

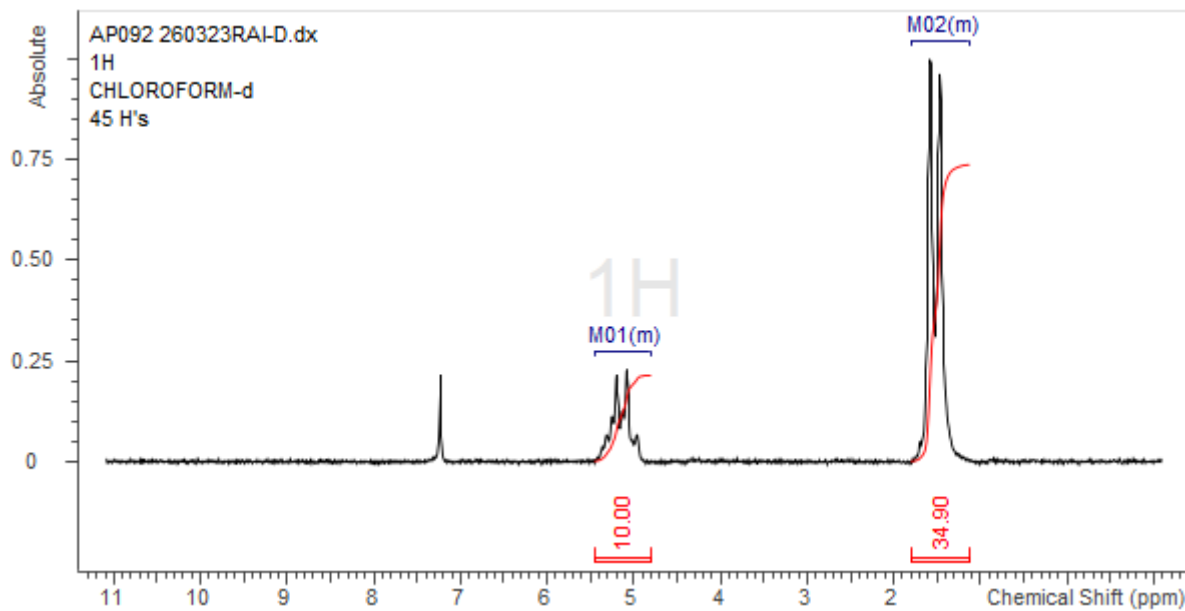
No. AP092

# Certificate of Analysis



Product Name: Poly((D,L)lactic acid)-Glycerol star polymer (Mn ~ 10,000 – 20,000 Da)  
(Lot#: 260323RAI-D)

## H-NMR



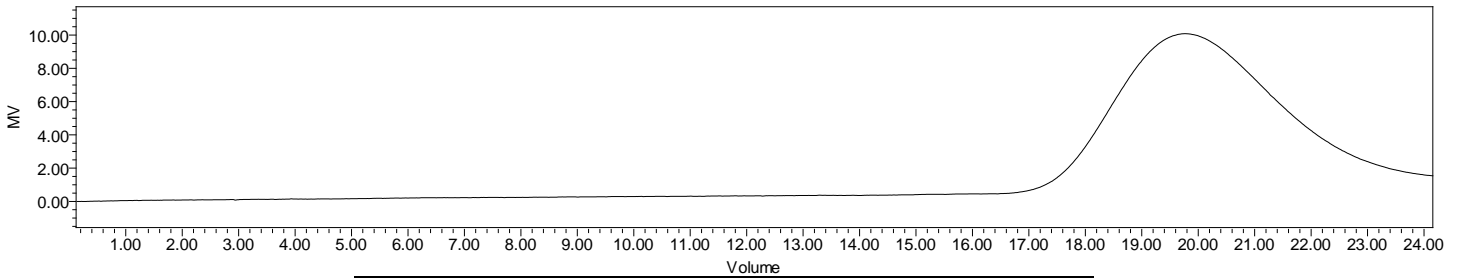
H-NMR Spectrum of copolymers in CDCl<sub>3</sub> (NMReady-60e, Nanalysis 60 MHz) NMR of PDLLA copolymer

## FTIR



FTIR Analysis: Collected from IS5 ID7-ATR spectrometer (Thermo Scientific) and analyzed in transmission mode.

# GPC-ES



Polymer	M <sub>n</sub> (from GPC)	M <sub>w</sub> (from GPC)	PDI
PDLLA	19,263	25,116	1.30

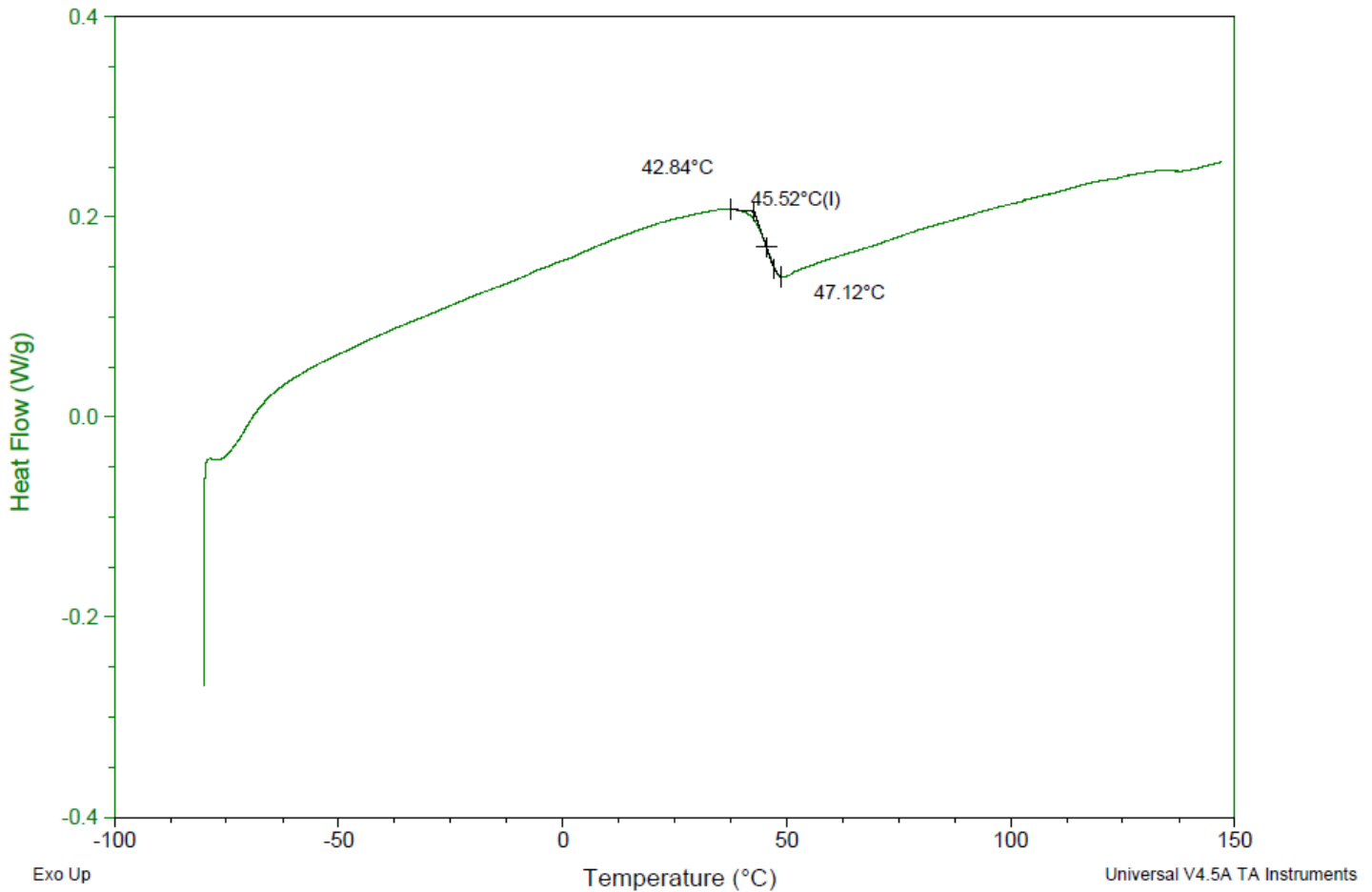
GPC-ES Analysis Method: Waters Breeze 2 system with 1 ml/min THF flow across three GPC columns. Detection via refractive index, calibrated against polystyrene standards.

# DSC

Sample: AP092 260323RAI-D  
Size: 3.0000 mg  
Method: Ramp

## DSC

File: C:\...\COA\AP092 260323RAI-D.001  
Run Date: 26-Mar-2026 11:12  
Instrument: DSC Q2000 V24.11 Build 124

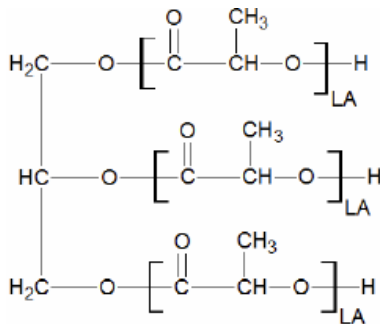


DSC Testing: 1-5 mg sample tested in crimped aluminum pan on a TA Instruments Model Q2000 with procedure equilibraion 100 °C, isothermal 5 minutes, equilibrate -80 °C, data on, ramp 10 °C/min to 150 °C. T<sub>g</sub> = 45.52 °C

## IV

**Inherent Viscosity:**  $0.184 \pm 0.005$  dL/g (calculated from kinematic viscosity at 2% w/v Acetone on Rheosense microVISC, n=3) at 25°C.

### Structure of copolymers



Approved By:  
*Amie Tyler*  
Quality Manager