(A)

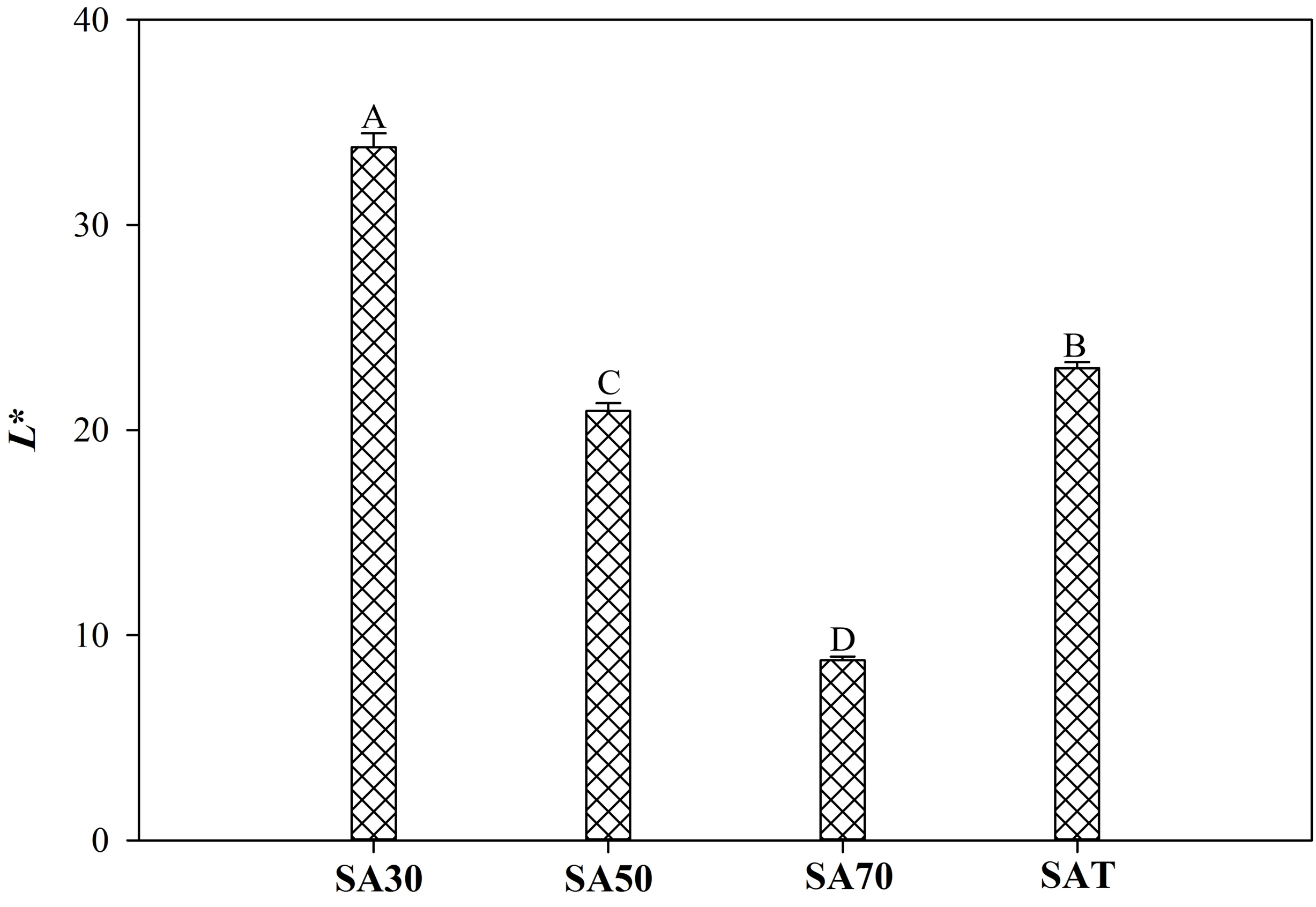
SA30

SA50

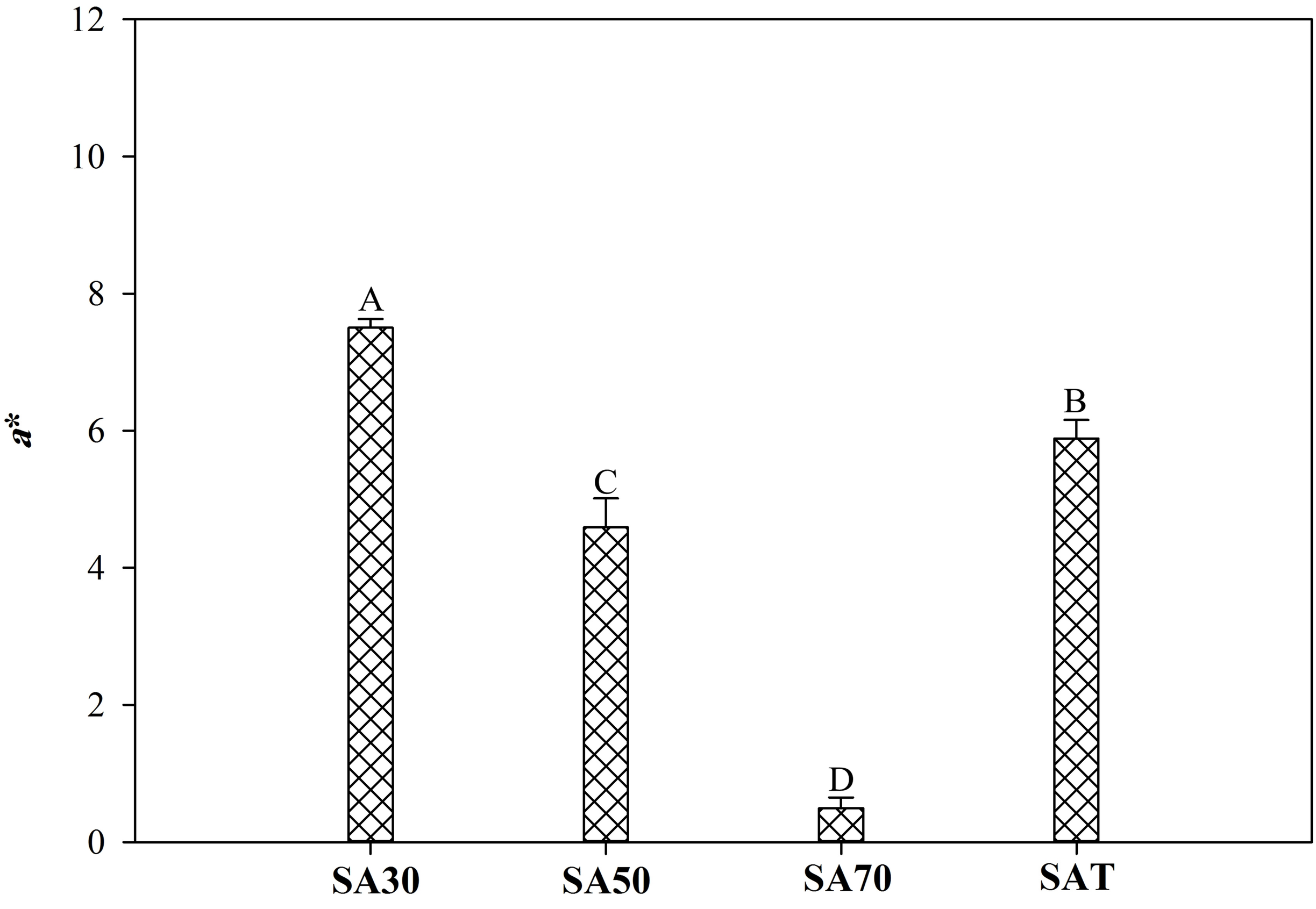
SA70

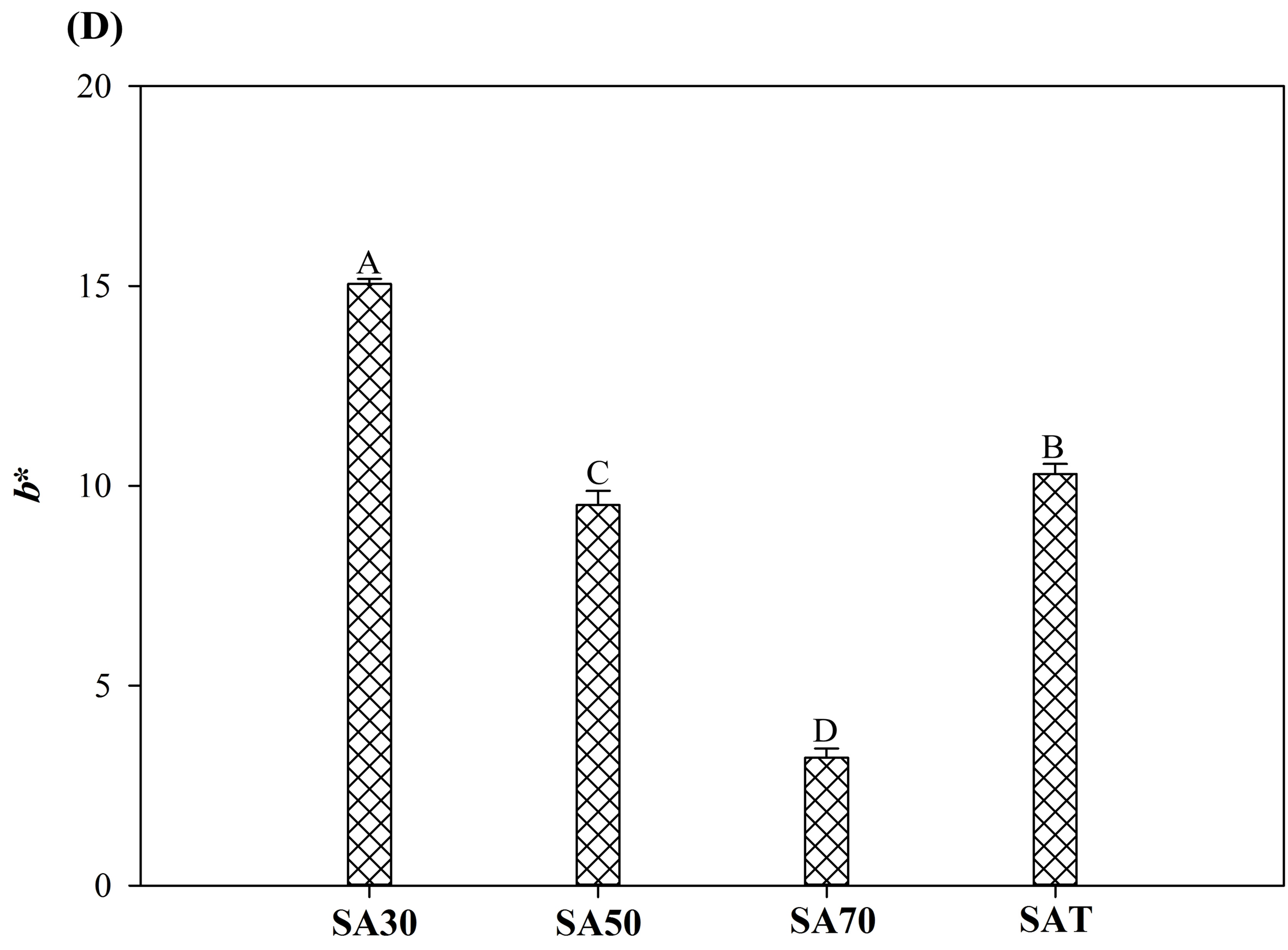
SAT

(B)

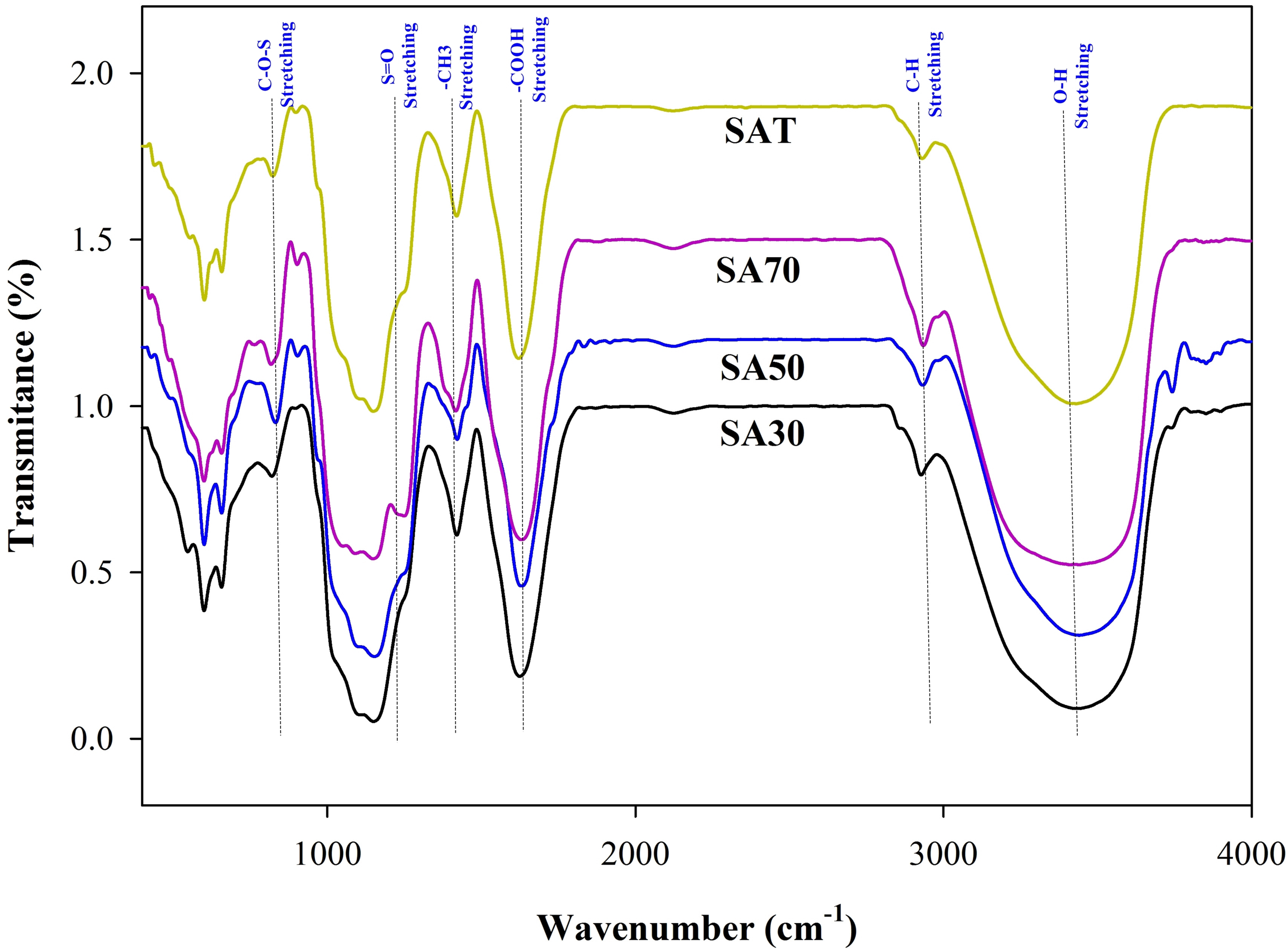


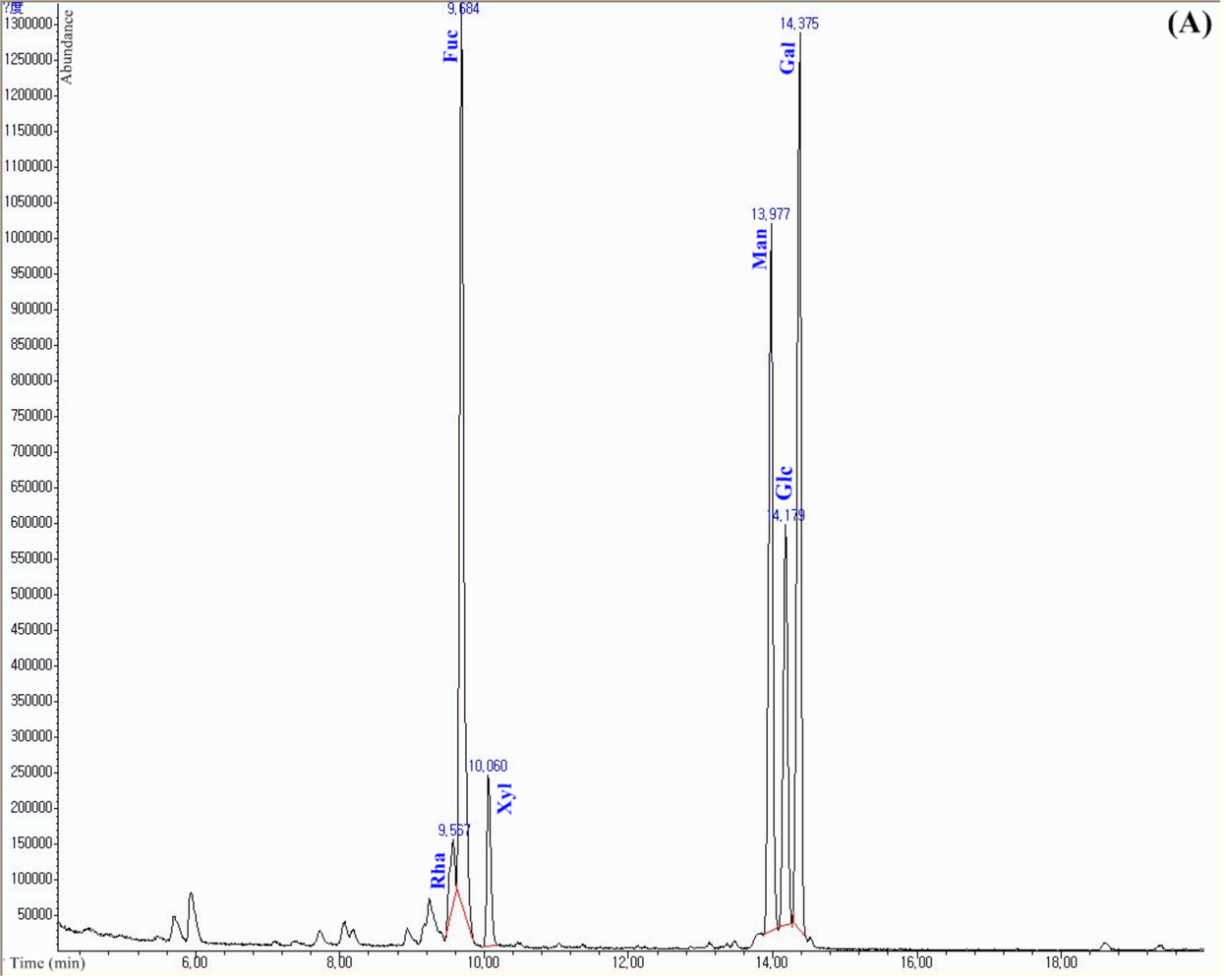
(C)

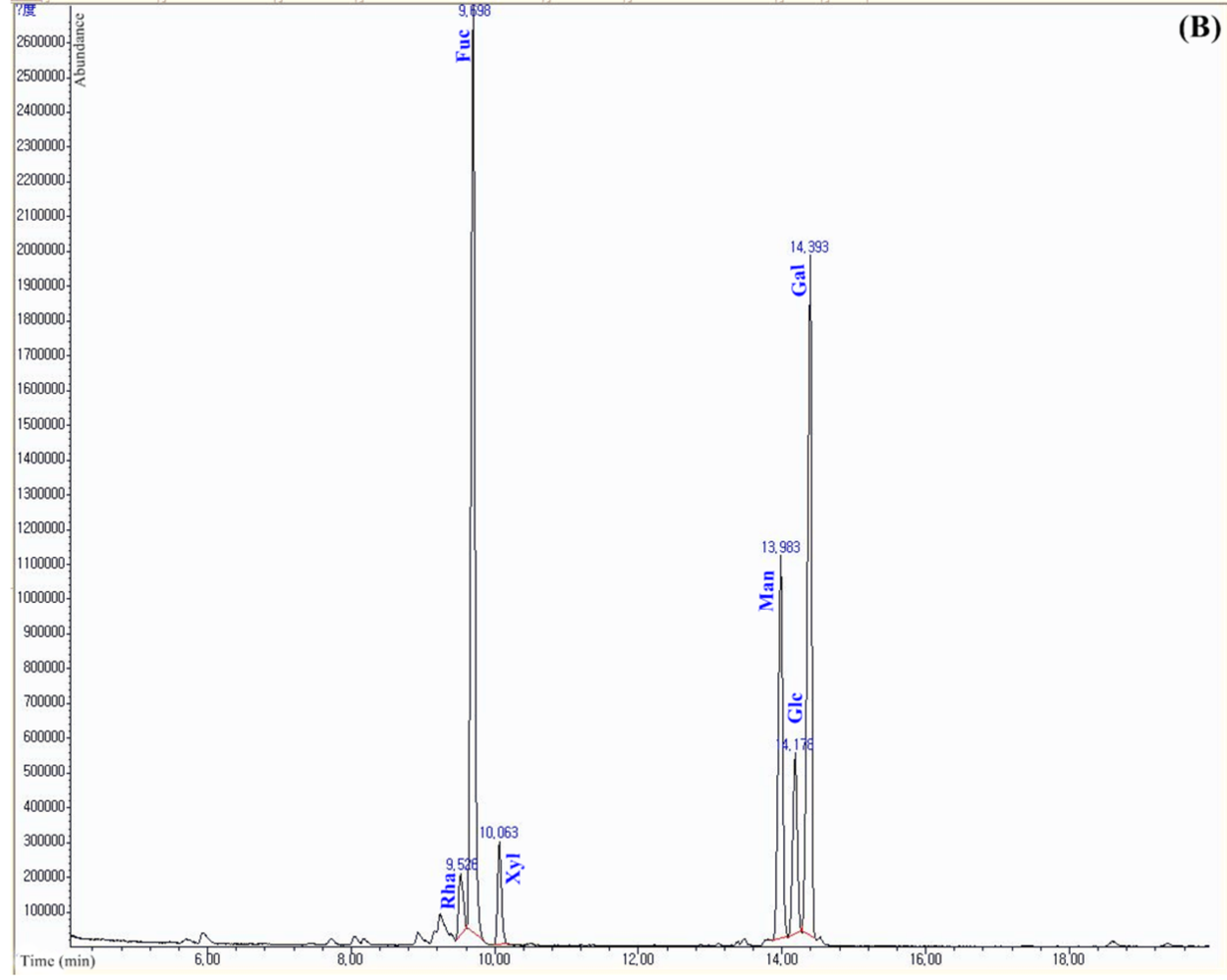


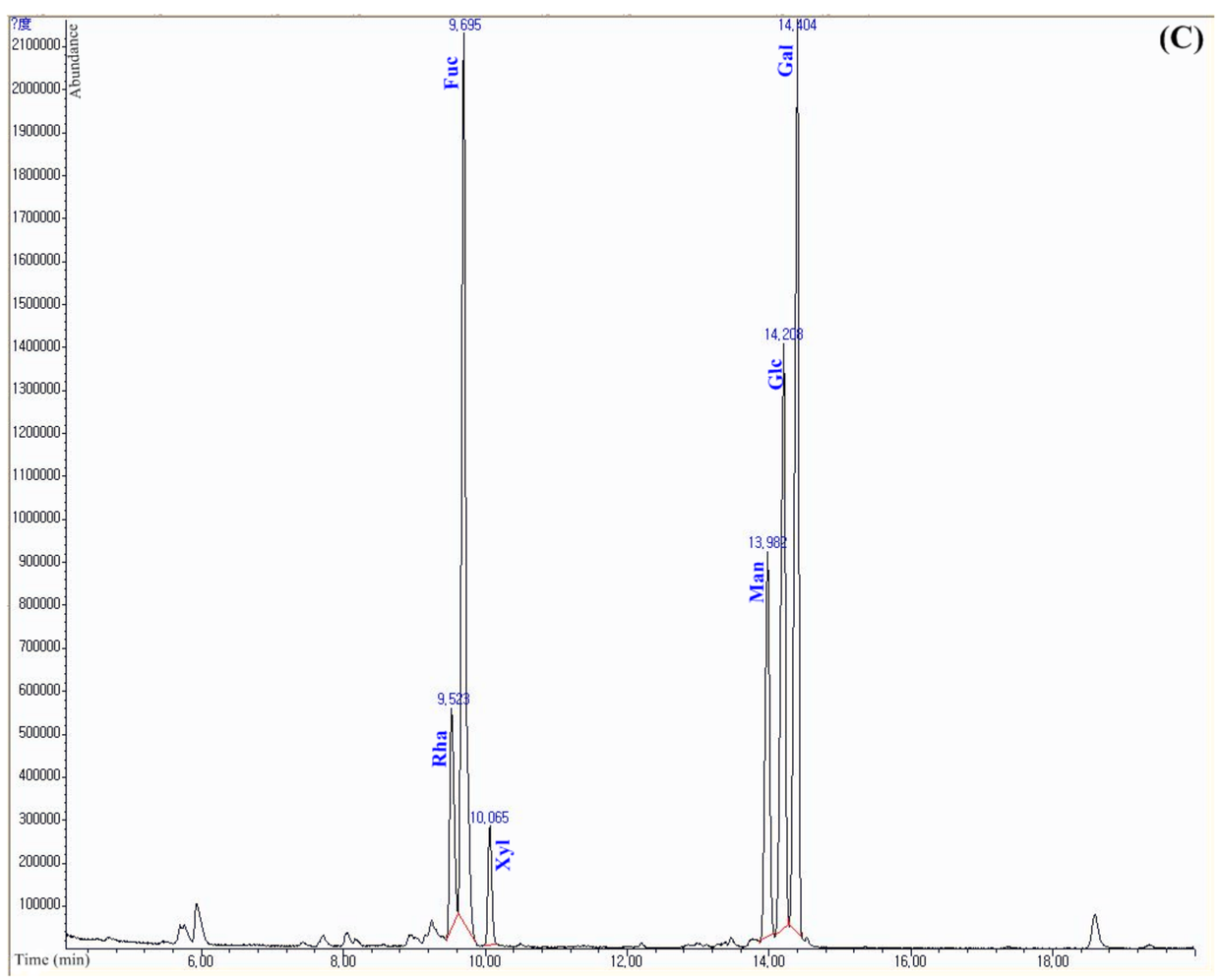

(D)
20
15
10
5
0
b*
A
C
D
B
SA30
SA50
SA70
SAT

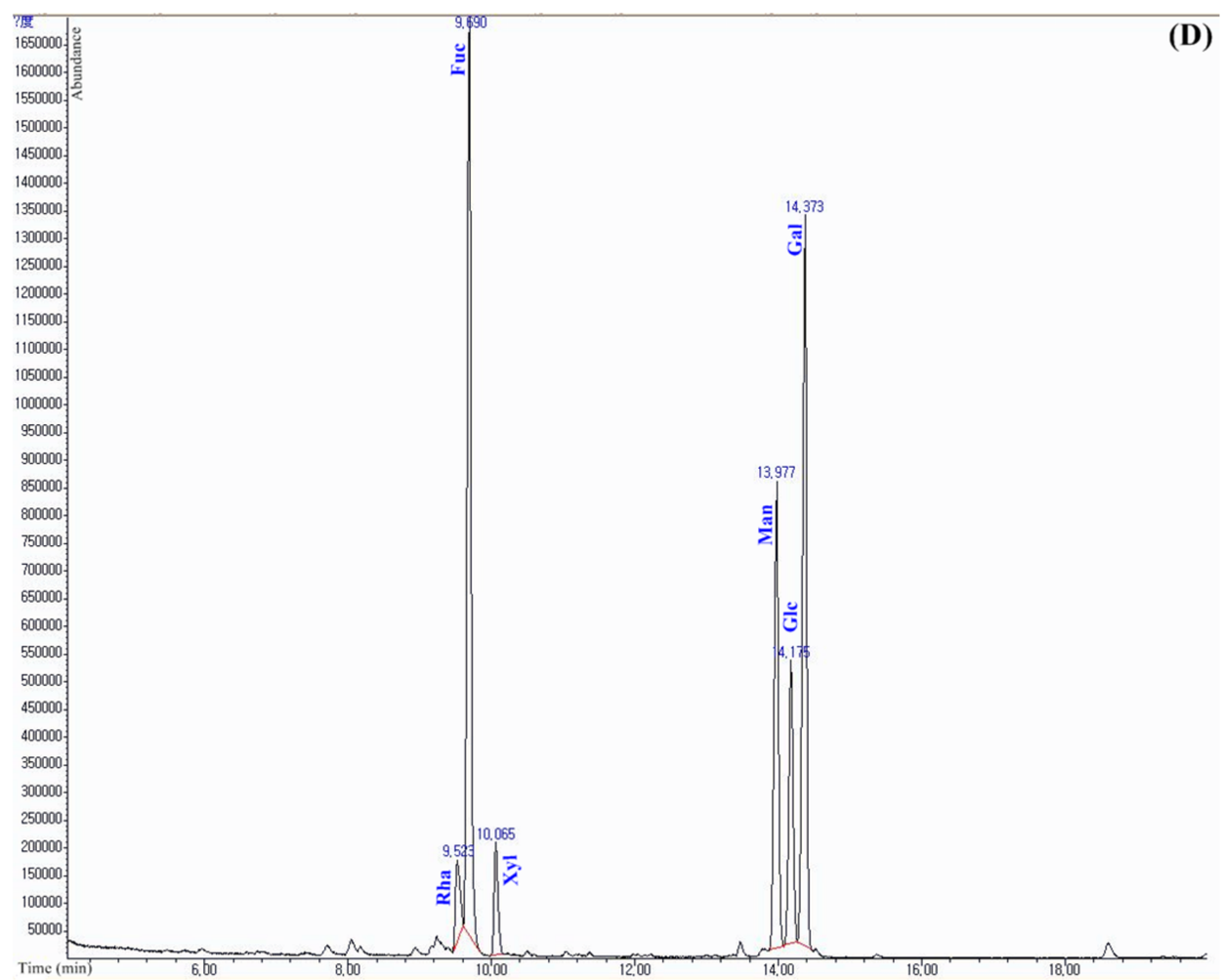
(E)

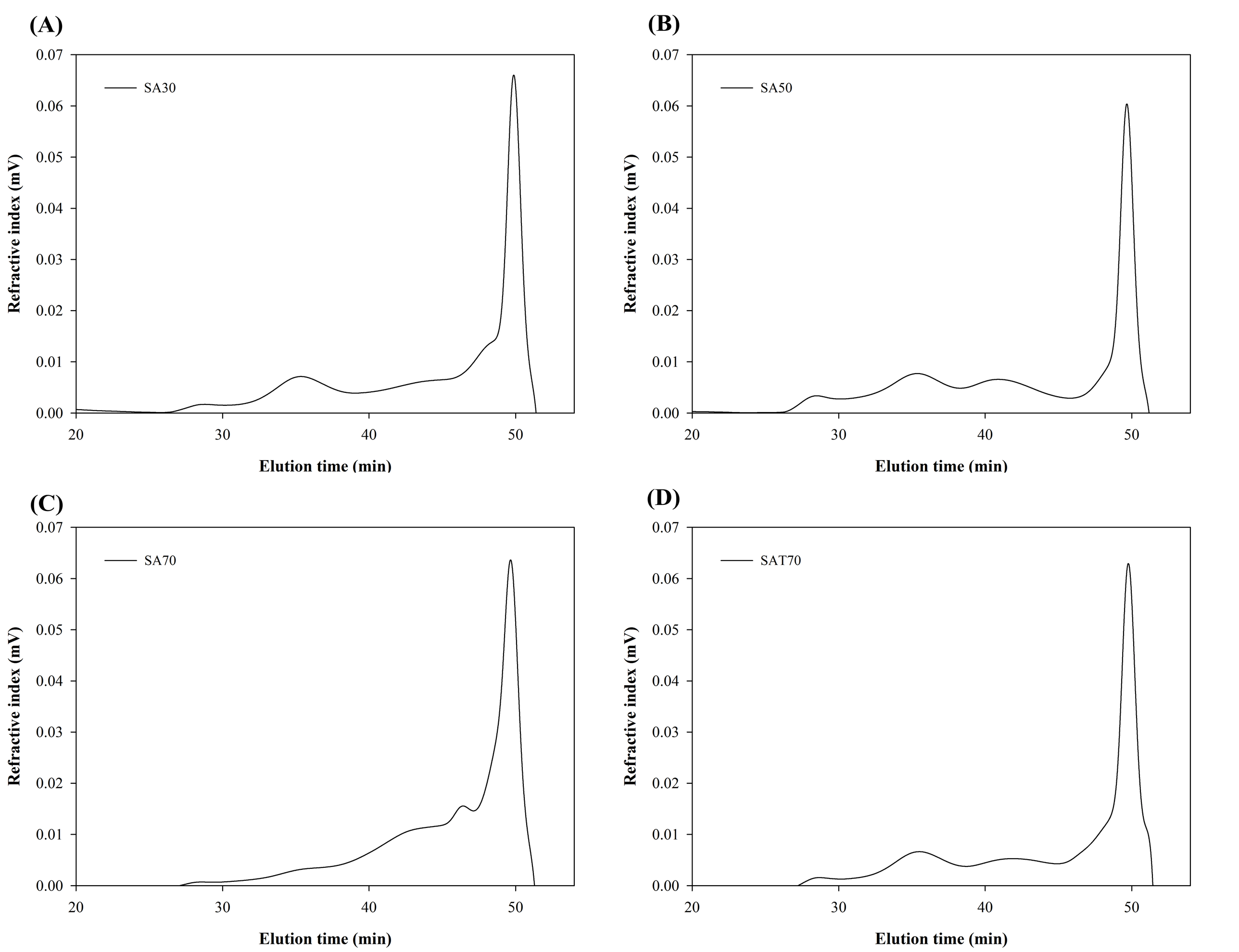

C-O-S Stretching
S=O Stretching
-CH3 Stretching
-COOH Stretching
C-H Stretching
O-H Stretching
SAT
SA70
SA50
SA30
Transmitance (%)
2.0
1.5
1.0
0.5
0.0
1000
2000
3000
4000
Wavenumber (cm-1)

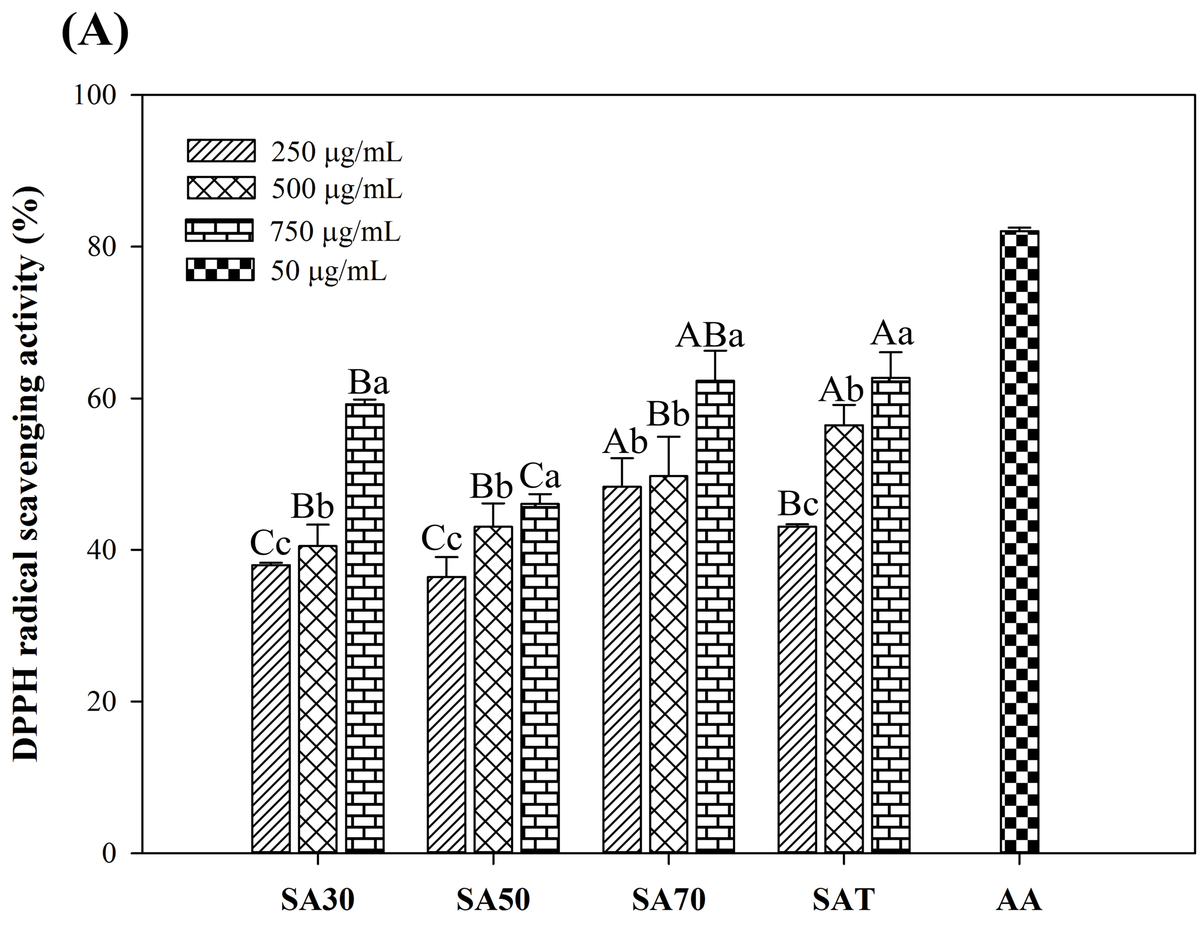

(A)
Abundance
Time (min)
Rha
9,557
Fuc
9,684
Xyl
10,060
Man
13,977
Glc
14,179
Gal
14,375

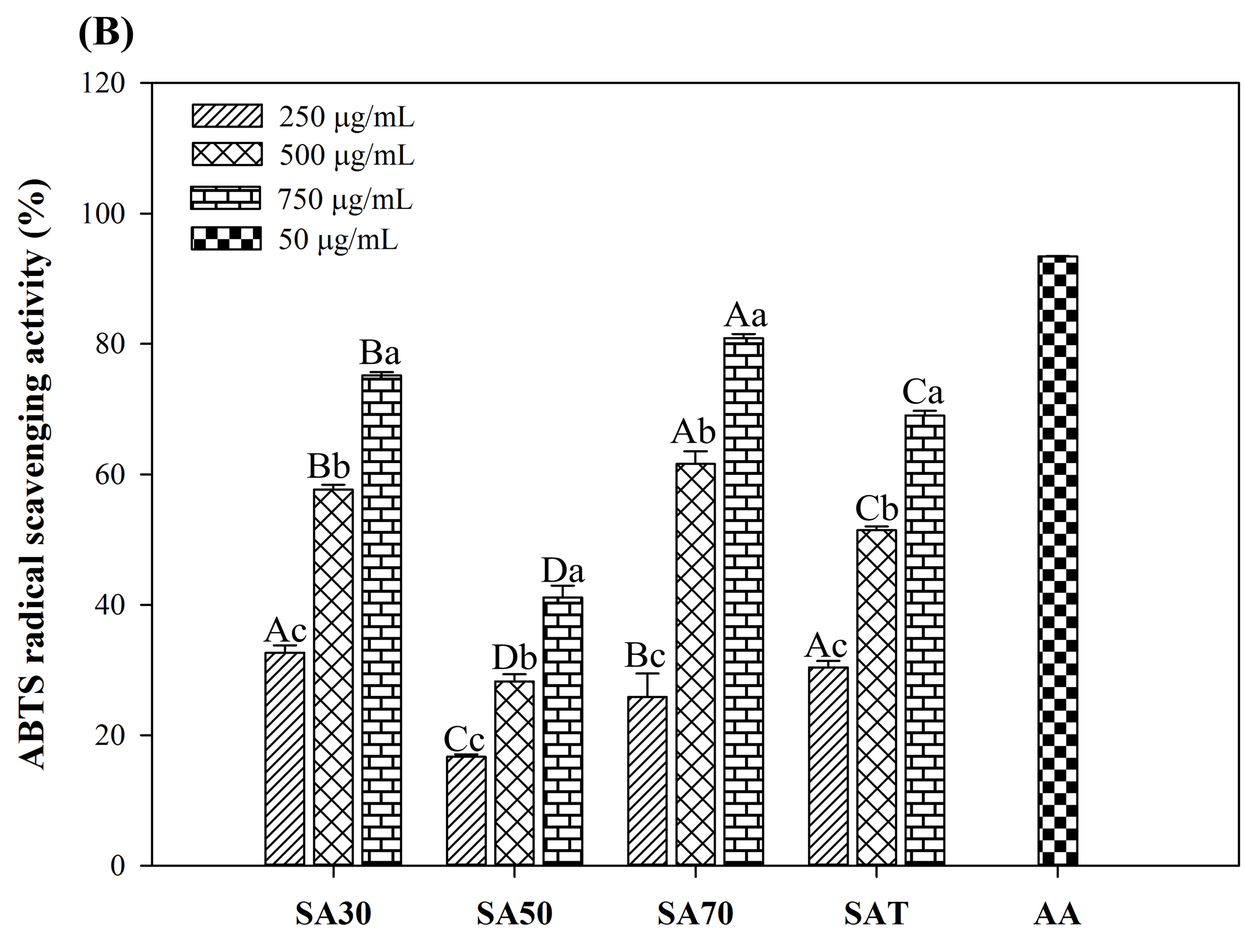

(B)
Abundance
Time (min)
Rha
9,526
Fuc
9,698
Xyl
10,063
Man
13,983
Glc
14,176
Gal
14,393

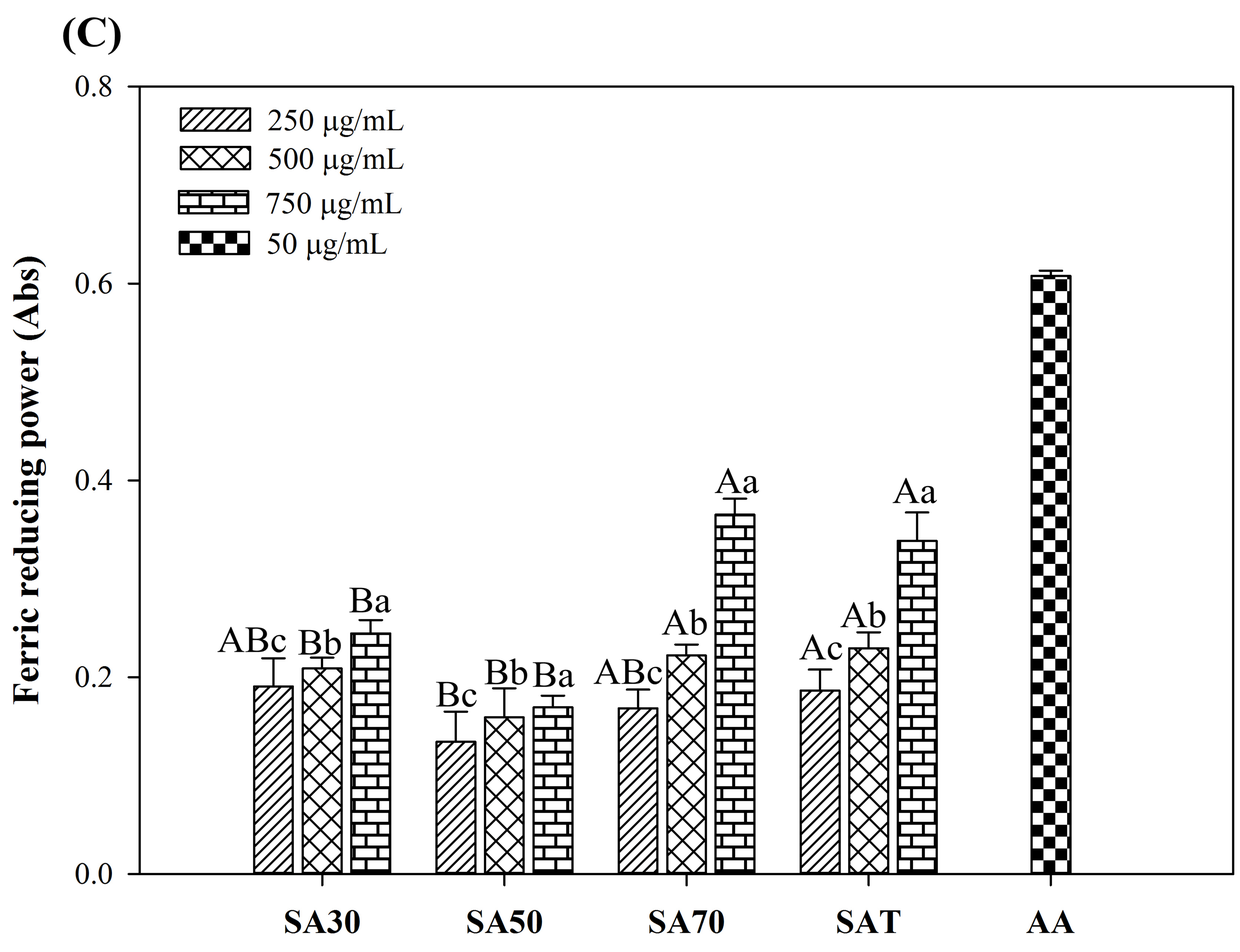

(C)
Abundance
Time (min)
Rha
9,523
Fuc
9,695
Xyl
10,065
Man
13,982
Glc
14,208
Gal
14,404


(D)
Abundance
Time (min)
Rha
9,523
Fuc
9,690
Xyl
10,065
Man
13,977
Glc
14,175
Gal
14,373

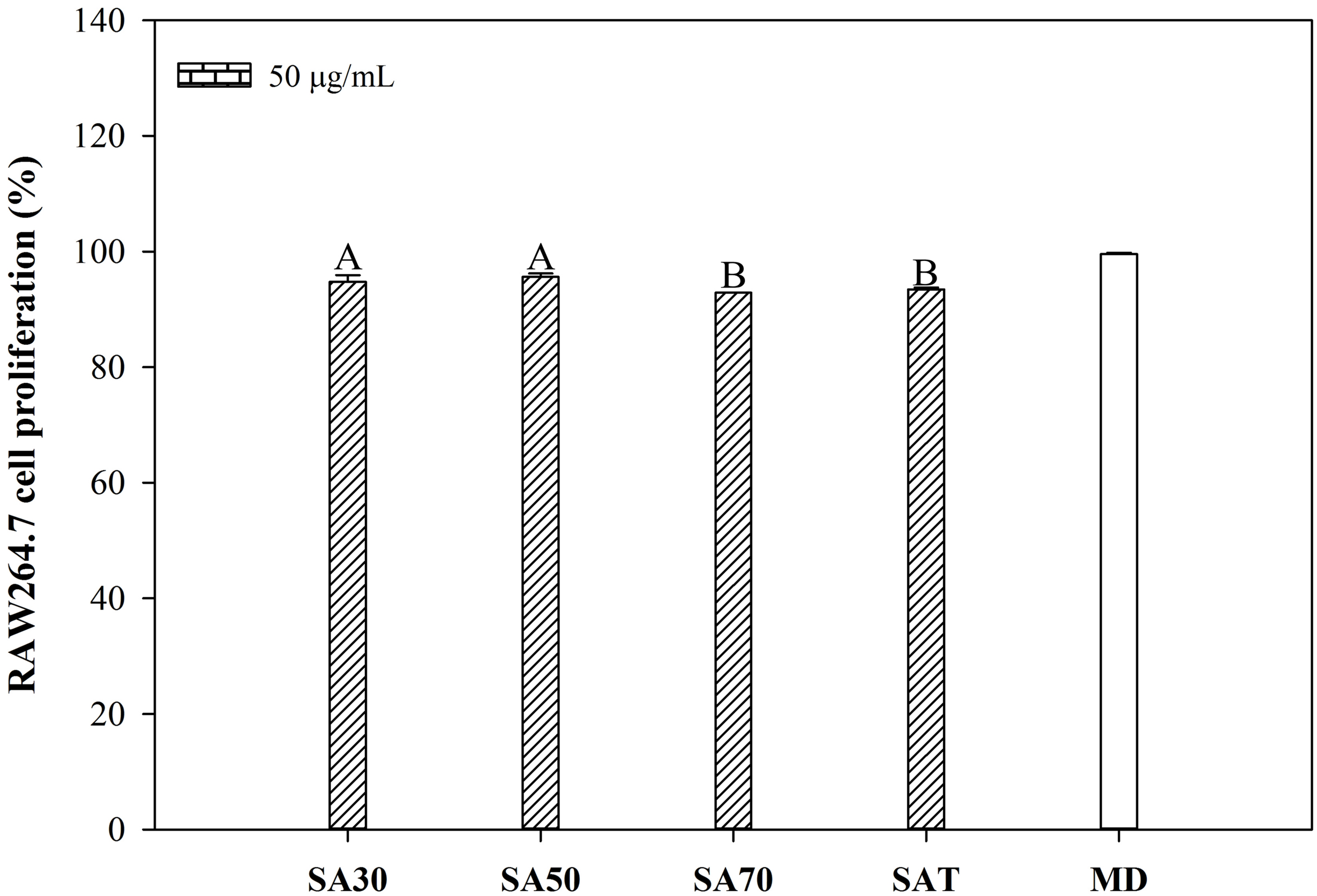

(A)
SA30
Refractive index (mV)
Elution time (min)
(B)
SA50
Refractive index (mV)
Elution time (min)
(C)
SA70
Refractive index (mV)
Elution time (min)
(D)
SAT70
Refractive index (mV)
Elution time (min)


(A)
DPPH radical scavenging activity (%)
250 μg/mL
500 μg/mL
750 μg/mL
50 μg/mL
Cc
Bb
Ba
Cc
Bb
Ca
Ab
Bb
ABa
Bc
Ab
Aa
SA30
SA50
SA70
SAT
AA

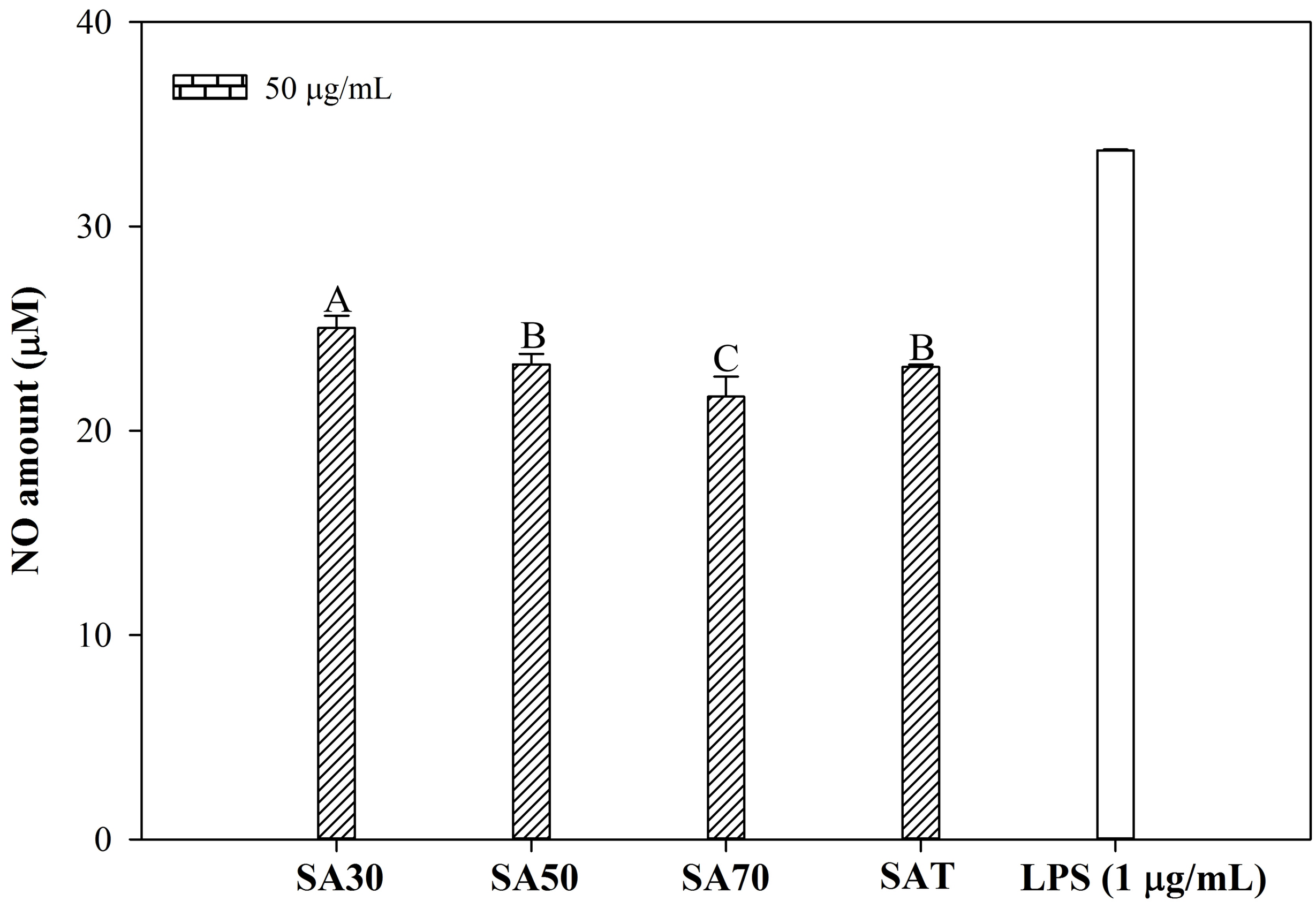

(B)
ABTS radical scavenging activity (%)
250 μg/mL
500 μg/mL
750 μg/mL
50 μg/mL
Ac
Bb
Ba
Cc
Db
Da
Bc
Ab
Aa
Ac
Cb
Ca
SA30
SA50
SA70
SAT
AA

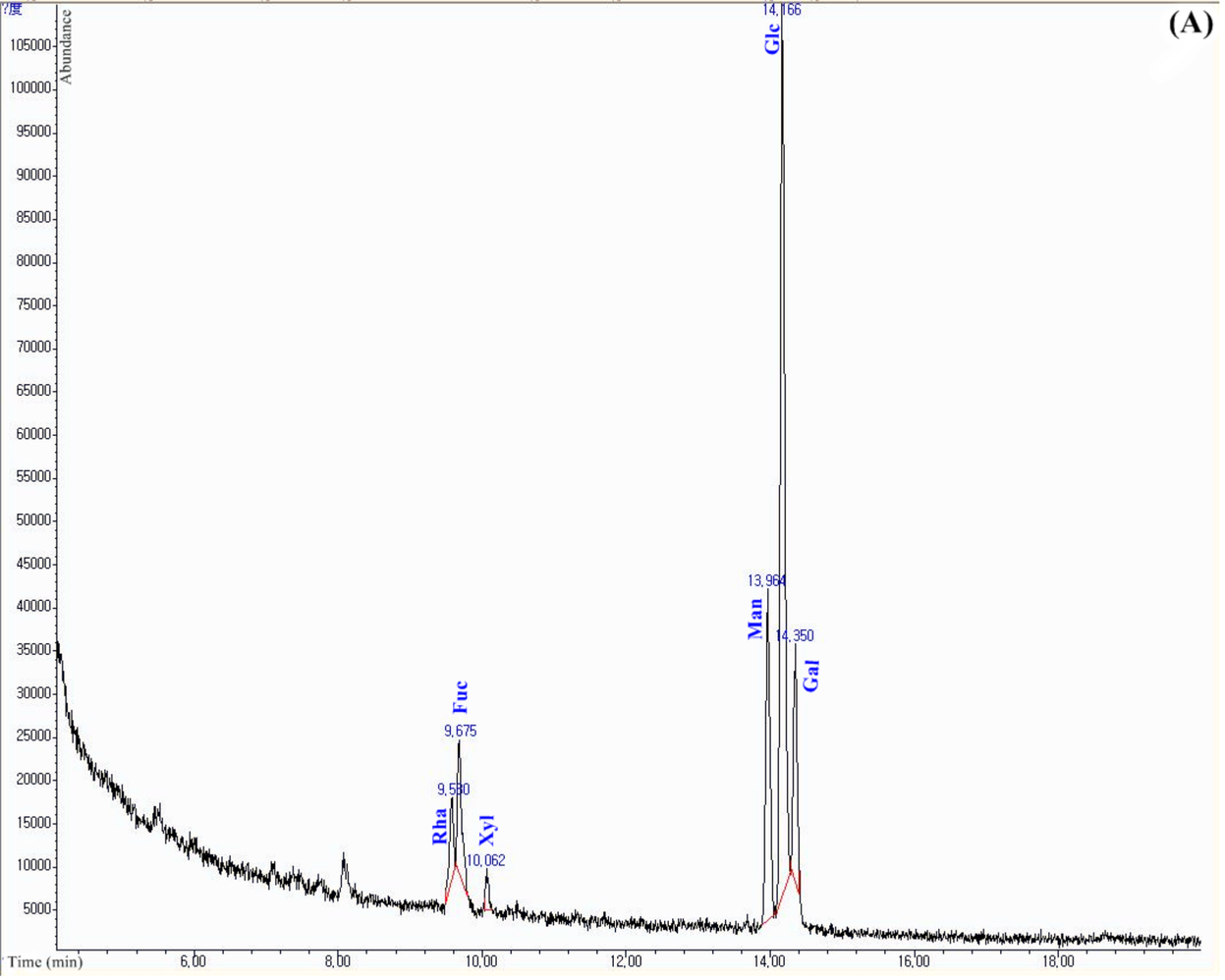

(C)
Ferric reducing power (Abs)
250 μg/mL
500 μg/mL
750 μg/mL
50 μg/mL
ABc
Bb
Ba
Bc
Bb
Ba
ABc
Ab
Aa
Ac
Ab
Aa
SA30
SA50
SA70
SAT
AA

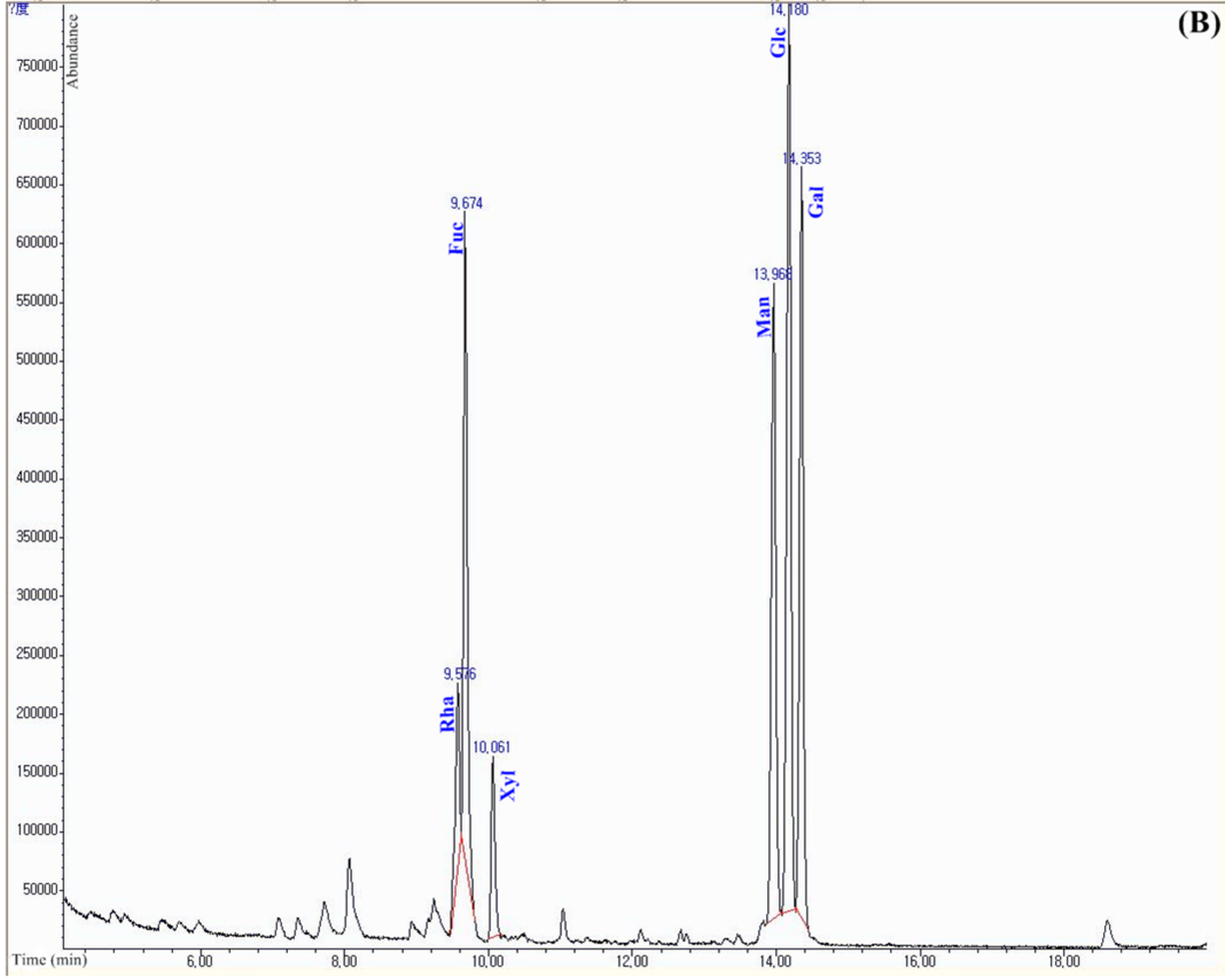
(A)

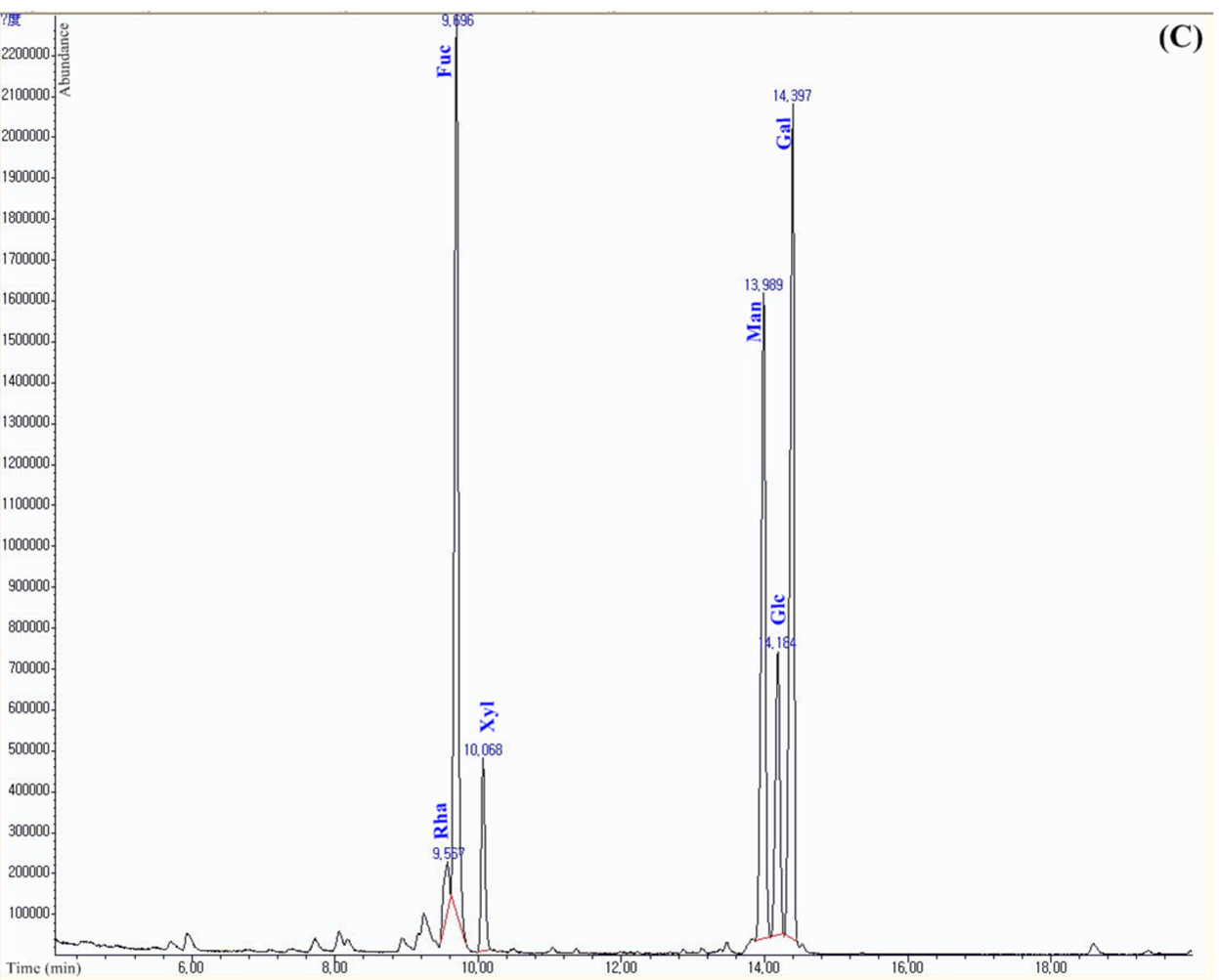

50 μg/mL
RAW264.7 cell proliferation (%)
140
120
100
80
60
40
20
0
A
A
B
B
SA30
SA50
SA70
SAT
MD

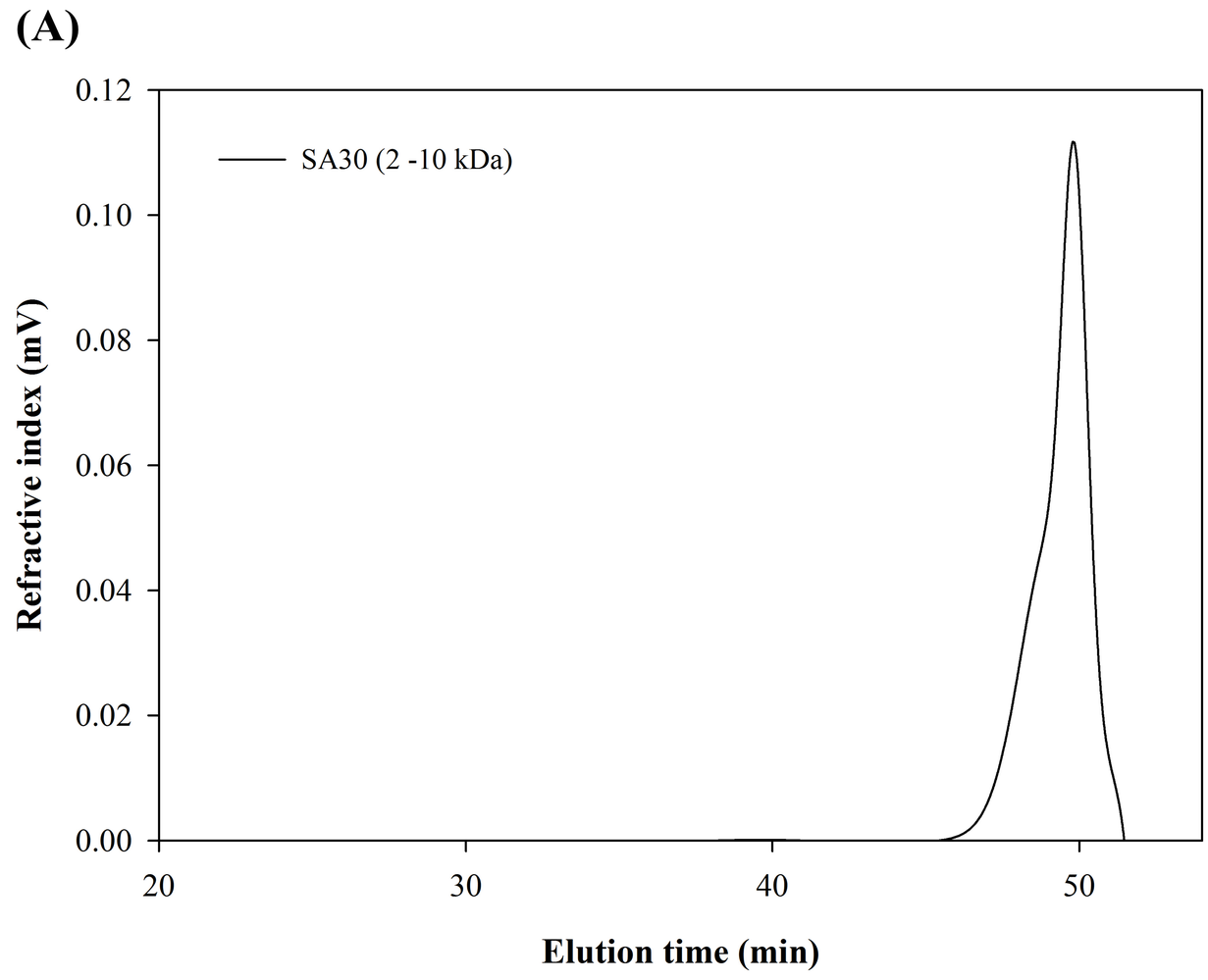
(B)

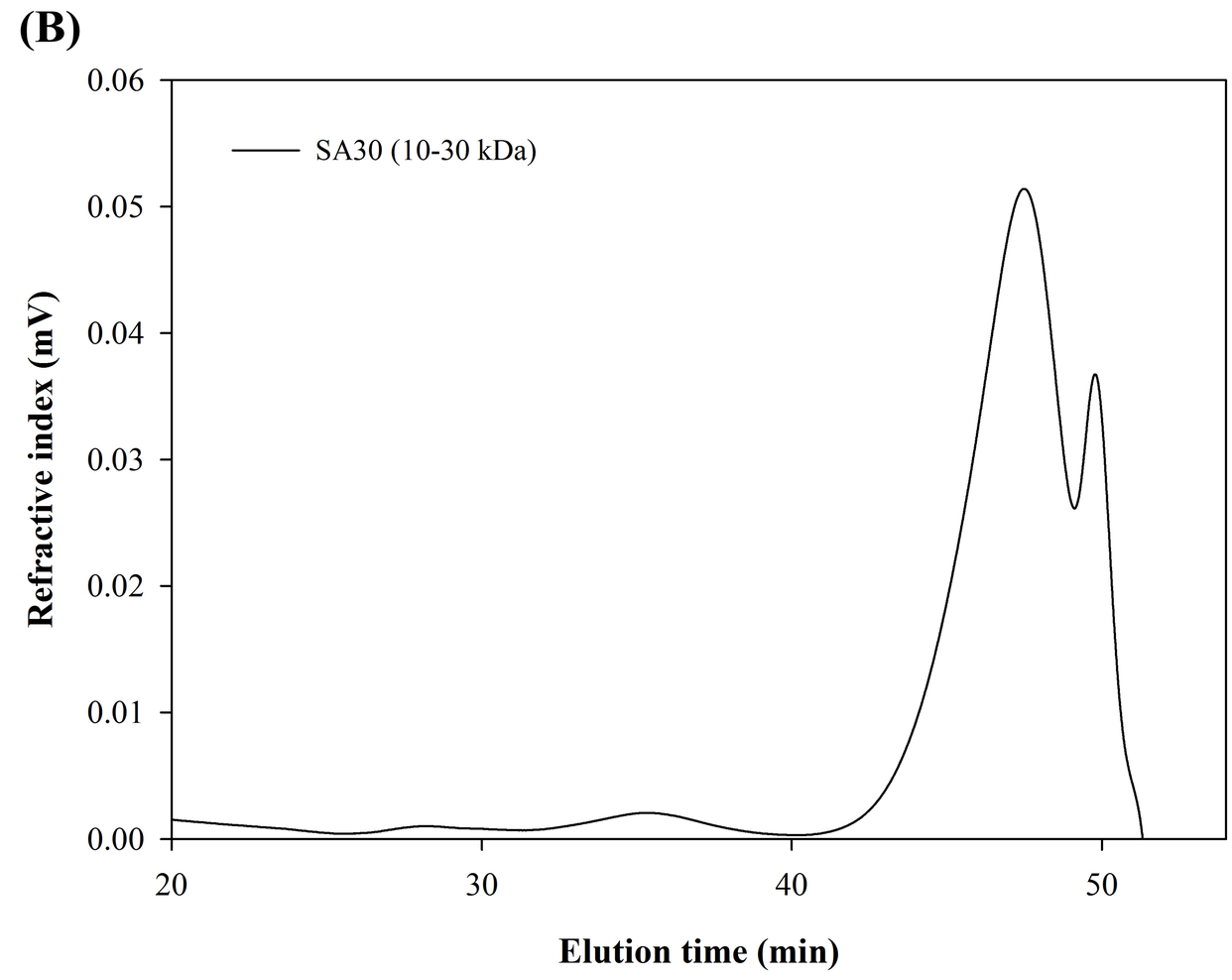

50 μg/mL
NO amount (μM)
40
30
20
10
0
A
B
C
B
SA30
SA50
SA70
SAT
LPS (1 μg/mL)

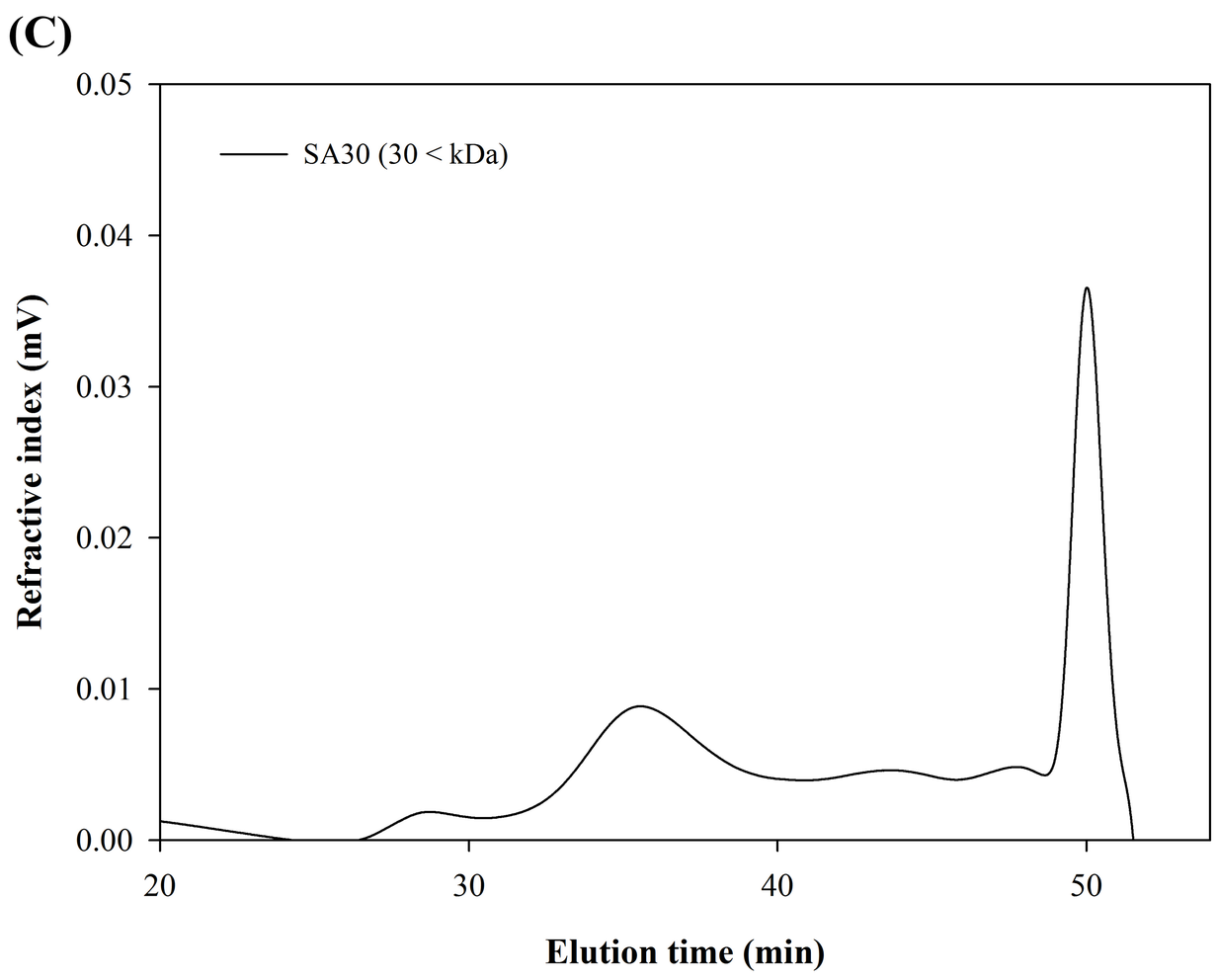

(A)
Abundance
Time (min)
Rha
9,580
Fuc
9,675
Xyl
10,062
Man
13,964
Glc
14,166
Gal
14,350

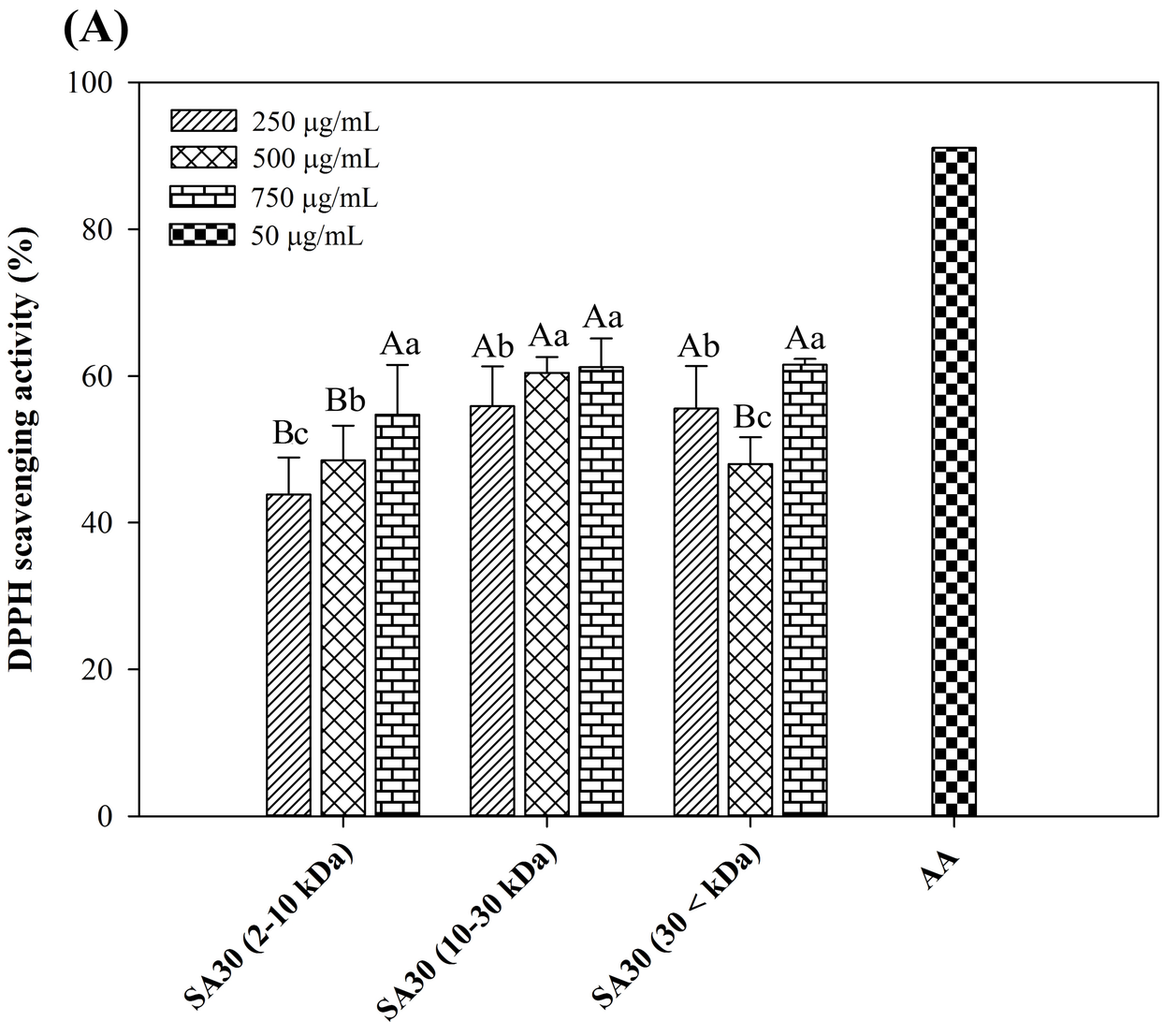

(B)
Abundance
Time (min)
Rha
9,576
Fuc
9,674
Xyl
10,061
Man
13,968
Glc
14,180
Gal
14,353

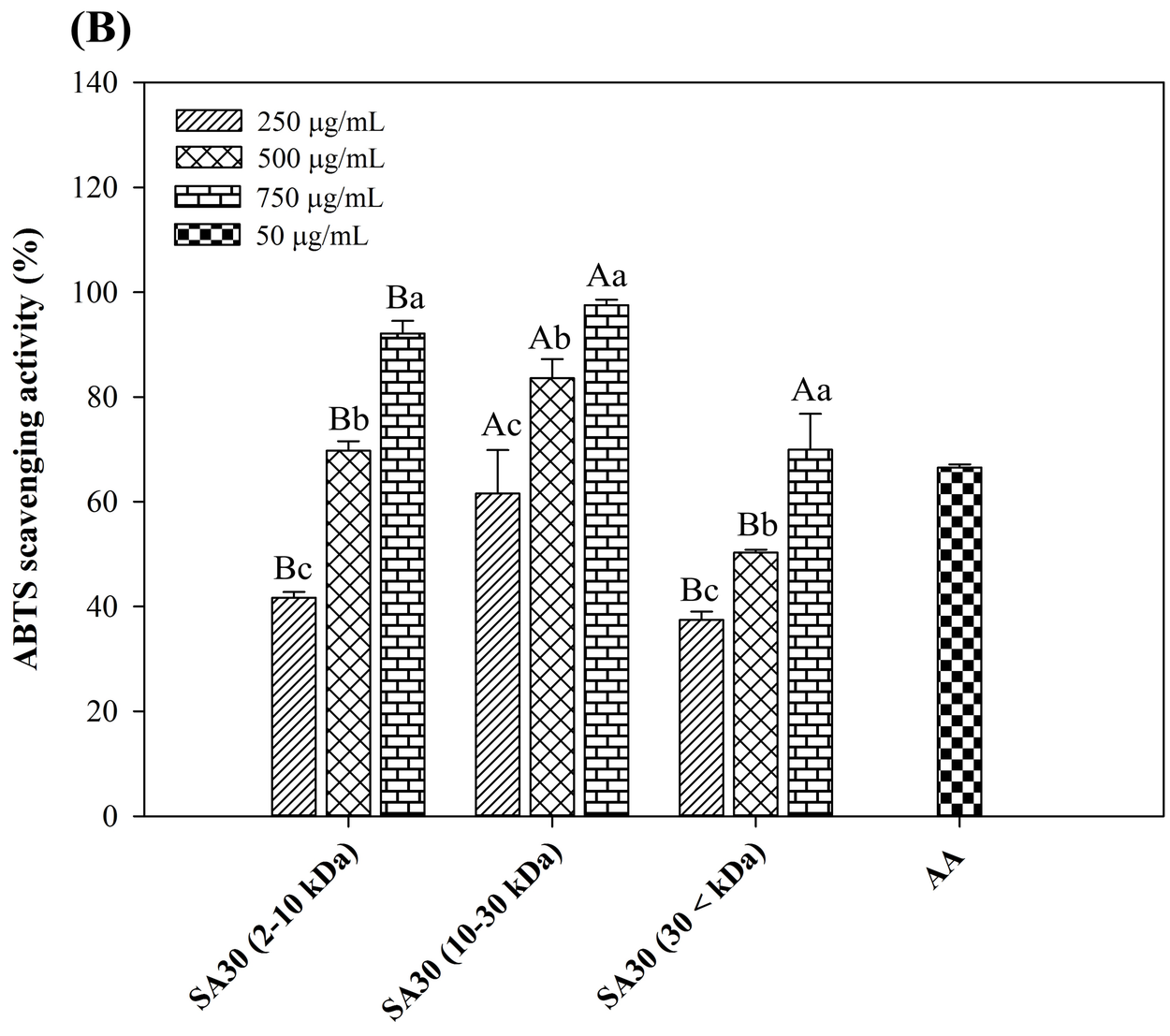

(C)
Abundance
Time (min)
Rha
9,557
Fuc
9,696
Xyl
10,068
Man
13,989
Glc
14,184
Gal
14,397

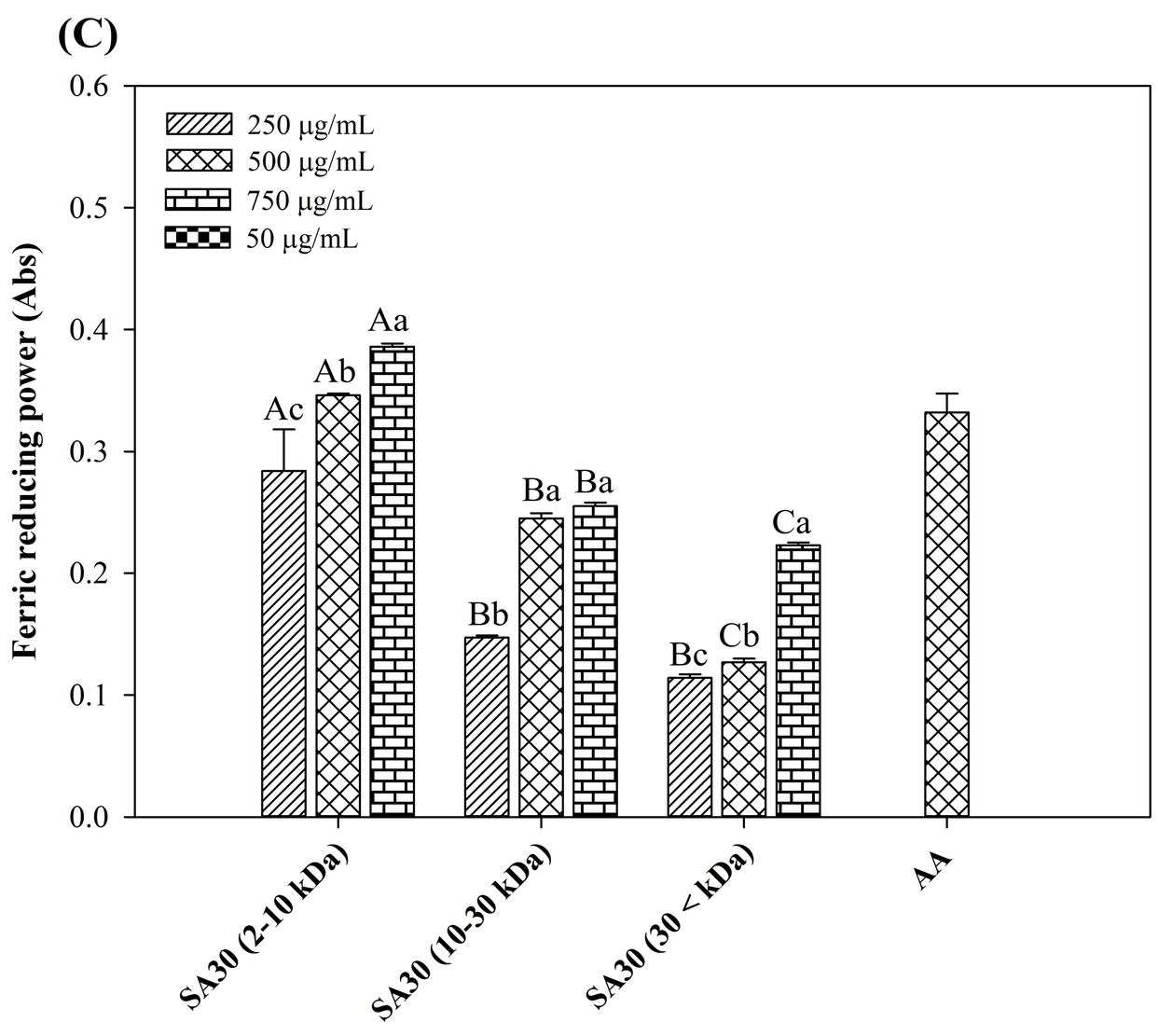

(A)
SA30 (2 -10 kDa)
Refractive index (mV)
0.12
0.10
0.08
0.06
0.04
0.02
0.00
20
30
40
50
Elution time (min)

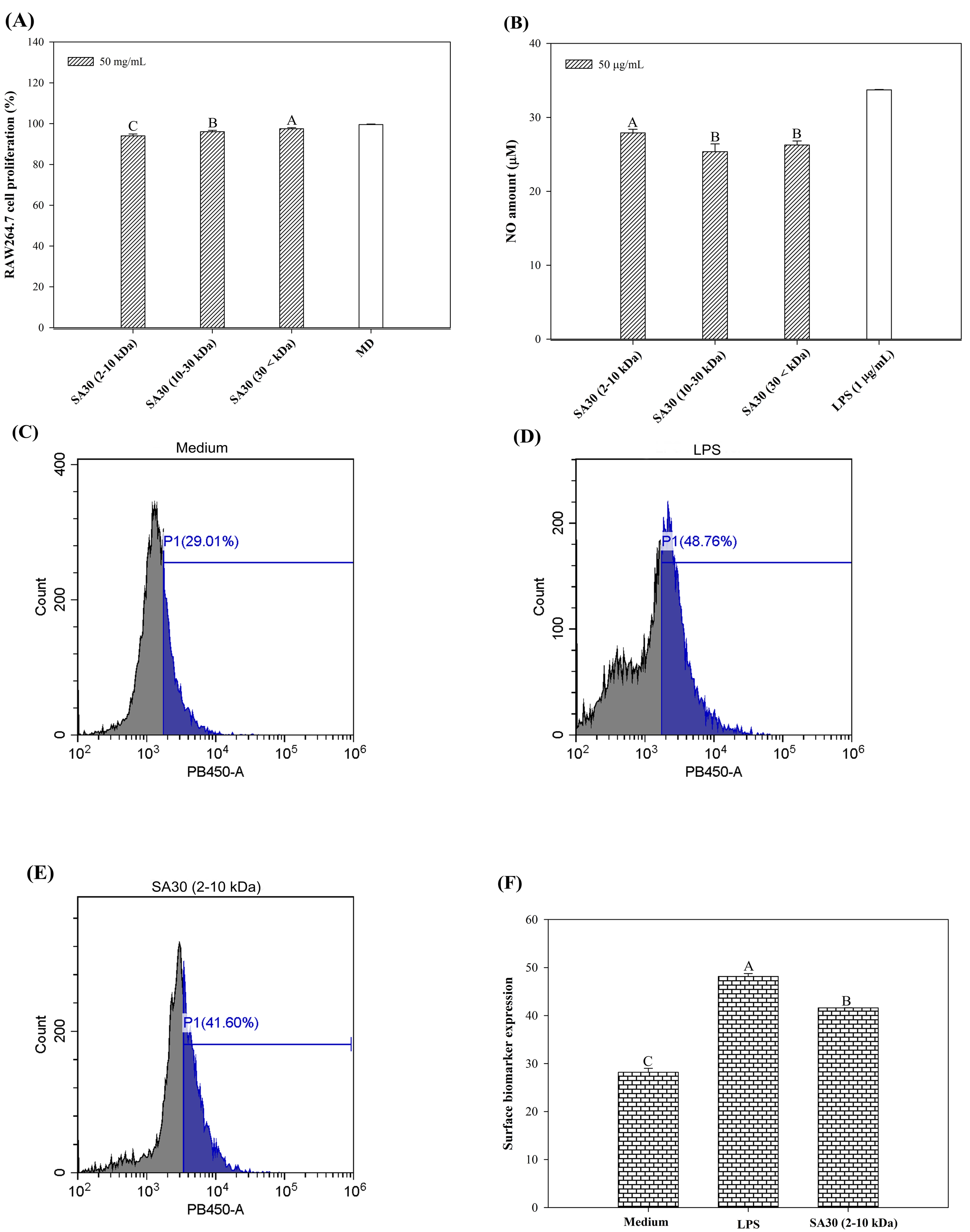

(B)
SA30 (10-30 kDa)
Refractive index (mV)
0.06
0.05
0.04
0.03
0.02
0.01
0.00
20
30
40
50
Elution time (min)


(C)
SA30 (30 < kDa)
Refractive index (mV)
0.05
0.04
0.03
0.02
0.01
0.00
20
30
40
50
Elution time (min)


(A)
DPPH scavenging activity (%)
250 μg/mL
500 μg/mL
750 μg/mL
50 μg/mL
Bc
Bb
Aa
Ab
Aa
Aa
Ab
Bc
Aa
SA30 (2-10 kDa)
SA30 (10-30 kDa)
SA30 (30 < kDa)
AA


(B)
ABTS scavenging activity (%)
250 μg/mL
500 μg/mL
750 μg/mL
50 μg/mL
Bc
Bb
Ba
Ac
Ab
Aa
Bc
Bb
Aa
SA30 (2-10 kDa)
SA30 (10-30 kDa)
SA30 (30 < kDa)
AA


(C)
Ferric reducing power (Abs)
250 μg/mL
500 μg/mL
750 μg/mL
50 μg/mL
Ac
Ab
Aa
Bb
Ba
Ba
Bc
Cb
Ca
SA30 (2-10 kDa)
SA30 (10-30 kDa)
SA30 (30 < kDa)
AA


(A)
50 mg/mL
RAW264.7 cell proliferation (%)
C
B
A
SA30 (2-10 kDa)
SA30 (10-30 kDa)
SA30 (30 < kDa)
MD
(B)
50 μg/mL
NO amount (μM)
A
B
B
SA30 (2-10 kDa)
SA30 (10-30 kDa)
SA30 (30 < kDa)
LPS (1 μg/mL)
(C)
Medium
P1(29.01%)
Count
PB450-A
(D)
LPS
P1(48.76%)
Count
PB450-A
(E)
SA30 (2-10 kDa)
P1(41.60%)
Count
PB450-A
(F)
Surface biomarker expression
C
A
B
Medium
LPS
SA30 (2-10 kDa)