

Пр - соединения

1963, 1964

Квант J.W. Кликвилл С., Уфгдсен  
Mol. Phys., 7, 11, 17 (1963, 1964)

Электронный перенос и  $5f-6f$   
переходы в  $U(IV)$ ,  $Np(IV)$ ,  $Pu(IV)$   
в гексаамоксидах

$\text{Np}(\text{VO}_3)_4$  [Витмек 7405] [1972]

$\text{NpO}_2(\text{VO}_3) \cdot 2\text{H}_2\text{O}$  Субагзе А. Ю.  
и др.

$\text{NpO}_2(\text{VO}_3)_2$

$\text{Co}(\text{NH}_3)_6 \cdot (\text{NpO}_2)_2(\text{VO}_3)_5$  Ж. Корт. Жиниш

~~$\text{Co}(\text{NH}_3)_6$~~

1972, 17 (12) 3324-29.

и.к. снеліф  
Ji

№ 074

1975

Дробиневский Ю. В.

И. К. Смирнов. "X Менделеевский съезд  
по общ. и прикл.  
химии. Ред. докл.  
и сообщения № 1" Наука,  
1975, 197

(см. № 75; III)

$M_2 Np$

( $M = Fe, Co, Ru, or Os$ )

1977

Chapnik Y. M.

Phys. Status Solidi 1977  
39(2), p 135-p 138 (Eng).

Мекр.  
исс.  
М. С. С.

(cc.  $Mn_2 P$ ; III)

$\text{Np}(\text{HCOO})_4$

1977

Greis O. et al.

"Z. anorg. und allg. Chem.,"  
1977, 433, 116, 111-118 (нем.  
редакция)

и к. спектр

см.  $\text{Pa}(\text{HCOO})_4 - \text{III}$

Np(BH<sub>4</sub>)<sub>4</sub>

1978

Ракета -  
нефть  
череп,  
визуал.

88: 202269x Preparation and properties of the actinide borohydrides: protactinium(IV), neptunium(IV), and plutonium(IV) borohydrides. Banks, R. H.; Edelstein, N. M.; Rietz, R. R.; Templeton, David H.; Zalkin, Allan (Lawrence Berkeley Lab., Univ. California, Berkeley, Calif.). *J. Am. Chem. Soc.* 1978, 100(6), 1957-8 (Eng). The actinide borohydrides, Pa(BH<sub>4</sub>)<sub>4</sub>, Np(BH<sub>4</sub>)<sub>4</sub>, and Pu(BH<sub>4</sub>)<sub>4</sub> were prepd. Pa(BH<sub>4</sub>)<sub>4</sub> a solid at 20° is isostructural with U(BH<sub>4</sub>)<sub>4</sub>. Np(BH<sub>4</sub>)<sub>4</sub> and Pu(BH<sub>4</sub>)<sub>4</sub> are volatile liqs. at 20° but are isostructural at low temps. and crystallize in a tetragonal crystal structure type. The metal atom distances indicate the solid is monomeric and similar to Zr(BH<sub>4</sub>)<sub>4</sub>. Preliminary Raman spectra on solid Np(BH<sub>4</sub>)<sub>4</sub> support this idea. Gas-phase IR spectra indicate the Np and Pu atoms in these compds. are surrounded by 4 BH<sub>4</sub><sup>-</sup> groups in a tetrahedral array with each B coordinated via 3 H bridge bonds to the metal atom.

C.A. 1978, 88, N26

Np Aly

1979

Shiokawa Syoji; et al.

"Technol. Repts Osaka Univ."  
1979, 29, 45-50

no. max.  
para. 1.

exp. Th Aly - III

$\text{Np}(\text{BH}_4)_4$

номер 10837

1980

$\text{Np}(\text{BD}_4)_4$

(конт.)

У.К. Снегирь

С.А. Кост.

93: 247635h Vibrational spectra and normal coordinate analysis of neptunium(IV) borohydride and neptunium(IV) borodeuteride. Banks, Rodney H.; Edelstein, Norman (Lawrence Berkeley Lab., Univ. California, Berkeley, CA 94720 USA). *J. Chem. Phys.* 1980, 73(8), 3589-99 (Eng). Solid state, low temp. IR (25-7400  $\text{cm}^{-1}$ ) and Raman (100-2600  $\text{cm}^{-1}$ ) spectra were obtained for  $\text{Np}(\text{BH}_4)_4$  and  $\text{Np}(\text{BD}_4)_4$  from which most of the allowed fundamentals were assigned based on the  $T_d$  mol. structure. Those assignments were used in a normal coordinate anal. to derive a simple force field using 8 primary and 5 interaction consts. This field is very similar to those found for  $\text{Zr}(\text{BH}_4)_4$  and  $\text{Hf}(\text{BH}_4)_4$ . Isotopic impurity, overtone, and combination bands were identified in the IR spectra with the help of the normal coordinate calcns. Near IR spectra of  $\text{Zr}(\text{BH}_4)_4$  and  $\text{Zr}(\text{BD}_4)_4$  were taken at 4000-7400  $\text{cm}^{-1}$  and the obsd. absorption bands were assigned as either overtones or combination levels.

C.A. 1980, 93 n 26

NpF<sub>4</sub>

(Ommuck 15648), 15480 | 1982

Ellis D.E., Rosén A.,  
et al.

Электрон.  
структур

J. Chem. Phys., 1982,  
77, N 8, 4051-4060.

$NpC(\kappa)$

1982

Mallett C.P.

теорет.  
расчет  
электрон.  
структ.

J. Phys. C 1982, 15  
(31), 6361-78.

(сер. ThC( $\kappa$ ) ; III)

Np Al<sub>2</sub>

1986

Boring A.M., Albers R.C.,  
Koetting D.D.,

M. Enryxm,  
pacem

g. Mass. Mass. Mater,  
1986, 54-57, (1),  
543-4

C.A. 1986, 104, N 16, 136 351P

Np Ru<sub>2</sub>

Np Os<sub>2</sub>

Np Ir<sub>2</sub>

(Om. 28364)

1987

Kalvins G.M., Gal J., et al.,

Nucl. Engng. J. Magn. and Magn.  
Mater., 1987, 70, N1-3,  
359-363

№ - соедин - (от. 28386)

1988

Нечини

Смизин В.И., Ионина Г.В.,  
Киселева А.А.,

Электрон.  
строение

Ж. неорганич. химии, 1988,  
33, N 1, 5-12.

$\text{Np}(\text{CH}_3)_3$

1992

Ortiz J. V., Hay P. J.  
et al.

M. n. J. Amer. Chem. Soc. 1992  
114, N 7. C. 2736-2737.  
(comp.  $\text{U}(\text{CH}_3)_3$ ; III)

$Np(NH_2)_3$

1994

соедин. турн.  
параметры  
сст. и возб.  
соед.,  
теор.  
расчет

Jeffrey Hay P.,  
Martin R. L.

J. Alloys Compd.  
1994, 213/214, 196-8.

(,  $U(NH_2)_3$ , III)

$\text{NbO}_2\text{F}_2(2)$

(OM 41938)

2003

Bernd Schimmelpfennig  
et al.,

гармонич.  
расчет,  
расчет

J. Phys. Chem., 2003,  
 $\text{AlO}_7$ , N 45, 9705-9711

$\text{NpO}_2(\text{OH})_2$

(OM 41 938)

2003

Bernd Schimmelpfennig  
et al.,

рецензия,  
расцен

J. Phys. Chem., 2003,  
A107, N 45, 9705-9711.

$\alpha\text{-NpO}_2(\text{OH})_2$  [Dm. 41823] 2003

Masami Nakada, Takafumi  
Kitazawa et al.,

Bull. Chem. Soc. Jpn.  
2003, 76, N 7, 1375-1378.  
A New Type of Neptunyl  
(VI)

Hydroxide which is Topological-  
ly similar to  $d\text{-Ud}_2(\text{OH})_2$