

50B Solid solution**No. 50B-1 $\text{SC}(\text{NH}_2)_2\text{--OC}(\text{NH}_2)_2$**

1b	Phase diagram: Fig. 50B-1-001, Fig. 50B-1-002; see also	92Yoo
5a, b	Dielectric constant: Fig. 50B-1-003, Fig. 50B-1-004, Fig. 50B-1-005, Fig. 50B-1-006; see also Fig. 50B-1-011 and	89Ono, 90Ono, 92Cho, 92Yoo
	Effects of bias field: Fig. 50B-1-007, 50B-1-008; see also Memory effects: Fig. 50B-1-009, Fig. 50B-1-010.	92Yoo
9a	Birefringence: Fig. 50B-1-011, Fig. 50B-1-012; see also	92Cho, 94Cho
14a	Lattice modulation: Fig. 50B-1-013, Fig. 50B-1-014, Fig. 50B-1-015.	

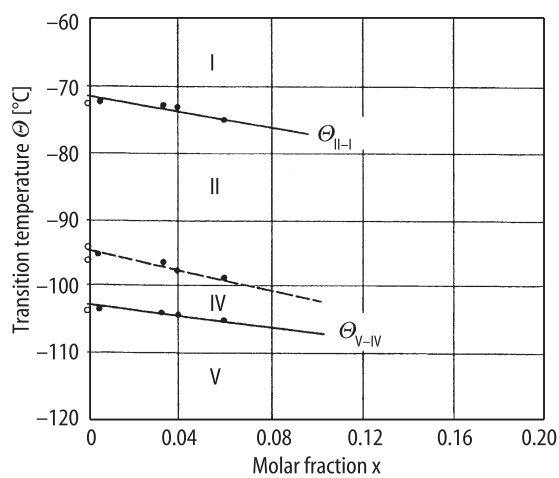


Fig. 50B-1-001. $\text{S}_{1-x}\text{O}_x\text{C}(\text{NH}_2)_2$. Θ vs. x [85Shi]. DTA and dielectric measurement.

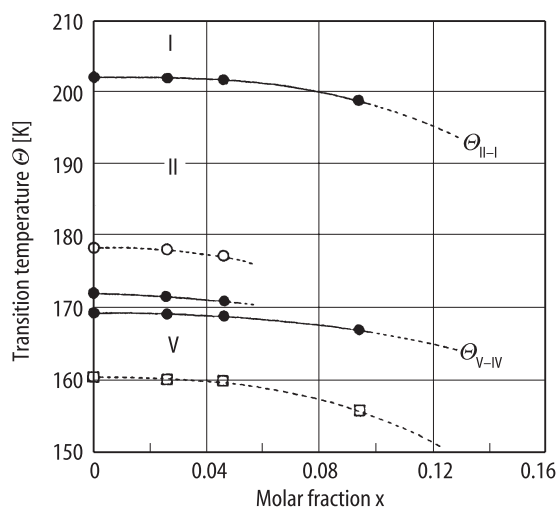


Fig. 50B-1-002. $\text{S}_{1-x}\text{O}_x\text{C}(\text{NH}_2)_2$. Θ vs. x [93Yoo]. Obtained by dielectric measurement on cooling.

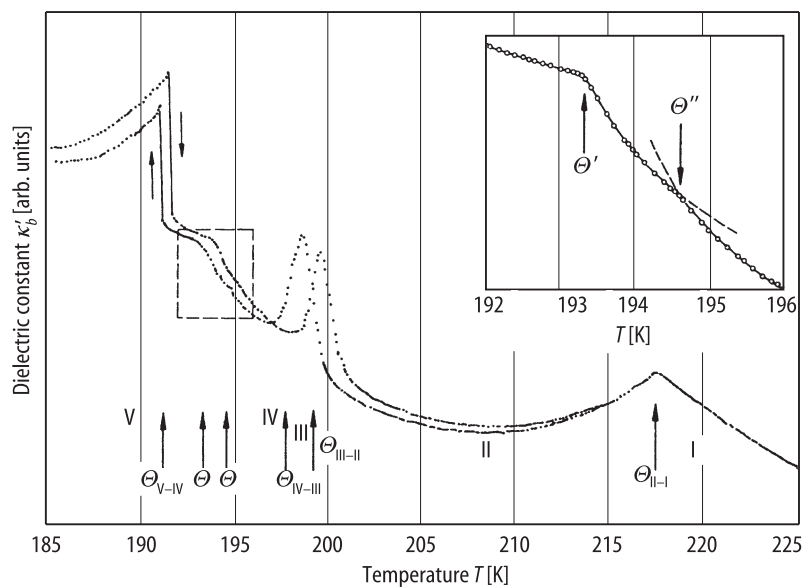


Fig. 50B-1-003. $\text{S}_{1-x}\text{O}_x\text{C}(\text{ND}_2)_2$, κ'_b vs. T on cooling and heating runs [88Ono1]. $x \cong 0.01$. $f = 10$ kHz.

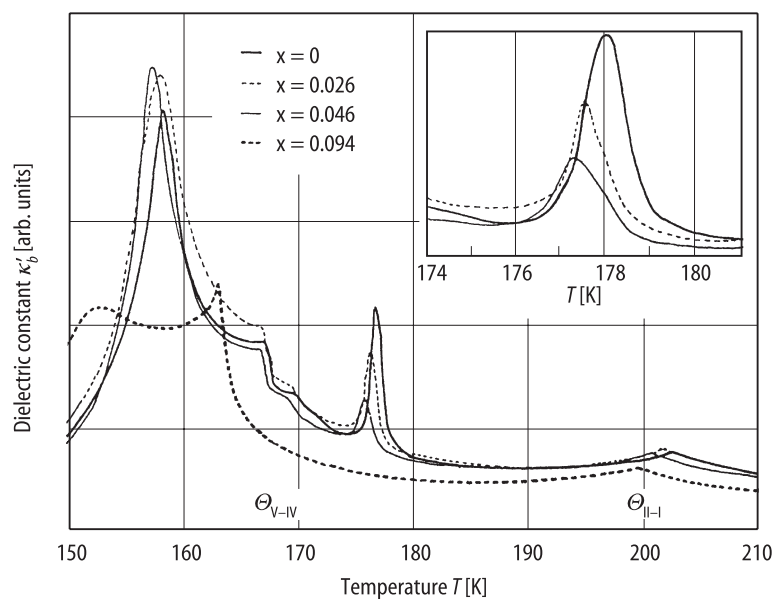


Fig. 50B-1-004. $\text{S}_{1-x}\text{O}_x\text{C}(\text{NH}_2)_2$, κ'_b vs. T on cooling run [93Yoo]. Parameter: x . $f = 1$ kHz.

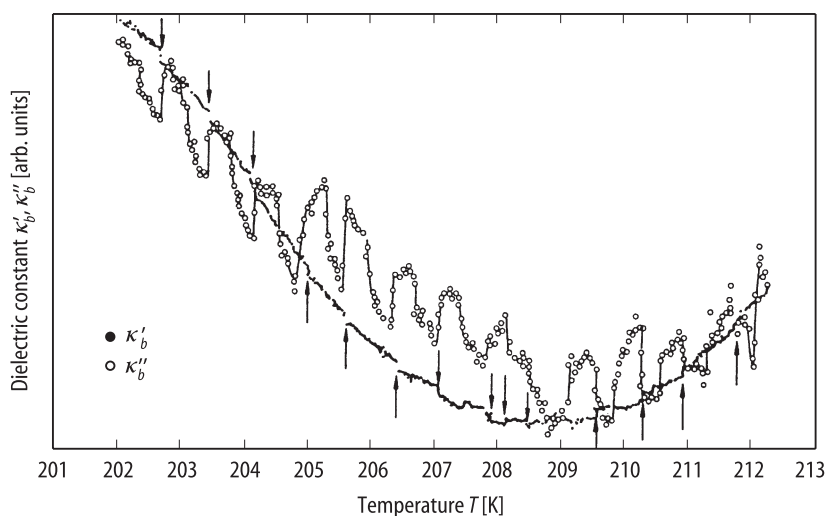


Fig. 50B-1-005. $\text{S}_{1-x}\text{O}_x\text{C}(\text{ND}_2)_2$. κ'_b, κ''_b vs. T in phase II at the constant temperature scan rate of $0.5 \cdot 10^{-3}$ K/min [88Ono1]. $x \cong 0.01$. $f = 10$ kHz. Arrows indicate discontinuities in κ'_b .

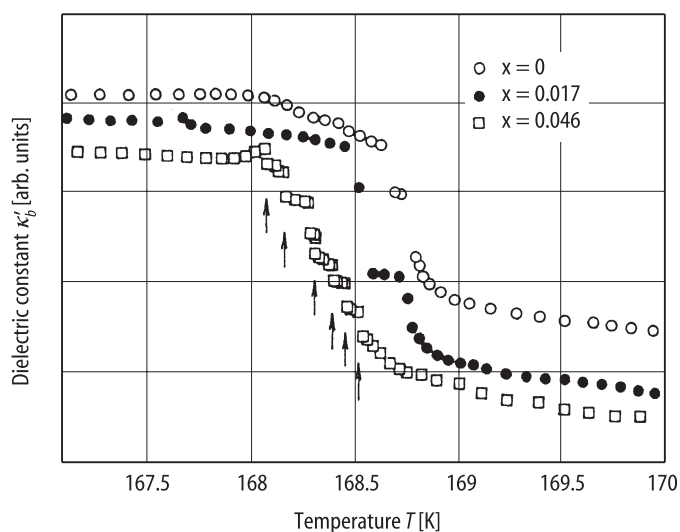


Fig. 50B-1-006. $\text{S}_{1-x}\text{O}_x\text{C}(\text{NH}_2)_2$. κ'_b vs. T at constant cooling rate of $1 \cdot 10^{-3}$ K/min [93Yoo]. Parameter: x . $f = 1$ kHz. Arrows indicate discontinuities in κ'_b .

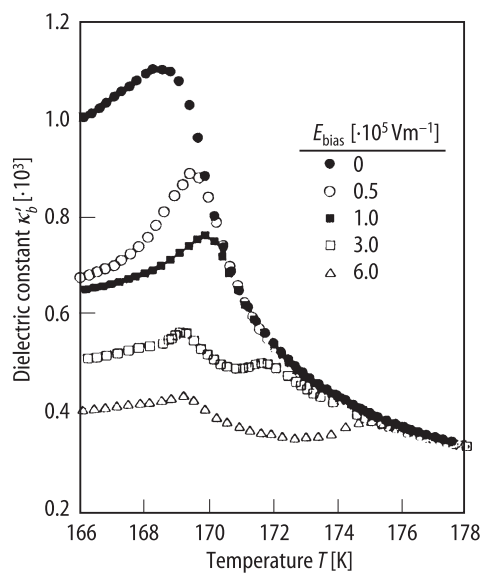


Fig. 50B-1-007. $\text{S}_{0.91}\text{O}_{0.09}\text{C}(\text{NH}_2)_2$. κ'_b vs. T [93Cho]. Parameter: E_{bias} .

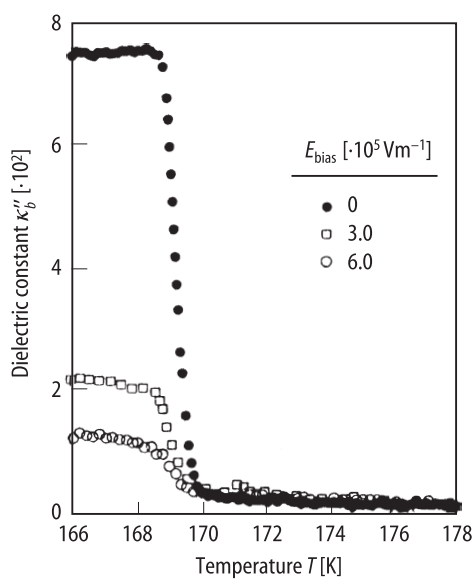


Fig. 50B-1-008. $\text{S}_{0.91}\text{O}_{0.09}\text{C}(\text{NH}_2)_2$. κ''_b vs. T [93Cho]. Parameter: E_{bias} .

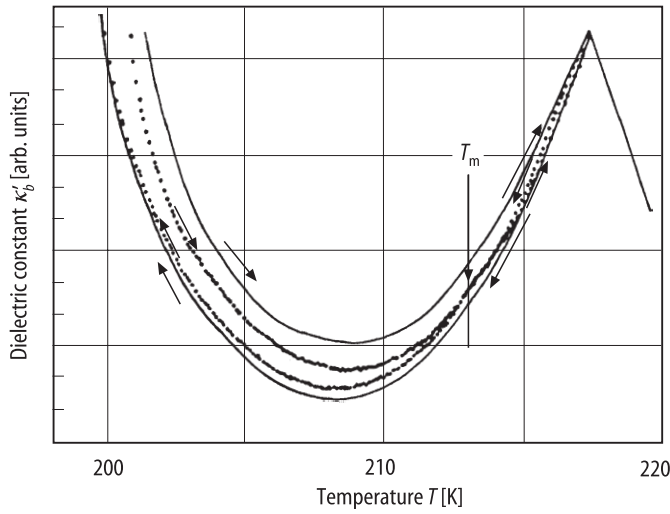


Fig. 50B-1-009. $\text{S}_{1-x}\text{O}_x\text{C}(\text{ND}_2)_2$. κ'_b vs. T [88Ono2]. $x \cong 0.01$. $f = 10$ kHz. Temperature scanning rate was 0.3 K/min. Before the measurements, the sample was heated from phase V to $T_m = 213.0$ K and kept at T_m for 24 hours. Dielectric constants were measured starting from T_m down to 199 K, up to 217 K (just below Θ_{1-1}) and down to 199 K. The temperature cycle was repeated 3 times and the results coincided. Global thermal hysteresis curves, a part of Fig. 50B-1-003, are shown by lines. T_m : a selected temperature to observe the memory effect.

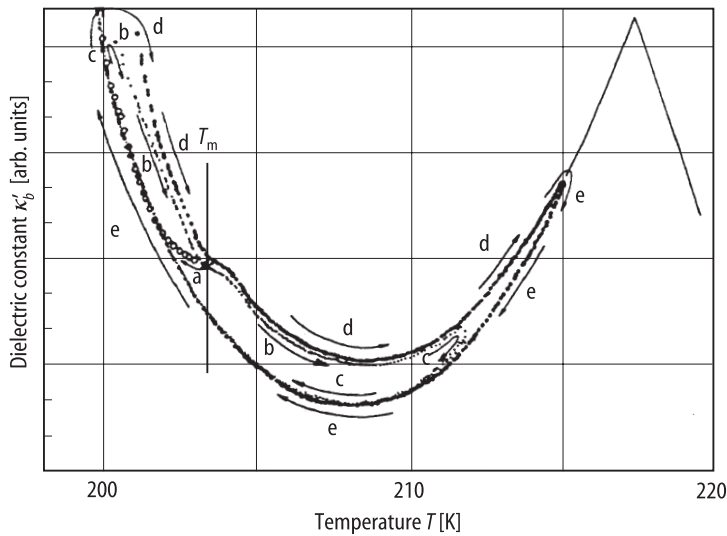


Fig. 50B-1-010. $\text{S}_{1-x}\text{O}_x\text{C}(\text{ND}_2)_2$. κ'_b vs. T [88Ono2]. $x \cong 0.01$. $f = 10$ kHz. Temperature scanning rate was $5 \cdot 10^{-3}$ K/min. Before the measurements, the sample was heated from phase V to $T_m = 203.5$ K and kept at T_m for 12 hours. Dielectric constants were measured as follows: starting from the point (*) at T_m , (a) down to 200 K (open circle), (b) up to 212 K (small full circle), (c) down to 200 K (small full circle), (d) up to 215 K (full circle), (e) down to 200 K (full circle). A part of Fig. 50B-1-003 is shown by the line. T_m : a selected temperature to observe the memory effect.

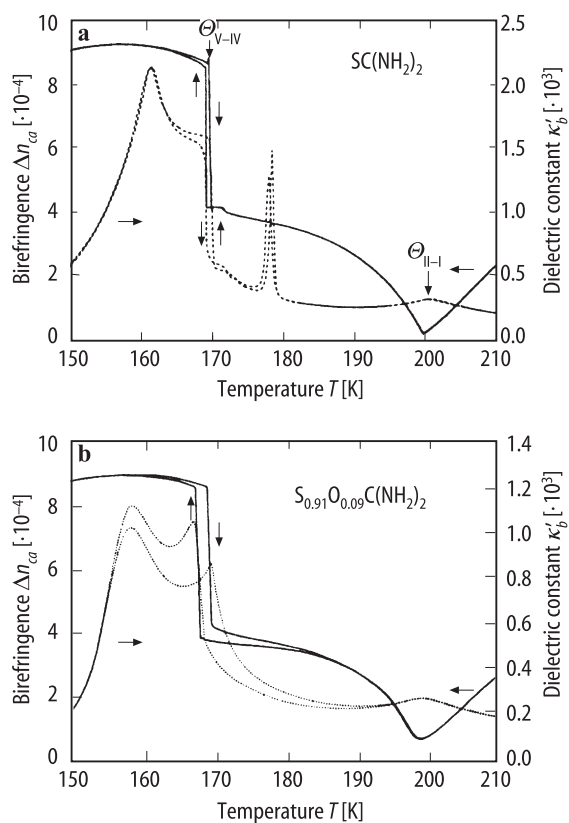


Fig. 50B-1-011. $\text{SC(NH}_2)_2$ (a), $\text{S}_{0.91}\text{O}_{0.09}\text{C(NH}_2)_2$ (b). Δn_{ca} , κ'_b vs. T [93Cho]. $\lambda = 632.8$ nm. $\Delta n_{ca} = n_c - n_a$.

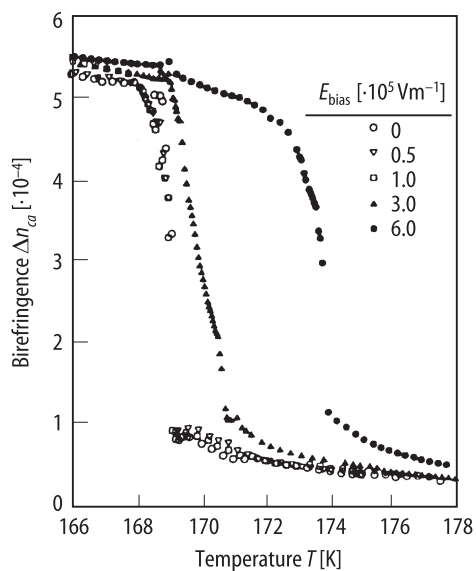


Fig. 50B-1-012. $\text{S}_{0.91}\text{O}_{0.09}\text{C(NH}_2)_2$. Δn_{ca} vs. T [93Cho]. Parameter: E_{bias} , $\lambda = 632.8$ nm. $\Delta n_{ca} = n_c - n_a$.

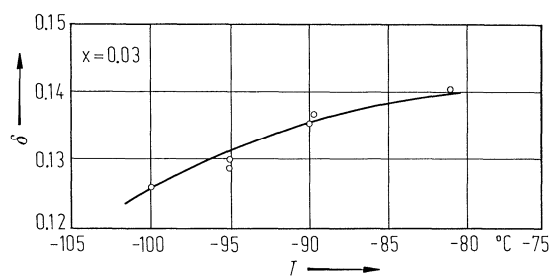


Fig. 50B-1-013. $\text{S}_{1-x}\text{O}_x\text{C}(\text{NH}_2)_2$. δ vs. T [85Shi]. $x = 0.03$. δ : reduced wave vector of lattice modulation.

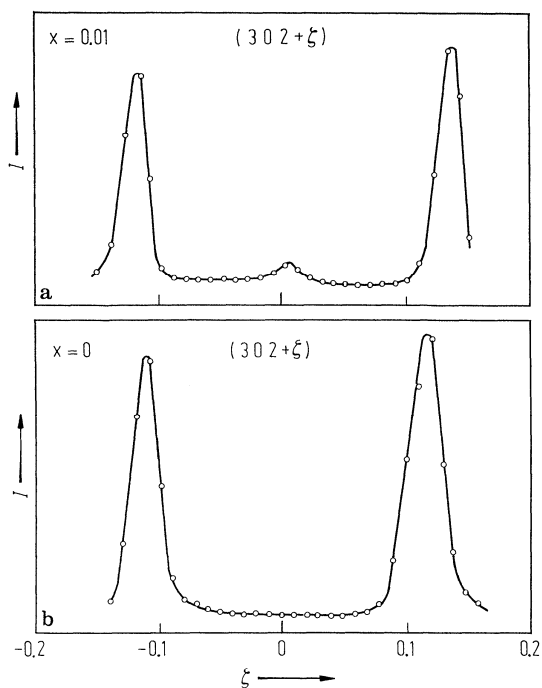


Fig. 50B-1-014. $\text{S}_{1-x}\text{O}_x\text{C}(\text{NH}_2)_2$. X-ray scattering intensities I around the (302) reciprocal lattice point [85Shi]. (a) $x = 0.01$, $T = -95^{\circ}\text{C}$, (b) $x = 0$ (pure thiourea), $T = -95^{\circ}\text{C}$.

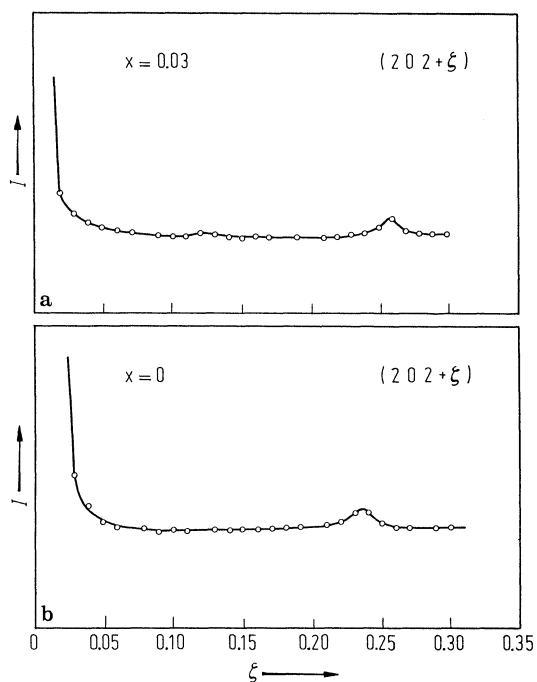


Fig. 50B-1-015. $\text{S}_{1-x}\text{O}_x\text{C}(\text{NH}_2)_2$. X-ray scattering intensities I around the (202) reciprocal lattice point [85Shi].
(a) $x = 0.03$, $T = -95^\circ\text{C}$, **(b)** $x = 0$ (pure thiourea), $T = -95^\circ\text{C}$.

References

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