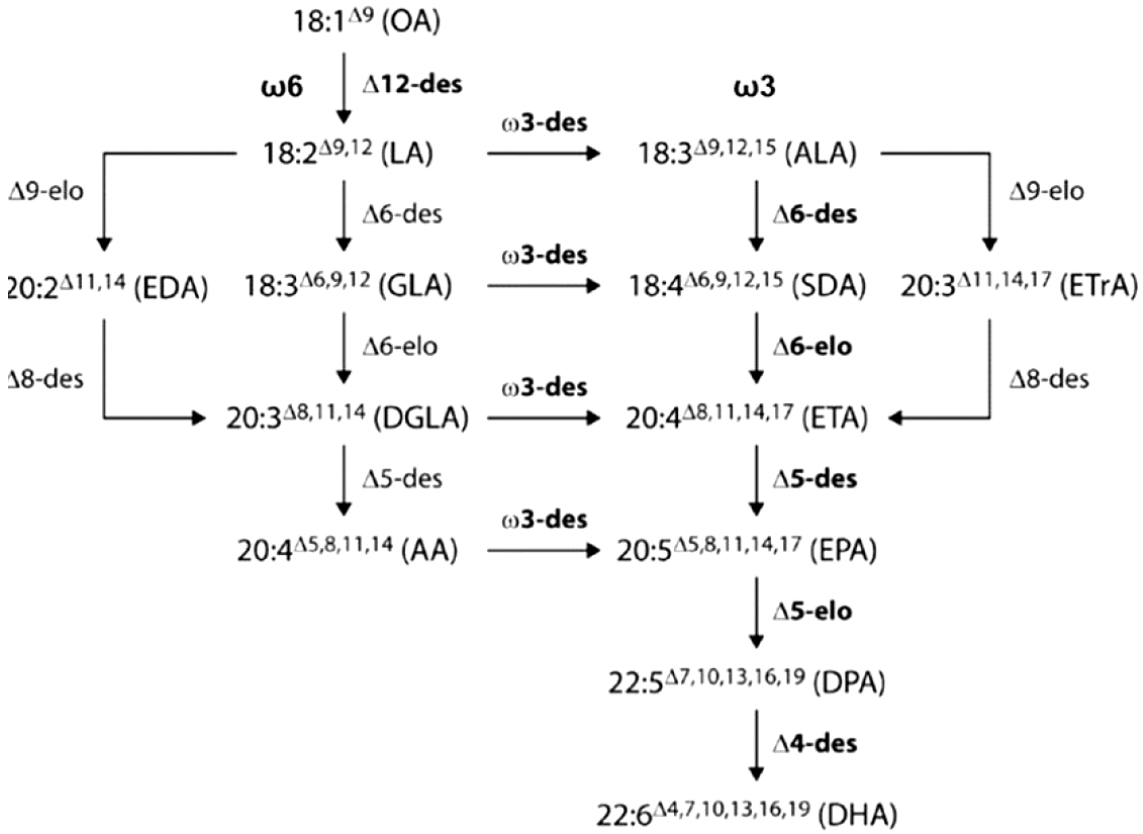

18:1Δ9 (OA)
ω6
Δ12-des
ω3
ω3-des
18:2Δ9,12 (LA)
18:3Δ9,12,15 (ALA)
Δ9-elo
Δ6-des
Δ6-des
Δ9-elo
ω3-des
20:2Δ11,14 (EDA)
18:3Δ6,9,12 (GLA)
18:4Δ6,9,12,15 (SDA)
20:3Δ11,14,17 (ETrA)
Δ6-elo
Δ6-elo
Δ8-des
ω3-des
Δ8-des
20:3Δ8,11,14 (DGLA)
20:4Δ8,11,14,17 (ETA)
Δ5-des
Δ5-des
ω3-des
20:4Δ5,8,11,14 (AA)
20:5Δ5,8,11,14,17 (EPA)
Δ5-elo
22:5Δ7,10,13,16,19 (DPA)
Δ4-des
22:6Δ4,7,10,13,16,19 (DHA)

FIGURE 1

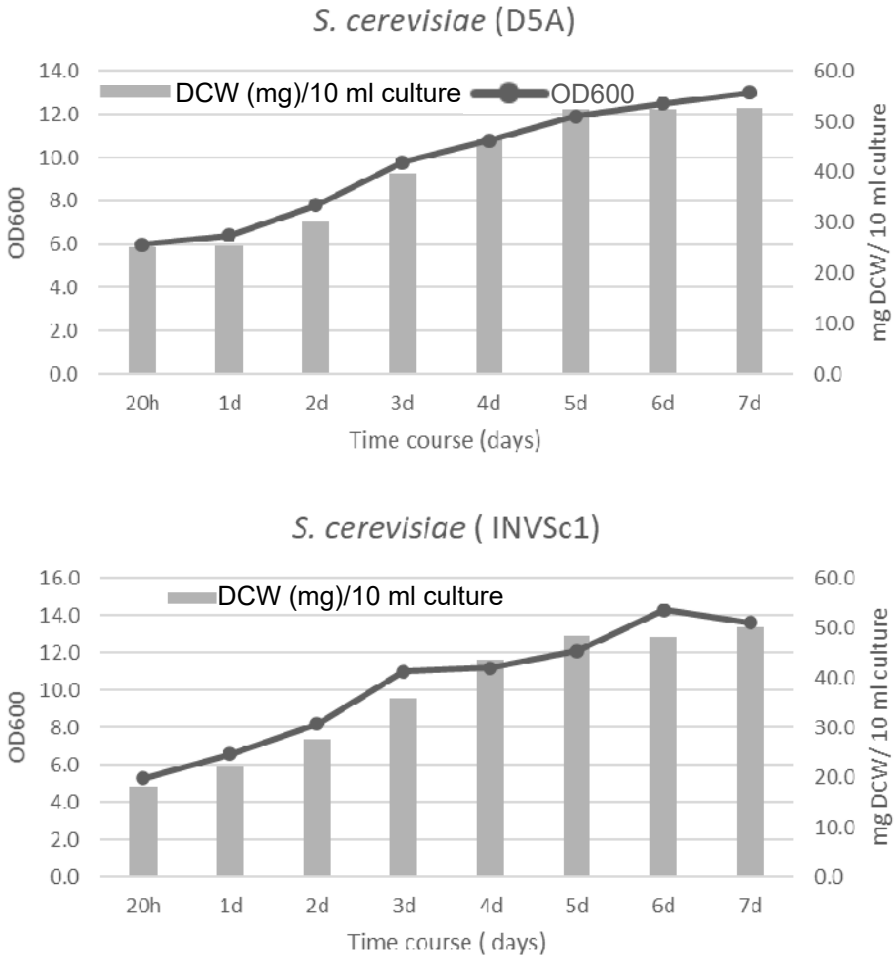

S. cerevisiae (D5A)
DCW (mg)/10 ml culture
OD600
OD600
mg DCW/ 10 ml culture
Time course (days)
20h
1d
2d
3d
4d
5d
6d
7d
S. cerevisiae (INVSc1)
DCW (mg)/10 ml culture
OD600
mg DCW/ 10 ml culture
Time course (days)

FIGURE 2

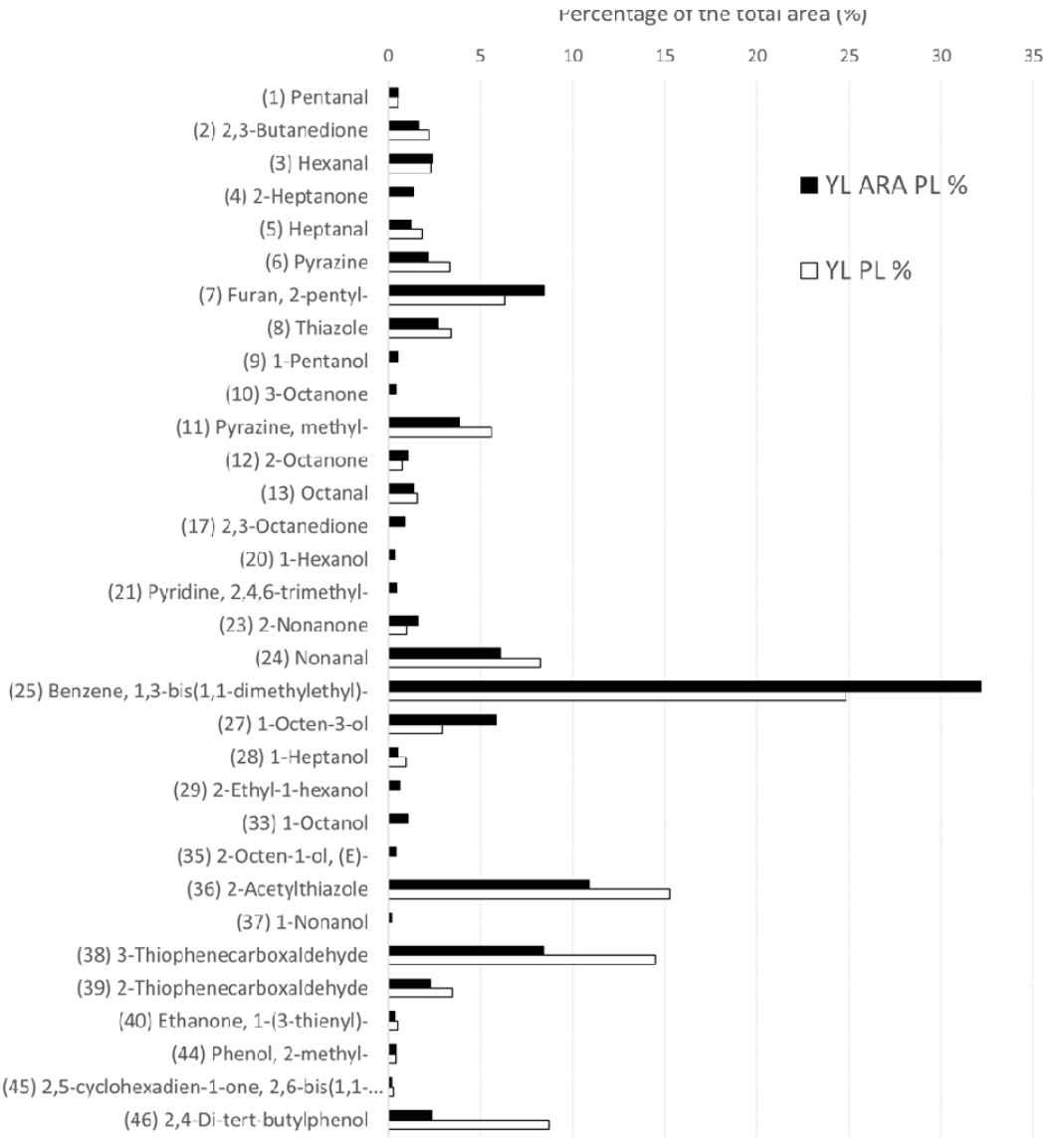

Percentage of the total area (%)
0
5
10
15
20
25
30
35
(1) Pentanal
(2) 2,3-Butanedione
(3) Hexanal
(4) 2-Heptanone
(5) Heptanal
(6) Pyrazine
(7) Furan, 2-pentyl-
(8) Thiazole
(9) 1-Pentanol
(10) 3-Octanone
(11) Pyrazine, methyl-
(12) 2-Octanone
(13) Octanal
(17) 2,3-Octanedione
(20) 1-Hexanol
(21) Pyridine, 2,4,6-trimethyl-
(23) 2-Nonanone
(24) Nonanal
(25) Benzene, 1,3-bis(1,1-dimethylethyl)-
(27) 1-Octen-3-ol
(28) 1-Heptanol
(29) 2-Ethyl-1-hexanol
(33) 1-Octanol
(35) 2-Octen-1-ol, (E)-
(36) 2-Acetylthiazole
(37) 1-Nonanol
(38) 3-Thiophenecarboxaldehyde
(39) 2-Thiophenecarboxaldehyde
(40) Ethanone, 1-(3-thienyl)-
(44) Phenol, 2-methyl-
(45) 2,5-cyclohexadien-1-one, 2,6-bis(1,1-...
(46) 2,4-Di-tert-butylphenol
YL ARA PL %
YL PL %

FIGURE 3

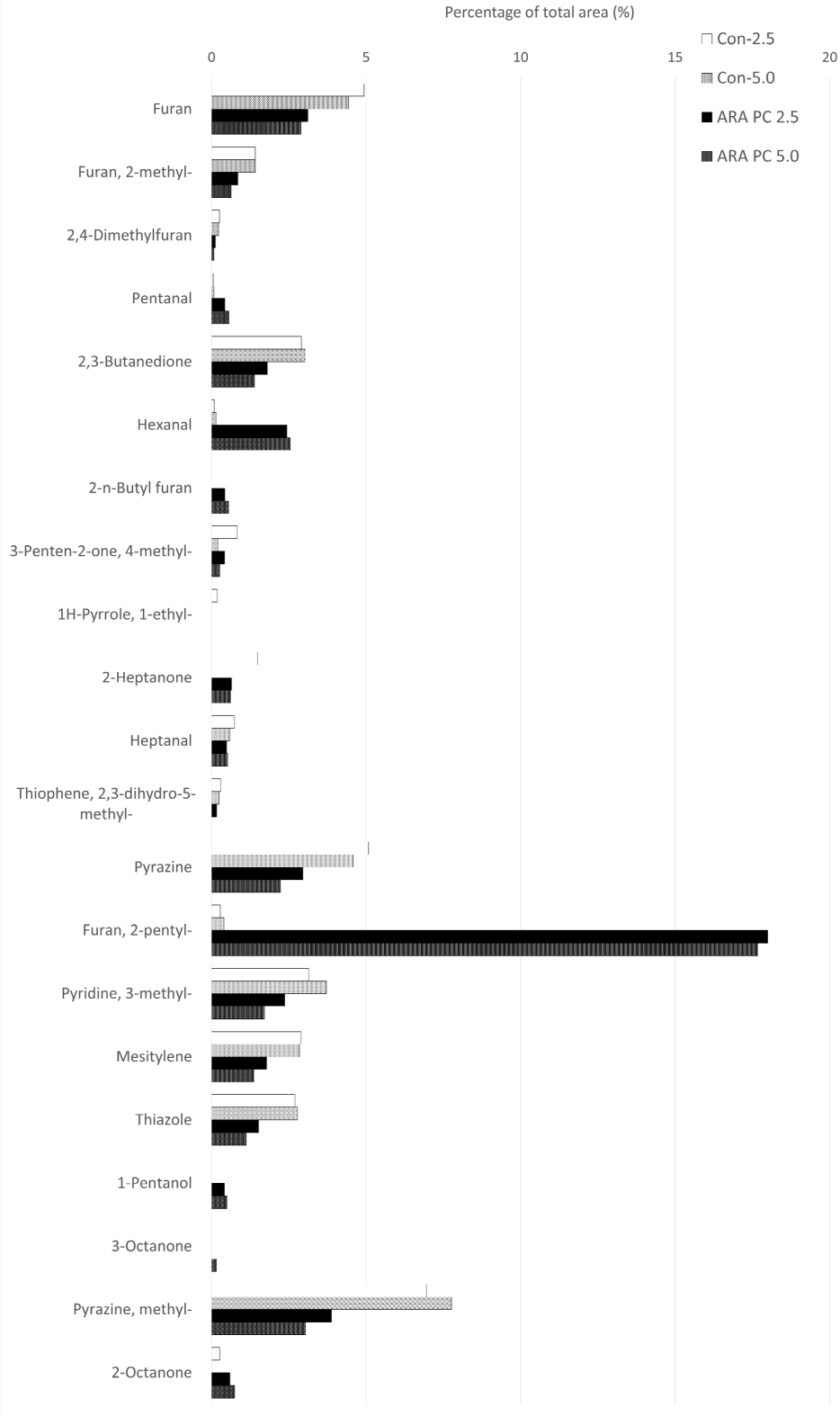

Percentage of total area (%)
0
5
10
15
20
Con-2.5
Con-5.0
ARA PC 2.5
ARA PC 5.0
Furan
Furan, 2-methyl-
2,4-Dimethylfuran
Pentanal
2,3-Butanedione
Hexanal
2-n-Butyl furan
3-Penten-2-one, 4-methyl-
1H-Pyrrole, 1-ethyl-
2-Heptanone
Heptanal
Thiophene, 2,3-dihydro-5-methyl-
Pyrazine
Furan, 2-pentyl-
Pyridine, 3-methyl-
Mesitylene
Thiazole
1-Pentanol
3-Octanone
Pyrazine, methyl-
2-Octanone

FIGURE 4

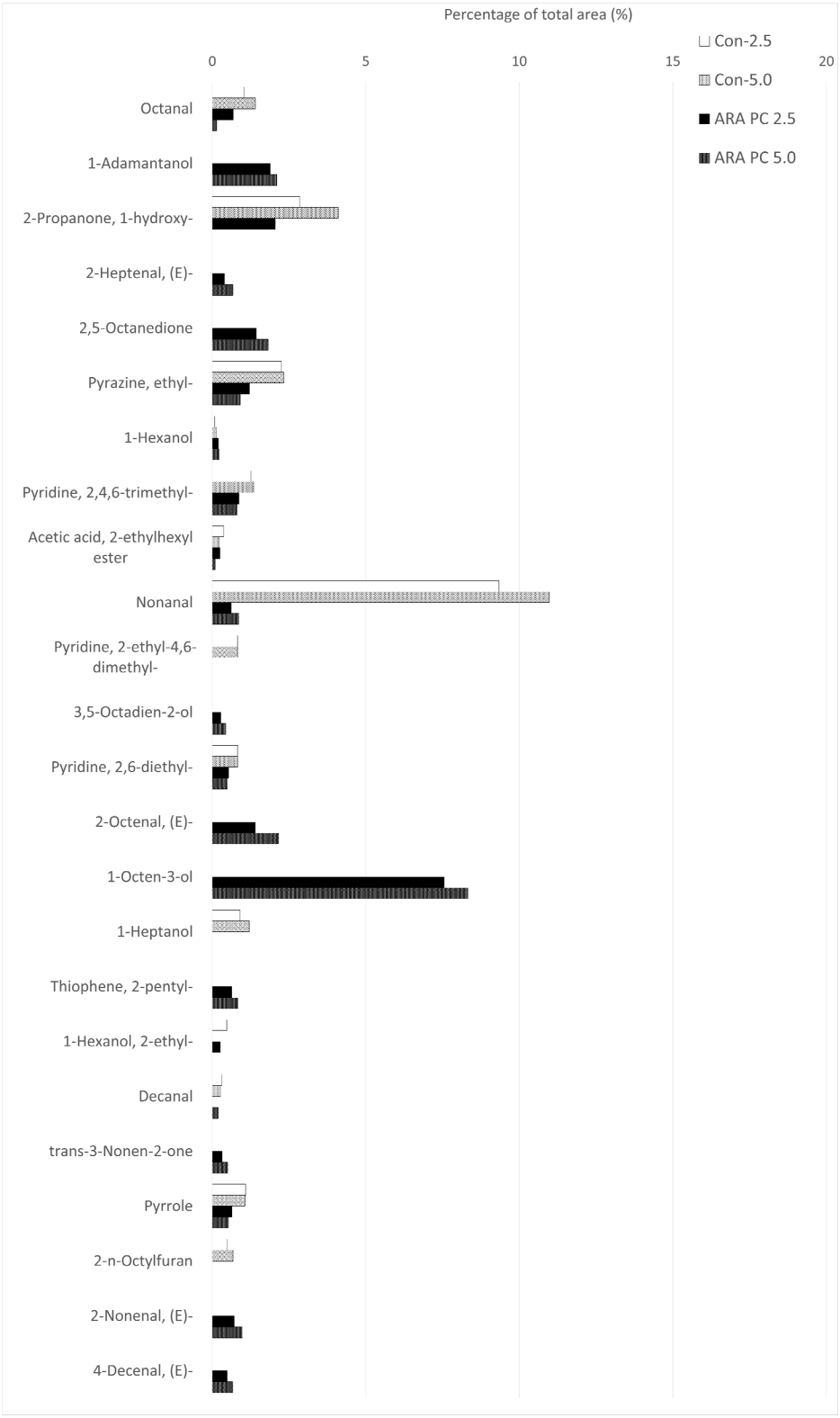


FIGURE 4 (continued)

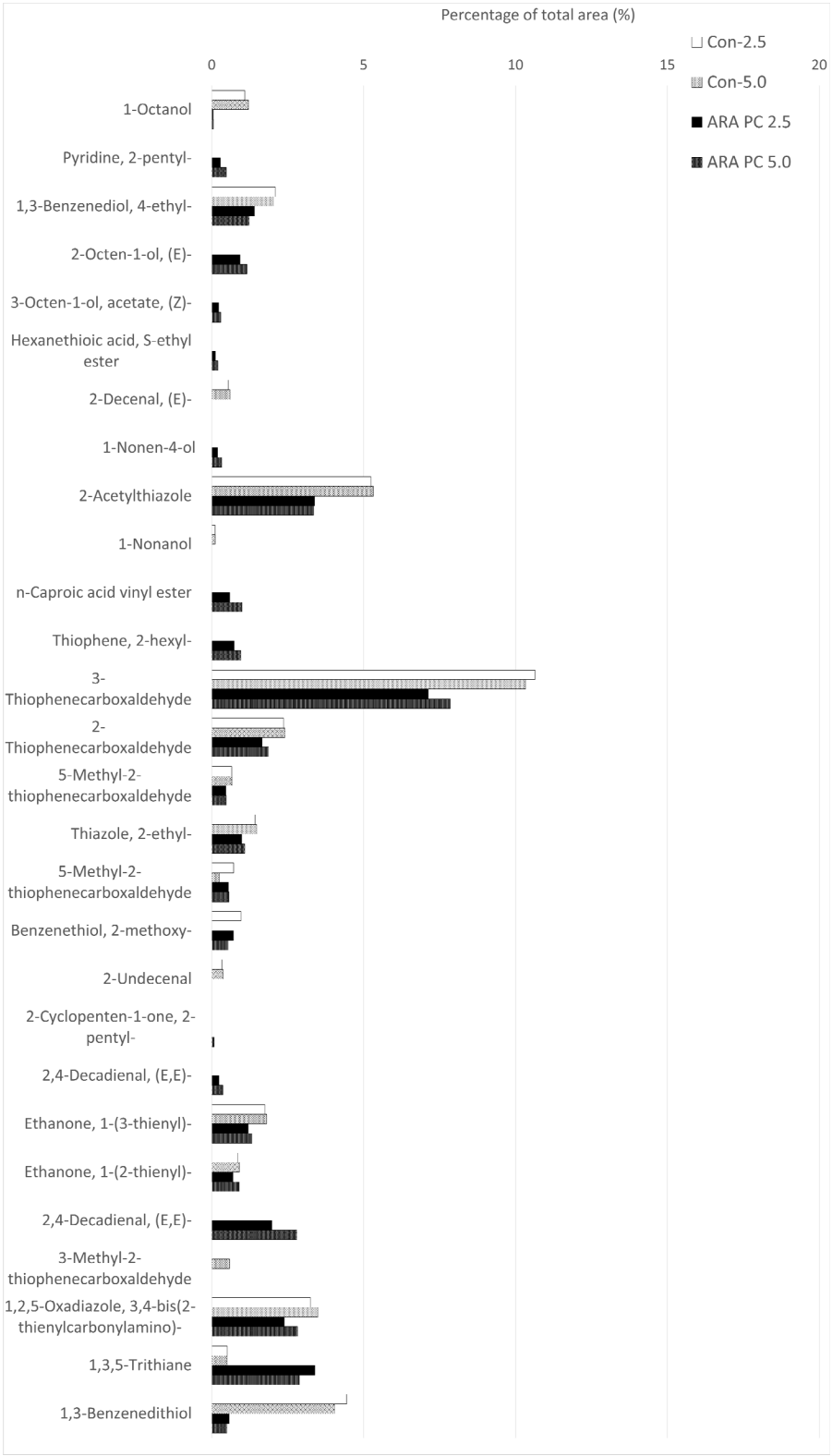


FIGURE 4 (continued)

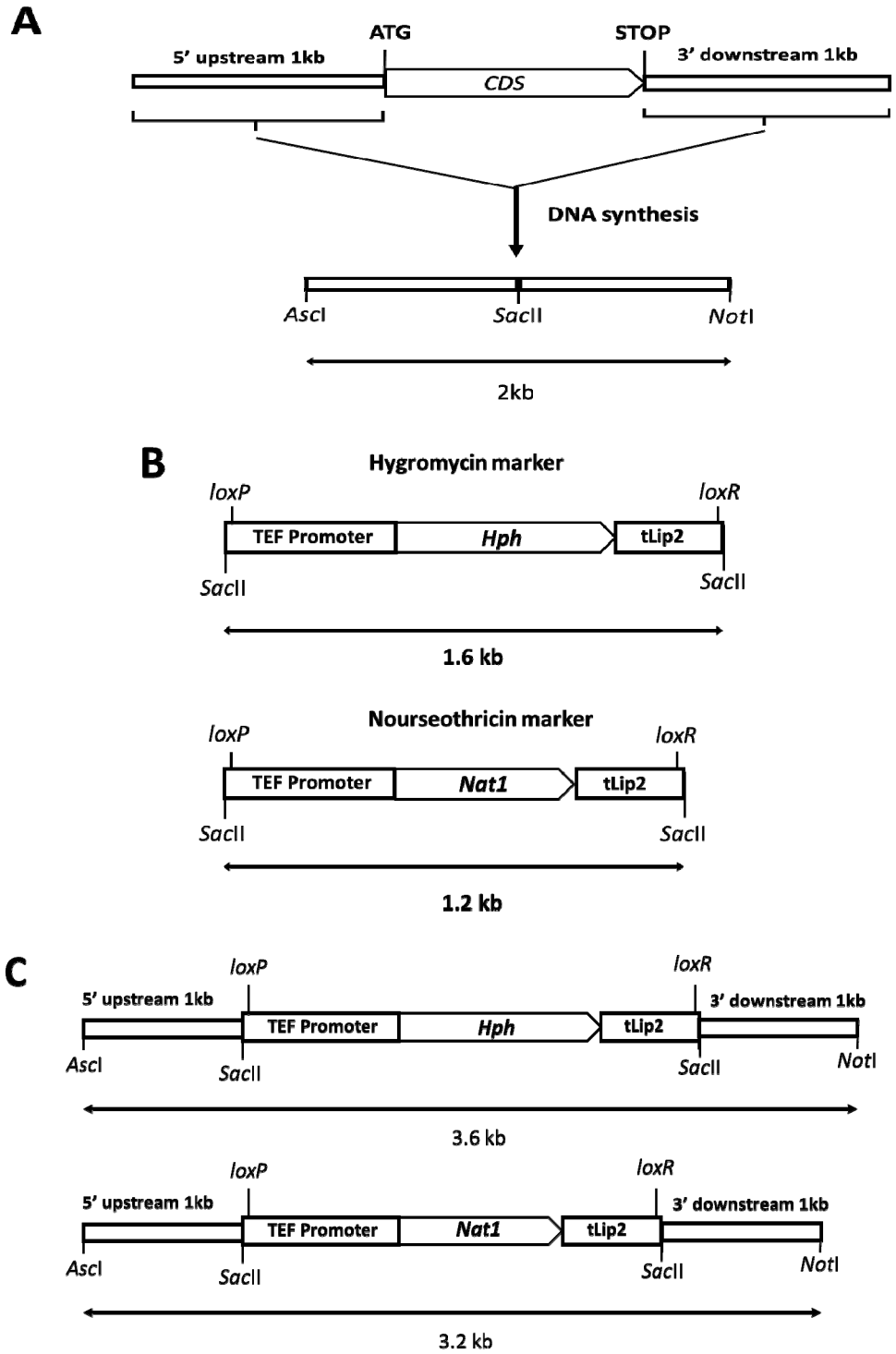

A
ATG
STOP
5' upstream 1kb
CDS
3' downstream 1kb
DNA synthesis
AscI
SacII
NotI
2kb
B
Hygromycin marker
loxP
loxR
TEF Promoter
Hph
tLip2
SacII
SacII
1.6 kb
Nourseothricin marker
loxP
loxR
TEF Promoter
Nat1
tLip2
SacII
SacII
1.2 kb
C
loxP
loxR
5' upstream 1kb
TEF Promoter
Hph
tLip2
3' downstream 1kb
AscI
SacII
SacII
NotI
3.6 kb
loxP
loxR
5' upstream 1kb
TEF Promoter
Nat1
tLip2
3' downstream 1kb
AscI
SacII
SacII
NotI
3.2 kb

FIGURE 5

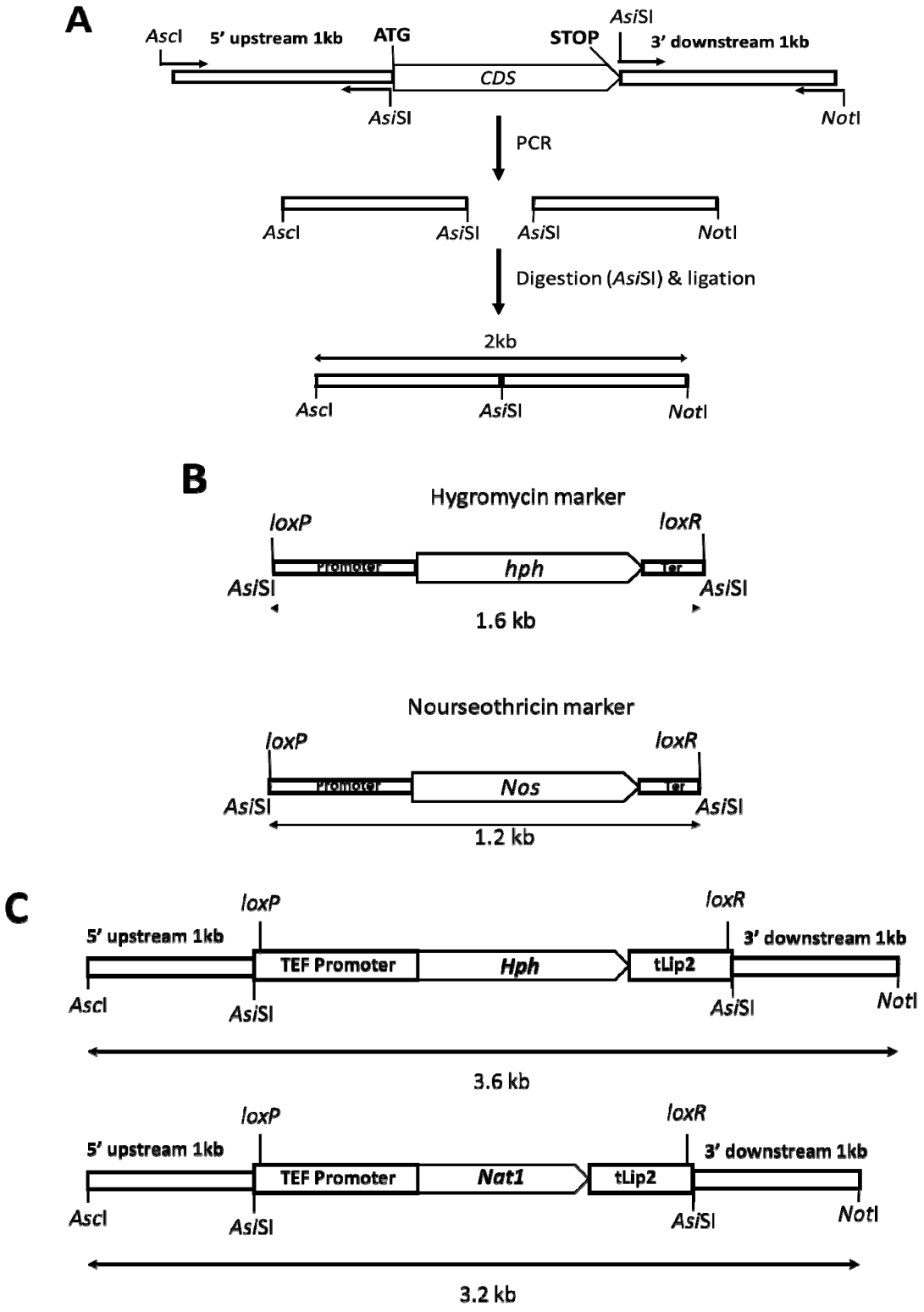

A
AscI
5' upstream 1kb
ATG
STOP
AsiSI
3' downstream 1kb
CDS
AsiSI
NotI
PCR
AscI
AsiSI
AsiSI
NotI
Digestion (AsiSI) & ligation
2kb
AscI
AsiSI
NotI
B
Hygromycin marker
loxP
loxR
Promoter
hph
Ter
AsiSI
AsiSI
1.6 kb
Nourseothricin marker
loxP
loxR
Promoter
Nos
Ter
AsiSI
AsiSI
1.2 kb
C
loxP
loxR
5' upstream 1kb
TEF Promoter
Hph
tLip2
3' downstream 1kb
AscI
AsiSI
AsiSI
NotI
3.6 kb
loxP
loxR
5' upstream 1kb
TEF Promoter
Nat1
tLip2
3' downstream 1kb
AscI
AsiSI
AsiSI
NotI
3.2 kb

FIGURE 6

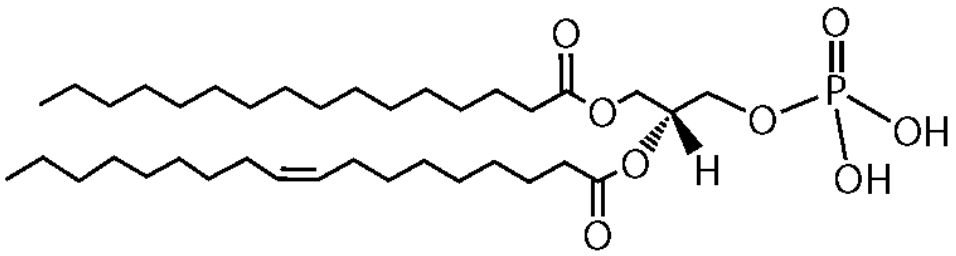


FIGURE 7

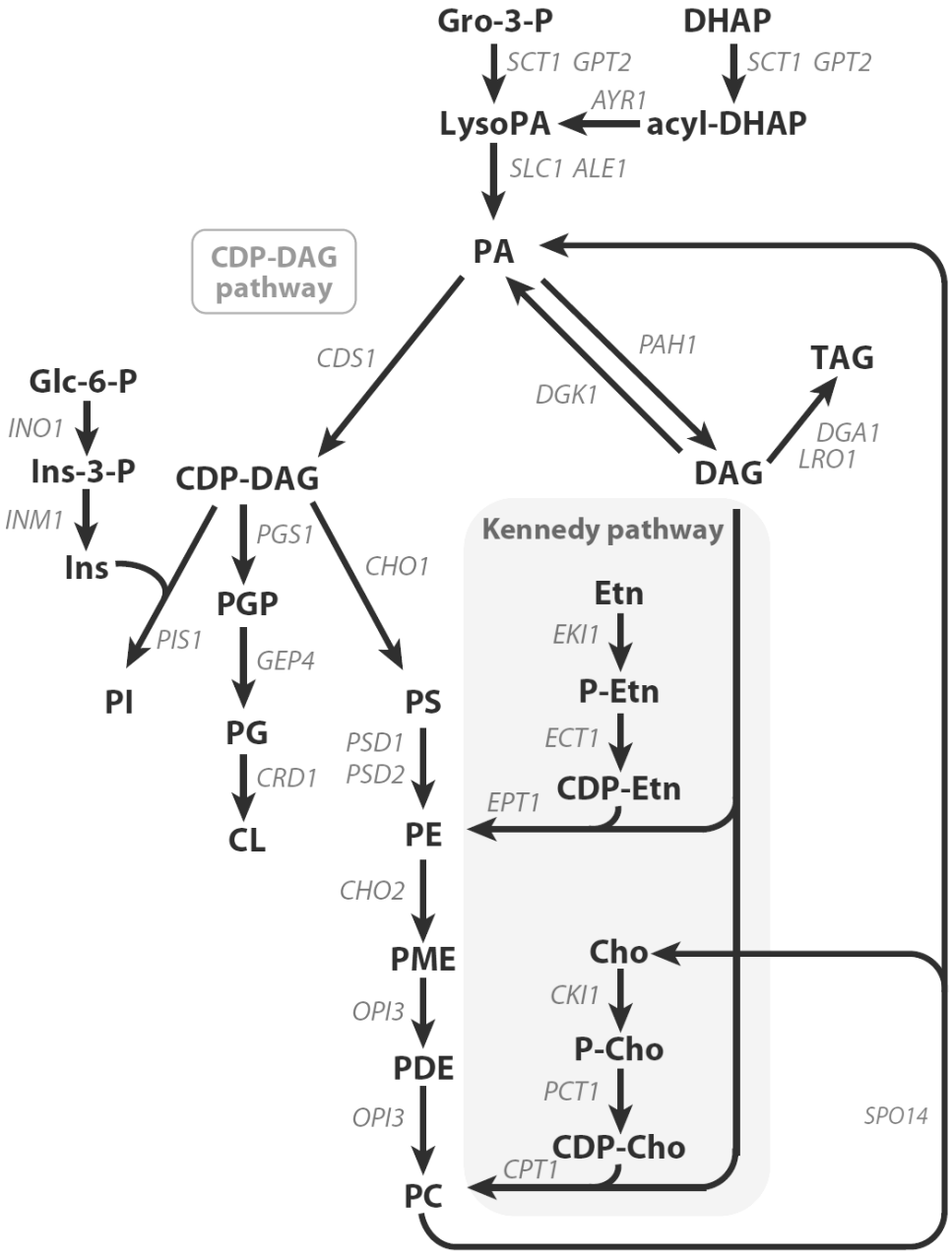

Gro-3-P
DHAP
SCT1 GPT2
SCT1 GPT2
AYR1
LysoPA
acyl-DHAP
SLC1 ALE1
PA
CDP-DAG pathway
CDS1
PAH1
DGK1
TAG
DGA1
LRO1
Glc-6-P
INO1
Ins-3-P
CDP-DAG
DAG
INM1
Ins
PGS1
CHO1
Kennedy pathway
Etn
EKI1
P-Etn
ECT1
CDP-Etn
EPT1
PIS1
PGP
GEP4
PI
PS
PG
PSD1
PSD2
CRD1
CL
PE
CHO2
PME
Cho
CKI1
P-Cho
OPI3
PDE
PCT1
OPI3
CDP-Cho
SPO14
CPT1
PC

FIGURE 8

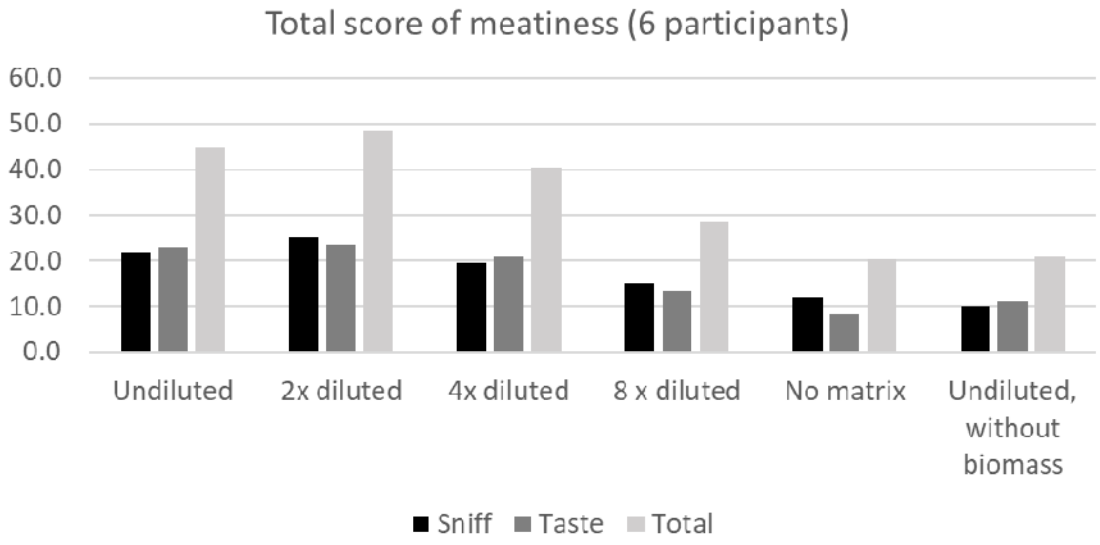

Total score of meatiness (6 participants)
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Undiluted
2x diluted
4x diluted
8 x diluted
No matrix
Undiluted, without biomass
Sniff
Taste
Total

FIGURE 9

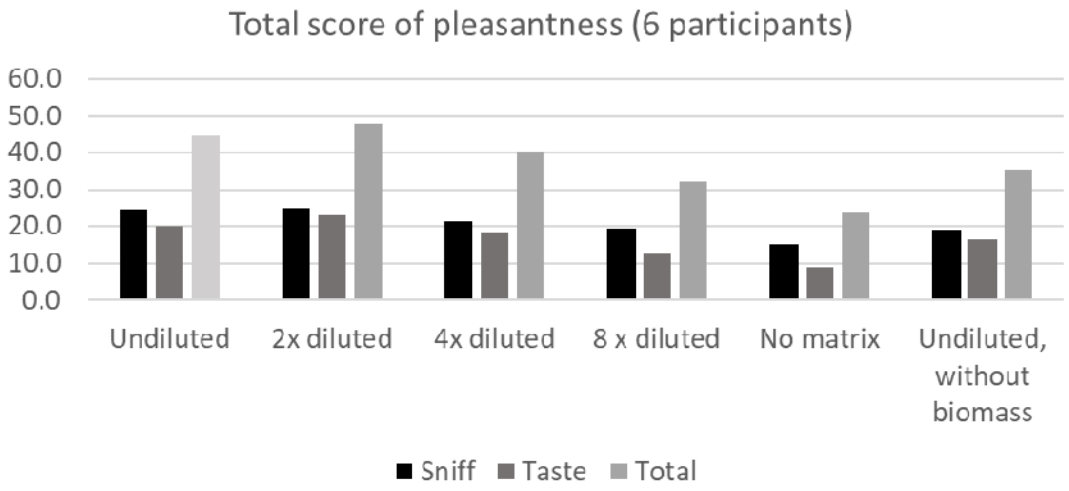

Total score of pleasantness (6 participants)
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Undiluted
2x diluted
4x diluted
8 x diluted
No matrix
Undiluted, without biomass
Sniff
Taste
Total

FIGURE 10

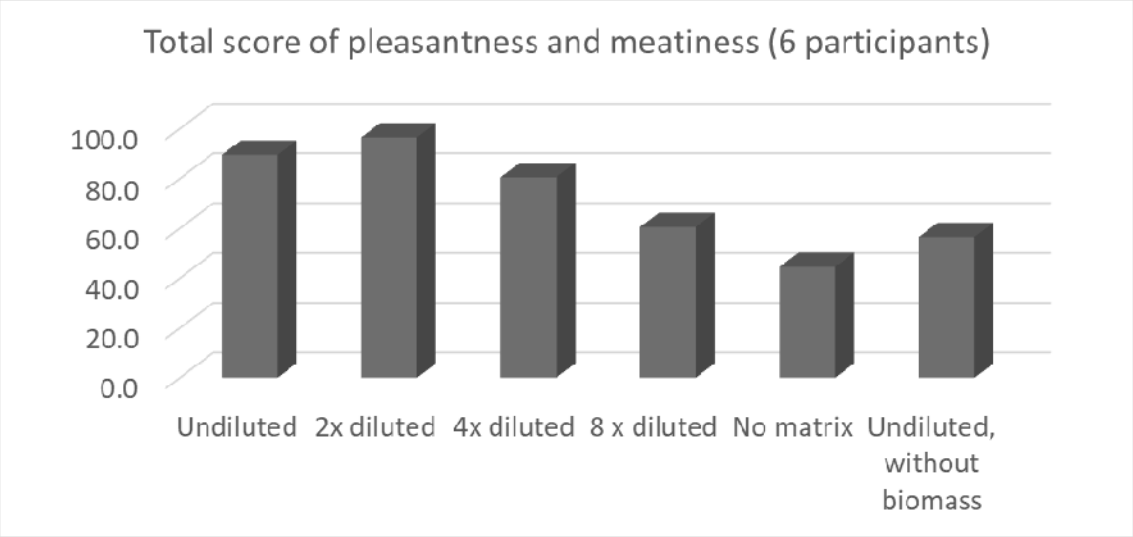

Total score of pleasantness and meatiness (6 participants)
100.0
80.0
60.0
40.0
20.0
0.0
Undiluted
2x diluted
4x diluted
8 x diluted
No matrix
Undiluted, without biomass

FIGURE 11