No. 1C-c67 $[Pb_{1-x}(La_{0.5}Li_{0.5})_x](Zr_yTi_{1-y})O_3$ (PLLZT)

1a	PLLZT has been prepared by Masuda in 1977.	77Mas
b	Phase diagram: Figs. 1C-c67-001...1C-c67-003.	
2a	Ceramics growth: Hot-press.	81Jyu
3a	Unit cell parameter: Fig. 1C-c67-004.	
5a	Dielectric constant: Figs. 1C-c67-005...1C-c67-007.	
c	Spontaneous polarization and coercive force: Figs. 1C-c67-008...1C-c67-010.	
9a	Birefringence: see	85Mas
b	Electrooptic effect: Fig. 1C-c67-011.	
e	Second harmonic generation: see	81Jyu

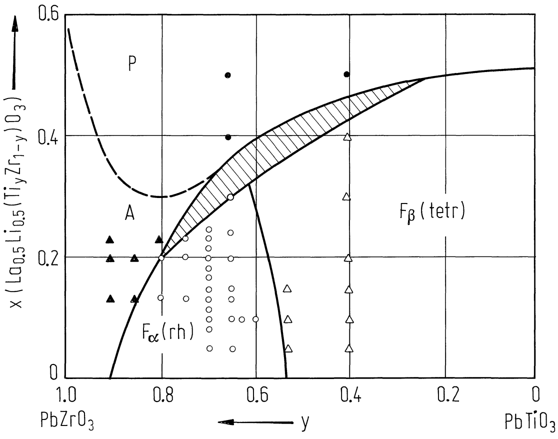

Fig. 1C-c67-001. $[Pb_{1-x}(La_{0.5}Li_{0.5})_x](Zr_yTi_{1-y})O_3$. Phase diagram [85Mas]. Shaded area: diffuse phase transition accompanied by dielectric relaxation.

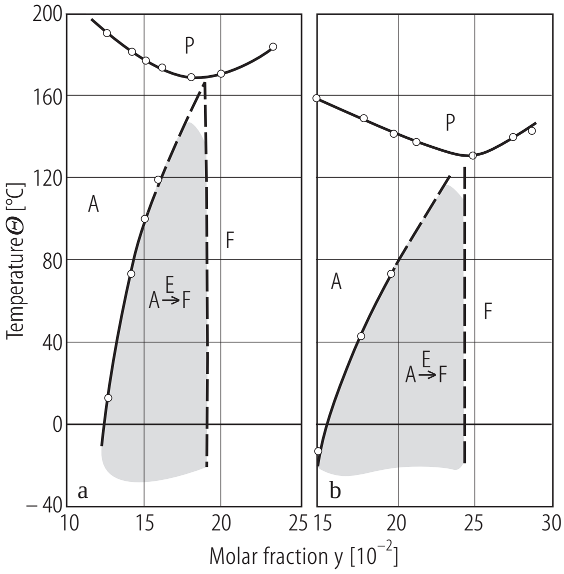

Fig. 1C-c67-002. $[Pb_{1-x}(Li_{1/2}La_{1/2})_x](Zr_{1-y}Ti_y)O_3$ (ceramics). Θ vs. y [94Ish1]. **(a)** x = 0.10. **(b)** x = 0.15.

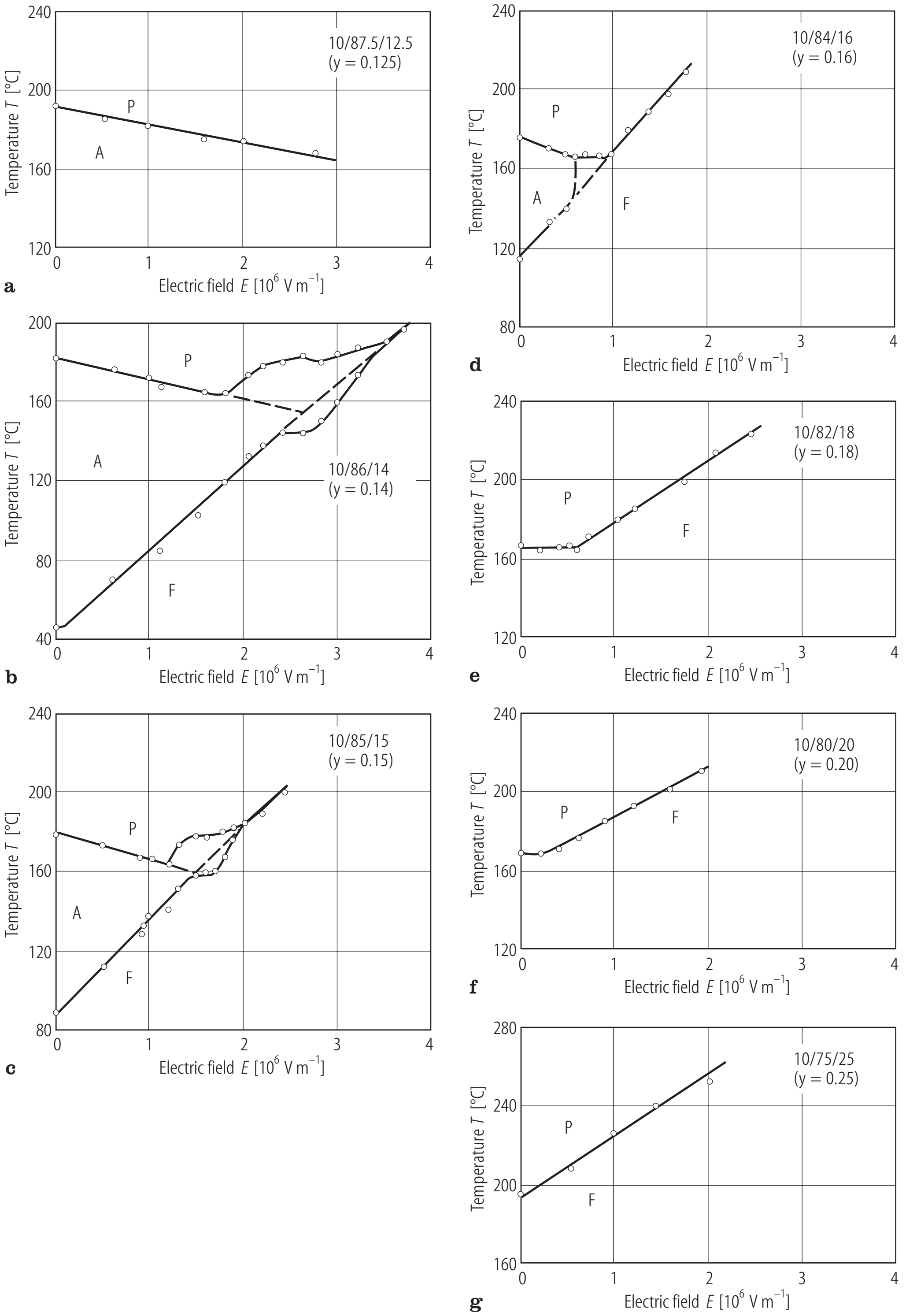

Fig. 1C-c67-003. $[Pb_{0.90}(Li_{1/2}La_{1/2})_{0.10}](Zr_{1-y}Ti_y)O_3$ (ceramics). *T*–*E* phase diagram [94Ish1].

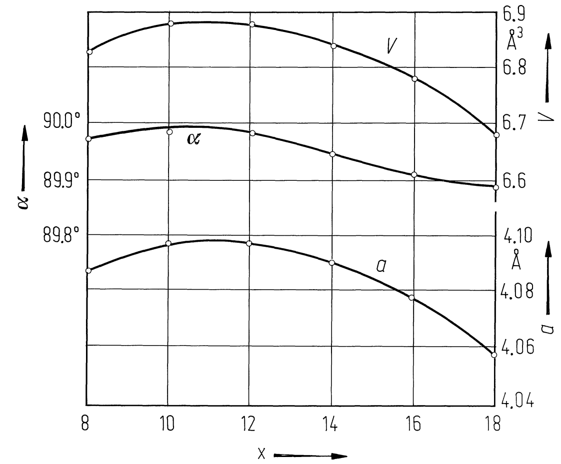

Fig. 1C-c67-004. $[Pb_{1-x}(La_{0.5}Li_{0.5})_x](Zr_{0.7}Ti_{0.3})O_3$. *a*, *α*, *V* vs. x [81Jyu]. *α*: rhombohedral angle. *V*: unit cell volume.

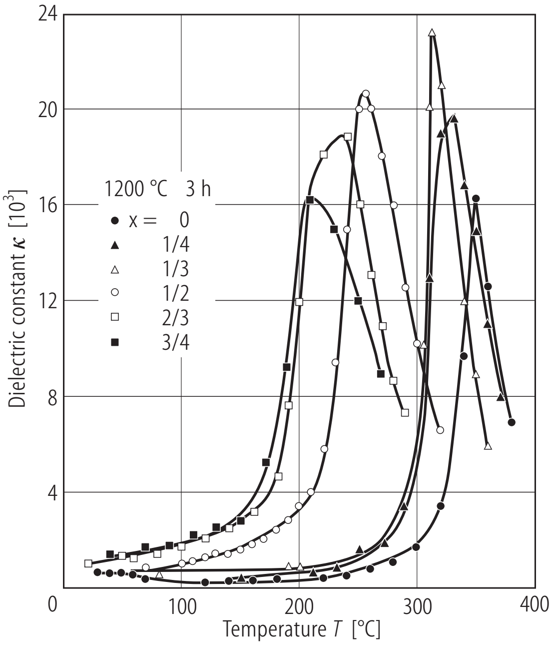

Fig. 1C-c67-005. $[Pb_{0.90}(La_xLi_{1-x})_{0.10}](Zr_{0.65}Ti_{0.35})O_3$. κ vs. T [89Mas]. Parameter: x.

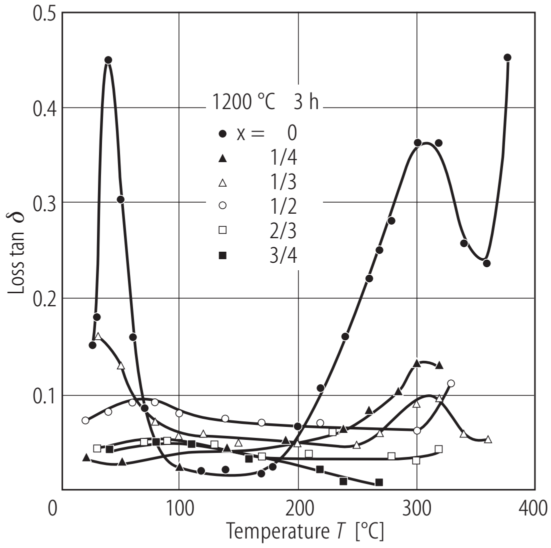

Fig. 1C-c67-006. $[Pb_{0.90}(La_xLi_{1-x})_{0.10}](Zr_{0.65}Ti_{0.35})O_3$. $\tan\delta$ vs. T [89Mas]. f = 1 kHz. $\tan\delta$: dissipation factor. Parameter: x.

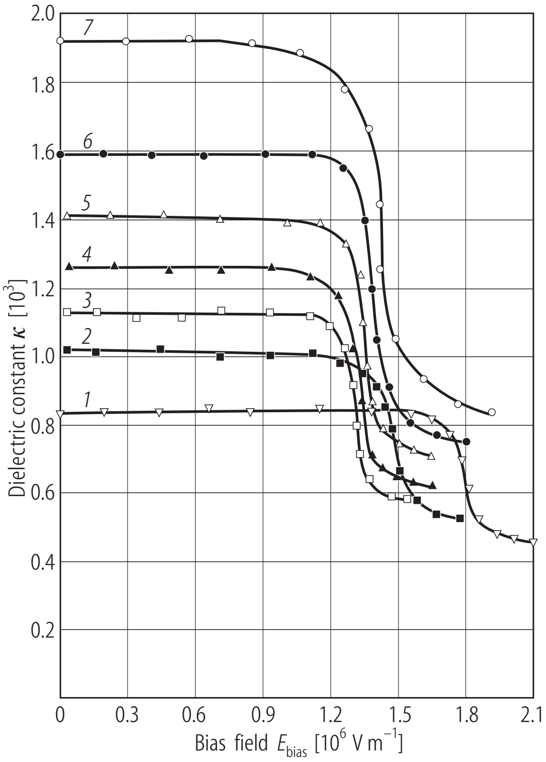

Fig. 1C-c67-007. $[Pb_{0.90}(Li_{1/2}La_{1/2})_{0.10}](Zr_{0.85}Ti_{0.15})O_3$ (ceramics). κ vs. E_{bias} [94Ish2]. f = 1 kHz. Parameter: T. *1*: T = –61 °C. *2*: 0 °C. *3*: 21 °C. *4*: 38 °C. *5*: 64 °C. *6*: 86 °C. *7*: 110 °C.

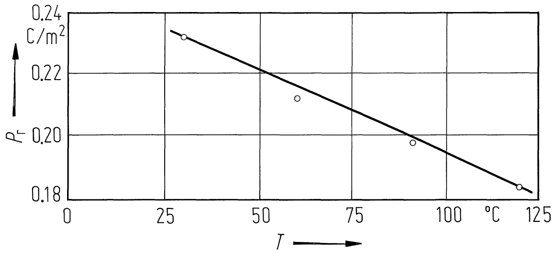

Fig. 1C-c67-008. $[Pb_{0.9}(La_{0.5}Li_{0.5})_{0.1}](Zr_{0.65}Ti_{0.35})O_3$ (ceramics). P_r vs. T [83Mas].

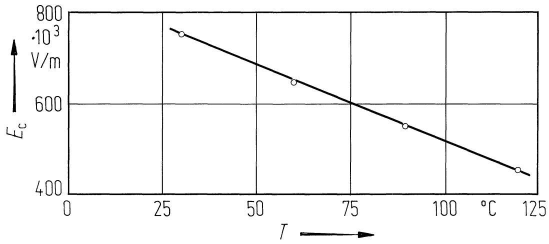

Fig. 1C-c67-009. $[Pb_{0.9}(La_{0.5}Li_{0.5})_{0.1}](Zr_{0.65}Ti_{0.35})O_3$ (ceramics). E_c vs. T [83Mas].

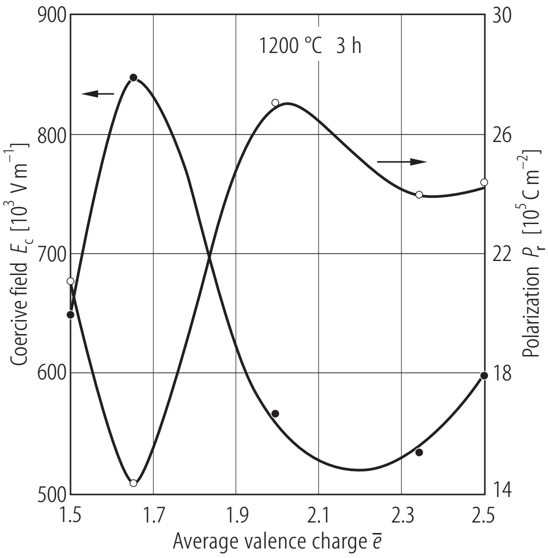

Fig. 1C-c67-010. $[Pb_{0.90}(La_xLi_{1-x})_{0.1}](Zr_{0.65}Ti_{0.35})O_3$ (ceramics). P_r, E_c vs. $\bar{e}$ [89Mas]. $\bar{e}$: average valance charge of La_xLi_{1-x} in $|e|$. e: charge of electron.

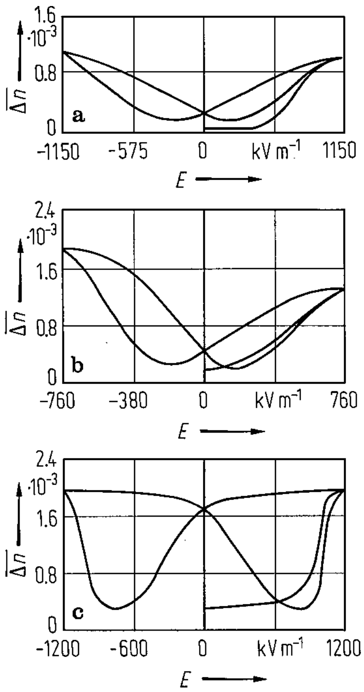

Fig. 1C-c67-011. $[Pb_{1-x}(La_{1/2}Li_{1/2})_x](Zr_{0.53}Ti_{0.47})O_3$ (ceramics). $\overline{\Delta n}$ vs. E [77Mas]. **(a)** x = 0.05, t = 210 μm ; **(b)** x = 0.10, t = 140 μm ; **(c)** x = 0.15, t = 69 μm. $\overline{\Delta n}$: effective birefringence, t = thickness of specimen. λ = 633 nm.

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