

No. 33A-8 RbH₂AsO₄, Rubidium dihydrogen arsenate (RDA)

(M = 226.40; [D: 228.42])

1a	Ferroelectricity of RbH ₂ AsO ₄ was first reported by Matthias in 1947.	47Mat															
b	<table> <tr> <td>phase</td><td>II</td><td>I</td></tr> <tr> <td>state</td><td>F</td><td>P</td></tr> <tr> <td>crystal system</td><td></td><td>tetragonal</td></tr> <tr> <td>Θ [°C]</td><td colspan="2">-163 [D: -100]</td></tr> <tr> <td>$P_s \parallel [001]$.</td><td colspan="2"></td></tr> </table>	phase	II	I	state	F	P	crystal system		tetragonal	Θ [°C]	-163 [D: -100]		$P_s \parallel [001]$.			47Mat
phase	II	I															
state	F	P															
crystal system		tetragonal															
Θ [°C]	-163 [D: -100]																
$P_s \parallel [001]$.																	
3a	Unit cell parameters at 25 °C: $a = 7.7933(5)$ Å, $c = 7.4671(5)$ Å [D: $a = 7.8063(7)$ Å, $c = 7.4674(7)$ Å]. See also Table 33A-1-003, Table 33A-1-004 in No. 33A-1. c/a vs. radii of metal ions: see Fig. 33A-11-002 in No. 33A-11.	67Coo															
4	Thermal expansion: Fig. 33A-8-001; see also Table 33A-1-029 in No. 33A-1.																
5a	Dielectric constant: Fig. 33A-8-002. Curie-Weiss constant C and paraelectric Curie temperature Θ_p : Table 33A-8-001. Effect of p on κ_c : Fig. 33A-8-003; see also Table 33A-7-003 in No. 33A-7 and	75Low															
b	Nonlinear dielectric properties: Table 33A-8-001. Effect of E_{bias} : Fig. 33A-8-004; see also	75Mag															
c	Jump of spontaneous polarization at Θ_f : Table 33A-8-001.																
7a	Piezoelectricity: $d_{14} = 9.9 \cdot 10^{-12}$ C N ⁻¹ [D: $14.6 \cdot 10^{-12}$ C N ⁻¹]; $d_{36} = 28.5 \cdot 10^{-12}$ C N ⁻¹ [D: $45.8 \cdot 10^{-12}$ C N ⁻¹] at 25 °C.	69Adh1															
8a	Elastic compliance: Table 33A-8-002.																
9a	Refractive indices: $n_o = 1.559$, $n_e = 1.520$ at RT for $\lambda = 546$ nm; [D: $n_o = 1.557$ at RT for $\lambda = 550$ nm]. Refractive indices with respect to air: Table 33A-8-003, Table 33A-8-004. Coefficients of Sellmeier equation: see Table 33A-1-040, Table 33A-1-041 in No. 33A-1. $\partial n / \partial T$ for several λ : see Table 33A-7-008 in No. 33A-7. Reflectivity in vacuum ultraviolet region: see Fig. 33A-1-153 in No. 33A-1. Transmission for $\lambda = 300 \dots 2000$ nm: Fig. 33A-8-005. Mode frequencies determined from infrared reflectivity: see Table 33B-10-001 in No. 33B-10.	64Ott 69Adh2															
b	Electrooptic effect: Table 33A-8-005; see also Table 33A-1-048 in No. 33A-1 and Fig. 33A-7-034, Fig. 33A-7-035 in No. 33A-7.																
c	Piezooptic effect: $p_{12} = 0.239$, $p_{13} = 0.200$, $p_{31} = 0.205$, $p_{33} = 0.182$ for $\lambda = 632.8$ nm. $p_{66} = 0.023$. See also Fig. 33A-7-036 in No. 33A-7.	77Ale 69Vas															
d	Verdet constant: Fig. 33A-8-006.																
e	Nonlinear optical susceptibility: $d_{36} = 0.39(4) \cdot 10^{-12}$ m V ⁻¹ ^{a)} , $0.44 \cdot 10^{-12}$ m V ⁻¹ ^{b)} at $\lambda = 694$ nm. See also	^{a)} 74Kat ^{b)} 78Sal 77Nik															

33 KDP (KH₂PO₄) family

10a	Raman scattering: Fig. 33A-8-007; see also Raman scattering at 7 K: see Effect of p : Fig. 33A-8-008.	74Low 87Dav
11	Electrical conductivity between RT and T_{melt} : see	89Bar
13a	NMR, NQR: see Fig. 33A-2-068 in No. 33A-2, Fig. 33A-7-050, Fig. 33A-7-051, Fig. 33A-7-052 in No. 33A-7, and also	73Bli, 69Bli
b	ESR and ENDOR of ⁸⁵ Rb and ⁸⁷ Rb: Table 33A-8-006. ESR for TI ²⁺ center: Table 33A-8-007. ESR data for irradiated crystal: see	72Dal
16	Internal friction measured at about 1 Hz: see	78Gri