

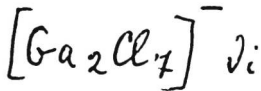
K-Ga, In

KGa_2Br_7

90468w Vibrational spectra of the heptabromodigallate and heptachlorodigallate ions. Grodzicki, A.; Potier, A. (Lab. Acides Miner., Univ. Sci. Tech. Languedoc, Montpellier, Fr.). *J. Inorg. Nucl. Chem.* 1973, 35(1), 61-6 (Fr). The vibrational spectra of KGa_2Br_7 in the solid state are given. Bands and lines were assigned with ref. to Cl_2O_7 . The symmetry of the ion is C_{2v} (or C_s). Assignments for the bridge are $\nu_s(\text{Ga-Br-Ga}) = 195 \text{ cm}^{-1}$, $\nu_{as}(\text{Ga-Br-Ga}) = 222 \text{ cm}^{-1}$. Consequently the follow-

ing reassignments for $[\text{Ga}_2\text{Cl}_7]^-$ for the bridge (Ga-Cl-Ga) are proposed: $\nu_s(\text{Ga-Cl-Ga}) = 276 \text{ cm}^{-1}$, $\nu_{as}(\text{Ga-Cl-Ga}) = 286 \text{ cm}^{-1}$.

(ν_c)



(+1)



C.A. 1973. 78 N14

1973

31009.7213
Ch, Ph, TE, MGU

K Gally 40771

1973

1326

Shirk A.E., Shriver D.F.
Raman and infrared spectra of
tetrahydroaluminate, AlH_4^- , and
tetrahydrogallate, GaH_4^- , salts.

"J. Amer. Chem. Soc.", 1973, 95, N 18,
5904-5912 (англ.)

0977 НК

962 963

970

971

ВИНИТИ

$K_3 InF_6$

1973

сирота HK.
Vi

Reisfeld Martin J.,
Spectrochim. acta, 1973,
A29(10), 1923-1926.

● (сер. $K_3 AlF_6$; III)

$K_2InCl_3 \cdot H_2O$

ommuc 9648 / 1980

и.к. Радан
секрет

Wignacourt J. P.
et al.

Vi
кристал.
и мол. струя

Spectrochim. acta,
1980, A36, 401-411.

$K_3InCl_6 \cdot H_2O$ } Ommux 13366 }

1981

Раман.
спектр,
Vi.

Lorriaux - Rubbens A.,
Wallart F., et al.,

Spectrochim. acta, 1981,
A37, N 12, 1021-1027.

KGaCl₄

1982

Hvistenclahl Jan.

UK Avh. Inst. uorg. kjemi,

eksemplar 1982, N 39, X, 80 pp.

(см. LiAlCl₄; III)

$K_3 B_3 O_6$

1983

Цельин Ю.М., Кравченко В.В. и др.

Коллбай.
спектр.,
свойства
Лоск. ин-т шток. хим.
и хим. М., 1983. 13 с.,
ил. Библиогр. 18 назв.
(Рукопись деп. в ОНТИ
ТЭХИМ ? Черкассы 10 нояб.
1983 г., N 1112 хп-283.) (См. $Na_3 B_3 O_6$; III)

K In Cl₄

[Om. 19309]

1984

Mristendahl Z.,
Klaeboe P., et al.,

ИК эмиссион.
спектры

Inorg. Chem., 1984,
23, N 6, 706-715.

Kfally

[Am. 19809]

1984

Kristendahl J.,
Klaeboe P., et al.,

Inorg. Chem., 1984,
23, 146, 706-715.



ЦК эмиссион.
спектры

KF-GaF₃

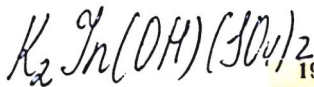
1985

Zhuravleva L.V.,
Nikitin M.I., et al.

исследо-
вание.
публик.

Int. J. Mass Spectrom
Ion Processes 1985, 65
(3) 253-61.

(see  AlF_4^- ; III)



1986

19 Б1292. Колебательный спектр и пространственная группа симметрии $K_2In(OH)(SO_4)_2$. The vibrational spectrum and space group of $K_2In(OH)(SO_4)_2$. Botto I. L., Baran E. J., Garcia A. C. «J. Mol. Struct.», 1986, 143, 59—62 (англ.)

Исследованы ИК- и КР-спектры $K_2In(OH)(SO_4)_2$. Проведен факторгрупповой анализ внутр. кол. иона SO_4^{2-} . Ранее установлена равновероятность двух структур: с пространственной группой C_c или $C2/c$. Согласно ИК- и КР-частот, свидетельствует об отсутствии центра симметрии, т. е. о пространственной симметрии C_c . К симм. вал. кол. SO отнесен дублет линий КР при 1012 и 981 cm^{-1} ; в ИК-спектре оказалась расщепленной полоса при 1149 cm^{-1} (ν_3). ИК-полоса средн. интенсивности при 722 cm^{-1} отнесена к либрац. кол. OH. Сделан вывод, что поведение SO_4^{2-} в данном соединении мало отличается от поведения в др. структурах, т. е. присутствие $In(3+)$ несущественно влияет на связи S—O.

Е. Разумова

ИК-и

КР-спектры

X. 1986, 19, № 19

K₂SnF₄

1996

125: 311182s FT-IR study of alkali fluoride complexes. Chen, Rong; Li, Weihong; Zhang, Qiyun (Coll. Chem. Mol. Eng., Peking Univ., Beijing, Peop. Rep. China 100871). *Guangpuxue Yu Guangpu Fenxi* 1996, 16(4), 41-44 (Ch). Far-IR and Mid-IR spectra of alkali fluoride complexes such as KInF₄, KAlF₄, RbAlF₄, CsAlF₄, RbGaF₄, CsGaF₄ were studied by FTIR spectroscopy. Some vibration bands were assigned. The structures of these complexes were discussed.

(uk cnrmp)

(75)

C.F. 1996, 125, N24

КГАФу

1996

Смзнев В.В., Соломошкин В.Г.

1 Регион. межвуз. конф. „Актуал.
пробл. химии, хим. технол. и
хим. образ.“, Химия 96, „Иваново
22-26 апр. 1996.“ Рез. докл. Иваново,
1996, с. 28-29.

М. П.

(сеч. LiAlF_4 ; III)

F: KGaF4

P: 3

132:142110 Ab initio study of the molecular structure, isomerism, and vibrational spectra of MAF4 (M = Li, Na, K; A = Al, Ga). Solomonik, V. G. Sliznev,

V. V. Ivanovo State Chemical Engineering Academy

Russia J. Struct. Chem., 40(3), 368-379
(English) 1999 The equil. geometrical parameters, force consts., vibration frequencies, IR intensities, and isomerization and dissocn. energies of M mols. are calcd. by Hartree-Fock and 2nd-order Moller-Plessett perturbati theory methods in the Li(9s3p1d/4s3p1d), Na, Al(12s8p1d/6s4p1d), K(14s11p3d/9s8p3d),

F(9s5p1d/4s2p1d), and Ga(13s10p5d/6s5p2d) bases of grouped Gaussian functions. The calcns. show that the structures corresponding to the bi- (b) and tridentate (t) coordinations of the M⁺ cation by the AF₄⁻ anion are isomers. The b configuration is energetical most favorable for LiAF₄ mols. The b and t structures of NaAF₄ have clos energies, and the t configuration is basic for KAF₄ mols. Simple empiric relations between the mol. consts. in the series LiAF₄.fwdarw.NaAF₄.fwdarw.KAF₄ are found and the mol. parameters of RbAF₄ CsAF₄ are estd. A combined anal. of the ab initio and exptl. data availa in the literature for MAF₄ mols. is carried out. A no. of bands obsd. in IR spectrum of the matrix-isolated MA1F₄ mols. are assigned to their tridentate isomer.

F: KGaF₄

P: 3

1999

132:142110 Ab initio study of the molecular structure, isomerism, and vibrational spectra of MAF₄ (M = Li, Na, K; A = Al, Ga). Solomonik, V. G. Sliznev, V. V. Ivanovo State Chemical Engineering Academy Russia J. Struct. Chem., 40(3), 368-379 (English) 1999 The equil. geometrical parameters, force consts., vibration frequencies, IR intensities, and isomerization and dissocn. energies of MAF₄ mols. are by Hartree-Fock and 2nd-order Moller-Plessett perturbation theory methods Li(9s3p1d/4s3p1d), Na, Al(12s8p1d/6s4p1d), K(14s11p3d/9s8p3d), F(9s5p1d/4s and Ga(13s10p5d/6s5p2d) bases of grouped Gaussian functions. The calcns. that the structures corresponding to the bi- (b) and tridentate (t) coordinations of the M⁺ cation by the AF₄- anion are

C-A-2000, 132

isomers. The b configuration is energetically most favorable for LiAF₄ mols. The b and structures of NaAF₄ have close energies, and the t configuration is basic KAF₄ mols. Simple empirical relations between the mol. consts. in the se LiAF₄.fwdarw.NaAF₄.fwdarw.KAF₄ are found and the mol. parameters of RbAF₄ CsAF₄ are estd. A combined anal. of the ab initio and exptl. data availa the literature for MAF₄ mols. is carried out. A no. of bands obsd. in th spectrum of the matrix-isolated MAlF₄ mols. are assigned to their trident isomer.