Supplementary Materials

Ultrasmall Solid Lipid Nanoparticles by the Polysorbate Sorbitan Phase Inversion Temperature: a promising vehicle for antioxidant delivery into the skin

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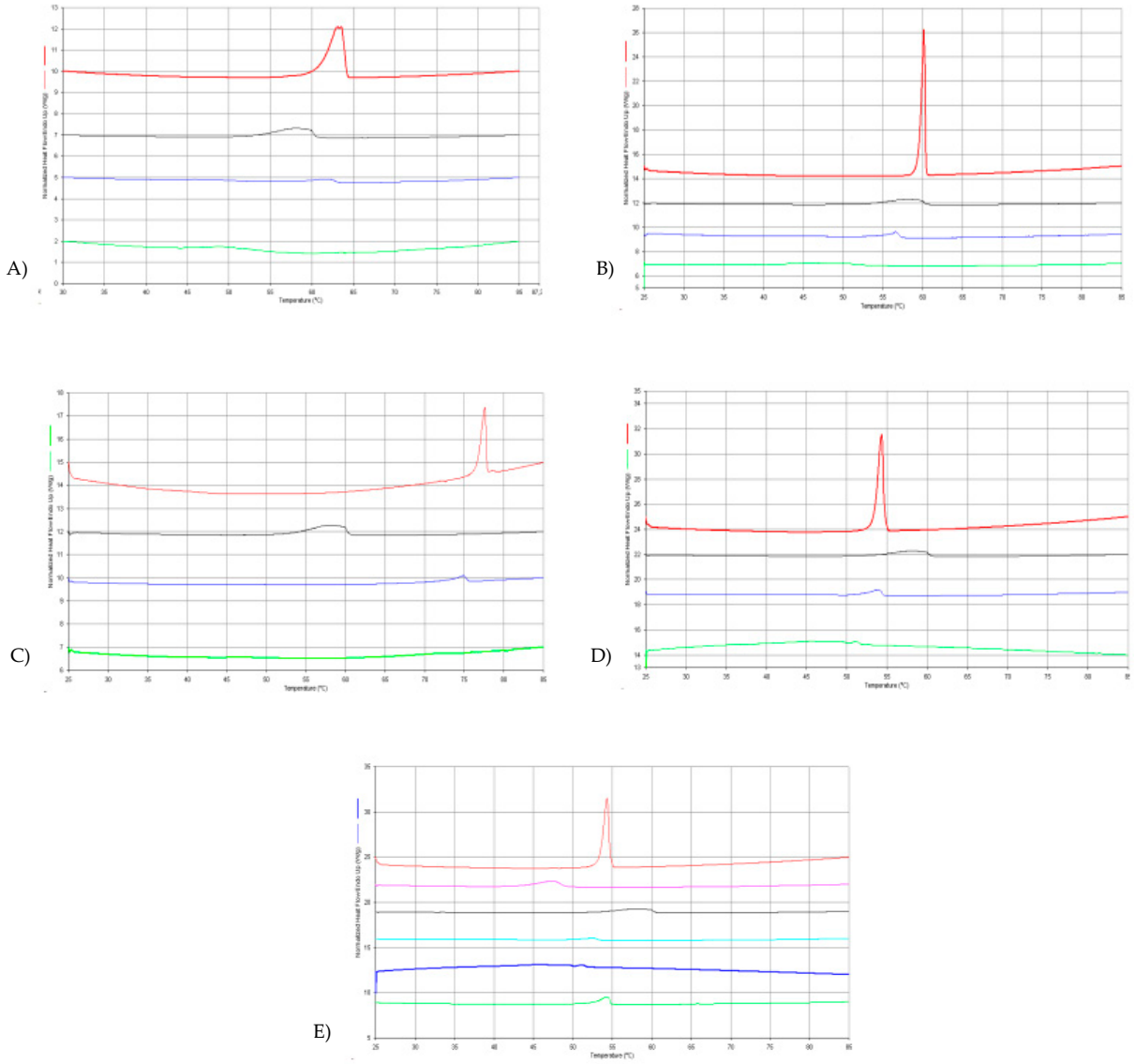
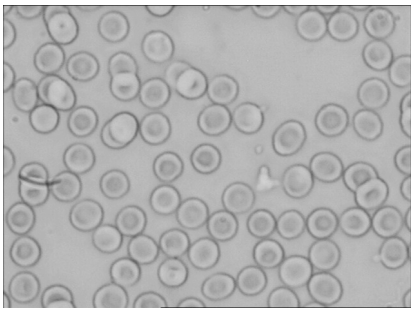
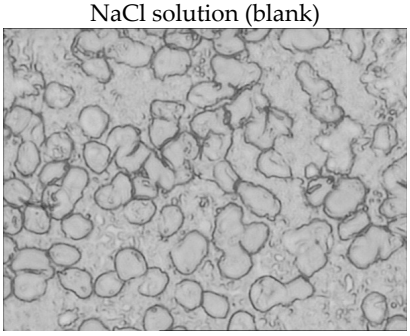


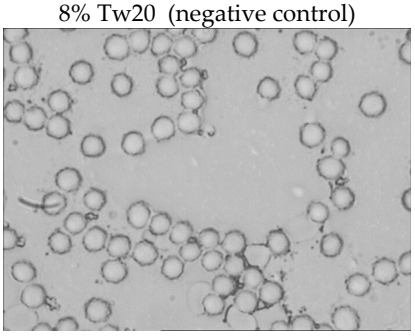
Figure S1. DSC Thermograms. A) Red: Tp; black: Sp60; blue: SLNs 2% Tp, 2% Sp60, 5% Tw20; green: SLNs 2% Tp, 4%Sp60, 8% Tw20. B) Red: Tm; black: Sp60; blue: SLNs 2% Tm, 2% Sp60, 5% Tw20; green: SLNs 2% Tm, 4% Sp60, 8% Tw20. C) Red: Cp; black: Sp60; blue: SLNs 2% Cp, 2% Sp60, 5% Tw20; green: SLNs 2% Cp, 4% Sp60, 8% Tw20. D) Red: Hh; black: Sp60; blue: SLNs 2% Hh, 2% Sp60, 5% Tw20; green: SLNs 2% Hh, 4% Sp60, 8%Tw20. E) Red: Hh; pink: Sp40; black: Sp60; light blue: SLNs 2% Hh, 4% Sp40, 8% Tw20; blue: SLNs 2% Hh, 4% Sp60, 8% Tw20; green: SLNs 2% Hh, 4% Sp80, 8% Tw20. Abbreviations: Cp: cholesteryl palmitate; Hh: hexadecyl hexadecanoate (cetylpalmitate); Sp: Span; Tm: Trimyristin; Tw: Tween



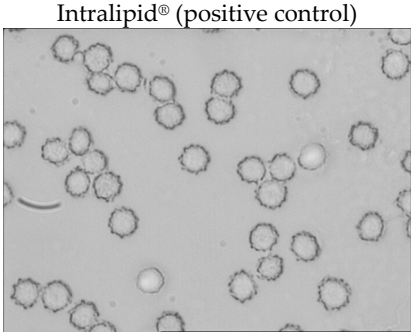
NaCl solution (blank)



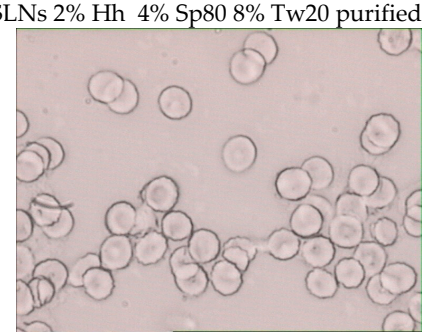
8% Tw20 (negative control)



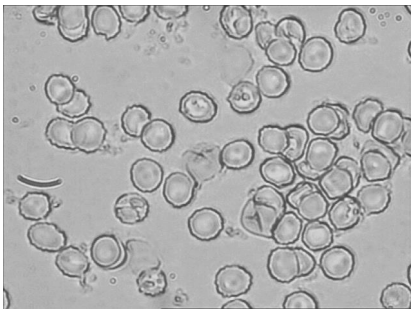
Intralipid® (positive control)



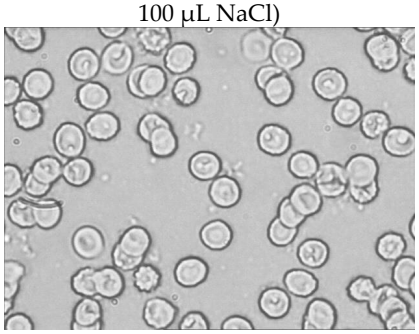
6-COU loaded SLNs 2% Hh 4% Sp80 8% Tw20 purified by size exclusion



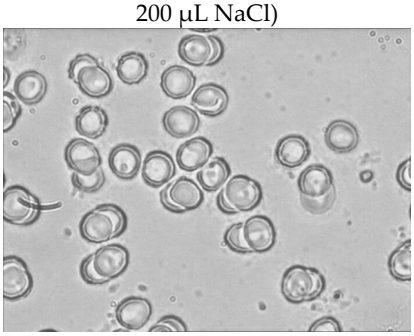
6-COU loaded SLNs 2% Hh 2% Sp80 5% Tw20 purified by size exclusion



6-COU loaded SLNs 2% Hh 2% Sp80 5% Tw20 purified by dextran-gradient centrifugation & resuspension (diluted in 100 µL NaCl)



6-COU loaded SLNs 2% Hh 2% Sp80 5% Tw20 purified by dextran-gradient centrifugation & resuspension (diluted in 200 µL NaCl)



6-COU loaded SLNs 2% Hh 2% Sp80 5% Tw20 purified by dextran-gradient centrifugation & resuspension (diluted in 300 µL NaCl)

Figure S2. RBC scratch for different SLNs formulations. Magnification 630x. Abbreviations: 6-COU: 6-coumarin; Hh: hexyl hexadecanoate; PDI: polydispersion index; SLNs: solid lipid nanoparticles; Sp: span; Tw20: tween 20.

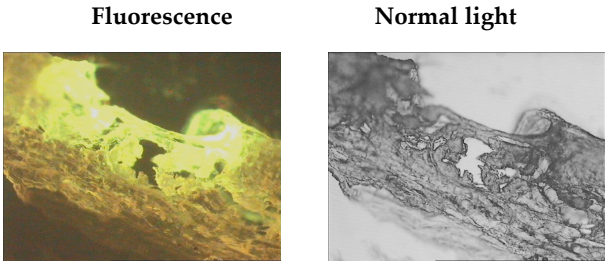


Figure S3. Fluorescent and optical microscopy of cryo-sectioned skin after 24h. Magnification 630x