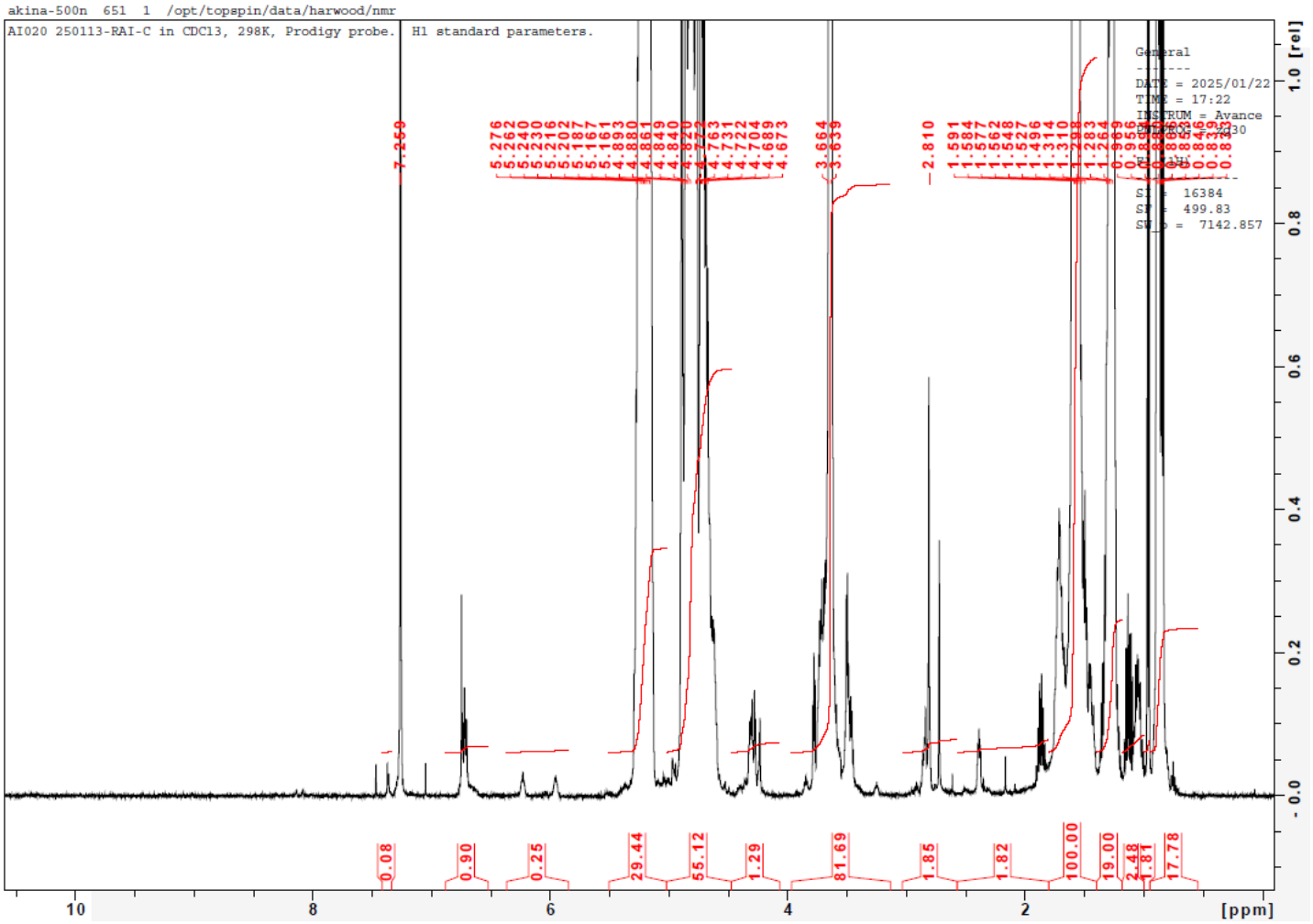
# No. AI020 Certificate of Analysis

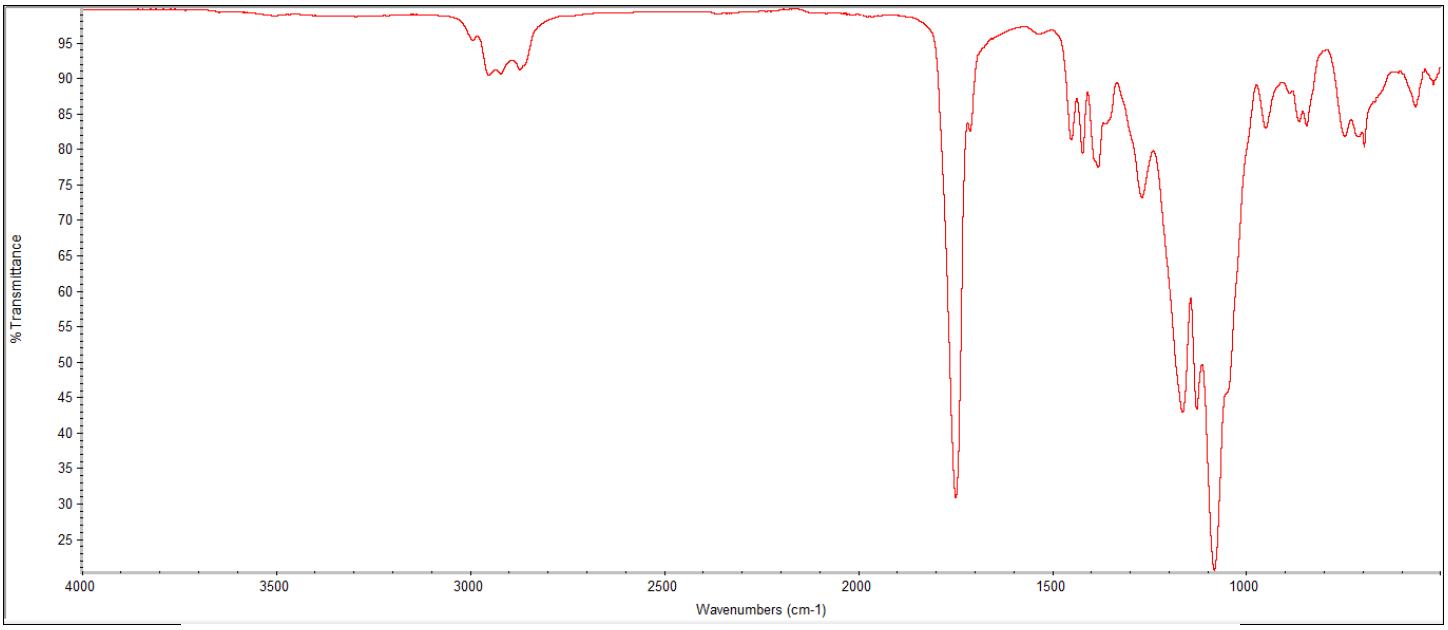
Product Name: Poly(lactic-co-glycolic)-b-Poly(ethylene glycol)-Maleimide Copolymers
LA:GA 50:50 ($M_w$ ~20,000-5,000Da) (Lot#: 250113RAI-C)

## H-NMR



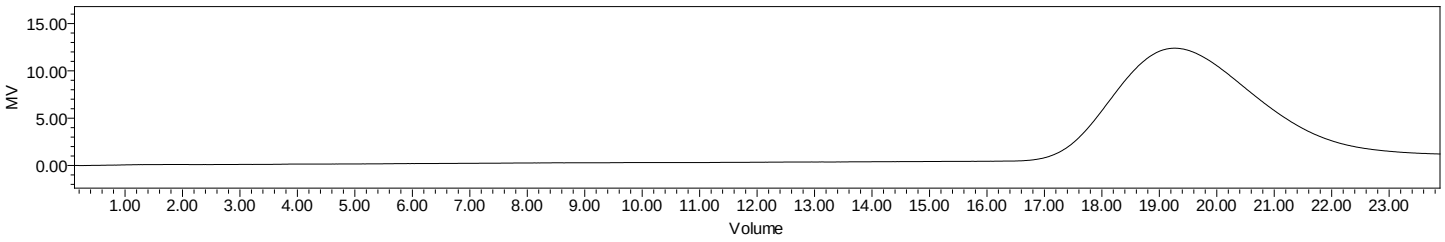

**H-NMR** Spectrum of copolymers in CDCl3 (Bruker ≥300 MHz, PINMRF) NMR of PLGA-PEG-Mal copolymer: EG*/LA-GA =113*/163:152 (Mn EG*/LA:GA 4978*/11728:8851 Da) LA:GA 57%:43% *from MFG data

## FTIR




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

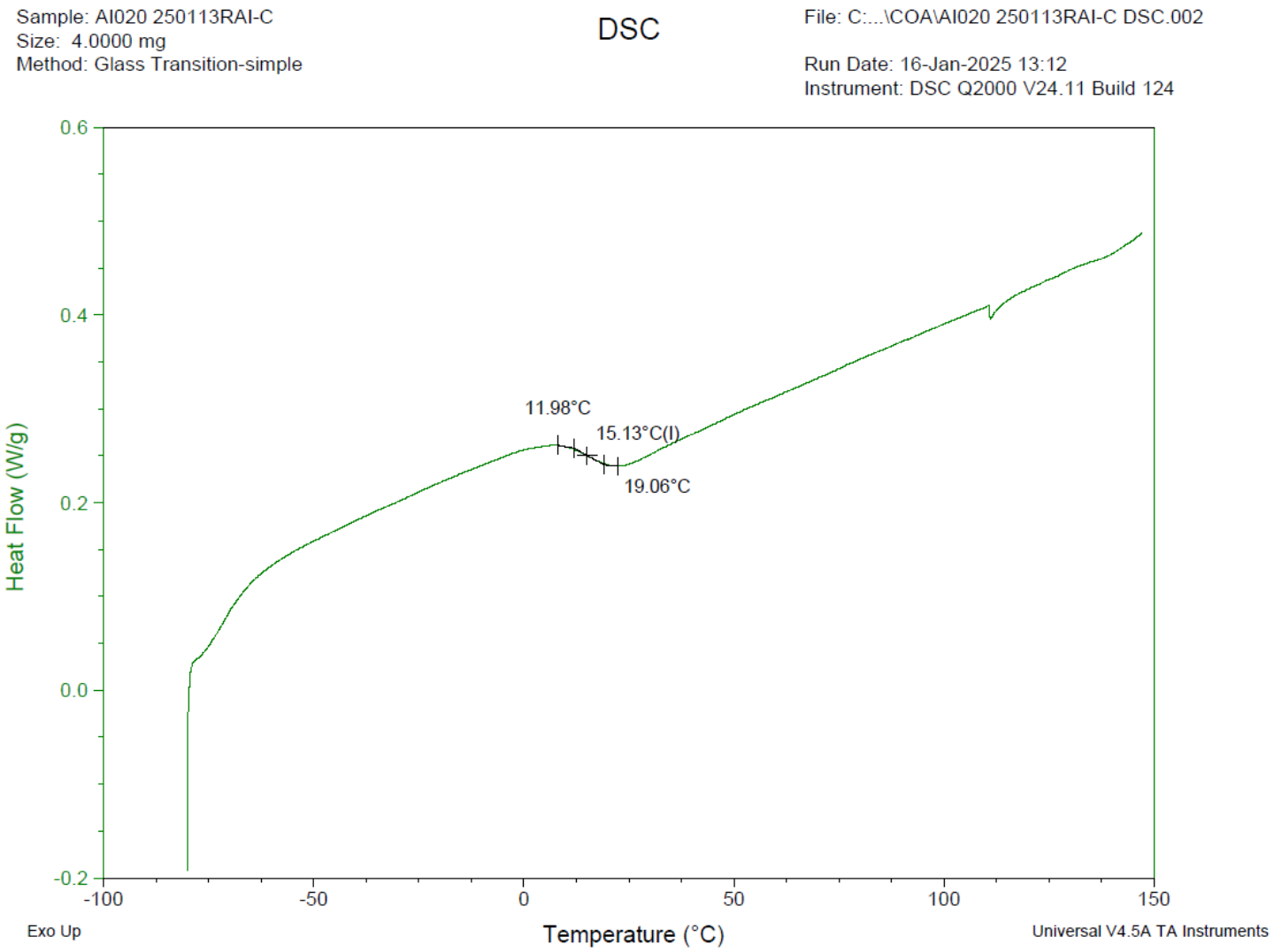
## GPC-ES




| Polymer | $M_n$ (from GPC) | $M_w$ (from GPC) | PDI |
|---|---|---|---|
| PLGA-PEG-Mal | 24,235 | 43,359 | 1.79 |
| PEG-precursor | 4996* | | |

**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

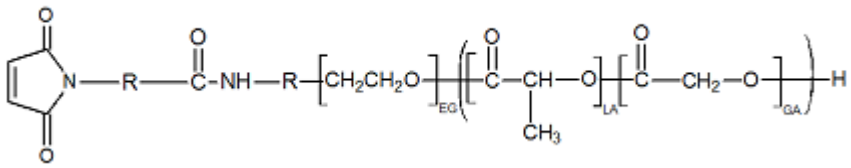



**DSC** Testing: 1-5 mg sample tested in crimped aluminum pan on a TA Instruments Model Q2000 with procedure equilibraion 100 °C, isothermal 5 minutes, equilibrate -80 °C, data on, ramp 10 °C/min to 150 °C. Tg = 15.13 °C

## IV

**Inherent Viscosity:** 0.244 ± 0.007 dL/g (calculated from kinematic viscosity at 2% w/v Acetone on Rheosense microVISC, n=3) at 25ºC.

### Structure of copolymers



Approved By:
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