

Figure-S1-The molecular structure of the polymer (PGMD) was investigated by ^1H NMR (Bruker Advance II JEOL 500 MHz spectrometer) with $\text{DMSO}-d_6$ as a solvent and TMS as internal standard. The chemical shifts were recorded and are identified as shown the figure.

The ^1H NMR spectra of PGMD (Poly-glycerol-malic acid- dodecanedioic acid) in $\text{DMSO}-d_6$ solvent at ambient temperature. The free polymer in the solution showed different peaks according to its structure. The peak at 1.239 ppm corresponds to the methylene protons ($-\text{CH}_2-$). Similarly, other peaks lying in the range 1.5 ppm, 2.1 ppm, 2.29 ppm, 3.3-4 ppm depicts the methylene protons of the polymer. From the spectra it is evident that the individual components of the polymer (malic acid, glycerol and DDA) were successfully incorporated in the PGMD polymer.

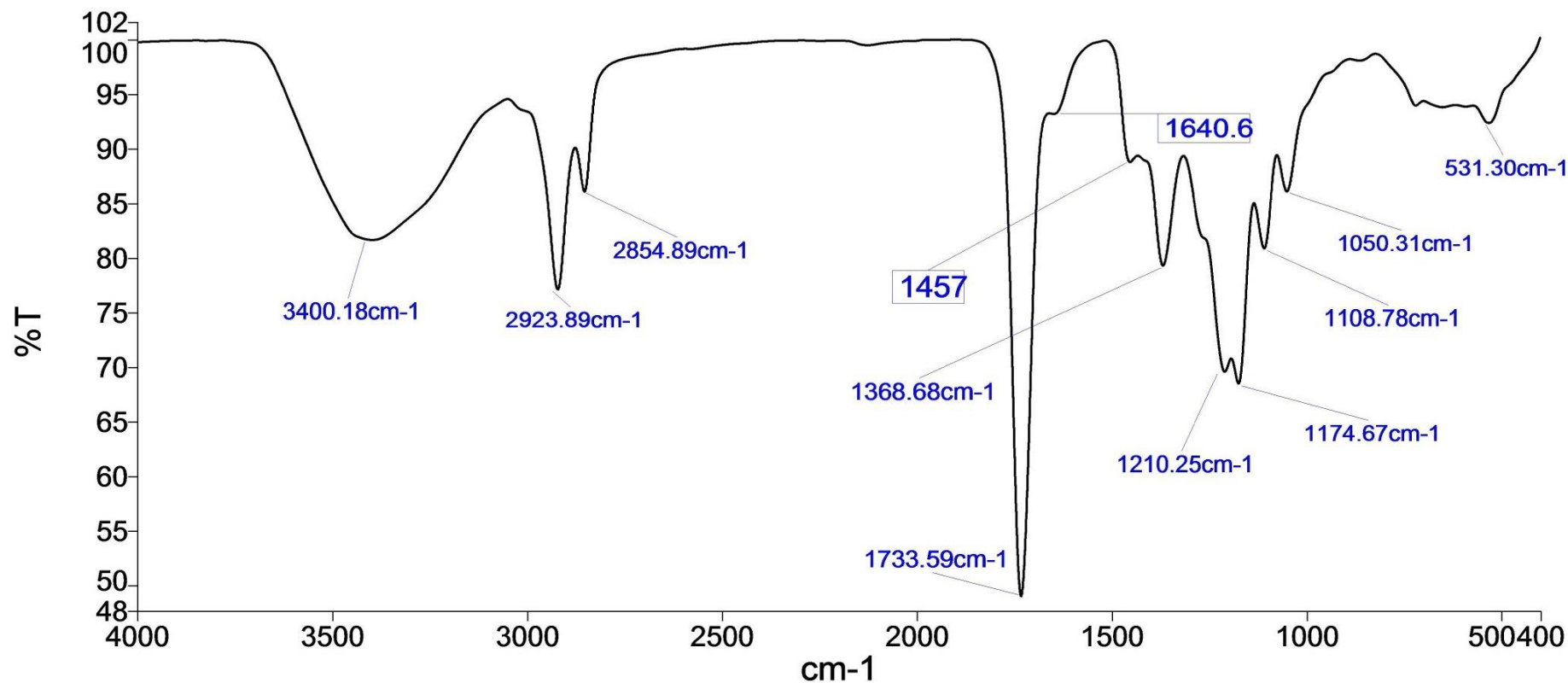


Figure S2-For the functional group analysis, vacuum dried samples of PGMD 7:3 was analysed by Fourier transform infrared spectroscopy (FTIR). The pellets was prepared along with KBr and scanned in the range of 4000 to 400 cm⁻¹ against blank KBr pellet. The FT-IR studies of PGMD 7:3 polymer showed the presence of a C=O stretch at 17333.59 cm⁻¹, which is a typical of ester bonds.

Size Distribution Report by Intensity

v2.2



Sample Details

Sample Name: Dios np 6;4

SOP Name: mansettings.nano

General Notes:

File Name: Nikita.dts

Dispersant Name: Water

Record Number: 209

Dispersant RI: 1.330

Material RI: 1.59

Viscosity (cP): 0.8872

Material Absorbtion: 0.010

Measurement Date and Time: 22 May 2017 10:31:53 AM

System

Temperature (°C): 25.0

Duration Used (s): 60

Count Rate (kcps): 397.4

Measurement Position (mm): 4.65

Cell Description: Disposable sizing cuvette

Attenuator: 7

Results

	Size (d.nm):	% Intensity:	St Dev (d.n...
Z-Average (d.nm): 121.4	Peak 1: 181.4	100.0	125.9
Pdl: 0.270	Peak 2: 0.000	0.0	0.000
Intercept: 0.937	Peak 3: 0.000	0.0	0.000
Result quality : Good			

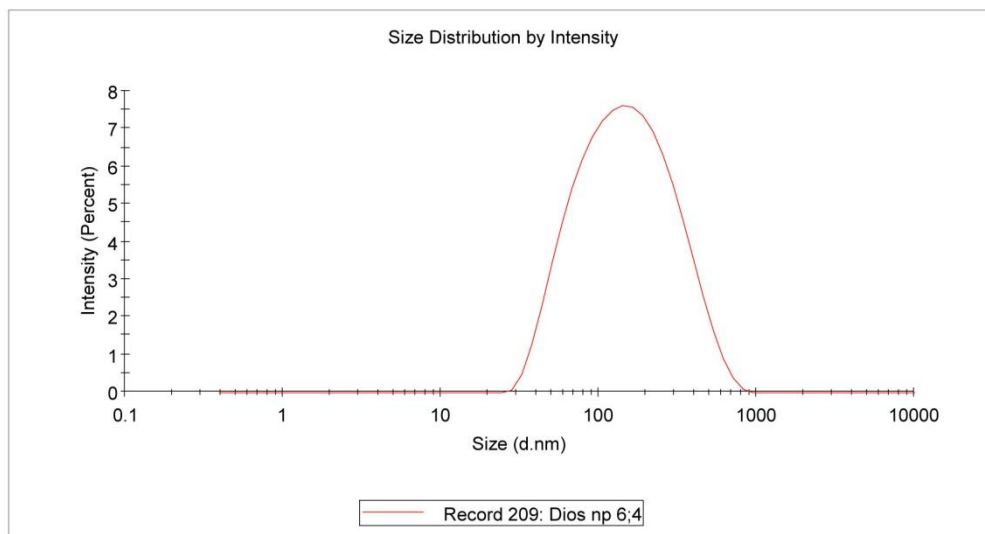


Figure S3: Represents the Size and PDI analysis of PGMD-DG 6:4 NP

Size Distribution Report by Intensity

v2.2



Sample Details

Sample Name: dios nps 7-3

SOP Name: mansettings.nano

General Notes:

File Name: Nikita.dts

Dispersant Name: Water

Record Number: 210

Dispersant RI: 1.330

Material RI: 1.59

Viscosity (cP): 0.8872

Material Absorbtion: 0.010

Measurement Date and Time: 29 May 2017 11:08:40 AM

System

Temperature (°C): 25.0

Duration Used (s): 70

Count Rate (kcps): 216.1

Measurement Position (mm): 4.65

Cell Description: Disposable sizing cuvette

Attenuator: 6

Results

	Size (d.nm):	% Intensity:	St Dev (d.n...
Z-Average (d.nm): 133.6	Peak 1: 147.3	100.0	53.27
Pdl: 0.152	Peak 2: 0.000	0.0	0.000
Intercept: 0.933	Peak 3: 0.000	0.0	0.000
Result quality : Good			

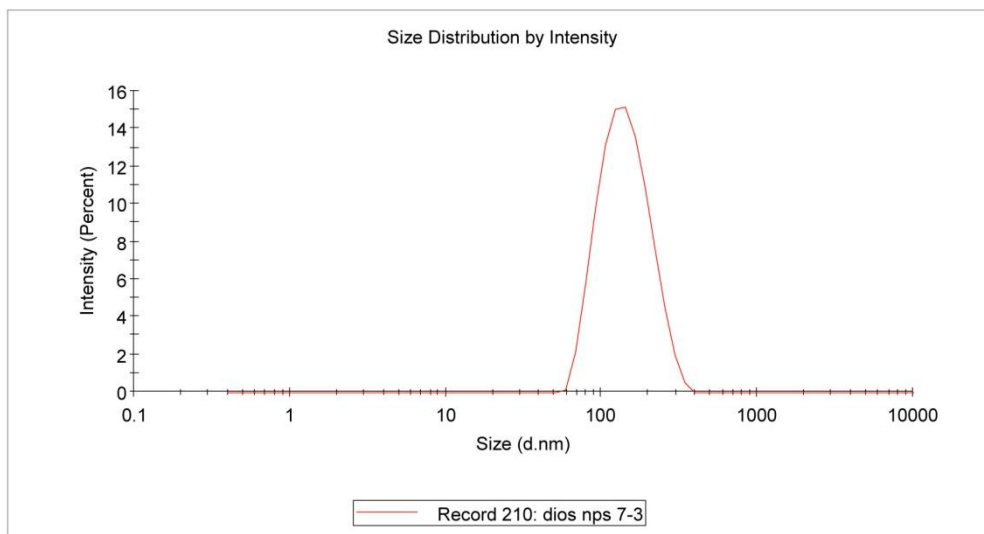


Figure S4: Represents the Size and PDI analysis of PGMD-DG 7:3 NP

Size Distribution Report by Intensity

v2.2



Sample Details

Sample Name: pgmd 6-4

SOP Name: mansettings.nano

General Notes:

File Name: Nikita_Zeta (2).dts	Dispersant Name: Water
Record Number: 274	Dispersant RI: 1.330
Material RI: 1.59	Viscosity (cP): 0.8872
Material Absorbtion: 0.010	Measurement Date and Time: 29 May 2017 12:06:15 PM

System

Temperature (°C): 25.0	Duration Used (s): 70
Count Rate (kcps): 211.3	Measurement Position (mm): 4.65
Cell Description: Disposable sizing cuvette	Attenuator: 5

Results

	Size (d.nm):	% Intensity:	St Dev (d.n...)
Z-Average (d.nm): 114.9	Peak 1: 135.2	100.0	56.67
Pdl: 0.137	Peak 2: 0.000	0.0	0.000
Intercept: 0.933	Peak 3: 0.000	0.0	0.000
Result quality : Good			

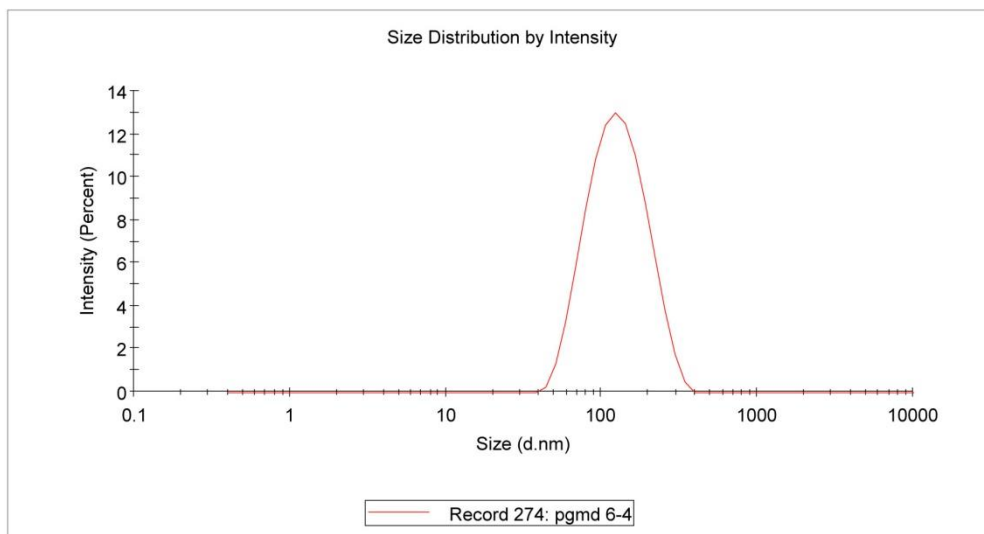


Figure S5: Represents the Size and PDI analysis of PGMD 6:4 NP

Size Distribution Report by Intensity

v2.2



Sample Details

Sample Name: Pgmd 7-3

SOP Name: mansettings.nano

General Notes:

File Name: Nikita (1).dts

Dispersant Name: Water

Record Number: 196

Dispersant RI: 1.330

Material RI: 1.59

Viscosity (cP): 0.8872

Material Absorbtion: 0.010

Measurement Date and Time: 29 May 2017 11:30:45 AM

System

Temperature (°C): 25.0

Duration Used (s): 70

Count Rate (kcps): 250.1

Measurement Position (mm): 4.65

Cell Description: Disposable sizing cuvette

Attenuator: 5

Results

	Size (d.nm):	% Intensity:	St Dev (d.n...
Z-Average (d.nm): 111.6	Peak 1: 127.6	100.0	48.71
Pdl: 0.111	Peak 2: 0.000	0.0	0.000
Intercept: 0.921	Peak 3: 0.000	0.0	0.000
Result quality : Good			

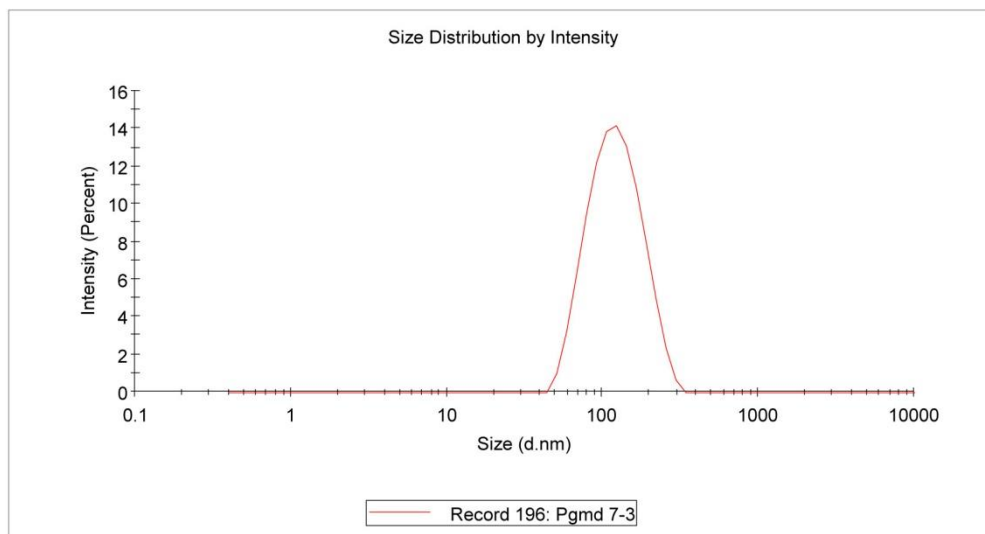


Figure S6: Represents the Size and PDI analysis of PGMD 7:3 NP