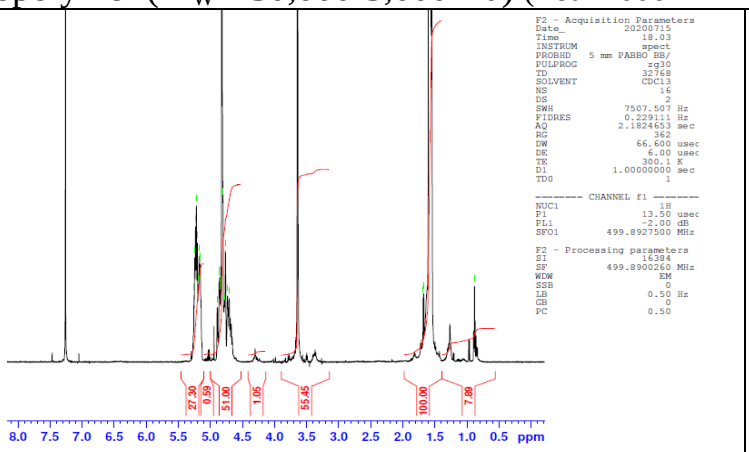
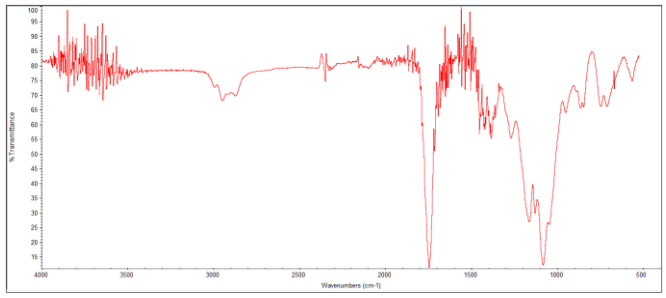
# No. AI091 Certificate of Analysis

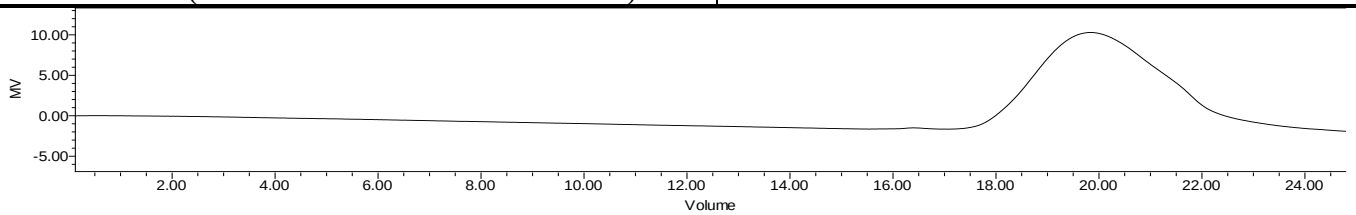
Product Name: Poly(lactide-co-glycolide)-b-Poly(ethylene glycol)-Azide copolymer ($M_W$ ~ 30,000-5,000 Da) (Lot #200622RAI-B)




H-NMR Spectrum of copolymers in CDCl3 (Bruker ≥300 MHz, PINMRF) NMR of PLGA-PEG-Azide repeat units: EG-LA/GA =109-215/201 (Mn EG-LA/GA 4802*-15455/11637 Da)



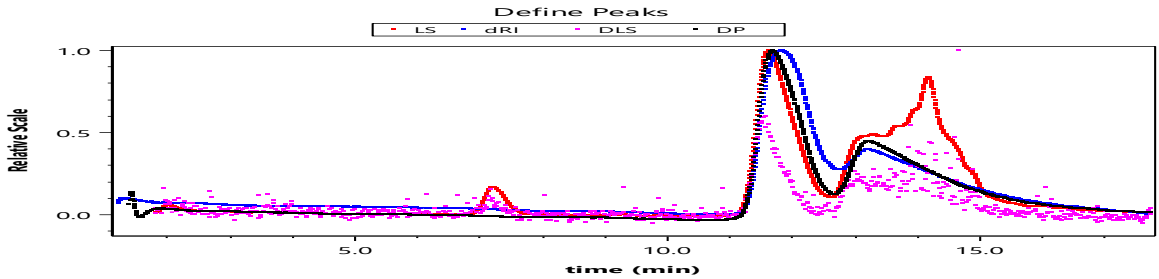

FTIR Analysis: Collected from cast-film on KBr salt-plate placed in Nicollet Avatar 380 spectrometer with ATR Smart Orbit and analyzed in transmission mode.




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

| Polymer | $M_n$ (from GPC) | $M_w$ (from GPC) | PDI |
|---|---|---|---|
| PLGA-PEG-Azide | 25,941 | 35,179 | 1.36 |
| PEG-Precursor | 4800* | | |

*- from MFG data

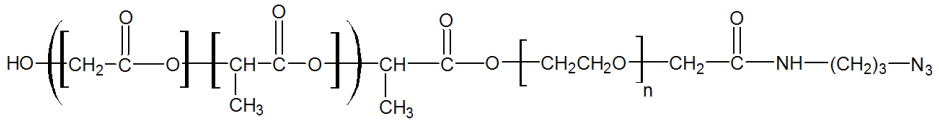



GPC-4D Analysis Method: Agilent 1260 Infinity II system 0.6 ml/min Acetone flow across TSKgel GMHHR-L, 7.8 mm x 30 cm. Detection Dawn Heleos II (MALLS), Optilab T-rex (RI), Dynapro nanostar (DLS), and Viscostar III (viscosity), universal calibration (Wyatt).

| Polymer | $M_n$ (from GPC-4D) | $M_P$ (from GPC-4D) | $M_W$ (from GPC-4D) | Radius (r(avg), nm) | Intrinsic viscosity ([n](avg), mL/g) |
|---|---|---|---|---|---|
| PLGA-PEG-Azide | 16,882 | 19,849 | 20,175 | 4.3 | 20.673 |

* - Due to differences in methodolgy, Results from GPC-4D universal calibration will be different from those obtained from GPC-ES. The data from GPC-4D analysis is provided for customer information only.

- **Structure of PLGA-PEG-Azide copolymers**

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