

No. M20-iv CsOH, Cesium hydroxide $(M = 149.91; [D: 150.92])$

1a	Dielectric anomaly associated with a phase transition at 232 K in CsOH was observed and possibility of antiferroelectricity was mentioned by Bastow et al. in 1987.				87Bas
b	phase	III ^{a)}	II ^{a)}	I ^{b)}	^{a)} 87Bas
	state	(A) ^{a)}	P ^{a)}		^{b)} 87Jac
	crystal system	orthorhombic ^{a)}	orthorhombic ^{a)}	cubic ^{b)}	
	space group	Pmnb – D _{2h} ¹⁶ ^{a)}	Bmmb – D _{2h} ¹⁷ ^{a)}	Fm3m – O _h ⁵ ^{b)}	
	Θ [K]	232 ^{a)} [D: 262] ^{a)}		498 ^{b)} [D: 460] ^{b)}	
	T _{melt} = 615.5 K.				90Kon
3a	Unit cell parameters: <i>a</i> = 4.3577(5) Å, <i>b</i> = 4.5238(5) Å, <i>c</i> = 12.018(1) Å at 293 K; <i>a</i> = 4.3280(4) Å, <i>b</i> = 4.4777(4) Å, <i>c</i> = 11.586(1) Å at 77 K. See also				87Bas 87Jac
b	<i>Z</i> = 4 in phase II, and <i>Z</i> = 2 in phase III. Crystal structure: Table M20-iv-001; Fig. M20-iv-001; see also				87Bas 87Jac
4	Thermal expansion: Fig. M20-iv-002.				
5a	Dielectric constant: Fig. M20-iv-003.				
6a	Heat capacity: Fig. M20-iv-004. Transition heat Δ <i>Q</i> _m and transition entropy Δ <i>S</i> _m :				90Kon
	phase transition	III–II	II–I	T _{melt}	
	Δ <i>Q</i> _m [J mol ^{–1}]	958	5400	7783	
	Δ <i>S</i> _m [J K ^{–1} mol ^{–1}]	4.095	10.84	12.65	
9a	Infrared spectra: see				89Hen
10a	Raman spectra: see				89Hen
13a	Deuteron NMR: see				86Amm