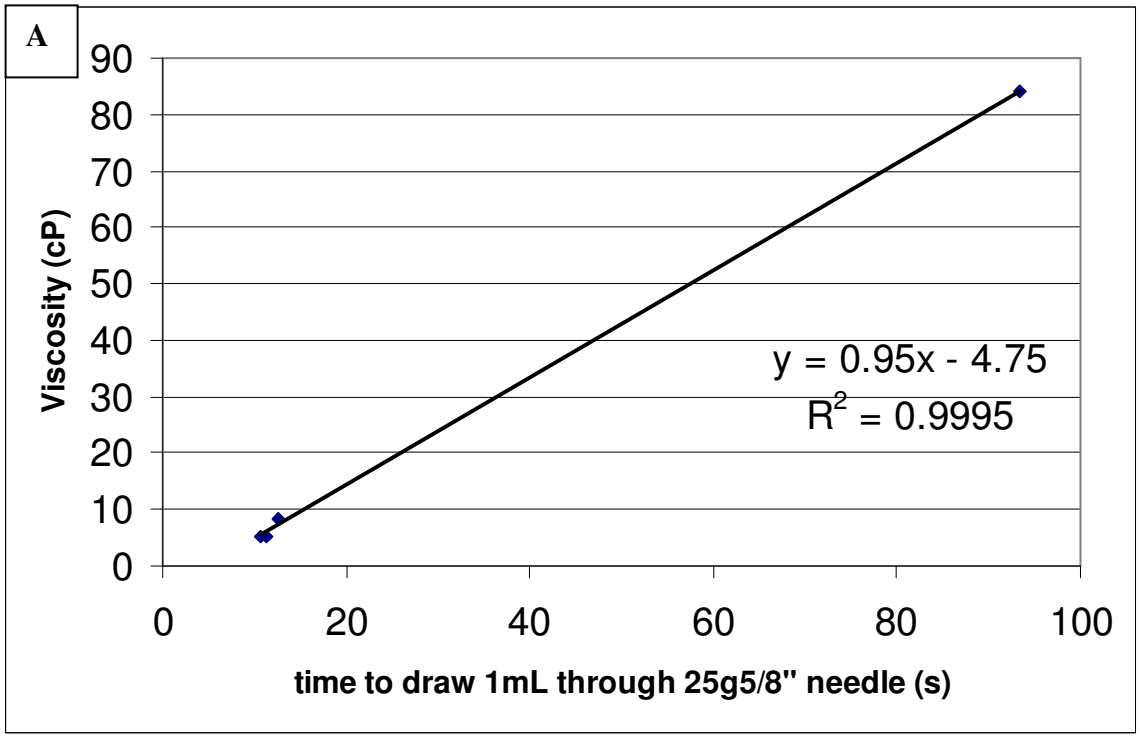
Supplemental Information:

Time to draw 1 ml of solution correlation to the viscosity for 25 and 27 g needles. Each graph in the figure below (Figure S1) contains four points on the line containing the known viscosities of perfluorodecalin, benzyl benzoate, ethyl oleate and olive oil compared to their measured time to draw 1mL through the respective needle gauge. As described in the text, this correlation is backed up by the basic Hagen-Poiseuille flow equation, and has been used previously as a measure of viscosity by Shire and coworkers.



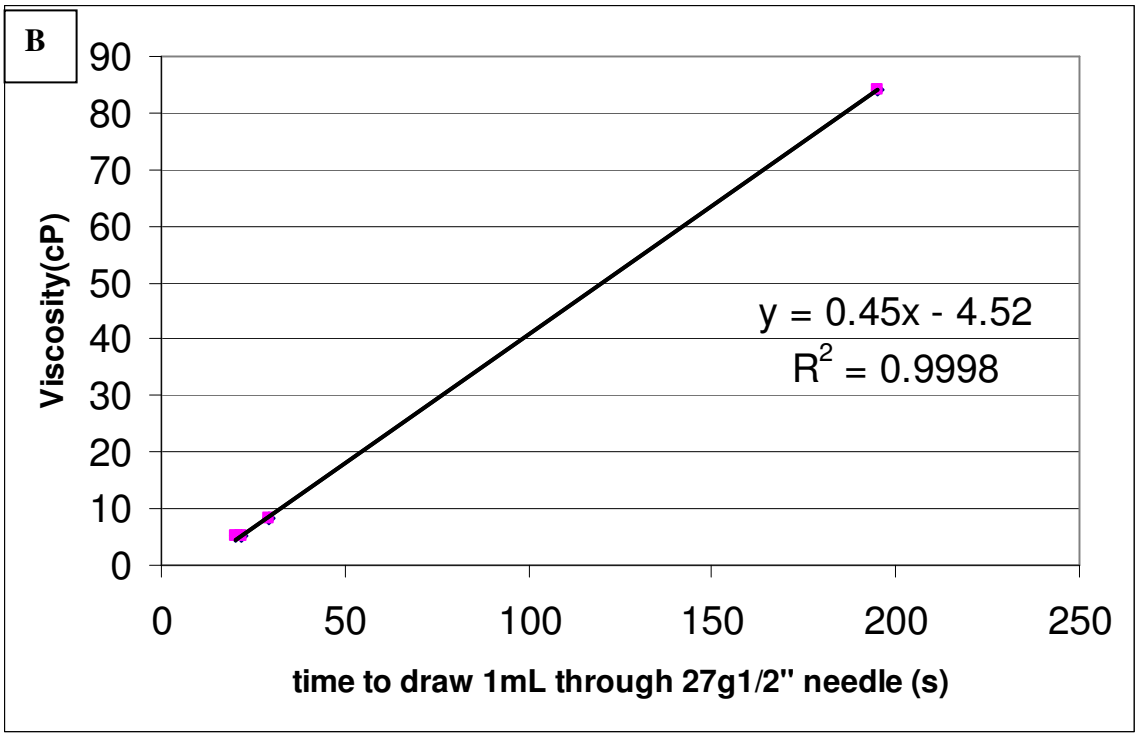


Figure S1. Linear plots of the time to draw 1 mL of a suspension through a) a 25g 5/8" needle and b) a 27g 1/2" needle.

Optical Density Absorbance Values

The actual optical density values measured using the method described in the "Optical Density Measurement" section of the Materials and Methods are below in Table S1. The low %RSD indicates the very similar results from the multiple samples and all samples are very close to the standard measured. Since the absorbance values are relatively high, additional standards and a sample that clearly aggregated were compared to the diluted 50 mg/ml concentrations in the safflower oil and benzyl benzoate as well as the pure benzyl benzoate solvent using a Falcon UV transparent 96-well plate. Absorbance of the standard was lowered to 0.047 ± 0.005 however the sample that aggregated had an absorbance of 0.24, above the absorbance of any sample reported in table S1. The absorbance of the two extracted and diluted 50 mg/ml lysozyme samples in the safflower oil and benzyl benzoate and pure benzyl benzoate solvents were 0.052 and 0.051 respectively, within the deviation for the standard.

Table S1. Optical Density values for the various formulations diluted to 1 mg/ml using standard 96-well plates measured in the μQuant spectrophotometer at 350 nm. (Benzyl Benzoate is abbreviated BB and Lysozyme is abbreviated LYS)

	A_{350}	% RSD
Standard	0.1025	0.56%
100 mg/mL LYS in 50/50 Safflower Oil/BB	0.106	1.16%
200 mg/mL LYS in 50/50 Safflower Oil/BB	0.1016	0.54%
300 mg/mL LYS in 50/50 Safflower Oil/BB	0.1026	0.87%
50 mg/mL LYS in Water with BB	0.1032	1.06%
50 mg/mL LYS in BB	0.105	0.80%
100 mg/mL LYS in BB	0.1036	0.53%
200 mg/mL LYS in BB	0.1016	1.49%
400 mg/mL LYS in BB	0.1004	1.94%

Calculation for Entry Distance to Poiseuille Flow in Capillary

Using the equation

$$X = \frac{\mathrm{Re}}{30} d$$

where, X is the entry distance, Re is the Reynold's Number, and d is the diameter of the capillary, should give the entry distance to the point where the maximum velocity in the tube is within 5% of the theoretical maximum.[1] Assuming the viscosity and density of pure benzyl benzoate (μ = 8.8 cP and ρ = 1.128 g/cm^3), the Reynolds number through the syringe (assuming constant flow to get the velocity) is 0.139. Using the equation above for a 25 gauge needle (ID = 0.0241 cm), the entry distance required should be $1.12*10^{-4}$ cm, much smaller than the actual length of the needle.

1. Jacobson, B. O., *Rheology and Elastohydrodynamic Lubrication*. Elsevier Publishing Company: 1991; Vol. 19.