In OH

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GaOH, InOH, TlOH (Do)

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Часть 5 Стабильность MgO и MgOH

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$D_0(CaOH) = 102 \pm 5$
$D_0(InOH) = 86 \pm 7$ ккал/моль
$D_0(TlH) = 44 \pm 7$ ккал/моль

... III, CaOH

1959 Булевич, Сагден

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Гурвич Л.В., Рябова В.Г.,

До;

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2 n OH

InOH

V-3955

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YnOH

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До,
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(См. GaOH) III

InOH [illegible] 106-11 -1980

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(см. Al ... OH_2; III)

$In \ldots OH_2$ 1983

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Maerge Robert H., et al.

спектры
в
ампу-
лах

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1533 — 1553.

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(InOH)

om. 30490

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Jacox M.E.,

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Зак (Ом. 37602) 1994

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M.N.

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InOH

OM 37602

1994

121: 94826r **The identification of InOH in the gas phase and determination of its geometric structure.** Lakin, Nicholas M.; Brown, John M.; Beattie, Ian R.; Jones, Peter J. (Phys. Chem. Lab., Oxford, UK OX1 3QZ). *J. Chem. Phys.* 1994, 100(11), 8546–9 (Eng). The first gas phase observation of the species InOH is reported through the detection of its electronic spectrum in the near UV region, between 345 and 377 nm. The mol. was generated by the high temp. reaction between H_2O and In metal or between H_2 and In_2O_3, and cooled in a free jet expansion. Two sep. electronic transitions have been identified and are tentatively assigned as $\alpha^1A' \leftarrow \tilde{X}^1A'$ and $\beta^1A'' \leftarrow \tilde{X}^1A'$. Values for the vibrational wavenumbers, ν_2 (bending vibration) and ν_3 (In–O stretching vibration) have been detd. for InOH and InOD in all three electronic states involved. There is evidence that the mol. is quasilinear in its ground electronic state which somewhat complicates the values detd. for ν_2 in this state. Rotational structure was easily resolved at the lowest temp. achieved in this work ($T_{rot} \approx 12$ K). Anal. of this structure shows that the mol. is bent in all of the electronic states studied, with a bond angle of about 132° in the $\tilde{X}$ state and about 105° in the α and β states.

структура, электронный спектр ~

$\alpha\ ^1A' \leftarrow \tilde{X}\ ^1A'$

$\beta\ ^1A'' \leftarrow \tilde{X}\ ^1A'$

C. A. 1994, 121, N 8.

InOk Om-38456 1996

Nicholas M. Lakin,
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John M. Brown,

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Evidence for Renner-Teller

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electronic state of the 370 nm
system of InOH.

InOH

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127: 87464s **The detection of lines in the microwave spectrum of indium hydroxide, InOH, and its isotopomers.** Lakin, Nicholas M.; Varberg, Thomas D.; Brown, John M. (Physical Theor. Chemistry Lab., Oxford Univ., Oxford, UK OX1 3QZ). *J. Mol. Spectrosc.* **1997**, 183(1), 34–41 (Eng), Academic. The rotational transition $1_{01}-0_{00}$ for InOH in its ground $^1A'$ state was detected with a pulsed microwave spectrometer; the mol. was generated by laser ablation of In(III) hydroxide, $In(OH)_3$. The same transition also was recorded for two of its isotopomers, $In^{18}OH$ and InOD. Hyperfine structure arising from both the ^{115}In and ^1H (or ^2D) nuclei was obsd. The results were combined with others from UV spectroscopy to det. an r_0 structure for the mol.: r_0(In–O) = 0.20167(4) nm, r^0(OH–H) – 0.0911(4) nm, ∠InOH = 132.0(3)°. These values reflect the very marked effect of averaging over a large-amplitude bending vibration in InOH in its zero point level. Values for the ^{115}In and ^2D elec. quadrupole coupling consts. and for some smaller, magnetic hyperfine terms are also derived.

[redacted]

Франк-спектр, ν_{OH-In}, < InOH

C. A. 1997, 127, N 6

InOH

ф. 40149

1999

131: 23755n **InOH: A Quantum Chemical Study.** Arulmozhiraja, Sundaram; Fujii, Toshihiro; Tokiwa, Hiroaki (National Institute for Environmental Studies, Ibaraki, Japan 305–0053). *J. Phys. Chem. A* **1999**, 103(20), 4085–4088 (Eng), American Chemical Society. The structure and energetics of the InOH mol. were thoroughly studied using higher level ab initio and d. functional theories for the first time. The bond angle, θ(InOH), and harmonic vibrational frequency, ν_2 (bending), calcd. using a 6–311++G(2d,2p) basis set were in good agreement with recent exptl. detd. values. The use of triple–ζ plus double polarization with diffusion function basis set was required to reproduce the exptl.

теор. расч
D_0(In-OH),
спр-ра

C.A., 1999, 131, N2