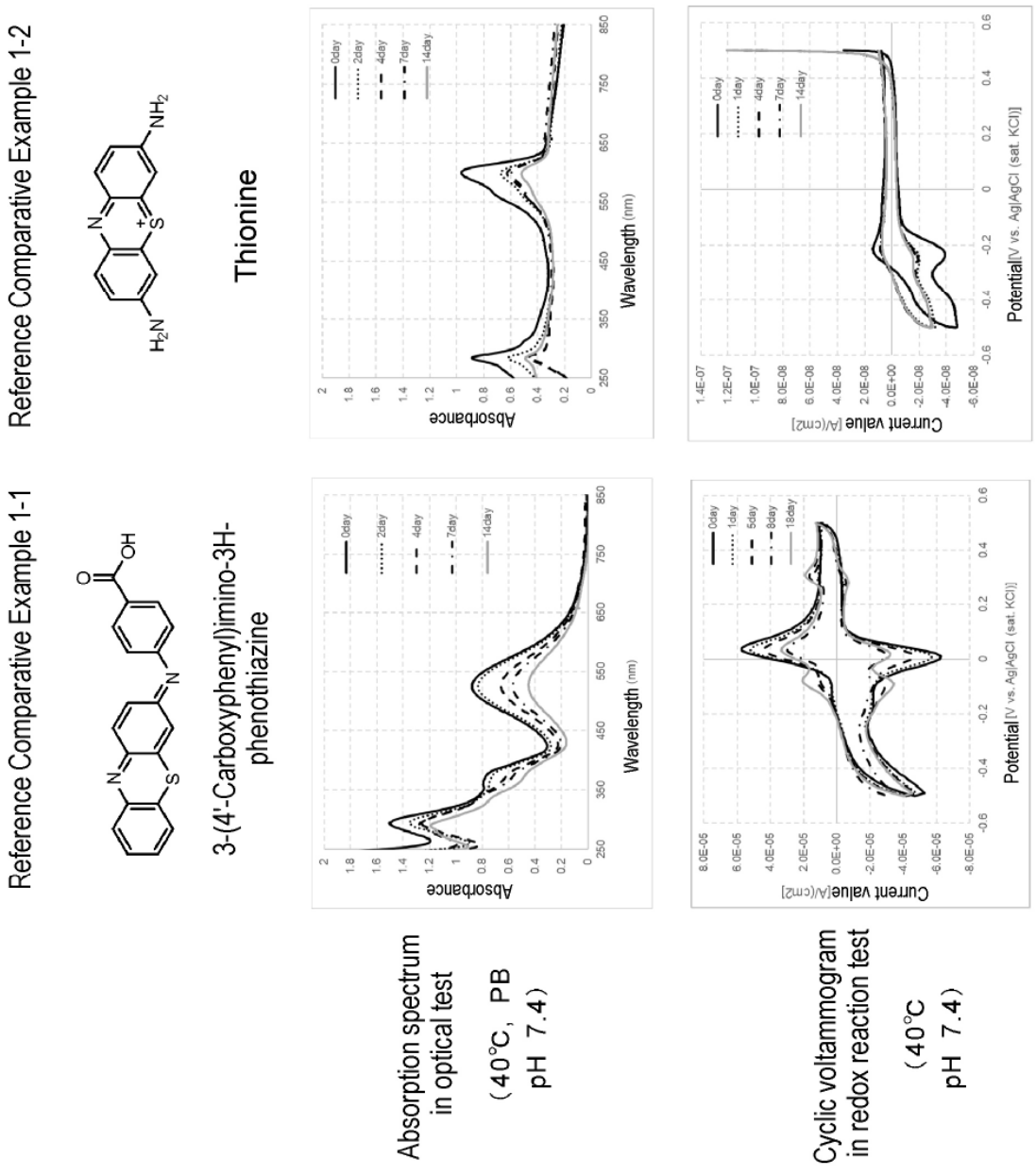
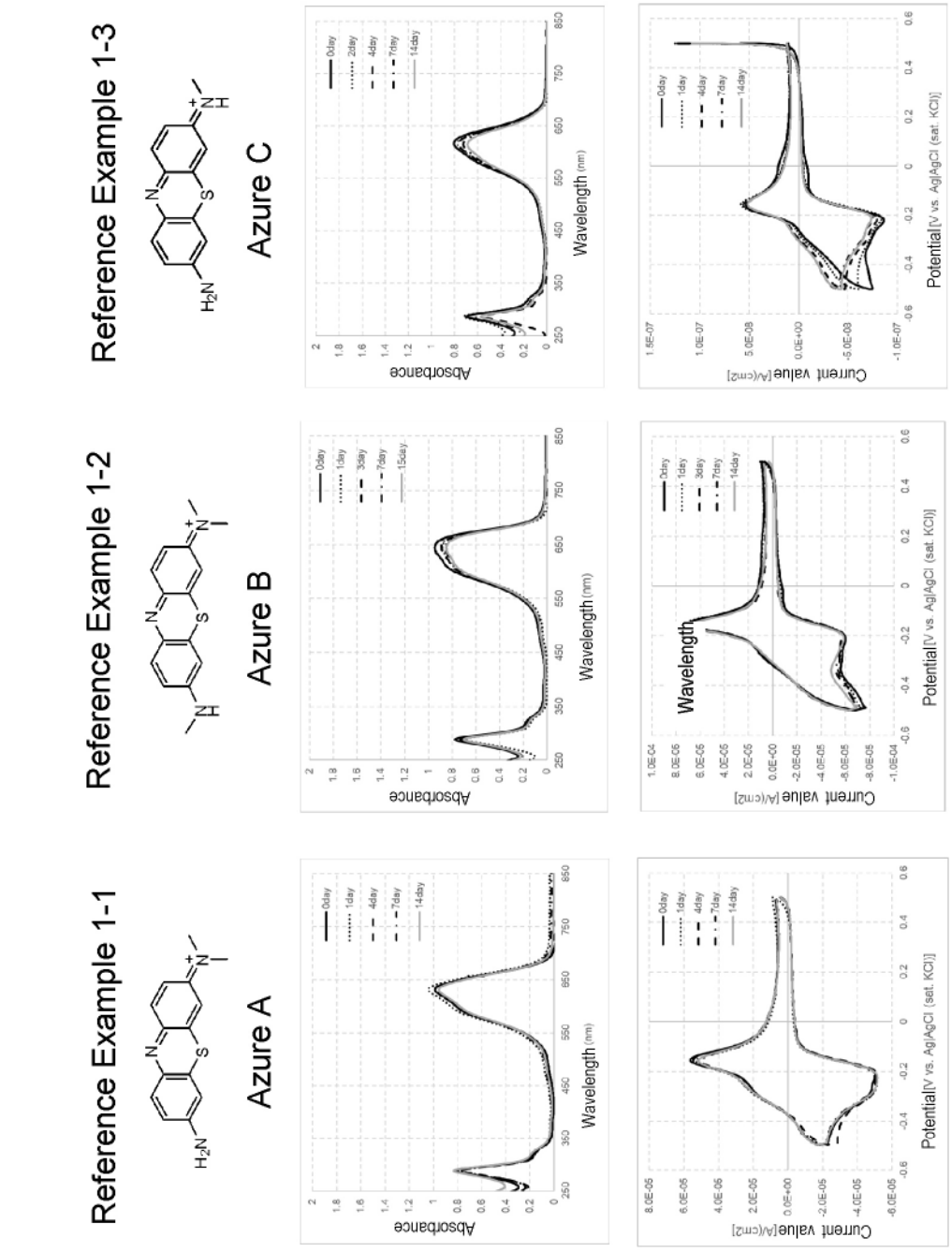
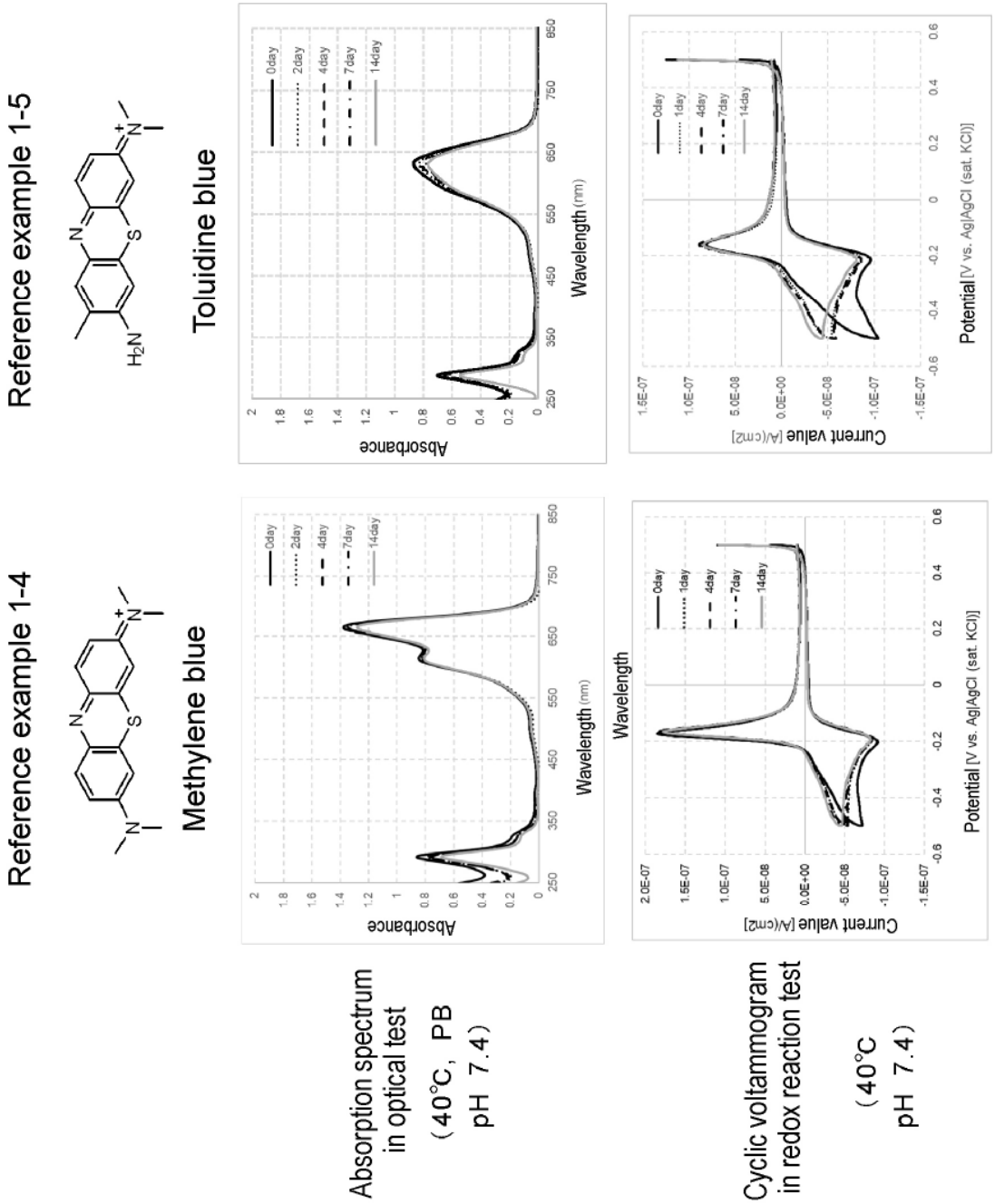
[Figure 8]


Reference Comparative Example 1-1
3-(4'-Carboxyphenyl)imino-3H-phenothiazine
Reference Comparative Example 1-2
Thionine
Absorbance
Wavelength (nm)
0day
2day
4day
7day
14day
Current value [A/(cm2]
Potential [V vs. Ag/AgCl (sat. KCl)]
1day
5day
8day
18day
Absorption spectrum in optical test
(40°C, PB pH 7.4)
Cyclic voltammogram in redox reaction test
(40°C pH 7.4)

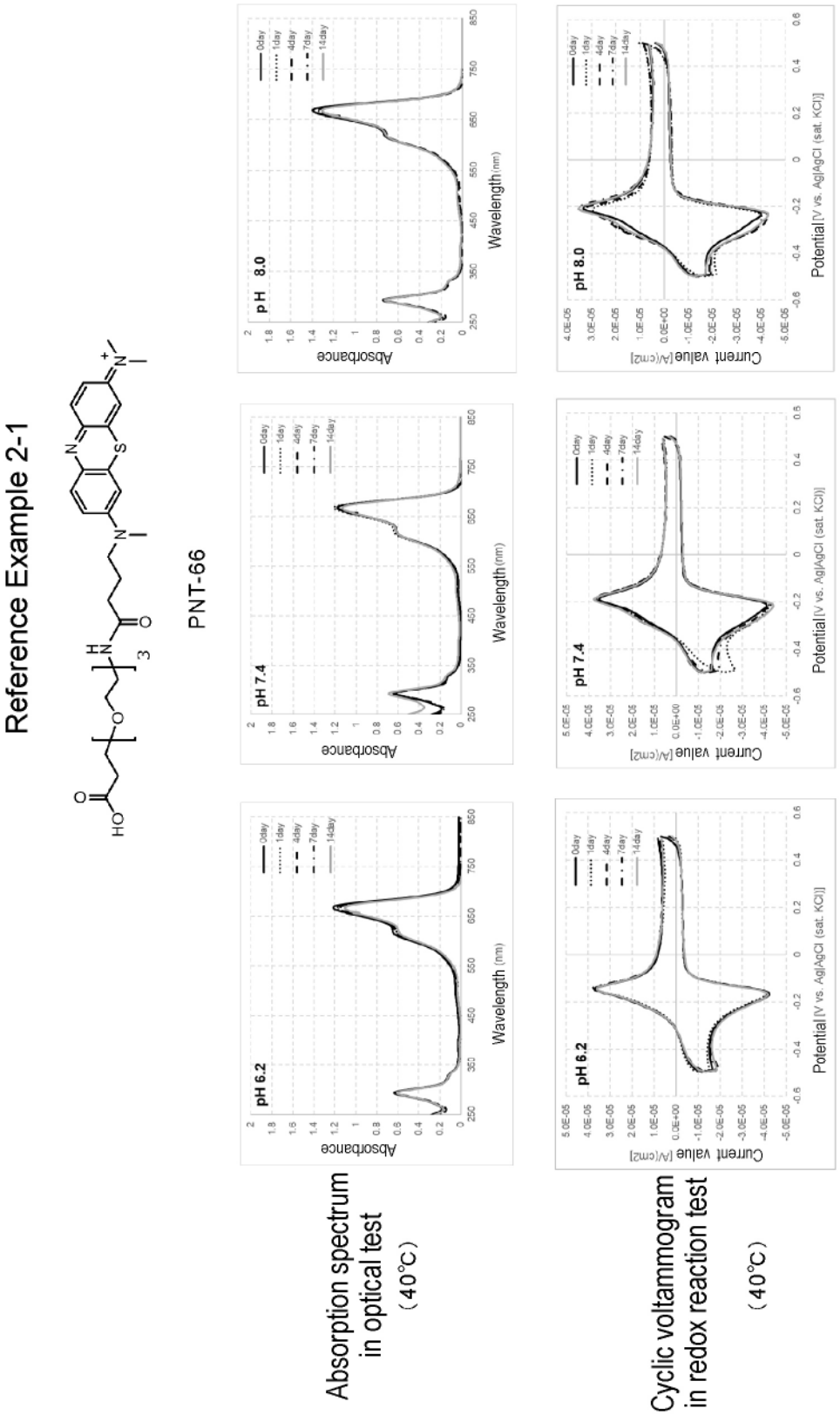
[Figure 9]


Reference Example 1-1
Azure A
Reference Example 1-2
Azure B
Reference Example 1-3
Azure C
Absorption spectrum in optical test
(40℃, PB pH 7.4)
Cyclic voltammogram in redox reaction test
(40℃ pH 7.4)
Absorbance
Wavelength (nm)
Current value [A/(cm2)]
Potential [V vs. Ag/AgCl (sat. KCl)]
Wavelength
0day
1day
2day
3day
4day
7day
14day
15day

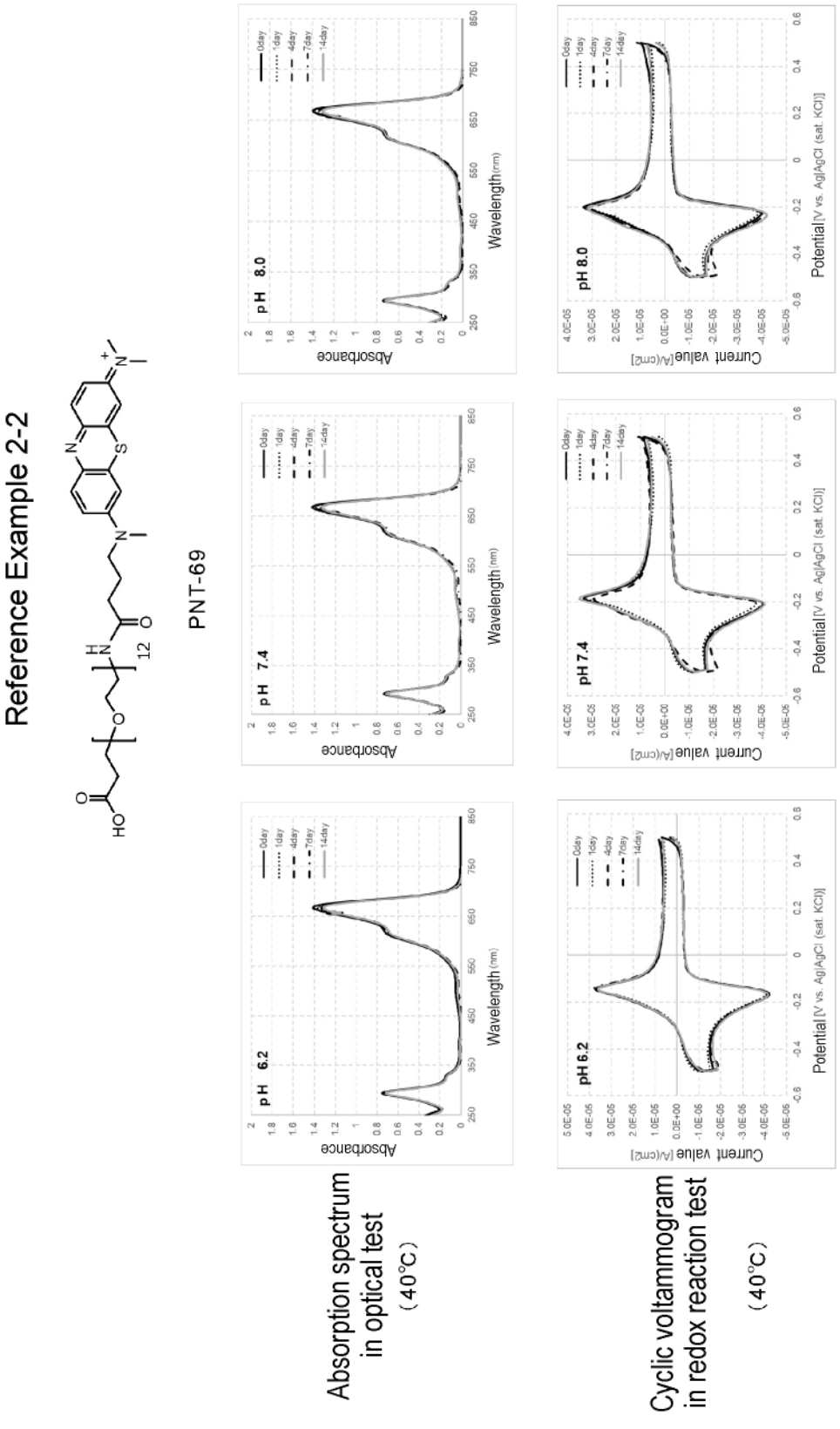
[Figure 10]


Reference example 1-5
Toluidine blue
Reference example 1-4
Methylene blue
Absorbance
Wavelength (nm)
0day
2day
4day
7day
14day
Current value [A/(cm2]
Potential [V vs. Ag/AgCl (sat. KCl)]
Absorption spectrum in optical test
(40°C, PB pH 7.4)
Cyclic voltammogram in redox reaction test
(40°C pH 7.4)

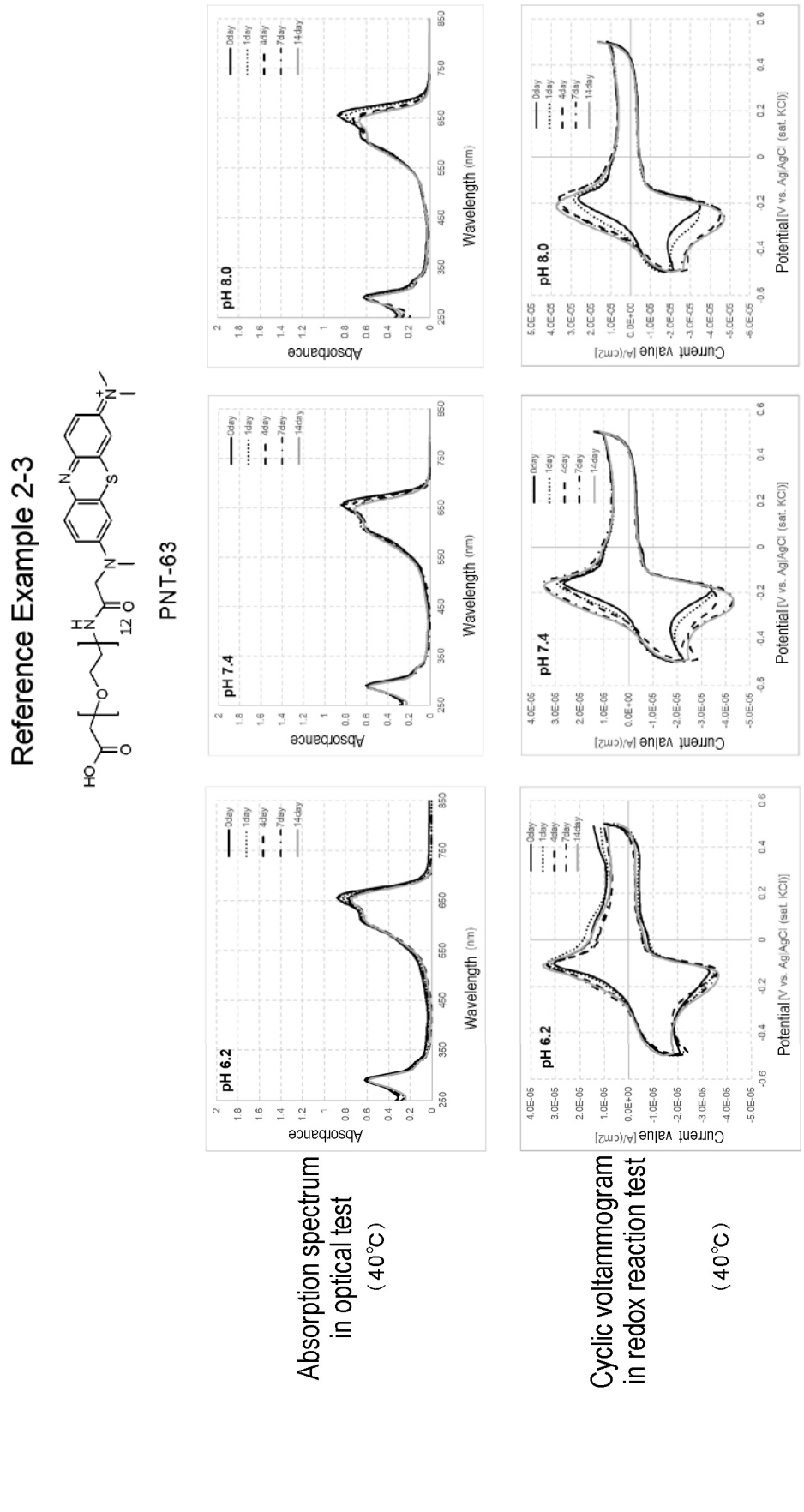
[Figure 11]


Reference Example 2-1
PNT-66
Absorption spectrum in optical test (40°C)
Cyclic voltammogram in redox reaction test (40°C)
pH 6.2
pH 7.4
pH 8.0
Absorbance
Wavelength (nm)
Current value [A/(cm2)]
Potential [V vs. Ag/AgCl (sat. KCl)]
0day
1day
4day
7day
14day

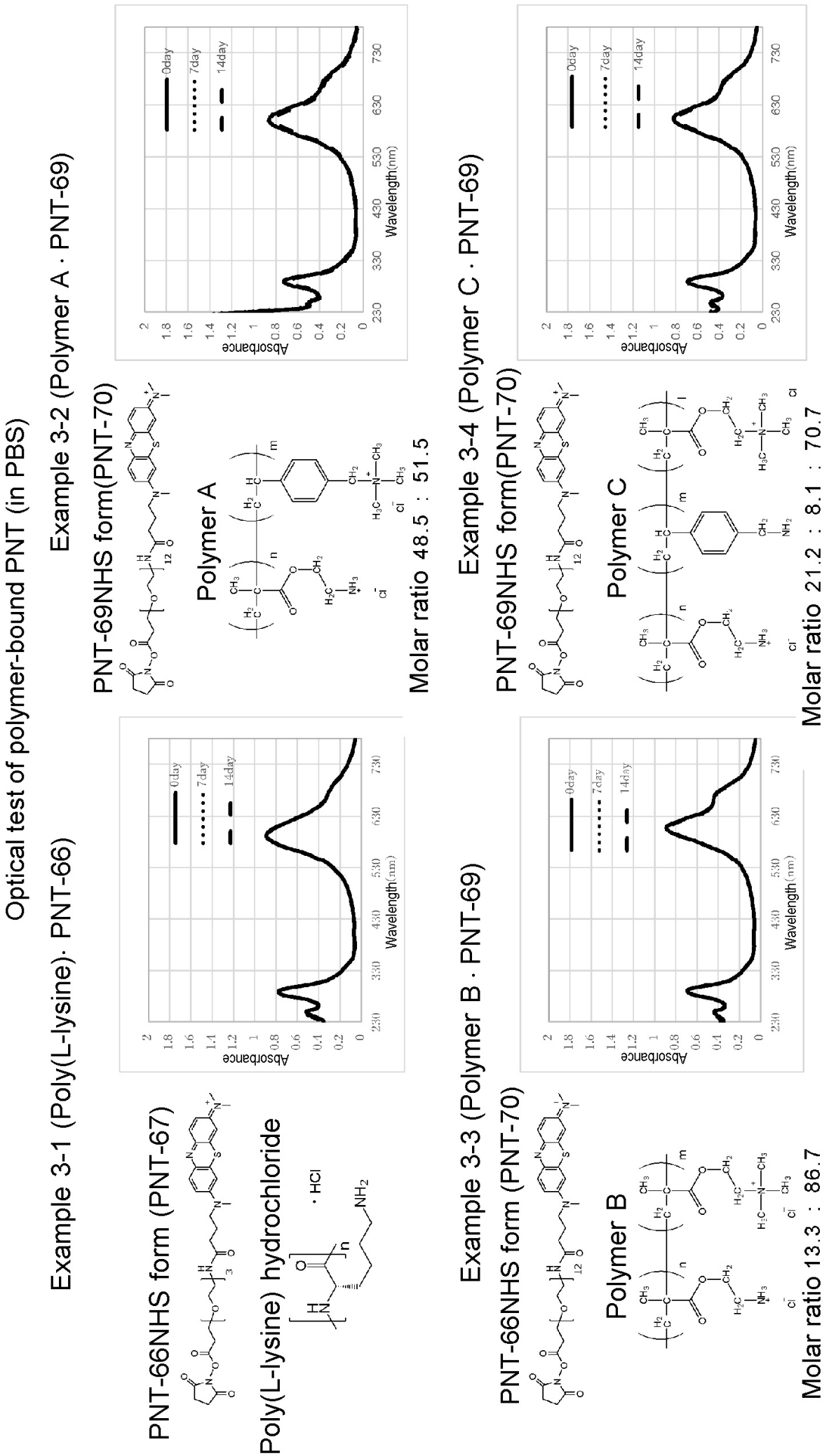
[Figure 12]


Reference Example 2-2
PNT-69
Absorption spectrum in optical test (40°C)
Cyclic voltammogram in redox reaction test (40°C)
pH 6.2
pH 7.4
pH 8.0
pH6.2
Absorbance
Wavelength(nm)
Current value[A/(cm2)]
Potential[V vs. Ag/AgCl (sat. KCl)]
0day
1day
4day
7day
14day

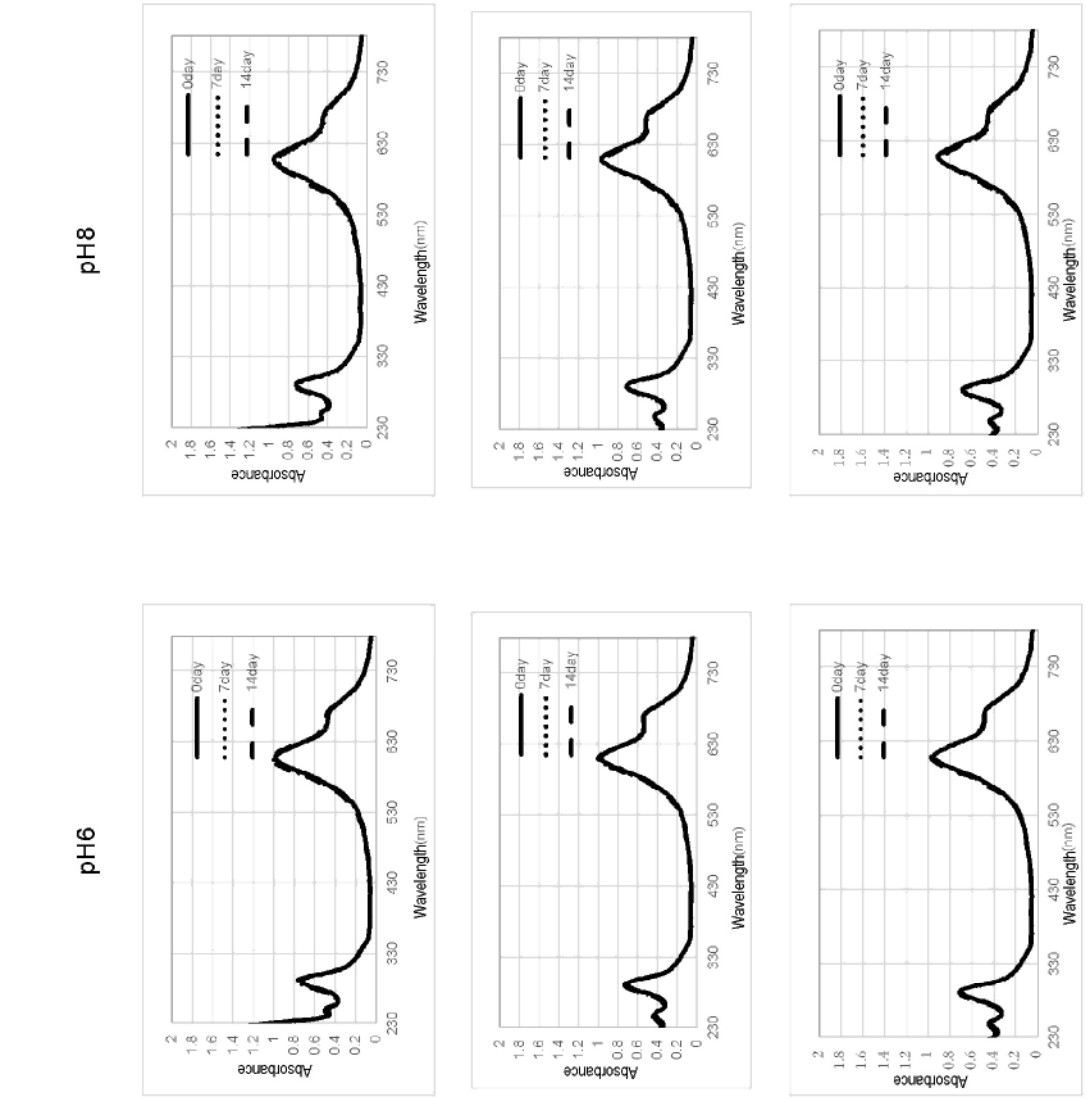
[Figure 13]


Reference Example 2-3
PNT-63
Absorption spectrum in optical test (40°C)
Cyclic voltammogram in redox reaction test (40°C)
pH 6.2
pH 7.4
pH 8.0
Absorbance
Wavelength (nm)
Current value [A/(cm2)]
Potential [V vs. Ag/AgCl (sat. KCl)]
0day
1day
4day
7day
14day

[Figure 14]


Optical test of polymer-bound PNT (in PBS)
Example 3-1 (Poly(L-lysine)· PNT-66)
PNT-66NHS form (PNT-67)
Poly(L-lysine) hydrochloride
· HCl
Example 3-2 (Polymer A · PNT-69)
PNT-69NHS form(PNT-70)
Polymer A
Molar ratio 48.5 : 51.5
Example 3-3 (Polymer B · PNT-69)
PNT-66NHS form (PNT-70)
Polymer B
Molar ratio 13.3 : 86.7
Example 3-4 (Polymer C · PNT-69)
PNT-69NHS form(PNT-70)
Polymer C
Molar ratio 21.2 : 8.1 : 70.7
0day
7day
14day
Absorbance
Wavelength(nm)

[Figure 15]


Optical test of polymer-bound PNT
(in sodium phosphate
buffer solution)
pH8
pH6
Example 3-2
(Polymer A·PNT-69)
Example 3-3
(Polymer B·PNT-69)
Example 3-4
(Polymer C·PNT-69)
Absorbance
Wavelength(nm)
0day
7day
14day