

Re-crystallization of PLLA (poly (L-lactic acid)) in several sets of temperature and pressure in same CO₂ density

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In previous work, we investigated the influence of various process parameters on PLLA particles. To obtain further result, we carried out an experiment on PLLA at other condition. In this study, we found out a new tendency. In spite of same CO₂ density, there was difference in aspect of particle size and its distribution according to the sets of different temperature and pressure. We investigated in cases of 0.397g/cm³ and 0.719g/cm³ CO₂ density. At the case of 0.397g/cm³, particle size was decreased and its distribution became wider with high temperature and pressure despite the same density. At the case of 0.719g/cm³, particle size and its distribution were not heavily affected by changing temperature and pressure in contrast with that of 397g/cm³. At the similar temperature and pressure, the higher density was, the smaller particle size was and the narrower distribution was. From these results, we found out that it could make a mistake to consider only the density as ignoring the temperature and pressure when the effect of density is investigated.