Figures

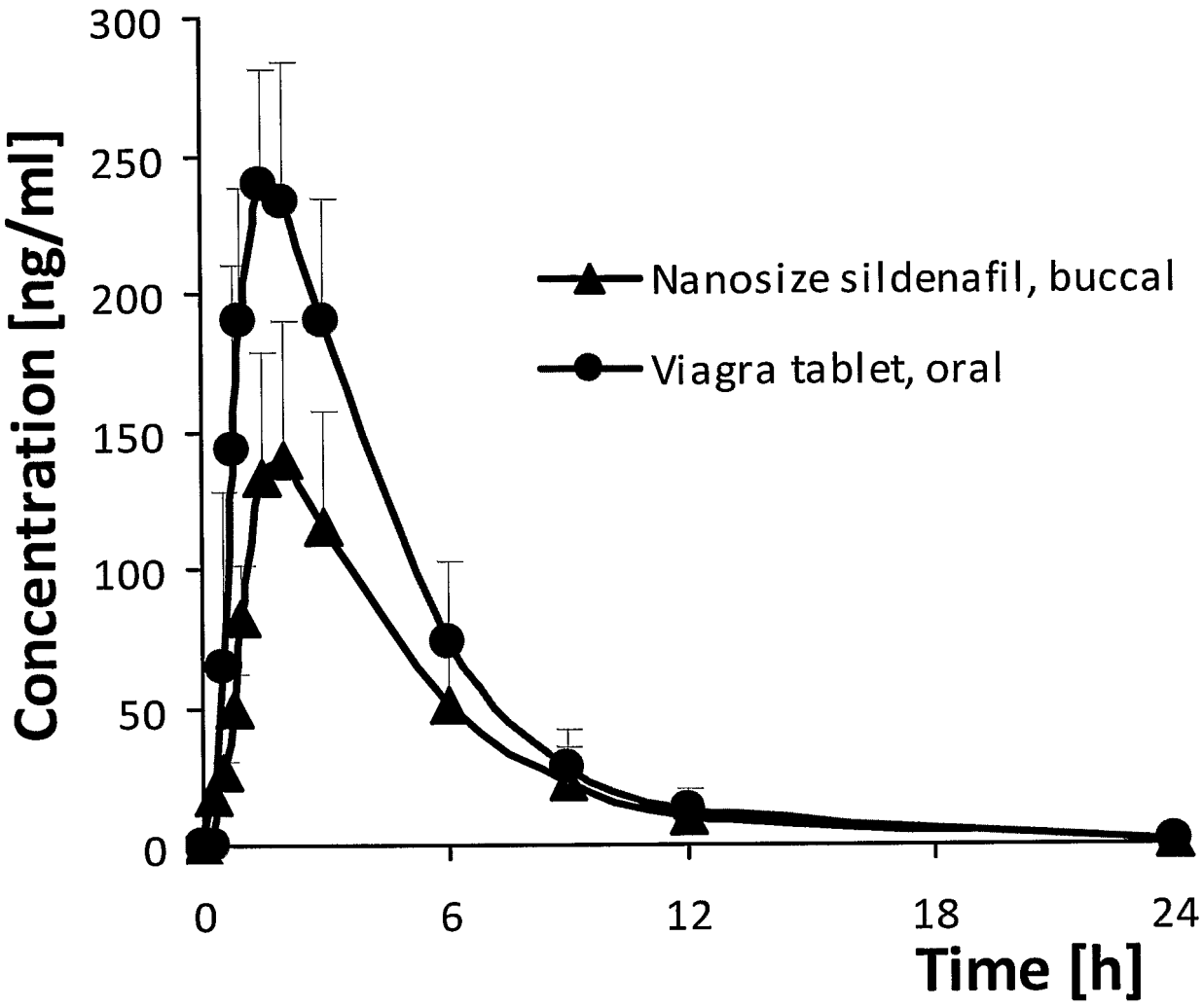


Figure 1

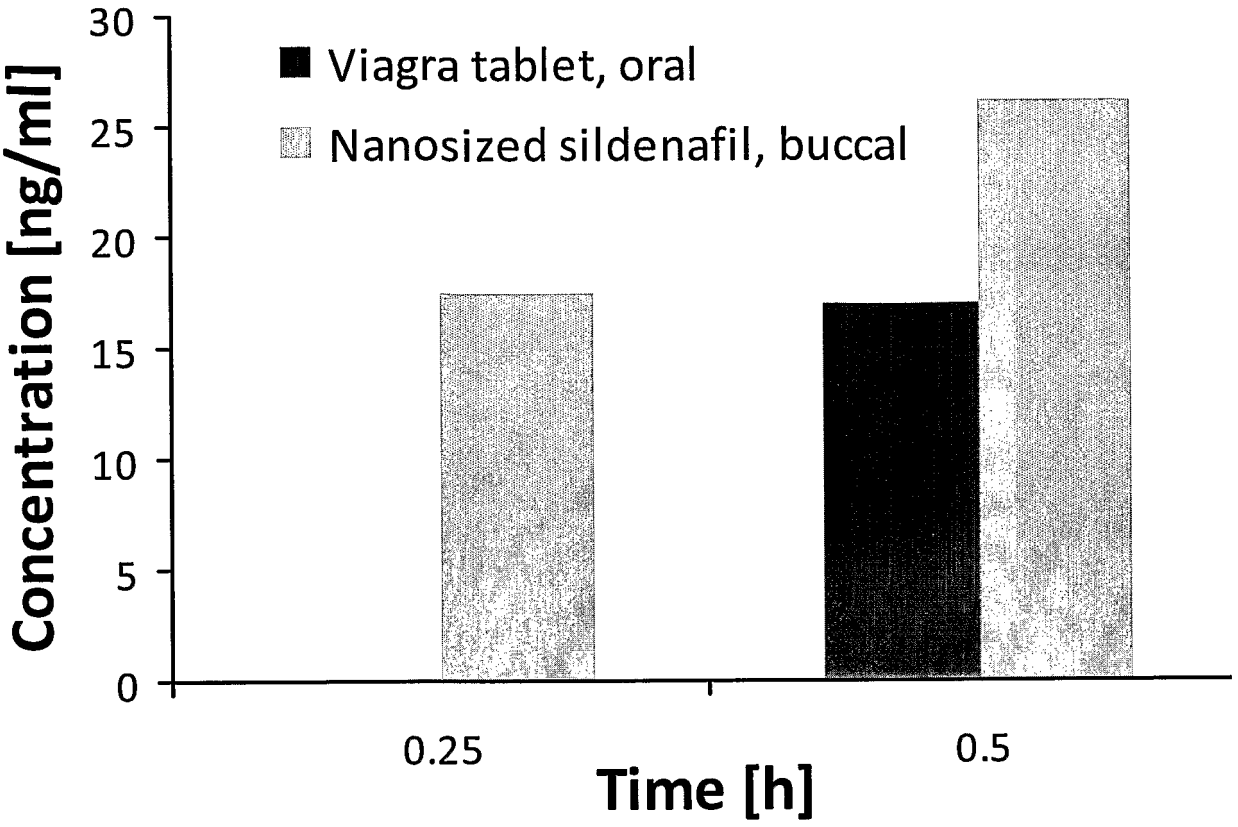

30
25
20
15
10
5
0
Concentration [ng/ml]
Viagra tablet, oral
Nanosized sildenafil, buccal
0.25
0.5
Time [h]

Figure 2

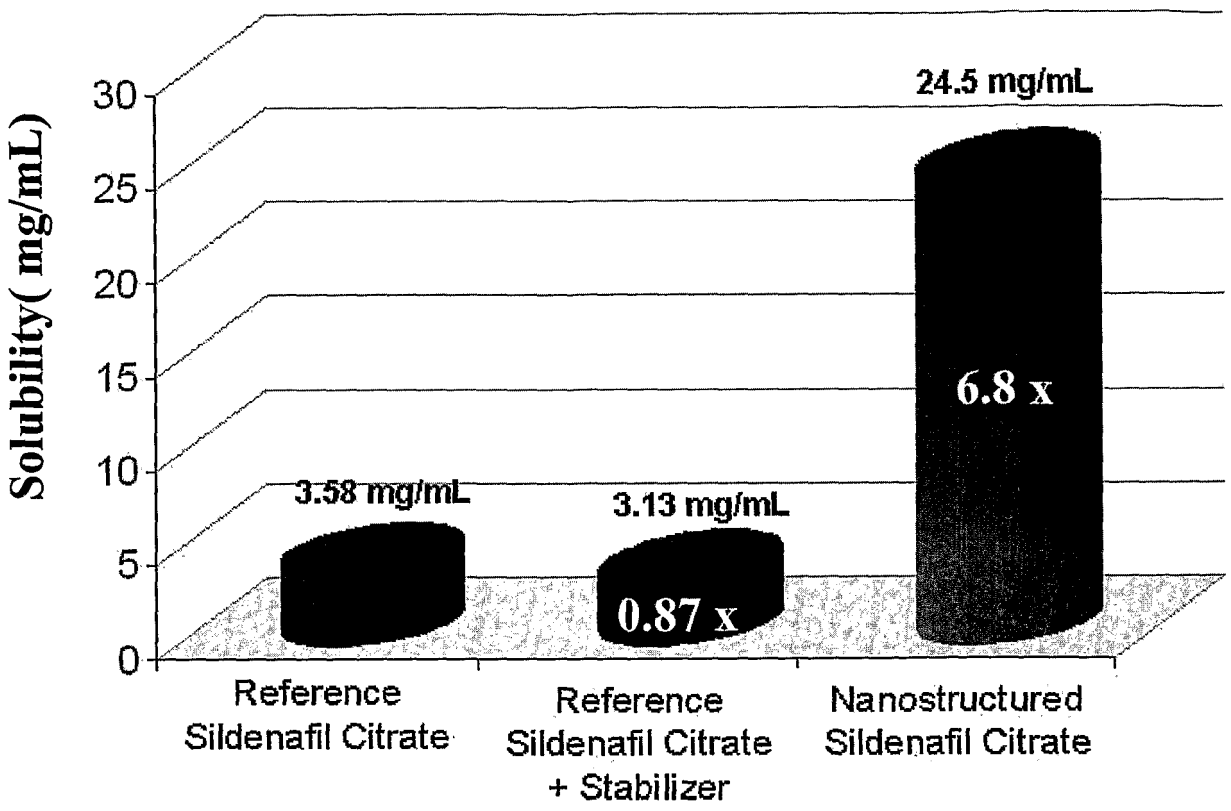

Solubility(mg/mL)
30
25
20
15
10
5
0
24.5 mg/mL
6.8 x
3.58 mg/mL
3.13 mg/mL
0.87 x
Reference Sildenafil Citrate
Reference Sildenafil Citrate + Stabilizer
Nanostructured Sildenafil Citrate

Figure 3

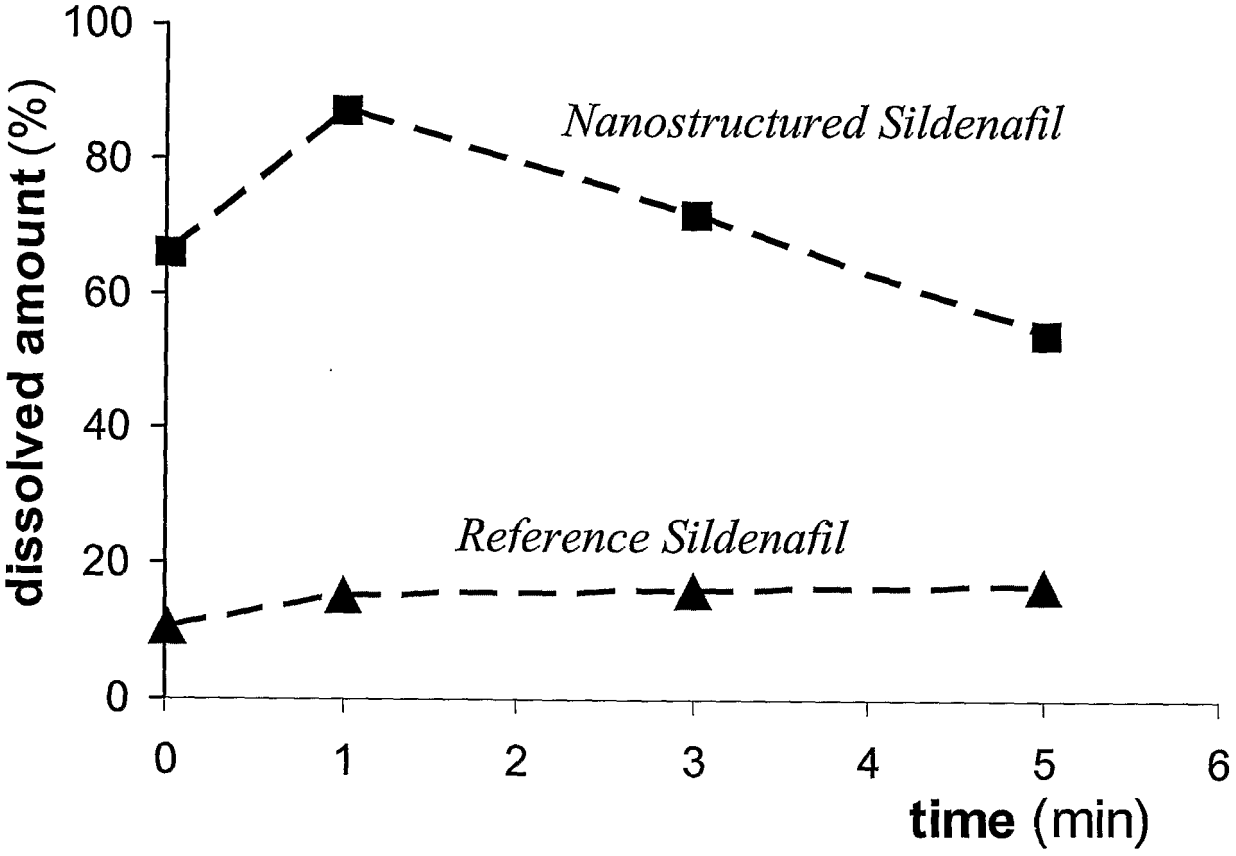

100
80
60
40
20
0
dissolved amount (%)
Nanostructured Sildenafil
Reference Sildenafil
0
1
2
3
4
5
6
time (min)

Figure 4

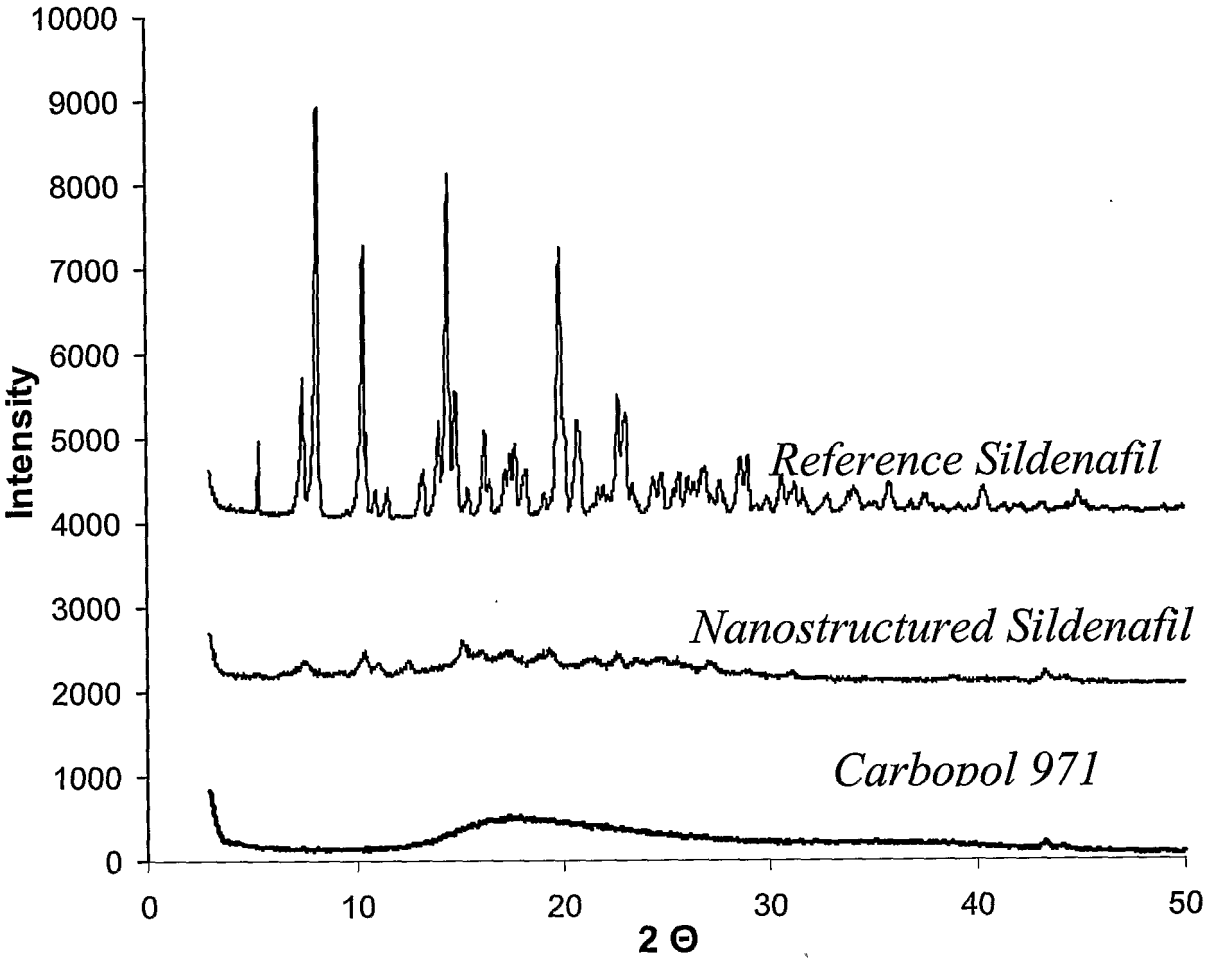


Figure 5

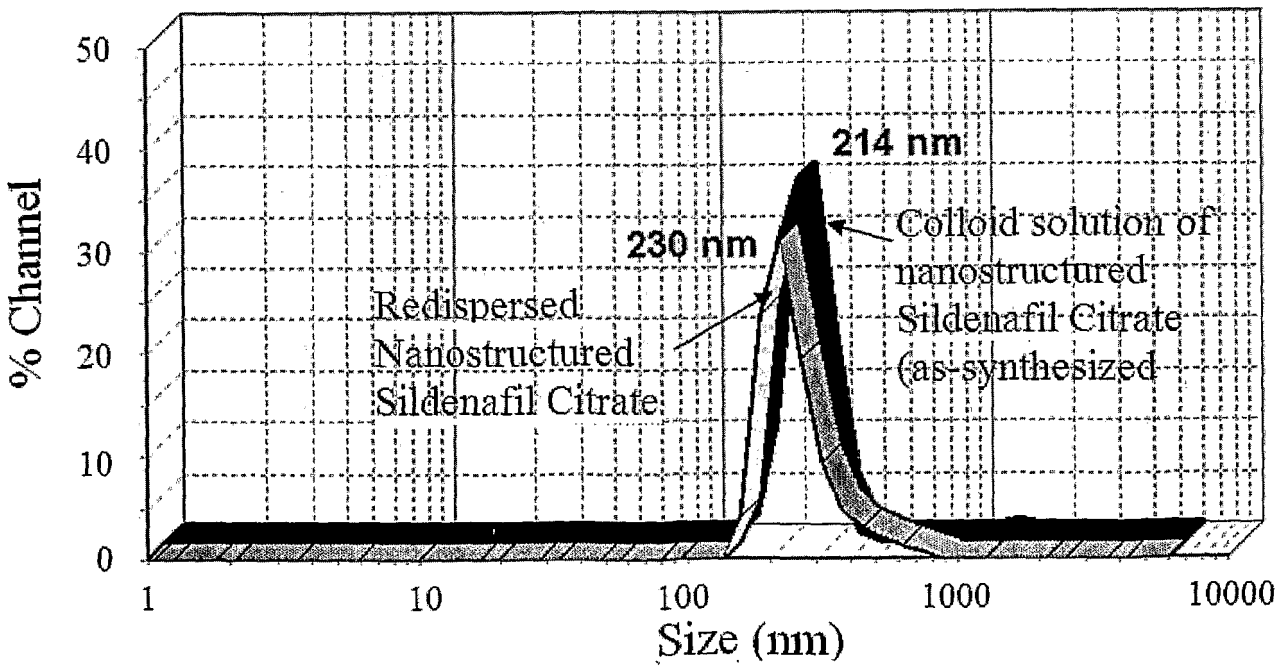


Figure 6

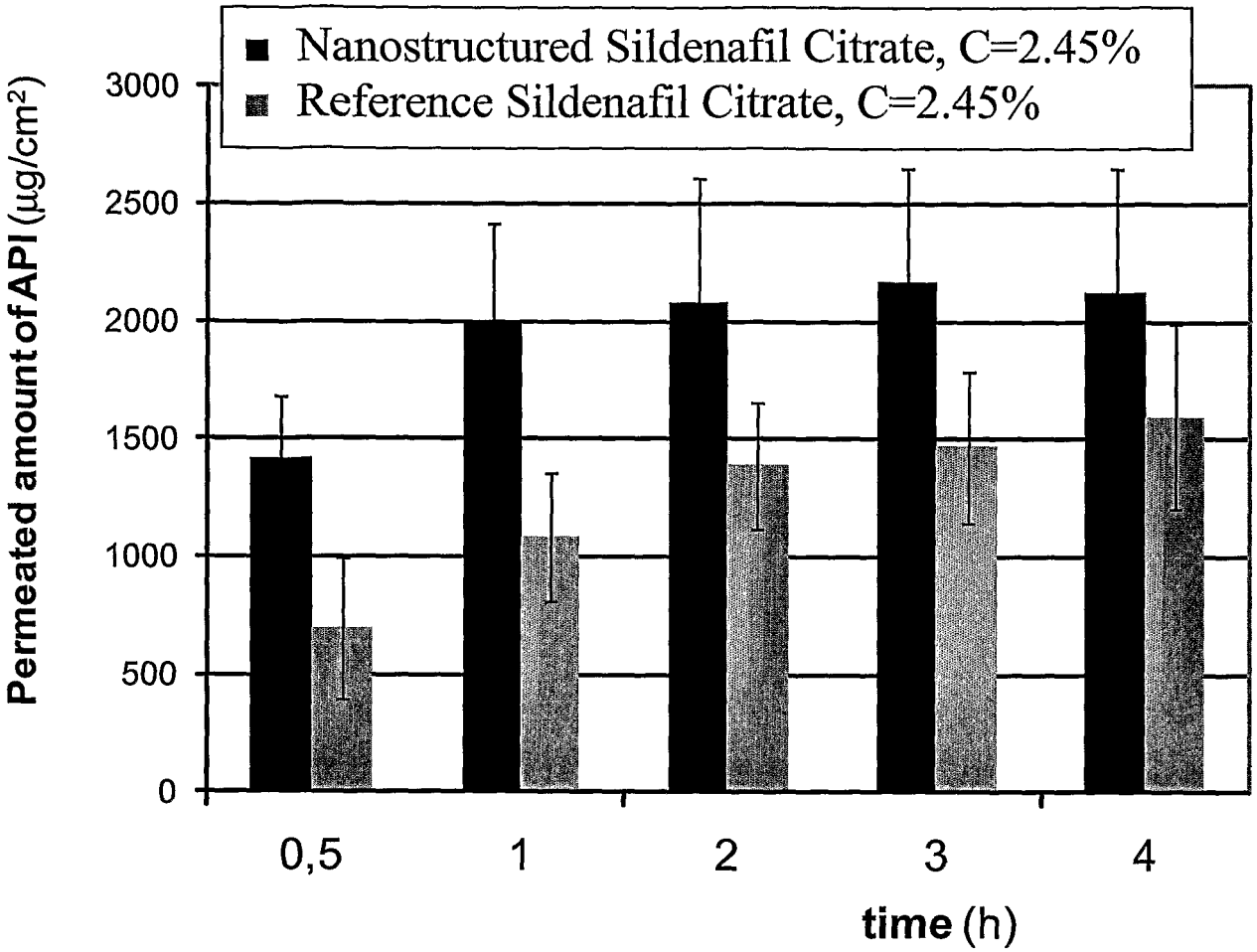


Figure 7

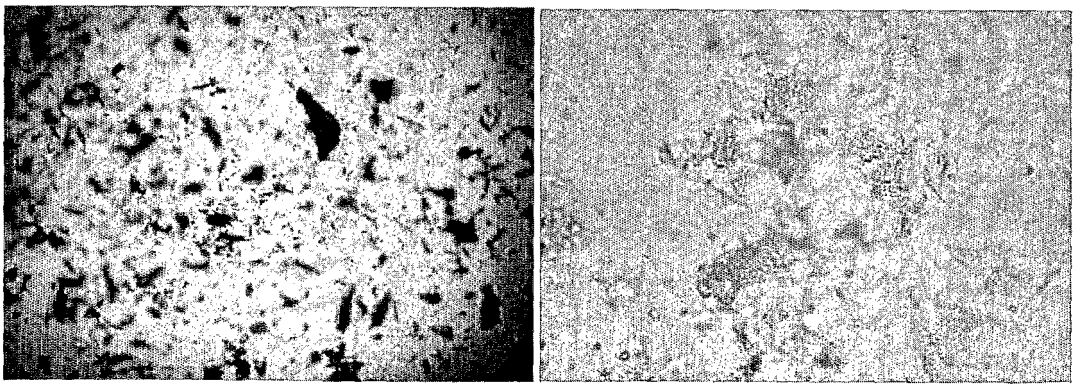


Figure 8a Figure 8b

Figure 8

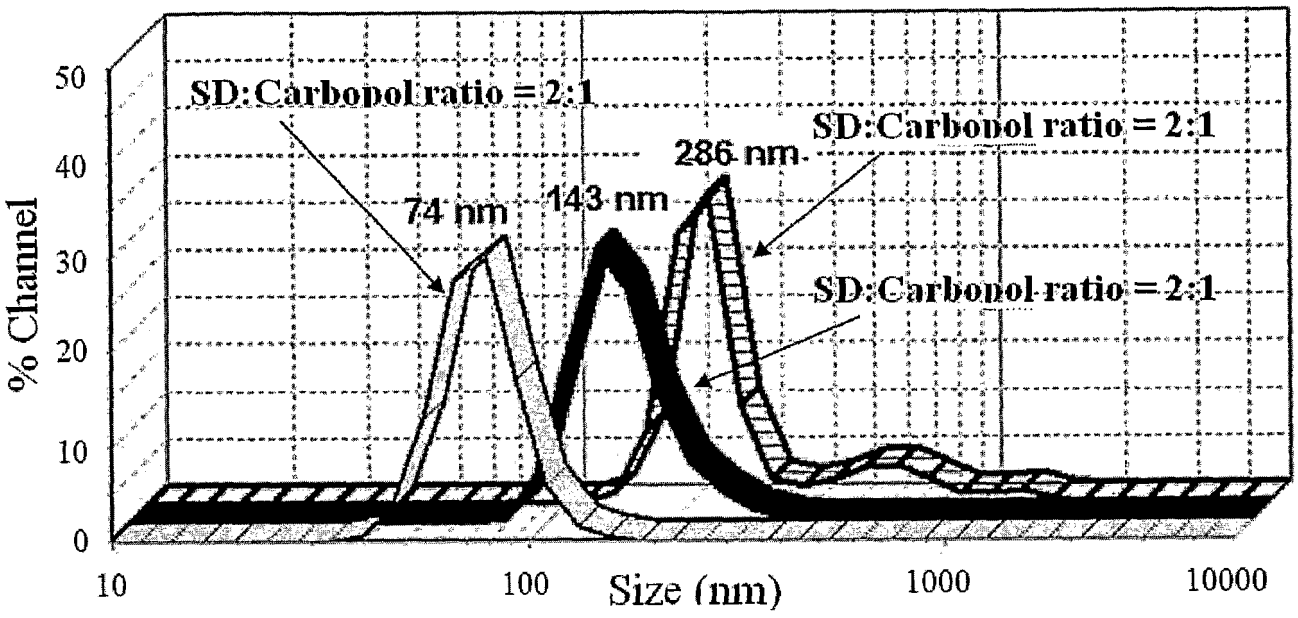

SD:Carbopol ratio = 2:1
74 nm
143 nm
286 nm
SD:Carbopol ratio = 2:1
SD:Carbopol ratio = 2:1
% Channel
0
10
20
30
40
50
10
100
Size (nm)
1000
10000

Figure 9

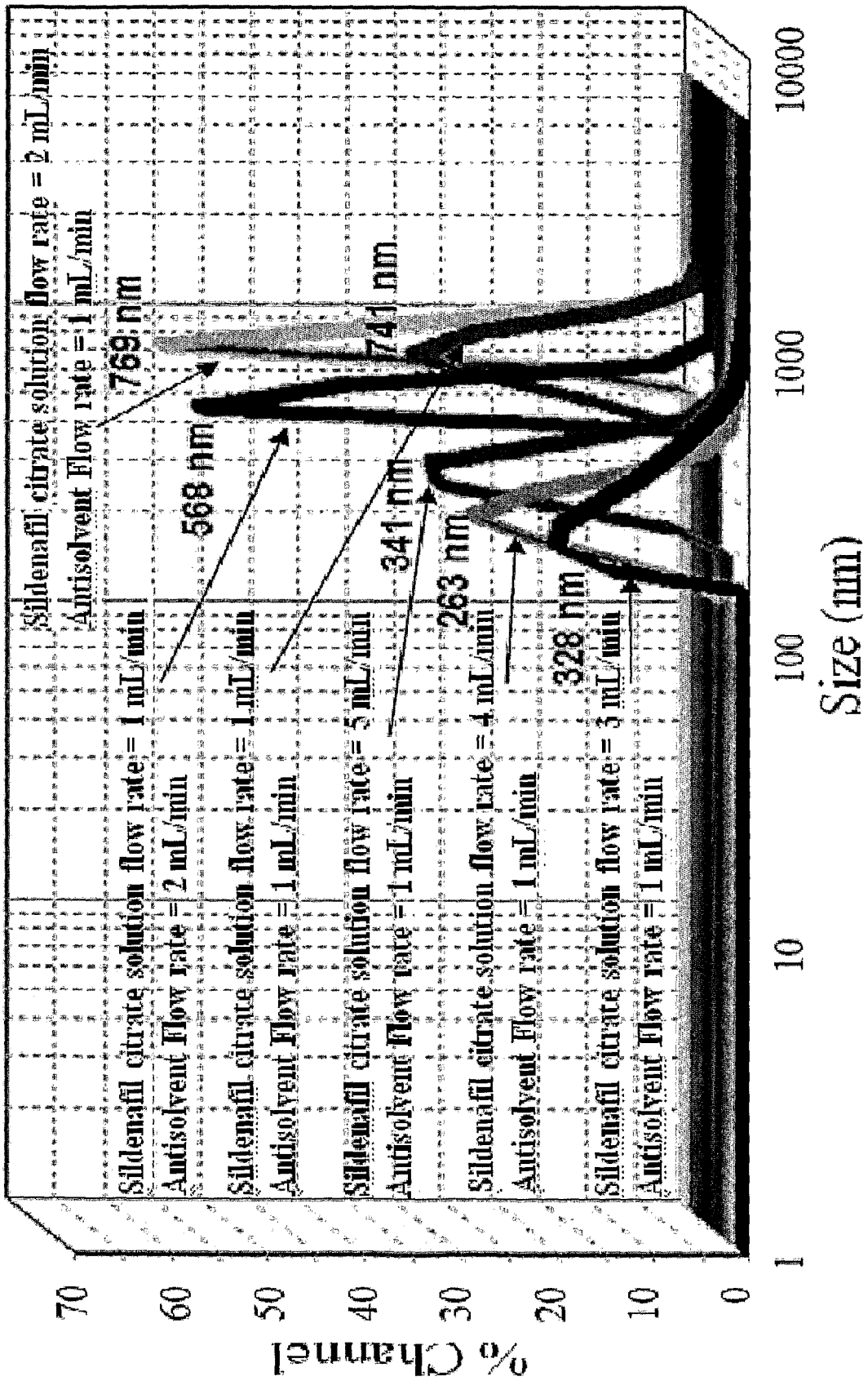

Sildenafil citrate solution flow rate = 2 mL/min
Antisolvent Flow rate = 1 mL/min
Sildenafil citrate solution flow rate = 1 mL/min
Antisolvent Flow rate = 2 mL/min
Sildenafil citrate solution flow rate = 1 mL/min
Antisolvent Flow rate = 1 mL/min
Sildenafil citrate solution flow rate = 5 mL/min
Antisolvent Flow rate = 1 mL/min
Sildenafil citrate solution flow rate = 4 mL/min
Antisolvent Flow rate = 1 mL/min
Sildenafil citrate solution flow rate = 3 mL/min
Antisolvent Flow rate = 1 mL/min
769 nm
568 nm
741 nm
341 nm
263 nm
328 nm
% Channel
0
10
20
30
40
50
60
70
1
10
100
1000
10000
Size (nm)

Figure 10

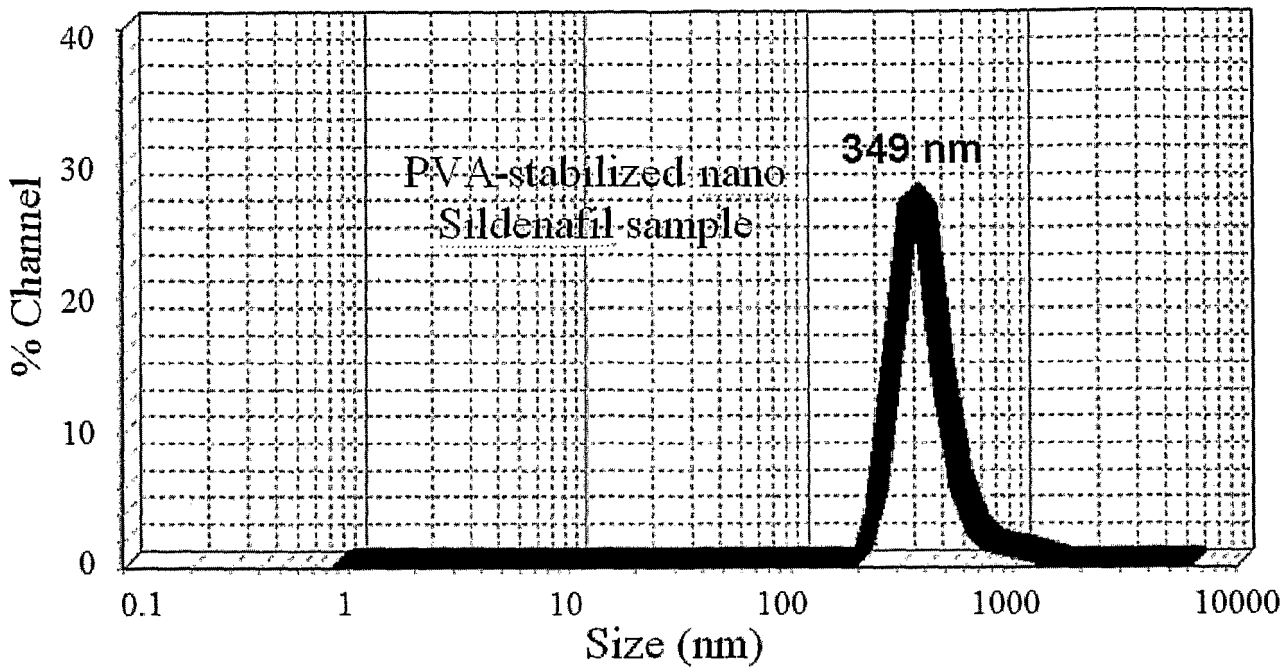

40
30
20
10
0
% Channel
PVA-stabilized nano
Sildenafil-sample
349 nm
0.1
1
10
100
1000
10000
Size (nm)

Figure 11

Test formula	**Fasted/Fed**	**C_{max} (ng/ml)**	**t_{max} (h)**	**AUC_{last} (ng*h/ml)**	**F_{rel} (%)**
Viagra tablet, oral	Fed	1.75	245	1170	
Nanostructured Sildenafil, buccal	Fed	1.83	145	732	62

Figure 12 (Table 1)

	Sample 1	Sample 2	Sample 3
SD Flow rate (mL/min)	1	1	2
CP Flow rate (mL/min)	2	1	1
Particle size by DLS (nm)	286	143	74

Figure 13 (Table 2)

	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6
SD Flow rate (mL/min)	1	2	2	3	4	5
SDBS Flow rate (mL/min)	2	1	1	1	1	1
Particle size by DLS (nm)	568	741	769	328	263	341

Figure 14 (Table 3)

SUBSTITUTE SHEET (RULE 26)