

# Bentonite Clay/CNT-based Nano adsorbent for textile wastewater treatment: Optimization of process parameters

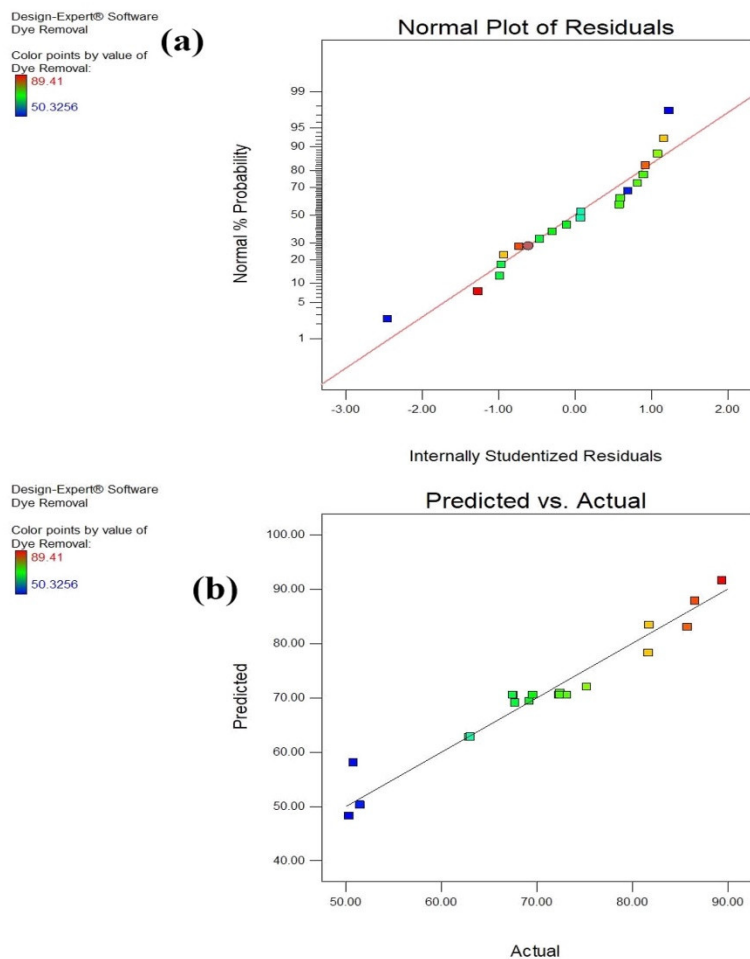
Table S1. ANOVA for Response Surface 2F1 Model

Source	Sum of Squares	Df	Mean Square	F value	P-value	
					Prob > F	
Linear	234.60	11	21.33	3.24	0.1024	
2FI	102.20	8	12.77	1.94	0.2412	Suggested
Quadratic	83.33	5	16.67	2.53	0.1655	
Cubic	0.29	1	0.29	0.043	0.8431	Aliased
Pure Errors	32.91	5	6.58			
Model	2309.81	6	384.97	37.04	< 0.0001	Significant
A-Adsorbent dose	1560.86	1	1560.86	150.19	< 0.0001	
B-pH	21.03	1	21.03	2.02	0.1784	
C-Time	595.52	1	595.52	57.30	< 0.0001	
AB	71.04	1	71.04	6.84	0.0214	
AC	9.07	1	9.07	0.87	0.3672	Not significant
BC	52.29	1	52.29	5.03	0.0430	
Residual	135.11	13	10.39			
Lack of Fit	102.20	8	12.77	1.94	0.2412	Not significant
Pure Error	32.91	5	6.58			

The 2FI model is suggested for our data, and a cubic model is aliased.

### 1.1.1 Residual Plots for Response Yield

Figure 9(a) showed a linear plot of the normal probability (internally studentized residuals); when residual studentized was being compared to the residual variance, the data were normally distributed. Figure 9(b) showed that the actual or experimental data was in good agreement with predicted values; thus, the adequacy of the model (developed) was confirmed [33].



**Figure S1.** (a) Normal plots of residuals (b) Predicted vs. actual.

**Table S2.** Adsorption kinetics

Linear kinetic study			Non-linear kinetic study	
Pseudo first order	parameters	Value	Parameters	value
	$q_{ecal}$	9.115716	$q_{ecal}$	536
	$K_1$ (/min)	0.00053	$K^2$	0.00048
	$R^2$	0.06411	$R^2$	1
Chi-square	$X^2$	2658	$X^2$	0.22
Pseudo second order	$q_{ecal}$	564	$q_{ecal}$	584
	$K_2$ (g/mg/min)	0.000931	$K_2$	0.1552
	$R^2$	0.9965	$R_2$	0.9953
Chi-square	$X^2$	0.34	$X^2$	1.90
Intraparticle diffusion model	$K_{diff}$	31.77	$K_{diff}$	31
	$q_{ecal}$	576	$q_{ecal}$	552
	$R^2$	0.937	$R^2$	0.948
	$X^2$	1.17	$X^2$	0.007