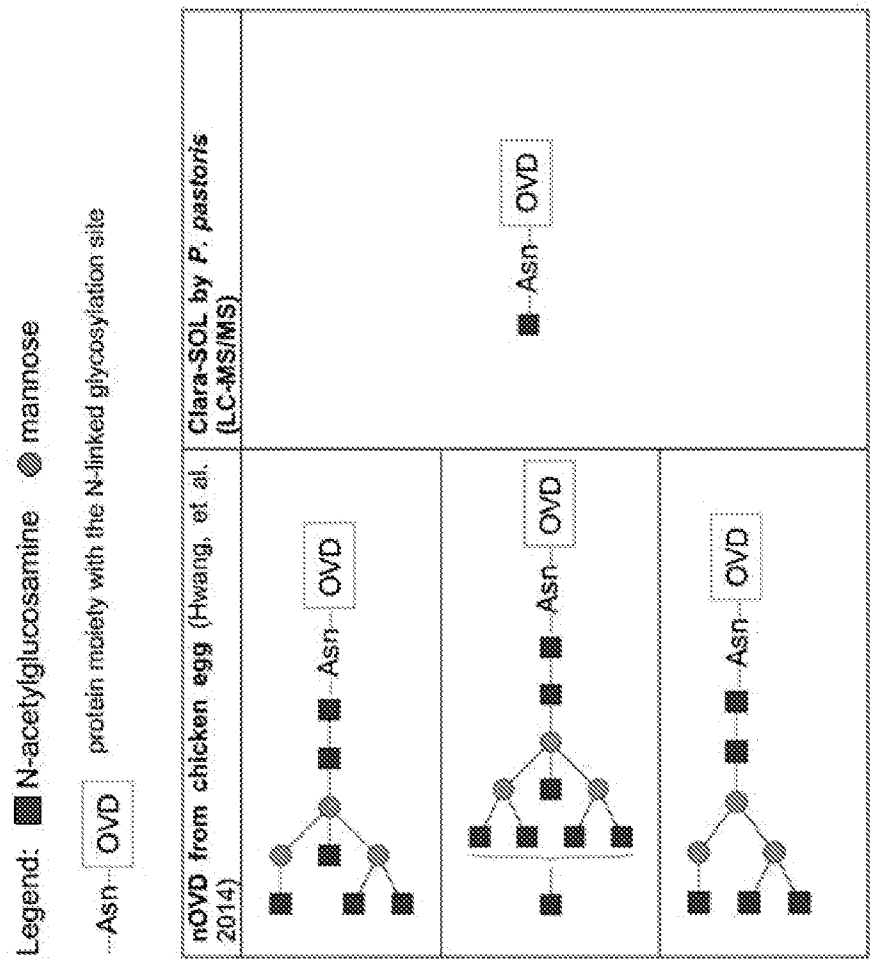

Legend:
N-acetylglucosamine
mannose
Asn
OVD
protein moiety with the N-linked glycosylation site
nOVD from chicken egg (Hwang, et al. 2014)
Clara-SOL by P. pastoris (LC-MS/MS)
Asn
OVD

FIG. 1A

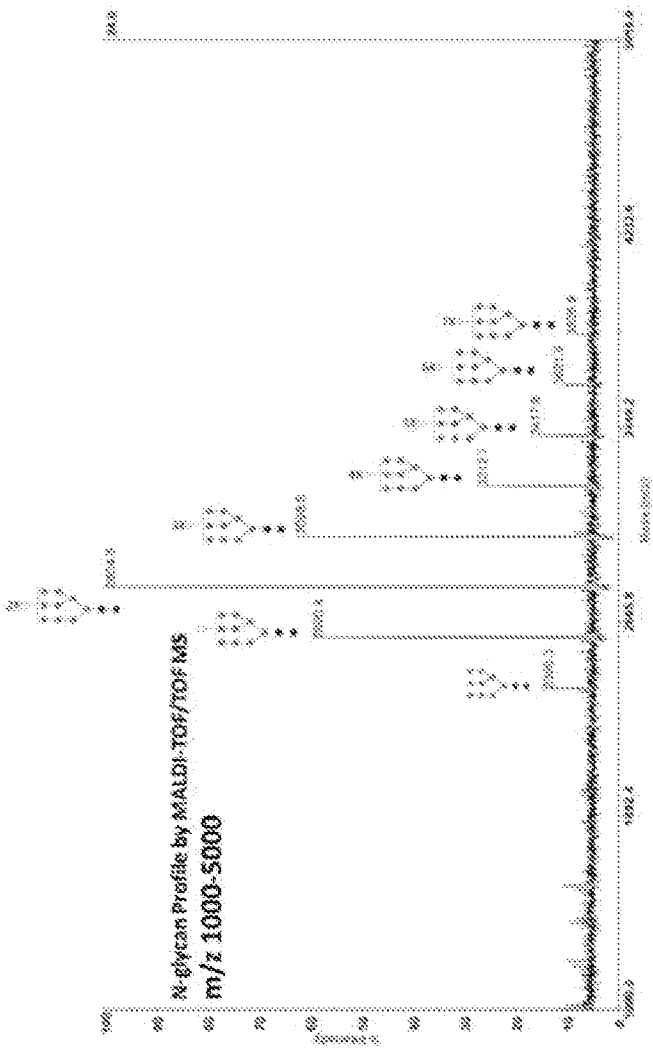


FIG. 1B

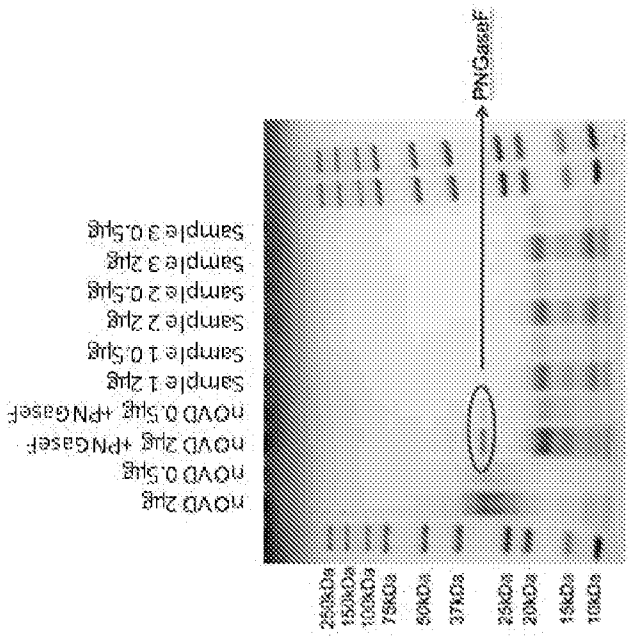

PNGaseF
250KDa
150KDa
100KDa
75KDa
50KDa
37KDa
25KDa
20KDa
15kDa
10KDa
mOVD 2µg
mOVD 0.5µg
mOVD 2µg +PNGaseF
mOVD 0.5µg +PNGaseF
Sample 1 2µg
Sample 1 0.5µg
Sample 2 2µg
Sample 2 0.5µg
Sample 3 2µg
Sample 3 0.5µg

FIG. 1C

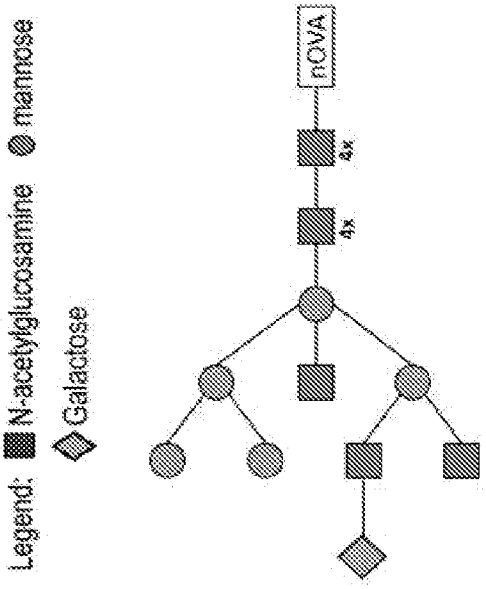

Legend:
N-acetylglucosamine
mannose
Galactose
rOVA
4x
4x

FIG. 2A

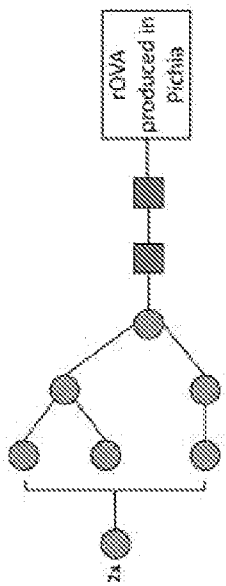

rOVA produced in Pichia
2x

FIG. 2B

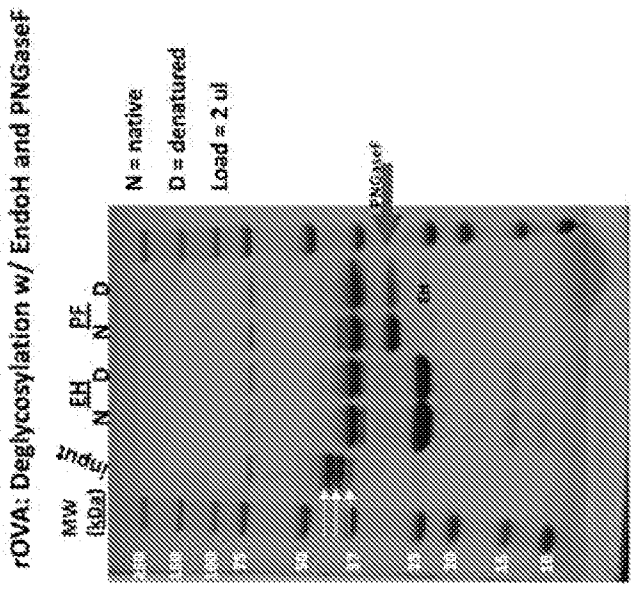

rOVA: Deglycosylation w/ EndoH and PNGaseF
MW (kDa)
Input
EH
PF
N
D
N = native
D = denatured
Load = 2 ul
PNGaseF

FIG. 2C

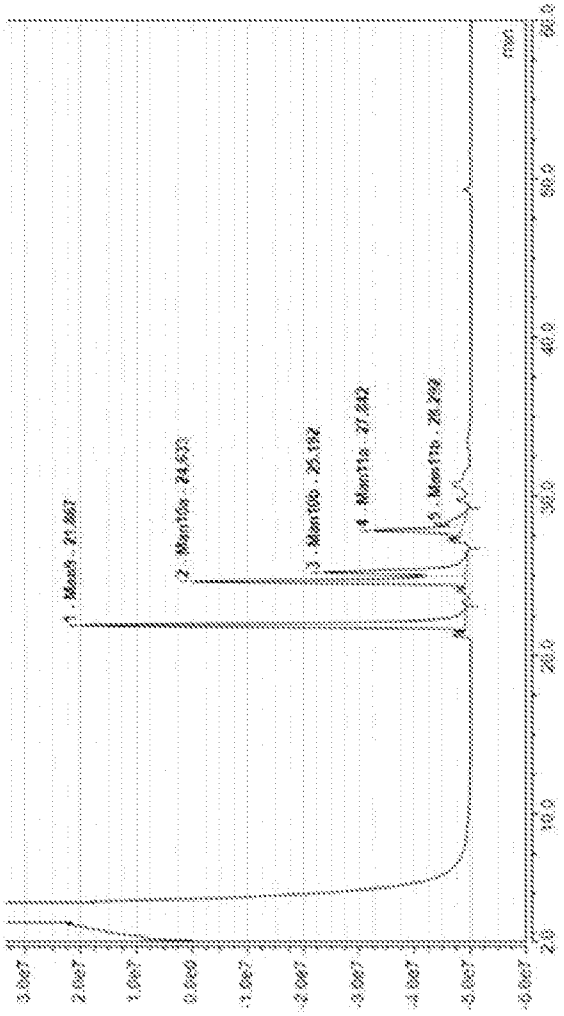


FIG. 2D

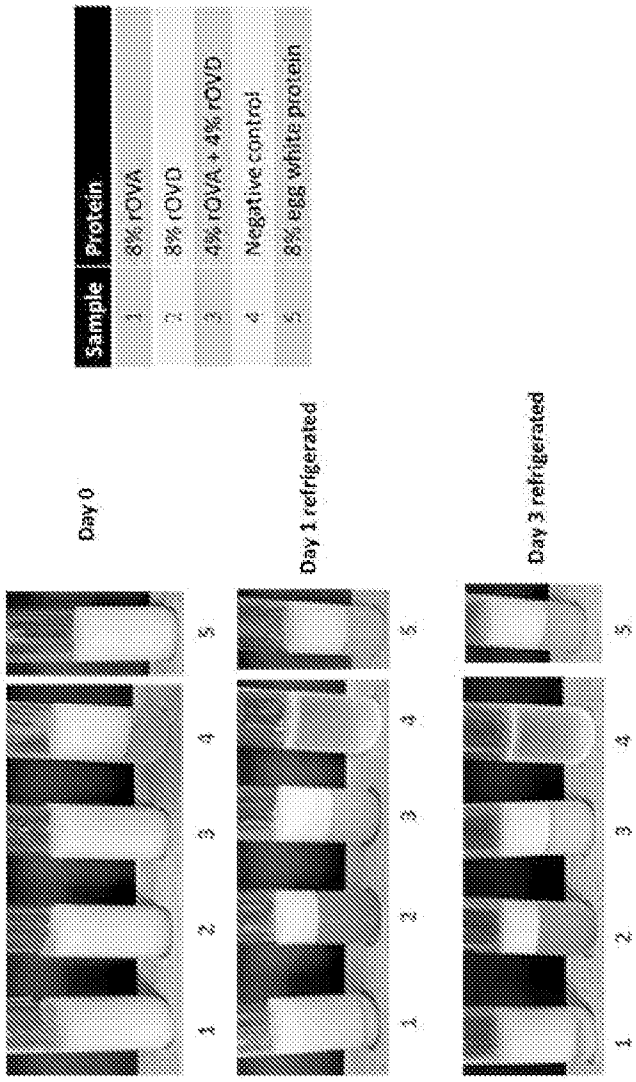

Sample
Protein
1
8% rOVA
2
8% rOVD
3
4% rOVA + 4% rOVD
4
Negative control
5
8% egg white protein
Day 0
Day 1 refrigerated
Day 3 refrigerated
1
2
3
4
5

FIG. 3

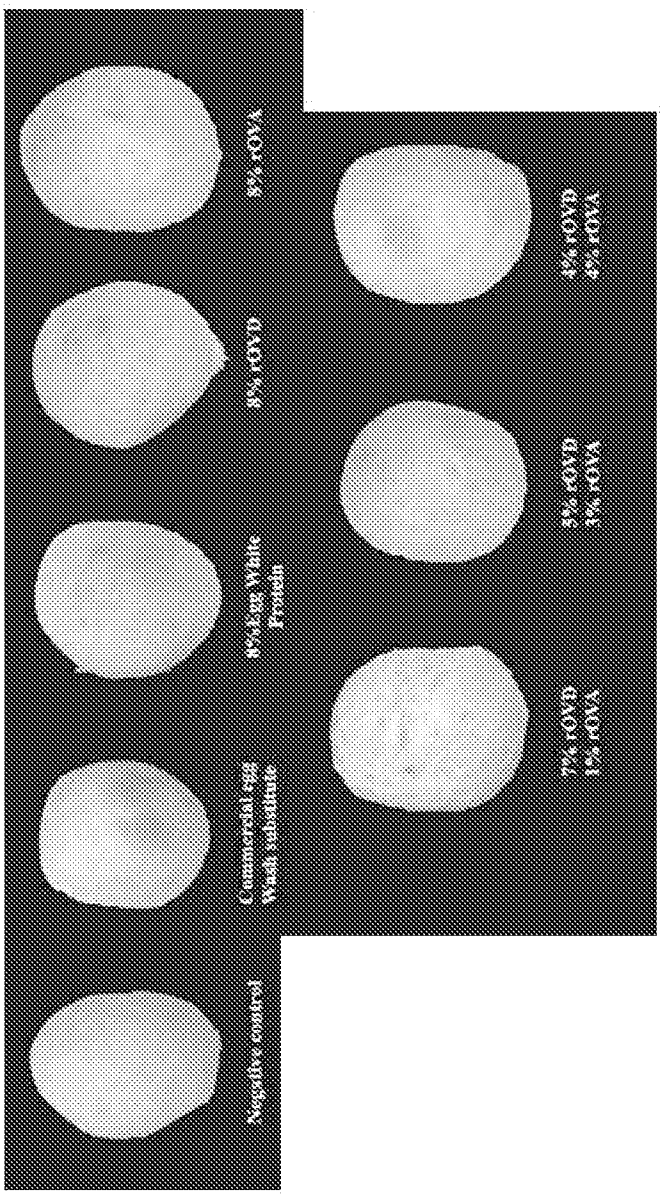

Negative control
Commercial egg white substitute
4%(w/v) White Protein
3% rOVD
3% rOVA
2% rOVD 1% rOVA
3% rOVD 3% rOVA
4% rOVD 4% rOVA

FIG. 4

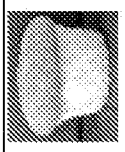
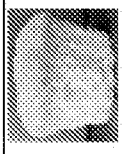
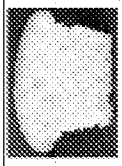
	Fresh whole egg	rOVA	rOVA+rOVD
Photos			
Cross section			

FIG. 5

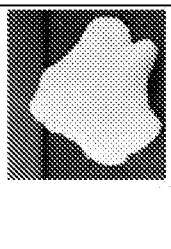
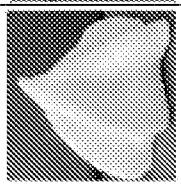
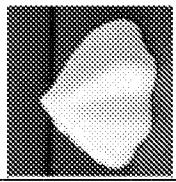
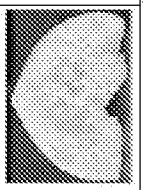
Parameter	Fresh egg white	rOVA 8.3% + SLS + Xantham gum	rOVA 8.3% + TEC + Xantham gum	rOVA 7% + rOVD 5%
Photos				
Cross section				

FIG. 6

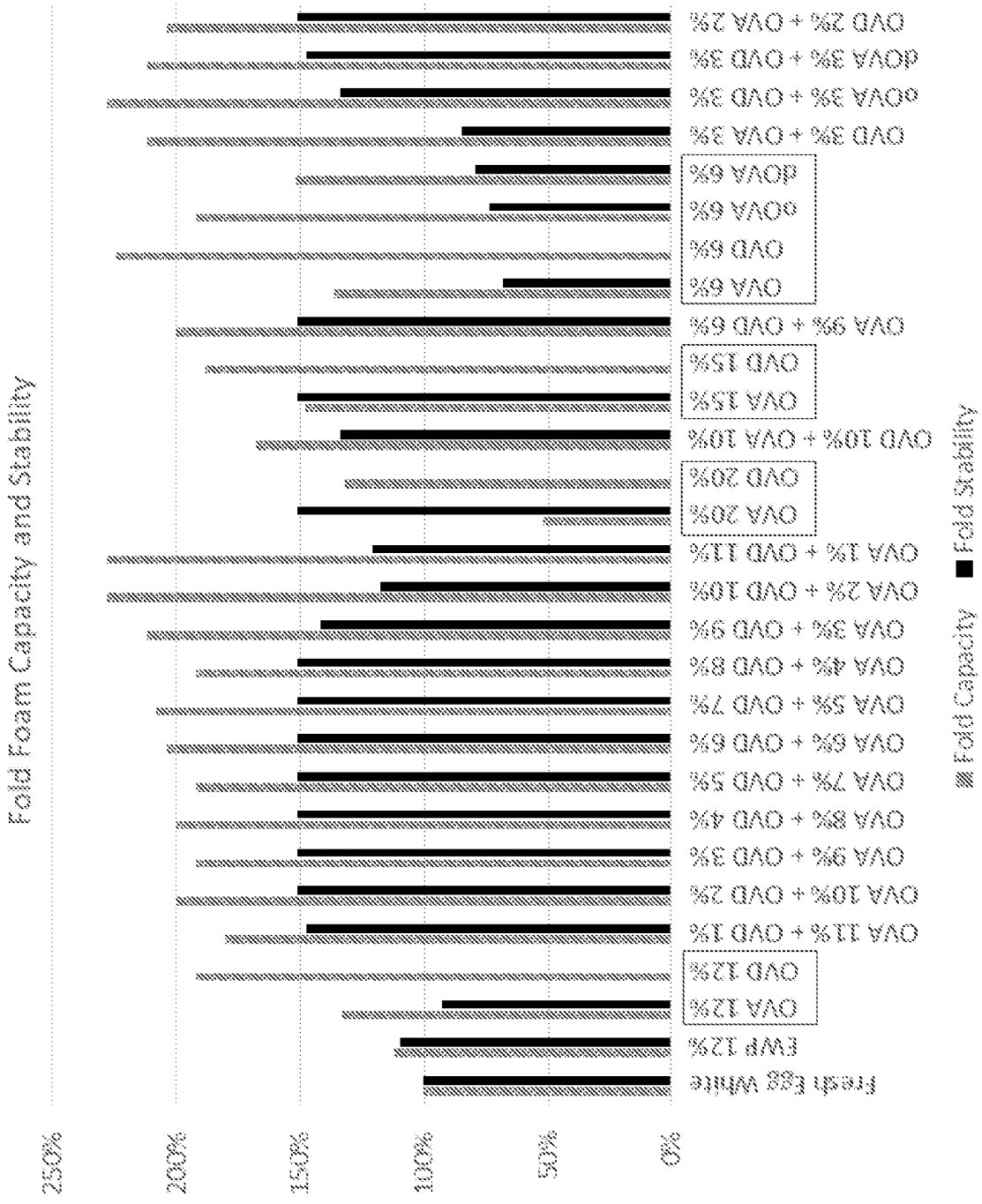

Fold Foam Capacity and Stability
250%
200%
150%
100%
50%
0%
Fresh Egg White
EWP 12%
OVA 12%
OVD 12%
OVA 11% + OVD 1%
OVA 10% + OVD 2%
OVA 9% + OVD 3%
OVA 8% + OVD 4%
OVA 7% + OVD 5%
OVA 6% + OVD 6%
OVA 5% + OVD 7%
OVA 4% + OVD 8%
OVA 3% + OVD 9%
OVA 2% + OVD 10%
OVA 1% + OVD 11%
OVA 20%
OVD 20%
OVA 10% + OVD 10%
OVA 15%
OVD 15%
OVA 9% + OVD 6%
OVA 6%
OVD 6%
dOVA 6%
dOVA 6%
OVD 3% + OVA 3%
dOVA 3% + OVD 3%
dOVA 3% + OVD 3%
OVD 2% + OVA 2%
Fold Capacity
Fold Stability

FIG. 7