Supplementary File

Table 1: Summary of each factor effect and its p-values for responses (Mean Globule size, emulsification time and t85%)

Factor	Y_1[≂]		Y_2[ν]		Y_3[β]	
	Factor effect	p value	Factor effect	p value	Factor effect	p value
Intercept	152.96		4.30		23.63	
X_1[@]	13.39	0.0081	-0.30	0.0385	-0.60	0.1911
X_2[$]	-13.79	0.0070	1.18	<0.0001	2.02	0.0017
X_3[*]	5.03	0.2124	-0.65	0.0009	-0.97	0.0510
X_1X_2	2.90	0.5930	0.080	0.6489	0.42	0.4969
X_1X_3	-13.28	0.0374	0.29	0.1284	0.085	0.8881
X_2X_3	-8.88	0.1304	0.22	0.2371	0.50	0.4215
X_1^2	0.74	0.8868	0.14	0.4366	0.94	0.1426
X_2^2	5.64	0.3004	-0.66	0.0049	-0.82	0.1899
X_3^2	-5.53	0.3096	0.70	0.0036	0.23	0.7001

[@]Peceol (oil); [$]Cremophor EL (polymer); * Transcutol HP (adsorbent)
[≂]Mean globule size (nm); [ν]Emulsification time (min); [β] t_{85}% (min)

Table 2: ANOVA summary of measured response (Mean globule size, Emulsification time and $t_{85\%}$)

Response	Model							Lack of Fit	
	F Value	F-Significance	R^2	Adjusted R^2	S.D.	% CV	Adequate Precision	F value	F significance
Y_1[≈]	4.62	0.0280	0.855	0.670	10.36	6.75	8.450	3.08	0.152
Y_2[v]	19.22	0.0004	0.961	0.911	0.34	7.91	16.160	1.11	0.444
Y_3[β]	4.19	0.0360	0.843	0.642	1.17	4.90	7.721	2.19	0.232

[≈]Mean globule size (nm); [v]Emulsification time (min); [β] t85% (min)

Figure 1. DSC scans of Curcumin [A]; Aerosil® 200 [B]; CUR - Aerosil® 200 Physical mixture [C]; and optimized formulation, SP2 [D]
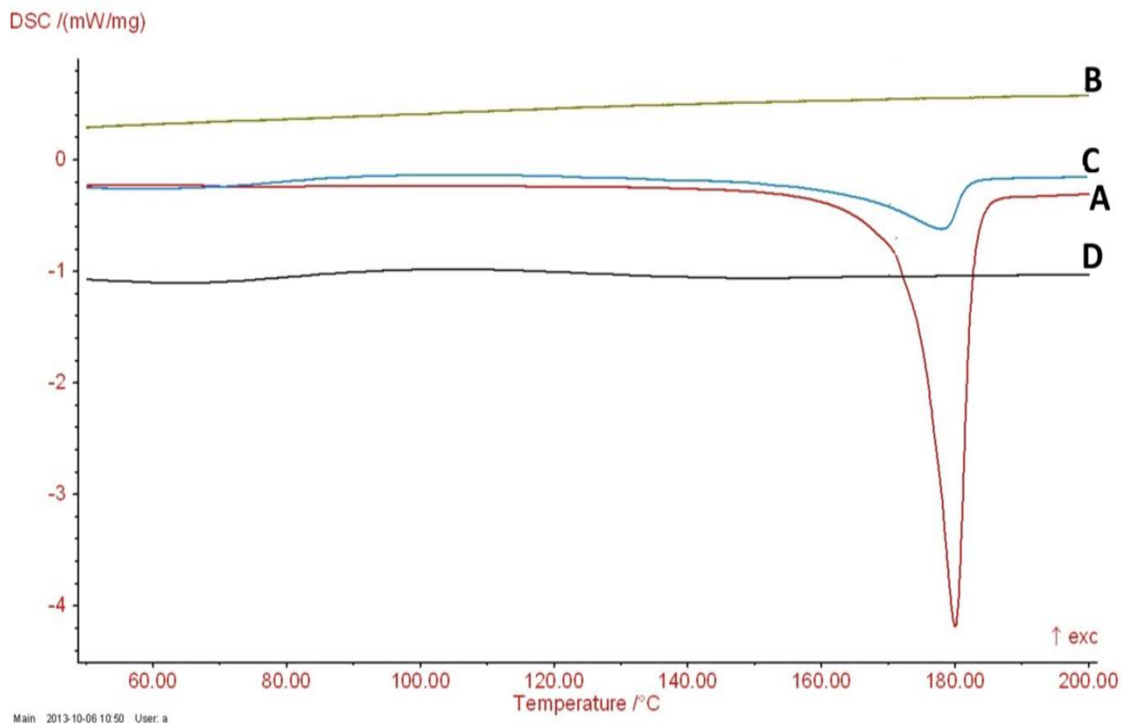

Figure 2. Overlay of XRD pattern of free Curcumin [A]; Aerosil® 200 [B]; CUR - Aerosil® 200 Physical mixture [C]; and optimized formulation, SP2 [D]
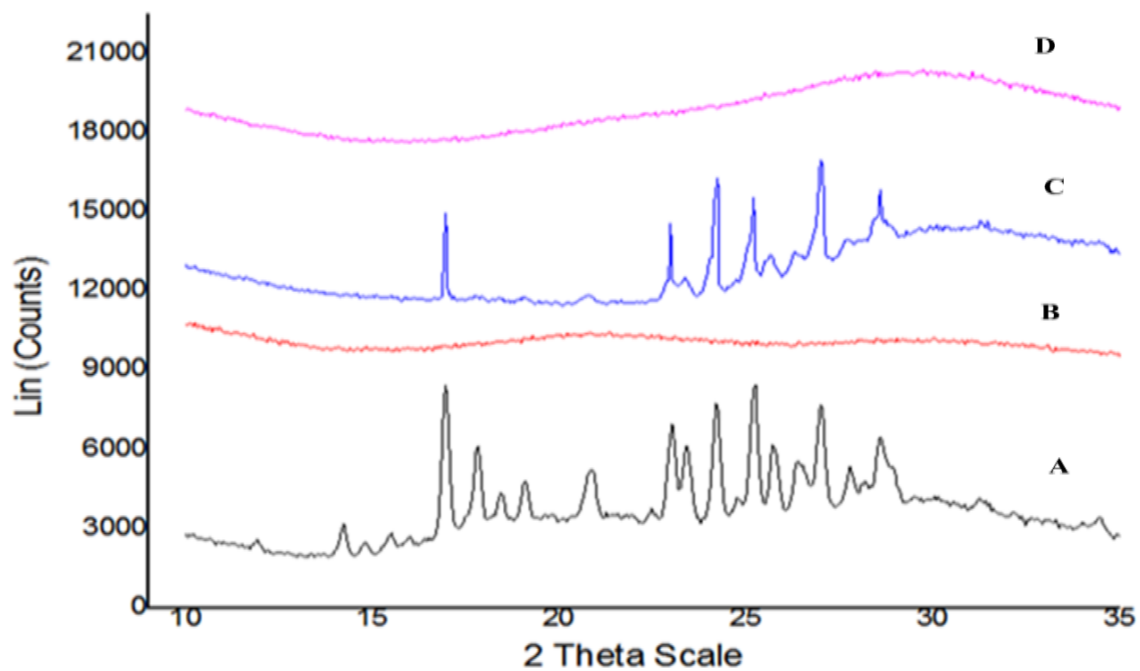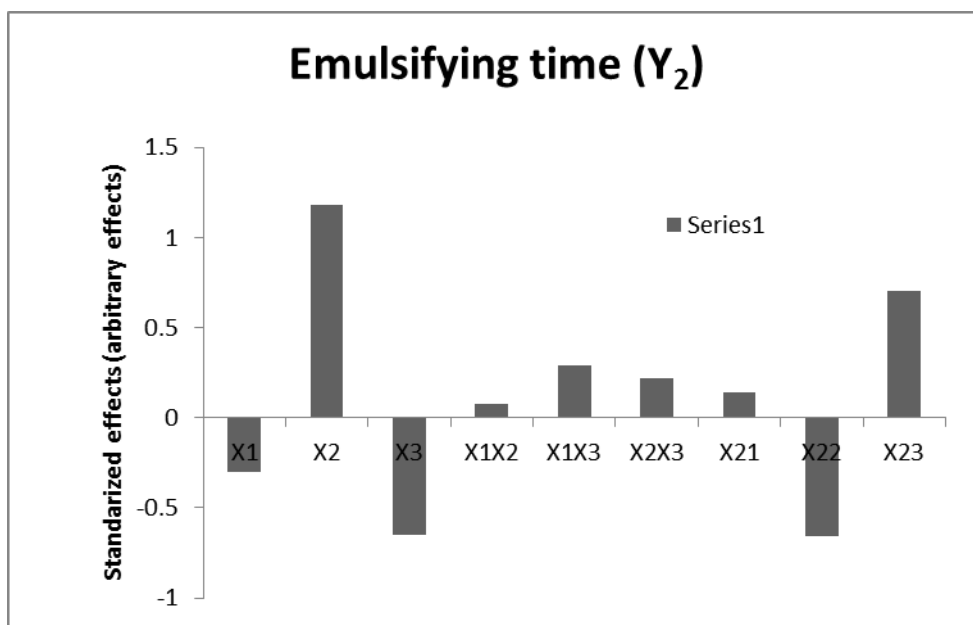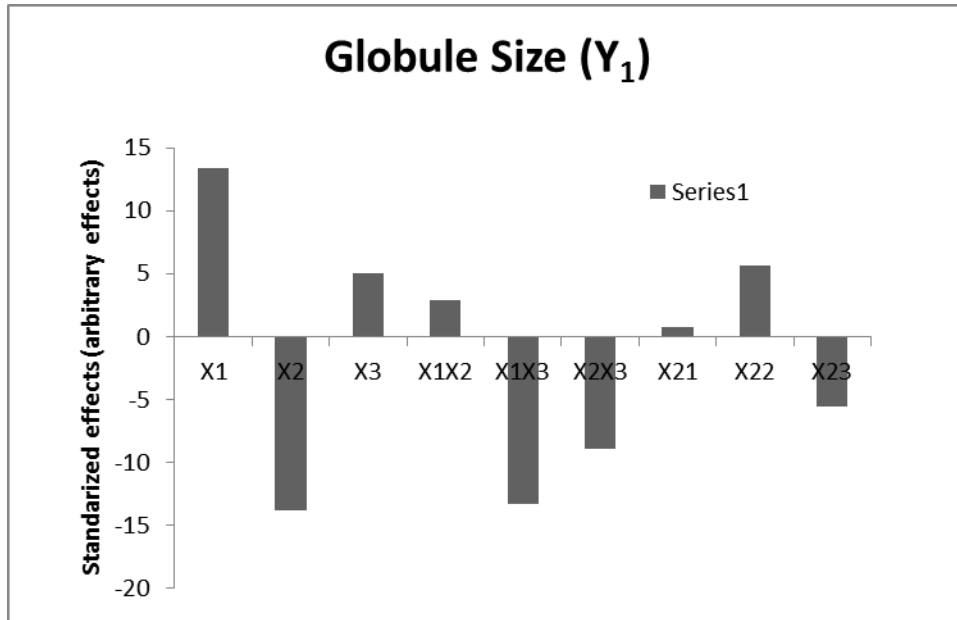
Figure 3. Evaluation of the standardized effects of the Peceol (X_1), Cremophor[®] EL (X_2) and Transcutol[®] HP (X_3), and their interactions on mean globule size (Y_1), Emulsification time (Y_2), time taken to release 85% drug (t85%) (Y_3)

t85% (Y_3)