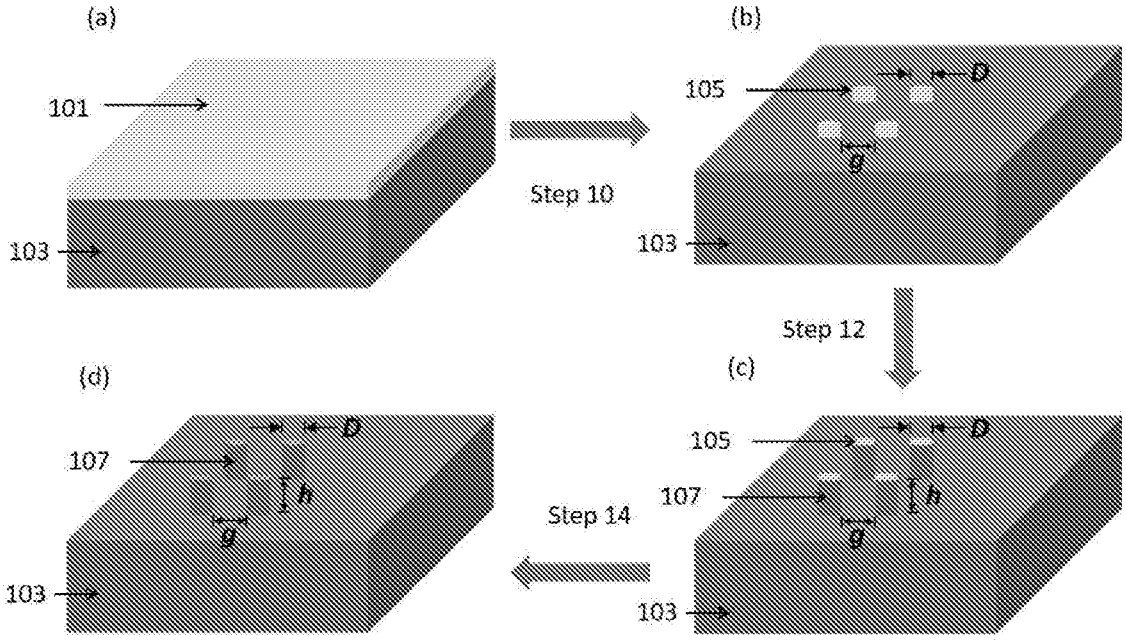
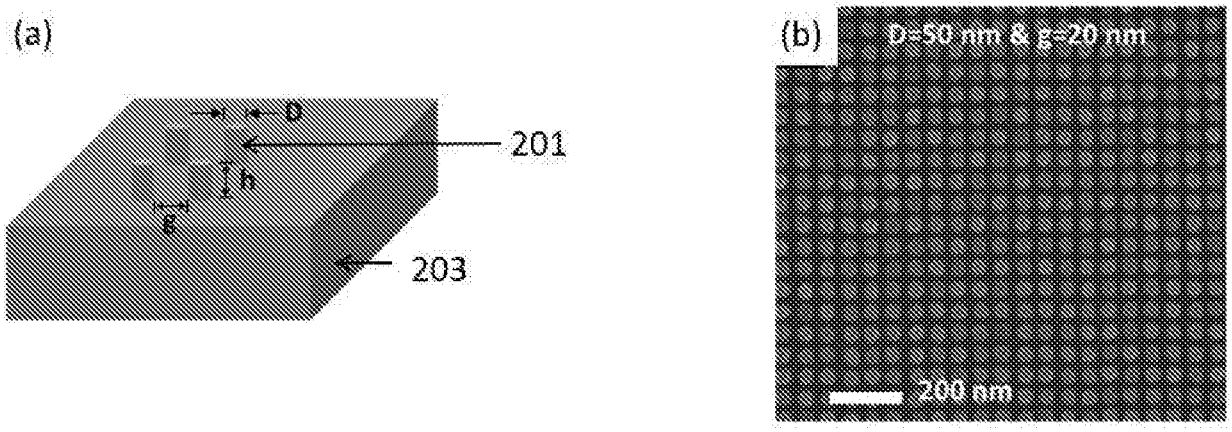
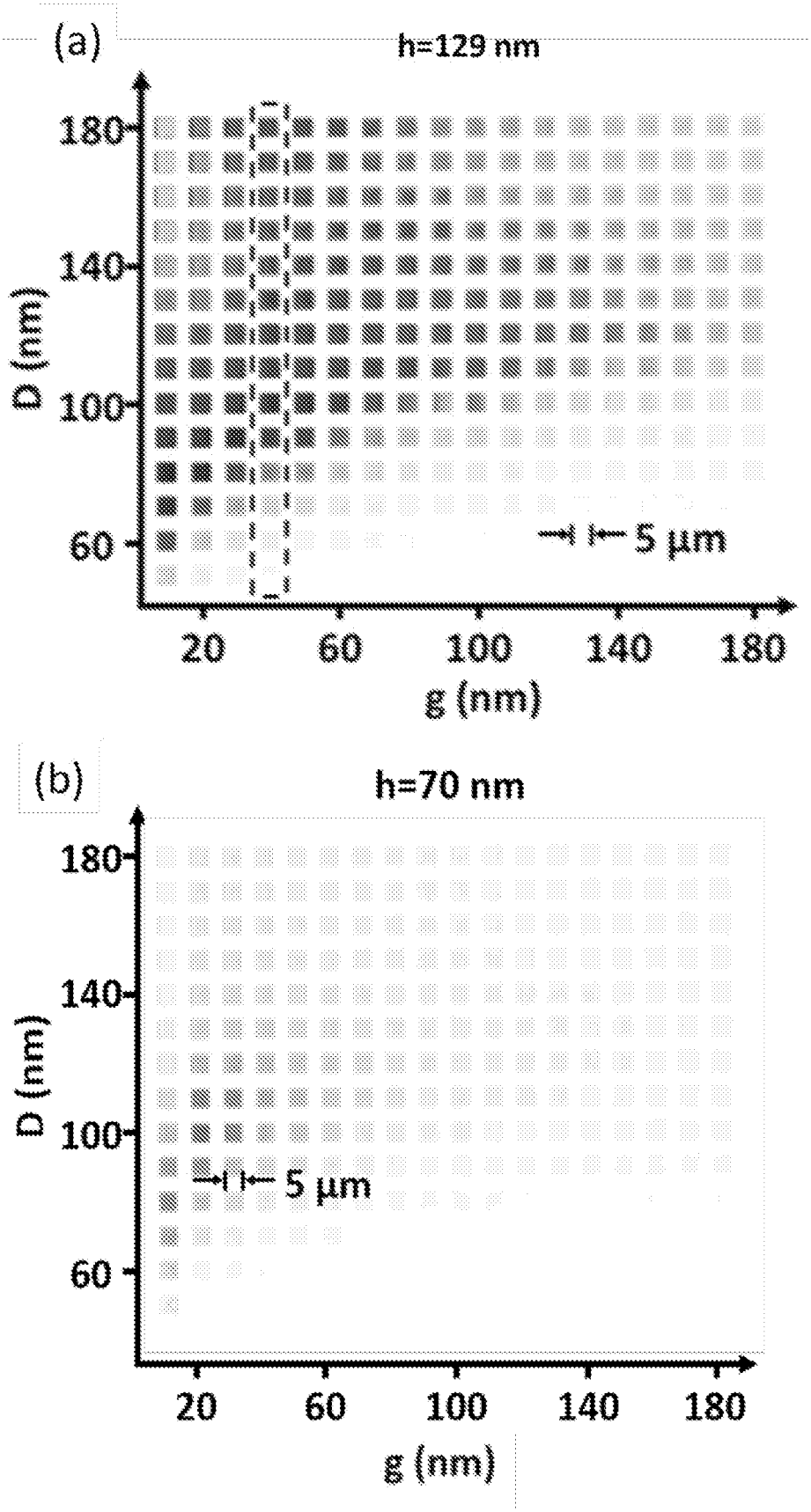
[Fig. 1]


(a)
101
103
Step 10
(b)
105
D
g
103
Step 12
(c)
105
D
107
h
g
103
Step 14
(d)
107
D
h
g
103

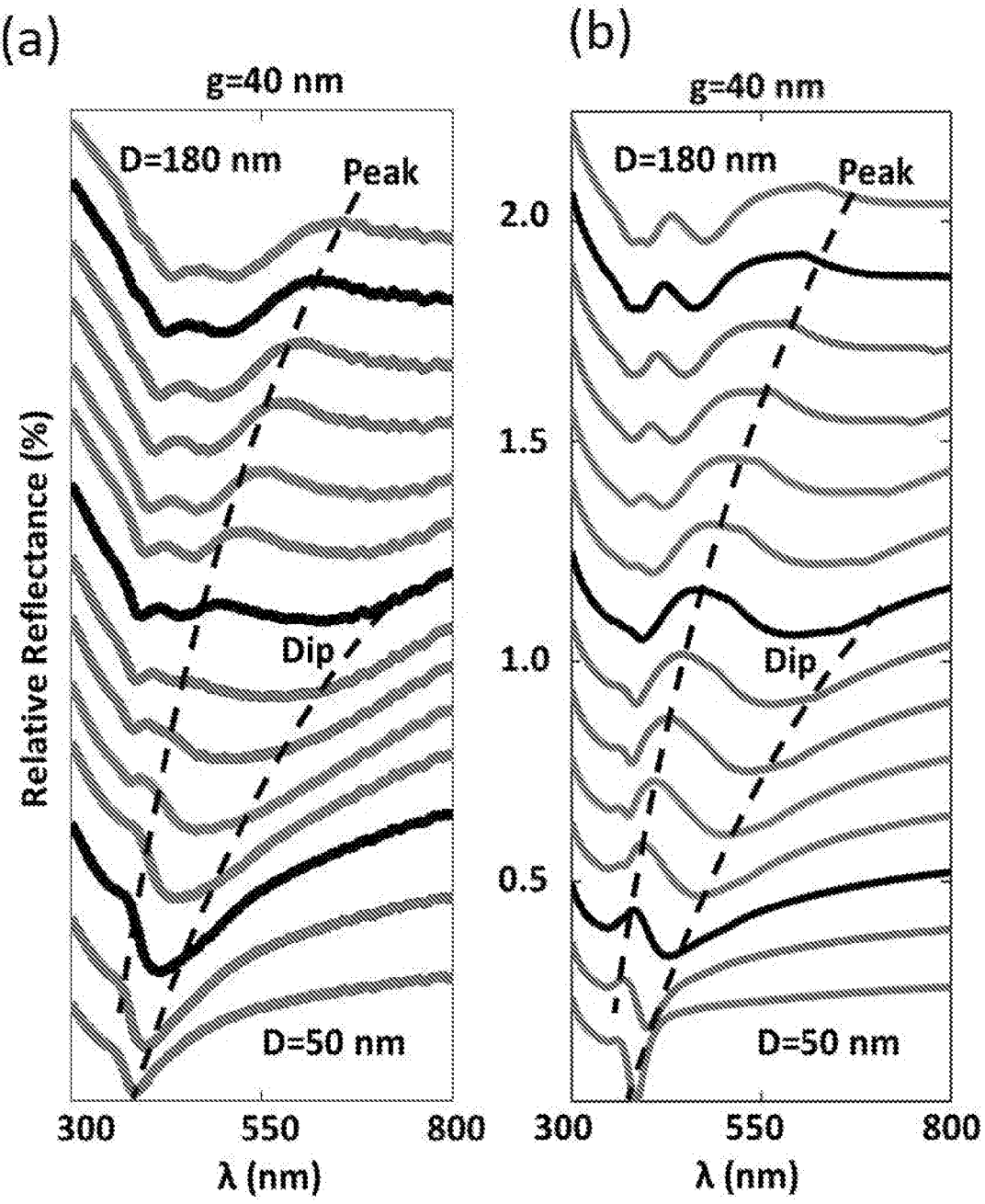
[Fig. 2]



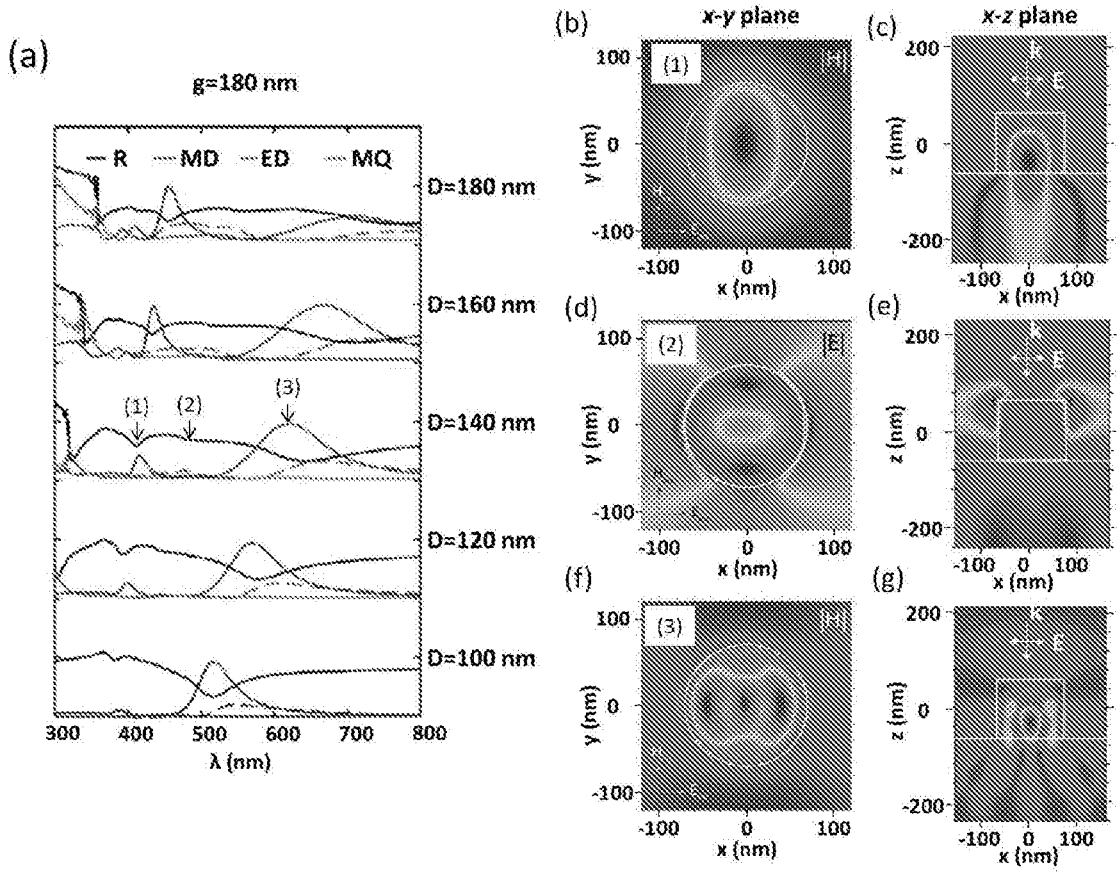
[Fig. 3]


(a)
h=129 nm
180
140
100
60
D (nm)
5 µm
20
60
100
140
180
g (nm)
(b)
h=70 nm
180
140
100
60
D (nm)
5 µm
20
60
100
140
180
g (nm)

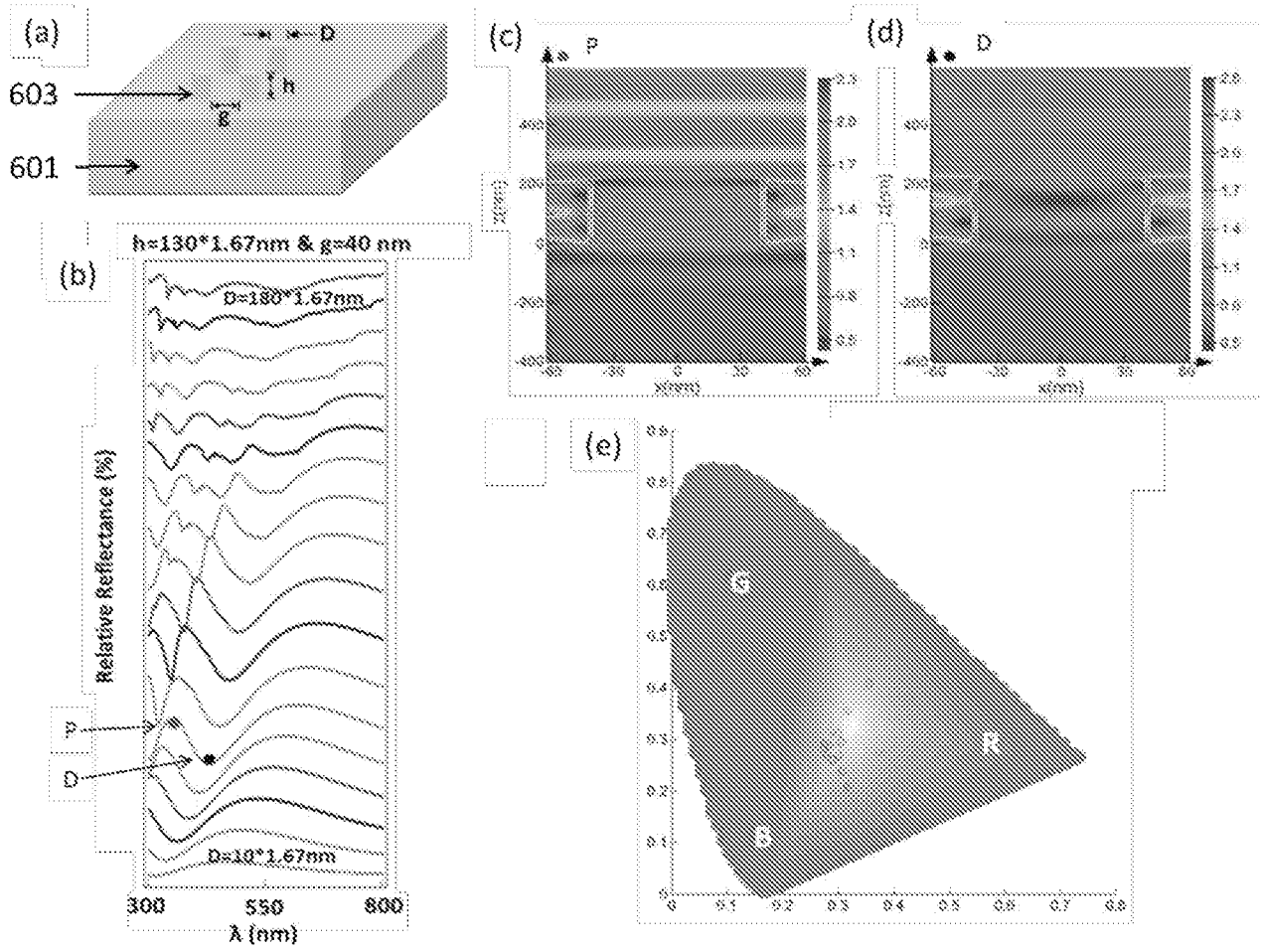
[Fig. 4]


(a)
g=40 nm
D=180 nm
Peak
Dip
D=50 nm
Relative Reflectance (%)
300
550
800
λ (nm)
(b)
g=40 nm
D=180 nm
Peak
2.0
1.5
1.0
0.5
Dip
D=50 nm
300
550
800
λ (nm)

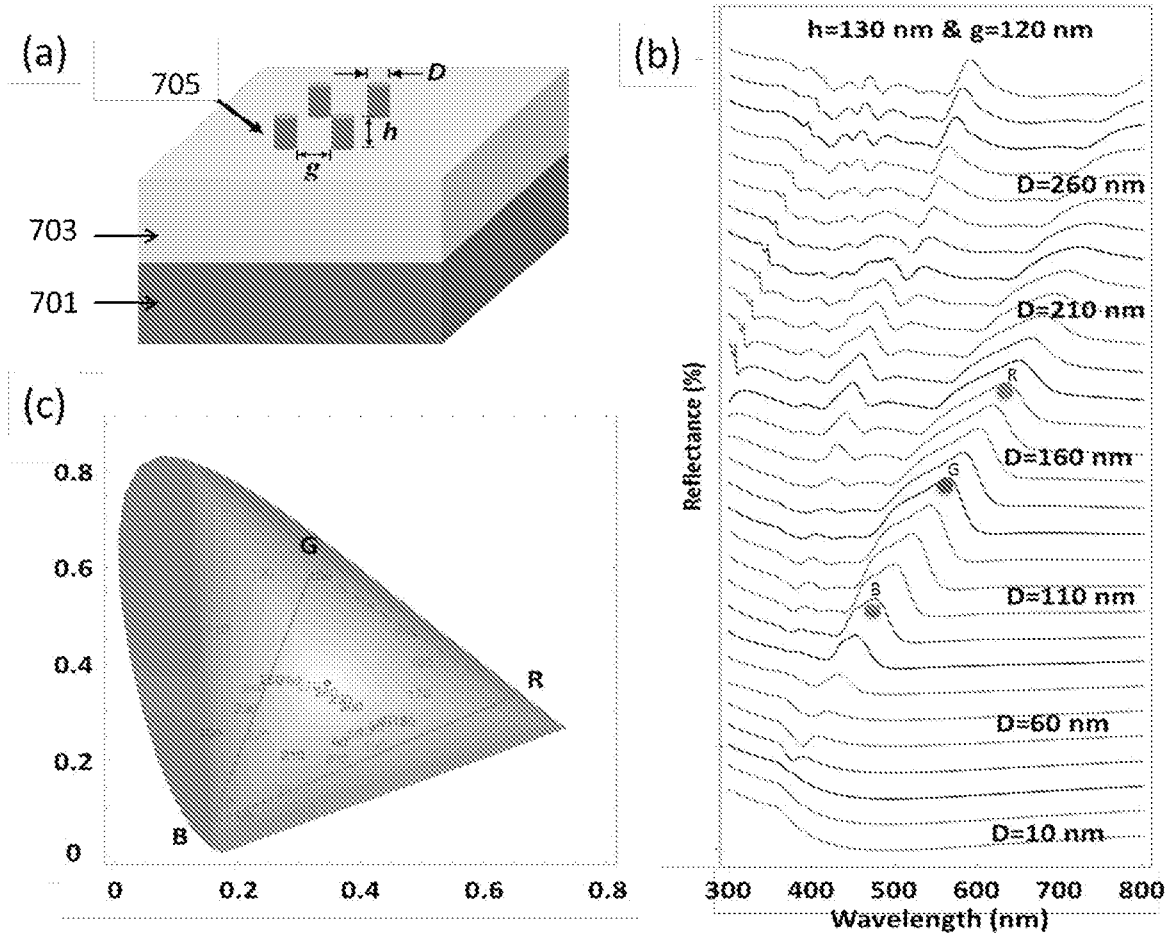
[Fig. 5]


(a)
g=180 nm
R
MD
ED
MQ
D=180 nm
D=160 nm
D=140 nm
D=120 nm
D=100 nm
(1)
(2)
(3)
300
400
500
600
700
800
λ (nm)
(b)
x-y plane
(c)
x-z plane
(d)
(e)
(f)
(g)
|E|
x (nm)
y (nm)
z (nm)
100
0
-100
200
-200

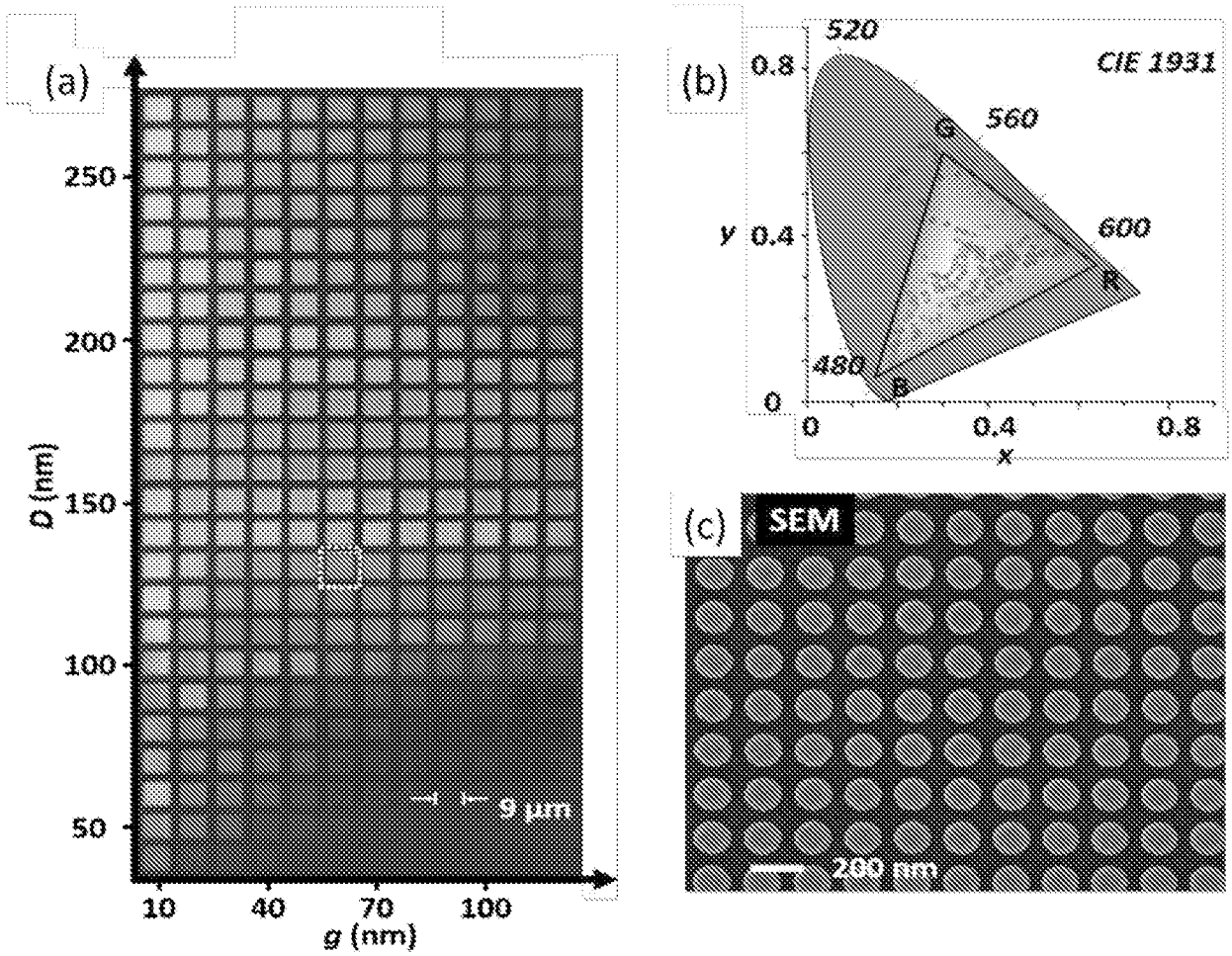
[Fig. 6]


(a)
603
601
D
h
g
(b)
h=130*1.67nm & g=40 nm
D=180*1.67nm
D=10*1.67nm
Relative Reflectance (%)
P
D
300
550
800
λ (nm)
(c)
P
(d)
D
(e)
G
R
B

[Fig. 7]


(a)
705
D
h
g
703
701
(b)
h=130 nm & g=120 nm
D=260 nm
D=210 nm
D=160 nm
D=110 nm
D=60 nm
D=10 nm
Reflectance (%)
Wavelength (nm)
300
400
500
600
700
800
(c)
G
R
B
0
0.2
0.4
0.6
0.8

[Fig. 8]


(a)
250
200
150
100
50
D (nm)
10
40
70
100
g (nm)
9 μm
(b)
520
0.8
CIE 1931
560
G
600
y 0.4
R
480
B
0
0
0.4
0.8
x
(c)
SEM
200 nm