Property	Value/comment
Algorithm	Marquardt-Levenberg
Minimized error function	Mean squared error (MSE)
Learning	Supervised
Input layer	Equation 9
Hidden layer	Hyperbolic tangent transfer function
Output layer	Hyperbolic tangent transfer function
Number of training iterations	31 <sup>a</sup>
Number of best iterations	25 <sup>a</sup>
Number of input neurons	3 <sup>b</sup>
Number of hidden neurons	3-45 <sup>°</sup>
Number of output neurons	2 <sup>d</sup>

Table S1 Training parameters of ANN model

<sup>a</sup> Determined for 18 hidden neurons and shown in Supplementary Figure S9.

<sup>b</sup> Concentration of UCON( $X_1$ ), concentration of K<sub>2</sub>C<sub>4</sub>H<sub>4</sub>O<sub>6</sub> ( $X_2$ ), system temperature ( $X_3$ )

<sup>c</sup> Varied in this range to determine the optimum hidden neurons (18) as shown in Supplementary Figure S8.

<sup>d</sup> Extraction efficiencies of flavonoids  $(Y_1)$  and extraction efficiencies of corn silk polysaccharide  $(Y_2)$ .