415.63	13.46
310	405.889	5.045	313.70	388.08	13.87
320	405.121	5.047	294.15	363.08	14.28
330	404.343	5.049	276.23	340.31	14.69
340	403.556	5.051	259.74	319.48	15.09
350	402.761	5.053	244.52	300.35	15.49
360	401.959	5.055	230.43	282.72	15.90
370	401.151	5.057	217.35	266.43	16.30
380	400.338	5.059	205.17	251.33	16.70
390	399.522	5.061	193.81	237.29	17.10
400	398.702	5.063	183.19	224.21	17.50
420	397.055	5.067	163.87	200.56	18.29
440	395.401	5.071	146.77	179.73	19.07
460	393.739	5.075	131.52	161.26	19.83
480	392.071	5.079	117.83	144.77	20.59
500	390.398	5.083	105.48	129.94	21.33
520	388.721	5.087	94.28	116.53	22.07
540	387.041	5.092	84.07	104.35	22.79
560	385.360	5.096	74.72	93.24	23.51
580	383.681	5.100	66.13	83.05	24.22
600	382.006	5.105	58.21	73.68	24.91
650	377.841	5.116	40.87	53.24	26.60
700	373.722	5.127	26.34	36.19	28.23
750	369.663	5.138	13.98	21.74	29.79
800	365.679	5.148	3.34	9.33	31.29
850	361.781	5.159	−5.93	−1.45	32.73
900	357.954	5.170	−14.08	−10.91	34.12

TABLE 202. Fit parameters according to Eqs. (14) and (15) for an equimolar $C(CH_3)_4$–Xe mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.998 35(67)	$1.114(42)\times10^{-4}$	$1.530(82)\times10^{-7}$	$-7.21(49)\times10^{-11}$
ε_{12}/k_B/K	$4.2581(11)\times10^{2}$	$-4.885(71)\times10^{-2}$	$-6.18(14)\times10^{-5}$	$3.604(83)\times10^{-8}$
B_{12}/cm^3 mol^{-1}	$1.4766(46)\times10^{2}$	$-1.1788(58)\times10^{5}$	$1.17(22)\times10^{6}$	$-2.771(26)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$1.762(14)\times10^{2}$	$-1.540(17)\times10^{5}$	$1.148(65)\times10^{7}$	$-5.549(75)\times10^{9}$
η_{mix}/μPa s	$3.28(38)\times10^{-1}$	$4.612(24)\times10^{-2}$	$-6.66(47)\times10^{-6}$	$-3.23(28)\times10^{-9}$

TABLE 203. Potential parameters and thermophysical properties of equimolar $Si(CH_3)_4$–Ar mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	310.165	4.801	407.37	1019.59	7.81
210	308.866	4.805	369.60	895.33	8.17
220	307.574	4.810	336.86	794.05	8.52
230	306.289	4.814	308.22	710.14	8.87
240	305.011	4.818	282.96	639.60	9.22
250	303.740	4.822	260.52	579.57	9.56
260	302.475	4.826	240.45	527.91	9.91
270	301.217	4.831	222.39	483.03	10.25
280	299.965	4.835	206.07	443.68	10.60
290	298.719	4.839	191.23	408.92	10.95
300	297.480	4.843	177.69	378.01	11.30
310	296.246	4.847	165.28	350.33	11.65
320	295.018	4.852	153.87	325.42	11.99
330	293.796	4.856	143.34	302.87	12.33
340	292.581	4.860	133.58	282.38	12.66
350	291.372	4.864	124.53	263.66	13.00
360	290.170	4.869	116.09	246.51	13.33
370	288.975	4.873	108.22	230.72	13.67
380	287.786	4.877	100.86	216.15	14.00
390	286.605	4.881	93.95	202.65	14.33
400	285.430	4.886	87.46	190.12	14.66
420	283.104	4.894	75.58	167.55	15.30
440	280.806	4.902	64.98	147.78	15.93
460	278.539	4.911	55.45	130.33	16.56
480	276.302	4.919	46.84	114.79	17.17
500	274.096	4.928	39.02	100.87	17.78
520	271.921	4.936	31.88	88.32	18.36
540	269.777	4.944	25.33	76.95	18.94
560	267.665	4.952	19.31	66.59	19.51
580	265.584	4.961	13.74	57.12	20.07
600	263.535	4.969	8.58	48.41	20.62
650	258.548	4.989	−2.81	29.44	21.93
700	253.751	5.009	−12.46	13.64	23.17
750	249.137	5.029	−20.76	0.25	24.35
800	244.712	5.048	−27.98	−11.26	25.47
850	240.473	5.067	−34.32	−21.26	26.53
900	236.377	5.086	−39.96	−30.07	27.54

TABLE 204. Fit parameters according to Eqs. (14) and (15) for an equimolar $Si(CH_3)_4$–Ar mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.717 51(66)	$4.109(42)\times10^{-4}$	$4.33(82)\times10^{-8}$	$-5.00(49)\times10^{-11}$
ε_{12}/k_B/K	$3.377\,96(45)\times10^{2}$	$-1.4481(28)\times10^{-1}$	$3.382(55)\times10^{-5}$	$2.15(33)\times10^{-9}$
B_{12}/cm^3 mol^{-1}	$1.3186(23)\times10^{2}$	$-8.208(29)\times10^{4}$	$6.1(1.1)\times10^{5}$	$-1.153(13)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.037(25)\times10^{2}$	$-1.768(32)\times10^{5}$	$2.91(12)\times10^{7}$	$-8.50(14)\times10^{9}$
η_{mix}/μPa s	$0.1(4.8)\times10^{-2}$	$4.080(31)\times10^{-2}$	$-9.58(59)\times10^{-6}$	$-2.00(36)\times10^{-9}$

TABLE 205. Potential parameters and thermophysical properties of equimolar $Si(CH_3)_4$–Kr mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	365.201	4.940	609.25	1138.03	8.77
210	363.671	4.945	551.27	1002.29	9.17
220	362.150	4.949	501.56	891.34	9.57
230	360.637	4.953	458.52	799.16	9.97
240	359.132	4.957	420.89	721.51	10.37
250	357.636	4.962	387.73	655.28	10.76
260	356.146	4.966	358.30	598.19	11.16
270	354.665	4.970	332.01	548.50	11.56
280	353.191	4.974	308.37	504.88	11.96
290	351.724	4.978	287.02	466.30	12.35
300	350.264	4.983	267.63	431.94	12.75
310	348.811	4.987	249.95	401.16	13.14
320	347.366	4.991	233.76	373.42	13.54
330	345.927	4.995	218.88	348.30	13.94
340	344.496	5.000	205.16	325.44	14.33
350	343.073	5.004	192.47	304.56	14.72
360	341.658	5.008	180.69	285.40	15.11
370	340.250	5.012	169.73	267.77	15.49
380	338.851	5.016	159.51	251.48	15.87
390	337.460	5.021	149.95	236.40	16.25
400	336.077	5.025	140.99	222.38	16.63
420	333.337	5.033	124.66	197.12	17.37
440	330.632	5.042	110.15	174.99	18.11
460	327.963	5.050	97.17	155.44	18.85
480	325.329	5.059	85.48	138.04	19.57
500	322.731	5.067	74.90	122.44	20.27
520	320.170	5.075	65.28	108.38	20.96
540	317.646	5.084	56.49	95.63	21.63
560	315.159	5.092	48.42	84.02	22.29
580	312.709	5.100	40.99	73.40	22.94
600	310.296	5.108	34.12	63.64	23.58
650	304.425	5.129	19.01	42.39	25.13
700	298.776	5.149	6.28	24.68	26.60
750	293.344	5.168	−4.60	9.69	27.99
800	288.134	5.188	−14.02	−3.18	29.31
850	283.143	5.207	−22.27	−14.36	30.57
900	278.320	5.225	−29.57	−24.20	31.78

TABLE 206. Fit parameters according to Eqs. (14) and (15) for an equimolar $Si(CH_3)_4$–Kr mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	4.856 79(77)	$4.114(49)\times10^{-4}$	$4.24(95)\times10^{-8}$	$-4.97(57)\times10^{-11}$
ε_{12}/k_B/K	$3.977\,35(53)\times10^{2}$	$-1.7051(33)\times10^{-1}$	$3.982(65)\times10^{-5}$	$2.53(39)\times10^{-9}$
B_{12}/cm^3 mol^{-1}	$1.4906(32)\times10^{2}$	$-1.0656(40)\times10^{5}$	$1.44(15)\times10^{6}$	$-2.090(18)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.148(26)\times10^{2}$	$-1.917(33)\times10^{5}$	$2.93(13)\times10^{7}$	$-8.98(15)\times10^{9}$
η_{mix}/μPa s	$-6.7(5.8)\times10^{-2}$	$4.568(37)\times10^{-2}$	$-8.43(72)\times10^{-6}$	$-3.40(43)\times10^{-9}$

TABLE 207. Potential parameters and thermophysical properties of equimolar $Si(CH_3)_4$–Xe mixture

T/K	ε_{12}/k_B/K	$r_{m12}/10^{-8}$ cm	$-B_{12}$/cm^3 mol^{-1}	$-B_{mix}$/cm^3 mol^{-1}	η_{mix}/μPa s
200	426.078	5.131	926.08	1335.92	8.94
210	424.294	5.135	833.41	1179.48	9.34
220	422.519	5.139	755.01	1051.27	9.75
230	420.754	5.143	687.89	944.54	10.15
240	418.999	5.147	629.83	854.46	10.56
250	417.252	5.152	579.16	777.51	10.97
260	415.515	5.156	534.56	711.10	11.37
270	413.787	5.160	495.02	653.23	11.78
280	412.067	5.164	459.74	602.38	12.19
290	410.355	5.168	428.08	557.38	12.60
300	408.652	5.173	399.50	517.27	13.01
310	406.957	5.177	373.59	481.32	13.43
320	405.270	5.181	349.98	448.91	13.83
330	403.592	5.185	328.39	419.54	14.24
340	401.923	5.190	308.57	392.82	14.64
350	400.262	5.194	290.31	368.40	15.04
360	398.611	5.198	273.43	345.99	15.44
370	396.969	5.202	257.79	325.36	15.85
380	395.336	5.206	243.24	306.31	16.25
390	393.713	5.211	229.69	288.65	16.66
400	392.100	5.215	217.03	272.25	17.06
420	388.904	5.223	194.05	242.70	17.85
440	385.748	5.232	173.73	216.81	18.63
460	382.633	5.240	155.65	193.94	19.39
480	379.560	5.249	139.44	173.58	20.15
500	376.529	5.257	124.83	155.35	20.90
520	373.542	5.265	111.58	138.91	21.64
540	370.597	5.274	99.52	124.02	22.37
560	367.695	5.282	88.49	110.45	23.08
580	364.837	5.290	78.36	98.05	23.78
600	362.022	5.298	69.03	86.66	24.46
650	355.172	5.319	48.59	61.87	26.13
700	348.581	5.339	31.47	41.25	27.72
750	342.243	5.358	16.91	23.80	29.24
800	336.165	5.378	4.37	8.84	30.68
850	330.342	5.397	−6.56	−4.14	32.06
900	324.715	5.415	−16.19	−15.55	33.38

TABLE 208. Fit parameters according to Eqs. (14) and (15) for an equimolar $Si(CH_3)_4$–Xe mixture

Property	A_1	A_2	A_3	A_4
$r_{m12}/10^{-10}$ m	5.048 10(77)	$4.032(49)\times10^{-4}$	$5.83(95)\times10^{-8}$	$-5.91(57)\times10^{-11}$
ε_{12}/k_B/K	$4.640\,36(61)\times10^{2}$	$-1.9893(39)\times10^{-1}$	$4.646(76)\times10^{-5}$	$2.96(46)\times10^{-9}$
B_{12}/cm^3 mol^{-1}	$1.7703(73)\times10^{2}$	$-1.4522(92)\times10^{5}$	$5.17(35)\times10^{6}$	$-4.041(40)\times10^{9}$
B_{mix}/cm^3 mol^{-1}	$2.331(29)\times10^{2}$	$-2.162(36)\times10^{5}$	$3.09(14)\times10^{7}$	$-1.004(16)\times10^{10}$
η_{mix}/μPa s	$1.47(65)\times10^{-1}$	$4.439(41)\times10^{-2}$	$-2.74(80)\times10^{-6}$	$-6.23(48)\times10^{-9}$

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7. References

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