Supplemental material

Optimization of ultrasonic-assisted extraction of α-glucosidase inhibitors from *Dryopteris crassirhizoma* using artificial neural network and response surface methodology

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Figure S1. Selection of variables for RSM optimization

Figure S2. The HPLC-UV chromatographs of DC with flavaspidic acid AP (**1**)

Figure S3. The HPLC-UV chromatographs of DC with nortrisflavaspidic acid ABB (**2**)

Figure S4. ESI-MS spectrum (positive mode and negative mode) of flavaspidic acid AP (**1**)

Figure S5. ^{1}H-NMR spectrum (CD_3OD, 500 MHz) of nortrisflavaspidic acid ABB (**2**)

Figure S6. ^{13}C-NMR spectrum (CD_3OD, 125 MHz) of nortrisflavaspidic acid ABB (**2**)

Figure S7. HR-ESI-MS spectrum (negative mode) of nortrisflavaspidic acid ABB (**2**)

Figure S8. The prediction graphs for them training, validation, and test of the established network

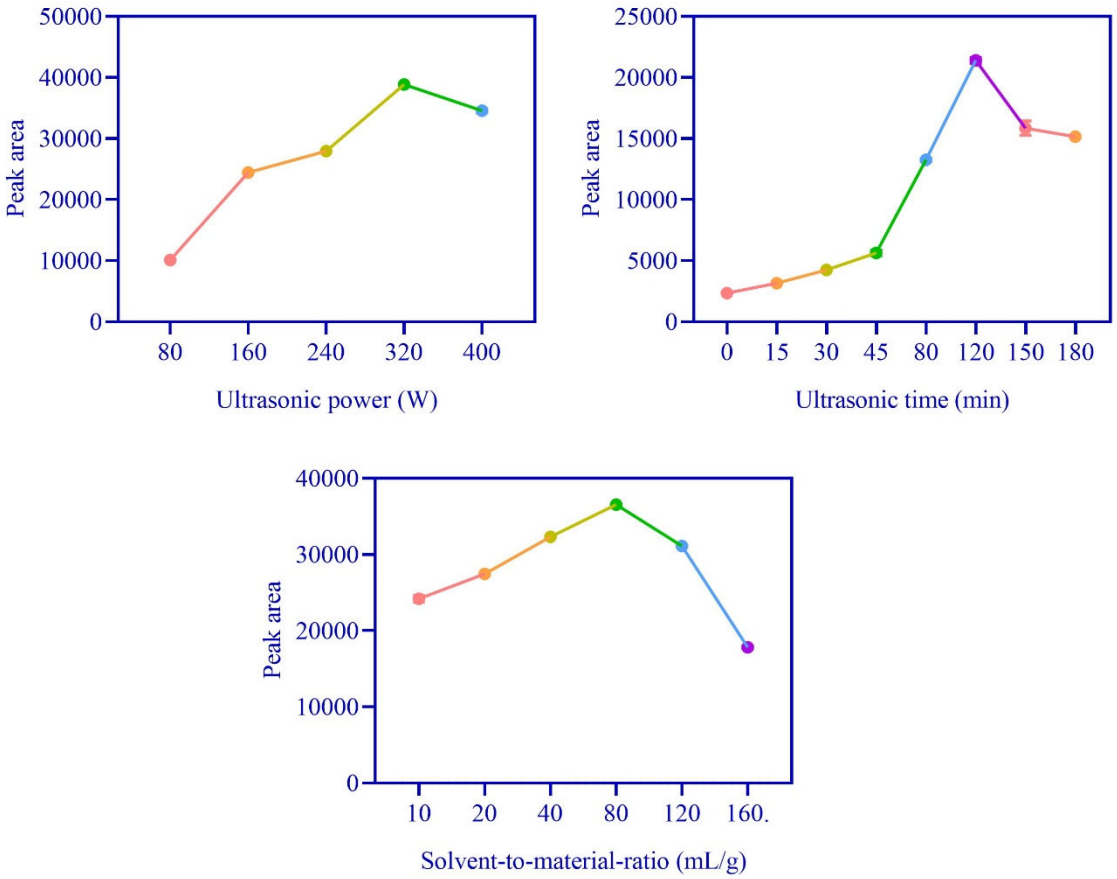


Figure S1. Selection of variables for RSM optimization

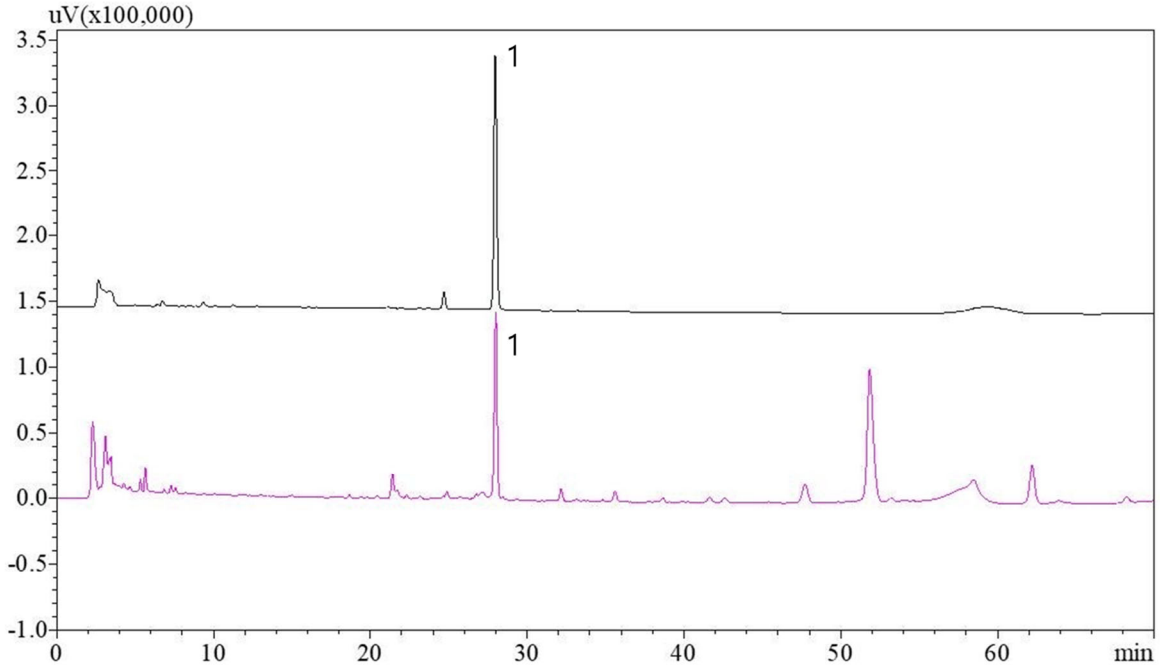


Figure S2. The HPLC-UV chromatographs of DC with flavaspidic acid AP (**1**)

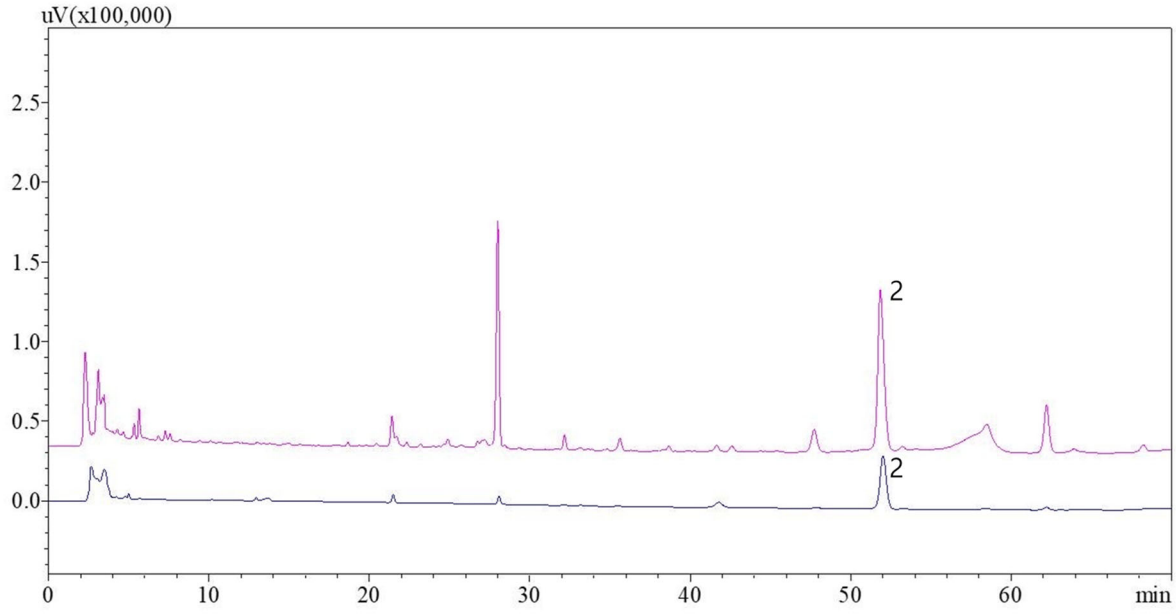


Figure S3. The HPLC-UV chromatographs of DC with nortrisflavaspidic acid ABB (**2**)

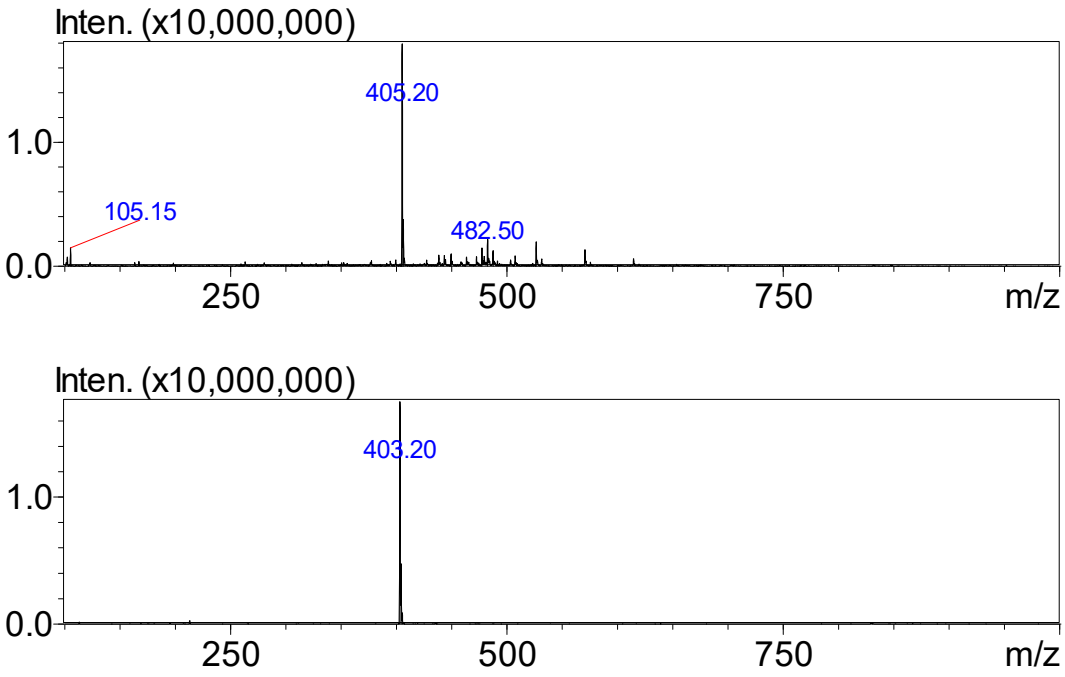


Figure S4. ESI-MS spectrum (positive mode and negative mode) of flavaspidic acid AP (**1**)

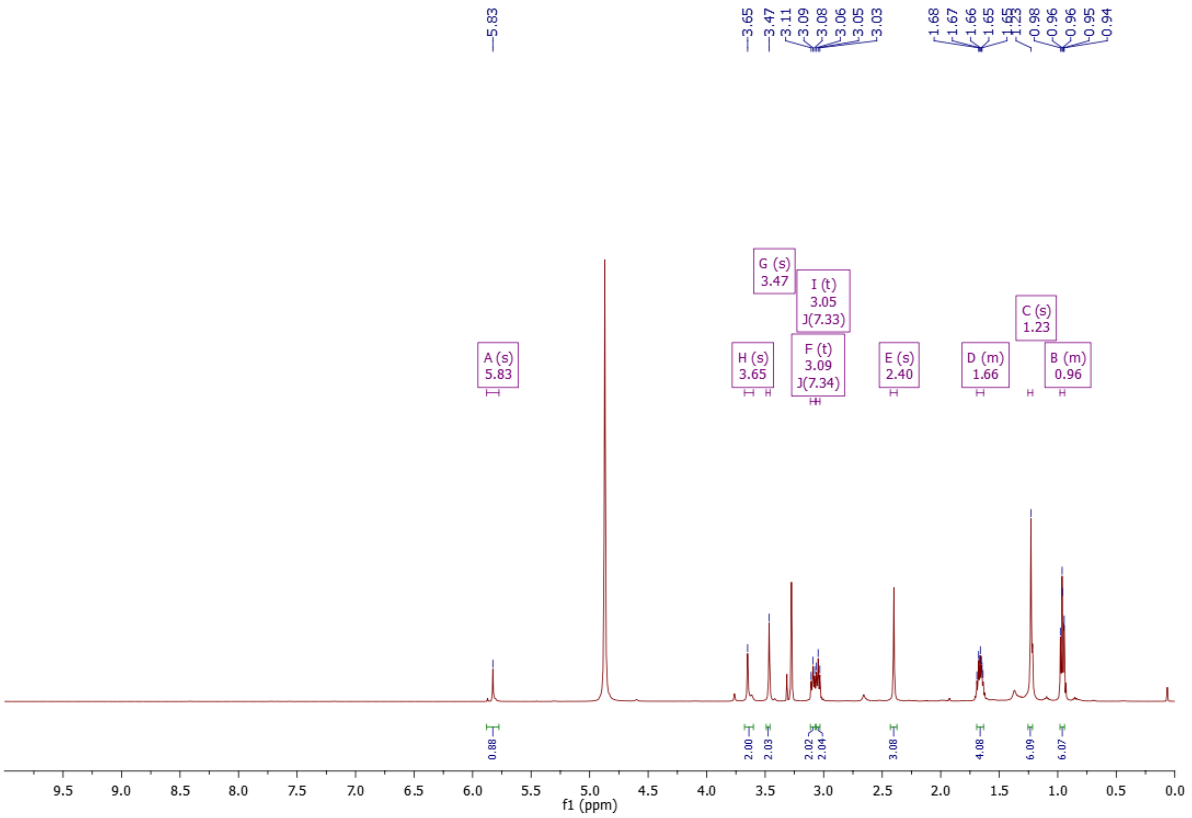


Figure S5. ^{1}H-NMR spectrum (CD_3OD, 500 MHz) of nortrisflavaspidic acid ABB (**2**)

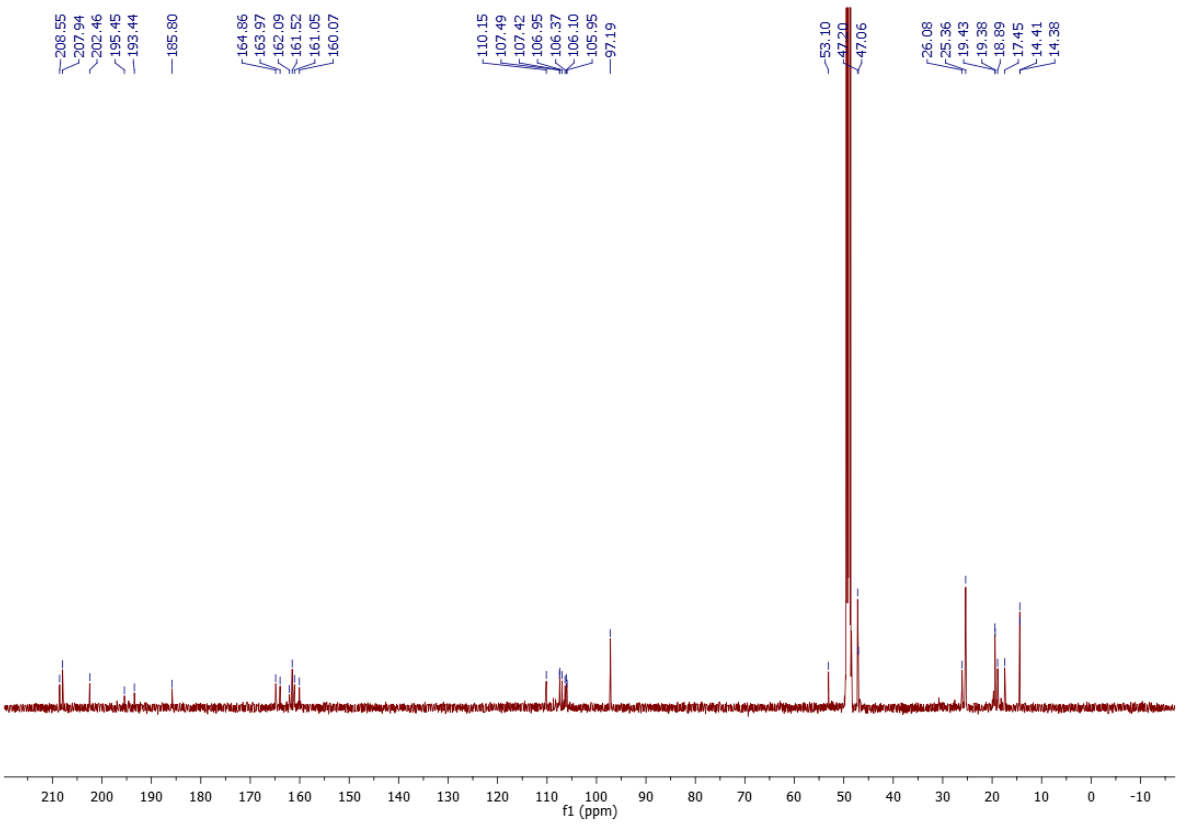
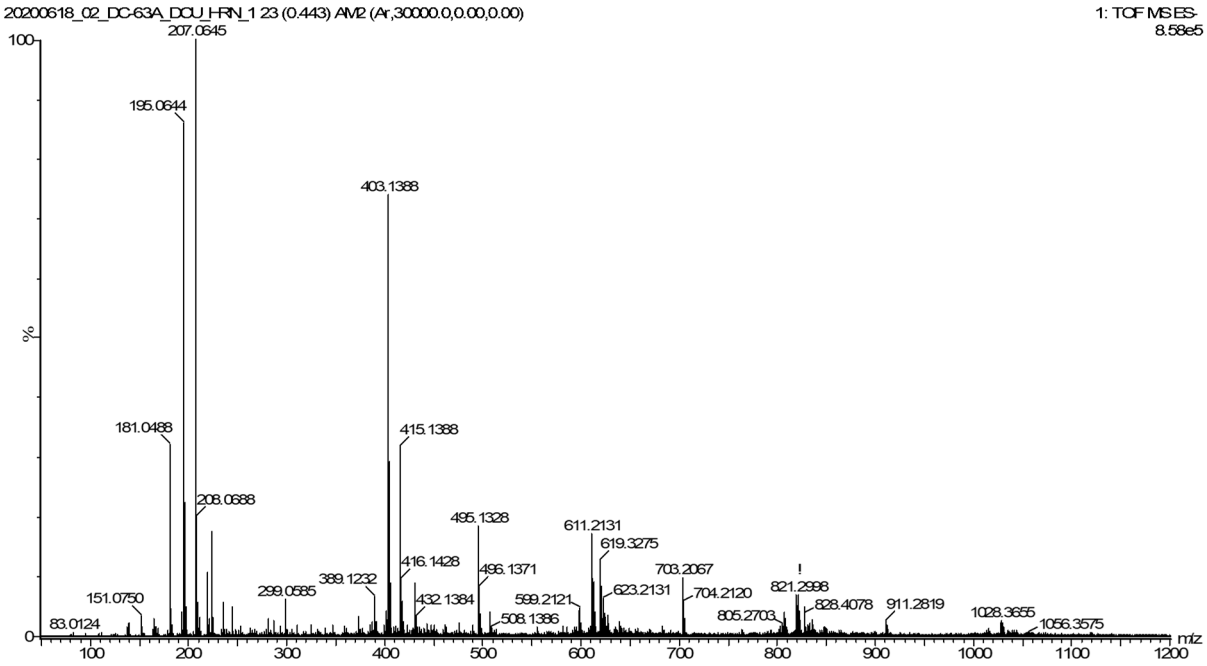
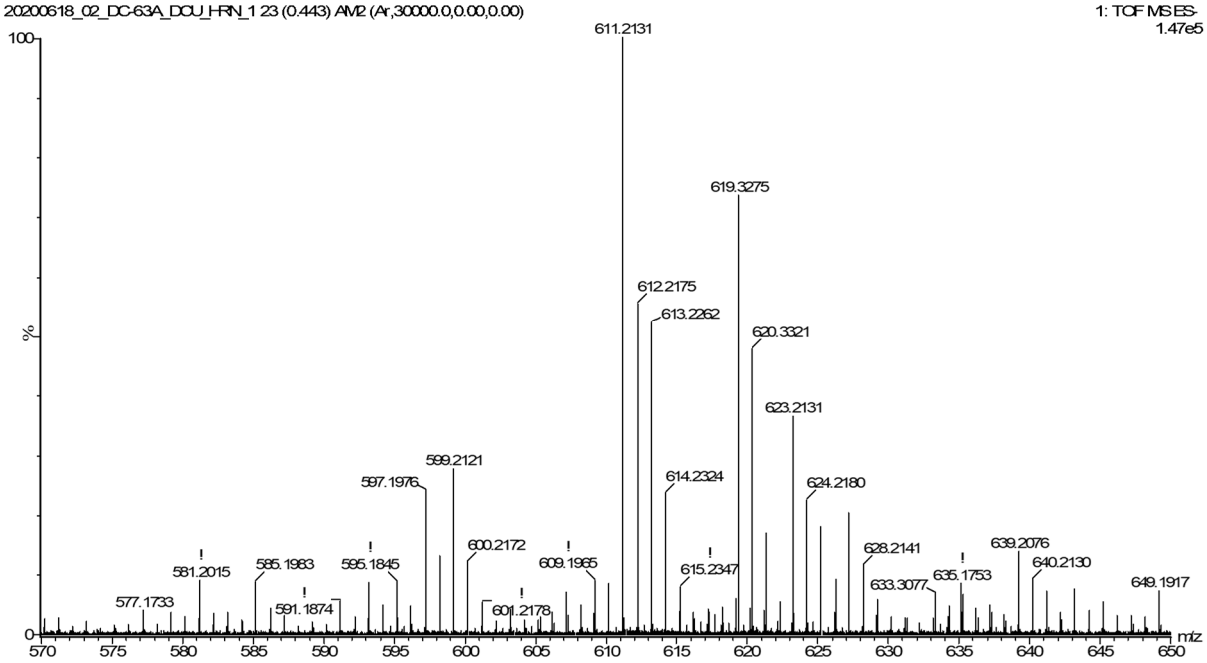


Figure S6. ^{13}C-NMR spectrum (CD_3OD, 125 MHz) of nortrisflavaspidic acid ABB (**2**)





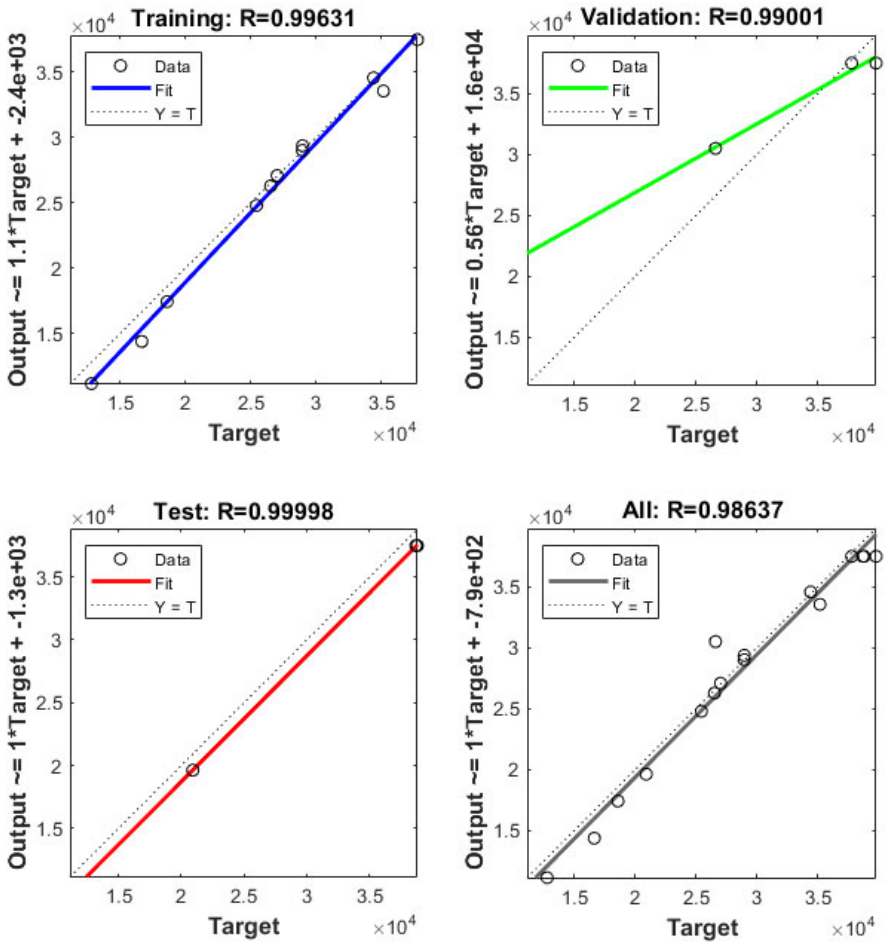
Elemental Composition Report

Single Mass Analysis
Tolerance = 5.0 PPM / DBE: min = -1.5, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions
27 formula(e) evaluated with 1 results within limits (all results (up to 1000) for each mass)
Elements Used:
C: 0-40 H: 0-45 O: 0-12

Minimum:				-1.5				
Maximum:		100.0	5.0	100.0				
Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Norm	Conf(%)	Formula
611.2131	611.2129	0.2	0.3	15.5	654.2	n/a	n/a	C32 H35 O12

Figure S7. HR-ESI-MS spectrum (negative mode) of nortrisflavaspidic acid ABB (**2**)



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