

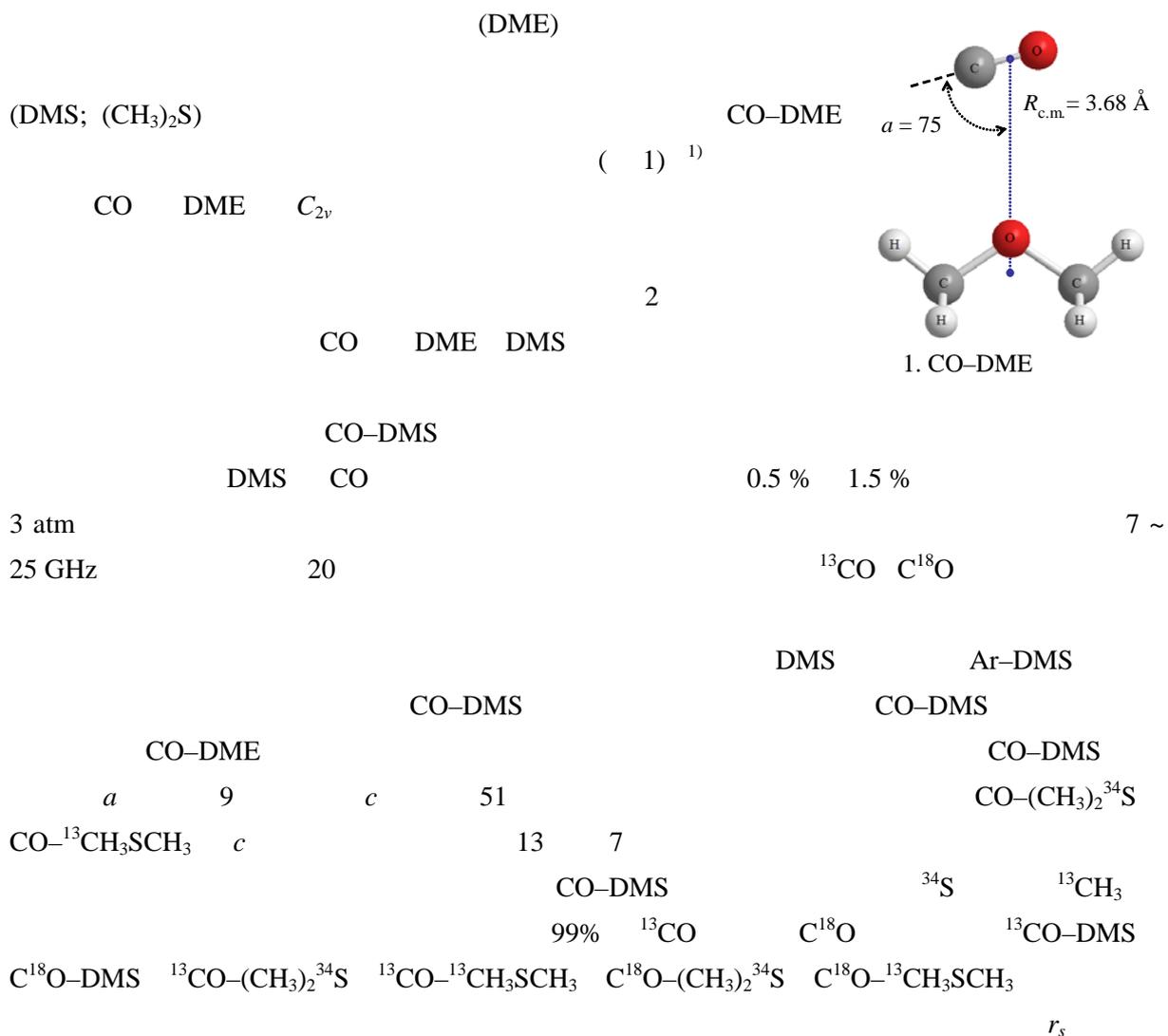
CO-DMS

Fourier transform microwave spectrum of CO-DMS

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Strong *c*-type and weak *a*-type transitions of CO-dimethyl sulfide (DMS) were observed in the region from 7 upto 25 GHz and assigned, by using a Fourier transform microwave spectrometer. The rotational spectra of isotopomers, naturally abundant ³⁴S and ¹³CH₃ and concentrated ¹³CO and C¹⁸O, were also measured. The obtained values of the moments of inertia for CO-DMS indicate that the CO is located in the plane perpendicular to the C-S-C plane and bisecting the CSC angle of DMS.



CO-DMS CO DMS CSC

2 r_s CO

2 (2) CO-DME CO DME O

CO-DMS CO-DMS S

CO-DMS CO-DME

$R_{c.m.}$ 0.1 Å

k_s E_B

1	CO-DMS	CO-DME	
		CO-DMS	CO-DME ¹⁾
$R_{c.m.} / \text{Å}$		3.79	3.68
k_s / Nm^{-1}		2.7	1.4
E_B / kJmol^{-1}		3.3	1.6

CO-DME CO-DMS

(1)

CO-DMS 2 a

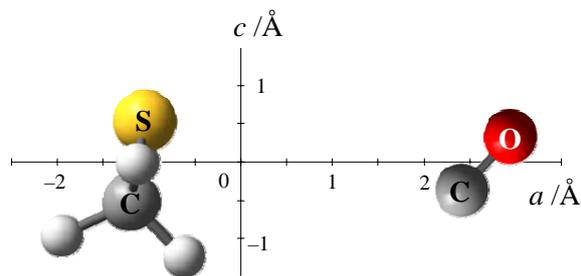
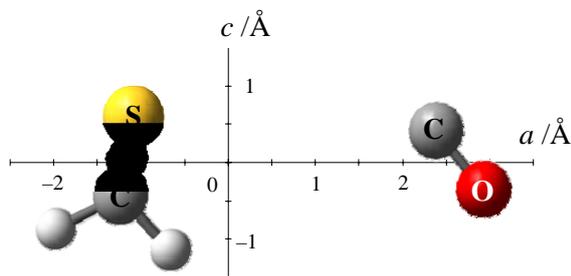
3 (3) CO-DMS

V_3 720 cm^{-1} DMS V_3 (752.6(8) cm^{-1}) ²⁾

96 % CO-DME 85 % c

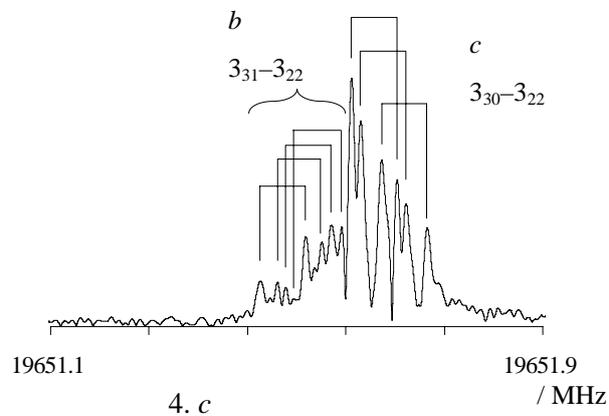
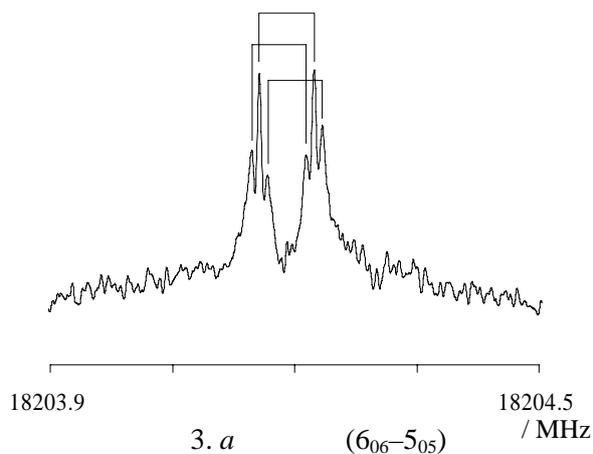
$K_a = 3$

b (4)



2. CO-DMS

r_s



- 1) () 1C05 (2005)
- 2) Y. Niide and M. Hayashi, *J. Mol. Spectrosc.*, **220** (2003) 65-79