

No. 43A-14 Rb₂Cd₂(SO₄)₃, Rubidium cadmium sulfate*(M* = 683.95)

1a	Ferroelectricity was discovered by Hikita et al. in 1976.				76Hik
b	phase	IV	III	II	I
	state		F	F	P
	crystal system	orthorhombic	triclinic	monoclinic	cubic
	space group	P2 ₁ 2 ₁ 2 ₁ –D ₂ ⁴ *)	P1–C ₁ ¹	P2 ₁ –C ₂ ²	P2 ₁ 3–T ⁴
	Θ [°C]	–205	–170	–144	
*) Speculated in analogy to the transitions in Tl ₂ Cd ₂ (SO ₄) ₃ . Phase transition temperature: see Table 43A-2-001 in No. 43A-2. Transition temperature determined by ESR spectra: see ρ _X = 4.066 · 10 ³ kg m ^{–3} . Color: transparent and colorless.					
2a	Crystal growth: evaporation method. Solubility in water: Fig. 43A-14-001.				76Hik
b	Crystal forms are similar to those of (NH ₄) ₂ Cd ₂ (SO ₄) ₃ : see 2b in No. 43A-13.				
3a	Unit cell parameters: a = 10.377(1) Å at 0 °C (phase I). See also Table 43A-2-002 in No. 43A-2. a = 10.3482(5) Å, b = 10.3430(5) Å, c = 10.3475(5) Å, β = 90.040(6)° at –150 °C (phase II), 6-fold-symmetry-like modulated along the b axis. a = 10.3392(5) Å, b = 10.3330(5) Å, c = 10.3382(5) Å, α = 89.988(6)°, β = 90.038(6)°, γ = 89.979(6)° at –190 °C (phase III), 6-fold-symmetry-like modulated along the a and b axes.				77Yam
b	Z = 4. Crystal structure: Fig. 43A-14-002, Fig. 43A-14-003.				
4	Lattice distortion: Fig. 43A-14-004. Thermal expansion: Fig. 43A-14-005.				
5a	Dielectric constant: Fig. 43A-14-006. Hydrostatic pressure effect on the dielectric constant: Fig. 43A-14-007. Phase diagram in regard to p: Fig. 43A-14-008. (dΘ/dp) _{p=0} : see Table 43A-8-012 in No. 43A-8.				
c	Spontaneous polarization: Fig. 43A-14-009.				
6a	Heat capacity: see Fig. 43A-10-002 in No. 43A-10.				
8a	Elastic stiffnesses: Fig. 43A-14-010. Elastic compliances: see				80Mae
9a	Refractive index: see Table 43A-2-007 in No. 43A-2 and Fig. 43A-13-016 in No. 43A-13. Optical absorption: Fig. 43A-14-011, Fig. 43A-14-012; see also Fig. 43A-13-018 in No. 43A-13.				
d	Circular dichroism: Fig. 43A-14-012. Optical rotatory power: Fig. 43A-14-013; see also Fig. 43A-2-005 in No. 43A-2.				
10a	Raman scattering: Table 43A-14-001; Fig. 43A-14-014, Fig. 43A-14-015, Fig. 43A-14-016, Fig. 43A-14-017, Fig. 43A-14-018, Fig. 43A-14-019; see also Table 43A-13-009, Table 43A-13-010 in No. 43A-13.				

13b	ESR of Mn ²⁺ : Fig. 43A-14-020. Spin-Hamiltonian parameters for Mn ²⁺ : $g_{\parallel} = 2.005(1)$, $g_{\perp} = 1.999(1)$, $b_2^0 = -0.526(1)$ GHz, $b_4^0 = -0.005(1)$ GHz, $b_4^3 = -0.025(90)$ GHz, $A = -0.277(2)$ GHz, $B = -0.251(3)$ GHz. See also Table 43A-13-014 in No. 43A-13; see also ESR of Fe ³⁺ : see	87Mis 84Bab 92Bot
14	Superlattice reflection: Fig. 43A-14-003 in 3b.	
15a	Domain structures: see	79Yam
