Abstract Graphic:

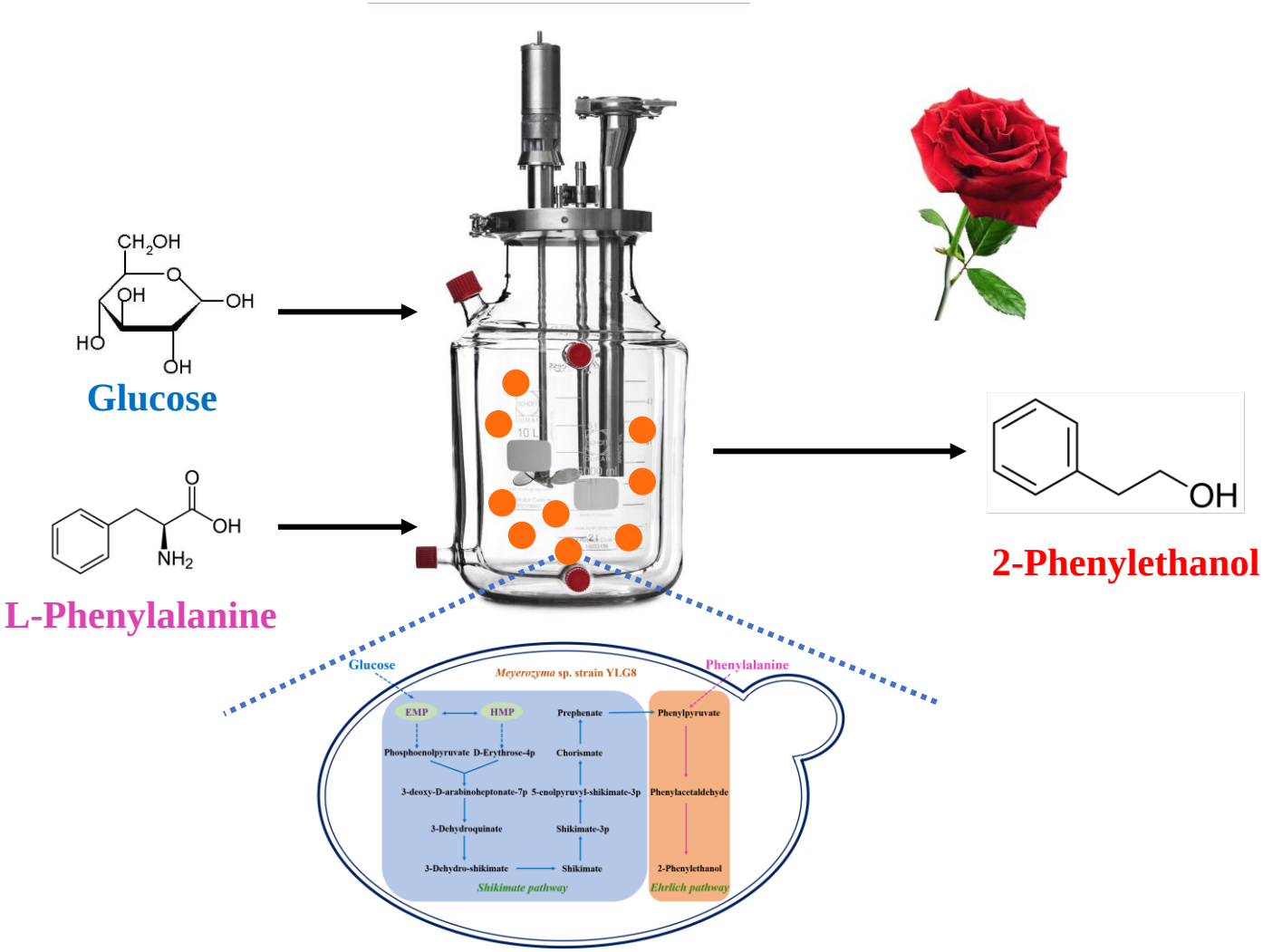


Figure 1:

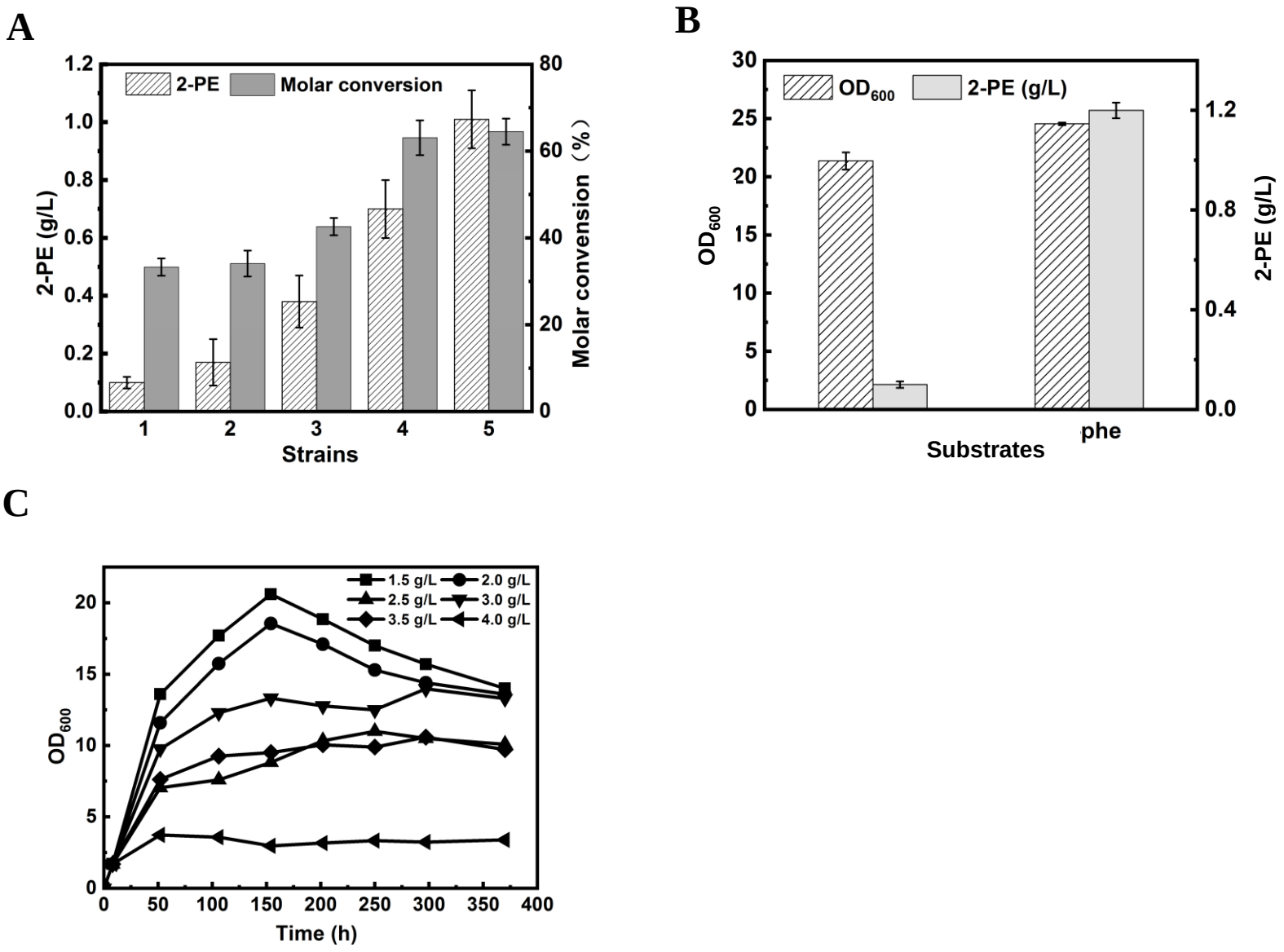

A
2-PE
Molar conversion
2-PE (g/L)
Molar convension（%）
Strains
B
OD600
2-PE (g/L)
Substrates
phe
C
1.5 g/L
2.0 g/L
2.5 g/L
3.0 g/L
3.5 g/L
4.0 g/L
OD600
Time (h)

Figure 2:

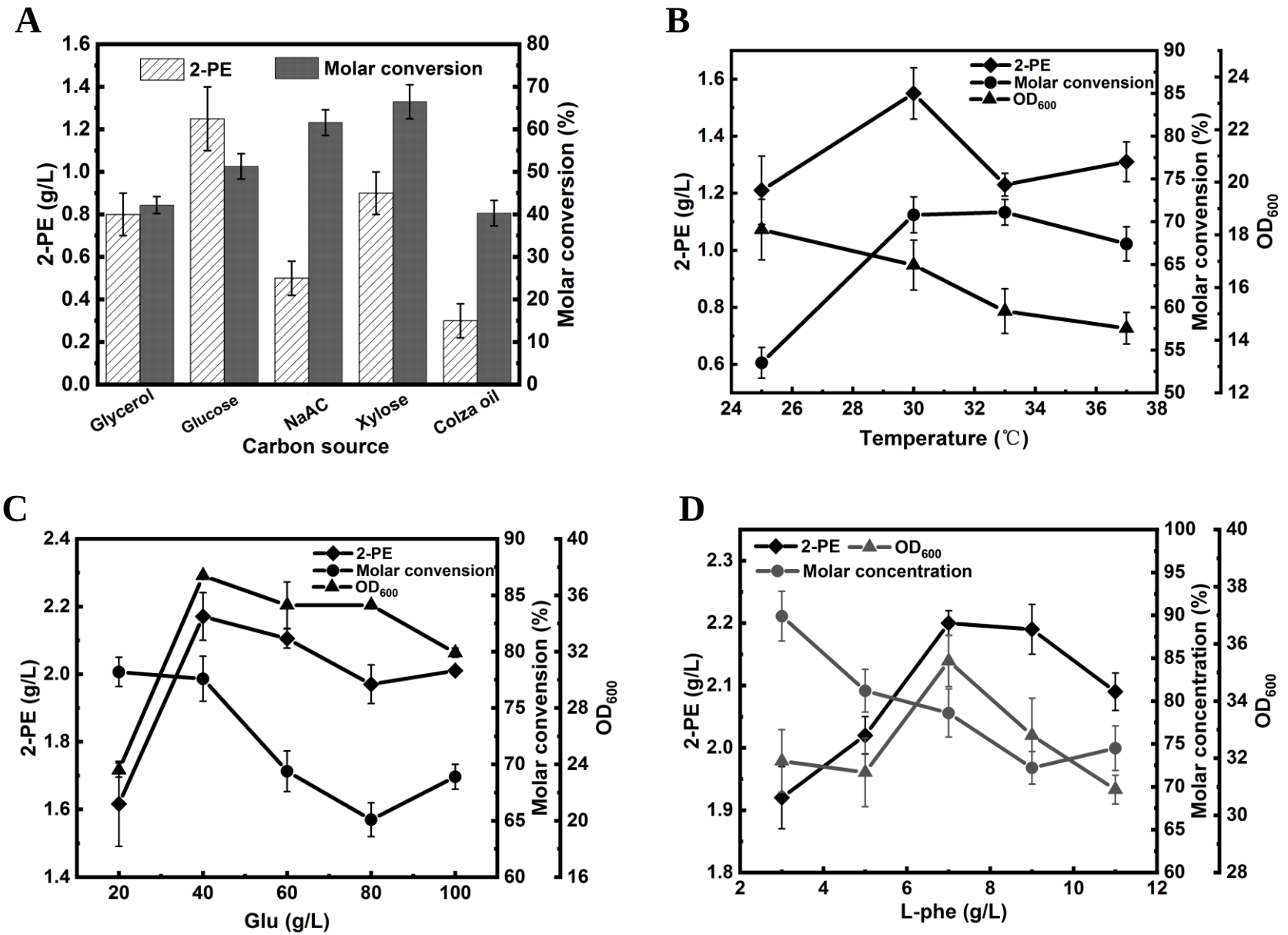

A
2-PE
Molar conversion
2-PE (g/L)
Molar conversion (%)
Glycerol
Glucose
NaAC
Xylose
Colza oil
Carbon source
B
2-PE
Molar convension
OD600
2-PE (g/L)
Molar convension (%)
OD600
Temperature (℃)
C
2-PE
Molar convension
OD600
2-PE (g/L)
Molar convension (%)
OD600
Glu (g/L)
D
2-PE
OD600
Molar concentration
2-PE (g/L)
Molar concentration (%)
OD600
L-phe (g/L)

Figure 3:

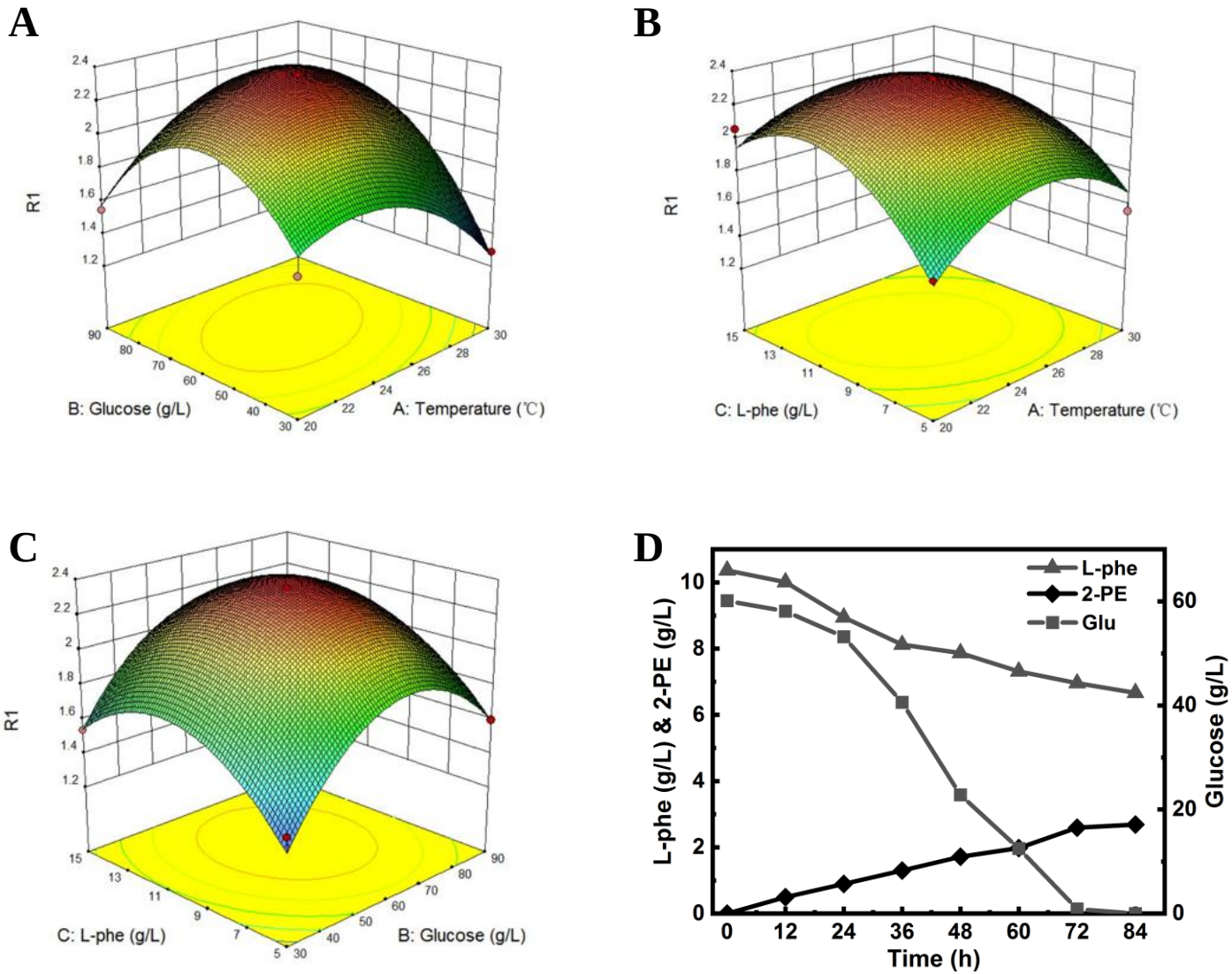

A
R1
2.4
2.2
2
1.8
1.6
1.4
1.2
90
80
70
60
50
40
30
B: Glucose (g/L)
20
22
24
26
28
30
A: Temperature (℃)
B
R1
2.4
2.2
2
1.8
1.6
1.4
1.2
15
13
11
9
7
5
C: L-phe (g/L)
20
22
24
26
28
30
A: Temperature (℃)
C
R1
2.4
2.2
2
1.8
1.6
1.4
1.2
15
13
11
9
7
5
C: L-phe (g/L)
30
40
50
60
70
80
90
B: Glucose (g/L)
D
L-phe
2-PE
Glu
L-phe (g/L) & 2-PE (g/L)
Glucose (g/L)
0
2
4
6
8
10
0
20
40
60
0
12
24
36
48
60
72
84
Time (h)

Figure 4:

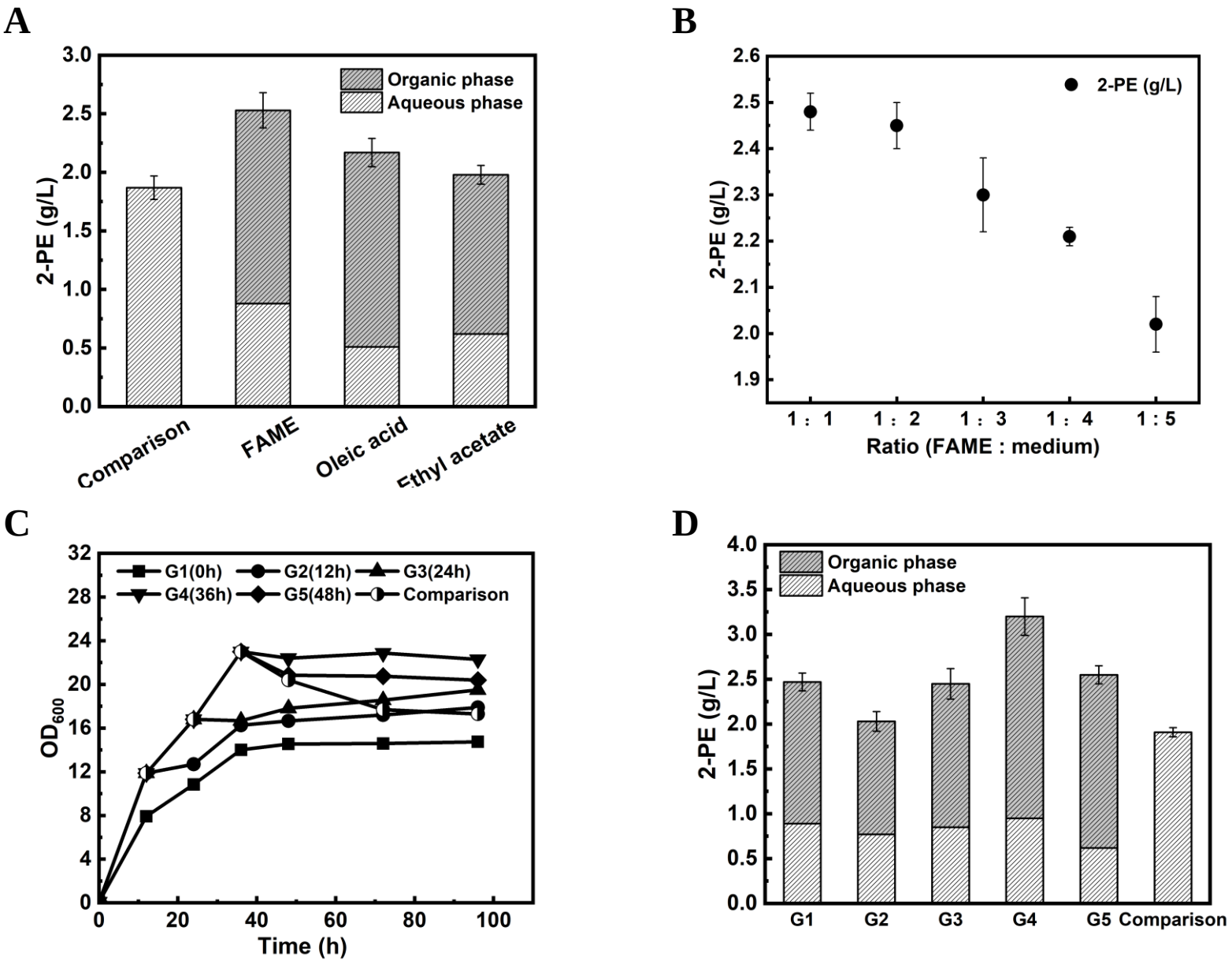
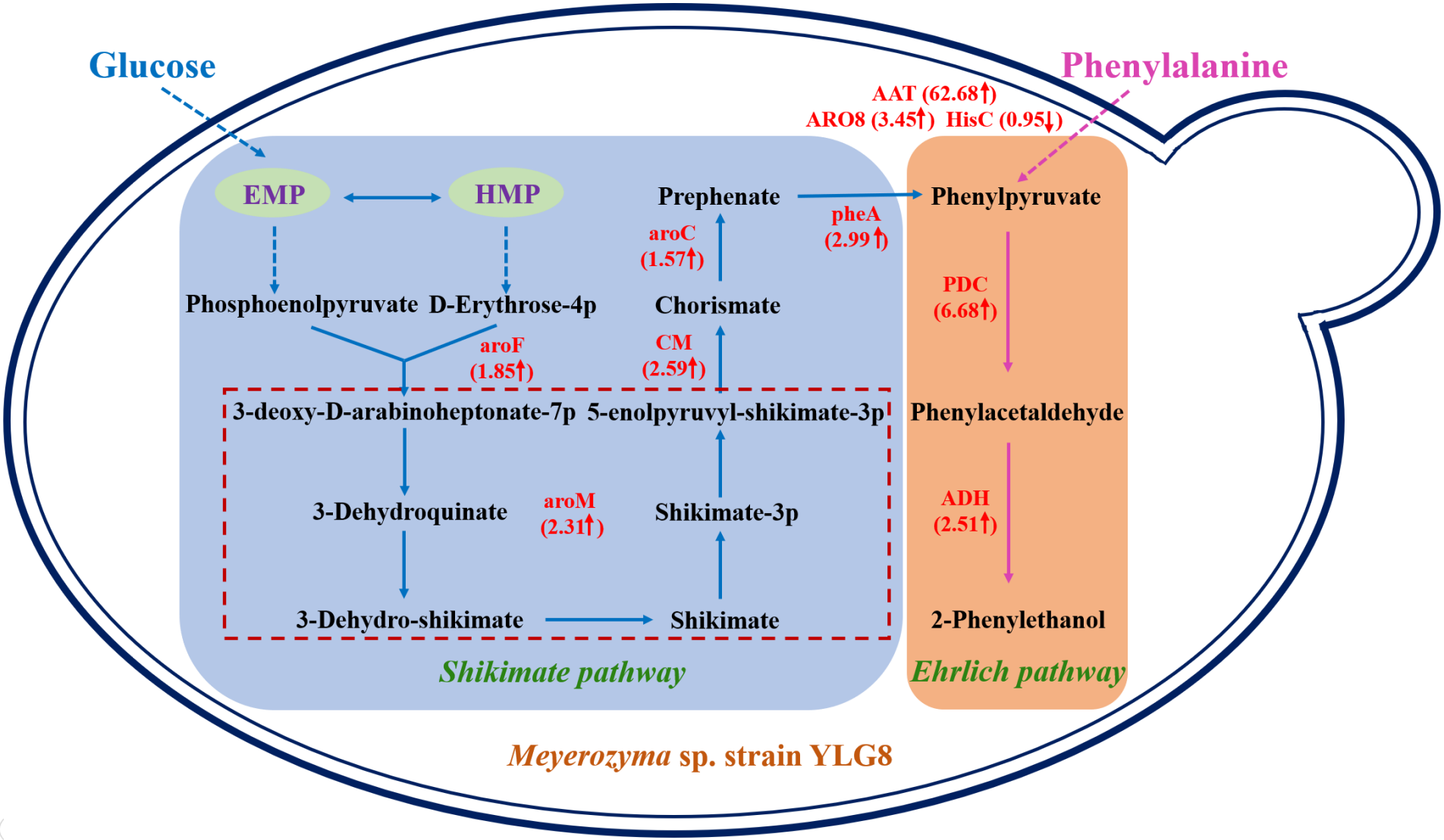

A
Organic phase
Aqueous phase
2-PE (g/L)
Comparison
FAME
Oleic acid
Ethyl acetate
B
2-PE (g/L)
2-PE (g/L)
Ratio (FAME : medium)
C
G1(0h)
G2(12h)
G3(24h)
G4(36h)
G5(48h)
Comparison
OD600
Time (h)
D
Organic phase
Aqueous phase
2-PE (g/L)
G1
G2
G3
G4
G5
Comparison

Figure 5:


Glucose
Phenylalanine
AAT (62.68↑)
ARO8 (3.45↑) HisC (0.95↓)
EMP
HMP
Prephenate
pheA (2.99↑)
Phenylpyruvate
aroC (1.57↑)
PDC (6.68↑)
Phosphoenolpyruvate
D-Erythrose-4p
Chorismate
aroF (1.85↑)
CM (2.59↑)
3-deoxy-D-arabinoheptonate-7p
5-enolpyruvyl-shikimate-3p
Phenylacetaldehyde
3-Dehydroquinate
aroM (2.31↑)
Shikimate-3p
ADH (2.51↑)
3-Dehydro-shikimate
Shikimate
2-Phenylethanol
Shikimate pathway
Ehrlich pathway
Meyerozyma sp. strain YLG8