

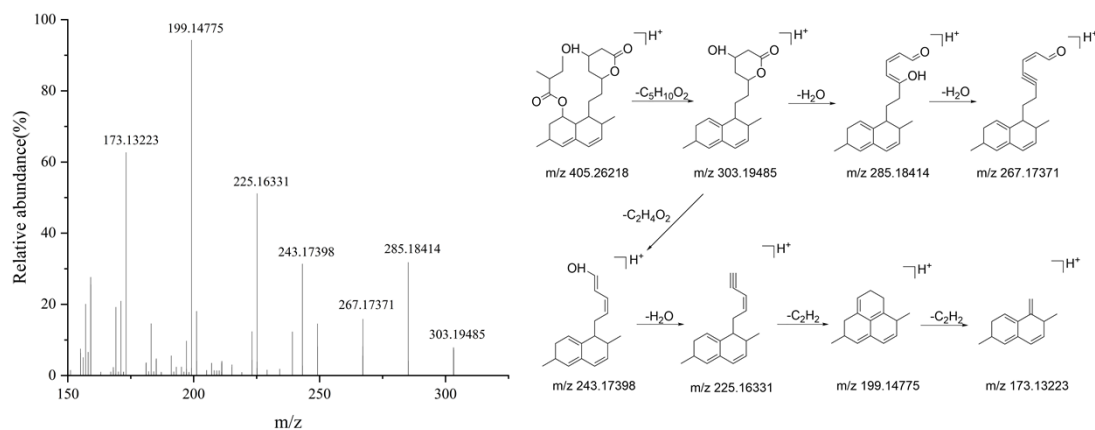
Supplementary Material

1 Supplementary tables

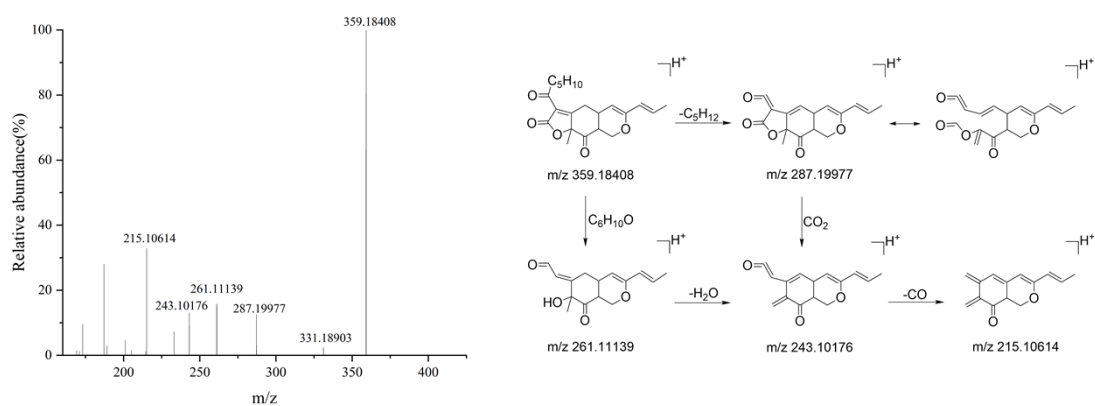
Number	Name	Batch number	Number	Name	Batch number
MR1	<i>Monascus rice</i>	20200817	HBM1	Highland barley <i>monascus</i>	20191205
MR2	<i>Monascus rice</i>	20200902	HBM2	Highland barley <i>monascus</i>	20200304
MR3	<i>Monascus rice</i>	20201103	HBM3	Highland barley <i>monascus</i>	20200501
MR4	<i>Monascus rice</i>	20201203	HBM4	Highland barley <i>monascus</i>	20200503
MR5	<i>Monascus rice</i>	202007	HBM5	Highland barley <i>monascus</i>	20200505
MR6	<i>Monascus rice</i>	20181129	HBM6	Highland barley <i>monascus</i>	20200506
MR7	<i>Monascus rice</i>	20190729	HBM7	Highland barley <i>monascus</i>	20200607
MR8	<i>Monascus rice</i>	20200509	HBM8	Highland barley <i>monascus</i>	20200608
MR9	<i>Monascus rice</i>	20200228	HBM9	Highland barley <i>monascus</i>	20200609
MR10	<i>Monascus rice</i>	20200212	HBM10	Highland barley <i>monascus</i>	20200701

Supplementary table 1. Information of 20 batches of *monascus* rice and highland barley *monascus*.

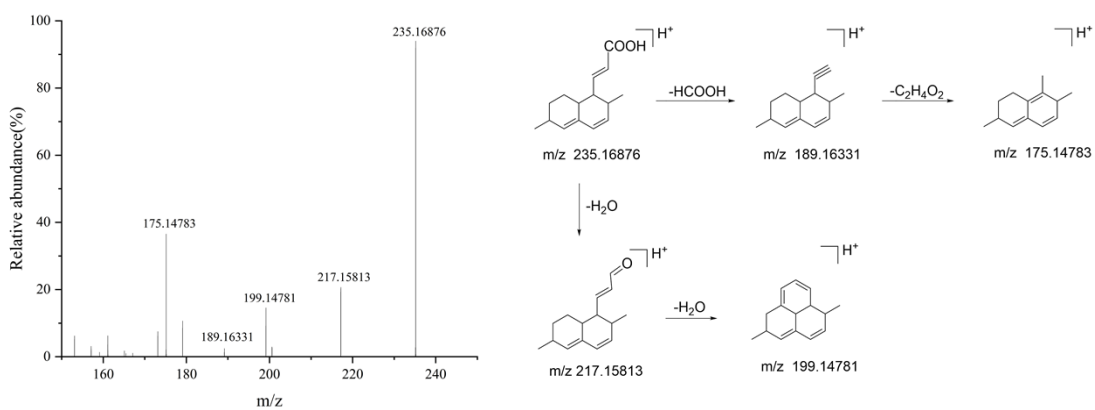
2 Supplementary Figures



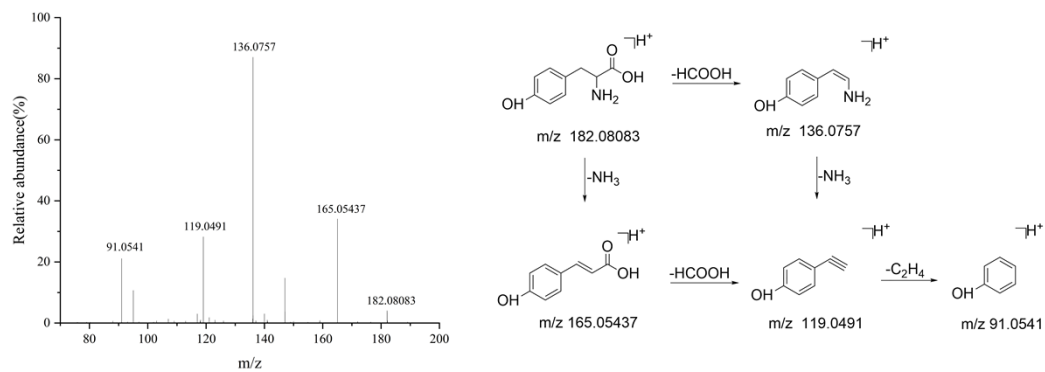
Supplementary figure 1. MS/MS spectra and potential fragmentation pathway of monacolins K ([M + H]⁺)



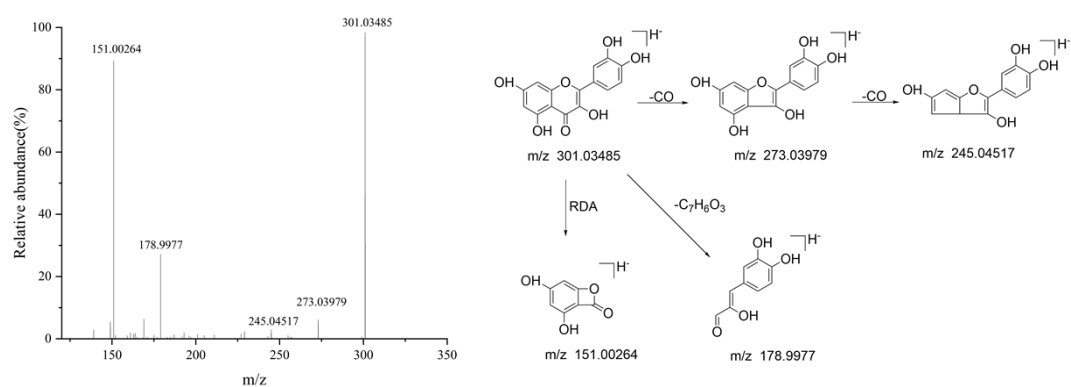
Supplementary figure 2. MS/MS spectra and potential fragmentation pathway of monascins ([M + H]⁺)



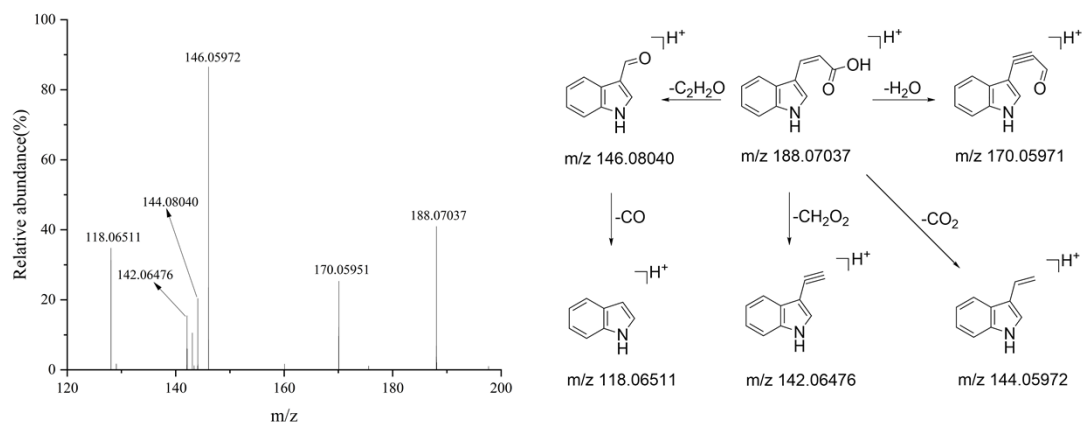
Supplementary figure 3. MS/MS spectra and potential fragmentation pathway of monascusic acid B ([M + H]⁺)



Supplementary figure 4. MS/MS spectra and potential fragmentation pathway of tyrosine ($[\text{M} + \text{H}]^+$)



Supplementary figure 5. MS/MS spectra and potential fragmentation pathway of quercetin ($[\text{M} - \text{H}]^-$)



Supplementary figure 6. MS/MS spectra and potential fragmentation pathway of indo-3-acrylic acid ($[\text{M} + \text{H}]^+$)