*pharmaceutics*

# Supplementary Materials: Mannose-Decorated Dendritic Polyglycerol Nanocarriers Drive Antiparasitic Drugs To *Leishmania infantum*-Infected Macrophages

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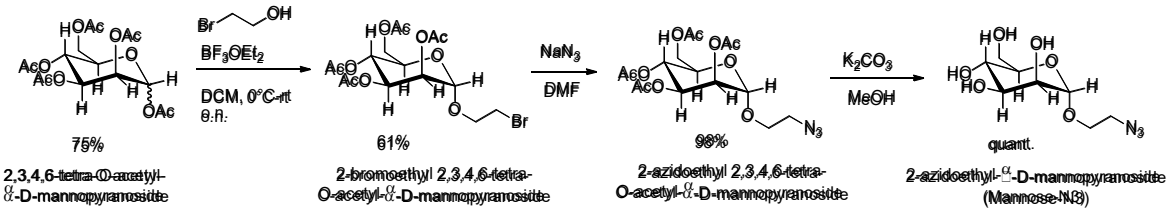
**Table S1.** Physicochemical Characterization of PG-PEG-Mann(n)-FITC conjugates.

| Compound | Z-Average [nm] | Size d (Intensity) [nm] | Size d (Volume) [nm] | PDI |
|---|---|---|---|---|
| **PG-PEG-FITC** | 20.36 | 16.15 | 11.91 | 0.496 |
| **PG-PEG-Mann5-FITC** | 41.22 | 247.1 | 19.95 | 0.748 |
| **PG-PEG-Mann10-FITC** | 71.96 | 125.9 | 28.00 | 0.448 |
| **PG-PEG-Mann20-FITC** | 35.72 | 60.62 | 19.46 | 0.399 |
| **PG-AmB-PEG-Mann5** | 28.99 | 18.22 | 15.05 | 0.359 |




**Scheme S1.** Synthesis of 2-azidoethyl-$\alpha$-D-mannopyranoside and reaction yields of each step.

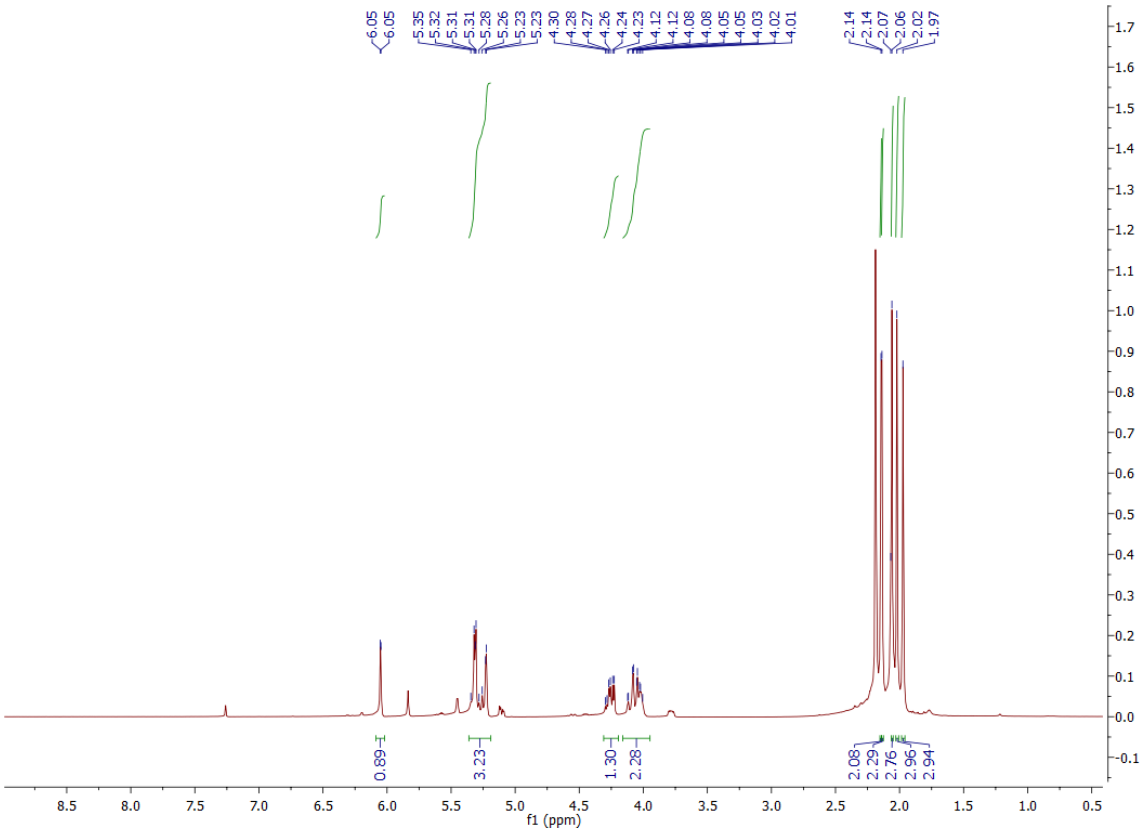



**Figure S1.** [1]H-NMR spectrum of 2,3,4,6-tetra-O-acetyl-*α*-D-mannopyranoside.

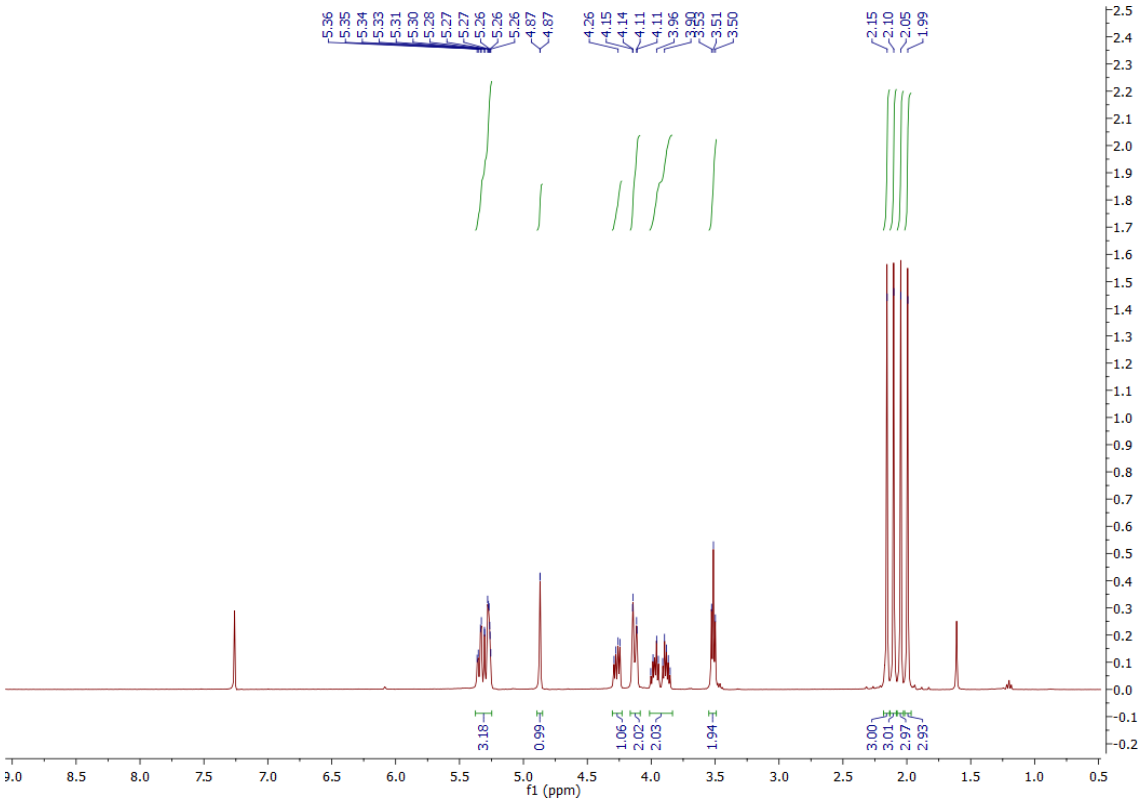



**Figure S2.** [1]H-NMR spectrum of 2-bromoethyl 2,3,4,6-tetra-O-acetyl-*α*-D-mannopyranoside.

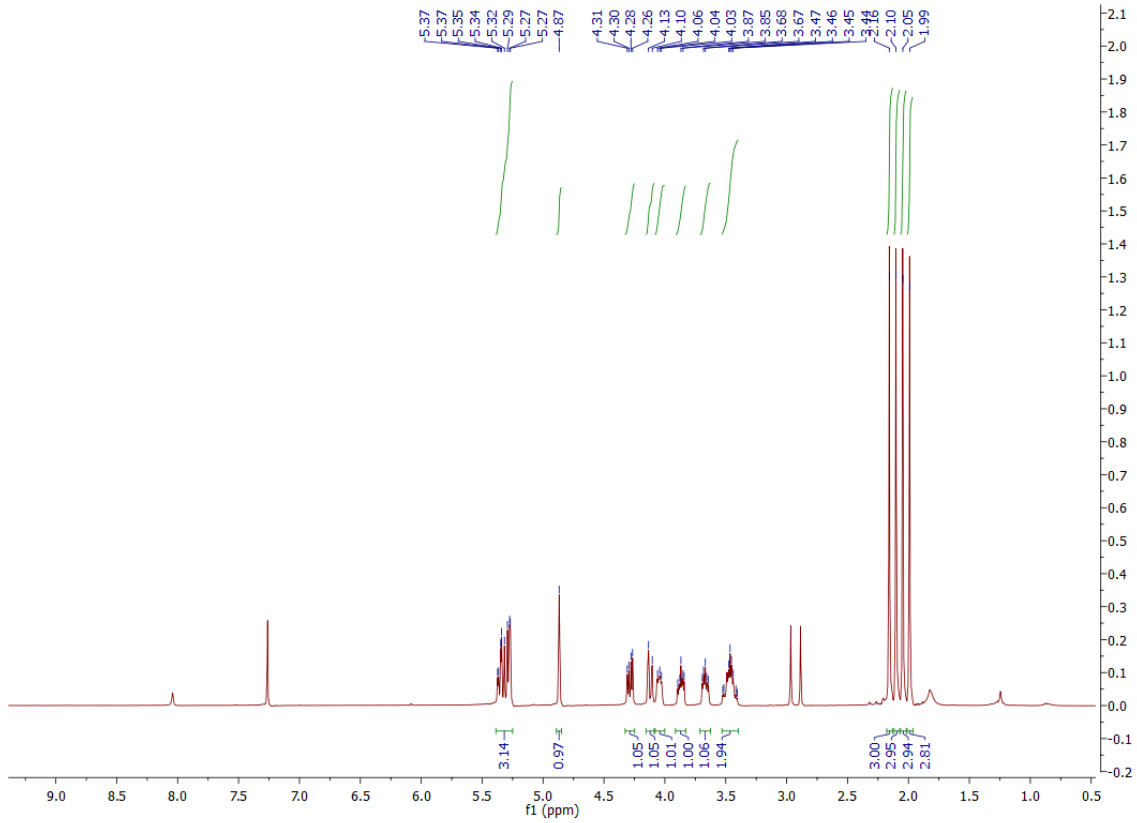



**Figure S3.** [1]H-NMR spectrum of 2-azidoethyl 2,3,4,6-tetra-O-acetyl-*α*-D-mannopyranoside.

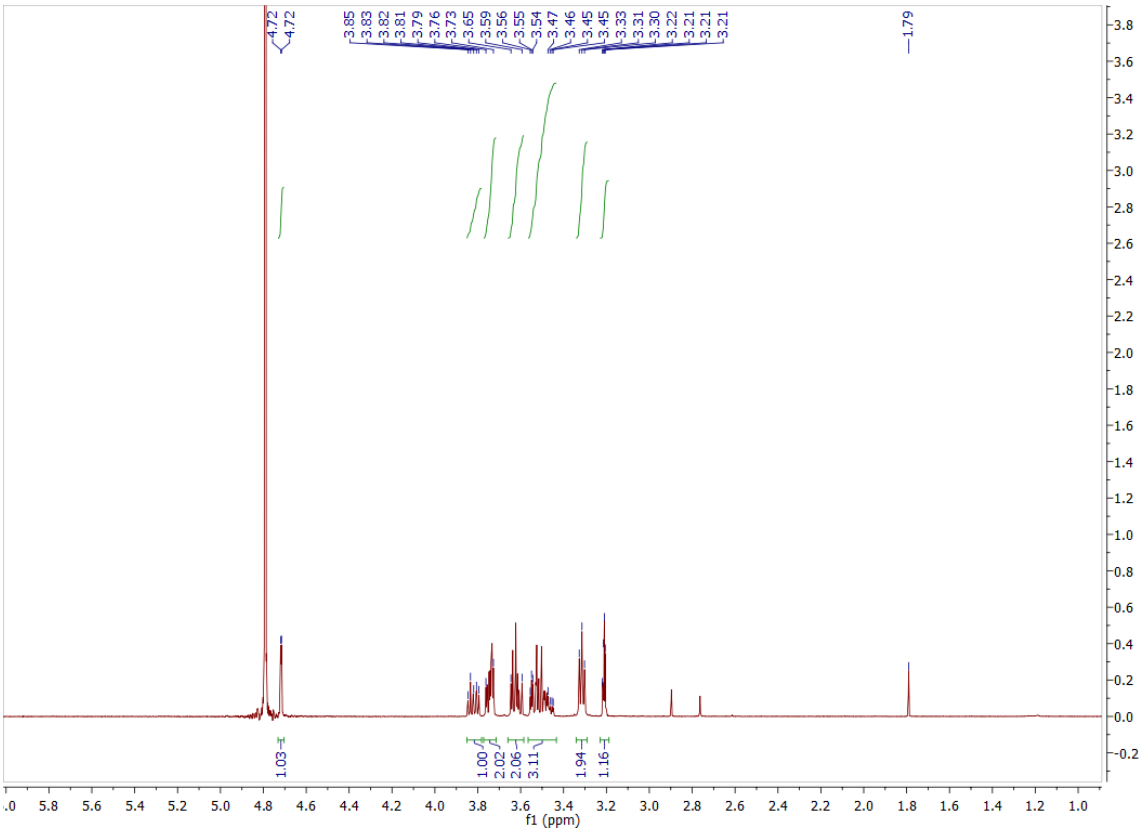
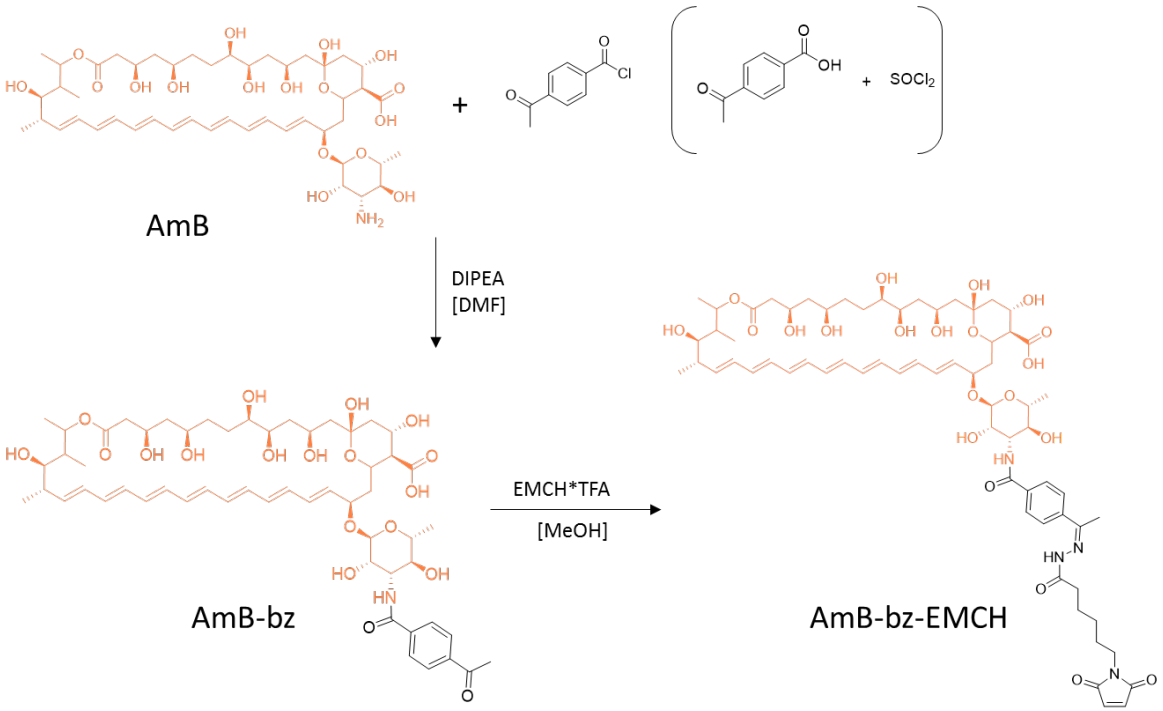



**Figure S4.** [1]H-NMR spectrum of 2-azidoethyl-*α*-D-mannopyranoside (Mannose-$N_3$).




**Scheme S2.** Synthesis of AmB-EMCH.

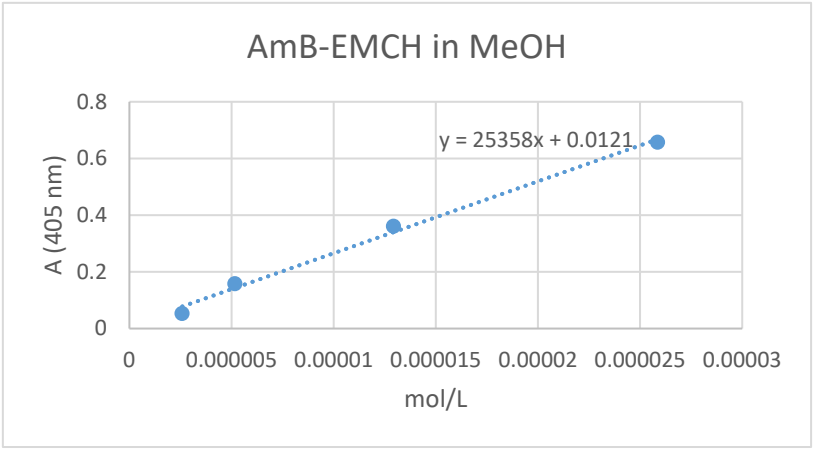
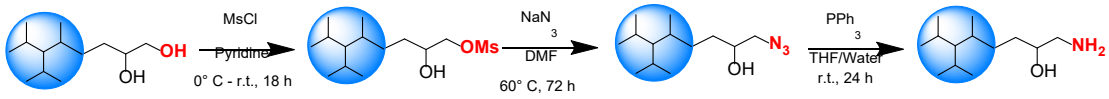



**Figure S5.** Calibration curve of AmB-EMCH in methanol measured by UV/Vis at 405 nm.




**Scheme S3.** Synthesis of amine-bearing polyglycerol.

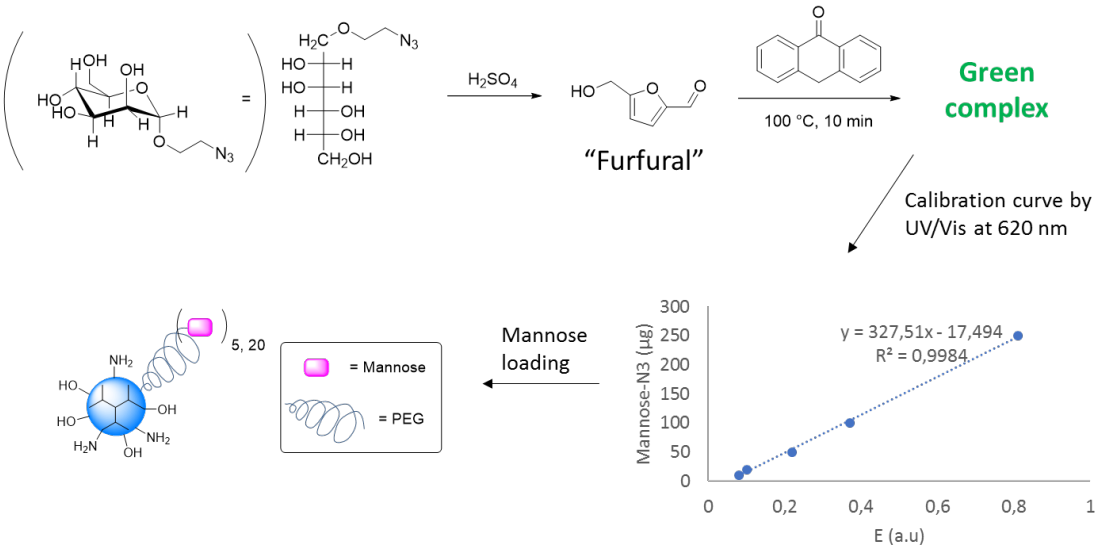



**Figure S6.** Quantification of mannose loading via Anthrone method.

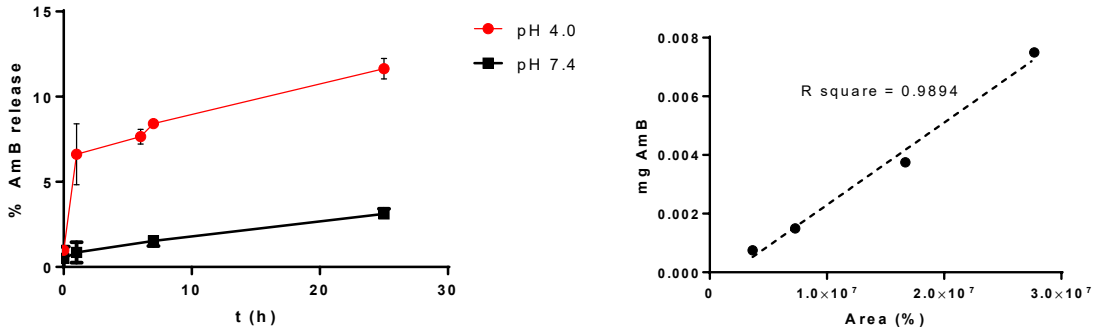
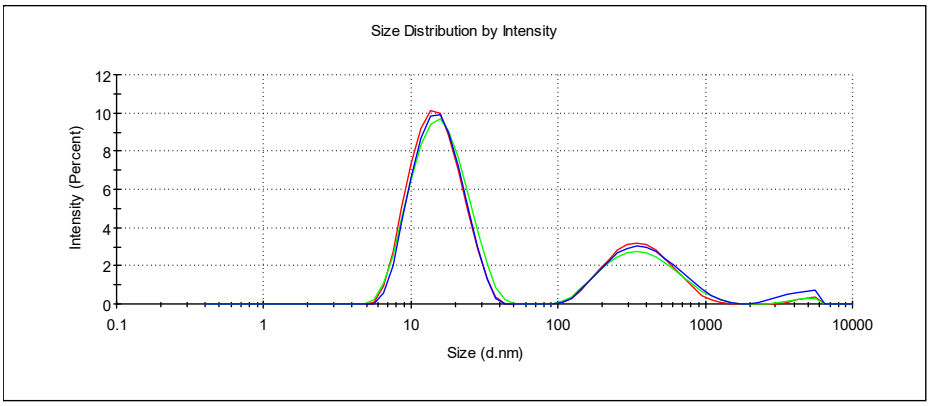
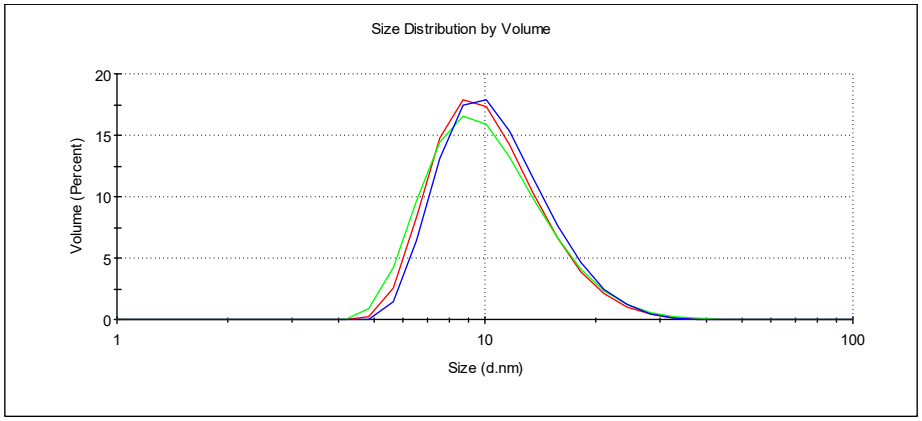



**Figure S7.** (**A**) Representative release profile of PG-AmB-PEG incubated at pH 4.0 and 7.4 at 37 °C over 25 h. The AmB release (%) was quantified by RP-HPLC. Mean ± SEM were obtained from triplicates in three independent experiments. (**B**) Calibration curve for AmB in methanol measured by RP-HPLC at a retention time of 1.1 min with methanol-0.005M EDTA (90:10) as mobile phase at a flow rate of 1.0 mL $min^{-1}$ under isocratic regime. The injection volume was 25 µL.

(A)


Size Distribution by Intensity
Intensity (Percent)
0
2
4
6
8
10
12
0.1
1
10
100
1000
10000
Size (d.nm)


Size Distribution by Volume
Volume (Percent)
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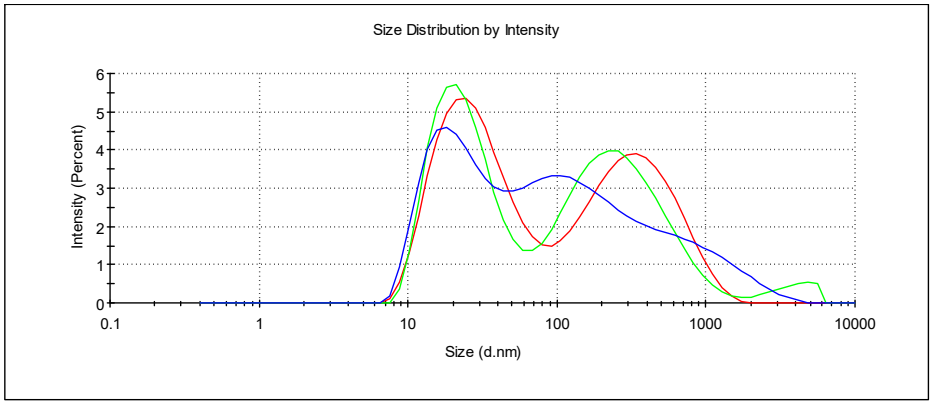
10
15
20
1
10
100
Size (d.nm)

(B)


Size Distribution by Intensity
Intensity (Percent)
0
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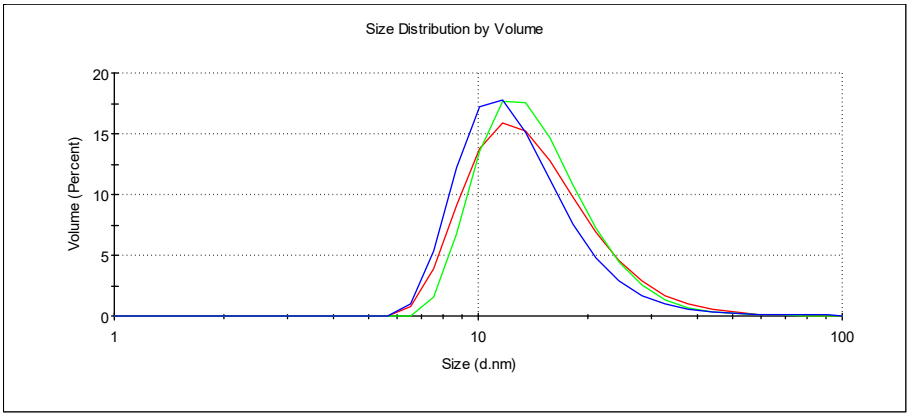
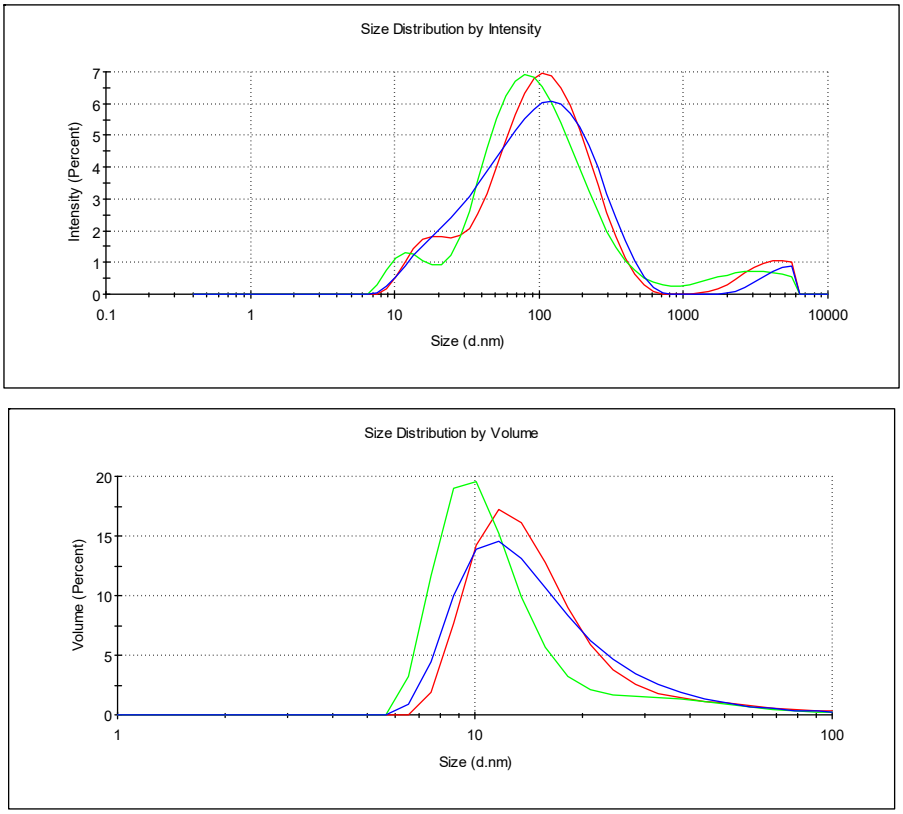
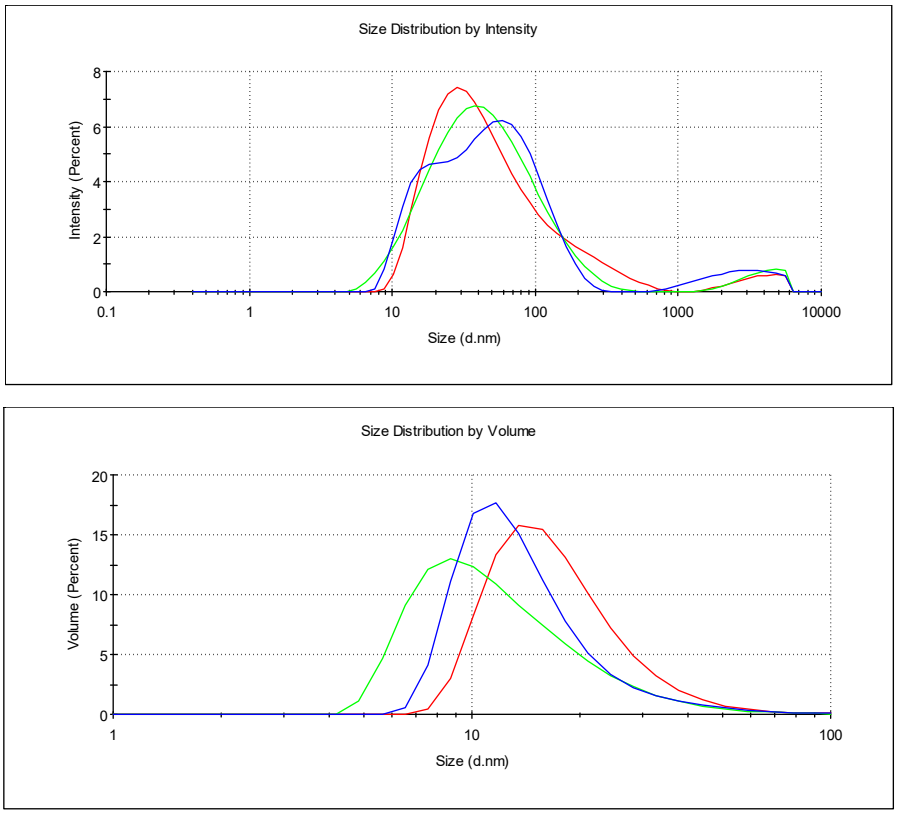
2
3
4
5
6
0.1
1
10
100
1000
10000
Size (d.nm)


Size Distribution by Volume
Volume (Percent)
0
5
10
15
20
1
10
100
Size (d.nm)

(C)


Size Distribution by Intensity
Intensity (Percent)
0
1
2
3
4
5
6
7
0.1
1
10
100
1000
10000
Size (d.nm)
Size Distribution by Volume
Volume (Percent)
0
5
10
15
20
1
10
100
Size (d.nm)

(D)


Size Distribution by Intensity
Intensity (Percent)
0
2
4
6
8
0.1
1
10
100
1000
10000
Size (d.nm)
Size Distribution by Volume
Volume (Percent)
0
5
10
15
20
1
10
100
Size (d.nm)

(E)

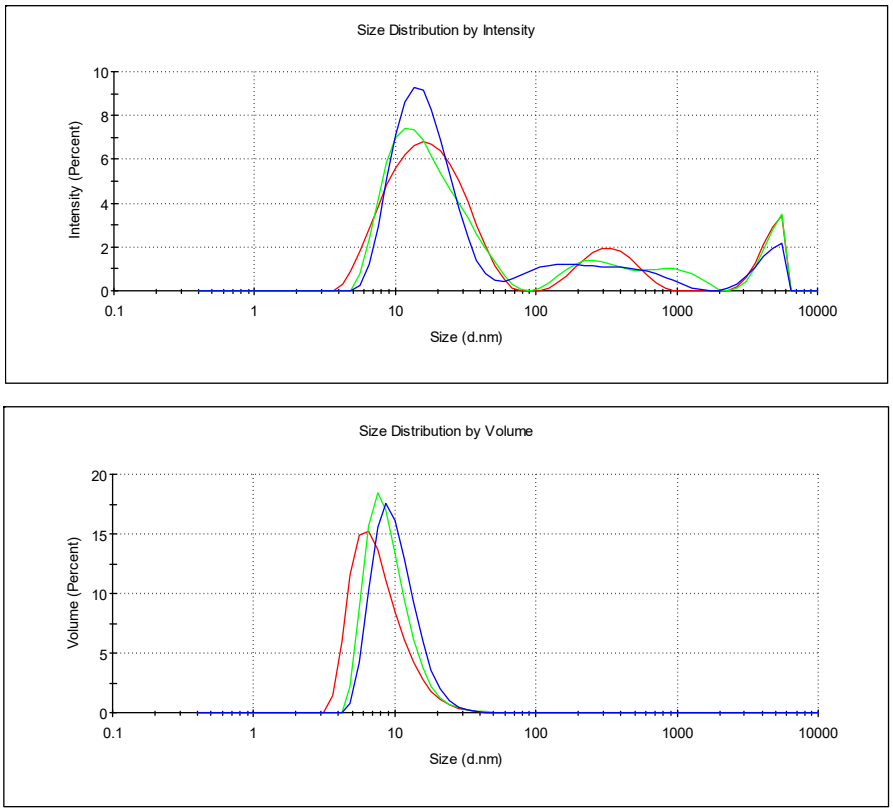



**Figure S8.** Dynamic light scattering measurement showing the size distribution by volume of conjugate (A) PG-PEG-FITC, (B) PG-PEG-Mann5-FITC, (C) PG-PEG-Mann10-FITC, (D) PG-PEG-Mann20-FITC and (E) PG-AmB-PEG-Mann5.

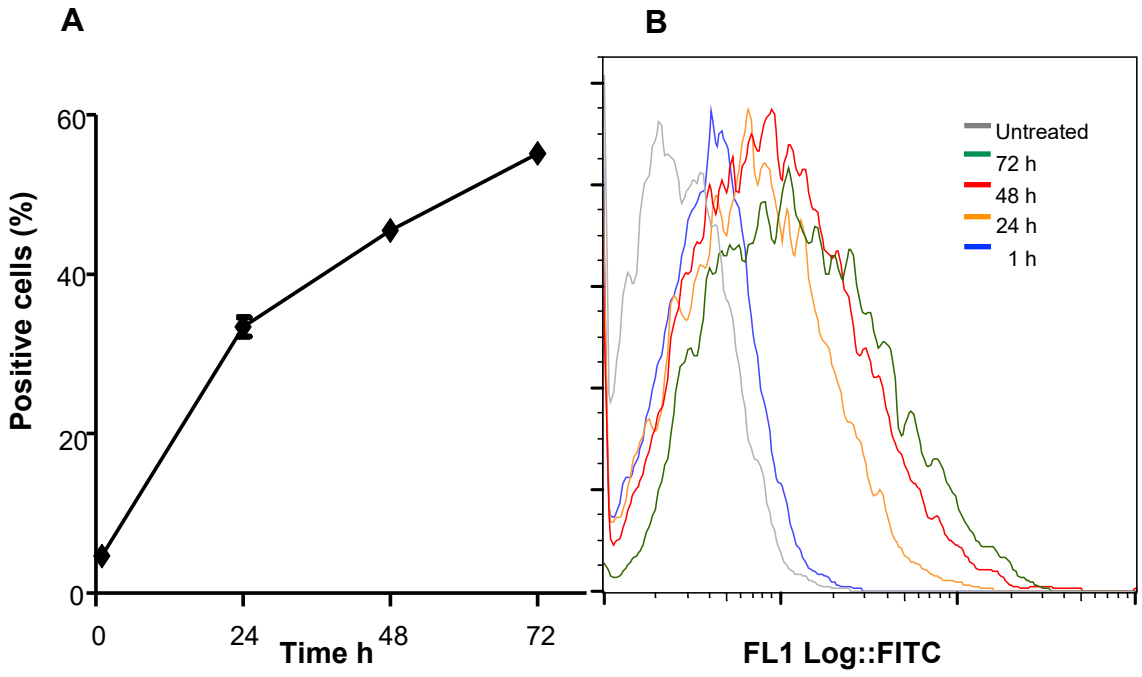



**Figure S9.** Cellular uptake kinetic profile obtained by flow cytometry for PG-PEG-Mann5-FITC.

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