Guide for the shiny app: Models for sorption Isotherms

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Upload the file

First of all, we have to upload the csv file, which contains the water activity (a_w) and corresponding moisture content (M_w = EMC) values. Also, select necessary parameter as existence of header and type of the separator.

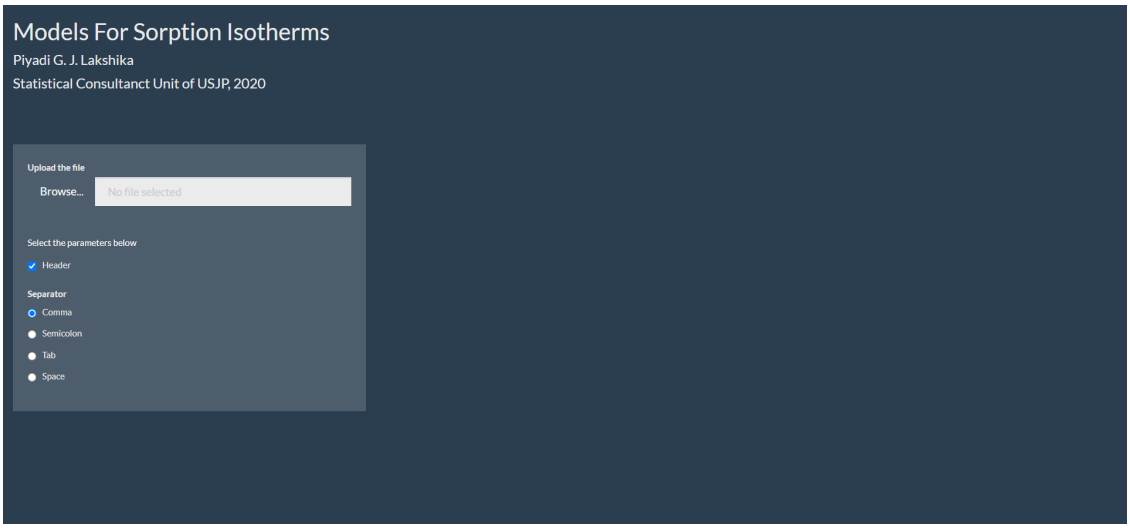
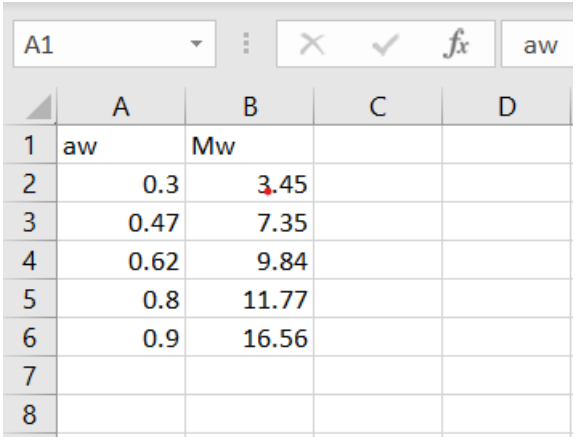


Figure 1: Initial interface



	A	B	C	D
1	aw	Mw		
2	0.3	3.45		
3	0.47	7.35		
4	0.62	9.84		
5	0.8	11.77		
6	0.9	16.56		
7				
8				

Figure 2: Sample of the dataset

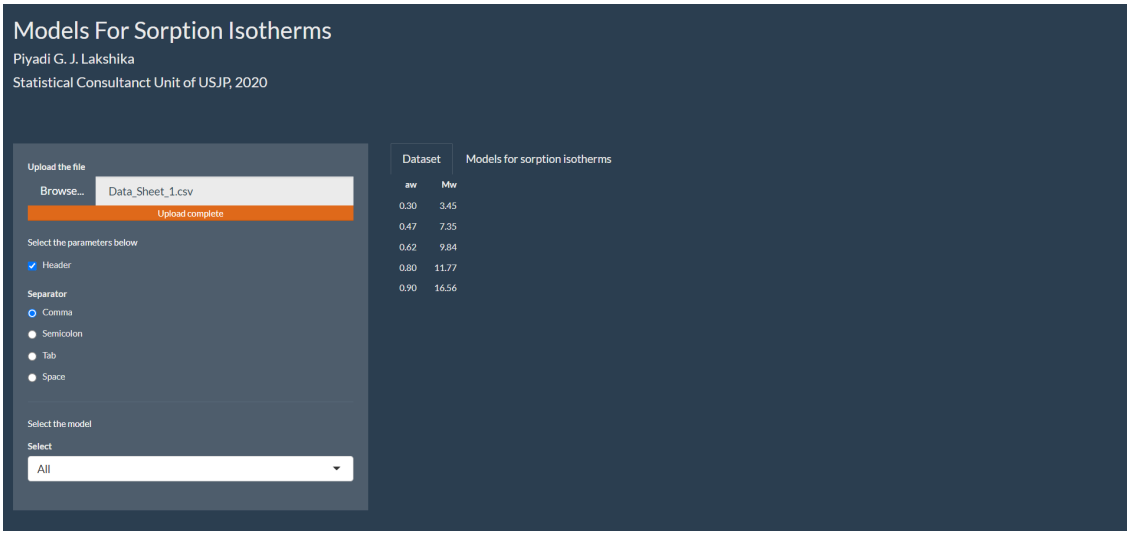


Figure 3: Interface after uploading the file

After uploading the file, you can see the uploaded file in "Dataset" tab.

Select the necessary model

Next, we have to select the model from the drop down in the left hand side. Then the output is shown in the "Model for sorption isotherms" tab.

When select "All" option, the "Model for sorption isotherms" tab shows the overview of all models with "mean square error (mse) and"R^2, while selecting a specific model shows parameters regarding to the model other than mse and R^2. Also, it contains "sorption isotherms for all the models and actual EMC values, which can be useful in comparison.

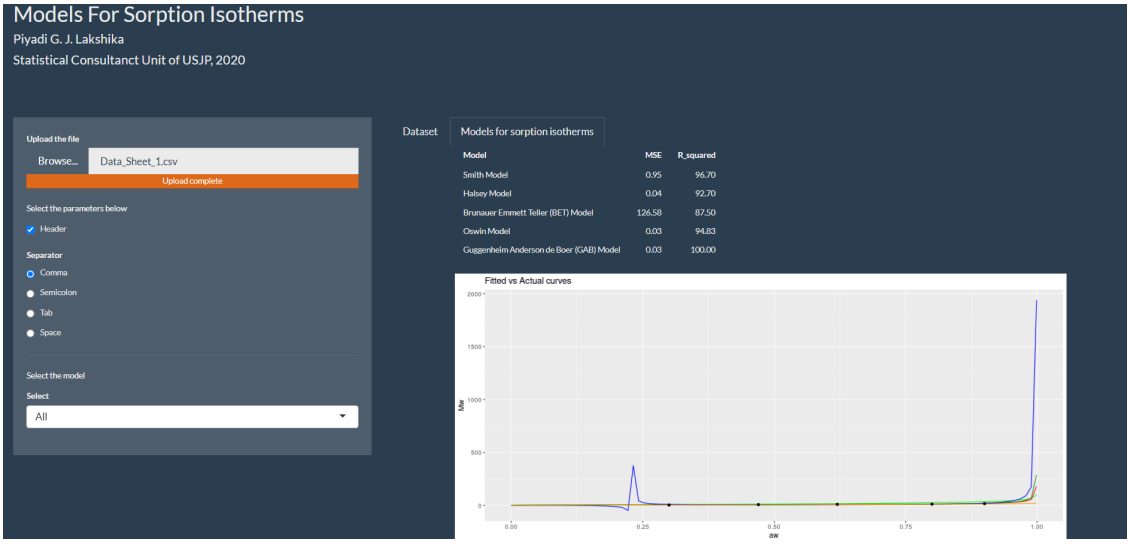


Figure 4: Option: All

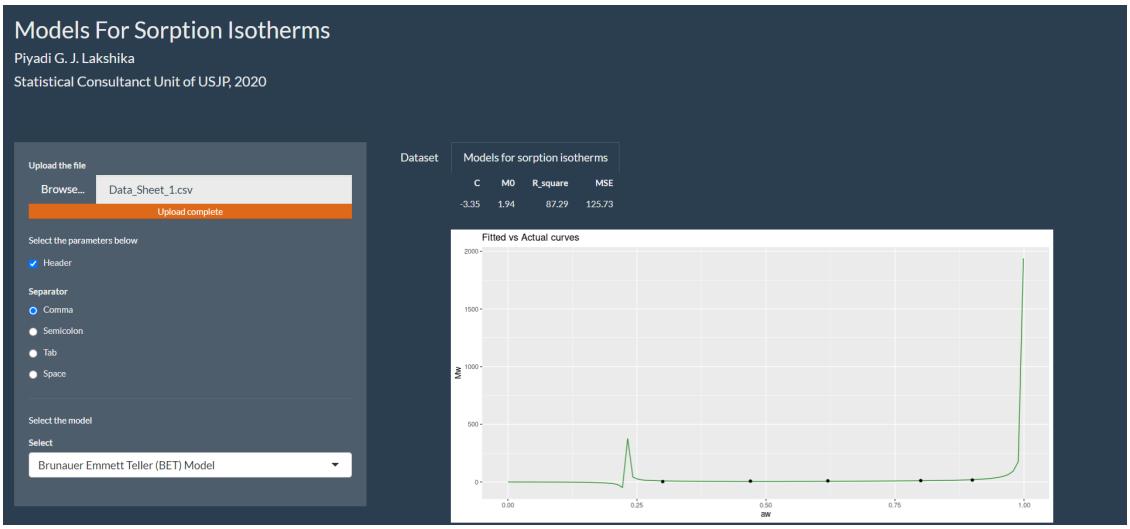


Figure 5: Option: Brunauer Emmett Teller (BET) Model

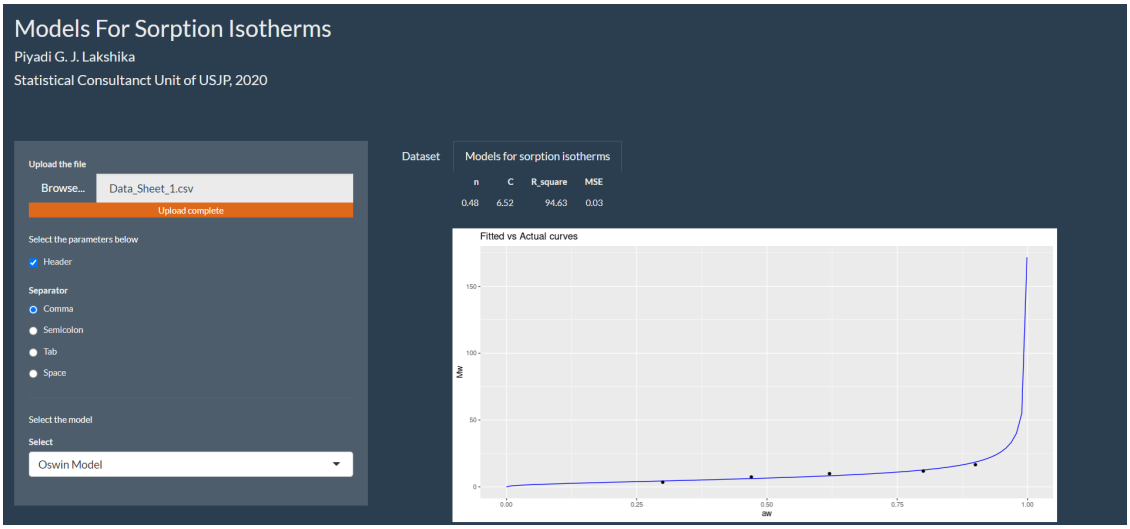


Figure 6: Option: Oswin Model

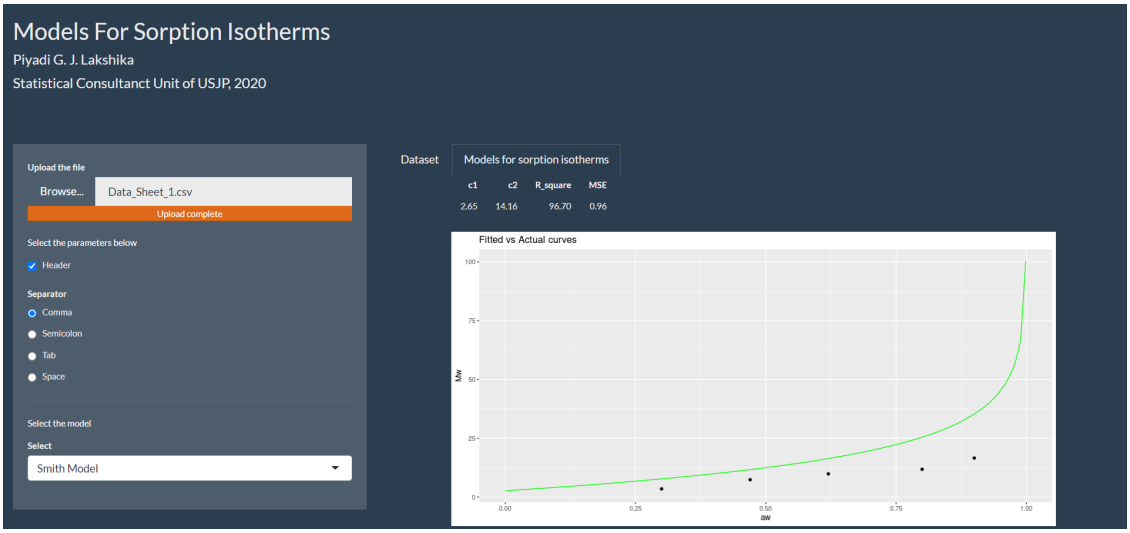


Figure 7: Option: Smith Model

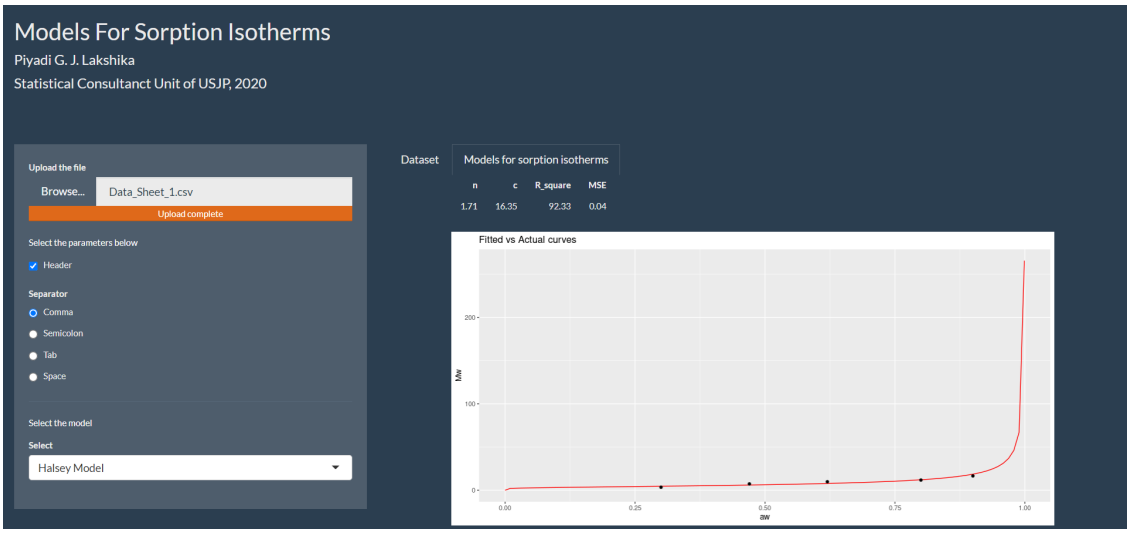


Figure 8: Option: Hasley Model

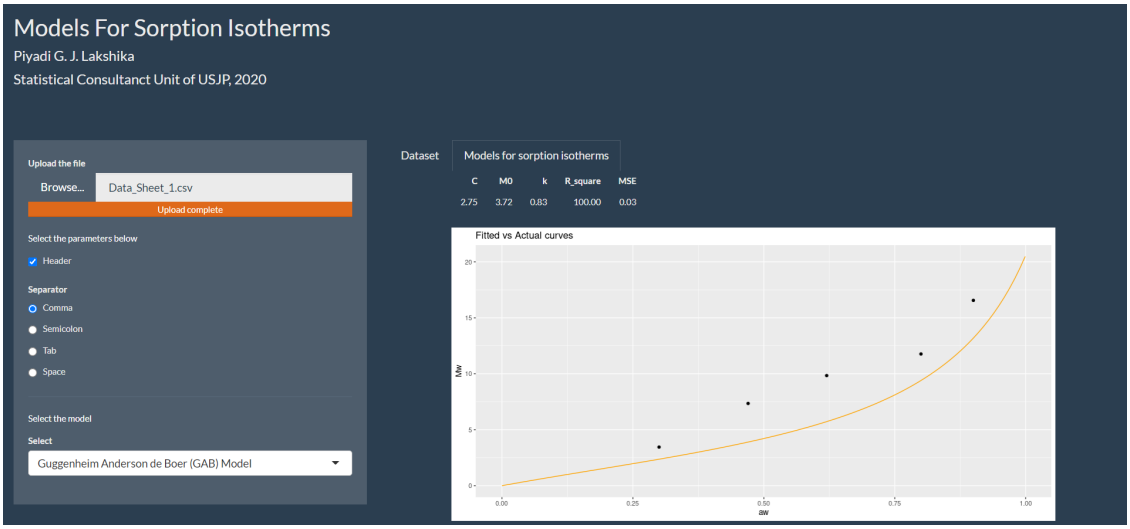


Figure 9: Option: Guggenheim Anderson de Boer (GAB) Model