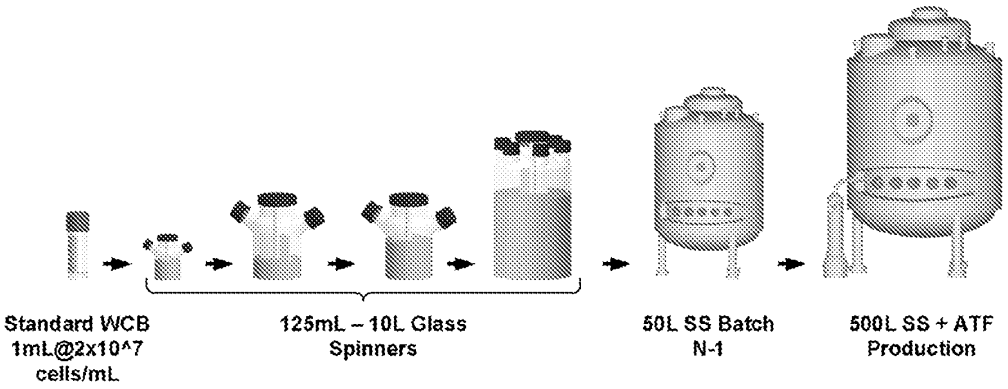
Conventional seed train process:



Exemplary seed train process provided herein:

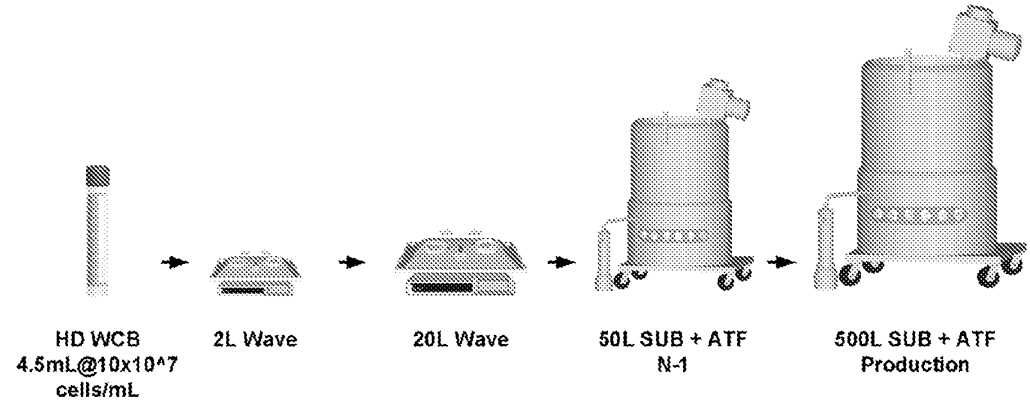


Figure 1

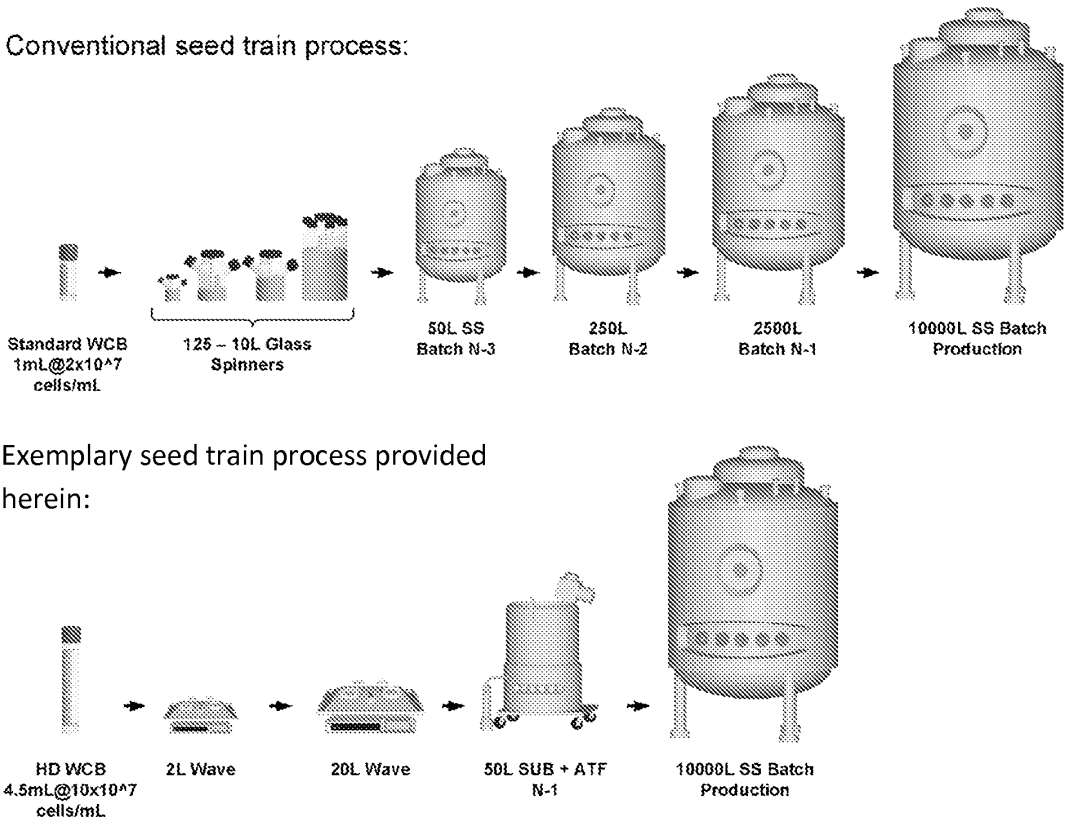

Conventional seed train process:
Standard WCB 1mL@2x10^7 cells/mL
125 – 10L Glass Spinners
50L SS Batch N-3
250L Batch N-2
2500L Batch N-1
10000L SS Batch Production
Exemplary seed train process provided herein:
HD WCB 4.5mL@10x10^7 cells/mL
2L Wave
20L Wave
50L SUB + ATF N-1
10000L SS Batch Production

Figure 2

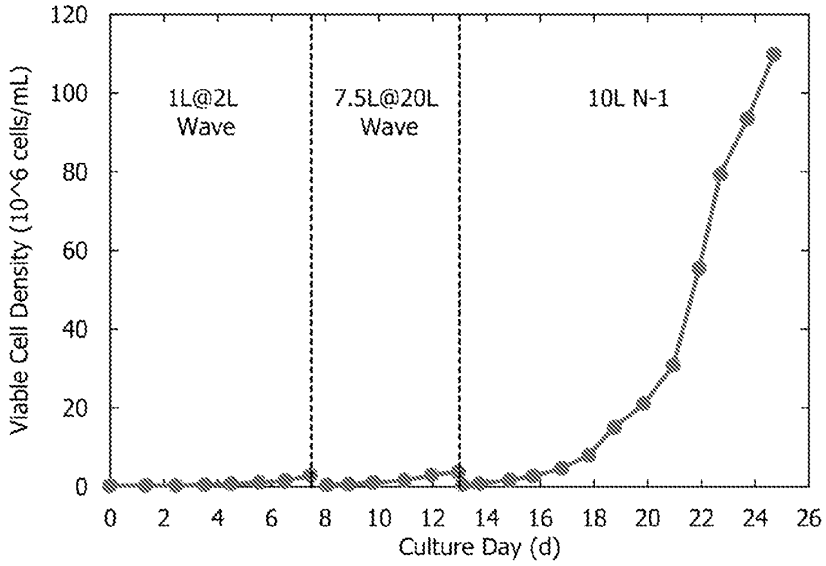


Figure 3

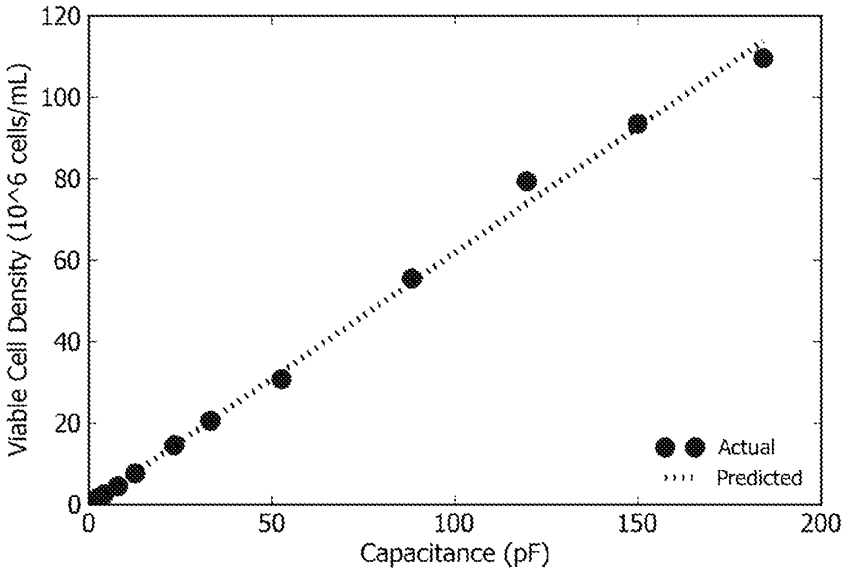


Figure 4

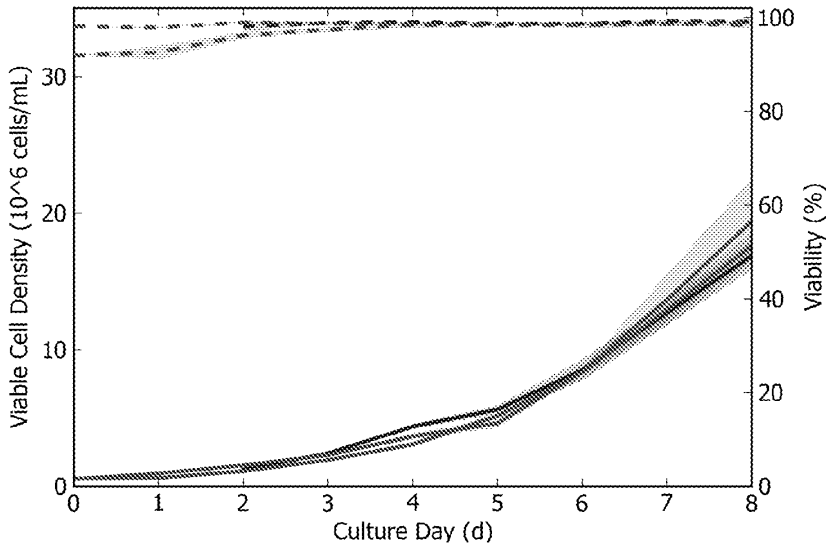


Figure 5

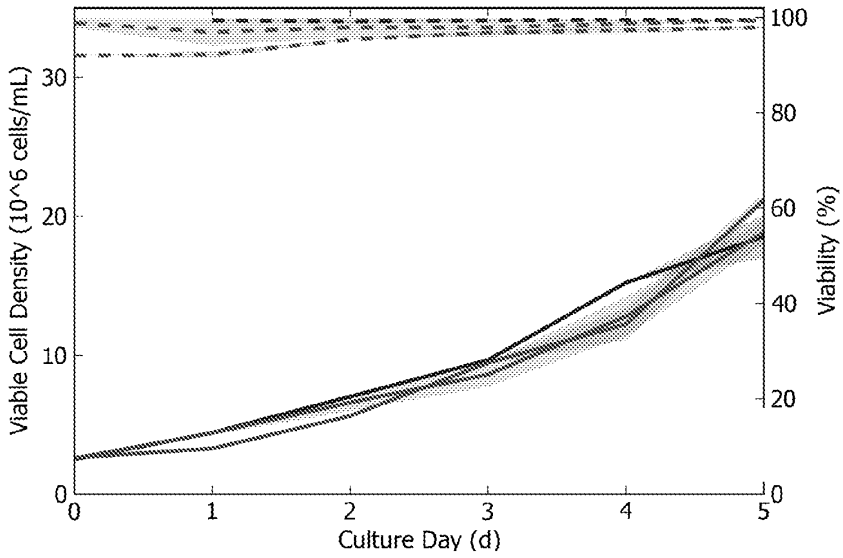


Figure 6

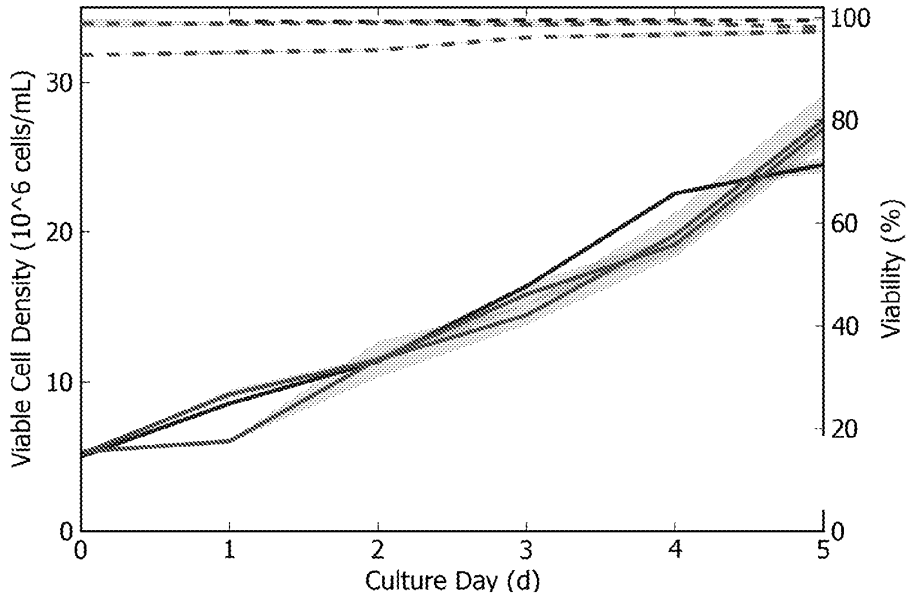


Figure 7

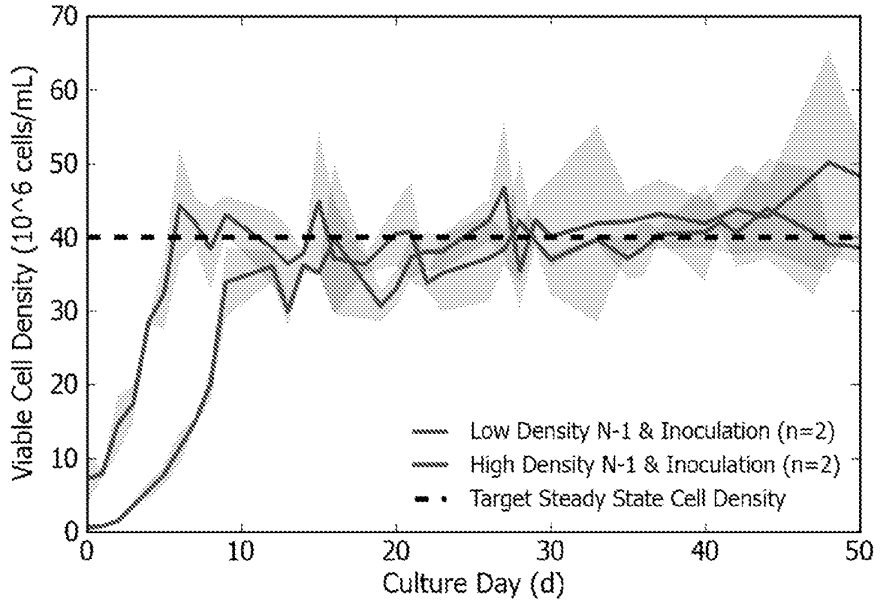


Figure 8

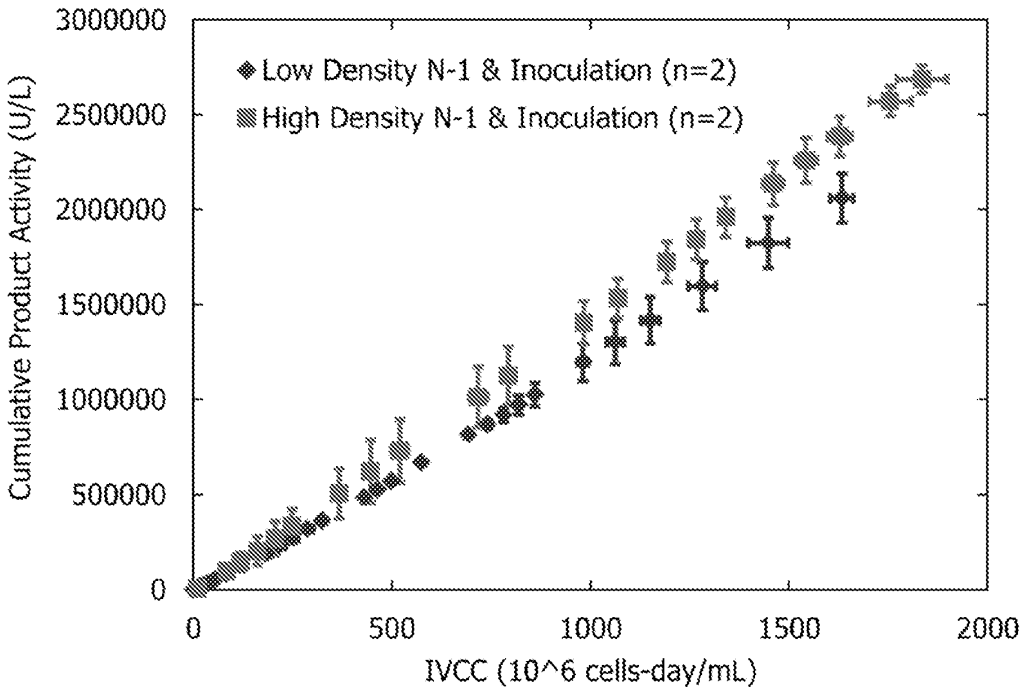

3000000
2500000
2000000
1500000
1000000
500000
0
Cumulative Product Activity (U/L)
Low Density N-1 & Inoculation (n=2)
High Density N-1 & Inoculation (n=2)
0
500
1000
1500
2000
IVCC (10^6 cells-day/mL)

Figure 9