

No. 39A-21 Tl₂ZnI₄, Thallium tetraiodozincate*(M* = 981.77)

1a	Ferroelectricity in Ti_2ZnI_4 was discovered by Gesi in 1985.					85Ges
b	phase	(IV)	III	II	I ^{a)}	85Ges
	state		F	P		^{a)} 77Amm
	crystal system	monoclinic		monoclinic		^{b)} 79Amm
	space group	$(\text{P2}_1\text{--C}_2^2)^{\text{b)}}$		$\text{P2}_1/\text{m--C}_{2\text{h}}^2)^{\text{c)}}$		^{c)} 79Zan
	θ [K]	(150...160)		209	523 ^{a)}	
	$P_s \parallel [010]$.					85Ges
	$T_{\text{melt}} = 570 \text{ K}$.					77Amm
	Transparent, slightly yellowish.					85Ges
	Deliquescent.					85Ges
	Cleavage plane: (100).					85Ges
2a	Crystal growth: Bridgman method from melt.					85Ges
3a	Unit cell parameters: $a = 7.548(2) \text{ \AA}$, $b = 7.997(2) \text{ \AA}$, $c = 9.730(1) \text{ \AA}$, $\beta = 109.00(5)^\circ$ at RT.					79Zan
b	$Z = 2$ at RT.					79Zan
	Crystal structure at RT: see					79Zan
	Crystal structure at 113 K: see					79Amm
5a	Dielectric constant: Fig. 39A-21-001, Fig. 39A-21-002.					
	$d\theta_{\text{I-I}}/dp = -45 \text{ K GPa}^{-1}$.					85Ges
c	Spontaneous polarization: Fig. 39A-21-003.					
10a	Raman scattering: Fig. 39A-21-004.					
	Pressure dependence of Raman shift: see					82McO
11	Electrical conductivity: Fig. 39A-21-005.					