

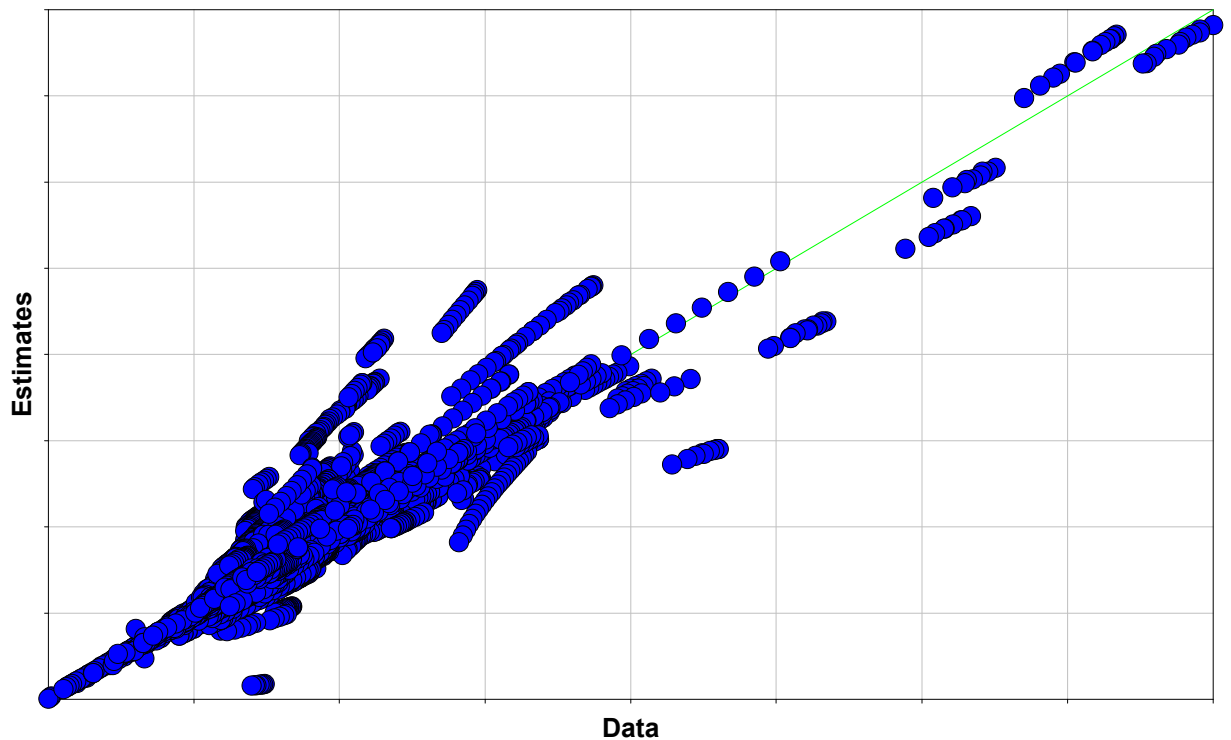
Den,I (T): Rackett Equation [MKS]

Evaluated on Mar 20, 2024 at 17:00:17

Evaluation Statistics

Statistic	Value	Units
Number of Observations	6388	- - -
Average Error	22.233875	kg/m3
Average Absolute Error	63.937657	kg/m3
Average Absolute % Error	6.378877	%
Maximum Error	794.780621	kg/m3
Minimum Error	-718.818972	kg/m3
Maximum Absolute Error	794.780621	kg/m3
Minimum Absolute Error	0.009134	kg/m3

Estimates vs Data Graph



Maximum Errors - Sorted by Absolute Percent Error

1) Propylene carbonate

Temperature: 10.000000 C

Datum:	1210.500000	---
Estimate:	2005.280621	kg/m3
Error:	794.780621	kg/m3

2) Propylene carbonate

Temperature:	15.000000	C
Datum:	1205.400000	---
Estimate:	1995.773148	kg/m3
Error:	790.373148	kg/m3

3) Propylene carbonate

Temperature:	35.000000	C
Datum:	1183.200000	---
Estimate:	1957.475909	kg/m3
Error:	774.275909	kg/m3

4) Propylene carbonate

Temperature:	20.000000	C
Datum:	1200.600000	---
Estimate:	1986.239440	kg/m3
Error:	785.639440	kg/m3

5) Propylene carbonate

Temperature:	25.000000	C
Datum:	1195.100000	---
Estimate:	1976.679004	kg/m3
Error:	781.579004	kg/m3

6) Propylene carbonate

Temperature:	30.000000	C
Datum:	1190.100000	---
Estimate:	1967.091334	kg/m3
Error:	776.991334	kg/m3

7) Propylene carbonate

Temperature:	40.000000	C
Datum:	1178.600000	---
Estimate:	1947.832194	kg/m3
Error:	769.232194	kg/m3

8) Propylene carbonate

Temperature:	50.000000	C
Datum:	1167.700000	---
Estimate:	1928.457673	kg/m3
Error:	760.757673	kg/m3

9) Propylene carbonate

Temperature:	55.000000	C
Datum:	1161.900000	---
Estimate:	1918.725716	kg/m3
Error:	756.825716	kg/m3

10) Propylene carbonate

Temperature:	45.000000	C
Datum:	1173.800000	---
Estimate:	1938.159638	kg/m3
Error:	764.359638	kg/m3

Minimum Errors - Sorted by Absolute Percent Error

1) 1,3-Dichlorobenzene

Temperature:	130.000000	C
Datum:	1155.200000	---
Estimate:	1155.188703	kg/m3
Error:	-0.011297	kg/m3

2) 2-Propanol

Temperature:	126.850000	C
Datum:	669.170000	---
Estimate:	669.160866	kg/m3
Error:	-0.009134	kg/m3

3) 4-Methyl-1-pentene

Temperature:	20.000000	C
Datum:	663.700000	---
Estimate:	663.712128	kg/m3
Error:	0.012128	kg/m3

4) Tetramethylsilane

Temperature:	14.110000	C
Datum:	644.300000	---
Estimate:	644.318871	kg/m3
Error:	0.018871	kg/m3

5) 4-Methyl-1-pentene

Temperature:	25.000000	C
Datum:	658.940000	---
Estimate:	658.919476	kg/m3
Error:	-0.020524	kg/m3

6) 1,9-Nonanediol

Temperature:	189.050000	C
Datum:	817.000000	---
Estimate:	817.025797	kg/m3
Error:	0.025797	kg/m3

7) Tetramethylsilane

Temperature:	14.820000	C
Datum:	643.500000	---
Estimate:	643.532987	kg/m3
Error:	0.032987	kg/m3

8) 3,5-Dimethylheptane

Temperature:	90.000000	C
Datum:	669.700000	---
Estimate:	669.740557	kg/m3
Error:	0.040557	kg/m3

9) Methyl n-hexanoate

Temperature:	45.000000	C
Datum:	860.000000	---
Estimate:	860.059571	kg/m3
Error:	0.059571	kg/m3

10) 1-Butanol

Temperature:	15.000000	C
Datum:	812.800000	---
Estimate:	812.861455	kg/m3
Error:	0.061455	kg/m3

Estimated using the Rackett Equation [MKS] for the Density, Liquid - f(T). Referenced in: Harold G. Rackett. "Equation of State for Saturated Liquids." Journal of Chemical and Engineering Data. Volume 15, number 4, page 514 - 517, 1970.