No. 1C-a41 $BaTiO_3$–$PbTiO_3$

1b	Phase diagram: Fig. 1C-a41-001.	
3a	Lattice parameters: Fig. 1C-a41-002.	
5a	Dielectric constant: Fig. 1C-a41-003, Fig. 1C-a41-004. Pressure effect on dielectric property: Fig. 1C-a41-005.	
6a	Specific heat: Fig. 1C-a41-006.	
7a	Electromechanical property: Table 1C-a41-001.	
10a	Raman scattering: Fig. 1C-a41-007, Fig. 1C-a41-008.	
11	Electrical resistivity: Fig. 1C-a41-009. PTCR effect: see	94Lai
16	Preparation by sol-gel method: see	94JoK

Table 1C-a41-001. $(Ba_{1-x}Pb_x)TiO_3$. Electromechanical properties [68Bun].

x	s_{11}^{E} [$\cdot 10^{-11}$ m^2N^{-1}]	s' *) [$\cdot 10^{-11}$ m^2N^{-1}]	d_{31} [$\cdot 10^{-12}$ CN^{-1}]	k_{31}	Θ_f [°C]	ρ [$\cdot 10^3$ kg m^{-3}]
0	0.78	0.54	41	0.30	120	6.00
0.02	0.77	0.48	40	0.35	130	6.10
0.04	0.76	0.46	37	0.35	139	6.18
0.06	0.74	0.45	30	0.32	150	6.22

*) $s' = (2s_{11}^{E}+2s_{12}^{E}+s_{66}) / 4$.

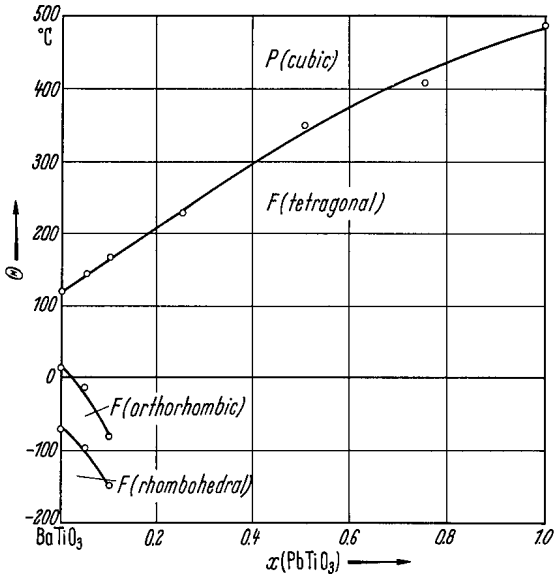

Fig. 1C-a41-001. $(Ba_{1-x}Pb_x)TiO_3$. Θ vs. x [51Shi1].

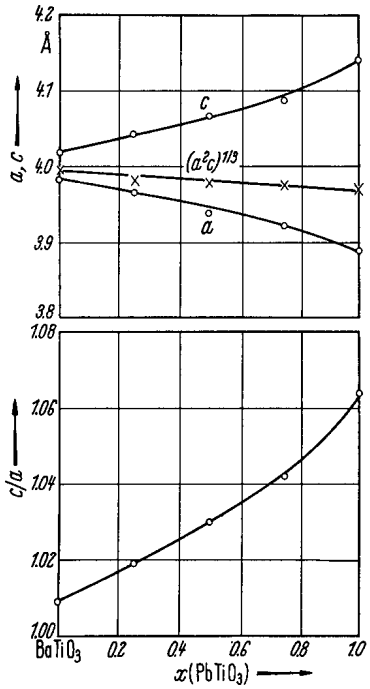

Fig. 1C-a41-002. $(Ba_{1-x}Pb_x)TiO_3$. *a*, *c*, *a/c* vs. x [50Shi].

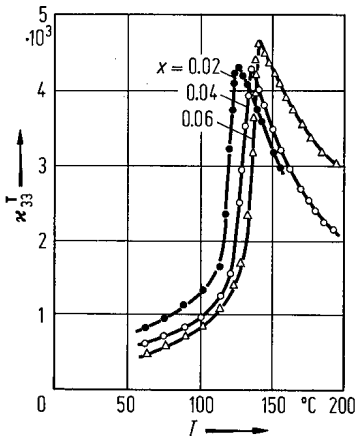

Fig. 1C-a41-003. $(Ba_{1-x}Pb_x)TiO_3$. κ_{33}^T vs. T [68Bun]. Parameter: x. Crystals were grown by flux (KF) method. f = 5 kHz.

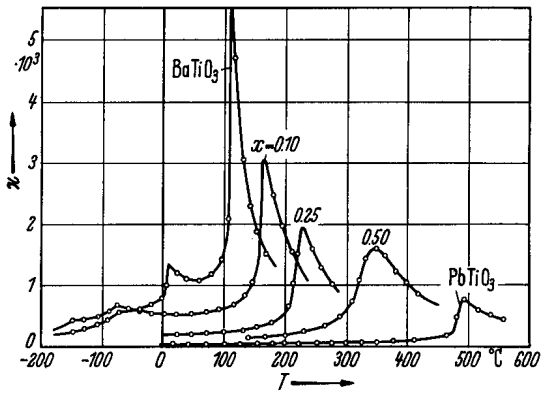

Fig. 1C-a41-004. $(Ba_{1-x}Pb_x)TiO_3$ (ceramics). κ vs. T [51Shi1]. Parameter: x. f = 1 MHz.

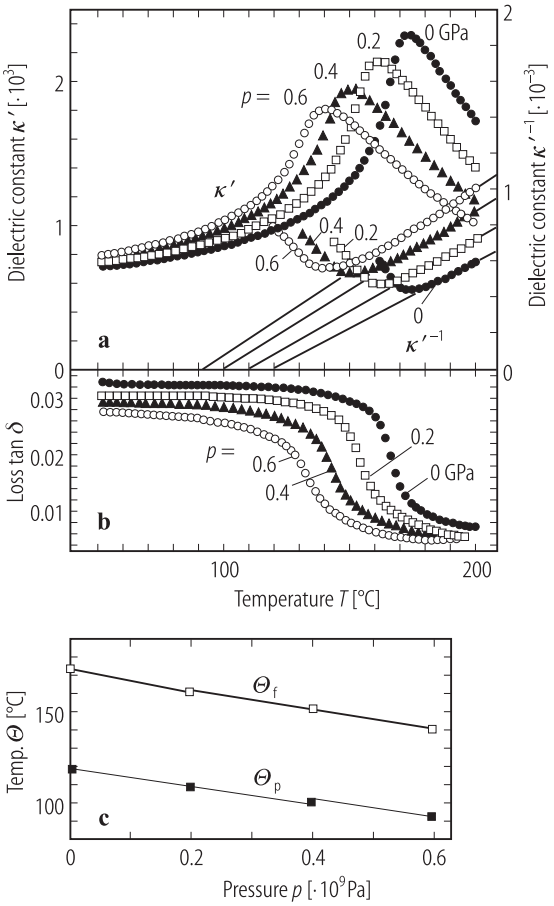

Fig. 1C-a41-005. $(Ba_{0.9}Pb_{0.1})TiO_3$ (ceramics). κ' vs. T (**a**), $\tan\delta$ vs. T (**b**) and Θ_f, Θ_p vs. p (**c**) [94Yas]. p: hydrostatic pressure. f = 100 kHz.

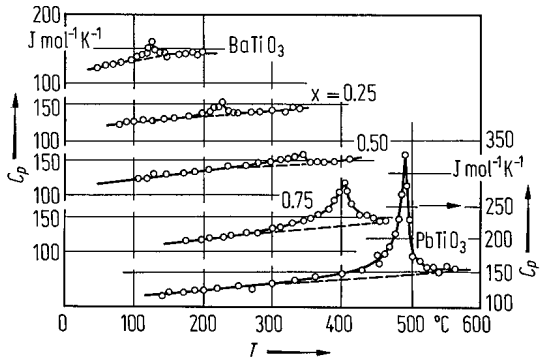

Fig. 1C-a41-006. $(Ba_{1-x}Pb_x)TiO_3$. C_p vs. T [51Shi2]. Parameter: x.

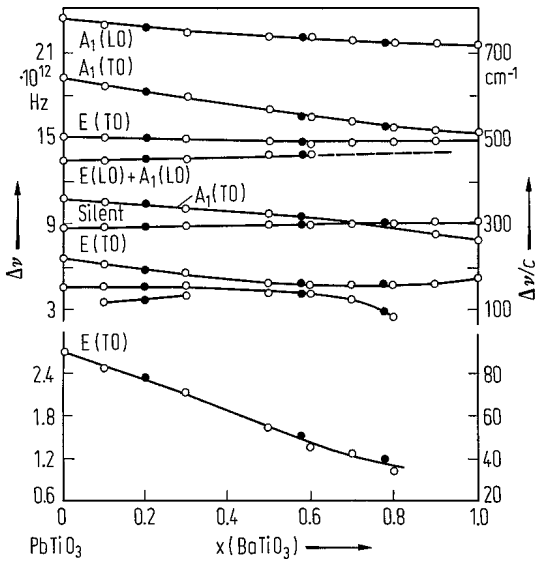

Fig. 1C-a41-007. $(Pb_{1-x}Ba_x)TiO_3$. $\Delta\nu$ vs. x. $\Delta\nu$: Raman frequency shift. Open circles: powder sample [71Bur], solid circles: single crystal [74Bur].

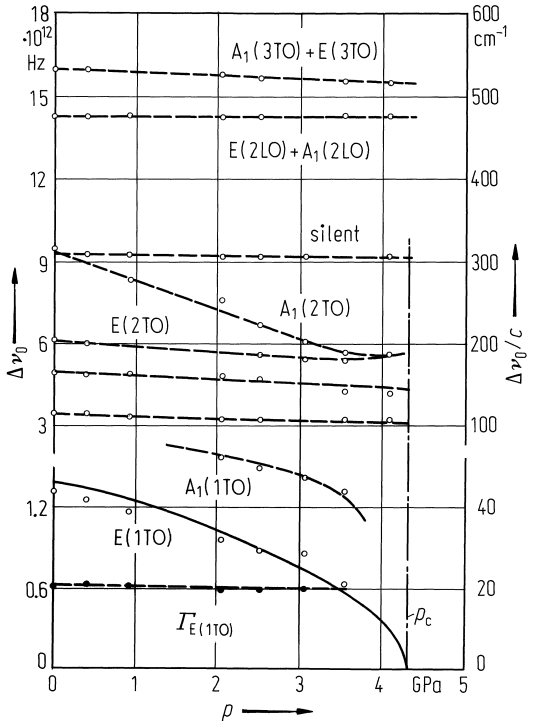

Fig. 1C-a41-008. $(Ba_{0.78}Pb_{0.22})TiO_3$. $\Delta\nu_0$ vs. p [84Bur]. $\Delta\nu_0$: Raman shift at 300 K. n-th higher order modes are denoted by n TO or n LO. Γ_E: damping constant of the soft E(1TO) mode. p_c: critical pressure.

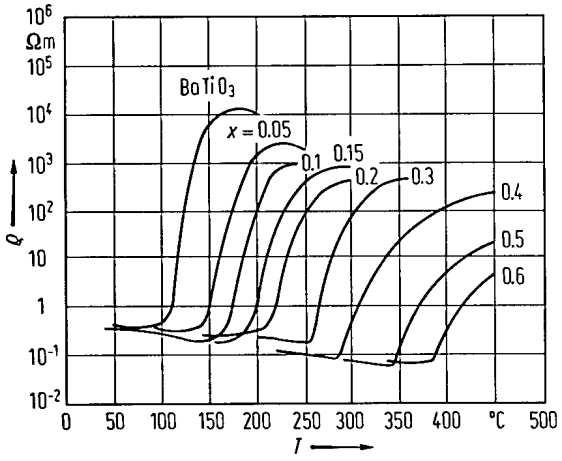

Fig. 1C-a41-009. $(Ba_{1-x}Pb_x)TiO_3$ (ceramics doped with 0.15 mol % La_2O_3). ρ vs. T [70And]. Parameter: x. ρ: resistivity.

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