

Supplementary Materials:

Development and Characterization of PEGylated Fatty Acid-*block*-Poly(ϵ -Caprolactone) Novel Block Copolymers and Their Self-Assembled Nanostructures for Ocular Delivery of Cyclosporine A

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Supplementary Figures

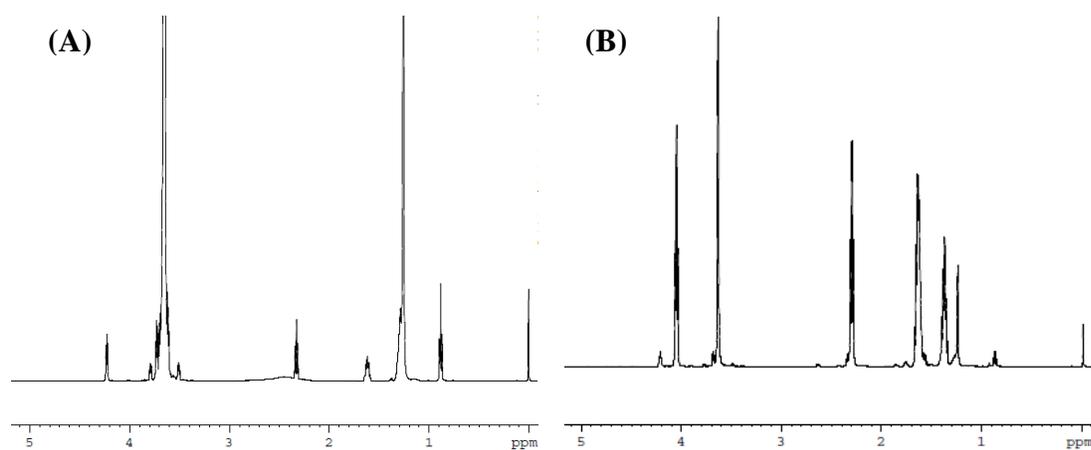


Figure S1. Representative ¹H NMR spectra of Myrj S40 (A) and Myrj S40-*b*-PCL₃₅ (B).

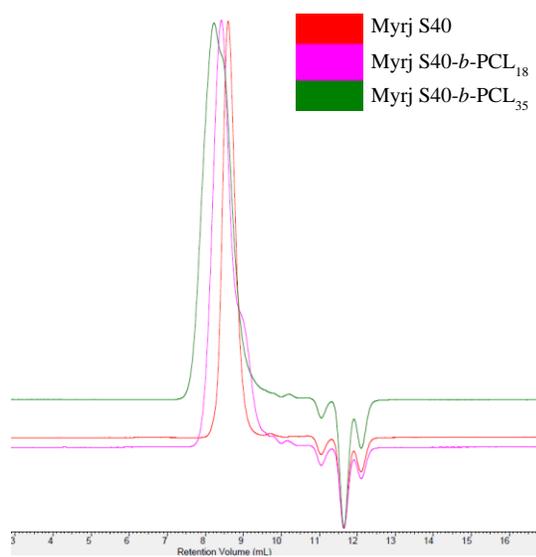


Figure S2. GPC chromatograms of unmodified Myrj S40 and the synthesized Myrj S40-*b*-PCL copolymers.

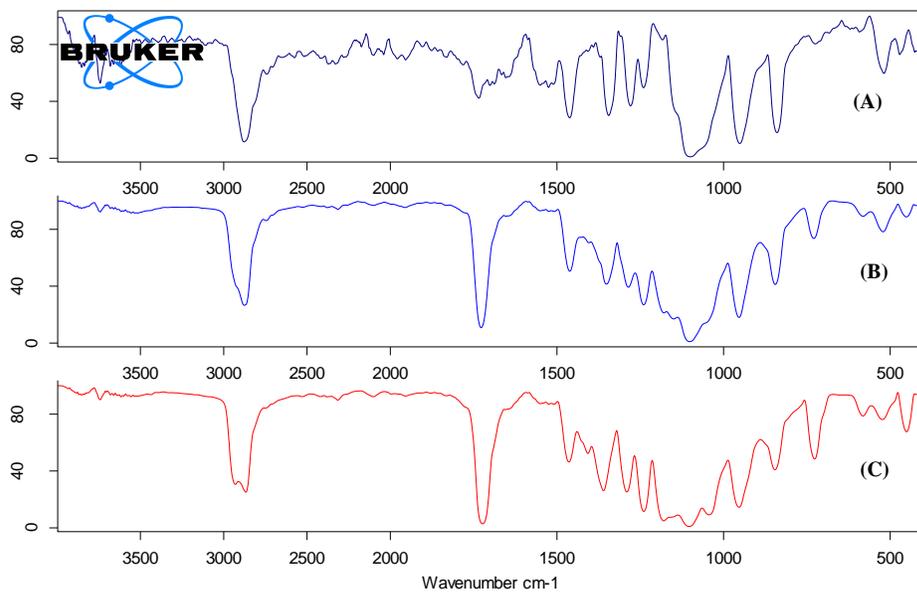


Figure S3. FTIR spectra of Myrj S40 (A), Myrj S40-*b*-PCL₁₈ (B), and Myrj S40-*b*-PCL₃₅ (C).

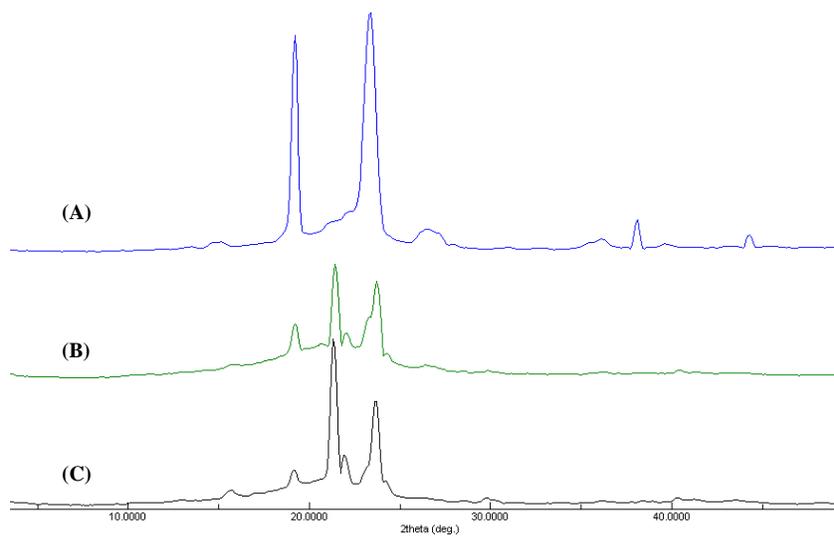


Figure S4. XRD diffractograms of Myrj S40 (A), Myrj S40-*b*-PCL₁₈ (B), and Myrj S40-*b*-PCL₃₅ (C).

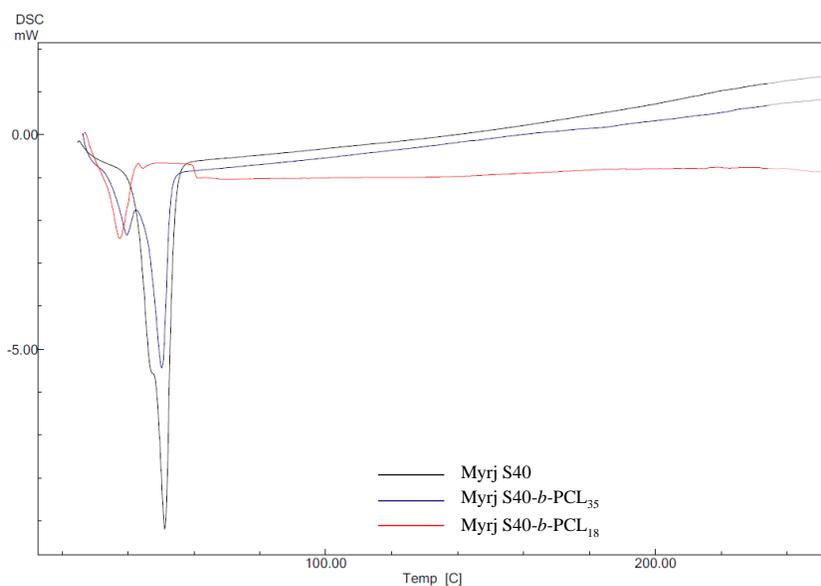


Figure S5. DSC thermograms of Myrj S40, Myrj S40-*b*-PCL₁₈, and Myrj S40-*b*-PCL₃₅.

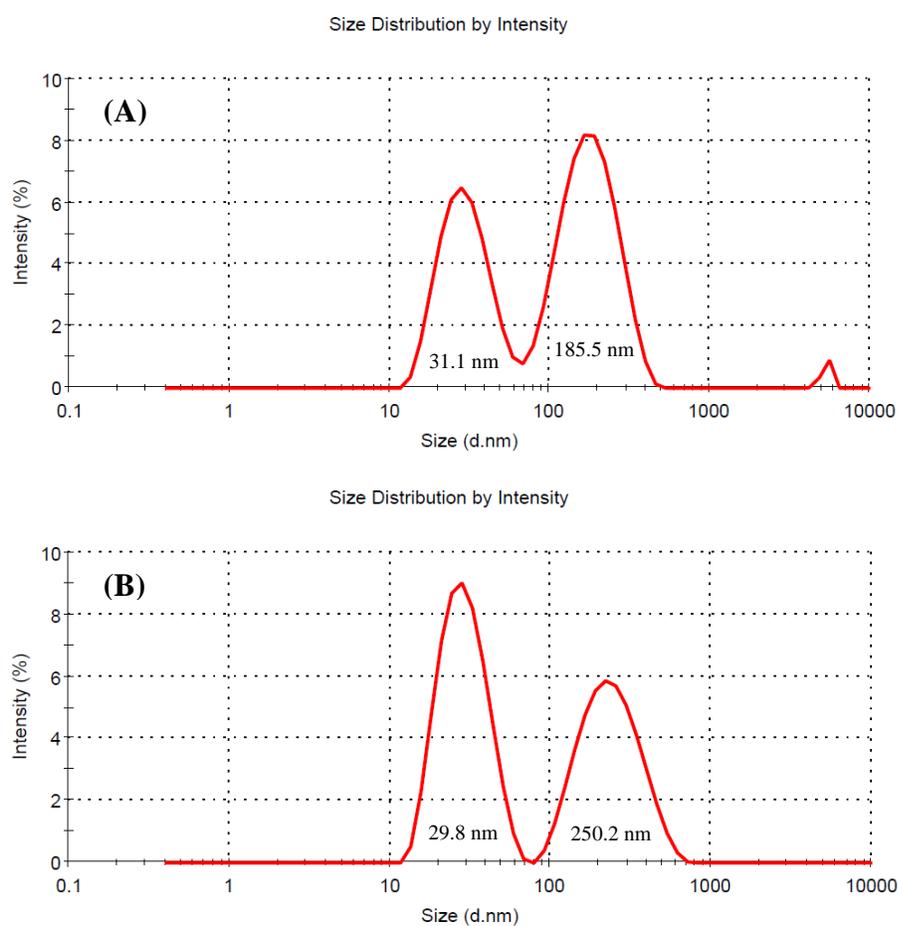


Figure S6. Representative size distribution profiles of (A) unloaded Myrj S100-*b*-PCL₄₄ micelles and (B) CyA-loaded Myrj S100-*b*-PCL₄₄ nanocarriers obtained by dynamic light scattering (Zetasizer Nano ZS, Malvern Instrument Ltd., UK) showing bimodal size population.

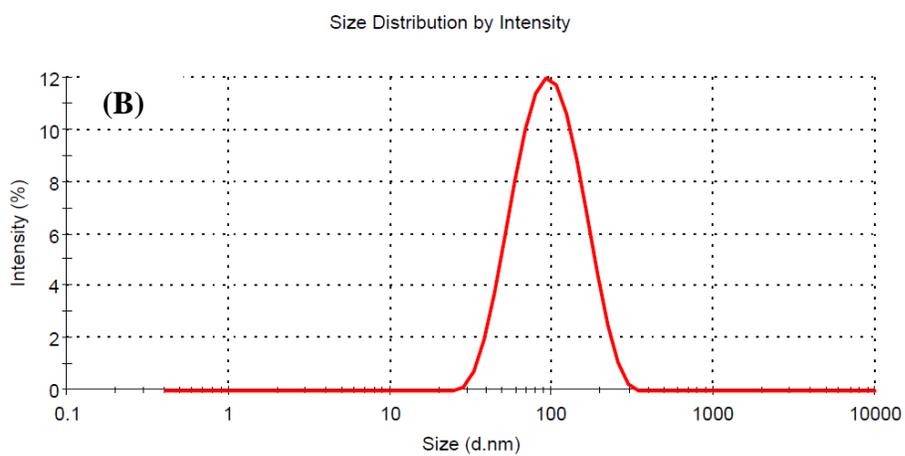
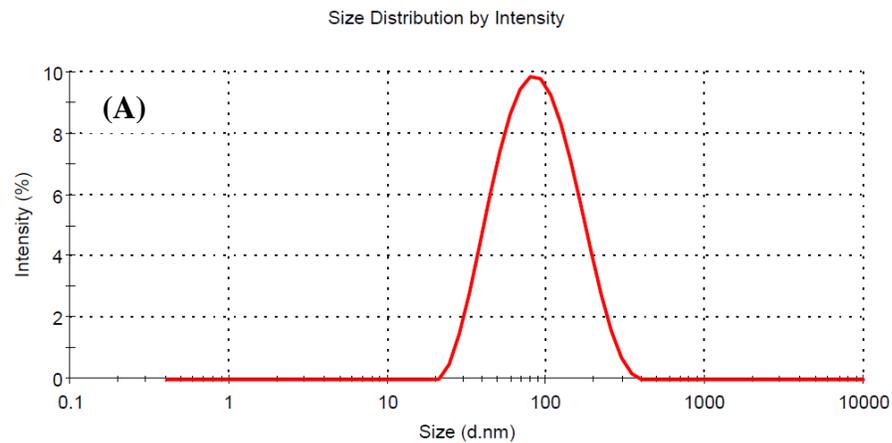


Figure S7. Representative size distribution profiles of (A) unloaded Myrj S100-*b*-PCL₈₈ micelles and (B) CyA-loaded Myrj S100-*b*-PCL₈₈ nanocarriers obtained by dynamic light scattering (Zetasizer Nano ZS, Malvern Instrument Ltd., UK) showing bimodal size population.

Supplementary Tables

Table S1. Grading system for ocular lesions in irritation tests

Cornea	
Lesion	Score
I. Opacity-Degree of density (area which is most dense is taken for reading)	
No ulceration or opacity	0
Scattered or diffuse area – details of iris clearly visible	1
Easily discernible translucent areas, details of iris slightly obscured	2
Opalescent areas, no details of iris visible, size of pupil barely discernible	3
Opaque, iris invisible	4
II. Area of cornea involved	
One quarter (or less) but not zero	1
Greater than one quarter but less than one half	2
Greater than one half but less than three quarters	3
Greater than three quarters up to whole area	4
Score equals (I x II x 5):	Total maximum = 80
Iris	
Lesion	Score
I. Values	
Normal	0
Folds above normal, congestion, swelling, circumcorneal injection (any one or all of these or combination of any thereof), iris still reacting to light (sluggish reaction is positive)	1
No reaction to light, hemorrhage; gross destruction (anyone/ all of these)	2
Score equals (I x 5):	Total maximum = 10
Conjunctiva	
Lesion	Score
I. Redness (refers to palpebral conjunctiva only)	
Vessels normal	0
Vessels definitely injected above normal	1
More diffuse, deeper crimson red, individual vessels not easily discernible	2
Diffuse beefy red	3
II. Chemosis	
No swelling	0
Any swelling above normal (includes nictitating membrane)	1
Obvious swelling with partial eversion of the lids	2
Swelling with lids about half closed	3
Swelling with lids about half closed to completely closed	4
III. Discharge	
No discharge	0
Any amount different from normal (does not include small amount observed in inner canthus of normal animals)	1
Discharge with moistening of the lids and hairs just adjacent to the lids	2
Discharge with moistening of the lids and considerable area around the eye	3
Score equals (I + II + III) x 2:	Total maximum = 20

Table S2. Classification of eye irritation scoring system

MMTS*	Irritation classification
0.0-0.5	None
0.6-2.5	Practically none
2.6-15.0	Minimally
15.1-25.0	Mildly
25.1-50.0	Moderately
50.1-80.0	Severely
80.1-100.0	Extremely
100.1-110.0	Maximally

* MMTS: Maximum Mean Total Score