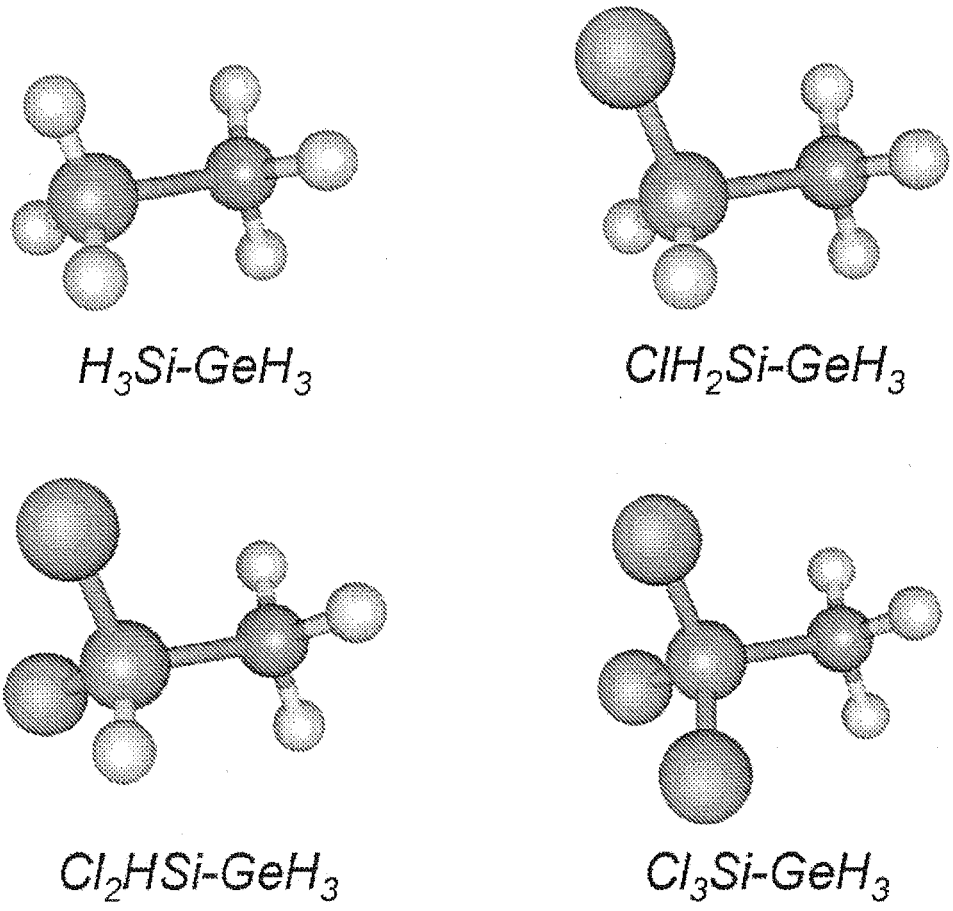

$H_3Si\text{-}GeH_3$
$ClH_2Si\text{-}GeH_3$
$Cl_2HSi\text{-}GeH_3$
$Cl_3Si\text{-}GeH_3$

Figure 1

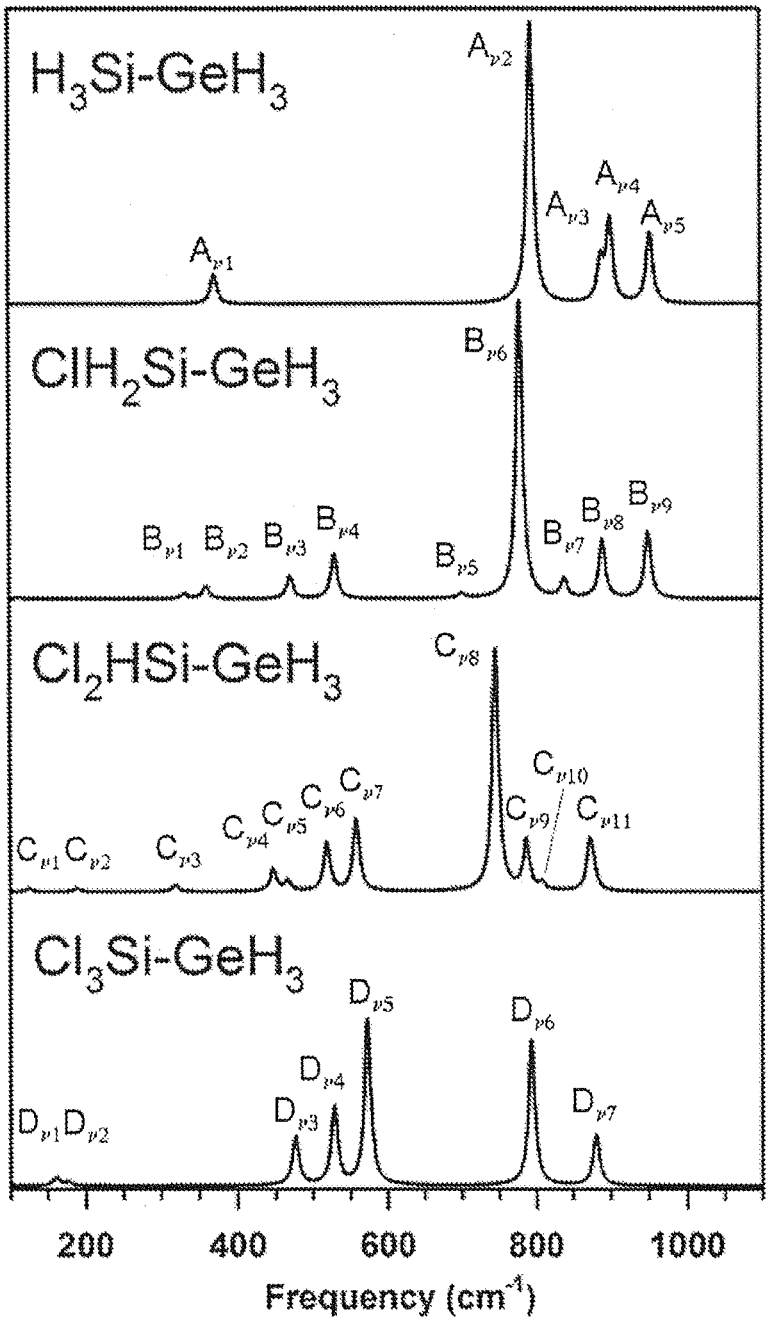

H3Si-GeH3
ClH2Si-GeH3
Cl2HSi-GeH3
Cl3Si-GeH3
200
400
600
800
1000
Frequency (cm-1)

Figure 2

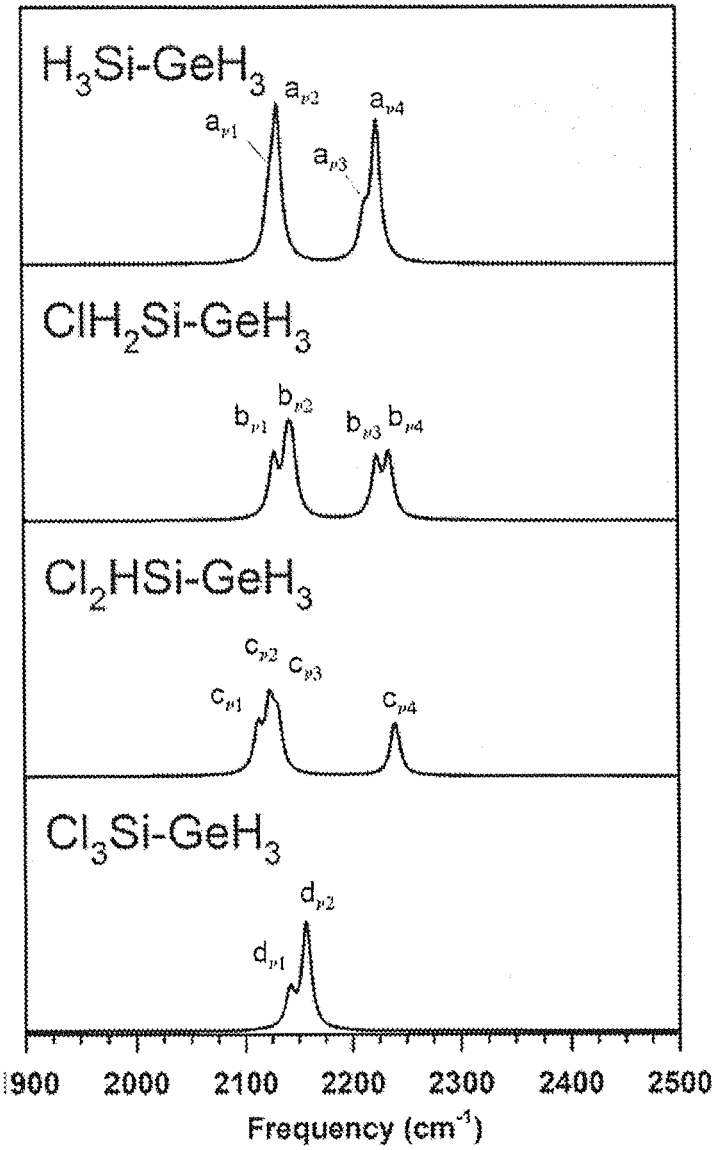

H3Si-GeH3
ap1
ap2
ap3
ap4
ClH2Si-GeH3
bp1
bp2
bp3
bp4
Cl2HSi-GeH3
cp1
cp2
cp3
cp4
Cl3Si-GeH3
dp1
dp2
1900
2000
2100
2200
2300
2400
2500
Frequency (cm-1)

Figure 3

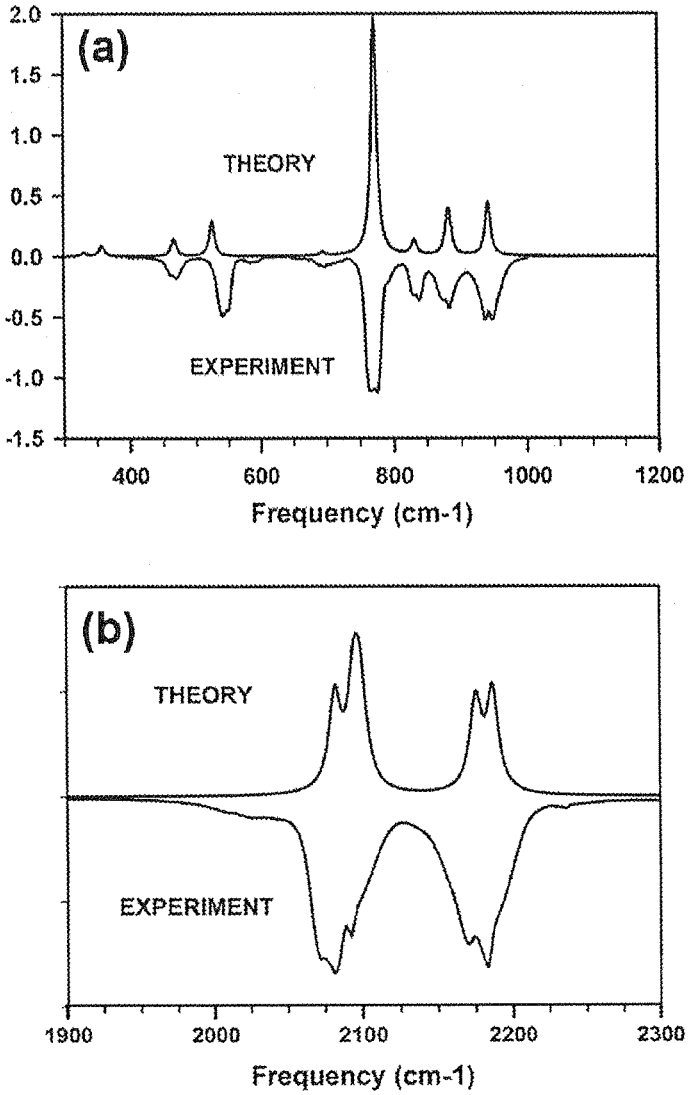

(a)
THEORY
EXPERIMENT
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
400
600
800
1000
1200
Frequency (cm-1)
(b)
THEORY
EXPERIMENT
1900
2000
2100
2200
2300
Frequency (cm-1)

Figure 4

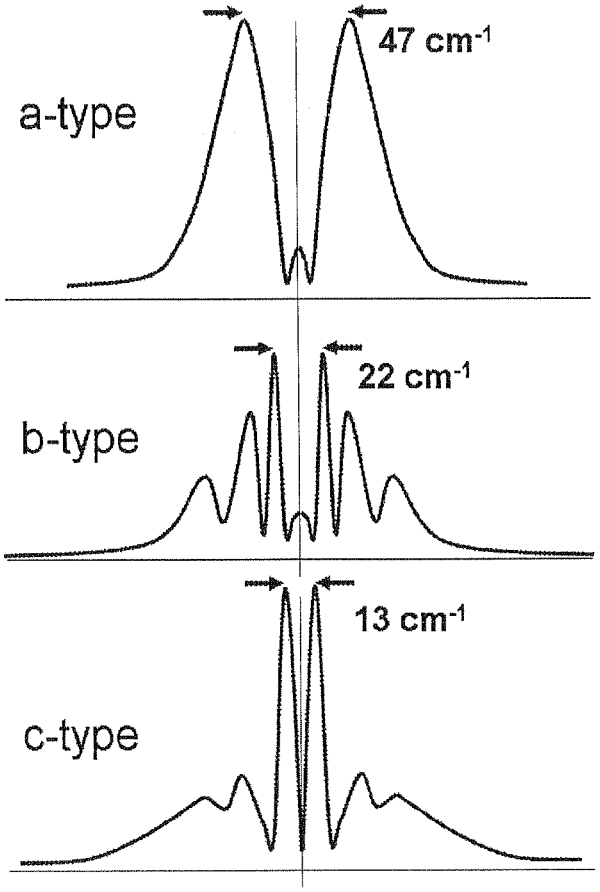


Figure 5

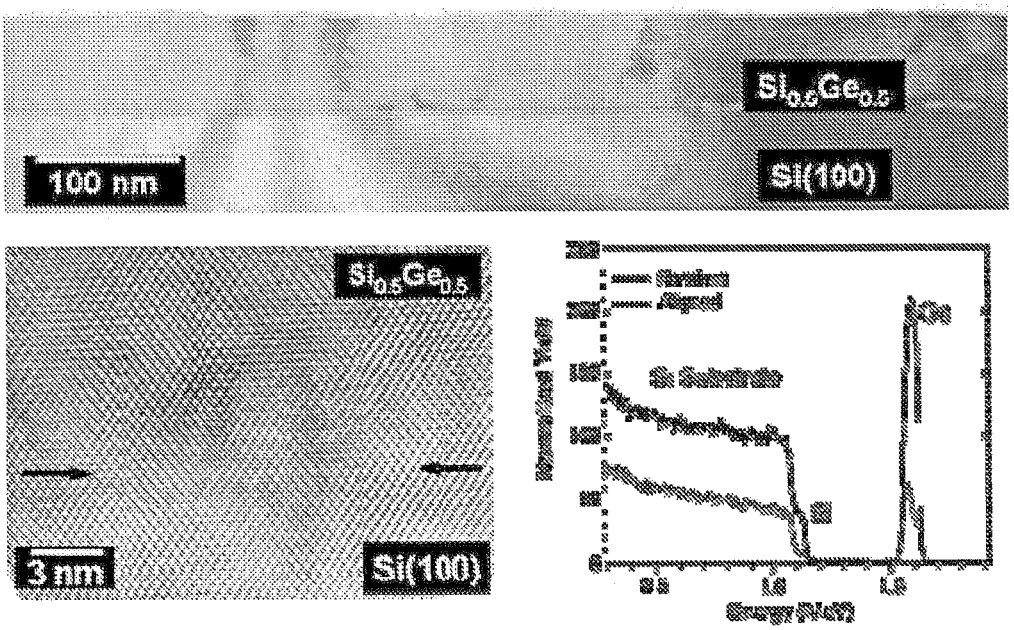


Figure 6

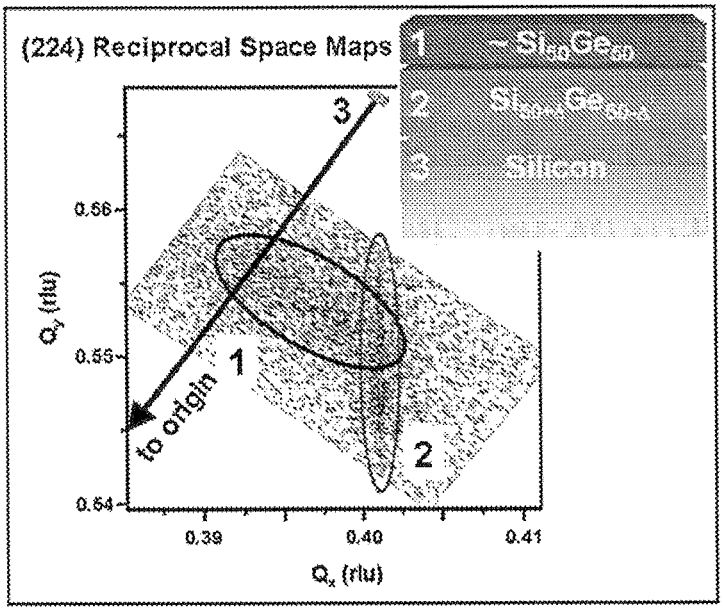

(224) Reciprocal Space Maps
1 ~ Si0.8Ge0.20
2 Si0.994Ge0.006
3 Silicon
3
1
2
to origin
0.56
0.55
0.54
0.39
0.40
0.41
Qy (rlu)
Qx (rlu)

Figure 7

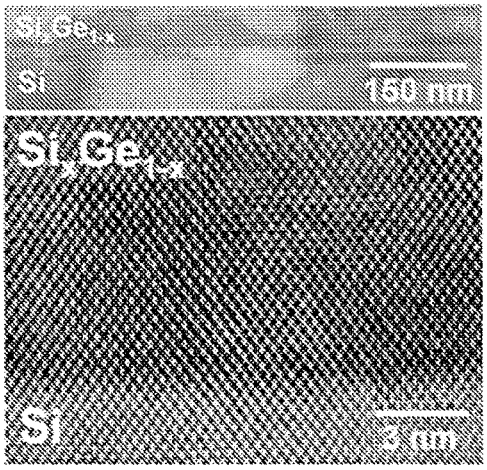


Figure 8

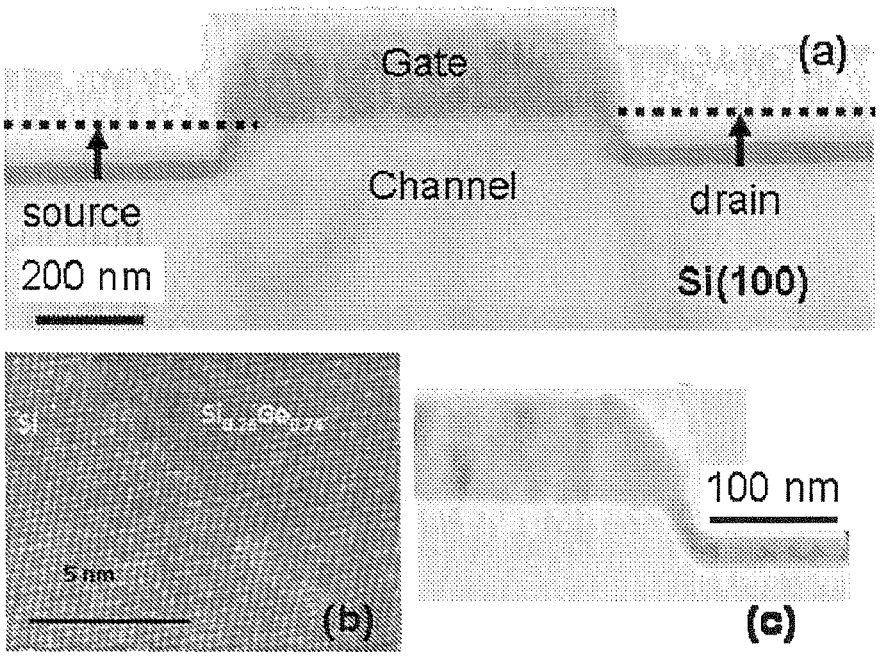


Figure 9

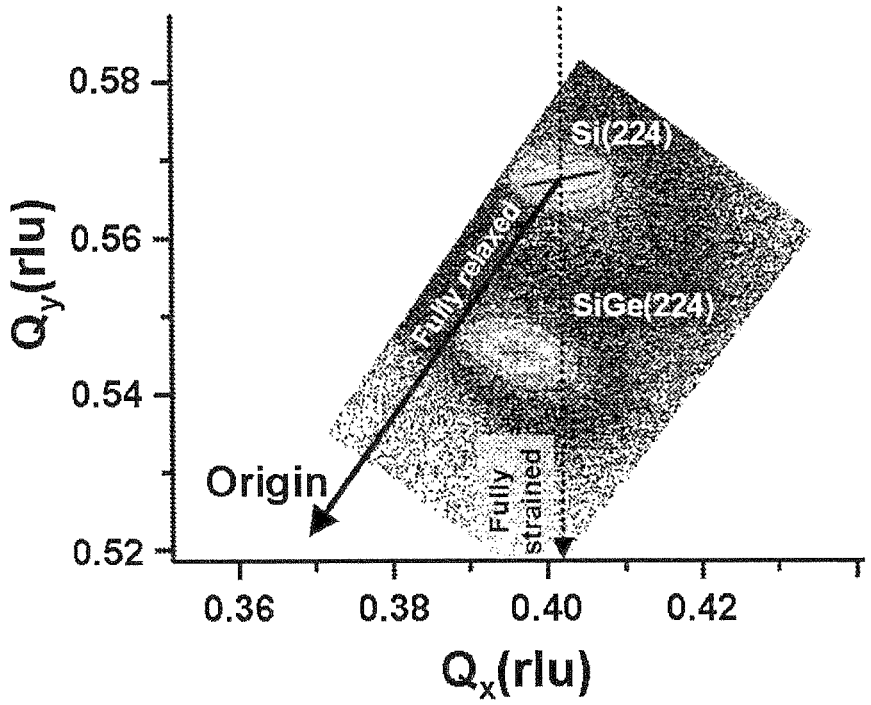

0.58
0.56
0.54
0.52
Q_y(rlu)
0.36
0.38
0.40
0.42
Q_x(rlu)
Si(224)
SiGe(224)
Fully relaxed
Fully strained
Origin

Figure 10