

No. 46A-9 (CH₃)₂NH₂Ga(SO₄)₂ · 6H₂O, Dimethylammonium gallium sulfate hexahydrate
(*M* = 416.03; [D: 436.15])

1a	Ferroelectricity in (CH ₃) ₂ NH ₂ Ga(SO ₄) ₂ · 6H ₂ O was reported by Andreev et al. in 1991.			91And
b	phase	III	II	I
	state		F	P
	crystal system	monoclinic	monoclinic	monoclinic
	space group	Pn-C _s ^{2a})	P2 ₁ -C ₂ ^{2a} *)	P2 ₁ /n-C _{2h} ^{5b})
	Θ [K]	113	133	
	<i>P_s</i> makes an angle 43° from the <i>a</i> axis in the (101) plane. *)			91And
	<i>ρ_x</i> = 1.811 · 10 ³ kg m ⁻³ at 295 K.			93Pie
	*) The point group C _s is suggested by dielectric measurement.			91And
2a	Crystal growth: evaporation of aqueous solution.			91And
3a	Unit cell parameters:			
	Phase I: <i>a</i> = 6.373(1) Å, <i>b</i> = 10.726(2) Å, <i>c</i> = 11.367(2) Å, β = 100.86(3)°. <i>T</i> = 295 K.			93Pie
	Phase II: <i>a</i> = 6.413(1) Å, <i>b</i> = 10.657(2) Å, <i>c</i> = 11.398(2) Å, β = 100.29(3)°. <i>T</i> = 125(1) K.			95Pie
	Phase III: <i>a</i> = 6.234(1) Å, <i>b</i> = 10.891(2) Å, <i>c</i> = 11.113(2) Å, β = 103.87(3)°. <i>T</i> = 100(1) K.			95Pie
b	<i>Z</i> = 2 in phases I ^{a)} , II ^{a)} and III ^{b)} .			^{a)} 93Pie ^{b)} 95Pie
	Crystal structure of phase I: Table 46A-9-001, Table 46A-9-002. Isomorphous with phase I of (CH ₃) ₂ NH ₂ Al(SO ₄) ₂ · 6H ₂ O; see Table 46A-8-002 and Fig. 46A-8-001 in No. 46A-8. Structure of phase II: Table 46A-9-003, Table 46A-9-004, Table 46A-9-005; Fig. 46A-9-001. Structure of phase III: Table 46A-9-004, Table 46A-9-006, Table 46A-9-007; Fig. 46A-9-002.			
4	Temperature dependence of unit cell parameters: Fig. 46A-9-003.			
5a	Dielectric constant: Fig. 46A-9-004. Dielectric dispersion: Fig. 46A-9-005, Fig. 46A-9-006, Fig. 46A-9-007. Curie Weiss law: κ' _{<i>x</i>} = <i>C</i> /(<i>T</i> - Θ _p), <i>T</i> > Θ _{H-I} . <i>C</i> = 2.93 · 10 ³ K, Θ _p = 133 K. <i>f</i> = 1 kHz.			92Sob
c	Spontaneous polarization: Fig. 46A-9-008.			
d	Pyroelectric effect: see			91And