

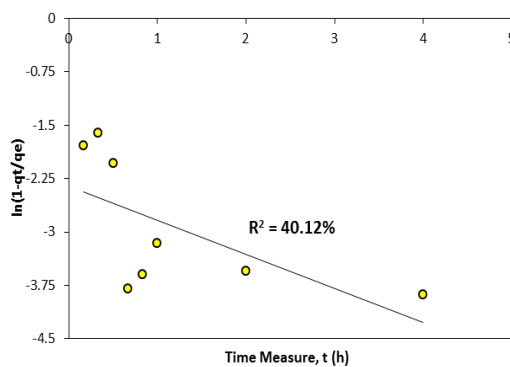
Supplementary Information

Table S1: Level of variables for lead adsorption studies.

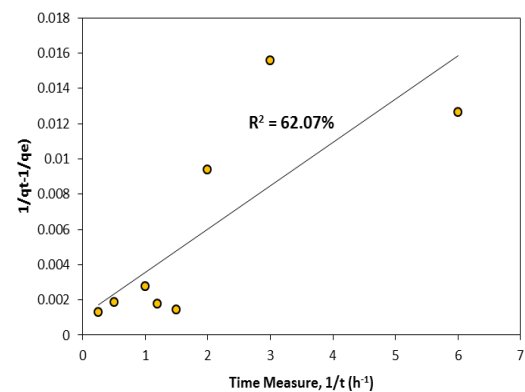
Process variables	Lower Ex. Level	Low level	Middle level	High level	Higher Ex. Level
A: pH	3	5	7	9	11
B: C/M ratio	12.5	50	87.5	125	162.5
C: Time (h)	3	10	17	24	31

Table S2: Analysis of variance results for methylene blue removal.

Source	Sum of Squares	df	Mean Square	F Value	p-value Prob > F	
Model	7389.478	9	821.0532	22.61982	< 0.0001	significant
A: pH	1789.98	1	1789.98	49.31352	< 0.0001	
B: C/M ratio	2553.175	1	2553.175	70.33936	< 0.0001	
C: Time	252.1678	1	252.1678	6.947164	0.0187	
AB	1099.475	1	1099.475	30.29029	< 0.0001	
AC	116.2465	1	116.2465	3.202565	0.0937	
BC	39.97819	1	39.97819	1.10139	0.3106	
A ²	152.3814	1	152.3814	4.198072	0.0584	
B ²	1130.683	1	1130.683	31.15005	< 0.0001	
C ²	24.01395	1	24.01395	0.661579	0.4287	
Residual	544.4692	15	36.29795			
Lack of Fit	435.7376	4	108.9344			



(a)



(b)

Fig. S1: Fitting plots for pseudo-first order model (a), pseudo-second order model (b).

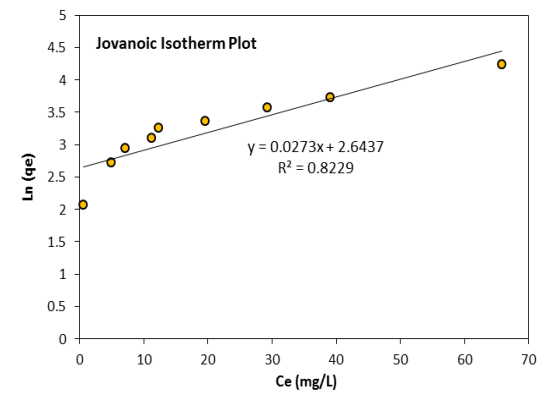
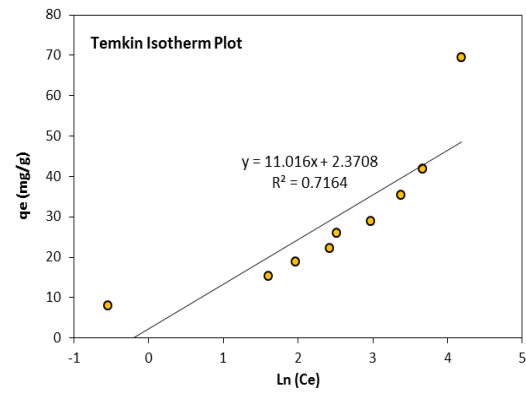
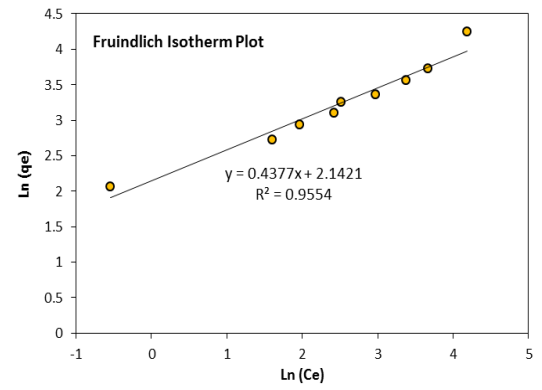
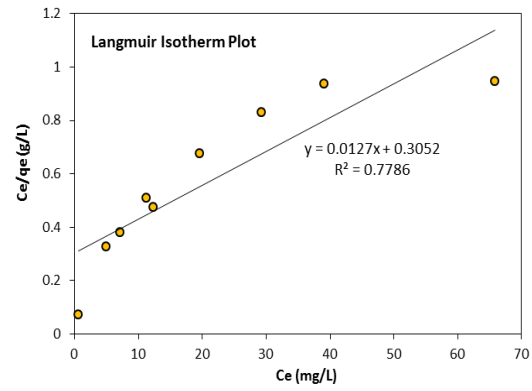


Fig. S2: Isotherm plots for lead adsorption onto the activated coal waste.