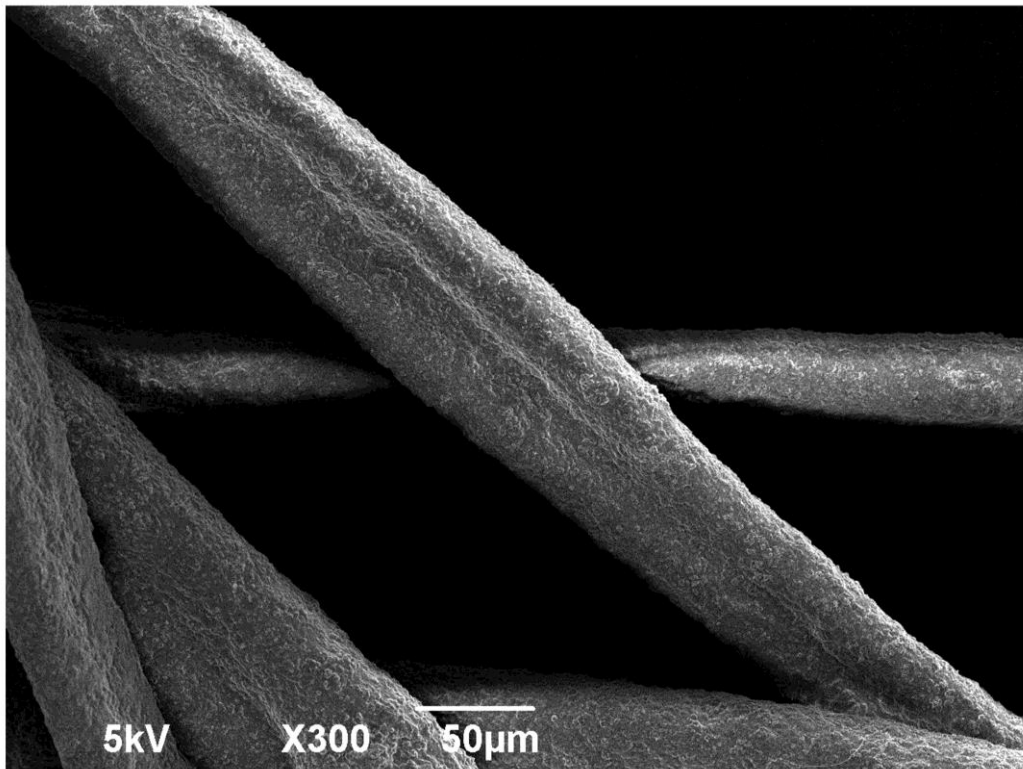


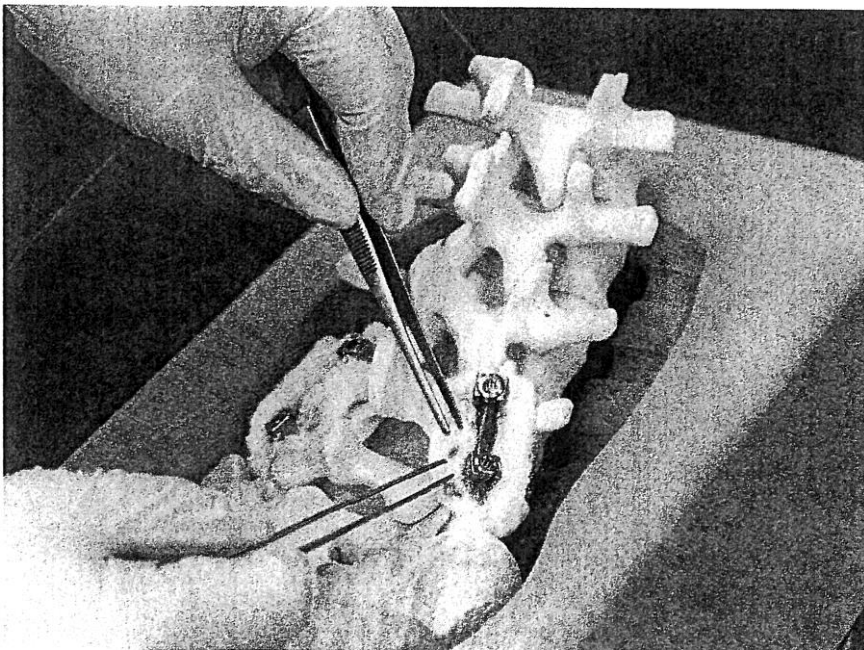
[Figure 1]



[Figure 2]



[Figure 3]



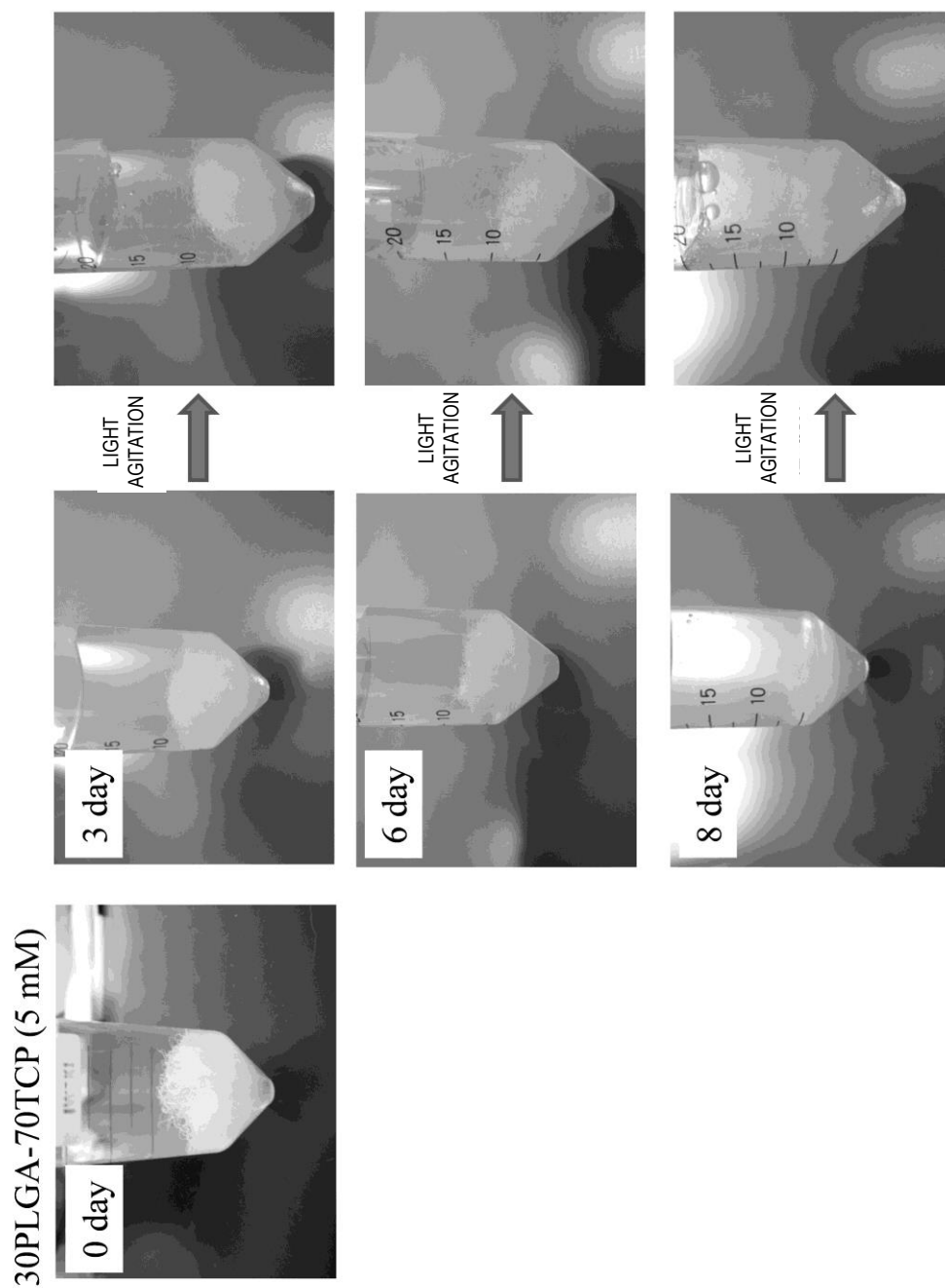
[Figure 4 (1)]

Mixing ratio of resin and β -TCP	Temperature	Viscosity	Time for Kneading	Results of Kneading	ES results
(1) PLLGA/ β -TCP : 30/70	185°C	Lower than working viscosity range	Polymer alone was kneaded for 3 and half minutes and then powder was mixed and the mixture was kneaded for 11 minutes	A part of PLLGA was stuck to wall surface of kneader and remaining part of β -TCP powder remained unmixed with PLLGA.	Not conducted
(2) PLLGA/ β -TCP : 30/70	165°C	Within working viscosity range	Polymer alone was kneaded for 3 and half minutes and then powder was mixed and the mixture was kneaded for 11 minutes	All of provided β -TCP powder was mixed with and dispersed in PLLGA and no powder was observed to remain.	Fiber was produced stably by ES at a 8% concentration of PLLGA in chloroform
(3) PLLGA/ β -TCP : 30/70	115°C	Higher than working viscosity range	Polymer alone was kneaded for 3 and half minutes and then powder was mixed and the mixture was kneaded for 11 minutes	PLLGA was not softened enough and β -TCP was not mixed with PLLGA	Not conducted
(4) PLLGA/ β -TCP : 50/50	165°C	Within working viscosity range	Polymer alone was kneaded for 3 and half minutes and then powder was mixed and the mixture was kneaded for 11 minutes	All powder of β -TCP was successfully mixed with and dispersed in PLLGA. Powder was not observed to remain after kneading.	Fiber was produced stably by ES at a 8% concentration of PLLGA in chloroform

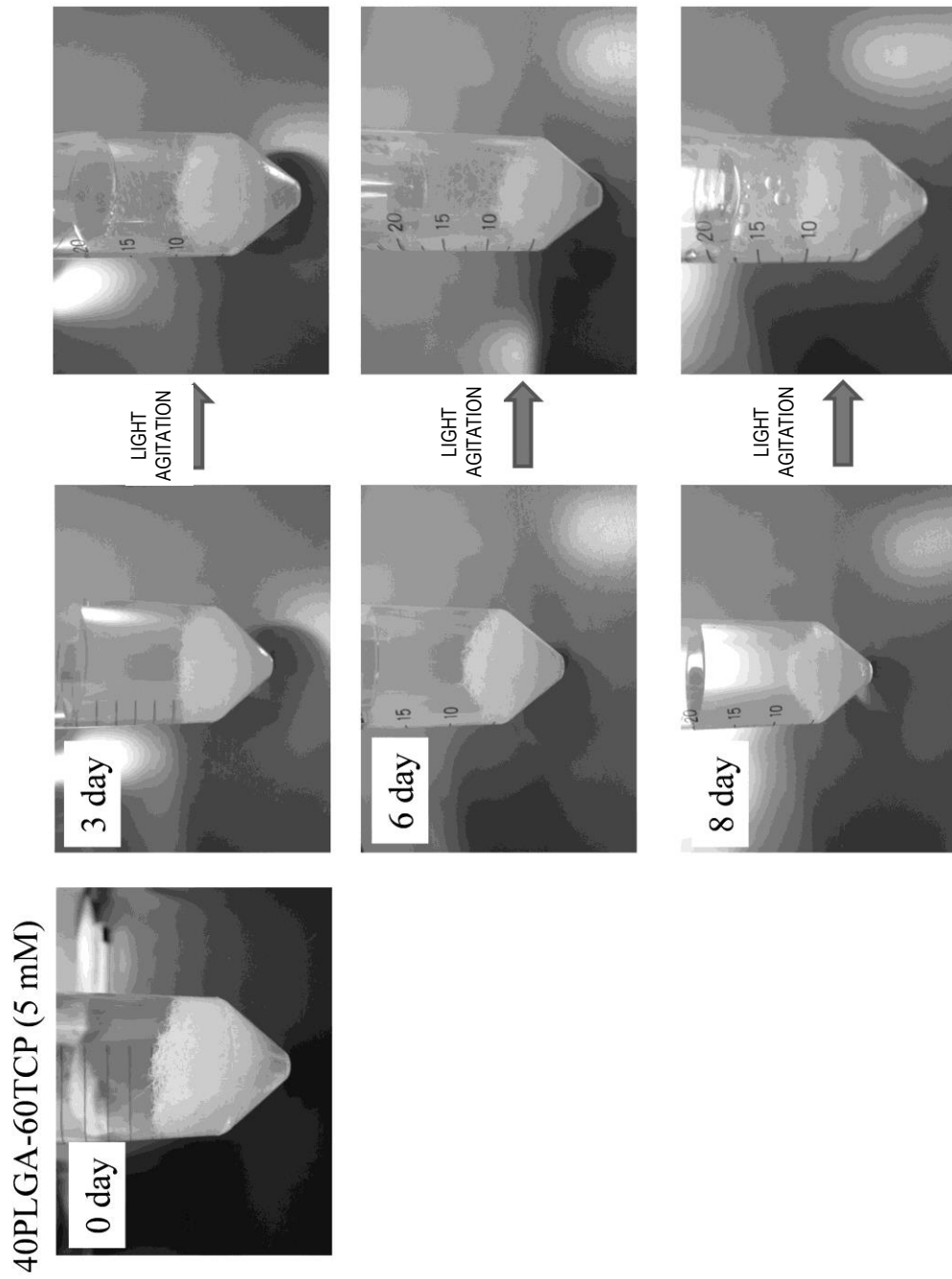
[Figure 4 (2)]

Mixing ratio of resin and β -TCP	Temperature	Viscosity	Time for kneading	Results of kneading	ES results
(5) PDLGA/ β -TCP : 30/70	140°C	Higher than working viscosity range	Polymer alone was kneaded for 3 and half minutes and then powder was mixed and the mixture was kneaded for 11 minutes	PDLGA was not softened enough and β -TCP was not mixed	Not conducted
(6) PDLGA/ β -TCP : 30/70	165°C	Within working viscosity range	Polymer alone was kneaded for 3 and half minutes and then powder was mixed and the mixture was kneaded for 11 minutes	Some PDLGA was attached to blades of the kneader. A slight amount of β -TCP was not mixed and remained.	Not conducted
(7) PDLGA/ β -TCP : 30/70	165°C	Within working viscosity range	Polymer and powder were provided to kneader at the same time and mixed and kneaded for 14 and half minutes	Total amount of provided β -TCP powder was successfully mixed with PDLGA. Powder was not observed to remain after kneading.	Fiber was successfully produced at a 12% concentration of PDLGA in chloroform, but did not become cottonwool-like after drying.
(8) PDLGA/ β -TCP : 50/50	165°C	Within working viscosity range	Polymer alone was kneaded for 3 and half minutes and then powder was mixed and the mixture was kneaded for 11 minutes	Some PDLGA was attached to blades of the kneader. A slight amount of β -TCP was not mixed and remained.	Not conducted
(9) PDLGA/ β -TCP : 50/50	165°C	Within working viscosity range	Polymer and powder were provided to kneader at the same time and mixed and kneaded for 14 and half minutes	All powder of provided β -TCP was successfully mixed with total amount of PDLGA. Powder was not observed to remain after kneading.	Not conducted

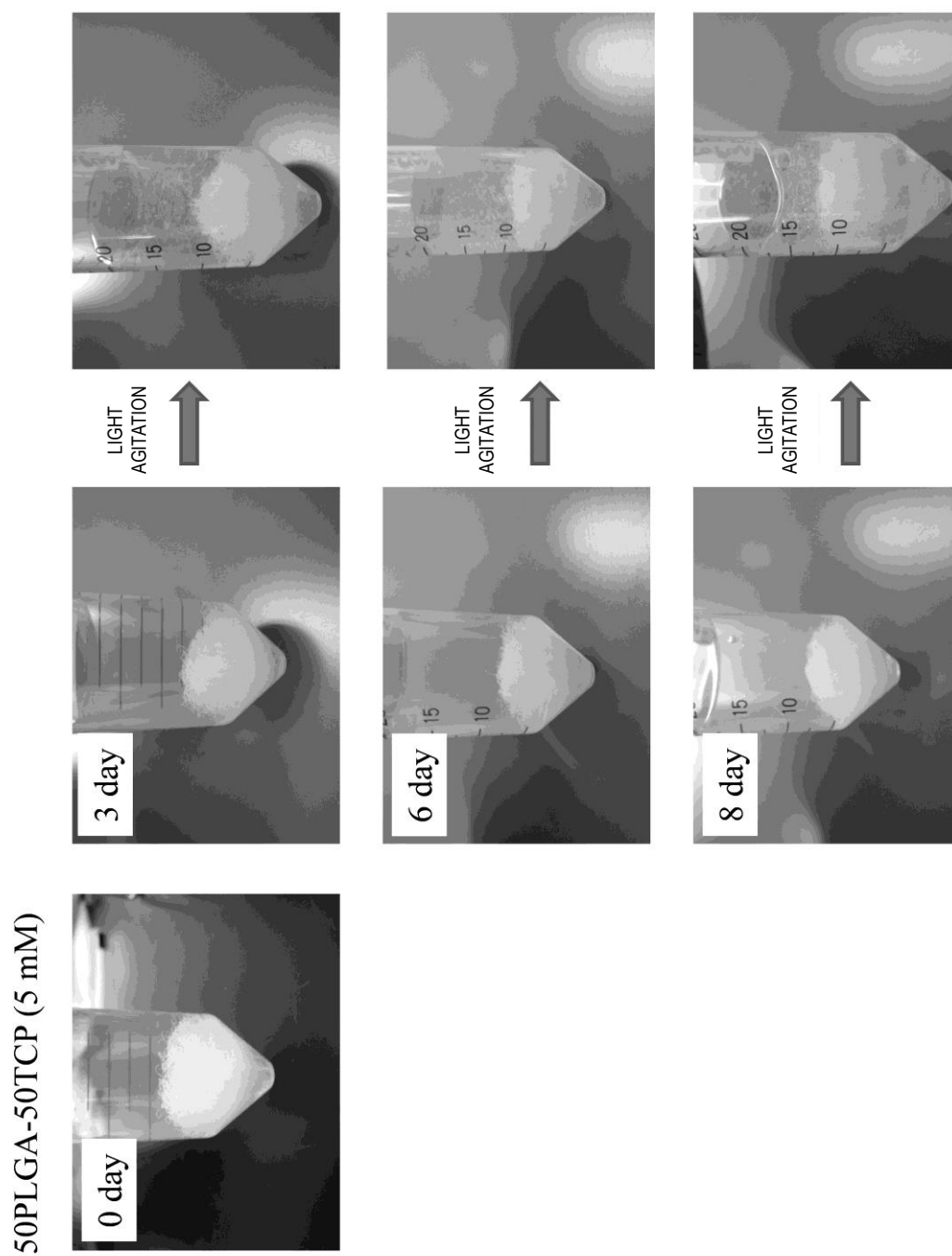
[Figure 5 (1)]



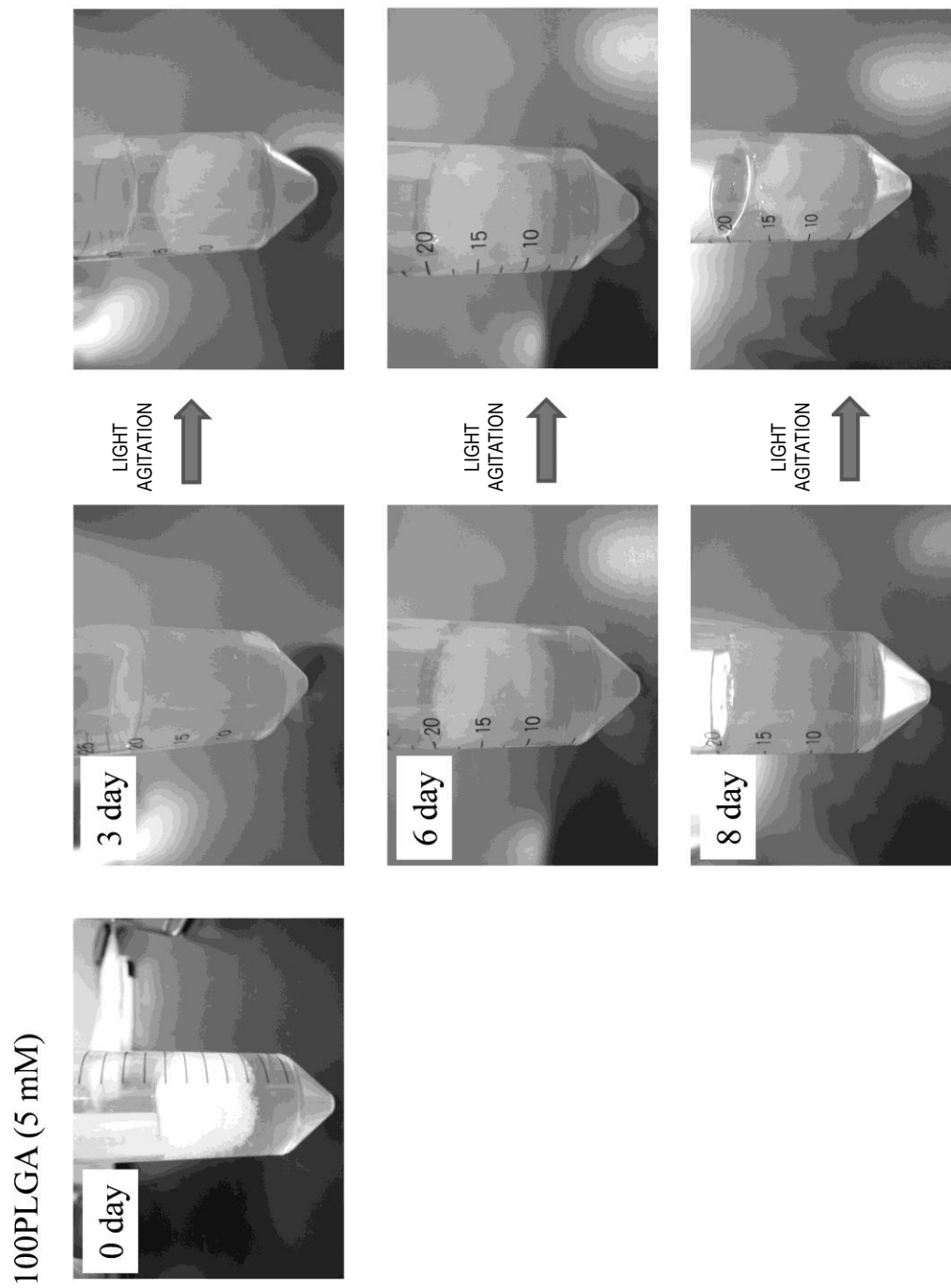
[Figure 5 (2)]



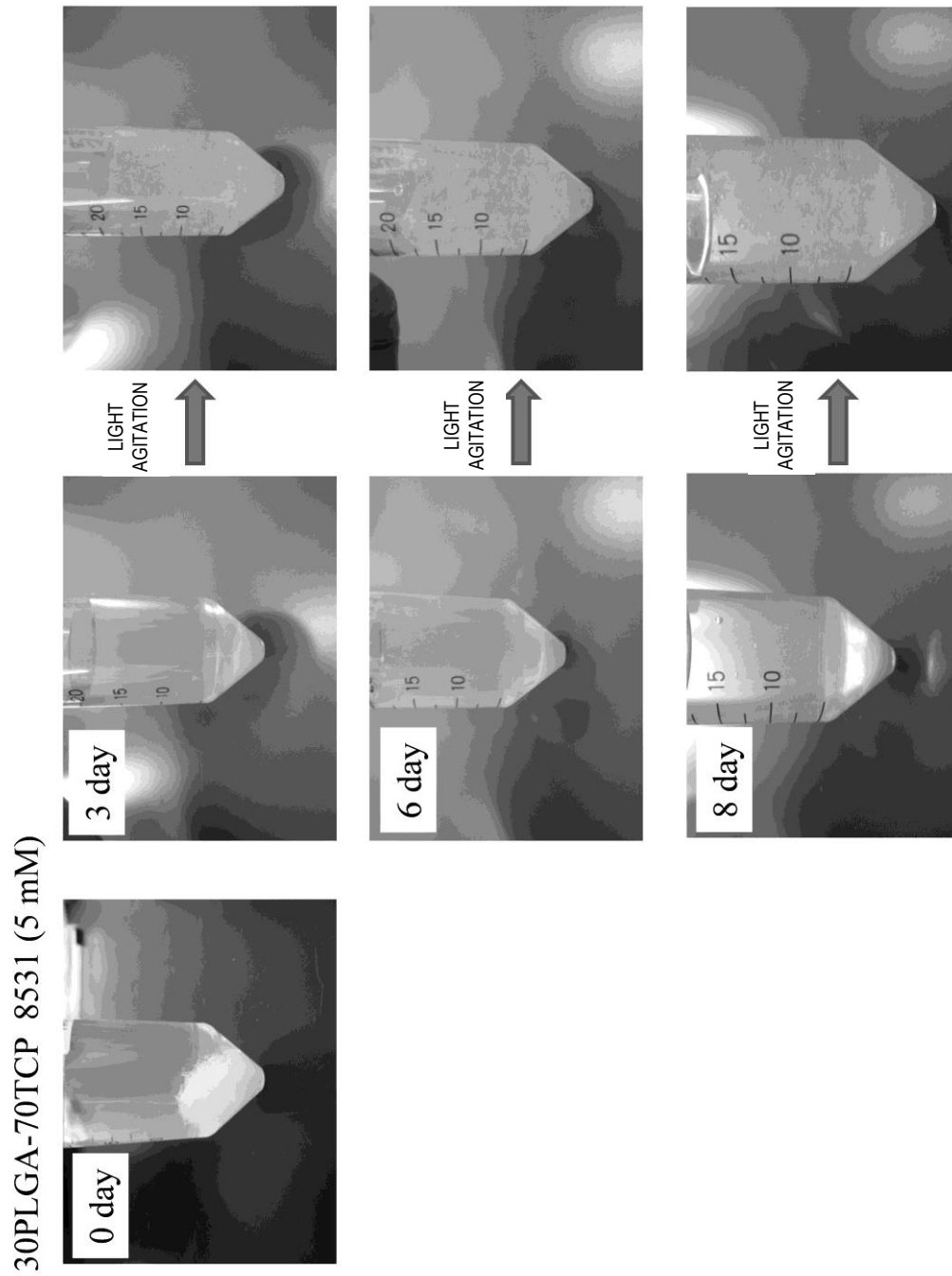
[Figure 5 (3)]



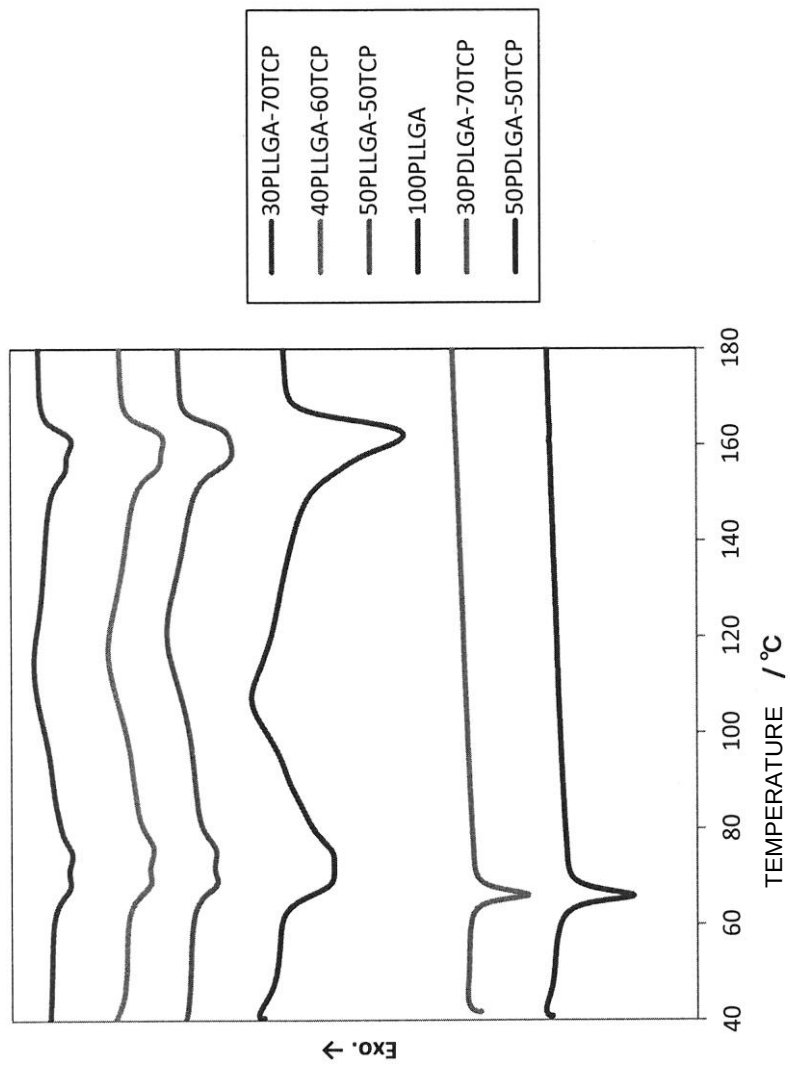
[Figure 5 (4)]



[Figure 5 (5)]



[Figure 6 (1)]



[Figure 6 (2)]

	Glass transition temperature	Melting point	Heat of fusion [J/g]	Crystallinity
(1) 30PLLGA-70TCP	74.2	160.5	3.626	3.3
(2) 40PLLGA-60TCP	75.4	160.8	4.798	4.4
(3) 50PLLGA-50TCP	69.2	158.7	7.050	6.5
(4) 100PLLGA	73.3	162.1	14.249	13.2
(5) 30PDLGA-70TCP	66.2	NA	NA	NA
(6) 50PDLGA-50TCP	66.0	NA	NA	NA

Melting enthalpy of crystal with infinite thickness		
PLLA		93.6
PGA		191.2
PLGA85:15 ^(Theoretical value)		108.24

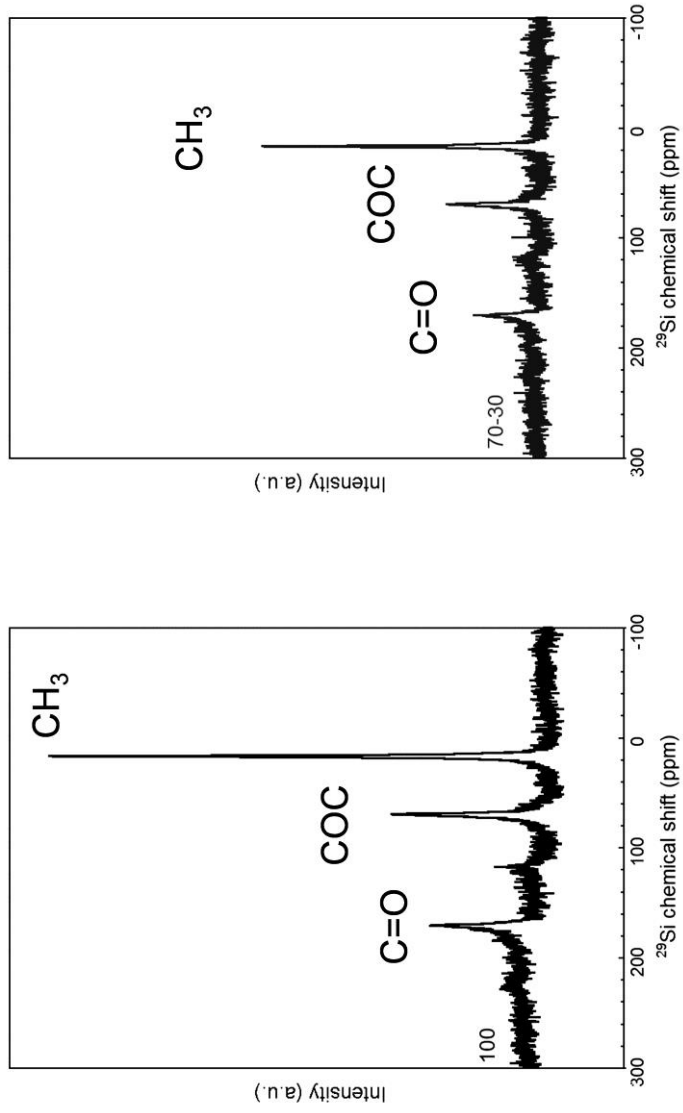
Crystallinity was calculated by the following equation.

$$\text{Crystallinity (\%)} = (\text{measured enthalpy/melting enthalpy of crystal with infinite thickness}^*) \times 100$$

Melting enthalpy of crystal with infinite thickness of PLGA was calculated to be 108.24 J/g from the literature values for PLLA and PGA with composition ration of 85:15.

In PLGA type containing D isomer, crystallinity was indicated as NA because no peak was found other than the peak of glass transition.

[Figure 7 (1)]

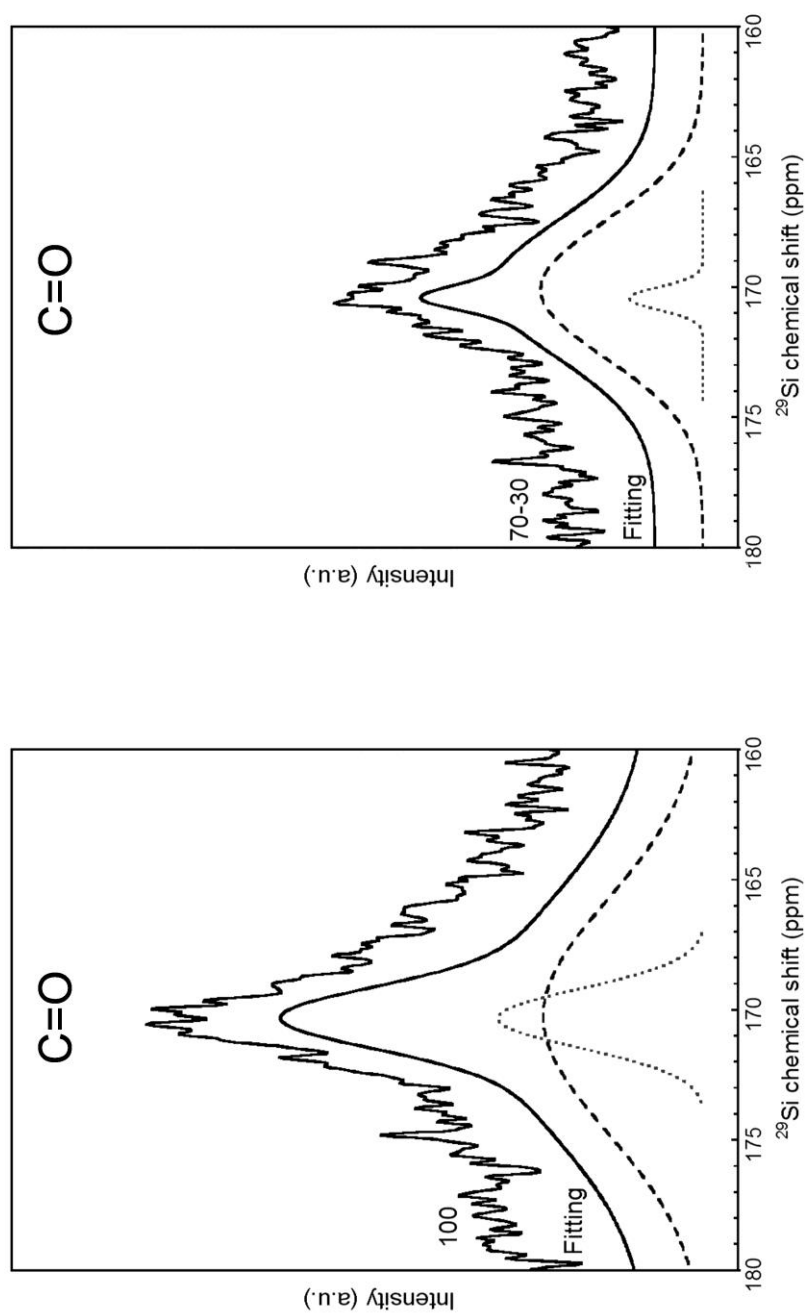


^{13}C CP/MAS-NMR SPECTRA OF PLGA (100) AND TCP/PLGA (70-30)

CONDITIONS OF MEASUREMENT

- STANDARD: ADAMANTINE (29.5 ppm)
- RESONANCE FREQUENCY OF OBSERVED NUCLEUS: 150.91343 (MHz)
- PULSE WIDTH OF OBSERVED NUCLEUS: 9.68 (μs)
- DATA COLLECTION TIME: 33.91488 (ms)
- CUMULATIVE NUMBER: 512 (TIMES)
- ROTATION SPEED: 8 (KHz)
- TYPE OF SAMPLE TUBE: ZrO_2
- DIAMETER OF SAMPLE TUBE: 8 (mm)

Figure 7 (2)



^{13}C CP/MAS-NMR SPECTRA OF PLGA (100) AND TCP/PLGA (70-30)

[Figure 8]

β -TCP (RAW MATERIAL)

