COMPONENTS:

1. Silane; SiH_4; [7803-62-5]
   Germane; GeH_4; [7782-65-2]
   Stannane; SnH_4; [2406-52-2]
2. Organic liquids.

EVALUATOR:

P. G. T. Fogg,
School of Chemistry,
Polytechnic of North London,
Holloway,
London N7 8DB,
United Kingdom.
October 1983

CRITICAL EVALUATION:

Devyatykh *et al.* (1) measured distribution constants for each of the three gases and several solvents by a chromatographic method. It is, however, unwise to equate these constants with Ostwald coefficients in order to estimate solubilities. The data may, perhaps, be used to estimate relative solubilities but such estimates may not be precise.

The solubility of silane in cyclohexane was measured by Cauquil (2). Very simple apparatus was used. The possibility that equilibrium between gas and liquid was not achieved should be borne in mind.

References:

1. Devyatykh, G. G.; Ezheleva, A. E.; Zorin, A. D.; Zueva, M. V.
   Zh. Neorgan. Khim. 1963, *8*, 1307.
   (*Russ. J. Inorg. Chem.* 1963, *8*, 678.)

2. Cauquil, G.
   J. Chim. Phys. Phys. Chim. Biol. 1927, *24*, 53.

COMPONENTS:

1. Silane; SiH_4; [7803-62-5]
2. Various liquids

ORIGINAL MEASUREMENTS:

Devyatykh, G.G.; Ezheleva, A.E.; Zorin, A.D.; Zueva, M.V.

Russ. J. Inorg. Chem. 1963, *8*, 678-682.

VARIABLES:

Temperature, pressure

PREPARED BY:

P.G.T. Fogg

EXPERIMENTAL VALUES:

Solvent	Pressure range /mmHg	Distribution constant $vol_{SiH_4}/vol_{solvent}$	Heat of solution /kcal mol^{-1}
2-Ethoxyethanol; $C_4H_{10}O_2$; [110-80-5]	0.5 -17.18	3.24	-1.2
1,1´-oxybis [2-chloroethane]; $C_4H_8Cl_2O$; [111-44-4]	0.06 -21.0	4.02	-1.2
Nitrobenzene, $C_6H_5NO_2$; [98-95-3]	0.03 -18.7	4.38	-0.93
Liquid paraffin	0.5 -50.0	5.46	-3.8
Silicone PFMS-4F	0.05 -34.0	6.4	-2.2

Temperature = 293.2 K. 760 mmHg = 1 atm = 1.013×10^5 Pa.

Distribution constants were measured between 278.2 K and 323.2 K over a range of partial pressures of silane and a total pressure of about 760 mmHg. At a fixed temperature the distribution constants did not depart from the mean values by more than ±3%. These mean values were reported at one temperature only but heats of solution, said to have been calculated from the variation of distribution constants with temperature, were given. If it is assumed that distribution constants vary with temperature according to equations of the form :

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

A chromatographic method was used. Temperatures were controlled to ± 0.5 K. The support phase consisted of Nichrome spirals. The carrier gas was either nitrogen or hydrogen. The volume, V_l, of the liquid phase was calculated from the weight of the column before and after filling with liquid and allowing to drain. The free volume, V_g, was equated with the retention volume for hydrogen gas. The distribution constant, K, was calculated from the James and Martin equation :

$$V_R = V_g + KV_l$$

where V_R is the retention volume for silane.

SOURCE AND PURITY OF MATERIALS:

1. Prepared by disproportionation of triethoxysilane in the presence of metallic sodium; distilled with low temperature still; chromatographically pure.

   H_2 & N_2: passed through activated carbon and through molecular sieve.

ESTIMATED ERROR:

REFERENCES:

COMPONENTS:	ORIGINAL MEASUREMENTS:
1. Silane; SiH_4; [7803-62-5] 2. Various liquids	Devyatykh, G.G.; Ezheleva, A.E.; Zorin, A.D.; Zueva, M.V. *Russ, J. Inorg. Chem.* 1963, *8*, 678-682.

EXPERIMENTAL VALUES:

$$\ln K = (-\Delta H/RT) + A$$

where K is the distribution constant for a temperature T, ΔH is the heat of solution of silane in the solvent and A is a constant for the solvent, then distribution constants at any temperature in the range 278.2 K to 323.2 K may be estimated from a value at 293.2 K and the corresponding value of the heat of solution. The equation for K may be written in the form :

$$K = \exp\left[A + (B/T)\right]$$

The following values of A and B have been calculated by the compiler:

Solvent	A	B/K
2-Ethoxyethanol	-0.885	604
1,1'oxybis [2-chloroethane]	-0.670	604
Nitrobenzene	-0.120	468
Liquid paraffin	-4.828	1913
Silicone PFMS-4F	-1.922	1108

In the opinion of the compiler these distribution constants cannot be equated with Ostwald coefficients unless the assumption is made that equilibrium was established between gas and liquid phases under the conditions of the experiment.

In addition, possible adsorption of the silane at the stationary phase-carrier gas interface may have lowered the accuracy of the results.

COMPONENTS:

1. Silane; SiH_4; [7803-62-5]
2. Various liquids

ORIGINAL MEASUREMENTS:

Devyatykh, G.G.; Ezheleva, A.E.; Zorin, A.D.; Zueva, M.V.

Russ. J. Inorg. Chem. 1963, *8*, 678-682

VARIABLES:

Temperature

PREPARED BY:

P.G.T. Fogg

EXPERIMENTAL VALUES:

Solvent	Distribution constant $vol_{SiH_4}/vol_{solvent}$	Heat of solution /kcal mol^{-1}
2-Furancarboxaldehyde; $C_5H_4O_2$; [98-01-1]	3.08	-4.4
1,2-Benzenedicarboxylic acid, didecyl ester; $C_{28}H_{46}O_4$; [84-77-5]	4.8	-3.8
Triethoxysilane; $C_6H_{16}O_3Si$; [998-30-1]	2.8	-6.0
Silicic acid, tetraethyl ester; $C_8H_{20}O_4Si$; [78-10-4]	5.10	-5.4
Silicone 702-DF	3.8	-2.0
Silicone VKZh-94B	3.0	-4.3

Temperature = 293.2 K

Distribution constants were measured between 278.2 K and 323.2 K. The partial pressures of silane at which these measurements were made were not stated. The total pressure of silane and carrier gas was about 760 mmHg in each case. Distribution constants were reported at one temperature only but heats of solution, said to have been calculated from the

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

A chromatographic method was used. Temperatures were controlled to ±0.5K. The support phase consisted of Nichrome spirals. The carrier gas was either nitrogen or hydrogen. The volume, V_l, of the liquid phase was calculated from the weight of the column before and after filling with liquid and allowing to drain. The free volume, V_g, was equated with the retention volume for hydrogen gas. The distribution constant, *K*, was calculated from the James and Martin equation:

$$V_R = V_g + KV_l$$

where V_R is the retention volume for silane.

SOURCE AND PURITY OF MATERIALS:

1. Prepared by disproportionation of triethoxysilane in the presence of metallic sodium; distilled with low temperature still; chromatographically pure.

   H_2 & N_2: passed through activated carbon and through molecular sieve.

ESTIMATED ERROR:

REFERENCES:

COMPONENTS:

1. Silane; SiH_4; [7803-62-5]
2. Various liquids

ORIGINAL MEASUREMENTS:

Devyatykh, G.G. Ezheleva, A.E.
Zorin, A.D.; Zueva, M.V.

Russ. J. Inorg. Chem. 1963, *8*, 678-682.

EXPERIMENTAL VALUES:

variation of distribution constants with temperature, were given.

If it is assumed that distribution constants vary with temperature according to equations of the form:

$$\ln K = (-\Delta H/RT) + A$$

where K is the distribution constant for a temperature T, ΔH is the heat of solution in the solvent and A is a constant for the solvent, then distribution constants at any temperature in the range 278.2 K to 323.2K may be estimated from a value at 293.2 K and the corresponding value of the heat of solution. The equation for K may be written in the form :

$$K = \exp\,[A + (B/T)\,]$$

The following values of A and B have been calculated by the compiler:

Solvent	A	B/K
2-Furancarboxaldehyde	-6.431	2215
1,2-Benzenedicarboxylic acid, didecyl ester	-4.957	1913
Triethoxysilane	-9.274	3021
Silicic acid, tetraethyl ester	-7.644	2719
Silicone 702-DF	-2.100	1007
Silicone VKZh-94B	-6.286	2165

In the opinion of the compiler these distribution constants cannot be equated with Ostwald coefficients unless the assumption is made that equilibrium was established between gas and liquid phases under the conditions of the experiment.

In addition, possible adsorption of silane at the stationary phase-carrier gas interface may have lowered the accuracy of the results.

COMPONENTS:

1. Silane, SiH_4; [7803-62-5]
2. Cyclohexanol, $C_6H_{12}O$; [108-93-0]

ORIGINAL MEASUREMENTS:

Cauquil, G.

J. Chim. Phys. Phys. Chim. Biol. 1927, *24*, 53-55.

VARIABLES:

PREPARED BY:

P. G. T. Fogg

EXPERIMENTAL VALUES:

T/K	p_{SiH_4}/mmHg	Ostwald coefficient L	Mole fraction* x_{SiH_4} (1 atm)
299.2	765	0.097	0.00042

760 mmHg = 1 atm
1 atm = 1.013 x 10^5 Pa

* Calculated by the compiler using constants of the van der Waals equation for SiH_4 given in ref. (1) and densities of $C_6H_{12}O$ given in refs. (1) and (2)

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

A measured volume of cyclohexanol was put into contact with a measured volume of silane in a graduated tube over mercury. The final volume of gas and the temperature and pressure were measured when equilibrium had been reached. The author considered that no allowance for the vapor pressure of cyclohexanol at the temperature of measurement was necessary.

SOURCE AND PURITY OF MATERIALS:

$C_6H_{12}O$: dissolved air removed by boiling.
b.p. 334.1 K (766 mmHg)

ESTIMATED ERROR:

REFERENCES:

1. *Handbook of Chemistry & Physics* (61st edition), C.R.C. Press, Cleveland, Ohio. 1980.
2. J. Timmermans, *Physico-Chemical Constants of Pure Organic Compounds* Vol. 2, Elsevier, Amsterdam. 1965.

COMPONENTS:	ORIGINAL MEASUREMENTS:
1. Germane, GeH_4; [7782-65-2] 2. Various liquids	Devyatykh, G.G.; Ezheleva, A.E.; Zorin, A.D.; Zueva, M.V. *Russ. J. Inorg. Chem.* <u>1963</u>, *8*, 678-682.
VARIABLES: Temperature, pressure	PREPARED BY: P.G.T. Fogg.

EXPERIMENTAL VALUES:

Solvent	Pressure range /mmHg	Distribution constant $vol_{GeH_4}/vol_{solvent}$	Heat of solution /kcal mol^{-1}
2-Ethoxyethanol, $C_4H_{10}O_2$; [110-80-5]	0.1 - 18.5	6.24	-1.3
1,1′-oxybis [2-chloroethane], $C_4H_8Cl_2O$; [111-44-4]	0.05- 16.3	8.57	-1.5
Nitrobenzene, $C_6H_5NO_2$; [98-95-3]	0.03- 19.0	9.0	-1.64
Liquid paraffin	0.4 - 43.5	9.4	-3.4
Silicone PFMS-4F	0.03- 22.0	11.7	-3.0

Temperature = 293.2K. 760 mmHg = 1 atm = 1.013×10^5 Pa.

Distribution constants were measured between 278.2 K and 323.2 K over a range of partial pressures of germane and a total pressure of about 760 mmHg. At a fixed temperature the distribution constants did not depart from the mean values by more than ±3%. These mean values were reported at one temperature only but heats of solution, said to have been calculated from the variation of distribution constants with temperature, were given. If it is assumed that distribution constants vary with temperature

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

A chromatographic method was used. Temperatures were controlled to ± 0.5 K. The support phase consisted of Nichrome spirals. The carrier gas was either nitrogen or hydrogen. The volume, V_l, of the liquid phase was calculated from the weight of the column before and after filling with liquid and allowing to drain. The free volume, V_g, was equated with the retention volume for hydrogen gas. The distribution constant, K, was calculated from the James and Martin equation:

$$V_R = V_g + KV_l$$

where V_R is the retention volume for germane.

SOURCE AND PURITY OF MATERIALS:

1. Prepared by reduction of $GeCl_4$ by lithium tetrahydroaluminate in ether; distilled with low temperature still; contained 5% H_2

H_2 and N_2 : passed through activated carbon and through molecular sieve.

ESTIMATED ERROR:

REFERENCES:

COMPONENTS:

1. Germane, GeH_4; [7782-65-2]
2. Various liquids

ORIGINAL MEASUREMENTS

Devyatykh, G.G.; Ezheleva, A.E.
Zorin, A.D.; Zueva, M.V.

Russ. J. Inorg. Chem. 1963, *8*, 678-682.

EXPERIMENTAL VALUES:

according to equations of the form:

$$\ln K = (-\Delta H/RT) + A$$

where K is the distribution constant for a temperature T, ΔH is the heat of solution of germane in the solvent and A is a constant for the solvent, then distribution constants at any temperature in the range 278.2 K may be estimated from a value at 293.2 K and the corresponding value of the heat of solution. The equation for K may be written in the form:

$$K = \exp [A + (B/T)]$$

The following values of A and B have been calculated by the compiler:

Solvent	A	B/K
2-Ethoxyethanol	-0.402	655
1,1´-oxybis [2-chloroethane]	-0.428	755
Nitrobenzene	-0.619	826
Liquid paraffin	-3.598	1712
Silicone PFMS-4F	-2.692	1511

In the opinion of the compiler these distribution constants cannot be equated with Ostwald coefficients unless the assumption is made that equilibrium was established between gas and liquid phases under the conditions of the experiment.

In addition, possible adsorption of the germane at the stationary phase-carrier gas interface may have lowered the accuracy of the results.

COMPONENTS:

1. Germane; GeH_4; [7782-65-2]
2. Various liquids

ORIGINAL MEASUREMENTS:

Devyatykh, G.G.; Ezheleva, A.E.; Zorin, A.D.; Zueva, M.V.

Russ. J. Inorg. Chem. 1963, *8*, 678-682.

VARIABLES:

Temperature

PREPARED BY:

P.G.T. Fogg

EXPERIMENTAL VALUES:

Solvent	Distribution constant $vol_{GeH_4}/vol_{solvent}$	Heat of solution / kcal mol^{-1}
2-Furancarboxaldehyde, $C_5H_4O_2$; [98-01-1]	8.31	-4.5
1,2-Benzenedicarboxylic acid, didecyl ester, $C_{28}H_{46}O_4$; [84-77-5]	7.4	-3.4
Triethoxysilane, $C_6H_{16}O_3Si$; [998-30-1]	6.8	-4.4
Silicic acid, tetraethyl ester, $C_8H_{20}O_4Si$; [78-10-4]	11.72	-6.4
Silicone 702-DF	6.14	-3.2
Silicone VKZh-94B	3.98	-4.3

Temperature = 293.2 K

Distribution constants were measured between 278.2 K and 323.2 K. The partial pressures of germane at which these measurements were made were not stated. The total pressure of germane and carrier gas was about 760 mmHg in each case. Distribution constants were reported at one temperature only but heats of solution, said to have been calculated from the variation of distribution constants with temperature, were given.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

A chromatographic method was used. Temperatures were controlled to ± 0.5K. The support phase consisted of Nichrome spirals. The carrier gas was either nitrogen or hydrogen. The volume, V_l, of the liquid phase was calculated from the weight of the column before and after filling with liquid and allowing to drain. The free volume, V_g, was equated with the retention volume for hydrogen gas. The distribution constant, *K*, was calculated from the James and Martin equation:

$$V_R = V_g + KV_l$$

where V_R is the retention volume for germane.

SOURCE AND PURITY OF MATERIALS:

1. Prepared by reduction of $GeCl_4$ by lithium tetrahydroaluminate in ether; distilled with low temperature still; contained 5% H_2.

H_2 and N_2 : passed through activated carbon and through molecular sieve

ESTIMATED ERROR:

REFERENCES:

COMPONENTS:	ORIGINAL MEASUREMENTS
1. Germane; GeH_4; [7782-65-2] 2. Various liquids	Devyatykh, G.G.; Ezheleva, A.E. Zorin, A.D.; Zueva, M.V. *Russ. J. Inorg. Chem.* 1963, *8*, 678-682.

EXPERIMENTAL VALUES:

If it is assumed that distribution constants vary with temperature according to equations of the form:

$$\ln K = (-\Delta H/RT) + A$$

where K is the distribution constant for a temperature T,ΔH is the heat of solution in the solvent and A is a constant for the solvent, then distribution constants at any temperature in the range 278.2 K to 323.2 K may be estimated from a value at 293.2 K and the corresponding value of the heat of solution. The equation for K may be written in the form:

$$K = \exp[A + (B/T)]$$

The following values of A and B have been calculated by the compiler:

Solvent	A	B/K
2-Furancarboxaldehyde	-5.611	2266
1,2-Benzenedicarboxylic acid, didecyl ester	-3.837	1712
Triethoxysilane	-5.639	2215
Silicic acid,tetraethyl ester	-8.530	3222
Silicone 702-DF	-3.681	1611
Silicone VKZh-94B	-6.003	2165

In the opinion of the compiler these distribution constants cannot be equated with Ostwald coefficients unless the assumption is made that equilibrium was established between gas and liquid phases under the conditions of the experiment.

In addition,possible adsorption of the germane at the stationary phase-carrier gas interface may have lowered the accuracy of the results.

COMPONENTS:	ORIGINAL MEASUREMENTS:
1. Stannane; SnH_4; [2406-52-2] 2. Various liquids	Devyatykh, G. G.; Ezheleva, A. E.; Zorin, A. D.; Zueva, M. V. *Russ. J. Inorg. Chem.* 1963, *8*, 678-682.
VARIABLES:	PREPARED BY:
Temperature, pressure	P. G. T. Fogg

EXPERIMENTAL VALUES:

Solvent	p_{SnH_4} /mmHg	Distribution constant vol_{SnH_4} /$vol_{solvent}$	Heat of solution /kcal mol^{-1}
2-Ethoxyethanol; $C_4H_{10}O_2$; [110-80-5]	0.5	26.2	-1.54
1,1'-oxybis[2-chloroethane]; $C_4H_8Cl_2O$; [111-44-4]	0.3	27.3	-2.3
Nitrobenzene; $C_6H_5NO_2$; [98-95-3]	0.9	15.4	-1.82
Liquid paraffin	1.2	17.0	-3.9
Silicone PFMS-4F	0.9	12.1	-2.8

Temperature = 293.2 K. 760 mmHg = 1 atm = 1.013×10^5 Pa.

Distribution constants were measured between 278.2 K and 323.2 K with a total pressure of stannane and carrier gas of about 760 mmHg. At a fixed temperature the distribution constants did not depart from the mean values by more than ±3%. These mean values were reported at one temperature only but heats of solution, said to have been calculated from the variation of distribution constants with temperature, were given. If it is assumed that distribution constants vary with temperature according to equations of the form:

(cont.)

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

A chromatographic method was used. Temperatures were controlled to ±0.5 K. The support phase consisted of Nichrome spirals. The carrier gas was either nitrogen or hydrogen. The volume, V_ℓ, of the liquid phase was calculated from the weight of the column before and after filling with liquid and allowing to drain. The free volume, V_g, was equated with the retention volume for hydrogen gas. The distribution constant, *K*, was calculated from the James and Martin equation:

$$V_R = V_g + KV_\ell$$

where V_R is the retention volume for stannane.

SOURCE AND PURITY OF MATERIALS:

1. Prepared by reduction of $SnCl_4$ with aqueous sodium tetrahydroborate in acid; purified by vacuum distillation; contained ∿ 5% H_2.

H_2 and N_2: passed through activated carbon and through molecular sieve.

ESTIMATED ERROR:

REFERENCES:

COMPONENTS:	ORIGINAL MEASUREMENTS:
1. Stannane; SnH_4; [2406-52-2] 2. Various liquids	Devyatykh, G. G.; Ezheleva, A. E.; Zorin, A. D.; Zueva, M. V. *Russ. J. Inorg. Chem.* 1963, *8*, 678-682.

EXPERIMENTAL VALUES:

$$\ln K = (-\Delta H/RT) + A$$

where K is the distribution constant for a temperature T, ΔH is the heat of solution of stannane in the solvent and A is a constant for the solvent, then distribution constants at any temperature in the range 278.2 K to 323.2 K may be estimated from a value at 293.2 K and the corresponding value of the heat of solution. The equation for K may be written in the form:

$$K = \exp\,[A + (B/T)].$$

The following values of A and B have been calculated by the compiler:

Solvent	A	B/K
2-Ethoxyethanol	0.621	775
1,1'-oxybis[2-chloroethane]	-0.643	1158
Nitrobenzene	-0.391	916
Liquid paraffin	-3.864	1964
Silicone PFMS-4F	-2.315	1410

In the opinion of the compiler these distribution constants can not be equated with Ostwald coefficients unless the assumption is made that equilibrium was established between gas and liquid phases under the conditions of the experiment.

In addition, possible adsorption of stannane at the stationary phase-carrier gas interface may have lowered the accuracy of the results.

COMPONENTS:

1. Stannane; SnH_4; [2406-52-2]

2. Various liquids

ORIGINAL MEASUREMENTS:

Devyatykh, G. G.; Ezheleva, A. E.; Zorin, A. D.; Zueva, M. V.

Russ. J. Inorg. Chem.

1963, *8*, 678-682.

VARIABLES:

Temperature

PREPARED BY:

P. G. T. Fogg

EXPERIMENTAL VALUES:

Solvent	Distribution constant $vol_{SnH_4}/vol_{solvent}$	Heat of solution /kcal mol^{-1}
2-Furancarboxaldehyde; $C_5H_4O_2$; [98-01-1]	18.2	-4.6
1,2-Benzenedicarboxylic acid, didecyl ester; $C_{28}H_{46}O_4$; [84-77-5]	8.3	-4.0
Triethoxysilane; $C_6H_{16}O_3Si$; [998-30-1]	31.7	-6.0
Silicic acid, tetraethyl ester; $C_8H_{20}O_4Si$; [78-10-4]	21.6	-5.0
Silicone 702-DF	10.0	-3.0
Silicone VKZh-94B	7.26	-5.6

Temperature = 293.2 K.

Distribution constants were measured between 278.2 K and 323.2 K. The partial pressures of stannane at which these measurements were made were not stated. The total pressure of stannane and carrier gas was about 760 mmHg in each case. Distribution constants were reported at one temperature only but heats of solution, said to have been calculated from the variation of distribution constants with temperature, were given.

(cont.)

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

A chromatographic method was used. Temperatures were controlled to ±0.5 K. The support phase consisted of Nichrome spirals. The carrier gas was either nitrogen or hydrogen. The volume, V_ℓ, of the liquid phase was calculated from the weight of the column before and after filling with liquid and allowing to drain. The free volume, V_g, was equated with the retention volume for hydrogen gas. The distribution constant, K, was calculated from the James and Martin equation:

$$V_R = V_g + KV_\ell$$

where V_R is the retention volume for stannane.

SOURCE AND PURITY OF MATERIALS:

1. Prepared by reduction of $SnCl_4$ with aqueous sodium tetrahydroborate in acid; purified by vacuum distillation; contained ∿ 5% H_2.

H_2 and N_2: passed through activated carbon and through molecular sieve.

ESTIMATED ERROR:

REFERENCES:

COMPONENTS:

1. Stannane; SnH_4; [2406-52-2]

2. Various liquids

ORIGINAL MEASUREMENTS:

Devyatykh, G. G.; Ezheleva, A. E.;
Zorin, A. D.; Zueva, M. V.
Russ. J. Inorg. Chem.
1963, *8*, 678-682.

EXPERIMENTAL VALUES:

If it is assumed that distribution constants vary with temperature according to equations of the form:

$$\ln K = (-\Delta H/RT) + A$$

where K is the distribution constant for a temperature T, ΔH is the heat of solution in the solvent and A is a constant for the solvent, then distribution constants at any temperature in the range 278.2 K to 323.2 K may be estimated from a value at 293.2 K and the corresponding value of the heat of solution. The equation for K may be written in the form:

$$K = \exp [A + (B/T)].$$

The following values of A and B have been calculated by the compiler:

Solvent	A	B/K
2-Furancarboxaldehyde	-4.998	2316
1,2-Benzenedicarboxylic acid, didecyl ester	-4.753	2014
Triethoxysilane	-6.848	3021
Silicic acid, tetraethyl ester	-5.514	2518
Silicone 702-DF	-2.849	1511
Silicone VKZh-94B	-7.635	2820

In the opinion of the compiler these distribution constants can not be equated with Ostwald coefficients unless the assumption is made that equilibrium was established between gas and liquid phases under the conditions of the experiment.

In addition,possible adsorption of stannane at the stationary phase-carrier gas interface may have lowered the accuracy of the results.