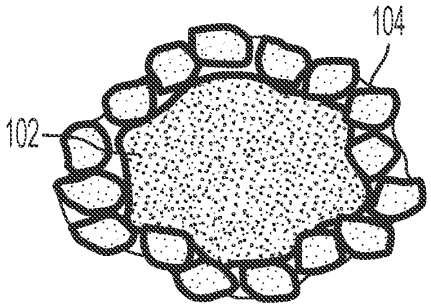


FIG. 1A

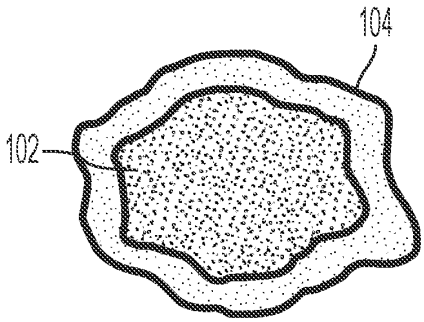


FIG. 1B

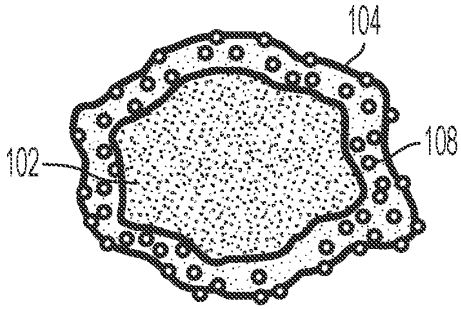


FIG. 1C

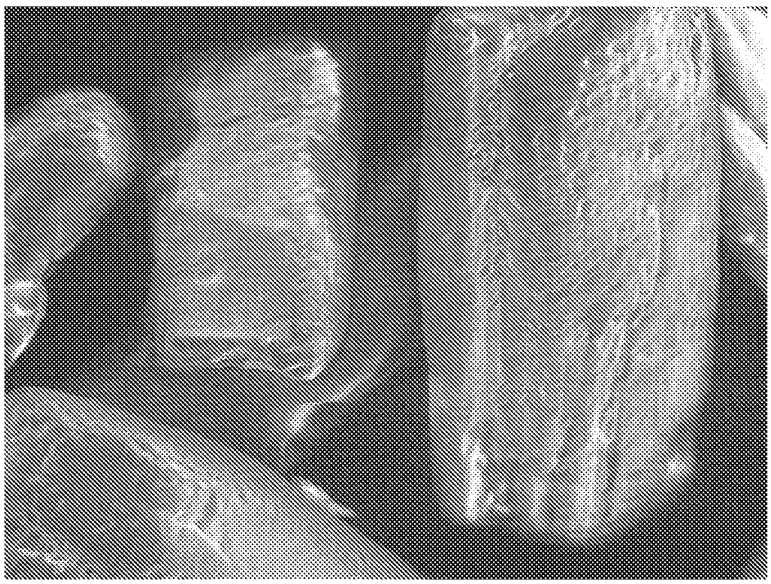


FIG. 2

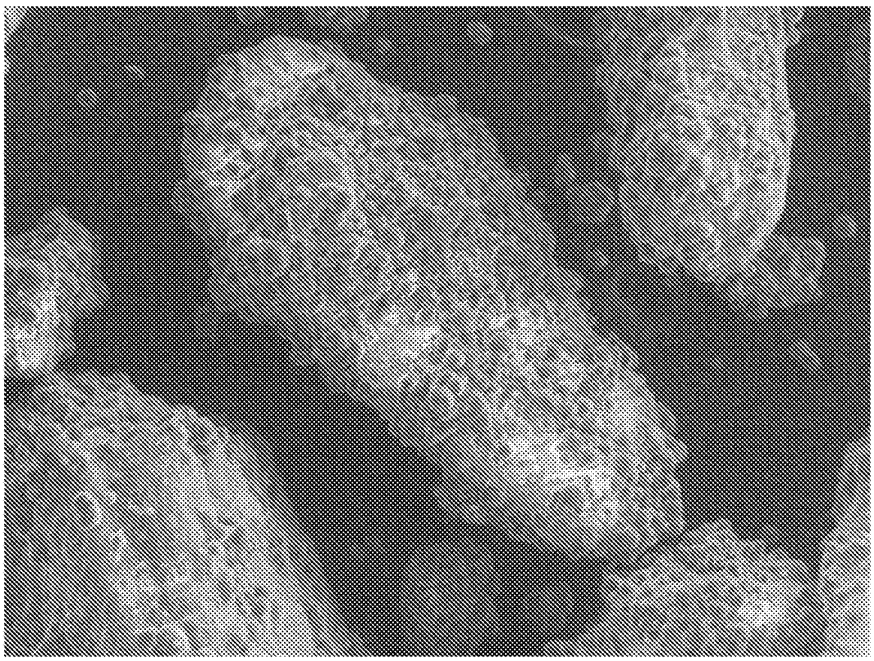


FIG. 3

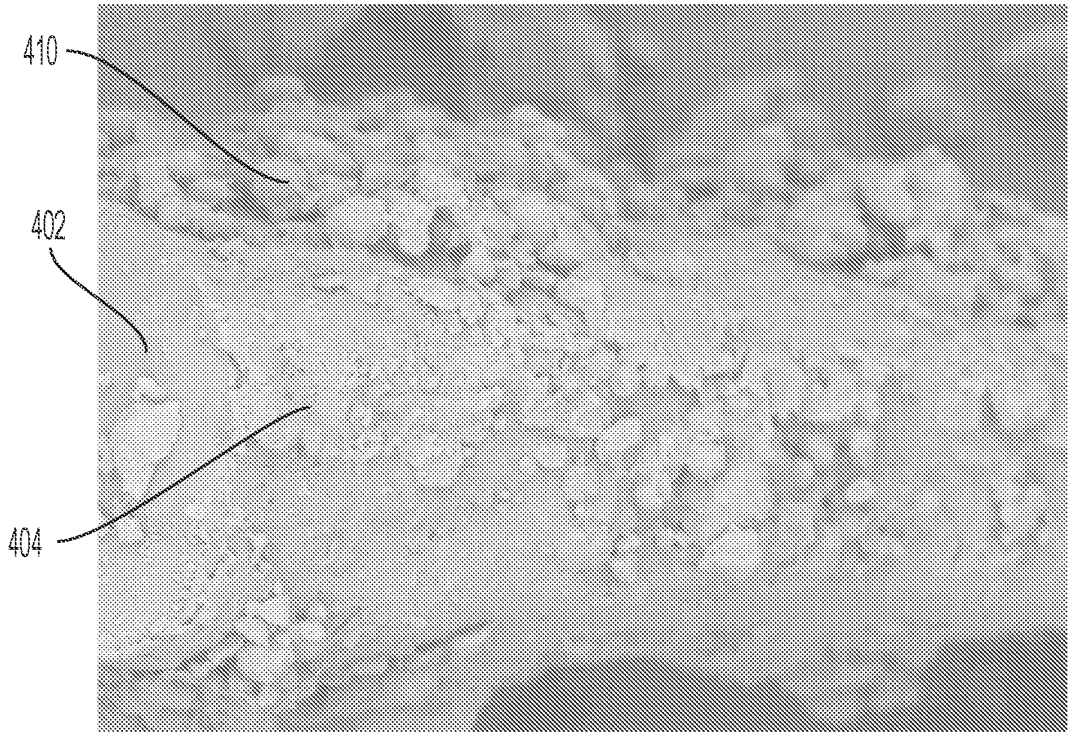


FIG. 4

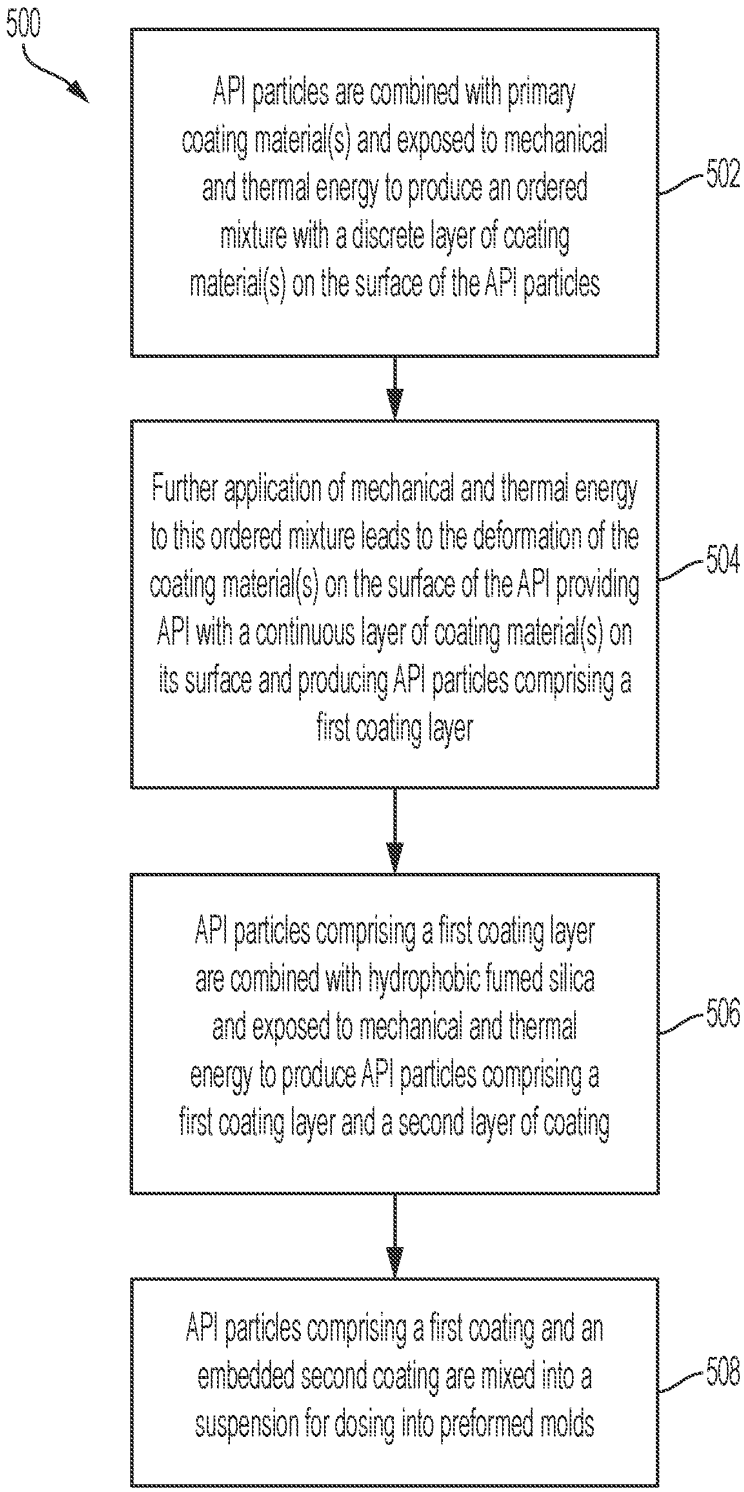

500
API particles are combined with primary coating material(s) and exposed to mechanical and thermal energy to produce an ordered mixture with a discrete layer of coating material(s) on the surface of the API particles
502
Further application of mechanical and thermal energy to this ordered mixture leads to the deformation of the coating material(s) on the surface of the API providing API with a continuous layer of coating material(s) on its surface and producing API particles comprising a first coating layer
504
API particles comprising a first coating layer are combined with hydrophobic fumed silica and exposed to mechanical and thermal energy to produce API particles comprising a first coating layer and a second layer of coating
506
API particles comprising a first coating and an embedded second coating are mixed into a suspension for dosing into preformed molds
508

FIG. 5

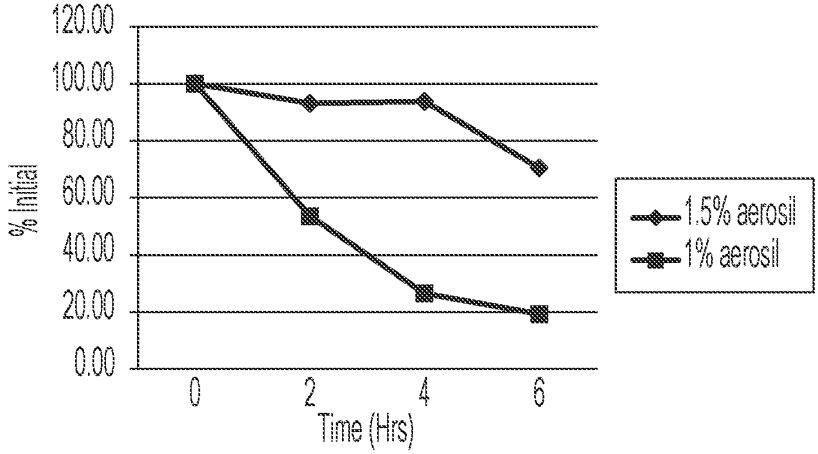

120.00
100.00
80.00
60.00
40.00
20.00
0.00
% Initial
0
2
4
6
Time (Hrs)
1.5% aerosil
1% aerosil

FIG. 6

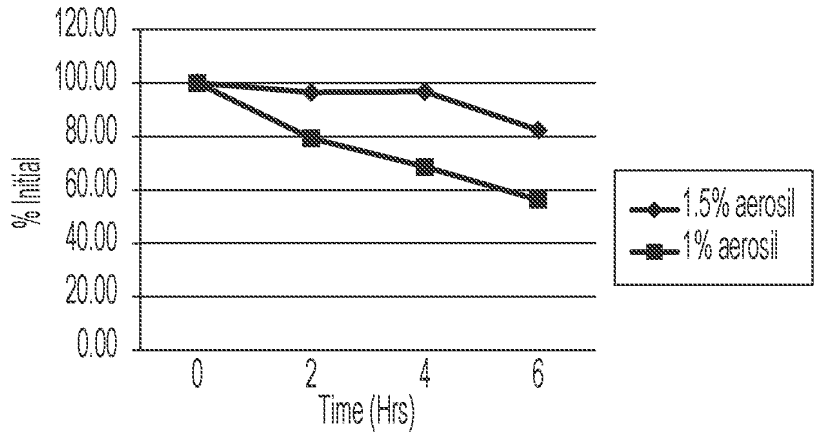

120.00
100.00
80.00
60.00
40.00
20.00
0.00
% Initial
0
2
4
6
Time (Hrs)
1.5% aerosil
1% aerosil

FIG. 7

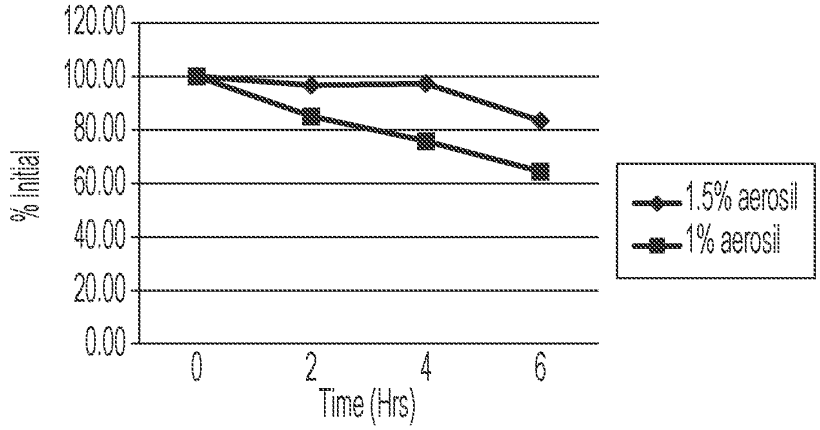

120.00
100.00
80.00
60.00
40.00
20.00
0.00
% initial
0
2
4
6
Time (Hrs)
1.5% aerosil
1% aerosil

FIG. 8

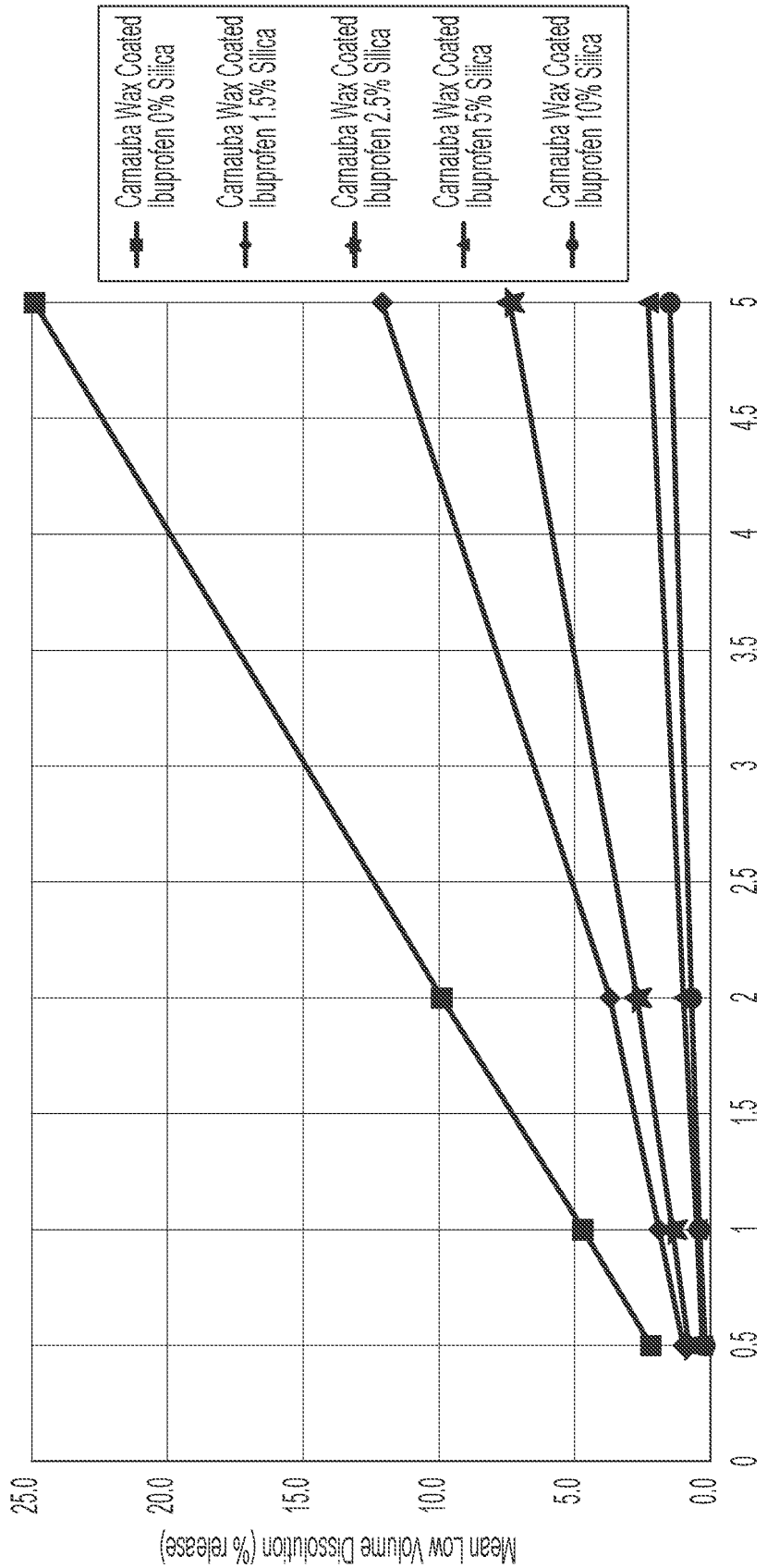

Carnauba Wax Coated Ibuprofen 0% Silica
Carnauba Wax Coated Ibuprofen 1.5% Silica
Carnauba Wax Coated Ibuprofen 2.5% Silica
Carnauba Wax Coated Ibuprofen 5% Silica
Carnauba Wax Coated Ibuprofen 10% Silica
Mean Low Volume Dissolution (% release)
25.0
20.0
15.0
10.0
5.0
0.0
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
Time (mins)

FIG. 9

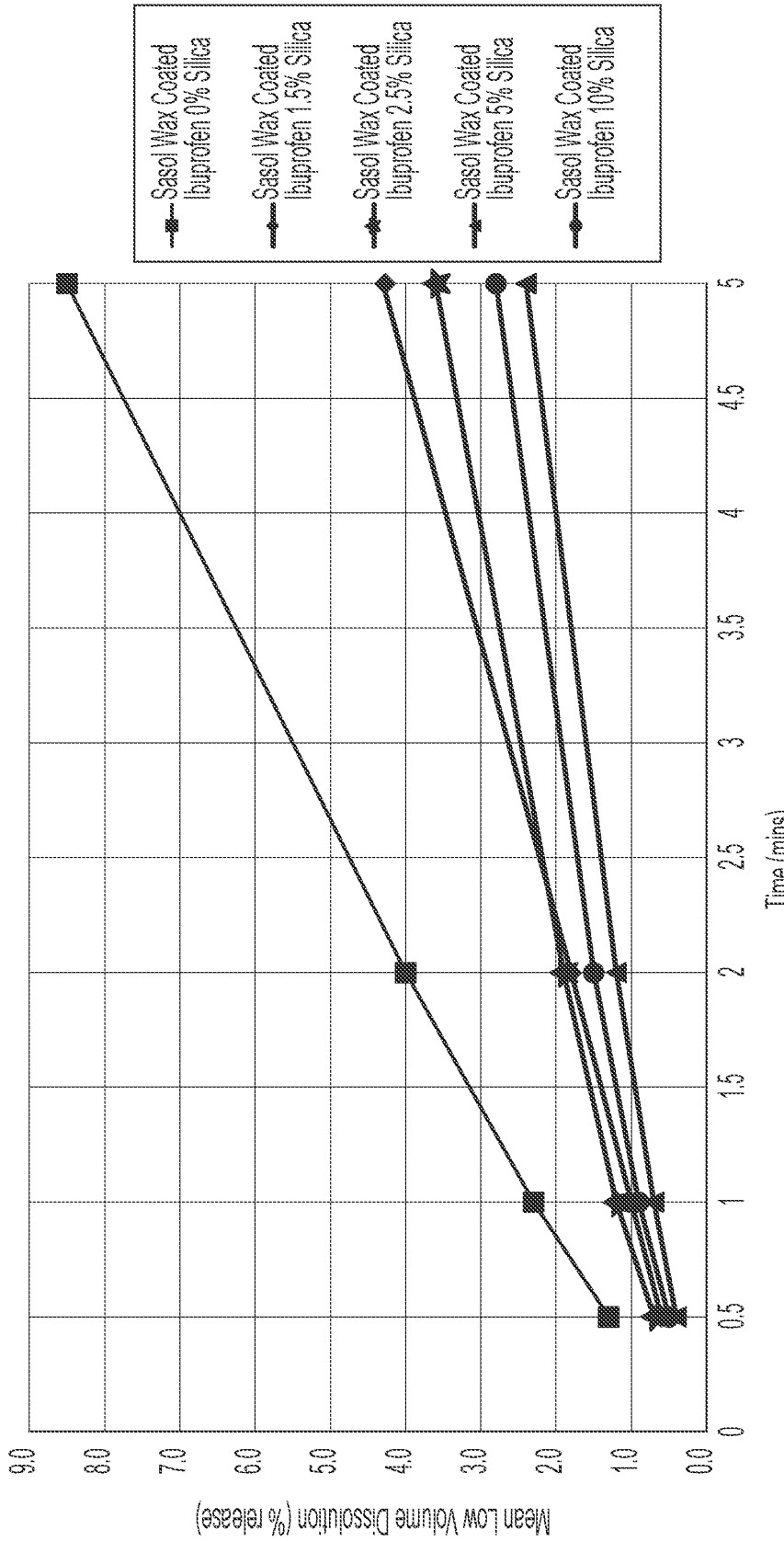

Sasol Wax Coated Ibuprofen 0% Silica
Sasol Wax Coated Ibuprofen 1.5% Silica
Sasol Wax Coated Ibuprofen 2.5% Silica
Sasol Wax Coated Ibuprofen 5% Silica
Sasol Wax Coated Ibuprofen 10% Silica
Mean Low Volume Dissolution (% release)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
Time (mins)
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5

FIG. 10

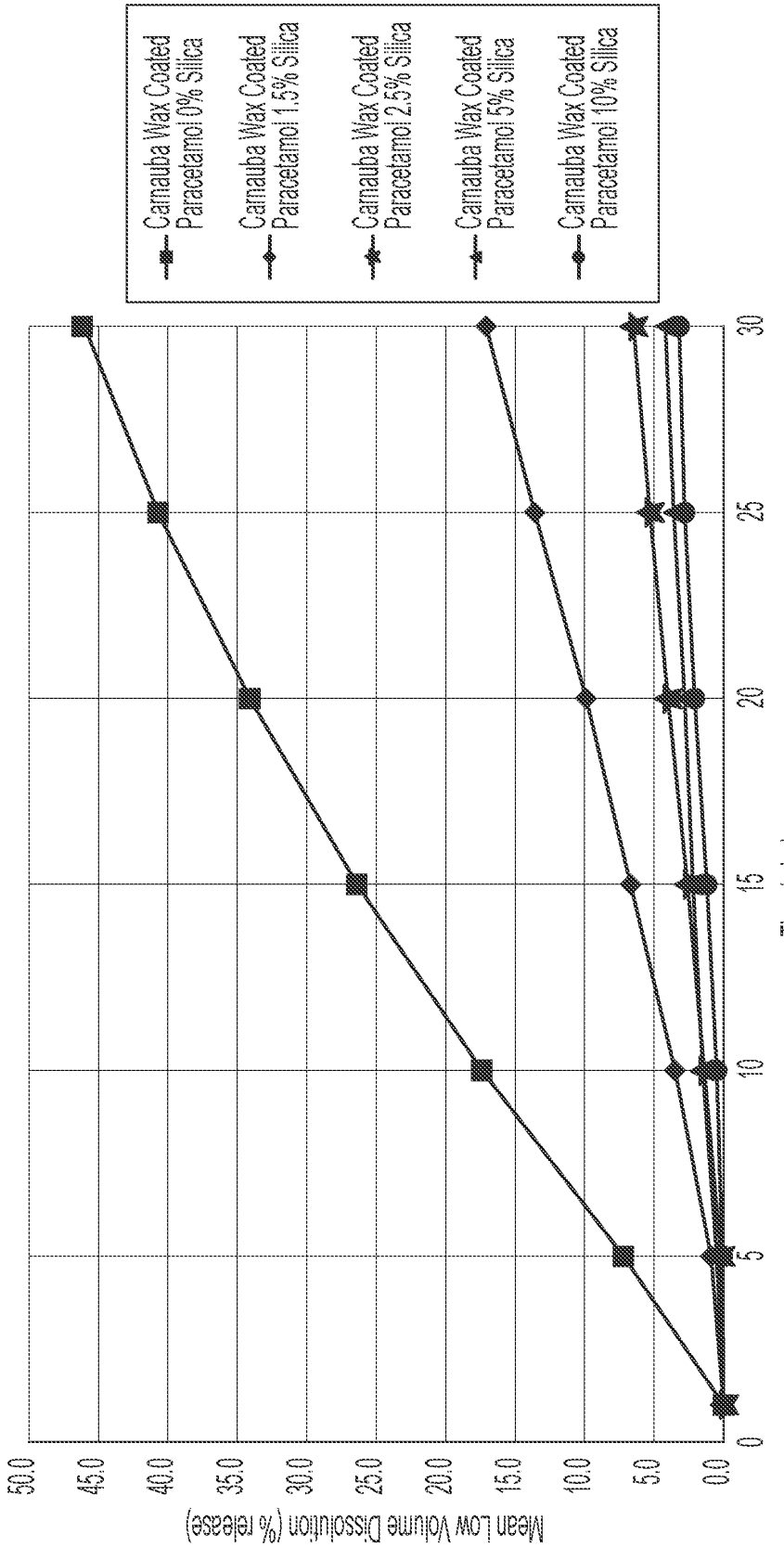

Carnauba Wax Coated Paracetamol 0% Silica
Carnauba Wax Coated Paracetamol 1.5% Silica
Carnauba Wax Coated Paracetamol 2.5% Silica
Carnauba Wax Coated Paracetamol 5% Silica
Carnauba Wax Coated Paracetamol 10% Silica
Mean Low Volume Dissolution (% release)
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
0
5
10
15
20
25
30
Time (mins)

FIG. 11