Figure 1

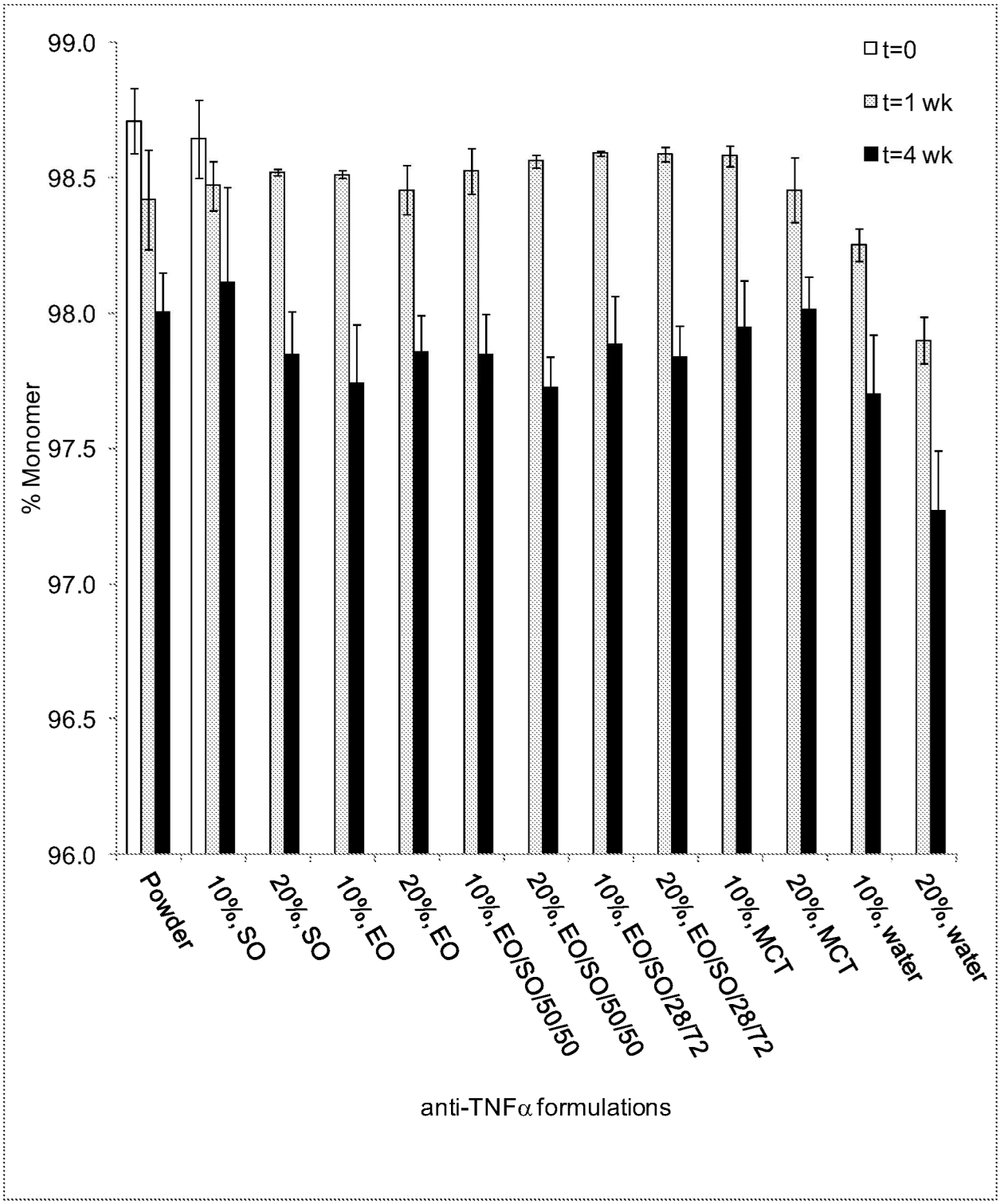

99.0
98.5
98.0
97.5
97.0
96.5
96.0
% Monomer
t=0
t=1 wk
t=4 wk
Powder
10%, SO
20%, SO
10%, EO
20%, EO
10%, EO/SO/50/50
20%, EO/SO/50/50
10%, EO/SO/28/72
20%, EO/SO/28/72
10%, MCT
20%, MCT
10%, water
20%, water
anti-TNFα formulations

Figure 2A

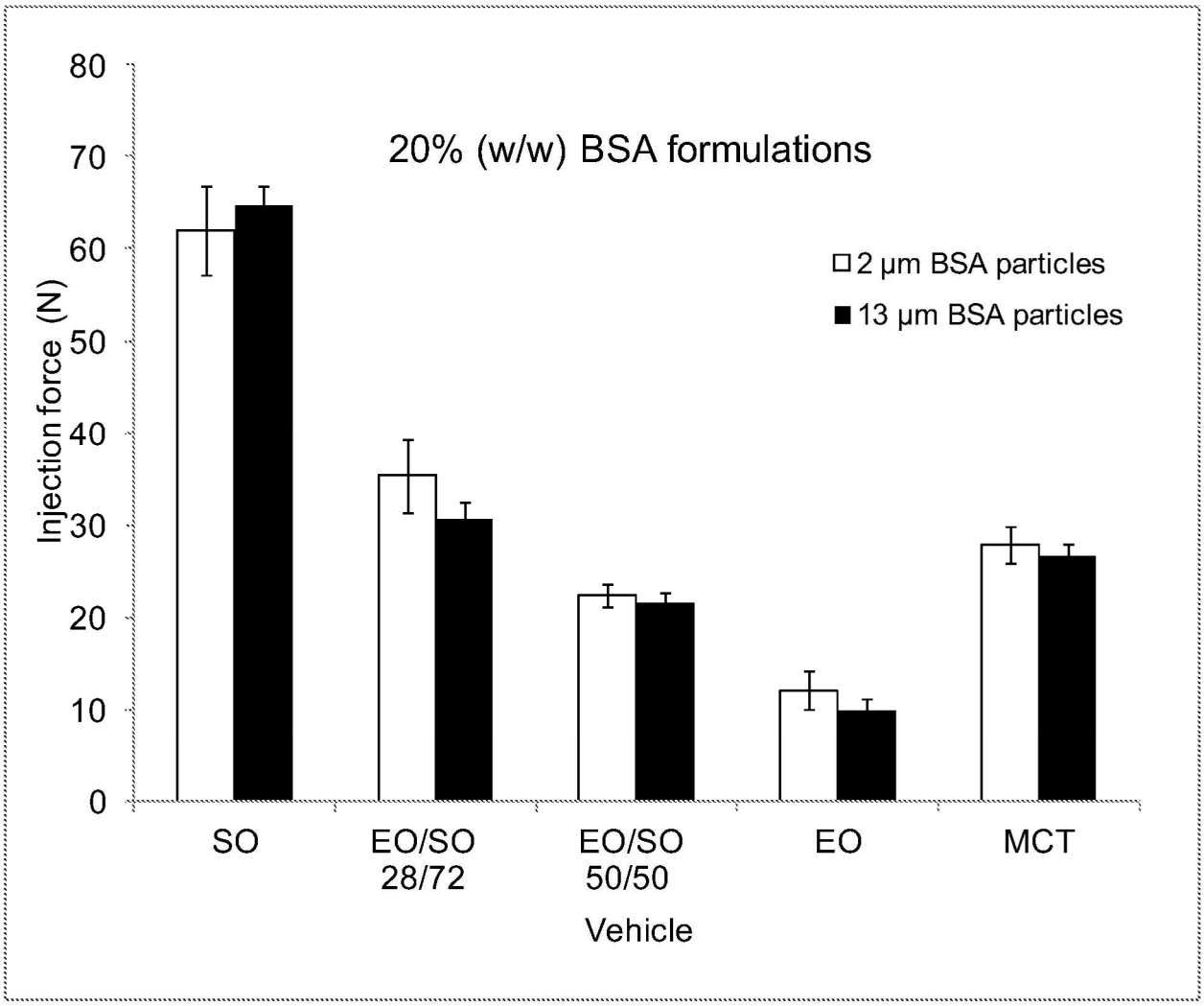

20% (w/w) BSA formulations
2 µm BSA particles
13 µm BSA particles
Injection force (N)
80
70
60
50
40
30
20
10
0
SO
EO/SO 28/72
EO/SO 50/50
EO
MCT
Vehicle

Figure 2B

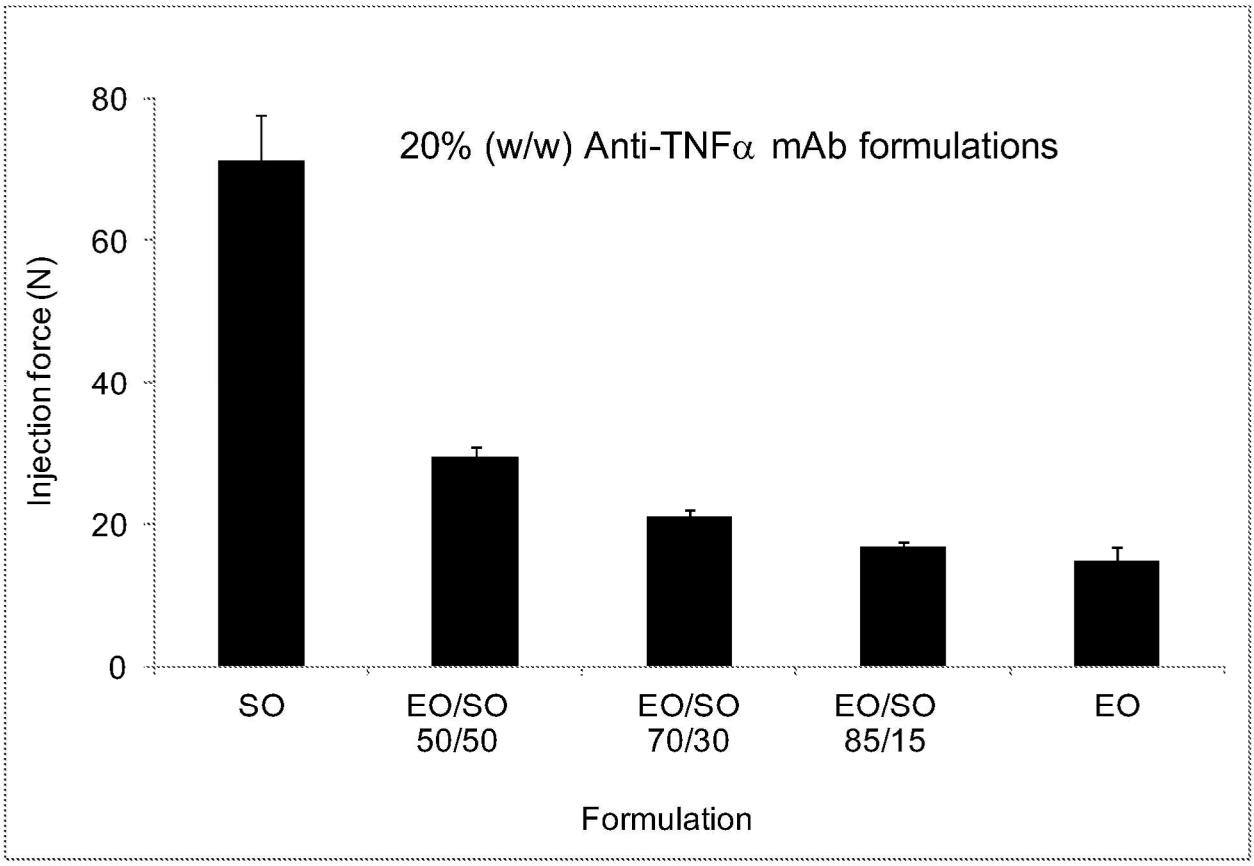

20% (w/w) Anti-TNFα mAb formulations
Injection force (N)
80
60
40
20
0
SO
EO/SO 50/50
EO/SO 70/30
EO/SO 85/15
EO
Formulation

Figure 3A

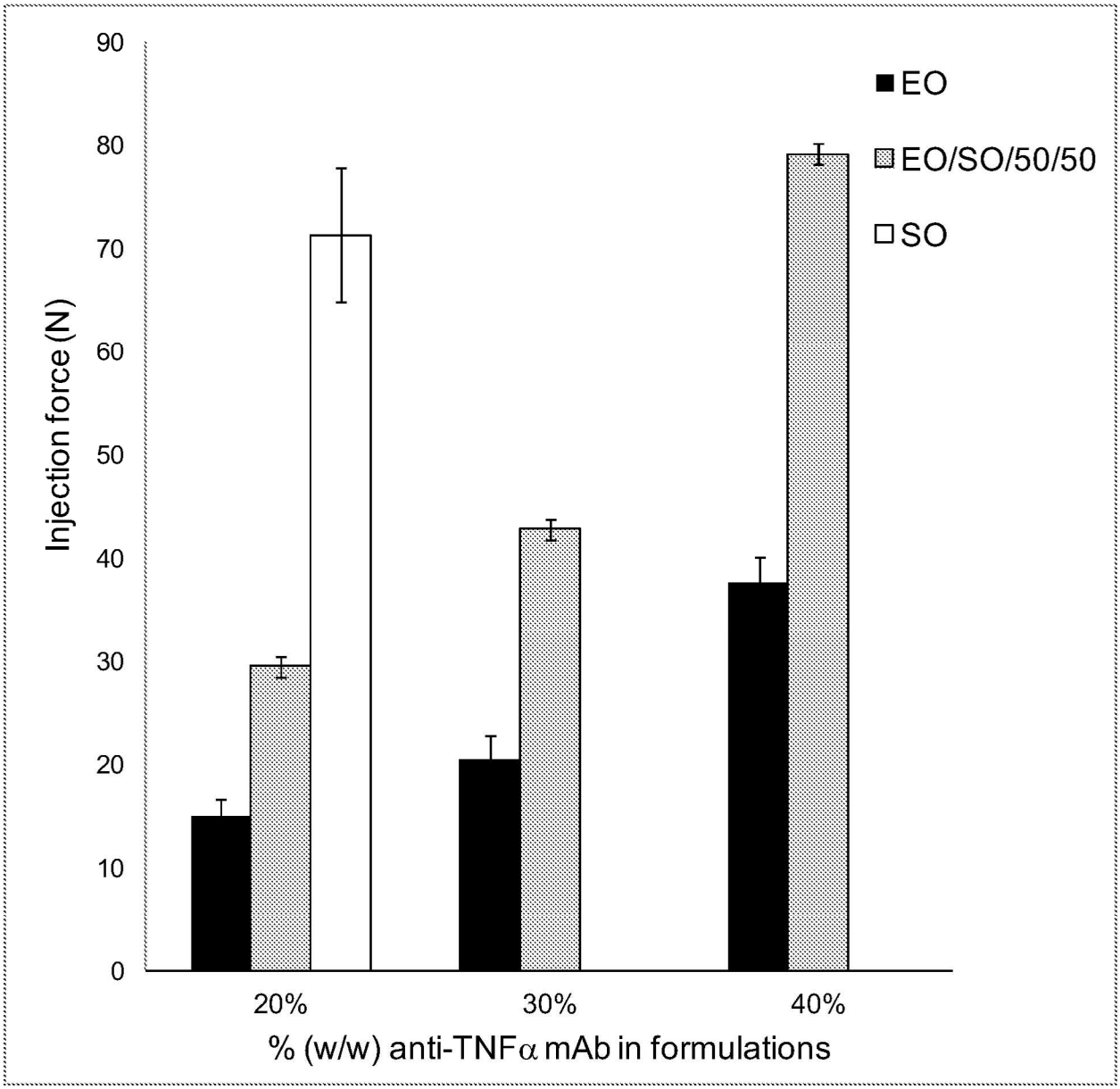

90
80
70
60
50
40
30
20
10
0
Injection force (N)
EO
EO/SO/50/50
SO
20%
30%
40%
% (w/w) anti-TNFα mAb in formulations

Figure 3B

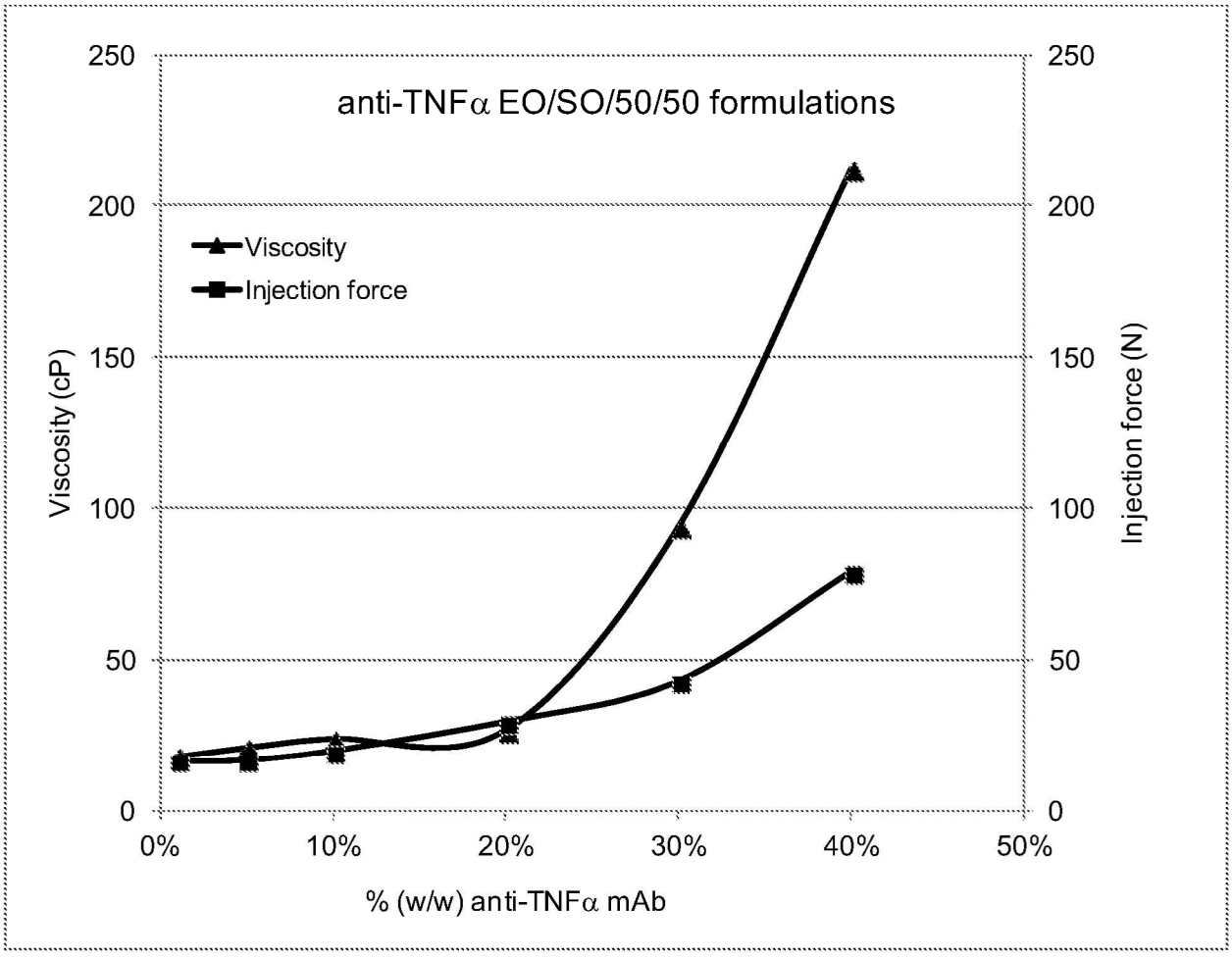

anti-TNFα EO/SO/50/50 formulations
Viscosity
Injection force
Viscosity (cP)
Injection force (N)
250
200
150
100
50
0
0%
10%
20%
30%
40%
50%
% (w/w) anti-TNFα mAb

Figure 3C

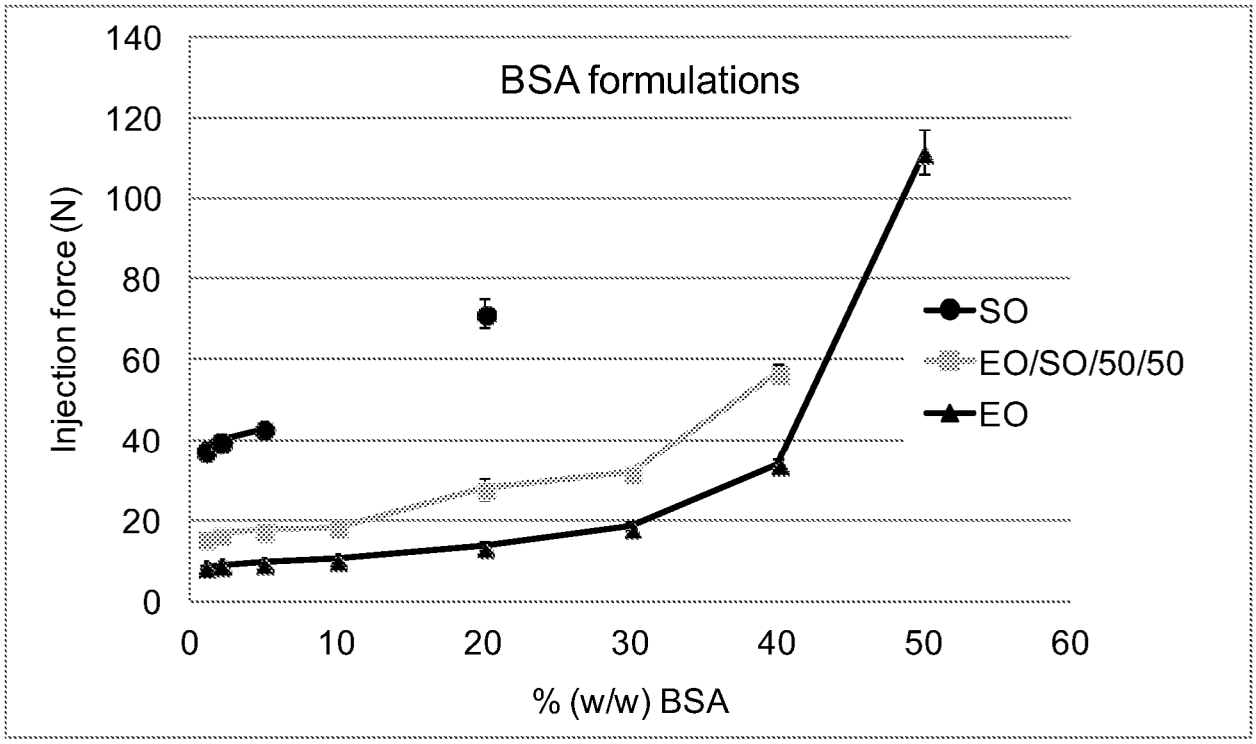

BSA formulations
Injection force (N)
140
120
100
80
60
40
20
0
0
10
20
30
40
50
60
% (w/w) BSA
SO
EO/SO/50/50
EO

Figure 4A

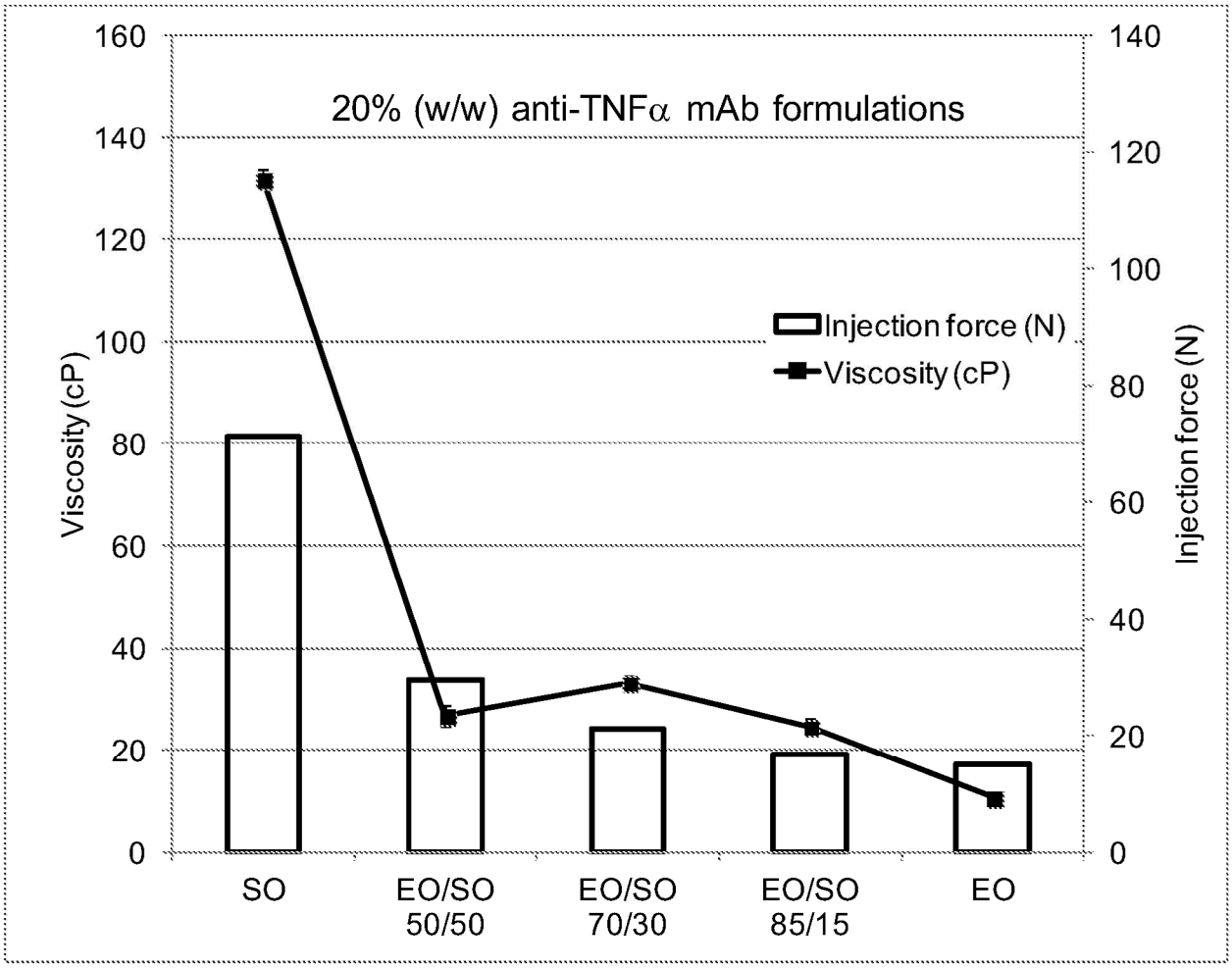

20% (w/w) anti-TNFα mAb formulations
Injection force (N)
Viscosity (cP)
Viscosity (cP)
Injection force (N)
160
140
120
100
80
60
40
20
0
140
120
100
80
60
40
20
0
SO
EO/SO 50/50
EO/SO 70/30
EO/SO 85/15
EO

Figure 4B

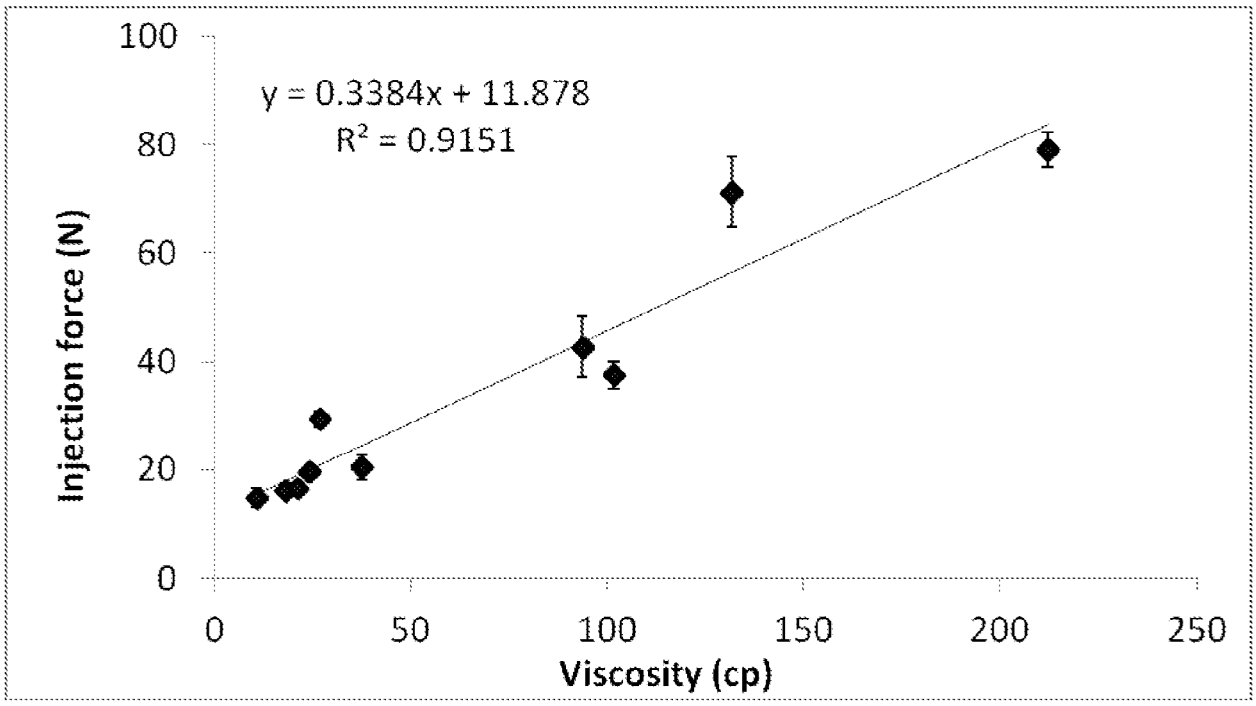

y = 0.3384x + 11.878
R² = 0.9151
Injection force (N)
Viscosity (cp)
0
20
40
60
80
100
0
50
100
150
200
250

Figure 5

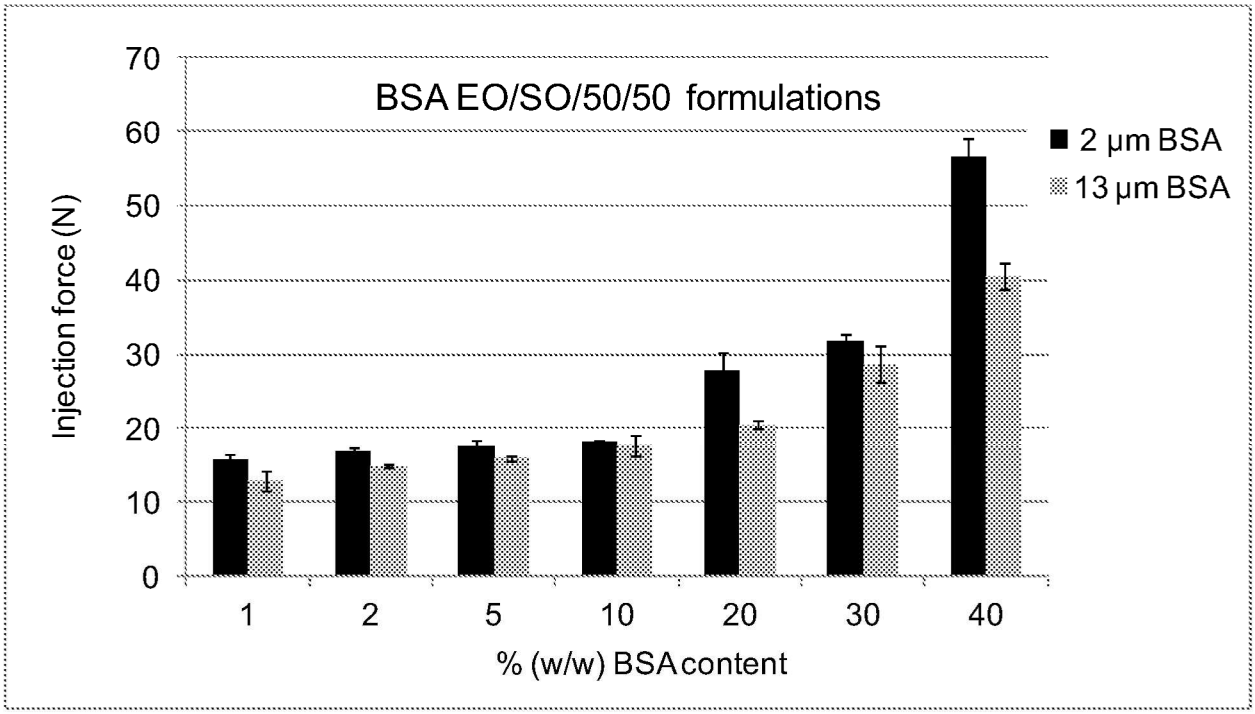

BSA EO/SO/50/50 formulations
Injection force (N)
70
60
50
40
30
20
10
0
1
2
5
10
20
30
40
% (w/w) BSA content
2 µm BSA
13 µm BSA

Figure 6A

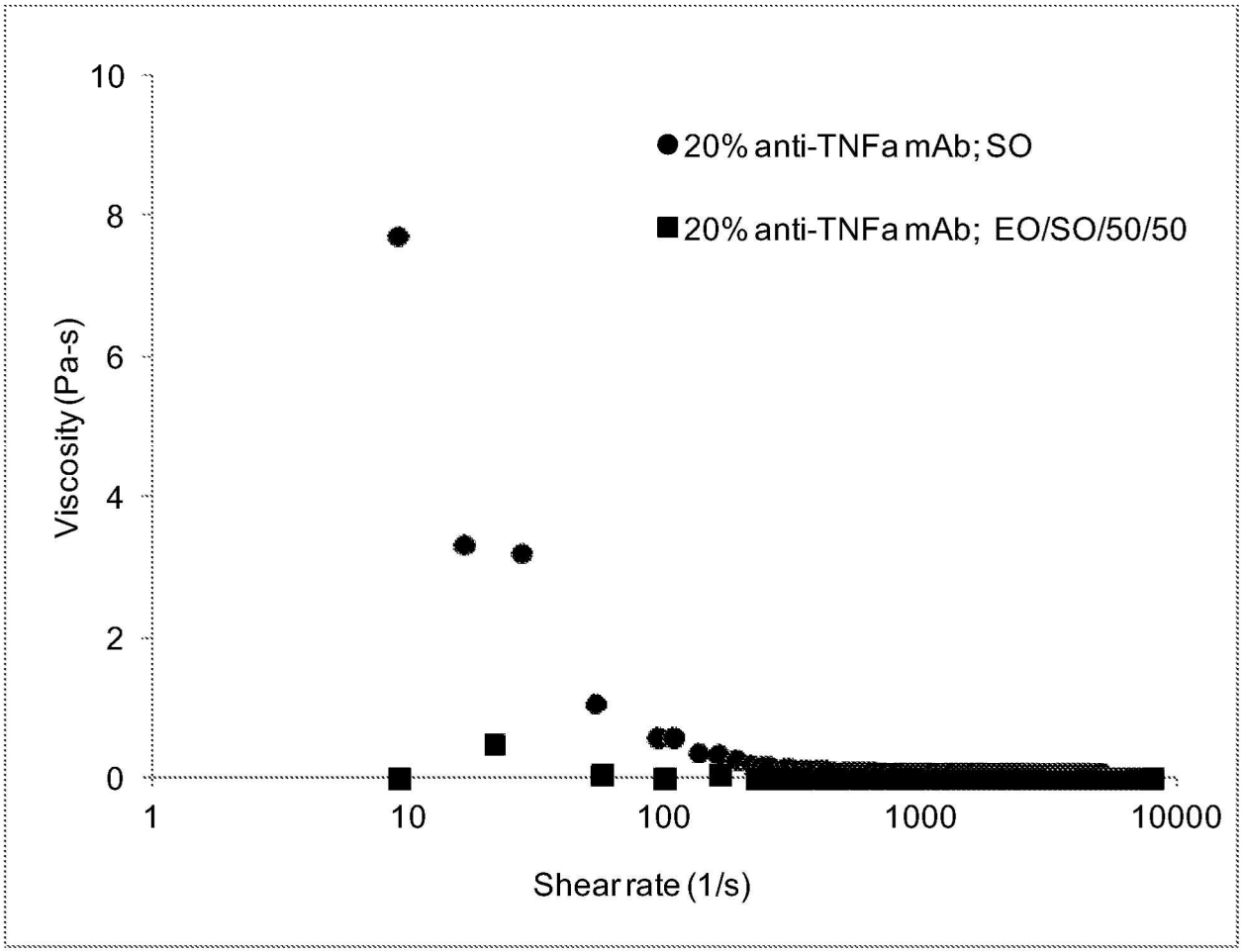

10
8
6
4
2
0
Viscosity (Pa-s)
20% anti-TNFa mAb; SO
20% anti-TNFa mAb; EO/SO/50/50
1
10
100
1000
10000
Shear rate (1/s)

Figure 6B

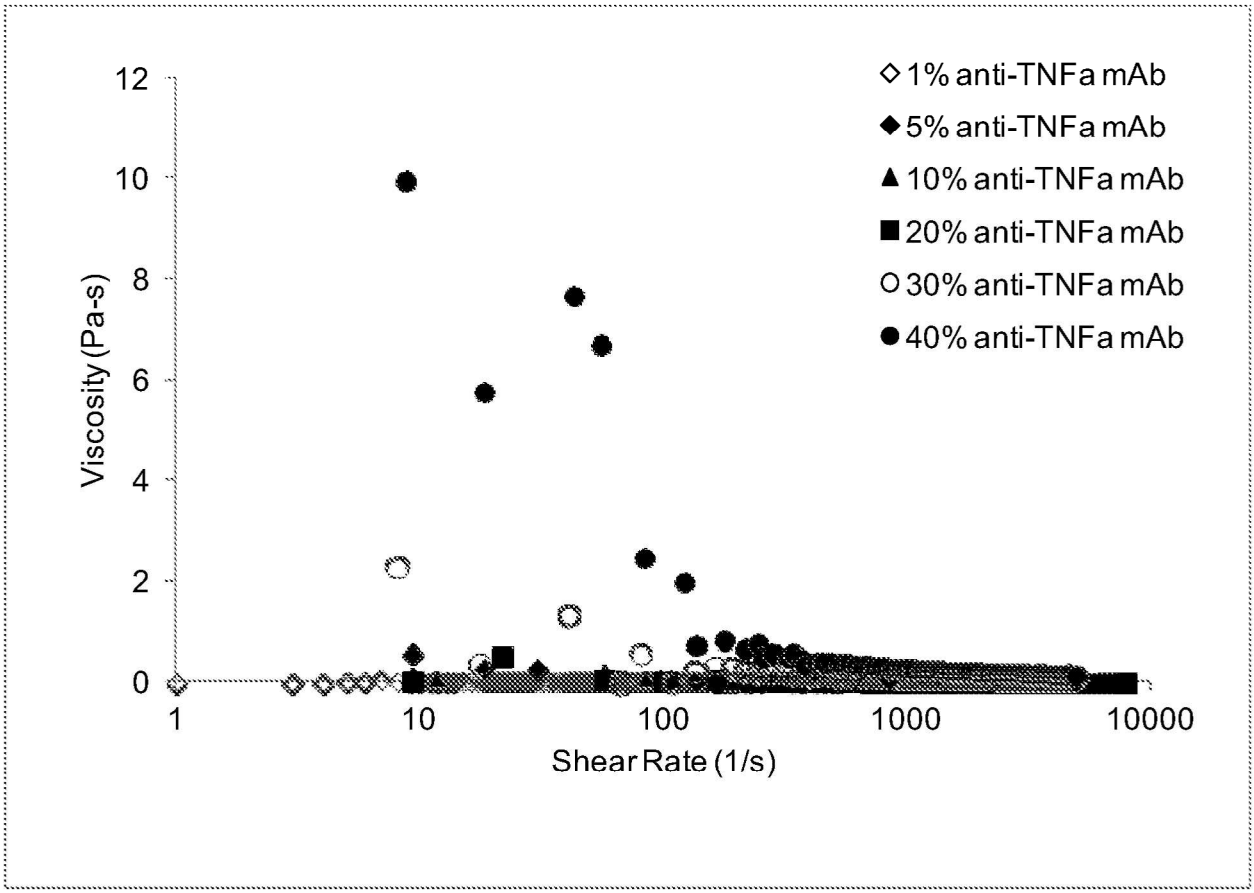

12
10
8
6
4
2
0
Viscosity (Pa-s)
1
10
100
1000
10000
Shear Rate (1/s)
1% anti-TNFa mAb
5% anti-TNFa mAb
10% anti-TNFa mAb
20% anti-TNFa mAb
30% anti-TNFa mAb
40% anti-TNFa mAb

Figure 7A

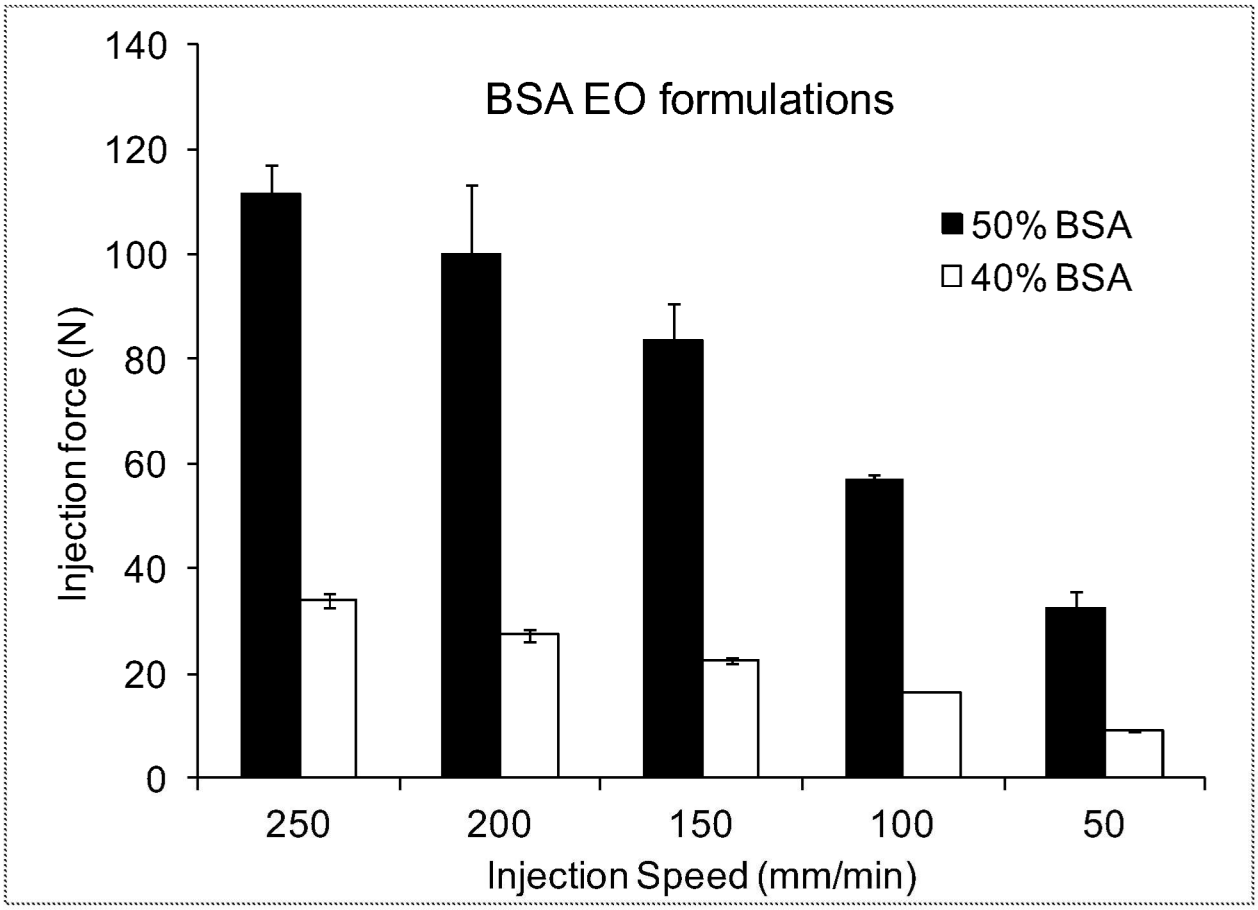

BSA EO formulations
50% BSA
40% BSA
Injection force (N)
140
120
100
80
60
40
20
0
250
200
150
100
50
Injection Speed (mm/min)

Figure 7B

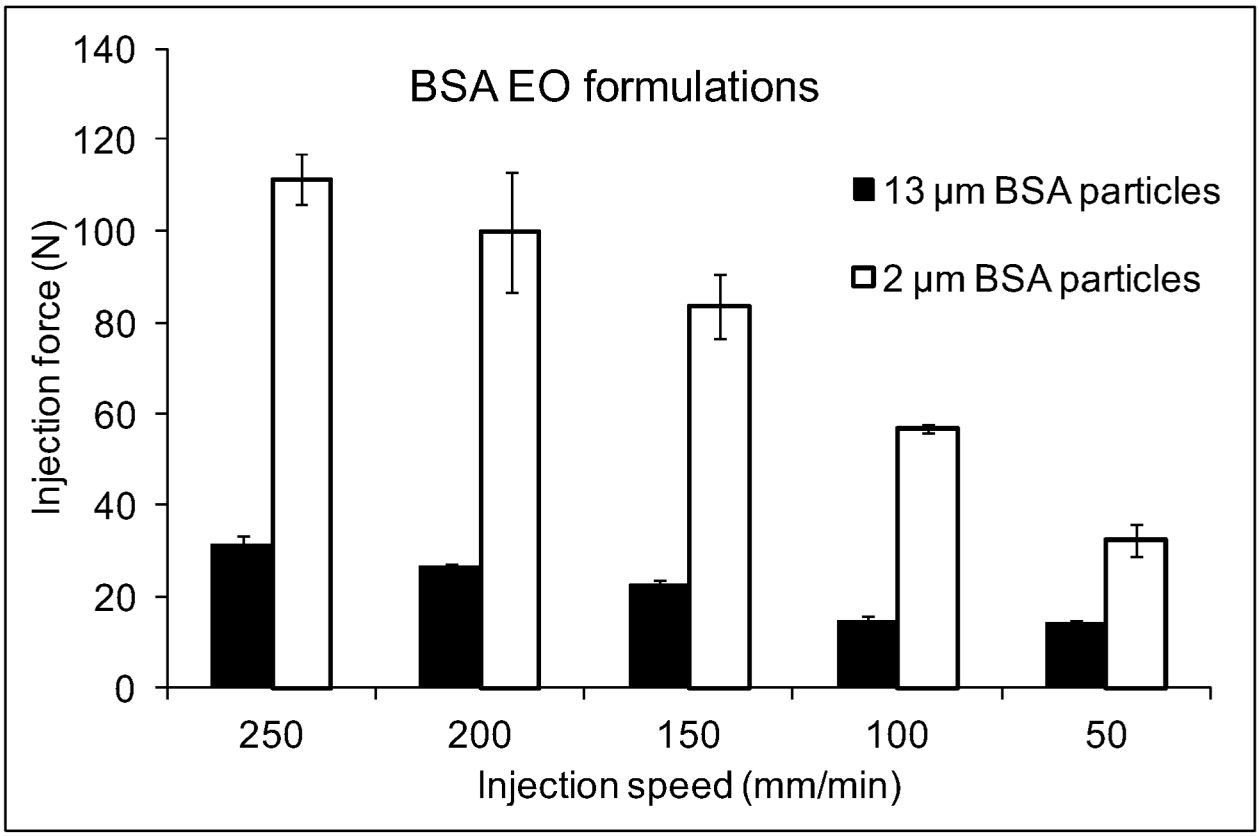

BSA EO formulations
13 µm BSA particles
2 µm BSA particles
Injection force (N)
140
120
100
80
60
40
20
0
250
200
150
100
50
Injection speed (mm/min)

Figure 7C

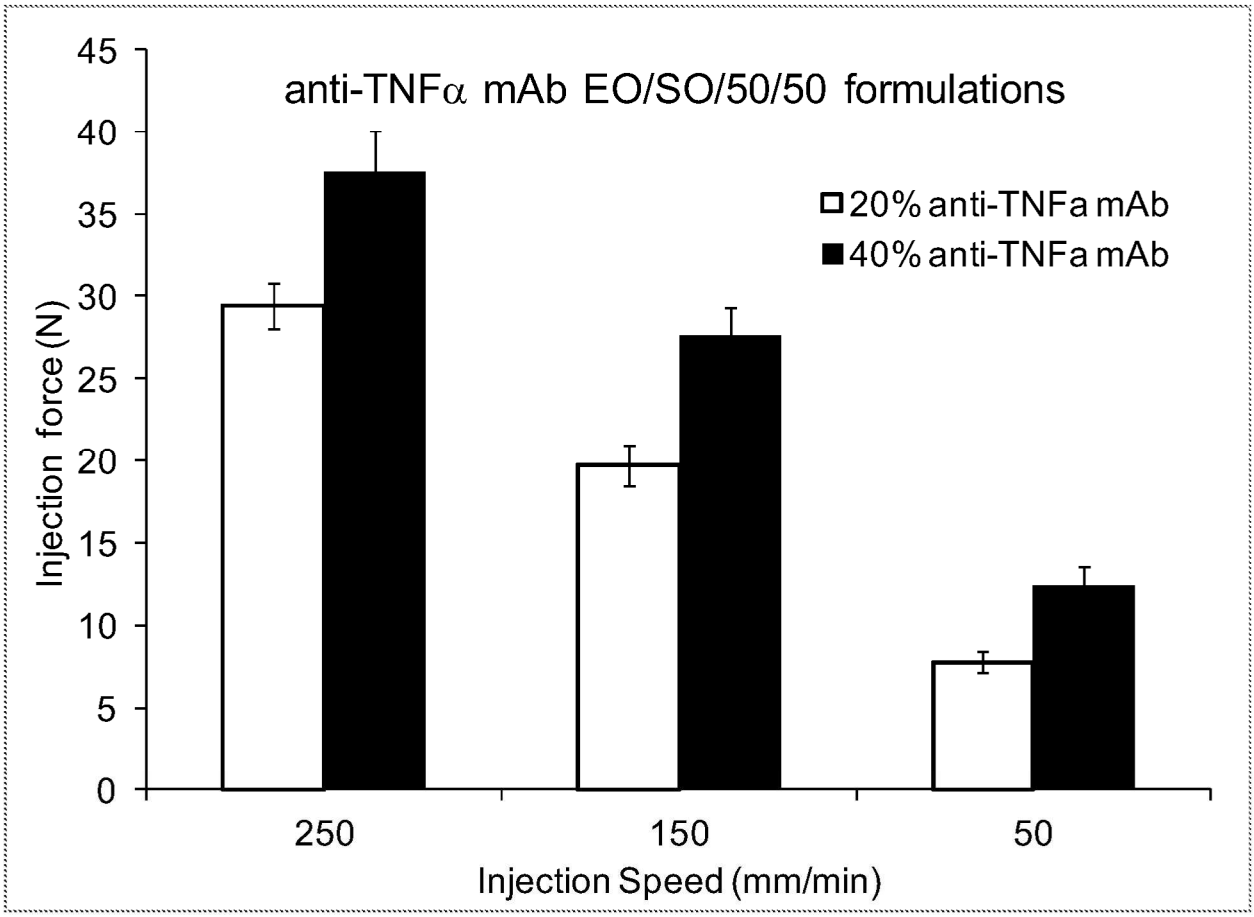

anti-TNFα mAb EO/SO/50/50 formulations
20% anti-TNFa mAb
40% anti-TNFa mAb
Injection force (N)
45
40
35
30
25
20
15
10
5
0
250
150
50
Injection Speed (mm/min)

Figure 8A

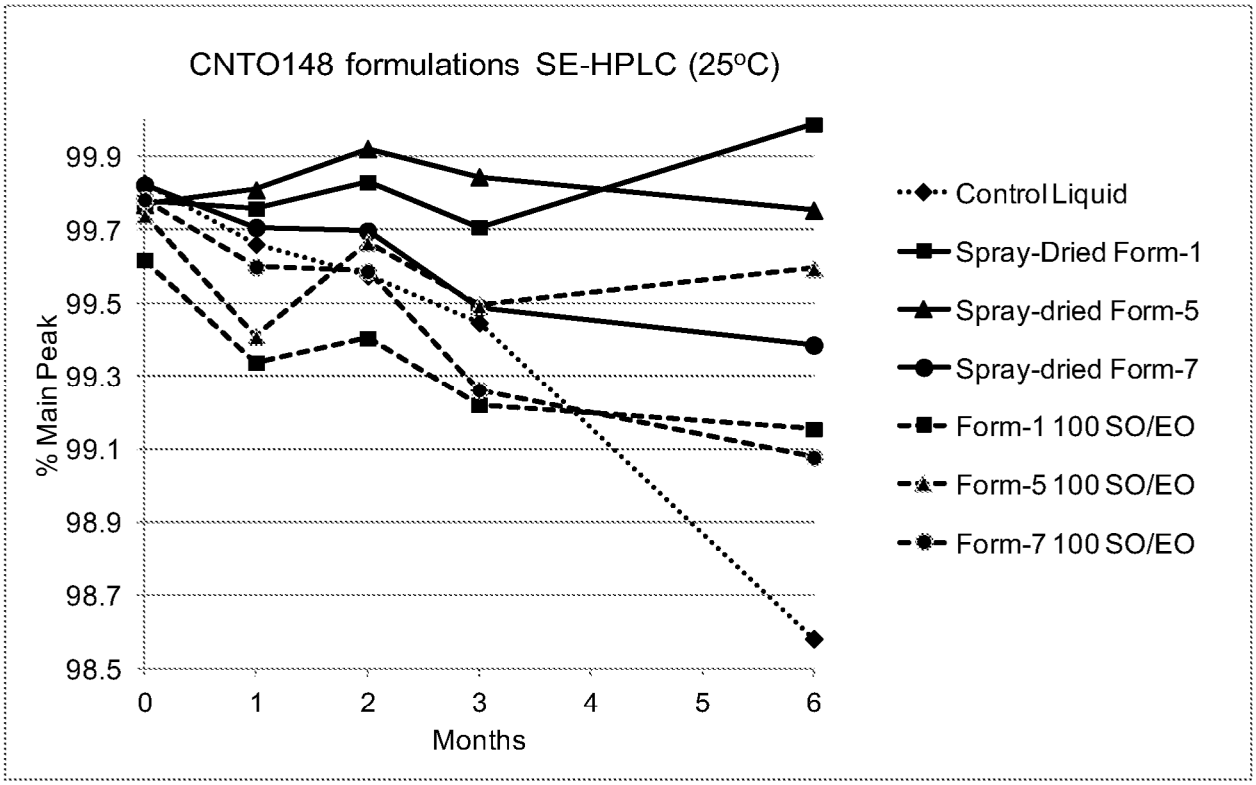

CNTO148 formulations SE-HPLC (25°C)
% Main Peak
99.9
99.7
99.5
99.3
99.1
98.9
98.7
98.5
0
1
2
3
4
5
6
Months
Control Liquid
Spray-Dried Form-1
Spray-dried Form-5
Spray-dried Form-7
Form-1 100 SO/EO
Form-5 100 SO/EO
Form-7 100 SO/EO

Figure 8B

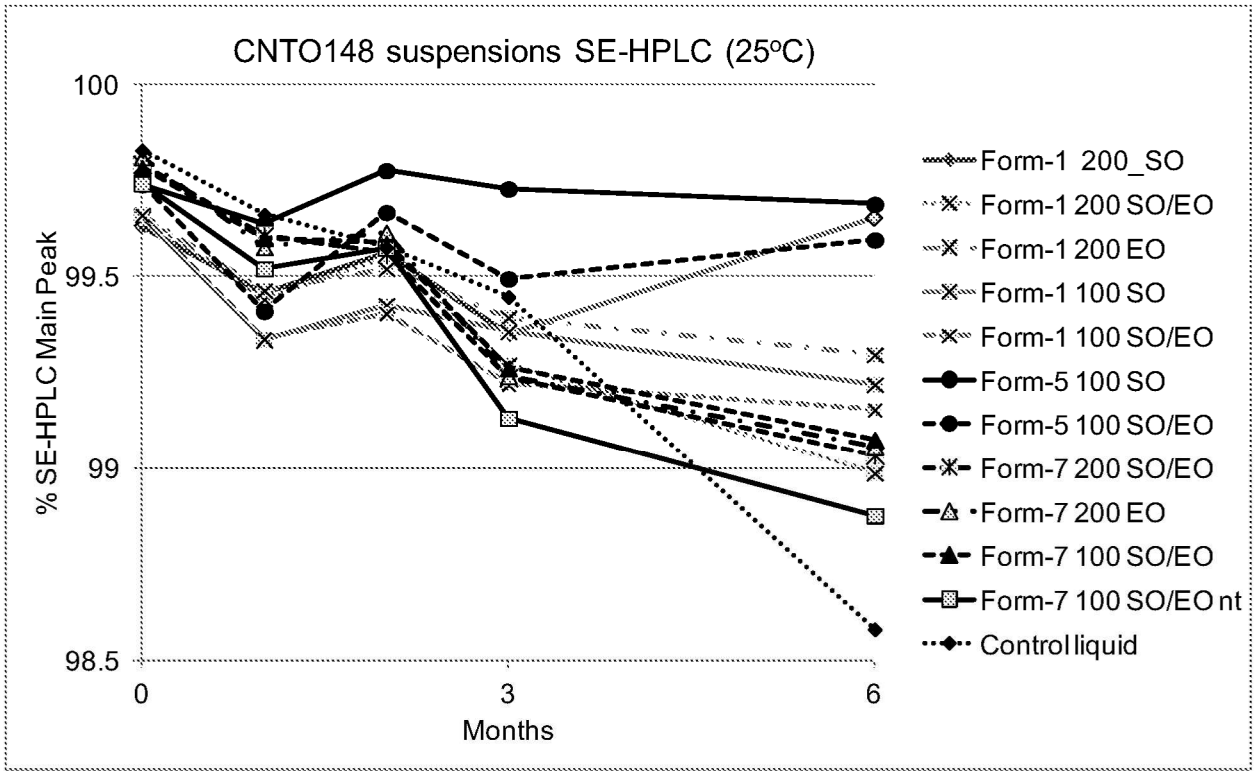

CNTO148 suspensions SE-HPLC (25°C)
100
99.5
99
98.5
% SE-HPLC Main Peak
0
3
6
Months
Form-1 200_SO
Form-1 200 SO/EO
Form-1 200 EO
Form-1 100 SO
Form-1 100 SO/EO
Form-5 100 SO
Form-5 100 SO/EO
Form-7 200 SO/EO
Form-7 200 EO
Form-7 100 SO/EO
Form-7 100 SO/EO nt
Control liquid

Figure 9A

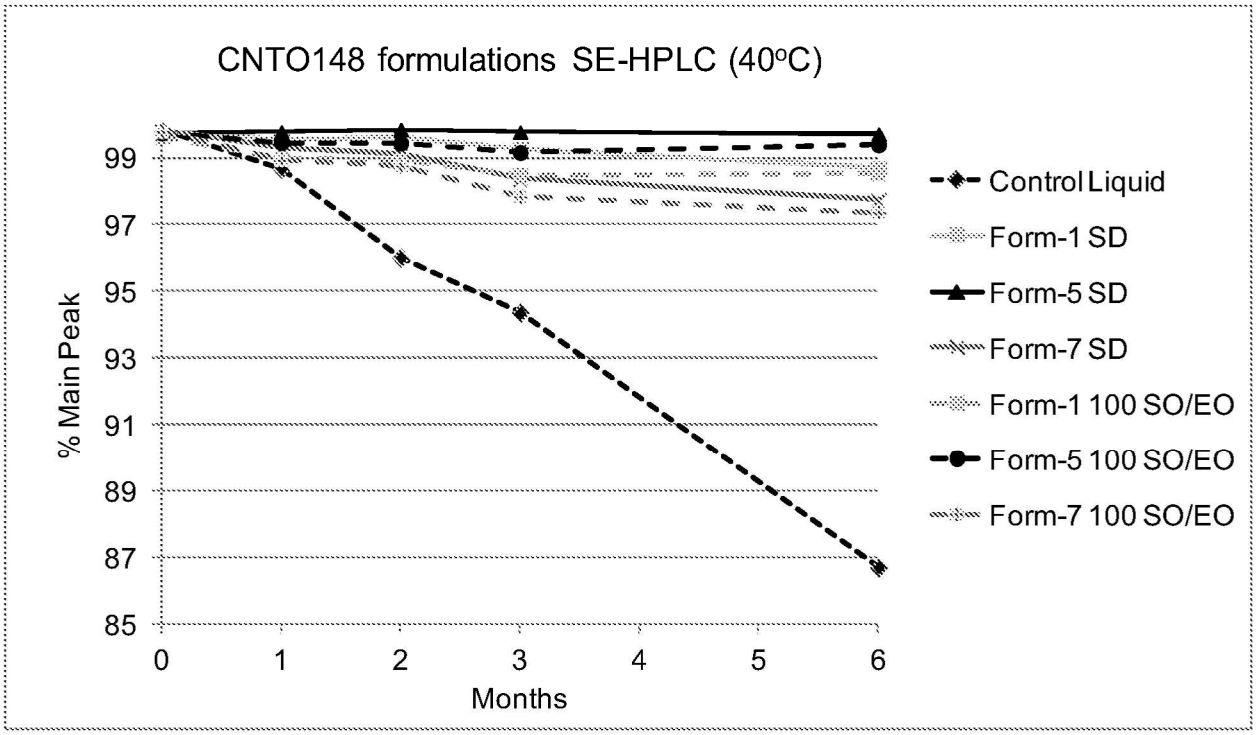

CNTO148 formulations SE-HPLC (40°C)
% Main Peak
99
97
95
93
91
89
87
85
0
1
2
3
4
5
6
Months
Control Liquid
Form-1 SD
Form-5 SD
Form-7 SD
Form-1 100 SO/EO
Form-5 100 SO/EO
Form-7 100 SO/EO

Figure 9B

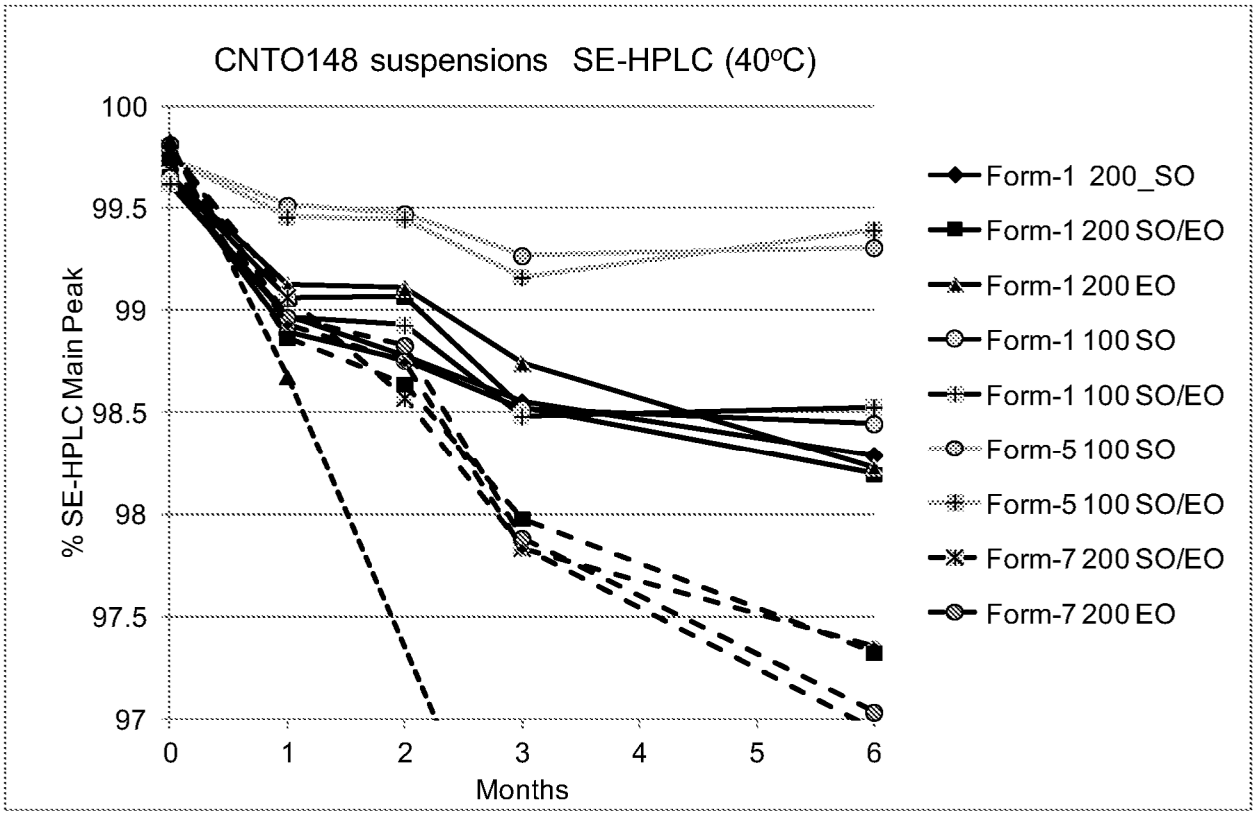

CNTO148 suspensions SE-HPLC (40°C)
% SE-HPLC Main Peak
100
99.5
99
98.5
98
97.5
97
0
1
2
3
4
5
6
Months
Form-1 200_SO
Form-1 200 SO/EO
Form-1 200 EO
Form-1 100 SO
Form-1 100 SO/EO
Form-5 100 SO
Form-5 100 SO/EO
Form-7 200 SO/EO
Form-7 200 EO

Figure 10

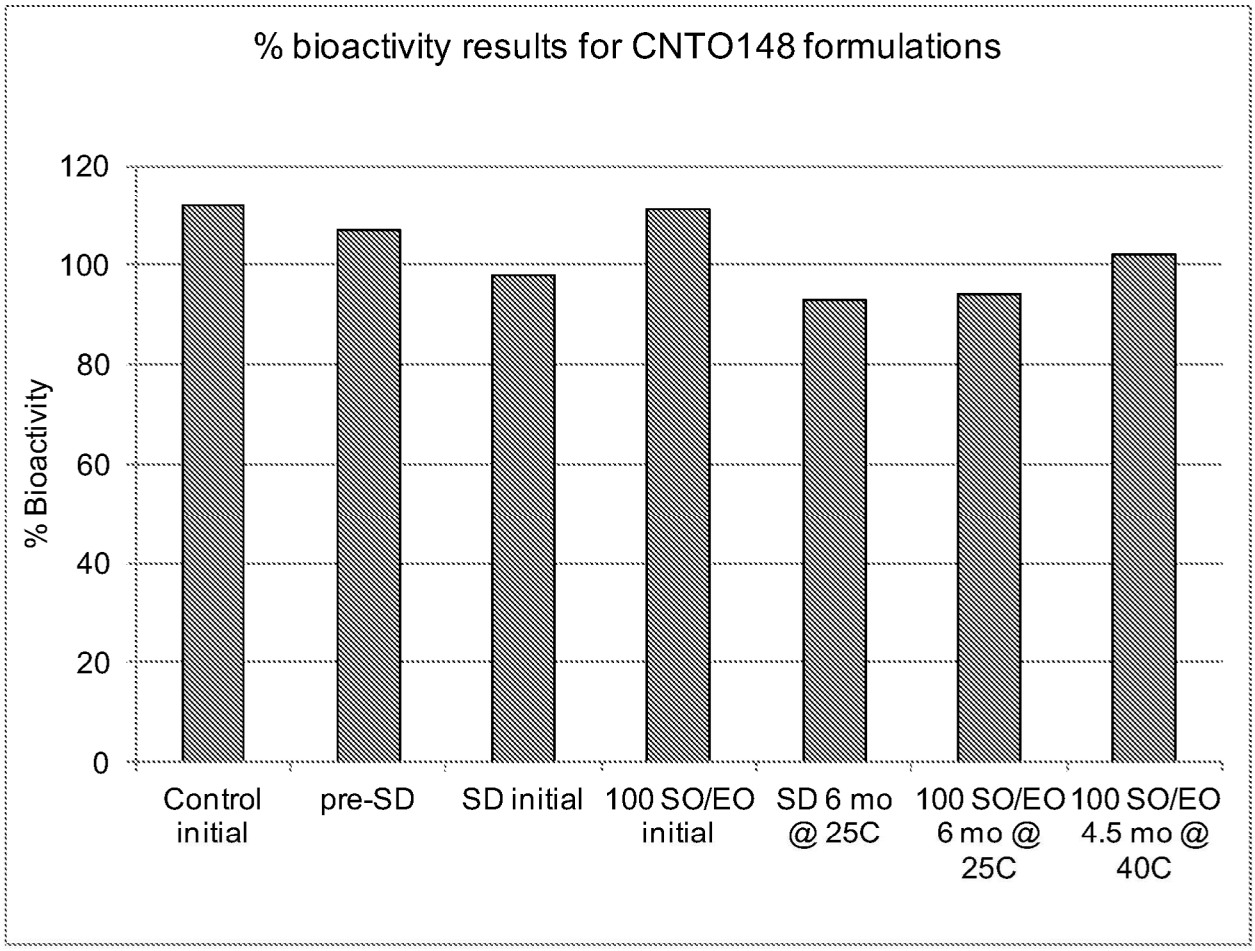

% bioactivity results for CNTO148 formulations
% Bioactivity
120
100
80
60
40
20
0
Control initial
pre-SD
SD initial
100 SO/EO initial
SD 6 mo @ 25C
100 SO/EO 6 mo @ 25C
100 SO/EO 4.5 mo @ 40C

Figure 11

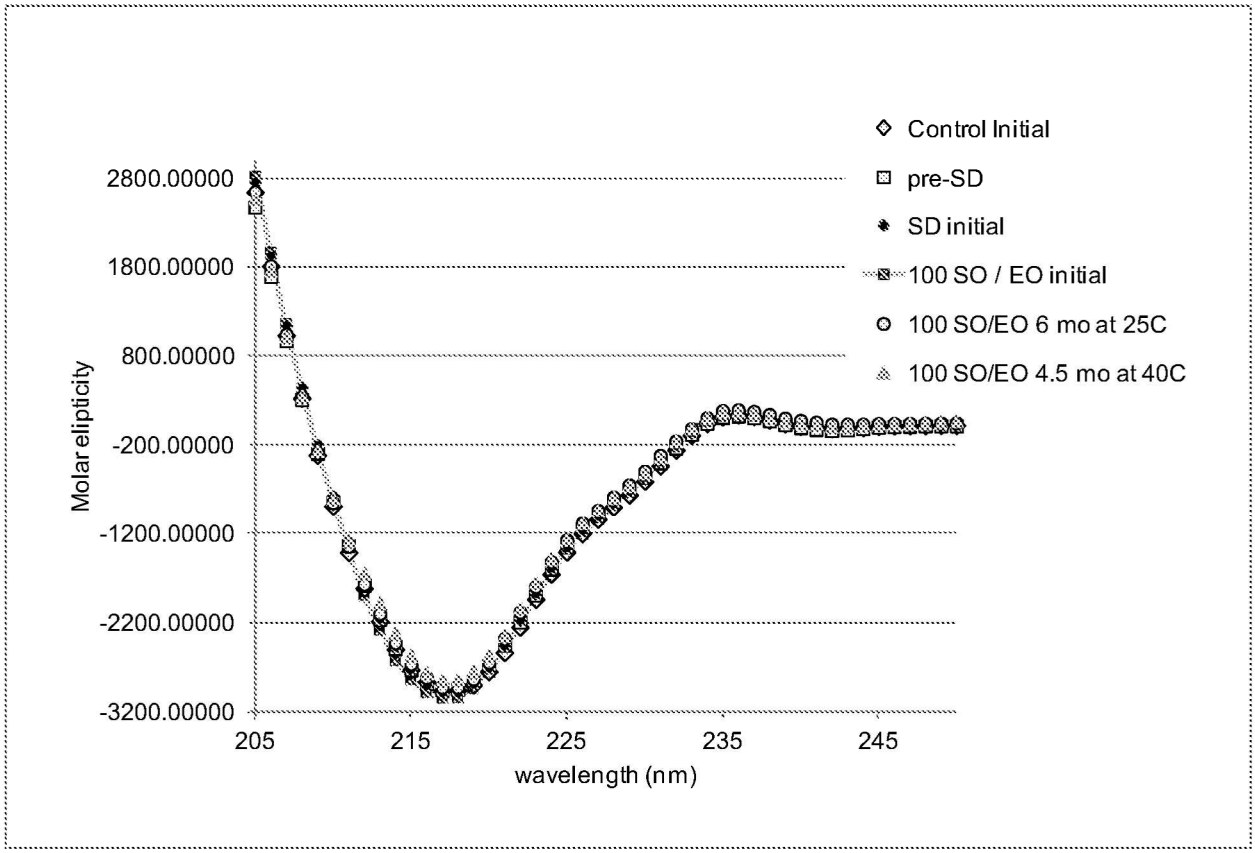

Control Initial
pre-SD
SD initial
100 SO / EO initial
100 SO/EO 6 mo at 25C
100 SO/EO 4.5 mo at 40C
2800.00000
1800.00000
800.00000
-200.00000
-1200.00000
-2200.00000
-3200.00000
Molar elipticity
205
215
225
235
245
wavelength (nm)

Figure 12A

```
TVN14  (1)    QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYAMHWVRQAPGKGLEWVAIILYDGSSKKY    (60)
TVN15         QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYAMHWVRQAPGKGLEWVAFILYDGSNKKY
TVN148        QVQLVESGGGVVQPGRSLRLSCAASGFIFSSYAMHWVRQAPGNGLEWVAFMSYDGSNKKY
TVN148B       QVQLVESGGGVVQPGRSLRLSCAASGFIFSSYAMHWVRQAPGNGLEWVAFMSYDGSNKKY
TVN196        QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYAMHWVRQAPGKGLEWVAFISYDGSNKKS
              ************************** **************:*******:: ****.***

TVN14 (61)    ADSVKDRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDRGISAGGNYYYYGMDVWGQGT    (120)
TVN15         ADSVKGRFTISRDNSKNALYLQMNSLRAEDTAVYYCARDRGVSAGGNYYYYGMDVWGQGT
TVN148        ADSVKGRFTISRDNPKNTLYLQMNSLRAEDTAVYYCARDRGIAAGGNYYYYGMDVWGQGT
TVN148B       ADSVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDRGIAAGGNYYYYGMDVWGQGT
TVN196        ADSVKGRFTVSRDNSKNTLFLQMNSLRAEDTAVFYCARDRGIGAGGNYYYYGMDVWGQGT
              *****.***:****.**:*:**************:*******:.******************

TVN14 (121)   TVTVSS                                                        (126)
TVN15         TVTVSS
TVN148        TVTVSS
TVN148B       TVTVSS
TVN196        TVTVSS
              ******
```

Figure 12B

```
TNV14   (1)   EIVLTQSPATLSLSPGERATLSCRASQSVSSYLAWYQQKPGQAPRLLIYDASNRATGIPA    (60)
TNV15         EIVLTQSPATLSLSPGERATLSCRASQSVSSYLAWYQQKPGQAPRLLIYDASNRATGIPA
TNV148        EIVLTQSPATLSLSPGERATLSCRASQSVYSYLAWYQQKPGQAPRLLIYDASNRATGIPA
TNV148(B)     EIVLTQSPATLSLSPGERATLSCRASQSVYSYLAWYQQKPGQAPRLLIYDASNRATGIPA
TNV196        EIVLTQSPATLSLSPGERATLSCRASQSVYSYLAWYQQKPGQAPRLLIYDASNRATGIPA
              ***************************** ******************************

TNV14   (61)  RFSGSGSGTDFTLTISSLEPEDFAVYYCQQRSNWPPFTFGPGTKVDIK               (108)
TNV15         RFSGSGSGTDFTLTISSLEPEDFAVYYCQQRSNWPPFTFGPGTKVDIK
TNV148        RFSGSGSGTDFTLTISSLEPEDFAVYYCQQRSNWPPFTFGPGTKVDIK
TNV148(B)     RFSGSGSGTDFTLTISSLEPEDFAVYYCQQRSNWPPFTFGPGTKVDIK
TNV196        RFSGSGSGTDFTLTISSLEPEDFAVYYCQQRSNWPPFTFGPGTKVDIK
              ************************************************
```