FIG. 1

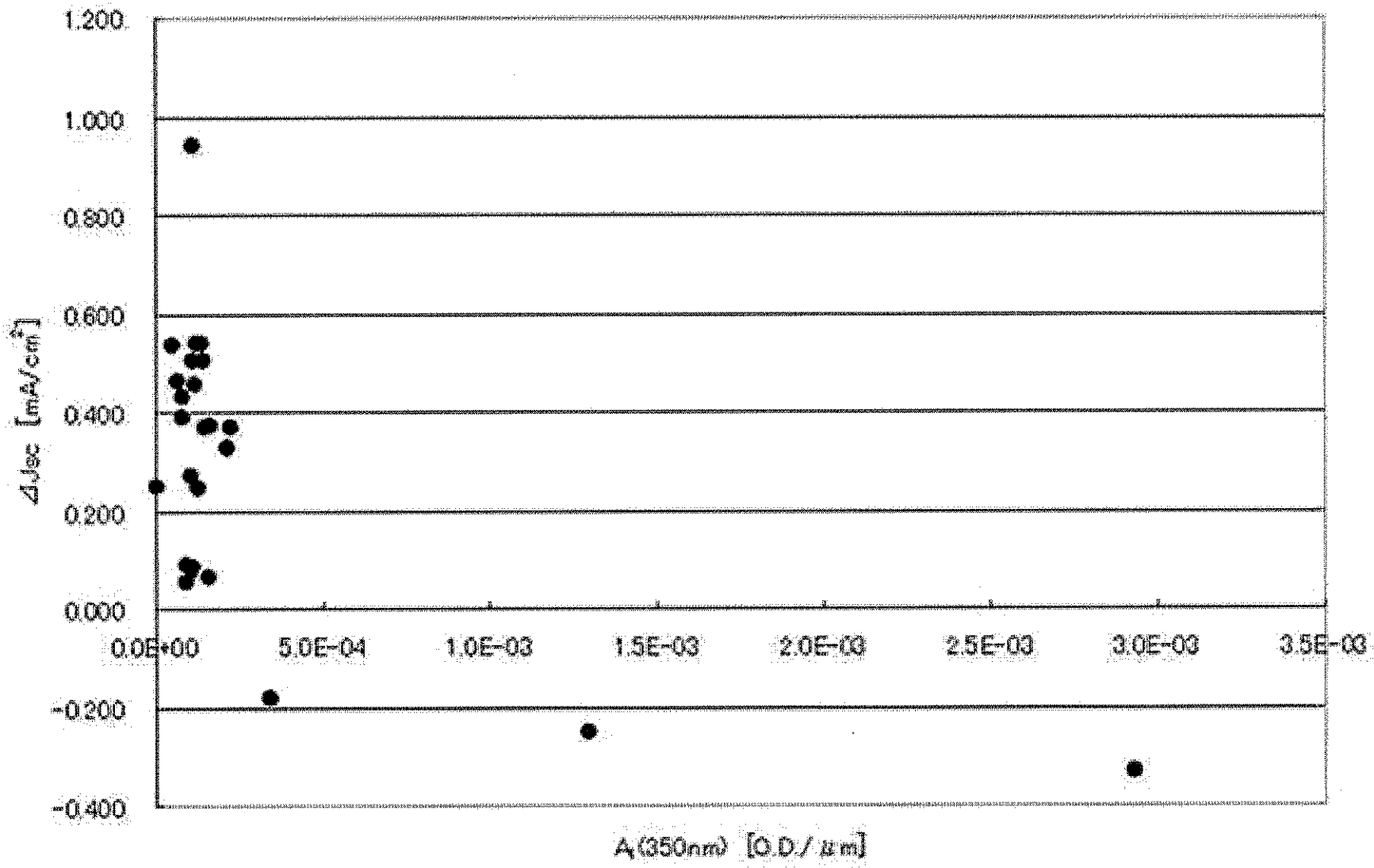

1.200
1.000
0.800
0.600
0.400
0.200
0.000
-0.200
-0.400
ΔJsc [mA/cm²]
0.0E+00
5.0E-04
1.0E-03
1.5E-03
2.0E-03
2.5E-03
3.0E-03
3.5E-03
A(350nm) [O.D./μm]

FIG.2

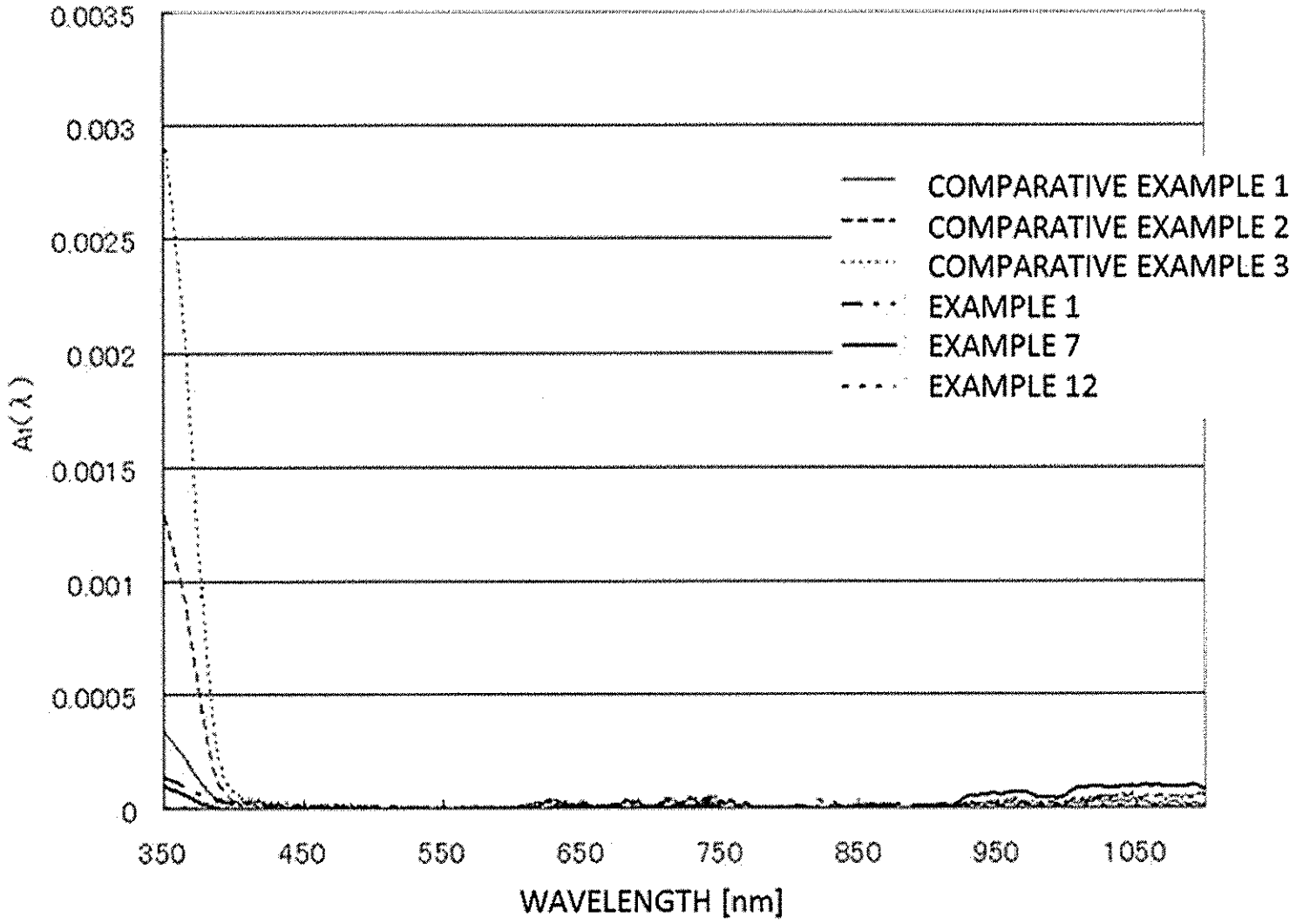

0.0035
0.003
0.0025
0.002
0.0015
0.001
0.0005
0
A(λ)
350
450
550
650
750
850
950
1050
WAVELENGTH [nm]
COMPARATIVE EXAMPLE 1
COMPARATIVE EXAMPLE 2
COMPARATIVE EXAMPLE 3
EXAMPLE 1
EXAMPLE 7
EXAMPLE 12

FIG. 3

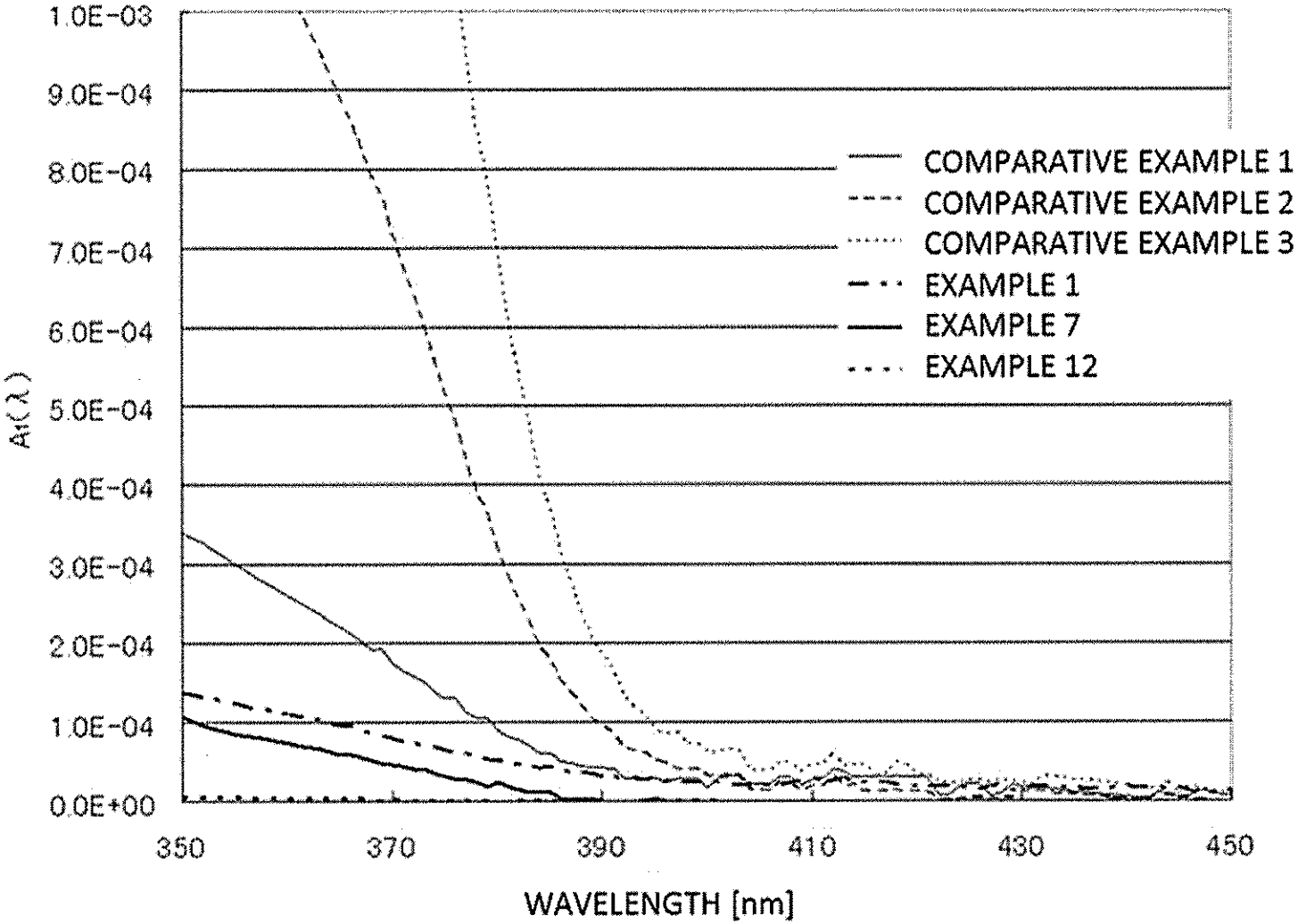

1.0E-03
9.0E-04
8.0E-04
7.0E-04
6.0E-04
5.0E-04
4.0E-04
3.0E-04
2.0E-04
1.0E-04
0.0E+00
At(λ)
350
370
390
410
430
450
WAVELENGTH [nm]
COMPARATIVE EXAMPLE 1
COMPARATIVE EXAMPLE 2
COMPARATIVE EXAMPLE 3
EXAMPLE 1
EXAMPLE 7
EXAMPLE 12

FIG. 4

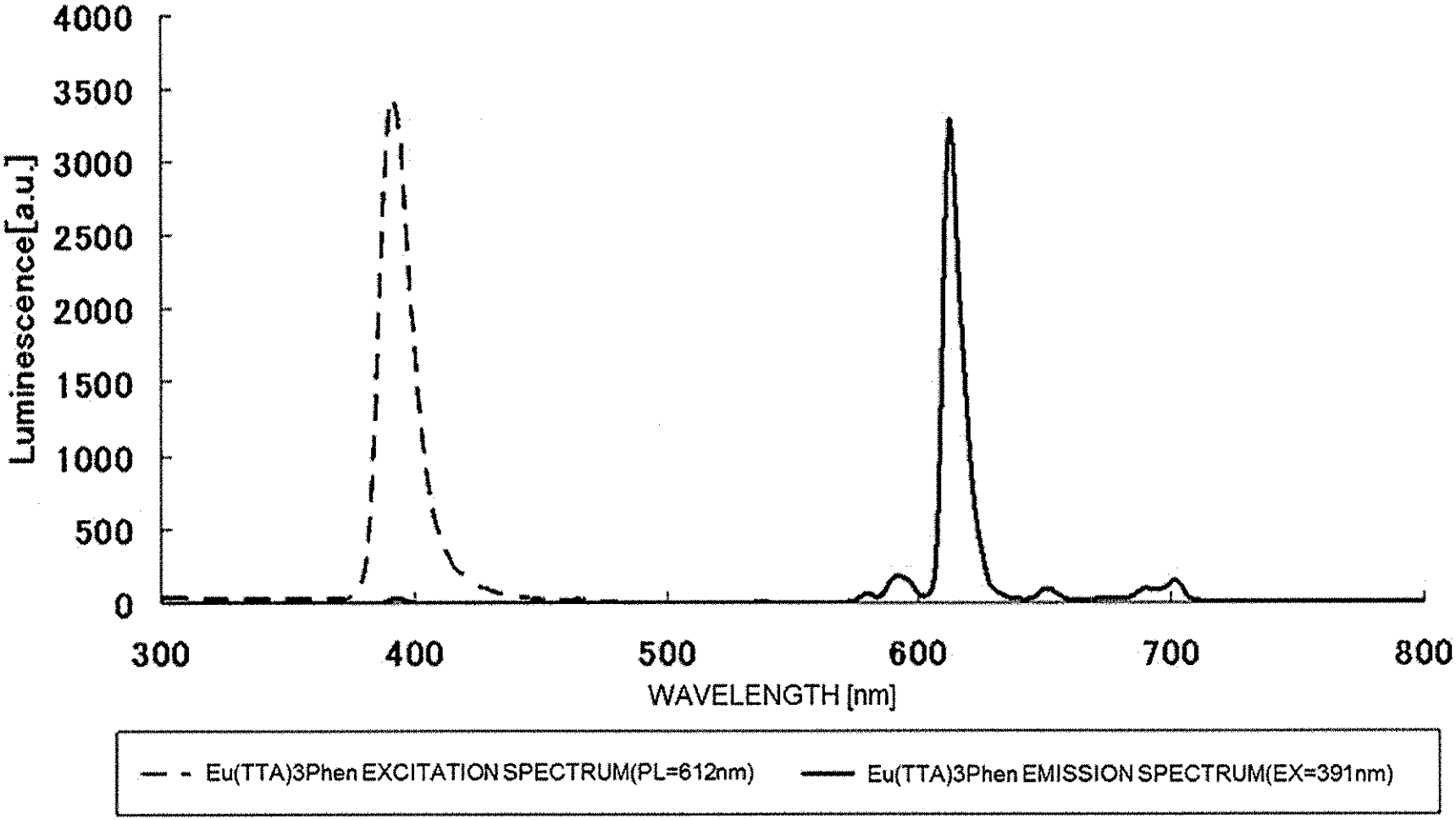

4000
3500
3000
2500
2000
1500
1000
500
0
Luminescence[a.u.]
300
400
500
600
700
800
WAVELENGTH [nm]
Eu(TTA)3Phen EXCITATION SPECTRUM(PL=612nm)
Eu(TTA)3Phen EMISSION SPECTRUM(EX=391nm)

FIG. 5

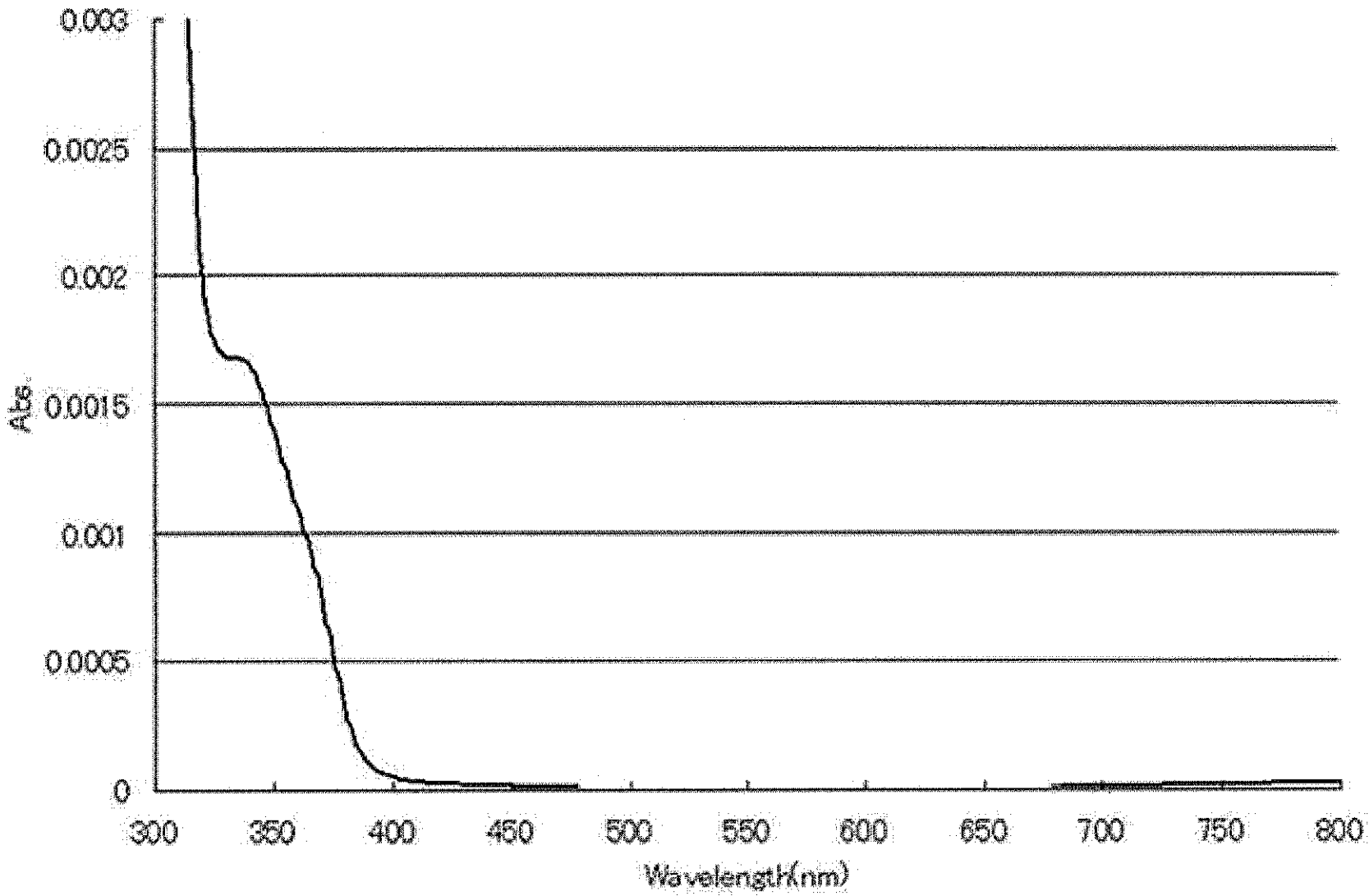

0.003
0.0025
0.002
0.0015
0.001
0.0005
0
Abs
300
350
400
450
500
550
600
650
700
750
800
Wavelength(nm)

FIG. 6

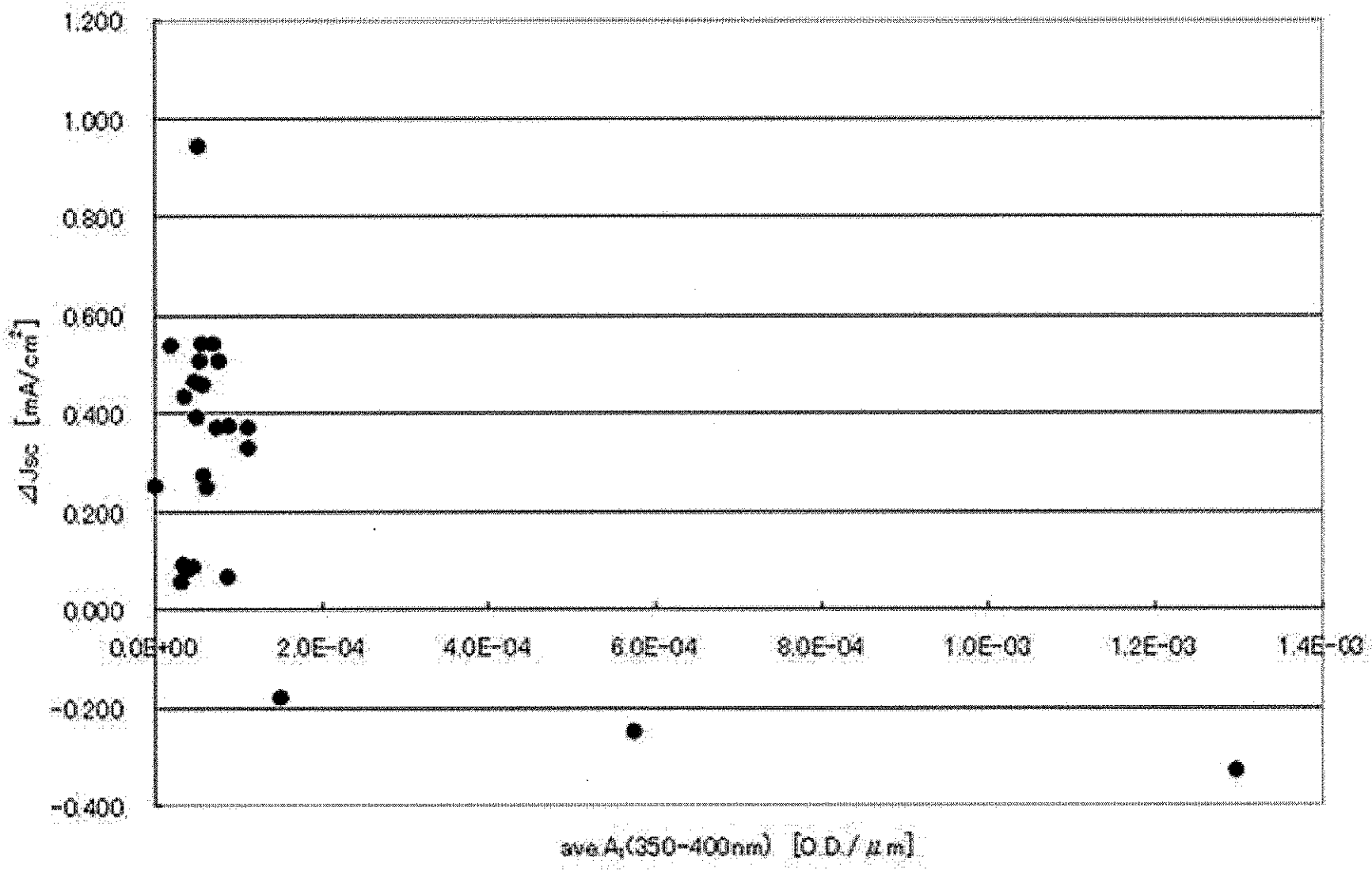

1.200
1.000
0.800
0.600
0.400
0.200
0.000
-0.200
-0.400
ΔJsc [mA/cm²]
0.0E+00
2.0E-04
4.0E-04
6.0E-04
8.0E-04
1.0E-03
1.2E-03
1.4E-03
ave.A1(350-400nm) [O.D./μm]

FIG. 7

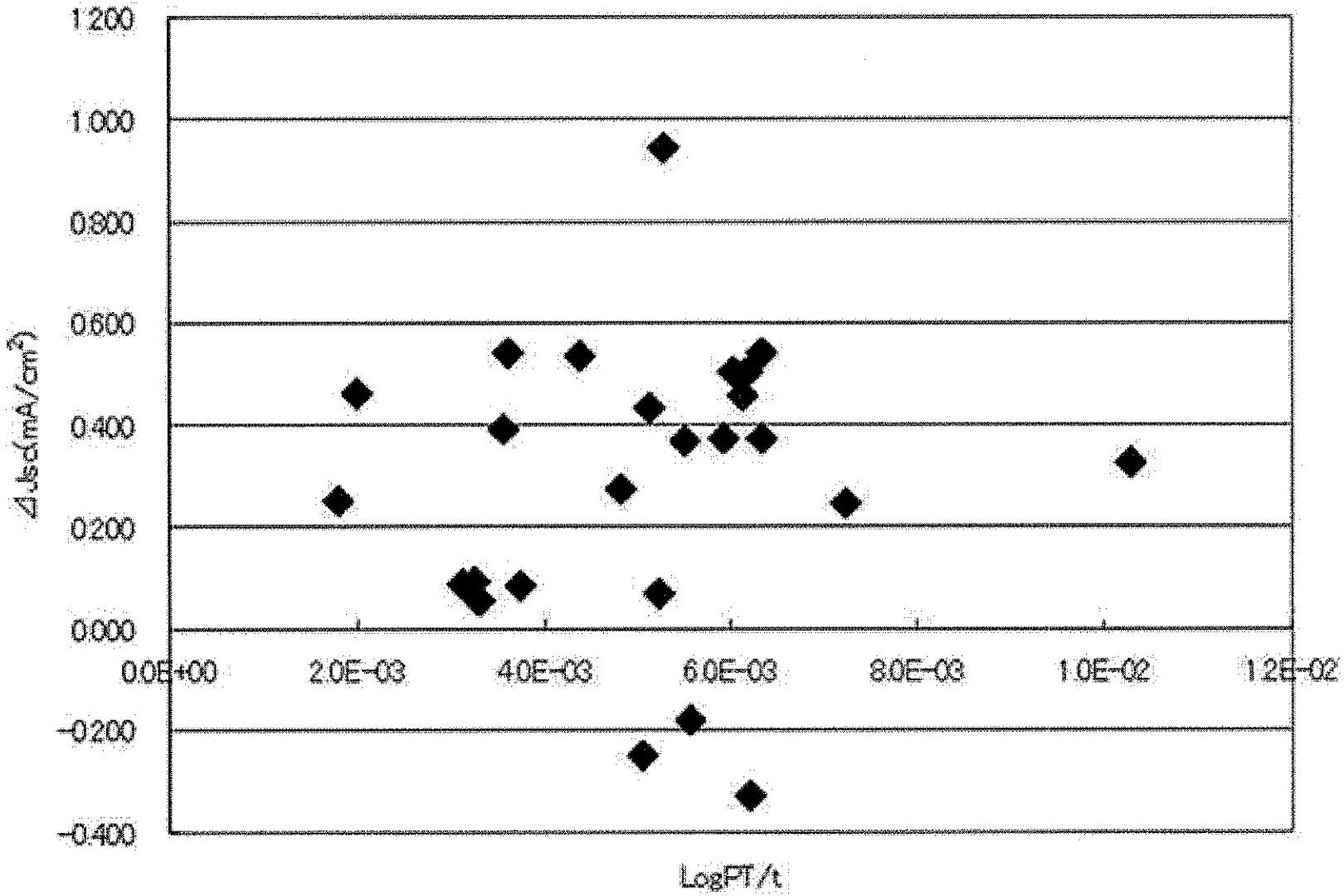
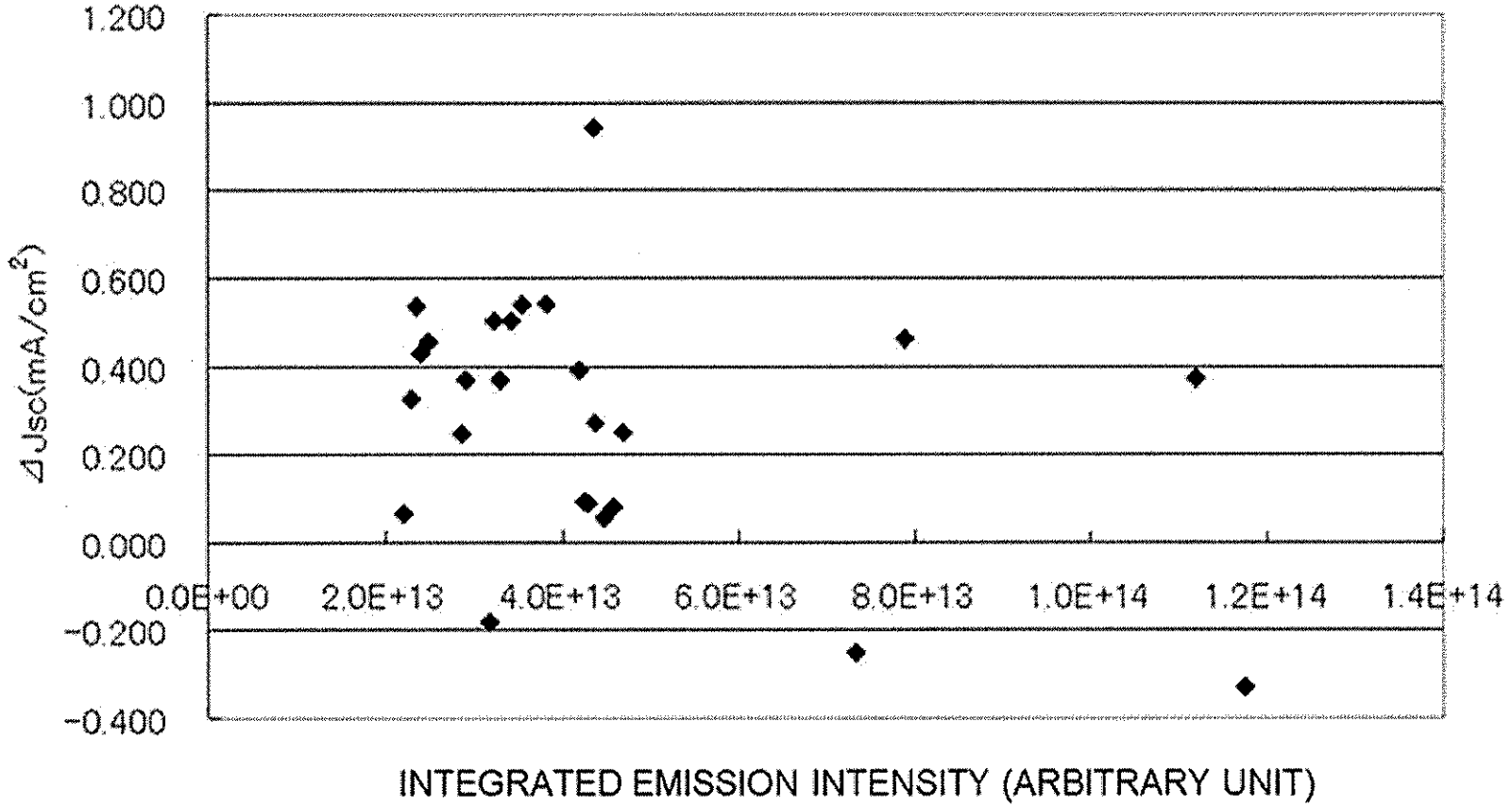

1.200
1.000
0.800
0.600
0.400
0.200
0.000
-0.200
-0.400
ΔJsc(mA/cm²)
0.0E+00
2.0E-03
4.0E-03
6.0E-03
8.0E-03
1.0E-02
1.2E-02
LogPT/t

FIG. 8


1.200
1.000
0.800
0.600
0.400
0.200
0.000
-0.200
-0.400
ΔJsc(mA/cm²)
0.0E+00
2.0E+13
4.0E+13
6.0E+13
8.0E+13
1.0E+14
1.2E+14
1.4E+14
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