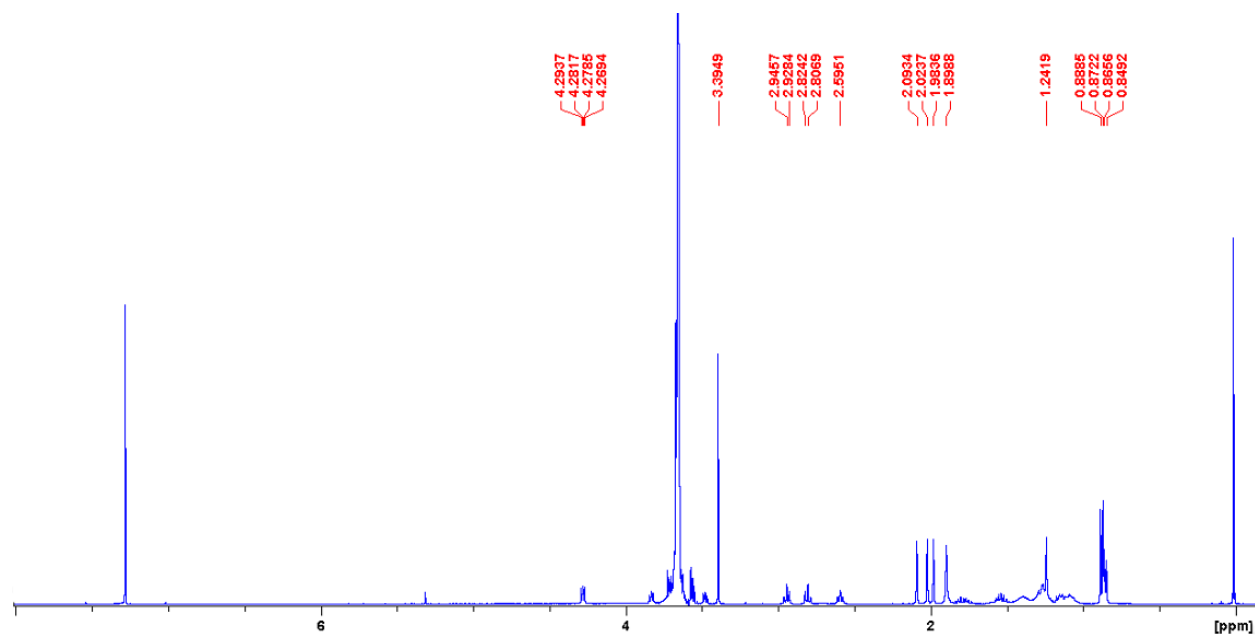
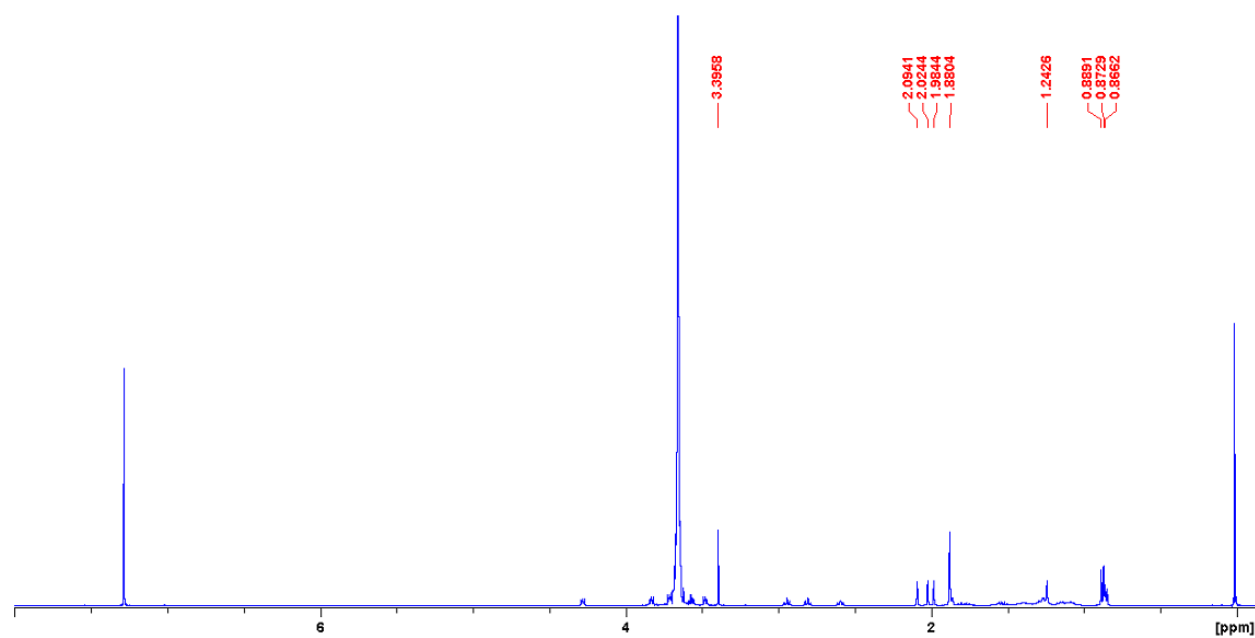


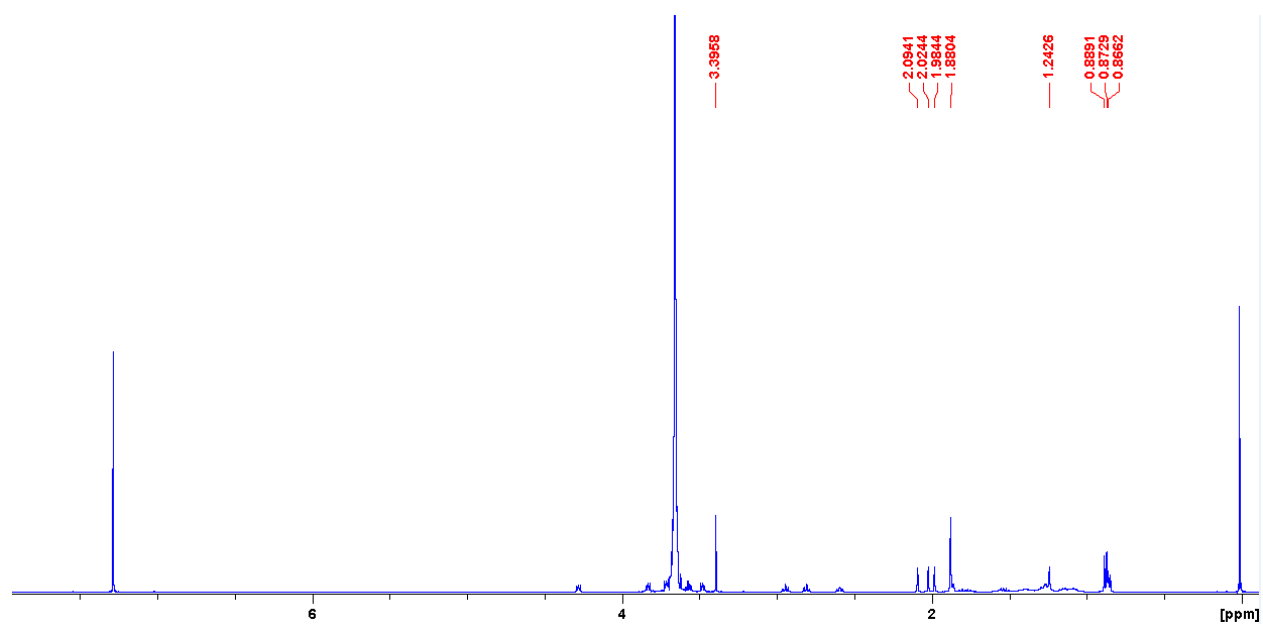
(A)



(B)



(C)



(D)

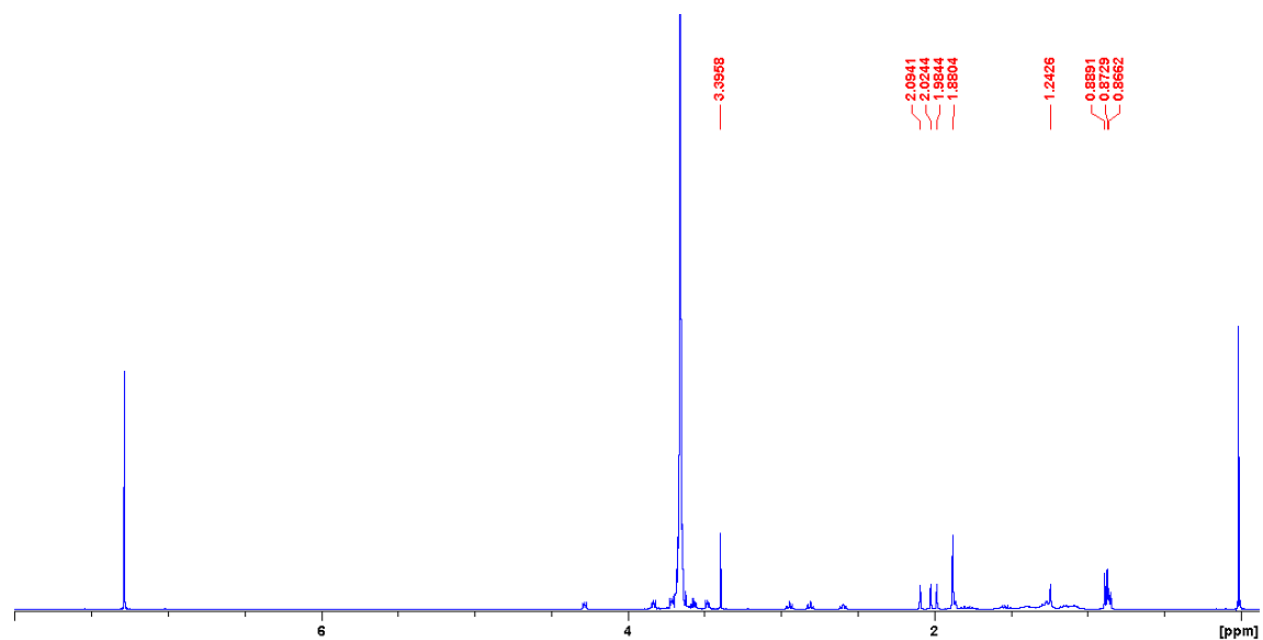
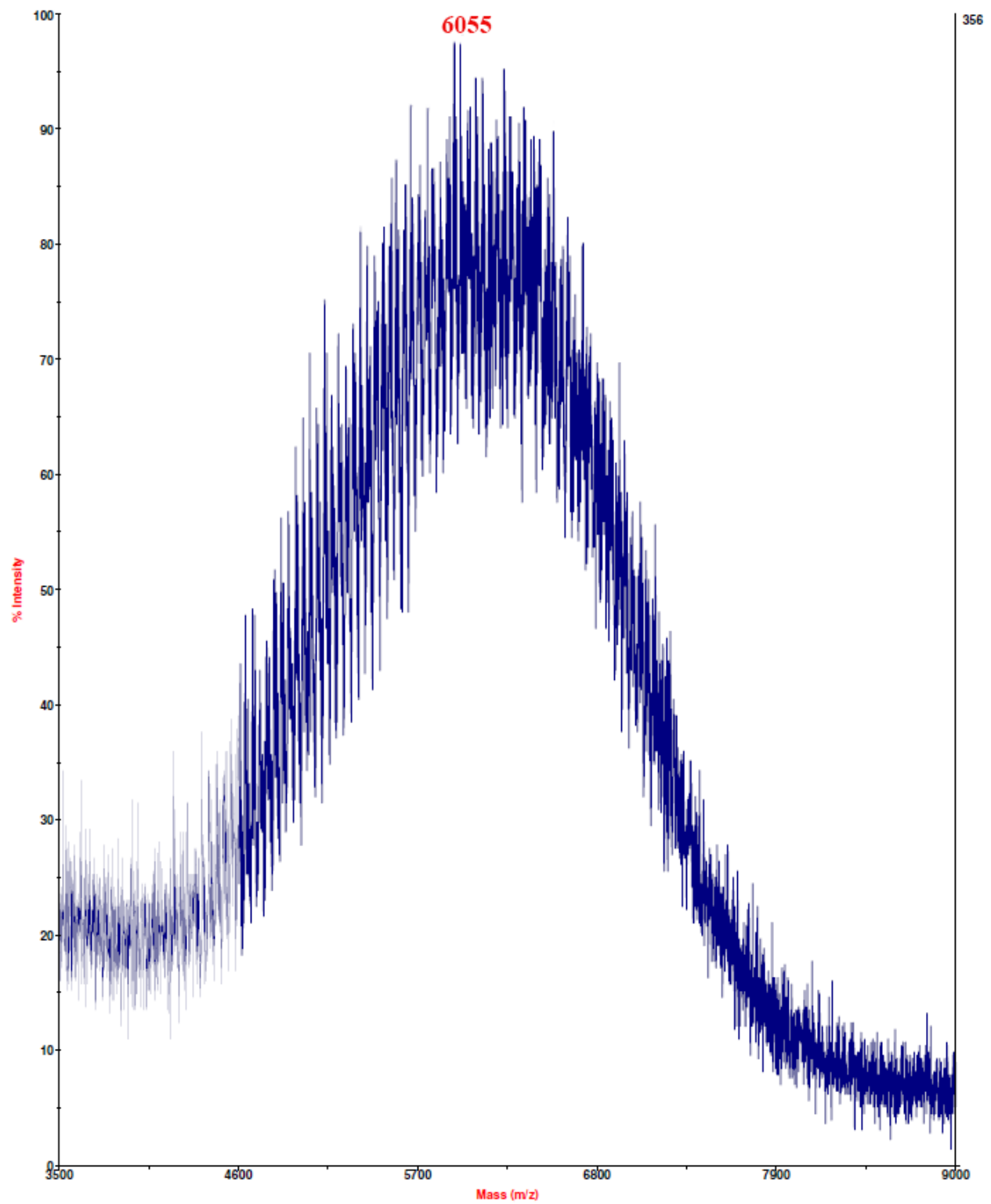
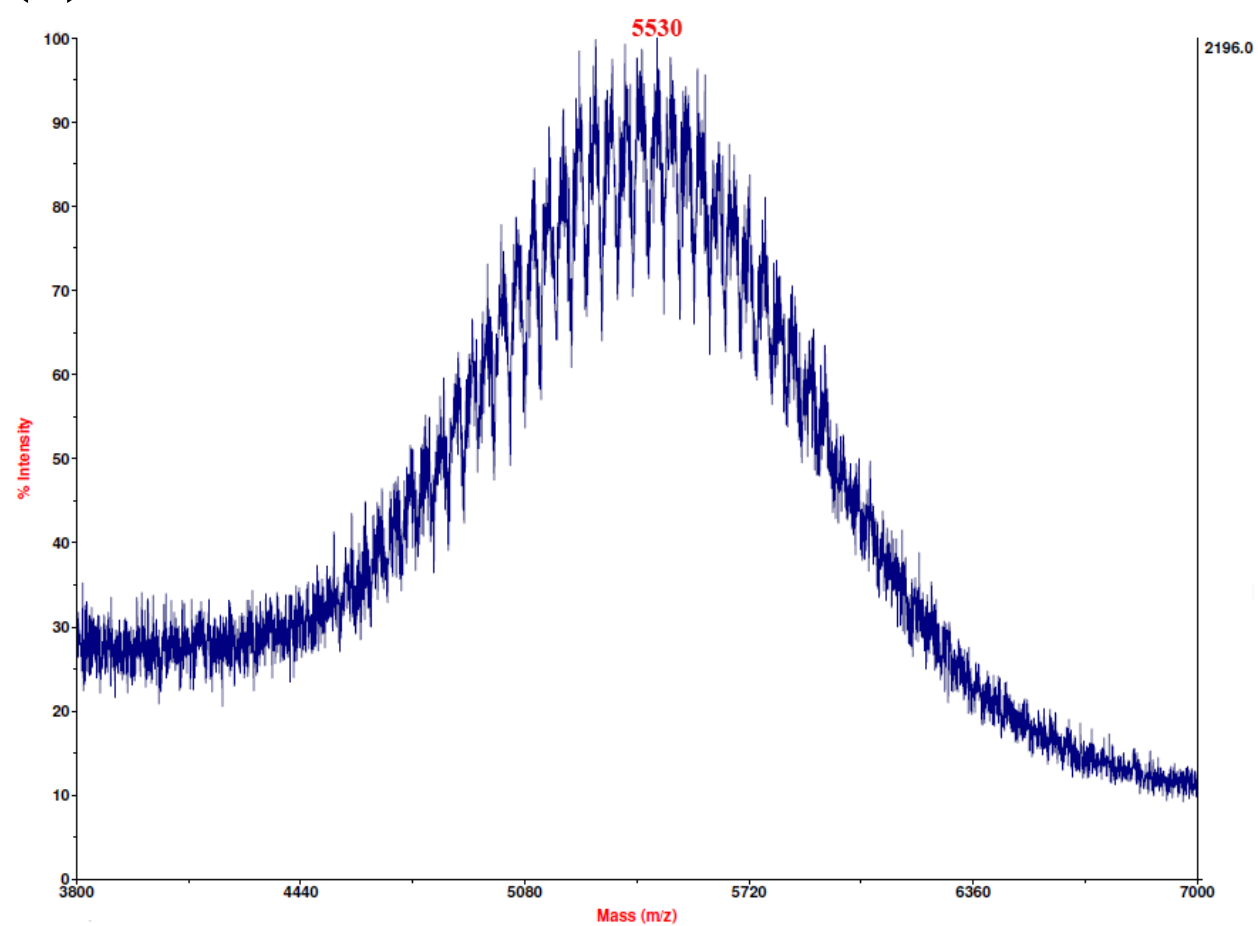


Fig. S1. ^1H NMR spectra (400MHz) of $\text{PEG}_{5\text{K}}\text{-VE}_2$ (A), $\text{PEG}_{5\text{K}}\text{-VE}$ (B), $\text{PEG}_{2\text{K}}\text{-VE}_2$ (C) and $\text{PEG}_{2\text{K}}\text{-VE}$ (D) conjugates in CDCl_3 .

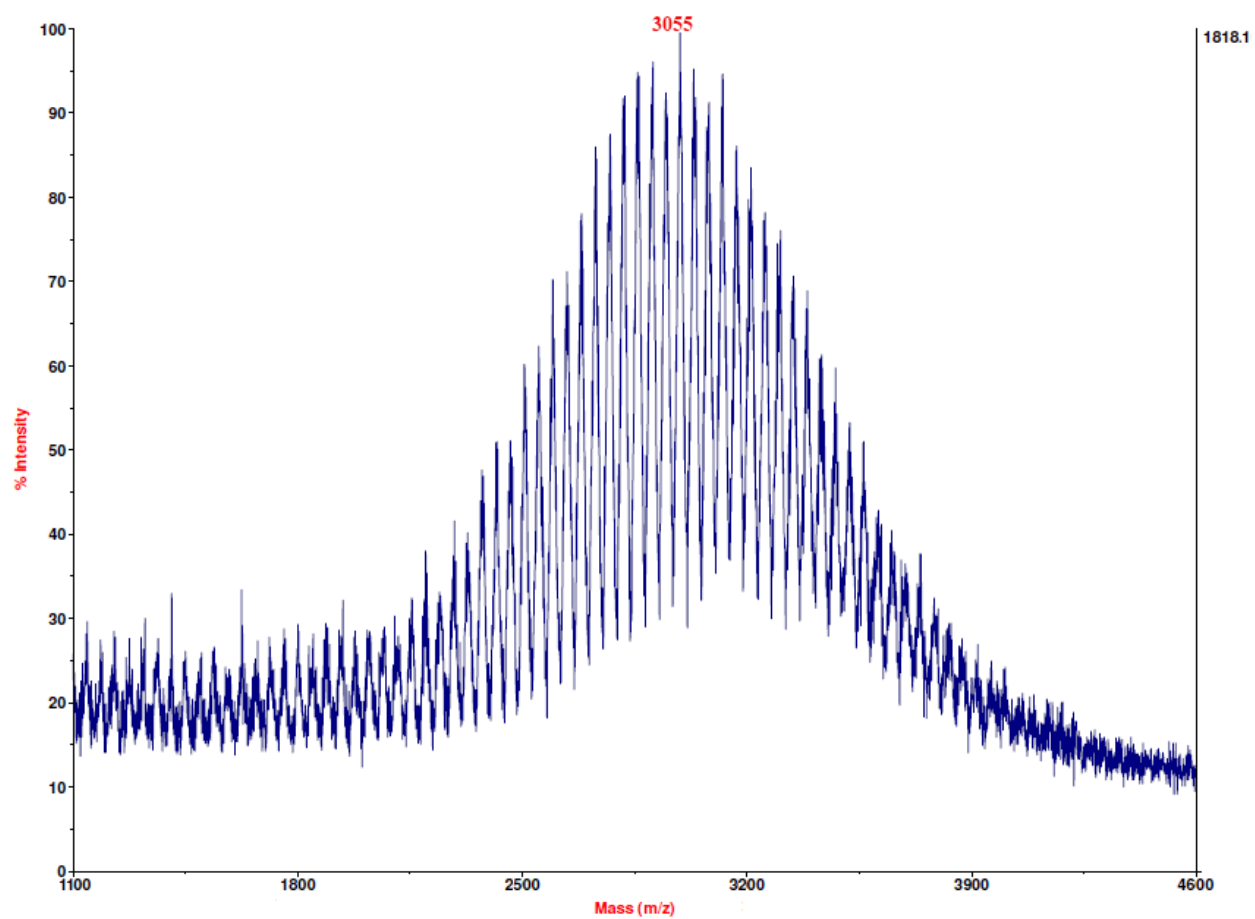
(A)



(B)



(C)



(D)

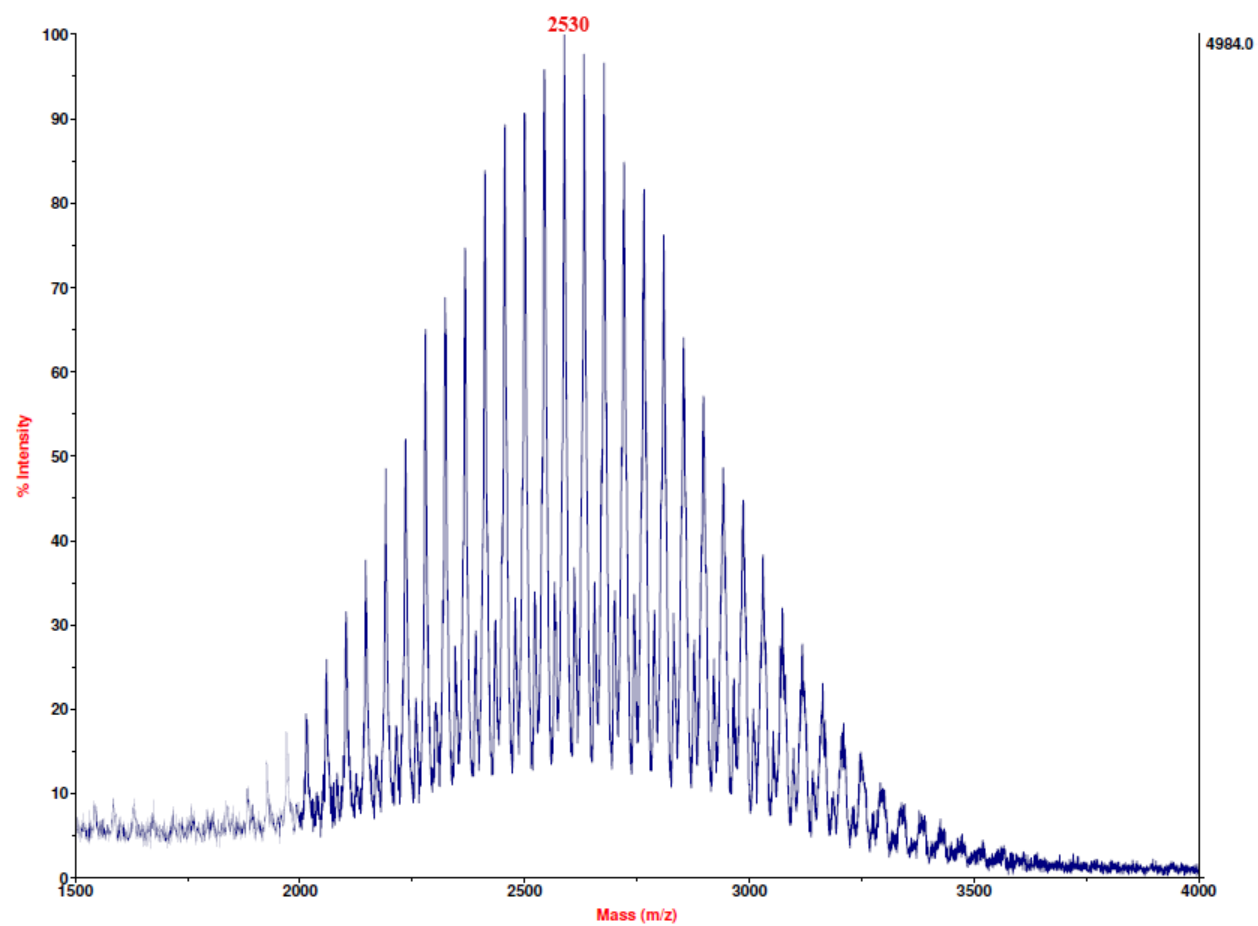
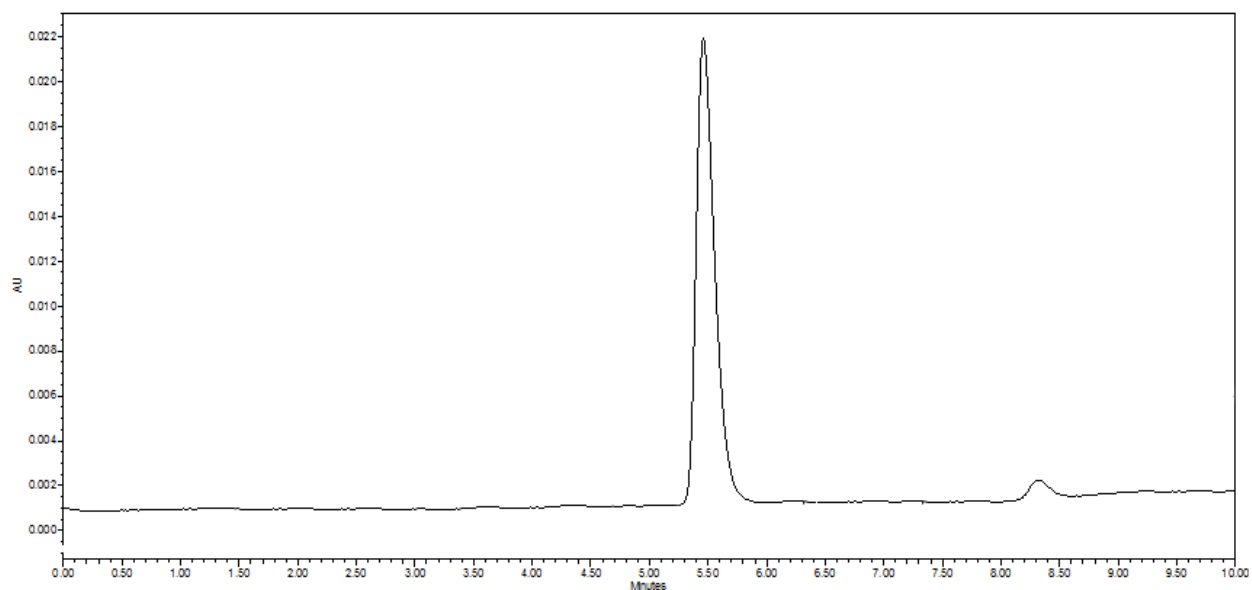


Fig. S2. MADLI-TOF of PEG_{5K}-VE₂ (A), PEG_{5K}-VE (B), PEG_{2K}-VE₂ (C) and PEG_{2K}-VE (D) conjugates.

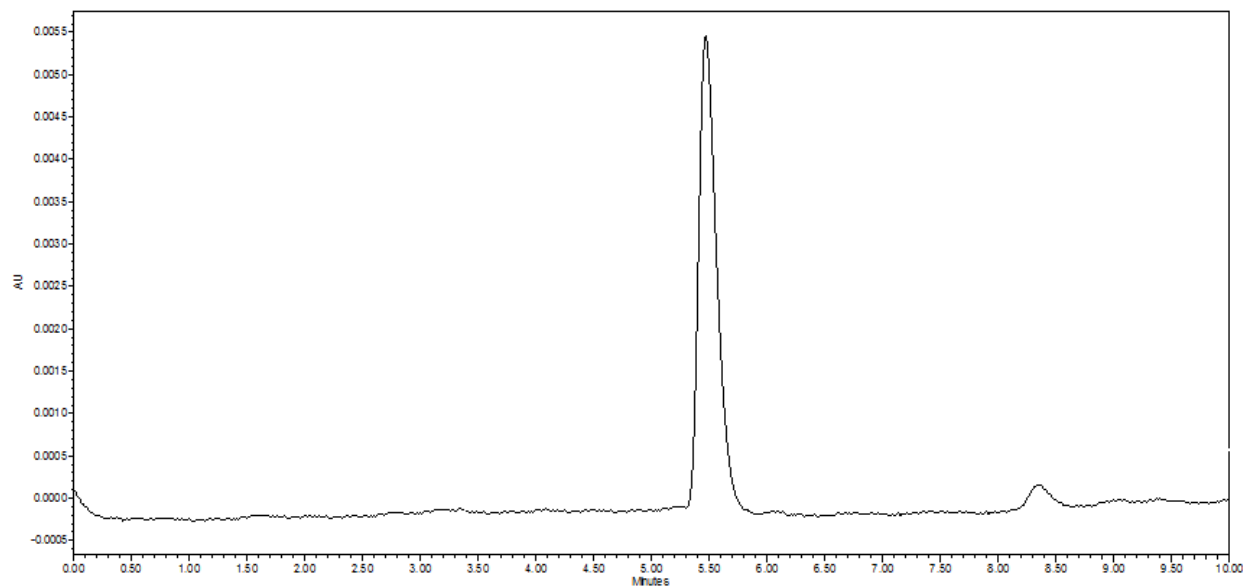
(A)



Peak	Retention Time	Area	% Area	Height
1	5.461	227225	96.04	20742
2	8.329	9377	3.96	814

Purity = 96.04%

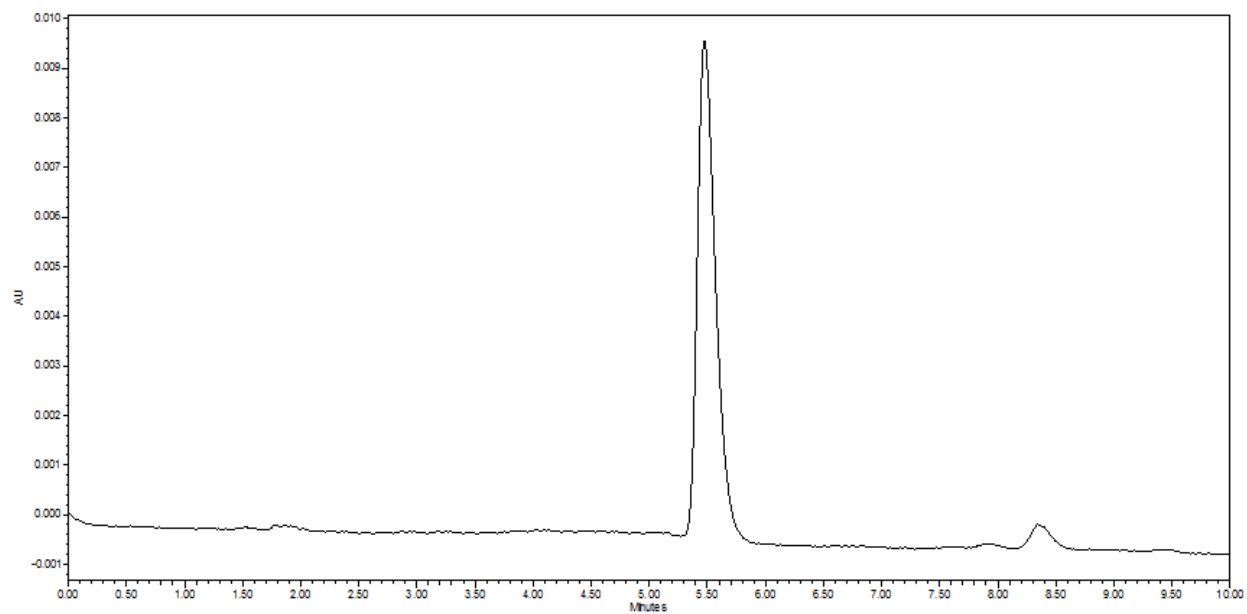
(B)



Peak	Retention Time	Area	% Area	Height
1	5.468	60144	94.32	5587
2	8.352	3623	5.68	288

Purity = 94.32%

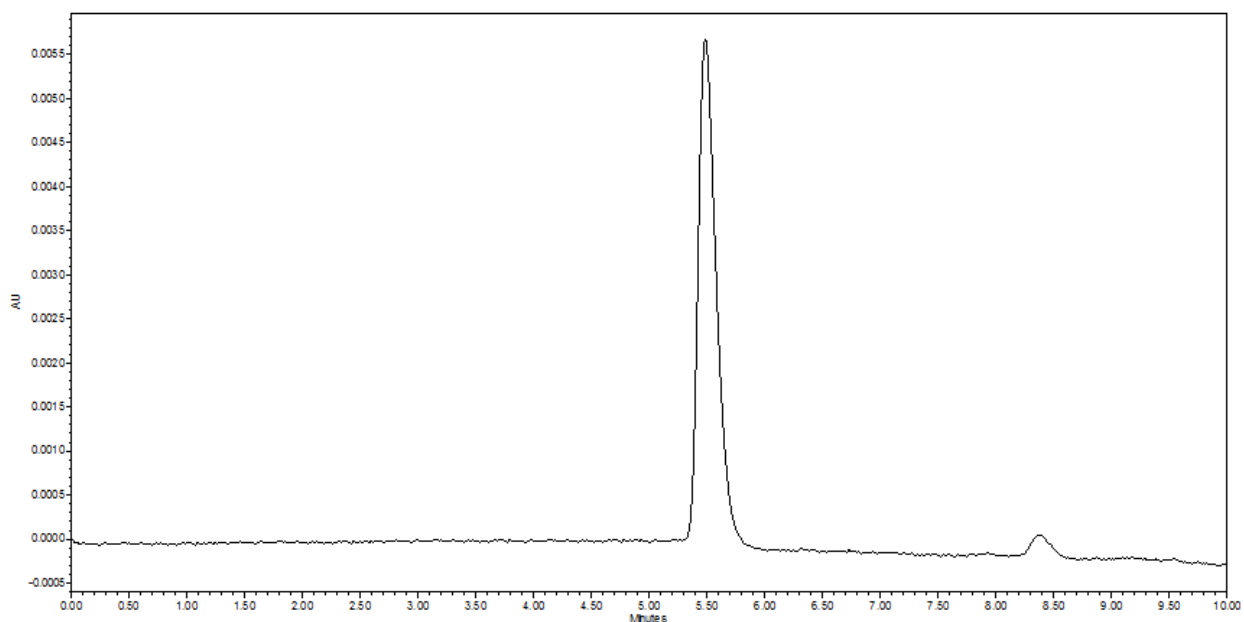
(C)



Peak	Retention Time	Area	% Area	Height
1	5.476	108494	95.06	10016
2	8.344	5641	4.94	483

Purity = 95.06%

(D)

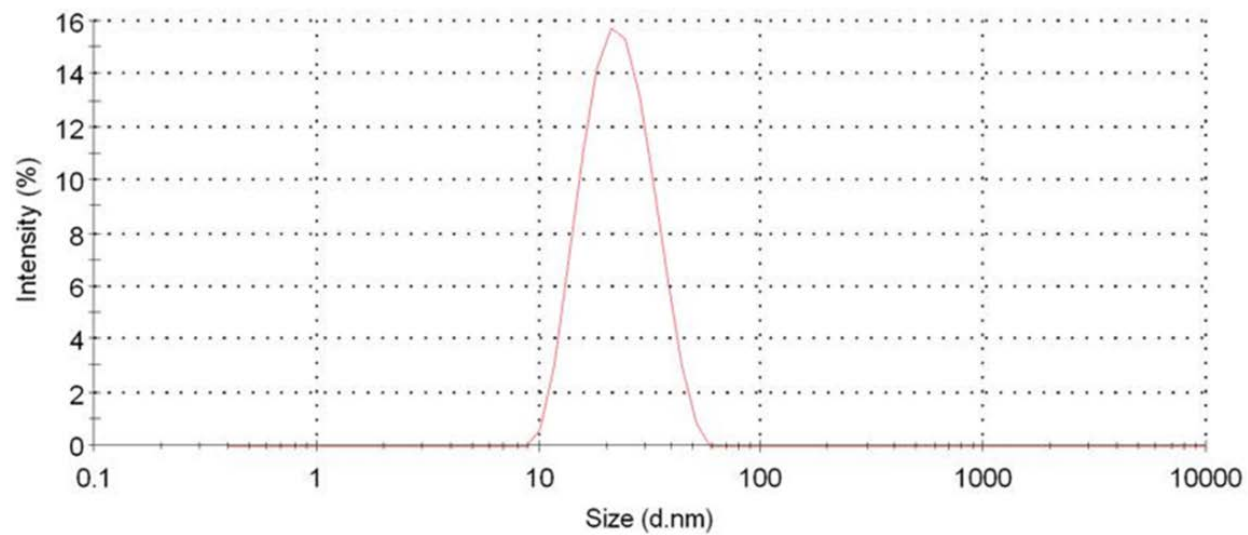


Peak	Retention Time	Area	% Area	Height
1	5.485	62531	95.57	5717
2	8.389	2898	4.43	251

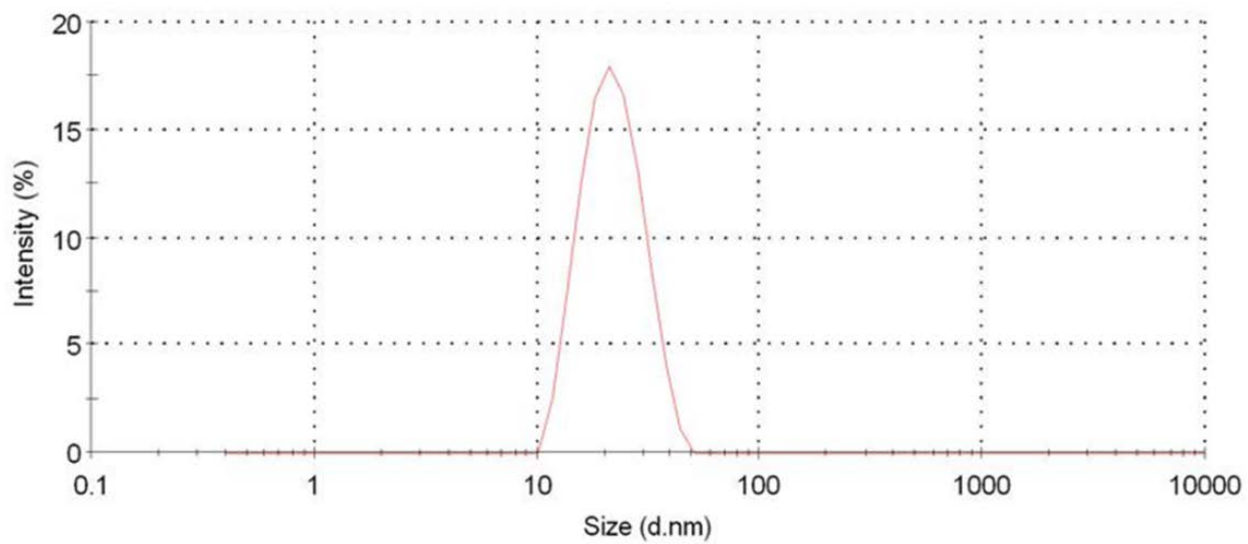
Purity = 95.57%

Fig. S3. HPLC trace of PEG_{5K}-VE₂ (A), PEG_{5K}-VE (B), PEG_{2K}-VE₂ (C) and PEG_{2K}-VE (D) conjugates.

(A)



(B)



(C)

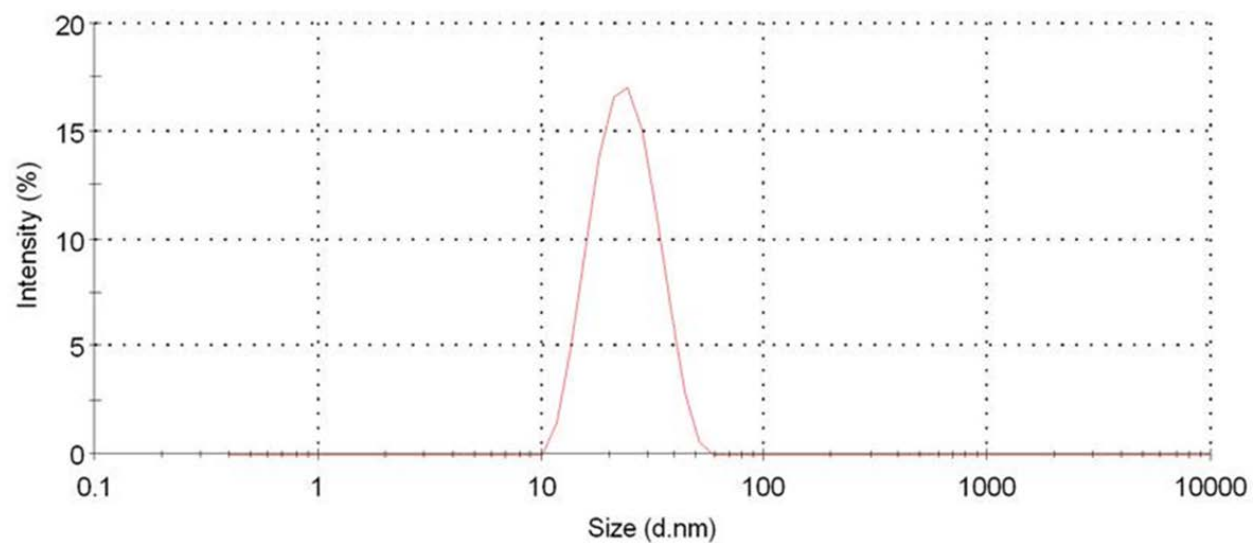
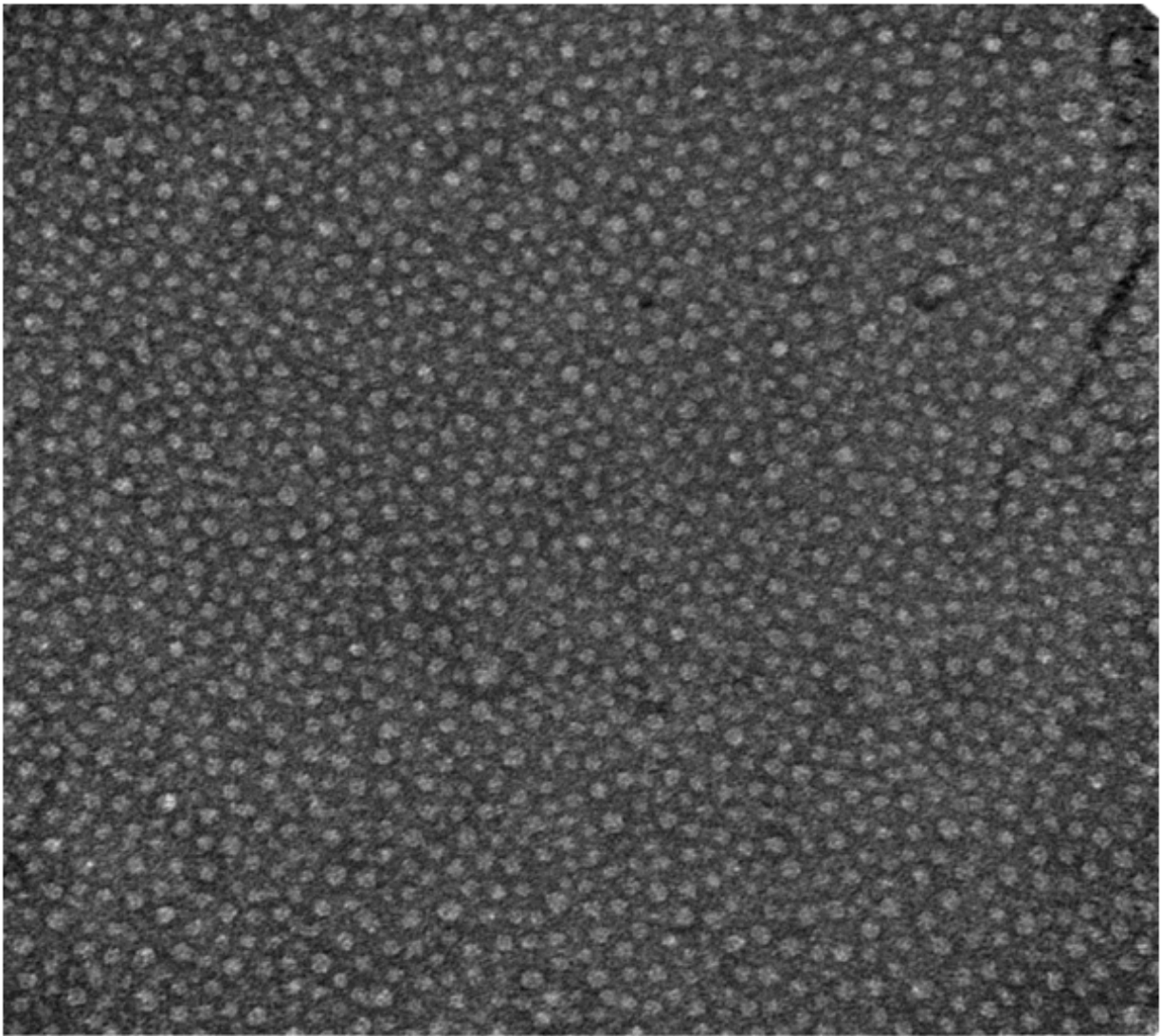


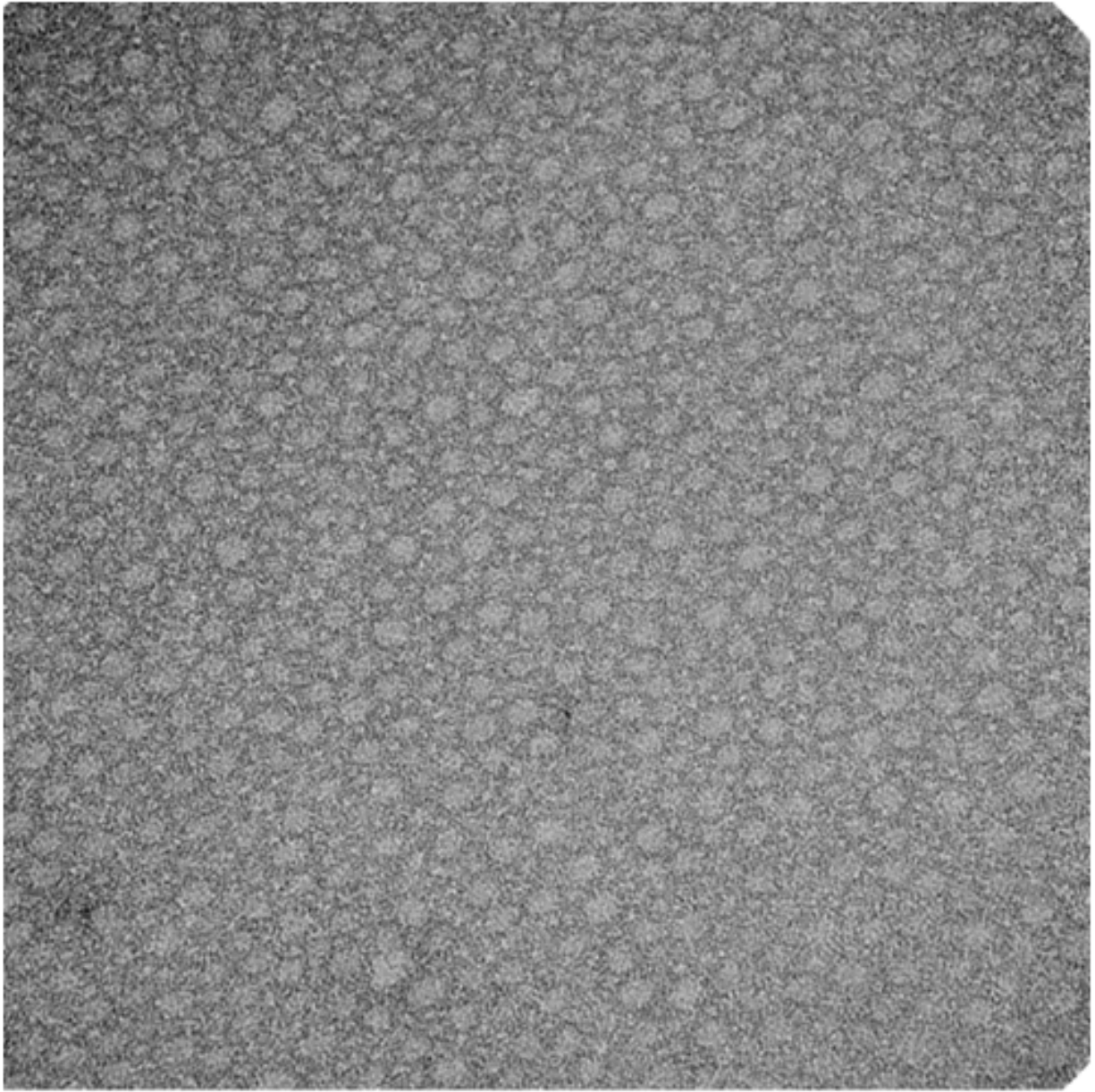
Fig. S4. The size distribution of free PEG_{5K}-VE (A), PEG_{2K}-VE₂ (B) and PEG_{2K}-VE (C) nanoparticles in PBS measured by dynamic light scattering (DLS).

(A)



100 nm

(B)



100 nm

(C)

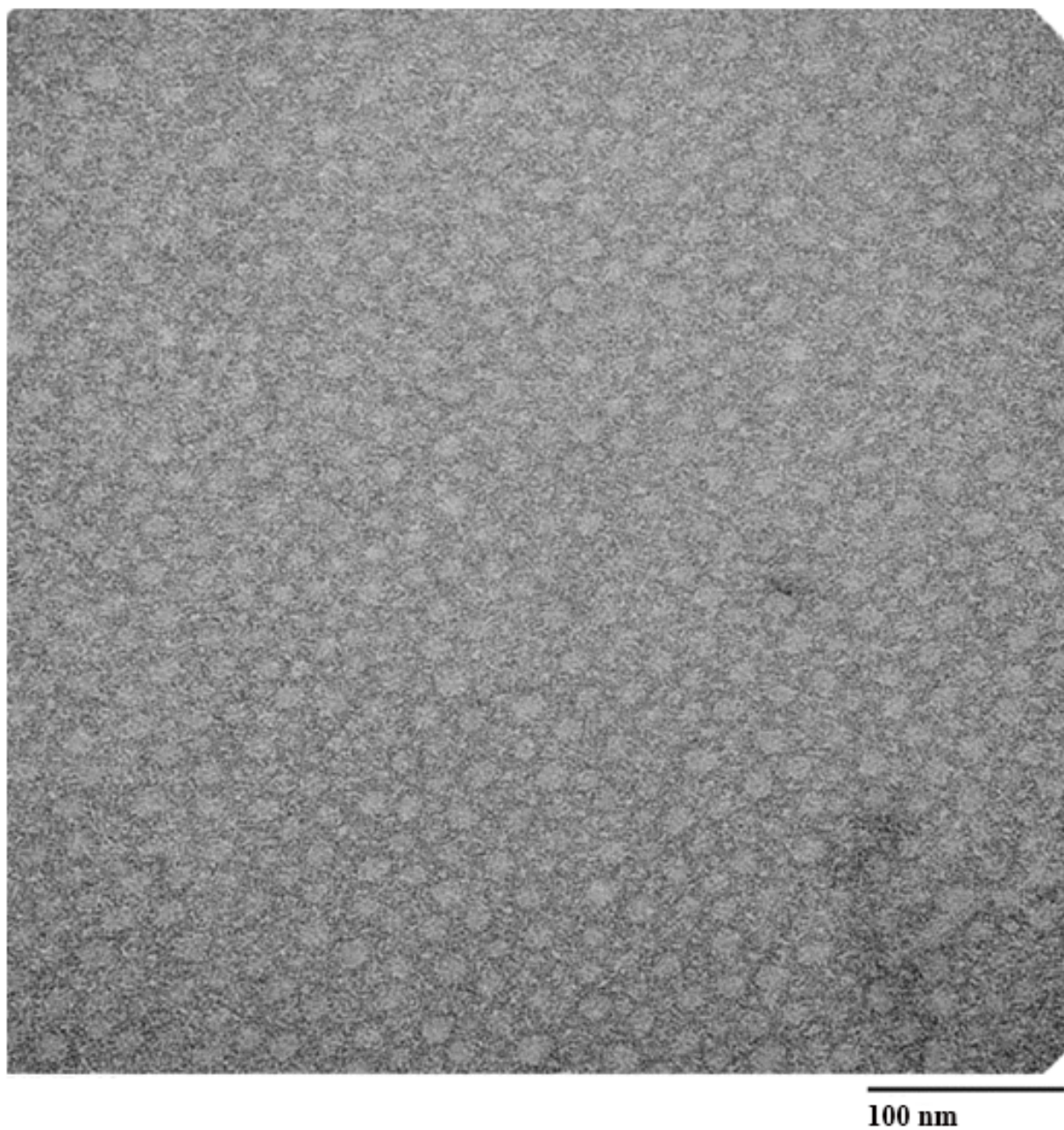


Fig. S5. Transmission electron microscopy of PEG_{5K}-VE (A), PEG_{2K}-VE₂ (B) and PEG_{2K}-VE (C) nanoparticles.