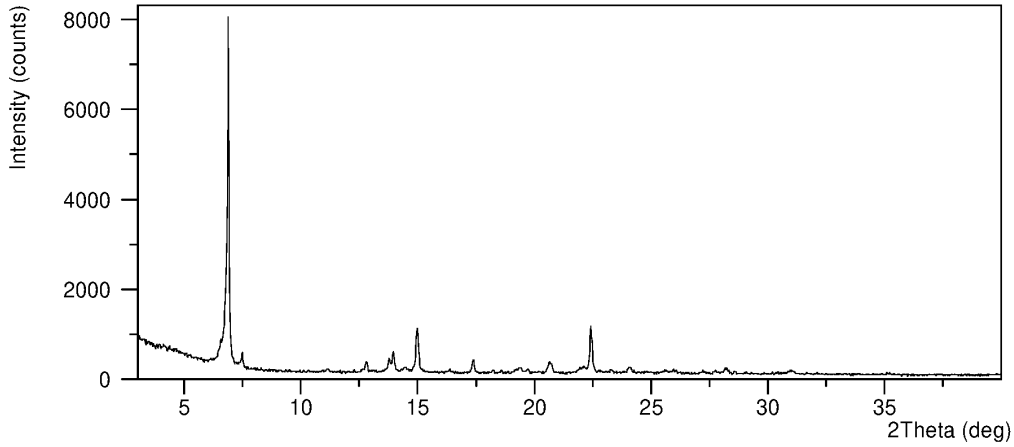

Intensity (counts)
8000
6000
4000
2000
0
5
10
15
20
25
30
35
2Theta (deg)

FIG. 1A

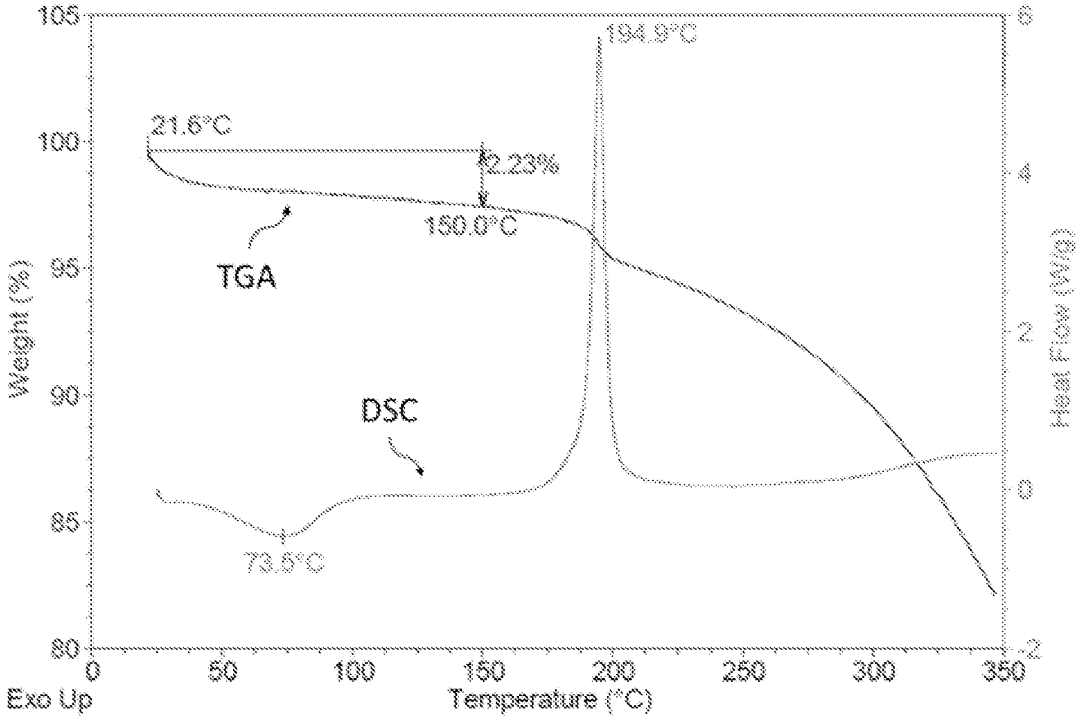

105
100
95
90
85
80
Weight (%)
194.9°C
21.6°C
2.23%
150.0°C
TGA
DSC
73.5°C
6
4
2
0
-2
Heat Flow (W/g)
0
50
100
150
200
250
300
350
Exo Up
Temperature (°C)

FIG. 1B

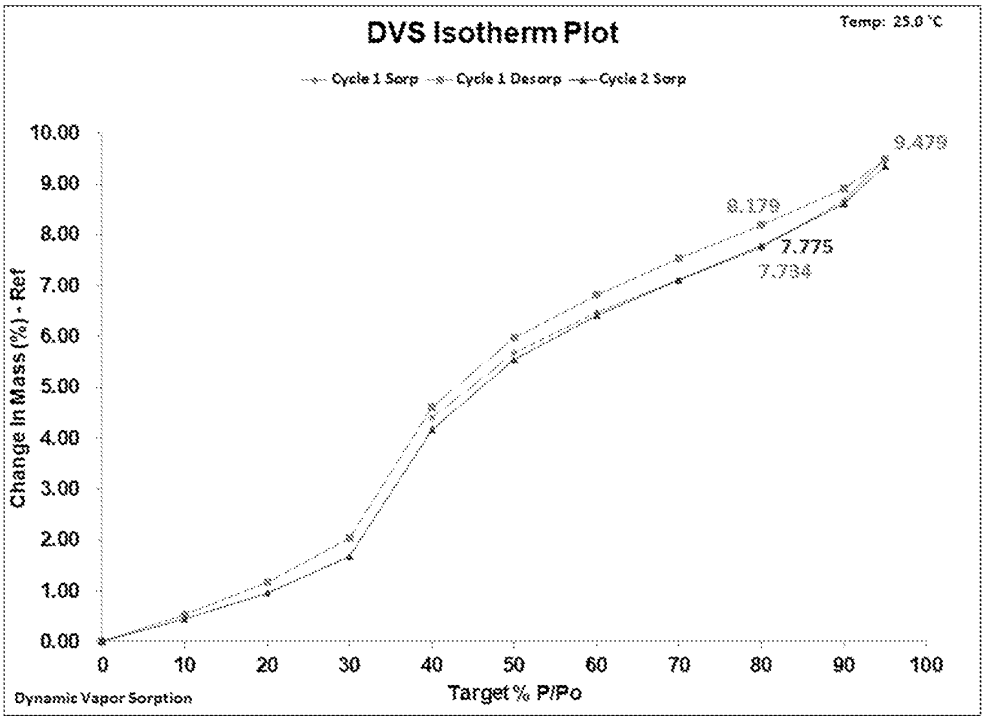

DVS Isotherm Plot
Temp: 25.0 °C
Cycle 1 Sorp
Cycle 1 Desorp
Cycle 2 Sorp
Change In Mass (%) - Ref
Target % P/Po
Dynamic Vapor Sorption
9.479
8.179
7.775
7.738

FIG. 1C

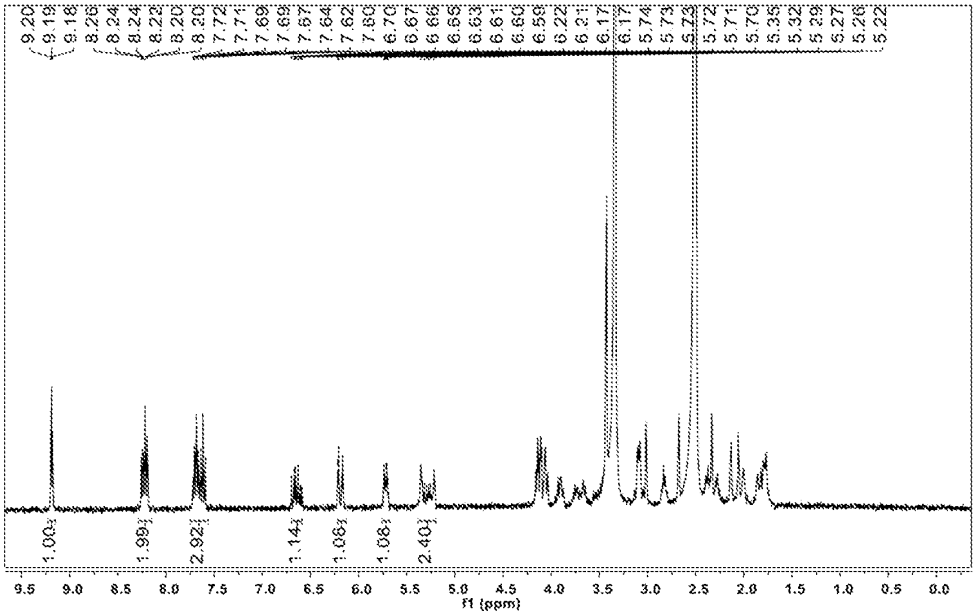

f1 (ppm)

FIG. 1D

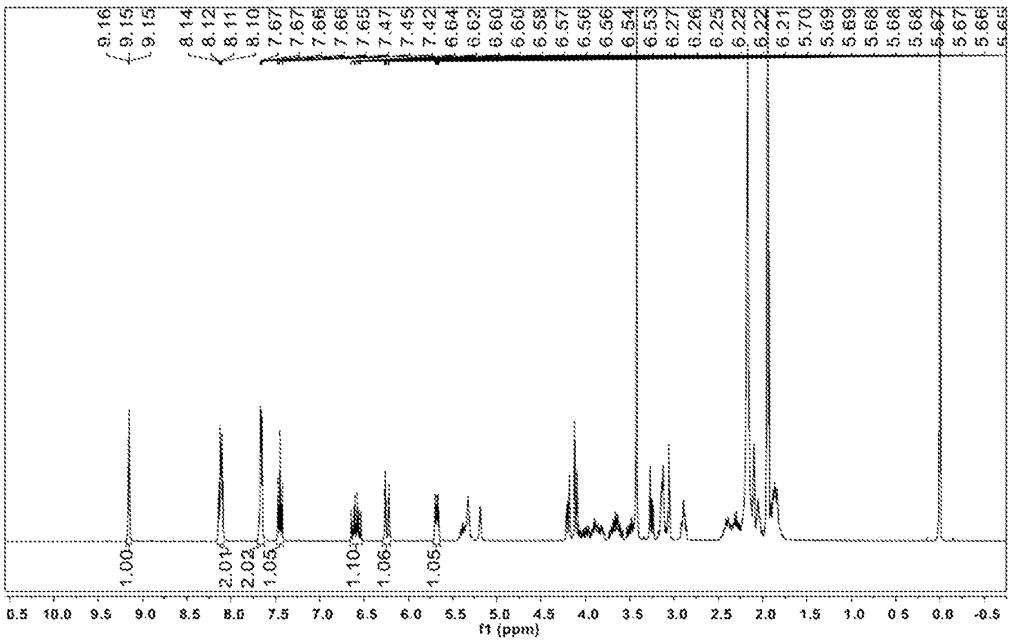

9.16
9.15
9.15
8.14
8.12
8.11
8.10
7.67
7.67
7.66
7.66
7.65
7.47
7.45
7.42
6.64
6.62
6.60
6.60
6.58
6.57
6.56
6.56
6.54
6.53
6.27
6.26
6.25
6.22
6.22
6.21
5.70
5.69
5.69
5.68
5.68
5.67
5.67
5.66
5.65
1.00
2.01
2.02
1.05
1.10
1.06
1.05
f1 (ppm)

FIG. 1E

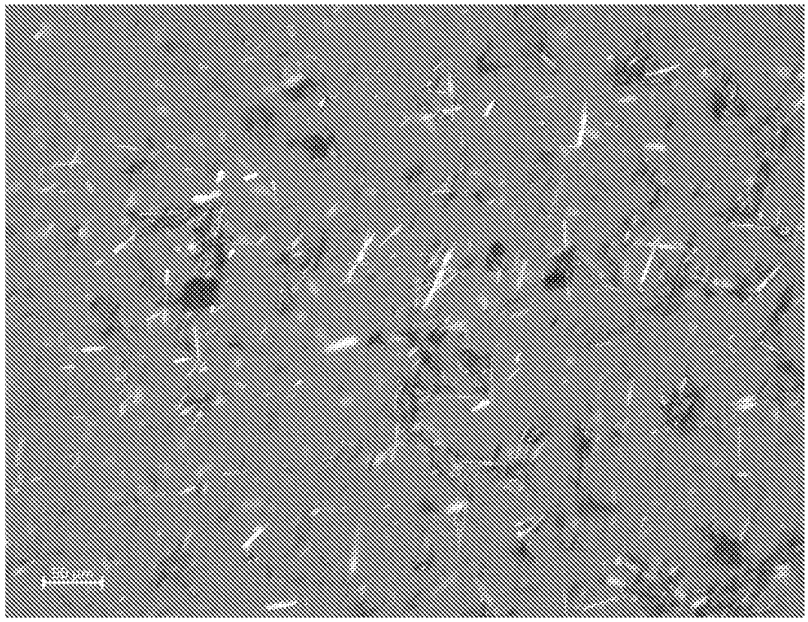


FIG. 1F

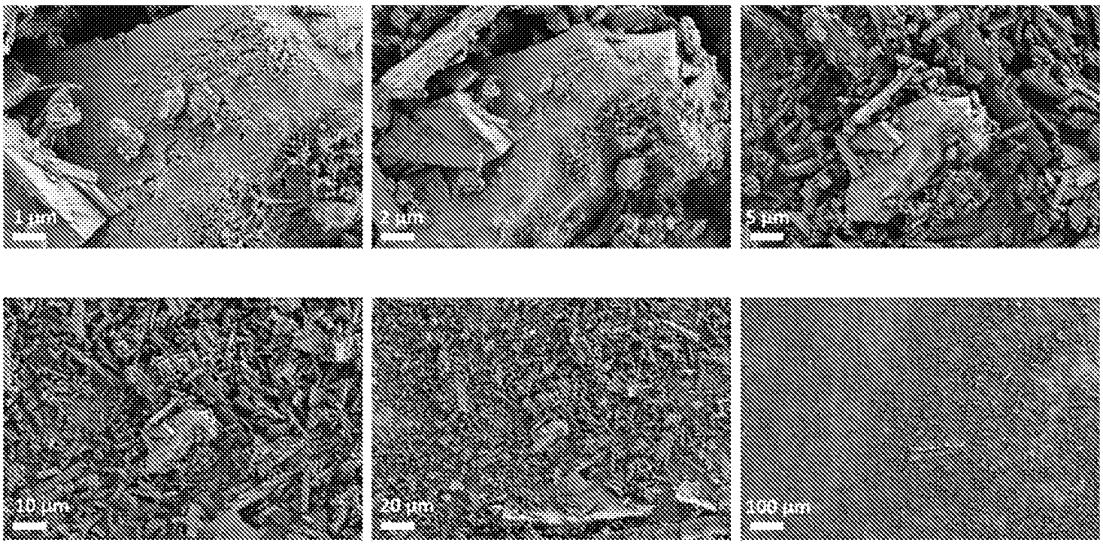

1 μm
2 μm
5 μm
10 μm
20 μm
100 μm

FIG. 1G

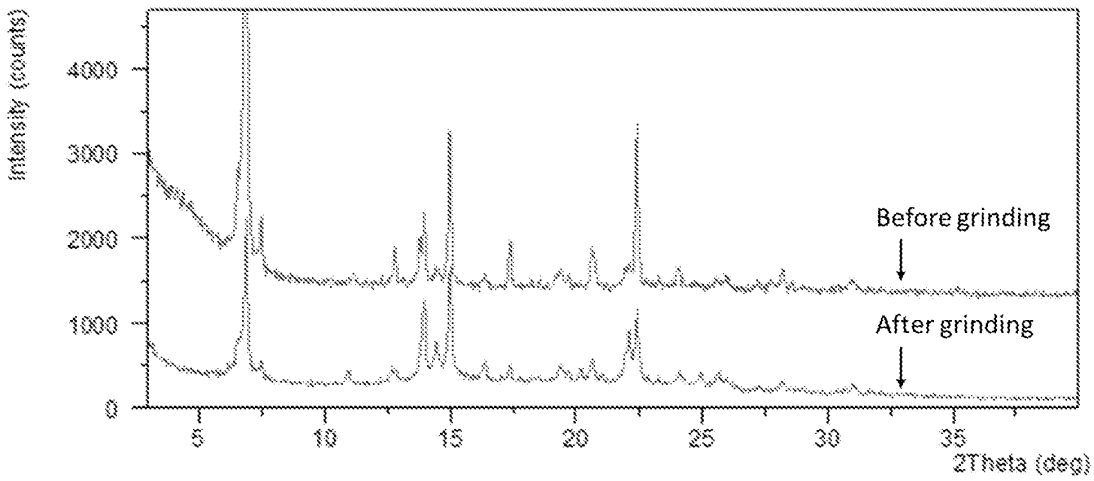

Intensity (counts)
4000
3000
2000
1000
0
5
10
15
20
25
30
35
2Theta (deg)
Before grinding
After grinding

FIG. 1H

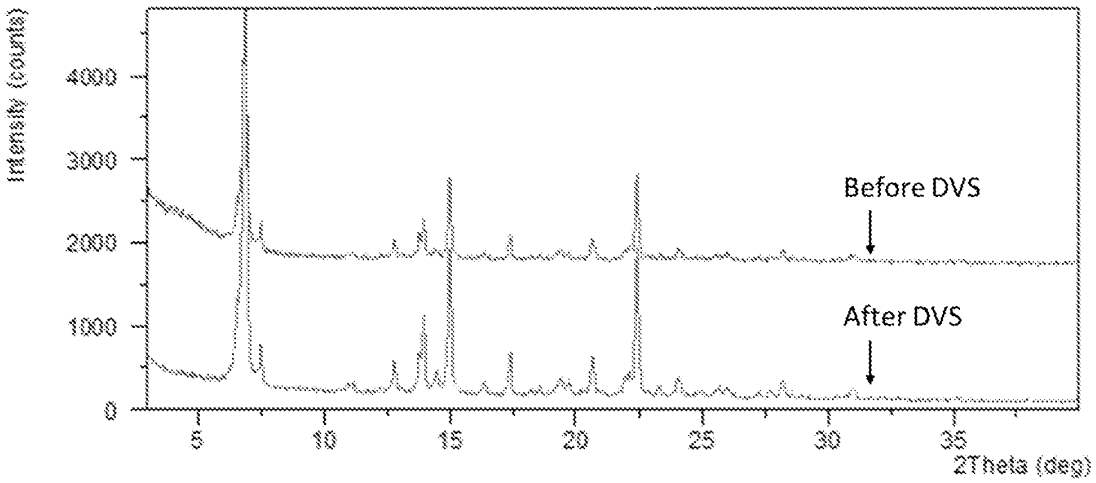

Intensity (counts)
4000
3000
2000
1000
0
5
10
15
20
25
30
35
2Theta (deg)
Before DVS
After DVS

FIG. 1I

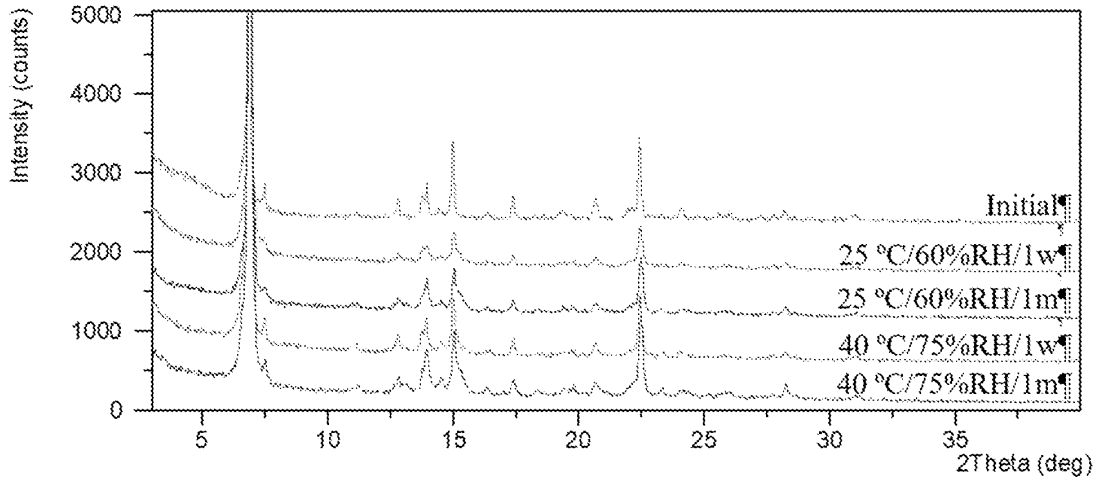

Intensity (counts)
5000
4000
3000
2000
1000
0
5
10
15
20
25
30
35
2Theta (deg)
Initial¶
25 ℃/60%RH/1w¶
25 ℃/60%RH/1m¶
40 ℃/75%RH/1w¶
40 ℃/75%RH/1m¶

FIG. 1J

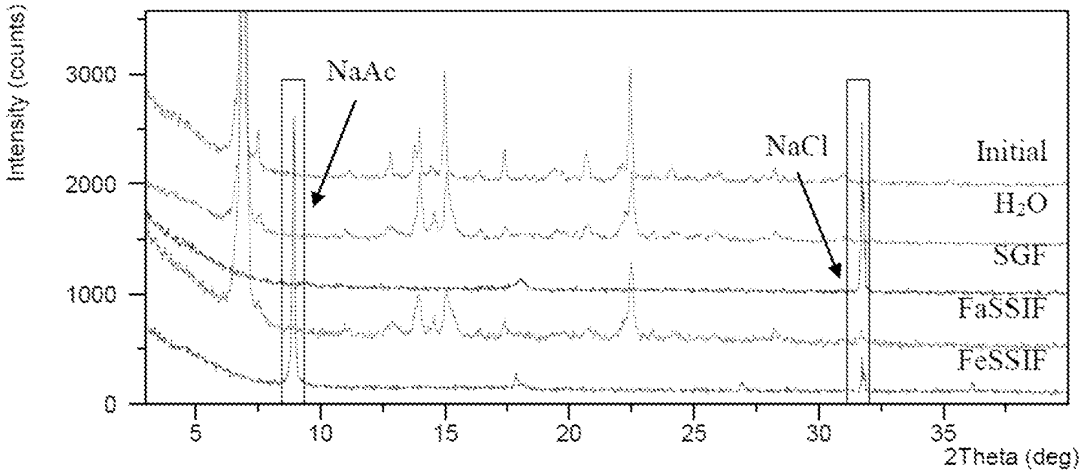

Intensity (counts)
3000
2000
1000
0
NaAc
NaCl
Initial
H2O
SGF
FaSSIF
FeSSIF
5
10
15
20
25
30
35
2Theta (deg)

FIG. 1K

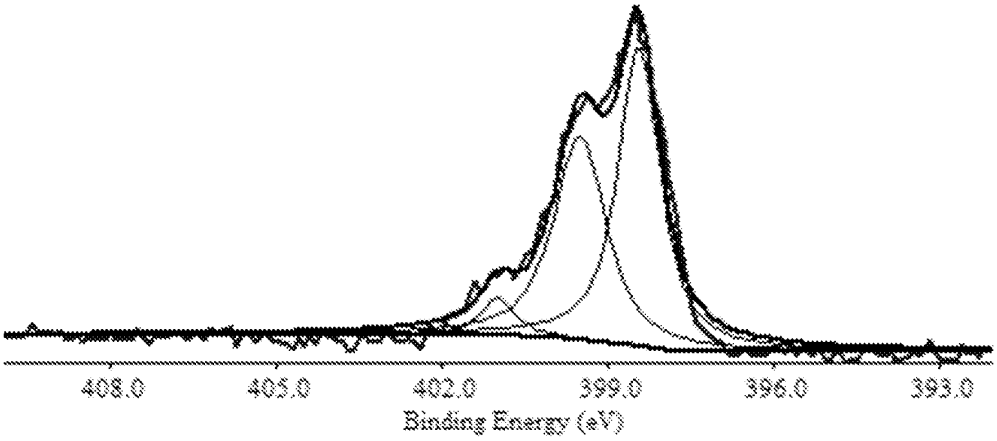

408.0
405.0
402.0
399.0
396.0
393.0
Binding Energy (eV)

FIG. 1L

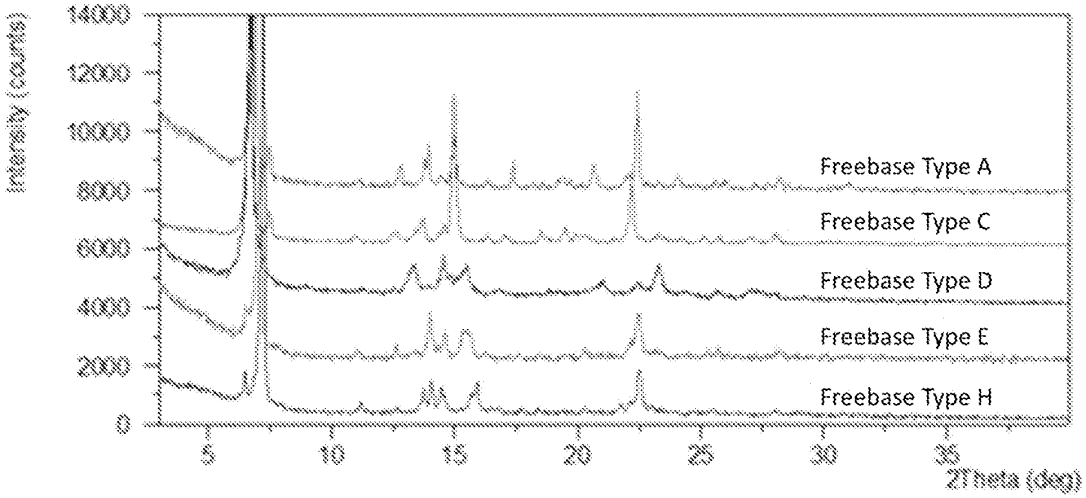

Intensity (counts)
14000
12000
10000
8000
6000
4000
2000
0
5
10
15
20
25
30
35
2Theta (deg)
Freebase Type A
Freebase Type C
Freebase Type D
Freebase Type E
Freebase Type H

FIG. 1M

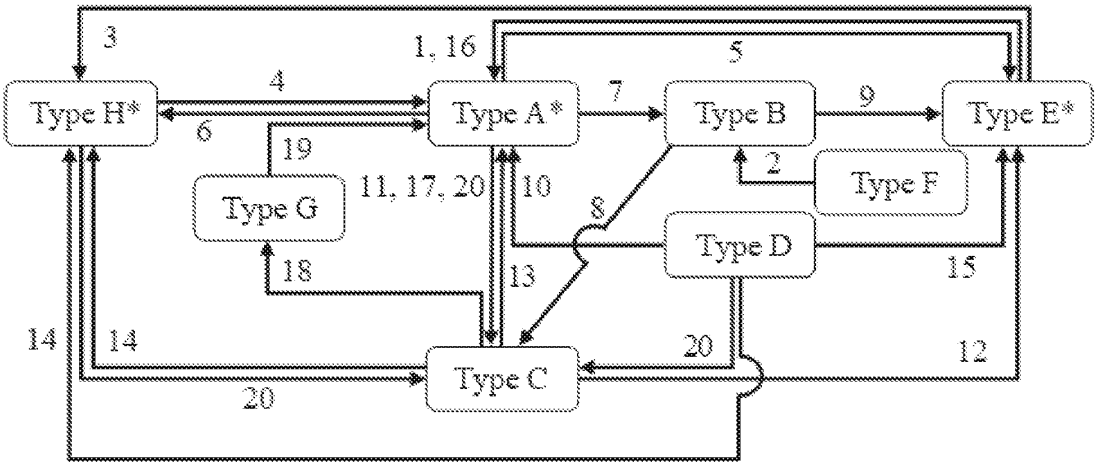

Type H*
Type A*
Type B
Type E*
Type F
Type G
Type D
Type C
3
1, 16
5
4
6
7
9
19
2
11, 17, 20
10
8
18
13
15
14
14
20
20
12

FIG. 1N

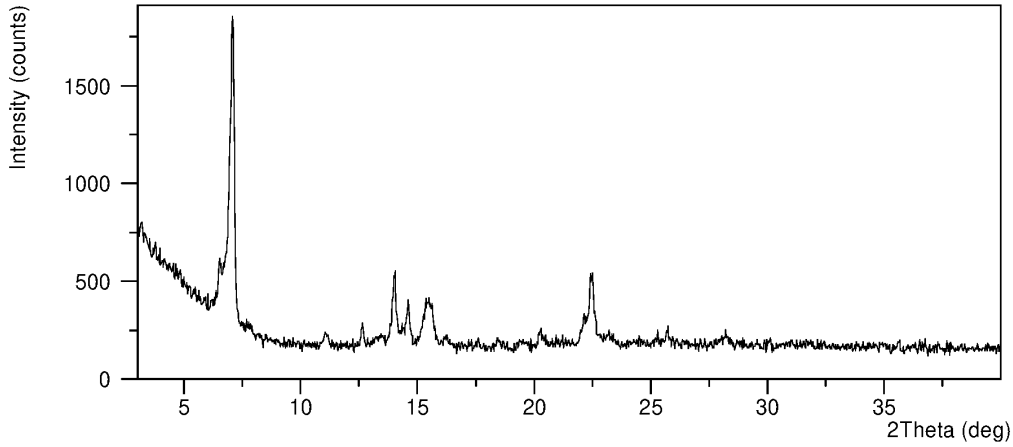

Intensity (counts)
1500
1000
500
0
5
10
15
20
25
30
35
2Theta (deg)

FIG. 2A

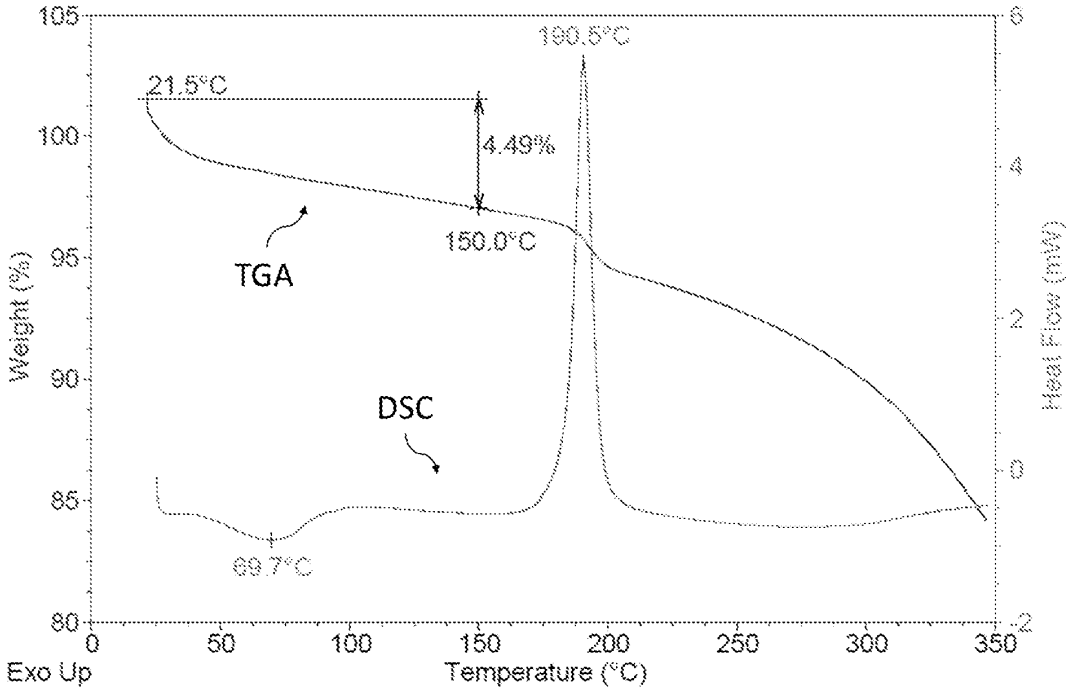

105
100
95
90
85
80
Weight (%)
6
4
2
0
-2
Heat Flow (mW)
180.5°C
21.5°C
4.49%
150.0°C
TGA
DSC
69.7°C
0
50
100
150
200
250
300
350
Exo Up
Temperature (°C)

FIG. 2B

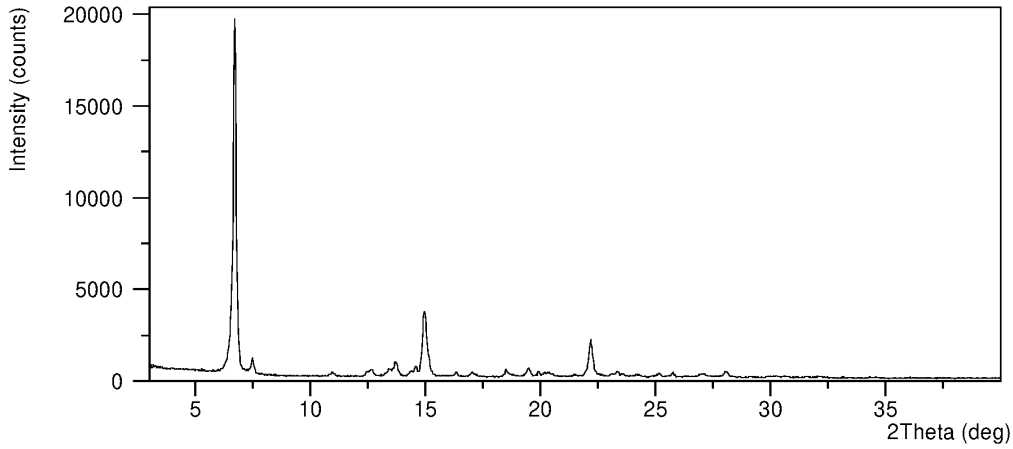

Intensity (counts)
20000
15000
10000
5000
0
5
10
15
20
25
30
35
2Theta (deg)

FIG. 3A

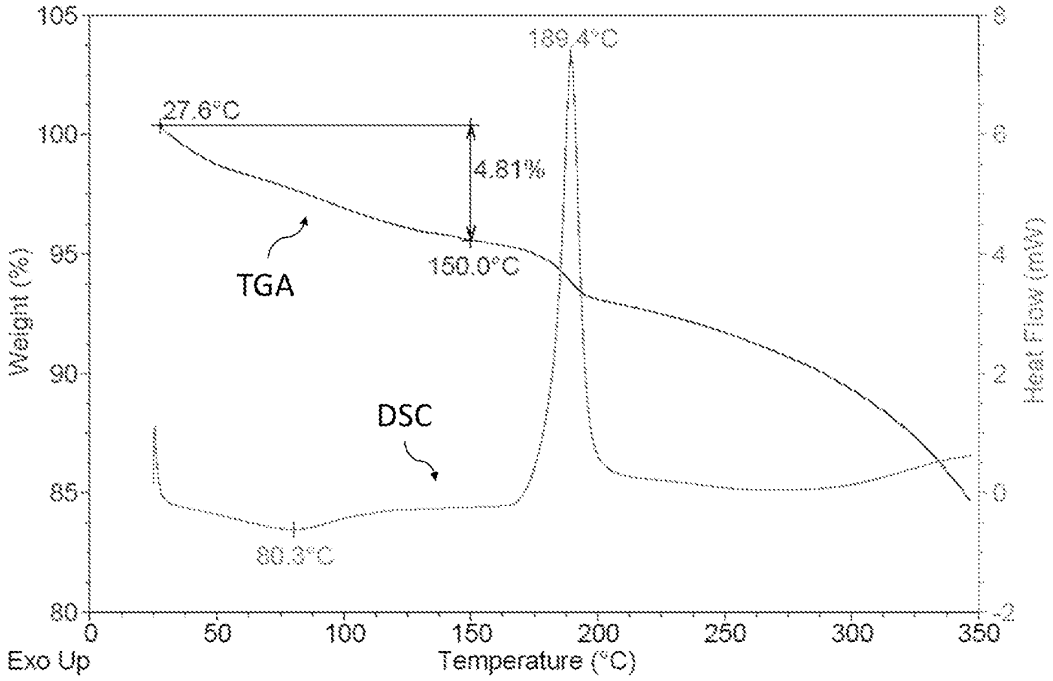

105
100
95
90
85
80
Weight (%)
189.4°C
27.6°C
4.81%
150.0°C
TGA
DSC
80.3°C
8
6
4
2
0
-2
Heat Flow (mW)
0
50
100
150
200
250
300
350
Exo Up
Temperature (°C)

FIG. 3B

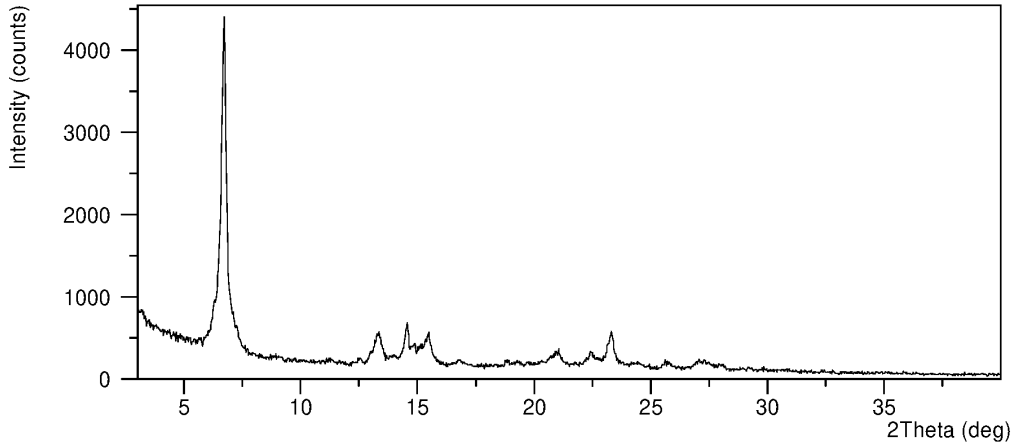

Intensity (counts)
4000
3000
2000
1000
0
5
10
15
20
25
30
35
2Theta (deg)

FIG. 4A

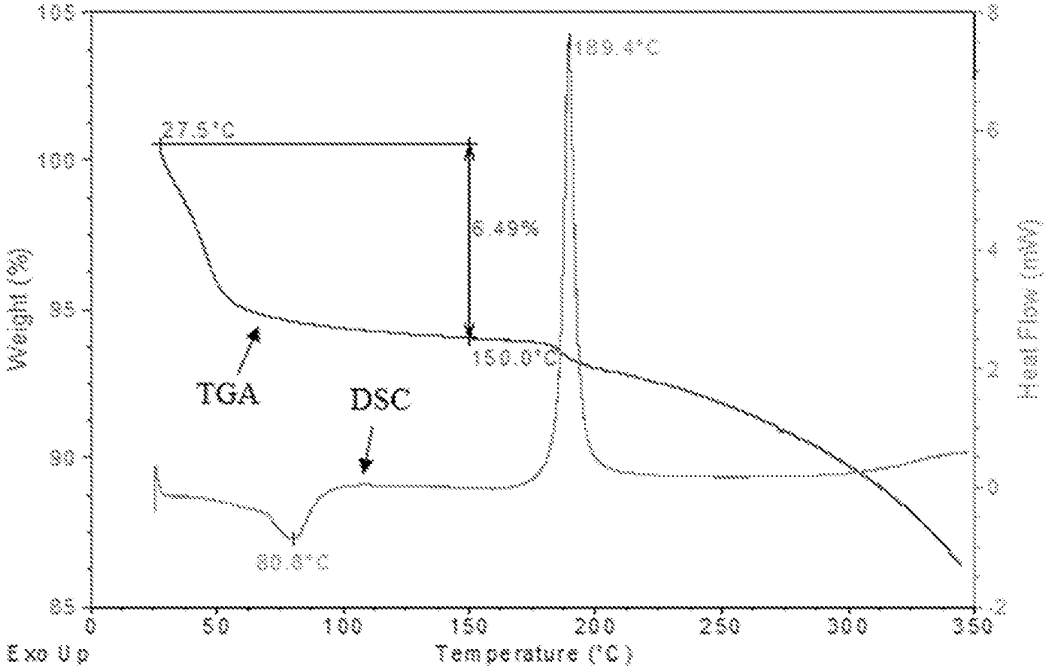

189.4°C
27.5°C
6.49%
150.0°C
TGA
DSC
80.8°C
Weight (%)
Heat Flow (mW)
Exo Up
Temperature (°C)

FIG. 4B

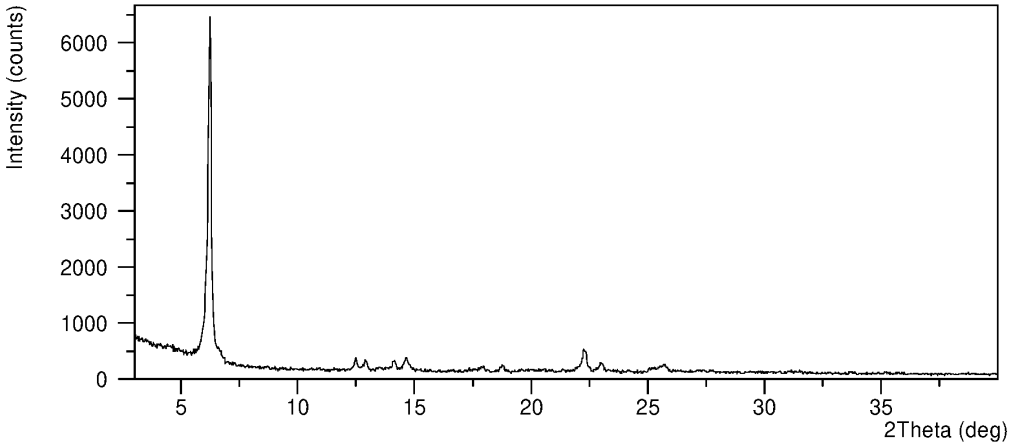

Intensity (counts)
6000
5000
4000
3000
2000
1000
0
5
10
15
20
25
30
35
2Theta (deg)

FIG. 5A

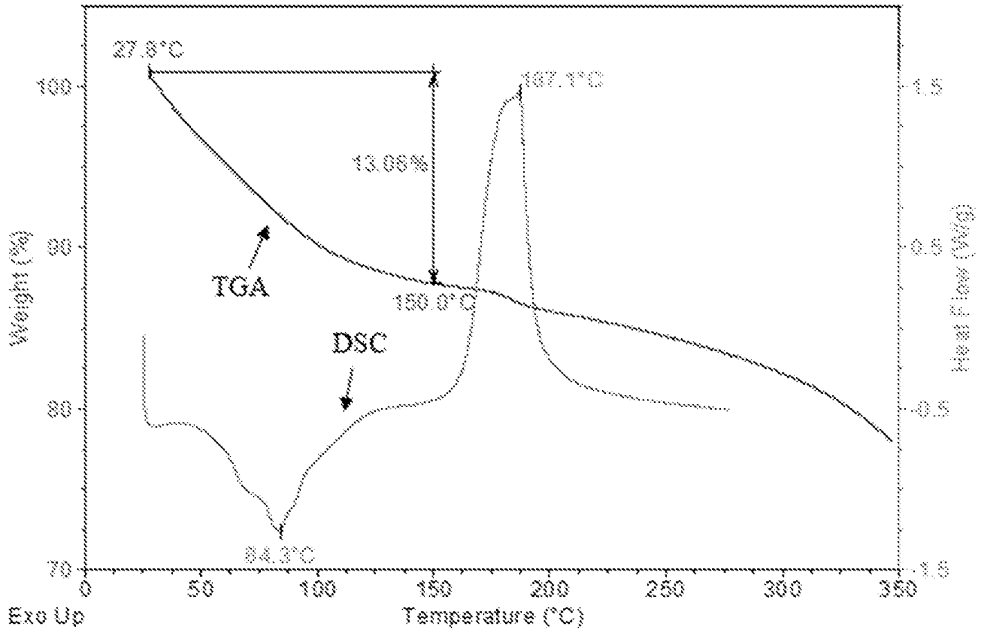

27.8°C
167.1°C
13.08%
TGA
150.0°C
DSC
84.3°C
Weight (%)
100
90
80
70
Heat Flow (W/g)
1.5
0.5
-0.5
-1.5
0
50
100
150
200
250
300
350
Exo Up
Temperature (°C)

FIG. 5B

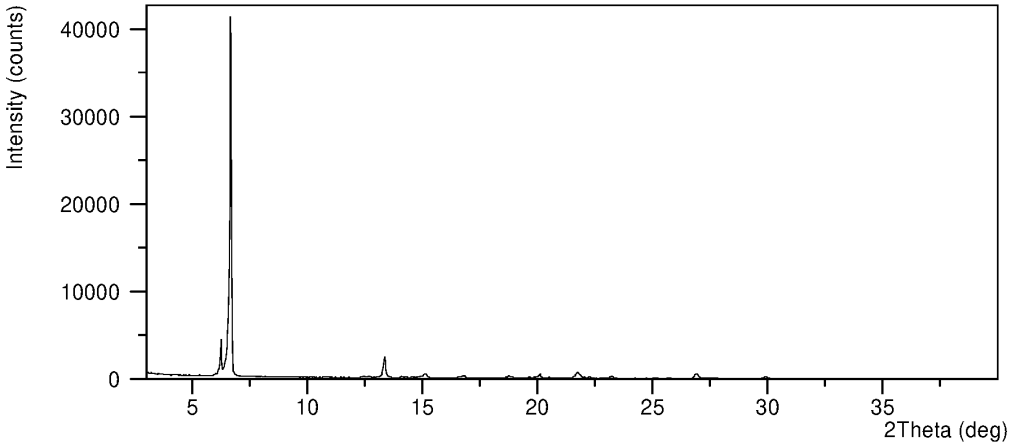

Intensity (counts)
40000
30000
20000
10000
0
5
10
15
20
25
30
35
2Theta (deg)

FIG. 6

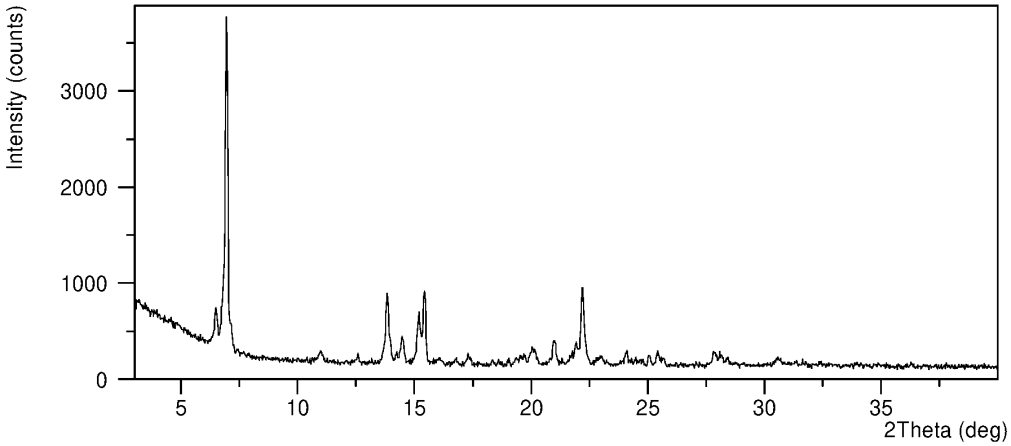

Intensity (counts)
3000
2000
1000
0
5
10
15
20
25
30
35
2Theta (deg)

FIG. 7

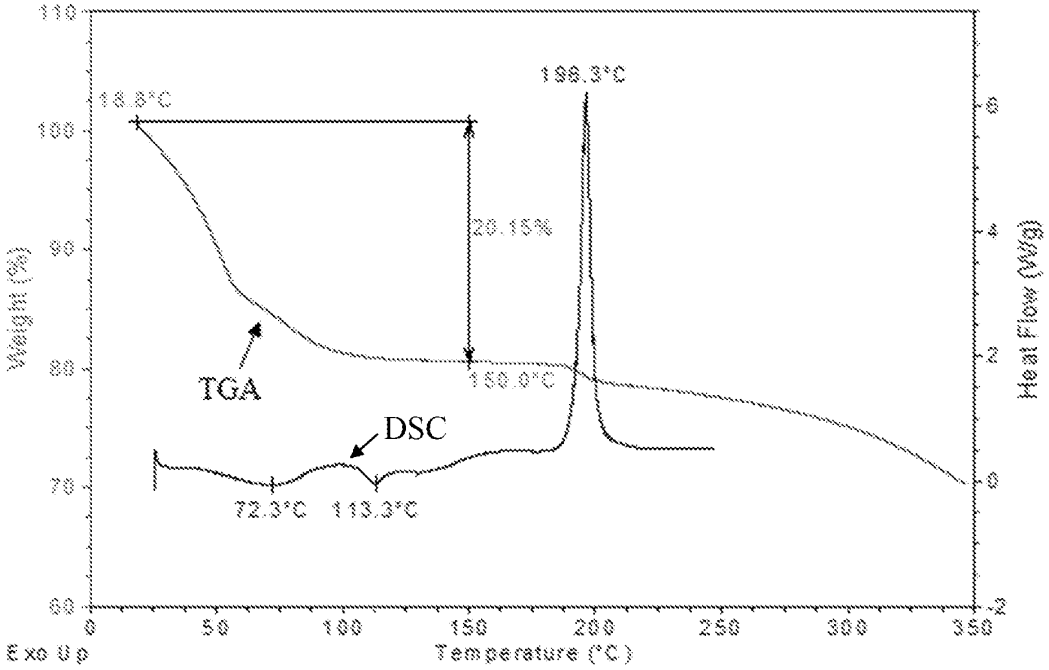

110
100
90
80
70
60
Weight (%)
18.8°C
198.3°C
20.15%
150.0°C
TGA
DSC
72.3°C
113.3°C
8
4
0
-2
Heat Flow (W/g)
0
50
100
150
200
250
300
350
Exo Up
Temperature (°C)

FIG. 8

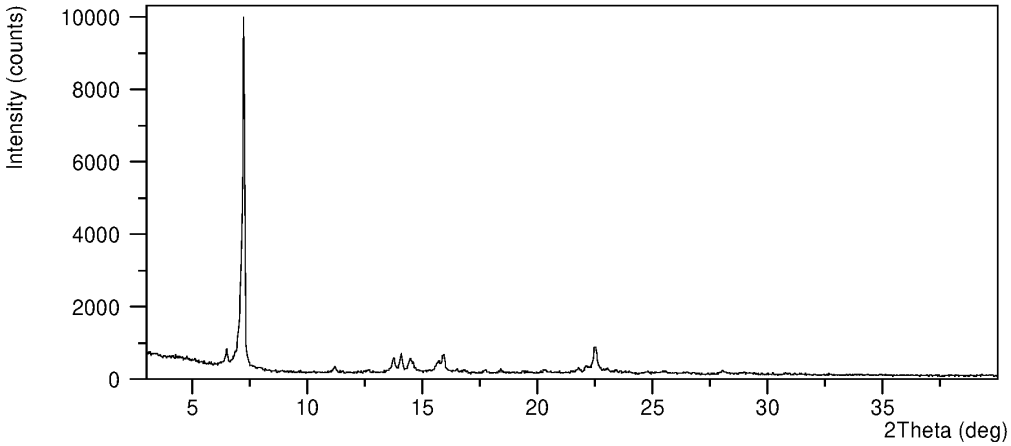

Intensity (counts)
10000
8000
6000
4000
2000
0
5
10
15
20
25
30
35
2Theta (deg)

FIG. 9A

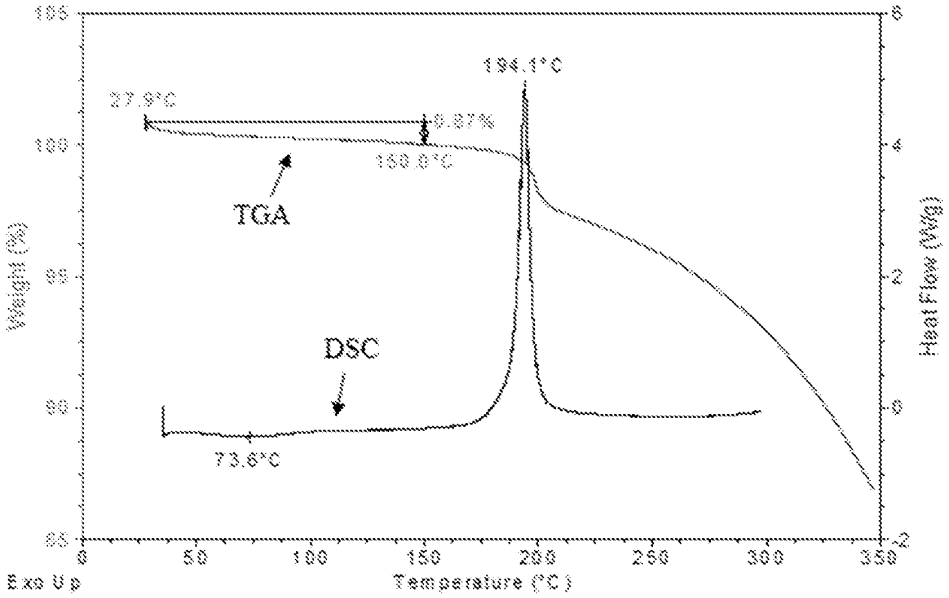


FIG. 9B

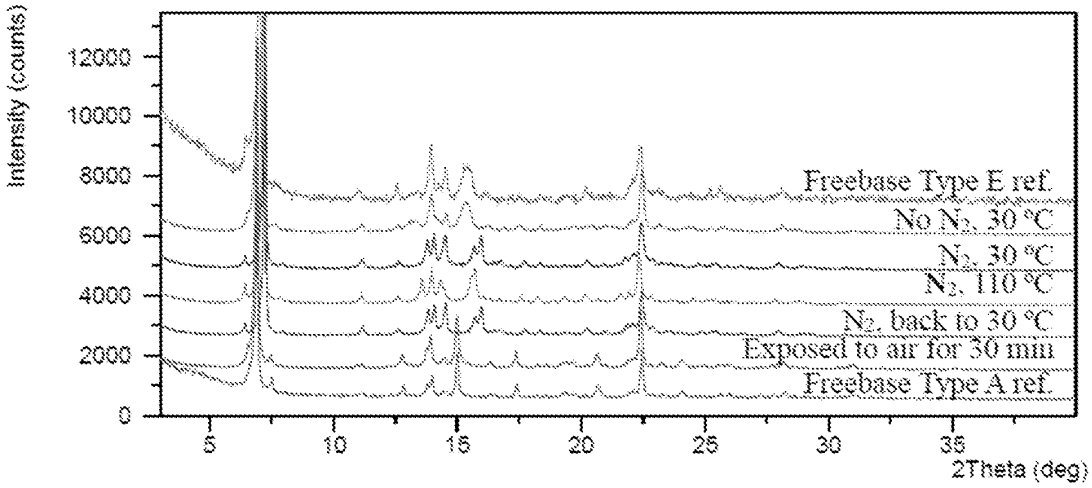


FIG. 10A

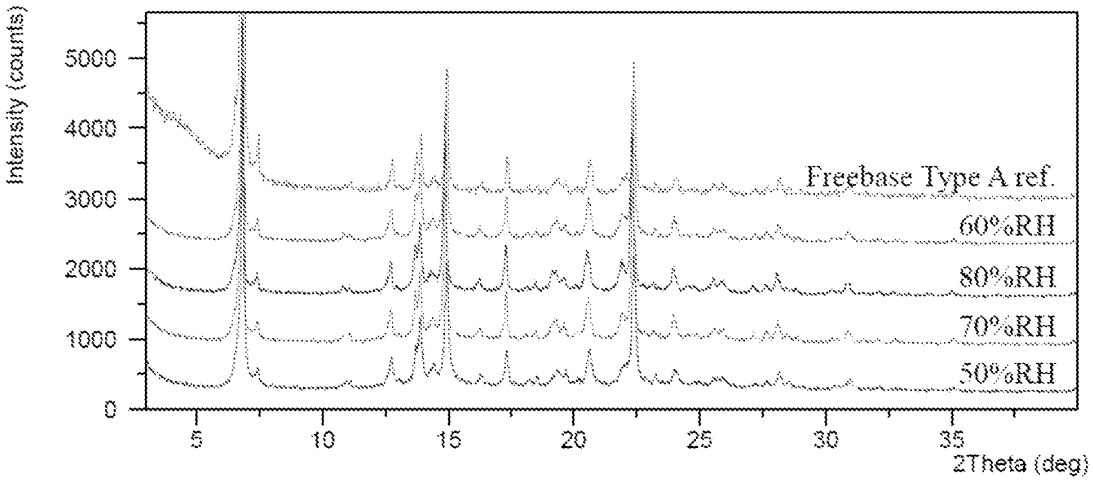


FIG. 10B

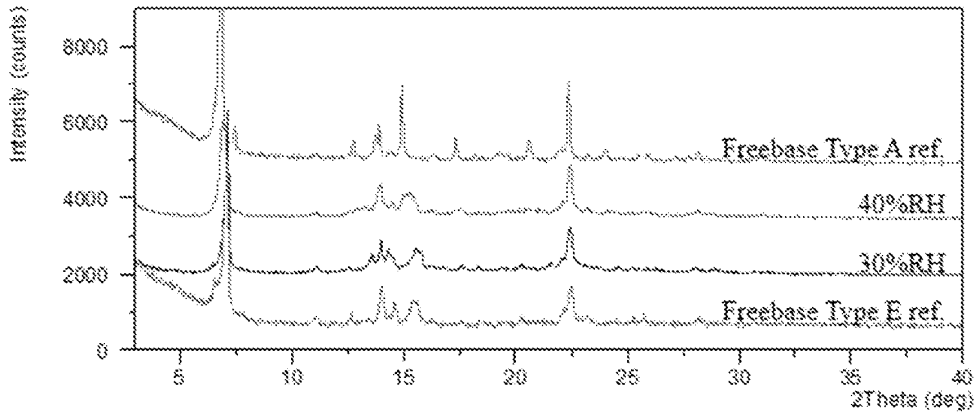


FIG. 10C

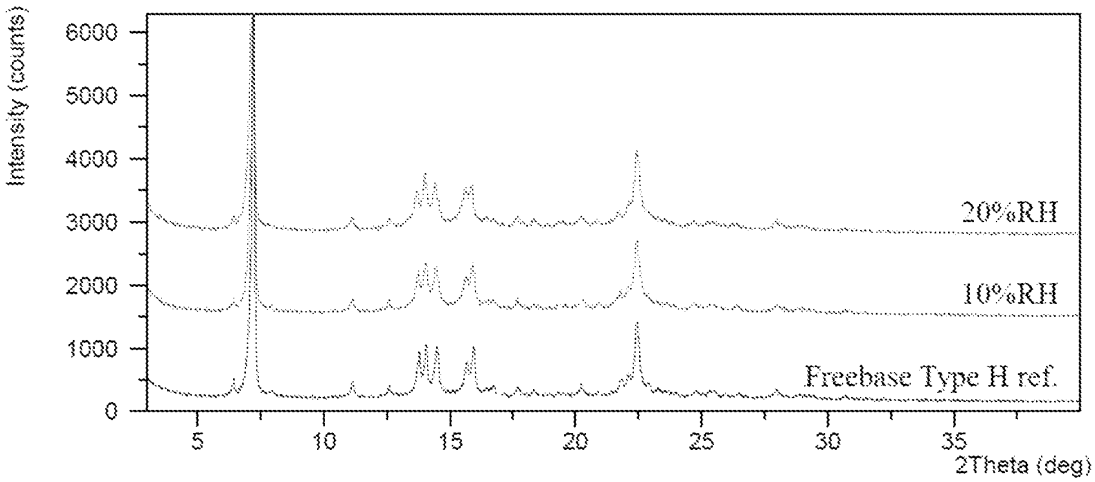


FIG. 10D

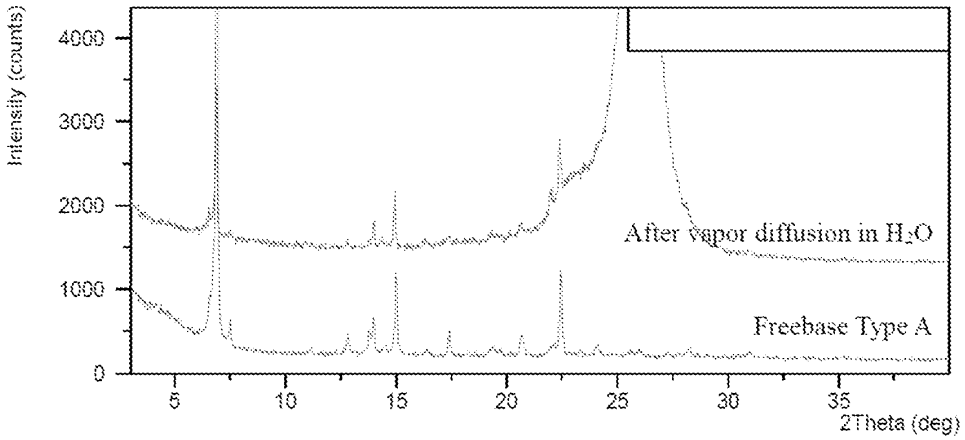


FIG. 10E

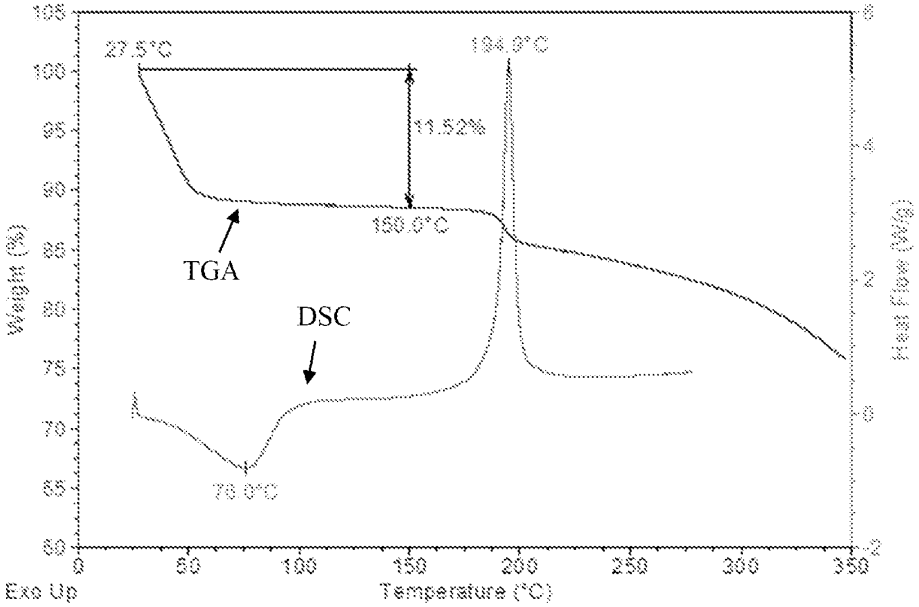


FIG. 10F

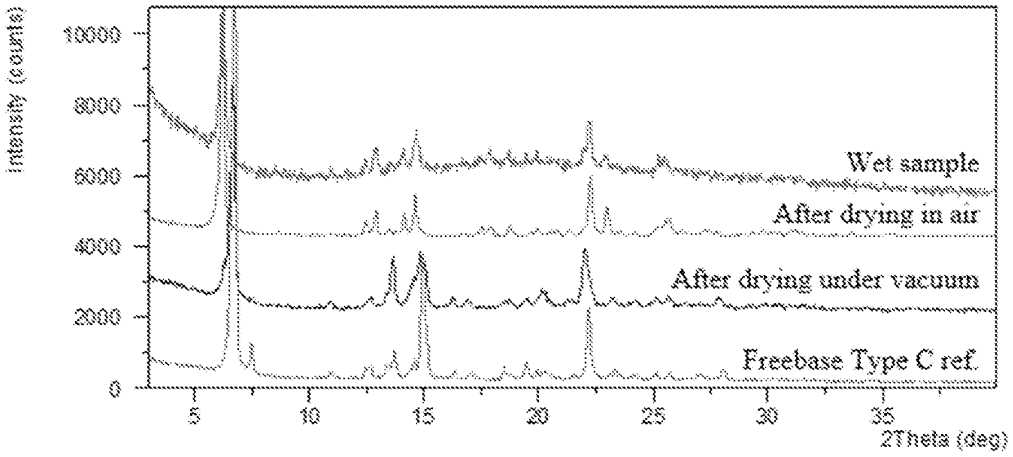


FIG. 11A

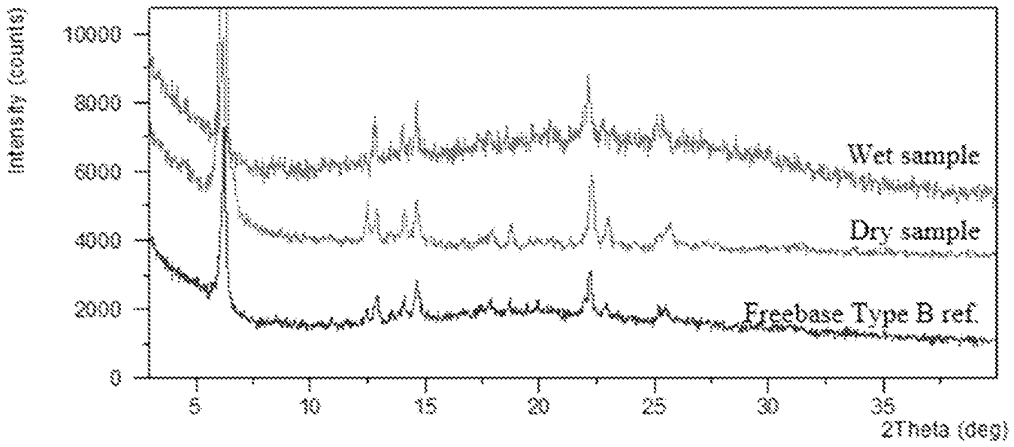


FIG. 11B

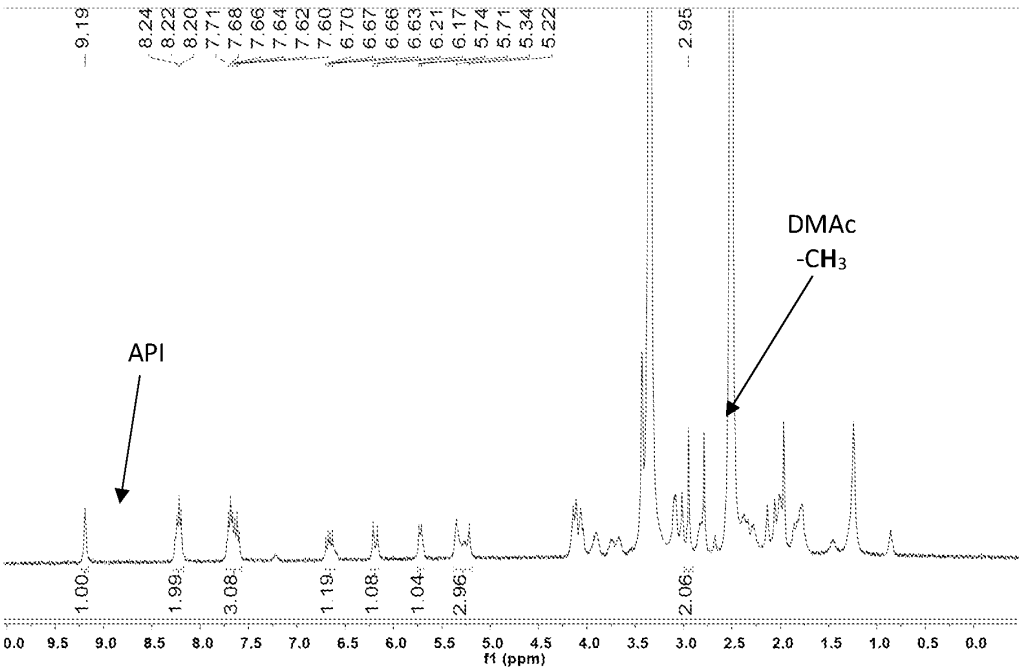


FIG. 11C

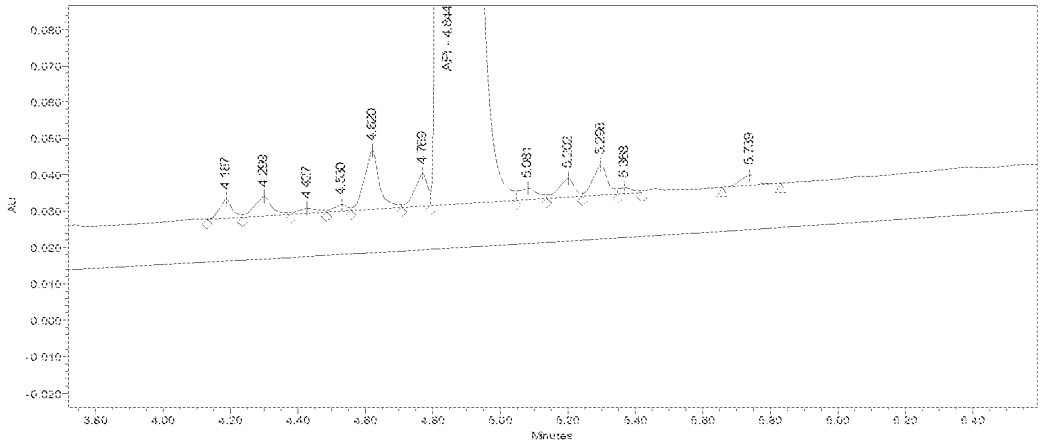


FIG. 11D

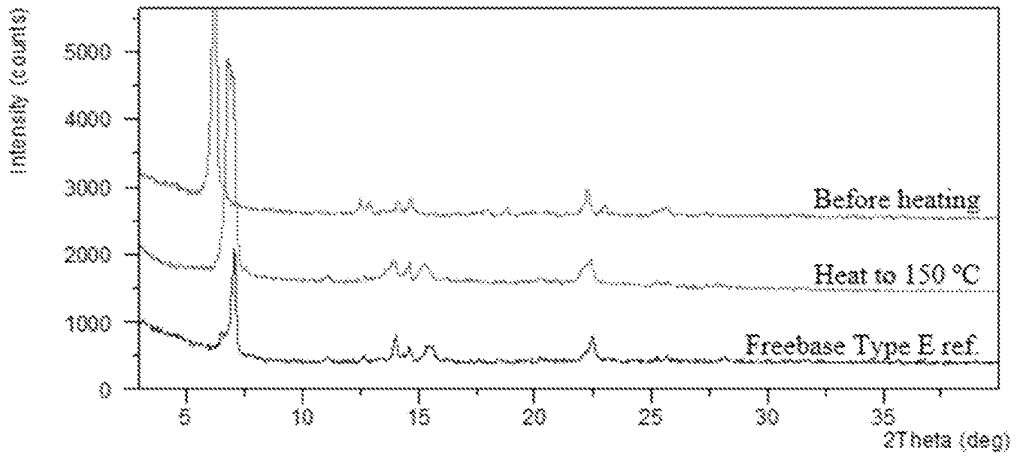


FIG. 11E

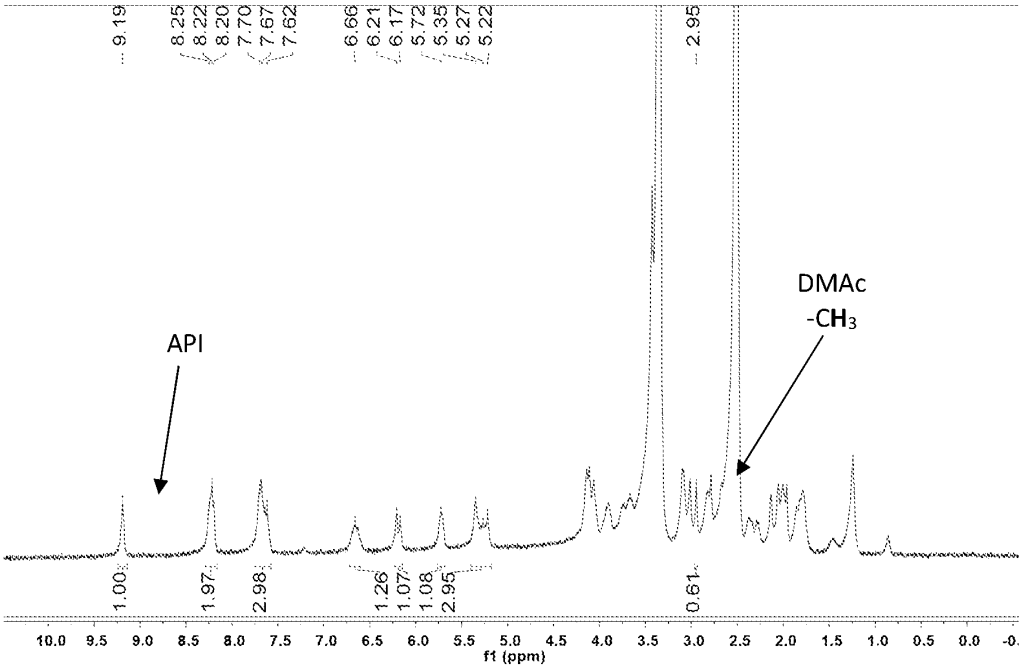


FIG. 11F

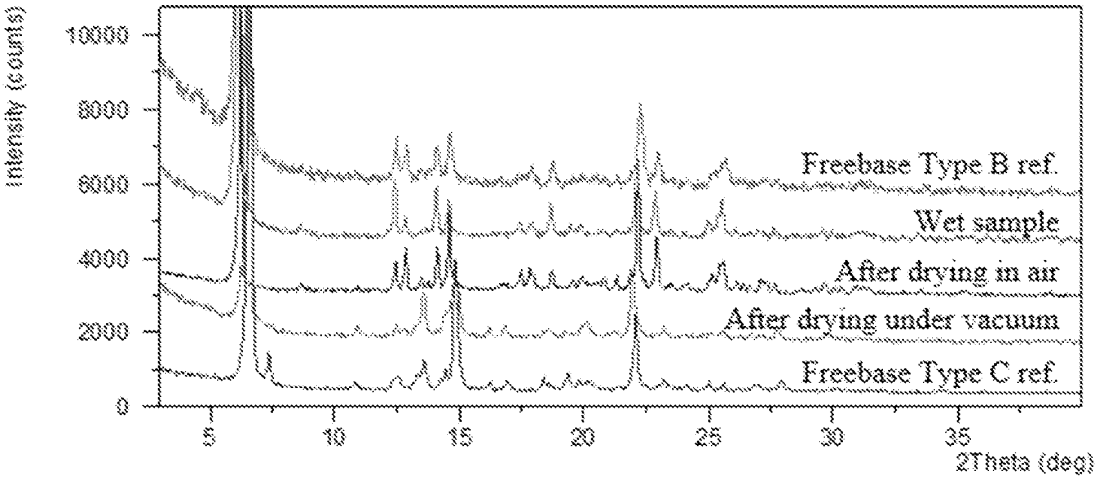


FIG. 11G

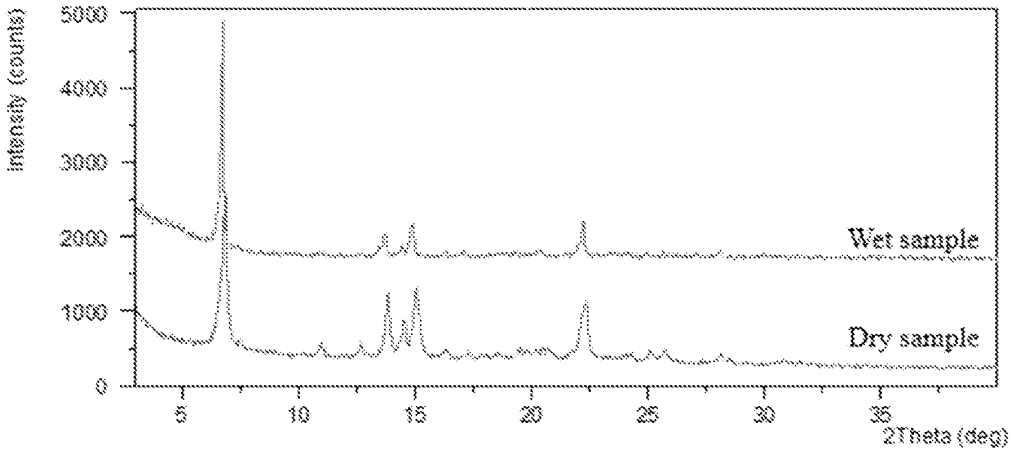


FIG. 12A

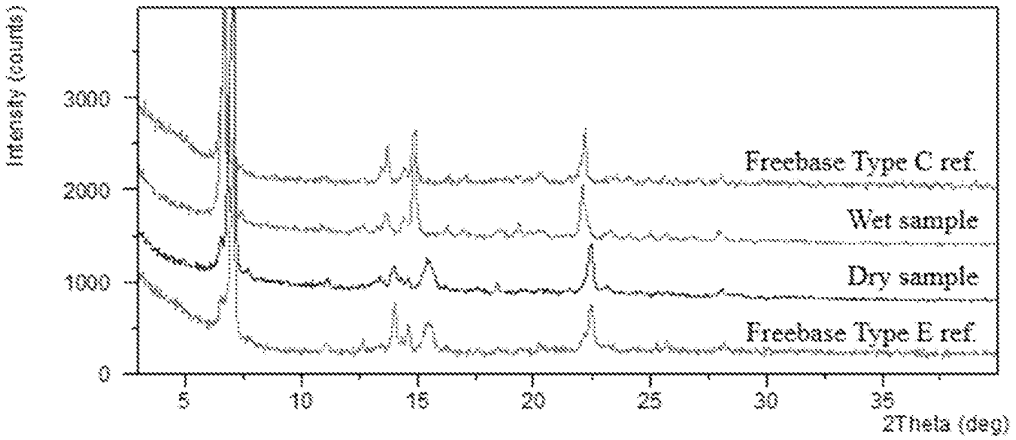


FIG. 12B

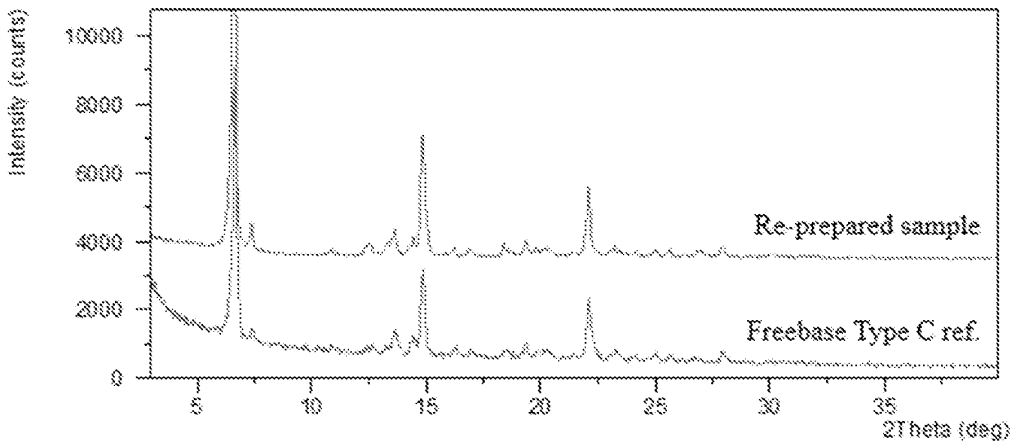


FIG. 12C

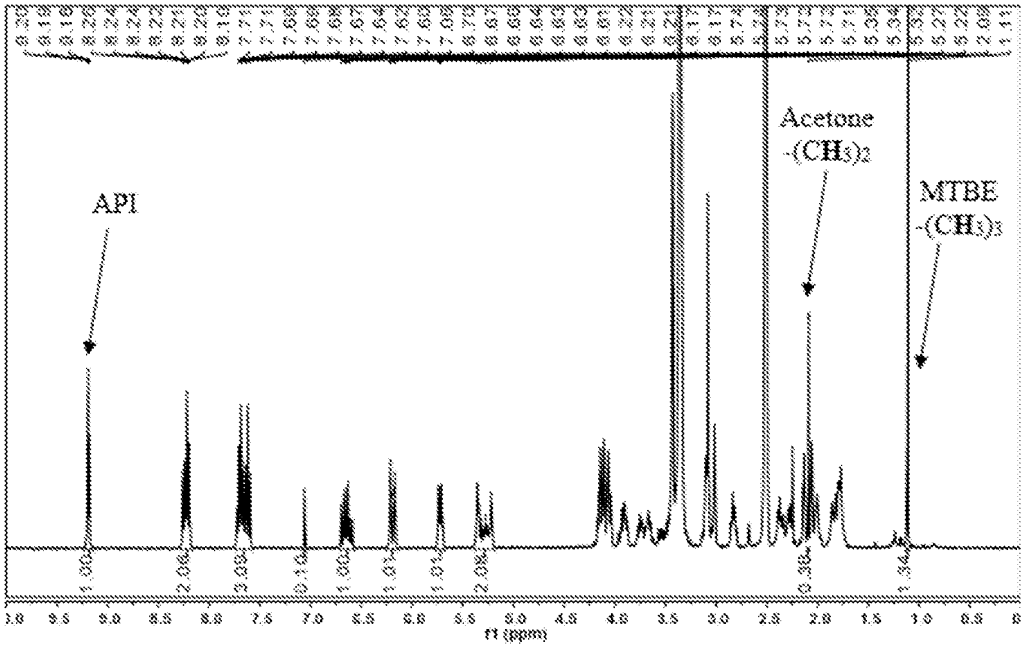


FIG. 12D

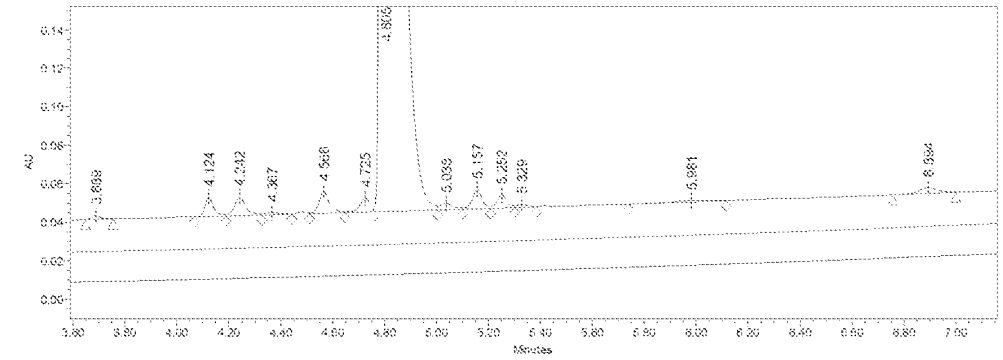


FIG. 12E

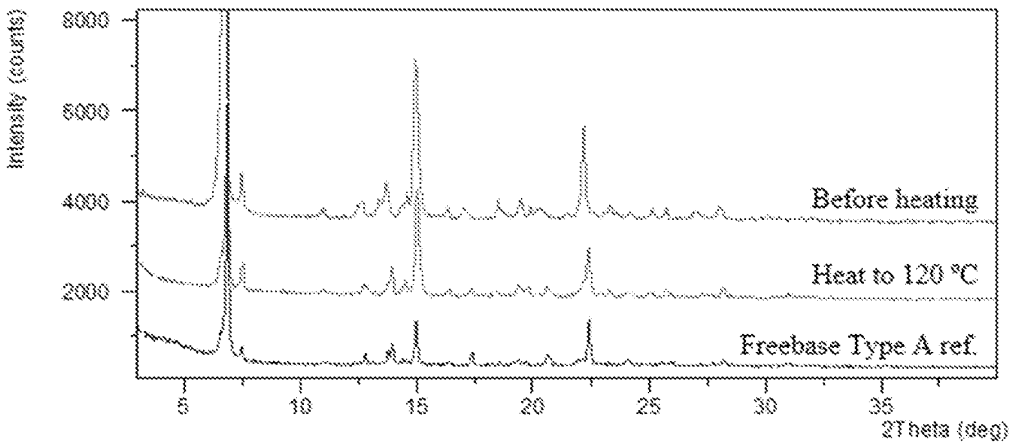


FIG. 12F

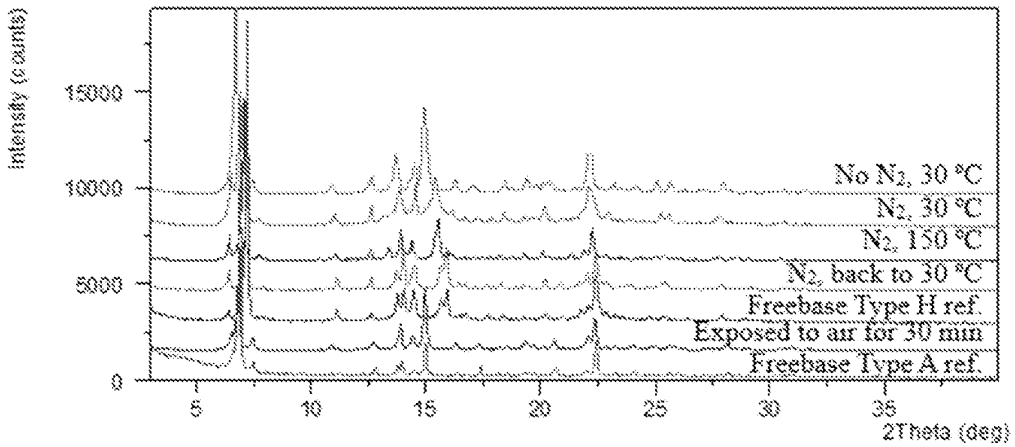


FIG. 12G

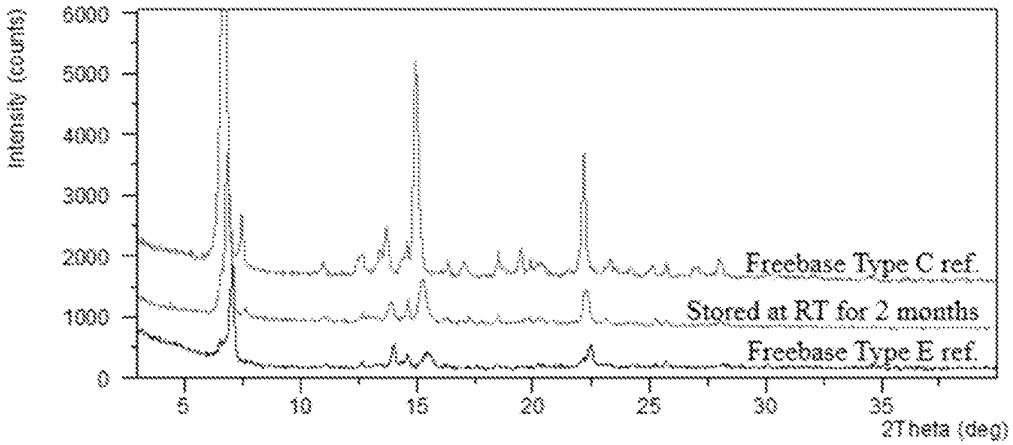


FIG. 12H

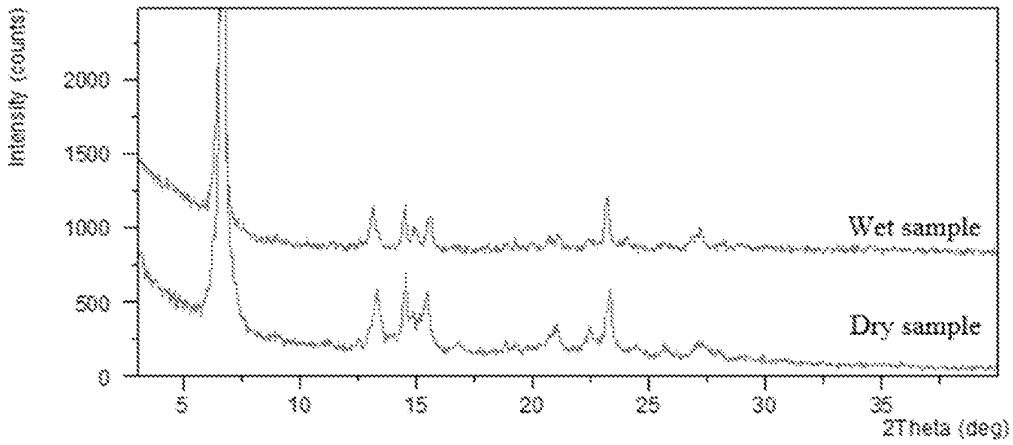


FIG. 13A

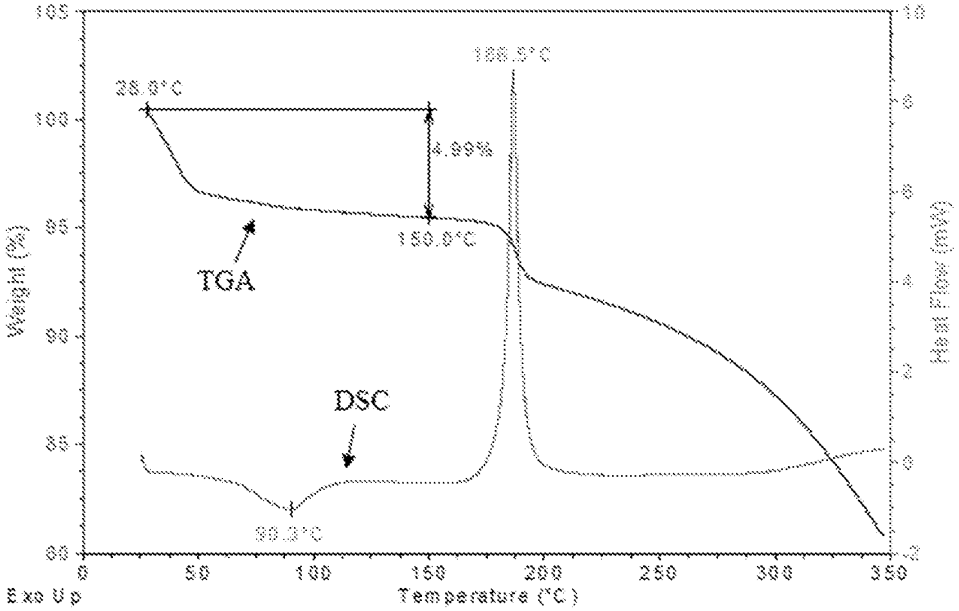


FIG. 13B

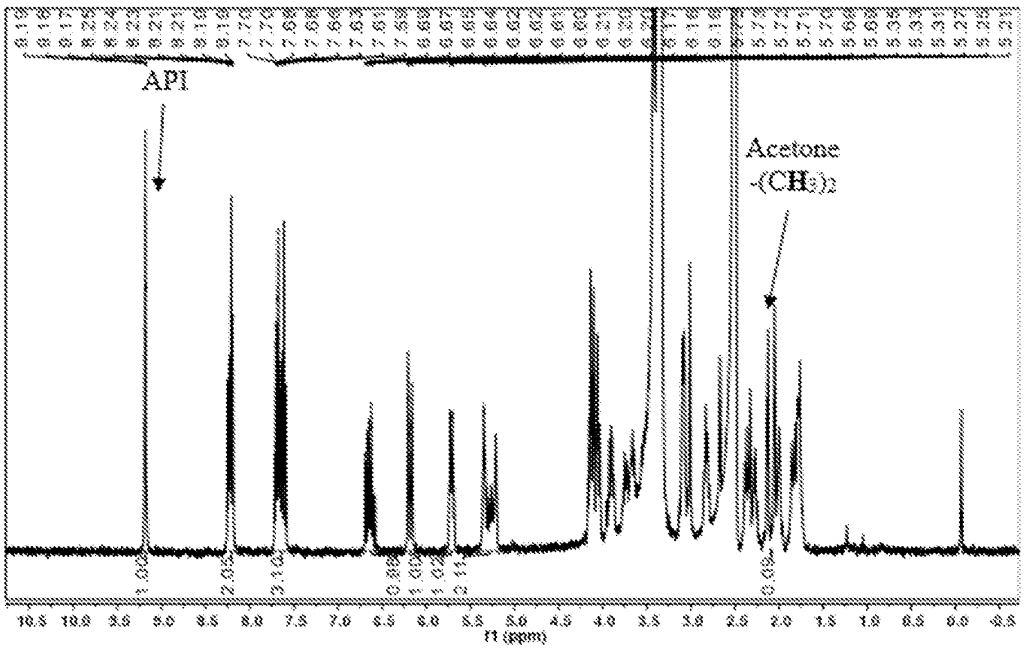


FIG. 13C

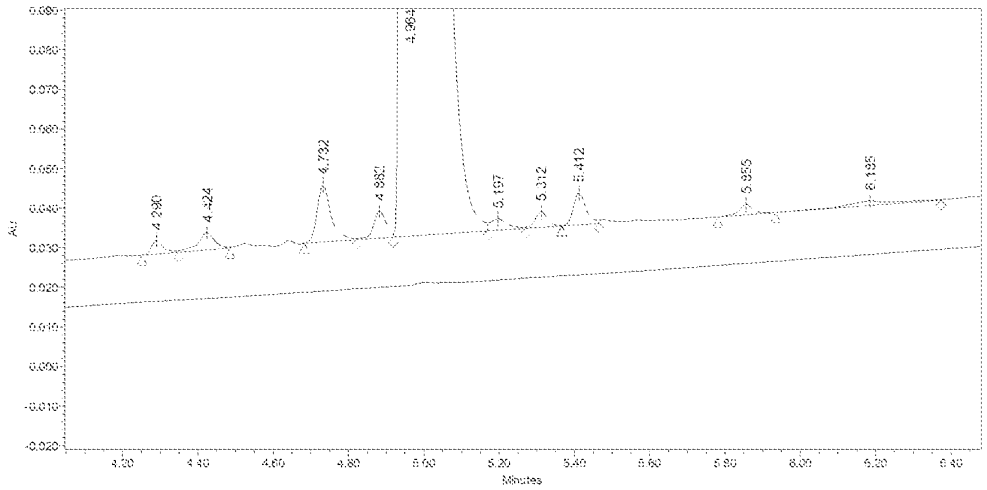


FIG. 13D

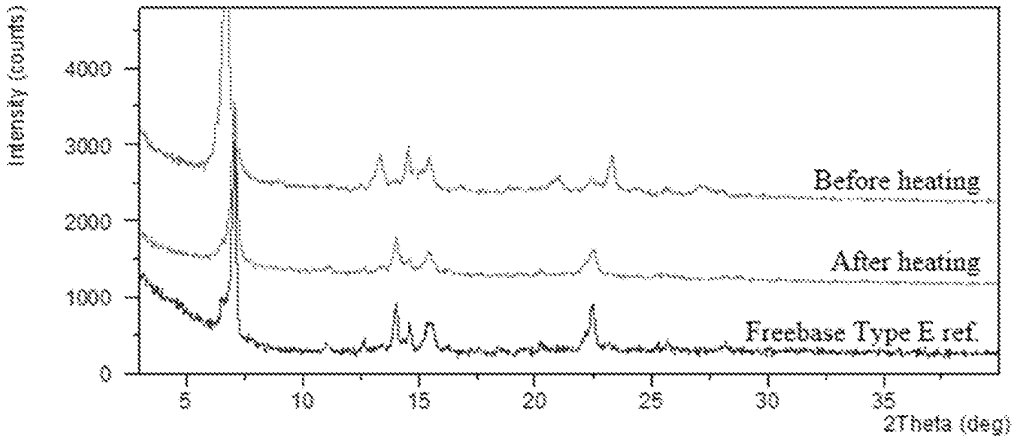


FIG. 13E

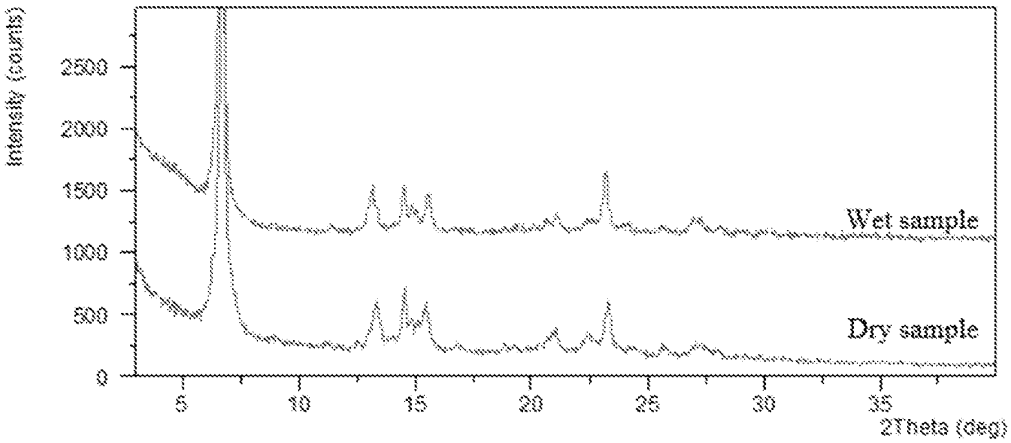


FIG.13F

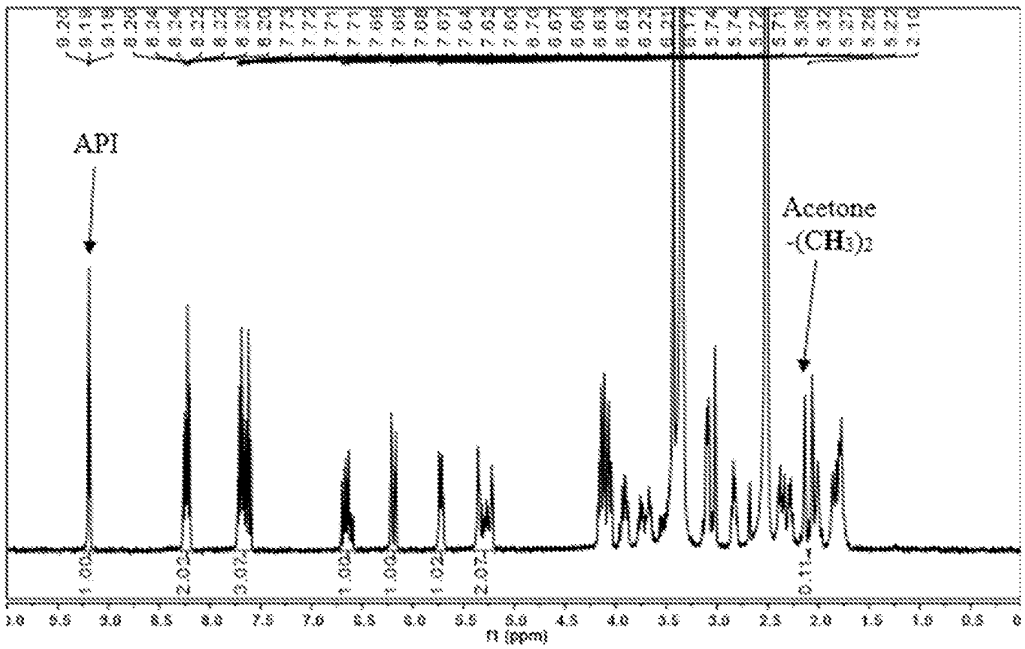


FIG. 13G

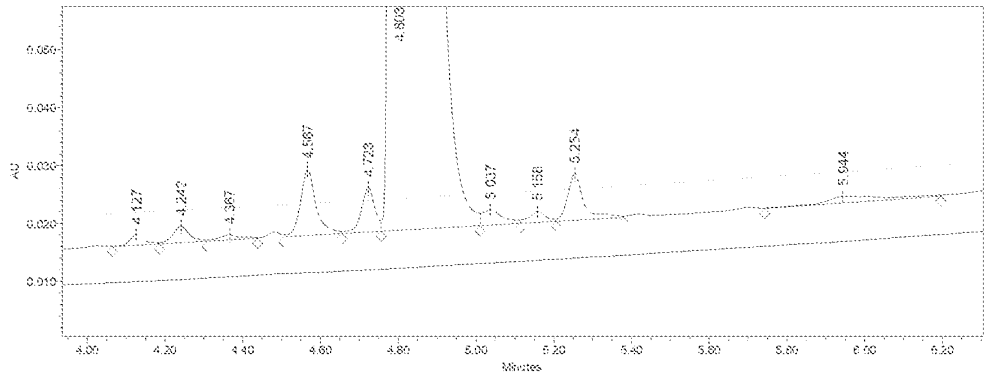


FIG. 13H

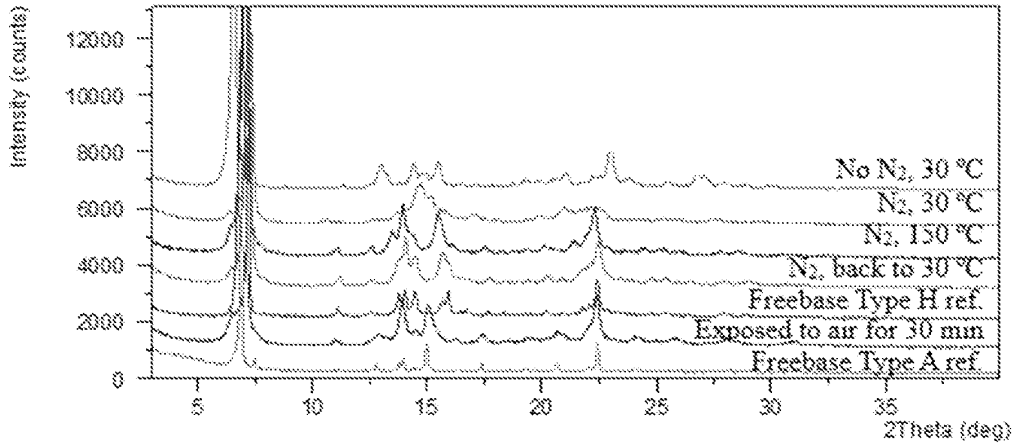


FIG. 13I

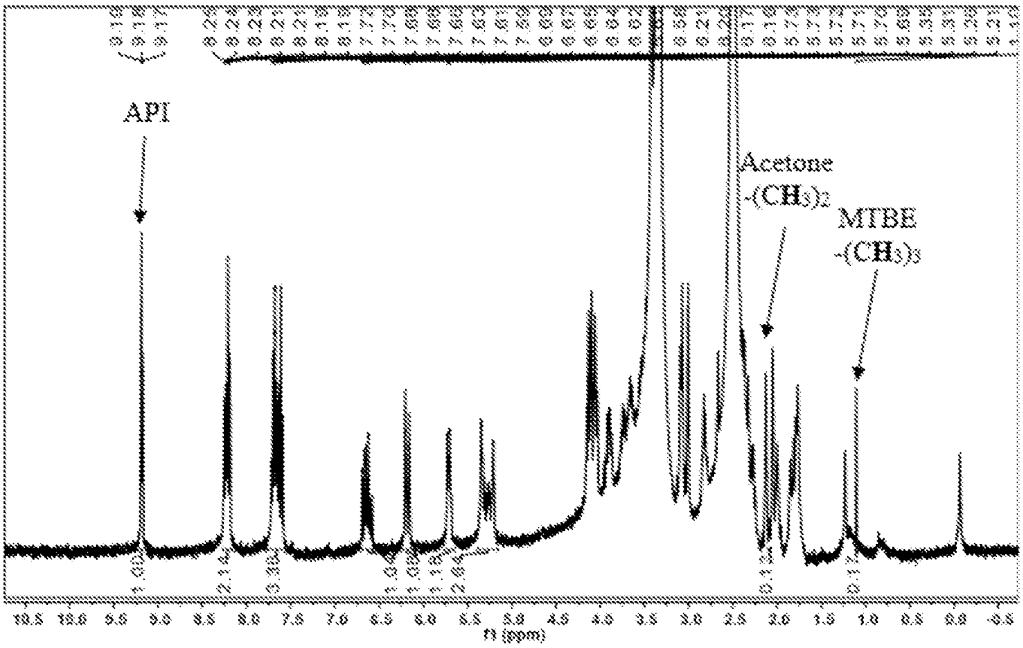


FIG. 14A

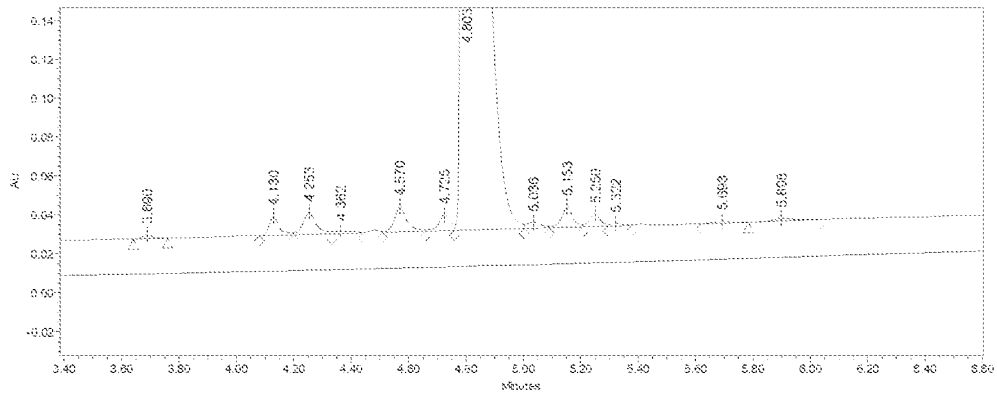


FIG. 14B

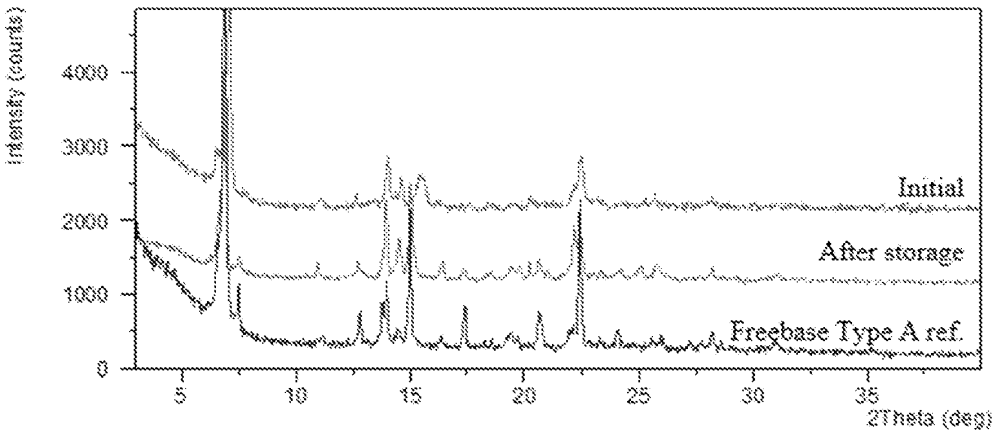


FIG. 14C

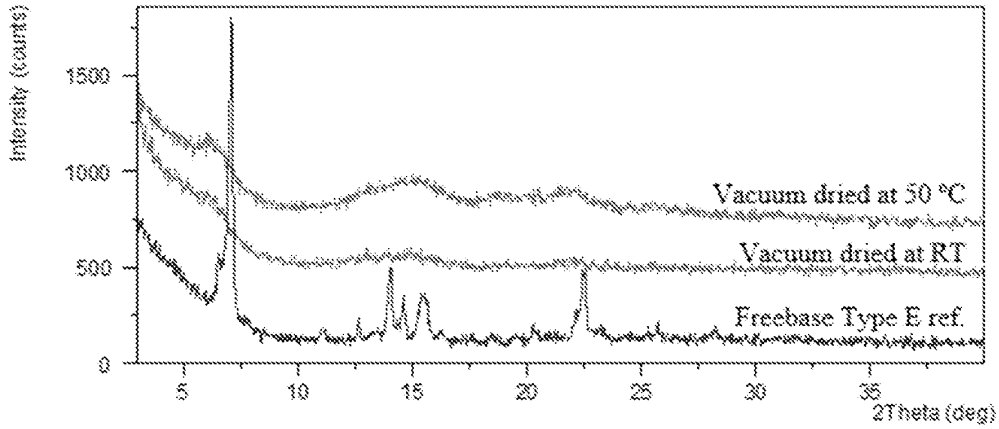


FIG. 14D

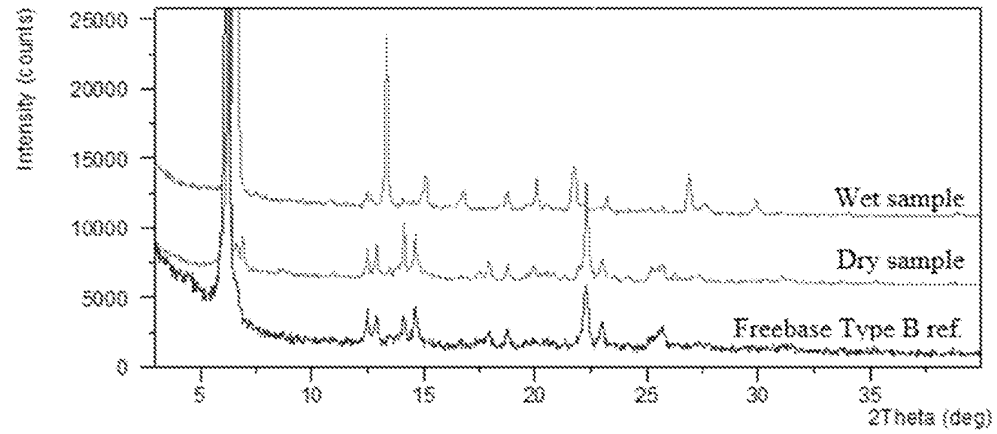


FIG. 15

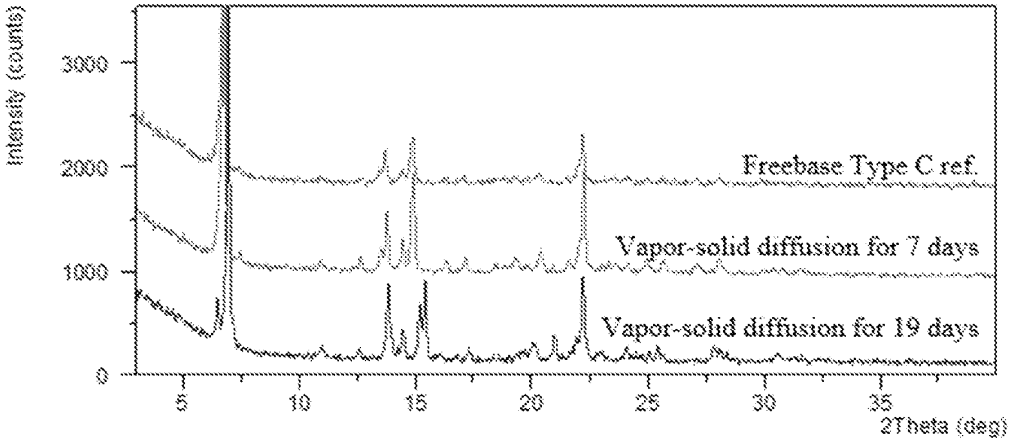


FIG. 16A

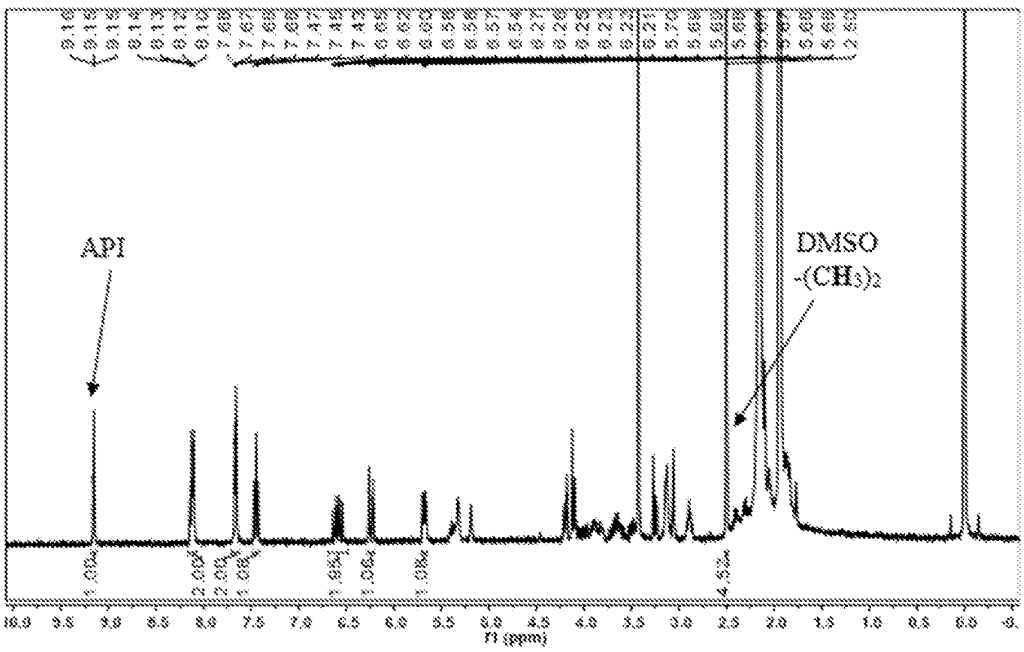


FIG. 16B

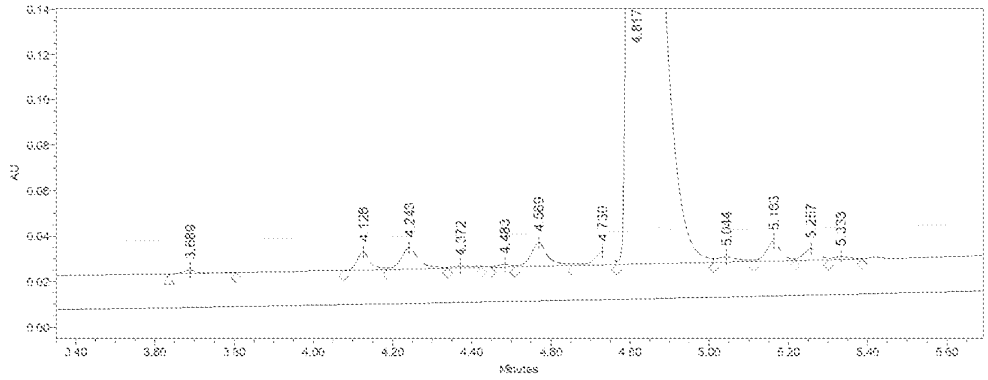


FIG. 16C

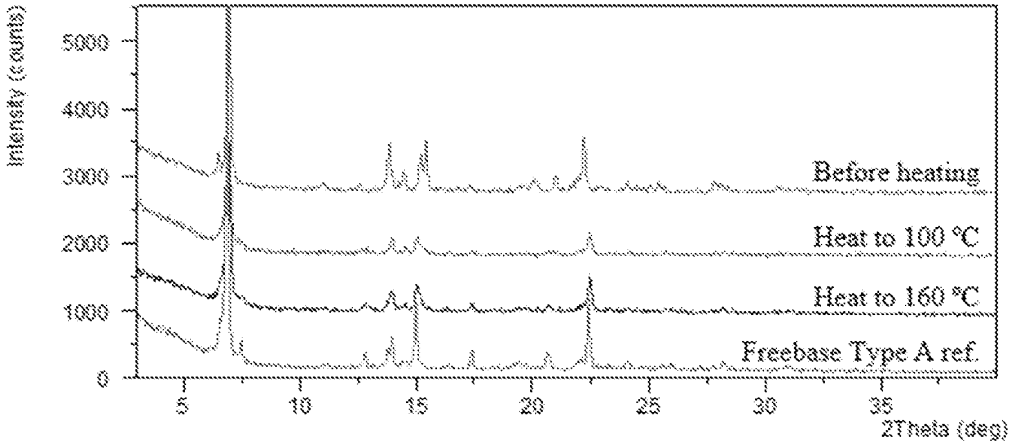


FIG. 16D

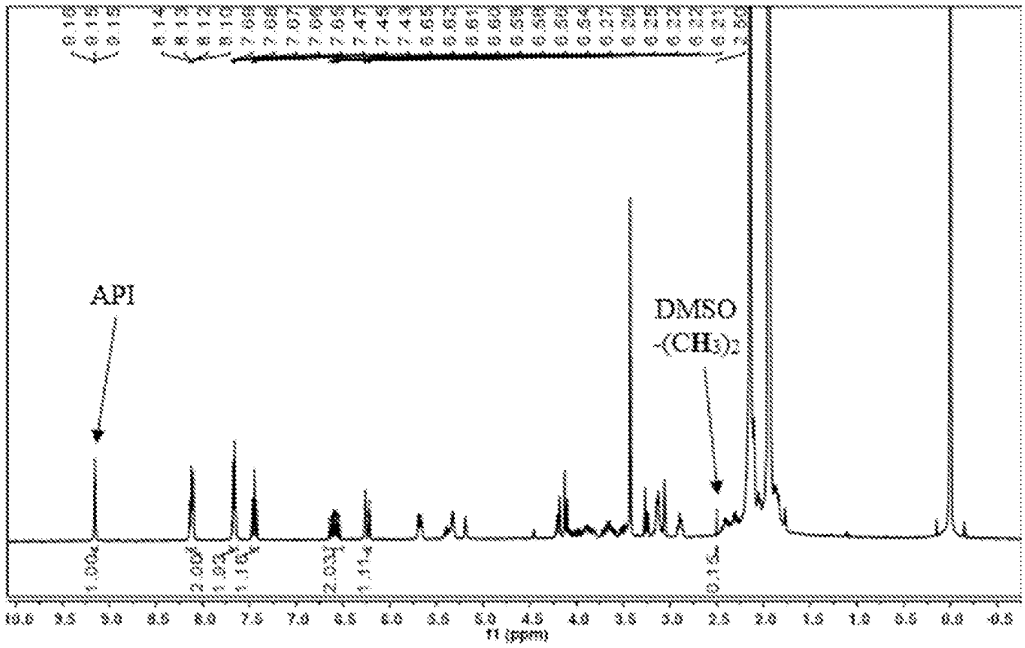


FIG. 16E

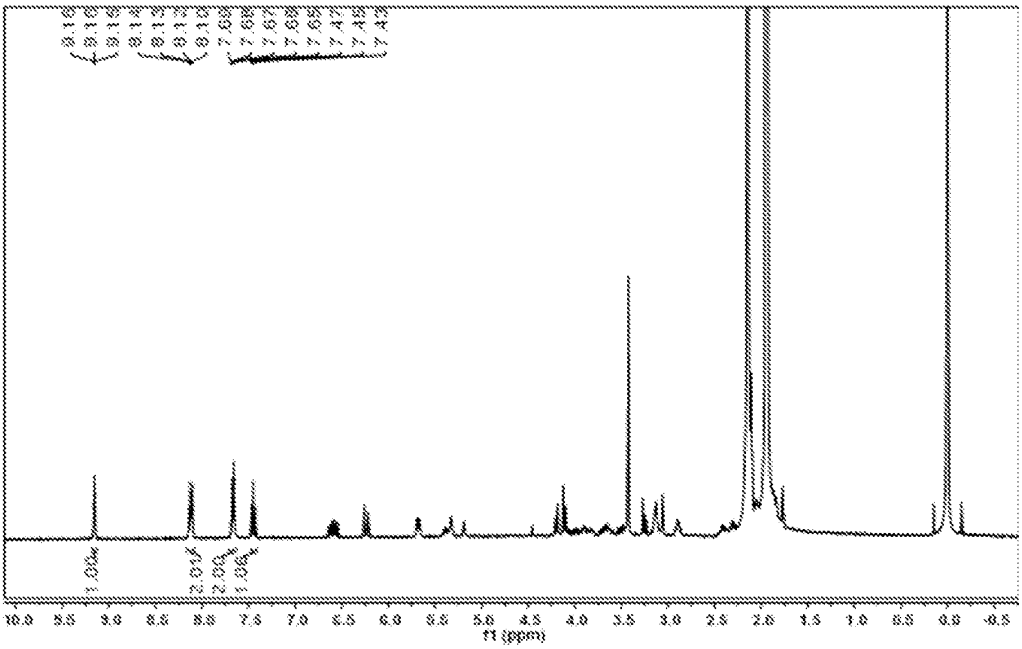


FIG. 16F

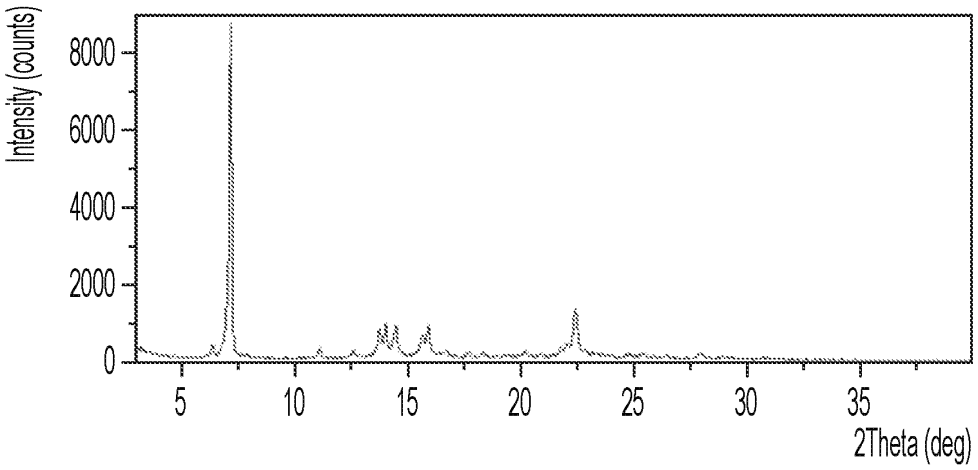


FIG. 17A

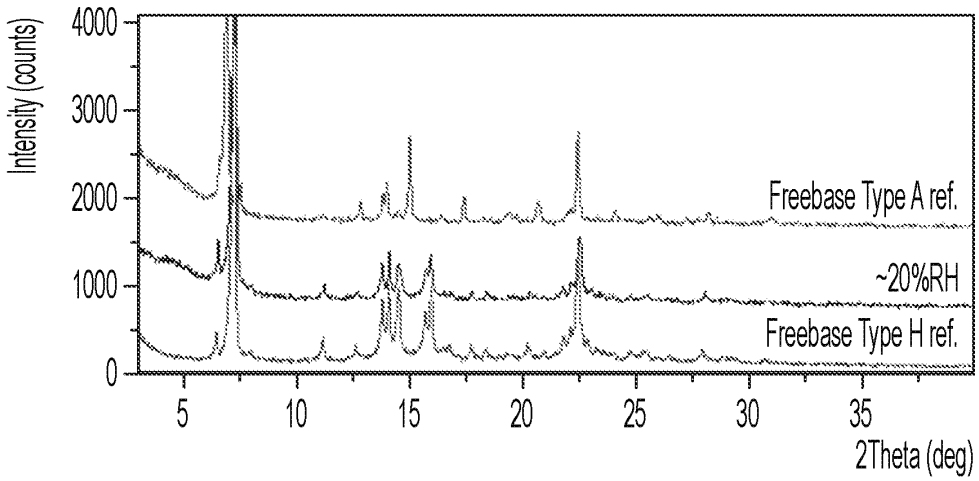


FIG. 17B

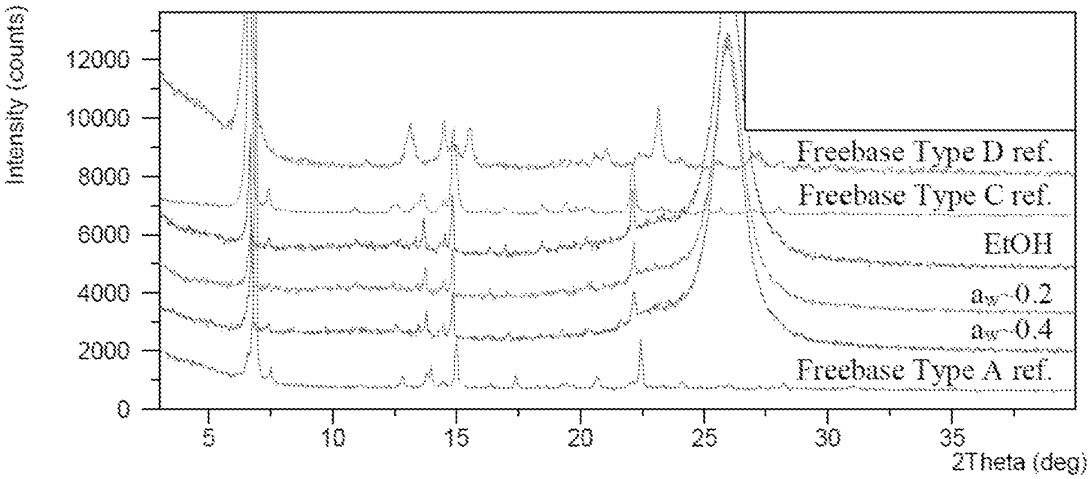


FIG. 18A

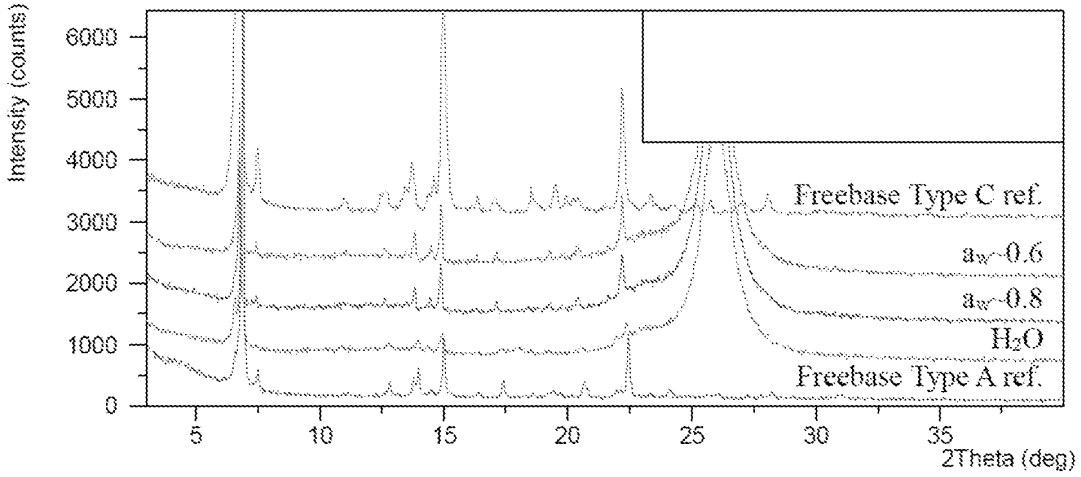


FIG. 18B

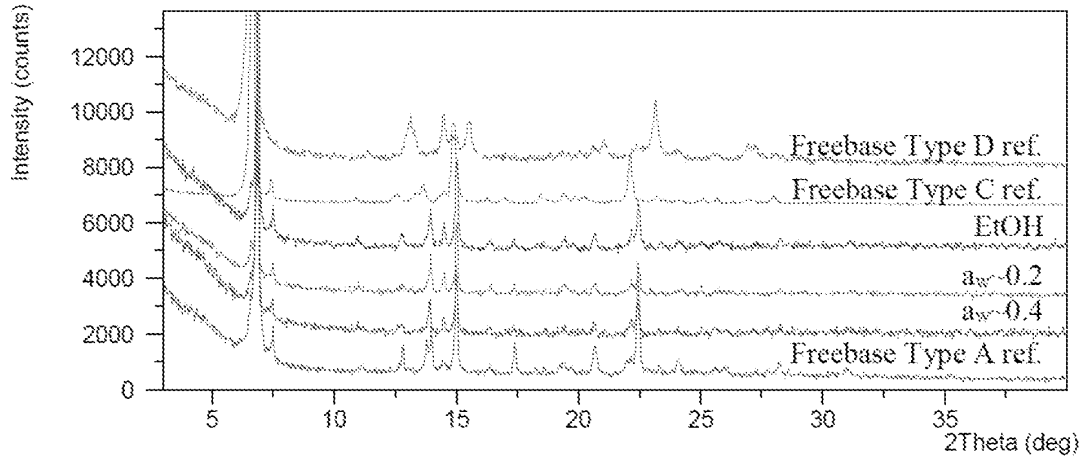


FIG. 18C

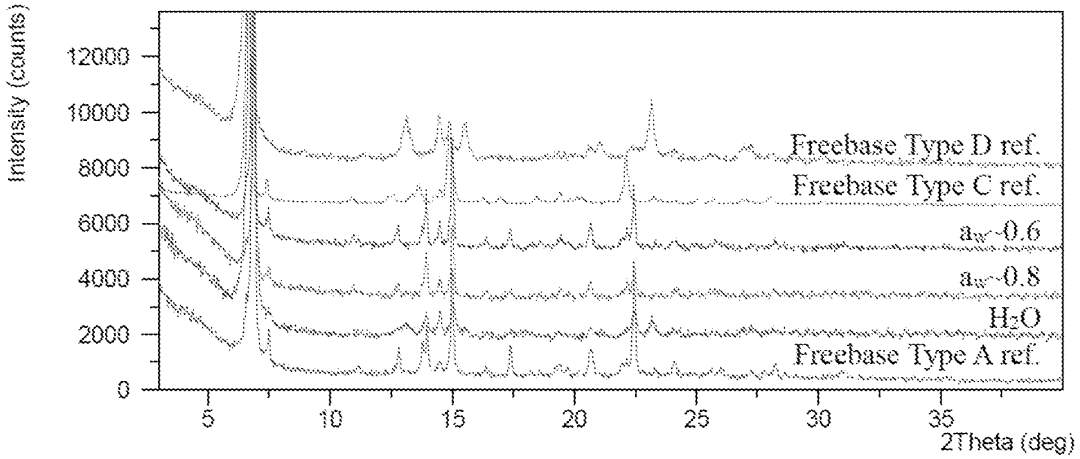


FIG. 18D

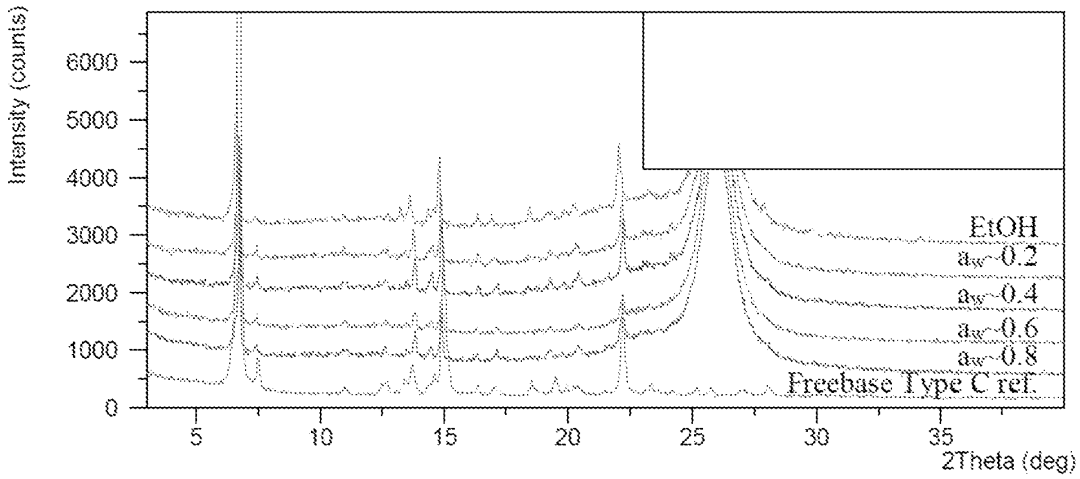


FIG. 18E

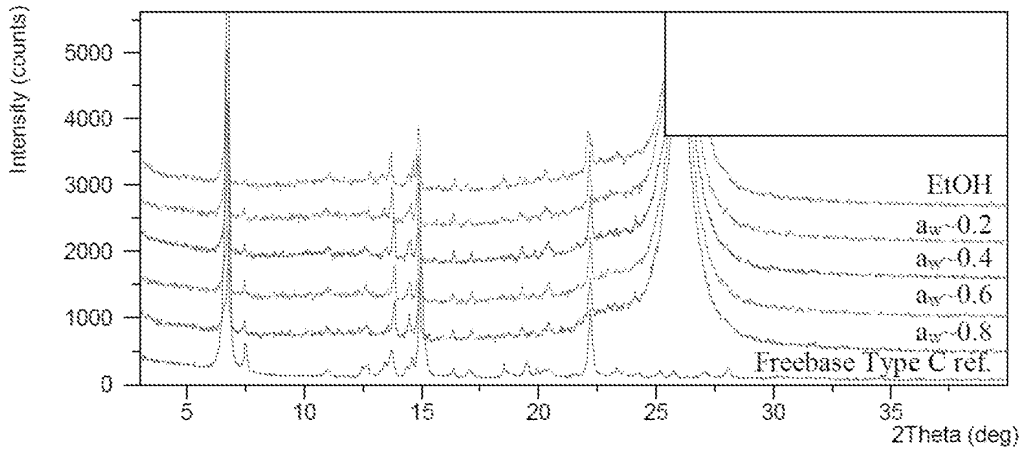


FIG. 18F

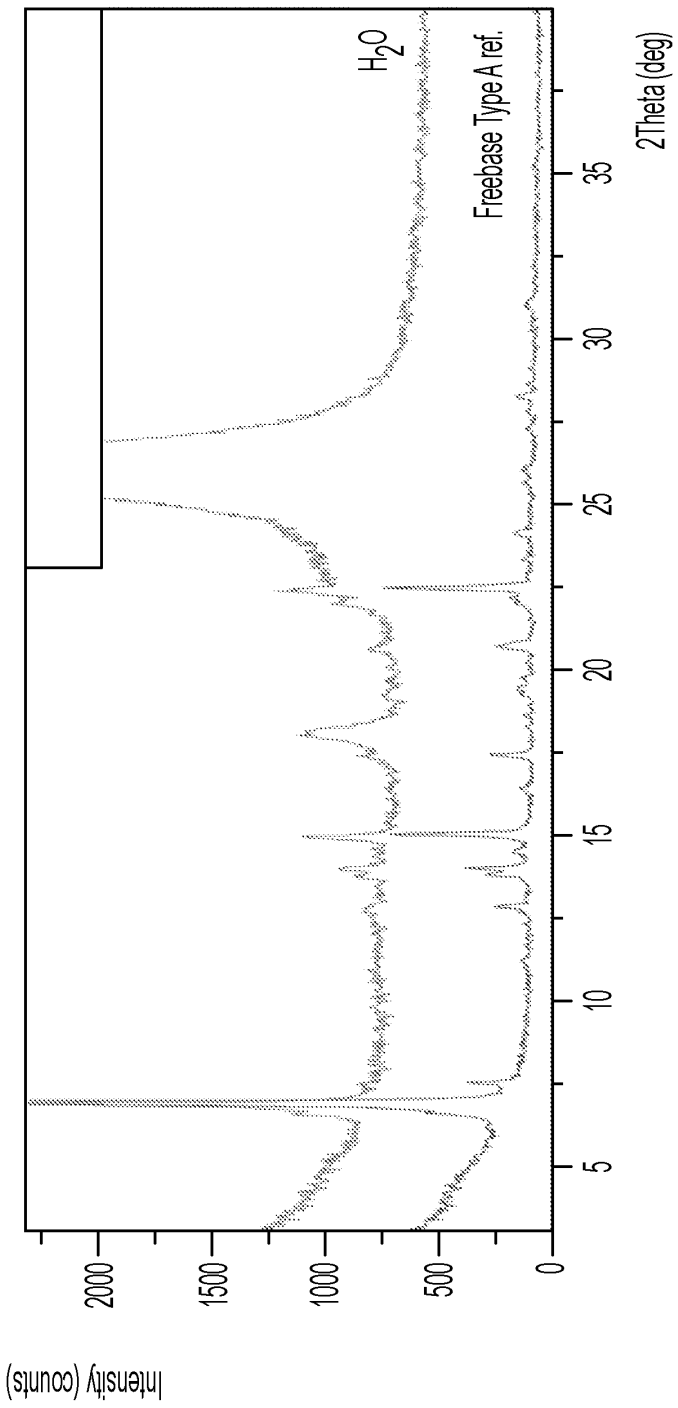

Intensity (counts)
2000
1500
1000
500
0
5
10
15
20
25
30
35
2Theta (deg)
Freebase Type A ref.
H_2O

FIG. 18G