Fabrication of Ciprofloxacin-Loaded Sodium Alginate Nanobeads Coated with Thiol-Anchored Chitosan Using B-390 Encapsulator Following Optimization by DoE

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Table S1: Experimental runs and their outcomes

Standard Run	Design: 2**(7-4) design ([No active dataset])										
	TC(%)	Sodium Alginate (%)	Calcium chloride (M)	Ciprofloxacin (mg)	Nozzle size (µm)	Lyoprotectant type	Lyoprotectant (%)	PDI	Particle size (nm)	Zeta potential (mV)	% EE
1	0.5	1.0	0.15	100	120	Mannitol	3	0.291	322.8	-16.9	79.9
2	0.5	1.0	0.25	100	80	Trehalose	6	0.324	320.3	-10.7	88.1
3	0.5	1.5	0.15	50	120	Mannitol	6	0.178	304.1	-20.8	67.3
4	0.5	1.5	0.25	50	80	Trehalose	3	0.298	376.9	-14.7	81.1
5	1.0	1.0	0.15	50	80	Mannitol	6	0.276	325.3	-22.3	65.1
6	1.0	1.0	0.25	50	120	Trehalose	3	0.256	399.4	-18.1	83.0
7	1.0	1.5	0.15	100	80	Trehalose	3	0.301	403.5	-11.9	78.5
8	1.0	1.5	0.25	100	120	Mannitol	6	0.244	304.5	-21.1	86.7

Table S2: % w/w Drug content

Samples	Drug content (% w/w)
1	1.285
2	1.153
3	1.110
4	1.431
5	1.014
6	1.032
7	1.463
8	1.504

Figure S1: Predicted vs. observed values PDI

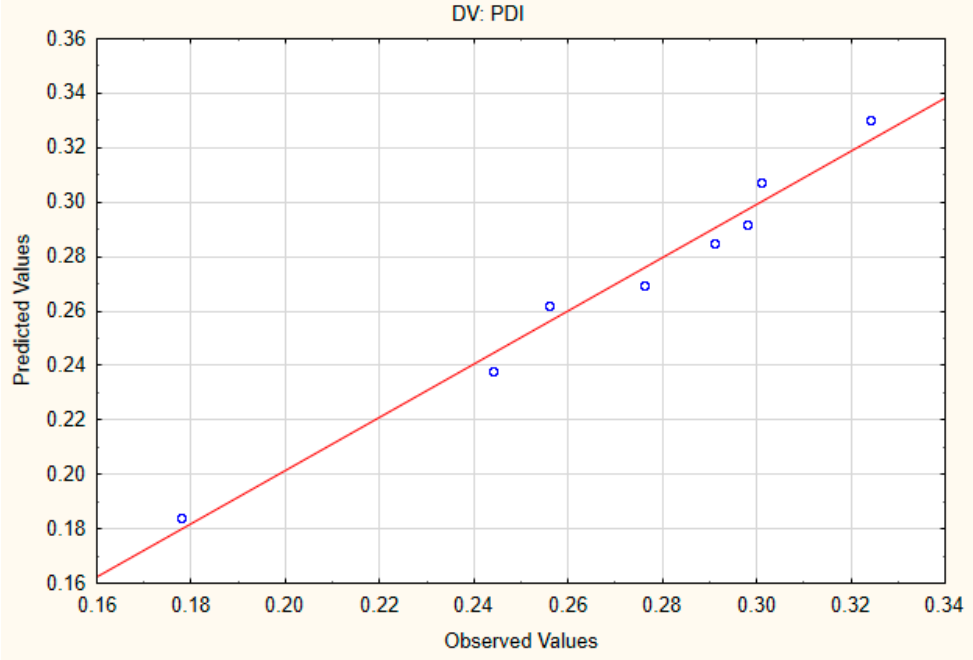

Figure S2: Predicted vs. observed values particle size

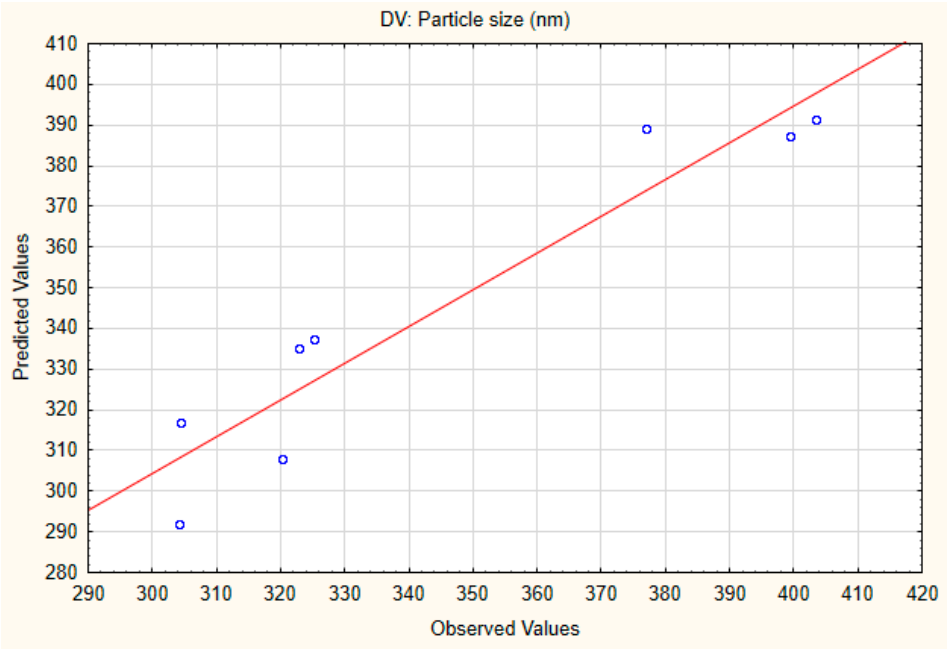

Figure S3: Predicted vs. observed values zeta potential

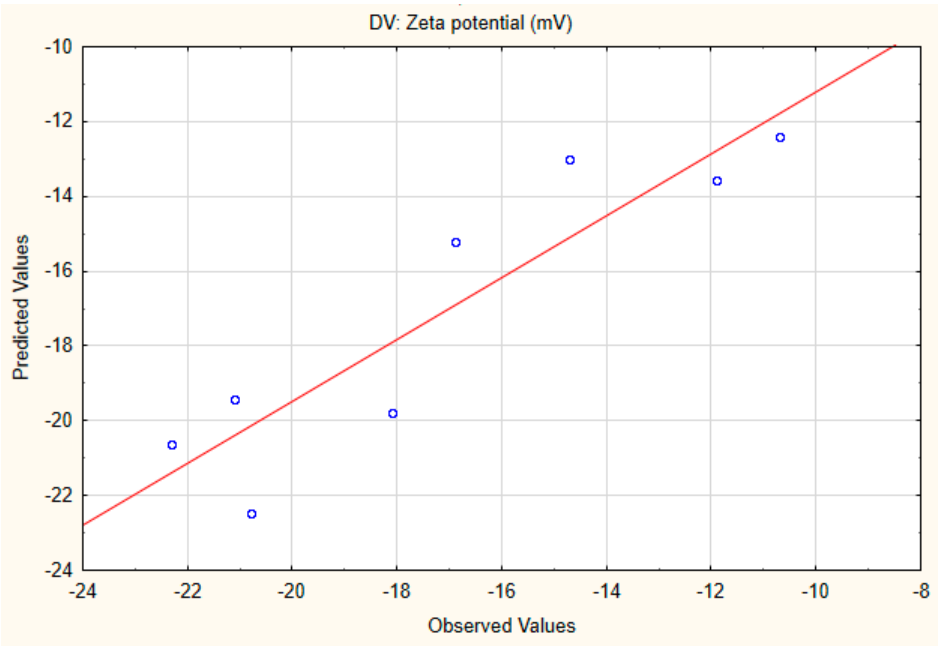

Figure S4: Predicted vs. observed values % EE

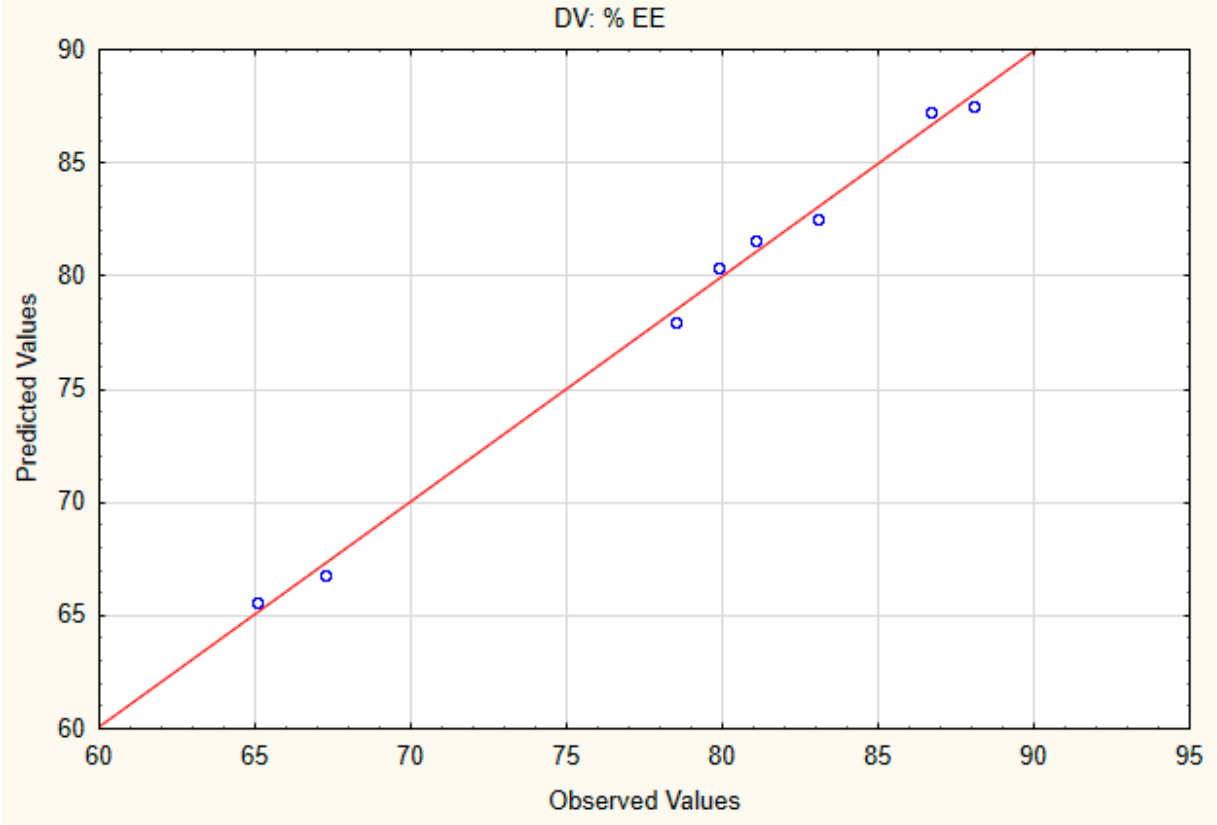

Table S3: Volumes required for the preparation of SSF, SGF and SIF

V (ml)	SSF	SGF	SIF
KCl	15.1	6.9	6.8
KH_2PO_4	3.7	0.9	0.8
$NaHCO_3$	6.8	25	42.5
NaCl	-	47.2	9.6
$MgCl_2(H_2O)6$	0.5	0.1	1.1
$(NH_4)_2CO_3$	0.06	0.5	-
H_2O	373.84	319.4	339.2