

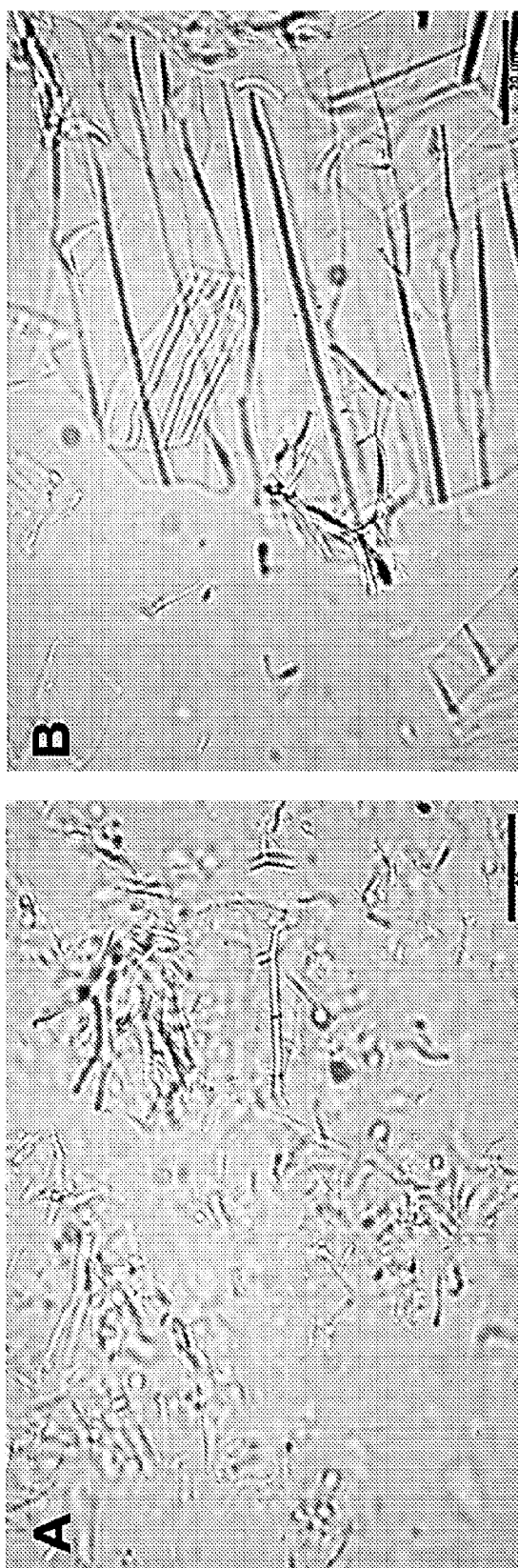


FIG. 1

FIG. 2A

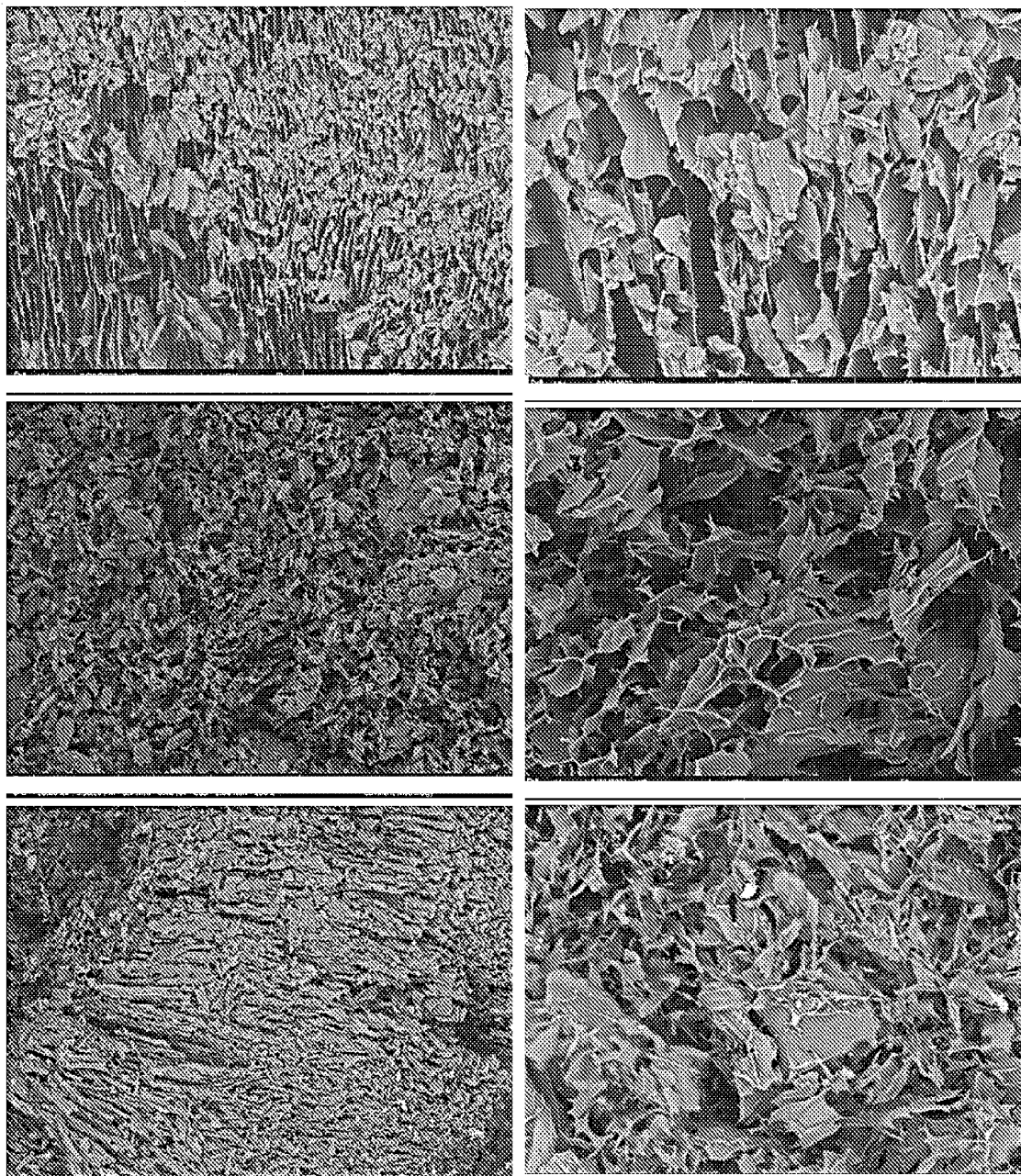


FIG. 2B

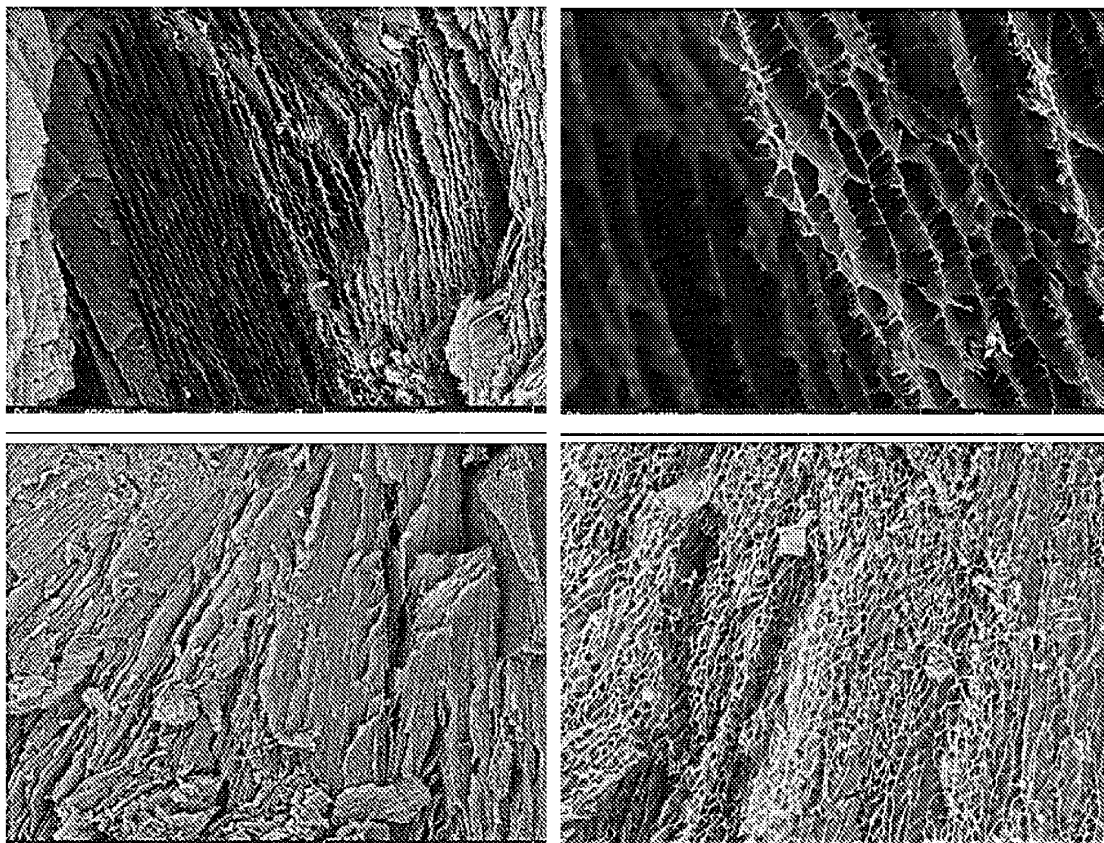
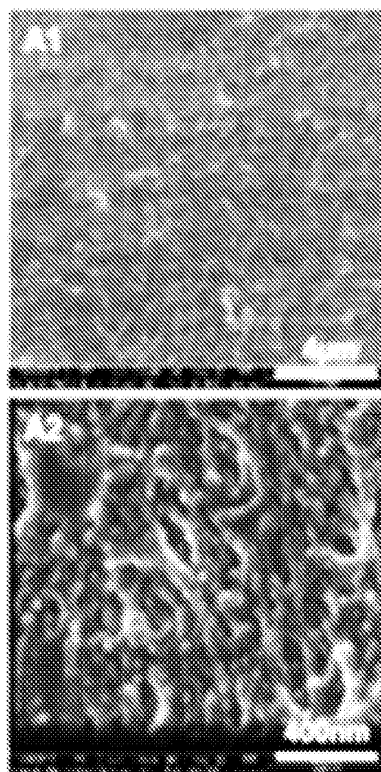
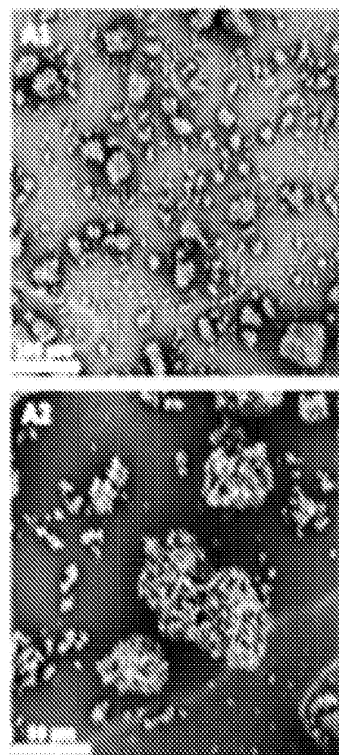


FIG. 3

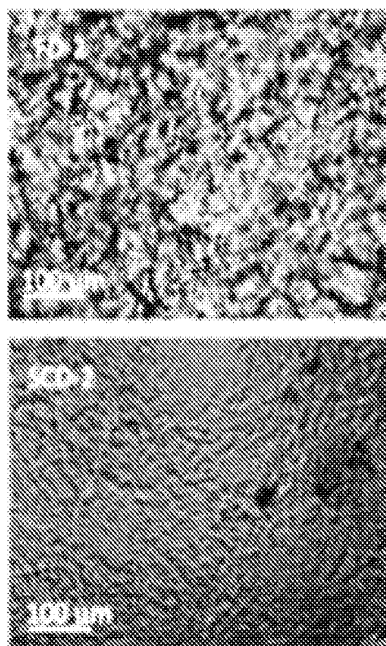
Ref. (A)



Ref. (B)



Ref. (C)



Ref. (D)

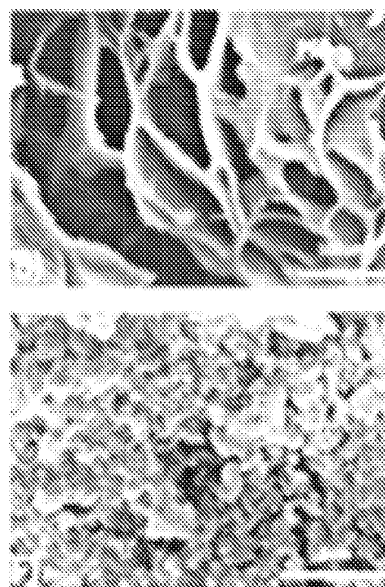
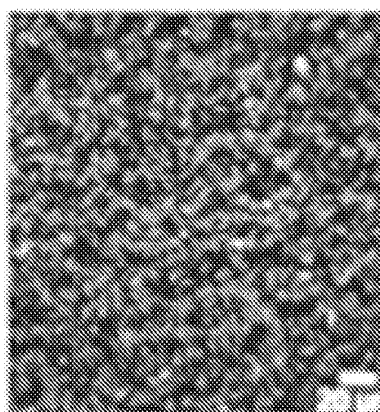
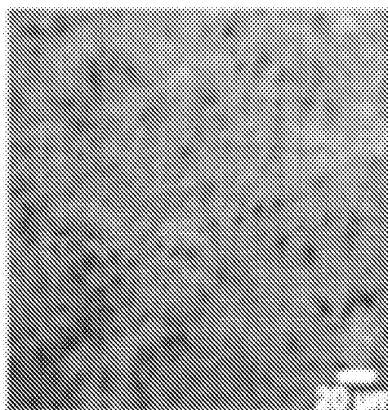


FIG. 3 (continued)

Ref. (E)



Ref. (F)

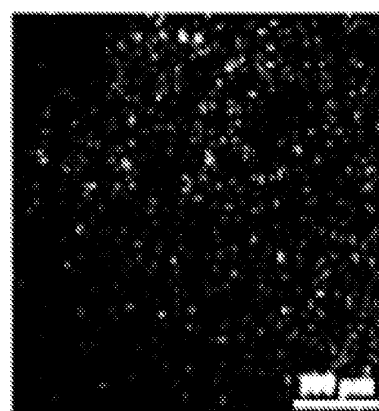
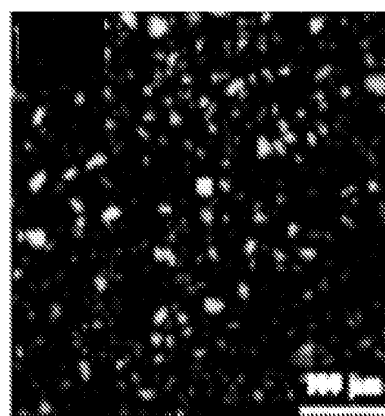


FIG. 4A

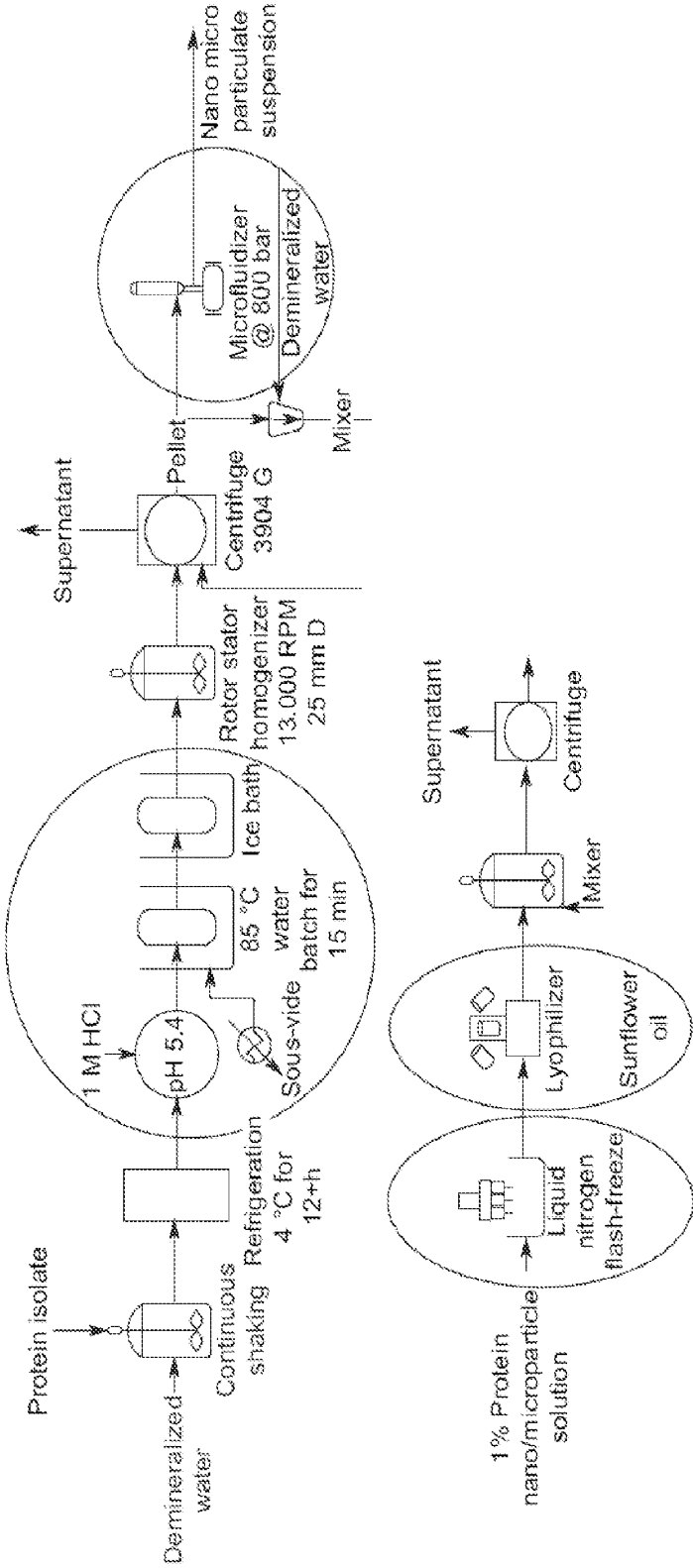


FIG.4B

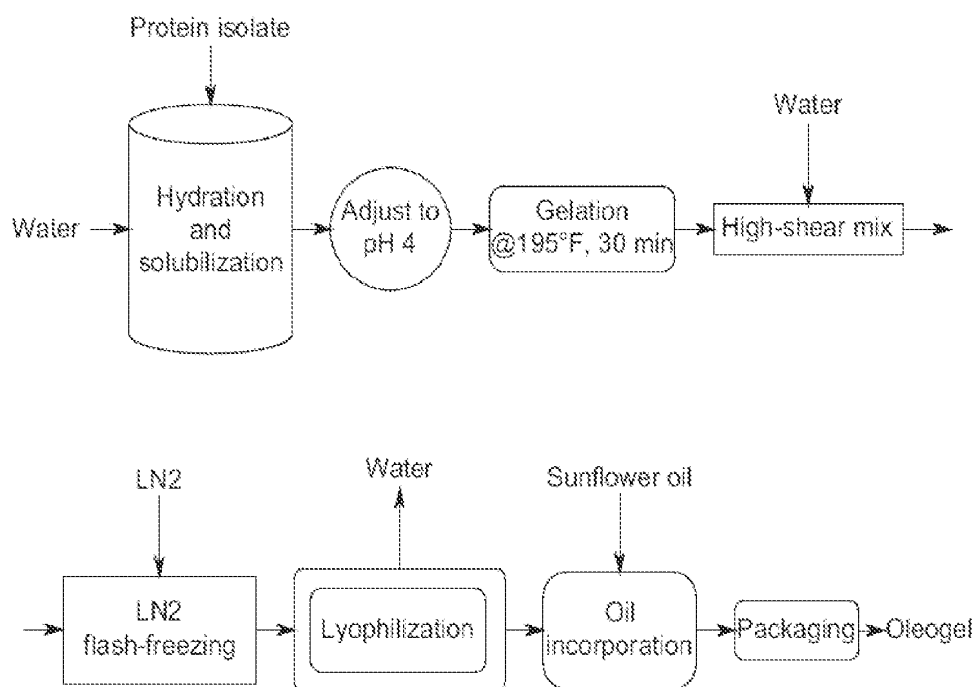


FIG. 4C

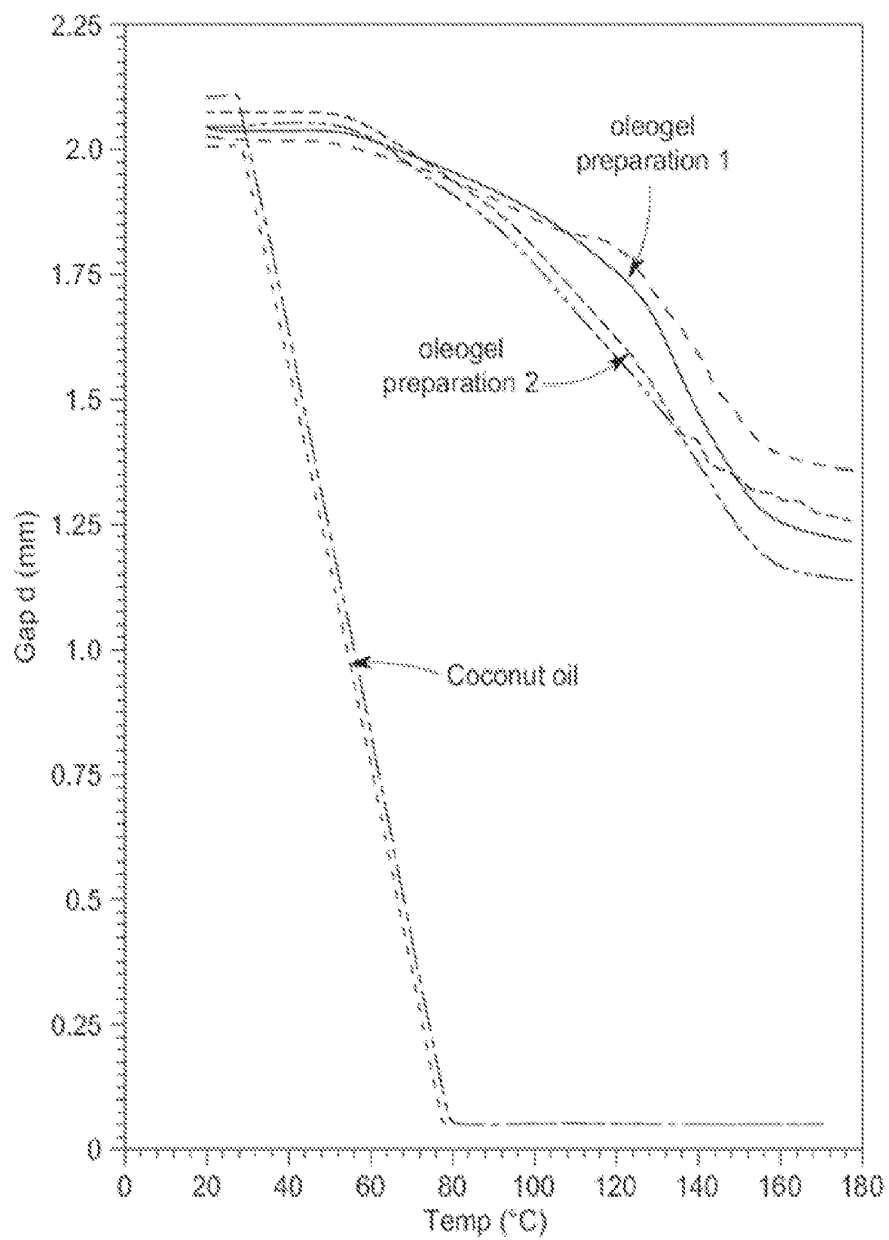
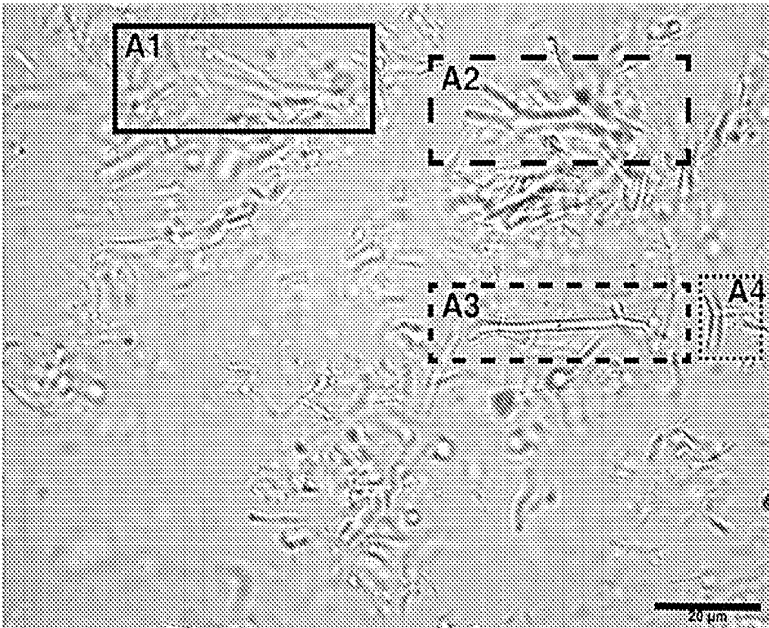


FIG. 5

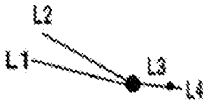
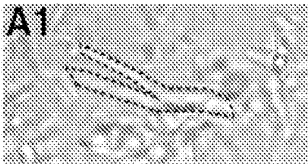
Panel A
fibrils



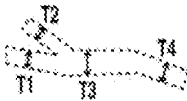
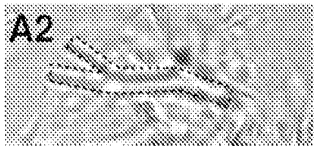
Structure outline

Isolated outline

Idealized linear structure

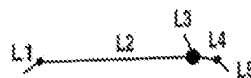
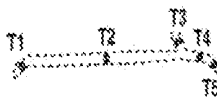
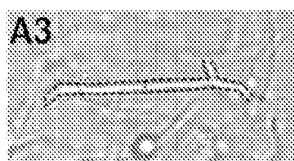


T1, L1 = 2.5 μm, 16.0 μm
T2, L2 = 1.8 μm, 15.6 μm
T3, L3 = 3.0 μm, 6.7 μm
T4, L4 = 2.5 μm, 1.9 μm
Avg. Thickness = 2.5 μm, Max. Length = 25 μm
Aspect ratio = 24 / 2.5 = 10



T1, L1 = 2.6 μm, 11 μm
T2, L2 = 2.4 μm, 9.1 μm
T3, L3 = 3.8 μm, 8.6 μm
T4, L4 = 3.1 μm, 8.3 μm
Avg. Thickness = 3.0 μm, Max. Length = 28 μm
Aspect ratio = 28 / 3.0 = 9.3

FIG. 5 (cont'd)



T1, L1 = 1.7 μm , 3.1 μm
 T2, L2 = 1.9 μm , 26 μm
 T3, L3 = 1.8 μm , 3.3 μm
 T4, L4 = 1.6 μm , 3.8 μm
 T5, L5 = 1.6 μm , 2.6 μm
 Avg. Thickness = 1.7 μm , Max. Length = 35 μm
 Aspect ratio = $35 / 1.7 = 21$



T1, L1 = 2.0 μm , 4.3 μm
 T2, L2 = 2.3 μm , 7.4 μm
 T3, L3 = 1.7 μm , 4.3 μm
 Avg. Thickness = 2.0 μm , Max. Length = 12 μm
 Aspect ratio = $12 / 2 = 6$

Panel B
sheets

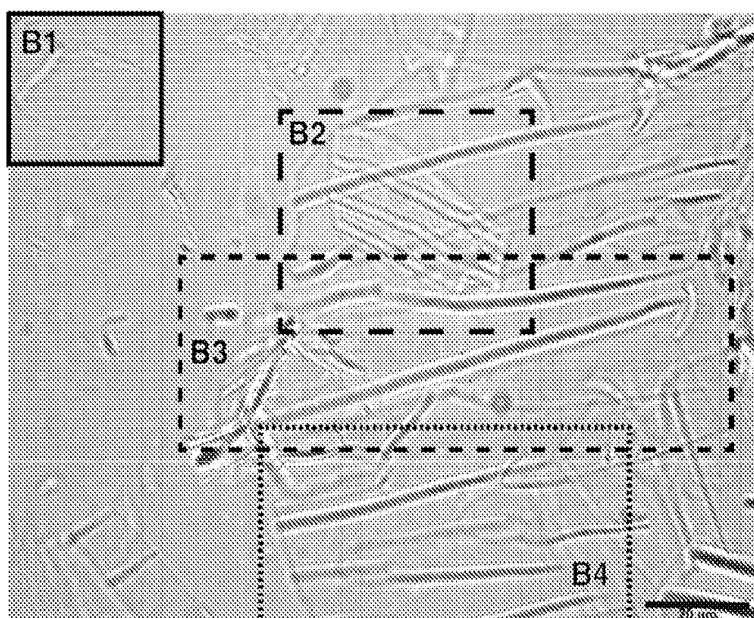
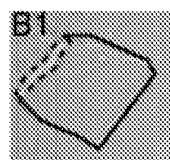
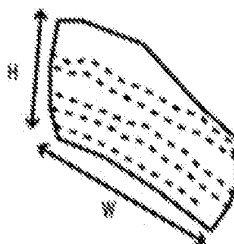
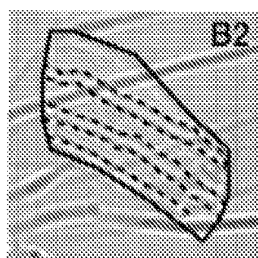


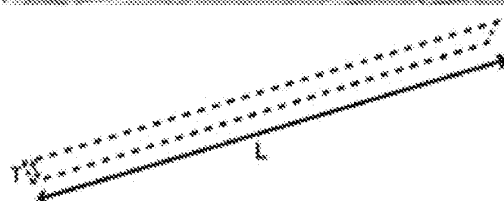
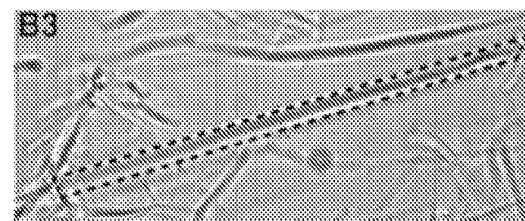
FIG. 5 (cont'd)



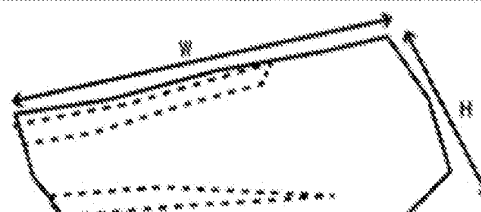
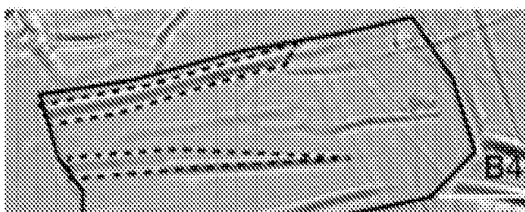
Small square plate, 19 μm (W) x 16 μm (H), with one visibly embedded ridge or fiber/tube on the shorter H axis of the plate. The fiber/tube (~ 2 μm thickness/diameter) appears to cleanly terminate at the plate edge.



Medium irregular plate, 34 μm (W) x 20 μm (H), with three embedded ridges or fibers/tubes running parallel to the longer W axis of the plate. All three fibers/tubes appear to cleanly terminate at the plate edge.



One long ridge or fiber/tube, with dimensions of 88 μm (L) and 3 μm (T) embedded in a large irregular plate with poorly defined edges.



One large plate, 70 μm (W) x 31 μm (H), with at least two visible fibers/tubes running parallel to the longer W axis of the plate. The fibers/tubes appear to cleanly terminate at the plate edge.

FIG. 6A

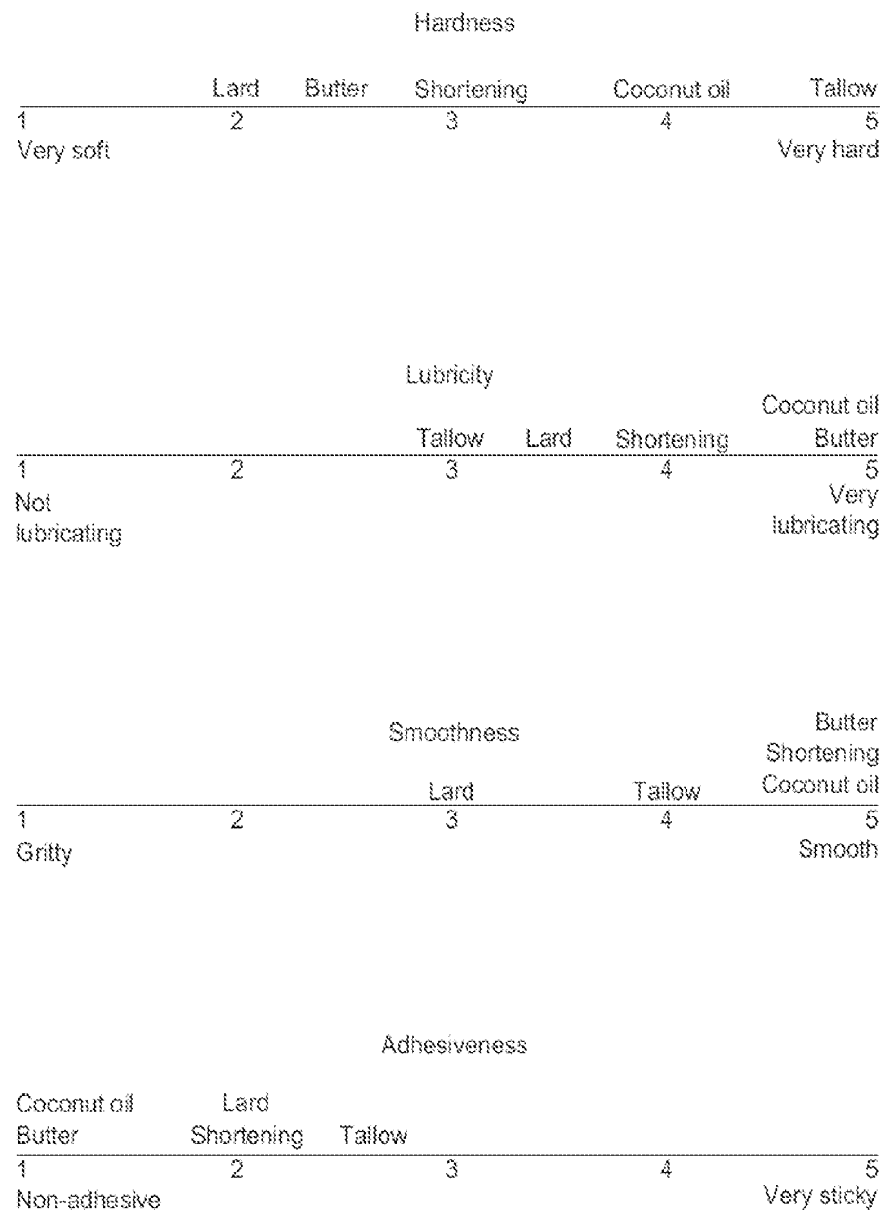


FIG. 6B

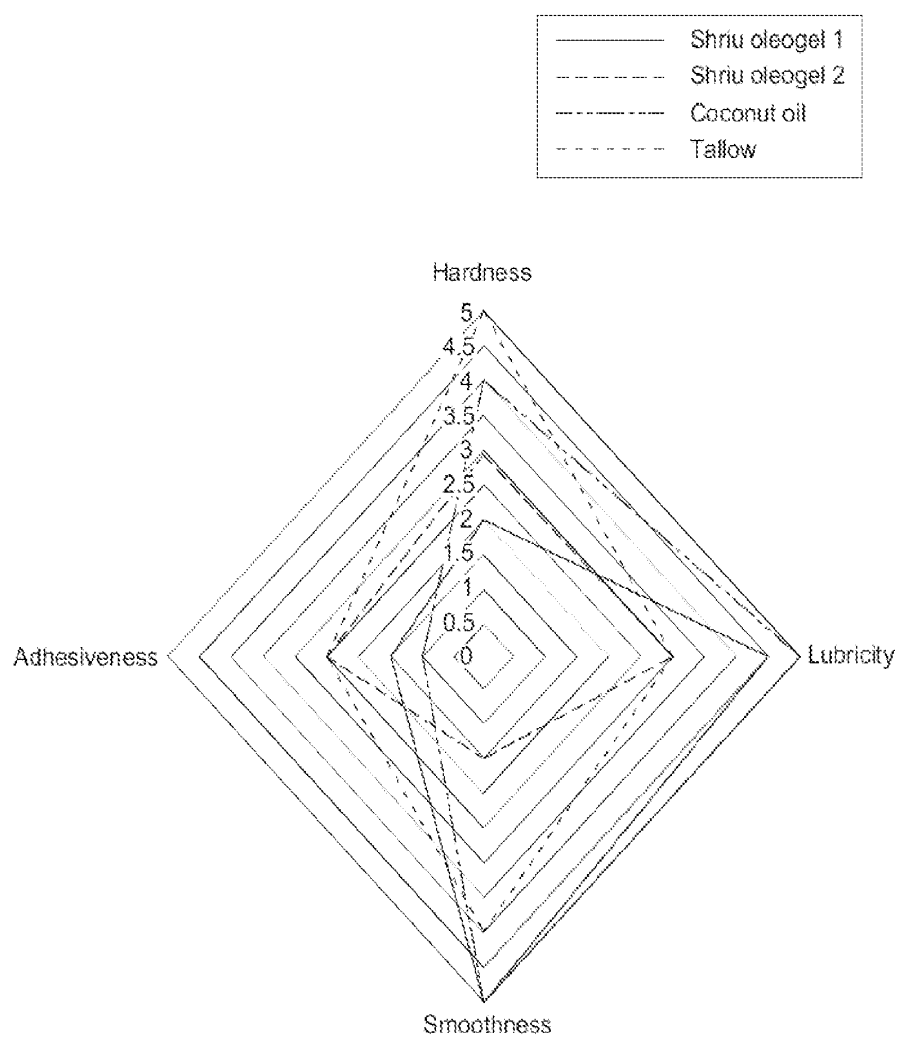


FIG. 7

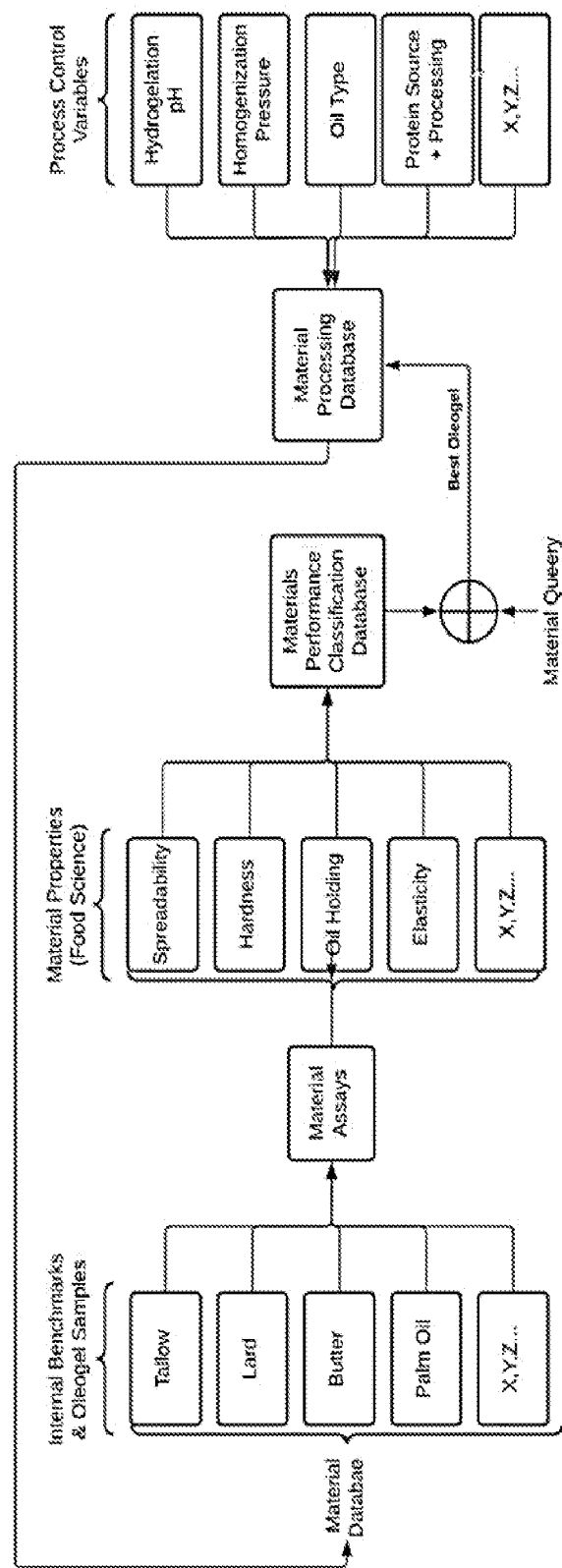


FIG. 8A

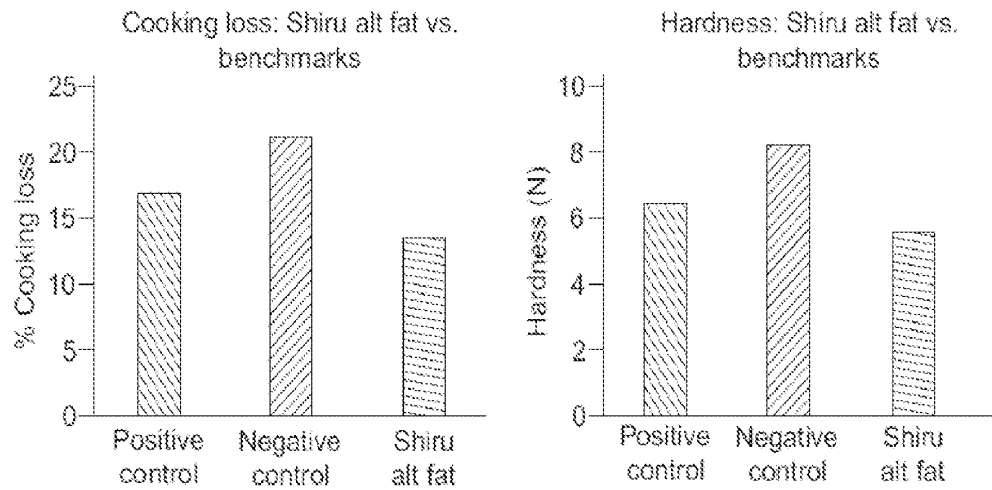


FIG. 8B

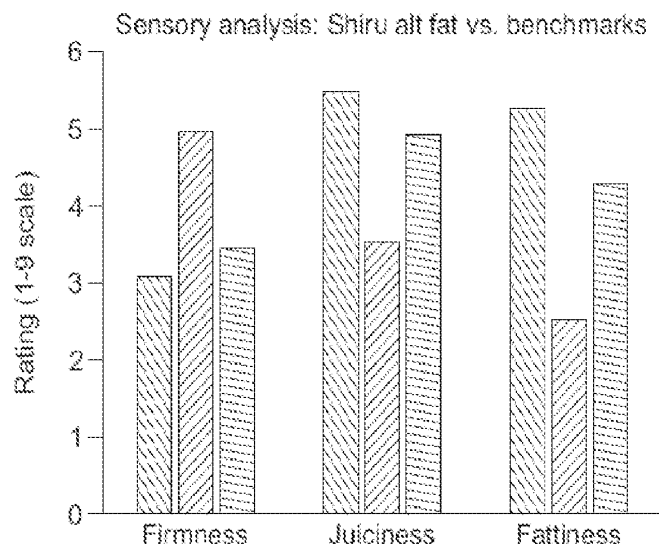
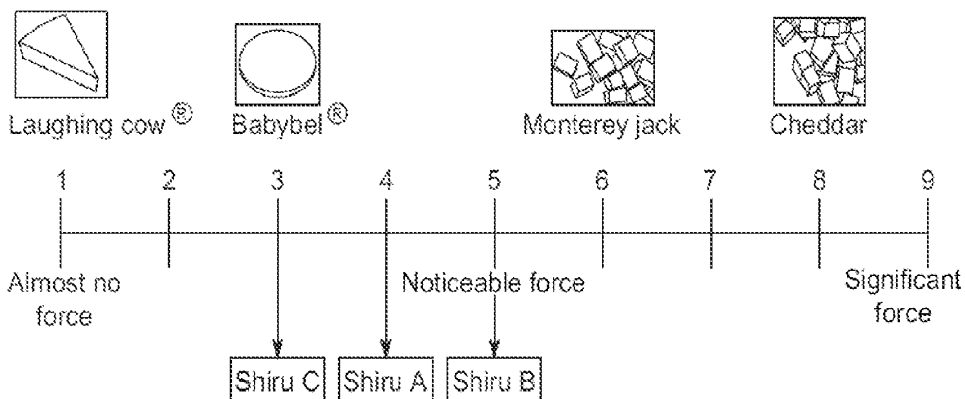


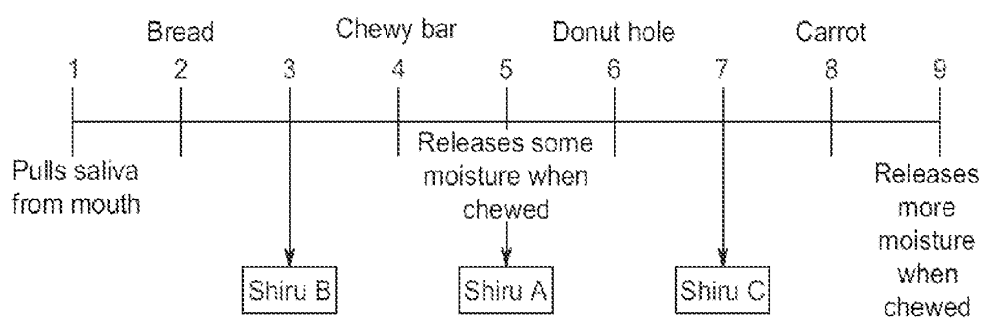
FIG. 9

Sensory panel reference scale (burgers)

Firmness: Force needed for first bite



Juiciness: Uptake or release of moisture while chewing



Fattiness: Residual fattiness or oily coating in mouth after swallowing

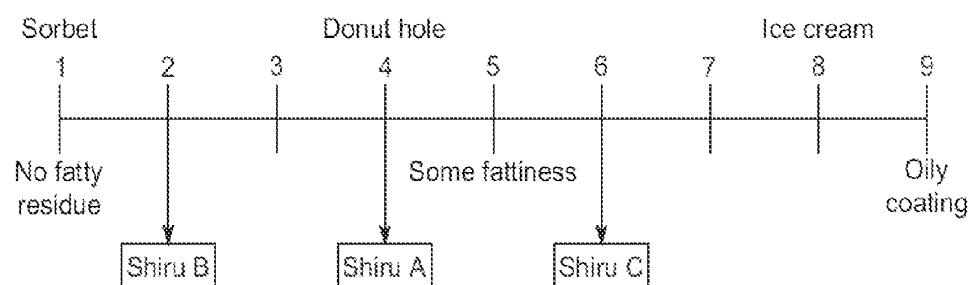


FIG. 10

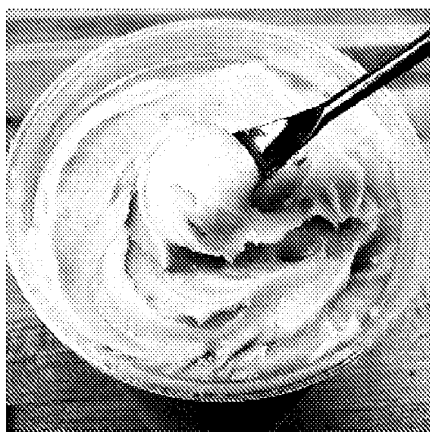


FIG. 11

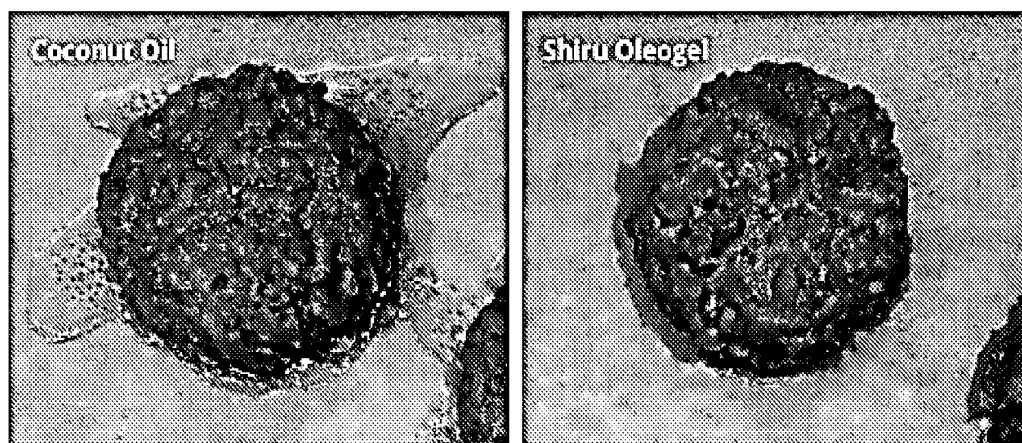
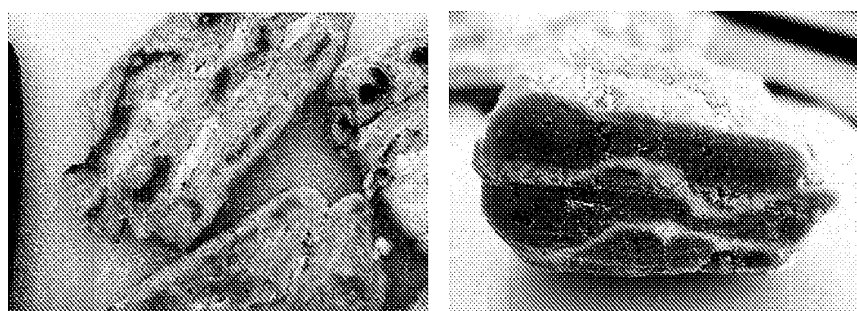


FIG. 12



Bacon model system
(cooked)

Bacon model system
(raw)

FIG. 13

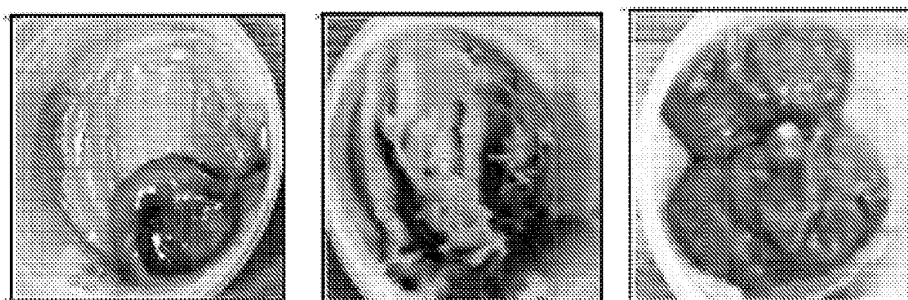


FIG. 14

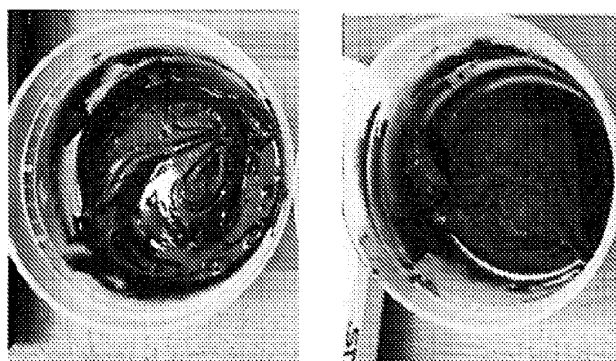


FIG. 15

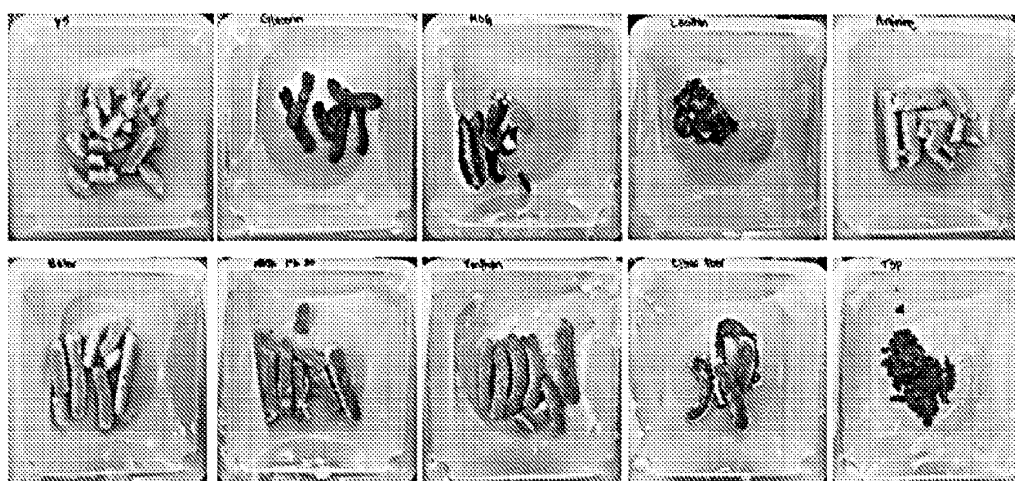


FIG. 16

Storage modulus of aqueous solutions with microstructurant

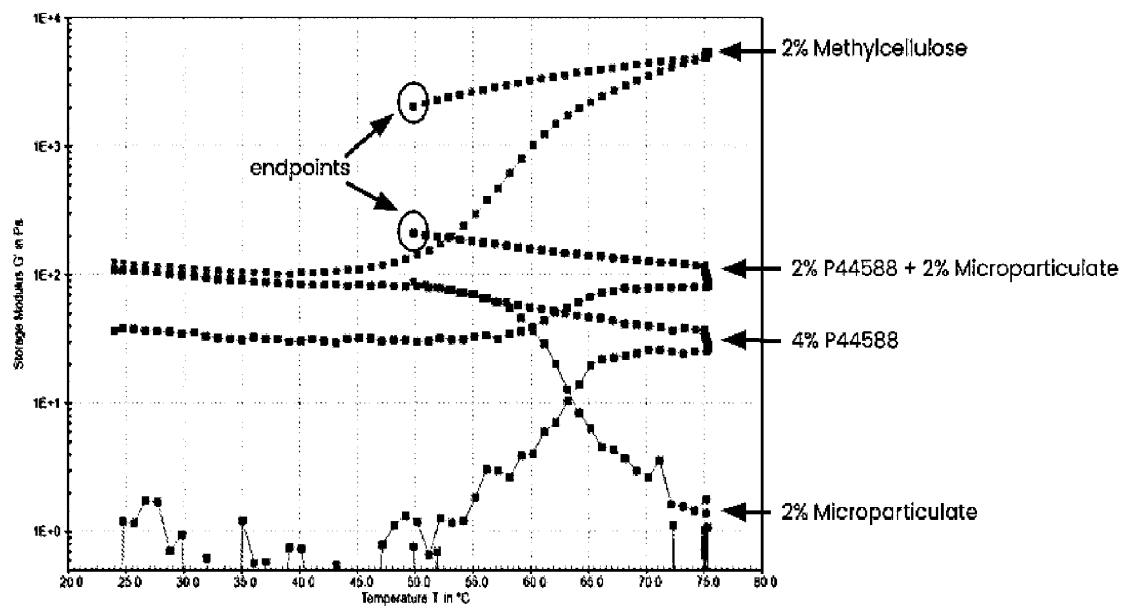


FIG. 17

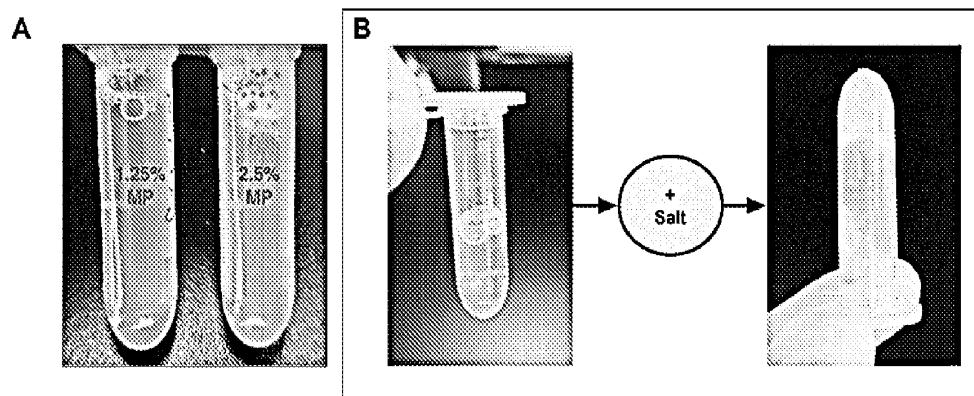


FIG. 18

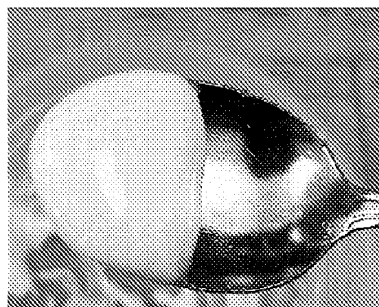


FIG. 19

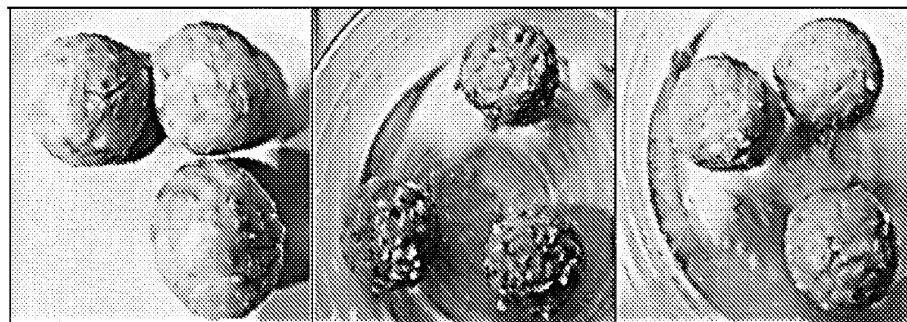


FIG. 20

