Cl n)

Cr_6 (кластеры) 1981

Müller H., et al.

Z. phys. Chem. (DDR),
1981, 262, №6, 1073–
–1088.

электрон.
спектры

(см. V_6 (кластеры); I)

1981

C_6

(Кемеров)

Павлов А.Н. и др.

кв. мех. расчеты.

Изв. Вузов. Сер: Физ. Томск, 1981, 13с., ил., библиогр. 7назв. (Рук. деп. в ВИНИТИ 17дек. 1981г., N5725-81 Dep).

(см. Sc_6 (Кемеров; III))

1981

Cr,15 (кластеры)

Salahub D. R., et al.

электрон. строение

Surface Sci., 1981, 106, N1-3, 415-421.

(ссл. K15 (кластеры); (1))

Cr_3

Отписк 16021 | 1982

Спектр, структура

DiLella D.P., Limm W., et al.,
J. Chem. Phys., 1982, 77, N11, 5263-5266.

Cr_3 1982

DiLella D.P., Lipson R. H., et al.

спектры в молекуле

Raman Spectrose: Linear and Nonlinear. Proc. 8th Int. Conf., Bordeaux, 6-11 Sept. 1982. Chichester e.a., 1982, 561-570. (см. Cr_2; III)

Cl - кластеры

1982

Riley S. J., Parks E. K. et al.

Источник интерпретации.

J. Phys. Chem. 1982, 86 (20), 3911 - 13.

(См. Al-кластеры; III)

Cr_3

1983

98: 80769u **Fourier transform far infrared spectroscopy of metal clusters; metal support effects on the molecular geometry of trichromium Cr_3, in rare gas solids.** Ozin, Geoffrey A.; Baker, Mark D.; Mitchell, Steven A.; McIntosh, Douglas F. (Lash Miller Lab., Univ. Toronto, Toronto, ON Can. M5S 1A1). *Angew. Chem.* 1983, 95(2), 157–8 (Ger). The Fourier transform far-IR spectra data are reported for a ligand-free metal triat. cluster, Cr_3, immobilized in solid Ar and Xe. It is clear from the far-IR data that different isomers of Cr_3 exist, the mol. geometry and relative concn. of which are extremely sensitive to sample prepn. and post treatment. Vibrational frequencies are tabulated for each obsd. Cr_3 isomer.

ик спектр в матрице, структура, Ді

С.А. 1983, 98, N10.

Cr_3

1983

12 Б214. Исследование методом ИК-фурье-спектроскопии кластеров металлов без лигандов. Влияние матрицы на структуру молекулы Cr_3. FT-FIR-spektroskopische Untersuchung von Liganden-freien Metall-Clustern; Einfluß der Matrix auf die Struktur von Cr_3-Molekülen. Ozin Geoffrey A., Baker Mark D., Mitchell Steven A., McIntosh Douglas F. «Angew. Chem.», 1983, 95, № 2, 157—158 (нем.)

геометрия, структура, спектр в матрице

Методом фурье-спектроскопии в далекой ИК-области исследованы спектры молекул Cr_3 изолированных в Ar и Xe матрицах ($Cr/R = 1 : 10^3—10^4$, $T_{осажд.} = 12$ K). В интервале 350—95 $см^{-1}$ наблюдались две группы полос соотв. вал. и деф. кол. Вид спектра зависел от разбавления, т-ры матрицы, а также менялся во времени. Это объясняется изменением структуры молекулы и сосуществованием в матрице различных геометрич. изомеров Cr_3 (с углами от 60 до 180°). Подробное изложение и обсуждение результатов публикуется в «Argew. Chem. Suppl.», 1983, 92—113. В. М. Ковба

Х. 1983, 19, N 12

Cr_3 1984

Moskovits M., Zimm W., et al.

лазервозбужд. Jerusalem Symp.
флуоресц. Quantum Chem. Bio-
в матрице, chem. 1984, 17, 437-46.
Vi;

(см. Li_3; III)

Cr_3 Moskovits M., Mejean T. 1985

Surface Sci., 1985, 156, N2:
Small part. and Inorg.
Clusters. Proc. 3 Int. Meet.,
Berlin (West), 9–13 July,
1984. Pt 2. 756–764.

спектр в матрице, Di;

(сер. Li_3; III)

Cr_6 1985

Seifert G., Eschrig H.

теор. расчёт энергии связи

Phys. Status Solidi B.
1985, 127 (2), 573–85.

● (см. V_6; III)

Кп

ОП-24396

1986

п=2

Kovtecky J., Fantucci P.,

теорет. расчет структ. и энергет.

Chem. Rev., 1986, 86, N3, 539-587.

Cr3 [Om. 25597] 1986

Morse M. D.,

Chem. Rev., 1986, 86, N 6,

(0d.309) 1049–1109.

Clusters of Transition-

Metal Atoms.

Cr4 | om. 25597 | 1986

Morse M. D.,

Chem. Rev., 1986, 86, N 6,
1049-1109.

(обзор)

Clusters of Transition-
Metal Atoms.

Cr_3^+ 1986

Walch Stephen P.,
Bauschlicher Ch. W., Jr.

ab initio NATO ASI Ser. C
pacrèm, 1986, 119-34.

Re, энергия

(см. Ca_3; III)

Кз | 30353 | 1988

Краснов К.С.,
Филиппенко Н.В.,
ОНИИТЭХИМ.

м.п.
(обзор)

Деп. N 378-хп-86,
Черкассы, 1988.

Cr_6

1988

Opitz C., Mueller H., et al.

теор. расчёт структ., стабильн.

J. Less-Common Met. 1988, 144 (2), 257-64.

(см. V_6; III)

Cr_n^+

$n = 3, 4, 5$

1993

Su Chen-Xing, Hales D.A. et al.

Chem. Phys. Lett. 1993, 201 (1-4), 199-204.

(D_0)

(cell. Cr_2^+ ; III)

$Cr_{n-1}^{+} - Cr$

$n = 2 \div 21$

1993

120: 86987h : Collision-induced dissociation of chromium cluster ions (1+) Cr_n^+ (n = 2-21)) with xenon: bond energies, dissociation pathways, and structures. Su, C. X.; Armentrout, P. B. (Dep. Chem., Univ. Utah, Salt Lake City, UT 84112 USA). *J. Chem. Phys.* 1993, 99(9), 6506–16 (Eng). : The kinetic energy dependence of the collision-induced dissocn. (CID) of Cr_n^+ (n = 2-21) with xenon is studied by using a guided ion beam mass spectrometer. :"Examn. of the general dissocn. behavior over a broad collision energy range shows that chromium cluster ions dissoc. primarily by sequential atom loss with a few exceptions, most notably Cr_3^+. : Bond energies of chromium cluster ions $D(Cr_{n-1}^+-Cr)$ are detd. from measurements of the CID thresholds. : The cluster size dependence of chromium cluster bond energies shows that odd-sized clusters are more stable than even clusters for smaller clusters ($n \leq 9$) and local max. at n = 13, 14, and 20 for larger clusters. : The even-odd alternation in the stability of small chromium clusters suggests that these cluster cations are bound mainly by the 4s electrons. : The pattern of stability for the larger clusters, in particular, the observation that the 14- and 20-atom clusters are relatively stable, is consistent with clusters built around a dimer core.

(энергия связи)

C.A. 1994, 120, N 8

Ст 1996

Wang, Lai-Sheng,
Wu, Hongbin,

Фотоэл.
Спектр,
Ае

Proc. Sci. Technol. At.
Eng. Mater 1995, (Пуб. 1996)
245-250

(см. Ti; III)

Cr_3
Cr_4

1997

Berces Attila.

Spectrochim. Acta

Part A 1997, 53A(8),

1257–1272.

теор. расчёт нелинейных эл. сосед.

(сел. Ag_3; III)

1999

F: Cr8, C_{13}
P: 3
132: >
131028 Structure and magnetic ordering in Cr8 and Cr13 clusters. Redd B. V.; Khanna, S. N.; Jena, P. Physics Department, Virginia Commonwealth University Richmond, VA 23284-2000, USA Phys. Rev. B: Condens. Matter Mater. Phys., 60(23), 15597-15600 (English) 1999 Theor. studies of the equil. geometries, electronic structure, and magnetic properties of Cr8 and Cr13 clusters were carried out using the l spin-d. approxn. in the d.-functional theory. Several nearly degenerate were

C.A. 2000, 132

identified for both these clusters. In contrast to the recent studi Cheng and Wang [Phys. Rev. Lett. 77, 51(1996)], no indication of dimeriza was found in the ground-state geometry of Cr8. The isomers have differen magnetic properties. Among the three nearly degenerate isomers of Cr8, t antiferromagnetic while the other is ferromagnetic with a net moment of 4 .mu.B Cr13, however, has two nearly degenerate isomers-a ferrimagnetic on a net moment of 14.0 .mu.B and a ferromagnetic one with a net moment of 2 .mu.B These results are consistent with collision-induced dissocn. and ma deflection expts.

1999

F: Cr22+
P: 3
132:142165 Relativistic calculation of energy levels and transitions for like ion Cr22+. Zhang, Zhi-Hong; Li, Xiang-Dong; Tan, Ming-Liang; Zhu, Zh He; Tang, Yong-Jian; Zhao, Yong-Kuan Department of Physics, Yian Tai Teacher College Yian Tai 264000, Peop. Rep. China Yuanzi Yu Fenzi Wuli Xuebao, 16(4), 559-564 (Chinese) 1999 The fine-structure energy levels and transition parameters of He-like Cr22+ have been calcd. by applying the multiconfiguration Dirac-Fock tech with the corrections of finite nuclear size, Breit, QED and orbital polarization. The results obtained are in good agreement with the exptl. available.

C.A. 2000, 132

Ст

2000

Kondo, Ryuichi et al.,

кластеры, теорем- равен структур, Ae

Nyomen Kagaku 2000, 21(8), 462-467

(см. ● VI; III)

Cr3

Om. 41131

2004

Li Fang, Ben Davis et al.,

J. Phys. Chem., 2001, A105,

9375- 9378.

Resonance Raman spectroscopy

of Mass Selected Chromium

Dimers in an Argon Matrix