

Supporting Information

Preparation and characterization of poly (L-lactide)/graphene composites using the *in situ* ring-opening polymerization of PLLA with graphene as the initiator

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Content	Page No.
Table S1. Average molecular weight and intrinsic viscosity of the PLLA and GLLA composites.	3
Table S2. Isothermal crystallization parameters of the PLLA and GLLA composites.	3
Figure S1. Reciprocal crystallization half-time ($1/t_{1/2}$) as a function of TRG content (wt%) for GLLA composites, measured at (■) 90°C, (●) 100°C, and (▲) 110°C.	4

Table S1. Average molecular weight and intrinsic viscosity of the PLLA and GLLA composites.

Sample	TRG feed content (wt%)	Mn ^a (g/mol)	Intrinsic viscosity test	
			I.V. (dl/g)	R square value
PLLA	0	4333	-----	-----
GLLA-0.01	0.01	5146	0.16	0.9727
GLLA-0.10	0.10	6249	0.14	0.9309
GLLA-0.50	0.50	5116	0.14	0.9289
GLLA-1.00	1.00	5346	0.15	0.9352
GLLA-1.50	1.50	4254	0.14	0.9480
GLLA-2.00	2.00	5576	0.15	0.9641

^a. Determined from ¹H-NMR.

Table S2. Isothermal crystallization parameters of the PLLA and GLLA composites.

Sample	Annealing temperature: 100°C		110°C	
	n _a	k(min ⁻ⁿ)	n _a	k(min ⁻ⁿ)
PLLA	3.90	0.0024	3.2	0.0090
GLLA-0.01	2.60	0.0154	3.15	0.0068
GLLA-0.50	3.05	0.0092	3.02	0.0173
GLLA-1.50	3.12	0.0092	3.35	0.0045
GLLA-2.00	3.76	0.0506	3.41	0.0185

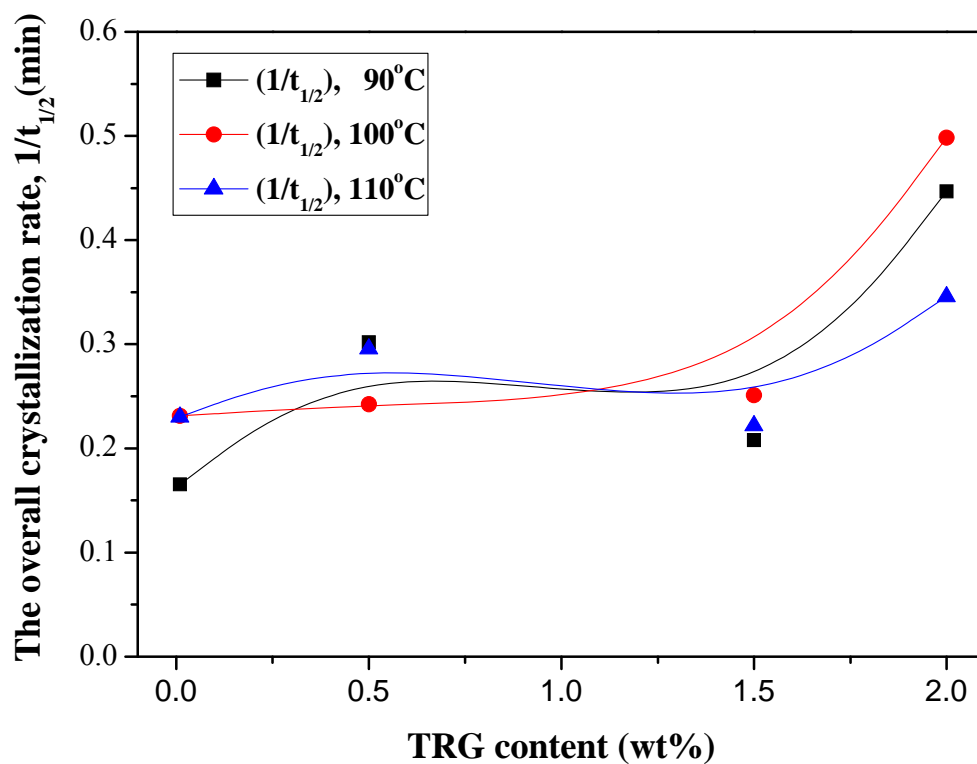


Figure S1. Reciprocal crystallization half-time ($1/t_{1/2}$) as a function of TRG content (wt%) for the GLLA composites, measured at (■) 90°C , (●) 100°C and (▲) 110°C .