

No. 41A-8 CsLiMoO₄, Cesium lithium molybdate*(M* = 299.78)

1a	Ferroelectricity in CsLiMoO ₄ was reported by Aleksandrov et al. in 1981.			81Ale1	
b	phase	III	II	I	81Ale2
	state	F	F	P	
	crystal system	monoclinic	trigonal	cubic	
	space group	Bm – C _s ³	R3m – C _{3v} ⁵	F $\bar{4}$ 3m – T _d ²	
	Θ [K]	177		211	
	T _{melt} = 800.1 °C.				80Kle
	ρ _X = 3.46 · 10 ³ kg m ⁻³ at 298 K.				80Oka
2a	The crystal is synthesized by the solid-phase solution method. A mixture of CsLiMoO ₄ and LiMoO ₄ is annealed at 450...600 °C.				80Kle
	Solubility in water is about 57% at RT.				80Kle
3a	Unit cell parameters:				81Ale1
	Phase I: a = 8.318(5) Å at 300 K.				
	Phase II: a = 5.89 Å, α = 59° 29'.				
	Phase III: a = 5.84 Å, b = 5.86 Å, c = 10.21 Å, β = 125° 30'.				
b	Z = 4 (phase I).				80Oka
	Z = 3 (phase II).				85All
	Z = 2 (phase III).				85All
	Crystal structure of phase I: Fig. 41A-8-001, Fig. 41A-8-002.				
	Fractional coordinates and isotropic temperature factor: Table 41A-8-001.				
	Interatomic distances: Table 41A-8-002.				
5a	Dielectric constant: temperature dependence: Fig. 41A-8-003.				
c	Spontaneous polarization in a temperature range 140...220 K: Fig. 41A-8-004.				
8a	Elastic stiffnesses: Fig. 41A-8-005.				
9e	Nonlinear optical properties: I _{2ω} / I _{2ω} ^{SiO₂} = 30. I _{2ω} : SHG intensity.				84Kab
13a	NMR: quadrupole splitting of ¹³³ Cs and ⁷ Li: Fig. 41A-8-006.				