

5 Tabulated Data on Density - Condensed Ring Systems

5.1 Saturated Bridged Cycloalkanes

5.1.1 Saturated Bridged Cycloalkanes, C₆ - C₁₁

cis,anti,cis-Tricyclo[3.1.0.0^{2,4}]hexane [21531-33-9] C₆H₈ MW = 80.13 493

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction): $\sigma_{c,w} = 1.8092 \cdot 10^{-1}$ (combined temperature ranges, weighted), $\sigma_{c,uw} = 7.0619 \cdot 10^{-2}$ (combined temperature ranges, unweighted).

Coefficient	T = 273.15 to 320.54 K $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.16479 \cdot 10^3$
B	-1.03365

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
273.15	882.22 ± 0.40	-0.23	79-let/orc(✕)	297.53	857.45 ± 0.40	0.20	79-let/orc(✕)
279.24	876.10 ± 0.40	-0.05	79-let/orc(✕)	298.15	856.88 ± 0.40	0.27	79-let/orc(✕)
282.38	873.00 ± 0.40	0.09	79-let/orc(✕)	313.57	840.47 ± 0.50	-0.20	79-let/orc(✕)
293.15	861.90 ± 0.40	0.12	79-let/orc(✕)	320.54	833.25 ± 0.50	-0.21	79-let/orc(✕)

Table 3. Recommended values (fit to the reliable experimental values according to the equations $\rho = A + BT + CT^2 + DT^3 + \dots$ or $\rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$).

$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	885.70 ± 0.49	293.15	861.78 ± 0.40	310.00	844.36 ± 0.49
280.00	875.37 ± 0.42	298.15	856.61 ± 0.41	320.00	834.02 ± 0.57
290.00	865.03 ± 0.40	300.00	854.69 ± 0.42	330.00	823.69 ± 0.66

cont.

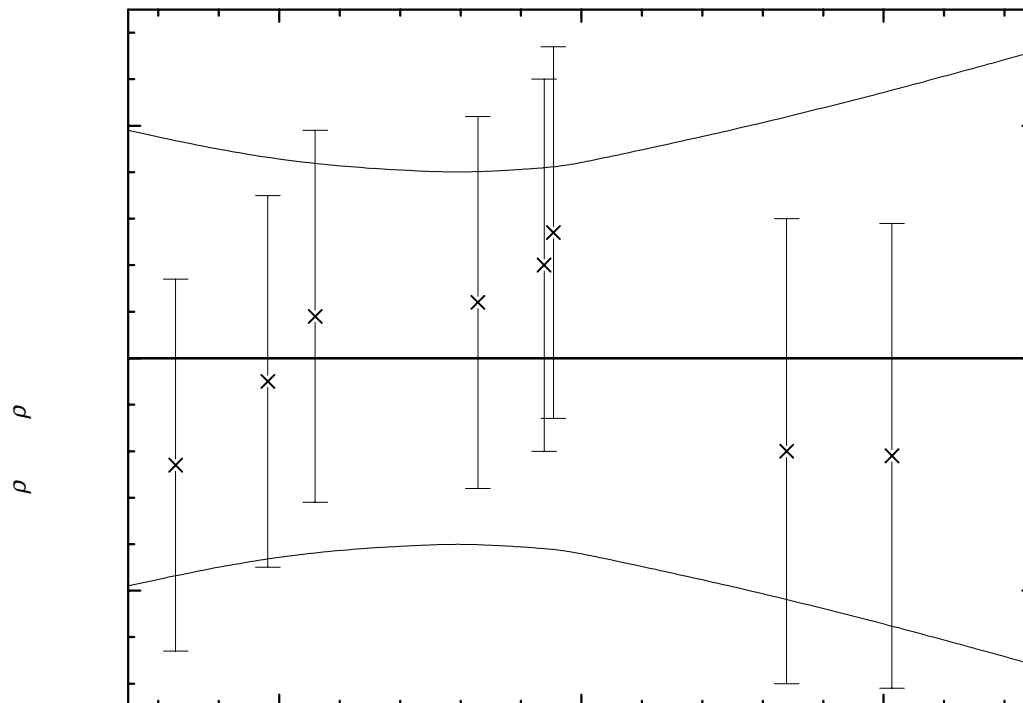
cis,anti,cis-Tricyclo[3.1.0.0^{2,4}]hexane (cont.)

Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

Bicyclo[2.2.0]hexane [186-04-9] C₆H₁₀ MW =82.15 494

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
292.15	824.5 ± 2.0	28-sac

Bicyclo[3.1.0]hexane [285-58-5] C₆H₁₀ MW =82.15 495

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	814.4 ± 4.0	24-zel/ouc
293.15	833.4 ± 0.6	49-ano-4

Bicycloheptane [12622-04-7] C₇H₁₂ MW = 96.17 496

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	906.9 ± 4.0	61-koz/sku

cis-Bicyclo[4.1.0]heptane [286-08-8] C₇H₁₂ MW = 96.17 497

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction): $\sigma_{\text{c,w}} = 4.2553 \cdot 10^{-1}$ (combined temperature ranges, weighted), $\sigma_{\text{c,uw}} = 2.1276 \cdot 10^{-1}$ (combined temperature ranges, unweighted).

Coefficient	T = 293.61 to 338.79 K $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.10479 \cdot 10^3$
B	$-8.35070 \cdot 10^{-1}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
293.61	860.00 ± 0.50	0.39	73-var/bul(✕)	321.51	836.50 ± 0.50	0.19	73-var/bul(✕)
298.17	855.80 ± 0.50	0.00	73-var/bul(✕)	338.79	822.10 ± 0.50	0.22	73-var/bul(✕)
312.64	842.90 ± 0.50	-0.81	73-var/bul(✕)				

Further references: [29-ebe/bru].

Table 3. Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$$

$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	862.62 ± 0.59	300.00	854.27 ± 0.53	330.00	829.22 ± 0.55
293.15	859.99 ± 0.57	310.00	845.92 ± 0.50	340.00	820.87 ± 0.62
298.15	855.81 ± 0.54	320.00	837.57 ± 0.51	350.00	812.52 ± 0.71

cont.

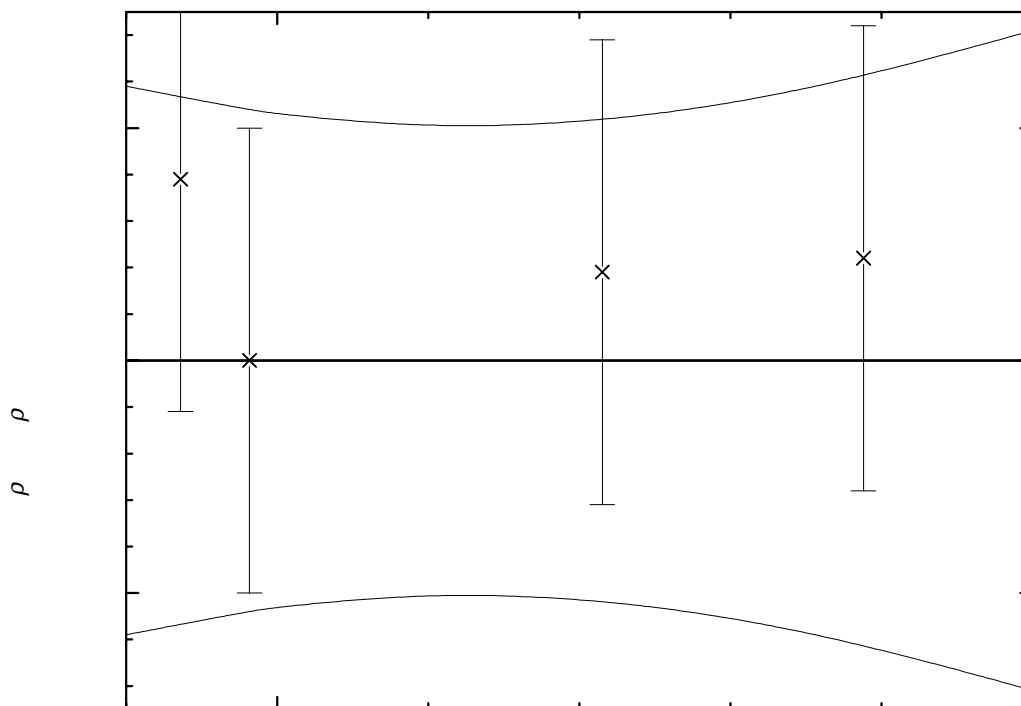
cis-Bicyclo[4.1.0]heptane (cont.)

Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

1-Methylbicyclo[3.1.0]hexane**[4625-24-5]****C₇H₁₂****MW = 96.17****498**

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction):

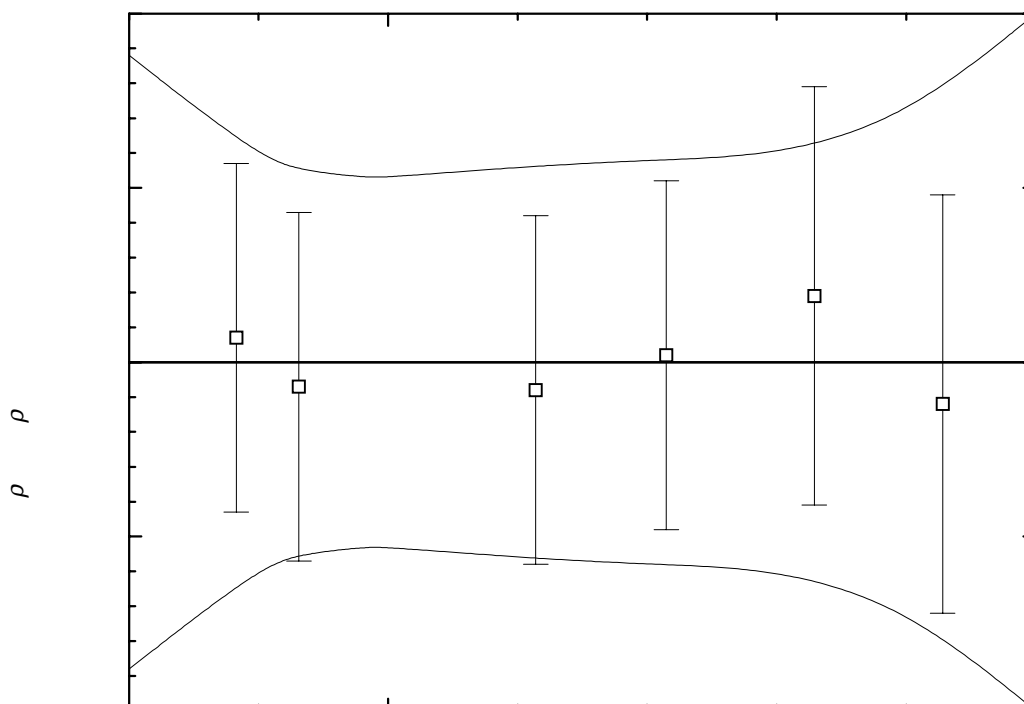
$\sigma_{c,w} = 9.5489 \cdot 10^{-2}$ (combined temperature ranges, weighted), $\sigma_{c,uw} = 5.2739 \cdot 10^{-2}$ (combined temperature ranges, unweighted).

Coefficient	T = 288.27 to 342.82 K
	$\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.03461 \cdot 10^3$
B	$-5.97285 \cdot 10^{-1}$
C	$-5.93299 \cdot 10^{-4}$

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
288.27	813.20 ± 0.50	0.07	73-var/bul(□)	321.48	781.30 ± 0.50	0.02	73-var/bul(□)
293.11	808.50 ± 0.50	-0.07	73-var/bul(□)	332.91	770.20 ± 0.60	0.19	73-var/bul(□)
311.40	791.00 ± 0.50	-0.08	73-var/bul(□)	342.82	760.00 ± 0.60	-0.12	73-var/bul(□)

**Fig. 1.** The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)**Table 3.** Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4].$$

$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	820.86 ± 0.88	300.00	802.03 ± 0.53	340.00	762.95 ± 0.70
290.00	811.50 ± 0.59	310.00	792.44 ± 0.56	350.00	752.88 ± 1.00
293.15	808.53 ± 0.55	320.00	782.73 ± 0.58		
298.15	803.79 ± 0.53	330.00	772.90 ± 0.59		

Tricyclo[3.3.0.0^{2,6}]octane **[500021-67-0]** **C₈H₁₂** **MW = 108.18** **499**

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction): $\sigma_{c,w} = 8.8357 \cdot 10^{-2}$ (combined temperature ranges, weighted), $\sigma_{c,uw} = 4.3993 \cdot 10^{-2}$ (combined temperature ranges, unweighted).

Coefficient	T = 283.15 to 313.15 K $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.09776 \cdot 10^3$
B	$-4.28146 \cdot 10^{-1}$
C	$-7.96846 \cdot 10^{-4}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
283.15	912.68 ± 0.40	0.03	88-let/sew(□)	303.15	894.90 ± 0.40	0.16	88-let/sew(□)
288.15	908.21 ± 0.40	-0.02	88-let/sew(□)	308.64	889.72 ± 0.40	0.01	88-let/sew(□)
298.15	899.15 ± 0.40	-0.13	88-let/sew(□)	313.15	885.49 ± 0.50	-0.06	88-let/sew(□)

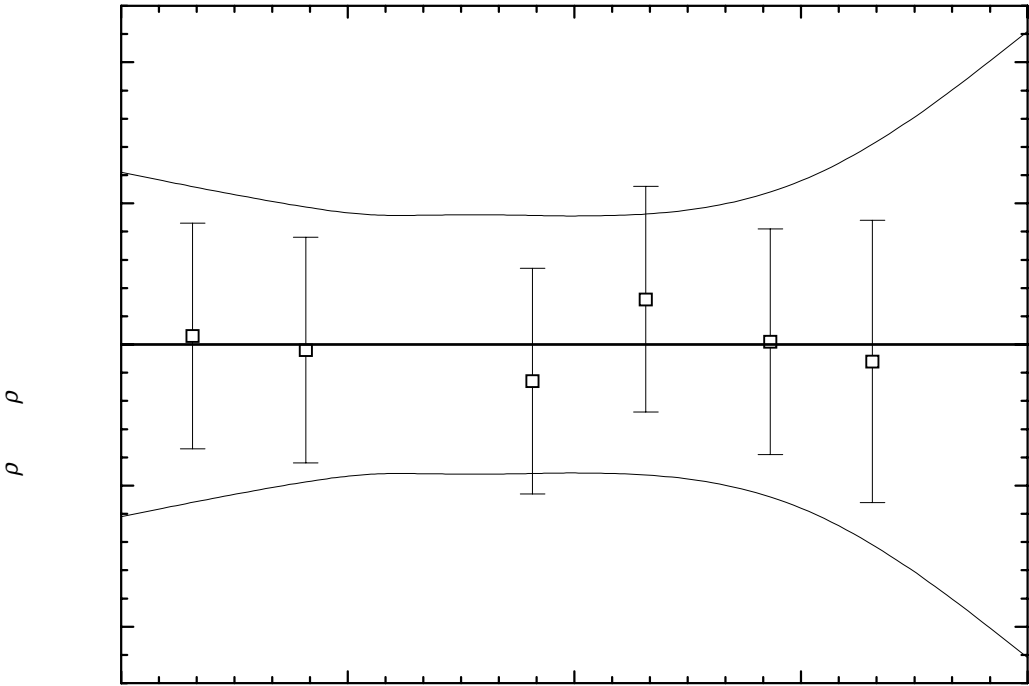


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)
cont.

Table 3. Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$$

$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	915.41 ± 0.61	298.15	899.28 ± 0.46	320.00	879.16 ± 1.11
290.00	906.58 ± 0.45	300.00	897.60 ± 0.45		
293.15	903.77 ± 0.46	310.00	888.46 ± 0.48		

Bicyclo[2.2.2]octane**[280-33-1]****C₈H₁₄****MW = 110.20****500****Table 1.** Coefficients of the polynomial expansion equation. Standard deviations (see introduction):

$\sigma_{c,w} = 3.5521 \cdot 10^{-1}$ (combined temperature ranges, weighted), $\sigma_{c,uw} = 1.0437 \cdot 10^{-1}$ (combined temperature ranges, unweighted).

Coefficient	T = 455.40 to 497.60 K $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.20383 \cdot 10^3$
B	$-9.84365 \cdot 10^{-1}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
455.40	756.30 ± 0.65	0.75	85-shi/gee(□)	475.80	735.20 ± 0.65	-0.27	85-shi/gee(□)
457.70	753.40 ± 0.65	0.12	85-shi/gee(□)	479.50	731.40 ± 0.65	-0.42	85-shi/gee(□)
459.10	751.70 ± 0.65	-0.21	85-shi/gee(□)	484.60	726.50 ± 0.65	-0.30	85-shi/gee(□)
461.60	749.40 ± 0.65	-0.04	85-shi/gee(□)	490.80	720.40 ± 0.70	-0.30	85-shi/gee(□)
464.40	746.50 ± 0.65	-0.19	85-shi/gee(□)	494.50	717.60 ± 0.70	0.54	85-shi/gee(□)
468.50	742.40 ± 0.65	-0.25	85-shi/gee(□)	497.60	714.50 ± 0.70	0.49	85-shi/gee(□)
472.70	738.60 ± 0.65	0.08	85-shi/gee(□)				

Table 3. Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$$

$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
450.00	760.86 ± 0.73	480.00	731.33 ± 0.66	500.00	711.64 ± 0.80
460.00	751.02 ± 0.68	490.00	721.49 ± 0.71	510.00	701.80 ± 0.93
470.00	741.18 ± 0.65				

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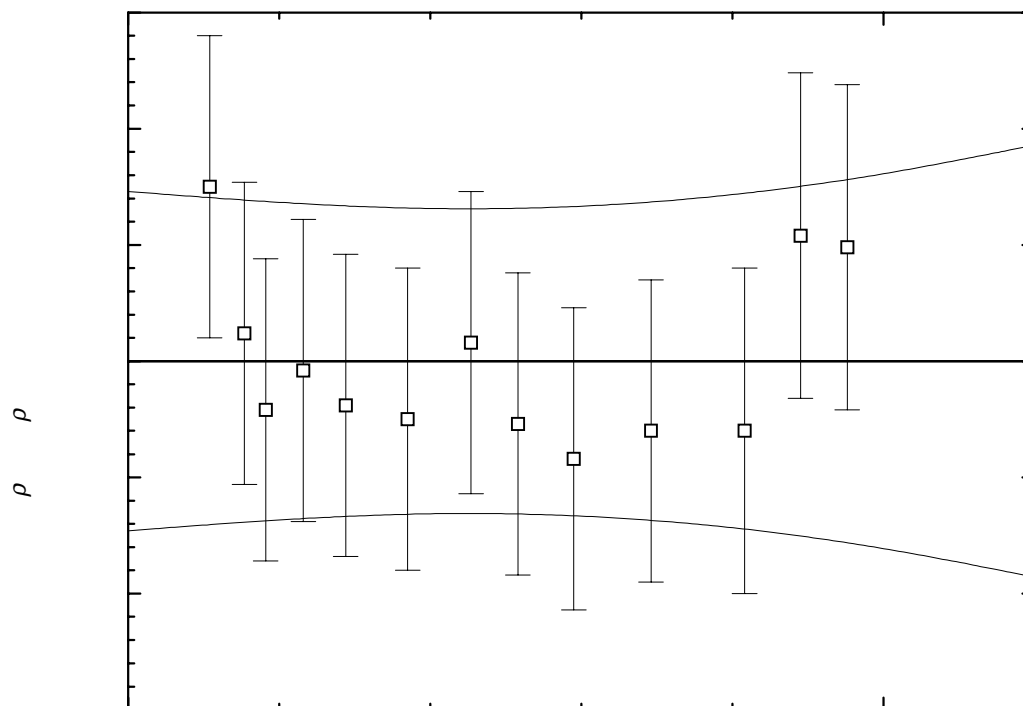
Bicyclo[2.2.2]octane (cont.)

Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

cis*-Bicyclo[3,3,0]octane*[1755-05-1]****C₈H₁₄****MW =110.20****501**

Table 1. Fit with estimated *B* coefficient for 15 accepted points. Deviation $\sigma_w = 0.261$.

Coefficient	$\rho = A + BT$
<i>A</i>	1118.65
<i>B</i>	-0.850

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	824.1 ± 20.00	-45.37	29-zel/fri ¹⁾	273.15	886.3 ± 0.50	-0.17	49-ryt/sch
291.15	871.8 ± 0.50	0.63	35-bar/lin-1	293.15	869.5 ± 0.50	0.03	49-ryt/sch
291.15	871.6 ± 0.50	0.43	36-bar/lin	310.95	854.3 ± 0.50	-0.04	49-ryt/sch

¹⁾ Not included in calculation of linear coefficients.

cont.

Table 2. (cont)

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	863.8 ± 2.00	-1.42	50-cop/sch	333.15	835.3 ± 0.50	-0.17	49-ryt/sch
273.15	886.3 ± 0.60	-0.17	48-ano-10	273.15	886.3 ± 0.50	-0.17	68-ano-1
293.15	869.5 ± 0.60	0.03	48-ano-10	293.15	869.5 ± 0.50	0.03	68-ano-1
310.93	854.3 ± 0.60	-0.06	48-ano-10	310.95	854.3 ± 0.50	-0.04	68-ano-1
333.15	835.3 ± 0.60	-0.17	48-ano-10	333.15	835.3 ± 0.50	-0.17	68-ano-1

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	889.1 ± 0.9	293.15	869.5 ± 0.6	320.00	846.6 ± 0.7
280.00	880.6 ± 0.7	298.15	865.2 ± 0.6	330.00	838.1 ± 0.8
290.00	872.1 ± 0.6	310.00	855.1 ± 0.6	340.00	829.6 ± 1.0

***trans*-Bicyclo[3.3.0]octane**

[5597-89-7]

C₈H₁₄

MW =110.20

502

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
291.15	862.6 ± 2.0	25-cle/huc
291.15	862.6 ± 2.0	35-bar/lin-1
289.15	864.8 ± 2.0	36-bar/lin

***cis*-Bicyclo[5.1.0]octane**

[16526-90-2]

C₈H₁₄

MW =110.20

503

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	870.0 ± 10.0	91-luk/tim

1,3-Dimethylbicyclo[3.1.0]hexane

[500023-37-0]

C₈H₁₄

MW =110.20

504

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	805.6 ± 0.6	56-lev/gir-1

3,3-Dimethylbicyclo[3.1.0]hexane [500037-81-0] C₈H₁₄ MW =110.20 505

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	792.9 ± 6.0	13-zel/usp-1
293.15	796.2 ± 4.0	13-zel/usp-2
293.15	796.3 ± 4.0	13-zel/usp-2
293.15	812.5 ± 6.0	20-usp

2-Methylbicyclo[2.2.1]heptane [15185-11-2] C₈H₁₄ MW =110.20 506

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
289.65	856.1 ± 2.0	33-zel/kaz
293.65	853.2 ± 2.0	33-zel/kaz

3,3-Dimethyltricyclo[2.2.1.0^{2,6}]heptane [473-02-9] C₉H₁₄ MW =122.21 507

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
313.15	871.0 ± 2.0	22-kom/ros
313.15	871.7 ± 2.0	27-kom/has
313.15	873.4 ± 2.0	32-kom/has-1

Bicyclo[4.3.0]nonane [496-10-6] C₉H₁₆ MW =124.23 508

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
296.15	875.9 ± 6.0	06-eyk-1
354.35	828.4 ± 6.0	06-eyk-1
293.15	833.4 ± 30.0	13-ipa
288.65	879.0 ± 6.0	24-zel/bor
284.85	887.2 ± 6.0	26-huc/fri
310.93	864.5 ± 6.0	63-gud/cam

cis-Hexahydroindan [4551-51-3] C₉H₁₆ MW =124.23 509

Table 1. Fit with estimated *B* coefficient for 15 accepted points. Deviation $\sigma_w = 0.389$.

Coefficient	$\rho = A + BT$
<i>A</i>	1136.55
<i>B</i>	-0.860

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg · m ⁻³	Ref.	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg · m ⁻³	Ref.
296.15	873.7 ± 8.00	-8.16	19-eyk ¹⁾	293.15	884.6 ± 0.60	0.21	45-per/waa
354.35	801.9 ± 8.00	-29.91	19-eyk ¹⁾	293.15	884.7 ± 0.60	0.26	46-ano
298.25	878.3 ± 2.00	-1.75	34-huc/got	293.15	883.9 ± 1.00	-0.54	49-ano-1
284.85	887.2 ± 4.00	-4.38	35-huc/sac ¹⁾	293.15	883.9 ± 1.00	-0.54	49-boo/gre
288.45	884.9 ± 3.00	-3.58	35-huc/sac ¹⁾	293.15	884.6 ± 0.60	0.16	49-boo/gre
293.15	879.0 ± 5.00	-5.44	35-huc/sac ¹⁾	293.15	884.5 ± 0.50	0.06	53-ano-1
293.85	881.5 ± 2.00	-2.34	35-huc/sac	298.15	880.8 ± 1.00	0.66	53-ent/ruo
293.15	880.0 ± 4.00	-4.44	35-huc/sac ¹⁾	293.15	884.4 ± 0.50	-0.01	55-cam/ros
293.15	884.5 ± 0.60	0.11	44-boo/per	298.15	880.3 ± 0.50	0.15	55-cam/ros
293.15	884.7 ± 0.60	0.26	44-gre/per-1	303.15	875.2 ± 0.50	-0.63	55-cam/ros
293.15	884.5 ± 0.60	0.11	45-boo/gre				

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³
290.00	887.1 ± 0.8
293.15	884.4 ± 0.7
298.15	880.1 ± 0.7
310.00	869.9 ± 1.6

2,2-Dimethyl[2.2.1]bicycloheptane [500037-84-3] C₉H₁₆ MW =124.23 510**Table 1.** Experimental and recommended values with uncertainties.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	854.7 ± 2.0	24-nam-1
293.15	853.9 ± 2.0	32-kom/has
293.15	854.3 ± 2.0	Recommended

2,3-Dimethylbicyclo[2.2.1]heptane [500037-85-4] C₉H₁₆ MW =124.23 511**Table 1.** Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
291.65	871.2 ± 2.0	26-deu

6,6-Dimethylbicyclo[3.1.1]heptane [500037-83-2] C₉H₁₆ MW =124.23 512**Table 1.** Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
295.15	859.2 ± 2.0	14-sem/fel-1

7,7-Dimethylbicyclo[2.2.1]heptane [2034-53-9] C₉H₁₆ MW =124.23 513

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	853.8 ± 2.0	32-kom/has

3-Ethyl-1-methylbicyclo[3.1.0]hexane [500038-11-9] C₉H₁₆ MW =124.23 514

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	816.5 ± 1.5	57-lev/kim

1-Methylbicyclo[2.2.2]octane [500037-90-1] C₉H₁₆ MW =124.23 515

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	875.0 ± 2.0	07-sem/bar

2-Methylbicyclo[2.2.2]octane [766-53-0] C₉H₁₆ MW =124.23 516

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
313.65	867.4 ± 2.0	35-kaz/pla
313.65	866.4 ± 2.0	59-kaz/svi
313.65	866.9 ± 2.0	Recommended

2-Methylbicyclo[3.2.1]octane [500024-98-6] C₉H₁₆ MW =124.23 517

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	861.2 ± 1.0	52-ipa/ger

trans-Octahydro-1H-indene [3296-50-2] C₉H₁₆ MW =124.23 518

Table 1. Fit with estimated *B* coefficient for 11 accepted points. Deviation $\sigma_w = 0.160$.

Coefficient	$\rho = A + BT$
<i>A</i>	1102.97
<i>B</i>	-0.820

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	863.0 ± 1.0	0.41	28-sac	293.15	862.5 ± 0.5	-0.09	50-ano-1
293.15	865.0 ± 3.0	2.41	35-bar/lin ¹⁾	293.15	862.3 ± 0.6	-0.29	50-boo/gre
291.45	864.5 ± 1.0	0.52	35-huc/sac	293.15	862.5 ± 0.5	-0.09	53-ano-1
293.15	863.0 ± 1.0	0.41	35-huc/sac	293.15	862.7 ± 0.4	0.07	55-cam/ros
293.15	862.5 ± 0.5	-0.09	45-boo/gre	298.15	858.5 ± 0.4	-0.01	55-cam/ros
293.15	862.5 ± 0.5	-0.09	45-per/waa	303.15	854.5 ± 0.4	0.08	55-cam/ros

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	865.2 ± 0.6
293.15	862.6 ± 0.5
298.15	858.5 ± 0.5
310.00	848.8 ± 0.9

1,3,5-Trimethylbicyclo[3.1.0]hexane [500023-38-1] C₉H₁₆ MW =124.23 519**Table 1.** Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	799.4 ± 1.0	56-lev/gir-1

2,6,6-Trimethylbicyclo[3.1.0]hexane [500037-82-1] C₉H₁₆ MW =124.23 520**Table 1.** Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	822.2 ± 2.0	12-kis-4

Tricyclo[5.2.1.0^{2,6}]decane [6004-38-2] C₁₀H₁₆ MW =136.24 521**Table 1.** Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
<i>crystal</i>		
293.95	949.2 ± 3.0	06-eyk-1
298.15	950.0 ± 5.0	71-boy/san
<i>liquid</i>		
353.15	912.1 ± 8.0	03-eyk
352.35	902.7 ± 3.0	06-eyk-1

1,3,3-Trimethyltricyclo[2.2.1.0^{2,6}]-heptane [488-97-1] C₁₀H₁₆ MW =136.24 522

Table 1. Fit with estimated *B* coefficient for 3 accepted points. Deviation $\sigma_w = 0.696$.

Coefficient	$\rho = A + BT$
A	1079.43
B	-0.750

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
289.65	862.4 ± 2.0	0.21	03-eyk	293.15	863.6 ± 4.0	4.03	23-nam ¹⁾
293.15	859.9 ± 2.0	0.33	07-asc-1	293.15	860.3 ± 2.0	0.73	27-nam/bru
293.55	858.9 ± 2.0	-0.37	11-ost-1	293.15	858.8 ± 2.0	-0.77	29-kom/ros
289.55	862.4 ± 2.0	0.13	12-ost	289.15	862.4 ± 2.0	-0.17	29-kom/ros
293.15	860.9 ± 2.0	1.33	18-nam/sse	289.65	862.4 ± 2.0	0.21	29-kom/ros
293.15	858.4 ± 2.0	-1.17	18-qui	293.15	860.4 ± 2.0	0.83	29-zel/lev-1
293.15	858.7 ± 2.0	-0.87	18-qui	293.15	857.4 ± 3.0	-2.17	33-kom/has ¹⁾
293.15	859.1 ± 2.0	-0.47	18-qui				

¹⁾ Not included in calculation of linear coefficients.

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	869.4 ± 2.1
290.00	861.9 ± 1.7
293.15	859.6 ± 1.7
298.15	855.8 ± 1.8

2,3,3-Trimethyltricyclo[2.2.1.0^{2,6}]-heptane [500040-51-7] C₁₀H₁₆ MW =136.24 523

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
353.35	826.8 ± 3.0	06-eyk-2
339.15	844.0 ± 3.0	12-ost
343.15	837.3 ± 3.0	20-mee/van

4,7,7-Trimethyltricyclo[2.2.1.0^{2,6}]-heptane [500040-50-6] C₁₀H₁₆ MW =136.24 524

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
393.95	794.8 ± 4.0	06-eyk-2

Decahydronaphthalene**[91-17-8]****C₁₀H₁₈****MW =138.25****525****Table 1.** Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
272.95	897.6 ± 4.0	22-her/sch	296.15	913.4 ± 20.0	38-eva-2
289.05	885.8 ± 4.0	22-her/sch	323.15	860.9 ± 4.0	38-eva-2
298.15	878.9 ± 4.0	22-her/sch	293.15	887.0 ± 4.0	44-sch
314.05	876.4 ± 4.0	22-her/sch	293.15	885.9 ± 4.0	45-gre/vog
335.15	852.1 ± 4.0	22-her/sch	310.35	879.1 ± 4.0	54-smi/otv
355.65	836.9 ± 4.0	22-her/sch	298.15	871.0 ± 4.0	55-ham/sto
420.35	789.7 ± 4.0	22-her/sch	310.93	884.6 ± 4.0	63-gud/cam
293.15	884.0 ± 4.0	23-lip	298.10	883.9 ± 4.0	86-osh/han
293.15	888.1 ± 4.0	31-kag	318.15	866.6 ± 4.0	86-osh/han
293.15	878.1 ± 10.0	36-jon/lin	338.15	811.5 ± 4.0	86-osh/han
293.15	884.3 ± 4.0	37-gar/bre	358.15	836.7 ± 4.0	86-osh/han
293.15	883.3 ± 4.0	38-eva-2			

cis-Decahydronaphthalene**[493-01-6]****C₁₀H₁₈****MW = 138.25****526****Table 1.** Coefficients of the polynomial expansion equation. Standard deviations (see introduction):

$\sigma_{\text{c,w}} = 1.6121 \cdot 10^{-1}$ (combined temperature ranges, weighted), $\sigma_{\text{c,uw}} = 3.7236 \cdot 10^{-2}$ (combined temperature ranges, unweighted).

Coefficient	$T = 273.15 \text{ to } 373.15 \text{ K}$ $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.11345 \cdot 10^3$
B	$-7.21771 \cdot 10^{-1}$
C	$-5.96927 \cdot 10^{-5}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
293.15	898.00 ± 1.00	1.27	44-huc ¹⁾	303.15	889.09 ± 0.40	-0.07	55-cam/ros(∇)
313.15	881.10 ± 1.00	-0.47	44-huc(×)	298.15	893.00 ± 0.50	0.06	56-lau/kin(×)
333.15	865.90 ± 1.00	-0.46	44-huc(×)	308.15	885.50 ± 0.50	0.14	56-lau/kin(×)
353.15	850.50 ± 1.00	-0.61	44-huc ¹⁾	318.15	877.70 ± 0.50	-0.07	56-lau/kin(×)
293.15	897.00 ± 1.00	0.27	48-sey/bar ¹⁾	328.15	870.20 ± 0.50	0.03	56-lau/kin(×)
323.15	874.00 ± 1.00	0.03	48-sey/bar(×)	338.15	862.70 ± 0.50	0.15	56-lau/kin(×)
353.15	852.00 ± 1.00	0.89	48-sey/bar ¹⁾	358.15	847.20 ± 0.50	-0.09	56-lau/kin(×)
373.15	836.00 ± 1.00	0.19	48-sey/bar(×)	368.15	839.10 ± 0.70	-0.54	56-lau/kin(×)
293.15	896.80 ± 0.50	0.07	49-boo/gre(×)	273.15	911.90 ± 0.50	0.06	68-ano-1(×)
293.15	897.10 ± 0.50	0.37	49-foe/fen(×)	293.15	896.80 ± 0.50	0.07	68-ano-1(×)
293.15	896.30 ± 0.60	-0.43	50-fen/mye(×)	310.95	883.40 ± 0.50	0.16	68-ano-1(×)
293.15	896.80 ± 0.50	0.07	51-gue/sue(×)	333.15	866.50 ± 0.50	0.14	68-ano-1(×)

¹⁾ Not included in Fig. 1.

cont.

cis-Decahydronaphthalene (cont.)**Table 2.** (cont.)

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
273.15	911.90 ± 0.50	0.06	52-ano(✕)	372.05	836.90 ± 0.70	0.25	68-ano-1(✕)
293.15	896.80 ± 0.50	0.07	52-ano(✕)	293.15	896.60 ± 0.40	-0.13	81-kor/kov(◆)
310.95	883.40 ± 0.50	0.16	52-ano(✕)	353.15	851.10 ± 0.50	-0.01	81-kor/kov(◆)
333.15	866.50 ± 0.50	0.14	52-ano(✕)	298.15	892.85 ± 0.40	-0.09	82-chy/str(○)
372.05	836.90 ± 0.70	0.25	52-ano(✕)	298.15	892.98 ± 0.40	0.04	87-shi/oga(□)
293.15	896.69 ± 0.40	-0.04	55-cam/ros(▽)	298.15	892.91 ± 0.40	-0.03	88-shi/oga(Δ)
298.15	892.89 ± 0.40	-0.05	55-cam/ros(▽)				

Further references: [04-ler, 06-ros/lea, 13-von, 24-eis/pol, 24-zel-1, 25-huc, 25-huc-1, 26-zel/tit-1, 31-ruz/koo, 35-huc/kum, 35-pro, 36-hib/lin, 36-par, 38-sey/wal, 39-loz/dya, 51-dau/his, 53-kus, 63-gud/cam].

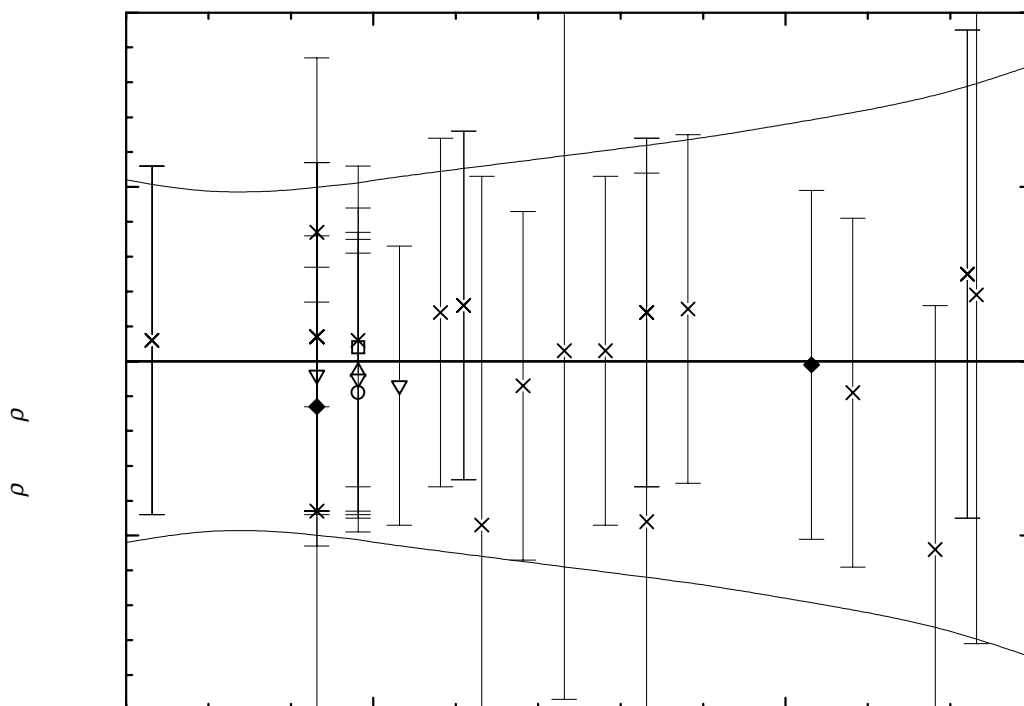


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

cont.

Table 3. Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$$

$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	914.22 ± 0.52	300.00	891.54 ± 0.52	350.00	853.51 ± 0.68
280.00	906.67 ± 0.48	310.00	883.96 ± 0.55	360.00	845.87 ± 0.72
290.00	899.11 ± 0.49	320.00	876.37 ± 0.58	370.00	838.22 ± 0.77
293.15	896.73 ± 0.50	330.00	868.76 ± 0.61	380.00	830.55 ± 0.85
298.15	892.94 ± 0.51	340.00	861.14 ± 0.64		

trans-Decahydronaphthalene**[493-02-7]****C₁₀H₁₈****MW = 138.25****527****Table 1.** Coefficients of the polynomial expansion equation. Standard deviations (see introduction):

$\sigma_{c,w} = 9.5236 \cdot 10^{-2}$ (combined temperature ranges, weighted), $\sigma_{c,uw} = 1.9078 \cdot 10^{-2}$ (combined temperature ranges, unweighted).

Coefficient	T = 273.15 to 373.15 K $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.08846 \cdot 10^3$
B	$-7.46329 \cdot 10^{-1}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
293.15	870.00 ± 1.00	0.33	48-sey/bar ¹⁾	293.15	869.80 ± 0.50	0.13	68-ano-1 ¹⁾
323.15	848.00 ± 1.00	0.72	48-sey/bar ¹⁾	310.95	856.50 ± 0.50	0.11	68-ano-1(✕)
353.15	825.00 ± 1.00	0.11	48-sey/bar(✕)	333.15	839.90 ± 0.50	0.08	68-ano-1(✕)
373.15	810.00 ± 1.00	0.03	48-sey/bar(✕)	372.05	810.60 ± 0.70	-0.19	68-ano-1(✕)
293.15	869.80 ± 0.30	0.13	49-boo/gre(Δ)	293.15	869.00 ± 0.40	-0.67	81-kor/kov ¹⁾
273.15	884.50 ± 0.50	-0.10	52-ano(✕)	353.15	825.00 ± 0.50	0.11	81-kor/kov(✕)
293.15	869.80 ± 0.50	0.13	52-ano ¹⁾	298.15	865.98 ± 0.40	0.04	82-chy/str(◆)
310.95	856.50 ± 0.50	0.11	52-ano(✕)	293.15	869.71 ± 0.20	0.04	87-mar-1(○)
333.15	839.90 ± 0.50	0.08	52-ano(✕)	293.15	869.62 ± 0.20	-0.05	87-mar-1(○)
372.05	810.60 ± 0.70	-0.19	52-ano(✕)	298.15	865.92 ± 0.20	-0.02	87-mar-1(○)
293.15	869.69 ± 0.15	0.02	55-cam/ros(□)	298.15	865.90 ± 0.20	-0.04	87-mar-1(○)
298.15	865.90 ± 0.15	-0.04	55-cam/ros(□)	303.15	862.22 ± 0.20	0.01	87-mar-1(○)
303.15	862.20 ± 0.15	-0.01	55-cam/ros(□)	303.15	862.16 ± 0.20	-0.05	87-mar-1(○)
288.25	873.63 ± 0.50	0.30	66-gom/wan(✕)	308.15	858.43 ± 0.20	-0.05	87-mar-1(○)
298.15	866.04 ± 0.50	0.10	66-gom/wan ¹⁾	313.15	854.69 ± 0.20	-0.06	87-mar-1(○)
298.15	865.84 ± 0.50	-0.10	66-gom/wan ¹⁾	318.15	850.95 ± 0.20	-0.06	87-mar-1(○)
312.65	855.09 ± 0.50	-0.03	66-gom/wan(✕)	323.15	847.18 ± 0.20	-0.10	87-mar-1(○)
273.15	884.50 ± 0.50	-0.10	68-ano-1(✕)	298.15	865.88 ± 0.40	-0.06	88-shi/oga(∇)

¹⁾ Not included in Fig. 1.

cont.

trans-Decahydronaphthalene (cont.)

Further references: [04-ler, 24-eis/pol, 24-zel-1, 25-huc, 25-huc-1, 25-zel/tur, 29-zel/tur, 31-ruz/koo, 32-zel/tur, 35-huc/kum, 35-pro, 36-hib/lin, 37-huc, 38-sey/wal, 44-huc, 49-foe/fen, 50-fen/mye, 51-gue/sue, 56-ano-5, 59-wu /how, 63-gud/cam].

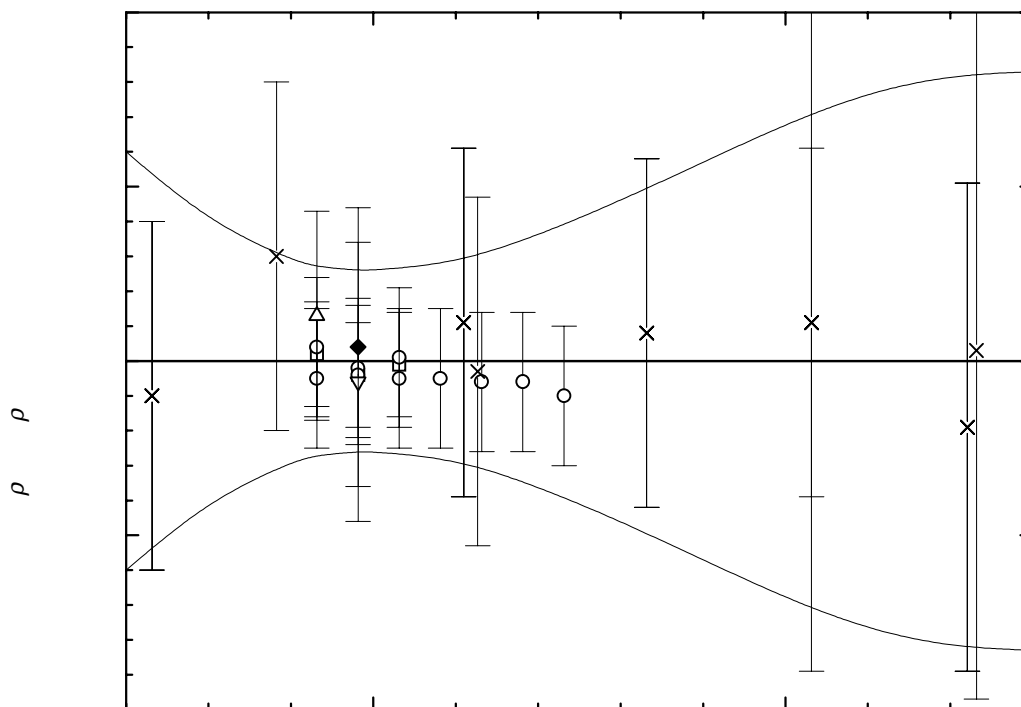


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

Table 3. Recommended values (fit to the reliable experimental values according to the equations $\rho = A + BT + CT^2 + DT^3 + \dots$ or $\rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$).

$\frac{T}{K}$	$\frac{\rho \pm \sigma_{fit}}{kg \cdot m^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{fit}}{kg \cdot m^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{fit}}{kg \cdot m^{-3}}$
270.00	886.95 ± 0.60	300.00	864.56 ± 0.26	350.00	827.24 ± 0.68
280.00	879.49 ± 0.40	310.00	857.10 ± 0.28	360.00	819.78 ± 0.77
290.00	872.02 ± 0.29	320.00	849.63 ± 0.36	370.00	812.32 ± 0.82
293.15	869.67 ± 0.27	330.00	842.17 ± 0.46	380.00	804.85 ± 0.83
298.15	865.94 ± 0.26	340.00	834.71 ± 0.57		

cis-Bicyclo[5.3.0]decane [16189-46-1] C₁₀H₁₈ MW =138.25 528

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	883.3 ± 1.0	56-sor/rom

trans-Bicyclo[5.3.0]decane [500037-72-9] C₁₀H₁₈ MW =138.25 529

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	879.4 ± 1.0	56-sor/rom

2,2-Dimethylbicyclo[3.2.1]octane [500037-93-4] C₁₀H₁₈ MW =138.25 530

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
290.55	877.1 ± 2.0	27-lip/got

2,3-Dimethylbicyclo[2.2.2]octane [99191-27-2] C₁₀H₁₈ MW =138.25 531

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	874.4 ± 2.0	59-kaz/svi

3,7-Dimethylbicyclo[3.3.0]octane [500037-92-3] C₁₀H₁₈ MW =138.25 532

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
297.15	834.1 ± 2.0	36-jon/lin

1-Methylbicyclo[3.3.1]nonane [500037-96-7] C₁₀H₁₈ MW =138.25 533

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	841.6 ± 2.0	04-rab

cis-3a-Methyloctahydro-1H-indene [824-16-8] C₁₀H₁₈ MW =138.25 534

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
286.65	875.4 ± 2.0	37-lin/mil
289.15	877.8 ± 2.0	38-err/lin

1-Methyloctahydro-1H-indene [500037-94-5] C₁₀H₁₈ MW =138.25 535

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	876.3 ± 2.0	36-nen/cio
293.15	876.0 ± 1.0	64-bal/kha

1-Methyl-3-(1-methylethyl)bicyclo-[3.1.0]hexane [500038-13-1] C₁₀H₁₈ MW =138.25 536

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	817.6 ± 1.5	57-lev/kim

4-Methyl-1-(1-methylethyl)bicyclo-[3.1.0]hexane [471-12-5] C₁₀H₁₈ MW =138.25 537

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	816.0 ± 2.0	10-kis-4	293.15	818.1 ± 2.0	29-hen/rob
293.15	818.1 ± 2.0	10-tsc/fom	290.15	819.0 ± 2.0	29-hen/rob
293.15	813.9 ± 4.0	10-tsc/fom	292.65	814.2 ± 2.0	35-nam/sch
290.15	819.0 ± 2.0	10-tsc/fom	295.15	814.2 ± 2.0	37-guh/kri
289.15	819.1 ± 2.0	10-tsc/fom	299.15	811.7 ± 2.0	37-guh/kri
293.15	817.0 ± 2.0	11-kis-6	295.15	814.0 ± 2.0	37-guh/nat
295.15	814.2 ± 2.0	14-sem/fel-1	293.15	810.0 ± 1.0	52-her-3

1-Methyl-3-propylbicyclo[4.1.0]hexane [500038-12-0] C₁₀H₁₈ MW =138.25 538

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	817.1 ± 1.5	57-lev/kim

1,2,3-Trimethylbicyclo[2.2.1]heptane [500037-86-5] C₁₀H₁₈ MW =138.25 539

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	852.0 ± 2.0	35-kom/nym

1,3,3-Trimethylbicyclo[2.2.1]heptane [6248-88-0] C₁₀H₁₈ MW =138.25 540

Table 1. Experimental values with uncertainties.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.00	831.6 ± 5.0	12-wol
293.15	855.3 ± 5.0	34-kom/bec

1-1,3,3-Trimethylbicyclo[2.2.1]heptane [500037-87-6] C₁₀H₁₈ MW =138.25 541

Table 1. Fit with estimated B coefficient for 6 accepted points. Deviation $\sigma_w = 1.089$.

Coefficient	$\rho = A + BT$
A	1055.44
B	-0.760

Table 2. Experimental values with uncertainties and deviation from calculated values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg · m ⁻³	Ref.	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg · m ⁻³	Ref.
293.15	832.5 ± 2.0	-0.15	11-kis-6	273.15	847.1 ± 2.0	-0.75	15-nam
293.15	831.6 ± 2.0	-1.05	11-wol	293.15	833.7 ± 2.0	1.05	18-qui
293.15	831.7 ± 2.0	-0.95	15-nam	293.15	834.5 ± 2.0	1.85	32-kom/has

Table 3. Recommended values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³
270.00	850.2 ± 2.9
280.00	842.6 ± 2.3
290.00	835.0 ± 2.1
293.15	832.7 ± 2.1
298.15	828.9 ± 2.3

***d*-1,3,3-Trimethylbicyclo[2.2.1]heptane** [500037-88-7] C₁₀H₁₈ MW =138.25 542

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	861.2 ± 2.0	34-kom/bec

1,4,7-Trimethylbicyclo[2.2.1]heptane [78350-42-2] C₁₀H₁₈ MW =138.25 543

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	853.1 ± 2.0	35-kom/nym

1,7,7-Trimethylbicyclo[2.2.1]heptane [464-15-3] C₁₀H₁₈ MW =138.25 544

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
425.15	745.8 ± 2.0	36-lef/ada

2,2,3-Trimethylbicyclo[2.2.1]heptane [473-19-8] C₁₀H₁₈ MW =138.25 545

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
340.15	827.6 ± 2.0	11-lip-1

2,6,6-trimethylbicyclo[3.1.1]heptane [473-55-2] C₁₀H₁₈ MW =138.25 546

Table 1. Fit with estimated *B* coefficient for 19 accepted points. Deviation $\sigma_w=2.190$.

Coefficient	$\rho = A + BT$
<i>A</i>	1066.07
<i>B</i>	-0.720

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	856.6 ± 4.0	1.60	01-sab/sen	293.15	855.1 ± 4.0	0.10	23-nam/jar-1
273.15	862.0 ± 5.0	-7.40	01-sab/sen ¹⁾	291.15	847.0 ± 5.0	-9.44	29-zel/lev ¹⁾
288.15	860.2 ± 4.0	1.60	09-vav	291.65	845.3 ± 5.0	-10.78	29-zel/lev ¹⁾
293.15	851.2 ± 4.0	-3.80	11-zel-1	294.15	846.7 ± 5.0	-7.58	29-zel/lev ¹⁾
293.15	854.2 ± 4.0	-0.80	11-zel-1	293.15	852.1 ± 4.0	-2.90	29-zel/lev-1
293.15	856.7 ± 4.0	1.70	11-zel-1	293.15	859.2 ± 5.0	4.20	35-zac-1 ¹⁾
293.15	839.0 ± 5.0	-16.00	19-nam ¹⁾	293.15	856.4 ± 4.0	1.40	42-ano-2
293.15	843.0 ± 5.0	-12.00	22-nam/jar ¹⁾	293.15	851.0 ± 4.0	-4.00	50-her/ruz
293.15	840.2 ± 5.0	-14.80	22-nam/jar ¹⁾	293.15	851.6 ± 4.0	-3.40	54-her/mot
293.15	856.6 ± 4.0	1.60	23-lip	293.15	858.0 ± 4.0	3.00	54-pin/hof
293.65	855.0 ± 4.0	0.36	23-lip	298.15	854.2 ± 4.0	2.80	54-tho/haw
293.15	856.2 ± 4.0	1.20	23-lip	293.15	854.6 ± 4.0	-0.40	55-fis/sti
290.65	851.9 ± 5.0	-4.90	23-lip ¹⁾	310.93	839.8 ± 4.0	-2.40	63-gud/cam
293.15	855.8 ± 4.0	0.80	23-nam/jar-1				

¹⁾ Not included in calculation of linear coefficients.

cont.

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	864.5 ± 4.3	293.15	855.0 ± 3.3	310.00	842.9 ± 4.6
290.00	857.3 ± 3.4	298.15	851.4 ± 3.4	320.00	835.7 ± 6.1

[1S-(1 α ,2 β ,5 α)]-2,6,6-Trimethylbicyclo[3.1.1]heptane

[4755-33-3]

C₁₀H₁₈

MW =138.25

547

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	852.8 ± 1.0	53-fis/sti
293.15	857.5 ± 1.0	54-sch/fis

(1 α ,2 β ,5 α)-2,6,6-Trimethylbicyclo[3.1.1]heptane

[6876-13-7]

C₁₀H₁₈

MW =138.25

548

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	857.4 ± 1.0	54-chi/dec
293.15	857.1 ± 1.0	53-fis/sti
293.15	856.7 ± 1.0	54-oco/gol
293.15	857.5 ± 1.0	54-sch/fis
293.15	857.2 ± 1.0	Recommended

(1 α ,3 α ,5 α)-2,6,6-Trimethylbicyclo[3.1.1]heptane

[33626-25-4]

C₁₀H₁₈

MW =138.25

549

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	854.0 ± 2.0	54-chi/dec

2,7,7-Trimethylbicyclo[2.2.1]heptane

[1123-42-8]

C₁₀H₁₈

MW =138.25

550

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	856.6 ± 2.0	04-zel-1
293.15	857.9 ± 2.0	24-nam/aba
293.15	857.2 ± 2.1	Recommended

3,7,7-Trimethylbicyclo[4.1.0]heptane [554-59-6] C₁₀H₁₈ MW =138.25 551

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	840.9 ± 2.0	11-kis/saw
293.15	836.7 ± 3.0	14-sem/fel-1
299.15	833.0 ± 2.0	38-guh/san

1,4-Endomethylenedecahydro-naphthalene [500050-95-3] C₁₁H₁₈ MW =150.26 552

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	966.7 ± 1.5	61-pla/bel-1

3-Butyl-1-methylbicyclo[3.1.0]hexane [500038-14-2] C₁₁H₂₀ MW =152.28 553

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	820.1 ± 1.5	57-lev/kim

Decahydro-1-methylnaphthalene [2958-75-0] C₁₁H₂₀ MW =152.28 554

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	885.0 ± 3.0	26-wei/hen
310.93	869.5 ± 2.0	63-gud/cam

cis-Decahydro-1-methylnaphthalene [500025-96-7] C₁₁H₂₀ MW =152.28 555

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	883.5 ± 2.0	26-wei/hen

Decahydro-2-methylnaphthalene [2958-76-1] C₁₁H₂₀ MW =152.28 556

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	875.0 ± 3.0	26-wei/hen
310.93	853.6 ± 2.0	63-gud/cam

***cis*-Decahydro-2-methylnaphthalene** [800000-04-8] C₁₁H₂₀ MW =152.28 557

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	874.5 ± 3.0	26-wei/hen
293.15	884.6 ± 2.0	46-lev/kul
293.15	881.5 ± 2.0	49-lev/kul-1

***trans*-Decahydro-2-methylnaphthalene** [800000-05-9] C₁₁H₂₀ MW =152.28 558

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	889.7 ± 2.0	29-sch-6	290.55	871.2 ± 2.0	35-bar/lin
293.15	867.0 ± 2.0	31-ruz/koo	293.15	869.3 ± 2.0	46-lev/kul
289.15	892.8 ± 2.0	32-tha	293.15	869.3 ± 2.0	59-tur/sos

Decahydro-4a-methylnaphthalene [6596-97-0] C₁₁H₂₀ MW =152.28 559

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	892.0 ± 5.0	37-lin/mil

***cis*-Decahydro-4a-methylnaphthalene** [2547-26-4] C₁₁H₂₀ MW =152.28 560

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
289.25	890.9 ± 3.0	36-hib/lin
285.65	899.4 ± 3.0	37-lin/mil
298.15	892.4 ± 2.0	54-dau/rog

***trans*-Decahydro-4a-methylnaphthalene** [2547-27-5] C₁₁H₂₀ MW =152.28 561

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	858.3 ± 2.0	31-ruz/koo
291.15	860.0 ± 2.0	31-ruz/koo
293.15	865.4 ± 2.0	36-hib/lin
290.75	865.4 ± 2.0	36-hib/lin
298.15	885.7 ± 2.0	54-dau/rog
298.15	885.5 ± 2.0	54-dau/rog

5.1.2 Saturated Bridged Cycloalkanes, C₁₂ - C₁₉

Pentacyclo[6.3.1.0^{2,7}.0^{3,5}.0^{9,11}]-dodecane [6049-82-7] C₁₂H₁₆ MW =160.26 562

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1040.0 ± 10.0	91-luk/tim

Decahydro-1,4-ethanonaphthalene [703-34-4] C₁₂H₂₀ MW =164.29 563

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
295.15	967.5 ± 2.0	37-bod

1,3-Dimethyltricyclo[3.3.1.1^{3,7}]decane [702-79-4] C₁₂H₂₀ MW = 164.29 564

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction): $\sigma_{\text{c,w}} = 5.9735 \cdot 10^{-1}$ (combined temperature ranges, weighted), $\sigma_{\text{c,uw}} = 2.5681 \cdot 10^{-1}$ (combined temperature ranges, unweighted).

Coefficient	T = 323.14 to 548.11 K $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.33433 \cdot 10^3$
B	-2.43894
C	$4.47238 \cdot 10^{-3}$
D	$-3.92520 \cdot 10^{-6}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
323.14	880.40 ± 0.40	-0.37	96-ste/chi(□)	448.11	785.70 ± 0.50	-0.59	96-ste/chi(□)
348.13	862.00 ± 0.40	0.32	96-ste/chi(□)	473.11	766.10 ± 0.50	0.25	96-ste/chi(□)
373.12	844.00 ± 0.40	0.94	96-ste/chi(□)	498.11	744.90 ± 0.50	0.87	96-ste/chi(□)
398.12	824.20 ± 0.40	-0.33	96-ste/chi(□)	523.11	721.20 ± 0.70	0.73	96-ste/chi(□)
423.11	804.80 ± 0.50	-0.93	96-ste/chi(□)	548.11	693.90 ± 0.70	-0.89	96-ste/chi(□)

¹⁾ Not included in Fig. 1.

cont.

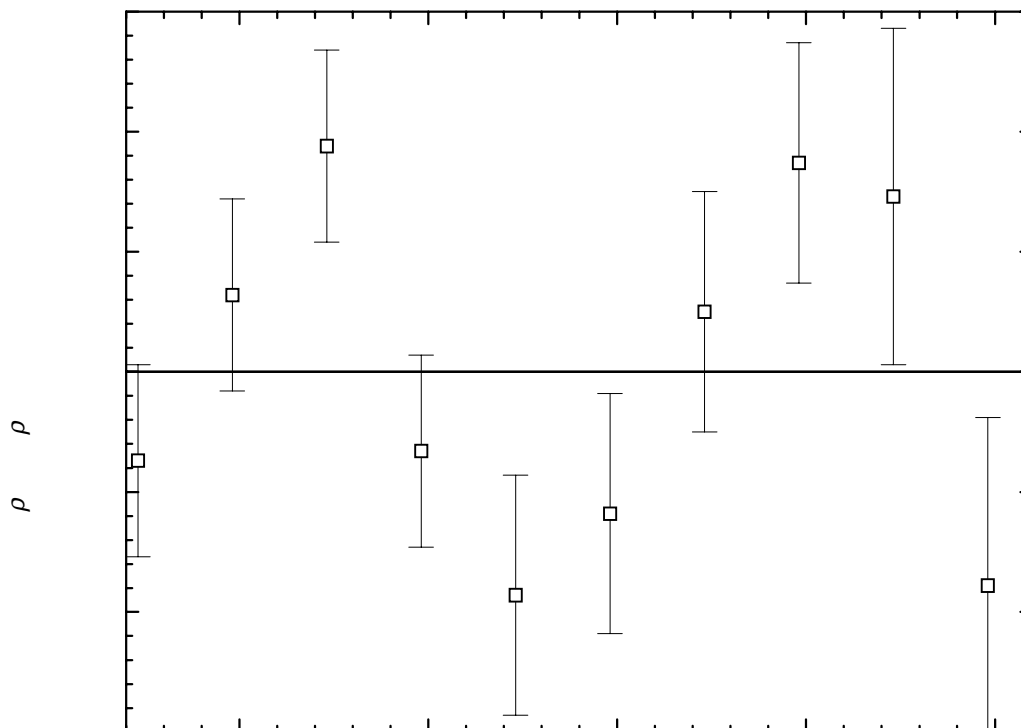
1,3-Dimethyltricyclo[3.3.1.1^{3,7}]decane (cont.)

Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

Table 3. Recommended values (fit to the reliable experimental values according to the equations $\rho = A + BT + CT^2 + DT^3 + \dots$ or $\rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$).

$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
320.00	883.22 ± 0.62	410.00	815.65 ± 0.46	500.00	742.31 ± 0.61
330.00	875.47 ± 0.56	420.00	808.10 ± 0.44	510.00	733.06 ± 0.67
340.00	867.83 ± 0.54	430.00	800.45 ± 0.44	520.00	723.50 ± 0.76
350.00	860.28 ± 0.53	440.00	792.69 ± 0.44	530.00	713.62 ± 0.87
360.00	852.80 ± 0.52	450.00	784.79 ± 0.45	540.00	703.38 ± 1.03
370.00	845.37 ± 0.51	460.00	776.71 ± 0.47	550.00	692.76 ± 1.22
380.00	837.97 ± 0.50	470.00	768.46 ± 0.49	560.00	681.74 ± 1.47
390.00	830.56 ± 0.49	480.00	759.98 ± 0.52		
400.00	823.13 ± 0.47	490.00	751.28 ± 0.56		

2,10-Ethanobicyclo[4.4.0]decane [500040-72-2] C₁₂H₂₀ MW =164.29 565

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	937.0 ± 3.0	09-ipa
298.15	948.8 ± 3.0	31-kag

Tricyclo[7.3.0.0^{2,6}]dodecane [500040-73-3] C₁₂H₂₀ MW =164.29 566

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	914.5 ± 2.0	37-pin/mar

cis-Decahydro-1,4a-dimethyl-naphthalene [500026-03-9] C₁₂H₂₂ MW =166.31 567

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	889.6 ± 2.0	31-ruz/koo-1

trans-Decahydro-1,4a-dimethyl-naphthalene [500026-04-0] C₁₂H₂₂ MW =166.31 568

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	863.3 ± 2.0	31-ruz/koo

Decahydro-1,6-dimethylnaphthalene [1750-51-2] C₁₂H₂₂ MW =166.31 569

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	879.0 ± 3.0	26-wei/hen

Decahydro-2,6-dimethylnaphthalene [1618-22-0] C₁₂H₂₂ MW =166.31 570

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	871.0 ± 3.0	26-wei/hen

Decahydro-2,7-dimethylnaphthalene [500026-02-8] C₁₂H₂₂ MW =166.31 571

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	851.8 ± 2.0	26-zel/tit-1

cis-Decahydro-4a,6a-dimethylnaphthalene [800000-10-6] C₁₂H₂₂ MW =166.31 572

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	889.6 ± 4.0	31-ruz/koo
289.15	884.7 ± 3.0	37-lin/mil

trans-Decahydro-4a,6a-dimethylnaphthalene [800000-11-7] C₁₂H₂₂ MW =166.31 573

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	863.3 ± 4.0	31-ruz/koo
288.15	854.4 ± 3.0	37-lin/mil

Decahydroethylnaphthalene [25551-49-9] C₁₂H₂₂ MW =166.31 574

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
310.93	868.0 ± 3.0	63-gud/cam

Decahydro-1-ethylnaphthalene [1008-17-9] C₁₂H₂₂ MW =166.31 575

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	898.4 ± 2.0	31-lev-1
296.15	884.3 ± 2.0	31-lev-1
310.93	871.3 ± 2.0	63-gud/cam

Decahydro-2-ethylnaphthalene [1618-23-1] C₁₂H₂₂ MW =166.31 576

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	885.6 ± 2.0	31-lev
286.35	876.3 ± 2.0	31-lev
273.15	885.6 ± 2.0	31-lev-1
310.93	866.3 ± 2.0	63-gud/cam

cis-Decahydro-2-ethylnaphthalene [800000-08-2] C₁₂H₂₂ MW =166.31 577

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	883.0 ± 1.0	46-lev/kul
293.15	883.8 ± 1.0	66-ter/kis
293.15	883.4 ± 1.0	Recommended

trans-Decahydro-2-ethylnaphthalene [800000-09-3] C₁₂H₂₂ MW =166.31 578

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	867.8 ± 1.0	46-lev/kul
293.15	866.1 ± 1.0	66-ter/kis
293.15	867.0 ± 1.2	Recommended

3-Ethyl-7-methyloctahydro-1H-indene [500040-16-4] C₁₂H₂₂ MW =166.31 579

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	848.1 ± 2.0	57-lag

Dodecahydro-1H-fluorene [5744-03-6] C₁₃H₂₂ MW = 178.32 580

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction):

$\sigma_{\text{c,w}} = 3.0745 \cdot 10^{-2}$ (combined temperature ranges, weighted), $\sigma_{\text{c,uw}} = 1.7237 \cdot 10^{-2}$ (combined temperature ranges, unweighted).

Coefficient	T = 273.15 to 372.05 K $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.14304 \cdot 10^3$
B	$-6.45573 \cdot 10^{-1}$
C	$-5.74969 \cdot 10^{-5}$

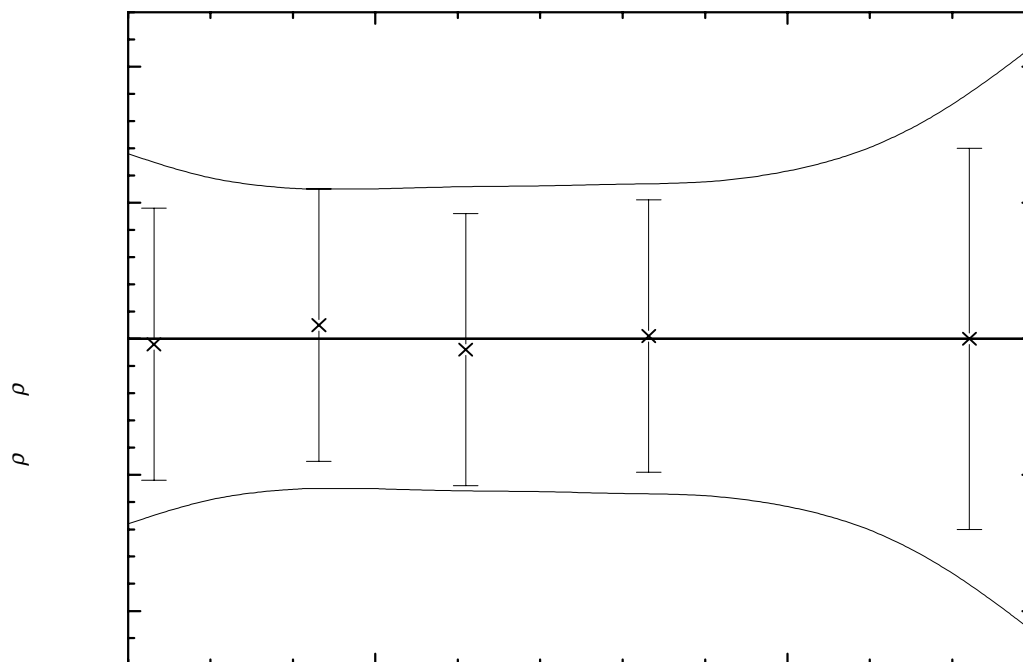
cont.

Dodecahydro-1*H*-fluorene (cont.)**Table 2.** Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
273.15	962.40 ± 0.50	-0.02	68-ano-1(X)	333.15	921.60 ± 0.50	0.01	68-ano-1(X)
293.15	948.90 ± 0.50	0.05	68-ano-1(X)	372.05	894.90 ± 0.70	0.00	68-ano-1(X)
310.95	936.70 ± 0.50	-0.04	68-ano-1(X)				

Table 3. Recommended values (fit to the reliable experimental values according to the equations $\rho = A + BT + CT^2 + DT^3 + \dots$ or $\rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$).

$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	964.55 ± 0.68	300.00	944.20 ± 0.55	350.00	910.05 ± 0.61
280.00	957.78 ± 0.58	310.00	937.39 ± 0.56	360.00	903.19 ± 0.69
290.00	950.99 ± 0.55	320.00	930.57 ± 0.56	370.00	896.31 ± 0.85
293.15	948.85 ± 0.55	330.00	923.74 ± 0.57	380.00	889.42 ± 1.08
298.15	945.45 ± 0.55	340.00	916.90 ± 0.57		

**Fig. 1.** The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)**Further references:** [09-ipa].

Dodecahydro-1*H*-benz[e]indene [30146-18-0] C₁₃H₂₂ MW =178.32 581

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	924.1 ± 4.0	36-pin/nes

Decahydro-2-ethyl-3-methylnaphthalene [500040-06-2] C₁₃H₂₄ MW =180.33 582

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	863.5 ± 2.0	57-lag

Decahydro-2-ethyl-2-methylnaphthalene [500025-07-0] C₁₃H₂₄ MW =180.33 583

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	888.0 ± 1.0	49-adk/eng

***cis*-Decahydro-2-ethyl-4a-methyl-naphthalene** [500037-98-9] C₁₃H₂₄ MW =180.33 584

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	890.3 ± 2.0	31-ruz/koo-1
293.15	891.2 ± 2.0	31-ruz/pie

***trans*-4-Decahydro-2-ethyl-4a-methyl-naphthalene** [500037-99-0] C₁₃H₂₄ MW =180.33 585

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	863.0 ± 2.0	31-ruz/koo

2,7-Dimethyl-3-ethyloctahydro-1*H*-indene [500040-05-1] C₁₃H₂₄ MW =180.33 586

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	837.2 ± 2.0	57-lag

3-Methyl-2-(1-methyl)octahydro-1H-indene [500037-95-6] C₁₃H₂₄ MW =180.33 587

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	871.5 ± 2.0	33-dja/pet

9-Methyl-3-(1-methylethyl)bicyclo[3.3.1]nonane [500037-97-8] C₁₃H₂₄ MW =180.33 588

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	864.3 ± 2.0	04-rab/wei

Decahydro-2-propylnaphthalene [500030-40-0] C₁₃H₂₄ MW =180.33 589

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	885.0 ± 1.0	48-fie/ber-2

Tricyclo[8.4.0.0^{2,7}]tetradecane [5743-97-5] C₁₄H₂₄ MW = 192.34 590

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction): $\sigma_{\text{c,w}} = 1.6631 \cdot 10^{-1}$ (combined temperature ranges, weighted), $\sigma_{\text{c,uw}} = 8.1298 \cdot 10^{-2}$ (combined temperature ranges, unweighted).

Coefficient	T = 273.15 to 372.05 K $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.13771 \cdot 10^3$
B	$-6.57298 \cdot 10^{-1}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
273.15	958.20 ± 0.50	0.03	68-ano-1(□)	333.15	918.70 ± 0.50	-0.03	68-ano-1(□)
293.15	944.80 ± 0.50	-0.22	68-ano-1(□)	372.05	893.10 ± 0.70	-0.06	68-ano-1(□)
310.95	933.60 ± 0.50	0.28	68-ano-1(□)				

cont.

Further references: [1889-lie/spi-1, 07-sch/mez, 31-kag, 36-pin/nes, 37-den/kot-1, 59-wu /how, 63-gud/cam].

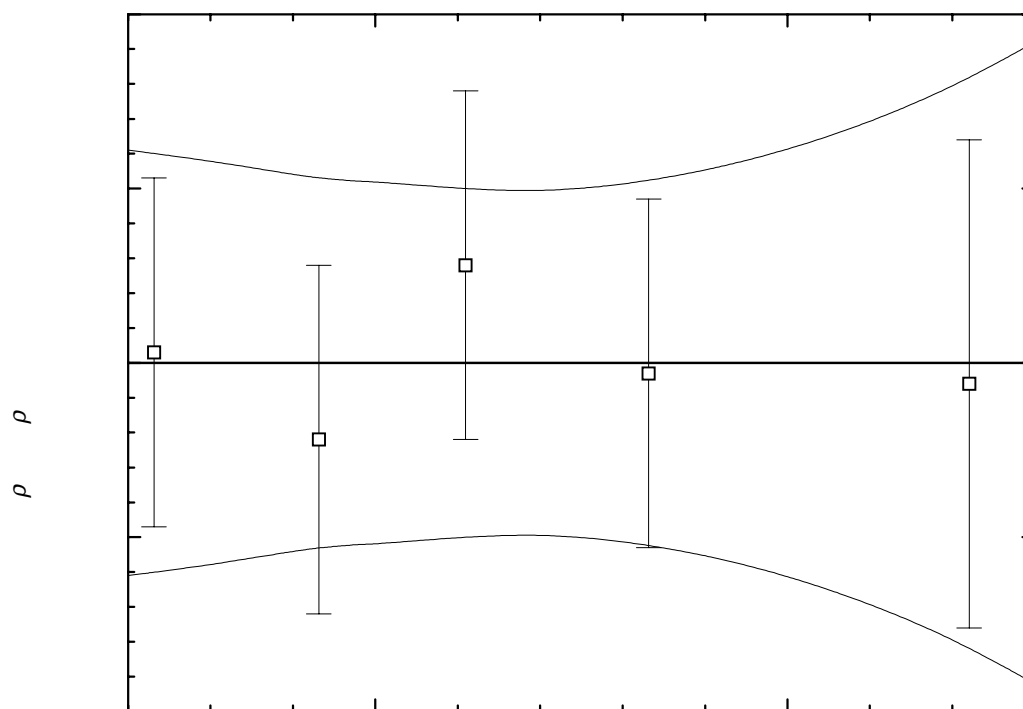


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

Table 3. Recommended values (fit to the reliable experimental values according to the equations $\rho = A + BT + CT^2 + DT^3 + \dots$ or $\rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$).

$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	960.24 ± 0.61	300.00	940.52 ± 0.52	350.00	907.65 ± 0.61
280.00	953.66 ± 0.58	310.00	933.95 ± 0.50	360.00	901.08 ± 0.69
290.00	947.09 ± 0.54	320.00	927.37 ± 0.49	370.00	894.51 ± 0.79
293.15	945.02 ± 0.53	330.00	920.80 ± 0.51	380.00	887.93 ± 0.92
298.15	941.73 ± 0.52	340.00	914.23 ± 0.55		

Perhydroanthracene [6596-35-6] C₁₄H₂₄ MW =192.34 591

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	974.7 ± 20.0	31-kag	293.15	943.1 ± 3.0	39-wat/lee-4
368.15	872.9 ± 3.0	39-wat/lee-4	293.15	936.8 ± 2.0	42-lar/tho
293.15	942.9 ± 3.0	39-wat/lee-4	372.05	874.8 ± 1.0	68-ano-1

2-Butyldecahydronaphthalene [6305-52-8] C₁₄H₂₆ MW =194.36 592

Table 1. Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.212$.

Coefficient	$\rho = A + BT$
<i>A</i>	1075.34
<i>B</i>	-0.680

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	889.9 ± 0.5	0.31	68-ano-1	333.15	848.7 ± 0.5	-0.09	68-ano-1
293.15	876.0 ± 0.5	0.01	68-ano-1	372.05	821.9 ± 0.7	-0.44	68-ano-1
310.95	863.9 ± 0.5	0.01	68-ano-1				

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	891.7 ± 1.0	310.00	864.5 ± 0.5	350.00	837.3 ± 1.0
280.00	884.9 ± 0.8	320.00	857.7 ± 0.6	360.00	830.5 ± 1.1
290.00	878.1 ± 0.7	330.00	850.9 ± 0.7	370.00	823.7 ± 1.3
293.15	876.0 ± 0.6	340.00	844.1 ± 0.8	380.00	816.9 ± 1.5
298.15	872.6 ± 0.6				

Decahydro-1-(1,1-Dimethylethyl)-naphthalene [56292-64-9] C₁₄H₂₆ MW =194.36 593

Table 1. Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.126$.

Coefficient	$\rho = A + BT$
<i>A</i>	1096.69
<i>B</i>	-0.680

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	910.8 ± 0.5	-0.15	68-ano-1
293.15	897.3 ± 0.5	-0.05	68-ano-1
310.95	885.4 ± 0.5	0.15	68-ano-1
333.15	870.1 ± 0.5	-0.05	68-ano-1
372.05	843.9 ± 0.7	0.20	68-ano-1

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	913.1 ± 1.0	310.00	885.9 ± 0.5	350.00	858.7 ± 0.9
280.00	906.3 ± 0.8	320.00	879.1 ± 0.5	360.00	851.9 ± 1.1
290.00	899.5 ± 0.6	330.00	872.3 ± 0.6	370.00	845.1 ± 1.3
293.15	897.4 ± 0.6	340.00	865.5 ± 0.8	380.00	838.3 ± 1.5
298.15	894.0 ± 0.6				

Decahydro-1,4a-dimethyl-7-ethyl-naphthalene

[500038-01-7]

C₁₄H₂₆

MW =194.36

594

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	870.3 ± 2.0	31-ruz/koo

cis-Decahydro-1,4a-dimethyl-7-ethyl-naphthalene

[500038-00-6]

C₁₄H₂₆

MW =194.36

595

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	890.4 ± 2.0	31-ruz/koo-1

Decahydro-2,6-dimethyl-1,4-(dimethyl-endo-methylene)naphthalene

[500040-95-9]

C₁₅H₂₆

MW =206.37

596

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.15	905.2 ± 3.0	07-sem/hof
293.15	904.1 ± 3.0	27-deu/wei
293.15	924.7 ± 3.0	32-nam/bry

Decahydro-1-methyl-4-(1-methylethyl)-naphthalene [500027-87-2] C₁₅H₂₈ MW =208.39 597

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	882.2 ± 1.0	13-sem/bec

Decahydro-4a,8a-dimethyl-7-(1-methylethyl)naphthalene [500038-17-5] C₁₅H₂₈ MW =208.39 598

Table 1. Experimental and recommended values with uncertainties.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	888.1 ± 2.0	12-sem/ris
293.15	889.3 ± 2.0	13-sem/ris
293.15	889.6 ± 2.0	13-sem/ris
293.15	891.1 ± 2.0	28-sac
293.15	889.5 ± 2.1	Recommended

[1S-(1β,4aβ,7β,8aα)]-decahydro-1,4a-dimethyl-7-(1-methylethyl)-naphthalene [30824-81-8] C₁₅H₂₈ MW =208.39 599

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	881.2 ± 2.0	52-sor/hol

[1S-(1α,4α,4aα,6α,8aβ)]-decahydro-1,6-dimethyl-4-(1-methylethyl)-naphthalene [483-73-8] C₁₅H₂₈ MW =208.39 600

Table 1. Experimental and recommended values with uncertainties.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	878.3 ± 2.0	52-her/dim
293.15	888.7 ± 6.0	52-sor/hol ¹⁾
293.15	880.2 ± 2.0	52-sor/vra
293.15	883.7 ± 4.0	52-sor/zao ¹⁾
293.15	879.2 ± 2.0	Recommended

¹⁾ Not included in calculation of recommended value.

**Decahydro-1,6-dimethyl-
4-(1-methylethyl)naphthalene**

[500038-18-6]

C₁₅H₂₈

MW =208.39

601

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	883.8 ± 2.0	13-sem/bec

**Decahydro-1,7-dimethyl-
4-(1-methylethyl)naphthalene**

[500038-19-7]

C₁₅H₂₈

MW =208.39

602

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	882.2 ± 2.0	13-sem/bec

Decahydro-1-ethyl-2-propylnaphthalene

[500038-16-4]

C₁₅H₂₈

MW =208.39

603

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	883.9 ± 2.0	37-nes/mar

**7a-Ethyl-4-methyl-6-(1-methylethyl)-
1H-indene**

[500039-15-6]

C₁₅H₂₈

MW =208.39

604

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	868.6 ± 2.0	52-sor/syk

Hexadecafluoranthene

[16832-35-2]

C₁₆H₂₆

MW =218.38

605

Table 1. Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.151$.

Coefficient	$\rho = A + BT$
<i>A</i>	1169.66
<i>B</i>	-0.640

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
295.15	981.1 ± 1.0	0.34	30-von/man ¹⁾	310.95	970.6 ± 0.5	-0.05	68-ano-1
273.15	995.0 ± 0.5	0.16	68-ano-1	333.15	956.3 ± 0.5	-0.14	68-ano-1
293.15	982.2 ± 0.5	0.16	68-ano-1	372.05	931.3 ± 0.7	-0.25	68-ano-1

¹⁾ Not included in calculation of linear coefficients.

cont.

Hexadecahydrofluoranthene (cont.)**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	996.9 ± 2.1	310.00	971.3 ± 0.4	350.00	945.7 ± 2.0
280.00	990.5 ± 1.6	320.00	964.9 ± 0.6	360.00	939.3 ± 2.5
290.00	984.1 ± 1.1	330.00	958.5 ± 1.1	370.00	932.9 ± 3.0
293.15	982.0 ± 1.0	340.00	952.1 ± 1.5	380.00	926.5 ± 3.5
298.15	978.8 ± 0.8				

Perhydropyrene**[2435-85-0]****C₁₆H₂₆****MW =218.38****606****Table 1.** Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.076$.

Coefficient	$\rho = A + BT$
<i>A</i>	1176.63
<i>B</i>	-0.640

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	982.8 ± 2.0	-3.01	31-kag ¹⁾	310.95	977.5 ± 0.5	-0.12	68-ano-1
298.15	982.8 ± 2.0	-3.01	59-wu /how ¹⁾	333.15	963.4 ± 0.5	-0.01	68-ano-1
273.15	1001.9 ± 0.5	0.09	68-ano-1	372.05	938.6 ± 0.7	0.09	68-ano-1
293.15	989.0 ± 0.5	-0.01	68-ano-1				

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	1003.8 ± 2.1	310.00	978.2 ± 0.4	350.00	952.6 ± 2.0
280.00	997.4 ± 1.6	320.00	971.8 ± 0.6	360.00	946.2 ± 2.5
290.00	991.0 ± 1.1	330.00	965.4 ± 1.0	370.00	939.8 ± 3.0
293.15	989.0 ± 0.9	340.00	959.0 ± 1.5	380.00	933.4 ± 3.5
298.15	985.8 ± 0.7				

1,1-Dimethylperhydrophenanthrene**[500025-05-8]****C₁₆H₂₈****MW =220.40****607****Table 1.** Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	928.9 ± 2.0	49-adk/eng

4,5-Dimethylperhydrophenanthrene [56292-68-3] C₁₆H₂₈ MW =220.40 608**Table 1.** Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.181$.

Coefficient	$\rho = A + BT$
<i>A</i>	1146.02
<i>B</i>	-0.650

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	968.4 ± 0.5	-0.07	68-ano-1
293.15	955.3 ± 0.5	-0.17	68-ano-1
310.95	943.8 ± 0.5	-0.10	68-ano-1
333.15	929.6 ± 0.5	0.13	68-ano-1
372.05	904.6 ± 0.7	0.41	68-ano-1

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	970.5 ± 1.0	310.00	944.5 ± 0.5	350.00	918.5 ± 0.9
280.00	964.0 ± 0.8	320.00	938.0 ± 0.6	360.00	912.0 ± 1.1
290.00	957.5 ± 0.7	330.00	931.5 ± 0.6	370.00	905.5 ± 1.3
293.15	955.5 ± 0.6	340.00	925.0 ± 0.8	380.00	899.0 ± 1.5
298.15	952.2 ± 0.6				

Perhydro-1,2,5,6-dibenzcyclooctane [500037-34-3] C₁₆H₂₈ MW =220.40 609**Table 1.** Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.122$.

Coefficient	$\rho = A + BT$
<i>A</i>	1127.32
<i>B</i>	-0.620

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	945.5 ± 0.5	-0.07	68-ano-1
310.95	934.6 ± 0.5	0.07	68-ano-1
333.15	920.6 ± 0.5	-0.17	68-ano-1
372.05	896.7 ± 0.5	0.05	68-ano-1
388.15	886.9 ± 0.7	0.23	68-ano-1

cont.

Perhydro-1,2,5,6-dibenzcyclooctane (cont.)**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	947.5 \pm 1.0	320.00	928.9 \pm 0.6	360.00	904.1 \pm 0.7
293.15	945.6 \pm 1.0	330.00	922.7 \pm 0.5	370.00	897.9 \pm 0.9
298.15	942.5 \pm 0.9	340.00	916.5 \pm 0.5	380.00	891.7 \pm 1.0
310.00	935.1 \pm 0.7	350.00	910.3 \pm 0.6	390.00	885.5 \pm 1.2

Bicyclo[10.2.2]-hexadecane [500037-73-0] C₁₆H₃₀ MW =222.41 610

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	921.0 \pm 2.0	54-cra/dae

2-Butyldecahydro-1-propylnaphthalene [500030-68-2] C₁₇H₃₂ MW =236.44 611

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	879.6 \pm 1.0	37-nes/mar

Decahydro-1-(1,1-dimethylpentyl)-naphthalene [500039-84-9] C₁₇H₃₂ MW =236.44 612

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	879.8 \pm 3.0	60-pet/zal

Perhydrochrysene [2090-14-4] C₁₈H₃₀ MW =246.44 613

Table 1. Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.207$.

Coefficient	$\rho = A + BT$
<i>A</i>	1162.15
<i>B</i>	-0.620

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	982.7 \pm 2.0	2.30	35-spi ¹⁾	310.95	969.2 \pm 0.5	-0.16	68-ano-1
293.15	982.7 \pm 2.0	2.30	59-wu /how ¹⁾	333.15	955.7 \pm 0.5	0.10	68-ano-1
273.15	992.7 \pm 0.5	-0.10	68-ano-1	372.05	932.0 \pm 0.7	0.52	68-ano-1
293.15	980.3 \pm 0.5	-0.10	68-ano-1				

¹⁾ Not included in calculation of linear coefficients.

cont.

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	994.8 ± 2.1	310.00	970.0 ± 0.4	350.00	945.2 ± 2.0
280.00	988.6 ± 1.6	320.00	963.8 ± 0.6	360.00	939.0 ± 2.5
290.00	982.4 ± 1.1	330.00	957.6 ± 1.1	370.00	932.8 ± 3.0
293.15	980.4 ± 1.0	340.00	951.4 ± 1.5	380.00	926.6 ± 3.5
298.15	977.3 ± 0.7				

Octadecahydrotriphenylene**[15074-91-6]****C₁₈H₃₀****MW =246.44****614****Table 1.** Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
292.35	946.8 ± 3.0	23-sch-3
293.15	942.5 ± 2.0	23-sch/gor
293.15	942.5 ± 2.0	59-wu /how

Tetradecahydro-1-methyl-7-(1-methylethyl)phenanthrene**[98864-53-0]****C₁₈H₃₂****MW =248.45****615****Table 1.** Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	934.2 ± 5.0	20-vir
293.15	975.0 ± 4.0	31-ols

2-(2-Ethylhexyl)bicyclo[3.3.0]decane**[500039-90-7]****C₁₈H₃₄****MW =250.47****616****Table 1.** Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	873.9 ± 3.0	60-pet/zal

1-(2-Ethylhexyl)decahydronaphthalene**[95278-32-3]****C₁₈H₃₄****MW =250.47****617****Table 1.** Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	873.9 ± 2.0	57-pet/nef

2-(1-Ethylhexyl)decahydronaphthalene**[500050-65-7]****C₁₈H₃₄****MW =250.47****618****Table 1.** Fit with estimated *B* coefficient for 3 accepted points. Deviation $\sigma_w = 0.133$.

Coefficient	$\rho = A + BT$
<i>A</i>	1075.56
<i>B</i>	-0.670

cont.

2-(1-Ethylhexyl)decahydronaphthalene (cont.)**Table 2.** Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	879.0 ± 1.0	-0.14	54-els
310.93	867.2 ± 1.0	-0.03	54-els
339.45	848.3 ± 1.0	0.18	54-els

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	881.3 ± 1.5	310.00	867.9 ± 0.9	330.00	854.5 ± 1.2
293.15	879.1 ± 1.4	320.00	861.2 ± 0.9	340.00	847.8 ± 1.6
298.15	875.8 ± 1.2				

1-(1-Ethyl-1-methylpentyl)decahydronaphthalene [94376-03-1] C₁₈H₃₄ MW =250.47 619

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	885.9 ± 2.0	57-pet/nef

2-(1-Methylheptyl)bicyclo[3.3.0]decane [500039-91-8] C₁₈H₃₄ MW =250.47 620

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	874.9 ± 3.0	60-pet/zal

Decahydro-1-(1-methylheptyl)-naphthalene [94376-02-0] C₁₈H₃₄ MW =250.47 621

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	870.9 ± 2.0	57-pet/nef

Decahydro-1-octylnaphthalene [95278-30-1] C₁₈H₃₄ MW =250.47 622

Table 1. Fit with estimated *B* coefficient for 3 accepted points. Deviation $\sigma_w = 0.292$.

Coefficient	$\rho = A + BT$
<i>A</i>	1068.67
<i>B</i>	-0.670

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	872.0 ± 0.6	-0.26	54-els
310.93	860.2 ± 0.6	-0.15	54-els
343.55	838.9 ± 0.6	0.41	54-els
293.15	868.9 ± 3.0	-3.36	57-pet/nef ¹⁾
293.15	868.9 ± 3.0	-3.36	60-pet/zal ¹⁾

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	874.4 ± 1.4	310.00	861.0 ± 0.5	340.00	840.9 ± 1.3
293.15	872.3 ± 1.2	320.00	854.3 ± 0.5	350.00	834.2 ± 1.8
298.15	868.9 ± 1.0	330.00	847.6 ± 0.8		

Decahydro-2-octyl-naphthalene**[10275-66-8]****C₁₈H₃₄****MW =250.47****623****Table 1.** Fit with estimated *B* coefficient for 3 accepted points. Deviation $\sigma_w = 0.109$.

Coefficient	$\rho = A + BT$
<i>A</i>	1062.02
<i>B</i>	-0.660

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	868.5 ± 0.6	-0.04	54-els
310.93	856.7 ± 0.6	-0.11	54-els
339.35	838.2 ± 0.6	0.15	54-els

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	870.6 ± 1.3	310.00	857.4 ± 0.6	330.00	844.2 ± 0.9
293.15	868.5 ± 1.2	320.00	850.8 ± 0.6	340.00	837.6 ± 1.4
298.15	865.2 ± 1.0				

2-(1,1,4-Trimethylpentyl)bicyclo[3.3.0]-decane [500039-93-0] C₁₈H₃₄ MW =250.47 624

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	886.7 ± 3.0	60-pet/zal

2-Butyl-1-hexyloctahydro-1H-indene [700003-29-8] C₁₉H₃₆ MW =264.49 625

Table 1. Fit with estimated B coefficient for 5 accepted points. Deviation $\sigma_w = 0.133$.

Coefficient	$\rho = A + BT$
A	1064.86
B	-0.670

Table 2. Experimental values with uncertainties and deviation from calculated values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg · m ⁻³	Ref.
273.15	881.7 ± 0.5	-0.15	68-ano-1
293.15	868.3 ± 0.5	-0.15	68-ano-1
310.95	856.6 ± 0.5	0.08	68-ano-1
333.15	841.8 ± 0.5	0.15	68-ano-1
372.05	815.7 ± 0.7	0.12	68-ano-1

Table 3. Recommended values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³
270.00	884.0 ± 1.0	310.00	857.2 ± 0.5	350.00	830.4 ± 0.9
280.00	877.3 ± 0.8	320.00	850.5 ± 0.5	360.00	823.7 ± 1.1
290.00	870.6 ± 0.6	330.00	843.8 ± 0.6	370.00	817.0 ± 1.3
293.15	868.4 ± 0.6	340.00	837.1 ± 0.8	380.00	810.3 ± 1.5
298.15	865.1 ± 0.6				

2-Butyl-5-hexyloctahydro-1H-indene [55044-33-2] C₁₉H₃₆ MW =264.49 626

Table 1. Fit with estimated B coefficient for 5 accepted points. Deviation $\sigma_w = 0.208$.

Coefficient	$\rho = A + BT$
A	1052.26
B	-0.660

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	872.3 ± 0.5	0.32	68-ano-1
293.15	858.8 ± 0.5	0.02	68-ano-1
310.95	847.0 ± 0.5	-0.04	68-ano-1
333.15	832.3 ± 0.5	-0.08	68-ano-1
372.05	806.3 ± 0.7	-0.41	68-ano-1

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	874.1 ± 1.0	310.00	847.7 ± 0.5	350.00	821.3 ± 0.9
280.00	867.5 ± 0.8	320.00	841.1 ± 0.6	360.00	814.7 ± 1.1
290.00	860.9 ± 0.7	330.00	834.5 ± 0.7	370.00	808.1 ± 1.3
293.15	858.8 ± 0.6	340.00	827.9 ± 0.8	380.00	801.5 ± 1.5
298.15	855.5 ± 0.6				

6-Butyl-5-hexyloctahydro-1H-indene [55044-36-5] C₁₉H₃₆ MW =264.49 627

Table 1. Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.256$.

Coefficient	$\rho = A + BT$
<i>A</i>	1068.89
<i>B</i>	-0.680

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	882.9 ± 0.5	-0.25	68-ano-1
293.15	869.4 ± 0.5	-0.15	68-ano-1
310.95	857.4 ± 0.5	-0.05	68-ano-1
333.15	842.5 ± 0.5	0.15	68-ano-1
372.05	816.5 ± 0.7	0.60	68-ano-1

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	885.3 ± 1.0	310.00	858.1 ± 0.5	350.00	830.9 ± 1.0
280.00	878.5 ± 0.8	320.00	851.3 ± 0.6	360.00	824.1 ± 1.1
290.00	871.7 ± 0.7	330.00	844.5 ± 0.7	370.00	817.3 ± 1.3
293.15	869.6 ± 0.6	340.00	837.7 ± 0.8	380.00	810.5 ± 1.5
298.15	866.2 ± 0.6				

5-Decyloctahydro-1H-indene**[55044-35-4]****C₁₉H₃₆****MW =264.49****628****Table 1.** Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.196$.

Coefficient	$\rho = A + BT$
<i>A</i>	1062.53
<i>B</i>	-0.680

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	876.6 ± 0.5	-0.19	68-ano-1
293.15	863.1 ± 0.5	-0.09	68-ano-1
310.95	851.0 ± 0.5	-0.08	68-ano-1
333.15	836.1 ± 0.5	0.11	68-ano-1
372.05	810.0 ± 0.7	0.47	68-ano-1

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	878.9 ± 1.0	310.00	851.7 ± 0.5	350.00	824.5 ± 0.9
280.00	872.1 ± 0.8	320.00	844.9 ± 0.6	360.00	817.7 ± 1.1
290.00	865.3 ± 0.7	330.00	838.1 ± 0.7	370.00	810.9 ± 1.3
293.15	863.2 ± 0.6	340.00	831.3 ± 0.8	380.00	804.1 ± 1.5
298.15	859.8 ± 0.6				

2-Decyloctahydro-1H-indene**[55044-34-3]****C₁₉H₃₆****MW =264.49****629****Table 1.** Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.170$.

Coefficient	$\rho = A + BT$
<i>A</i>	1062.47
<i>B</i>	-0.670

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	879.5 ± 0.5	0.04	68-ano-1
293.15	865.9 ± 0.5	-0.16	68-ano-1
310.95	854.0 ± 0.5	-0.13	68-ano-1
333.15	839.3 ± 0.5	0.04	68-ano-1
372.05	813.6 ± 0.7	0.40	68-ano-1

cont.

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	881.6 ± 1.0	310.00	854.8 ± 0.5	350.00	828.0 ± 0.9
280.00	874.9 ± 0.8	320.00	848.1 ± 0.5	360.00	821.3 ± 1.1
290.00	868.2 ± 0.7	330.00	841.4 ± 0.6	370.00	814.6 ± 1.3
293.15	866.1 ± 0.6	340.00	834.7 ± 0.8	380.00	807.9 ± 1.5
298.15	862.7 ± 0.6				

5.1.3 Saturated Bridged Cycloalkanes, C₂₀ - C₃₂

8-(1-Methylethyl)perhydro-3,4b,10a-trimethylphenanthrene [500050-03-3] C₂₀H₃₆ MW = 276.51 630

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.15	975.1 ± 2.0	37-uot

2-Butyldecahydro-3-hexylnaphthalene [66455-55-8] C₂₀H₃₈ MW = 278.52 631

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction):

$\sigma_{\text{c,w}} = 6.4534 \cdot 10^{-2}$ (combined temperature ranges, weighted), $\sigma_{\text{c,uw}} = 2.1070 \cdot 10^{-2}$ (combined temperature ranges, unweighted).

Coefficient	$T = 273.15 \text{ to } 372.05 \text{ K}$ $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.06780 \cdot 10^3$
B	$-6.55624 \cdot 10^{-1}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
273.15	888.80 ± 0.50	0.09	63-dix/yar(□)	273.15	888.80 ± 0.50	0.09	68-ano-1(×)
293.15	875.50 ± 0.50	-0.10	63-dix/yar(□)	293.15	875.50 ± 0.50	-0.10	68-ano-1(×)
310.95	863.90 ± 0.50	-0.03	63-dix/yar(□)	310.95	863.90 ± 0.50	-0.03	68-ano-1(×)
333.15	849.40 ± 0.50	0.02	63-dix/yar(□)	333.15	849.40 ± 0.50	0.02	68-ano-1(×)
372.05	823.90 ± 0.70	0.03	63-dix/yar(□)	372.05	823.90 ± 0.70	0.03	68-ano-1(×)

Table 3. Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$$

$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	890.78 ± 0.55	300.00	871.11 ± 0.51	350.00	838.33 ± 0.58
280.00	884.22 ± 0.54	310.00	864.56 ± 0.50	360.00	831.77 ± 0.65
290.00	877.67 ± 0.53	320.00	858.00 ± 0.49	370.00	825.22 ± 0.74
293.15	875.60 ± 0.52	330.00	851.44 ± 0.50	380.00	818.66 ± 0.86
298.15	872.32 ± 0.51	340.00	844.89 ± 0.53		

cont.

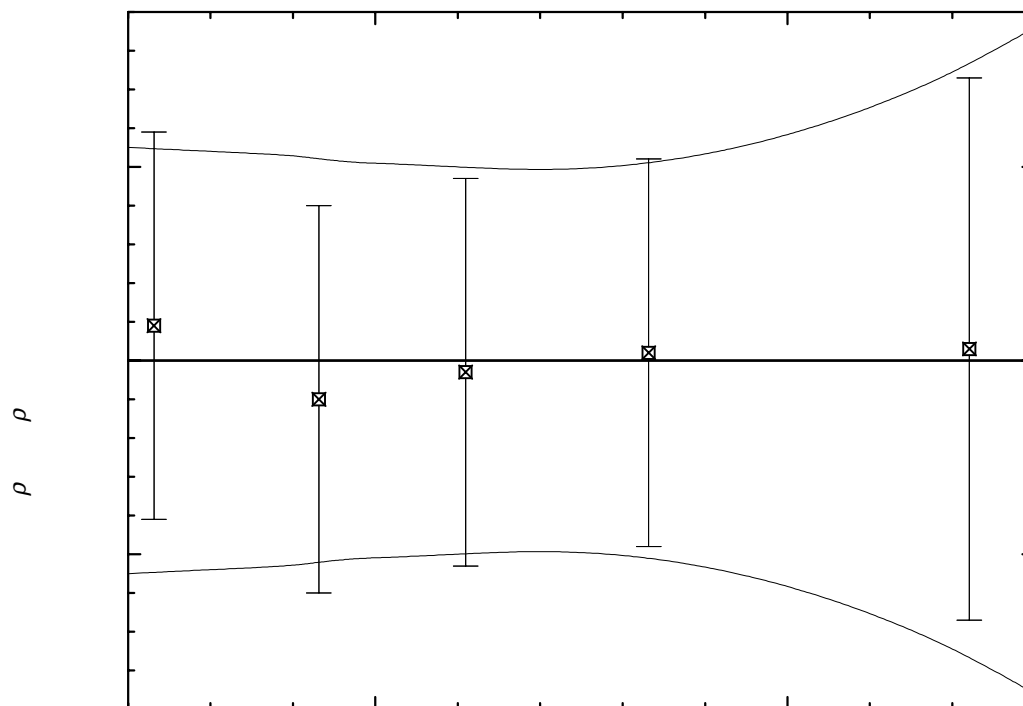
3-Butyl-4-hexylbicyclo[4.4.0]decane (cont.)

Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

7-Butyldecahydro-1-hexylnaphthalene [66455-54-7] C₂₀H₃₈ MW = 278.52 632

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction):

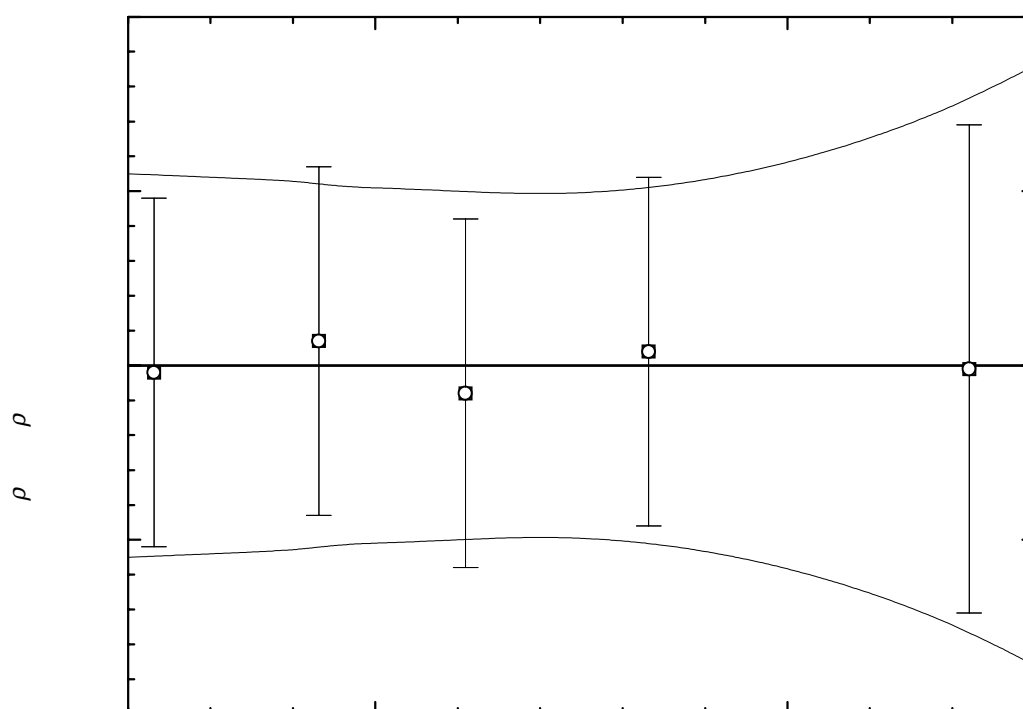
$\sigma_{c,w} = 5.4265 \cdot 10^{-2}$ (combined temperature ranges, weighted), $\sigma_{c,uw} = 1.7586 \cdot 10^{-2}$ (combined temperature ranges, unweighted).

Coefficient	T = 273.15 to 372.05 K
	$\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.06303 \cdot 10^3$
B	$-6.54278 \cdot 10^{-1}$

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
273.15	884.30 ± 0.50	-0.02	63-dix/yar(□)	273.15	884.30 ± 0.50	-0.02	68-ano-1(O)
293.15	871.30 ± 0.50	0.07	63-dix/yar(□)	293.15	871.30 ± 0.50	0.07	68-ano-1(O)
310.95	859.50 ± 0.50	-0.08	63-dix/yar(□)	310.95	859.50 ± 0.50	-0.08	68-ano-1(O)
333.15	845.10 ± 0.50	0.04	63-dix/yar(□)	333.15	845.10 ± 0.50	0.04	68-ano-1(O)
372.05	819.60 ± 0.70	-0.01	63-dix/yar(□)	372.05	819.60 ± 0.70	-0.01	68-ano-1(O)

**Fig. 1.** The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

cont.

7-Butyldecahydro-1-hexylnaphthalene (cont.)**Table 3.** Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$$

$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	886.38 ± 0.55	300.00	866.75 ± 0.51	350.00	834.04 ± 0.58
280.00	879.83 ± 0.54	310.00	860.21 ± 0.50	360.00	827.49 ± 0.65
290.00	873.29 ± 0.53	320.00	853.66 ± 0.49	370.00	820.95 ± 0.74
293.15	871.23 ± 0.52	330.00	847.12 ± 0.50	380.00	814.41 ± 0.86
298.15	867.96 ± 0.51	340.00	840.58 ± 0.53		

Decahydro-2-hexylnaphthalene**[54964-84-0]****C₂₀H₃₈****MW =278.52****633****Table 1.** Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.085$.

Coefficient	$\rho = A + BT$
<i>A</i>	1058.52
<i>B</i>	-0.650

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	881.1 ± 0.5	0.13	68-ano-1
293.15	867.9 ± 0.5	-0.07	68-ano-1
310.95	856.3 ± 0.5	-0.10	68-ano-1
333.15	842.0 ± 0.5	0.03	68-ano-1
372.05	816.7 ± 0.7	0.02	68-ano-1

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	883.0 ± 0.9	310.00	857.0 ± 0.5	350.00	831.0 ± 0.9
280.00	876.5 ± 0.8	320.00	850.5 ± 0.5	360.00	824.5 ± 1.1
290.00	870.0 ± 0.6	330.00	844.0 ± 0.6	370.00	818.0 ± 1.3
293.15	868.0 ± 0.6	340.00	837.5 ± 0.8	380.00	811.5 ± 1.5
298.15	864.7 ± 0.5				

Decahydro-1,1-dimethyl-7-(1,5-dimethylhexyl)naphthalene**[500038-20-0]****C₂₀H₃₈****MW =278.52****634****Table 1.** Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
294.15	858.8 ± 2.0	14-sem/jon

**Decahydro-1,4-dimethyl-
5-octylnaphthalene****[54964-83-9]****C₂₀H₃₈****MW = 278.52****635**

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction): $\sigma_{c,w} = 3.1665 \cdot 10^{-2}$ (combined temperature ranges, weighted), $\sigma_{c,uw} = 1.0687 \cdot 10^{-2}$ (combined temperature ranges, unweighted).

Coefficient	T = 273.15 to 372.05 K $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.06342 \cdot 10^3$
B	$-6.40911 \cdot 10^{-1}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
273.15	888.40 ± 0.50	0.04	63-dix/yar(□)	273.15	888.40 ± 0.50	0.04	68-ano-1(✕)
293.15	875.50 ± 0.50	-0.04	63-dix/yar(□)	293.15	875.50 ± 0.50	-0.04	68-ano-1(✕)
310.95	864.10 ± 0.50	-0.03	63-dix/yar(□)	310.95	864.10 ± 0.50	-0.03	68-ano-1(✕)
333.15	849.90 ± 0.50	-0.00	63-dix/yar(□)	333.15	849.90 ± 0.50	-0.00	68-ano-1(✕)
372.05	825.00 ± 0.70	0.03	63-dix/yar(□)	372.05	825.00 ± 0.70	0.03	68-ano-1(✕)

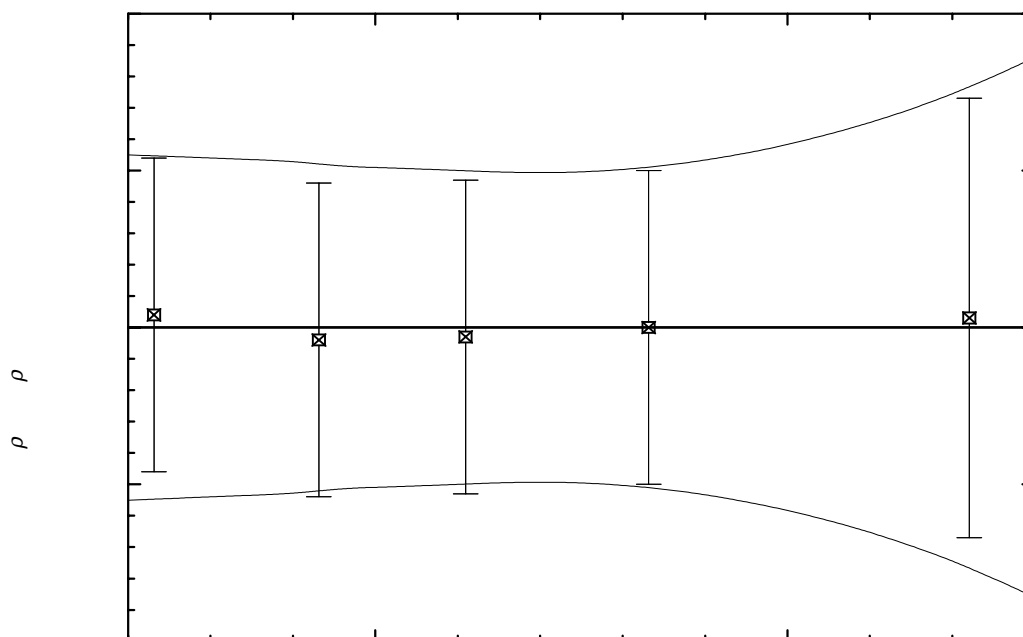


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)
cont.

Decahydro-1,4-dimethyl-5-octylnaphthalene (cont.)**Table 3.** Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$$

$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	890.38 ± 0.55	300.00	871.15 ± 0.51	350.00	839.10 ± 0.58
280.00	883.97 ± 0.54	310.00	864.74 ± 0.50	360.00	832.69 ± 0.65
290.00	877.56 ± 0.53	320.00	858.33 ± 0.49	370.00	826.28 ± 0.74
293.15	875.54 ± 0.52	330.00	851.92 ± 0.50	380.00	819.88 ± 0.86
298.15	872.33 ± 0.51	340.00	845.51 ± 0.53		

Decahydro-2,6-dimethyl-3-octylnaphthalene**[54964-85-1]****C₂₀H₃₈****MW = 278.52****636****Table 1.** Coefficients of the polynomial expansion equation. Standard deviations (see introduction):

$\sigma_{c,w} = 1.8281 \cdot 10^{-2}$ (combined temperature ranges, weighted), $\sigma_{c,uw} = 7.2344 \cdot 10^{-3}$ (combined temperature ranges, unweighted).

Coefficient	T = 293.15 to 372.05 K $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.05318 \cdot 10^3$
B	$-6.08983 \cdot 10^{-1}$
C	$-5.77974 \cdot 10^{-5}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
293.15	869.70 ± 0.50	0.01	63-dix/yar(□)	293.15	869.70 ± 0.50	0.01	68-ano-1(×)
310.95	858.20 ± 0.50	-0.03	63-dix/yar(□)	310.95	858.20 ± 0.50	-0.03	68-ano-1(×)
333.15	843.90 ± 0.50	0.02	63-dix/yar(□)	333.15	843.90 ± 0.50	0.02	68-ano-1(×)
372.05	818.60 ± 0.70	-0.01	63-dix/yar(□)	372.05	818.60 ± 0.70	-0.01	68-ano-1(×)

Table 3. Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$$

$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	871.71 ± 0.61	310.00	858.84 ± 0.53	350.00	832.95 ± 0.58
293.15	869.69 ± 0.58	320.00	852.39 ± 0.54	360.00	826.45 ± 0.64
298.15	866.47 ± 0.55	330.00	845.92 ± 0.55	370.00	819.94 ± 0.76
300.00	865.28 ± 0.54	340.00	839.44 ± 0.56	380.00	813.42 ± 0.97

cont.

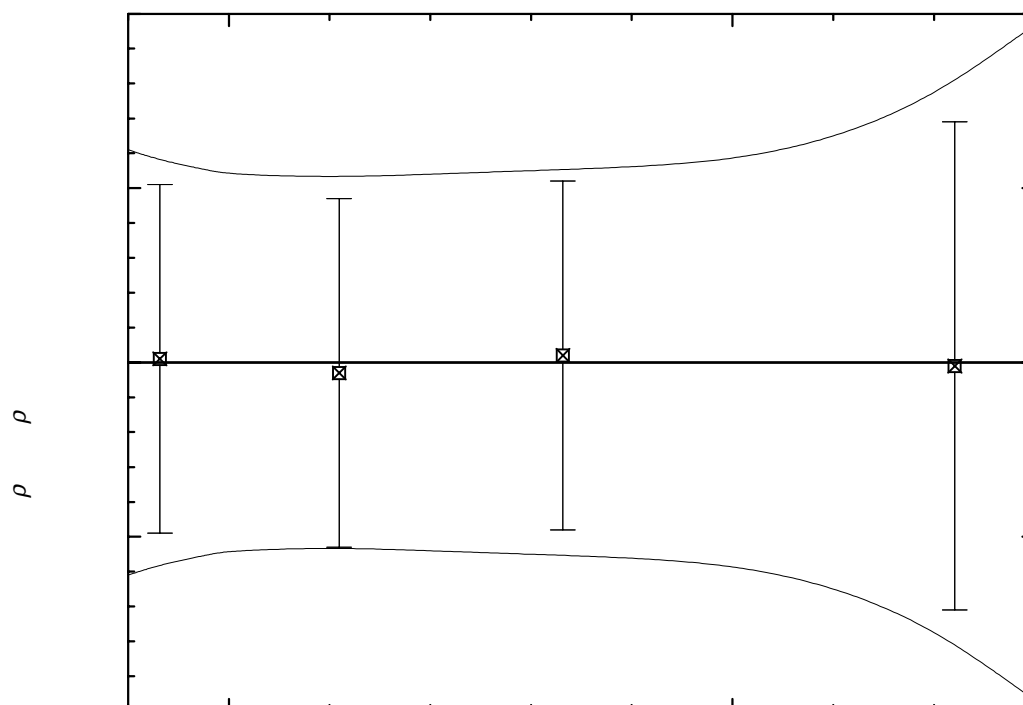


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

Perhydro-1H-dibenzo[a,i]fluorene [55256-24-1] C₂₁H₃₄ MW =286.50 637

Table 1. Fit with estimated *B* coefficient for 3 accepted points. Deviation $\sigma_w = 0.102$.

Coefficient	$\rho = A + BT$
<i>A</i>	1177.05
<i>B</i>	-0.610

Table 2. Experimental values with uncertainties and deviation from calculated values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg · m ⁻³	Ref.
310.95	987.3 ± 0.5	-0.07	68-ano-1
333.15	973.8 ± 0.5	-0.03	68-ano-1
372.05	950.3 ± 0.7	0.20	68-ano-1

cont.

Perhydro-1*H*-dibenzo[*a,i*]fluorene (cont.)**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
310.00	988.0 ± 1.2	340.00	969.7 ± 0.6	370.00	951.4 ± 2.0
320.00	981.9 ± 0.8	350.00	963.6 ± 1.0	380.00	945.3 ± 2.4
330.00	975.8 ± 0.5	360.00	957.5 ± 1.5		

Bis(decahydro-1-naphthyl)methane [55125-02-5] C₂₁H₃₆ MW =288.52 638**Table 1.** Fit with estimated *B* coefficient for 4 accepted points. Deviation $\sigma_w = 0.291$.

Coefficient	$\rho = A + BT$
<i>A</i>	1158.73
<i>B</i>	-0.640

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	970.9 ± 0.5	-0.21	68-ano-1
310.95	959.6 ± 0.5	-0.12	68-ano-1
333.15	945.5 ± 0.5	-0.01	68-ano-1
372.05	921.3 ± 0.7	0.68	68-ano-1

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	973.1 ± 0.8	320.00	953.9 ± 0.6	360.00	928.3 ± 1.0
293.15	971.1 ± 0.8	330.00	947.5 ± 0.6	370.00	921.9 ± 1.1
298.15	967.9 ± 0.7	340.00	941.1 ± 0.7	380.00	915.5 ± 1.3
310.00	960.3 ± 0.6	350.00	934.7 ± 0.8		

Decahydro-1-undecylnaphthalene [66326-27-0] C₂₁H₄₀ MW =292.55 639**Table 1.** Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.003$.

Coefficient	$\rho = A + BT$
<i>A</i>	1060.11
<i>B</i>	-0.640

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	885.3 ± 0.5	0.00	68-ano-1
293.15	872.5 ± 0.5	0.00	68-ano-1
310.95	861.1 ± 0.5	-0.01	68-ano-1
333.15	846.9 ± 0.5	0.00	68-ano-1
372.05	822.0 ± 0.7	-0.00	68-ano-1

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	887.3 ± 0.9	310.00	861.7 ± 0.5	350.00	836.1 ± 0.9
280.00	880.9 ± 0.8	320.00	855.3 ± 0.5	360.00	829.7 ± 1.1
290.00	874.5 ± 0.6	330.00	848.9 ± 0.6	370.00	823.3 ± 1.3
293.15	872.5 ± 0.6	340.00	842.5 ± 0.8	380.00	816.9 ± 1.5
298.15	869.3 ± 0.5				

1,1-Bis(decahydro-1-naphthyl)ethane [54934-70-2] C₂₂H₃₈ MW =302.54 640

Table 1. Fit with estimated B coefficient for 3 accepted points. Deviation $\sigma_w = 0.227$.

Coefficient	$\rho = A + BT$
A	1164.57
B	-0.640

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	977.4 ± 2.0	0.44	60-pet/zal ¹⁾
310.95	965.4 ± 0.5	-0.17	68-ano-1
333.15	951.3 ± 0.5	-0.06	68-ano-1
372.05	926.9 ± 0.7	0.44	68-ano-1

¹⁾ Not included in calculation of linear coefficients.

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
310.00	966.2 ± 0.6	340.00	947.0 ± 0.5	370.00	927.8 ± 0.9
320.00	959.8 ± 0.5	350.00	940.6 ± 0.6	380.00	921.4 ± 1.1
330.00	953.4 ± 0.4	360.00	934.2 ± 0.7		

1,2-Bis(decahydro-1-naphthyl)ethane [54934-69-9] C₂₂H₃₈ MW =302.54 641

Table 1. Fit with estimated B coefficient for 4 accepted points. Deviation $\sigma_w = 0.231$.

Coefficient	$\rho = A + BT$
A	1151.01
B	-0.630

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	966.1 \pm 0.5	-0.22	68-ano-1	333.15	941.2 \pm 0.5	0.08	68-ano-1
310.95	955.0 \pm 0.5	-0.11	68-ano-1	372.05	917.1 \pm 0.7	0.49	68-ano-1

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	968.3 \pm 0.8	320.00	949.4 \pm 0.5	360.00	924.2 \pm 0.9
293.15	966.3 \pm 0.8	330.00	943.1 \pm 0.6	370.00	917.9 \pm 1.1
298.15	963.2 \pm 0.7	340.00	936.8 \pm 0.7	380.00	911.6 \pm 1.3
310.00	955.7 \pm 0.6	350.00	930.5 \pm 0.8		

9,10-Bis(2-methylpropyl)perhydroanthracene [500018-30-4] C₂₂H₄₀ MW =304.56 642

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	932.9 \pm 1.0	42-lar/tho

Decahydro-2-(1-propylnonyl)-naphthalene [500050-84-0] C₂₂H₄₂ MW =306.58 643

Table 1. Fit with estimated B coefficient for 3 accepted points. Deviation $\sigma_w = 0.119$.

Coefficient	$\rho = A + BT$
A	1058.20
B	-0.650

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	867.5 \pm 0.6	-0.15	54-els
310.93	856.1 \pm 0.6	0.01	54-els
339.75	837.5 \pm 0.6	0.14	54-els

cont.

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	869.7 ± 1.3	310.00	856.7 ± 0.6	330.00	843.7 ± 0.9
293.15	867.6 ± 1.2	320.00	850.2 ± 0.6	340.00	837.2 ± 1.4
298.15	864.4 ± 1.0				

1,1-Bis(decahydro-1-naphthyl)butane [95808-61-0] C₂₄H₄₂ MW =330.60 644

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	962.0 ± 3.0	60-pet/zal

9-Dodecylperhydrofluorene [500037-76-3] C₂₅H₄₆ MW =346.64 645

Table 1. Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.318$.

Coefficient	$\rho = A + BT$
<i>A</i>	1078.17
<i>B</i>	-0.640

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	903.1 ± 0.5	-0.26	68-ano-1
293.15	890.5 ± 0.5	-0.06	68-ano-1
310.95	879.0 ± 0.5	-0.16	68-ano-1
333.15	865.0 ± 0.5	0.04	68-ano-1
372.05	840.9 ± 0.7	0.84	68-ano-1

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	905.4 ± 1.0	310.00	879.8 ± 0.6	350.00	854.2 ± 1.0
280.00	899.0 ± 0.8	320.00	873.4 ± 0.6	360.00	847.8 ± 1.1
290.00	892.6 ± 0.7	330.00	867.0 ± 0.7	370.00	841.4 ± 1.3
293.15	890.6 ± 0.7	340.00	860.6 ± 0.8	380.00	835.0 ± 1.5
298.15	887.4 ± 0.6				

Decahydro-1-pentadecynaphthalene [66359-82-8] C₂₅H₄₈ MW = 348.66 646

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction):

$\sigma_{c,w} = 2.3853 \cdot 10^{-1}$ (combined temperature ranges, weighted), $\sigma_{c,uw} = 1.0379 \cdot 10^{-1}$ (combined temperature ranges, unweighted).

Coefficient	T = 293.15 to 408.15 K $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.05504 \cdot 10^3$
B	$-6.37058 \cdot 10^{-1}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
333.15	842.89 ± 0.50	0.09	58-cut/mcm(□)	293.15	868.10 ± 0.50	-0.18	68-ano-1(O)
352.55	830.63 ± 0.70	0.19	58-cut/mcm(□)	310.95	856.80 ± 0.50	-0.14	68-ano-1(O)
372.05	818.40 ± 0.70	0.38	58-cut/mcm(□)	333.15	842.90 ± 0.50	0.10	68-ano-1(O)
388.15	807.49 ± 0.70	-0.27	58-cut/mcm(□)	372.05	818.40 ± 0.70	0.38	68-ano-1(O)
408.15	794.47 ± 0.70	-0.55	58-cut/mcm(□)				

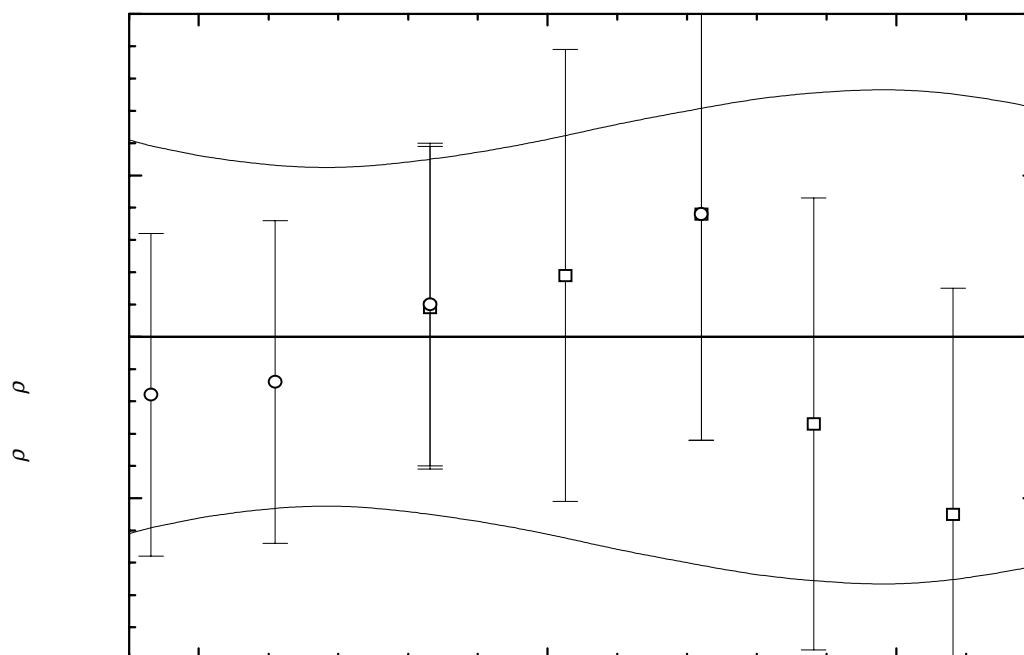


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)
cont.

Table 3. Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$$

$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	870.29 ± 0.61	330.00	844.81 ± 0.54	390.00	806.58 ± 0.76
293.15	868.28 ± 0.59	340.00	838.44 ± 0.57	400.00	800.21 ± 0.77
298.15	865.10 ± 0.57	350.00	832.06 ± 0.61	410.00	793.84 ± 0.75
300.00	863.92 ± 0.56	360.00	825.69 ± 0.66	420.00	787.47 ± 0.71
310.00	857.55 ± 0.53	370.00	819.32 ± 0.70		
320.00	851.18 ± 0.52	380.00	812.95 ± 0.74		

1-Hexadecyloctahydro-1H-indene

[55401-73-5]

C₂₅H₄₈

MW =348.66

647

Table 1. Fit with estimated *B* coefficient for 6 accepted points. Deviation $\sigma_w = 0.126$.

Coefficient	$\rho = A + BT$
<i>A</i>	1048.46
<i>B</i>	-0.640

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
310.93	849.4 ± 0.8	-0.07	47-sch	310.95	849.4 ± 0.5	-0.05	68-ano-1
333.15	835.4 ± 0.8	0.15	47-sch	333.15	835.4 ± 0.5	0.15	68-ano-1
372.04	810.2 ± 0.8	-0.16	47-sch	372.05	810.2 ± 0.7	-0.15	68-ano-1
293.15	860.8 ± 1.5	-0.05	49-foe/fen ¹⁾				

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
310.00	850.1 ± 0.7	340.00	830.9 ± 0.6	370.00	811.7 ± 0.9
320.00	843.7 ± 0.6	350.00	824.5 ± 0.6	380.00	805.3 ± 1.1
330.00	837.3 ± 0.5	360.00	818.1 ± 0.7		

2-Hexadecyloctahydro-1H-indene

[500037-77-4]

C₂₅H₄₈

MW =348.66

648

Table 1. Fit with estimated *B* coefficient for 3 accepted points. Deviation $\sigma_w = 0.152$.

Coefficient	$\rho = A + BT$
<i>A</i>	1046.47
<i>B</i>	-0.640

cont.

2-Hexadecyloctahydro-1H-indene (cont.)**Table 2.** Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
310.95	847.3 \pm 0.5	-0.16	68-ano-1
333.15	833.3 \pm 0.5	0.04	68-ano-1
372.05	808.6 \pm 0.7	0.24	68-ano-1

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
310.00	848.1 \pm 0.7	340.00	828.9 \pm 0.6	370.00	809.7 \pm 0.9
320.00	841.7 \pm 0.6	350.00	822.5 \pm 0.6	380.00	803.3 \pm 1.1
330.00	835.3 \pm 0.5	360.00	816.1 \pm 0.8		

1,1-Bis(decahydro-1-naphthyl)hexane [96069-76-0] C₂₆H₄₆ MW =358.65 649

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	959.2 \pm 3.0	60-pet/zal

1-Decylhexadecahydropyrene [55191-41-8] C₂₆H₄₆ MW =358.65 650

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
333.15	905.0 \pm 0.5	68-ano-1
372.05	881.7 \pm 0.7	68-ano-1

4-Decylperhydropyrene [500037-35-4] C₂₆H₄₆ MW =358.65 651

Table 1. Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.297$.

Coefficient	$\rho = A + BT$
<i>A</i>	1110.65
<i>B</i>	-0.610

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	944.4 ± 0.5	0.37	68-ano-1
293.15	932.0 ± 0.5	0.17	68-ano-1
310.95	921.0 ± 0.5	0.03	68-ano-1
333.15	907.0 ± 0.5	-0.43	68-ano-1
372.05	883.4 ± 0.7	-0.30	68-ano-1

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	945.9 ± 2.1	310.00	921.5 ± 0.6	350.00	897.1 ± 2.1
280.00	939.8 ± 1.6	320.00	915.4 ± 0.7	360.00	891.0 ± 2.5
290.00	933.7 ± 1.2	330.00	909.3 ± 1.1	370.00	884.9 ± 3.0
293.15	931.8 ± 1.0	340.00	903.2 ± 1.6	380.00	878.8 ± 3.5
298.15	928.8 ± 0.8				

2-Octylperhydrochrysene

[500037-36-5]

C₂₆H₄₆

MW =358.65

652

Table 1. Fit with estimated B coefficient for 4 accepted points. Deviation $\sigma_w = 0.198$.

Coefficient	$\rho = A + BT$
A	1118.37
B	-0.610

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	939.8 ± 0.5	0.25	68-ano-1
310.95	928.5 ± 0.5	-0.19	68-ano-1
333.15	915.0 ± 0.5	-0.15	68-ano-1
372.05	891.6 ± 0.7	0.18	68-ano-1

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	941.5 ± 1.6	320.00	923.2 ± 0.5	360.00	898.8 ± 2.0
293.15	939.5 ± 1.5	330.00	917.1 ± 0.7	370.00	892.7 ± 2.5
298.15	936.5 ± 1.3	340.00	911.0 ± 1.1	380.00	886.6 ± 3.0
310.00	929.3 ± 0.8	350.00	904.9 ± 1.5		

2-Octylperhydrotriphenylene**[500038-24-3]****C₂₆H₄₆****MW =358.65****653****Table 1.** Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.168$.

Coefficient	$\rho = A + BT$
<i>A</i>	1117.47
<i>B</i>	-0.610

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	938.7 ± 0.5	0.05	68-ano-1
310.93	927.8 ± 0.5	-0.00	68-ano-1
333.15	914.0 ± 0.5	-0.25	68-ano-1
372.04	890.6 ± 0.7	0.08	68-ano-1
388.15	881.0 ± 0.7	0.30	68-ano-1

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	940.6 ± 2.1	320.00	922.3 ± 0.7	360.00	897.9 ± 1.6
293.15	938.6 ± 1.9	330.00	916.2 ± 0.5	370.00	891.8 ± 2.1
298.15	935.6 ± 1.7	340.00	910.1 ± 0.8	380.00	885.7 ± 2.6
310.00	928.4 ± 1.1	350.00	904.0 ± 1.2	390.00	879.6 ± 3.1

2-Dodecyltricyclo[8.4.0.0^{3,8}]tetradecane**[55401-75-7]****C₂₆H₄₈****MW =360.67****654****Table 1.** Fit with estimated *B* coefficient for 3 accepted points. Deviation $\sigma_w = 0.405$.

Coefficient	$\rho = A + BT$
<i>A</i>	1089.59
<i>B</i>	-0.640

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
310.95	890.2 ± 0.5	-0.39	68-ano-1
333.15	876.4 ± 0.5	0.02	68-ano-1
372.05	852.2 ± 0.7	0.72	68-ano-1

cont.

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
310.00	891.2 \pm 0.8	340.00	872.0 \pm 0.7	370.00	852.8 \pm 1.0
320.00	884.8 \pm 0.7	350.00	865.6 \pm 0.7	380.00	846.4 \pm 1.2
330.00	878.4 \pm 0.7	360.00	859.2 \pm 0.9		

5-Dodecyltricyclo[8.4.0.0^{2,6}]tetradecane [55334-22-0] C₂₆H₄₈ MW =360.67 655

Table 1. Fit with estimated *B* coefficient for 4 accepted points. Deviation $\sigma_w = 0.231$.

Coefficient	$\rho = A + BT$
<i>A</i>	1086.51
<i>B</i>	-0.630

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	901.6 \pm 0.5	-0.22	68-ano-1
310.95	890.5 \pm 0.5	-0.11	68-ano-1
333.15	876.7 \pm 0.5	0.08	68-ano-1
372.05	852.6 \pm 0.7	0.49	68-ano-1

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	903.8 \pm 0.8	320.00	884.9 \pm 0.5	360.00	859.7 \pm 0.9
293.15	901.8 \pm 0.8	330.00	878.6 \pm 0.6	370.00	853.4 \pm 1.1
298.15	898.7 \pm 0.7	340.00	872.3 \pm 0.7	380.00	847.1 \pm 1.3
310.00	891.2 \pm 0.6	350.00	866.0 \pm 0.8		

8-Dodecyltricyclo[8.4.0.0^{2,6}]tetradecane [55334-01-5] C₂₆H₄₈ MW =360.67 656

Table 1. Fit with estimated *B* coefficient for 4 accepted points. Deviation $\sigma_w = 0.145$.

Coefficient	$\rho = A + BT$
<i>A</i>	1091.20
<i>B</i>	-0.630

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	906.6 \pm 0.5	0.08	68-ano-1	333.15	881.2 \pm 0.5	-0.12	68-ano-1
310.95	895.2 \pm 0.5	-0.11	68-ano-1	372.05	857.1 \pm 0.7	0.29	68-ano-1

cont.

8-Dodecyltricyclo[8.4.0.0^{2,6}]tetradecane (cont.)**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	908.5 ± 0.9	320.00	889.6 ± 0.5	360.00	864.4 ± 0.9
293.15	906.5 ± 0.8	330.00	883.3 ± 0.5	370.00	858.1 ± 1.1
298.15	903.4 ± 0.7	340.00	877.0 ± 0.6	380.00	851.8 ± 1.3
310.00	895.9 ± 0.6	350.00	870.7 ± 0.8		

1,4-Bis(2-ethylhexyl)decahydro-naphthalene

[103043-52-3]

C₂₆H₅₀

MW = 362.68

657

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	876.2 ± 3.0	60-pet/zal

9-(cis-Bicyclo[3.3.0]octylmethyl)heptadecane

[700004-11-1]

C₂₆H₅₀

MW = 362.68

658

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction): $\sigma_{\text{c,w}} = 6.5207 \cdot 10^{-2}$ (combined temperature ranges, weighted), $\sigma_{\text{c,uw}} = 2.1219 \cdot 10^{-2}$ (combined temperature ranges, unweighted).

Coefficient	T = 273.15 to 372.05 K $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.04612 \cdot 10^3$
B	$-6.42919 \cdot 10^{-1}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
273.15	870.50 ± 0.50	-0.00	55-sch/whi(□)	273.15	870.50 ± 0.50	-0.00	68-ano-1(○)
293.15	857.70 ± 0.50	0.06	55-sch/whi(□)	293.15	857.70 ± 0.50	0.06	68-ano-1(○)
310.93	846.10 ± 0.50	-0.11	55-sch/whi(□)	310.95	846.10 ± 0.50	-0.10	68-ano-1(○)
333.15	832.00 ± 0.50	0.07	55-sch/whi(□)	333.15	832.00 ± 0.50	0.07	68-ano-1(○)
372.04	806.90 ± 0.70	-0.02	55-sch/whi(□)	372.05	806.90 ± 0.70	-0.02	68-ano-1(○)

cont.

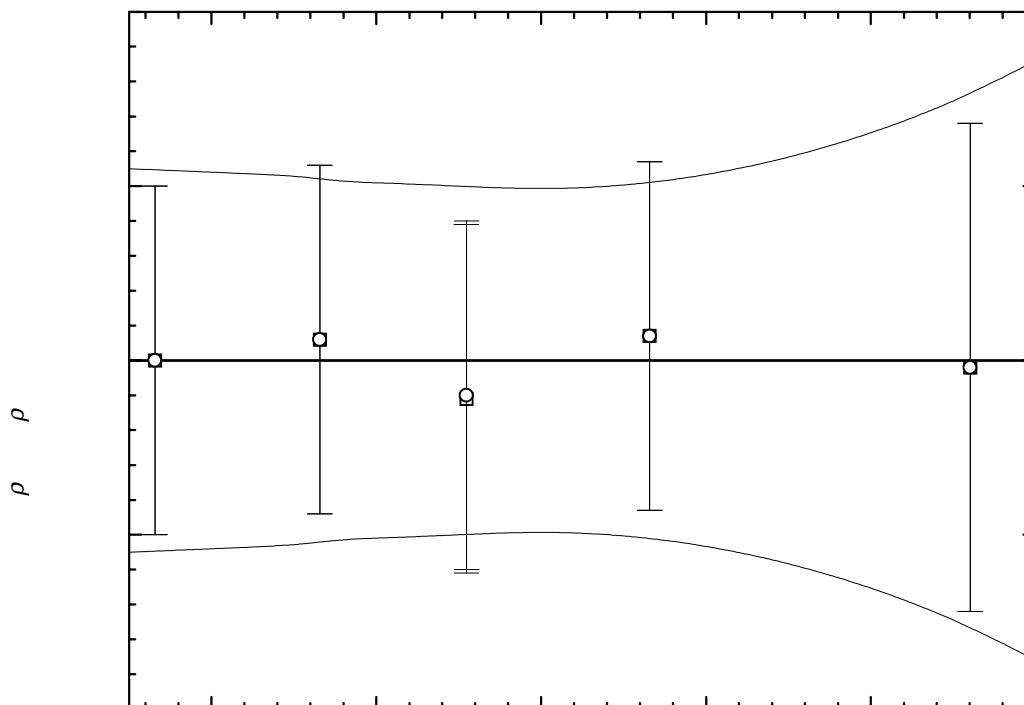


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

Table 3. Recommended values (fit to the reliable experimental values according to the equations $\rho = A + BT + CT^2 + DT^3 + \dots$ or $\rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$).

$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	872.53 ± 0.55	300.00	853.24 ± 0.51	350.00	821.09 ± 0.58
280.00	866.10 ± 0.54	310.00	846.81 ± 0.50	360.00	814.66 ± 0.65
290.00	859.67 ± 0.53	320.00	840.38 ± 0.49	370.00	808.24 ± 0.74
293.15	857.64 ± 0.52	330.00	833.95 ± 0.50	380.00	801.81 ± 0.86
298.15	854.43 ± 0.51	340.00	827.52 ± 0.53		

5-Pentadecyldodecahydroace-naphthylene

[55282-69-4]

C₂₇H₅₀

MW =374.69

659

Table 1. Fit with estimated *B* coefficient for 4 accepted points. Deviation $\sigma_w = 0.207$.

Coefficient	$\rho = A + BT$
A	1080.23
B	-0.630

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	895.4 ± 0.5	-0.15	68-ano-1
310.95	884.2 ± 0.5	-0.14	68-ano-1
333.15	870.4 ± 0.5	0.05	68-ano-1
372.05	846.3 ± 0.7	0.46	68-ano-1

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	897.5 ± 0.8	320.00	878.6 ± 0.5	360.00	853.4 ± 0.9
293.15	895.5 ± 0.8	330.00	872.3 ± 0.6	370.00	847.1 ± 1.1
298.15	892.4 ± 0.7	340.00	866.0 ± 0.7	380.00	840.8 ± 1.3
310.00	884.9 ± 0.6	350.00	859.7 ± 0.8		

1,1-Bis(decahydro-1-naphthyl)octane

[103279-35-2]

C₂₈H₅₀

MW =386.70

660

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	952.1 ± 3.0	60-pet/zal

9-(5-*exo*-Hexahydro-4,7-methanoindanyl)methyl)heptadecane

[55334-74-2]

C₂₈H₅₂

MW =388.72

661

Table 1. Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.152$.

Coefficient	$\rho = A + BT$
A	1070.48
B	-0.650

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	892.8 ± 0.5	-0.14	68-ano-1
293.15	879.8 ± 0.5	-0.14	68-ano-1
310.95	868.4 ± 0.5	0.03	68-ano-1
333.15	854.0 ± 0.5	0.06	68-ano-1
372.05	829.0 ± 0.7	0.35	68-ano-1

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	895.0 ± 1.0	310.00	869.0 ± 0.5	350.00	843.0 ± 0.9
280.00	888.5 ± 0.8	320.00	862.5 ± 0.5	360.00	836.5 ± 1.1
290.00	882.0 ± 0.7	330.00	856.0 ± 0.6	370.00	830.0 ± 1.3
293.15	879.9 ± 0.6	340.00	849.5 ± 0.8	380.00	823.5 ± 1.5
298.15	876.7 ± 0.6				

9-(4-*as*-perhydroindacenyl)heptadecane [55530-51-3] C₂₉H₅₄ MW =402.75 662

Table 1. Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.156$.

Coefficient	$\rho = A + BT$
<i>A</i>	1082.34
<i>B</i>	-0.640

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	907.5 ± 0.5	-0.02	68-ano-1
293.15	894.6 ± 0.5	-0.12	68-ano-1
310.95	883.2 ± 0.5	-0.13	68-ano-1
333.15	869.2 ± 0.5	0.08	68-ano-1
372.05	844.6 ± 0.7	0.38	68-ano-1

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	909.5 ± 1.0	310.00	883.9 ± 0.5	350.00	858.3 ± 0.9
280.00	903.1 ± 0.8	320.00	877.5 ± 0.5	360.00	851.9 ± 1.1
290.00	896.7 ± 0.7	330.00	871.1 ± 0.6	370.00	845.5 ± 1.3
293.15	894.7 ± 0.6	340.00	864.7 ± 0.8	380.00	839.1 ± 1.5
298.15	891.5 ± 0.6				

1,10-Bis(decahydro-1-naphthyl)octane [55268-64-9] C₃₀H₅₄ MW =414.76 663**Table 1.** Fit with estimated *B* coefficient for 4 accepted points. Deviation $\sigma_w = 0.362$.

Coefficient	$\rho = A + BT$
<i>A</i>	1110.13
<i>B</i>	-0.610

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	931.0 ± 0.5	-0.31	68-ano-1
310.95	920.2 ± 0.5	-0.25	68-ano-1
333.15	907.1 ± 0.5	0.19	68-ano-1
372.05	883.9 ± 0.7	0.72	68-ano-1

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	933.2 ± 0.9	320.00	914.9 ± 0.6	360.00	890.5 ± 1.0
293.15	931.3 ± 0.8	330.00	908.8 ± 0.6	370.00	884.4 ± 1.2
298.15	928.3 ± 0.8	340.00	902.7 ± 0.7	380.00	878.3 ± 1.3
310.00	921.0 ± 0.6	350.00	896.6 ± 0.8		

1,1-Bis(decahydro-1-naphthyl)undecane [55373-96-1] C₃₁H₅₆ MW =428.79 664**Table 1.** Fit with estimated *B* coefficient for 3 accepted points. Deviation $\sigma_w = 0.174$.

Coefficient	$\rho = A + BT$
<i>A</i>	1120.02
<i>B</i>	-0.630

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
310.95	924.2 ± 0.5	0.07	68-ano-1
333.15	909.9 ± 0.5	-0.24	68-ano-1
372.05	885.8 ± 0.5	0.17	68-ano-1

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
310.00	924.7 ± 0.7	340.00	905.8 ± 0.5	370.00	886.9 ± 0.8
320.00	918.4 ± 0.6	350.00	899.5 ± 0.5	380.00	880.6 ± 1.0
330.00	912.1 ± 0.5	360.00	893.2 ± 0.6		

**Decahydro-1-(1-decylundecyl)-
naphthalene****[55320-00-8]****C₃₁H₆₀****MW = 432.82****665**

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction): $\sigma_{c,w} = 9.7983 \cdot 10^{-2}$ (combined temperature ranges, weighted), $\sigma_{c,uw} = 4.7198 \cdot 10^{-2}$ (combined temperature ranges, unweighted).

Coefficient	T = 273.15 to 372.05 K $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.05422 \cdot 10^3$
B	$-6.29130 \cdot 10^{-1}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
293.15	869.70 ± 0.60	-0.09	49-foe/fen(□)	310.95	858.50 ± 0.50	-0.09	68-ano-1(X)
273.15	882.40 ± 0.50	0.03	68-ano-1(X)	333.15	844.50 ± 0.50	-0.12	68-ano-1(X)
293.15	869.90 ± 0.50	0.11	68-ano-1(X)	372.05	820.30 ± 0.70	0.15	68-ano-1(X)

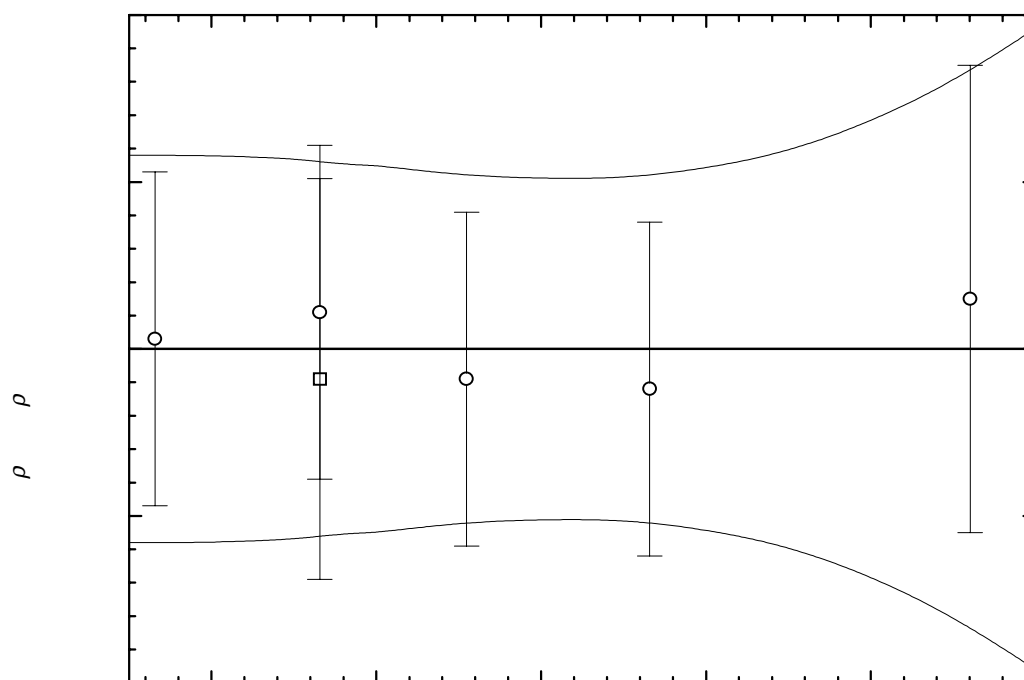


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)
cont.

Decahydro-1-(1-decylundecyl)naphthalene (cont.)**Table 3.** Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$$

$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	884.35 ± 0.58	300.00	865.48 ± 0.55	350.00	834.02 ± 0.59
280.00	878.06 ± 0.58	310.00	859.19 ± 0.52	360.00	827.73 ± 0.68
290.00	871.77 ± 0.57	320.00	852.89 ± 0.51	370.00	821.44 ± 0.80
293.15	869.79 ± 0.56	330.00	846.60 ± 0.51	380.00	815.15 ± 0.96
298.15	866.64 ± 0.55	340.00	840.31 ± 0.54		

2-(2-Butyloctadecyl)decahydro-naphthalene**[500038-23-3]****C₃₂H₆₂****MW =446.84****666****Table 1.** Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	861.5 ± 2.0	36-mik

Decahydro-2-docosyl naphthalene**[500038-22-2]****C₃₂H₆₂****MW =446.84****667****Table 1.** Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	867.3 ± 2.0	36-mik

5.2 Unsaturated Bridged Cycloalkanes

5.2.1 Unsaturated Bridged Cycloalkanes, C₇ - C₁₁

Bicyclo[2.2.1]-2-heptene [498-66-8] C₇H₁₀ MW =94.16 668

Table 1. Fit with estimated B coefficient for 5 accepted points. Deviation $\sigma_w = 1.145$.

Coefficient	$\rho = A + BT$
A	1187.58
B	-1.050

Table 2. Experimental values with uncertainties and deviation from calculated values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg · m ⁻³	Ref.
323.14	847.5 ± 1.0	-0.78	96-ste/chi-1
348.13	822.4 ± 1.0	0.36	96-ste/chi-1
373.12	797.0 ± 1.0	1.20	96-ste/chi-1
398.12	770.6 ± 1.0	1.05	96-ste/chi-1
423.11	741.5 ± 1.0	-1.81	96-ste/chi-1

Table 3. Recommended values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³
320.00	851.6 ± 5.5	360.00	809.6 ± 2.0	400.00	767.6 ± 3.1
330.00	841.1 ± 4.6	370.00	799.1 ± 1.5	410.00	757.1 ± 4.0
340.00	830.6 ± 3.6	380.00	788.6 ± 1.6	420.00	746.6 ± 4.9
350.00	820.1 ± 2.7	390.00	778.1 ± 2.2	430.00	736.1 ± 5.9

5-Methylbicyclo[2.2.1]-2-heptene [822-96-8] C₈H₁₂ MW =108.18 669

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
291.15	866.8 ± 2.0	33-zel/kaz

1H-Indene**[95-13-6]****C₉H₈****MW = 116.16****670****Table 1.** Coefficients of the polynomial expansion equation. Standard deviations (see introduction):

$\sigma_{c,w} = 1.0681$ (combined temperature ranges, weighted), $\sigma_{c,uw} = 2.8082 \cdot 10^{-1}$ (combined temperature ranges, unweighted).

Coefficient	T = 277.15 to 313.15 K $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.22239 \cdot 10^3$
B	$-7.74111 \cdot 10^{-1}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
288.15	999.30 ± 1.00	-0.03	09-spi/dom(X)	298.15	992.40 ± 0.50	0.82	46-bre/gau(O)
277.15	1006.00 ± 2.00	-1.84	24-sto/far(X)	313.15	979.60 ± 0.50	-0.37	46-bre/gau(O)
291.15	997.50 ± 2.00	0.50	24-sto/far ¹⁾	293.15	996.00 ± 0.50	0.55	47-gau/bre(□)
293.15	991.50 ± 4.00	-3.95	24-sto/far ¹⁾	293.15	996.60 ± 1.00	1.15	49-foe/fen(X)
285.15	1000.10 ± 2.00	-1.55	34-hay(X)	293.15	995.70 ± 1.00	0.25	52-ano-9(◆)
293.15	995.70 ± 0.60	0.25	43-ano-3(V)	293.15	995.70 ± 0.60	0.25	55-ano-7(Δ)
293.15	996.00 ± 0.50	0.55	46-bre/gau(O)				

¹⁾ Not included in Fig. 1.

Further references: [1890-kra/spi-1, 1894-per/riv, 1896-per, 09-weg, 19-eyk, 25-bro, 29-cor-1, 34-lov/cam, 38-eva-2, 44-sch, 53-ent/ruo].

Table 3. Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4].$$

$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	1013.38 ± 1.86	293.15	995.45 ± 1.00	310.00	982.41 ± 1.50
280.00	1005.63 ± 1.99	298.15	991.58 ± 1.10	320.00	974.67 ± 2.20
290.00	997.89 ± 1.09	300.00	990.15 ± 1.30		

cont.

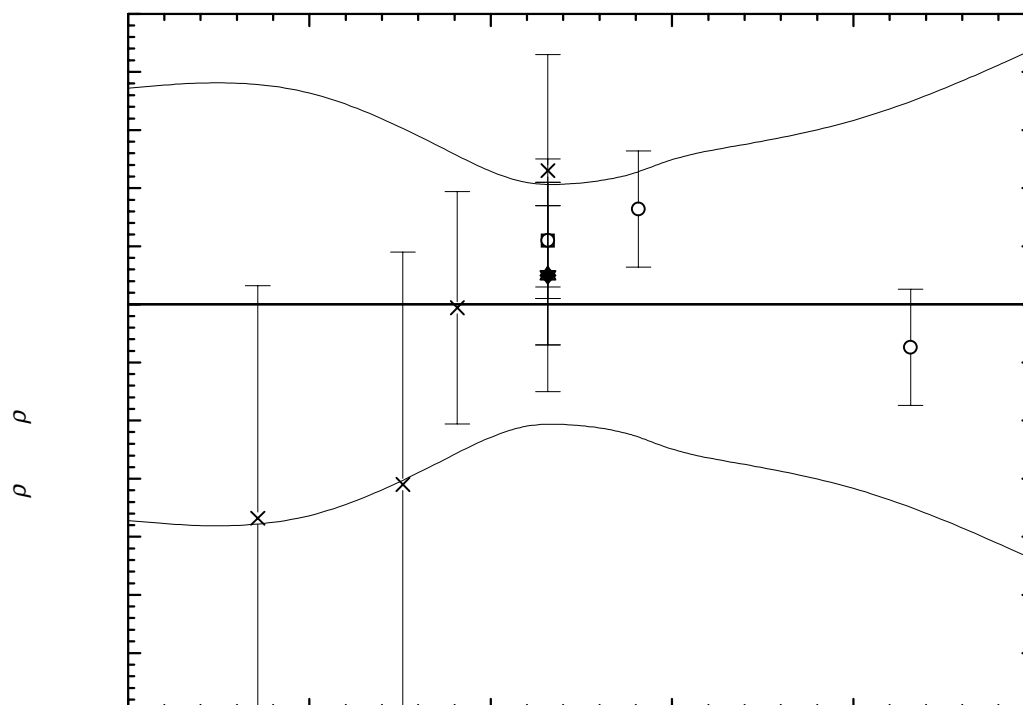


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

2,3-Dihydroindene

[496-11-7]

C₉H₁₀

MW = 118.18

671

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction):

$\sigma_{c,w} = 1.2662$ (combined temperature ranges, weighted), $\sigma_{c,uw} = 4.4761 \cdot 10^{-1}$ (combined temperature ranges, unweighted).

Coefficient	T = 273.15 to 323.15 K
	$\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.21494 \cdot 10^3$
B	$-8.59235 \cdot 10^{-1}$

cont.

2,3-Dihydroindene (cont.)**Table 2.** Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
283.15	967.80 ± 4.00	-3.85	1894-per/riv(✕)	323.15	937.80 ± 2.00	0.52	38-eva-2(✕)
288.15	963.70 ± 4.00	-3.66	1894-per/riv ¹⁾	373.15	894.20 ± 2.00	-0.12	38-eva-2 ¹⁾
293.15	959.40 ± 4.00	-3.66	1894-per/riv ¹⁾	293.15	964.30 ± 0.60	1.24	43-ano-4(Δ)
298.15	953.10 ± 4.00	-5.66	1894-per/riv ¹⁾	293.15	963.00 ± 1.00	-0.06	44-boo/per(✕)
291.45	962.70 ± 1.00	-1.82	19-eyk(◆)	293.15	963.10 ± 1.00	0.04	44-gre-4(✕)
349.50	890.60 ± 20.00	-24.04	19-eyk ¹⁾	293.15	964.00 ± 0.50	0.94	49-foe/fen(□)
293.15	964.50 ± 1.00	1.44	21-bor/pom(✕)	293.15	963.00 ± 1.00	-0.06	52-ano-9(∇)
288.15	964.50 ± 3.00	-2.86	21-fle/mel(✕)	293.15	964.00 ± 0.50	0.94	52-kaz/pla(○)
273.15	981.30 ± 1.00	1.06	38-eva-2(✕)	298.15	960.40 ± 1.00	1.64	53-ent/ruo(✕)
293.15	963.90 ± 0.50	0.84	38-eva-2(✕)				

¹⁾ Not included in Fig. 1.

Further references: [1890-kra/spi-1, 1896-per, 09-weg, 21-leb/pic, 29-zel/tit, 35-hal, 35-ruz/pey, 54-car/eas, 59-skv/che].

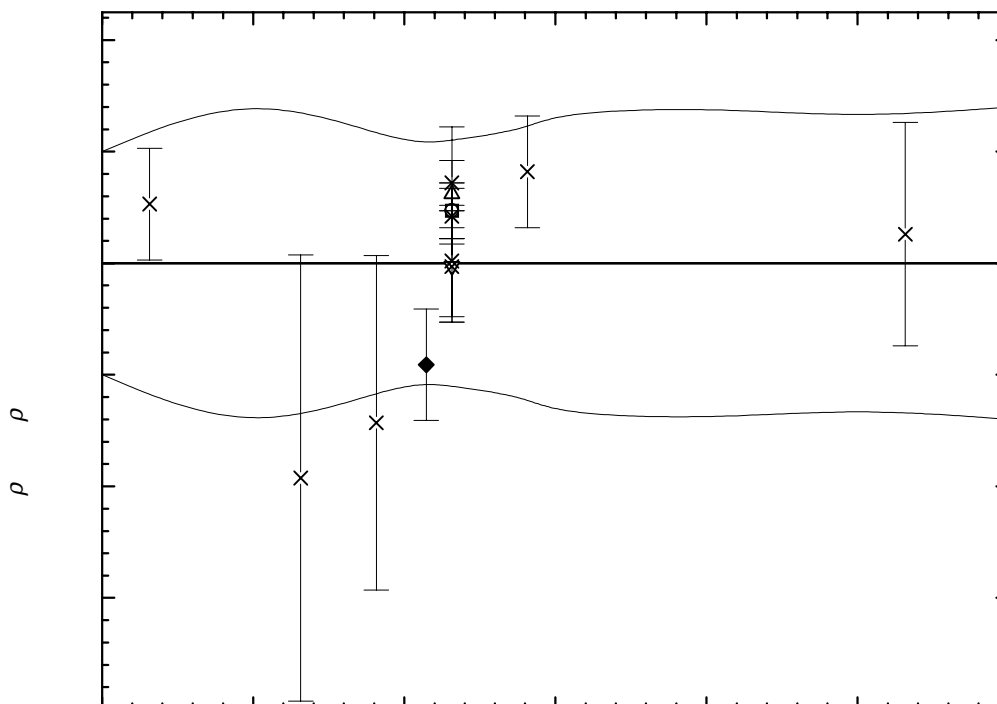


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

Table 3. Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$$

$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	982.95 \pm 2.00	293.15	963.06 \pm 2.20	310.00	948.58 \pm 2.80
280.00	974.36 \pm 3.13	298.15	958.76 \pm 2.40	320.00	939.99 \pm 2.60
290.00	965.77 \pm 2.10	300.00	957.17 \pm 2.70	330.00	931.40 \pm 2.80

5-Ethenylbicyclo[2.2.1]-2-heptene [3048-64-4] C₉H₁₂ MW =120.19 672

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	884.3 \pm 0.5	96-ste/chi-1

cis-5-Ethylidenebicyclo[2.2.1]-2-heptene [28304-66-7] C₉H₁₂ MW =120.19 673

Table 1. Fit with estimated *B* coefficient for 7 accepted points. Deviation $\sigma_w = 0.467$.

Coefficient	$\rho = A + BT$
<i>A</i>	1161.32
<i>B</i>	-0.900

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	902.0 \pm 8.0	9.02	97-ste/chi-3 ¹⁾	311.39	880.8 \pm 0.5	-0.26	73-var/bul
288.03	901.7 \pm 0.5	-0.39	73-var/bul	321.47	872.5 \pm 0.5	0.51	73-var/bul
293.11	897.1 \pm 0.5	-0.42	73-var/bul	332.91	862.2 \pm 0.5	0.50	73-var/bul
298.08	892.6 \pm 0.5	-0.44	73-var/bul	343.15	853.2 \pm 0.6	0.72	73-var/bul

¹⁾ Not included in calculation of linear coefficients.

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	909.3 \pm 1.7	298.15	893.0 \pm 0.9	330.00	864.3 \pm 1.1
290.00	900.3 \pm 1.2	310.00	882.3 \pm 0.6	340.00	855.3 \pm 1.6
293.15	897.5 \pm 1.1	320.00	873.3 \pm 0.8	350.00	846.3 \pm 2.0

cis-2,3,3a,7a-Tetrahydro-1*H*-indene [3054-91-9] C₉H₁₂ MW =120.19 674

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
289.65	927.4 \pm 4.0	24-zel/bor

3a,4,7,7a-Tetrahydro-1H-indene**[3048-65-5]****C₉H₁₂****MW =120.19****675****Table 1.** Fit with estimated *B* coefficient for 7 accepted points. Deviation $\sigma_w = 0.152$.

Coefficient	$\rho = A + BT$
<i>A</i>	1184.59
<i>B</i>	-0.875

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.41	932.4 ± 0.5	0.17	73-var/bul	321.54	903.2 ± 0.5	-0.04	73-var/bul
293.14	928.1 ± 0.5	0.01	73-var/bul	332.47	893.3 ± 0.6	-0.38	73-var/bul
298.14	923.8 ± 0.5	0.09	73-var/bul	343.20	884.4 ± 0.6	0.11	73-var/bul
311.70	911.8 ± 0.5	-0.05	73-var/bul				

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	939.6 ± 1.6	298.15	923.7 ± 0.8	330.00	895.8 ± 1.1
290.00	930.8 ± 1.1	310.00	913.3 ± 0.5	340.00	887.1 ± 1.6
293.15	928.1 ± 1.0	320.00	904.6 ± 0.7	350.00	878.3 ± 2.0

2,3-Dimethylbicyclo[2.2.1]-2-heptene**[529-16-8]****C₉H₁₄****MW =122.21****676****Table 1.** Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.15	871.0 ± 3.0	00-mul	289.15	866.4 ± 3.0	23-ruz/lie
288.15	869.8 ± 3.0	07-asc-2	287.15	868.0 ± 3.0	23-ruz/lie
288.15	864.9 ± 4.0	07-asc-2	288.15	871.0 ± 3.0	25-lab
290.15	870.0 ± 3.0	17-kom/hin	293.15	863.0 ± 4.0	26-deu
290.15	872.0 ± 3.0	23-ruz/lie	293.15	865.0 ± 3.0	26-deu

3,3-Dimethylbicyclo[2.2.1]-1-heptene**[500040-38-0]****C₉H₁₄****MW =122.21****677****Table 1.** Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
294.15	869.9 ± 2.0	33-sni

5,5-Dimethylbicyclo[2.2.1]hept-2-ene [497-28-9] C₉H₁₄ MW =122.21 678

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	863.1 ± 3.0	32-kom/has-1
299.15	860.7 ± 3.0	32-kom/has-1
293.15	864.2 ± 3.0	33-kom/has

7,7-Dimethylbicyclo[2.2.1]-2-heptene [6541-60-2] C₉H₁₄ MW =122.21 679

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	854.3 ± 3.0	33-kom/has

7,7-Dimethylbicyclo[3.1.1]-2-heptene [500040-39-1] C₉H₁₄ MW =122.21 680

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	870.0 ± 3.0	30-kom/has

2-Methylbicyclo[2.2.2]-5-octene [500039-26-9] C₉H₁₄ MW =122.21 681

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	893.9 ± 2.0	59-kaz/svi

5-Methylbicyclo[2.2.2]-2-octene [500040-37-9] C₉H₁₄ MW =122.21 682

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
290.15	895.5 ± 2.0	35-kas/pla

1,2-Dihydronaphthalene [447-53-0] C₁₀H₁₀ MW =130.19 683

Table 1. Fit with estimated *B* coefficient for 10 accepted points. Deviation $\sigma_w = 0.544$.

Coefficient	$\rho = A + BT$
<i>A</i>	1237.10
<i>B</i>	-0.820

cont.

1,2-Dihydronaphthalene (cont.)**Table 2.** Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
285.55	997.5 ± 5.0	-5.50	01-pel ¹⁾	291.45	997.6 ± 1.0	-0.51	13-von
285.85	996.9 ± 5.0	-5.83	01-pel ¹⁾	293.15	997.4 ± 1.0	0.68	13-wil/kin
287.85	994.5 ± 5.0	-6.59	01-pel ¹⁾	294.65	996.3 ± 1.0	0.81	21-von/kir
283.65	1003.1 ± 2.0	-1.41	13-str/lem-1	298.15	992.6 ± 1.0	-0.02	31-kim
291.25	998.3 ± 1.0	0.02	13-von	298.15	993.1 ± 1.0	0.48	31-kim-1
291.30	997.7 ± 1.0	-0.54	13-von	300.15	990.4 ± 1.0	-0.58	36-jog
291.35	998.2 ± 1.0	0.00	13-von	293.15	1001.6 ± 3.0	4.88	57-chi/ide ¹⁾

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	1007.5 ± 1.7
290.00	999.3 ± 1.0
293.15	996.7 ± 0.9
298.15	992.6 ± 1.0
310.00	982.9 ± 1.8

1,4-Dihydronaphthalene

[612-17-9]

C₁₀H₁₀

MW =130.19

684

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
285.55	997.5 ± 3.0	01-pel
287.85	994.5 ± 3.0	01-pel
305.85	992.8 ± 3.0	13-von
306.45	993.5 ± 3.0	13-von
307.25	992.8 ± 3.0	13-von

1-Methyl-1H-indene

[767-59-9]

C₁₀H₁₀

MW =130.19

685

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	964.0 ± 2.0	24-wis/hen
298.15	970.8 ± 2.0	35-ruz/pey
293.15	1042.2 ± 40.0	40-cam/cam

2-Methyl-1H-indene [2177-47-1] C₁₀H₁₀ MW =130.19 686

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
287.15	989.7 ± 6.0	16-von/kru
292.15	973.4 ± 2.0	35-ruz/pey

3-Methyl-1H-indene [767-60-2] C₁₀H₁₀ MW =130.19 687

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
300.15	968.2 ± 2.0	1892-bru-1
293.15	975.0 ± 2.0	18-von-2

4-Methyl-1H-indene [7344-34-5] C₁₀H₁₀ MW =130.19 688

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	992.0 ± 2.0	51-kru/rae

2,3-Dihydro-1-methyl-1H-indene [767-58-8] C₁₀H₁₂ MW =132.21 689

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
289.15	966.1 ± 10.0	17-von/dan ¹⁾	293.15	938.8 ± 2.0	46-naz/pin
293.15	940.2 ± 1.0	35-ruz/pey	293.15	939.0 ± 2.0	47-fro/bue
294.15	947.0 ± 5.0	35-ruz/pey ¹⁾	298.15	938.4 ± 3.0	53-ent/ruo ¹⁾
298.15	938.3 ± 3.0	35-ruz/pey ¹⁾	293.15	940.6 ± 1.0	59-lib/bra
293.15	940.7 ± 1.0	36-nen/cio	293.15	940.2 ± 1.0	Recommended
293.15	940.0 ± 1.0	41-pla/wys-1			

¹⁾ Not included in calculation of recommended value.

2,3-Dihydro-2-methyl-1H-indene [824-63-5] C₁₀H₁₂ MW =132.21 690

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
290.15	902.3 ± 20.0	14-kiz	298.15	931.7 ± 2.0	35-ruz/pey
295.15	932.1 ± 2.0	35-ruz/pey	293.15	932.0 ± 3.0	41-pla/wys
296.15	931.8 ± 2.0	35-ruz/pey	298.15	941.1 ± 8.0	53-ent/ruo

2,3-Dihydro-4-methyl-1H-indene [824-22-6] C₁₀H₁₂ MW =132.21 691

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	935.0 ± 20.0	24-kru
298.15	966.2 ± 8.0	53-ent/ruo
293.15	957.7 ± 1.0	57-els/par
293.15	956.4 ± 1.0	60-skv/lin
293.15	957.2 ± 1.0	Recommended

2,3-Dihydro-5-methyl-1H-indene [874-35-1] C₁₀H₁₂ MW =132.21 692

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	949.4 ± 1.0	42-pla/ron-1
298.15	944.2 ± 2.0	53-ent/ruo ¹⁾
293.15	950.1 ± 1.0	59-skv/che
293.15	946.5 ± 3.0	61-pla/bel ¹⁾
293.15	949.8 ± 1.0	Recommended

¹⁾ Not included in calculation of recommended value.

4,7-Methano-3a,4,7,7a-tetrahydroindene [77-73-6] C₁₀H₁₂ MW =132.21 693

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
308.15	975.6 ± 3.0	1896-kra/spi
306.15	976.6 ± 3.0	1896-kra/spi
350.40	930.2 ± 4.0	07-eyk

1,2,3,4-Tetrahydronaphthalene [119-64-2] C₁₀H₁₂ MW = 132.21 694

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction): $\sigma_{\text{c,w}} = 6.9612 \cdot 10^{-1}$ (combined temperature ranges, weighted), $\sigma_{\text{c,uw}} = 2.5565 \cdot 10^{-1}$ (combined temperature ranges, unweighted).

Coefficient	T = 273.15 to 473.15 K $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.18147 \cdot 10^3$
B	$-6.70557 \cdot 10^{-1}$
C	$-1.80616 \cdot 10^{-4}$

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
273.15	984.00 ± 1.00	-0.84	04-ler(✕)	393.15	892.00 ± 3.00	2.07	38-gro(✕)
293.15	966.00 ± 3.00	-3.38	04-ler ¹⁾	443.15	851.00 ± 3.00	2.15	38-gro(✕)
273.15	983.80 ± 1.00	-1.04	05-wis(✕)	293.15	969.60 ± 0.60	0.22	49-foe/fen(◆)
293.15	966.00 ± 3.00	-3.38	05-wis ¹⁾	303.15	961.70 ± 0.40	0.10	49-wei(○)
273.35	984.20 ± 1.00	-0.48	22-her/sch(✕)	293.15	969.50 ± 0.60	0.12	51-ano-3(✕)
275.15	984.20 ± 1.00	0.90	22-her/sch(✕)	293.15	969.33 ± 0.20	-0.05	53-kar/mcl(□)
286.45	974.50 ± 1.00	-0.07	22-her/sch(✕)	310.35	956.00 ± 0.60	0.03	54-smi/otv(✕)
286.65	974.30 ± 1.00	-0.12	22-her/sch(✕)	293.15	969.68 ± 0.50	0.30	56-huc/wor(Δ)
288.25	973.10 ± 1.00	-0.08	22-her/sch(✕)	293.15	967.80 ± 2.00	-1.58	58-ram/smy ¹⁾
297.85	965.80 ± 1.00	0.07	22-her/sch ¹⁾	313.15	953.20 ± 2.00	-0.58	58-ram/smy(✕)
298.15	965.20 ± 1.00	-0.29	22-her/sch ¹⁾	333.15	938.90 ± 2.00	0.87	58-ram/smy(✕)
309.85	956.70 ± 2.00	0.34	22-her/sch ¹⁾	288.15	970.40 ± 3.00	-2.86	65-ros ¹⁾
323.15	946.40 ± 2.00	0.48	22-her/sch(✕)	293.15	966.00 ± 3.00	-3.38	65-ros ¹⁾
333.15	939.60 ± 3.00	1.57	22-her/sch(✕)	323.15	942.70 ± 3.00	-3.22	65-ros ¹⁾
348.15	927.20 ± 3.00	1.07	22-her/sch(✕)	348.15	922.70 ± 3.00	-3.43	65-ros(✕)
351.60	925.70 ± 3.00	2.32	22-her/sch(✕)	373.15	902.40 ± 3.00	-3.71	65-ros(✕)
357.15	921.00 ± 3.00	2.05	22-her/sch(✕)	398.15	882.90 ± 3.00	-2.96	65-ros(✕)
423.15	871.80 ± 4.00	6.41	22-her/sch ¹⁾	423.15	863.30 ± 3.00	-2.09	65-ros(✕)
452.75	849.60 ± 4.00	8.74	22-her/sch ¹⁾	448.15	844.10 ± 3.00	-0.59	65-ros(✕)
273.15	986.60 ± 3.00	1.76	38-eva-2 ¹⁾	473.15	824.10 ± 3.00	0.33	65-ros(✕)
293.15	970.70 ± 1.00	1.32	38-eva-2 ¹⁾	298.01	964.10 ± 1.00	-1.50	86-osh/han ¹⁾
323.15	946.90 ± 2.00	0.98	38-eva-2(✕)	318.15	948.70 ± 1.00	-1.16	86-osh/han(✕)
373.15	907.20 ± 2.00	1.09	38-eva-2(✕)	358.15	916.50 ± 1.00	-1.65	86-osh/han(✕)
293.15	973.00 ± 3.00	3.62	38-gro ¹⁾	298.15	965.30 ± 0.50	-0.19	91-ara/ami(∇)
323.15	949.00 ± 3.00	3.08	38-gro ¹⁾	298.15	966.00 ± 0.60	0.51	94-bla/bel(✕)
353.15	924.00 ± 3.00	1.86	38-gro(✕)				

¹⁾ Not included in Fig. 1.**Table 3.** Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$$

$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	987.26 ± 0.64	330.00	940.52 ± 1.86	410.00	876.19 ± 3.26
280.00	979.56 ± 0.74	340.00	932.61 ± 2.10	420.00	867.98 ± 3.31
290.00	971.82 ± 0.92	350.00	924.65 ± 2.33	430.00	859.74 ± 3.33
293.15	969.38 ± 0.99	360.00	916.67 ± 2.54	440.00	851.46 ± 3.30
298.15	965.49 ± 1.09	370.00	908.64 ± 2.74	450.00	843.15 ± 3.24
300.00	964.05 ± 1.14	380.00	900.58 ± 2.91	460.00	834.80 ± 3.14
310.00	956.25 ± 1.37	390.00	892.49 ± 3.06	470.00	826.42 ± 3.01
320.00	948.40 ± 1.62	400.00	884.35 ± 3.18	480.00	817.99 ± 2.87

cont.

1,2,3,4-Tetrahydronaphthalene (cont.)

Further references: [01-pel, 01-sab/sen, 03-weg, 06-ros/lea, 13-von, 15-rot/von, 19-sch/heu, 19-vol, 20-sch-2, 20-utz, 21-mei, 22-von/sch, 23-kro-1, 23-wil/sei, 24-boe/ram, 26-spi/zer, 28-tre/sch, 29-sac/til, 31-kag, 31-kim, 32-vor/fis, 33-hof/ber, 34-lov/cam, 35-ber-1, 36-jog, 36-mat/han, 37-gar/bre, 37-mul, 38-dol, 38-tur/lys, 41-mai/str, 43-nam/ros, 44-sch, 47-bal/mar, 48-kut/nic, 55-ham/sto, 66-gus/akh, 68-ano, 70-len/hay-1, 71-des/bha-1, 72-len/hip, 82-chy/str, 82-kat/wat, 85-nat/vis, 86-tar/dia, 90-cab/bel, 95-nun/von].

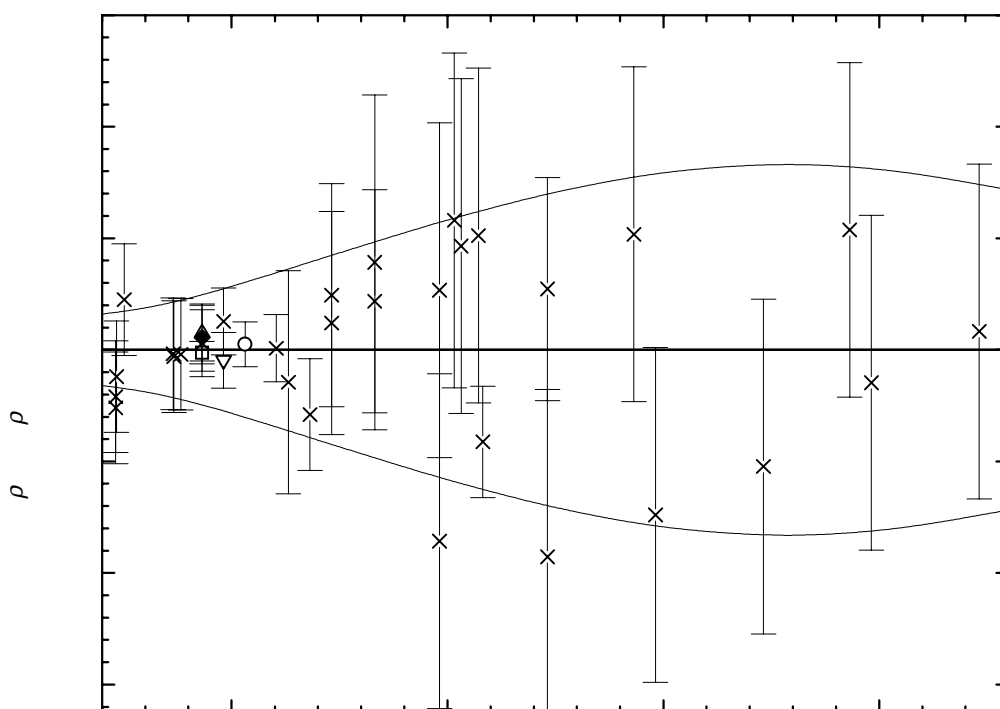


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

1,2,3,4,5,8-Hexahydronaphthalene**[500060-11-7]****C₁₀H₁₄****MW =134.22****695****Table 1.** Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	944.6 ± 1.0	56-huc/wor

1,2,3,4,6,8a-Hexahydronaphthalene [500040-41-5] C₁₀H₁₄ MW =134.22 696

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	972.6 ± 2.0	29-nam/gla-1

1,2,3,5,6,7-Hexahydronaphthalene [500060-12-8] C₁₀H₁₄ MW =134.22 697

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	970.1 ± 1.0	56-huc/wor

2,6,6-Trimethylbicyclo[3.1.1]-2,4-heptadiene [500040-42-6] C₁₀H₁₄ MW =134.22 698

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	882.2 ± 3.0	13-blu/zei
288.15	885.2 ± 3.0	13-blu/zei
288.15	886.6 ± 3.0	21-blu/zei
288.15	885.0 ± 3.0	27-blu/sch

trans-Bicyclo[5.3.0]-2-decene [500040-60-8] C₁₀H₁₆ MW =136.24 699

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
294.15	899.6 ± 2.0	33-huc/sch

2,2-Dimethyl-5-methylenebicyclo[2.2.1]-heptane [497-32-5] C₁₀H₁₆ MW =136.24 700

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
290.15	859.8 ± 2.0	17-kom/ros
293.15	859.6 ± 2.0	17-kom/ros-2
293.15	859.7 ± 2.0	27-kom/has
293.15	858.1 ± 2.0	34-kom/bec

2,2-Dimethyl-3-methylenebicyclo[2.2.1]-heptane [79-92-5] C₁₀H₁₆ MW =136.24 701

Table 1. Fit with estimated B coefficient for 17 accepted points. Deviation $\sigma_w = 1.052$.

Coefficient	$\rho = A + BT$
A	1111.08
B	-0.820

Table 2. Experimental values with uncertainties and deviation from calculated values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg · m ⁻³	Ref.	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg · m ⁻³	Ref.
320.85	848.1 ± 3.0	0.12	1875-rib-1	318.15	850.2 ± 3.0	0.01	02-per
332.05	838.7 ± 3.0	-0.10	1875-rib-1	323.15	846.2 ± 3.0	0.16	02-per
352.85	821.1 ± 3.0	-0.64	1875-rib-1	328.15	842.2 ± 3.0	0.21	02-per
370.85	806.2 ± 3.0	-0.78	1875-rib-1	351.15	822.3 ± 3.0	-0.83	06-eyk-2
321.15	850.0 ± 3.0	2.27	1888-wal-2	313.15	855.5 ± 3.0	1.21	07-wal/gut
323.15	845.6 ± 3.0	-0.49	1892-bru-1	323.15	844.6 ± 3.0	-1.49	13-asc
336.55	834.7 ± 3.0	-0.38	1892-bru	323.15	848.6 ± 3.0	2.51	13-asc
327.15	842.2 ± 3.0	-0.57	1892-bru	323.15	845.0 ± 3.0	-1.09	35-pad/jat
313.15	854.2 ± 3.0	-0.09	02-per				

Table 3. Recommended values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³
310.00	856.9 ± 3.5	340.00	832.3 ± 3.1	370.00	807.7 ± 5.0
320.00	848.7 ± 3.0	350.00	824.1 ± 3.5	380.00	799.5 ± 5.8
330.00	840.5 ± 2.9	360.00	815.9 ± 4.2		

3,7-Dimethylbicyclo[3.3.0]-2-octene [500040-53-9] C₁₀H₁₆ MW =136.24 702

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
297.15	860.5 ± 3.0	36-jon/lin

4,4-Dimethylbicyclo[3.2.1]-2-octene [500040-54-0] C₁₀H₁₆ MW =136.24 703

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
285.55	895.4 ± 3.0	27-lip/got

6,6-Dimethyl-2-methylenebicyclo[3.1.1]- [127-91-3] **C₁₀H₁₆** **MW =136.24** **704**
heptane

Table 1. Fit with estimated *B* coefficient for 11 accepted points. Deviation $\sigma_w = 0.334$.

Coefficient	$\rho = A + BT$
<i>A</i>	1104.47
<i>B</i>	-0.800

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
295.15	866.0 ± 3.0	-2.35	08-wal-6 ¹⁾	293.15	864.9 ± 5.0	-5.05	54-her/mot ¹⁾
288.15	865.0 ± 8.0	-8.95	09-gil/mul ¹⁾	293.15	869.9 ± 0.6	-0.05	90-rib/ber
288.15	875.0 ± 2.0	1.05	11-dar	298.15	865.5 ± 0.6	-0.45	90-rib/ber
288.15	872.0 ± 3.0	-1.95	13-sch-7 ¹⁾	303.15	862.1 ± 0.6	0.15	90-rib/ber
288.15	874.0 ± 2.0	0.05	23-dup/des	308.15	858.0 ± 0.6	0.05	90-rib/ber
293.15	869.0 ± 2.0	-0.95	28-tre/sch	313.15	853.8 ± 0.6	-0.15	90-rib/ber
293.15	869.0 ± 2.0	-0.95	29-sch-6	318.15	850.5 ± 0.6	0.55	90-rib/ber
273.15	875.7 ± 8.0	-10.29	31-sla/pil ¹⁾	323.15	845.9 ± 0.6	-0.05	90-rib/ber
293.15	872.3 ± 3.0	2.35	53-fis/sti ¹⁾				

¹⁾ Not included in calculation of linear coefficients.

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	880.5 ± 1.5	298.15	865.9 ± 0.9	320.00	848.5 ± 1.0
290.00	872.5 ± 1.1	310.00	856.5 ± 0.7	330.00	840.5 ± 1.3
293.15	869.9 ± 1.0				

7,7-dimethyl-2-methylenebicyclo[2.2.1]- [471-84-1] **C₁₀H₁₆** **MW =136.24** **705**
heptane

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	867.7 ± 2.0	07-kon
292.15	869.0 ± 2.0	08-wal/viv
293.15	866.4 ± 2.0	18-qui
293.15	867.5 ± 2.0	18-qui
293.15	867.4 ± 1.5	Recommended

7,7-Dimethyl-3-methylenebicyclo[4.1.0]-heptane [554-60-9] C₁₀H₁₆ MW =136.24 706

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
303.15	844.1 ± 3.0	35-pad/jat

1-Methylbicyclo[4.3.0]-3-nonene [500040-55-1] C₁₀H₁₆ MW =136.24 707

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
289.65	887.9 ± 2.0	38-err/lin

4-Methylene-1-(1-methylethyl)-bicyclo[3.1.0]hexane [3387-41-5] C₁₀H₁₆ MW =136.24 708

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
303.15	838.0 ± 3.0	06-wal-5
303.15	842.9 ± 3.0	23-sim-1
303.15	839.7 ± 3.0	31-ric/wol
303.15	843.0 ± 3.0	35-pad/jat
293.15	845.1 ± 3.0	52-her-3

4-Methyl-1-(1-methylethyl)-bicyclo[3.1.0]-2-hexene [28634-89-1] C₁₀H₁₆ MW =136.24 709

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	824.8 ± 3.0	04-tsc-1
295.15	823.2 ± 3.0	04-tsc-1
289.15	822.0 ± 3.0	10-kon/ski
293.15	820.8 ± 3.0	12-tsc/fom

2-Methyl-5-(1-methylethyl)-bicyclo[3.1.0]-2-hexene [2867-05-2] C₁₀H₁₆ MW =136.24 710

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	826.3 ± 3.0	01-tsc	293.15	830.1 ± 5.0	12-tsc/fom
293.15	827.5 ± 3.0	01-tsc	303.15	827.7 ± 6.0	23-sim
293.15	824.8 ± 3.0	02-kon-1	303.15	827.7 ± 4.0	35-pad/jat
290.55	829.4 ± 4.0	12-ost			

(1R)-4-Methylene-1-(1-methylethyl)-bicyclo[3.1.0]hexane [2009-00-9] C₁₀H₁₆ MW =136.24 711

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
303.15	843.0 ± 8.0	35-pad/jat ¹⁾	290.15	842.2 ± 3.0	10-von/rot ¹⁾
293.15	840.0 ± 2.0	00-sem	293.15	840.0 ± 2.0	28-tre/sch
293.15	842.0 ± 2.0	06-wal-5	293.15	840.7 ± 2.0	Recommended

¹⁾ Not included in calculation of recommended value.

(1S)-4-Methylene-1-(1-methylethyl)-bicyclo[3.1.0]hexane [10408-16-9] C₁₀H₁₆ MW =136.24 712

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	846.8 ± 2.0	12-agn/cro

trans-2-Methyleneoctahydro-1H-indene [500040-52-8] C₁₀H₁₆ MW =136.24 713

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	866.3 ± 2.0	34-tud/vog

1,2,3,4,4a,5,6,7-Octahydronaphthalene [500040-56-2] C₁₀H₁₆ MW =136.24 714

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	910.3 ± 2.0	10-ipa
293.15	909.0 ± 2.0	24-eis/pol
292.85	910.5 ± 2.0	33-huc/naa

1,2,3,4,4a,5,6,8a-Octahydronaphthalene [500040-57-3] C₁₀H₁₆ MW =136.24 715

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
286.15	901.0 ± 5.0	10-ler
273.15	910.0 ± 5.0	10-ler

***trans*-1,2,3,4,4a,5,6,8a-Octahydro-naphthalene** [500040-61-9] C₁₀H₁₆ MW =136.24 716

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	893.0 ± 2.0	25-huc
288.75	897.0 ± 2.0	33-huc/naa

***cis*-1,2,3,4,4a,5,6,8a-Octahydro-naphthalene** [500040-62-0] C₁₀H₁₆ MW =136.24 717

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
295.15	915.0 ± 3.0	23-bor/lan
293.15	909.0 ± 3.0	23-bor/lan

1,2,3,4,5,6,7,8-Octahydronaphthalene [493-03-8] C₁₀H₁₆ MW =136.24 718

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
290.15	914.0 ± 6.0	05-ler	293.15	920.5 ± 4.0	29-nam/gla
273.15	931.0 ± 6.0	05-ler	293.15	916.0 ± 4.0	56-huc/wor
295.65	898.7 ± 4.0	25-zel/tur	293.15	939.3 ± 4.0	56-sor/rom
294.15	896.8 ± 4.0	25-zel/tur	298.15	901.3 ± 4.0	57-chr/jac
293.15	920.0 ± 4.0	26-nam/mad	293.15	924.0 ± 5.0	Recommended

***trans*-1,2,3,4,5,6,7,8-Octahydro-naphthalene** [500040-59-5] C₁₀H₁₆ MW =136.24 719

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
292.15	893.6 ± 4.0	25-huc
298.15	872.3 ± 4.0	31-kim-1

1,2,3-Trimethylbicyclo[2.2.1]-2-heptene [512-50-5] C₁₀H₁₆ MW =136.24 720

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	856.0 ± 3.0	35-kom/nym

1,5,5-Trimethylbicyclo[2.2.1]-2-heptene [500040-49-3] C₁₀H₁₆ MW =136.24 721**Table 1.** Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	842.0 \pm 4.0	1898-wal	293.15	839.7 \pm 4.0	29-kom/ros
293.15	837.6 \pm 4.0	18-qui	293.15	843.3 \pm 4.0	29-kom/ros
293.15	839.8 \pm 4.0	19-nam/rus	293.15	840.1 \pm 3.0	Recommended
293.15	838.1 \pm 4.0	23-nam			

2,5,5-Trimethylbicyclo[2.2.1]hept-2-ene [497-33-6] C₁₀H₁₆ MW =136.24 722**Table 1.** Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
290.15	855.0 \pm 3.0	17-kom/ros-1
293.15	854.0 \pm 3.0	17-kom/ros-2
290.15	854.7 \pm 3.0	29-kom/ros

2,6,6-Trimethylbicyclo[2.2.1]-2-heptene [80-56-8] C₁₀H₁₆ MW =136.24 723**Table 1.** Fit with estimated *B* coefficient for 14 accepted points. Deviation $\sigma_w = 0.438$.

Coefficient	$\rho = A + BT$
<i>A</i>	1084.26
<i>B</i>	-0.770

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	854.2 \pm 2.0	-0.49	09-vez	293.15	856.2 \pm 3.0	-2.34	54-her/mot ¹⁾
288.65	855.9 \pm 3.0	-6.09	16-uch ¹⁾	298.15	854.8 \pm 1.0	0.11	60-mat/sai
288.65	860.8 \pm 3.0	-1.21	16-uch-2 ¹⁾	293.15	858.5 \pm 1.0	-0.04	90-rib/ber
288.65	863.4 \pm 4.0	1.39	16-uch-2 ¹⁾	298.15	854.8 \pm 1.0	0.11	90-rib/ber
298.15	853.6 \pm 2.0	-1.09	24-dup	303.15	851.9 \pm 1.0	1.06	90-rib/ber
293.15	859.2 \pm 2.0	0.66	31-thu/thi	308.15	846.9 \pm 1.0	-0.09	90-rib/ber
298.15	854.2 \pm 2.0	-0.49	35-pad/jat	313.15	842.9 \pm 1.0	-0.24	90-rib/ber
293.15	858.0 \pm 1.0	-0.54	42-ano-2	318.15	839.4 \pm 1.0	0.11	90-rib/ber
293.15	858.6 \pm 1.0	0.06	42-ano-2	323.15	835.2 \pm 1.0	-0.24	90-rib/ber

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	861.0 \pm 1.7	298.15	854.7 \pm 1.1	320.00	837.9 \pm 1.9
293.15	858.5 \pm 1.4	310.00	845.6 \pm 1.2	330.00	830.2 \pm 2.8

(1S)-2,6,6-trimethylbicyclo[3.1.1]-2-heptene [7785-26-4] C₁₀H₁₆ MW =136.24 724

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	862.0 ± 2.0	56-ohl/far
293.15	860.0 ± 2.0	56-ohl/far
293.15	861.0 ± 2.0	Recommended

2,7,7-Trimethylbicyclo[2.2.1]-2-heptene [514-14-7] C₁₀H₁₆ MW =136.24 725

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	865.8 ± 3.0	08-asc

3,7,7-Trimethylbicyclo[4.1.0]-2-heptene [554-61-0] C₁₀H₁₆ MW =136.24 726

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
300.15	856.4 ± 4.0	20-sim
303.15	851.5 ± 4.0	27-men/sim
293.15	856.1 ± 4.0	28-asc
294.15	856.8 ± 4.0	30-arb/mic

3,7,7-Trimethylbicyclo[4.1.0]-3-heptene [13466-78-9] C₁₀H₁₆ MW =136.24 727

Table 1. Fit with estimated *B* coefficient for 8 accepted points. Deviation $\sigma_w = 2.310$.

Coefficient	$\rho = A + BT$
<i>A</i>	1079.40
<i>B</i>	-0.750

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
303.15	854.9 ± 3.00	2.86	20-sim	291.15	861.0 ± 3.00	-0.04	28-asc
298.15	859.6 ± 4.00	3.81	24-dup	298.15	853.6 ± 2.00	-2.19	30-arb/mic
288.15	866.0 ± 4.00	2.71	24-dup	298.15	857.5 ± 3.00	1.71	35-pad/jat
293.15	856.3 ± 3.00	-3.24	27-sem/sch	293.15	871.4 ± 5.00	11.86	61-bor/zac ¹⁾
293.15	859.5 ± 3.00	-0.04	28-asc				

¹⁾ Not included in calculation of linear coefficients.

cont.

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	869.4 ± 3.8
290.00	861.9 ± 3.4
293.15	859.5 ± 3.4
298.15	855.8 ± 3.4
310.00	846.9 ± 3.7

***d*-4,7,7-Trimethylbicyclo[3.1.1]-2-heptene** [500040-46-0] C₁₀H₁₆ MW =136.24 728

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	853.5 ± 2.0	24-wie/sch

***l*-4,7,7-Trimethylbicyclo[3.1.1]-2-heptene** [500040-47-1] C₁₀H₁₆ MW =136.24 729

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	870.8 ± 6.0	22-nam
293.15	860.4 ± 2.0	24-wie/sch

***dl*-4,7,7-Trimethylbicyclo[3.1.1]-2-heptene** [500040-48-2] C₁₀H₁₆ MW =136.24 730

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	863.3 ± 3.0	37-kom/kla

1,2-Benzo-3-cycloheptene [500038-47-1] C₁₁H₁₂ MW =144.22 731

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
277.15	1009.0 ± 2.0	03-kip/hun

1,2-Dihydro-3-methylnaphthalene [2717-44-4] C₁₁H₁₂ MW =144.22 732

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	974.3 ± 2.0	60-huc/cra

1,2-Dihydro-4-methylnaphthalene [4373-13-1] C₁₁H₁₂ MW =144.22 733

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	990.1 ± 2.0	25-sch-6
308.15	988.2 ± 2.0	51-kus/koi-2
287.15	990.1 ± 2.0	51-var/bab

1,4-Dihydro-2-methylnaphthalene [2717-43-3] C₁₁H₁₂ MW =144.22 734

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	978.5 ± 2.0	60-huc/cra

1,3-Dimethyl-1H-indene [2177-48-2] C₁₁H₁₂ MW =144.22 735

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	955.3 ± 2.0	13-von/kir

1,4-Endomethylenetetrahydro-naphthalene [500050-96-4] C₁₁H₁₂ MW =144.22 736

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1008.1 ± 2.0	61-pla/bel-1

1-Ethyl-1H-indene [6953-66-8] C₁₁H₁₂ MW =144.22 737

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
295.15	973.2 ± 3.0	17-von
295.15	964.5 ± 3.0	35-ruz/pey

2-Ethyl-1*H*-indene [17059-50-6] C₁₁H₁₂ MW =144.22 738

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
295.15	961.9 ± 2.0	35-ruz/pey

3-Ethyl-1*H*-indene [2294-91-9] C₁₁H₁₂ MW =144.22 739

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	974.4 ± 2.0	63-sok/she

6,7,8,9-5*H*-Benzocycloheptene [1075-16-7] C₁₁H₁₄ MW =146.23 740

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
292.15	969.3 ± 3.0	23-von/stu
289.35	968.3 ± 3.0	27-von

2,3-Dihydro-1,1-dimethyl-1*H*-indene [4912-92-9] C₁₁H₁₄ MW =146.23 741

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	919.0 ± 2.0	61-wil/sch

2,3-Dihydro-1,2-dimethyl-1*H*-indene [17057-82-8] C₁₁H₁₄ MW =146.23 742

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	927.0 ± 2.0	41-pla/wys-1
298.15	926.4 ± 3.0	53-ent/ruo

2,3-Dihydro-1,3-dimethyl-1*H*-indene [4175-53-5] C₁₁H₁₄ MW =146.23 743

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	925.2 ± 2.0	53-ent/ruo

2,3-Dihydro-1,5-dimethyl-1*H*-indene [66256-35-7] C₁₁H₁₄ MW =146.23 744

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	932.5 ± 3.0	48-naz/pin
293.15	937.0 ± 2.0	57-els/par

2,3-Dihydro-1,6-dimethyl-1*H*-indene [17059-48-2] C₁₁H₁₄ MW =146.23 745

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	930.1 ± 2.0	48-naz/pin
298.15	928.9 ± 2.0	53-ent/ruo

2,3-Dihydro-2,4-dimethyl-1*H*-indene [66256-36-8] C₁₁H₁₄ MW =146.23 746

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	931.4 ± 2.0	57-els/par

2,3-Dihydro-4,5-dimethyl-1*H*-indene [1685-83-2] C₁₁H₁₄ MW =146.23 747

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	964.8 ± 2.0	57-els/par

2,3-Dihydro-4,7-dimethyl-1*H*-indene [6682-71-9] C₁₁H₁₄ MW =146.23 748

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	947.8 ± 2.0	54-ent ¹⁾
293.15	949.0 ± 1.0	41-pla/wys-1
293.15	950.0 ± 1.0	53-ald/sch
293.15	949.5 ± 1.1	Recommended

¹⁾ Not included in calculation of recommended value.

2,3-Dihydro-5,6-dimethyl-1*H*-indene [1075-22-5] C₁₁H₁₄ MW =146.23 749

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	944.9 ± 1.0	59-skv/che

2,3-Dihydro-1-ethyl-1*H*-indene [4830-99-3] C₁₁H₁₄ MW =146.23 750

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	934.8 ± 2.0	35-rob/dav
296.15	934.6 ± 2.0	35-ruz/pey
293.15	943.4 ± 2.0	48-kut/nic
293.15	942.4 ± 2.0	59-pro

2,3-Dihydro-2-ethyl-1*H*-indene [56147-63-8] C₁₁H₁₄ MW =146.23 751

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
297.15	926.6 ± 2.0	35-ruz/pey

2,3-Dihydro-5-ethyl-1*H*-indene [52689-24-4] C₁₁H₁₄ MW =146.23 752

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
299.15	933.0 ± 2.0	55-rao/mut

1-Methyl-1,2,3,4-tetrahydronaphthalene [1559-81-5] C₁₁H₁₄ MW =146.23 753

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	954.7 ± 1.0	35-rob/dav
298.15	954.6 ± 1.0	35-rob/dav
298.15	953.6 ± 2.0	35-rob/dav
293.15	958.2 ± 1.0	53-kar/mcl
293.15	958.5 ± 1.0	54-hip/wis

2-Methyl-1,2,3,4-tetrahydronaphthalene [3877-19-8] C₁₁H₁₄ MW =146.23 754

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	943.2 ± 2.0	56-bai/sta
293.15	959.1 ± 10.0	60-huc/cra

2-Methyl-1,4,5,8-tetrahydronaphthalene [4424-78-6] C₁₁H₁₄ MW =146.23 755

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	959.1 ± 2.0	60-huc/cra

5-Methyl-1,2,3,4-tetrahydronaphthalene [2809-64-5] C₁₁H₁₄ MW = 146.23 756

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	972.0 ± 2.0	41-mai/str ¹⁾
298.15	968.2 ± 2.0	41-mai/str ¹⁾
293.15	971.0 ± 1.0	54-hip/wis
293.15	970.1 ± 1.0	62-lag/lol
293.15	970.6 ± 1.1	Recommended

¹⁾ Not included in calculation of recommended value.

6-Methyl-1,2,3,4-tetrahydronaphthalene [1680-51-9] C₁₁H₁₄ MW =146.23 757

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.25	954.1 ± 2.0	23-kro/sch	298.15	950.0 ± 2.0	41-mai/str
293.15	950.0 ± 2.0	23-kro/sch	293.15	952.9 ± 2.0	56-bai/sta
293.15	952.6 ± 2.0	40-lin/tho	293.15	954.2 ± 2.0	58-skv/lev
293.15	953.7 ± 2.0	41-mai/str			

1,4-endo-Methyleneoctahydronaphthalene [500050-92-0] C₁₁H₁₆ MW =148.25 758

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	963.0 ± 1.0	61-pla/bel-1

2,4,6,6-Tetramethylbicyclo[3.1.1]-2,4-heptadiene [500040-64-2] C₁₁H₁₆ MW =148.25 759

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	872.0 ± 3.0	13-blu/zei
288.15	876.0 ± 3.0	13-blu/zei

2,3-Dimethyl-3-ethylidenebicyclo[2.2.1]-heptane [500060-00-4] C₁₁H₁₈ MW =150.26 760

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
300.15	863.8 ± 3.0	01-zel/zel-1
288.15	886.0 ± 10.0	19-lan

2-Ethyl-7,7-dimethylbicyclo[3.1.1]-2-heptene [500040-65-3] C₁₁H₁₈ MW =150.26 761

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	869.7 ± 2.0	27-rup/her

4a-Methyl-1,4,4a,5,6,7,8,8a-octahydronaphthalene [500040-67-5] C₁₁H₁₈ MW =150.26 762

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.35	908.5 ± 3.0	36-hib/lin
288.15	905.3 ± 3.0	36-hib/lin-1
289.15	909.8 ± 3.0	37-lin/mil

2-Methylene-1,5,5-trimethylbicyclo[2.2.1]heptane [500039-28-1] C₁₁H₁₈ MW =150.26 763

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	852.0 ± 2.0	29-kom

1,2,3,4-Tetramethylbicyclo[2.2.1]-2-heptene [77944-23-1] C₁₁H₁₈ MW =150.26 764

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	852.0 ± 3.0	35-kom/nym-1

1,2,5,5-Tetramethylbicyclo[2.2.1]-2-heptene **[500040-66-4]** **C₁₁H₁₈** **MW =150.26** **765**

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	852.0 ± 3.0	29-kom

5.2.2 Unsaturated Bridged Cycloalkanes, C₁₁ - C₁₄

3-(2-Propenyl)-1*H*-indene [2294-87-3] C₁₂H₁₂ MW =156.23 766

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	999.0 ± 2.0	63-sok/she

3,4-Dimethyl-1,2-dihydronaphthalene [5195-39-1] C₁₂H₁₄ MW =158.24 767

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
290.15	988.5 ± 2.0	18-sch/lic

1,4-Dihydro-2,5-dimethylnaphthalene [500038-32-4] C₁₂H₁₄ MW =158.24 768

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
289.15	970.0 ± 2.0	22-may/sch

2-Ethyl-3-methyl-1*H*-indene [66703-20-6] C₁₂H₁₄ MW =158.24 769

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
294.15	957.0 ± 2.0	52-col/wei

1,2,2a,3,4,5-Hexahydroacenaphthalene [480-72-8] C₁₂H₁₄ MW =158.24 770

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
294.15	1029.0 ± 20.0	21-fle/sie
288.15	1018.0 ± 2.0	26-spi/zer
298.15	1006.5 ± 2.0	31-kag

1,1,3-Trimethyl-1*H*-indene [2177-45-9] C₁₂H₁₄ MW =158.24 771

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	925.0 ± 3.0	48-col/gar
293.15	935.9 ± 2.0	56-web/you

1,2,3-Trimethyl-1*H*-indene [4773-83-5] C₁₂H₁₄ MW =158.24 772

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.15	974.9 ± 1.0	47-pla/fur

2,3,5-Trimethyl-1*H*-indene [66703-26-2] C₁₂H₁₄ MW =158.24 773

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
297.15	958.0 ± 2.0	51-col/wei

2,3,6-Trimethyl-1*H*-indene [17057-86-2] C₁₂H₁₄ MW =158.24 774

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
297.15	954.0 ± 2.0	52-col/wei

1,4:5,8-Diendomethyleneoctahydro-naphthalene [500050-93-1] C₁₂H₁₆ MW =160.26 775

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1019.1 ± 2.0	61-pla/bel-1

2,3-Dihydro-1-ethyl-1-methyl-1*H*-indene [56298-75-0] C₁₂H₁₆ MW =160.26 776

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	923.2 ± 2.0	35-rob/dav

2,3-Dihydro-5-ethyl-1-methyl-1H-indene [66703-11-5] C₁₂H₁₆ MW =160.26 777

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	946.8 ± 1.0	57-lag

2,3-Dihydro-1-(1-methylethyl)-1H-indene [20027-85-4] C₁₂H₁₆ MW = 160.26 778

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	934.1 ± 1.0	48-kut/nic	293.15	933.6 ± 1.0	60-tsy/pok
293.15	948.0 ± 10.0	58-phi/cim ¹⁾	293.15	933.9 ± 1.0	61-top/tsy
293.15	934.7 ± 1.0	58-top/pok	293.15	934.0 ± 1.0	Recommended
293.15	933.9 ± 1.0	59-top/tsy			

¹⁾ Not included in calculation of recommended value.

2,3-Dihydro-1,1,2-trimethyl-1H-indene [17057-83-9] C₁₂H₁₆ MW =160.26 779

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	919.0 ± 2.0	44-dav/fel

2,3-Dihydro-1,1,3-trimethyl-1H-indene [2613-76-5] C₁₂H₁₆ MW =160.26 780

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	904.0 ± 2.0	48-col/gar

2,3-Dihydro-1,1,4-trimethyl-1H-indene [16204-72-1] C₁₂H₁₆ MW =160.26 781

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	917.9 ± 2.0	59-fer/hel

2,3-Dihydro-1,1,5-trimethyl-1H-indene [40650-41-7] C₁₂H₁₆ MW =160.26 782

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	911.9 ± 2.0	59-fer/hel

2,3-Dihydro-1,2,3-trimethyl-1*H*-indene [33484-76-3] C₁₂H₁₆ MW =160.26 783

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
290.65	936.0 ± 2.0	47-pla/fur

2,3-Dihydro-1,3,5-trimethyl-1*H*-indene [66703-15-9] C₁₂H₁₆ MW =160.26 784

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	923.3 ± 1.0	57-els/par

2,3-Dihydro-1,4,5-trimethyl-1*H*-indene [66703-16-0] C₁₂H₁₆ MW =160.26 785

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	939.3 ± 1.0	57-els/par

2,3-Dihydro-1,4,7-trimethyl-1*H*-indene [54340-87-3] C₁₂H₁₆ MW =160.26 786

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	938.0 ± 2.0	53-koo/str

2,3-Dihydro-2,4,5-trimethyl-1*H*-indene [66703-17-1] C₁₂H₁₆ MW =160.26 787

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	936.1 ± 1.0	57-els/par

1,1-Dimethyl-1,2,3,4-tetrahydro-naphthalene [1985-59-7] C₁₂H₁₆ MW =160.26 788

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	947.4 ± 2.0	34-bog/dav-1
294.15	947.0 ± 2.0	40-lin/tho
298.15	945.0 ± 2.0	47-col/cha
298.15	945.0 ± 2.0	47-col/cha-1
293.15	948.1 ± 2.0	66-nik/vor

1,2-Dimethyl-1,2,3,4-tetrahydro-naphthalene [5195-40-4] C₁₂H₁₆ MW =160.26 789

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	988.0 ± 20.0	22-zie/tie
296.65	984.7 ± 20.0	22-zie/tie
296.95	984.4 ± 20.0	22-zie/tie
298.15	943.3 ± 2.0	35-rob/dav

1,4-Dimethyl-1,2,3,4-tetrahydro-naphthalene [4175-54-6] C₁₂H₁₆ MW =160.26 790

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	947.0 ± 2.0	49-col/pic-2

1,6-Dimethyl-1,2,3,4-tetrahydro-naphthalene [3454-06-6] C₁₂H₁₆ MW = 160.26 791

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
291.65	940.3 ± 3.0	40-lin/tho ¹⁾
293.15	948.4 ± 2.0	53-eva/smi
293.15	946.0 ± 2.0	55-phi
293.15	947.2 ± 2.2	Recommended

¹⁾ Not included in calculation of recommended value.

2,2-Dimethyl-1,2,3,4-tetrahydro-naphthalene [13556-55-3] C₁₂H₁₆ MW =160.26 792

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
297.25	924.8 ± 2.0	38-sen

2,5-Dimethyl-1,2,3,4-tetrahydro-naphthalene [25419-37-8] C₁₂H₁₆ MW =160.26 793

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
289.15	948.7 ± 2.0	22-may/sch

5,6-Dimethyl-1,2,3,4-tetrahydro-naphthalene [20027-77-4] C₁₂H₁₆ MW =160.26 794

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	967.7 ± 1.0	62-lag/lol

5,7-Dimethyl-1,2,3,4-tetrahydro-naphthalene [21693-54-9] C₁₂H₁₆ MW =160.26 795

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	960.0 ± 2.0	23-kro/sch
294.15	958.9 ± 2.0	23-kro/sch
293.15	958.3 ± 2.0	51-eva/smi
293.15	962.8 ± 2.0	62-lag/lol

5,8 -Dimethyl-1,2,3,4-tetrahydro-naphthalene [14108-88-4] C₁₂H₁₆ MW =160.26 796

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	973.8 ± 2.0	54-eva/smi
293.15	969.4 ± 2.0	60-skv/lin
293.15	969.4 ± 2.0	62-lag/lol

6,7-Dimethyl-1,2,3,4-tetrahydro-naphthalene [1076-61-5] C₁₂H₁₆ MW =160.26 797

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	958.7 ± 0.6	58-skv/lev

2,5-Ethanobicyclo[4.4.0]-3,7-decadiene [500040-68-6] C₁₂H₁₆ MW =160.26 798

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
287.15	995.1 ± 3.0	26-hof/dam
295.15	994.4 ± 2.0	37-bod

1-Ethyl-1,2,3,4-tetrahydronaphthalene [13556-58-6] C₁₂H₁₆ MW = 160.26 799**Table 1.** Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	949.8 ± 2.0	35-rob/dav ¹⁾	293.15	952.8 ± 1.0	54-hip/wis
298.15	951.1 ± 2.0	35-rob/dav ¹⁾	293.15	953.0 ± 1.0	56-sta/smi
293.15	952.9 ± 1.0	42-pet/and	293.15	952.9 ± 1.0	Recommended
293.15	952.8 ± 1.0	53-kar/mcl			

¹⁾ Not included in calculation of recommended value.**1-Ethyl-1,2,3,4-tetrahydronaphthalene** [32367-54-7] C₁₂H₁₆ MW = 160.26 800**Table 1.** Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	954.0 ± 4.0	31-lev
288.15	944.7 ± 4.0	31-lev
273.15	951.3 ± 3.0	38-lev
288.65	940.1 ± 3.0	38-lev
293.15	942.0 ± 2.0	56-sta/smi

2-Ethyl-1,2,3,4-tetrahydronaphthalene [42775-75-7] C₁₂H₁₆ MW = 160.26 801**Table 1.** Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	960.2 ± 3.0	48-kut/nic ¹⁾
293.15	962.8 ± 1.0	54-hip/wis
293.15	962.8 ± 1.0	56-sta/smi
293.15	962.8 ± 1.0	Recommended

¹⁾ Not included in calculation of recommended value.**3-Ethyl-1,2,3,4-tetrahydronaphthalene** [22531-20-0] C₁₂H₁₆ MW = 160.26 802**Table 1.** Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
290.75	949.9 ± 3.0	23-kro/sch ¹⁾	288.65	960.8 ± 10.0	38-lev ¹⁾
293.15	948.0 ± 2.0	23-kro/sch	293.15	946.0 ± 2.0	56-sta/smi
273.15	973.1 ± 10.0	38-lev ¹⁾	293.15	947.0 ± 2.1	Recommended

¹⁾ Not included in calculation of recommended value.

2,3-Cyclopentanobicyclo[4.3.0]-(1,5)-nonene [500040-70-0] C₁₂H₁₈ MW =162.27 803

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	939.7 ± 3.0	37-pin/mar

2,2-Dimethyl-3-propen-2-ylidene[2.2.1]-bicycloheptane [500060-01-5] C₁₂H₁₈ MW =162.27 804

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	917.0 ± 2.0	19-lan
288.15	921.0 ± 2.0	19-lan

2,3-Dimethyl-1,4,4a,5,6,7,8,8a-octahydronaphthalene [500060-05-9] C₁₂H₂₀ MW =164.29 805

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
289.85	912.1 ± 3.0	38-ell/lin
289.55	915.3 ± 3.0	38-ell/lin

7,7-Dimethyo-2-propyl-bicyclo[3.1.1]-2-heptene [500040-74-4] C₁₂H₂₀ MW =164.29 806

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	866.3 ± 3.0	27-rup/her

2,3-Dihydro-1H-benz[e]indene [4944-94-9] C₁₃H₁₂ MW =168.24 807

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1065.8 ± 1.0	50-lut/rei

1-(1-Methylpropylidene)-1H-indene [92025-90-6] C₁₃H₁₄ MW =170.25 808

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	998.5 ± 2.0	61-top/tsty

1,4,4a,9a-Tetrahydrofluorene [52652-40-1] C₁₃H₁₄ MW =170.25 809

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.15	1018.0 ± 2.0	26-spi/zer

2,3-Benzobicyclo[3.3.1]nonane [500038-49-3] C₁₃H₁₆ MW =172.27 810

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
287.15	1020.0 ± 2.0	36-coo/hew

1-Butyl-1H-indene [40650-29-1] C₁₃H₁₆ MW =172.27 811

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
296.15	955.2 ± 2.0	17-von

3-Butyl-1H-indene [2294-88-4] C₁₃H₁₆ MW =172.27 812

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	947.9 ± 2.0	63-sok/she

1,2-Cyclopentano-1,2,3,4-tetrahydro-naphthalene [500038-37-9] C₁₃H₁₆ MW =172.27 813

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
292.55	1005.4 ± 2.0	33-kon
293.15	1009.0 ± 2.0	37-den/nab
298.15	1009.0 ± 2.0	38-den-1

4,5-Cyclopentano-2,3-dihydro-6-methyl-1H-indene [500050-07-7] C₁₃H₁₆ MW =172.27 814

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	999.2 ± 2.0	54-skv/lev

1,2-Dihydro-1,1,6-trimethylnaphthalene [30364-38-6] C₁₃H₁₆ MW =172.27 815

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	945.4 ± 2.0	51-bar/buc

1,2-Dihydro-2,4,8-trimethylnaphthalene [500038-33-5] C₁₃H₁₆ MW =172.27 816

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	976.0 ± 2.0	30-ruz/hos

3,6-Dimethyl-2-ethyl-1H-indene [66325-86-8] C₁₃H₁₆ MW =172.27 817

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
294.15	947.0 ± 2.0	52-col/wei

1,2,3,4,10,11-Hexahydrofluorene [500024-81-7] C₁₃H₁₆ MW =172.27 818

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	988.0 ± 1.0	33-coo/hew

2,3,4,4a,9,9a-Hexahydro-1H-fluorene [1559-97-3] C₁₃H₁₆ MW =172.27 819

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
284.05	1019.0 ± 2.0	36-coo/hew

1,1,2,3-Tetramethyl-1H-indene [4705-87-7] C₁₃H₁₆ MW =172.27 820

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
297.15	937.0 ± 2.0	49-col/pic

1,1,3,5-Tetramethyl-1*H*-indene [14656-06-5] C₁₃H₁₆ MW =172.27 821

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
294.15	920.0 ± 2.0	51-col/wei
293.15	922.5 ± 1.0	65-sva/pla

2,3-Cycloheptano-1,4-dimethylbenzene [500038-31-3] C₁₃H₁₈ MW =174.29 822

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.65	962.1 ± 2.0	27-von/kuh

1-Butyl-2,3-Dihydro-1*H*-indene [38857-75-9] C₁₃H₁₈ MW =174.29 823

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	922.6 ± 1.0	57-els/par
293.15	927.0 ± 3.0	57-mai/del

2-Butyl-2,3-dihydro-1*H*-indene [66324-75-2] C₁₃H₁₈ MW =174.29 824

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	914.0 ± 2.0	57-mai/del

2,2-Diethyl-2,3-dihydro-1*H*-indene [57145-08-1] C₁₃H₁₈ MW =174.29 825

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	916.2 ± 3.0	18-fre/fle
286.55	929.5 ± 3.0	27-von

5-(2,2-Dimethylethyl)-2,3-dihydro-1*H*-indene [38997-95-4] C₁₃H₁₈ MW =174.29 826

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	928.8 ± 2.0	59-top/tsy-1
293.15	928.8 ± 2.0	61-top/tsy

2,3-Dihydro-4-ethyl-1,1-dimethyl-1H-indene [66324-76-3] C₁₃H₁₈ MW =174.29 827

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	914.8 ± 2.0	59-fer/hel

2,3-Dihydro-5-ethyl-1,1-dimethyl-1H-indene [66324-77-4] C₁₃H₁₈ MW =174.29 828

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	913.2 ± 2.0	59-fer/hel

2,3-Dihydro-7-ethyl-1,6-dimethyl-1H-indene [500040-04-0] C₁₃H₁₈ MW =174.29 829

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	962.7 ± 2.0	57-lag

2,3-Dihydro-1-(1-methylpropyl)-1H-indene [66324-73-0] C₁₃H₁₈ MW =174.29 830

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	933.0 ± 2.0	57-mai/del
293.15	925.2 ± 6.0	58-top/pok
293.15	929.1 ± 2.0	59-top/tsy
293.15	929.1 ± 2.0	61-top/tsy

2,3-Dihydro-1-(2-methylpropyl)-1H-indene [66324-81-0] C₁₃H₁₈ MW =174.29 831

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	924.0 ± 2.0	57-mai/del

2,3-Dihydro-1,1,3,3-tetramethyl-1H-indene [4834-33-7] C₁₃H₁₈ MW =174.29 832

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	898.8 ± 1.0	56-sch-2
298.15	896.6 ± 2.0	57-car/eas
293.15	897.5 ± 1.0	67-isa/kus

2,3-Dihydro-1,1,4,7-tetramethyl-1H-indene [500050-31-7] C₁₃H₁₈ MW =174.29 833

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	934.0 ± 23.0	48-col/roc

2,3-Dihydro-1,2,3,5-tetramethyl-1H-indene [74869-65-1] C₁₃H₁₈ MW =174.29 834

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	930.5 ± 1.0	57-els/par

2,3-Dihydro-1,2,4,5-tetramethyl-1H-indene [66324-63-8] C₁₃H₁₈ MW =174.29 835

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	943.7 ± 1.0	57-els/par

2,3-Dihydro-1,3,4,3-tetramethyl-1H-indene [66324-64-9] C₁₃H₁₈ MW =174.29 836

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	942.0 ± 2.0	45-pla/fur-1

5-Ethyl-1-methyl-1,2,3,4-tetrahydronaphthalene [93354-33-7] C₁₃H₁₈ MW =174.29 837

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	940.0 ± 2.0	63-col/bru

1-(1-Methylethyl)-1,2,3,4-tetrahydronaphthalene [36748-60-4] C₁₃H₁₈ MW =174.29 838

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	945.0 ± 2.0	35-rob/dav

5-(1-Methylethyl)-1,2,3,4-tetrahydronaphthalene [34299-55-3] C₁₃H₁₈ MW =174.29 839

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	948.2 ± 1.0	62-lag/lol

1-Propyl-1,2,3,4-tetrahydronaphthalene [66324-83-2] C₁₃H₁₈ MW =174.29 840

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	941.5 ± 2.0	35-rob/dav
293.15	939.5 ± 2.0	42-pet/and

2-Propyl-1,2,3,4-tetrahydronaphthalene [66324-84-3] C₁₃H₁₈ MW =174.29 841

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	939.5 ± 3.0	42-pet/and
293.15	933.1 ± 1.0	56-bai/sta

6-Propyl-1,2,3,4-tetrahydronaphthalene [42775-77-9] C₁₃H₁₈ MW =174.29 842

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	940.0 ± 3.0	48-har/rob
293.15	935.9 ± 1.0	56-bai/sta

1,4,4a,8a-Tetrahydro-2,5,5-trimethyl-naphthalene [500040-76-6] C₁₃H₁₈ MW =174.29 843

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	940.2 ± 3.0	1893-tie/kru

1,2,3,4-Tetrahydro-1,1,2-trimethyl-naphthalene [85268-71-9] C₁₃H₁₈ MW =174.29 844

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.15	941.0 ± 2.0	47-col/cha-1

1,2,3,4-Tetrahydro-1,1,4-trimethylnaphthalene [500050-32-8] C₁₃H₁₈ MW =174.29 845

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	936.5 ± 2.0	40-klo-1
291.15	942.0 ± 2.0	49-col/pic-2

1,1,6-Trimethyl-1,2,3,4-tetrahydro-naphthalene [475-03-6] C₁₃H₁₈ MW =174.29 846

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	930.3 ± 4.0	33-bog/fou
293.15	933.1 ± 2.0	33-bog/fou
298.15	932.0 ± 2.0	34-bog/dav-1
293.15	935.6 ± 2.0	38-mul

1,2,3,4-Tetrahydro-1,4,6-trimethyl-naphthalene [22824-32-4] C₁₃H₁₈ MW =174.29 847

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
292.15	945.0 ± 2.0	49-col/pic-2

1,2,3,4-Tetrahydro-2,2,3-trimethyl-naphthalene [85268-68-4] C₁₃H₁₈ MW =174.29 848

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	932.5 ± 1.0	49-adk/eng

1,2,3,4-Tetrahydro-2,2,7-trimethyl-naphthalene [500038-25-5] C₁₃H₁₈ MW =174.29 849

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
297.65	917.5 ± 2.0	38-sen

2,3-Cyclopentanobicyclo[4.4.0]-(1,6)-decene [500040-77-7] C₁₃H₂₀ MW =176.30 850

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	951.3 ± 3.0	36-pin/nes

1,2-Cyclopentane-1,2,3,4,5,6,7,8-octahydronaphthalene [500030-33-1] C₁₃H₂₀ MW =176.30 851

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	951.3 ± 2.0	36-pin/nes

Decahydrofluorene [500040-78-8] C₁₃H₂₀ MW =176.30 852

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1012.0 ± 3.0	07-sch/mez-1

2-Butyl-7,7-dimethylbicyclo[3.1.1]-2-heptene [500040-80-2] C₁₃H₂₂ MW =178.32 853

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	862.4 ± 3.0	27-rup/her

2,2-Dimethyl-3-methylene-1-propyl-bicyclo[2.2.1]heptane [500039-33-8] C₁₃H₂₂ MW =178.32 854

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	872.0 ± 2.0	35-nam/sch

9,10-Dihydroanthracene [613-31-0] C₁₄H₁₂ MW =180.25 855

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
283.45	889.5 ± 2.0	01-pel

9,10-Dihydrophenanthrene [776-35-2] C₁₄H₁₂ MW =180.25 856

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
297.65	1094.0 ± 2.0	25-von/kra

5-Ethyl-1,2-dihydroacenaphthylene [500038-72-2] C₁₄H₁₄ MW =182.27 857

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1040.7 ± 2.0	20-fle/wol

1,2,3,4-Tetrahydrophenanthrene [1013-08-7] C₁₄H₁₄ MW =182.27 858

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
313.15	1060.1 ± 2.0	29-sch/mul

1,2,3,4,5,6-Hexahydrophenanthrene [62690-93-1] C₁₄H₁₆ MW =184.28 859

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1047.0 ± 2.0	47-col/roc

1-Butyl-1,2-dihydronaphthalene [500050-33-9] C₁₄H₁₈ MW =186.30 860

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	965.3 ± 1.9	49-lut
293.15	965.3 ± 2.0	49-lut/wac

1,2-Dihydro-1,3,4,6-tetramethyl-naphthalene [500030-09-1] C₁₄H₁₈ MW =186.30 861

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
295.15	967.0 ± 2.0	50-col/gri

1,4-Dihydro-1,4,5,8-tetramethyl-naphthalene [500050-34-0] C₁₄H₁₈ MW =186.30 862

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	974.5 ± 2.0	63-hue/mar

1,2,3,4,5,6,7,8-Octahydroanthracene [1079-71-6] C₁₄H₁₈ MW =186.30 863

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
361.95	964.8 ± 2.0	23-von/kro
364.45	962.6 ± 2.0	23-von/kro
273.15	1131.0 ± 2.0	29-zie/dit
353.15	970.3 ± 2.0	39-wat/lee-4
293.15	1003.4 ± 3.0	42-lar/tho

1,2,3,4,5,6,7,8-Octahydrophenanthrene [5325-97-3] C₁₄H₁₈ MW =186.30 864

Table 1. Fit with estimated *B* coefficient for 7 accepted points. Deviation $\sigma_w = 0.429$.

Coefficient	$\rho = A + BT$
<i>A</i>	1220.59
<i>B</i>	-0.670

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
285.95	1031.3 \pm 2.0	2.30	23-von/kro	293.15	1024.1 \pm 0.5	-0.08	68-ano-1
293.15	1025.0 \pm 2.0	0.82	23-von/kro	310.95	1012.3 \pm 0.5	0.05	68-ano-1
293.15	1026.0 \pm 2.0	1.82	24-sch-1	333.15	997.3 \pm 0.5	-0.08	68-ano-1
293.15	1026.3 \pm 3.0	2.12	54-skv/lev ¹⁾	372.05	970.9 \pm 0.7	-0.41	68-ano-1

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	1033.0 \pm 2.2	310.00	1012.9 \pm 1.1	350.00	986.1 \pm 1.8
290.00	1026.3 \pm 1.8	320.00	1006.2 \pm 1.0	360.00	979.4 \pm 2.3
293.15	1024.2 \pm 1.7	330.00	999.5 \pm 1.1	370.00	972.7 \pm 2.7
298.15	1020.8 \pm 1.5	340.00	992.8 \pm 1.4	380.00	966.0 \pm 3.2

cis-1,2,3,4,4a,9,10,10a-Octahydro-phenanthrene**[20480-66-4]****C₁₄H₁₈****MW =186.30****865****Table 1.** Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.15	993.0 \pm 10.0	05-bre	298.15	982.8 \pm 10.0	36-van/mos
273.15	1006.0 \pm 10.0	05-bre	290.15	1014.8 \pm 5.0	37-den/kot
293.15	1012.0 \pm 5.0	07-sch/mez	298.15	984.0 \pm 10.0	37-pin/nes
303.15	993.0 \pm 5.0	32-bar/sen	286.15	1016.4 \pm 5.0	39-coo/hew
305.15	997.3 \pm 5.0	32-bar/sen	293.15	1006.0 \pm 5.0	39-coo/hew
298.15	1006.7 \pm 5.0	36-per/dav	298.15	1007.2 \pm 5.0	39-coo/hew
298.15	1005.3 \pm 5.0	36-van/mos			

1,1,2,3,5-Pentamethyl-1H-indene**[4705-88-8]****C₁₄H₁₈****MW =186.30****866****Table 1.** Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	930.9 \pm 2.0	55-web/spo

1,1,3,4,7-Pentamethyl-1H-indene**[66325-55-1]****C₁₄H₁₈****MW =186.30****867****Table 1.** Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	940.0 \pm 2.0	49-col/pic-1

1-Butyl-1,2,3,4-tetrahydronaphthalene [38857-76-0] C₁₄H₂₀ MW = 188.31 868

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	940.0 ± 4.0	50-naz/bur ¹⁾
293.15	934.1 ± 1.0	53-kar/mcl
293.15	934.9 ± 1.0	54-hip/wis
293.15	934.6 ± 1.0	Recommended

¹⁾ Not included in calculation of recommended value.

2-Butyl-1,2,3,4-tetrahydronaphthalene [36230-28-1] C₁₄H₂₀ MW = 188.31 869

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	931.2 ± 3.0	42-pet/and
293.15	927.3 ± 1.0	56-bai/sta

5-Butyl-1,2,3,4-tetrahydronaphthalene [66325-42-6] C₁₄H₂₀ MW = 188.31 870

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	940.9 ± 0.3	54-hip/wis

6-Butyl-1,2,3,4-tetrahydronaphthalene [30654-45-6] C₁₄H₂₀ MW = 188.31 871

Table 1. Fit with estimated *B* coefficient for 8 accepted points. Deviation $\sigma_w = 0.219$.

Coefficient	$\rho = A + BT$
<i>A</i>	1139.11
<i>B</i>	-0.715

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	934.1 ± 4.0	4.59	48-har/rob ¹⁾	372.05	873.0 ± 0.7	-0.09	55-ano-11
293.15	928.6 ± 1.0	-0.91	56-bai/sta	310.95	916.8 ± 0.5	0.02	68-ano-1
293.15	929.4 ± 0.5	-0.11	55-ano-11	333.15	901.1 ± 0.5	0.19	68-ano-1
310.95	916.8 ± 0.5	0.02	55-ano-11	372.05	873.0 ± 0.7	-0.09	68-ano-1
333.15	901.1 ± 0.5	0.19	55-ano-11				

¹⁾ Not included in calculation of linear coefficients.

cont.

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	931.8 \pm 1.8	320.00	910.3 \pm 0.6	360.00	881.7 \pm 1.9
293.15	929.5 \pm 1.7	330.00	903.2 \pm 0.6	370.00	874.6 \pm 2.3
298.15	925.9 \pm 1.4	340.00	896.0 \pm 0.9	380.00	867.4 \pm 2.8
310.00	917.5 \pm 0.9	350.00	888.9 \pm 1.4		

2,3-Dimethyl-2,3-dihydro-5-methyl-1H-indene [66325-31-3] C₁₄H₂₀ MW =188.31 872

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
294.65	919.7 \pm 2.0	21-fle/mel

2,3-Dihydro-1,1-dimethyl-6-(1-methylethyl)-1H-indene [7395-81-5] C₁₄H₂₀ MW =188.31 873

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	896.0 \pm 2.0	63-woo

2,3-Dihydro-1,4-dimethyl-6-(1-methylethyl)-1H-indene [66325-43-7] C₁₄H₂₀ MW =188.31 874

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
292.15	940.0 \pm 2.0	49-pla/fur

2,3-Dihydro-3-ethyl-1,1,3-trimethyl-1H-indene [500050-35-1] C₁₄H₂₀ MW =188.31 875

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	906.7 \pm 2.0	63-spo/web

2,3-Dihydro-1,1,2,3,3-pentamethyl-1H-indene [1203-17-4] C₁₄H₂₀ MW =188.31 876

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
295.15	914.6 \pm 1.0	58-ano-7
293.15	914.6 \pm 1.0	63-spo/web

2,3-Dihydro-1,1,2,3,6-pentamethyl-1H-indene [4773-81-3] C₁₄H₂₀ MW =188.31 877

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	909.9 ± 3.0	55-web/spo
295.15	900.9 ± 1.0	58-ano-7

2,3-Dihydro-1,1,3,4,6-pentamethyl-1H-indene [66325-32-4] C₁₄H₂₀ MW =188.31 878

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
291.15	915.0 ± 2.0	49-col/pic-1

2,3-Dihydro-1,1,3,4,7-pentamethyl-1H-indene [66325-33-5] C₁₄H₂₀ MW =188.31 879

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
291.15	925.0 ± 2.0	49-col/pic-1

2,3-Dihydro-1-pentyl-1H-indene [66325-35-7] C₁₄H₂₀ MW =188.31 880

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	915.0 ± 3.0	57-mai/del
293.15	935.5 ± 3.0	58-top/pok

2,3-Dihydro-2-pentyl-1H-indene [66325-36-8] C₁₄H₂₀ MW =188.31 881

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	910.0 ± 2.0	57-mai/del

1,1-Dimethyl-6-ethyl-1,2,3,4-tetrahydronaphthalene [500050-36-2] C₁₄H₂₀ MW =188.31 882

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	930.3 ± 2.0	54-car/eas

1-(2-Methylpropyl)-1,2,3,4-tetrahydro-naphthalene [500025-68-3] C₁₄H₂₀ MW =188.31 883

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	930.8 ± 0.3	54-hip/wis

5-(2-Methylpropyl)-1,2,3,4-tetrahydro-naphthalene [5458-54-8] C₁₄H₂₀ MW =188.31 884

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	937.7 ± 0.3	54-hip/wis

1,2,3,4-Tetrahydro-1,1,2,6-tetramethyl-naphthalene [1681-22-7] C₁₄H₂₀ MW =188.31 885

Table 1. Experimental values with uncertainties.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
298.15	937.9 ± 2.0	38-bog/apf
293.15	939.0 ± 2.0	64-vam/kan

1,2,3,4-Tetrahydro-1,1,4,4-tetramethyl-naphthalene [6683-46-1] C₁₄H₂₀ MW =188.31 886

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
300.15	948.2 ± 2.0	40-bru/kro

1,2,3,4-Tetrahydro-1,1,4,7-tetramethyl-naphthalene [500030-13-7] C₁₄H₂₀ MW =188.31 887

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
291.15	939.0 ± 4.0	49-col/pic-2

1,2,3,4-Tetrahydro-1,1,6,7-tetramethyl-naphthalene [24063-53-4] C₁₄H₂₀ MW =188.31 888

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
298.15	939.2 ± 2.0	37-pop/bog

1,2,3,4-Tetrahydro-1,2,3,4-tetramethyl-naphthalene [103203-58-3] C₁₄H₂₀ MW =188.31 889

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	942.6 ± 2.0	60-huc/cra

1,2,3,4-Tetrahydro-1,4,5,7-tetramethyl-naphthalene [500030-12-6] C₁₄H₂₀ MW =188.31 890

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.15	958.0 ± 3.0	49-col/pic-2

1,2,3,4-Tetrahydro-1,4,5,8-tetramethyl-naphthalene [500030-11-5] C₁₄H₂₀ MW =188.31 891

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
289.15	963.0 ± 3.0	49-col/pic-2

2,3-Dimethyl-3-penten-2-ylidenebicyclo-[2.2.1]heptane [500039-57-6] C₁₄H₂₂ MW =190.33 892

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.15	905.0 ± 2.0	19-lan

Δ¹¹-Dodecahydrophenanthrene [500030-32-0] C₁₄H₂₂ MW =190.33 893

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	964.0 ± 3.0	07-sch/mez
293.15	967.4 ± 2.0	36-pin/nes

8a-Methyl-6-(1-methylethylidene)-1,2,4a,5,6,7,8a-octahydronaphthalene [500040-81-3] C₁₄H₂₂ MW =190.33 894

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
291.15	912.4 ± 3.0	27-ruz/cap

5.2.3 Unsaturated Bridged Cycloalkanes, C₁₅ - C₁₇

1,2,3,4,5,6-Hexahydro-8-methylanthracene [500050-10-2] C₁₅H₁₈ MW =198.31 895

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
297.15	1020.0 ± 2.0	48-col/roc-1

1,2,3,4,5,6-Hexahydro-8-methylphenanthrene [500050-09-9] C₁₅H₁₈ MW =198.31 896

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
294.15	1033.0 ± 2.0	47-col/roc

4,5-Cyclohexano-2,3-dihydro-2,2-dimethyl-1H-indene [500038-38-0] C₁₅H₂₀ MW =200.32 897

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
291.15	968.5 ± 2.0	21-fle/sie

Dihydro-1,6-dimethyl-4-(1-methylethyl)-naphthalene [38599-17-6] C₁₅H₂₀ MW =200.32 898

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	939.9 ± 2.0	52-sor/hol

1,2-Dihydro-3-ethyl-1,4,6-trimethyl-naphthalene [500050-12-4] C₁₅H₂₀ MW =200.32 899

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
292.15	964.0 ± 2.0	51-col/gri

7-Ethyl-1-methyl-5-(1-methylethyl)-1H-indene [500050-46-4] C₁₅H₂₀ MW =200.32 900

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	960.7 ± 2.0	57-lag/pot

4-(1-Methylethyl)-1,2,7-trimethyl-1H-indene [66359-24-8] C₁₅H₂₀ MW =200.32 901

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	954.6 ± 2.0	38-car/sla

7-(1-Methylethyl)-2,3,4-trimethyl-1H-indene [66359-26-0] C₁₅H₂₀ MW =200.32 902

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
295.15	941.0 ± 2.0	51-col/wei

2-Methyl-1,2,3,4,5,6,7,8-octahydroanthracene [500038-41-5] C₁₅H₂₀ MW =200.32 903

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
291.15	991.7 ± 2.0	27-von/bay

4a-Methyl-1,2,3,4,4a,9,10,10a-octahydrophenanthrene [60795-82-6] C₁₅H₂₀ MW =200.32 904

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
291.35	1008.2 ± 2.0	33-kon
298.15	1004.5 ± 2.0	36-per/dav
298.15	1002.5 ± 2.0	41-nen/cio
298.15	1003.5 ± 2.5	Recommended

10a-Methyl-1,2,3,4,4a,9,10,10a-octahydrophenanthrene [500038-42-6] C₁₅H₂₀ MW =200.32 905

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
291.65	1005.4 ± 2.0	33-kon

cis-2-Butyl -2,3-dihydro-1-ethyl-1H-indene [66358-97-2] C₁₅H₂₂ MW =202.34 906

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	915.0 ± 2.0	57-elh/del

2,2-Diethyl-2,3-dihydro-4,7-dimethyl-1H-indene [66359-18-0] C₁₅H₂₂ MW =202.34 907

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	923.0 ± 2.0	16-fre/fle-1

4,6-Diethyl-2,3-dihydro-4,6-dimethyl-1H-indene [3247-63-0] C₁₅H₂₂ MW =202.34 908

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	918.7 ± 2.0	59-fer/hel

2,3-Dihydro-1,1-dimethyl -5-(1,1-dimethylethyl)-1H-indene [38393-97-4] C₁₅H₂₂ MW =202.34 909

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	908.8 ± 2.0	58-bee/von
293.15	907.4 ± 2.0	59-fer/hel
293.15	908.1 ± 2.1	Recommended

2,3-Dihydro-1,1-dimethyl-6-(1,1-dimethylethyl)-1H-indene [3605-31-0] C₁₅H₂₂ MW =202.34 910

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	902.0 ± 2.0	58-bee/von
293.15	901.2 ± 2.0	59-fer/hel
293.15	901.6 ± 2.0	Recommended

2,3-Dihydro-5-(2-ethylbutyl)-1H-indene [66358-98-3] C₁₅H₂₂ MW =202.34 911

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	922.10 ± 2.0	58-wib/pau-1
298.15	918.50 ± 2.0	58-wib/pau-1

2,3-Dihydro-7-ethyl-1-methyl-5-(1-methylethyl)-1H-indene [66359-03-3] C₁₅H₂₂ MW =202.34 912

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	960.70 ± 2.0	57-lag

2,3-Dihydro-3-ethyl-1,1,3,5-tetramethyl-1H-indene [4834-29-1] C₁₅H₂₂ MW =202.34 913

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	901.60 ± 2.0	55-web/spo
293.15	899.50 ± 2.0	56-pol
295.15	901.60 ± 1.0	58-ano-7
293.15	901.30 ± 2.0	63-spo/web

2,3-Dihydro-5-ethyl-1,1,3,3-tetramethyl-1H-indene [66359-10-2] C₁₅H₂₂ MW =202.34 914

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	892.60 ± 2.0	56-web/sto
295.15	892.60 ± 1.0	58-ano-7

2,3-Dihydro-1,1,2,3,3,5-hexamethyl-1H-indene [4834-28-0] C₁₅H₂₂ MW =202.34 915

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	913.60 ± 2.0	55-web/spo
293.15	911.90 ± 2.0	56-pol
298.15	902.00 ± 6.0	57-car/eas
295.15	911.90 ± 1.0	58-ano-7
293.15	911.90 ± 2.0	63-spo/web

2,3-Dihydro-1,1,3,3,4,6-hexamethyl-1H-indene [66358-99-4] C₁₅H₂₂ MW =202.34 916

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
304.15	901.00 ± 2.0	43-smi/spi
304.15	900.80 ± 2.0	43-smi/spi

2,3-Dihydro-1-hexyl-1H-indene [66359-01-1] C₁₅H₂₂ MW =202.34 917

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	909.1 ± 1.0	57-els/par
293.15	912.0 ± 2.0	57-mai/del
293.15	909.7 ± 1.4	Recommended

2,3-Dihydro-2-hexyl-1H-indene [66359-02-2] C₁₅H₂₂ MW =202.34 918

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	907.0 ± 2.0	57-mai/del

2,3-Dihydro-5-hexyl-1H-indene [54889-55-3] C₁₅H₂₂ MW =202.34 919

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	911.4 ± 2.0	58-wib/pau-1
298.15	907.8 ± 2.0	58-wib/pau-1

2,3-Dihydro-4-(1-methylethyl)-1,2,7-trimethyl-1H-indene [66374-80-9] C₁₅H₂₂ MW =202.34 920

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	922.3 ± 2.0	38-car/sla

2,3-Dihydro-6-(1-methylethyl)-1,1,2-trimethyl-1H-indene [66359-12-4] C₁₅H₂₂ MW =202.34 921

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	893.8 ± 2.0	63-woo

2,3-Dihydro-7-(1-methylethyl)-1,1,4-trimethyl-1H-indene [947-48-8] C₁₅H₂₂ MW =202.34 922

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	916.1 ± 1.0	66-ano

2,3-Dihydro-1-(1-methylpentyl)-1H-indene [66359-04-4] C₁₅H₂₂ MW =202.34 923

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	917.0 ± 2.0	61-top/tsy

2,3-Dihydro-5-(2-methylpentyl)-1H-indene [66359-05-5] C₁₅H₂₂ MW =202.34 924

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	913.6 ± 2.0	58-wib/pau-1
298.15	909.9 ± 2.0	58-wib/pau-1

2,3-Dihydro-2,2,5-triethyl-1H-indene [66359-11-3] C₁₅H₂₂ MW =202.34 925

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
287.20	925.0 ± 2.0	27-von
289.35	917.8 ± 2.0	27-von

**1,6-Dimethyl-4-(1-methylethyl)-
1,2,3,4-tetrahydronaphthalene**

[483-77-2]

C₁₅H₂₂

MW =202.34

926

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	926.8 ± 2.0	51-sor/hol
293.15	926.8 ± 2.0	52-sor/ver
293.15	932.4 ± 2.0	52-sor/ver
293.15	926.8 ± 2.0	53-pli/her
293.15	932.4 ± 2.0	53-sor/ver
293.15	929.0 ± 3.0	Recommended

**2,5-Dimethyl-8-(1-methylethyl)-
1,2,3,4-tetrahydronaphthalene**

[1460-96-4]

C₁₅H₂₂

MW =202.34

927

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	931.4 ± 2.0	49-tre
293.15	932.8 ± 2.0	53-sor/ver
293.15	932.1 ± 2.0	Rcommended

**7-Ethyl-6-propyl-1,2,3,4-tetrahydro-
naphthalene**

[500050-42-0]

C₁₅H₂₂

MW =202.34

928

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	936.6 ± 1.0	48-har/rob

**2-(1-Methylbutyl)-1,2,3,4-tetrahydro-
naphthalene**

[500050-43-1]

C₁₅H₂₂

MW =202.34

929

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	933.6 ± 2.0	48-tat/tsu

**2-(3-Methylbutyl)-1,2,3,4-tetrahydro-
naphthalene**

[500050-44-2]

C₁₅H₂₂

MW =202.34

930

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	931.0 ± 2.0	48-tat/tsu

1,1,4,5,7-Pentamethyl-1,2,3,4-tetrahydronaphthalene [500030-15-9] C₁₅H₂₂ MW =202.34 931

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.15	946.0 ± 2.0	49-col/pic-2

1,1,4,5,8-Pentamethyl-1,2,3,4-tetrahydronaphthalene [500030-14-8] C₁₅H₂₂ MW =202.34 932

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
289.15	964.0 ± 2.0	49-col/pic-2

1,2,4,6,8-Pentamethyl-1,2,3,4-tetrahydronaphthalene [1680-60-0] C₁₅H₂₂ MW =202.34 933

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
297.15	937.5 ± 2.0	44-ruz/sch
293.15	937.5 ± 2.0	64-vam/kan

1-Pentyl-1,2,3,4-tetranaphthalene [66359-06-6] C₁₅H₂₂ MW =202.34 934

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	927.0 ± 1.0	53-kar/mcl

2-Pentyl-1,2,3,4-tetranaphthalene [66359-09-9] C₁₅H₂₂ MW =202.34 935

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	922.6 ± 1.0	48-har/rob
293.15	922.7 ± 1.0	58-wib/pau
298.15	919.1 ± 1.0	58-wib/pau
293.15	923.6 ± 2.0	59-shu/leb

[4S-(4 α ,4 α ,8 α)]-1,6-Bis(methylene)-4-(1-methylethyl)decahydronaphthalene [1080-67-7] C₁₅H₂₄ MW =204.36 936

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	910.7 \pm 2.0	52-her/dim
293.15	915.2 \pm 2.0	54-dol/nov

2,2-Dimethyl-3-hexen-2-ylidenebicyclo-[2.2.1]heptane [500039-63-4] C₁₅H₂₄ MW =204.36 937

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.15	900.0 \pm 2.0	19-lan

1,4a-Dimethyl-7-(1-methylethenyl)-3,4,4a,5,6,7,8,8a-octahydronaphthalene [500040-92-6] C₁₅H₂₄ MW =204.36 938

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	919.0 \pm 3.0	12-sem/ris
286.15	920.3 \pm 3.0	31-ruz/win

2,5-Dimethyl-8-(1-methylethenyl)-1,4,4a,5,6,7,8,8a-octahydronaphthalene [500040-89-1] C₁₅H₂₄ MW =204.36 939

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
303.15	915.5 \pm 3.0	35-kaf/ike

2,8-Dimethyl-5-(1-methylethenyl)-3,4,4a,5,6,7,8,8a-octahydronaphthalene [500040-90-4] C₁₅H₂₄ MW =204.36 940

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	911.8 \pm 3.0	13-sem/bec
293.15	907.0 \pm 3.0	22-ruz/mey-1
288.15	910.0 \pm 3.0	29-ruz/van-2

[1*R*-(1 α ,4 α β ,7 β ,8 α)]-1,4a-Dimethyl-7-(1-methylethyl)decahydronaphthalene, tetrahydro derivative [27104-12-7] C₁₅H₂₄ MW =204.36 941

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	913.8 \pm 2.0	52-sor/hol

2,5-Dimethyl-8-(1-methylethyl)-3,4,5,6,7,8-hexahydronaphthalene [500040-93-7] C₁₅H₂₄ MW =204.36 942

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	915.4 \pm 3.0	24-hen/rob
293.15	918.1 \pm 3.0	26-hen/rob

2,5-Dimethyl-8-(1-methylethyl)-3,4,4a,5,6,8a-hexahydronaphthalene [500050-41-9] C₁₅H₂₄ MW =204.36 943

Table 1. Fit with estimated *B* coefficient for 8 accepted points. Deviation $\sigma_w = 0.880$

Coefficient	$\rho = A + BT$
<i>A</i>	1159.40
<i>B</i>	-0.820

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.15	924.7 \pm 2.00	1.58	02-deu	291.15	929.3 \pm 5.00	8.64	27-deu/wei ¹⁾
288.15	922.4 \pm 2.00	-0.72	02-gri	293.15	925.5 \pm 5.00	6.48	27-thu/rol ¹⁾
293.15	918.3 \pm 2.00	-0.72	08-lep	288.15	929.8 \pm 5.00	6.68	28-ait ¹⁾
293.15	922.5 \pm 4.00	3.48	09-von-1 ¹⁾	288.15	919.3 \pm 4.00	-3.82	28-hos/sho ¹⁾
295.15	918.3 \pm 2.00	0.92	14-sem/jon	288.15	923.8 \pm 2.00	0.68	29-bla
288.15	922.9 \pm 2.00	-0.22	14-sem/ste	293.15	918.0 \pm 2.00	-1.02	32-kaf/iki
293.15	918.5 \pm 2.00	-0.52	24-hen/rob				

¹⁾ Not included in calculation of linear coefficients.

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	929.8 \pm 3.6
290.00	921.6 \pm 1.4
293.15	919.0 \pm 1.6
298.15	914.9 \pm 2.6

(1*S*-cis)-4,7-Dimethyl-1,2,3,5,6,8a-hexahydro-1-(1-methylethyl)-naphthalene [483-76-1] C₁₅H₂₄ MW =204.36 944

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	916.2 ± 1.5	52-her/dim

8,8-Dimethyl-3,4,5,6,7,8-hexahydro-2-(1-methylethyl)naphthalene [500040-94-8] C₁₅H₂₄ MW =204.36 945

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
294.15	913.6 ± 3.0	31-ruz/bos

5,6-Dimethyl-6-(4-methyl-3-pentenyl)-bicyclo[2.2.1]-2-heptene [500040-88-0] C₁₅H₂₄ MW =204.36 946

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	913.9 ± 3.0	00-gue

2,3-Dimethyl-2-(4-methyl-3-pentenyl)-tricyclo[2.2.1.0^{2,6}]heptane [500040-86-8] C₁₅H₂₄ MW =204.36 947

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	913.4 ± 5.0	00-gue

(1 α ,4 α ,8 α)-7-Methyl-4-methylene-1-(1-methylethyl)-1,2,3,4,4a,5,6,8a-octahydronaphthalene [39029-41-9] C₁₅H₂₄ MW =204.36 948

Table 1. Experimental and recommended values with uncertainties

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	914.6 ± 2.0	52-her/dim
293.15	919.7 ± 3.0	52-sor/ho ¹⁾
293.15	914.3 ± 2.0	54-dol/nov
293.15	914.5 ± 2.0	Recommended

¹⁾ Not included in calculation of recommended value.

8a-Methyl-5-methylene-3-(1-methylethenyl)decahydronaphthalene

[500039-64-5]

C₁₅H₂₄

MW =204.36

949

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	910.7 ± 5.0	12-sem/ris
293.15	914.0 ± 3.0	22-ruz/mey-1
288.15	927.9 ± 6.0	31-ruz/win
293.15	912.4 ± 4.0	Recommended

4-Methyl-7-methylene-1-(1-methylethyl)-3,4,4a,5,6,7,8,8a-octahydronaphthalene

[500040-91-5]

C₁₅H₂₄

MW =204.36

950

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
303.15	908.9 ± 3.0	32-kaf/iki

[1aR-(1aβ,7β,7aβ,7bβ)]-1a,2,3,4,5,6,7,7a,7b-Octahydro-1,1,7,7a-tetramethyl-1H-cyclopropa[a]naphthalene

[17334-55-3]

C₁₅H₂₄

MW =204.36

951

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	920.2 ± 2.0	52-sor/hol

[1R-(1R*,4E,9S*)]-8-Methylene-4,11,11-trimethylbicyclo[7.2.0]-4-undecane

[87-44-5]

C₁₅H₂₄

MW =204.36

952

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	903.7 ± 2.0	52-her/dim
293.15	902.5 ± 2.0	52-sor/hol
293.15	903.1 ± 2.0	Recommended

6-Methylene-3,3,10-trimethyltricyclo-[5.4.0.0^{2,4}]undecane [500040-85-7] C₁₅H₂₄ MW =204.36 953

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
292.15	923.7 ± 2.0	1887-riz
273.15	934.9 ± 2.0	1887-riz
293.15	923.3 ± 2.0	33-kom

4-(3-Methyl-3-butenyl)-5,7,7-trimethylbicyclo[3.1.1]-1-heptene [500040-87-9] C₁₅H₂₄ MW =204.36 954

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
297.15	903.8 ± 2.0	1897-erd
293.15	903.2 ± 2.0	03-gad/ame
288.15	907.6 ± 2.0	03-tho-1

4,8a-Dimethyl-6-(1-methylethenyl)-decahydronaphthalene [500039-66-7] C₁₅H₂₆ MW =206.37 955

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	906.7 ± 2.0	13-sem/tob
293.15	908.0 ± 2.0	31-ruz/win
293.15	907.4 ± 2.1	Recommended

1,4a-Dimethyl-7-(1-methylethyl)-3,4,4a,5,6,7,8,8a-octahydronaphthalene [500040-98-2] C₁₅H₂₆ MW =206.37 956

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	887.2 ± 3.0	25-ruz/rud

1,6-Dimethyl-4-(1-methylethyl)-3,4,4a,5,6,7,8,8a-octahydronaphthalene [500040-97-1] C₁₅H₂₆ MW =206.37 957

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	894.4 ± 3.0	31-kim-1

4-Ethyl-1,2,4a,5,6,7,8,8a-octahydro-3-propylnaphthalene [500030-70-6] C₁₅H₂₆ MW =206.37 958

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	891.3 ± 3.0	37-nes/mar

2-(3-methyl-3-butenyl)-1,7,7-trimethylbicyclo[3.1.1]heptane [500039-65-6] C₁₅H₂₆ MW =206.37 959

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
294.15	887.2 ± 2.0	14-deu
291.15	889.3 ± 2.0	26-deu

4-(3-Methylbutyl)-5,7,7-trimethylbicyclo[3.3.1]-2-heptene [500040-96-0] C₁₅H₂₆ MW =206.37 960

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
292.15	889.8 ± 3.0	12-deu
291.15	889.3 ± 3.0	26-deu

4-Methylene-8a-methyl-6-(1-methylethyl)decahydronaphthalene [500039-67-8] C₁₅H₂₆ MW =206.37 961

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
297.15	899.2 ± 2.0	31-ruz/win

1,2,3,4-Tetrahydrofluoranthene [100652-57-1] C₁₆H₁₄ MW =206.29 962

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
353.15	1066.2 ± 0.5	52-ano-10	353.15	1066.2 ± 0.5	68-ano-1
363.15	1059.3 ± 0.5	52-ano-10	363.15	1059.3 ± 0.5	68-ano-1
372.04	1053.1 ± 0.7	52-ano-10	372.04	1053.1 ± 0.7	68-ano-1

4,5,9,10-Tetrahydropyrene**[781-17-9]****C₁₆H₁₄****MW =206.29****963****Table 1.** Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.292$.

Coefficient	$\rho = A + BT$
<i>A</i>	1336.58
<i>B</i>	-0.710

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
423.15	1036.2 ± 1.0	0.05	93-chi/kni
448.15	1018.7 ± 1.0	0.30	93-chi/kni
473.15	1000.1 ± 1.5	-0.55	93-chi/kni
498.15	982.6 ± 1.5	-0.30	93-chi/kni
523.15	965.2 ± 2.0	0.05	93-chi/kni

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
400.00	1052.6 ± 2.6	450.00	1017.1 ± 1.3	500.00	981.6 ± 2.2
410.00	1045.5 ± 2.3	460.00	1010.0 ± 1.3	510.00	974.5 ± 2.5
420.00	1038.4 ± 2.0	470.00	1002.9 ± 1.4	520.00	967.4 ± 2.8
430.00	1031.3 ± 1.7	480.00	995.8 ± 1.6	530.00	960.3 ± 3.2
440.00	1024.2 ± 1.5	490.00	988.7 ± 1.8		

9,10-Dihydro-4,5-dimethylphenanthrene **[1209-83-2]****C₁₆H₁₆****MW =208.30****964****Table 1.** Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
333.15	1038.4 ± 0.5	68-ano-1
372.05	1009.4 ± 0.5	68-ano-1

1,2,3,3a,4,5-Hexahydropyrene**[5385-37-5]****C₁₆H₁₆****MW =208.30****965****Table 1.** Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
408.15	1026.1 ± 0.5	68-ano-1
388.15	1039.5 ± 0.5	68-ano-1

1,2,3,6,7,8-Hexahdropyrene [1732-13-4] C₁₆H₁₆ MW =208.30 966

Table 1. Fit with estimated B coefficient for 5 accepted points. Deviation $\sigma_w = 0.636$.

Coefficient	$\rho = A + BT$
A	1313.41
B	-0.695

Table 2. Experimental values with uncertainties and deviation from calculated values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg · m ⁻³	Ref.
423.15	1018.6 ± 1.0	-0.73	93-chi/kni
448.15	1002.2 ± 1.0	0.25	93-chi/kni
473.15	984.9 ± 1.5	0.32	93-chi/kni
498.15	968.3 ± 1.5	1.10	93-chi/kni
523.15	949.2 ± 2.0	-0.63	93-chi/kni

Table 3. Recommended values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³
400.00	1035.4 ± 2.7	450.00	1000.7 ± 1.4	500.00	965.9 ± 2.2
410.00	1028.5 ± 2.3	460.00	993.7 ± 1.4	510.00	959.0 ± 2.6
420.00	1021.5 ± 2.0	470.00	986.8 ± 1.5	520.00	952.0 ± 2.9
430.00	1014.6 ± 1.8	480.00	979.8 ± 1.7	530.00	945.1 ± 3.2
440.00	1007.6 ± 1.6	490.00	972.9 ± 1.9		

1,1-Dimethyl-1,2,3,4-tetrahydrophenanthrene [97277-92-4] C₁₆H₁₈ MW =210.32 967

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
298.15	1031.0 ± 2.0	49-adk/eng

4,5,6,6a,6b,7,8,9,10,10a-Decahydro-fluoranthene [500038-63-1] C₁₆H₂₀ MW =212.33 968

Table 1. Experimental values with uncertainties.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
295.15	1043.0 ± 2.0	30-von/man
302.15	1020.7 ± 2.0	30-von/man

1,2,3,3a,4,5,5a,6,7,8-Decahydropyrene [14698-02-3] C₁₆H₂₀ MW =212.33 969

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1061.2 ± 2.0	28-von/rat
298.15	1055.3 ± 2.0	36-mat/han

2,9-Dimethyl-1,2,3,4,9,10-hexahydro-phenanthrene [500050-15-7] C₁₆H₂₀ MW =212.33 970

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
291.15	1003.0 ± 2.0	54-col/ars

8-Ethyl-1,2,3,4,5,6-hexahydro-phenanthrene [500050-14-6] C₁₆H₂₀ MW =212.33 971

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
296.15	1028.0 ± 2.0	47-col/roc

5,6-Dihydro-7-(1-methylethyl)-1,4,5-trimethylnaphthalene [500050-16-8] C₁₆H₂₂ MW =214.35 972

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
297.15	939.3 ± 3.0	56-kri/dev

5,6-Dihydro-7-(1-methylethyl)-1,4,8-trimethylnaphthalene [500050-17-9] C₁₆H₂₂ MW =214.35 973

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
299.15	949.3 ± 3.0	56-kri/dev

2,9-Dimethyl-1,2,3,4,4i,9,10,10a-octahydrophenanthrene [500050-18-0] C₁₆H₂₂ MW =214.35 974

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
291.15	962.0 ± 2.0	54-col/ars

1,4-Bis(1-methylethyl)-1,4-dihydronaphthalene [132858-69-6] C₁₆H₂₂ MW =214.35 975

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	945.1 ± 2.0	60-huc/cra

6-Butyl-7-ethyl-1,2,3,4-tetrahydronaphthalene [500050-50-0] C₁₆H₂₄ MW =214.35 976

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	930.9 ± 1.0	48-har/rob

2,3-Dihydro-3,3-diethyl-1,1,5-trimethyl-1H-indene [66324-94-5] C₁₆H₂₄ MW =216.37 977

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
295.15	908.5 ± 1.0	58-ano-7

2,3-Dihydro-5-(1,1-dimethylethyl)-1-ethyl-1-methyl-1H-indene [66325-13-1] C₁₆H₂₄ MW =216.37 978

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	913.2 ± 1.0	58-bee/von

2,3-Dihydro-6-(1,1-dimethylethyl)-1-ethyl-1-methyl-1H-indene [66325-14-2] C₁₆H₂₄ MW =216.37 979

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	905.1 ± 1.0	58-bee/von

2,3-Dihydro-5-(1,1-dimethylethyl)-1-(1-methylethyl)-1H-indene [66325-12-0] C₁₆H₂₄ MW =216.37 980

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	896.7 ± 2.0	60-tsy/pok

2,3-Dihydro-6-(1,1-dimethylpropyl)-1,1-dimethyl-1H-indene [66325-04-0] C₁₆H₂₄ MW =216.37 981

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	895.8 ± 2.0	63-woo

2,3-Dihydro-6-(1,1-dimethylethyl)-1,1,2-trimethyl-1H-indene [66324-93-4] C₁₆H₂₄ MW =216.37 982

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	897.0 ± 1.5	63-woo

2,3-Dihydro-2-ethyl-1,1,3,3,5-pentamethyl-1H-indene [66325-17-5] C₁₆H₂₄ MW =216.37 983

Table 1. Experimental values with uncertainties.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	917.0 ± 2.0	56-web/sto
295.15	917.0 ± 2.0	58-ano-7

2,3-Dihydro-3-ethyl-1,1,2,3,5-pentamethyl-1H-indene [66325-16-4] C₁₆H₂₄ MW =216.37 984

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
295.15	912.5 ± 1.0	58-ano-7

2,3-Dihydro-5-ethyl-1,1,2,3,3-pentamethyl-1H-indene [4755-85-5] C₁₆H₂₄ MW =216.37 985

Table 1. Experimental values with uncertainties.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	900.7 ± 2.0	56-web/sto
295.15	900.7 ± 2.0	58-ano-7

2,3-Dihydro-1-heptyl-1H-indene [66325-06-2] C₁₆H₂₄ MW =216.37 986

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	908.0 ± 2.0	57-mai/del

2,3-Dihydro-2-heptyl-1H-indene [66325-07-3] C₁₆H₂₄ MW =216.37 987

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	902.0 ± 2.0	57-mai/del

2,3-Dihydro-5-heptyl-1H-indene [66325-08-4] C₁₆H₂₄ MW =216.37 988

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	913.0 ± 2.0	59-top/tsy-1
293.15	913.0 ± 2.0	61-top/tsy

2,3-Dihydro-3-(1-methylethyl)-1,1,3,5-tetramethyl-1H-indene [66324-88-7] C₁₆H₂₄ MW =216.37 989

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
295.15	898.4 ± 1.0	58-ano-7

2,3-Dihydro-5-(1-methylethyl)-1,1,4,6-tetramethyl-1H-indene [66324-89-8] C₁₆H₂₄ MW =216.37 990

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	922.8 ± 2.0	64-woo/ang

2,3-Dihydro-3-propyl-1,1,3,5-tetramethyl-1H-indene [66324-92-3] C₁₆H₂₄ MW =216.37 991

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	897.1 ± 2.0	56-web/sto

6,7-Dipropyl-1,2,3,4-tetrahydronaphthalene [94374-38-6] C₁₆H₂₄ MW =216.37 992

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	928.2 ± 1.0	48-har/rob

6-Hexyl-1,2,3,4-tetrahydronaphthalene [56598-72-2] C₁₆H₂₄ MW =216.37 993

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	922.4 ± 1.0	50-har/geo

6-(4-methylpentyl)-1,2,3,4-tetrahydronaphthalene [66325-15-3] C₁₆H₂₄ MW =216.37 994

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	915.6 ± 1.0	50-har/geo

Hexadecahydroindeno[2.1-a]indene [56292-67-2] C₁₆H₂₆ MW =218.38 995

Table 1. Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.181$.

Coefficient	$\rho = A + BT$
<i>A</i>	1154.29
<i>B</i>	-0.665

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	972.9 ± 0.5	0.25	68-ano-1
293.15	959.4 ± 0.5	0.05	68-ano-1
310.95	947.4 ± 0.5	-0.11	68-ano-1
333.15	932.5 ± 0.5	-0.25	68-ano-1
372.05	907.0 ± 0.7	0.12	68-ano-1

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	974.7 ± 1.0	310.00	948.1 ± 0.5	360.00	914.9 ± 1.1
280.00	968.1 ± 0.8	320.00	941.5 ± 0.5	370.00	908.2 ± 1.3
290.00	961.4 ± 0.7	330.00	934.8 ± 0.6	380.00	901.6 ± 1.5
293.15	959.3 ± 0.6	340.00	928.2 ± 0.8		
298.15	956.0 ± 0.6	350.00	921.5 ± 0.9		

***trans*-1,2-Cyclopentano-1,2,3,4-tetrahydrophenanthrene** [500038-95-9] C₁₇H₁₈ MW =222.33 996

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1085.9 ± 3.0	33-coo/hew

1-Ethyl-1-methyl-1,2,3,4-tetrahydro-phenanthrene [500050-22-6] C₁₇H₂₀ MW =224.35 997

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	1029.0 ± 2.0	49-adk/eng

1,2,3,4-Tetrahydro-2,2,3-trimethyl-phenanthrene [500050-23-7] C₁₇H₂₀ MW =224.35 998

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	932.5 ± 2.0	49-adk/eng

6,7-(4,4'-Dimethylcyclopentano)-2a,3,4,5-tetrahydroacenaphthene [500038-64-2] C₁₇H₂₂ MW =224.37 999

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
295.15	988.4 ± 2.0	21-fle/sie

1,2,3,4,4a,9a-Hexahydro-1-methyl-4-(1-methylethyl)-fluorene [500038-52-8] C₁₇H₂₄ MW =228.38 1000

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
294.15	984.3 ± 2.0	35-ruz/pey

1,2,3,4,4a,9,10,10a-Octahydro-2,6,9-trimethylphenanthrene [500050-24-8] C₁₇H₂₄ MW =228.38 1001

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
291.15	964.0 ± 2.0	54-col/ars

1,2,3,4,4a,9,10,10a-Octahydro-4a,5,8-trimethyl phenanthrene [500038-43-7] C₁₇H₂₄ MW =228.38 1002

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
298.15	997.5 ± 2.0	38-pop/per

6-Butyl-7-propyl-1,2,3,4-tetrahydro-naphthalene [500050-53-3] C₁₇H₂₆ MW =230.39 1003

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	930.7 ± 1.0	48-har/rob

2,3-Dihydro-1-(1,5-dimethylhexyl)-1H-indene [66563-95-9] C₁₇H₂₆ MW =230.39 1004

Table 1. Experimental values with uncertainties.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
292.15	908.3 ± 2.0	35-ruz/pey
297.15	904.2 ± 2.0	35-ruz/pey

2,3-Dihydro-4,7-dimethyl-2,2,5-trimethyl-1H-indene [66563-97-1] C₁₇H₂₆ MW =230.39 1005

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	916.0 ± 2.0	18-fre/fle

2,3-Dihydro-5-ethyl-1,1,2,2,3,3-hexamethyl-1H-indene [66564-02-1] C₁₇H₂₆ MW =230.39 1006

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
295.15	918.9 ± 1.0	58-ano-7

2,3-Dihydro-5-(2-ethylhexyl)-1H-indene [66563-98-2] C₁₇H₂₆ MW =230.39 1007

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	922.1 ± 2.0	59-top/tsy-1

2,3-Dihydro-3-(2-methylpropyl)-1,1,3,5-tetramethyl-1H-indene [66564-06-5] C₁₇H₂₆ MW =230.39 1008

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	892.0 ± 2.0	56-web/sto

2,3-Dihydro-2,2,5,6-tetraethyl-1H-indene [66564-04-3] C₁₇H₂₆ MW =230.39 1009

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
287.50	924.6 ± 2.0	27-von

6-Heptyl-1,2,3,4-tetrahydronaphthalene [66564-01-0] C₁₇H₂₆ MW =230.39 1010

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	914.2 ± 1.0	50-har/geo

4,6-Bis(1-methylethyl)-2,3-dihydro-1,1-bimetyl-1H-indene [6682-65-1] C₁₇H₂₆ MW =230.39 1011

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	894.5 ± 2.0	66-ano

3-Butyl-1,2,4a,5,6,7,8,8a-octahydro-4-propylnaphthalene [500030-71-7] C₁₇H₃₀ MW =234.43 1012

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	884.9 ± 3.0	37-nes/mar

5.2.4 Unsaturated Bridged Cycloalkanes, C₁₈ - C₃₆

1,2-Cyclopentano-1-methyl-1,2,3,4-tetrahydrophenanthrene [500038-96-0] C₁₈H₂₀ MW =236.36 1013

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
292.05	1045.5 ± 4.0	34-har/kon
293.15	1069.2 ± 4.0	38-kon/nar-1

9,10-Diethyl-9,10-dihydroanthracene [46868-29-5] C₁₈H₂₀ MW =236.36 1014

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
294.15	1013.2 ± 1.0	33-ler
293.15	1014.0 ± 1.0	35-ros-1

9-Butyltetrahydroanthracene [900001-31-2] C₁₈H₂₂ MW =238.37 1015

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
333.15	912.4 ± 0.5	68-ano-1
372.05	887.7 ± 0.5	68-ano-1

1,1-Diethyl-1,2,3,4-tetrahydrophenanthrene [500050-26-0] C₁₈H₂₂ MW =238.37 1016

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	1027.0 ± 2.0	49-adk/eng

1,2,3,4,4a,7,8,9,10,11,12,12a-Dodecahydrochrysene [1610-22-6] C₁₈H₂₄ MW =240.39 1017

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
310.95	1037.8 ± 0.5	68-ano-1
333.15	1023.6 ± 0.5	68-ano-1
372.05	998.7 ± 0.5	68-ano-1

1,2,3,4,4a,4b,5,6,7,8,8a,12b-Dodecahydrotriphenylene [66553-21-7] C₁₈H₂₄ MW =240.39 1018

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
292.35	946.8 ± 2.0	23-sch-3

Dodecahydrotriphenylene [1610-39-5] C₁₈H₂₄ MW =240.39 1019

Table 1. Experimental values with uncertainties.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
<i>crystal</i>		
273.15	1141.0 ± 4.0	29-zie/dit
273.15	1148.0 ± 4.0	29-zie/dit

1,2-Dihydro-1-octylnaphthalene [500050-63-5] C₁₈H₂₆ MW =242.40 1020

Table 1. Experimental values with uncertainties.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	930.4 ± 2.0	49-lut
293.15	930.5 ± 2.0	49-lut/wac

1-(1-Methylethyl)-7-methyl-1,2,3,4,4a,9,10,10a-octahydrophenanthrene [500038-44-8] C₁₈H₂₆ MW =242.40 1021

Table 1. Experimental values with uncertainties.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	957.8 ± 2.0	20-vir
288.15	964.7 ± 3.0	25-cze
293.15	957.8 ± 2.0	39-ade/bog

1,4-Bis(2-methylpropyl)-1,2,3,4-tetrahydronaphthalene [500038-26-6] C₁₈H₂₈ MW =244.42 1022

Table 1. Fit with estimated B coefficient for 5 accepted points. Deviation $\sigma_w = 0.037$.

Coefficient	$\rho = A + BT$
A	1100.68
B	-0.640

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
283.15	919.4 ± 2.0	-0.06	32-hug/ler	273.15	925.9 ± 2.0	0.04	38-eva-2
292.15	913.7 ± 2.0	-0.00	32-hug/ler	323.15	893.9 ± 2.0	0.04	38-eva-2
292.15	913.7 ± 2.0	-0.00	33-ler	373.15	861.9 ± 3.0	0.04	38-eva-2 ¹⁾

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	927.9 ± 1.9	293.15	913.1 ± 1.5	320.00	895.9 ± 2.0
280.00	921.5 ± 1.6	298.15	909.9 ± 1.5	330.00	889.5 ± 2.4
290.00	915.1 ± 1.5	310.00	902.3 ± 1.7		

***cis*-2-Butyl-2,3-dihydro-1-pentyl-1*H*-indene** [66553-06-8] C₁₈H₂₈ MW =244.42 1023

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	903.0 ± 2.0	57-elh/del

6,7-Dibutyl-1,2,3,4-tetrahydro-naphthalene [500050-64-6] C₁₈H₂₈ MW =244.42 1024

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	922.8 ± 1.0	48-har/rob

***cis*-2,3-Dihydro-1-ethyl-2-heptyl-2,3-dihydro-1*H*-indene** [66553-07-9] C₁₈H₂₈ MW =244.42 1025

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	905.0 ± 2.0	57-elh/del

1-Octyl-1,2,3,4-tetrahydronaphthalene [29138-91-8] C₁₈H₂₈ MW =244.42 1026

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	915.7 ± 0.6	54-els
310.93	903.7 ± 0.6	54-els
339.45	884.2 ± 0.6	54-els

2-Octyl-1,2,3,4-tetrahydronaphthalene [66553-10-4] C₁₈H₂₈ MW =244.42 1027

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	870.0 ± 0.8	66-sha/bek

6-Octyl-1,2,3,4-tetrahydronaphthalene [66553-12-6] C₁₈H₂₈ MW =244.42 1028

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	910.1 ± 1.0	50-har/geo

1,2-Cyclopentano-1-ethyl-1,2,3,4-tetrahydropheanthrene [500050-27-1] C₁₉H₂₂ MW =250.38 1029

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	1062.5 ± 2.0	49-adk/hag

9,10-Dihydro-9-(3-methylbutyl)-anthracene [500038-91-5] C₁₉H₂₂ MW =250.38 1030

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1016.0 ± 3.0	20-von-1
293.15	1025.0 ± 3.0	20-von-1
317.55	994.0 ± 3.0	20-von-1
318.25	1002.2 ± 3.0	20-von-1

2-butyl-1-hexyl-1H-indene [66291-98-3] C₁₉H₂₈ MW =256.43 1031

Table 1. Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.521$.

Coefficient	$\rho = A + BT$
<i>A</i>	1107.29
<i>B</i>	-0.670

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	924.1 ± 0.5	-0.18	68-ano-1
293.15	910.3 ± 0.5	-0.58	68-ano-1
310.95	899.7 ± 0.5	0.75	68-ano-1
333.15	884.4 ± 0.5	0.32	68-ano-1
372.05	857.4 ± 0.7	-0.62	68-ano-1

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	926.4 ± 2.1	310.00	899.6 ± 0.7	360.00	866.1 ± 2.6
280.00	919.7 ± 1.7	320.00	892.9 ± 0.9	370.00	859.4 ± 3.1
290.00	913.0 ± 1.2	330.00	886.2 ± 1.2	380.00	852.7 ± 3.5
293.15	910.9 ± 1.1	340.00	879.5 ± 1.6		
298.15	907.5 ± 0.9	350.00	872.8 ± 2.1		

4,5-Cyclohexano-2,3-dihydro-2,2,7-triethyl-1H-indene [500038-39-1] C₁₉H₂₈ MW =256.43 1032

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	967.3 ± 2.0	23-fle/ret

1,4a-Dimethyl-1,2,3,4,4a,9,10,10a-octahydro-7-propylphenanthrene [500038-45-9] C₁₉H₂₈ MW =256.43 1033

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	973.4 ± 2.0	21-vir
293.15	974.0 ± 2.0	21-vir

cis-1-Butyl-2,3-dihydro-2-hexyl-1H-indene [66292-02-2] C₁₉H₃₀ MW =258.45 1034

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	902.6 ± 2.0	57-elh/del

2-Butyl-1-2,3-dihydro-1-hexyl-1H-indene [56247-75-7] C₁₉H₃₀ MW =258.45 1035

Table 1. Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.126$.

Coefficient	$\rho = A + BT$
<i>A</i>	1102.04
<i>B</i>	-0.700

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	910.8 ± 0.5	-0.04	68-ano-1
293.15	896.7 ± 0.5	-0.14	68-ano-1
310.95	884.3 ± 0.5	-0.08	68-ano-1
333.15	869.0 ± 0.5	0.16	68-ano-1
372.05	841.8 ± 0.7	0.19	68-ano-1

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	913.0 ± 1.0	310.00	885.0 ± 0.5	360.00	850.0 ± 1.1
280.00	906.0 ± 0.8	320.00	878.0 ± 0.5	370.00	843.0 ± 1.3
290.00	899.0 ± 0.6	330.00	871.0 ± 0.6	380.00	836.0 ± 1.5
293.15	896.8 ± 0.6	340.00	864.0 ± 0.8		
298.15	893.3 ± 0.6	350.00	857.0 ± 0.9		

cis-2-Butyl-2,3-dihydro-1-hexyl-1H-indene [66292-03-3] C₁₉H₃₀ MW =258.45 1036

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	902.0 ± 2.0	57-elh/del

2-Butyl-2,3-dihydro-5-hexyl-1H-indene [25446-32-6] C₁₉H₃₀ MW =258.45 1037

Table 1. Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.127$.

Coefficient	$\rho = A + BT$
<i>A</i>	1095.62
<i>B</i>	-0.695

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	905.7 ± 0.5	-0.08	68-ano-1
293.15	891.8 ± 0.5	-0.08	68-ano-1
310.95	879.4 ± 0.5	-0.10	68-ano-1
333.15	864.2 ± 0.5	0.12	68-ano-1
372.05	837.3 ± 0.7	0.26	68-ano-1

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	908.0 ± 1.0	310.00	880.2 ± 0.5	360.00	845.4 ± 1.1
280.00	901.0 ± 0.8	320.00	873.2 ± 0.5	370.00	838.5 ± 1.3
290.00	894.1 ± 0.6	330.00	866.3 ± 0.6	380.00	831.5 ± 1.5
293.15	891.9 ± 0.6	340.00	859.3 ± 0.8		
298.15	888.4 ± 0.6	350.00	852.4 ± 0.9		

5-Butyl-2,3-dihydro-6-hexyl-1H-indene [55030-45-0] C₁₉H₃₀ MW =258.45 1038

Table 1. Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.139$.

Coefficient	$\rho = A + BT$
<i>A</i>	1104.96
<i>B</i>	-0.695

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	915.0 ± 0.5	-0.12	68-ano-1
293.15	901.1 ± 0.5	-0.12	68-ano-1
310.95	888.8 ± 0.5	-0.05	68-ano-1
333.15	873.6 ± 0.5	0.18	68-ano-1
372.05	846.6 ± 0.7	0.22	68-ano-1

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	917.3 ± 1.0	310.00	889.5 ± 0.5	360.00	854.8 ± 1.1
280.00	910.4 ± 0.8	320.00	882.6 ± 0.5	370.00	847.8 ± 1.3
290.00	903.4 ± 0.6	330.00	875.6 ± 0.6	380.00	840.9 ± 1.5
293.15	901.2 ± 0.6	340.00	868.7 ± 0.8		
298.15	897.7 ± 0.6	350.00	861.7 ± 0.9		

1-Decyl-2,3-dihydro-1*H*-indene [66292-04-4] C₁₉H₃₀ MW =258.45 1039

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	876.0 ± 2.0	57-mai/del

2-Decyl-2,3-dihydro-1*H*-indene [66292-05-5] C₁₉H₃₀ MW =258.45 1040

Table 1. Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.104$.

Coefficient	$\rho = A + BT$
<i>A</i>	1093.37
<i>B</i>	-0.680

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	907.7 ± 0.5	0.07	68-ano-1
293.15	894.1 ± 0.5	0.07	68-ano-1
310.95	882.0 ± 0.5	0.08	68-ano-1
333.15	866.7 ± 0.5	-0.13	68-ano-1
372.05	840.2 ± 0.7	-0.18	68-ano-1

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	909.8 ± 0.9	310.00	882.6 ± 0.5	360.00	848.6 ± 1.1
280.00	903.0 ± 0.8	320.00	875.8 ± 0.5	370.00	841.8 ± 1.3
290.00	896.2 ± 0.6	330.00	869.0 ± 0.6	380.00	835.0 ± 1.5
293.15	894.0 ± 0.6	340.00	862.2 ± 0.8		
298.15	890.6 ± 0.6	350.00	855.4 ± 0.9		

3-Decyl-2,3-dihydro-1*H*-indene [66359-62-4] C₁₉H₃₀ MW =258.45 1041

Table 1. Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.087$.

Coefficient	$\rho = A + BT$
<i>A</i>	1097.57
<i>B</i>	-0.685

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	901.7 ± 4.0	4.94	60-tsy/pok ¹⁾	310.95	884.6 ± 0.5	0.03	68-ano-1
273.15	910.4 ± 0.5	-0.06	68-ano-1	333.15	869.5 ± 0.5	0.14	68-ano-1
293.15	896.7 ± 0.5	-0.06	68-ano-1	372.05	842.6 ± 0.7	-0.11	68-ano-1

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	912.6 ± 0.9	310.00	885.2 ± 0.4	360.00	851.0 ± 1.1
280.00	905.8 ± 0.7	320.00	878.4 ± 0.5	370.00	844.1 ± 1.3
290.00	898.9 ± 0.6	330.00	871.5 ± 0.6	380.00	837.3 ± 1.5
293.15	896.8 ± 0.5	340.00	864.7 ± 0.7		
298.15	893.3 ± 0.5	350.00	857.8 ± 0.9		

cis-2,3-Dihydro-2-heptyl-1-propyl-1H-indene

[66359-67-9]

C₁₉H₃₀

MW =258.45

1042

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	901.0 ± 2.0	57-elh/del

2,3-Dihydro-2,2,4,5,6-pentaethyl-1H-indene

[66359-66-8]

C₁₉H₃₀

MW =258.45

1043

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
287.25	923.4 ± 2.0	27-von

2,3-Dihydro-3-(4-methylpentyl)-1,1,3,5-tetramethyl-1H-indene

[66359-69-1]

C₁₉H₃₀

MW =258.45

1044

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	888.3 ± 2.0	56-web/sto

6-Hexyl-1,2,3,4-tetrahydro-7-propyl-naphthalene, [66359-68-0] C₁₉H₃₀ MW =258.45 1045

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	913.7 ± 1.0	50-har/geo

6-Nonyl-1,2,3,4-tetrahydronaphthalene [66359-65-7] C₁₉H₃₀ MW =258.45 1046

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	907.9 ± 1.0	50-har/geo

6-(1-Propylhexyl)-1,2,3,4-tetrahydronaphthalene [94431-33-1] C₁₉H₃₀ MW =258.45 1047

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	911.2 ± 2.0	59-shu/leb

10a-(1-Methylethyl)-3,4,4a,9,10,10a-octahydro-2,5,8-trimethylphenanthrene [500038-46-0] C₂₀H₃₀ MW =270.46 1048

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
295.15	958.7 ± 2.0	24-ruz/bal

6-Butyl-7-hexyl-1,2,3,4-tetrahydronaphthalene, [66538-96-3] C₂₀H₃₂ MW =272.47 1049

Table 1. Fit with estimated *B* coefficient for 10 accepted points. Deviation $\sigma_w = 0.069$.

Coefficient	$\rho = A + BT$
<i>A</i>	1106.59
<i>B</i>	-0.675

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	922.2 ± 0.5	-0.01	63-dix/yar	273.15	922.2 ± 0.5	-0.01	68-ano-1
293.15	908.6 ± 0.5	-0.11	63-dix/yar	293.15	908.6 ± 0.5	-0.11	68-ano-1
310.95	896.7 ± 0.5	0.01	63-dix/yar	310.95	896.7 ± 0.5	0.01	68-ano-1
333.15	881.8 ± 0.5	0.09	63-dix/yar	333.15	881.8 ± 0.5	0.09	68-ano-1
372.05	855.5 ± 0.7	0.05	63-dix/yar	372.05	855.5 ± 0.7	0.05	68-ano-1

cont.

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	924.3 ± 0.9	310.00	897.3 ± 0.5	360.00	863.6 ± 1.1
280.00	917.6 ± 0.8	320.00	890.6 ± 0.5	370.00	856.8 ± 1.3
290.00	910.8 ± 0.6	330.00	883.8 ± 0.6	380.00	850.1 ± 1.5
293.15	908.7 ± 0.6	340.00	877.1 ± 0.8		
298.15	905.3 ± 0.5	350.00	870.3 ± 0.9		

**7-Butyl-1-hexyl-
1,2,3,4-tetrahydronaphthalene,**

[66205-02-5]

C₂₀H₃₂

MW =272.47

1050

Table 1. Fit with estimated *B* coefficient for 10 accepted points. Deviation $\sigma_w = 0.087$.

Coefficient	$\rho = A + BT$
<i>A</i>	1103.10
<i>B</i>	-0.680

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	917.3 ± 0.5	-0.06	63-dix/yar	273.15	917.3 ± 0.5	-0.06	68-ano-1
293.15	903.9 ± 0.5	0.14	63-dix/yar	293.15	903.9 ± 0.5	0.14	68-ano-1
310.95	891.6 ± 0.5	-0.06	63-dix/yar	310.95	891.6 ± 0.5	-0.06	68-ano-1
333.15	876.6 ± 0.5	0.04	63-dix/yar	333.15	876.6 ± 0.5	0.04	68-ano-1
372.05	850.0 ± 0.7	-0.11	63-dix/yar	372.05	850.0 ± 0.7	-0.11	68-ano-1

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	919.5 ± 0.9	310.00	892.3 ± 0.5	360.00	858.3 ± 1.1
280.00	912.7 ± 0.8	320.00	885.5 ± 0.5	370.00	851.5 ± 1.3
290.00	905.9 ± 0.6	330.00	878.7 ± 0.6	380.00	844.7 ± 1.5
293.15	903.8 ± 0.6	340.00	871.9 ± 0.8		
298.15	900.4 ± 0.5	350.00	865.1 ± 0.9		

6-Decyl-1,2,3,4-tetrahydronaphthalene

[66455-69-4]

C₂₀H₃₂

MW =272.47

1051

Table 1. Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.086$.

Coefficient	$\rho = A + BT$
<i>A</i>	1097.54
<i>B</i>	-0.665

cont.

6-Decyl-1,2,3,4-tetrahydronaphthalene (cont.)**Table 2.** Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	901.1 ± 1.0	-1.49	48-har/rob ¹⁾	310.95	890.8 ± 0.5	0.04	68-ano-1
273.15	915.8 ± 0.5	-0.09	68-ano-1	333.15	876.1 ± 0.5	0.11	68-ano-1
293.15	902.5 ± 0.5	-0.09	68-ano-1	372.05	850.2 ± 0.7	0.07	68-ano-1

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	918.0 ± 0.9	310.00	891.4 ± 0.4	360.00	858.1 ± 1.1
280.00	911.3 ± 0.7	320.00	884.7 ± 0.5	370.00	851.5 ± 1.3
290.00	904.7 ± 0.6	330.00	878.1 ± 0.6	380.00	844.8 ± 1.5
293.15	902.6 ± 0.5	340.00	871.4 ± 0.7		
298.15	899.3 ± 0.5	350.00	864.8 ± 0.9		

2,3-Dihydro-5,7-bis(1,1-dimethylethyl)-1-(1-methylethyl)-1H-indene [66538-97-4] C₂₀H₃₂ MW = 272.47 1052

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	898.7 ± 2.0	60-tsy/pok

2,6-Dimethyl-7-octyl-1,2,3,4-tetrahydronaphthalene [55255-59-9] C₂₀H₃₂ MW = 272.47 1053

Table 1. Fit with estimated *B* coefficient for 8 accepted points. Deviation $\sigma_w = 0.078$.

Coefficient	$\rho = A + BT$
<i>A</i>	1097.55
<i>B</i>	-0.662

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	903.5 ± 0.5	0.02	63-dix/yar	293.15	903.5 ± 0.5	0.02	68-ano-1
310.95	891.6 ± 0.5	-0.10	63-dix/yar	310.95	891.6 ± 0.5	-0.10	68-ano-1
333.15	877.0 ± 0.5	-0.00	63-dix/yar	333.15	877.0 ± 0.5	-0.00	68-ano-1
372.05	851.4 ± 0.7	0.15	63-dix/yar	372.05	851.4 ± 0.7	0.15	68-ano-1

cont.

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	905.6 ± 0.8	320.00	885.7 ± 0.5	360.00	859.2 ± 0.9
293.15	903.5 ± 0.7	330.00	879.1 ± 0.5	370.00	852.6 ± 1.1
298.15	900.2 ± 0.7	340.00	872.5 ± 0.6	380.00	846.0 ± 1.3
310.00	892.3 ± 0.5	350.00	865.8 ± 0.8		

**5-8-Dimethyl-1-octyl-
1,2,3,4-tetrahydronaphthalene**

[55255-58-8]

C₂₀H₃₂

MW =272.47

1054

Table 1. Fit with estimated *B* coefficient for 8 accepted points. Deviation $\sigma_w = 0.124$.

Coefficient	$\rho = A + BT$
<i>A</i>	1116.67
<i>B</i>	-0.665

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	921.7 ± 0.5	-0.03	63-dix/yar	293.15	921.7 ± 0.5	-0.03	68-ano-1
310.95	909.8 ± 0.5	-0.09	63-dix/yar	310.95	909.8 ± 0.5	-0.09	68-ano-1
333.15	895.1 ± 0.5	-0.03	63-dix/yar	333.15	895.1 ± 0.5	-0.03	68-ano-1
372.05	869.6 ± 0.7	0.34	63-dix/yar	372.05	869.5 ± 0.7	0.24	68-ano-1

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	923.8 ± 0.8	320.00	903.9 ± 0.5	360.00	877.3 ± 0.9
293.15	921.7 ± 0.8	330.00	897.2 ± 0.5	370.00	870.6 ± 1.1
298.15	918.4 ± 0.7	340.00	890.6 ± 0.6	380.00	864.0 ± 1.3
310.00	910.5 ± 0.6	350.00	883.9 ± 0.8		

**6-Heptyl-7-propyl-
1,2,3,4-tetrahydronaphthalene**

[700003-48-1]

C₂₀H₃₂

MW =272.47

1055

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	910.5 ± 1.0	50-har/geo

6-Pentyl-1,2,3,4-tetrahydronaphthalene [171111-29-8]C₂₀H₃₂

MW =272.47

1056

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	908.8 ± 1.0	48-har/rob

1,2,3,4,5,6,7,8,8a,9,10,10a-Dodecahydro-8-(1-methylethyl)-4,4,5-trimethylantracene [500050-02-2] C₂₀H₃₄ MW =274.49 1057

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
287.15	941.0 ± 3.0	24-ruz/sto

1,2-Benzo-5,6-cyclopentanoanthracene [500039-19-0] C₂₁H₁₆ MW =268.36 1058

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
291.15	1255.0 ± 2.0	36-iba

1-Butyl-1,2-cyclopentano-1,2,3,4-tetrahydrophenanthrene [500050-28-2] C₂₁H₂₆ MW =278.44 1059

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	1020.1 ± 2.0	49-adk/hag

6,7-Cyclohexano-2,3-dihydro-2,2,4,5-tetraethyl-1H-indene [500038-40-4] C₂₁H₃₂ MW =284.49 1060

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
300.15	964.7 ± 2.0	23-fle/ret

2,3-dihydro-2,2,4,5,6,7-hexaethyl-1H-indene [66326-22-5] C₂₁H₃₄ MW =286.50 1061

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
287.45	926.3 ± 2.0	27-von

6-octyl-7-propyl-1,2,3,4-tetrahydronaphthalene [66326-23-6] C₂₁H₃₄ MW =286.50 1062

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	907.9 ± 1.0	50-har/geo

**9,10-Bis(2-methylpropyl)-
9,10-dihydroanthracene** [500038-92-6] C₂₂H₂₈ MW =292.46 1063

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	990.2 ± 1.0	33-mar/hug
293.15	989.9 ± 1.0	42-lar/tho
293.15	990.0 ± 1.0	Recommended

**6,7-Bis(4-methylpentyl)-
1,2,3,4-tetrahydronaphthalene** [500050-82-8] C₂₂H₃₆ MW =300.53 1064

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	902.6 ± 1.0	50-har/geo

**7-Butyl-6-octyl-1,2,3,4-tetrahydro-
naphthalene** [500050-80-6] C₂₂H₃₆ MW =300.53 1065

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	907.7 ± 1.0	50-har/geo

**6,7-Dihexyl-
1,2,3,4-tetrahydronaphthalene-** [66326-11-2] C₂₂H₃₆ MW =300.53 1066

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	907.7 ± 1.0	50-har/geo
293.15	905.2 ± 0.5	54-els
310.93	893.3 ± 0.5	54-els
339.35	873.4 ± 0.5	54-els

**1-Dodecyl-1,2,3,4-tetrahydro-
naphthalene** [500050-83-9] C₂₂H₄₂ MW =306.58 1067

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	870.4 ± 0.5	54-els
310.93	858.9 ± 0.5	54-els
339.45	840.9 ± 0.5	54-els

6-Heptyl-7-pentyl-1,2,3,4-tetrahydro-naphthalene [500050-81-7] C₂₂H₃₆ MW =300.53 1068

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	907.7 ± 1.0	50-har/geo

6-Nonyl-7-propyl-1,2,3,4-tetrahydro-naphthalene [500050-79-3] C₂₂H₃₆ MW =300.53 1069

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	904.2 ± 1.0	50-har/geo

1,2-Dihydro-1-tridecyl-naphthalene [500050-88-4] C₂₃H₃₆ MW =312.54 1070

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	895.1 ± 2.0	49-lut
293.15	895.1 ± 2.0	49-lut/wac

9,10-Bis(3-methylbutyl)-9,10-dihydroanthracene [500038-93-7] C₂₄H₃₂ MW =320.52 1071

Table 1. Fit with estimated *B* coefficient for 4 accepted points. Deviation $\sigma_w = 0.041$.

Coefficient	$\rho = A + BT$
<i>A</i>	1188.97
<i>B</i>	-0.740

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	986.8 ± 1.0	-0.03	32-hug/ler
294.15	971.3 ± 1.0	0.01	32-hug/ler
293.15	972.0 ± 1.0	-0.03	35-ros-1
323.15	949.9 ± 1.0	0.07	38-eva-2
373.15	913.0 ± 2.0	0.17	38-eva-2 ¹⁾

¹⁾ Not included in calculation of linear coefficients.

cont.

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	989.2 \pm 1.5	293.15	972.0 \pm 0.9	320.00	952.2 \pm 1.4
280.00	981.8 \pm 1.1	298.15	968.3 \pm 0.9	330.00	944.8 \pm 1.8
290.00	974.4 \pm 0.8	310.00	959.6 \pm 1.0		

6-Butyl-3-hexyl-1,2,3,4,4a,9,10,10a-octahydrophenanthrene [114598-33-3] C₂₄H₃₈ MW =326.57 1072

Table 1. Fit with estimated B coefficient for 5 accepted points. Deviation $\sigma_w = 0.061$.

Coefficient	$\rho = A + BT$
A	1123.61
B	-0.655

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	944.7 \pm 0.5	0.00	68-ano-1
293.15	931.6 \pm 0.5	0.00	68-ano-1
310.95	920.0 \pm 0.5	0.06	68-ano-1
333.15	905.3 \pm 0.5	-0.10	68-ano-1
372.05	880.0 \pm 0.7	0.08	68-ano-1

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	946.8 \pm 0.9	310.00	920.6 \pm 0.5	360.00	887.8 \pm 1.1
280.00	940.2 \pm 0.8	320.00	914.0 \pm 0.5	370.00	881.3 \pm 1.3
290.00	933.7 \pm 0.6	330.00	907.5 \pm 0.6	380.00	874.7 \pm 1.5
293.15	931.6 \pm 0.6	340.00	900.9 \pm 0.8		
298.15	928.3 \pm 0.5	350.00	894.4 \pm 0.9		

2,3-Dihydro-1-hexadecyl-1H-indene [55334-29-7] C₂₅H₄₂ MW =342.61 1073

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
310.95	873.9 \pm 0.5	68-ano-1
333.15	858.9 \pm 0.5	68-ano-1
372.05	833.5 \pm 0.7	68-ano-1

2,3-Dihydro-2-hexadecyl-1H-indene [56248-65-8] C₂₅H₄₂ MW =342.61 1074

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
333.15	856.8 ± 0.5	68-ano-1
372.05	831.3 ± 0.5	68-ano-1
388.15	820.3 ± 0.7	68-ano-1

5-Pentadecyl-1,2,3,4-tetrahydronaphthalene [66374-91-2] C₂₅H₄₂ MW =342.61 1075

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
310.95	877.3 ± 0.5	68-ano-1
333.15	862.8 ± 0.5	68-ano-1
372.05	837.6 ± 0.7	68-ano-1

Hexadecahydro-6-octyl-1H-benz[de]anthracene [7225-65-2] C₂₅H₄₄ MW =344.62 1076

Table 1. Fit with estimated *B* coefficient for 4 accepted points. Deviation $\sigma_w = 0.090$.

Coefficient	$\rho = A + BT$
<i>A</i>	1122.95
<i>B</i>	-0.613

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	943.2 ± 0.5	-0.05	68-ano-1
310.95	932.3 ± 0.5	-0.04	68-ano-1
333.15	918.7 ± 0.5	-0.03	68-ano-1
372.05	895.1 ± 0.7	0.22	68-ano-1

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	945.2 ± 0.8	320.00	926.8 ± 0.5	360.00	902.3 ± 0.9
293.15	943.2 ± 0.7	330.00	920.7 ± 0.5	370.00	896.1 ± 1.1
298.15	940.2 ± 0.7	340.00	914.5 ± 0.6	380.00	890.0 ± 1.3
310.00	932.9 ± 0.5	350.00	908.4 ± 0.8		

4-Decyl-1,2,3,6,7,8-hexahdropyrene [56247-94-0] C₂₆H₃₆ MW =348.57 1077**Table 1.** Fit with estimated B coefficient for 4 accepted points. Deviation $\sigma_w = 0.124$.

Coefficient	$\rho = A + BT$
A	1192.63
B	-0.675

Table 2. Experimental values with uncertainties and deviation from calculated values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg · m ⁻³	Ref.
293.15	994.7 ± 0.5	-0.06	68-ano-1
310.95	982.7 ± 0.5	-0.04	68-ano-1
333.15	967.7 ± 0.5	-0.06	68-ano-1
372.05	941.8 ± 0.7	0.30	68-ano-1

Table 3. Recommended values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³
290.00	996.9 ± 0.8	320.00	976.6 ± 0.5	360.00	949.6 ± 0.9
293.15	994.8 ± 0.8	330.00	969.9 ± 0.5	370.00	942.9 ± 1.1
298.15	991.4 ± 0.7	340.00	963.1 ± 0.6	380.00	936.1 ± 1.3
310.00	983.4 ± 0.6	350.00	956.4 ± 0.8		

9,10-Dihydro-2-dodecylphenanthrene [55401-77-9] C₂₆H₃₆ MW =348.57 1078**Table 1.** Experimental values with uncertainties.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
310.95	947.4 ± 0.5	68-ano-1
333.15	932.8 ± 0.5	68-ano-1
372.05	907.7 ± 0.5	68-ano-1

1,2,3,4,4a,7,8,9,10,11,12,12a-dodecahydro-6-octylchrysene [55281-94-2] C₂₆H₄₀ MW =352.61 1079**Table 1.** Experimental values with uncertainties.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
310.95	972.6 ± 0.5	68-ano-1
333.15	958.7 ± 0.5	68-ano-1
372.05	934.5 ± 0.5	68-ano-1

1,2-Dihydro-1-hexadecylnaphthalene [500050-91-9] C₂₆H₄₂ MW =354.62 1080

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	876.7 ± 2.0	49-lut
293.15	876.7 ± 2.0	49-lut/wac

2-Decylhexadecahydroindeno-[2,1a]indene [55191-42-9] C₂₆H₄₆ MW =358.65 1081

Table 1. Fit with estimated B coefficient for 5 accepted points. Deviation $\sigma_w = 0.277$.

Coefficient	$\rho = A + BT$
A	1102.14
B	-0.635

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	929.1 ± 0.5	0.41	68-ano-1
293.15	915.8 ± 0.5	-0.19	68-ano-1
310.95	904.6 ± 0.5	-0.09	68-ano-1
333.15	890.3 ± 0.5	-0.29	68-ano-1
372.05	866.2 ± 0.7	0.31	68-ano-1

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	930.7 ± 1.0	310.00	905.3 ± 0.6	360.00	873.5 ± 1.1
280.00	924.3 ± 0.8	320.00	898.9 ± 0.6	370.00	867.2 ± 1.3
290.00	918.0 ± 0.7	330.00	892.6 ± 0.7	380.00	860.8 ± 1.5
293.15	916.0 ± 0.7	340.00	886.2 ± 0.8		
298.15	912.8 ± 0.6	350.00	879.9 ± 1.0		

[8R-8 α ,9 β ,10 α ,13 α ,14 β ,17 α (R)]-17-(1,5-dimethylhexyl)hexadecahydro-10,13-dimethyl-1H-cyclopenta[a]phenanthrene [14982-53-7] C₂₇H₄₈ MW =372.68 1082

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
353.15	913.3 ± 0.5	68-ano-1
363.15	907.6 ± 0.5	68-ano-1
372.05	902.4 ± 0.5	68-ano-1

2-Octadecyl-1,2,3,4-tetrahydronaphthalene

[500018-33-7]

C₂₈H₄₈

MW =384.69

1083

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
318.15	872.2 ± 1.0	42-lar/tho
323.15	865.6 ± 1.0	42-lar/tho

9,10-Dihydro-2,3-dioctylanthracene

[500038-94-8]

C₃₀H₄₄

MW =404.68

1084

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	948.0 ± 2.0	35-ros-1
273.15	964.6 ± 2.0	38-eva-2
323.15	933.1 ± 2.0	38-eva-2
373.15	901.6 ± 2.0	38-eva-2

5-(1-Decylundecyl)-1,2,3,4-tetrahydronaphthalene

[56282-45-2]

C₃₁H₅₄

MW =426.77

1085

Table 1. Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.104$.

Coefficient	$\rho = A + BT$
<i>A</i>	1077.08
<i>B</i>	-0.645

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	900.8 ± 0.5	-0.10	68-ano-1
293.15	887.9 ± 0.5	-0.10	68-ano-1
310.95	876.5 ± 0.5	-0.01	68-ano-1
333.15	862.3 ± 0.5	0.10	68-ano-1
372.05	837.3 ± 0.7	0.20	68-ano-1

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	902.9 ± 0.9	310.00	877.1 ± 0.5	360.00	844.9 ± 1.1
280.00	896.5 ± 0.8	320.00	870.7 ± 0.5	370.00	838.4 ± 1.3
290.00	890.0 ± 0.6	330.00	864.2 ± 0.6	380.00	832.0 ± 1.5
293.15	888.0 ± 0.6	340.00	857.8 ± 0.8		
298.15	884.8 ± 0.6	350.00	851.3 ± 0.9		

6-(1-Butyl-1-octenyl)-1,2,3,4-tetrahydro-naphthalene [500038-35-7] C₃₂H₅₄ MW =438.78 1086

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	890.0 ± 2.0	36-mik

6-(1-Butyloctadecyl)-1,2,3,4-tetrahydro-naphthalene [500038-29-9] C₃₂H₅₆ MW =440.80 1087

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	881.0 ± 2.0	36-mik

6-Docosyl-1,2,3,4-tetrahydro-naphthalene [500038-28-8] C₃₂H₅₆ MW =440.80 1088

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	878.6 ± 2.0	36-mik

6-(1-Butyl-1-docosenyl)-1,2,3,4-tetrahydronaphthalene [500038-36-8] C₃₆H₆₂ MW =494.89 1089

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	879.0 ± 2.0	36-mik

6-(1-Butyldocosyl)-1,2,3,4-tetrahydronaphthalene [500038-30-2] C₃₆H₆₄ MW =496.90 1090

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	876.2 ± 2.0	36-mik

5.3 Condensed Polycyclic Aromatic Compounds

5.3.1 Condensed Polycyclic Aromatic Compounds, C₁₀ - C₁₅

Naphthalene

[91-20-3]

C₁₀H₈

MW = 128.17

1091

 $T_c = 748.40$ K [95- tso/amb] $\rho_c = 310.00$ kg·m⁻³ [95- tso/amb]**Table 1.** Coefficients for the polynomial expansion equations. Standard deviations (see introduction): $\sigma_l = 2.6726$ (low temperature range), $\sigma_{c,w} = (1.0491$ combined temperature ranges, weighted), $\sigma_{c,uw} = 3.2525 \cdot 10^{-1}$ (combined temperature ranges, unweighted).

Coefficient	$T = 323.15$ to 520.00 K $\rho = A + BT + CT^2 + DT^3 + \dots$	$T = 520.00$ to 748.40 K $\rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)]$ $[\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$
<i>A</i>	$1.21717 \cdot 10^3$	$8.12966 \cdot 10^{-1}$
<i>B</i>	$-5.64297 \cdot 10^{-1}$	$-9.39152 \cdot 10^{-3}$
<i>C</i>	$-3.22739 \cdot 10^{-4}$	$4.84397 \cdot 10^{-5}$
<i>D</i>		$-8.65047 \cdot 10^{-8}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg·m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg·m ⁻³	Ref. (Symbol in Fig. 1)	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg·m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg·m ⁻³	Ref. (Symbol in Fig. 1)
<i>crystal</i>				363.15	970.51 ± 0.50	0.82	30-mar(O)
293.15	1108.00 ± 20.00		31-bla/lei	363.15	970.55 ± 0.50	0.86	30-mar(O)
297.05	1178.90 ± 20.00		33-hen/jef	363.15	970.22 ± 0.50	0.53	30-mar(O)
333.15	1141.00 ± 10.00		42-def/vle	373.15	962.47 ± 0.50	0.80	30-mar(O)
298.15	1152.00 ± 10.00		59-ino/nak	373.15	962.43 ± 0.50	0.76	30-mar(O)
<i>liquid</i>				373.15	962.06 ± 0.50	0.39	30-mar(O)
339.86	987.70 ± 1.00	-0.41	12-blo(X)	388.15	950.49 ± 0.50	0.97	30-mar(O)
343.25	985.00 ± 1.00	-0.45	12-blo(X)	388.15	950.26 ± 0.50	0.74	30-mar(O)
345.76	983.00 ± 1.00	-0.48	12-blo(X)	388.15	949.89 ± 0.50	0.37	30-mar(O)
348.19	981.30 ± 1.00	-0.26	12-blo ¹⁾	355.15	976.77 ± 0.60	0.72	31-bur ¹⁾
350.50	979.90 ± 1.00	0.16	12-blo ¹⁾	363.15	970.21 ± 0.60	0.52	31-bur ¹⁾
351.60	979.00 ± 1.00	0.13	12-blo ¹⁾	373.15	962.07 ± 0.60	0.40	31-bur ¹⁾
357.70	974.60 ± 1.00	0.57	12-blo ¹⁾	388.15	949.90 ± 0.60	0.38	31-bur(X)
364.60	969.60 ± 1.00	1.07	12-blo ¹⁾	353.15	979.00 ± 0.60	1.36	32-ber/vei(◆)
353.15	979.00 ± 1.00	1.36	15-kur/kro-1 ¹⁾	363.15	969.60 ± 0.60	-0.09	32-ber/vei ¹⁾
363.15	969.60 ± 1.50	-0.09	15-kur/kro-1 ¹⁾	370.65	964.50 ± 0.60	0.82	32-ber/vei ¹⁾
425.15	921.20 ± 1.00	2.27	15-kur/kro-1(X)	370.65	964.50 ± 0.60	0.82	32-ber/vei ¹⁾
355.15	976.76 ± 0.50	0.71	30-mar(O)	370.65	964.50 ± 0.60	0.82	32-ber/vei ¹⁾
355.15	977.03 ± 0.50	0.98	30-mar(O)	425.15	921.20 ± 0.60	2.27	32-ber/vei(◆)
355.15	978.98 ± 0.50	2.93	30-mar(O)	323.15	999.10 ± 2.00	-2.02	38-eva-2(X)

¹⁾ Not included in Fig. 1.

cont.

Naphthalene (cont.)

Table 2. (cont.)

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
363.15	968.50 ± 2.00	-1.19	38-eva-2 ¹⁾	435.80	908.70 ± 0.60	-1.26	85-shi/gee(V)
373.15	960.90 ± 2.00	-0.77	38-eva-2 ¹⁾	437.90	905.50 ± 0.60	-2.68	85-shi/gee(V)
393.15	945.60 ± 2.00	0.17	38-eva-2 ¹⁾	440.30	903.60 ± 0.60	-2.54	85-shi/gee(V)
353.16	978.65 ± 0.60	1.02	42-def/vle(X)	445.30	898.70 ± 0.60	-3.19	85-shi/gee(V)
355.00	976.72 ± 0.40	0.55	72-hal/tow(□)	452.10	893.70 ± 0.60	-2.39	85-shi/gee(V)
360.00	972.74 ± 0.40	0.54	72-hal/tow(□)	458.20	889.00 ± 0.60	-1.85	85-shi/gee(V)
370.00	964.73 ± 0.40	0.53	72-hal/tow(□)	462.80	884.90 ± 0.60	-1.99	85-shi/gee(V)
390.00	948.62 ± 0.40	0.61	72-hal/tow(□)	467.30	880.90 ± 0.60	-2.10	85-shi/gee(V)
410.00	932.30 ± 0.40	0.74	72-hal/tow(□)	472.20	876.30 ± 0.60	-2.45	85-shi/gee(V)
430.00	915.72 ± 0.40	0.87	72-hal/tow(□)	477.60	873.30 ± 0.60	-0.75	85-shi/gee(V)
450.00	898.82 ± 0.40	0.94	72-hal/tow(□)	574.10	768.00 ± 2.00	-4.32	96-grz/ram(X)
460.00	890.20 ± 0.40	0.90	72-hal/tow(□)	594.10	744.00 ± 2.00	-1.74	96-grz/ram(X)
470.00	881.49 ± 0.40	0.83	72-hal/tow(□)	614.10	723.00 ± 3.00	3.79	96-grz/ram(X)
480.00	872.65 ± 0.40	0.70	72-hal/tow(□)	634.10	699.00 ± 3.00	6.53	96-grz/ram(X)
490.00	863.68 ± 0.40	0.50	72-hal/tow(□)	653.10	668.00 ± 3.50	2.17	96-grz/ram(X)
373.15	963.00 ± 0.50	1.33	84-sza(Δ)	673.10	626.00 ± 4.00	-8.59	96-grz/ram(X)
431.40	911.00 ± 0.60	-2.67	85-shi/gee(V)				

¹⁾ Not included in Fig. 1.

Table 3. Recommended values (fit to the reliable experimental values according to the equations
 $\rho = A + BT + CT^2 + DT^3 + \dots$ or $\rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$).

$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
320.00	1003.55 ± 1.96	470.00	880.66 ± 0.48	620.00	711.38 ± 2.71
330.00	995.81 ± 1.44	480.00	871.95 ± 0.33	630.00	698.01 ± 2.91
340.00	988.00 ± 1.03	490.00	863.18 ± 0.15	640.00	684.39 ± 3.12
350.00	980.13 ± 0.74	500.00	854.34 ± 0.18	650.00	670.32 ± 3.35
360.00	972.20 ± 0.53	510.00	845.44 ± 0.23	660.00	655.55 ± 3.61
370.00	964.20 ± 0.40	520.00	836.47 ± 0.29	670.00	639.75 ± 3.90
380.00	956.14 ± 0.34	530.00	826.67 ± 1.35	680.00	622.55 ± 4.24
390.00	948.01 ± 0.34	540.00	815.54 ± 1.46	690.00	603.48 ± 4.65
400.00	939.82 ± 0.37	550.00	803.48 ± 1.59	700.00	581.95 ± 5.17
410.00	931.56 ± 0.42	560.00	790.79 ± 1.72	710.00	557.17 ± 5.86
420.00	923.24 ± 0.48	570.00	777.73 ± 1.86	720.00	527.91 ± 6.83
430.00	914.85 ± 0.54	580.00	764.49 ± 2.01	730.00	491.90 ± 8.34
440.00	906.40 ± 0.58	590.00	751.19 ± 2.17	740.00	442.75 ± 10.98
450.00	897.88 ± 0.59	600.00	737.90 ± 2.34		
460.00	889.30 ± 0.56	610.00	724.65 ± 2.52		

cont.

Further references: [1860-all, 1884-sch-5, 1885-nas/ber, 1887-bru, 1896-per, 1897-hey, 00-dut/fri, 10-sch-2, 21-von-1, 21-von/fru-1, 22-von, 23-kro, 23-kro-1, 32-fic/plu, 32-sal, 33-hen/jef, 40-mai/str, 49-foe/fen, 51-jol, 55-ano-2, 63-dav/got, 66-gus/akh, 69-her/ber].

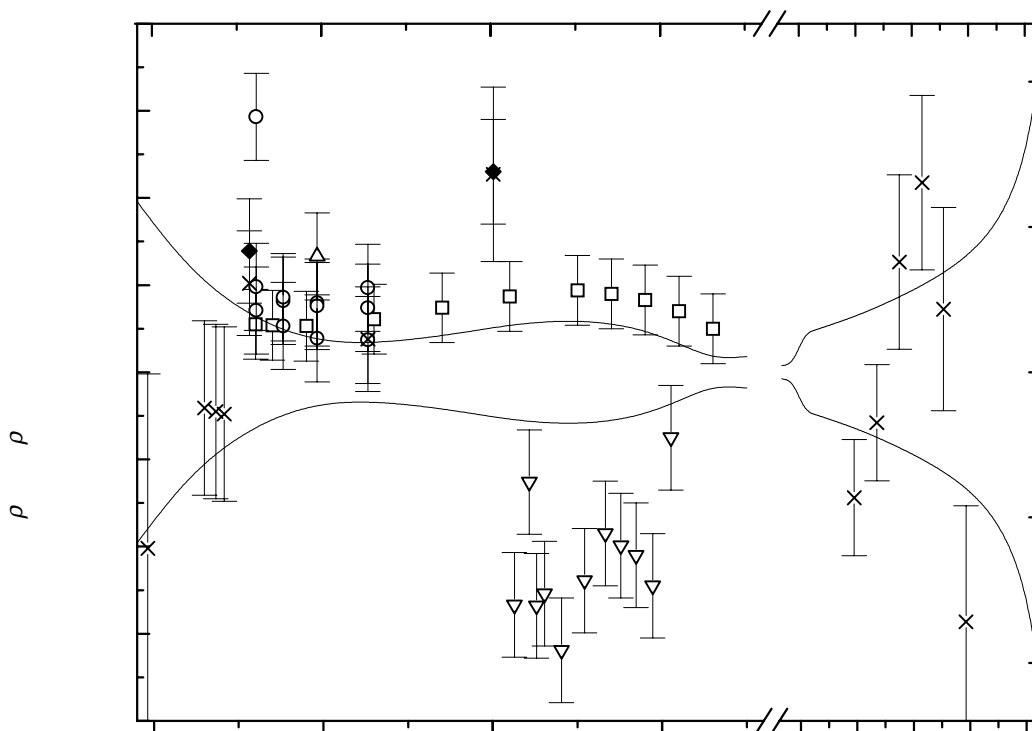


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

1-Methylnaphthalene

[90-12-0]

C₁₁H₁₀

MW = 142.20

1092

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction): $\sigma_{c,w} = 7.1321 \cdot 10^{-1}$ (combined temperature ranges, weighted), $\sigma_{c,uw} = 2.0630 \cdot 10^{-1}$ (combined temperature ranges, unweighted).

Coefficient	T = 273.15 to 373.35 K
	$\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.23541 \cdot 10^3$
B	$-7.33646 \cdot 10^{-1}$

cont.

1-Methylnaphthalene (cont.)**Table 2.** Experimental values with uncertainties and deviation from calculated values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg·m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg·m ⁻³	Ref. (Symbol in Fig. 1)	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg·m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg·m ⁻³	Ref. (Symbol in Fig. 1)
290.95	1021.70 ± 1.00	-0.25	29-von/ber ¹⁾	293.15	1020.10 ± 0.50	-0.24	39-gro/wac(×)
292.95	1019.50 ± 1.00	-0.98	29-von/ber ¹⁾	298.15	1016.30 ± 0.40	-0.37	43-gru/buc(○)
293.65	1019.20 ± 1.00	-0.77	29-von/ber ¹⁾	303.15	1012.40 ± 0.40	-0.60	50-ber/wei(Δ)
293.75	1018.80 ± 1.00	-1.10	29-von/ber ¹⁾	273.15	1035.70 ± 0.60	0.69	52-ano-4(×)
294.05	1019.00 ± 1.00	-0.68	29-von/ber ¹⁾	293.15	1021.10 ± 0.60	0.76	52-ano-4 ¹⁾
294.45	1018.20 ± 1.00	-1.18	29-von/ber ¹⁾	310.95	1007.90 ± 0.60	0.62	52-ano-4(×)
294.75	1018.20 ± 1.00	-0.96	29-von/ber ¹⁾	333.15	991.40 ± 0.60	0.41	52-ano-4(×)
295.75	1017.00 ± 1.00	-1.43	29-von/ber ¹⁾	293.15	1021.10 ± 0.50	0.76	52-ano(×)
296.45	1017.20 ± 1.00	-0.72	29-von/ber ¹⁾	293.15	1020.12 ± 0.50	-0.22	54-hip/wis(×)
372.55	961.70 ± 2.00	-0.39	29-von/ber(×)	293.15	1020.28 ± 0.40	-0.06	55-cam/ros(◆)
372.65	960.60 ± 2.00	-1.41	29-von/ber(×)	298.15	1016.61 ± 0.40	-0.06	55-cam/ros(◆)
373.15	960.40 ± 2.00	-1.25	29-von/ber(×)	303.15	1013.01 ± 0.40	0.01	55-cam/ros(◆)
373.35	960.60 ± 1.50	-0.90	29-von/ber(×)	293.15	1020.29 ± 0.40	-0.05	56-ano-5(∇)
286.75	1025.90 ± 1.00	0.87	31-von/wol ¹⁾	298.15	1016.61 ± 0.40	-0.06	56-ano-5(∇)
287.55	1025.00 ± 1.00	0.55	31-von/wol ¹⁾	303.15	1013.01 ± 0.40	0.01	56-ano-5(∇)
289.95	1022.50 ± 1.00	-0.19	31-von/wol ¹⁾	293.15	1018.90 ± 1.00	-1.44	58-ram/smy ¹⁾
290.75	1022.90 ± 1.00	0.80	31-von/wol ¹⁾	313.15	1005.80 ± 1.00	0.13	58-ram/smy(×)
291.35	1021.60 ± 1.00	-0.06	31-von/wol ¹⁾	333.15	990.20 ± 1.00	-0.79	58-ram/smy(×)
292.05	1021.80 ± 1.00	0.65	31-von/wol ¹⁾	293.15	1022.10 ± 0.60	1.76	65-arr/jef ¹⁾
292.35	1021.90 ± 1.00	0.97	31-von/wol ¹⁾	313.15	1007.90 ± 0.60	2.23	65-arr/jef ¹⁾
292.45	1021.80 ± 1.00	0.95	31-von/wol ¹⁾	333.15	994.10 ± 0.60	3.11	65-arr/jef ¹⁾
292.85	1020.90 ± 1.00	0.34	31-von/wol ¹⁾	358.15	976.20 ± 0.60	3.55	65-arr/jef(×)
293.15	1021.20 ± 1.00	0.86	31-von/wol ¹⁾	273.15	1035.70 ± 0.50	0.69	68-ano-1(×)
297.05	1018.20 ± 1.00	0.72	31-von/wol ¹⁾	293.15	1021.10 ± 0.50	0.76	68-ano-1(×)
297.15	1018.10 ± 1.00	0.70	31-von/wol ¹⁾	310.95	1007.90 ± 0.50	0.62	68-ano-1(×)
351.45	977.10 ± 1.50	-0.47	31-von/wol(×)	333.15	991.40 ± 0.50	0.41	68-ano-1(×)
373.15	963.20 ± 2.00	1.55	31-von/wol(×)	372.05	962.40 ± 0.70	-0.05	68-ano-1(×)
373.25	964.40 ± 2.00	2.83	31-von/wol(×)	298.11	1014.20 ± 1.00	-2.50	86-osh/han ¹⁾
273.15	1034.70 ± 0.60	-0.31	38-eva-2(×)	318.15	998.30 ± 1.00	-3.70	86-osh/han(×)
293.15	1020.00 ± 2.00	-0.34	38-eva-2 ¹⁾	338.15	925.40 ± 0.00	-61.92	86-osh/han ¹⁾
323.15	997.90 ± 1.50	-0.43	38-eva-2(×)	298.15	1015.53 ± 0.40	-1.14	87-wil/ing(□)
373.15	961.10 ± 1.00	-0.55	38-eva-2(×)				

¹⁾ Not included in Fig. 1.

Further references: [1870-fit/rem, 19-wei/kru, 21-von/fru-1, 27-her/ruh, 31-von/wun, 32-von, 38-orl/pro, 40-mai/str, 43-arb/kuz, 43-pok-1, 48-and/pet, 48-vog-1, 49-bai/pic, 49-lut, 49-lut/wac, 51-hip/wis, 51-kus/koi, 53-and/smi, 54-com/goo].

cont.

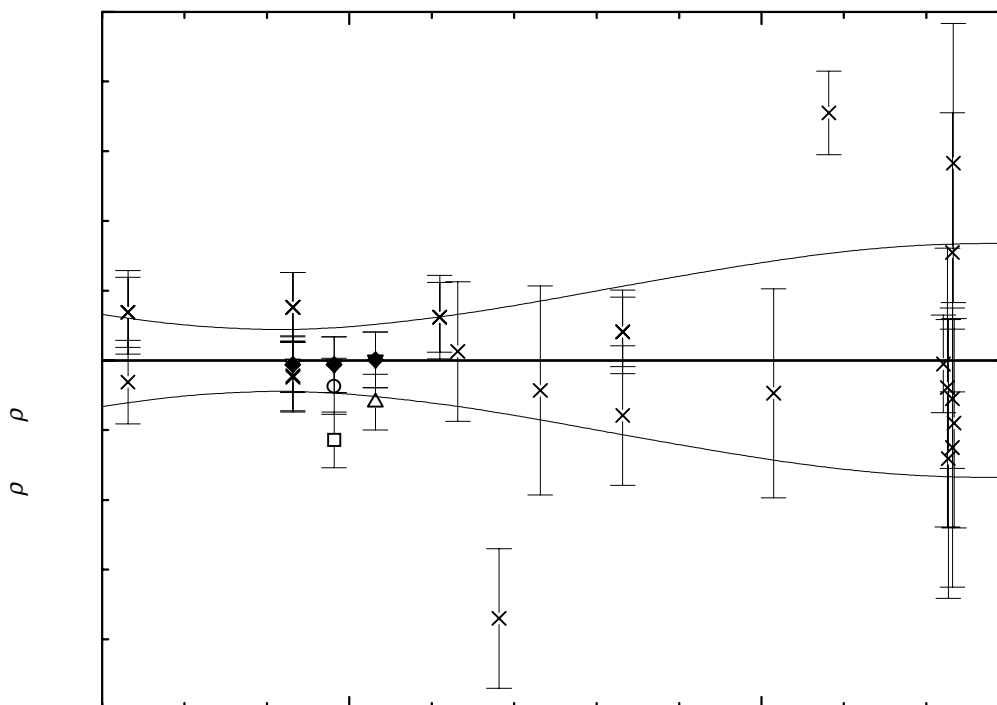


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

Table 3. Recommended values (fit to the reliable experimental values according to the equations $\rho = A + BT + CT^2 + DT^3 + \dots$ or $\rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$).

$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	1037.32 ± 0.66	300.00	1015.31 ± 0.48	350.00	978.63 ± 1.41
280.00	1029.99 ± 0.49	310.00	1007.98 ± 0.60	360.00	971.29 ± 1.57
290.00	1022.65 ± 0.44	320.00	1000.64 ± 0.78	370.00	963.96 ± 1.67
293.15	1020.34 ± 0.44	330.00	993.30 ± 1.00	380.00	956.62 ± 1.68
298.15	1016.67 ± 0.47	340.00	985.97 ± 1.21		

2-Methylnaphthalene**[91-57-6]****C₁₁H₁₀****MW = 142.20****1093**

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction):

$\sigma_{c,w} = 4.6287 \cdot 10^{-1}$ (combined temperature ranges, weighted), $\sigma_{c,uw} = 8.1698 \cdot 10^{-2}$ (combined temperature ranges, unweighted).

Coefficient	T = 295.15 to 490.00 K $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.19255 \cdot 10^3$
B	$-5.49012 \cdot 10^{-1}$
C	$-3.04402 \cdot 10^{-4}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
<i>crystal</i>				372.05	946.10 ± 0.70	-0.06	68-ano-1(∇)
298.15	1100.00 ± 10.00		39-neu	310.00	993.41 ± 0.40	0.30	72-hal/tow(O)
298.15	1088.00 ± 4.00		48-ano-7	320.00	985.76 ± 0.40	0.06	72-hal/tow(O)
<i>liquid</i>				330.00	978.09 ± 0.40	-0.14	72-hal/tow(O)
295.15	1004.30 ± 1.00	0.31	1880-rei(X)	340.00	970.42 ± 0.40	-0.28	72-hal/tow(O)
323.15	985.00 ± 2.00	1.65	38-gro ¹⁾	360.00	955.04 ± 0.40	-0.42	72-hal/tow(O)
353.15	961.00 ± 1.00	0.29	38-gro(X)	380.00	939.60 ± 0.40	-0.37	72-hal/tow(O)
393.15	930.00 ± 1.00	0.34	38-gro(X)	400.00	923.97 ± 0.40	-0.27	72-hal/tow(O)
443.15	891.00 ± 1.00	1.52	38-gro(X)	420.00	908.14 ± 0.40	-0.13	72-hal/tow(O)
313.15	990.43 ± 0.20	-0.35	40-mai/str(□)	440.00	892.00 ± 0.40	-0.05	72-hal/tow(O)
310.95	992.70 ± 0.60	0.30	52-ano(◆)	460.00	875.54 ± 0.40	-0.06	72-hal/tow(O)
333.15	975.80 ± 0.60	-0.06	52-ano(◆)	470.00	867.19 ± 0.40	-0.08	72-hal/tow(O)
371.75	946.10 ± 0.60	-0.29	52-ano(◆)	480.00	858.72 ± 0.40	-0.17	72-hal/tow(O)
310.95	992.70 ± 0.50	0.30	68-ano-1(∇)	490.00	850.11 ± 0.40	-0.34	72-hal/tow(O)
333.15	975.80 ± 0.50	-0.06	68-ano-1(∇)	313.15	990.50 ± 0.50	-0.28	84-sza(Δ)

¹⁾ Not included in Fig. 1.

Table 3. Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4].$$

$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	1007.74 ± 0.70	350.00	963.11 ± 0.52	430.00	900.19 ± 0.64
293.15	1005.45 ± 0.67	360.00	955.46 ± 0.54	440.00	892.05 ± 0.63
298.15	1001.81 ± 0.63	370.00	947.75 ± 0.56	450.00	883.86 ± 0.60
300.00	1000.45 ± 0.62	380.00	939.97 ± 0.58	460.00	875.60 ± 0.56
310.00	993.11 ± 0.56	390.00	932.14 ± 0.60	470.00	867.27 ± 0.60
320.00	985.70 ± 0.53	400.00	924.24 ± 0.62	480.00	858.89 ± 0.60
330.00	978.23 ± 0.51	410.00	916.29 ± 0.64	490.00	850.45 ± 0.60
340.00	970.70 ± 0.51	420.00	908.27 ± 0.64	500.00	841.95 ± 0.60

cont.

Further references: [21-von/fru-1, 31-sal, 38-eva-2, 43-shr/lux, 58-ram/smy].

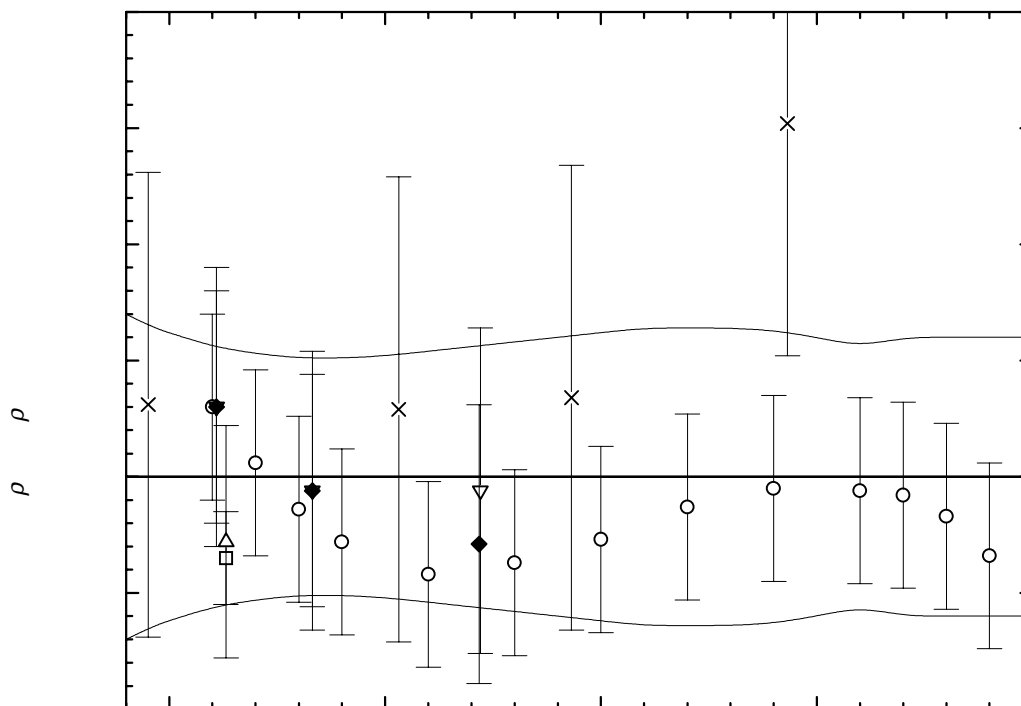


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

Acenaphthylene [208-96-8] C₁₂H₈ MW =152.20 1094

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.20	884.7 ± 2.0	01-pel

1-Ethynylnaphthalene [15727-65-8] C₁₂H₈ MW =152.20 1095

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1057.0 ± 2.0	1891-ler

Acenaphthene**[83-32-9]****C₁₂H₁₀****MW =154.21****1096****Table 1.** Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.798$.

Coefficient	$\rho = A + BT$
<i>A</i>	1323.08
<i>B</i>	-0.800

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
<i>crystal</i>				373.15	1024.3 ± 2.0	-0.26	1896-per
297.95	1219.5 ± 5.0		33-hen/jef	401.75	1003.0 ± 2.0	1.32	00-dut/fri
293.15	1220.0 ± 5.0		33-muk	451.85	962.0 ± 2.0	0.40	00-dut/fri
<i>liquid</i>				371.95	1033.1 ± 6.0	7.58	13-cro/smy ¹⁾
376.15	1030.0 ± 6.0	7.84	1884-sch-5 ¹⁾	372.35	1024.2 ± 2.0	-1.00	21-von/fru-1
368.15	1028.1 ± 2.0	-0.46	1896-per				

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
360.00	1035.1 ± 2.3	400.00	1003.1 ± 1.5	440.00	971.1 ± 2.8
370.00	1027.1 ± 1.9	410.00	995.1 ± 1.7	450.00	963.1 ± 3.2
380.00	1019.1 ± 1.6	420.00	987.1 ± 2.0	460.00	955.1 ± 3.7
390.00	1011.1 ± 1.5	430.00	979.1 ± 2.4		

1-Ethenynaphthalene**[826-74-4]****C₁₂H₁₀****MW =154.21****1097****Table 1.** Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1034.0 ± 2.0	32-pal/sab-1
291.15	1036.1 ± 2.0	34-son
297.15	1041.1 ± 5.0	35-sho/sho
273.15	1077.4 ± 20.0	36-zal/zon
293.15	1065.6 ± 20.0	36-zal/zon

1,2-Dimethylnaphthalene**[573-98-8]****C₁₂H₁₂****MW =156.23****1098****Table 1.** Fit with estimated *B* coefficient for 7 accepted points. Deviation $\sigma_w = 0.622$.

Coefficient	$\rho = A + BT$
<i>A</i>	1223.64
<i>B</i>	-0.700

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
289.75	1025.0 \pm 3.0	4.19	18-sch/lic ¹⁾	293.15	1021.3 \pm 2.0	2.87	50-lut/rei
289.50	1021.9 \pm 2.0	0.91	21-von/fru-1	293.15	1017.9 \pm 0.6	-0.53	65-arr/jef
292.15	1011.8 \pm 6.0	-7.33	22-may/sie ¹⁾	313.15	1003.9 \pm 0.6	-0.53	65-arr/jef
293.15	1011.0 \pm 8.0	-7.43	22-may/sie ¹⁾	333.15	990.6 \pm 0.6	0.17	65-arr/jef
293.15	1019.0 \pm 1.5	0.57	29-fri/kus	358.15	973.4 \pm 0.6	0.47	65-arr/jef
293.15	1015.0 \pm 5.0	-3.43	35-kru/sch ¹⁾				

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	1027.6 \pm 2.3	310.00	1006.6 \pm 1.1	340.00	985.6 \pm 1.3
290.00	1020.6 \pm 1.8	320.00	999.6 \pm 0.9	350.00	978.6 \pm 1.7
293.15	1018.4 \pm 1.7	330.00	992.6 \pm 1.0	360.00	971.6 \pm 2.1
298.15	1014.9 \pm 1.5				

1,3-Dimethylnaphthalene

[575-41-7]

C₁₂H₁₂

MW =156.23

1099

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.15	1020.0 \pm 10.0	27-her/ruh
293.15	1041.6 \pm 3.0	50-lut/rei
293.15	1006.3 \pm 2.0	51-eva/smi
293.15	1014.4 \pm 3.0	51-kru/obe

1,4-Dimethylnaphthalene

[571-48-4]

C₁₂H₁₂

MW =156.23

1100

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	1028.3 \pm 3.0	1882-can/car ¹⁾	300.85	1010.6 \pm 2.0	1886-bru ¹⁾
285.15	1019.9 \pm 2.0	1882-can/car ¹⁾	293.15	1016.6 \pm 1.0	49-ano-11
293.15	1015.9 \pm 1.0	1882-gio	293.15	1015.7 \pm 1.0	50-lut/rei
293.15	1015.7 \pm 1.0	1882-gio	293.15	1016.0 \pm 1.0	51-kru/obe
289.55	1018.0 \pm 2.0	1885-nas/ber ¹⁾	293.15	1016.8 \pm 1.0	54-eva/smi
300.85	1010.5 \pm 2.0	1885-nas/ber ¹⁾	293.15	1013.0 \pm 2.0	60-skv/lin ¹⁾
350.85	974.1 \pm 2.0	1885-nas/ber ¹⁾	293.15	1016.1 \pm 1.0	Recommended

¹⁾ Not included in calculation of recommended value.

1,6-Dimethylnaphthalene**[575-43-9]****C₁₂H₁₂****MW =156.23****1101****Table 1.** Fit with estimated *B* coefficient for 10 accepted points. Deviation $\sigma_w = 0.405$.

Coefficient	$\rho = A + BT$
<i>A</i>	1201.17
<i>B</i>	-0.680

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.15	1005.6 ± 1.0	0.37	19-wei/kru	310.35	989.5 ± 1.0	-0.63	54-smi/otv
289.45	1004.9 ± 2.0	0.56	21-von/fru-1	293.15	1002.1 ± 0.6	0.27	65-arr/jef
287.15	1005.0 ± 1.0	-0.91	44-sei/mul	313.15	988.6 ± 0.6	0.37	65-arr/jef
293.15	1001.3 ± 1.0	-0.53	49-nam/pok	333.15	974.6 ± 0.6	-0.03	65-arr/jef
293.15	1010.6 ± 3.0	8.77	50-lut/rei ¹⁾	358.15	957.4 ± 0.6	-0.23	65-arr/jef
293.15	1002.3 ± 1.0	0.47	53-eva/smi				

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	1010.8 ± 1.6	310.00	990.4 ± 0.9	340.00	970.0 ± 1.3
290.00	1004.0 ± 1.3	320.00	983.6 ± 0.9	350.00	963.2 ± 1.7
293.15	1001.8 ± 1.2	330.00	976.8 ± 1.1	360.00	956.4 ± 2.0
298.15	998.4 ± 1.1				

1,7-Dimethylnaphthalene**[575-37-1]****C₁₂H₁₂****MW =156.23****1102****Table 1.** Experimental and recommended values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1011.5 ± 2.0	36-kru/sch
293.15	1010.5 ± 2.0	50-lut/rei
293.15	1001.6 ± 3.0	53-eva/smi ¹⁾
293.15	1011.0 ± 2.0	Recommended

¹⁾ Not included in calculation of recommended value.**1-Ethyl-naphthalene****[1127-76-0]****C₁₂H₁₂****MW =156.23****1103****Table 1.** Fit with estimated *B* coefficient for 13 accepted points. Deviation $\sigma_w = 0.330$.

Coefficient	$\rho = A + BT$
<i>A</i>	1213.00
<i>B</i>	-0.700

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	1020.2 ± 4.0	-1.60	1880-car ¹⁾	287.35	1011.1 ± 1.0	-0.76	49-tat/var-1
285.05	1012.1 ± 4.0	-1.37	1880-car ¹⁾	293.15	1008.2 ± 0.8	0.36	51-hip/wis
293.15	1019.0 ± 4.0	11.20	25-gil/bea-2 ¹⁾	293.15	1008.0 ± 1.0	0.20	53-and/smi
293.15	1012.3 ± 4.0	4.50	31-fro/har ¹⁾	293.15	1008.1 ± 0.8	0.33	54-hip/wis
273.15	1021.9 ± 2.0	0.10	31-lev-1	293.15	1008.5 ± 1.0	0.70	66-dim/pop
287.35	1011.1 ± 2.0	-0.76	31-lev-1	293.15	1007.8 ± 0.6	0.00	65-arr/jef
293.15	1007.6 ± 1.0	-0.20	48-kut/nic	313.15	993.8 ± 0.6	0.00	65-arr/jef
293.15	1008.0 ± 1.0	0.20	49-bai/pic	333.15	979.8 ± 0.6	0.00	65-arr/jef
293.15	1004.0 ± 4.0	-3.80	49-lut/wac ¹⁾	358.15	961.9 ± 0.6	-0.40	65-arr/jef

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	1024.0 ± 1.8	298.15	1004.3 ± 0.9	340.00	975.0 ± 1.4
280.00	1017.0 ± 1.4	310.00	996.0 ± 0.7	350.00	968.0 ± 1.8
290.00	1010.0 ± 1.1	320.00	989.0 ± 0.8	360.00	961.0 ± 2.1
293.15	1007.8 ± 1.0	330.00	982.0 ± 1.1		

2-Ethylanthracene**[939-27-5]****C₁₂H₁₂****MW =156.23****1104****Table 1.** Fit with estimated *B* coefficient for 12 accepted points. Deviation $\sigma_w = 0.657$.

Coefficient	$\rho = A + BT$
<i>A</i>	1200.26
<i>B</i>	-0.710

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	1007.8 ± 3.0	1.48	1881-mar ¹⁾	288.75	996.5 ± 1.0	1.25	49-koe/fri
298.15	1001.3 ± 6.0	12.73	27-orl ¹⁾	293.15	993.5 ± 2.0	1.38	49-lut/wac
273.15	1006.7 ± 1.0	0.38	38-lev	293.15	992.0 ± 1.0	-0.12	53-and/smi
288.15	995.8 ± 1.0	0.13	38-lev	293.15	991.7 ± 0.6	-0.42	65-arr/jef
293.15	992.2 ± 1.0	0.08	48-kut/nic	313.15	977.2 ± 0.6	-0.72	65-arr/jef
293.15	992.0 ± 1.0	-0.12	49-bai/pic	333.15	963.1 ± 0.6	-0.62	65-arr/jef
288.75	996.5 ± 1.0	1.25	49-koe	358.15	946.6 ± 0.6	0.63	65-arr/jef

¹⁾ Not included in calculation of linear coefficients.

cont.

2-Ethylanthracene (cont.)**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	1008.6 ± 1.9	298.15	988.6 ± 1.1	340.00	958.9 ± 1.5
280.00	1001.5 ± 1.6	310.00	980.2 ± 1.0	350.00	951.8 ± 1.9
290.00	994.4 ± 1.3	320.00	973.1 ± 1.1	360.00	944.7 ± 2.2
293.15	992.1 ± 1.2	330.00	966.0 ± 1.3		

Fluorene**[86-73-7]****C₁₃H₁₀****MW =166.22****1105****Table 1.** Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
<i>crystal</i>		
293.15	1301.0 ± 4.0	53-sch/blo-1
293.15	1288.0 ± 4.0	53-sch/blo-1

1-(1-Methylethenyl)naphthalene**[500029-54-9]****C₁₃H₁₂****MW =168.24****1106****Table 1.** Fit with estimated *B* coefficient for 3 accepted points. Deviation $\sigma_w = 0.340$.

Coefficient	$\rho = A + BT$
<i>A</i>	1211.67
<i>B</i>	-0.700

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	1020.8 ± 2.0	0.33	01-gri-2
282.15	1014.3 ± 2.0	0.13	01-gri-2
298.15	1007.8 ± 5.0	4.83	09-shu ¹⁾
293.15	1027.0 ± 20.0	20.53	36-zal/zon ¹⁾
293.15	1006.0 ± 2.0	-0.47	48-kut/nic

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	1022.7 ± 1.7
280.00	1015.7 ± 1.2
290.00	1008.7 ± 1.3
293.15	1006.5 ± 1.5
298.15	1003.0 ± 1.9

1-(1-Propenyl)naphthalene [22767-77-7] C₁₃H₁₂ MW =168.24 1107

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	1042.9 ± 5.0	36-zal/zon
293.15	1028.2 ± 5.0	36-zal/zon
293.15	1019.0 ± 2.0	40-lev/kar

1-(2-Propenyl)naphthalene [2489-86-3] C₁₃H₁₂ MW =168.24 1108

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1022.8 ± 3.0	40-lev/kar
293.15	1010.3 ± 3.0	67-yus/mag

1-Ethyl-4-methylnaphthalene [27424-87-9] C₁₃H₁₄ MW =170.25 1109

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
286.25	1008.6 ± 3.0	23-kro-1
298.15	992.0 ± 2.0	63-col/bru
293.15	997.0 ± 2.0	63-dav/got

1-Ethyl-5-methylnaphthalene [17057-92-0] C₁₃H₁₄ MW =170.25 1110

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
291.15	1011.0 ± 2.5	26-ruz/ste

2-Ethyl-1-methylnaphthalene [25607-16-3] C₁₃H₁₄ MW =170.25 1111

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.55	1001.4 ± 2.0	23-kro-1
293.15	994.0 ± 2.0	63-dav/got

1-(1-Methylethyl)naphthalene [6158-45-8] C₁₃H₁₄ MW =170.25 1112**Table 1.** Experimental and recommended values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.15	900.7 ± 60.0	27-her/ruh ¹⁾	293.15	995.6 ± 0.8	54-hip/wis
293.15	985.2 ± 3.0	46-and/mes ¹⁾	293.15	984.8 ± 3.0	57-rom-1 ¹⁾
293.15	995.3 ± 1.0	48-kut/nic	293.15	995.5 ± 0.8	Recommended

¹⁾ Not included in calculation of recommended value.**2-(1-Methylethyl)naphthalene** [2027-17-0] C₁₃H₁₄ MW =170.25 1113**Table 1.** Fit with estimated *B* coefficient for 7 accepted points. Deviation $\sigma_w = 0.495$.

Coefficient	$\rho = A + BT$
<i>A</i>	1176.09
<i>B</i>	-0.685

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	990.0 ± 2.0	1.02	1887-rou	293.15	975.3 ± 0.6	0.02	65-arr/jef
293.15	979.5 ± 3.0	4.22	37-tsu/ter ¹⁾	313.15	961.7 ± 0.6	0.12	65-arr/jef
298.15	974.0 ± 2.0	2.14	38-pri/cis	333.15	947.6 ± 0.6	-0.28	65-arr/jef
293.15	976.2 ± 1.0	0.92	48-kut/nic	358.15	930.3 ± 0.6	-0.46	65-arr/jef
293.15	978.8 ± 3.0	3.52	57-rom-1 ¹⁾				

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	991.1 ± 2.2	298.15	971.9 ± 1.3	340.00	943.2 ± 1.2
280.00	984.3 ± 1.8	310.00	963.7 ± 1.0	350.00	936.3 ± 1.5
290.00	977.4 ± 1.5	320.00	956.9 ± 0.9	360.00	929.5 ± 1.8
293.15	975.3 ± 1.4	330.00	950.0 ± 1.0		

1-Propylnaphthalene [2765-18-6] C₁₃H₁₄ MW =170.25 1114**Table 1.** Fit with estimated *B* coefficient for 11 accepted points. Deviation $\sigma_w = 0.373$.

Coefficient	$\rho = A + BT$
<i>A</i>	1192.28
<i>B</i>	-0.690

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	990.4 ± 1.0	0.40	40-lev/kar	293.15	990.2 ± 1.0	0.20	56-ser/saf
293.15	990.0 ± 1.0	-0.00	49-bai/pic	293.15	990.3 ± 1.0	0.30	57-rom
293.15	984.1 ± 3.0	-5.90	49-lut/wac ¹⁾	293.15	989.9 ± 0.6	-0.10	65-arr/jef
293.15	990.0 ± 1.0	-0.00	53-and/smi	313.15	976.0 ± 0.6	-0.20	65-arr/jef
293.15	990.4 ± 1.0	0.40	53-ser/ure-1	333.15	963.0 ± 0.6	0.60	65-arr/jef
293.15	989.7 ± 0.8	-0.33	54-hip/wis	358.15	944.6 ± 0.6	-0.55	65-arr/jef
293.15	984.1 ± 3.0	-5.90	55-lut-1 ¹⁾				

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	992.2 ± 0.9	310.00	978.4 ± 0.7	340.00	957.7 ± 0.9
293.15	990.0 ± 0.8	320.00	971.5 ± 0.8	350.00	950.8 ± 1.1
298.15	986.6 ± 0.8	330.00	964.6 ± 0.8	360.00	943.9 ± 1.2

2-Propylnaphthalene**[2027-19-2]****C₁₃H₁₄****MW =170.25****1115****Table 1.** Fit with estimated *B* coefficient for 8 accepted points. Deviation $\sigma_w = 0.205$.

Coefficient	$\rho = A + BT$
<i>A</i>	1181.91
<i>B</i>	-0.700

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	977.0 ± 1.0	0.29	49-bai/pic	293.15	977.3 ± 1.0	0.59	57-rom
288.75	979.8 ± 0.6	0.01	49-koe	293.15	976.7 ± 0.6	-0.01	65-arr/jef
293.15	985.4 ± 6.0	8.69	49-lev/kul ¹⁾	313.15	962.6 ± 0.6	-0.11	65-arr/jef
293.15	985.4 ± 6.0	8.69	50-kul ¹⁾	333.15	948.5 ± 0.6	-0.21	65-arr/jef
293.15	977.0 ± 1.0	0.29	53-and/smi	358.15	931.1 ± 0.6	-0.11	65-arr/jef
293.15	967.3 ± 3.0	-9.41	55-lut-1 ¹⁾				

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	985.9 ± 0.8	310.00	964.9 ± 0.5	340.00	943.9 ± 0.8
290.00	978.9 ± 0.7	320.00	957.9 ± 0.5	350.00	936.9 ± 0.9
293.15	976.7 ± 0.7	330.00	950.9 ± 0.6	360.00	929.9 ± 1.1
298.15	973.2 ± 0.6				

1,2,5-Trimethylnaphthalene [641-91-8] C₁₃H₁₄ MW =170.25 1116

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.15	1011.0 ± 5.0	29-ruz/huy
288.15	1008.0 ± 5.0	29-ruz/huy
295.15	1010.3 ± 2.0	30-ruz/hos

1,2,6-Trimethylnaphthalene [3031-05-8] C₁₃H₁₄ MW =170.25 1117

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	935.0 ± 2.0	33-ruz/sei

1,3,7-Trimethylnaphthalene [2131-38-6] C₁₃H₁₄ MW =170.25 1118

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
294.15	980.1 ± 20.0	32-ruz/ehm ¹⁾
293.15	1007.0 ± 1.0	39-kru
293.15	1007.2 ± 1.0	50-lut/rei
293.15	1007.1 ± 1.0	Recommended

¹⁾ Not included in calculation of recommended value.

1,4,5-Trimethylnaphthalene [2131-41-1] C₁₃H₁₄ MW =170.25 1119

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1006.5 ± 1.0	50-lut/rei

1,4,6-Trimethylnaphthalene [2131-42-2] C₁₃H₁₄ MW =170.25 1120

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.15	1017.0 ± 2.0	51-col/gri

1,6,7-Trimethylnaphthalene [2245-38-7] C₁₃H₁₄ MW =170.25 1121

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1008.8 ± 1.0	50-lut/rei

Anthracene**[120-12-7]****C₁₄H₁₀****MW = 178.23****1122****Table 1.** Coefficients of the polynomial expansion equation. Standard deviations (see introduction):
 $\sigma_{c,w} = 1.3203$ (combined temperature ranges, weighted), $\sigma_{c,uw} = 4.2264 \cdot 10^{-1}$ (combined temperature ranges, unweighted).

Coefficient	T = 490.70 to 557.80 K $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.37416 \cdot 10^3$
B	$-8.19355 \cdot 10^{-1}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
<i>crystal</i>				493.60	968.50 ± 1.00	-1.22	85-shi/gee(□)
295.15	1252.00 ± 4.00		30-bil/fis-1	495.80	966.20 ± 1.00	-1.72	85-shi/gee(□)
293.15	1251.00 ± 4.00		53-sch/blo-1	496.90	965.20 ± 1.00	-1.82	85-shi/gee(□)
298.15	1250.00 ± 5.00		59-ino/nak0	501.90	961.90 ± 1.00	-1.02	85-shi/gee(□)
<i>liquid</i>				505.00	958.90 ± 1.00	-1.48	85-shi/gee(□)
519.65	951.60 ± 3.00	3.22	30-mar(Δ)	508.30	957.00 ± 1.00	-0.68	85-shi/gee(□)
527.45	945.60 ± 3.00	3.61	30-mar(Δ)	510.40	955.00 ± 1.00	-0.96	85-shi/gee(□)
519.65	951.60 ± 3.00	3.22	31-bur(O)	515.10	952.80 ± 1.00	0.69	85-shi/gee(□)
527.45	945.60 ± 3.00	3.61	31-bur(O)	518.00	949.60 ± 1.00	-0.13	85-shi/gee(□)
527.85	945.70 ± 3.00	4.04	31-bur(O)	550.30	921.00 ± 1.00	-2.27	85-shi/gee(□)
490.70	972.20 ± 1.00	0.10	85-shi/gee(□)	552.80	919.50 ± 1.00	-1.72	85-shi/gee(□)
491.30	971.50 ± 1.00	-0.11	85-shi/gee(□)	555.70	918.30 ± 1.00	-0.54	85-shi/gee(□)
492.20	969.60 ± 1.00	-1.27	85-shi/gee(□)	557.20	916.50 ± 1.00	-1.11	85-shi/gee(□)
492.90	968.80 ± 1.00	-1.50	85-shi/gee(□)	557.80	916.20 ± 1.00	-0.92	85-shi/gee(□)

Further references: [1895-orn/cam, 26-skr/eis, 28-kle/til, 31-miy, 36-bax/hal].**Table 3.** Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$$

$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
490.00	972.67 ± 1.12	520.00	948.09 ± 2.15	550.00	923.51 ± 2.05
500.00	964.48 ± 0.92	530.00	939.90 ± 2.78	560.00	915.32 ± 1.7
510.00	956.29 ± 1.39	540.00	931.71 ± 2.88	570.00	907.13 ± 2.0

cont.

Anthracene (cont.)

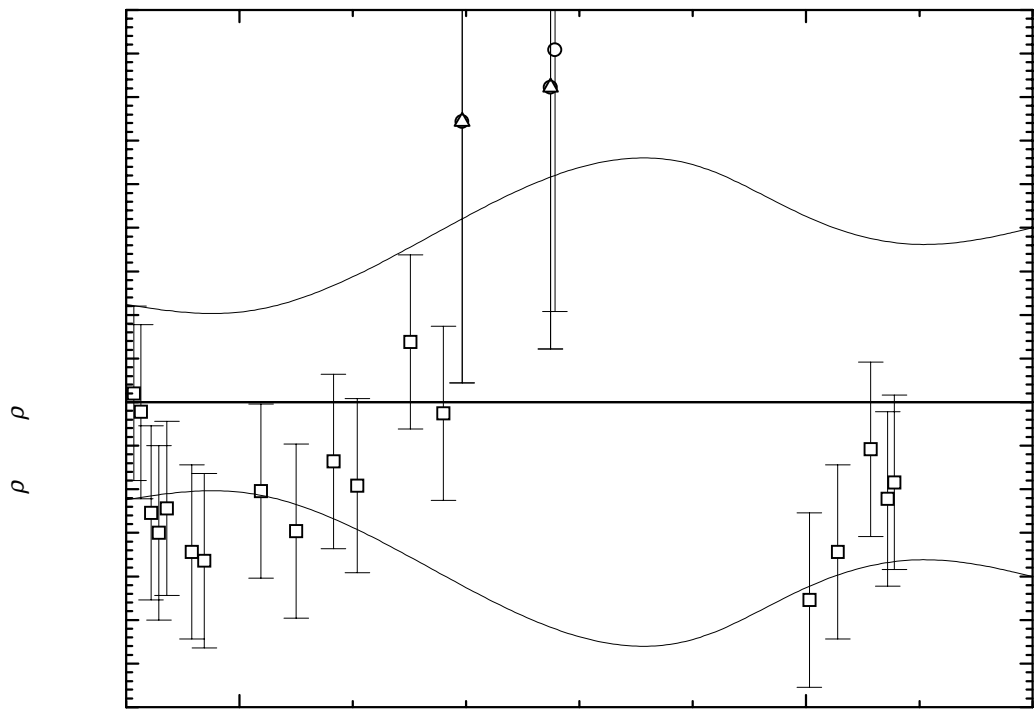


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

Phenanthrene [85-01-8] C₁₄H₁₀ MW = 178.23 1123

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction): $\sigma_{c,w} = 1.4897$ (combined temperature ranges, weighted), $\sigma_{c,uw} = 5.6534 \cdot 10^{-1}$ (combined temperature ranges, unweighted).

Coefficient	T = 373.65 to 443.15 K
	$\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.31819 \cdot 10^3$
B	$-6.78375 \cdot 10^{-1}$

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg·m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg·m ⁻³	Ref. (Symbol in Fig. 1)	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg·m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg·m ⁻³	Ref. (Symbol in Fig. 1)
<i>crystal</i>				423.15	1031.00 ± 2.00	-0.13	31-sal(○)
298.15	1179.00 ± 5.00		19-kro	443.15	1018.00 ± 2.00	0.44	31-sal(○)
<i>liquid</i>				382.95	1058.00 ± 2.00	-0.40	32-sal(Δ)
373.65	1063.00 ± 2.00	-1.71	1884-sch-5(□)	402.95	1046.00 ± 2.00	1.17	32-sal(Δ)
404.25	1041.20 ± 2.00	-2.75	23-kro-1(▽)	422.95	1030.00 ± 2.00	-1.27	32-sal(Δ)
383.15	1058.00 ± 2.00	-0.27	31-sal(○)	374.15	1068.00 ± 3.00	3.63	62-mcm/van(◆)
403.15	1046.00 ± 2.00	1.30	31-sal(○)				

Further references: [12-blo].

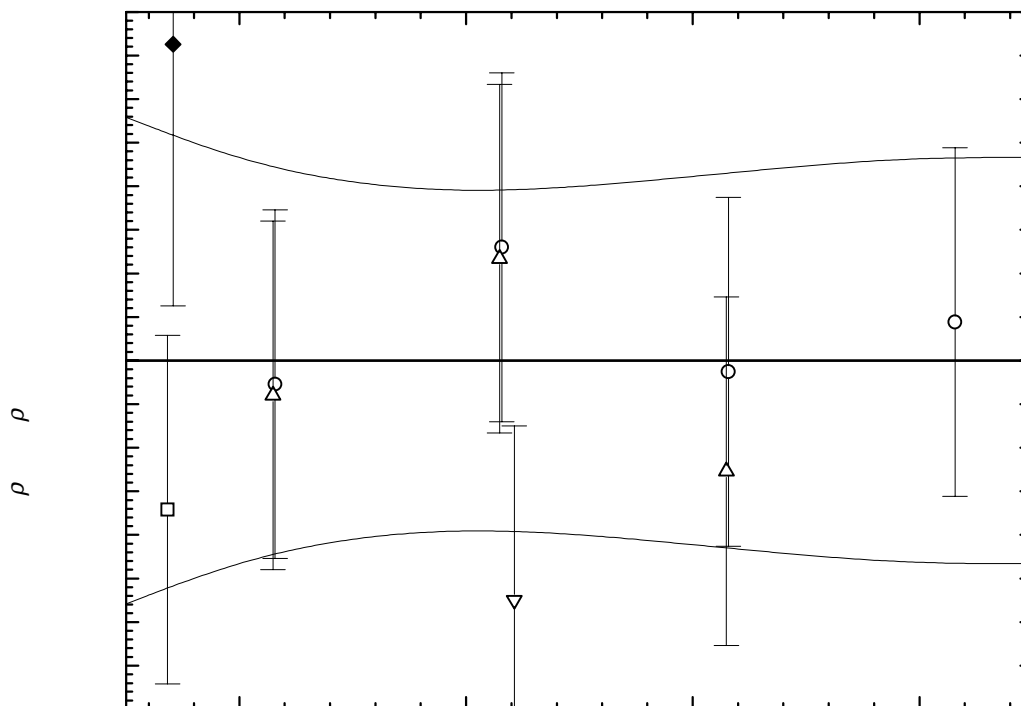


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

cont.

Phenanthrene (cont.)**Table 3.** Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$$

$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
370.00	1067.19 ± 2.79	400.00	1046.84 ± 1.93	430.00	1026.48 ± 2.24
380.00	1060.40 ± 2.29	410.00	1040.05 ± 1.99	440.00	1019.70 ± 2.33
390.00	1053.62 ± 2.02	420.00	1033.27 ± 2.11	450.00	1012.92 ± 2.33

9-Methyl-9H-fluorene**[2523-37-7]****C₁₄H₁₂****MW =180.25****1124****Table 1.** Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
339.35	1026.3 ± 3.0	21-von/fru-1
293.15	1070.0 ± 3.0	23-kro-1

1-(1-Methyl-1-propenyl)naphthalene**[66577-34-2]****C₁₄H₁₄****MW =182.27****1125****Table 1.** Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1053.3 ± 5.0	36-zal/zon

1-Butylnaphthalene**[1634-09-9]****C₁₄H₁₆****MW =184.28****1126****Table 1.** Fit with estimated *B* coefficient for 12 accepted points. Deviation $\sigma_w = 1.619$.

Coefficient	$\rho = A + BT$
<i>A</i>	1170.90
<i>B</i>	-0.665

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	969.0 ± 3.0	-6.96	47-and ¹⁾	293.15	977.3 ± 1.0	1.34	57-rom
293.15	977.0 ± 1.0	1.04	49-bai/pic	293.15	966.3 ± 1.5	-9.66	58-gil/lyu
293.15	973.8 ± 2.0	-2.16	49-lut/wac	293.15	974.0 ± 3.0	-1.96	61-pet/nef ¹⁾
293.15	977.0 ± 1.0	1.04	53-and/smi	293.15	975.9 ± 0.6	-0.06	65-arr/jef
293.15	976.7 ± 0.8	0.74	54-hip/wis	313.15	962.6 ± 0.6	-0.06	65-arr/jef
293.15	975.6 ± 1.0	-0.36	56-ser/saf	333.15	949.2 ± 0.6	-0.16	65-arr/jef
293.15	976.3 ± 1.0	0.34	57-gil/bra	358.15	933.1 ± 0.6	0.37	65-arr/jef

¹⁾ Not included in calculation of linear coefficients.

cont.

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	978.1 ± 1.8	310.00	964.8 ± 1.8	340.00	944.8 ± 1.9
293.15	976.0 ± 1.8	320.00	958.1 ± 1.8	350.00	938.2 ± 1.9
298.15	972.6 ± 1.8	330.00	951.5 ± 1.8	360.00	931.5 ± 2.0

2-Butylnaphthalene

[1134-62-9]

C₁₄H₁₆

MW = 184.28

1127

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction):

$\sigma_{\text{c,w}} = 4.5655 \cdot 10^{-1}$ (combined temperature ranges, weighted), $\sigma_{\text{c,uw}} = 1.2510 \cdot 10^{-1}$ (combined temperature ranges, unweighted).

Coefficient	T = 273.15 to 372.05 K $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.16823 \cdot 10^3$
B	$-6.70634 \cdot 10^{-1}$
C	$-7.25378 \cdot 10^{-5}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
293.15	965.90 ± 1.00	0.50	42-pet/and(✕)	293.15	966.30 ± 1.00	0.90	58-gil/lyu(✕)
293.15	966.00 ± 1.00	0.60	49-bai/pic(✕)	293.15	965.20 ± 0.60	-0.20	65-arr/jef(◆)
288.75	968.70 ± 0.60	0.16	49-koe(Δ)	313.15	951.50 ± 0.60	0.39	65-arr/jef(◆)
293.15	966.00 ± 1.00	0.60	53-and/smi(✕)	333.15	937.60 ± 0.60	0.84	65-arr/jef(◆)
273.15	979.40 ± 0.50	-0.24	57-ano-3(□)	358.15	919.60 ± 0.70	0.86	65-arr/jef(◆)
293.15	965.10 ± 0.50	-0.30	57-ano-3(□)	273.15	979.40 ± 0.50	-0.24	68-ano-1(○)
310.95	952.10 ± 0.50	-0.59	57-ano-3(□)	293.15	965.10 ± 0.50	-0.30	68-ano-1(○)
333.15	936.30 ± 0.50	-0.46	57-ano-3(□)	310.95	952.10 ± 0.50	-0.59	68-ano-1(○)
372.05	908.30 ± 0.70	-0.38	57-ano-3(□)	333.15	936.10 ± 0.50	-0.66	68-ano-1(○)
293.15	965.10 ± 0.60	-0.30	57-rom(∇)	372.05	908.10 ± 0.70	-0.58	68-ano-1(○)

Table 3. Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$$

$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	981.87 ± 0.74	300.00	960.51 ± 0.67	350.00	924.62 ± 0.67
280.00	974.77 ± 0.69	310.00	953.37 ± 0.67	360.00	917.40 ± 0.69
290.00	967.65 ± 0.67	320.00	946.20 ± 0.67	370.00	910.17 ± 0.74
293.15	965.40 ± 0.67	330.00	939.02 ± 0.67	380.00	902.92 ± 0.83
298.15	961.83 ± 0.67	340.00	931.83 ± 0.67		

cont.

2-Butylnaphthalene (cont.)

Further references: [48-har/rob, 49-lut/wac, 59-koe/kla, 61-pet/nef].

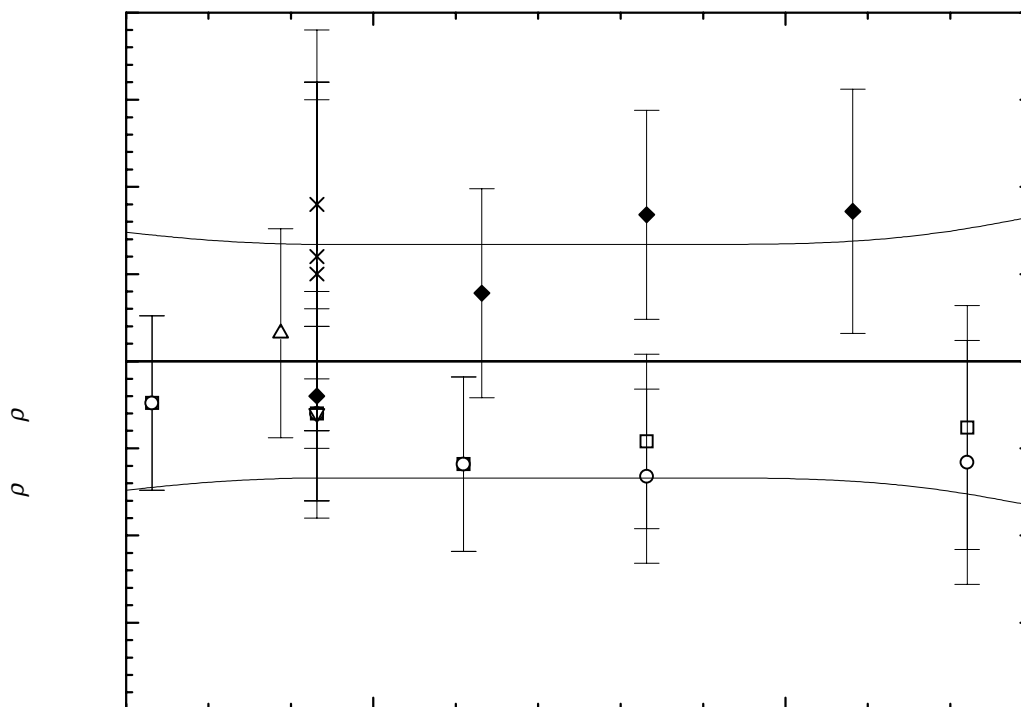


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

1,4-Diethylnaphthalene [37796-58-0] C₁₄H₁₆ MW =184.28 1128

Table 1. Experimental values with uncertainties.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
286.25	998.3 ± 1.0	23-kro-1
293.15	992.0 ± 2.0	23-von/kro
293.15	993.0 ± 1.0	32-fro/har

1-(1,1-Dimethylethyl)naphthalene [17085-91-5] C₁₄H₁₆ MW =184.28 1129

Table 1. Fit with estimated B coefficient for 10 accepted points. Deviation $\sigma_w = 0.054$.

Coefficient	$\rho = A + BT$
A	1200.47
B	-0.710

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	962.9 ± 20.0	-29.43	37-tsu/ter ¹⁾	372.04	936.3 ± 0.7	-0.02	67-ano-1
293.15	971.5 ± 15.0	-20.83	57-rom-1 ¹⁾	273.15	1006.5 ± 0.5	-0.03	68-ano-1
273.15	1006.5 ± 0.5	-0.03	67-ano-1	293.15	992.3 ± 0.5	-0.03	68-ano-1
293.15	992.3 ± 0.5	-0.03	67-ano-1	310.95	979.8 ± 0.5	0.11	68-ano-1
310.93	979.8 ± 0.5	0.09	67-ano-1	333.15	963.9 ± 0.5	-0.03	68-ano-1
333.15	963.9 ± 0.5	-0.03	67-ano-1	372.05	936.3 ± 0.7	-0.01	68-ano-1

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	1008.8 ± 0.9	310.00	980.4 ± 0.4	350.00	952.0 ± 0.9
280.00	1001.7 ± 0.7	320.00	973.3 ± 0.4	360.00	944.9 ± 1.1
290.00	994.6 ± 0.6	330.00	966.2 ± 0.6	370.00	937.8 ± 1.3
293.15	992.3 ± 0.5	340.00	959.1 ± 0.7	380.00	930.7 ± 1.4
298.15	988.8 ± 0.5				

1,3-Dimethyl-5-ethylnaphthalene [66577-40-0] C₁₄H₁₆ MW =184.28 1130**Table 1.** Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	991.8 ± 1.0	54-eva/smi

1,4-Dimethyl-5-ethylnaphthalene [66309-90-8] C₁₄H₁₆ MW =184.28 1131**Table 1.** Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1011.3 ± 2.0	54-eva/smi

2-(1,1-Dimethylethyl)naphthalene [2876-35-9] C₁₄H₁₆ MW = 184.28 1132**Table 1.** Coefficients of the polynomial expansion equation. Standard deviations (see introduction):

$\sigma_{\text{c,w}} = 5.0438 \cdot 10^{-1}$ (combined temperature ranges, weighted), $\sigma_{\text{c,uw}} = 1.8392 \cdot 10^{-1}$ (combined temperature ranges, unweighted).

Coefficient	$T = 273.15 \text{ to } 372.05 \text{ K}$ $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.17864 \cdot 10^3$
B	$-7.16866 \cdot 10^{-1}$

cont.

2-(1,1-Dimethylethyl)naphthalene (cont.)**Table 2.** Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
293.15	968.70 \pm 1.00	0.21	37-tsu/ter(×)	293.15	968.30 \pm 0.50	-0.19	67-ano-1(□)
293.15	967.40 \pm 1.00	-1.09	42-pet/and(×)	310.93	955.40 \pm 0.50	-0.35	67-ano-1(□)
293.15	968.40 \pm 0.70	-0.09	48-kut/nic(Δ)	333.15	939.20 \pm 0.50	-0.62	67-ano-1(□)
293.15	969.10 \pm 1.00	0.61	57-rom-1(◆)	372.04	911.40 \pm 0.70	-0.54	67-ano-1(□)
293.15	968.30 \pm 0.60	-0.19	65-arr/jef(▽)	273.15	982.70 \pm 0.50	-0.13	68-ano-1(○)
313.40	954.70 \pm 0.60	0.72	65-arr/jef(▽)	293.15	968.30 \pm 0.50	-0.19	68-ano-1(○)
333.15	941.10 \pm 0.60	1.28	65-arr/jef(▽)	310.95	955.40 \pm 0.50	-0.33	68-ano-1(○)
358.15	924.10 \pm 0.60	2.20	65-arr/jef(▽)	333.15	939.20 \pm 0.50	-0.62	68-ano-1(○)
273.15	982.70 \pm 0.50	-0.13	67-ano-1(□)	372.05	911.40 \pm 0.70	-0.53	68-ano-1(○)

Further references: [38-pri/cis, 45-gre/vog-1].

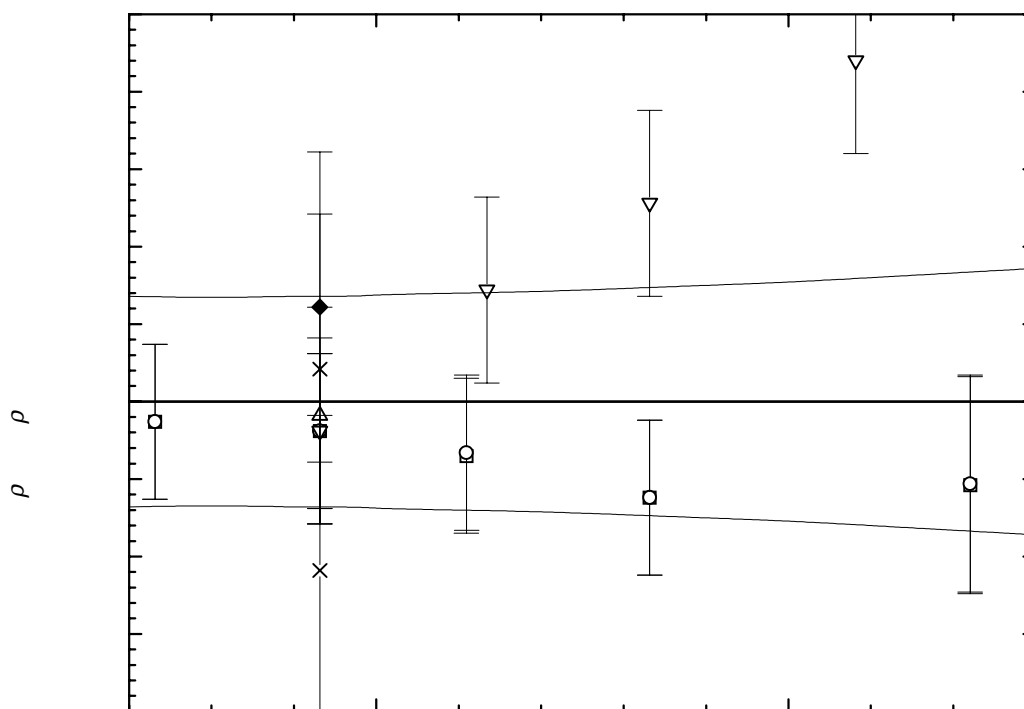


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

cont.

Table 3. Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$$

$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	985.09 ± 0.68	300.00	963.58 ± 0.69	350.00	927.74 ± 0.77
280.00	977.92 ± 0.67	310.00	956.41 ± 0.70	360.00	920.57 ± 0.80
290.00	970.75 ± 0.68	320.00	949.25 ± 0.71	370.00	913.40 ± 0.83
293.15	968.49 ± 0.68	330.00	942.08 ± 0.73	380.00	906.23 ± 0.86
298.15	964.91 ± 0.68	340.00	934.91 ± 0.75		

1-Methyl-4-(1-methylethyl)naphthalene [1680-53-1] C₁₄H₁₆ MW =184.28 1133

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
287.65	993.4 ± 2.0	33-rap/sho

1-Methyl-7-(1-methylethyl)naphthalene [490-65-3] C₁₄H₁₆ MW =184.28 1134

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
289.15	974.7 ± 2.0	22-ruz/mey-1
290.15	973.4 ± 2.0	22-ruz/mey-1
290.15	973.7 ± 2.0	22-ruz/sto

7-Methyl-1-(1-methylethyl)naphthalene [66577-17-1] C₁₄H₁₆ MW =184.28 1135

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	983.3 ± 2.0	22-ruz/min

1-(1-Methylpropyl)naphthalene [1680-58-6] C₁₄H₁₆ MW =184.28 1136

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	974.9 ± 3.0	37-tsu/ter
293.15	974.6 ± 3.0	37-tsu/ter
293.15	974.6 ± 3.0	37-tsu/ter
293.15	980.0 ± 2.0	58-mel/tsu
293.15	975.7 ± 3.0	Recommended

1-(2-Methylpropyl)naphthalene [16727-91-6] C₁₄H₁₆ MW =184.28 1137

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	971.4 ± 0.8	54-hip/wis

2-(2-Methylpropyl)naphthalene [26490-07-3] C₁₄H₁₆ MW =184.28 1138

Table 1. Fit with estimated *B* coefficient for 4 accepted points. Deviation $\sigma_w = 0.230$.

Coefficient	$\rho = A + BT$
<i>A</i>	1175.94
<i>B</i>	-0.685

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	960.5 ± 3.0	-14.63	57-koc/nif ¹⁾
293.15	975.3 ± 0.6	0.17	65-arr/jef
313.15	961.7 ± 0.6	0.27	65-arr/jef
333.15	947.6 ± 0.6	-0.13	65-arr/jef
358.15	930.3 ± 0.6	-0.31	65-arr/jef

¹⁾ Not included in calculation of linear coefficients.

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	977.3 ± 0.8	310.00	963.6 ± 0.6	340.00	943.0 ± 0.6
293.15	975.1 ± 0.8	320.00	956.7 ± 0.5	350.00	936.2 ± 0.7
298.15	971.7 ± 0.7	330.00	949.9 ± 0.5	360.00	929.3 ± 0.9

1-Methyl-2-propylnaphthalene [39036-65-2] C₁₄H₁₆ MW =184.28 1139

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	990.4 ± 1.0	49-adk/hag

1,2,4,7-Tetramethylnaphthalene [16020-17-0] C₁₄H₁₆ MW =184.28 1140

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
301.15	1011.0 ± 2.0	50-col/gri
301.15	1011.0 ± 2.0	51-col/gri

1-Methylanthracene [610-48-0] C₁₅H₁₂ MW =192.26 1141

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
372.55	1047.1 ± 2.0	23-kro-1

9-Methylanthracene [779-02-2] C₁₅H₁₂ MW =192.26 1142

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
372.55	1065.7 ± 2.0	23-kro-1

9-Ethyl-9H-fluorene [2294-82-8] C₁₅H₁₄ MW =194.28 1143

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	1050.8 ± 1.0	55-sch/bec

1,6-Dimethyl-4-(1-methylethenyl)-naphthalene [500038-66-4] C₁₅H₁₆ MW =196.29 1144

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	973.1 ± 2.0	40-per/tau

1-(1,2-Dimethyl-1-propenyl)naphthalene [13399-44-5] C₁₅H₁₆ MW =196.29 1145

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
292.15	1003.9 ± 2.0	39-son

1-(1-Ethyl-1-propenyl)naphthalene [500038-65-3] C₁₅H₁₆ MW =196.29 1146

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1034.0 ± 5.0	36-zal/zon

1-(1-Methyl-1-butenyl)naphthalene [3133-32-2] C₁₅H₁₆ MW =196.29 1147

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
295.15	1009.4 ± 2.0	39-son

2,4-Diethyl-1-methylnaphthalene [500038-55-1] C₁₅H₁₈ MW =198.31 1148

Table 1. Experimental values with uncertainties.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
286.45	987.0 ± 2.0	23-kro-1
293.15	976.0 ± 2.0	63-dav/got

1,6-Dimethyl-3-(1-methylethyl)-naphthalene [60263-16-3] C₁₅H₁₈ MW =198.31 1149

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.65	964.5 ± 2.0	44-ruz/sch

4-(1-Methylethyl)-1,6-dimethylnaphthalene [483-78-3] C₁₅H₁₈ MW =198.31 1150

Table 1. Fit with estimated B coefficient for 5 accepted points. Deviation $\sigma_w = 1.132$.

Coefficient	$\rho = A + BT$
A	1218.07
B	-0.820

Table 2. Experimental values with uncertainties and deviation from calculated values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg · m ⁻³	Ref.	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg · m ⁻³	Ref.
292.15	979.8 ± 2.0	1.29	25-ves	288.15	982.4 ± 2.0	0.61	28-ruz
292.15	978.1 ± 2.0	-0.41	28-deu	298.15	971.6 ± 2.0	-1.99	39-mou/gra
292.15	979.0 ± 2.0	0.49	28-deu	293.15	973.1 ± 4.0	-4.59	40-per/tau ¹⁾

¹⁾ Not included in calculation of linear coefficients.

Table 3. Recommended values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³
280.00	988.5 ± 4.2
290.00	980.3 ± 2.0
293.15	977.7 ± 2.0
298.15	973.6 ± 2.5

1-(1,1-Dimethylpropyl)naphthalene [700002-41-1] C₁₅H₁₈ MW =198.31 1151

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	975.1 ± 2.0	37-tsu/ter
293.15	967.2 ± 2.0	57-rom-1

2-(1,1-Dimethylpropyl)naphthalene [20798-05-4] C₁₅H₁₈ MW =198.31 1152

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	975.1 ± 2.0	37-tsu/ter
293.15	972.7 ± 2.0	47-tsu
293.15	975.5 ± 2.0	48-tat/tsu
293.15	962.7 ± 3.0	57-rom-1
293.15	970.5 ± 4.0	Recommended

1,4-Dimethyl-5-propylnaphthalene [204256-08-6] C₁₅H₁₈ MW =198.31 1153

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1105.0 ± 0.6	61-ano-9

2-Ethyl-3-propylnaphthalene [500050-39-5] C₁₅H₁₈ MW =198.31 1154

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	966.0 ± 1.0	48-har/rob

3-Ethyl-1,4,6-trimethylnaphthalene [500050-40-8] C₁₅H₁₈ MW =198.31 1155

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
289.15	1011.0 ± 2.0	51-col/gri

2-(1-Methylbutyl)naphthalene [3042-55-5] C₁₅H₁₈ MW =198.31 1156

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	964.5 ± 2.0	45-gre/vog-1
293.15	973.8 ± 3.0	48-tat/tsu
291.15	966.0 ± 2.0	64-cag/cag

2-(3-Methylbutyl)naphthalene [613-61-6] C₁₅H₁₈ MW =198.31 1157

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	972.4 ± 3.0	48-tat/tsu

1-Pentyl naphthalene [86-89-5] C₁₅H₁₈ MW =198.31 1158

Table 1. Fit with estimated *B* coefficient for 8 accepted points. Deviation $\sigma_w = 0.179$.

Coefficient	$\rho = A + BT$
<i>A</i>	1162.60
<i>B</i>	-0.670

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	966.0 ± 1.0	-0.19	49-bai/pic	293.15	966.1 ± 0.6	-0.09	65-arr/jef
293.15	966.0 ± 1.0	-0.19	53-and/smi	313.15	952.8 ± 0.6	0.01	65-arr/jef
293.15	966.1 ± 0.8	-0.12	54-hip/wis	333.15	939.4 ± 0.6	0.01	65-arr/jef
293.15	966.8 ± 1.0	0.61	57-rom	358.15	922.7 ± 0.6	0.06	65-arr/jef

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	968.3 ± 0.9	310.00	954.9 ± 0.7	340.00	934.8 ± 0.9
293.15	966.2 ± 0.8	320.00	948.2 ± 0.7	350.00	928.1 ± 1.0
298.15	962.8 ± 0.8	330.00	941.5 ± 0.8	360.00	921.4 ± 1.1

2-Pentyl naphthalene [93-22-1] C₁₅H₁₈ MW =198.31 1159

Table 1. Fit with estimated *B* coefficient for 8 accepted points. Deviation $\sigma_w = 0.403$.

Coefficient	$\rho = A + BT$
<i>A</i>	1153.62
<i>B</i>	-0.675

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	952.6 ± 3.0	-3.15	48-har/rob ¹⁾	293.15	957.1 ± 1.5	1.35	57-rom ¹⁾
293.15	956.0 ± 1.0	0.25	49-bai/pic	293.15	955.7 ± 0.6	-0.05	65-arr/jef
288.75	959.8 ± 1.0	1.08	49-koe	313.15	942.2 ± 0.6	-0.05	65-arr/jef
293.15	956.0 ± 1.0	0.25	53-and/smi	333.15	928.4 ± 0.6	-0.35	65-arr/jef
293.15	956.4 ± 1.0	0.65	57-koc/nif	358.15	911.5 ± 0.6	-0.37	65-arr/jef

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	964.6 ± 1.0	310.00	944.4 ± 0.7	340.00	924.1 ± 0.9
290.00	957.9 ± 0.9	320.00	937.6 ± 0.7	350.00	917.4 ± 1.0
293.15	955.7 ± 0.8	330.00	930.9 ± 0.8	360.00	910.6 ± 1.1
298.15	952.4 ± 0.8				

5.3.2 Condensed Polycyclic Aromatic Compounds, C₁₆ - C₃₈

Pyrene [129-00-0] C₁₆H₁₀ MW =202.26 1160

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
<i>crystal</i>		
295.85	1271.0 ± 4.0	36-bax/hal
293.15	1272.0 ± 4.0	53-sch/blo-1
293.15	1271.0 ± 4.0	53-sch/blo-1
298.15	1270.0 ± 4.0	59-ino/nak
<i>liquid</i>		
290.15	1105.2 ± 2.0	25-von/kra
291.95	1101.2 ± 2.0	25-von/kra

Fluoranthene [206-44-0] C₁₆H₁₀ MW =202.26 1161

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
<i>crystal</i>		
293.15	1251.0 ± 4.0	53-sch/blo-1
293.15	1250.0 ± 4.0	53-sch/blo-1
<i>liquid</i>		
288.35	1104.5 ± 2.0	25-von/kra
291.85	1099.6 ± 2.0	25-von/kra

4,5-Dimethylphenanthrene, [3674-69-9] C₁₆H₁₄ MW =206.29 1162

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
333.15	1072.7 ± 0.5	68-ano-1
372.05	1046.1 ± 0.5	68-ano-1

9-Ethylanthracene [605-83-4] C₁₆H₁₄ MW =206.29 1163

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
372.35	1041.3 ± 2.0	23-kro-1

2-Ethylphenanthrene [3674-74-6] C₁₆H₁₄ MW =206.29 1164

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
310.93	923.0 ± 1.0	63-gud/cam

9-Ethylphenanthrene [3674-75-7] C₁₆H₁₄ MW =206.29 1165

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
350.65	1060.3 ± 2.0	23-kro-1

1-(2-methyl-1,3-pentadienyl)-naphthalene [500038-85-7] C₁₆H₁₆ MW =208.30 1166

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	980.1 ± 2.0	12-bje

9-Propyl-9H-fluorene [4037-45-0] C₁₆H₁₆ MW =208.30 1167

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	1032.6 ± 1.0	55-sch/bec

1,4-Bis(1-methylethyl)naphthalene [24157-79-7] C₁₆H₂₀ MW =212.33 1168

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1007.3 ± 2.0	60-huc/cra

2,7-Bis(1-methylethyl)naphthalene [40458-98-8] C₁₆H₂₀ MW =212.33 1169

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	968.3 ± 2.0	37-tsu/ter

2-Butyl-3-ethylnaphthalene [500050-47-5] C₁₆H₂₀ MW =212.33 1170

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	927.1 ± 1.0	48-har/rob

2,3-Dipropylnaphthalene [500029-58-3] C₁₆H₂₀ MW =212.33 1171

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	962.6 ± 1.0	48-har/rob

3-Ethyl-1-(1-methylpropyl)naphthalene [500050-48-6] C₁₆H₂₀ MW =212.33 1172

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	978.0 ± 2.0	64-cag/cag

1-Hexylnaphthalene [2876-53-1] C₁₆H₂₀ MW =212.33 1173

Table 1. Fit with estimated *B* coefficient for 8 accepted points. Deviation $\sigma_w = 0.248$.

Coefficient	$\rho = A + BT$
<i>A</i>	1157.31
<i>B</i>	-0.680

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	958.0 ± 1.0	0.03	49-bai/pic	293.15	957.8 ± 0.6	-0.17	65-arr/jef
293.15	958.0 ± 1.0	0.03	53-and/smi	313.15	944.3 ± 0.6	-0.07	65-arr/jef
293.15	958.0 ± 1.0	0.03	57-gil/bra	333.15	930.9 ± 0.6	0.13	65-arr/jef
293.15	957.6 ± 0.6	-0.37	57-rom	358.15	914.2 ± 0.6	0.43	65-arr/jef

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	960.1 ± 0.9	310.00	946.5 ± 0.7	340.00	926.1 ± 0.9
293.15	958.0 ± 0.8	320.00	939.7 ± 0.7	350.00	919.3 ± 1.0
298.15	954.6 ± 0.8	330.00	932.9 ± 0.8	360.00	912.5 ± 1.2

2-Hexylnaphthalene**[2876-46-2]****C₁₆H₂₀****MW =212.33****1174****Table 1.** Fit with estimated *B* coefficient for 8 accepted points. Deviation $\sigma_w = 0.587$.

Coefficient	$\rho = A + BT$
<i>A</i>	1144.42
<i>B</i>	-0.670

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	957.5 ± 6.0	12.84	36-mik ¹⁾	293.15	945.3 ± 2.0	-2.71	59-koe/kla ¹⁾
293.15	948.0 ± 1.0	-0.01	49-bai/pic	318.15	928.7 ± 2.0	-2.56	59-koe/kla ¹⁾
288.75	952.2 ± 0.6	1.25	49-koe	293.15	947.5 ± 0.6	-0.51	65-arr/jef
293.15	948.0 ± 1.0	-0.01	53-and/smi	313.15	934.5 ± 0.6	-0.11	65-arr/jef
293.15	947.2 ± 1.0	-0.76	54-wib/van	333.15	921.0 ± 0.6	-0.21	65-arr/jef
293.15	951.7 ± 3.0	3.69	55-lut-1 ¹⁾	358.15	904.3 ± 0.6	-0.16	65-arr/jef
293.15	949.1 ± 1.5	1.09	57-rom ¹⁾				

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	956.8 ± 1.0	310.00	936.7 ± 0.7	340.00	916.6 ± 0.9
290.00	950.1 ± 0.9	320.00	930.0 ± 0.7	350.00	909.9 ± 1.0
293.15	948.0 ± 0.8	330.00	923.3 ± 0.8	360.00	903.2 ± 1.2
298.15	944.7 ± 0.8				

2-(1-Methylpentyl)naphthalene**[3137-10-8]****C₁₆H₂₀****MW =212.33****1175****Table 1.** Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	976.4 ± 2.0	62-shu/eri

Benzo[*b*]fluorene**[243-17-4]****C₁₇H₁₂****MW =216.28****1176****Table 1.** Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
<i>crystal</i>		
293.15	1226.0 ± 4.0	53-sch/blo-1
293.15	1227.0 ± 4.0	53-sch/blo-1

9-Butyl-9H-fluorene [3952-42-9] C₁₇H₁₈ MW =222.33 1177

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	1019.7 ± 1.0	55-sch/bec

1-(2,4-Dimethyl-1-pentenyl)naphthalene [500050-21-5] C₁₇H₂₀ MW =224.35 1178

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	962.5 ± 2.0	50-pet/pon

1-[2-Methyl-1-(1-methylethyl)-1-propenyl]naphthalene [76954-06-8] C₁₇H₂₀ MW =224.35 1179

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	972.9 ± 2.0	50-pet/pon

2-Butyl-3-propylnaphthalene [500050-51-1] C₁₇H₂₂ MW =226.36 1180

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	948.8 ± 1.0	48-har/rob

1-Heptylnaphthalene [2876-52-0] C₁₇H₂₂ MW =226.36 1181

Table 1. Fit with estimated *B* coefficient for 6 accepted points. Deviation $\sigma_w = 0.115$.

Coefficient	$\rho = A + BT$
<i>A</i>	1143.48
<i>B</i>	-0.660

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	950.0 ± 0.6	-0.00	52-and/smi	398.15	879.3 ± 3.0	-1.40	48-and/pet ¹⁾
293.15	950.0 ± 0.6	-0.00	53-and/smi	293.15	950.0 ± 0.6	-0.00	65-arr/jef
293.15	939.4 ± 3.0	-10.60	48-and/pet ¹⁾	313.15	936.8 ± 0.6	-0.00	65-arr/jef
323.15	921.6 ± 3.0	-8.60	48-and/pet ¹⁾	333.15	923.4 ± 0.6	-0.20	65-arr/jef
348.15	911.3 ± 3.0	-2.40	48-and/pet ¹⁾	358.15	907.3 ± 0.6	0.20	65-arr/jef
373.15	892.9 ± 3.0	-4.30	48-and/pet ¹⁾				

¹⁾ Not included in calculation of linear coefficients.

cont.

1-Heptylnaphthalene (cont.)**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	952.1 ± 0.6	310.00	938.9 ± 0.3	340.00	919.1 ± 0.6
293.15	950.0 ± 0.5	320.00	932.3 ± 0.3	350.00	912.5 ± 0.8
298.15	946.7 ± 0.4	330.00	925.7 ± 0.4	360.00	905.9 ± 1.0

2-Heptylnaphthalene**[2876-45-1]****C₁₇H₂₂****MW =226.36****1182****Table 1.** Fit with estimated *B* coefficient for 6 accepted points. Deviation $\sigma_w = 0.373$.

Coefficient	$\rho = A + BT$
<i>A</i>	1131.71
<i>B</i>	-0.650

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.75	945.1 ± 1.0	1.07	49-koe	313.15	928.3 ± 0.6	0.13	65-arr/jef
293.15	940.7 ± 1.0	-0.47	52-and/smi	333.15	915.0 ± 0.6	-0.17	65-arr/jef
293.15	947.9 ± 3.0	6.73	55-lut-1 ¹⁾	358.15	898.6 ± 0.6	-0.32	65-arr/jef
293.15	941.3 ± 0.6	0.13	65-arr/jef				

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	949.7 ± 1.0	310.00	930.2 ± 0.7	340.00	910.7 ± 0.8
290.00	943.2 ± 0.9	320.00	923.7 ± 0.7	350.00	904.2 ± 0.9
293.15	941.2 ± 0.9	330.00	917.2 ± 0.7	360.00	897.7 ± 1.1
298.15	937.9 ± 0.8				

Benz[*a*]anthracene**[56-55-3]****C₁₈H₁₂****MW =228.29****1183****Table 1.** Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
<i>crystal</i>		
293.15	1226.0 ± 4.0	53-sch/blo-1
293.15	1227.0 ± 4.0	53-sch/blo-1

2,3-Benzanthracene [92-24-0] C₁₈H₁₂ MW =228.29 1184

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
<i>crystal</i>		
298.15	1330.0 ± 20.0	59-ino/nak

Chrysene [218-01-9] C₁₈H₁₂ MW =228.29 1185

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
<i>crystal</i>		
293.15	1301.0 ± 4.0	53-sch/blo-1
293.15	1289.0 ± 4.0	53-sch/blo-1

Triphenylene [217-59-4] C₁₈H₁₂ MW =228.29 1186

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
<i>crystal</i>		
298.15	1300.0 ± 20.0	59-ino/nak

9-Butylanthracene [1498-69-7] C₁₈H₁₈ MW =234.34 1187

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
333.15	1026.6 ± 0.5	68-ano-1
372.05	1000.7 ± 0.7	68-ano-1

1-Methyl-7-(1-methylethyl)phenanthrene [483-65-8] C₁₈H₁₈ MW =234.34 1188

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
371.65	1063.0 ± 10.0	1877-eks
290.65	1090.8 ± 2.0	25-von/kra
298.75	1084.1 ± 2.0	25-von/kra

9-Pentyl-9H-fluorene [2473-23-6] C₁₈H₂₀ MW =236.36 1189

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	1015.3 ± 1.0	55-sch/bec

1,4-Bis(1-methylpropyl)naphthalene [500050-56-6] C₁₈H₂₄ MW =240.39 1190

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	953.9 ± 2.0	58-mel/tsu

1,4-Bis(2-methylpropyl)naphthalene [109746-69-2] C₁₈H₂₄ MW =240.39 1191

Table 1. Fit with estimated B coefficient for 3 accepted points. Deviation $\sigma_w = 2.141$.

Coefficient	$\rho = A + BT$
A	1151.80
B	-0.750

Table 2. Experimental values with uncertainties and deviation from calculated values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg · m ⁻³	Ref.
273.15	942.4 ± 3.0	-4.54	33-ler
293.15	933.0 ± 2.0	1.06	35-ros-1
323.15	910.4 ± 2.0	0.96	38-eva-2
373.15	878.4 ± 4.0	6.46	38-eva-2 ¹⁾

¹⁾ Not included in calculation of linear coefficients.

Table 3. Recommended values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³
270.00	949.3 ± 5.9	293.15	931.9 ± 3.2	320.00	911.8 ± 4.5
280.00	941.8 ± 5.1	298.15	928.2 ± 2.8	330.00	904.3 ± 5.2
290.00	934.3 ± 3.5	310.00	919.3 ± 3.1		

1,4-Dibutyl naphthalene [3031-23-0] C₁₈H₂₄ MW =240.39 1192

Table 1. Experimental values with uncertainties.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	941.9 ± 2.0	57-rom
293.15	941.9 ± 2.0	57-rom-2

(1,3-Dimethyl-1-ethylbutyl)naphthalene [500050-55-5] C₁₈H₂₄ MW =240.39 1193

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	972.3 ± 2.0	61-sok/she

2,3-Dimethyl-5-(4-methylpentyl)-naphthalene [500050-71-5] C₁₈H₂₄ MW =240.39 1194

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	947.8 ± 0.6	61-ano-9

1-(2-Ethylhexyl)naphthalene [38582-58-0] C₁₈H₂₄ MW =240.39 1195

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	946.6 ± 2.0	57-pet/nef
293.15	947.0 ± 2.0	61-pet/nef

2-(1-Ethylhexyl)naphthalene [500050-60-2] C₁₈H₂₄ MW =240.39 1196

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	940.5 ± 0.6	54-els
310.93	928.0 ± 0.6	54-els
343.55	905.4 ± 0.6	54-els

1-(1-Ethyl-methylpentyl)naphthalene [500050-58-8] C₁₈H₂₄ MW =240.39 1197

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	961.3 ± 2.0	57-pet/nef
293.15	961.0 ± 2.0	61-pet/nef

1-(1-Methylheptyl)naphthalene [94030-56-5] C₁₈H₂₄ MW =240.39 1198

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	938.9 ± 2.0	57-pet/nef
293.15	941.0 ± 2.0	61-pet/nef

1-(1-Methyl-1-propylbutyl)naphthalene [500050-66-8] C₁₈H₂₄ MW =240.39 1199

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	952.2 ± 2.0	44-pet/kur

1-Octylnaphthalene**[2876-51-9]****C₁₈H₂₄****MW =240.39****1200****Table 1.** Fit with estimated *B* coefficient for 8 accepted points. Deviation $\sigma_w = 1.027$.

Coefficient	$\rho = A + BT$
<i>A</i>	1137.85
<i>B</i>	-0.665

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	940.1 ± 3.0	-2.81	49-lut/wac ¹⁾	293.15	942.0 ± 1.0	-0.91	61-pet/nef
293.15	942.6 ± 1.0	-0.31	54-els	293.15	943.2 ± 1.0	0.29	65-arr/jef
310.93	930.2 ± 1.0	-0.88	54-els	313.15	930.4 ± 1.0	0.79	65-arr/jef
343.55	907.8 ± 1.0	-1.59	54-els	333.15	917.4 ± 1.0	1.09	65-arr/jef
293.15	940.1 ± 2.0	-2.81	55-lut-1 ¹⁾	358.15	901.2 ± 1.0	1.52	65-arr/jef
293.15	941.3 ± 2.0	-1.61	57-pet/nef ¹⁾				

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	945.0 ± 1.8	310.00	931.7 ± 1.3	340.00	911.8 ± 1.7
293.15	942.9 ± 1.7	320.00	925.1 ± 1.2	350.00	905.1 ± 2.0
298.15	939.6 ± 1.5	330.00	918.4 ± 1.4	360.00	898.5 ± 2.5

2-Octylnaphthalene**[2876-44-0]****C₁₈H₂₄****MW =240.39****1201****Table 1.** Fit with estimated *B* coefficient for 1 accepted points. Deviation $\sigma_w = 0.716$.

Coefficient	$\rho = A + BT$
<i>A</i>	1125.62
<i>B</i>	-0.650

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	936.6 ± 2.0	1.53	42-pet/and ¹⁾	293.15	935.6 ± 0.6	0.53	59-koe/kla
288.75	938.6 ± 0.6	0.67	49-koe	318.15	923.3 ± 2.0	4.48	59-koe/kla ¹⁾
293.15	939.0 ± 3.0	3.93	49-lut/wac ¹⁾	293.15	934.0 ± 1.5	-1.07	61-pet/nef ¹⁾
293.15	934.5 ± 1.0	-0.57	54-els	293.15	935.4 ± 0.6	0.33	66-sha/bek
310.95	922.0 ± 1.0	-1.50	54-els	293.15	935.3 ± 0.6	0.23	65-arr/jef
343.55	899.7 ± 1.0	-2.61	54-els	313.15	922.0 ± 0.6	-0.07	65-arr/jef
293.15	934.8 ± 1.0	-0.23	54-wib/van	333.15	909.0 ± 0.6	-0.07	65-arr/jef
293.15	939.0 ± 2.0	3.93	55-lut-1 ¹⁾	358.15	893.0 ± 0.6	0.18	65-arr/jef

¹⁾ Not included in calculation of linear coefficients.

cont.

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	943.6 ± 1.5	310.00	924.1 ± 0.9	340.00	904.6 ± 1.5
290.00	937.1 ± 1.2	320.00	917.6 ± 0.9	350.00	898.1 ± 1.8
293.15	935.1 ± 1.1	330.00	911.1 ± 1.2	360.00	891.6 ± 2.2
298.15	931.8 ± 1.0				

2-(1-Propylpentyl)naphthalene [500050-59-9] C₁₈H₂₄ MW =240.39 1202

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	938.1 ± 0.6	54-els
310.93	925.6 ± 0.6	54-els
339.45	906.0 ± 0.6	54-els

1-(2,2,4,4-Tetramethylbutyl)-naphthalene [500030-16-0] C₁₆H₂₀ MW =212.33 1203

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	957.1 ± 0.8	47-and

9-Pentylanthracene [33576-54-4] C₁₉H₂₀ MW =248.37 1204

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
344.25	998.2 ± 2.0	20-von-1
347.55	998.7 ± 2.0	20-von-1
349.65	1001.7 ± 2.0	20-von-1
372.55	981.2 ± 2.0	23-kro-1

9-Hexyl-9H-fluorene [2470-83-9] C₁₉H₂₂ MW =250.38 1205

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	990.0 ± 1.0	55-sch/bec

1-(1-Ethyl-1-methylhexyl)naphthalene [88617-13-4] C₁₉H₂₆ MW =254.42 1206

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	977.8 ± 2.0	61-sok/she

1-[3-Methyl-1-(2-methylpropyl)butyl]-naphthalene [500050-67-9] C₁₉H₂₆ MW =254.42 1207

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	959.1 ± 2.0	61-sok/she

1-Nonylnaphthalene [26438-26-6] C₁₉H₂₆ MW =254.42 1208

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	936.7 ± 1.5	52-and/smi
293.15	935.7 ± 1.5	58-gil/lyu

2-Nonylnaphthalene [61886-67-7] C₁₉H₂₆ MW =254.42 1209

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.75	933.3 ± 1.0	49-koe
293.15	933.3 ± 2.0	49-lut
293.15	930.4 ± 1.0	52-and/smi
293.15	933.3 ± 2.0	55-lut-1

Benzo[a]pyrene [50-32-8] C₂₀H₁₂ MW =252.32 1210

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
<i>crystal</i>		
293.15	1351.0 ± 10.0	36-iba
293.15	1351.0 ± 10.0	44-kro/wei
293.15	1351.0 ± 10.0	56-iba/you

Perylene [198-55-0] C₂₀H₁₂ MW =252.32 1211

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
<i>crystal</i>		
298.15	1322.0 ± 5.0	53-don/rob
298.15	1350.0 ± 20.0	59-ino/nak
298.15	1340.0 ± 15.0	71-vai/ken

9-Heptyl-9H-fluorene [98609-93-9] C₂₀H₂₄ MW =264.41 1212

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg·m ⁻³	Ref.
298.15	982.7 ± 1.0	55-sch/bec

2-Butyl-3-hexylnaphthalene [55000-56-1] C₂₀H₂₈ MW =268.44 1213

Table 1. Fit with estimated B coefficient for 10 accepted points. Deviation $\sigma_w = 0.169$.

Coefficient	$\rho = A + BT$
A	1132.46
B	-0.680

Table 2. Experimental values with uncertainties and deviation from calculated values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg·m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg·m ⁻³	Ref.	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg·m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg·m ⁻³	Ref.
273.15	947.0 ± 0.5	0.28	63-dix/yar	273.15	947.0 ± 0.5	0.28	68-ano-1
293.15	933.0 ± 0.5	-0.12	63-dix/yar	293.15	933.0 ± 0.5	-0.12	68-ano-1
310.95	920.9 ± 0.5	-0.11	63-dix/yar	310.95	920.9 ± 0.5	-0.11	68-ano-1
333.15	905.8 ± 0.5	-0.12	63-dix/yar	333.15	905.8 ± 0.5	-0.12	68-ano-1
372.05	879.6 ± 0.7	0.13	63-dix/yar	372.05	879.6 ± 0.7	0.13	68-ano-1

Table 3. Recommended values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg·m ⁻³	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg·m ⁻³	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg·m ⁻³
270.00	948.9 ± 1.0	310.00	921.7 ± 0.5	350.00	894.5 ± 0.9
280.00	942.1 ± 0.8	320.00	914.9 ± 0.5	360.00	887.7 ± 1.1
290.00	935.3 ± 0.7	330.00	908.1 ± 0.6	370.00	880.9 ± 1.3
293.15	933.1 ± 0.6	340.00	901.3 ± 0.8	380.00	874.1 ± 1.5
298.15	929.7 ± 0.6				

7-Butyl-1-hexylnaphthalene [55000-55-0] C₂₀H₂₈ MW =268.44 1214

Table 1. Fit with estimated B coefficient for 10 accepted points. Deviation $\sigma_w = 0.144$.

Coefficient	$\rho = A + BT$
A	1127.90
B	-0.680

cont.

7-Butyl-1-hexylnaphthalene (cont.)**Table 2.** Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	942.4 ± 0.5	0.24	63-dix/yar	273.15	942.4 ± 0.5	0.24	68-ano-1
293.15	928.4 ± 0.5	-0.16	63-dix/yar	293.15	928.4 ± 0.5	-0.16	68-ano-1
310.95	916.4 ± 0.5	-0.06	63-dix/yar	310.95	916.4 ± 0.5	-0.06	68-ano-1
333.15	901.4 ± 0.5	0.04	63-dix/yar	333.15	901.4 ± 0.5	0.04	68-ano-1
372.05	874.8 ± 0.7	-0.11	63-dix/yar	372.05	874.8 ± 0.7	-0.11	68-ano-1

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	944.3 ± 1.0	310.00	917.1 ± 0.5	350.00	889.9 ± 0.9
280.00	937.5 ± 0.8	320.00	910.3 ± 0.5	360.00	883.1 ± 1.1
290.00	930.7 ± 0.6	330.00	903.5 ± 0.6	370.00	876.3 ± 1.3
293.15	928.6 ± 0.6	340.00	896.7 ± 0.8	380.00	869.5 ± 1.5
298.15	925.2 ± 0.6				

1-Decylnaphthalene

[26438-27-7]

C₂₀H₂₈

MW =268.44

1215

Table 1. Fit with estimated *B* coefficient for 3 accepted points. Deviation $\sigma_w = 0.062$.

Coefficient	$\rho = A + BT$
<i>A</i>	1137.27
<i>B</i>	-0.700

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	932.0 ± 0.6	-0.06	54-els
310.93	919.7 ± 0.6	0.08	54-els
339.35	899.7 ± 0.6	-0.02	54-els

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	934.3 ± 0.7	310.00	920.3 ± 0.5	330.00	906.3 ± 0.6
293.15	932.1 ± 0.7	320.00	913.3 ± 0.6	340.00	899.3 ± 0.7
298.15	928.6 ± 0.6				

2-Decylnaphthalene**[14188-79-5]****C₂₀H₂₈****MW =268.44****1216****Table 1.** Fit with estimated *B* coefficient for 7 accepted points. Deviation $\sigma_w = 0.562$.

Coefficient	$\rho = A + BT$
<i>A</i>	1121.15
<i>B</i>	-0.670

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	922.0 ± 3.0	-2.73	48-har/rob ¹⁾	343.55	891.0 ± 2.0	0.03	54-els
288.75	927.1 ± 2.0	-0.58	49-koe	293.15	925.4 ± 2.0	0.63	54-wib/van
293.15	922.2 ± 3.0	-2.48	49-lut ¹⁾	293.15	922.2 ± 3.0	-2.53	55-lut-1 ¹⁾
293.15	925.3 ± 2.0	0.57	54-els	293.15	923.7 ± 2.0	-1.03	59-koe/kla
310.93	913.1 ± 2.0	0.28	54-els	318.15	908.1 ± 2.0	0.12	59-koe/kla

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	933.5 ± 2.9	298.15	921.4 ± 1.6	330.00	900.0 ± 2.8
290.00	926.8 ± 2.1	310.00	913.4 ± 1.4	340.00	893.3 ± 3.7
293.15	924.7 ± 1.9	320.00	906.7 ± 2.0	350.00	886.6 ± 4.6

2-(1,5-Dimethyl-1-ethylhexyl)-naphthalene**[500050-72-6]****C₂₀H₂₈****MW =268.44****1217****Table 1.** Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	949.4 ± 2.0	42-pet/che

1,4-Dimethyl-5-octylnaphthalene**[55000-53-8]****C₂₀H₂₈****MW =268.44****1218****Table 1.** Fit with estimated *B* coefficient for 10 accepted points. Deviation $\sigma_w = 0.119$.

Coefficient	$\rho = A + BT$
<i>A</i>	1142.67
<i>B</i>	-0.655

cont.

1,4-Dimethyl-5-octylnaphthalene (cont.)**Table 2.** Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	963.9 ± 0.5	0.14	63-dix/yar	273.15	963.9 ± 0.5	0.14	68-ano-1
293.15	950.7 ± 0.5	0.04	63-dix/yar	293.15	950.7 ± 0.5	0.04	68-ano-1
310.95	938.9 ± 0.5	-0.10	63-dix/yar	310.95	938.9 ± 0.5	-0.10	68-ano-1
333.15	924.3 ± 0.5	-0.16	63-dix/yar	333.15	924.3 ± 0.5	-0.16	68-ano-1
372.05	899.1 ± 0.7	0.12	63-dix/yar	372.05	899.1 ± 0.7	0.12	68-ano-1

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	965.8 ± 0.9	310.00	939.6 ± 0.5	350.00	913.4 ± 0.9
280.00	959.3 ± 0.8	320.00	933.1 ± 0.5	360.00	906.9 ± 1.1
290.00	952.7 ± 0.6	330.00	926.5 ± 0.6	370.00	900.3 ± 1.3
293.15	950.7 ± 0.6	340.00	920.0 ± 0.8	380.00	893.8 ± 1.5
298.15	947.4 ± 0.6				

2,6-Dimethyl-3-octylnaphthalene

[55000-54-9]

C₂₀H₂₈

MW =268.44

1219

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
310.95	923.1 ± 0.5	63-dix/yar	310.95	923.1 ± 0.5	68-ano-1
333.15	907.9 ± 0.5	63-dix/yar	333.15	907.9 ± 0.5	68-ano-1
372.05	881.5 ± 0.5	63-dix/yar	372.05	881.5 ± 0.5	68-ano-1

2,3-Dipentylnaphthalene

[500050-73-7]

C₂₀H₂₈

MW =268.44

1220

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	931.7 ± 1.0	48-har/rob

1-(1-Ethyl-1-methylheptyl)naphthalene

[500050-70-4]

C₂₀H₂₈

MW =268.44

1221

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	984.0 ± 2.0	61-sok/she

2-(1-Propylheptyl)naphthalene [500050-69-1] C₂₀H₂₈ MW =268.44 1222

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	926.7 ± 0.6	54-els
310.93	914.7 ± 0.6	54-els
339.55	895.0 ± 0.6	54-els

1-Undecylnaphthalene [7225-71-0] C₂₁H₃₀ MW =282.47 1223

Table 1. Fit with estimated *B* coefficient for 10 accepted points. Deviation $\sigma_w = 0.068$.

Coefficient	$\rho = A + BT$
<i>A</i>	1124.28
<i>B</i>	-0.670

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	928.0 ± 0.6	0.13	52-and/smi	372.05	875.0 ± 0.7	-0.01	52-ano-10
293.15	928.0 ± 0.6	0.13	53-and/smi	293.15	927.9 ± 0.5	0.03	68-ano-1
293.15	927.9 ± 0.5	0.03	52-ano-10	310.95	915.9 ± 0.5	-0.04	68-ano-1
310.95	915.9 ± 0.5	-0.04	52-ano-10	333.15	901.0 ± 0.5	-0.07	68-ano-1
333.15	901.0 ± 0.5	-0.07	52-ano-10	372.05	875.0 ± 0.7	-0.01	68-ano-1

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	930.0 ± 0.7	320.00	909.9 ± 0.5	360.00	883.1 ± 1.0
293.15	927.9 ± 0.7	330.00	903.2 ± 0.6	370.00	876.4 ± 1.2
298.15	924.5 ± 0.6	340.00	896.5 ± 0.7	380.00	869.7 ± 1.4
310.00	916.6 ± 0.5	350.00	889.8 ± 0.8		

2-Undecylnaphthalene [61886-68-8] C₂₁H₃₀ MW =282.47 1224

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	922.0 ± 1.0	52-and/smi
293.15	922.0 ± 1.0	53-and/smi

Benzo[ghi]perylene [191-24-2] C₂₂H₁₂ MW =276.34 1225

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
<i>crystal</i>		
298.15	1350.0 ± 20.0	59-ino/nak

Dibenzo[def,mno]chrysene [191-26-4] C₂₂H₁₂ MW =276.34 1226

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
<i>crystal</i>		
298.15	1377.0 ± 10.0	59-ino/nak

Dibenz[a,h]anthracene [53-70-3] C₂₂H₁₄ MW =278.35 1227

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
<i>crystal</i>		
298.15	1282.0 ± 10.0	35-kri/ban-1
293.15	1248.0 ± 4.0	53-sch/blo-1
293.15	1280.0 ± 10.0	67-wak/ino

Pentacene [135-48-8] C₂₂H₁₄ MW =278.35 1228

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
<i>crystal</i>		
298.15	1300.0 ± 10.0	61-cam/rob
298.15	1330.0 ± 10.0	62-cam/rob
298.15	1300.0 ± 10.0	67-wak/ino

9,10-Bis(2-methylpropyl)anthracene [66326-09-8] C₂₂H₂₆ MW =290.45 1229

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1022.0 ± 3.0	42-lar/tho
325.15	1003.0 ± 3.0	42-lar/tho

2,3-Dihexylnaphthalene**[74646-30-3]****C₂₂H₃₂****MW =296.50****1230****Table 1.** Fit with estimated *B* coefficient for 3 accepted points. Deviation $\sigma_w = 0.186$.

Coefficient	$\rho = A + BT$
<i>A</i>	1124.03
<i>B</i>	-0.685

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	923.1 ± 0.6	-0.12	54-els
310.93	910.9 ± 0.6	-0.14	54-els
339.55	891.7 ± 0.6	0.26	54-els

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	925.4 ± 0.8	310.00	911.7 ± 0.6	330.00	898.0 ± 0.6
293.15	923.2 ± 0.7	320.00	904.8 ± 0.6	340.00	891.1 ± 0.8
298.15	919.8 ± 0.7				

2,6-Dihexylnaphthalene**[4268-75-1]****C₂₂H₃₂****MW =296.50****1231****Table 1.** Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
310.93	905.1 ± 0.6	54-els
343.55	883.3 ± 0.6	54-els

1-Dodecylnaphthalene**[26438-28-8]****C₂₂H₃₂****MW =296.50****1232****Table 1.** Fit with estimated *B* coefficient for 3 accepted points. Deviation $\sigma_w = 0.315$.

Coefficient	$\rho = A + BT$
<i>A</i>	1121.88
<i>B</i>	-0.680

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
310.95	910.3 ± 0.6	-0.14	54-els
343.55	888.6 ± 0.6	0.33	54-els
293.15	922.0 ± 1.0	-0.54	61-pet/nef

cont.

1-Dodecyl naphthalene (cont.)**Table 3.** Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	924.7 ± 3.3	310.00	911.1 ± 1.4	340.00	890.7 ± 1.9
293.15	922.5 ± 3.0	320.00	904.3 ± 0.8	350.00	883.9 ± 2.9
298.15	919.1 ± 2.5	330.00	897.5 ± 1.1		

2-Dodecyl naphthalene**[60899-39-0]****C₂₂H₃₂****MW =296.50****1233****Table 1.** Fit with estimated *B* coefficient for 4 accepted points. Deviation $\sigma_w = 0.360$.

Coefficient	$\rho = A + BT$
<i>A</i>	1122.51
<i>B</i>	-0.695

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.75	916.3 ± 3.0	-5.53	49-koe ¹⁾	310.95	906.3 ± 0.6	-0.10	54-els
293.15	910.7 ± 3.0	-8.07	49-kuw/tom ¹⁾	313.15	904.8 ± 0.6	-0.07	54-wib/van
293.15	919.1 ± 2.0	0.35	49-lut ¹⁾	328.25	894.8 ± 0.6	0.45	54-wib/van
293.15	918.0 ± 1.0	-0.77	53-and/smi				

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	921.0 ± 1.1	298.15	915.3 ± 0.8	320.00	900.1 ± 0.5
293.15	918.8 ± 1.0	310.00	907.1 ± 0.5	330.00	893.2 ± 0.8

2-(1-Pentylheptyl)naphthalene**[500050-77-1]****C₂₂H₃₂****MW =296.50****1234****Table 1.** Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	918.8 ± 0.6	54-els
310.93	906.7 ± 0.6	54-els
339.45	887.5 ± 0.6	54-els

2-(1-Propylnonyl)naphthalene [500050-76-0] C₂₂H₃₂ MW =296.50 1235

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	918.7 ± 0.6	54-els
310.93	907.0 ± 0.6	54-els
339.85	887.7 ± 0.6	54-els

1-Tridecyl-naphthalene [500050-86-2] C₂₃H₃₄ MW =310.52 1236

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	904.9 ± 2.0	49-lut
293.15	904.9 ± 2.0	49-lut/wac

Coronene [191-07-1] C₂₄H₁₂ MW =300.36 1237

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
<i>crystal</i>		
293.15	1380.0 ± 4.0	53-sch/blo-1
293.15	1402.0 ± 4.0	53-sch/blo-1

4-Decylphenanthrene [800-23-7] C₂₄H₃₀ MW =318.50 1238

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	992.1 ± 1.0	64-dil/mai

2-Tetradecyl-naphthalene [500025-12-7] C₂₄H₃₆ MW =324.55 1239

Table 1. Fit with estimated *B* coefficient for 3 accepted points. Deviation $\sigma_w = 0.367$.

Coefficient	$\rho = A + BT$
<i>A</i>	1101.53
<i>B</i>	-0.650

cont.

2-Tetradecylnaphthalene (cont.)**Table 2.** Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.75	906.4 ± 3.0	-7.44	49-koe ¹⁾
293.15	905.5 ± 3.0	-5.48	49-kuw/tom ¹⁾
313.15	897.7 ± 2.0	-0.24	54-wib/van
328.25	887.9 ± 2.0	-0.28	54-wib/van
293.15	911.5 ± 2.0	0.52	59-koe/kla

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	913.0 ± 4.5	298.15	907.7 ± 2.9	320.00	893.5 ± 2.0
293.15	911.0 ± 3.8	310.00	900.0 ± 2.0	330.00	887.0 ± 3.9

9-Dodecyl-9H-fluorene**[500037-31-0]****C₂₅H₃₄****MW =334.54****1240****Table 1.** Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.156$.

Coefficient	$\rho = A + BT$
<i>A</i>	1142.73
<i>B</i>	-0.655

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
310.95	939.3 ± 0.5	0.24	68-ano-1
333.15	924.4 ± 0.5	-0.12	68-ano-1
372.05	898.9 ± 0.7	-0.14	68-ano-1
388.15	888.4 ± 0.7	-0.10	68-ano-1
408.15	875.4 ± 0.7	0.00	68-ano-1

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
310.00	939.7 ± 1.0	350.00	913.5 ± 0.6	390.00	887.3 ± 1.0
320.00	933.1 ± 0.9	360.00	906.9 ± 0.6	400.00	880.7 ± 1.1
330.00	926.6 ± 0.7	370.00	900.4 ± 0.7	410.00	874.2 ± 1.3
340.00	920.0 ± 0.6	380.00	893.8 ± 0.8		

1-Pentadecylnaphthalene**[55191-63-4]****C₂₅H₃₈****MW =338.58****1241****Table 1.** Fit with estimated *B* coefficient for 13 accepted points. Deviation $\sigma_w = 0.265$.

Coefficient	$\rho = A + BT$
<i>A</i>	1108.28
<i>B</i>	-0.660

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
310.95	902.9 ± 0.5	-0.15	55-cut	372.05	863.1 ± 0.7	0.39	58-cut/mcm
333.15	888.5 ± 0.5	0.10	55-cut	388.15	851.8 ± 0.7	-0.31	58-cut/mcm
372.05	863.1 ± 0.7	0.38	55-cut	408.15	838.4 ± 0.7	-0.47	58-cut/mcm
388.15	851.8 ± 0.7	-0.30	55-cut	310.95	902.9 ± 0.5	-0.15	68-ano-1
408.15	838.4 ± 0.7	-0.50	55-cut	333.15	888.5 ± 0.5	0.10	68-ano-1
333.15	888.5 ± 0.5	0.09	58-cut/mcm	372.05	863.1 ± 0.7	0.38	68-ano-1
352.55	875.8 ± 0.5	0.22	58-cut/mcm				

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
310.00	903.7 ± 1.0	350.00	877.3 ± 0.6	390.00	850.9 ± 1.0
320.00	897.1 ± 0.9	360.00	870.7 ± 0.6	400.00	844.3 ± 1.2
330.00	890.5 ± 0.7	370.00	864.1 ± 0.7	410.00	837.7 ± 1.3
340.00	883.9 ± 0.6	380.00	857.5 ± 0.8		

6-Octylchrysene**[56248-66-9]****C₂₆H₂₈****MW =340.51****1242****Table 1.** Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
372.05	1004.5 ± 0.7	68-ano-1
388.15	994.6 ± 0.7	68-ano-1
408.15	981.8 ± 0.7	68-ano-1

2-Octyltriphenylene**[500037-32-1]****C₂₆H₂₈****MW =340.51****1243****Table 1.** Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.292$.

Coefficient	$\rho = A + BT$
<i>A</i>	1244.40
<i>B</i>	-0.640

cont.

2-Octyltriphenylene (cont.)**Table 2.** Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
310.95	1045.8 ± 0.5	0.41	68-ano-1
333.15	1031.0 ± 0.5	-0.18	68-ano-1
372.05	1005.9 ± 0.7	-0.39	68-ano-1
388.15	995.8 ± 0.7	-0.18	68-ano-1
408.15	983.3 ± 0.7	0.12	68-ano-1

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
310.00	1046.0 ± 1.0	350.00	1020.4 ± 0.6	390.00	994.8 ± 1.0
320.00	1039.6 ± 0.9	360.00	1014.0 ± 0.7	400.00	988.4 ± 1.2
330.00	1033.2 ± 0.8	370.00	1007.6 ± 0.7	410.00	982.0 ± 1.3
340.00	1026.8 ± 0.7	380.00	1001.2 ± 0.9		

1-Decylpyrene

[55682-90-1]

C₂₆H₃₀

MW =342.52

1244

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
333.15	1001.1 ± 0.5	68-ano-1
372.05	975.9 ± 0.5	68-ano-1

9-Dodecylanthracene

[2883-70-7]

C₂₆H₃₄

MW =346.56

1245

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
333.15	950.5 ± 0.5	68-ano-1
372.05	925.6 ± 0.5	68-ano-1

2-Dodecylphenanthrene

[3674-72-4]

C₂₆H₃₄

MW =346.56

1246

Table 1. Fit with estimated *B* coefficient for 4 accepted points. Deviation $\sigma_w = 0.106$.

Coefficient	$\rho = A + BT$
<i>A</i>	1160.07
<i>B</i>	-0.640

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
333.15	946.9 ± 0.5	0.04	68-ano-1
372.04	921.8 ± 0.7	-0.17	68-ano-1
388.15	911.8 ± 0.7	0.14	68-ano-1
408.15	898.8 ± 0.7	-0.06	68-ano-1

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
330.00	948.9 ± 1.0	360.00	929.7 ± 0.6	390.00	910.5 ± 0.7
340.00	942.5 ± 0.8	370.00	923.3 ± 0.6	400.00	904.1 ± 0.9
350.00	936.1 ± 0.7	380.00	916.9 ± 0.6	410.00	897.7 ± 1.0

9-Dodecylphenanthrene

[3788-61-2]

C₂₆H₃₄

MW =346.56

1247

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
372.04	929.2 ± 0.7	47-sch
372.04	929.2 ± 0.7	48-sch/ryt
372.05	929.2 ± 0.7	68-ano-1

2-(1,1-Dipentylhexyl)naphthalene

[500050-90-8]

C₂₆H₄₀

MW =352.60

1248

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	910.0 ± 1.0	66-stu-1
323.15	893.1 ± 1.0	66-stu-1

1-Hexadecylnaphthalene

[83240-42-0]

C₂₆H₄₀

MW =352.60

1249

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	880.8 ± 2.0	49-lut
313.15	887.0 ± 2.0	49-lut/wac

2-Hexadecylnaphthalene [2657-43-4] C₂₆H₄₀ MW =352.60 1250

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
303.15	899.1 ± 1.0	49-kuw/tom
293.15	906.2 ± 1.0	59-koe/kla
318.15	892.2 ± 1.0	59-koe/kla

2-(1-Pentylundecyl)naphthalene [2719-46-2] C₂₆H₄₀ MW =352.60 1251

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	905.2 ± 1.0	66-stu-1
323.15	886.1 ± 1.0	66-stu-1

1,2-Dihydro-5-pentadecyl-acenaphthylene, [55334-13-9] C₂₇H₄₀ MW =364.61 1252

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
343.15	905.0 ± 0.5	68-ano-1
358.15	895.5 ± 0.5	68-ano-1
372.05	886.5 ± 0.5	68-ano-1

1-Octadecylnaphthalene [500018-36-0] C₂₈H₄₄ MW =380.66 1253

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
328.15	884.9 ± 1.0	42-lar/tho
338.15	878.9 ± 1.0	42-lar/tho
343.55	874.1 ± 1.0	54-els

2-Octadecylnaphthalene [500030-17-1] C₂₈H₄₄ MW =380.66 1254

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	906.0 ± 2.0	36-mik	333.45	876.6 ± 1.0	54-els
288.75	911.1 ± 2.0	37-nel-3	343.55	869.9 ± 1.0	54-els
293.15	894.2 ± 2.0	49-kuw/tom	293.15	903.0 ± 2.0	61-pet/nef

1-(1-Butyl-1-hexadecenyl)naphthalene [500038-67-5] C₃₀H₄₆ MW =406.70 1255

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	910.7 ± 2.0	42-lar/tho

1-(1-Decyl-1-undecenyl)naphthalene [55319-81-8] C₃₁H₄₈ MW =420.72 1256

Table 1. Fit with estimated *B* coefficient for 5 accepted points. Deviation $\sigma_w = 0.146$.

Coefficient	$\rho = A + BT$
<i>A</i>	1094.40
<i>B</i>	-0.650

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	916.7 ± 0.5	-0.15	68-ano-1	333.15	878.0 ± 0.5	0.15	68-ano-1
293.15	903.7 ± 0.5	-0.15	68-ano-1	372.05	852.8 ± 0.7	0.24	68-ano-1
310.95	892.3 ± 0.5	0.02	68-ano-1				

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$		$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	
270.00	918.9 ± 1.0	310.00	892.9 ± 0.5	350.00	866.9 ± 0.9
280.00	912.4 ± 0.8	320.00	886.4 ± 0.5	360.00	860.4 ± 1.1
290.00	905.9 ± 0.6	330.00	879.9 ± 0.6	370.00	853.9 ± 1.3
293.15	903.8 ± 0.6	340.00	873.4 ± 0.8	380.00	847.4 ± 1.5
298.15	900.6 ± 0.6				

2-(1-Butyl-1-octadecenyl)naphthalene [500039-03-2] C₃₂H₅₀ MW =434.75 1257

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	908.1 ± 2.0	36-mik
288.75	914.0 ± 2.0	37-nel-3

2-(1-Butyl-1-docosenyl)naphthalene [500038-68-6] C₃₆H₅₈ MW =490.86 1258

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	883.0 ± 2.0	36-mik
288.75	888.0 ± 2.0	37-nel-3

2-(2-Butyl-1-ethyl-1-eicosenyl)-naphthalene [500038-69-7] C₃₆H₅₈ MW =490.86 1259

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	896.0 ± 2.0	36-mik
288.75	901.0 ± 2.0	37-nel-3

2-(1,2-Dibutyl-1-eicosenyl)naphthalene [500038-70-0] C₃₈H₆₂ MW =518.91 1260

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	889.6 ± 2.0	36-mik
288.75	894.0 ± 2.0	37-nel-3

5.4 Phenyl Groups Attached to Condensed Polycyclic Aromatic Compounds

1-Phenyl-1*H*-indene [1961-96-2] $C_{15}H_{12}$ MW =192.26 1261

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
300.15	1082.9 ± 2.0	17-von

2-Phenyl-1*H*-indene [4505-48-0] $C_{15}H_{12}$ MW =192.26 1262

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
289.15	1082.1 ± 2.0	29-von/man-2

3,3-Dimethyl-2-phenyltricyclo-[2.2.1.0^{2,6}]heptane [500039-58-7] $C_{15}H_{18}$ MW =198.31 1263

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
283.40	1006.1 ± 2.0	23-bre

1-Phenylnaphthalene [605-02-7] $C_{16}H_{12}$ MW =204.27 1264

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1103.0 ± 3.0	34-von/ant
293.15	1096.0 ± 2.0	48-kut/nic

3,4-Dihydro-1-phenylnaphthalene [7469-40-1] $C_{16}H_{14}$ MW =206.29 1265

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
300.15	1078.4 ± 2.0	34-von/ant

2,3-Dihydro-1-(4-methylphenyl)-1H-indene [500038-83-5] $C_{16}H_{16}$ MW =208.30 1266

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ $\text{kg} \cdot \text{m}^{-3}$	Ref.
293.15	1045.5 ± 2.0	29-von/man-1

2,3-Dihydro-1-(phenylmethyl)-1H-indene [4831-01-0] $C_{16}H_{16}$ MW =208.30 1267

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ $\text{kg} \cdot \text{m}^{-3}$	Ref.
293.15	1033.0 ± 2.0	55-and/cow

2-Phenyl-1,2,3,4-tetrahydronaphthalene [29422-13-7] $C_{16}H_{16}$ MW =208.30 1268

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ $\text{kg} \cdot \text{m}^{-3}$	Ref.
291.15	1057.9 ± 2.0	29-von/man

2,2-Dimethyl-3-methylene-1-phenyl-bicyclo[2.2.1]heptane [500039-71-4] $C_{16}H_{20}$ MW =212.33 1269

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ $\text{kg} \cdot \text{m}^{-3}$	Ref.
293.15	991.9 ± 2.0	29-nam/kic

3,3-Dimethyl-2-methylene-1-phenyl-bicyclo[2.2.1]heptane [7070-29-3] $C_{16}H_{20}$ MW =212.33 1270

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ $\text{kg} \cdot \text{m}^{-3}$	Ref.
293.15	979.5 ± 2.0	29-nam/kic

2-Phenyl-1,5,5-trimethyl-tricyclo-[2.2.1.0^{2,6}]heptane [500039-73-6] $C_{16}H_{20}$ MW =212.33 1271

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ $\text{kg} \cdot \text{m}^{-3}$	Ref.
293.15	970.8 ± 2.0	38-kom/nym

3-Phenyl-1,7,7-trimethylbicyclo-[2.2.1]-2-heptene [7070-08-8] $C_{16}H_{20}$ MW =212.33 1272

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
291.15	973.2 ± 3.0	06-hal
293.15	976.7 ± 3.0	27-rup/wir

Decahydro-2-phenylnaphthalene [94462-32-5] $C_{16}H_{22}$ MW =214.35 1273

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	984.0 ± 3.0	50-top/ego

2-Phenylbicyclo[4.4.0]decane [500039-75-8] $C_{16}H_{22}$ MW =214.35 1274

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
287.15	979.9 ± 2.0	28-fer/feh

1-Phenyl-2,2,3-trimethylbicyclo-[2.2.1]heptane [500039-74-7] $C_{16}H_{22}$ MW =214.35 1275

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	981.7 ± 2.0	29-nam/kic

1-(Phenylmethyl)naphthalene [611-45-0] $C_{17}H_{14}$ MW =218.30 1276

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	1165.0 ± 5.0	1883-vin/rou
273.15	1165.0 ± 5.0	1887-rou
293.15	1077.7 ± 1.0	42-lar/tho

2-(Phenylmethyl)naphthalene [613-59-2] $C_{17}H_{14}$ MW =218.30 1277

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	1176.0 ± 3.0	1883-vin/rou
273.15	1176.0 ± 3.0	1887-rou

1,2-Dihydro-1-methyl-4-phenyl-naphthalene [500038-99-3] $C_{17}H_{16}$ MW =220.31 1278

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
295.15	1051.3 \pm 2.0	34-von/ant

1,2-Dihydro-4-(2-methylphenyl)-naphthalene [80710-76-5] $C_{17}H_{16}$ MW =220.31 1279

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1017.4 \pm 2.0	51-orc/reg

1-Methyl-1-phenyl-1,2,3,4-tetrahydronaphthalene [52376-43-9] $C_{17}H_{18}$ MW =222.33 1280

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	1042.0 \pm 2.0	49-adk/dav

4-(2-Phenylethyl)indane [500038-84-6] $C_{17}H_{18}$ MW =222.33 1281

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	1020.0 \pm 2.0	36-nat/got

2-(Phenylmethyl)-1,2,3,4-tetrahydronaphthalene [27019-09-6] $C_{17}H_{18}$ MW =222.33 1282

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
291.15	1028.0 \pm 2.0	23-von/koc
295.65	1042.8 \pm 2.0	31-hug

6-(Phenylmethyl)-1,2,3,4-tetrahydronaphthalene [35310-85-1] $C_{17}H_{18}$ MW =222.33 1283

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1037.2 \pm 2.0	50-har
293.15	1037.2 \pm 1.0	50-har/geo

7,7-Dimethyl-4-(2-phenylethyl)-bicyclo[3.1.1]-3-heptene [500039-80-5] $C_{17}H_{22}$ MW =226.36 1284

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	963.3 ± 2.0	27-rup/her

1-Methyl-7-(4-methylphenyl)-naphthalene [10460-59-0] $C_{18}H_{16}$ MW =232.33 1285

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1049.7 ± 1.0	62-lag/lol

1,2-Dihydro-4-(2-phenylethyl)-naphthalene [71912-48-6] $C_{18}H_{18}$ MW =234.34 1286

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1046.2 ± 3.0	56-jac/kag

2,3-Dihydro-3-phenyl-1,1,3-trimethyl-1H-indene [3910-35-8] $C_{18}H_{20}$ MW =236.36 1287

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1000.9 ± 2.0	33-pur

7,7-Dimethyl-4-(3-phenyl-2-propynyl)-bicyclo[3.1.1]-3-heptene [500039-85-0] $C_{18}H_{20}$ MW =236.36 1288

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	989.6 ± 2.0	27-rup/her

6-(2-Phenylethyl)-1,2,3,4-tetrahydro-naphthalene [500050-54-4] $C_{18}H_{20}$ MW =236.36 1289

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1020.0 ± 1.0	50-har/geo

7,7-Dimethyl-4-(3-phenyl-2-propenyl)-bicyclo[3.1.1]-3-heptene [500039-86-1] $C_{18}H_{22}$ MW =238.37 1290

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	968.3 ± 2.0	27-rup/her

7,7-Dimethyl-4-(3-phenylpropyl)-bicyclo[3.1.1]-3-heptene [500039-89-4] $C_{18}H_{24}$ MW =240.39 1291

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	957.4 ± 2.0	27-rup/her

9-Phenyl-9H-fluorene [789-24-2] $C_{19}H_{14}$ MW =242.32 1292

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	1232.0 ± 2.0	29-zie/dit

7,7-Dimethyl-4-(4-phenylbutyl)-bicyclo[3.1.1]-3-heptene [500039-94-1] $C_{19}H_{26}$ MW =254.42 1293

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	952.2 ± 2.0	27-rup/her

2-(2,5-Dimethylphenyl)-5,8-dimethylnaphthalene [500040-13-0] $C_{20}H_{20}$ MW =260.38 1294

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1059.8 ± 1.0	62-lag/lol

2-(3,4-Dimethylphenyl)-7,8-dimethylnaphthalene [500040-12-0] $C_{20}H_{20}$ MW =260.38 1295

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1057.8 ± 1.0	62-lag/lol

**6-(4-Phenylbutyl)-
1,2,3,4-tetrahydronaphthalene** [500038-90-4] $C_{20}H_{24}$ MW =264.41 1296

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
295.65	1017.2 ± 2.0	24-sch-1

**2-[4-(1-Methylethyl)phenyl]-
8-(1-methylethyl)naphthalene** [500040-14-2] $C_{22}H_{24}$ MW =288.43 1297

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1040.9 ± 1.0	62-lag/lol

1,2-Benzo-9-phenylfluorene [500034-76-4] $C_{23}H_{16}$ MW =292.38 1298

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	1242.0 ± 2.0	29-zie/dit

1-Benzhydrylnaphthalene [500039-20-3] $C_{23}H_{18}$ MW =294.40 1299

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
273.15	1190.0 ± 2.0	29-zie/dit