

Estimate the specific volume of the saturated isobutane at 300 K

Tc	408.1 K		
Pc	36.5 bar	T	300 K
Omega	0.283		
R	83.14 cm ³ .bar/(mol.K)		

Solution:

Tr	0.735		
Pr	0.084		
Z	0.012	Zc	0.265
		Zc Experimental	0.283
		Error	-6.3%
Ps	3.078		
Ps experimental	3.704		

V=ZRT/P	97.88 cm ³ /mol
VL experimental	105.90 cm ³ /mol
Error	-7.6%

Vc	246.545 cm ³ /mol
Vc Experimental	263.000 cm ³ /mol
Error	-6.3%

Vv	6091.78 cm ³ /mol
Vv experimental	6031.00 cm ³ /mol
Error	1.0%

Temperature range for Lee-Kesler method	Pressure range for Lee-Kesler method		
Tmin	122.43 K	Pmin	0.365 bar
Tmax	1632.4 K	Pmax	365 bar

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