Appendix A.
Supplementary data

Poly N-acryloyl-(L-phenylalanine methyl ester) hollow core nanocapsules facilitate sustained delivery of immunomodulatory drugs and exhibit adjuvant properties

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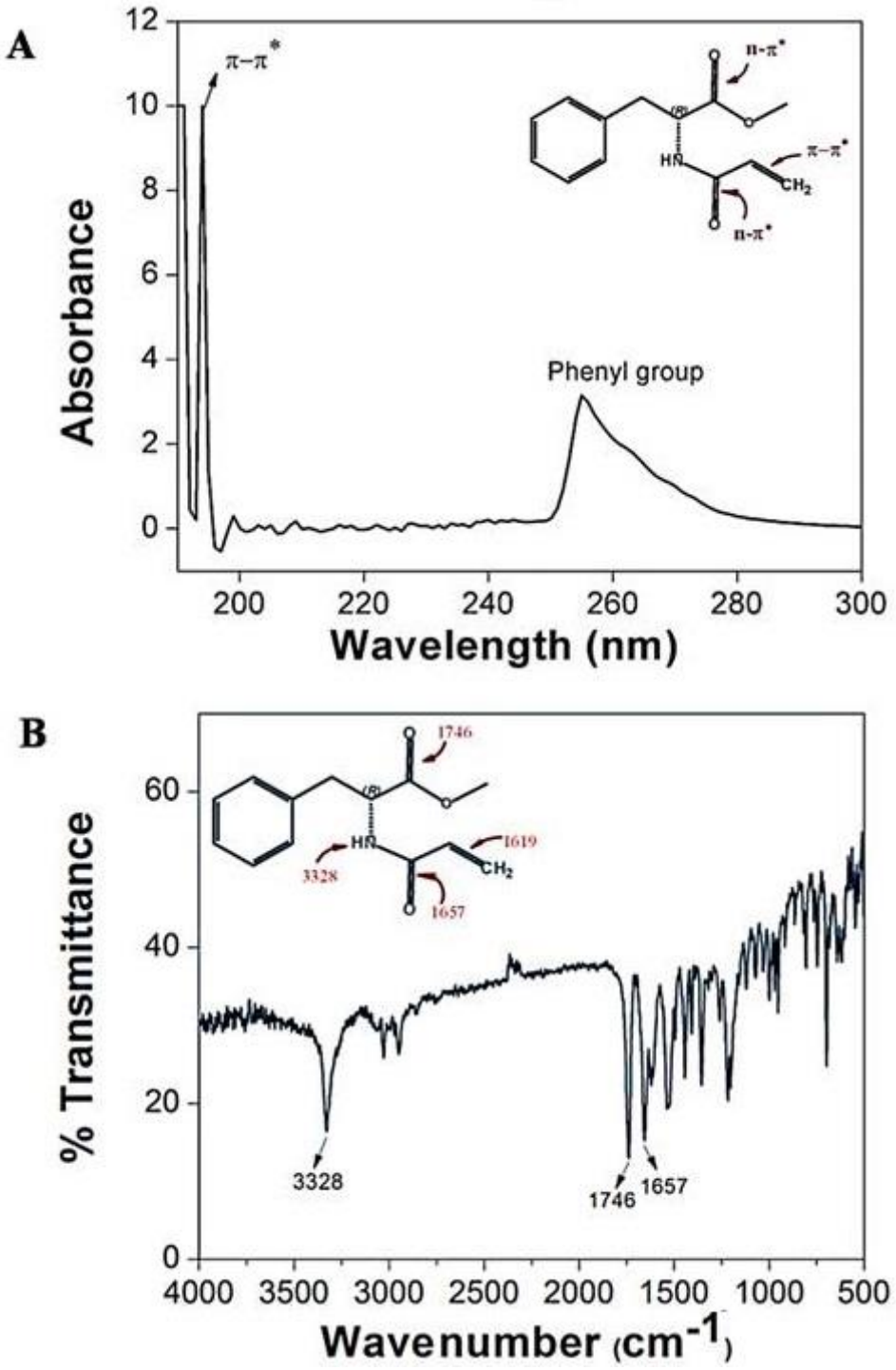

A
Absorbance
Wavelength (nm)
π−π*
n-π*
π−π*
n-π*
Phenyl group
B
% Transmittance
Wavenumber (cm-1)
1746
1619
3328
1657
3328
1746
1657

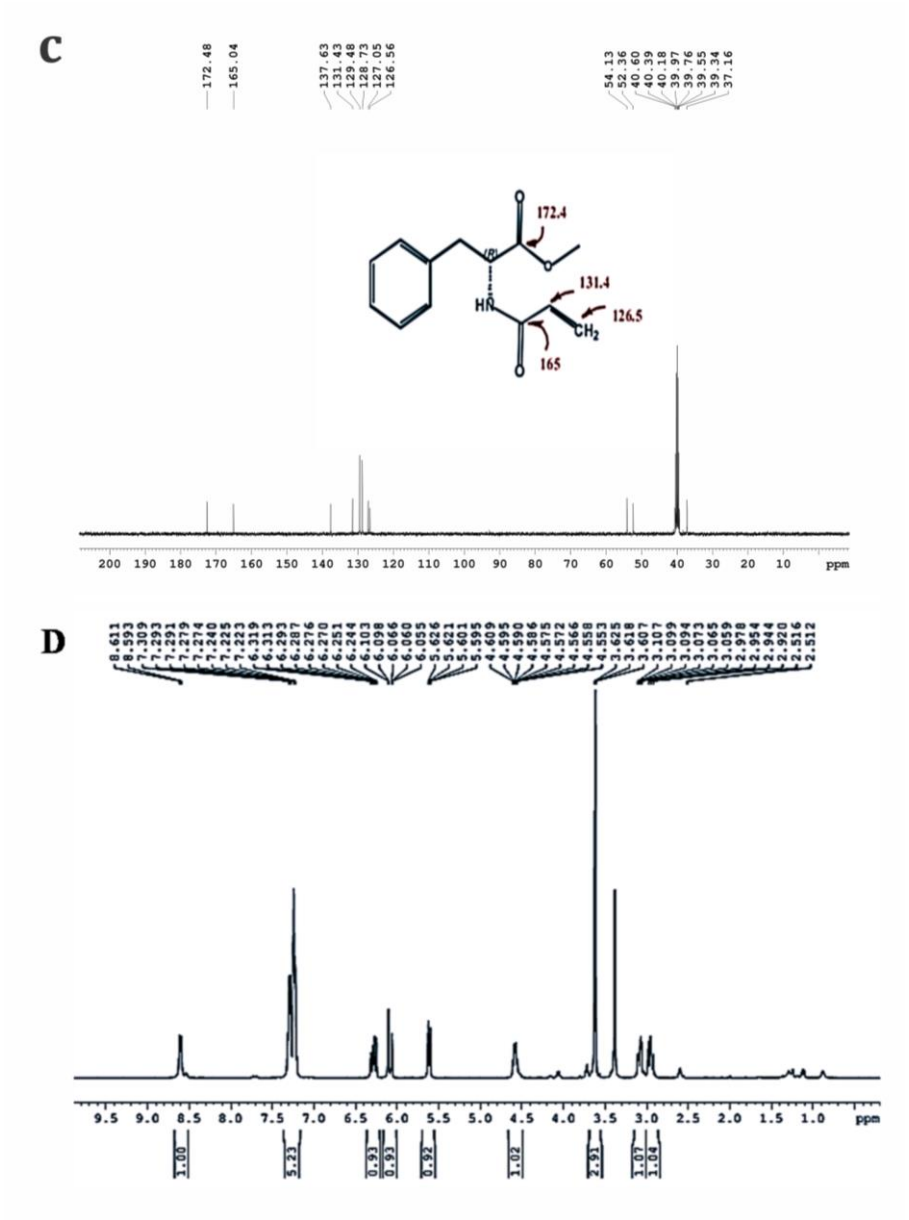


Figure S1. N-acryloyl L-phenyl alanine methyl ester monomer characterization.

N-acryloyl L-phenyl Alanine Methyl Ester monomer was characterized by (A) UV visible spectra revealing phenyl functional group (260nm) and alkene functional group (204nm) while (B) FTIR spectra revealing functional bond vibrational frequency. Chemical structural analysis was revealed by ^{13}C NMR (C) and ^{1}H NMR (D)

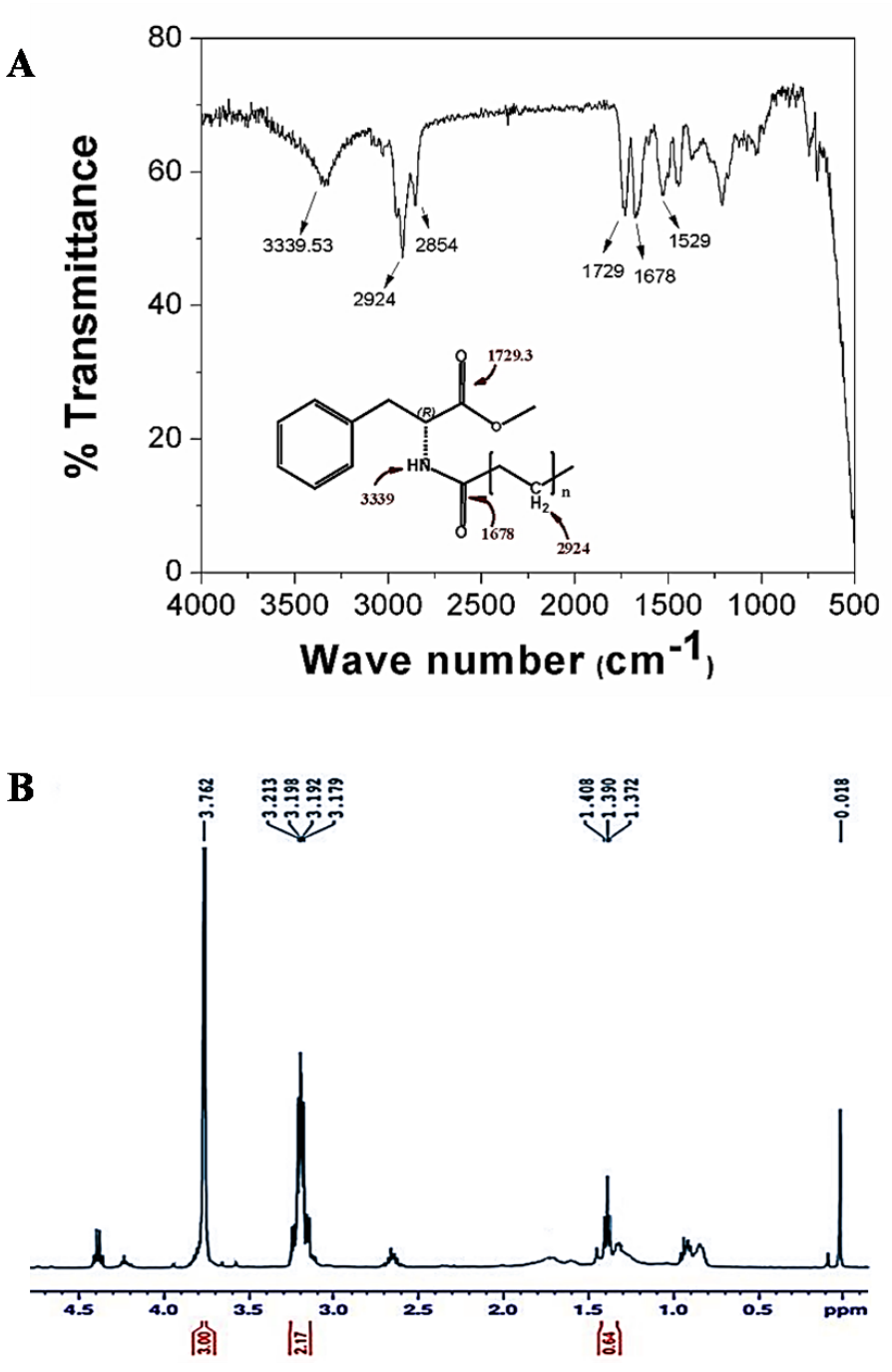
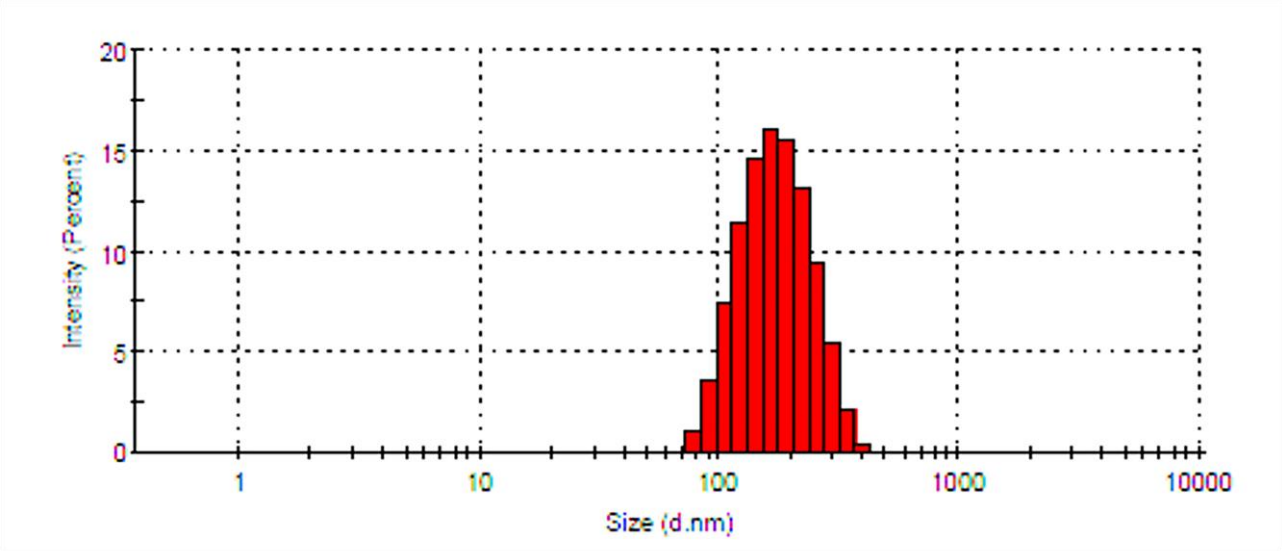
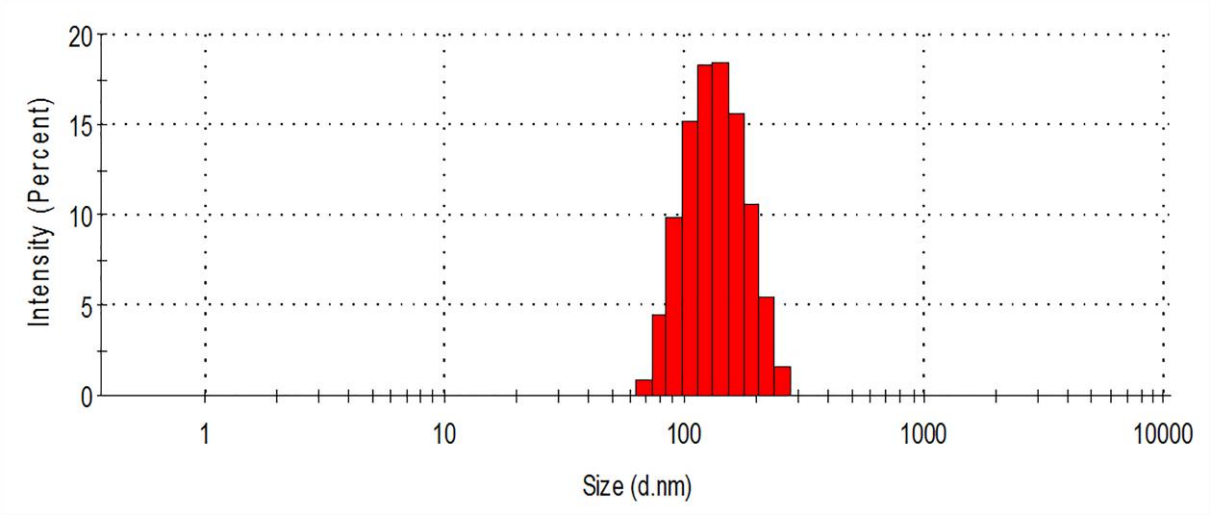


Figure S2. poly N-acryloyl L-phenylalanine methyl ester characterizations.

(A) FTIR characterization of NAPA-HPN‘s revealing the presence of secondary amino group at 3339 cm^{-1}, and formation of -C-H bond peak at 2924 and 2854 cm^{-1} (B) Chemical structural analysis was revealed ^{1}H NMR (400 MHz $CDCl_3$, δ).



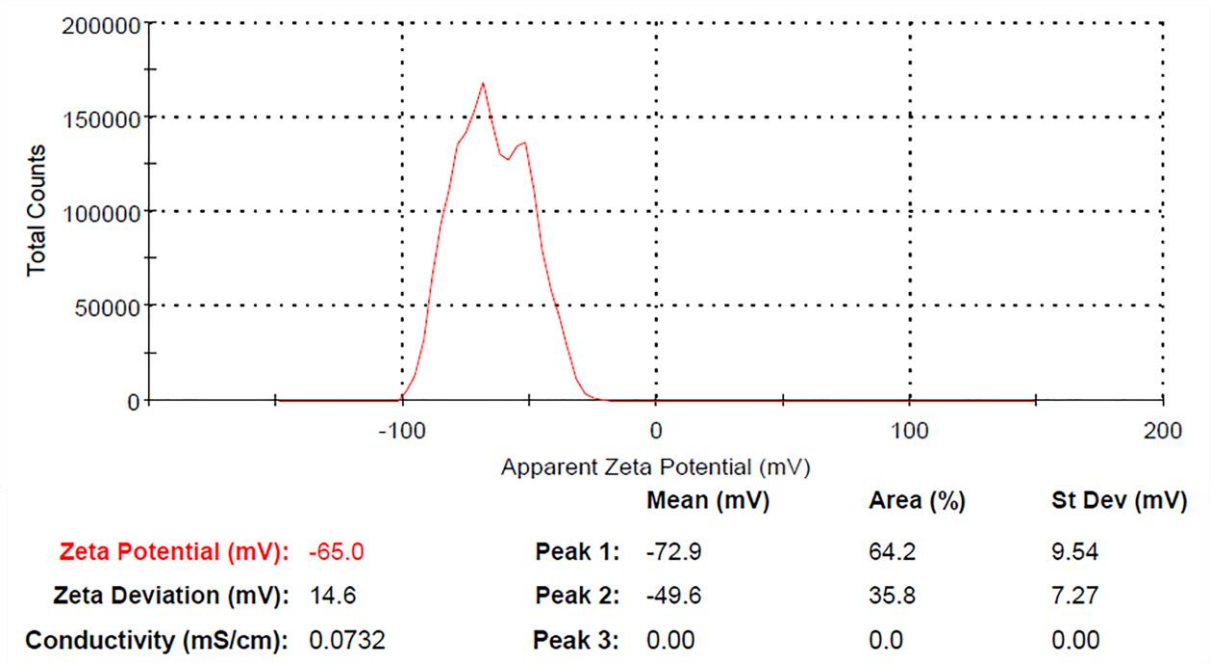
		Size (d.nm):	% intensity:	St.Dev (d.n..
Z-Average (d.nm): 160.9	Peak 1:	180.0	100.0	60.14
Pdi: 0.097	Peak 2:	0.000	0.0	0.000
Intercept: 0.972	Peak 3:	0.000	0.0	0.000



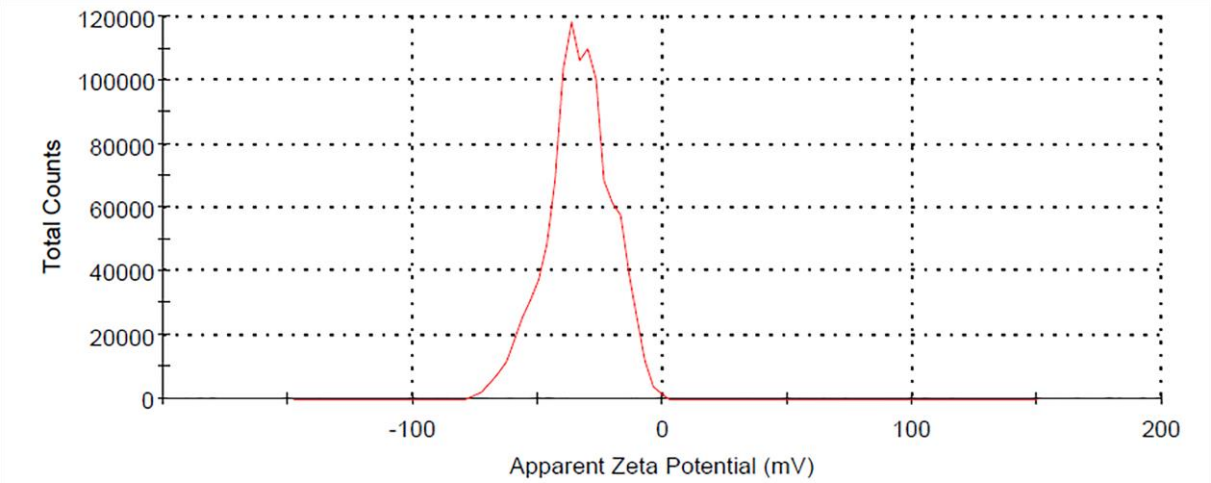
		Size (d.nm):	% intensity:	St.Dev (d.n..
Z-Average (d.nm): 150.5	Peak 1:	160.0	100.0	40.19
Pdi: 0.973	Peak 2:	0.000	0.0	0.000
Intercept: 0.602	Peak 3:	0.000	0.0	0.000

Figure S3. NAPA-HPN‘s size by zeta sizer.

Particle size distribution of the particles in emulsion (A) and after washing for surfactant (B) at room temperature obtained from zeta sizer.



		Mean (mV)	Area (%)	St Dev (mV)
Zeta Potential (mV): -65.0	Peak 1:	-72.9	64.2	9.54
Zeta Deviation (mV): 14.6	Peak 2:	-49.6	35.8	7.27
Conductivity (mS/cm): 0.0732	Peak 3:	0.00	0.0	0.00



		Mean (mV)	Area (%)	St Dev (mV)
Zeta Potential (mV): -33.7	Peak 1:	-42.9	50.0	8.89
Zeta Deviation (mV): 13.0	Peak 2:	-24.3	50.0	7.46
Conductivity (mS/cm): 0.305	Peak 3:	0.00	0.0	0.00

Figure S4. NAPA-HPN‘s zeta potential analysis by zeta sizer.

Surface profile zeta potential of the particles in emulsion (A) and after washing for surfactant (B) at room temperature obtained from zeta sizer..

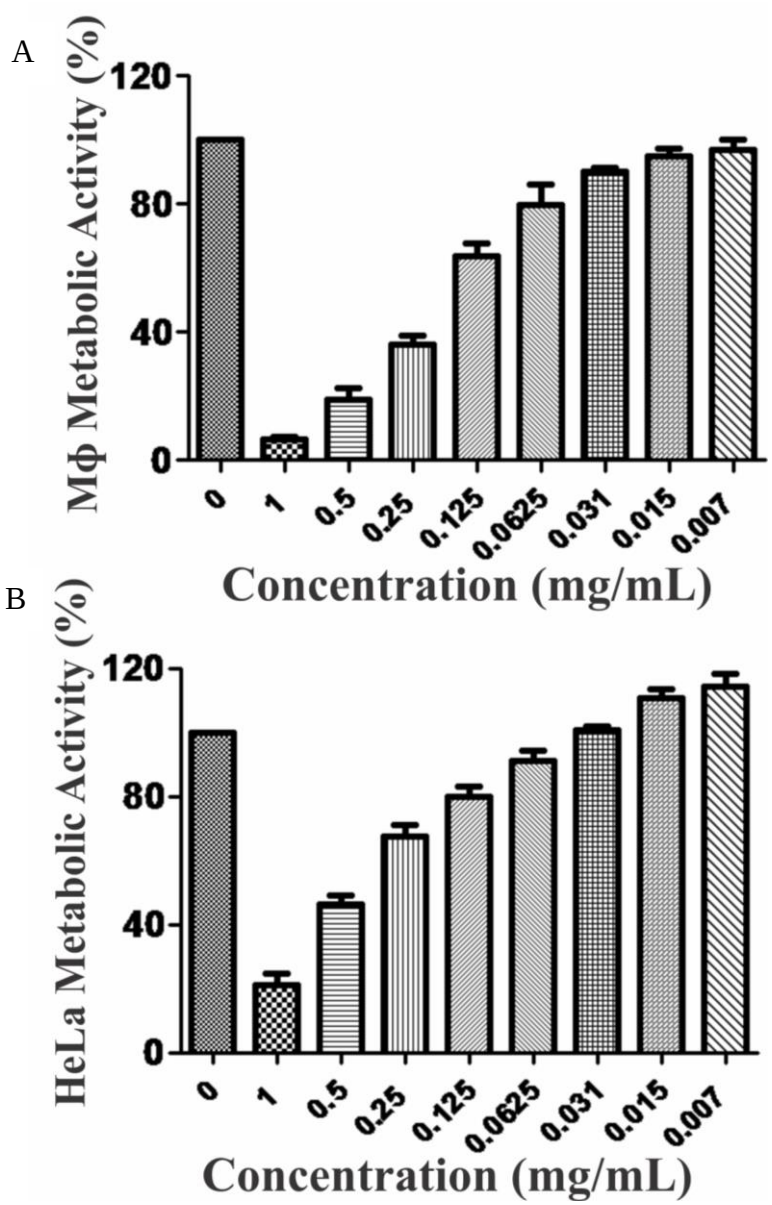


Figure S5. N-acryloyl L-phenylalanine methyl ester monomer is toxic to RAW 264.7 and HeLa cells.

Dose dependent titrations of N-acryloyl L-phenylalanine methyl ester monomer revealed the cell viability status in (A) RAW 264.7 (B) and HeLa cells by MTT assay. RAW macrophages in complete RPMI medium were seeded into 96-well plates at the density of 25X103 cells per well in the presence or absence of varying concentration of NAPA. The MTT assay was performed after 24h, incubation time point as described in the Materials and Methods. Data shown here is the mean ± SEM. from 3 independent experiments.

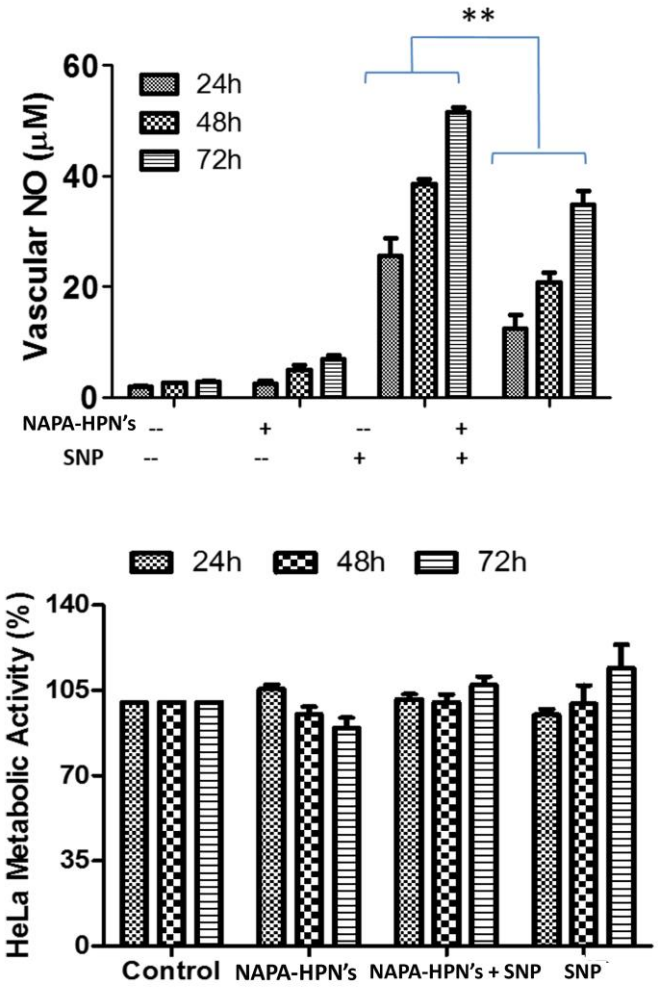


Figure S6. NAPA-HPN's contribute for sustained release of SNP triggering controlled production of NO by HeLa while showing no effect of cell metabolic activity.

HeLa were cultured in presence and absence of NAPA-HPNs with and without SNP loading and (A) the effect of SNP release contributing for controlled NO production by HeLa cells was assessed by quantifying NO titres in the culture supernatants by Griess reagent method and (B) the effect of the same on metabolic activity was assessed by MTT assay after 24 h, 48 h and 72 h. Data shown here is the mean μM of NO ± SEM from three independent stimulation experiments and statistical analysis was conducted using 2 way ANOVA followed by Bonferroni post-test. (**$p<0.01$) NS: Not significant.

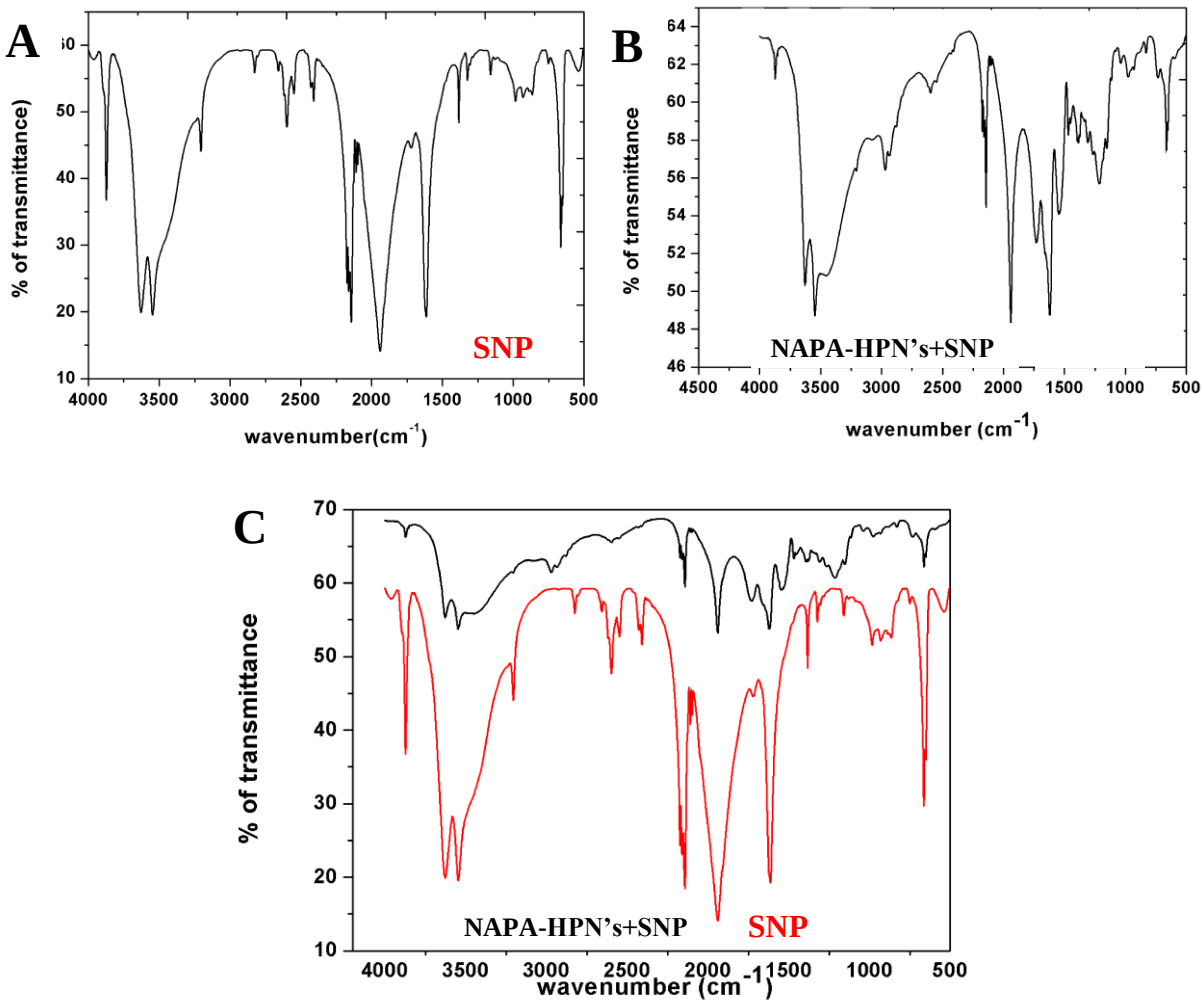


Figure S7. FTIR images of (A) SNP. (B) NAPA-HPN's+SNP and (C) overlap of both A and B showing the physical the physical entrapment of SNP by NAPA-HPN's.