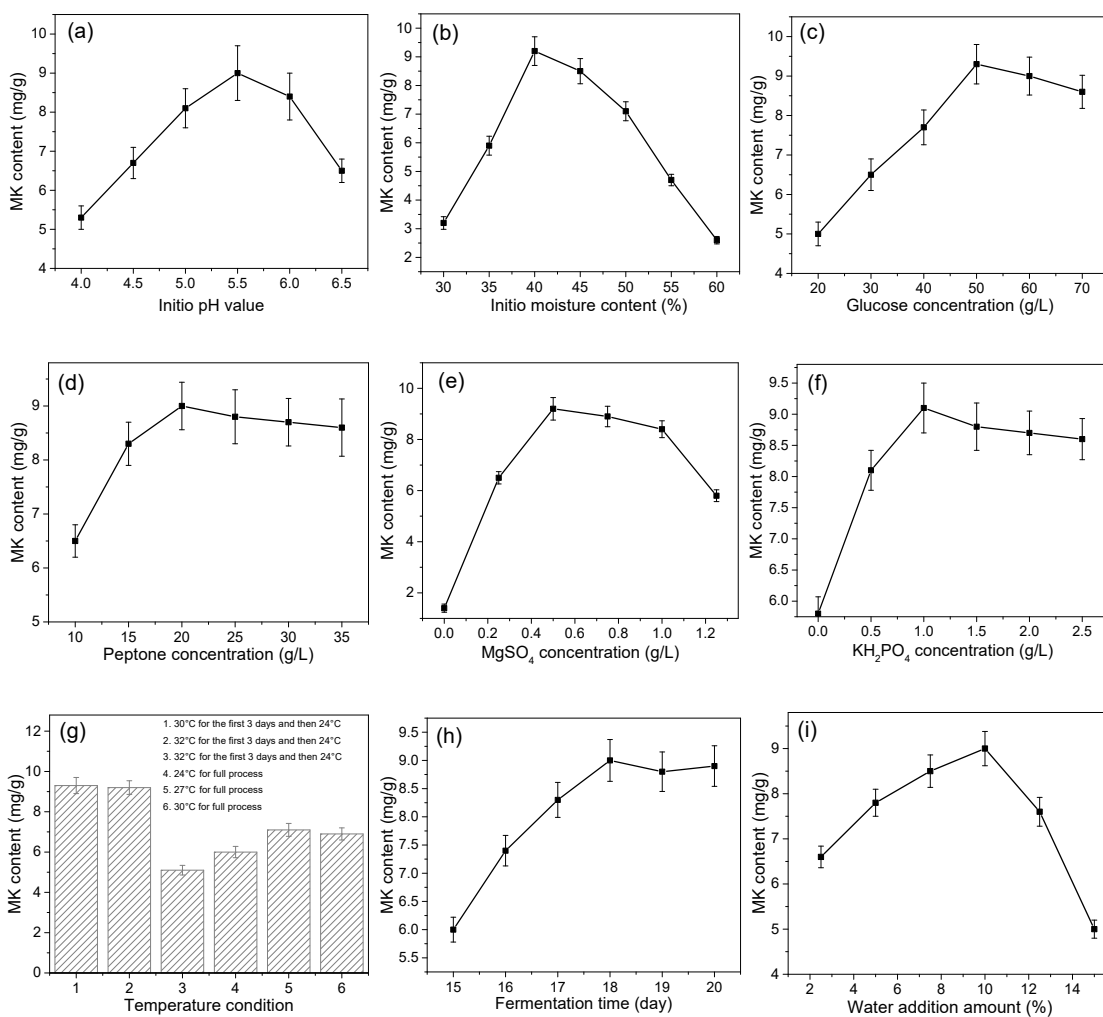
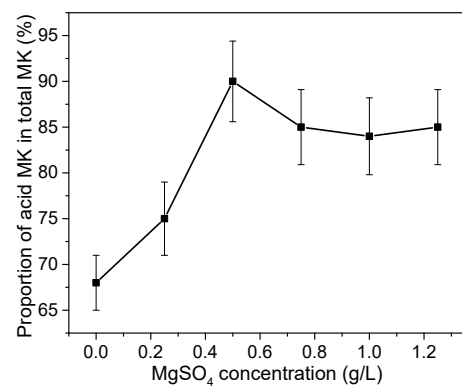


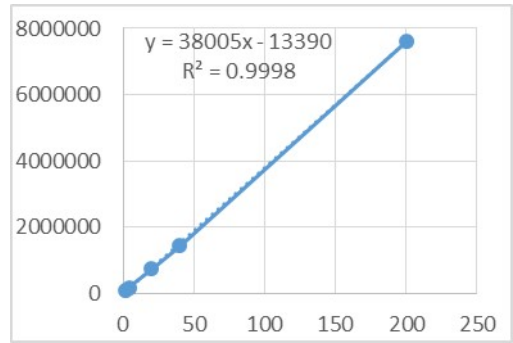
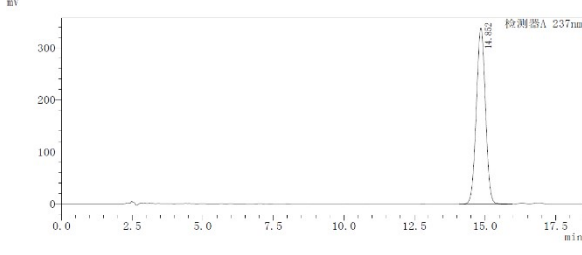
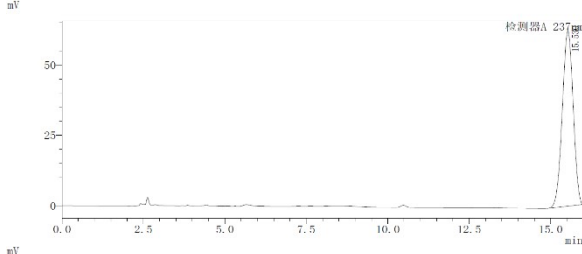
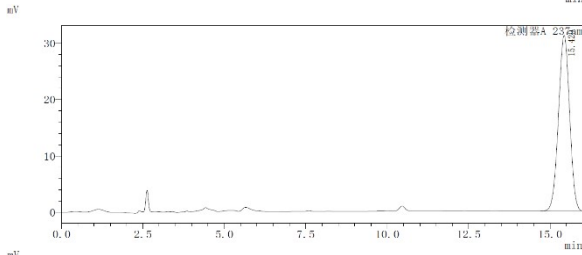
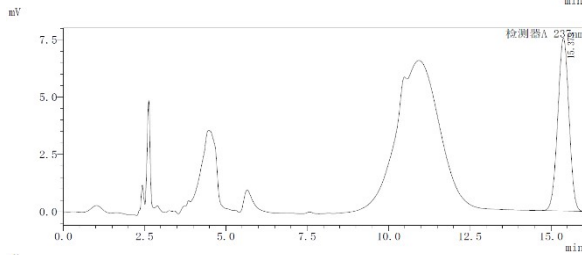
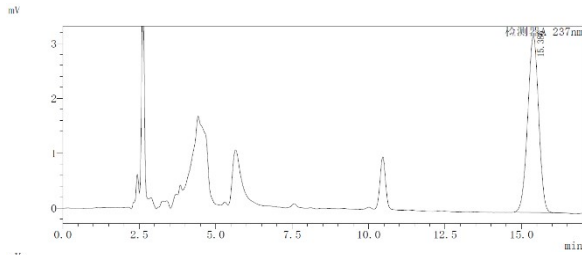
## Supplemental materials



**Figure S1.** Influence of various factors on MK content in red yeast rice: initial pH value (a), initial moisture content (b), glucose (c), peptone (d),  $\text{MgSO}_4$  (e) and  $\text{KH}_2\text{PO}_4$  (f) concentration, fermentation temperature (g), fermentation time (h) and amount of additional water added (i)



**Figure S2.** Effect of  $\text{MgSO}_4$  concentration on the proportion of acid MK out of total MK in red yeast rice



Concentration (mg/L)	Area	Hight
2	80161	3213
4	180671	7544
20	740406	31152
40	1440681	62201
200	7600410	338672

Figure S3. HPLC chromatograms and standard curves of acidic MK standard substance

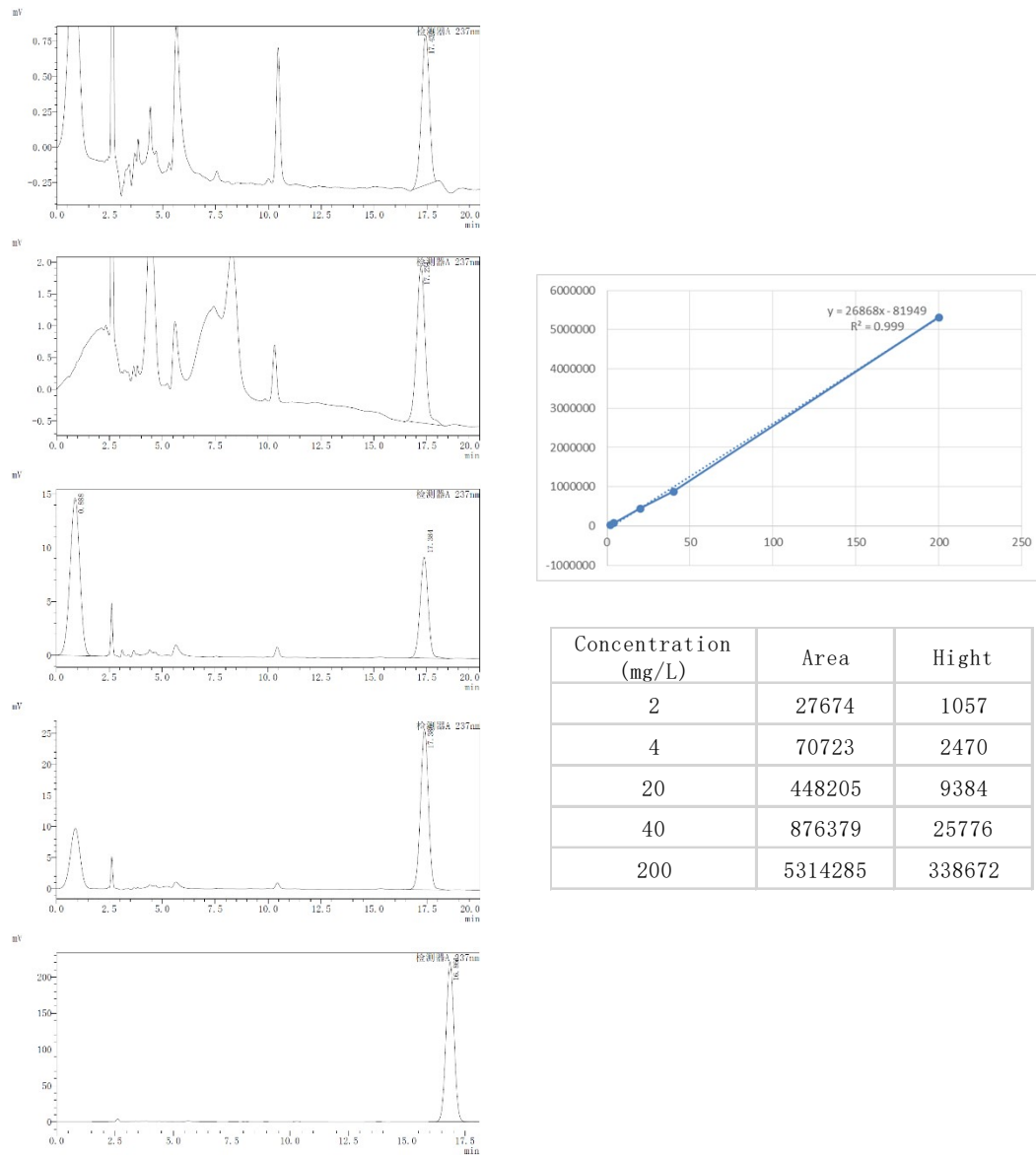


Figure S4. HPLC chromatograms and standard curves of lactone MK standard substance

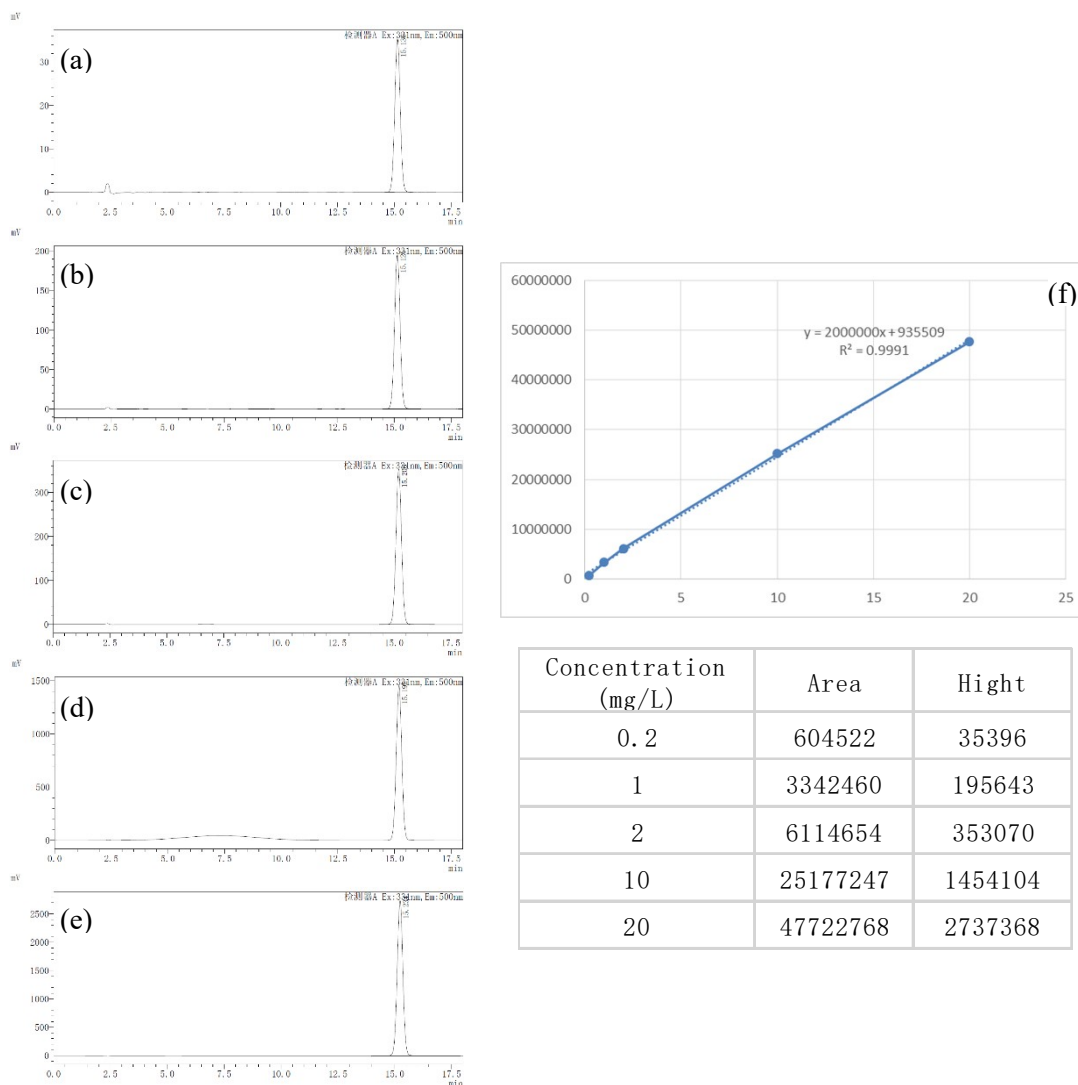


Figure S6. HPLC chromatograms (a: 0.2 mg/L, b: 1 mg/L, c: 2 mg/L, d: 10 mg/L, e: 20 mg/L) and standard curves (f) of citrinin standard substance

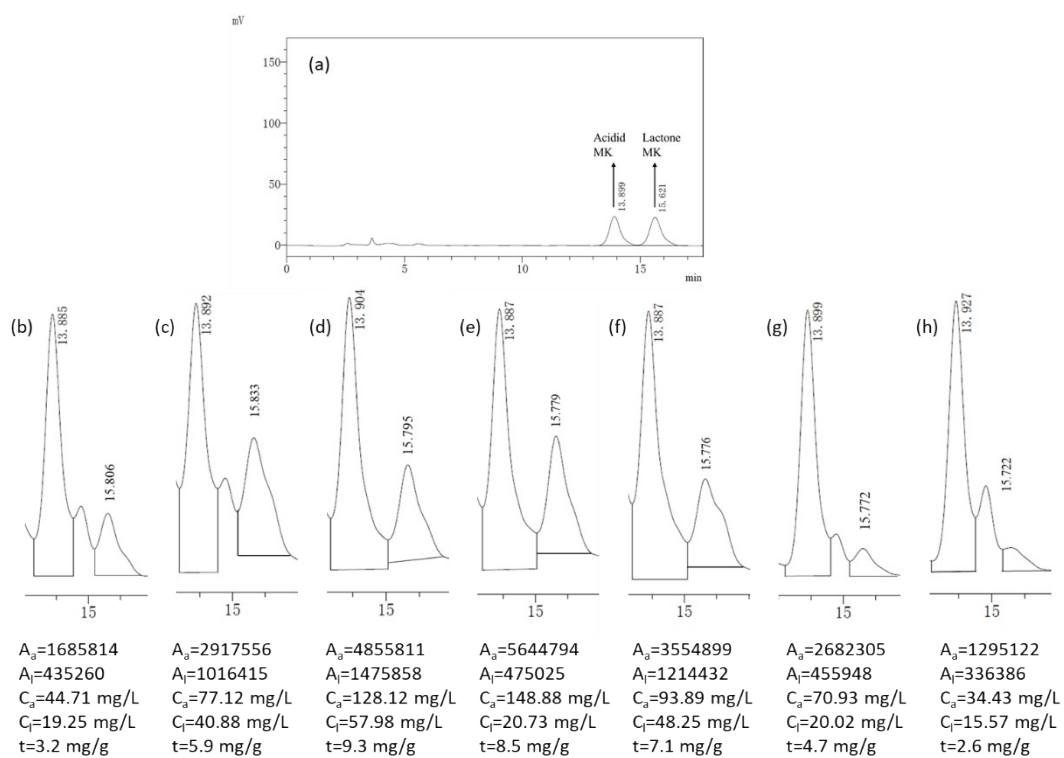
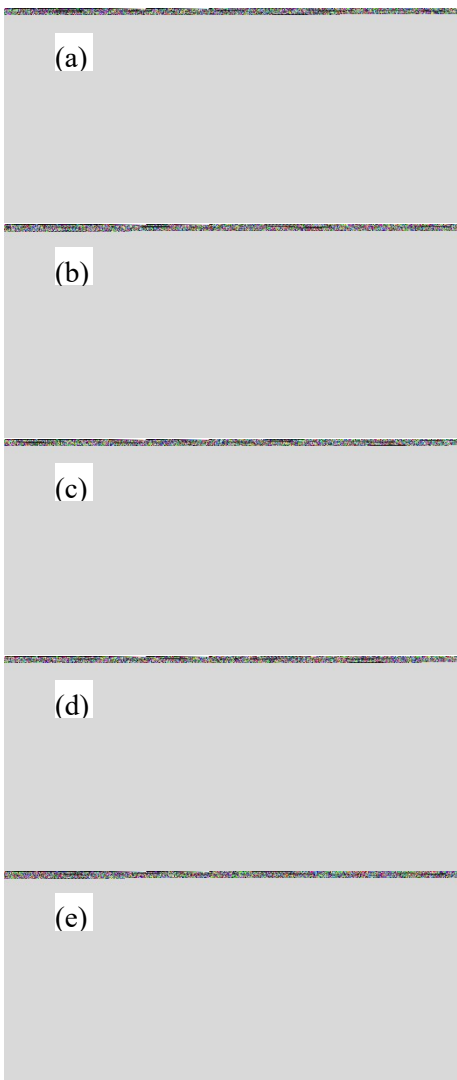


Figure S5. HPLC chromatograms of MK standard substance (a, Acid and Lactone type), and fermentation products MK for different initial moisture content (%): 30 (b), 35 (c), 40 (d), 45 (e), 50 (f), 55 (g) and 60 (h). Where A is peak area, t (mg/g) is the total mass of MK (acid form and lactone form) per gram of dry red yeast rice, and c is the MK concentration in the extract (mg/L).



Concentration (mg/L)	Area	Hight
0.2	604522	35396
1	3342460	195643
2	6114654	353070
10	25177247	1454104
20	47722768	2737368

Figure S6. HPLC chromatograms (a: 0.2 mg/L, b: 1 mg/L, c: 2 mg/L, d: 10 mg/L, e: 20 mg/L) and standard curves (f) of citrinin standard substance

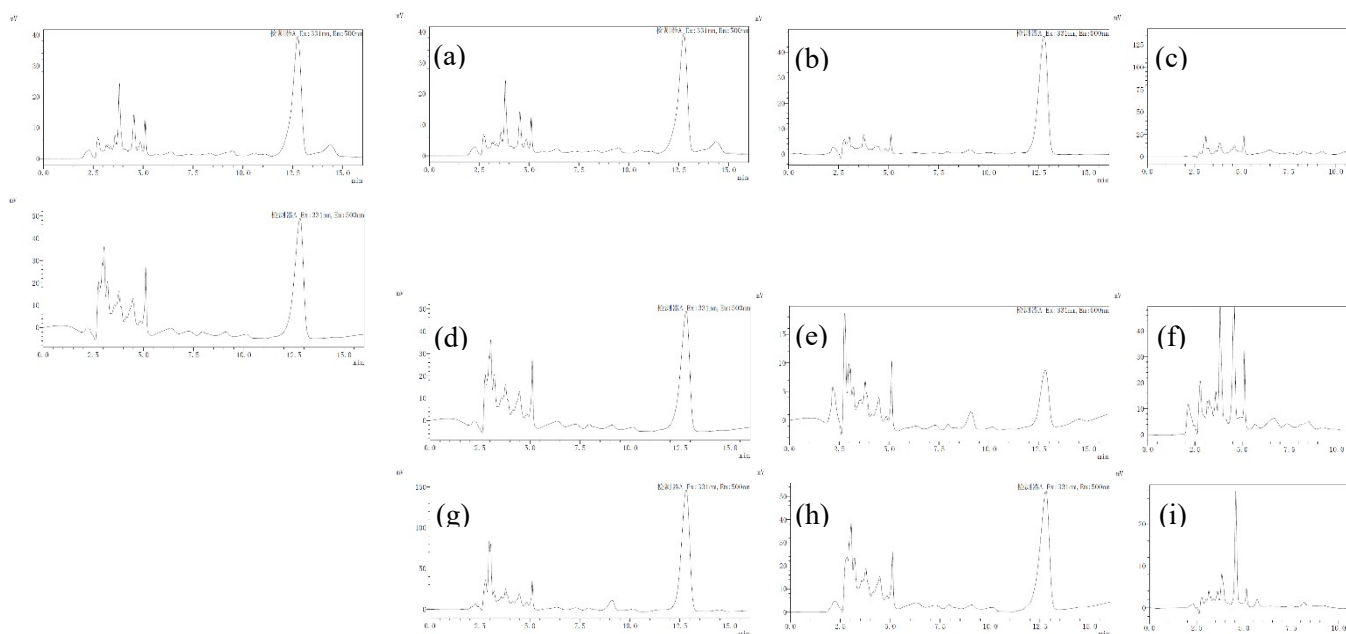


Figure S7. HPLC chromatograms of citrinin in products under various single factor experimental optimization conditions: initial pH value 5.5 (a), initial moisture content 40% w/w (b), glucose 50 g/L (c), peptone 20 g/L (d),  $\text{MgSO}_4$  0.5 g/L (e),  $\text{KH}_2\text{PO}_4$  1 g/L (f), variable temperature fermentation (30 °C for the first 3 days and then 24 °C for 15 days, g), total fermentation time of 18 days (h), and additional water added at day 4 at 10% w/w (i)



