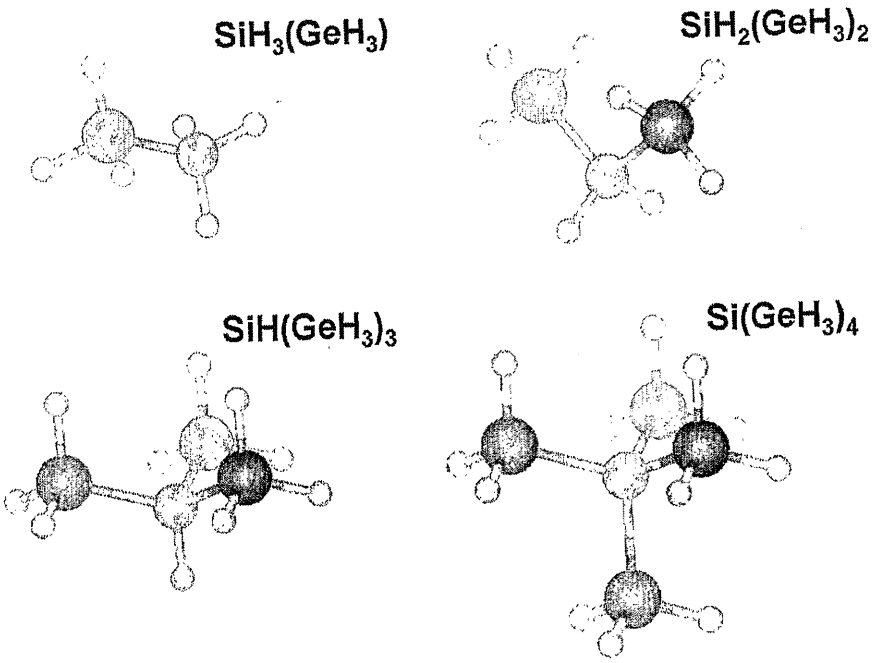

$SiH_3(GeH_3)$
$SiH_2(GeH_3)_2$
$SiH(GeH_3)_3$
$Si(GeH_3)_4$

FIG. 1

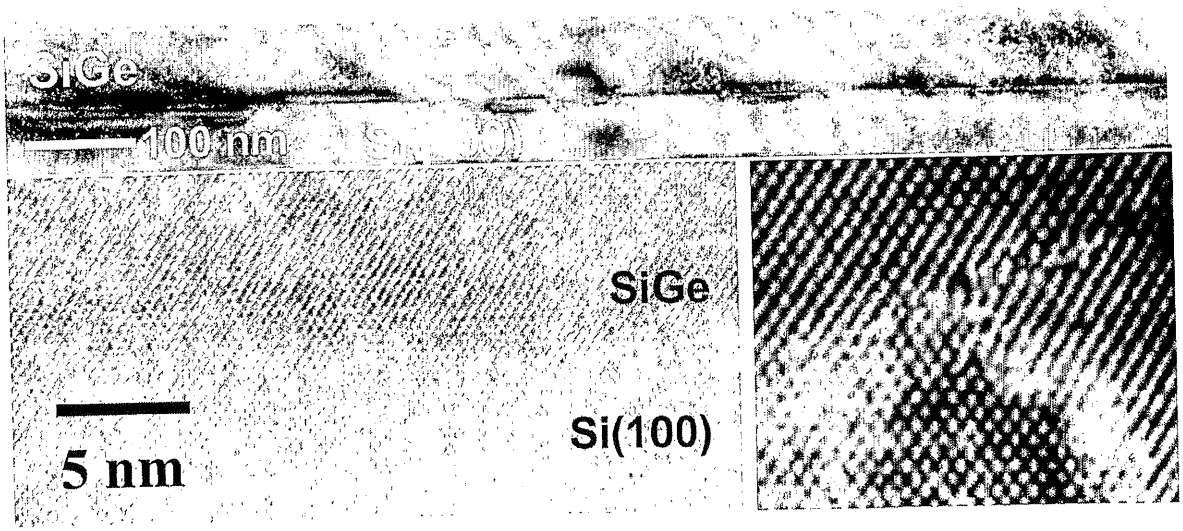

SiGe
100 nm
SiGe
Si(100)
5 nm

FIG. 2

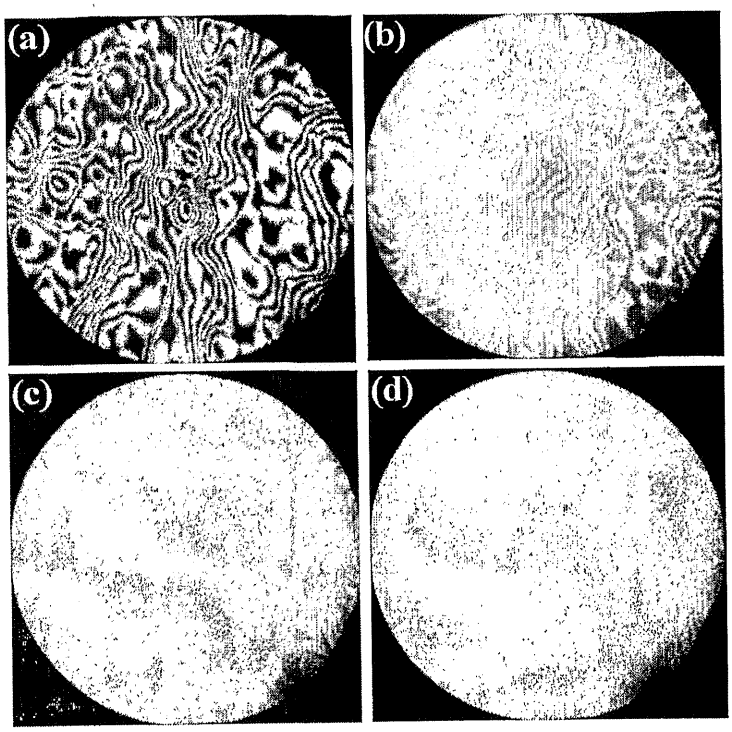

(a)
(b)
(c)
(d)

FIG. 3

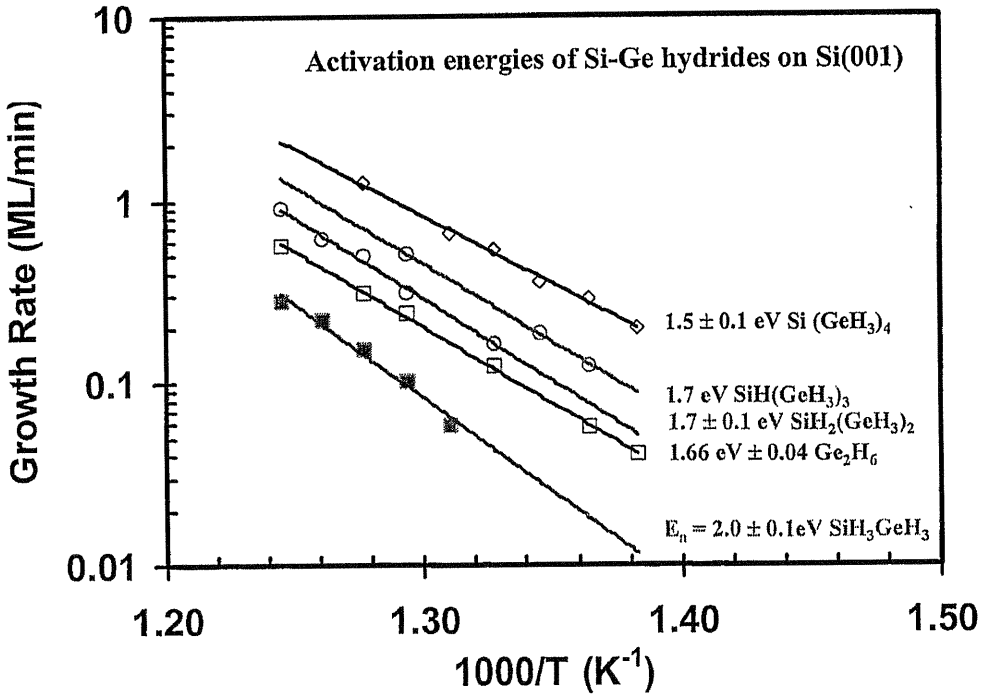

Activation energies of Si-Ge hydrides on Si(001)
Growth Rate (ML/min)
10
1
0.1
0.01
1.20
1.30
1.40
1.50
1000/T (K-1)
1.5 ± 0.1 eV Si (GeH3)4
1.7 eV SiH(GeH3)3
1.7 ± 0.1 eV SiH2(GeH3)2
1.66 eV ± 0.04 Ge2H6
En = 2.0 ± 0.1eV SiH3GeH3

FIG. 4

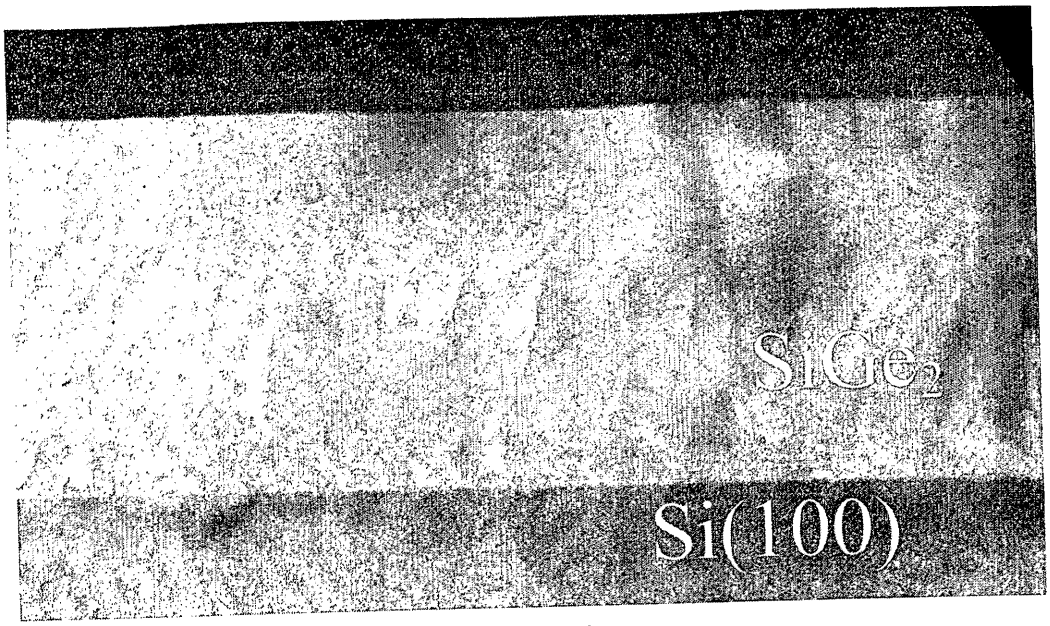

SiGe
Si(100)

FIG. 5

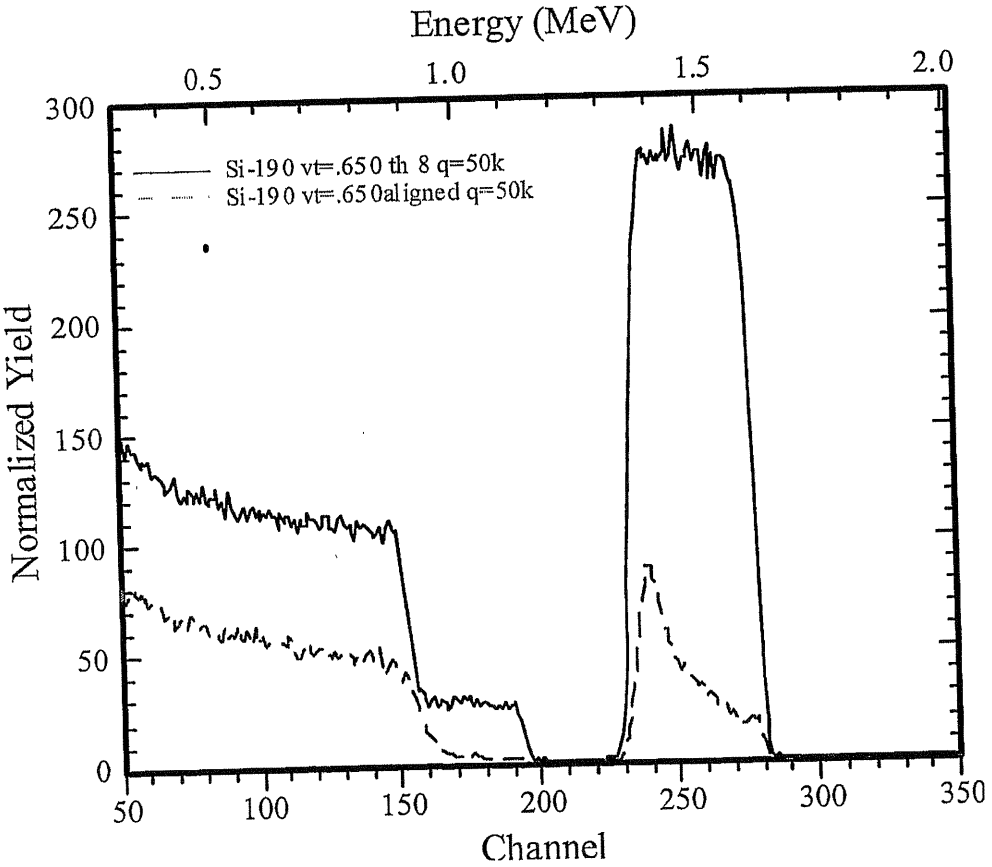

Energy (MeV)
0.5
1.0
1.5
2.0
Si-190 vt=.650 th 8 q=50k
Si-190 vt=.650aligned q=50k
Normalized Yield
300
250
200
150
100
50
0
50
100
150
200
250
300
350
Channel

FIG. 6

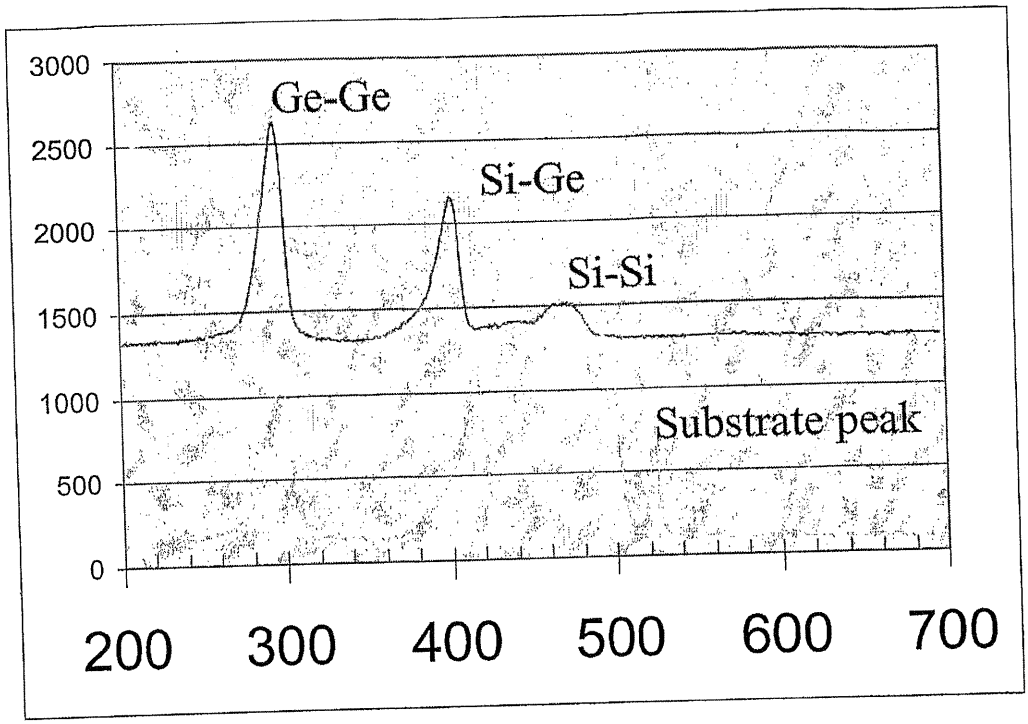

3000
2500
2000
1500
1000
500
0
Ge-Ge
Si-Ge
Si-Si
Substrate peak
200
300
400
500
600
700

FIG. 7


SiGe
Si(100)

FIG. 8

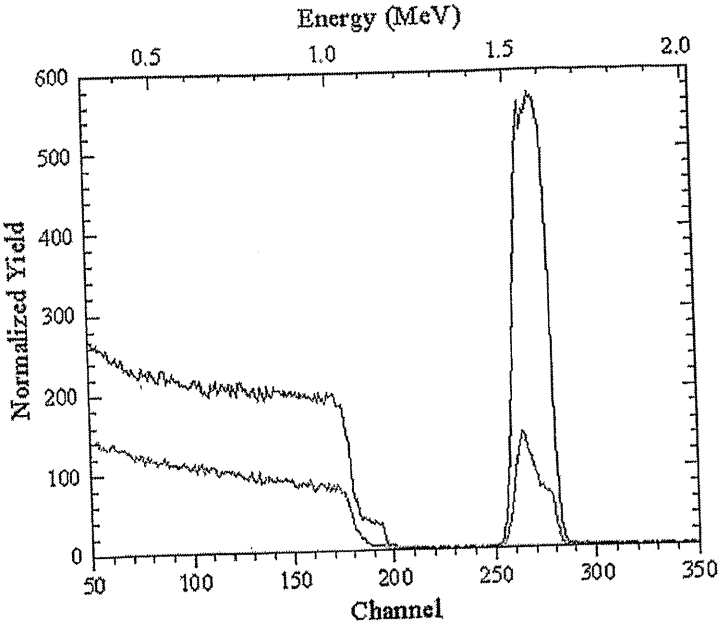


FIG. 9

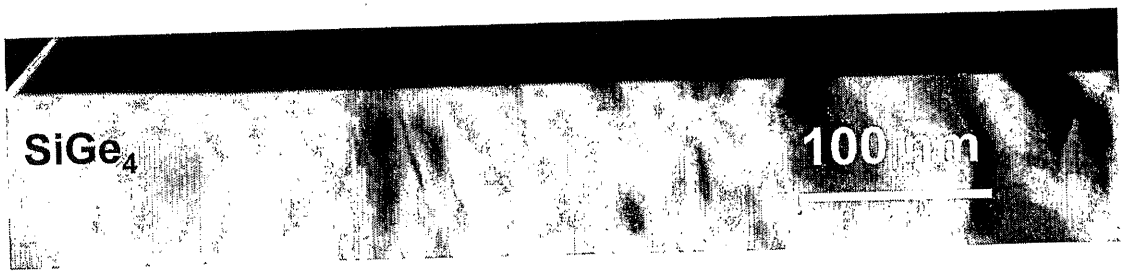


FIG. 10

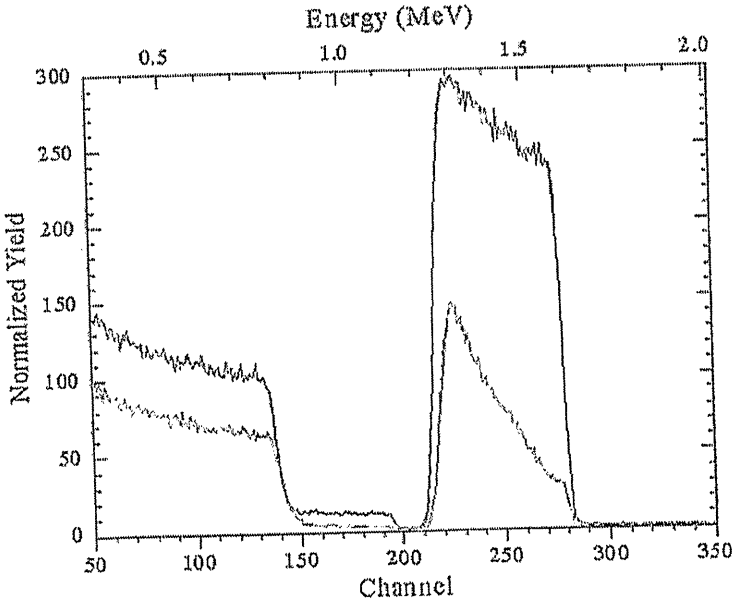


FIG. 11

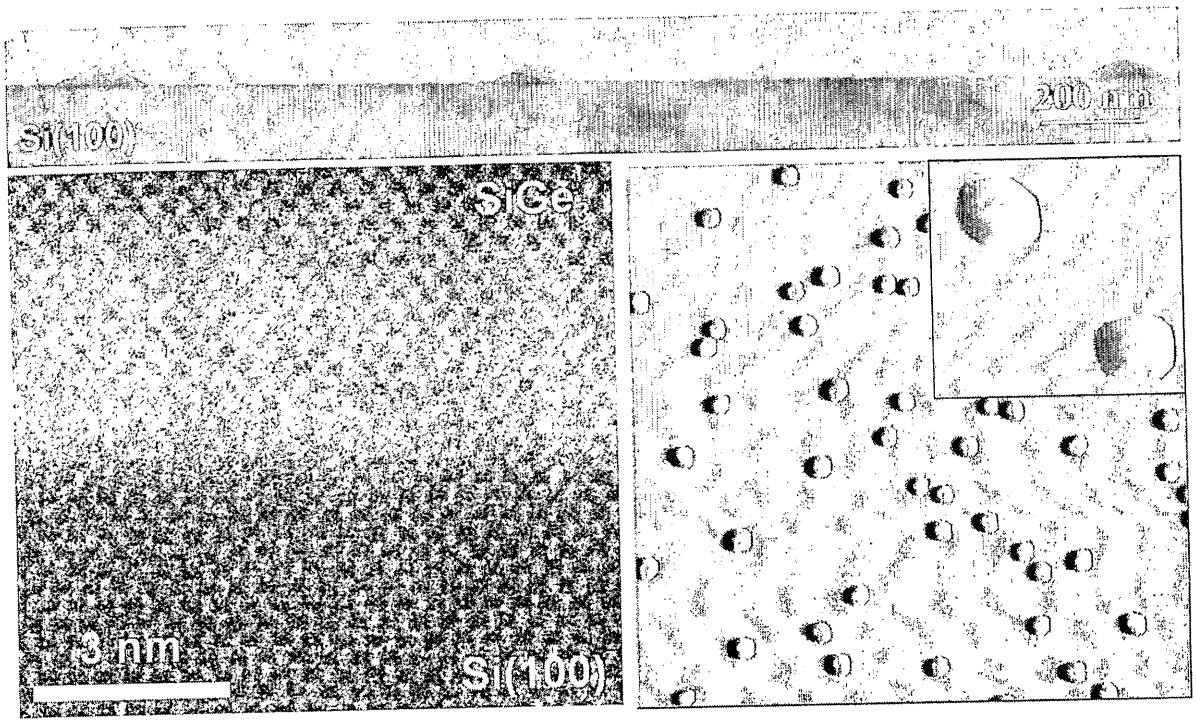


FIG. 12