

Supplementary Material: Enhanced Adsorption Capacity of Ziziphus jujuba Stones Modified with Ortho-Phosphoric Acid for Organic Dye Removal: A Gaussian Process Regression Approach

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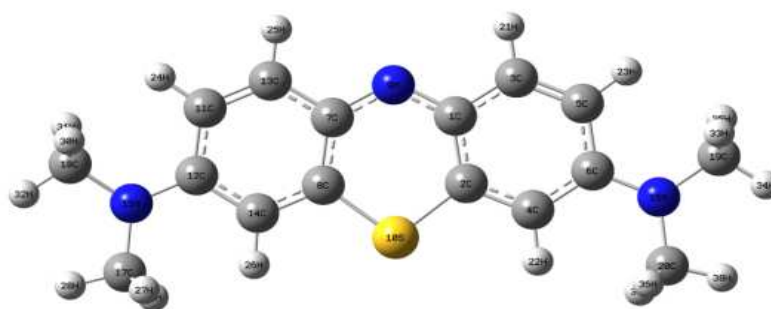


Figure S1. Chemical structure of methylene blue.

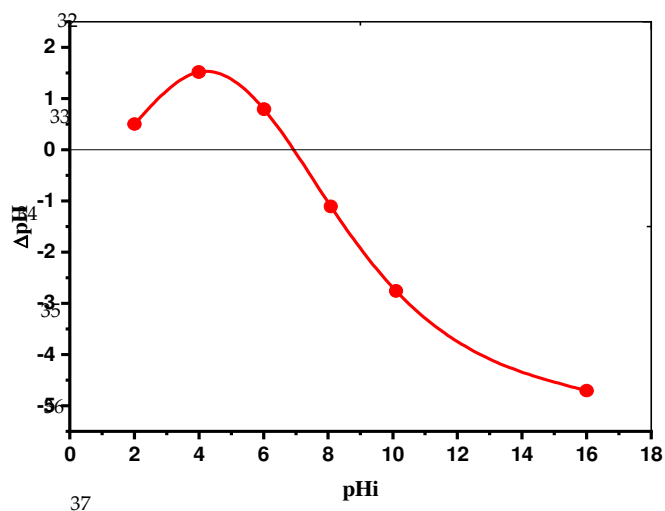
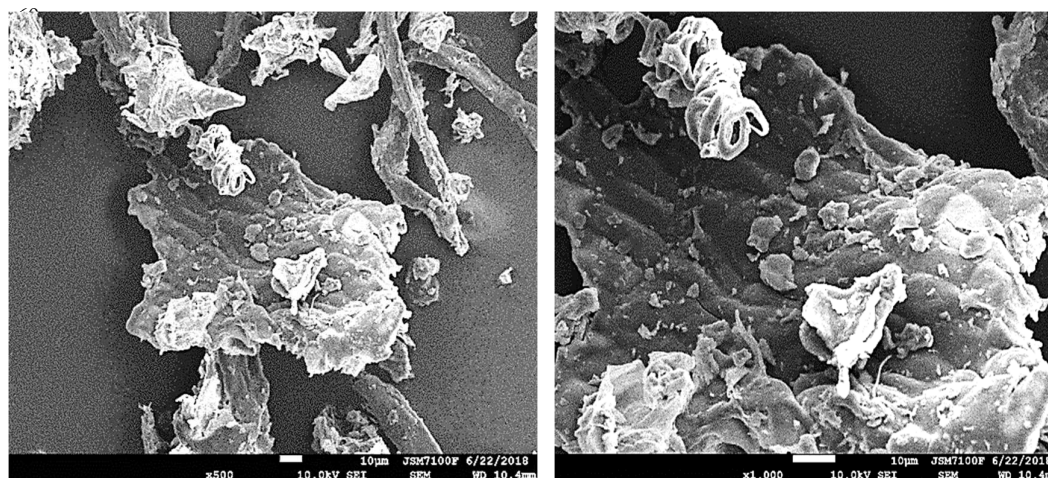


Figure S2. The change in final pH as a function of the initial pH for solutions of ZJS- H_3PO_4 during the determination of the point of zero charge PZC.



(a)

(b)

Figure S3. SEM images of ZJS-H₃PO₄ with different aggrandizement ((a) : ×500; (b) : ×1000)

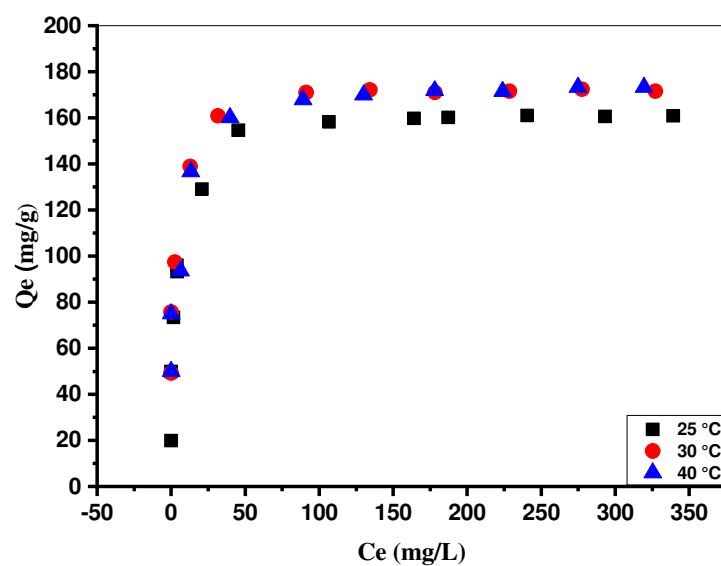
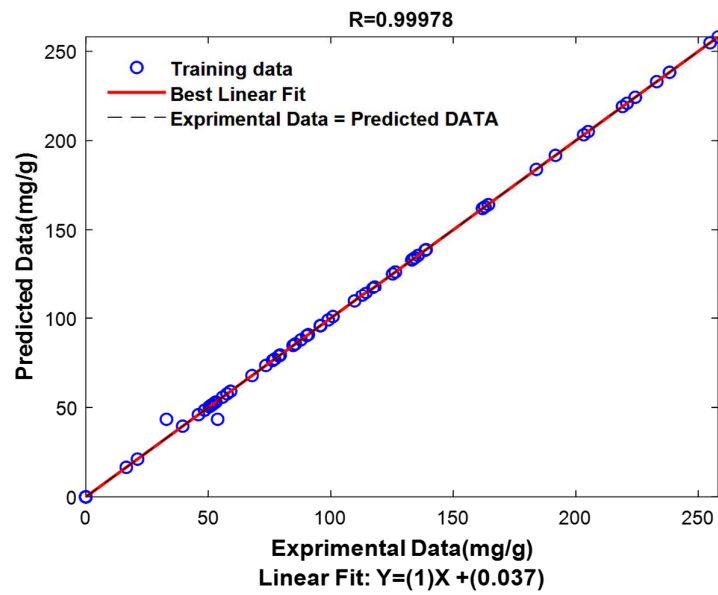


Figure S4. Equilibrium isotherms for MB biosorption onto ZJS- H_3PO_4 at different temperatures. (agitation speed= 250 rpm, pH=10).

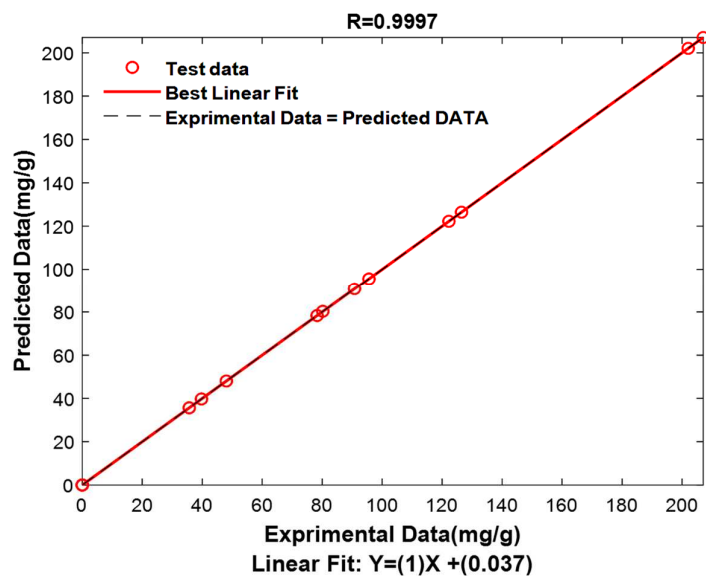
148



(a)

149

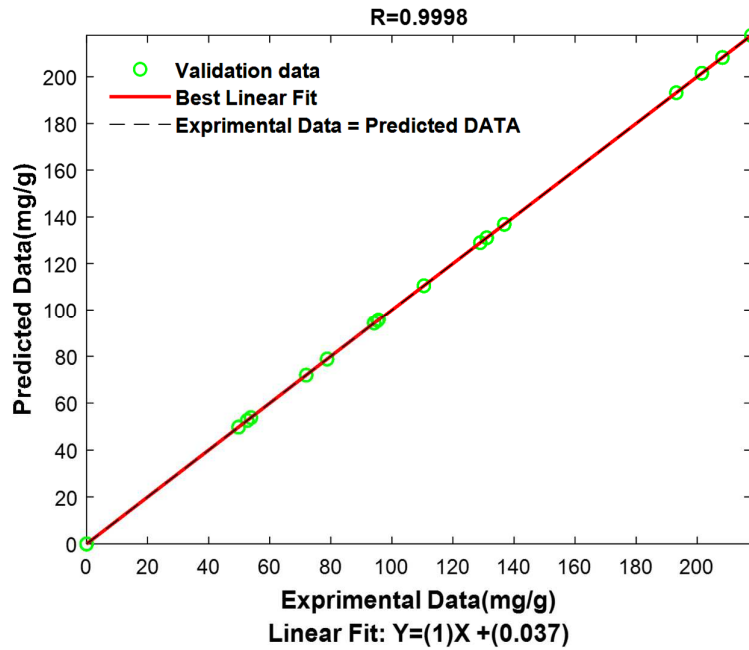
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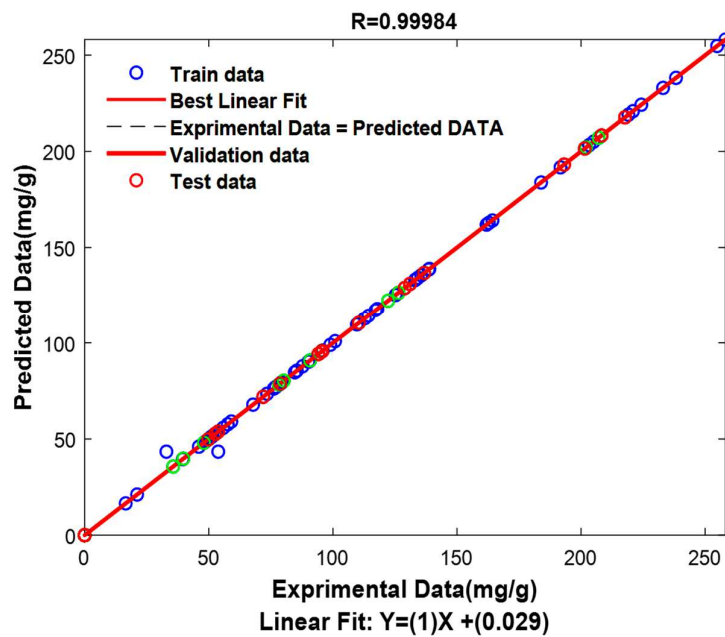
(b)

151

152



(c)



(d)

Figure. S5. Comparison between experimental and predicted values: (a) training data, (b) testing data, (c) validation data, and (d) all data.

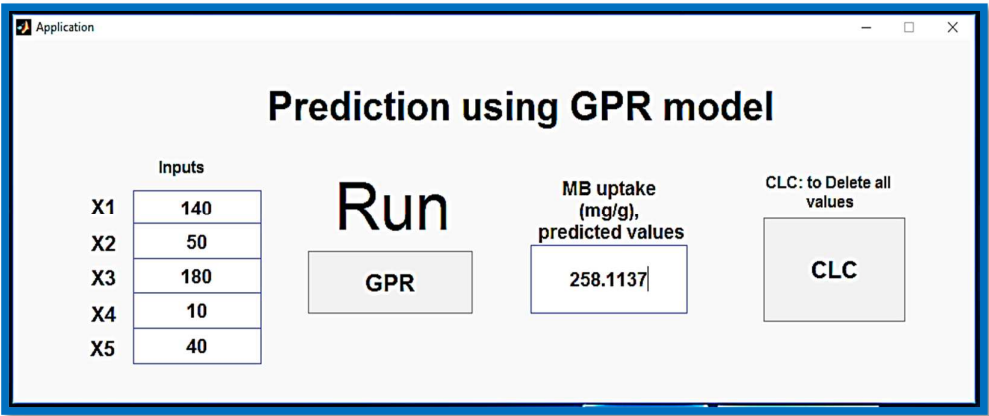


Figure. S6. Application for prediction MB uptake using the GPR