

No. 41A-4 CsLiSO₄, Cesium lithium sulfate*(M* = 235.91)

1a	Elastic anomaly was suggested at -70°C in CsLiSO_4 from thermal expansion data with X-ray measurement by Pietraszko et al. in 1981.			81Pie
b	phase	II	I	81Pie
	crystal system	monoclinic	orthorhombic	
	space group	$P112_1/n - C_{2h}^5$	$Pcmn - D_{2h}^{16}$	
	$\theta [^{\circ}\text{C}]$	-70		
2b	Crystal form: Fig. 41A-4-001.			
3a	Unit cell parameters: Phase I: $a = 9.456(2) \text{ \AA}$, $b = 5.456(1) \text{ \AA}$, $c = 8.820(3) \text{ \AA}$ at 293 K. Phase II: $a = 9.379(2) \text{ \AA}$, $b = 5.423(1) \text{ \AA}$, $c = 8.834(3) \text{ \AA}$, $\gamma = 89^{\circ} 45'(1)'$ at 163 K. Temperature dependence of $(\gamma - 90^{\circ})$: Fig. 41A-4-002. Unit cell parameters at several temperatures: Table 41A-4-001.			79Kru
b	$Z = 4$ in phase I and phase II. Crystal structure of phase I and phase II: Table 41A-4-002, Table 41A-4-003, Table 41A-4-004, Table 41A-4-005; Fig. 41A-4-003, Fig. 41A-4-004.			
8a	Elastic stiffness: Table 41A-4-006, Table 41A-4-007; Fig. 41A-4-005, Fig. 41A-4-006. Acoustic velocity of transverse wave at $3.3 \cdot 10^6 \text{ Hz}$: Fig. 41A-4-007.			
9a	Rotation of optical indicatrix: Fig. 41A-4-008.			
10b	Temperature dependence of frequency shift and width of Brillouin scattering spectra of the c_{66} mode: Fig. 41A-4-009, Fig. 41A-4-010. Elastic stiffness obtained by Brillouin scattering: see Table 41A-4-006, Table 41A-4-007; Fig. 41A-4-006 in 8a.			
13a	NMR: quadrupole splitting of ^7Li : Fig. 41A-4-011. Principal values of electric field gradient tensor: Table 41A-4-008. NMR: quadrupole splitting of ^{133}Cs : Fig. 41A-4-012, Fig. 41A-4-013. Principal values of electric field gradient tensor: Table 41A-4-009.			
b	ESR: NH_3^+ spectrum at RT: Fig. 41A-4-014. at 160 K: Fig. 41A-4-015. VO^{2+} spectrum: Table 41A-4-010; Fig. 41A-4-016, Fig. 41A-4-017. Mn^{2+} spectrum: Fig. 41A-4-018, Fig. 41A-4-019. SO_3^- spectrum in X-ray irradiated crystal: see			
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14	Temperature dependence of diffraction intensity: Fig. 41A-4-020. Diffuse scattering: Fig. 41A-4-021.			