**I. Regression Analysis: Average Yield % versus Drug: Polymer ratio, Solvent ratio**

Analysis of Variance

Source DF Adj SS Adj MS F-Value P-Value

Regression 2 851.68 425.841 57.85 0.000

Drug: Polymer ratio 1 794.70 794.697 107.96 0.000

Solvent ratio (DCM: Ethanol) 1 56.98 56.984 7.74 0.032

Error 6 44.17 7.361

Total 8 895.85

Regression Equation

***Average Yield % = 81.68 - 26.81 Drug: Polymer ratio - 4.04 Solvent ratio***

**II. Regression Analysis: Average Encapsulation % versus Drug: Polymer ratio, Solvent ratio**

Analysis of Variance

Source DF Adj SS Adj MS F-Value P-Value

Regression 2 1056.81 528.41 45.39 0.000

Drug: Polymer ratio 1 1000.73 1000.73 85.97 0.000

Solvent ratio (DCM: Ethanol) 1 56.08 56.08 4.82 0.071

Error 6 69.84 11.64

Total 8 1126.65

Regression Equation

***Average Encapsulation % = 94.12 - 30.08 Drug: Polymer ratio - 4.00 Solvent ratio***

**III. Regression Analysis: Floating time (hr.) versus Drug: Polymer ratio, Solvent ratio**

Analysis of Variance

Source DF Adj SS Adj MS F-Value P-Value

Regression 2 17.6699 8.8349 29.96 0.001

Drug: Polymer ratio 1 17.6536 17.6536 59.87 0.000

Solvent ratio (DCM: Ethanol) 1 0.0162 0.0162 0.06 0.822

Error 6 1.7692 0.2949

Total 8 19.4390

Regression Equation

***Floating time (hr.) = 8.023 - 3.996 Drug: Polymer ratio + 0.068 Solvent ratio***

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IV. Particle size distribution of the optimized SUL microsponges using laser light scattering. Particles had a d50% of 41.65±1.3 µm



V. UV-Visible absorption spectra of both SUL in buffer solution of pH 1.2 (at zero time) and SUL released from microsponges after 12 hr at pH 1.2. It was clear that both have similar spectrum and λmax indicating the stability of SUL after formulation into floating microsponges.



VI. UV-Visible absorption spectra of both free SUL and SUL complex with iodine. Free SUL in buffer has a λmax at 290nm whereas; the complexed SUL has a λmax at 360nm.