Fig.1

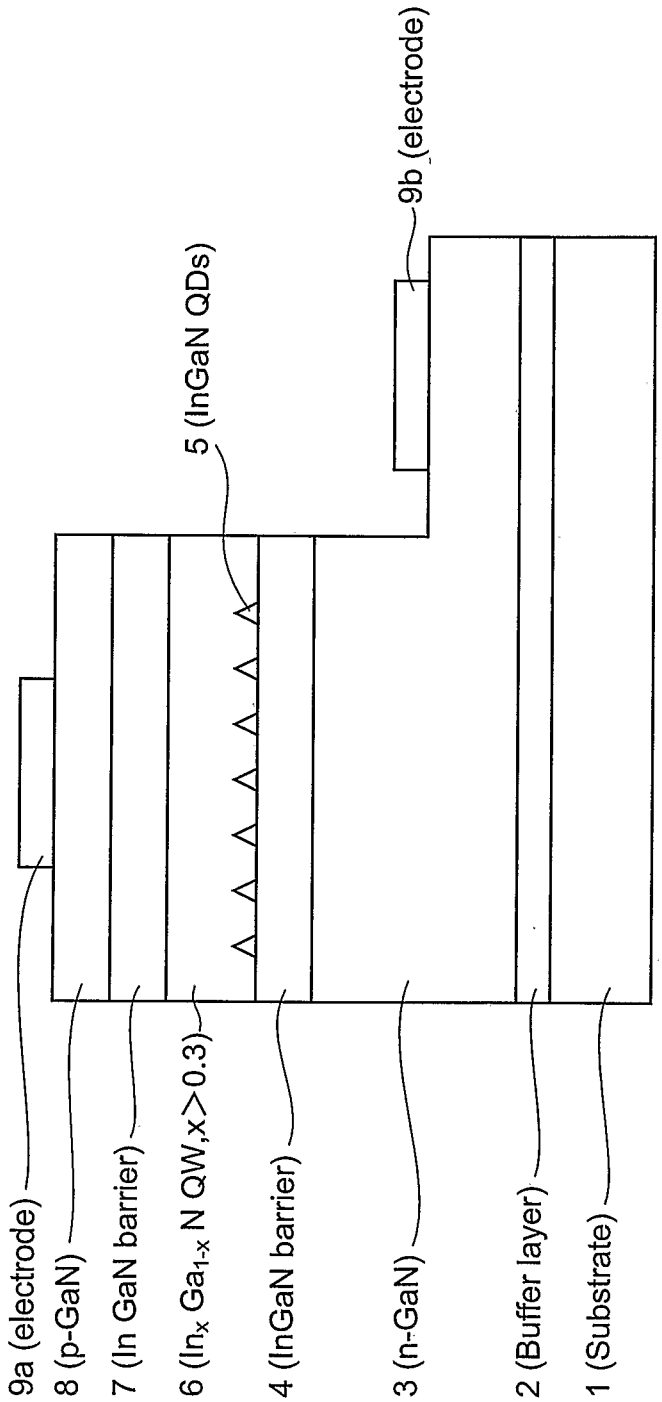

9a (electrode)
8 (p-GaN)
7 (In GaN barrier)
6 (In_x Ga_{1-x} N QW,x>0.3)
5 (InGaN QDs)
4 (InGaN barrier)
3 (n-GaN)
9b (electrode)
2 (Buffer layer)
1 (Substrate)

Fig.2

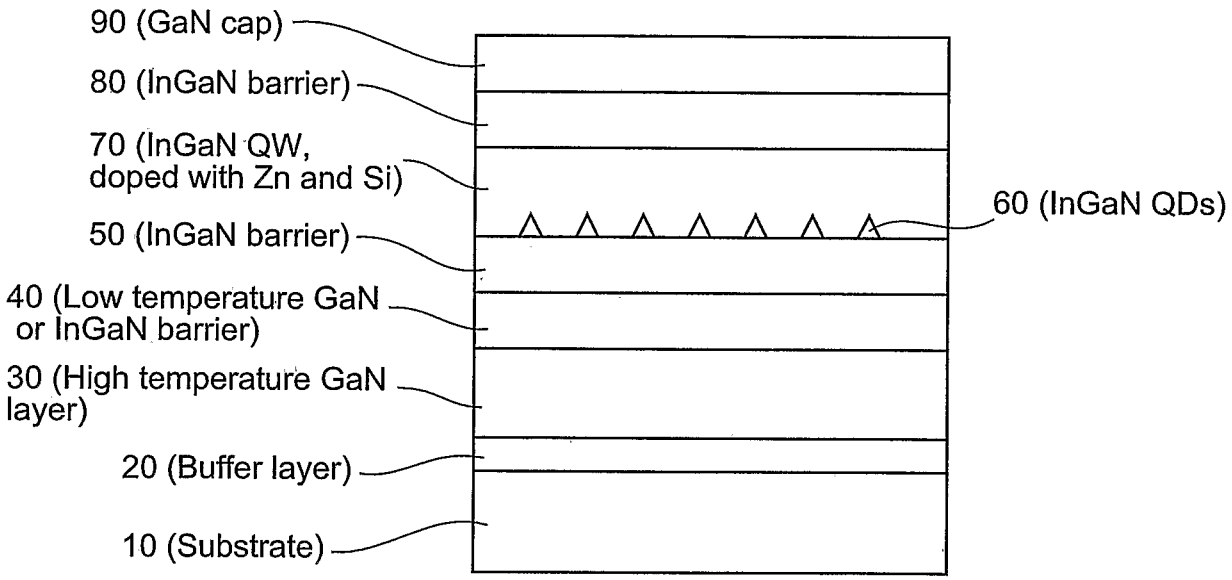

90 (GaN cap)
80 (InGaN barrier)
70 (InGaN QW, doped with Zn and Si)
50 (InGaN barrier)
40 (Low temperature GaN or InGaN barrier)
30 (High temperature GaN layer)
20 (Buffer layer)
10 (Substrate)
60 (InGaN QDs)

Fig.3

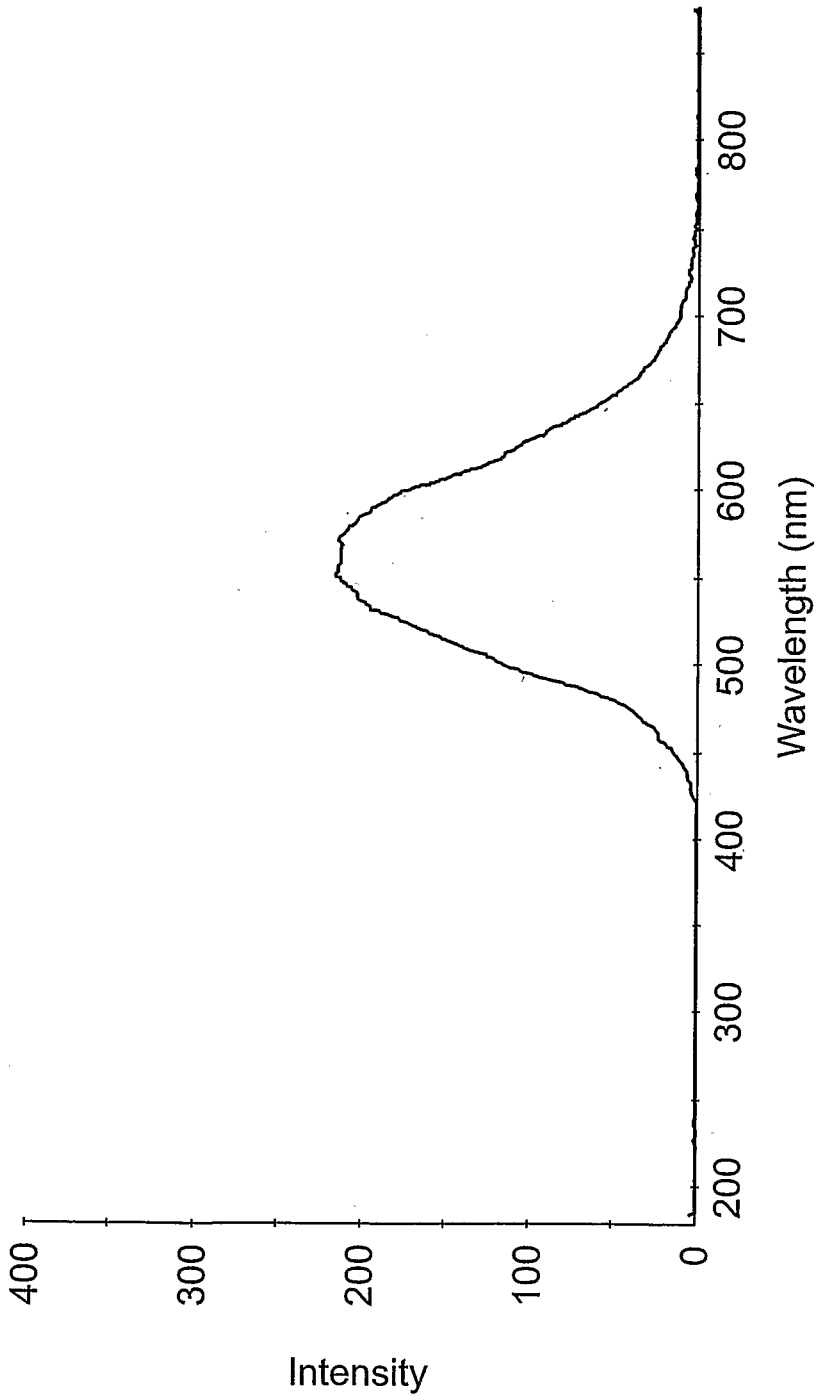

400
300
200
100
0
Intensity
200
300
400
500
600
700
800
Wavelength (nm)

Fig.4

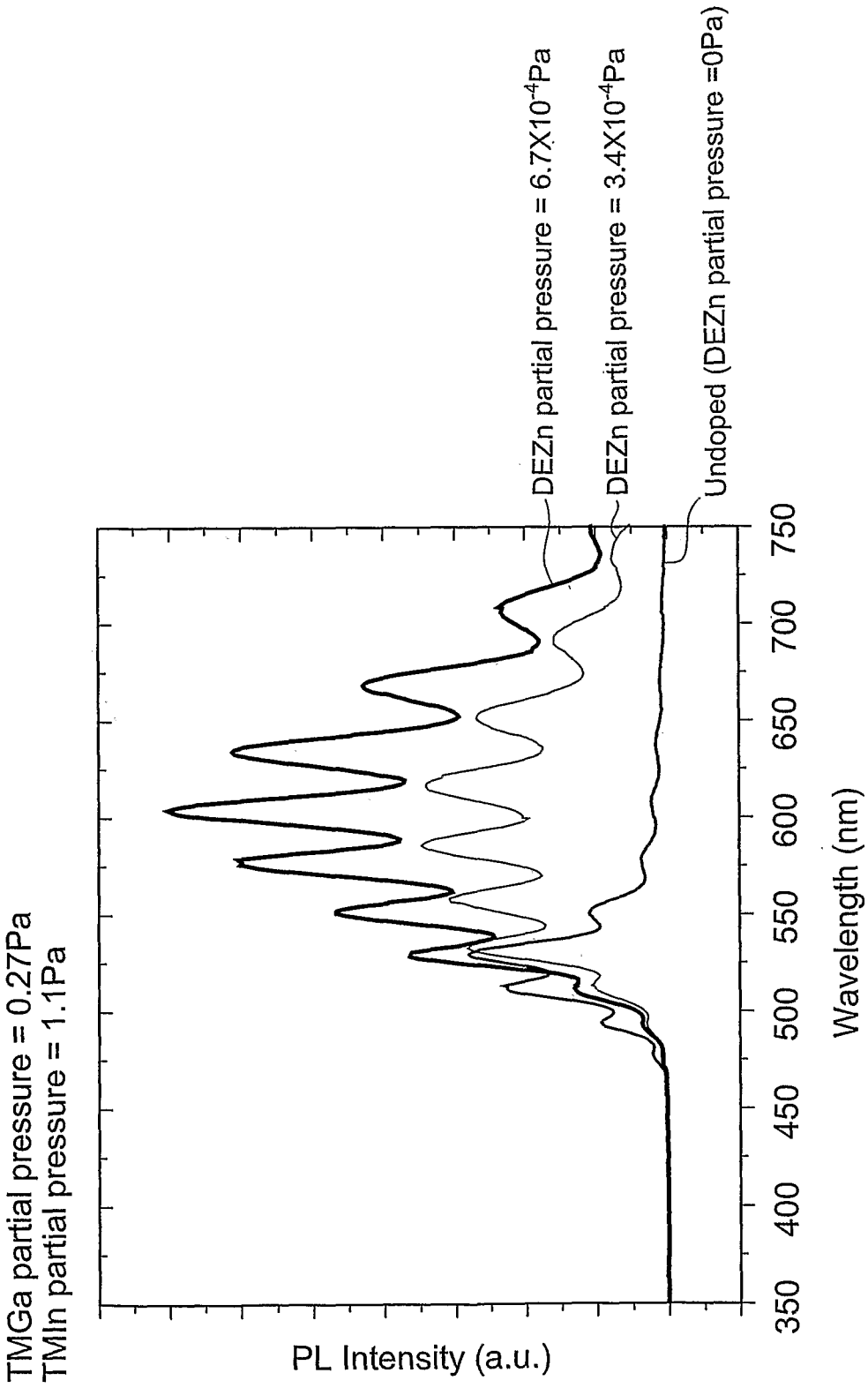
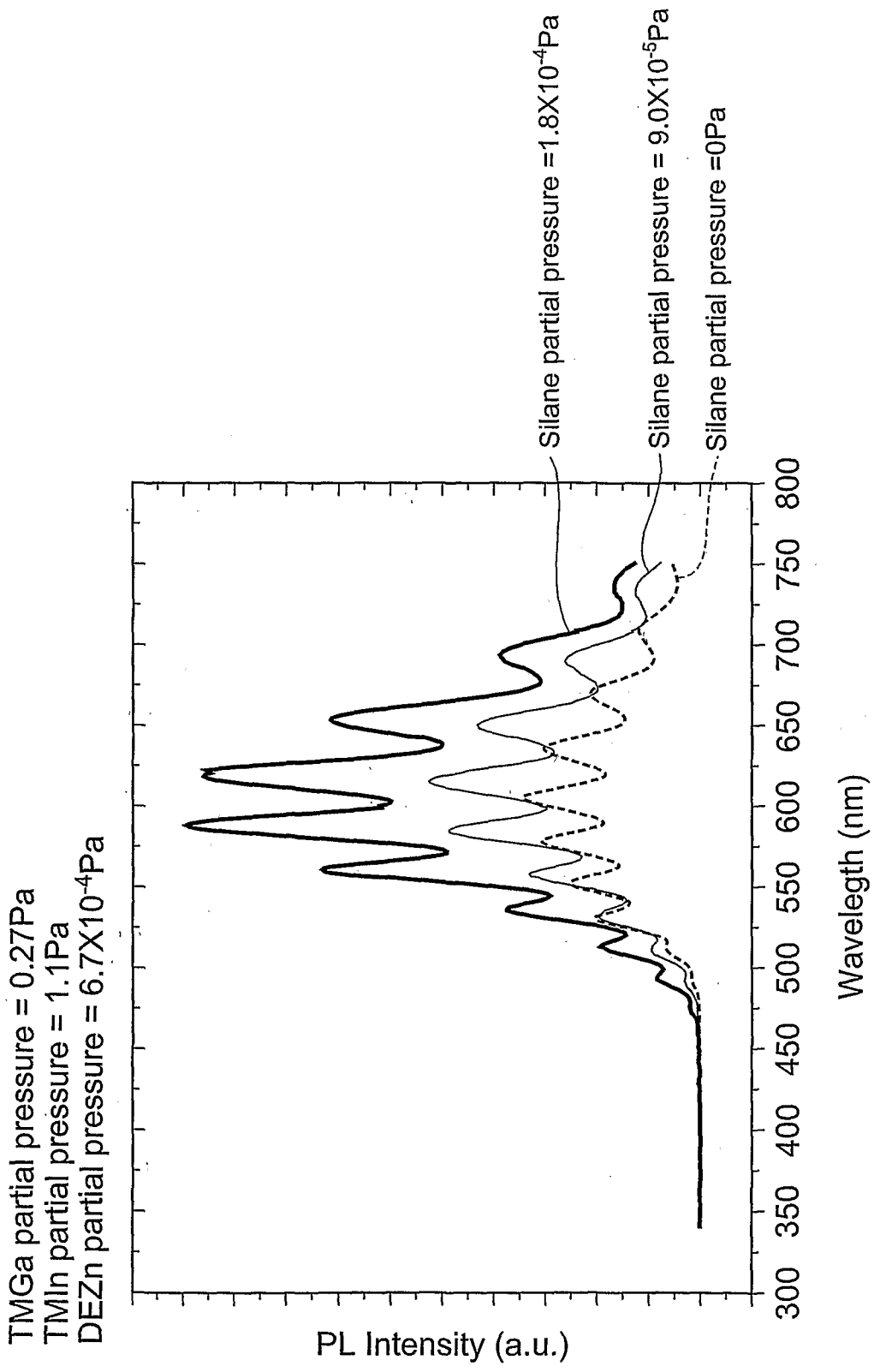

TMGa partial pressure = 0.27Pa
TMIn partial pressure = 1.1Pa
DEZn partial pressure = 6.7X10-4Pa
DEZn partial pressure = 3.4X10-4Pa
Undoped (DEZn partial pressure =0Pa)
PL Intensity (a.u.)
350
400
450
500
550
600
650
700
750
Wavelength (nm)

Fig.5


TMGa partial pressure = 0.27Pa
TMIn partial pressure = 1.1Pa
DEZn partial pressure = 6.7X10-4Pa
Silane partial pressure =1.8X10-4Pa
Silane partial pressure = 9.0X10-5Pa
Silane partial pressure =0Pa
PL Intensity (a.u.)
300 350 400 450 500 550 600 650 700 750 800
Wavelegth (nm)