**Supplement materials**

**Figures**



**Fig.F1** Response graph for the mean values of each factor.(*L*9(34))

|  |  |
| --- | --- |
| A | B |
| C | D |
| E |  |

**Fig.F2** MS/MS spectra of purified peptides (A: the peptides from S1M2-Ⅰ, B and C: the peptides from S1M2-Ⅱ, D: the peptides from S2M2-Ⅰ, E: the peptides from S2M2-Ⅱ; the b and y represented the ions generated from peptides.).

**Tables**

**Table T1** *L*9(34) orthogonal array of the orthogonal experiment method.

|  |  |
| --- | --- |
| Experiment order | Parameter level |
| (A) | (B) | (C) | (D) |
| 1 | 1 | 1 | 1 | 1 |
| 2 | 1 | 2 | 2 | 2 |
| 3 | 1 | 3 | 3 | 3 |
| 4 | 2 | 1 | 2 | 3 |
| 5 | 2 | 2 | 3 | 1 |
| 6 | 2 | 3 | 1 | 2 |
| 7 | 3 | 1 | 3 | 2 |
| 8 | 3 | 2 | 1 | 3 |
| 9 | 3 | 3 | 2 | 1 |

**Table T2** Parameters and levels of the *L*9(34) orthogonal experiment method.

|  |  |  |  |
| --- | --- | --- | --- |
| Parameters | Level 1 | Level 2 | Level 3 |
| (A) Time(min) | 3.75 | 4.00 | 4.25 |
| (B) Oil(g) | 23.000 | 25.000 | 27.000 |
| (C) Salt(g) | 1.875 | 2.000 | 2.125 |
| (D) Sucrose(g) | 1.700 | 1.750 | 1.800 |