Tm - 120

Тц-этилсульфат

9933 (IS-331) HEAT CAPACITY AND MAGNETIC SUSCEPTIBILITY OF THULIUM ETHYLSULFATE.

1960

Bernard Clemence Gerstein and F. H. Spedding (Ames Lab., Ames, Iowa). Aug. 1960. Contract W-7405-eng-82. 161p.

Ср.

The magnetic heat capacity and the single crystal magnetic susceptibilities of TmE.S. were measured in the range 12 to 300°K and 1.4 to 200°K, respectively. The magnetic heat capacity of LuE.S. is measured to evaluate the lattice contribution to TmE.S. Two maxima were observed in the magnetic heat capacity at 19 and 80°K. The magnetic heat capacity and susceptibilities were calculated using the crystalline field approximation and two different sets of crystalline field constants. In neither case was close agreement obtained between theory and experiment, although the calculated and experimental perpendicular susceptibilities were in agreement. It is not obvious whether the lack of good agreement between experiment and theory is a result of a poor choice of crystal field parameters, a complete failure of the crystal field approximation in this case, or a breakdown of the assumptions involved in calculating the term intervals and splittings for trivalent Tm. (auth)

VIII 2598 1962

$Lu(C_2H_5SO_4)_3$ $\frac{Tu(C_2H_5SO_4)_3}{}$

(cp, S^o, $(H^o - H_o^d)/T$ - $(F^o - H_o^o)/T$

Gerstein B.C., Jennings L.D., Spedding F.H.,
J.Chem.Phys., 1962, 37, N 7, 1496-1508
Thermal and magnetic study of crystal
field splitting in thulium ethylsulfate

ССТб 9 К.

РФ. 1963, 6E557 Б

1962

А-364

La^{3+}, Ce^{3+}, Pr^{3+}, Nd^{3+}, Sm^{3+}, Eu^{3+}, Gd^{3+}, Tb^{3+}, Dy^{3+}
Ho^{3+}, Er^{3+}, Tu^{3+}, Yb^{3+}, Lu^{3+}, Y^{3+}, Cu^{2+}, Zn^{2+}, Cd^{2+}, Pd^{2+}
– ацетатные комплексы

Kolat R.S., Powell J.E.,

Inorganic Chemistry,

1962, 1, №2, 293-296

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Рзхк, 1963, А5В92

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1963

VIII 2635

Комплексы La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y с $O(CH_2COOH)_2$

$NaO(CH_2CO)_2$ (ΔHf, ΔG, ΔS) (ΔHaq)

Grenthe I.,

Acta chem. scand., 1963, 17, 2487-2498

Лукьянов

VIII 2634 1964

Комплексы La, Ce, Pr, Nd, Sm, Pm, Eu, Gd, Tb, Ho, Dy, Er, Tm, Yb, Y, Lu с CH_3COOH и $O(CH_2COOH)$

(K)

Grenthe I.,

Acta chem. scand., 1964, 18, 293-299.

Ru

1964

А-641

Комплексы $M(CH_2COOH)_3$ { La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y

(ΔH, ΔG°, ΔS°)

Praudiere P.L.E. de la, Stanley L.A.K.,

J. Inorgan. and Nucl. Chem.,

1964, 26, №10, 1713-1719

Ru

VIII 2927 1965

$Me(HCOO)_3$, где Me = La, Pr, Nd, Sm, Eu, Gd; Tb, Dy, Ho

$Me(HCOO)_3 \cdot nH_2O$, M – редкозем. эл.

$Ce(HCOO)_3 \cdot 0{,}2H_2O$ (o Hf)

Пилюшев В.Е., Шкловер Л.П.,
Шкальникова Л.М., Кузнецова Г.П.,
Надеждина Г.В.

Докл. АН СССР, 1965, 160, 366-369

M есть ср. К.

РЖХ, 1965, 12 В33

P37

VIII - 8 f 17

1965

$Ln(HCO_2)_3 \cdot 2H_2O$

Ln = Tm, Yb, Lu

ΔH_f

+2

Formation of heavy lanthanides. L. P. Sliklover, V. E. Plyushchev, G. P. Kuznetsova, and T. A. Trushina. *Zh. Neorgan. Khim.* 10(5), 1121–5(1965)(Russ); cf. *CA* 62, 6138*a*. $M(HCO_2)_3.2H_2O$, M = Tm, Yb, and Lu, were prepd., for the 1st time, by dissolving $M(OH)_3$, obtained by pptg. from the nitrate with NH_4OH, in HCOOH and drying to const. wt. at room temp. The d., detd. in C_6H_6 at 20°, of the Tm, Yb, and Lu compds. was 3.17, 3.119, and 3.058 and the standard heats of formation of the compds. dehydrated at 90° was −440.9, −430.2, and −435.7 kcal./mole, resp. At 200° decompn., which proceeded through $M_2O_3.CO_2 \rightarrow M_2O_3$, began. The stability of the compds. decreased in the order Tm > Yb > Lu. The soly. in H_2O at 25–50° increased in the order Er < Tm < Yb < Lu.

GBJR

C.A. 1965 63.3 2604a

VIII 229 $La(C_2H_5SO_4)_3$; $Ce(C_2H_5SO_4)_3$; $Pr(C_2H_5SO_4)_3$; $Nd(C_2H_5SO_4)_3$; $Sm(C_2H_5SO_4)_3$; $Eu(C_2H_5SO_4)_3$; $Gd(C_2H_5SO_4)_3$; $Tb(C_2H_5SO_4)_3$; $Dy(C_2H_5SO_4)_3$; $Ho(C_2H_5SO_4)_3$; $Er(C_2H_5SO_4)_3$; $Tm(C_2H_5SO_4)_3$; $Yb(C_2H_5SO_4)_3$; $Lu(C_2H_5SO_4)_3$; $Y(C_2H_5SO_4)_3$ (aq) Staveley J. St. K., Markham D. R., Mone S. M. K., Nature (Engl.), 1966, 211, N5054, 1172-73 1966

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РЖ 1967
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Tm Co Cobalt, 1966, 82
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VIII 630 1967

$EuC_2O_4^+$, $Eu(C_2O_4)_2^-$, $Eu(C_2O_4)_3^{3-}$,
$TuC_2O_4^+$, $Tu(C_2O_4)_2^-$, $Tu(C_2O_4)^{3-}$ (Kp)

Андреева З.Ф., Безуевская В.Н., Колосо[illegible] И.В., Шевцова З.Н.

Изв. Тимирязевск. с.-х. акад., 1967, N6, 200-206 (

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Jones M.R., J. Inorg. and Nucl.
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Eick H. A.

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М (Ф) 7 CA, 1971, 75, N20, 122109m

$La\ C_2H_3(OH)_2^{2+}$; $Ce\ C_2H_3(OH)_2^{2+}$; $Pr\ C_2H_3(OH)_2^{2+}$ (1972)
$Nd\ C_2H_3(OH)_2^{2+}$; $Sm\ C_2H_3(OH)_2^{2+}$; $Eu\ C_2H_3(OH)_2^{2+}$
$Gd\ C_2H_3(OH)_2^{2+}$; $Tb\ C_2H_3(OH)_2^{2+}$; $Dy\ C_2H_3(OH)_2^{2+}$;
$Ho\ C_2H_3(OH)_2^{2+}$; $Er\ C_2H_3(OH)_2^{2+}$; $Tm\ C_2H_3(OH)_2^{2+}$;
$Lu\ C_2H_3(OH)_2^{2+}$ (Kp) VIII 5415

Mahtu Gurcharan Singh, Chadha Ramesh Chander, J. Inorg. and Nucl. Chem., 1972, 34, N1, 357-59

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PX 72

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(см. SmC_2; I)

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Сахарова Н. Н., Сахарова Ю. Т.,

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с $ClCH_2CO_2^-$
$Cl_2CHCO_2^-$
$Cl_3CCO_2^-$

т. дин. св-ва

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Firsching F. H.,
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Кр, рентгенография

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(см. $Sc_2(CO_3)_3$; I)

Cecmeta

1986

C – Tm

106: 163211r The C-Tm (carbon-thulium) system. Gschneidner, K. A., Jr.; Calderwood, F. W. (Ames Lab., Iowa State Univ., Ames, IA USA). *Bull. Alloy Phase Diagrams* 1986, 7(6), 563-4 (Eng). No phase diagram is available for the C-Tm system although some compds. and structural data are reported. Analogy with other systems is discussed. Crystal structures and lattice parameter data are given for some of the phases.

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УДК 546:543:667.656.264

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(ΔHf, Do)

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131: 21962d **Standard enthalpies of formation of some thulium alloys by high temperature direct synthesis calorimetry.** Meschel, S. V.; Kleppa, O. J. (The James Franck Institute, The University of Chicago, Chicago, IL 60637 USA). *J. Alloys Compd.* 1999, 285(1–2), 179–184 (Eng), Elsevier Science S.A.. The std. enthalpies of formation of some Tm alloys in the binary systems of Tm–X (where X=C, Si, Ge, Sn, B, Ga) have been detd. by high temp. direct synthesis calorimetry at 1373±2 K. The following values of ΔH_f^o in kJ/mol of atoms are reported: TmC_2=−31.5 2.5; TmSi=−86.1 2.3; Tm_5Si_3=−76.1 2.3; $TmSi_2$=−64.9 2.8; Tm_5Ge_3=−91.3 1.9; Tm_5Sn_3=−72.8 2.1; TmB_2=−30.6 3.0; $TmGa_2$=−48.5 2.0. The results are compared with earlier exptl. data, with available data for the corresponding compds. of neighboring lanthanide elements and with predicted values from the semi-empirical model of Miedema and co-workers [Niessen et al., Calphad 1983;7:51–70].

($\Delta_f H^o$)

C.A., 1999, 131, N2