

Supplementary Data Tables

Table S1: Comparison of predicted and experimental values of the CQAs of NLCs

Composition in coded levels X_1 (ratio) : X_2 (%)	Response variable	Predicted value	Experimental value	% Prediction Error
Optimized-NLCs (0.30 : 0.16)	Particle Size	229.4	232.9	1.50
	Zeta Potential	-20.6	-21.7	5.07
	Entrapment Eff.	74.71	76.94	2.90
	Drug Rel. (Q _{4h})	83.4	82.19	-1.47
VAL 1 (0.32 : 0.08)	Particle Size	225.5	229.78	1.86
	Zeta Potential	-21.7	-19.67	-10.32
	Entrapment Eff.	72.6	73.58	1.33
	Drug Rel. (Q _{4h})	81.5	82.21	0.86
VAL 2 (0.38 : 0.34)	Particle Size	224.7	221.58	-1.41
	Zeta Potential	-20.5	-21.58	5.00
	Entrapment Eff.	77.5	76.68	-1.07
	Drug Rel. (Q _{4h})	82.7	82.57	-0.16
Overall percentage error (Mean \pm S.D.) = 0.54 \pm 1.56				

VAL 1 and VAL 2 are the validation formulations

Supplementary Data Figures

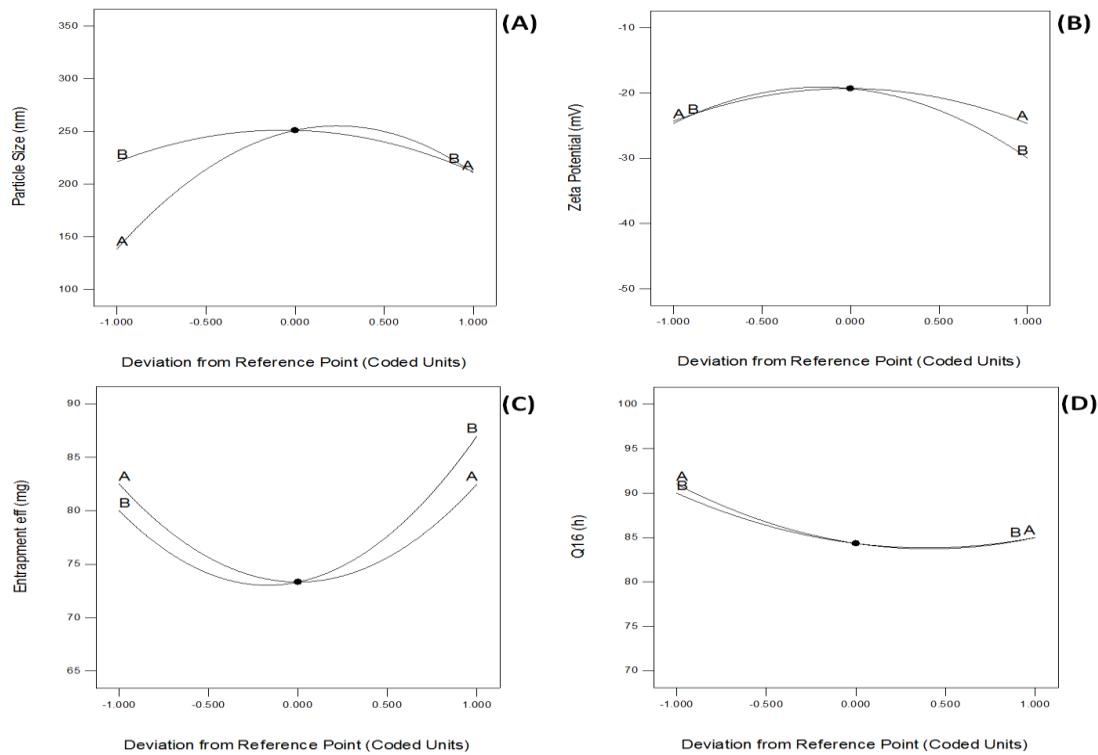


Figure S1: Perturbation charts for the CQA, viz. (A) particle size, (B) zeta potential, (C) entrapment efficiency, (D) Q_{4h}

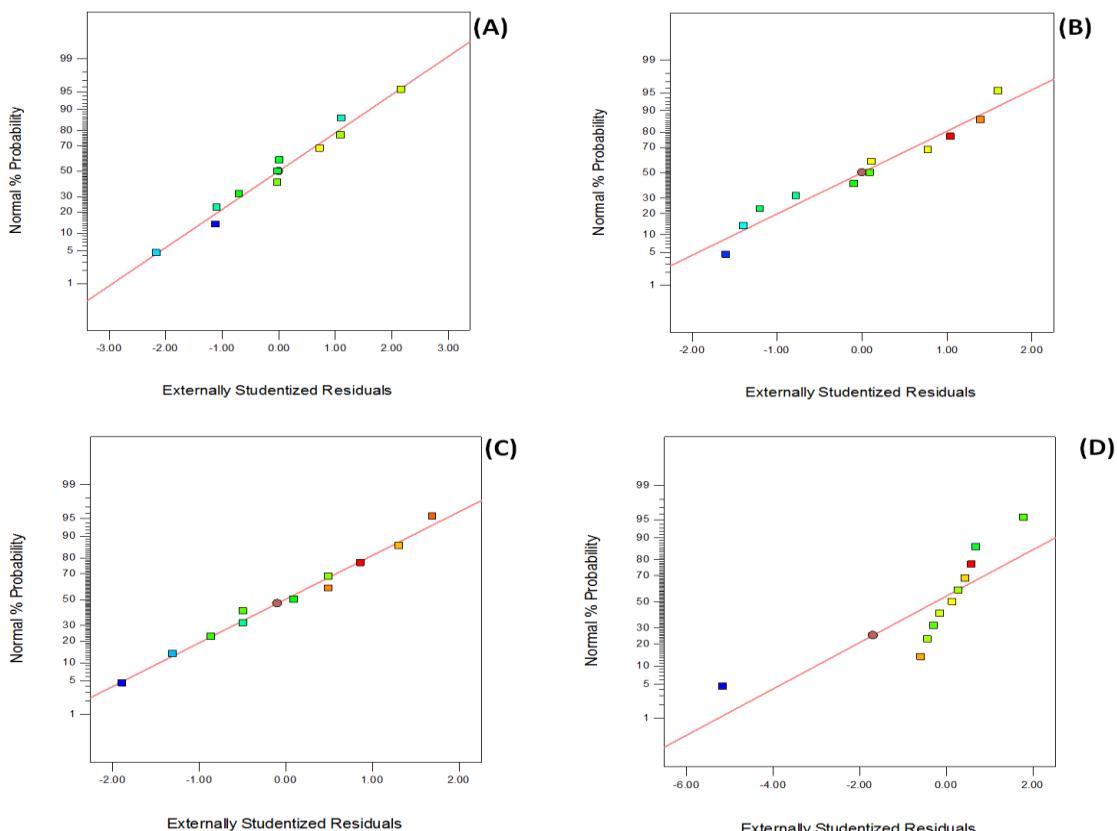


Figure S2: Normal plot of residuals for the CQAs viz. (A) particle size, (B) zeta potential, (C) entrapment efficiency, (D) Q_{4h}

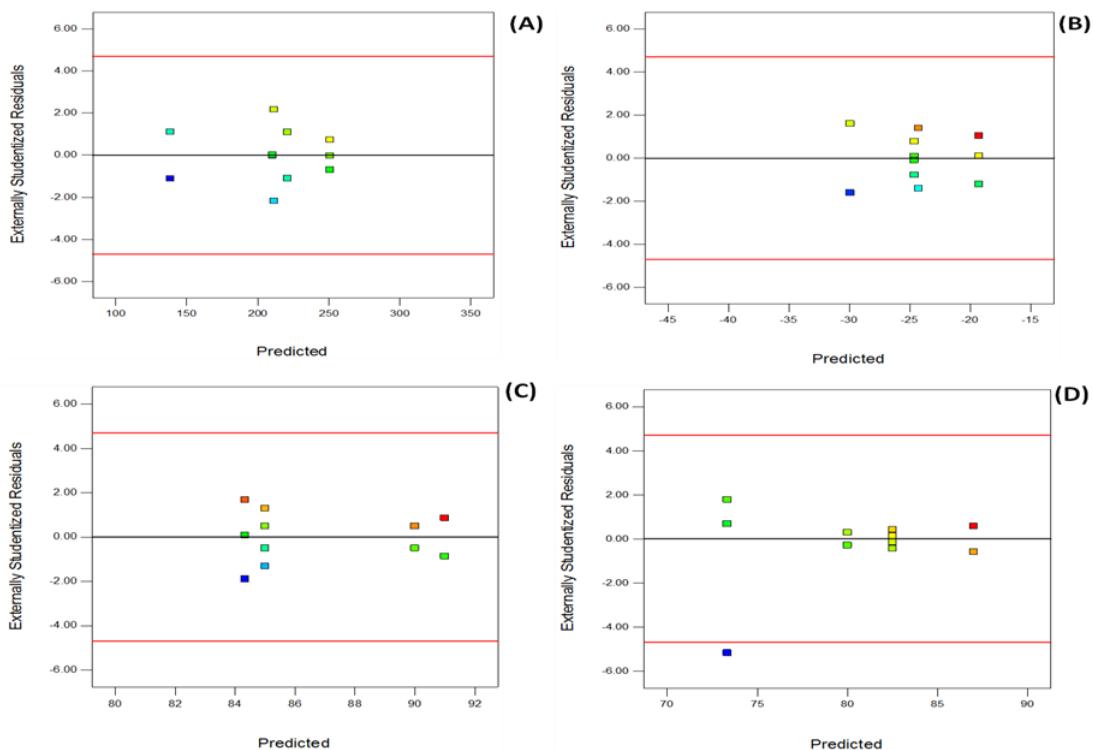


Figure S3: Predicted versus Run plots for CQAs viz. (A) particle size, (B) zeta potential, (C) entrapment efficiency, (D) Q_{4h}

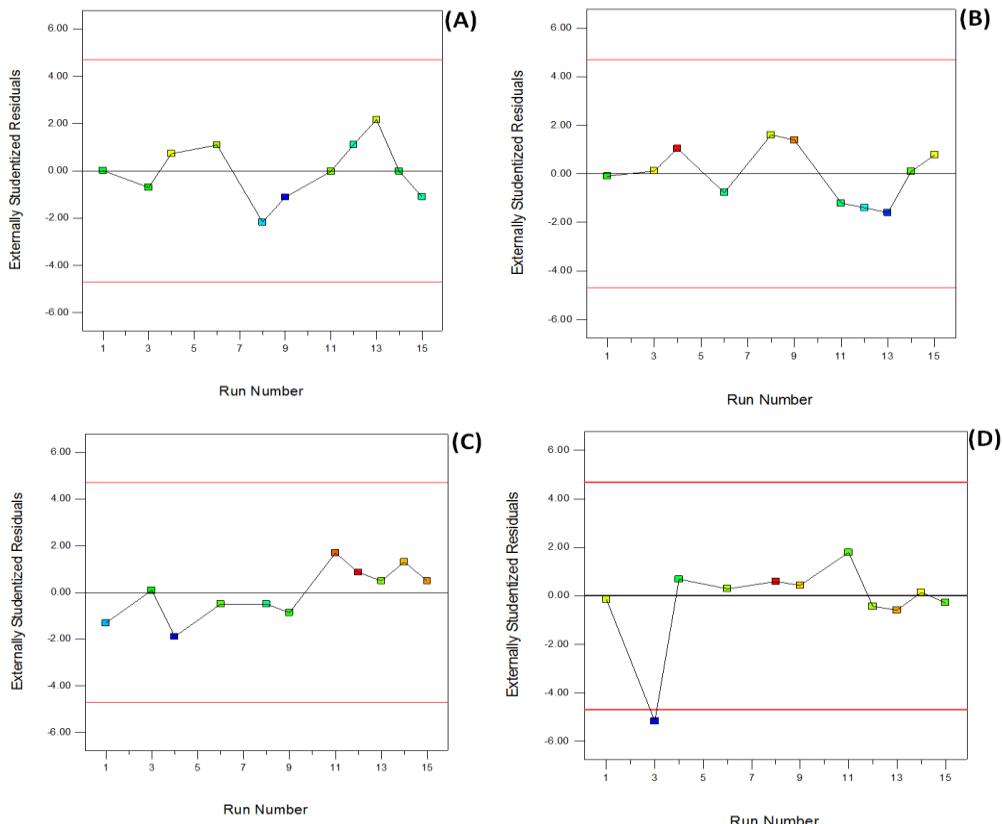


Figure S4: Residual versus Run plots for the CQAs viz. (A) particle size, (B) zeta potential, (C) entrapment efficiency, (D) Q_{4h}

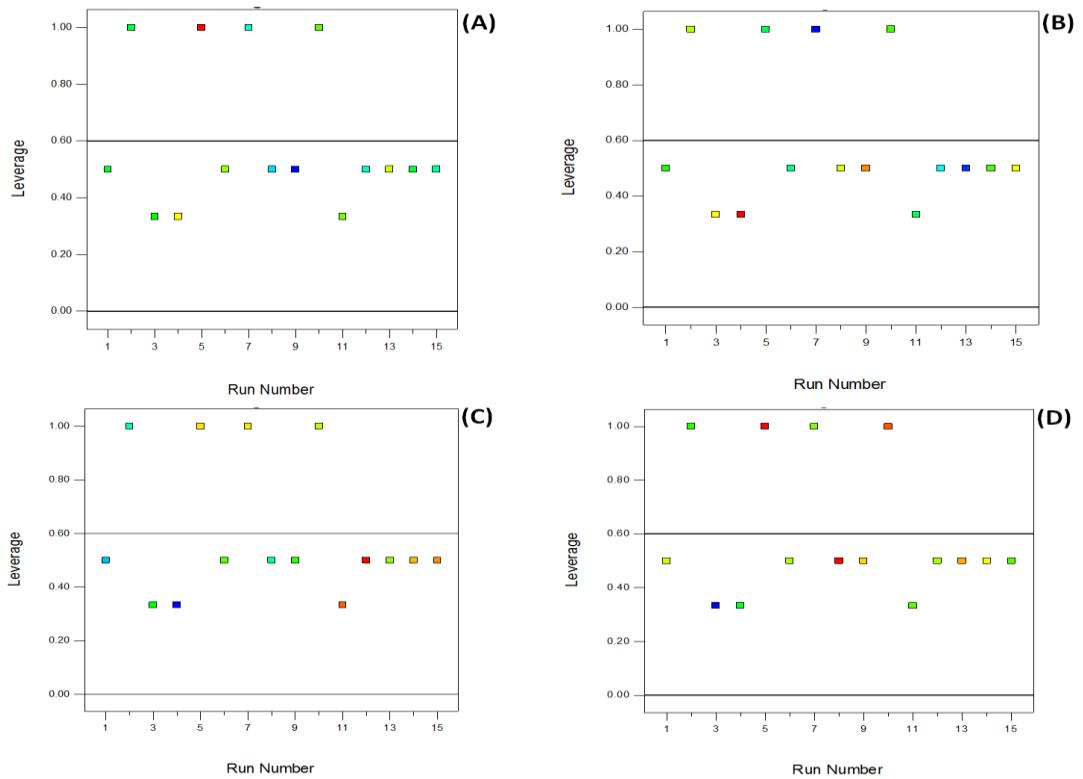


Figure S5: Leverage plots for the CQAs viz. (A) particle size, (B) zeta potential, (C) entrapment efficiency, (D) Q_{4h}

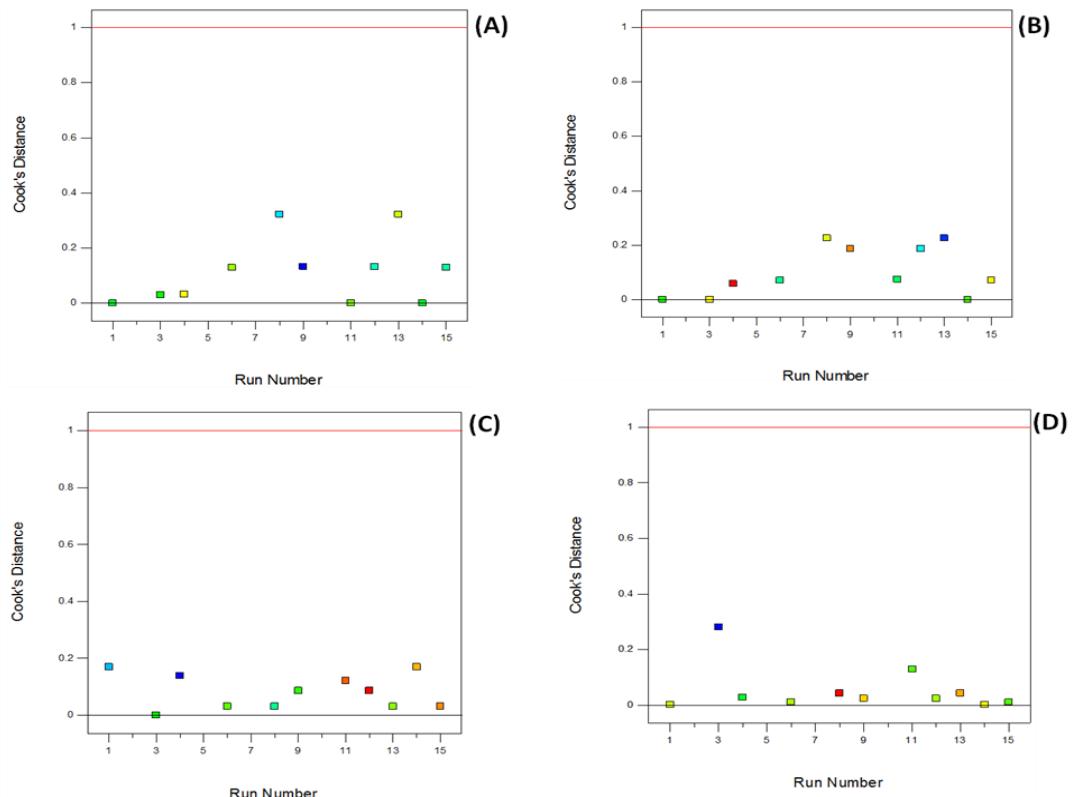


Figure S6: Cook's distance plots for the CQAs viz. (A) particle size, (B) zeta potential, (C) entrapment efficiency, (D) Q_{4h}

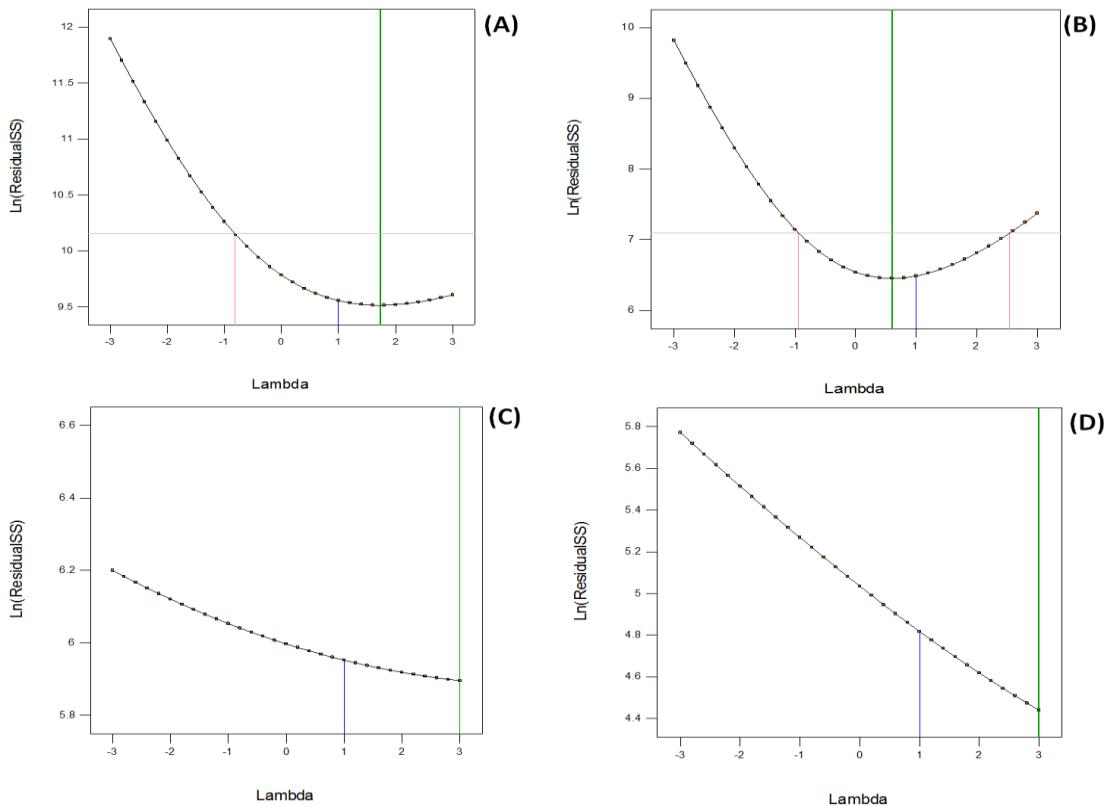


Figure S7: Box-Cox plots for the CQAs viz. (A) particle size, (B) zeta potential, (C) entrapment efficiency, (D) Q_{4h}

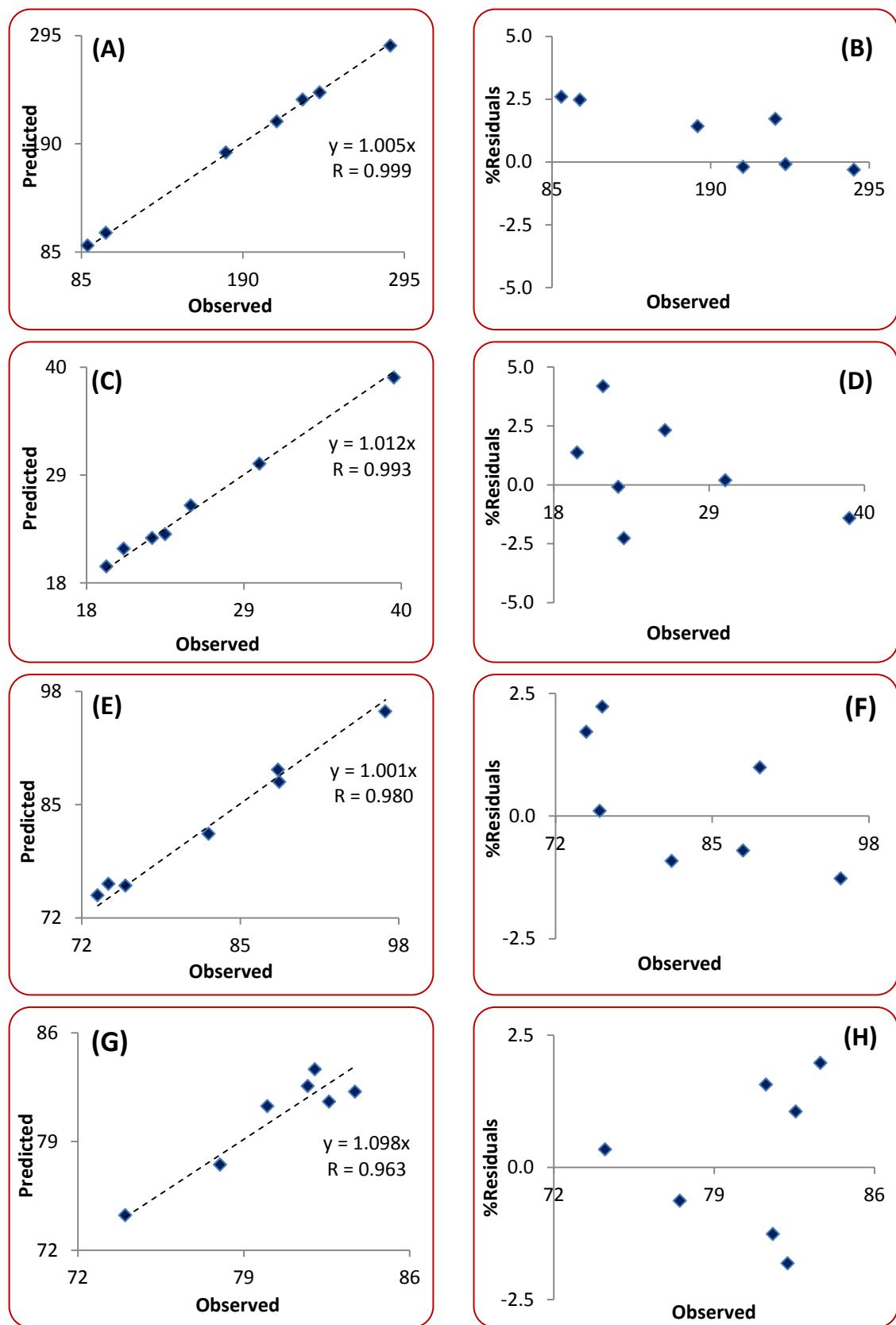


Figure S8: Linear and residual plots between the observed and predicted values of CQAs, (A-B) particle size, (C-D) zeta potential, (E-F) entrapment efficiency, (G-H) Q_{4h}