

TABLE I

## SOLUBILITY OF PHENANTHRENE, 25°

The pressure in atmospheres is followed by the solubility in mole percentage in parentheses.

*n*-Hexane

1 (3.26), 500 (2.72), 1000 (2.26), 2000 (1.80), 4300 (1.04), 7150 (0.50), 8750 (0.36)

*n*-Heptane

1 (4.01), 500 (3.21), 900 (2.92), 1000 (2.72), 2000 (1.84), 3430 (1.11), 5000 (0.84), 7000 (0.52)

*n*-Octane

1 (4.64), 490 (3.81), 1000 (2.84), 1960 (1.97), 3850 (1.20), 5200 (0.88)

CS<sub>2</sub>

1 (23.5), 500 (16.2), 1000 (12.5), 2000 (7.3), 4000 (4.5), 6000 (2.9), 7000 (2.2)

TABLE II

SOLUBILITY OF SnI<sub>4</sub>

The pressure is given in atmospheres followed by the solubility in mole percentage in parentheses.

*n*-Hexane

1 (0.470), 10 (0.443), 480 (0.315), 1000 (0.199), 2000 (0.099), 3100 (0.057), 5100 (0.047), 7200 (0.033), 9100 (0.019)

*n*-Heptane

1 (0.553), 470 (0.383), 980 (0.163), 2000 (0.048), 3000 (0.031), 4600 (0.019), 7200 (0.018)

*n*-Octane

1 (0.621), 500 (0.429), 1000 (0.245), 1500 (0.148), 2000 (0.115)

CS<sub>2</sub>

1 (14.61), 1000 (7.99), 2000 (5.64), 3600 (3.45), 5000 (1.96), 7000 (0.77), 10,000 (0.11)

TABLE III

SOLUBILITY OF C<sub>2</sub>Cl<sub>6</sub>

The pressure in atmospheres is followed by the solubility in mole percentage in parentheses.

*n*-Hexane

1 (13.92), 400 (9.84), 1000 (6.36), 2000 (3.40), 3300 (1.72), 5000 (0.64), 5830 (0.29), 6750 (0.26)

*n*-Heptane

1 (15.18), 410 (10.48), 1000 (6.79), 2000 (2.30), 2970 (1.63), 4000 (0.83), 5000 (0.40)

*n*-Octane

1 (15.72), 400 (10.35), 1000 (6.33), 2000 (3.44)

CS<sub>2</sub>

1 (19.5), 500 (12.0), 1000 (8.0), 1970 (4.1), 3400 (2.3), 5000 (1.3), 7000 (0.31)

## 2-Methylpentane

1 (13.02), 400 (9.15), 1000 (5.76), 1950 (3.14), 3350 (1.43), 5000 (0.52), 6900 (0.22)

## 3-Methylpentane

1 (13.52), 400 (9.56), 1000 (6.21), 2000 (3.15), 3500 (1.19), 5000 (0.61), 7000 (0.18)

## 2,3-Dimethylbutane

1 (13.15), 400 (9.19), 990 (5.74), 1970 (2.83), 3500 (1.15), 4950 (0.51), 6800 (0.14)

## 2,2-Dimethylbutane

1 (12.02), 400 (8.48), 990 (5.41), 2000 (2.72), 3500 (0.98), 4500 (0.45)

TABLE IV

## SOLUBILITY OF ANTHRACENE

The pressure in atmospheres is followed by the solubility in mole percentage in parentheses.

CS<sub>2</sub>

1 (0.84), 240 (0.70), 500 (0.59), 1000 (0.41), 2000 (0.27), 4000 (0.13)

various temperatures by Dorfman and Hildebrand.<sup>1</sup> The density coefficient of solubility varies considerably more rapidly at constant pressure than at constant temperature. A similar result was found for SnI<sub>4</sub> in *n*-heptane.

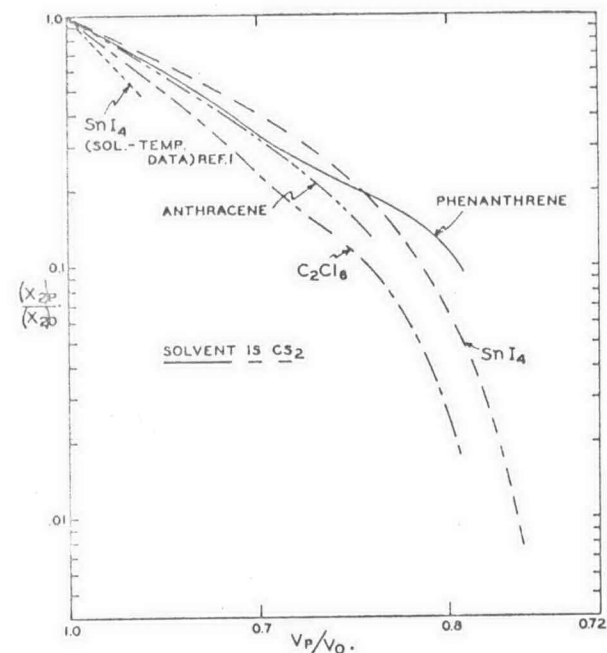


Fig. 1.—Relative solubility vs. relative molar volume of solvent.

It is useful to compare our atmospheric pressure data with values in the literature. In Table V

TABLE V

COMPARISON OF SOLUBILITIES OBTAINED IN THIS WORK WITH PUBLISHED SOLUBILITY VALUES OF SnI<sub>4</sub> (MOLE %)

Solvent	Dorfman and Hildebrand <sup>1</sup>	This work
Heptane	0.533	0.552
CS <sub>2</sub>	14.64	14.61

## Solubility of phenanthrene (mole %)

Solvent	Hildebrand Ellefson and Beebe <sup>1</sup>	This work Eastman	Recrystallized
CS <sub>2</sub>	25.5	23.5	21.6
<i>n</i> -Hexane	4.2	3.26	3.09

## Solubility of anthracene (mole %)

Solvent	Ref. 2	This work
CS <sub>2</sub>	1.09	0.84

we see such a comparison. We find excellent agreement for the solubility of SnI<sub>4</sub> in CS<sub>2</sub> and in heptane, but no agreement for the solubility of