

**Table 33A-7-001.** KH<sub>2</sub>AsO<sub>4</sub> (KDA). Lattice constants at different temperatures [65Des].

$T$ [°C]	$a$ [Å]	$c$ [Å]	$c/a$
27	7.6300	7.1630	0.9388
29	7.6299	7.1637	0.9389
54	7.6344	7.1699	0.9392
55	7.6340	7.1703	0.9393
90	7.6410	7.1811	0.9398
117	7.6453	7.1921	0.9407
129	7.6492	7.1976	0.9410
134	7.6502	7.1994	0.9411
147	7.6524	7.2049	0.9415

**Table 33A-7-002.** KH<sub>2</sub>AsO<sub>4</sub> (KDA). Fractional coordinates in the  $\bar{I}4_2d$  unit cell at 20 °C [73Nak]. Temperature parameter  $U_{ij}$  is defined by Eq. (d) in Introduction.

Atom	$x$	$y$	$z$	$U_{11}$ [Å <sup>2</sup> ]	$U_{22}$ [Å <sup>2</sup> ]	$U_{33}$ [Å <sup>2</sup> ]	$U_{12}$ [Å <sup>2</sup> ]	$U_{23}$ [Å <sup>2</sup> ]	$U_{31}$ [Å <sup>2</sup> ]
K	0	0	0.5	0.0224 (6)	0.0224 (6)	0.0178 (5)	0	0	0
As	0	0	0	0.0131 (4)	0.0131 (4)	0.0164 (3)	0	0	0
O	0.1610 (5)	0.0867 (5)	0.1336 (7)	0.0180 (9)	0.0203 (11)	0.0281 (16)	0.0034 (9)	−0.0049 (12)	−0.0068 (12)

**Table 33A-7-003.** XH<sub>2</sub>AsO<sub>4</sub>, XD<sub>2</sub>AsO<sub>4</sub> (X = K, Rb, Cs).  $\Theta_f$ ,  $d\Theta_f/dp$  [75Low].

	$\Theta_f$ [°K]	$d\Theta_f/dp$ [ $\cdot 10^{-8}$ K Pa <sup>−1</sup> ]
KH <sub>2</sub> AsO <sub>4</sub>	96.0 (7)	−2.63 (12)
RbH <sub>2</sub> AsO <sub>4</sub>	110.3 (2)	−4.59 (23)
CsH <sub>2</sub> AsO <sub>4</sub>	148.3 (1)	−5.63 (18)
KD <sub>2</sub> AsO <sub>4</sub>	159.7 (1)	−1.60 (8)
RbD <sub>2</sub> AsO <sub>4</sub>	169.8 (1)	−2.70 (14)
CsD <sub>2</sub> AsO <sub>4</sub>	203.3 (1)	−4.04 (11)

**Table 33A-7-004.** KH<sub>2</sub>AsO<sub>4</sub> (KDA). Piezoelectric constants [66Bec].

$d_{14}$	$d_{36}$	$e_{14}$	$e_{36}$	$g_{14}$	$g_{36}$	$h_{14}$	$h_{36}$	$T$	Ref
[ $\cdot 10^{-12}$ C N <sup>−1</sup> ]		[C m <sup>−2</sup> ]		[ $\cdot 10^{-3}$ m <sup>2</sup> C <sup>−1</sup> ]		[ $\cdot 10^8$ N C <sup>−1</sup> ]		[°C]	
26.6	22.4							0	49Nie
25	22	0.29	0.14	85.8	101	9.9	6.9	25	50Van

**Table 33A-7-005.** KH<sub>2</sub>AsO<sub>4</sub> (KDA). Elastic constants [66Bec].

$s_{11}$	$s_{12}$	$s_{13}$	$s_{33}$	$s_{44}$	$s_{66}$	$T$	Ref.
[ $\cdot 10^{-12} \text{ m}^2 \text{ N}^{-1}$ ]						[°C]	
19	2	1	27	86	152	25	48Off

  

$c_{11}$	$c_{12}$	$c_{13}$	$c_{33}$	$c_{44}$	$c_{66}$	$T$	Ref.
[ $\cdot 10^9 \text{ N m}^{-2}$ ]						[°C]	
53	−6	−2	37	12	7	25	48Off
64.82	0.77	13.58	48.24	10.75	6.63	20	64Hau

**Table 33A-7-006.** KH<sub>2</sub>AsO<sub>4</sub> (KDA).  $n$  vs.  $\lambda$  [69Bec].

$\lambda$ nm	$n_e$	$n_o$
535	1.5252	1.5762
589	1.5179	1.5674
656	1.5146	1.5632

**Table 33A-7-007.** KH<sub>2</sub>AsO<sub>4</sub> (KDA).  $n_o$ ,  $n_e$  with respect to air vs.  $\lambda$  [87Kir].  $T = 33.0(4)^\circ\text{C}$ . IF: narrow-band interference filter.

$\lambda$ [Å]	Source	$n_o$	$n_e$
4046.56	Hg	1.58714	1.53391
4358.33	Hg	1.58163	1.52931
4678.15	Cd	1.57708	1.52561
4799.91	Cd	1.57559	1.52448
5085.82	Cd	1.57257	1.52204
5460.74	Hg	1.56923	1.51935
5790.66	Hg	1.56685	1.51756
6438.47	Cd	1.56284	1.51454
7800.27	Rb	1.55677	1.51053
7947.60	Rb	1.55619	1.51016
8521.13	Cs	1.55416	1.50895
8943.46	Cs	1.55274	1.50827
10640.00	Xe	1.54767	1.50591
+ IF			

**Table 33A-7-008.** KH<sub>2</sub>AsO<sub>4</sub> (KDA), RbH<sub>2</sub>AsO<sub>4</sub> (RDA), CsH<sub>2</sub>AsO<sub>4</sub> (CDA), CsD<sub>2</sub>AsO<sub>4</sub> (DCDA), NH<sub>4</sub>H<sub>2</sub>AsO<sub>4</sub> (ADA).  $\partial n/\partial T$  of arsenates for several  $\lambda$  [82Bar].  $T = 20 \dots 50$  °C. o: ordinary ray. e: extraordinary ray.

	Ray	$\partial n/\partial T$ [K <sup>-1</sup> ]				
		$\lambda$ [μm]	0.633	0.578	0.546	0.436      0.405
KH <sub>2</sub> AsO <sub>4</sub>	o		-40.9	-39.8	-40.7	-36.4
	e		-21.2	-25.1	-21.3	-23.1
RbH <sub>2</sub> AsO <sub>4</sub>	o		-33.7	-33.8	-36.2	-30.9
	e		-23.5	-21.7	-23.4	-19.7
CsH <sub>2</sub> AsO <sub>4</sub>	o		-28.0	-27.6	-25.9	-30.5      -31.5
	e		-25.6	-23.9	-21.2	-20.9      -18.9
CsD <sub>2</sub> AsO <sub>4</sub>	o			-23.1	-24.7	-22.6      -22.6
	e		-17.0	-17.1	-16.4	-15.1      -17.7
NH <sub>4</sub> H <sub>2</sub> AsO <sub>4</sub>	o		-44.5	-45.3	-43.9	-48.5
	e		11.9	12.4	13.1	12.7

**Table 33A-7-009.** KH<sub>2</sub>AsO<sub>4</sub> (KDA). Electrooptic constants [66Bec].

$r_{41}$	$r_{63}^T$	$\rho_{63}^T$	$T$	$\lambda$	Ref.
[ $\cdot 10^{-12}$ m V <sup>-1</sup> ]		[ $\cdot 10^{-3}$ m <sup>2</sup> C <sup>-1</sup> ]	[°C]	[nm]	
	-13			546	63Wac
	-11.0		RT	546	64Sli
12.5	10.9		RT	546	64Ott
		-79.5			50Bec

**Table 33A-7-010.** KD<sub>2</sub>AsO<sub>4</sub>:CrO<sub>4</sub>, ND<sub>4</sub>D<sub>2</sub>AsO<sub>4</sub>:CrO<sub>4</sub>.  $g$ -tensors for CrO<sub>4</sub><sup>3-</sup> in phase II [88Dal].  $\theta$  and  $\phi$  are the polar and azimuthal angle, respectively, in the crystallographic axial frame.

	KD <sub>2</sub> AsO <sub>4</sub>	ND <sub>4</sub> D <sub>2</sub> AsO <sub>4</sub>
$g_{xx}$	1.98234(26)	1.98213(22)
$g_{yy}$	1.97944(64)	1.97954(11)
$g_{zz}$	1.94386(36)	1.94477(7)
$\theta$ [°]	-34.4(46)	-35.5(14)
$\phi_x$ [°]	82.4(33)	83.0(9)
$\theta_y$	50.4(66)	51.0(19)
$\phi_y$	124.3(12)	121.4(3)
$\theta_z$	66.5(11)	66.8(8)
$\phi_z$	35.8(5)	32.45(13)