

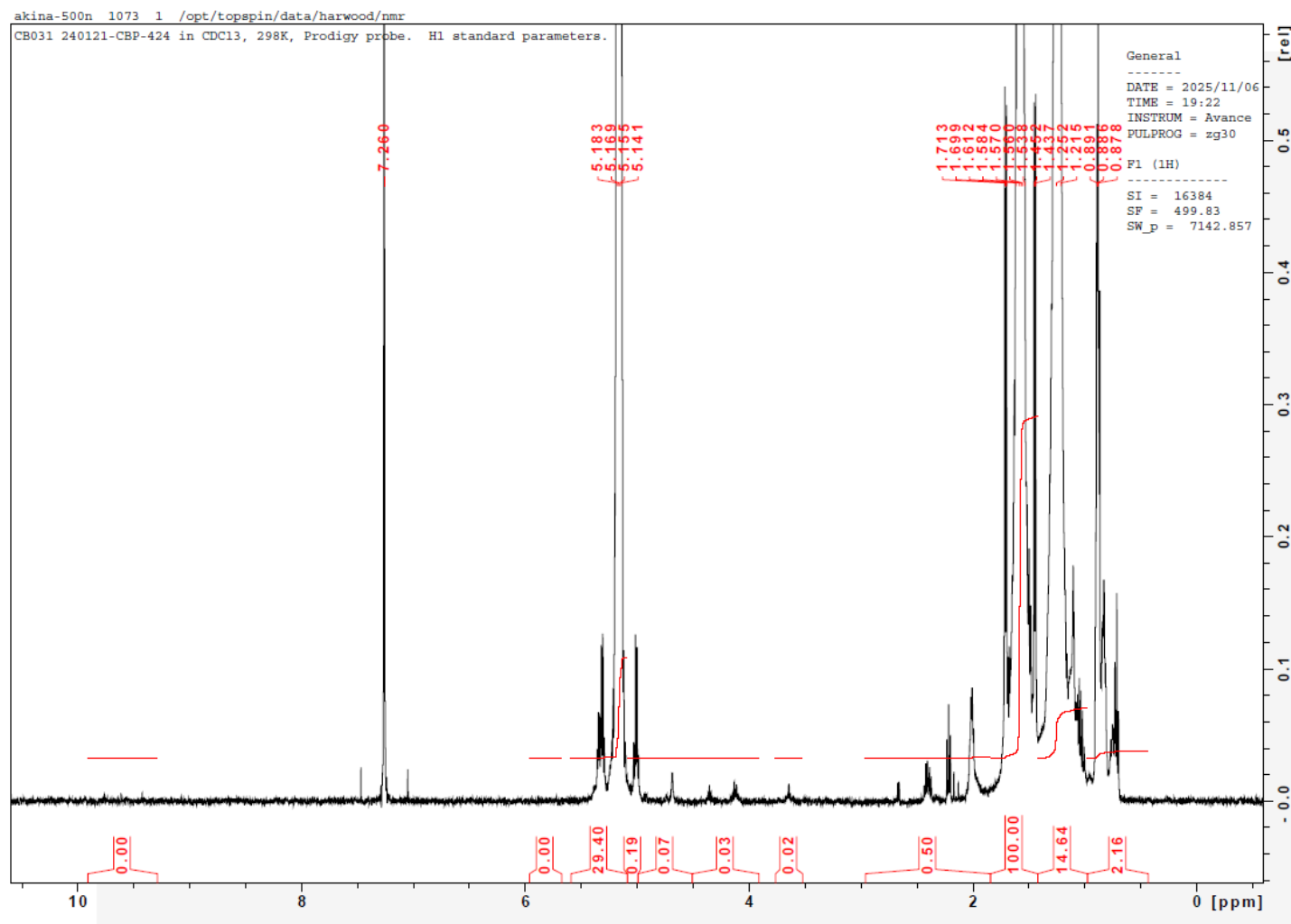
No. CB031

Certificate of Analysis



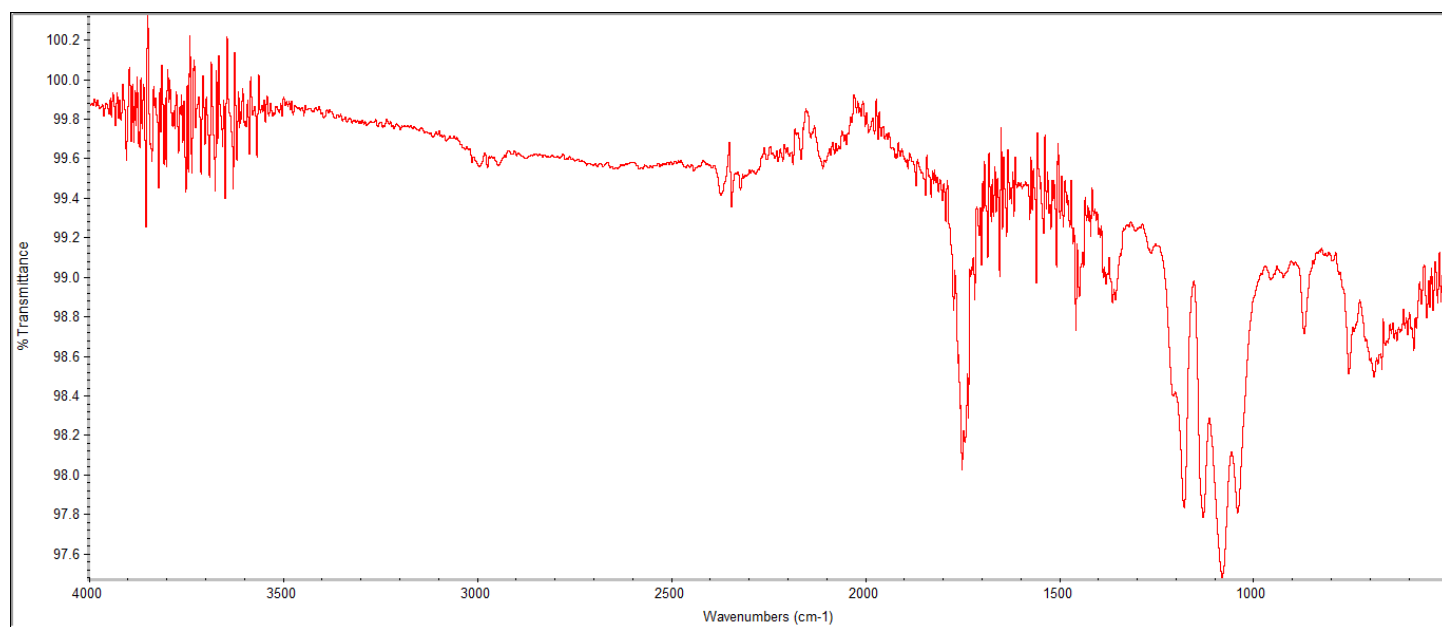
Product Name: Poly(L-Lactide) I.V. 2.70 – 3.60 dl/g, ester endcap (PL 32)
(Lot # 240120CBP-424)

H-NMR



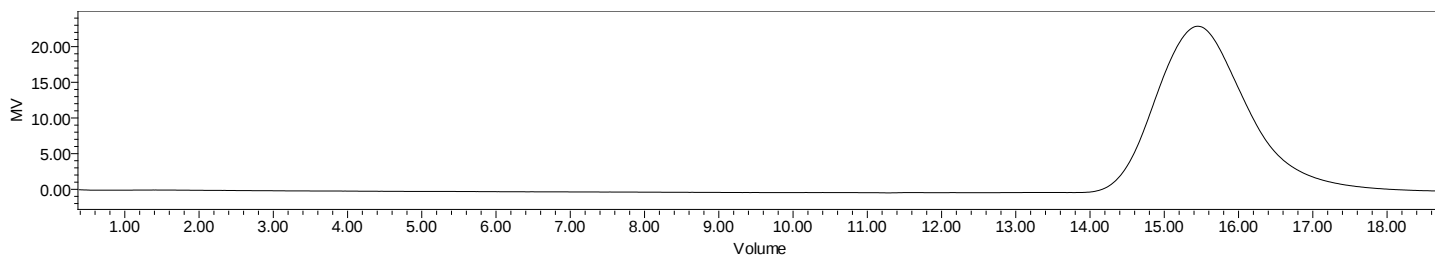
H-NMR Spectrum of copolymers in CDCl₃ (NMReady-60e, Nanalysis 60 MHz) NMR of PL copolymer.

FTIR



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

GPC-ES



Polymer	M _n (from GPC)	M _w (from GPC)	PDI
PL	207,442	274,784	1.32

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

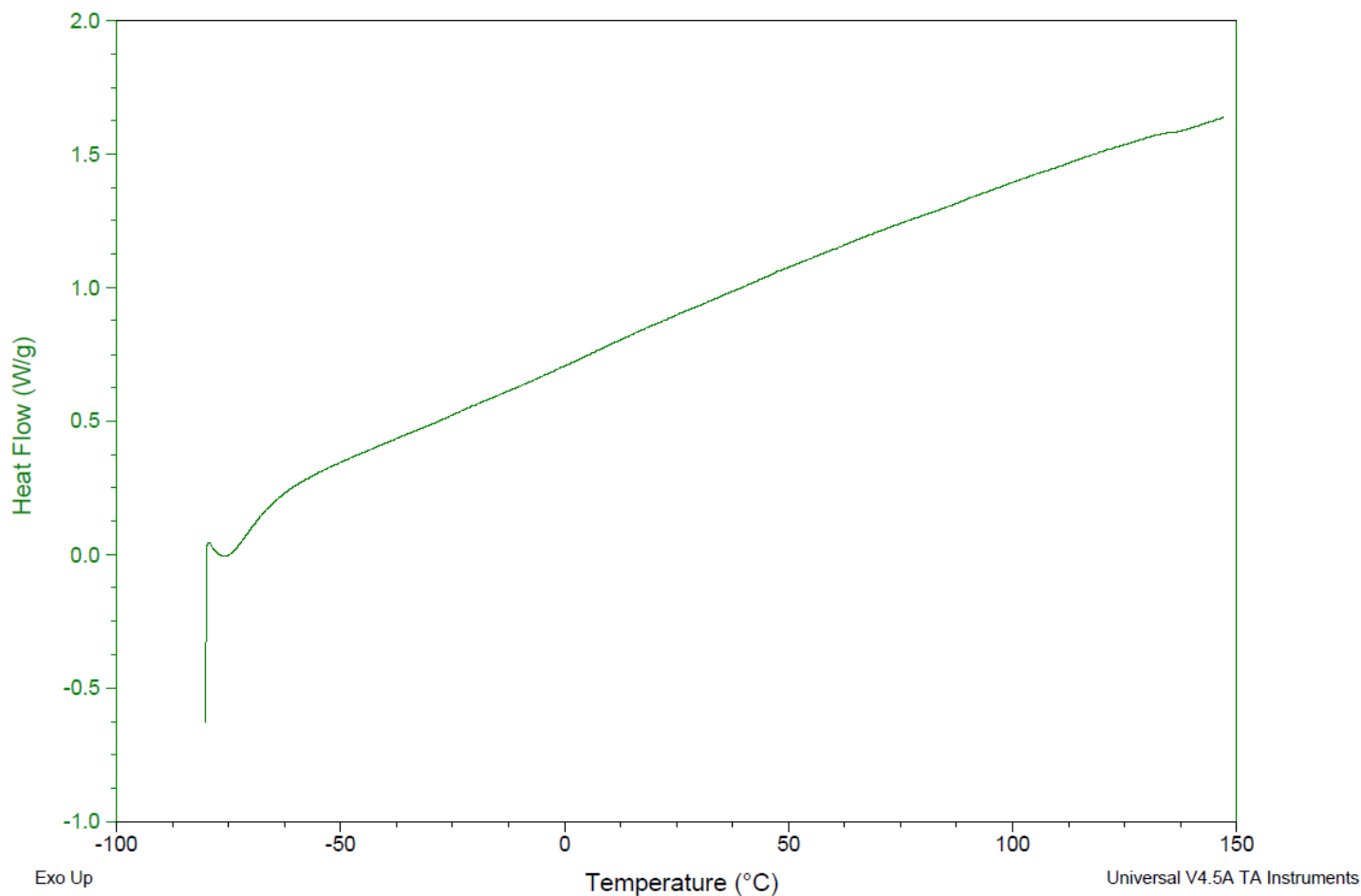
Sample: CB031 240120CBP-424
Size: 1.8000 mg
Method: Ramp

DSC

File: C:\...\COA\CB031 240120CBP-424.001

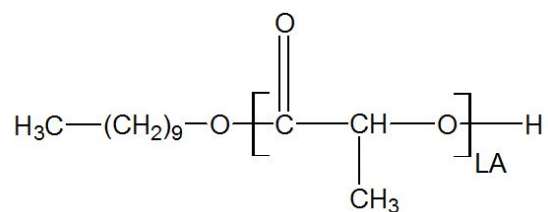
Run Date: 07-Nov-2025 14:38

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.

Structure of copolymers



Manufacturer Provided Data

Assay	Specification	Result
Melting onset, DSC, 10 °C/min	170.0 °C	180.1 °C
Melting peak, DSC, 10 °C/min	200.0 °C	195.0 °C
Tin content	<50ppm	7 ppm
Water content ¹	<0.50%	0.05%
Residual monomer, Total	<0.10%	0.00%
Inherent Viscosity ²	2.70-3.60 dL/g	2.93 dL/g
Residual solvent, Total	<0.01%	0.002 %
Residual solvent, Toluene	<890 ppm	<0 ppm
Residual solvent, Acetone	<5000 ppm	9 ppm

1 – Measured by titration

2 – Measured at 20 °C in Chloroform c=0.1 g/dL

Approved By: <i>Amie Tyler</i> Quality Manager
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