

Supporting information

The Application of Multilinear Regression Model for Quantitative Analysis on the Basis of Excitation-Emission Matrix Spectra and the Release of a Free Graphical User Interface

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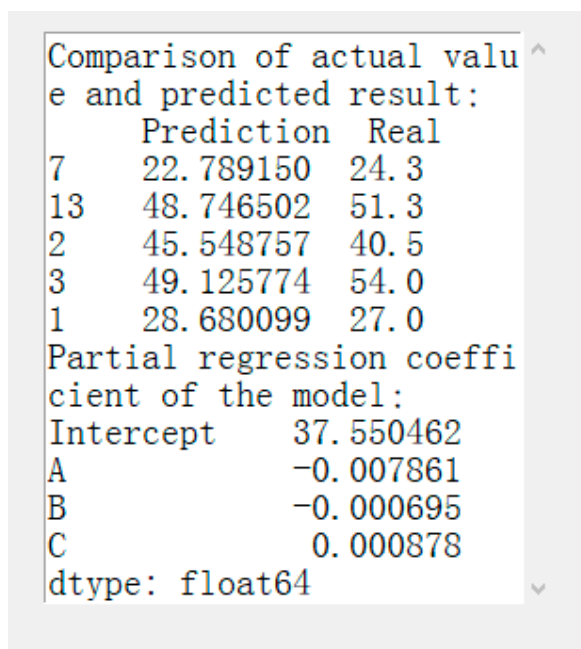


Figure S1. Data presentation interface

A step-by-step description of how to use the GUI was presented in Fig. S1 and given as follows:

The text input box (1) can input the required data table, which must be excel format, and the table format was shown in Table 1.

Button (2) can call the local file list of the computer, and a data table can be selected and uploaded. After selection, the address of the data table will be displayed in the text box (1), or the file address can be directly entered in the text box (1) if the user knows the location of the file in the computer.

The text input box (4) is used to enter the name of the defined variable y (concentration) (in this paper, the header of y is defined as pre, as shown in Table 1).

The text input box (6) is used to define the name of x , with plus signs separating the different variable names, as defined in this paper for variables F, AR, AQ should be entered as 'F + AR + AQ'.

Button (9) is the plot button. Click this button to pop up the diagram of concentration values and the predicted ones.

The button (10) is the display result button. After clicking, the actual concentrations and the prediction results including predicted concentrations and the

model information (intercept, coefficient of each selected variables) can be displayed as illustrated in Fig. S1.

The function of the right part of the GUI is the model optimization. The linear relationship between the variable x and the concentration y can be shown while click button (12).

The text input box (13) inputs the filtered variable x that have linear relationship with y , and the operation is the same as the text input box (6).

The operation mode of the button (14) is the same as that of the button (7).

The function of buttons (15) and (16) are the same as buttons (8) and (9). The optimized results can be shown in (17).

Table S1 Solution concentrations of mixed standard solution

Number	Magnolol	Honokiol
1	54.00	53.20
2	27.00	26.00
3	40.50	66.50
4	54.00	47.88
5	48.60	31.92
6	32.40	37.24
7	45.90	42.56
8	24.30	23.94
9	21.60	39.90
10	35.10	53.20
11	16.20	13.30
12	59.40	61.18
13	35.10	45.22
14	51.30	55.86
15	56.70	58.52
16	59.40	34.58
17	13.50	21.28
18	18.90	15.96
19	13.50	18.62
20	8.10	5.32
21	10.80	7.98
22	5.40	10.64