

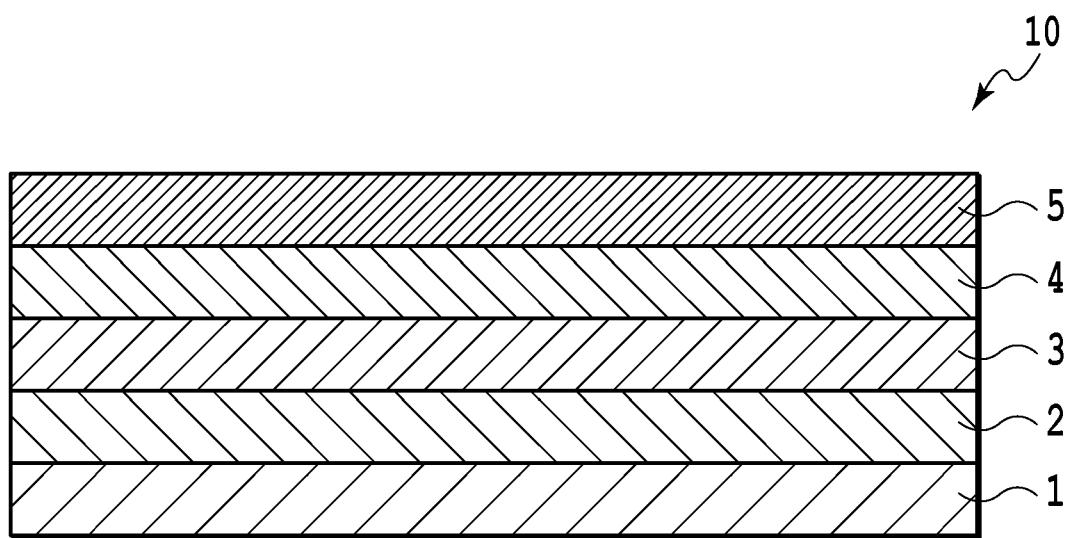


FIG. 1

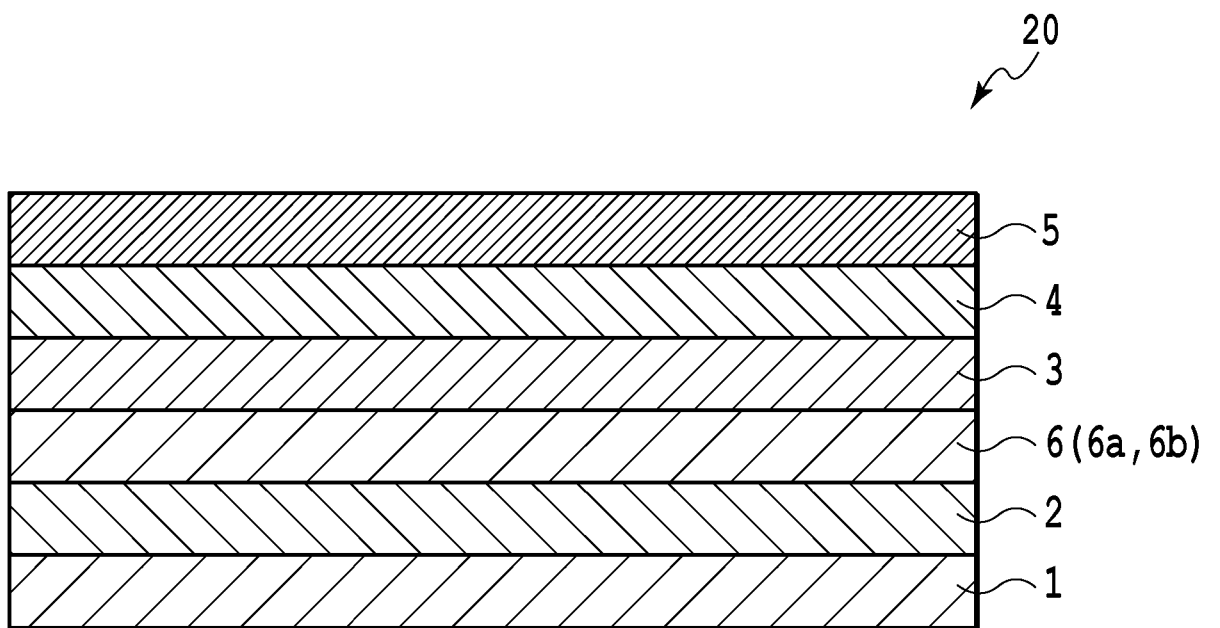


FIG. 2

3/17

SAMPLE No.17
UP TO Ru-TiO₂
(POST-HEATING 450°C, 60min)

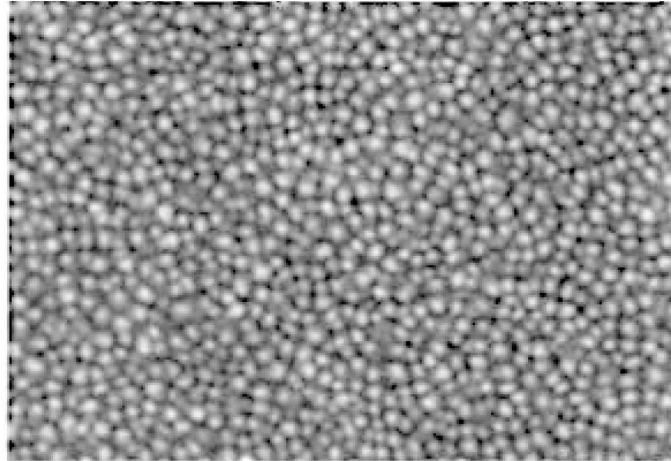


FIG.3

4/17

SAMPLE No.9
Pt ON Ru-TiO₂
(POST-HEATING 450°C, 60min)

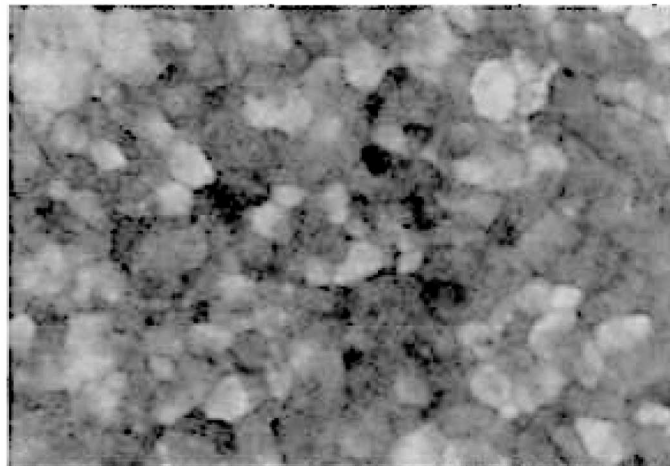


FIG.4

SAMPLE No.10
Pt-C ON Ru-TiO₂
(POST-HEATING 450°C, 60min)

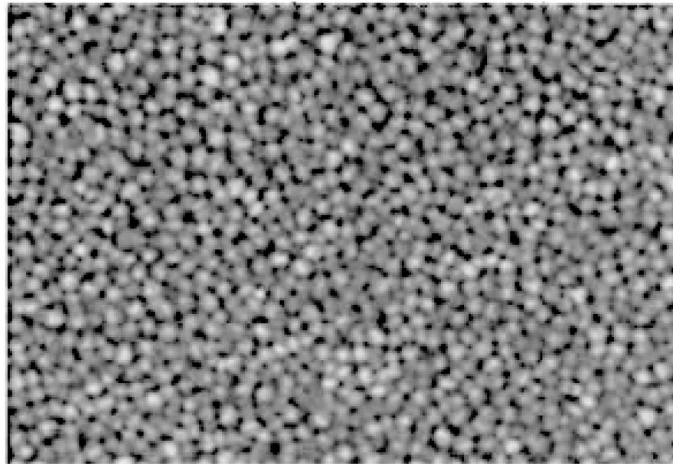


FIG.5

SAMPLE No.11
Pt-TiO₂ ON Ru-TiO₂
(POST-HEATING 450°C, 60min)

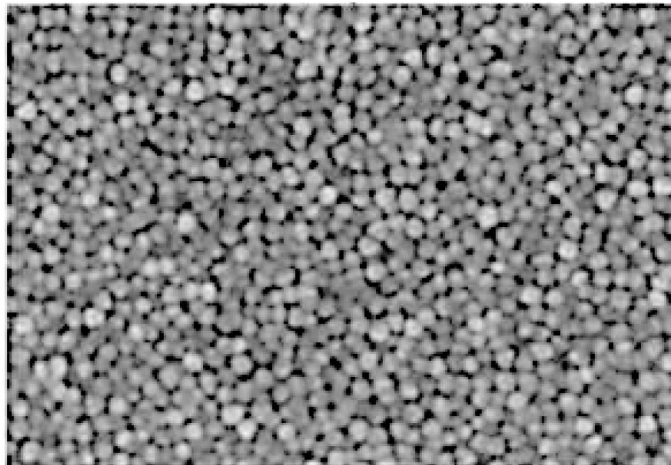


FIG.6

7/17

SAMPLE No.20
ZnO/Pt-TiO₂/Ru-TiO₂
(POST-HEATING 450°C, 60min)

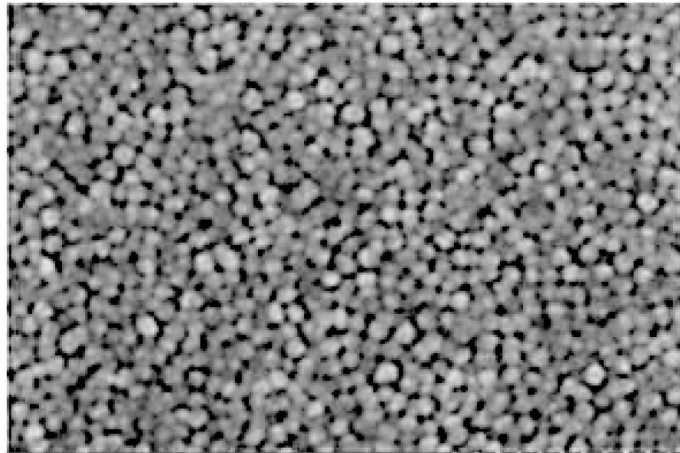
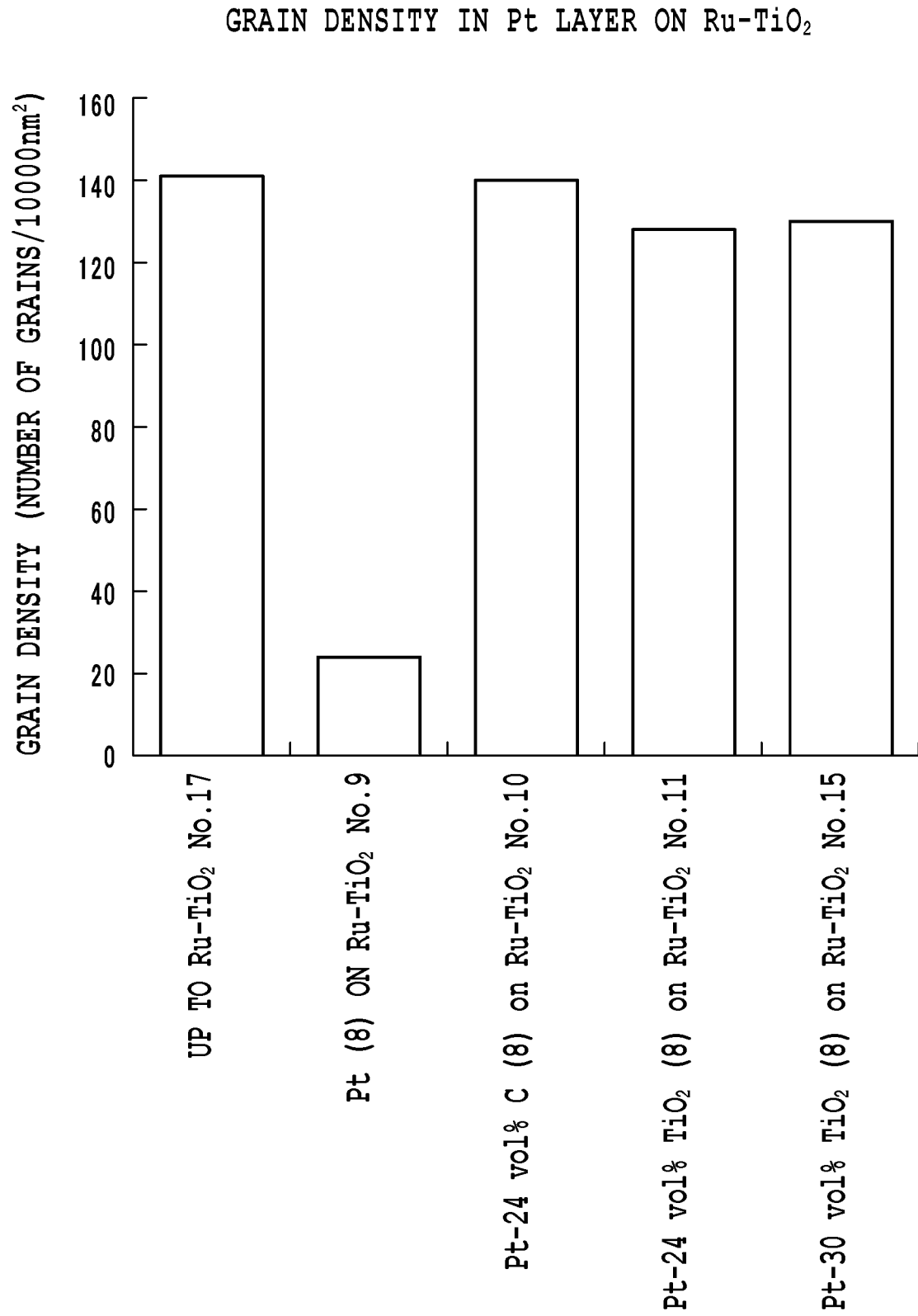
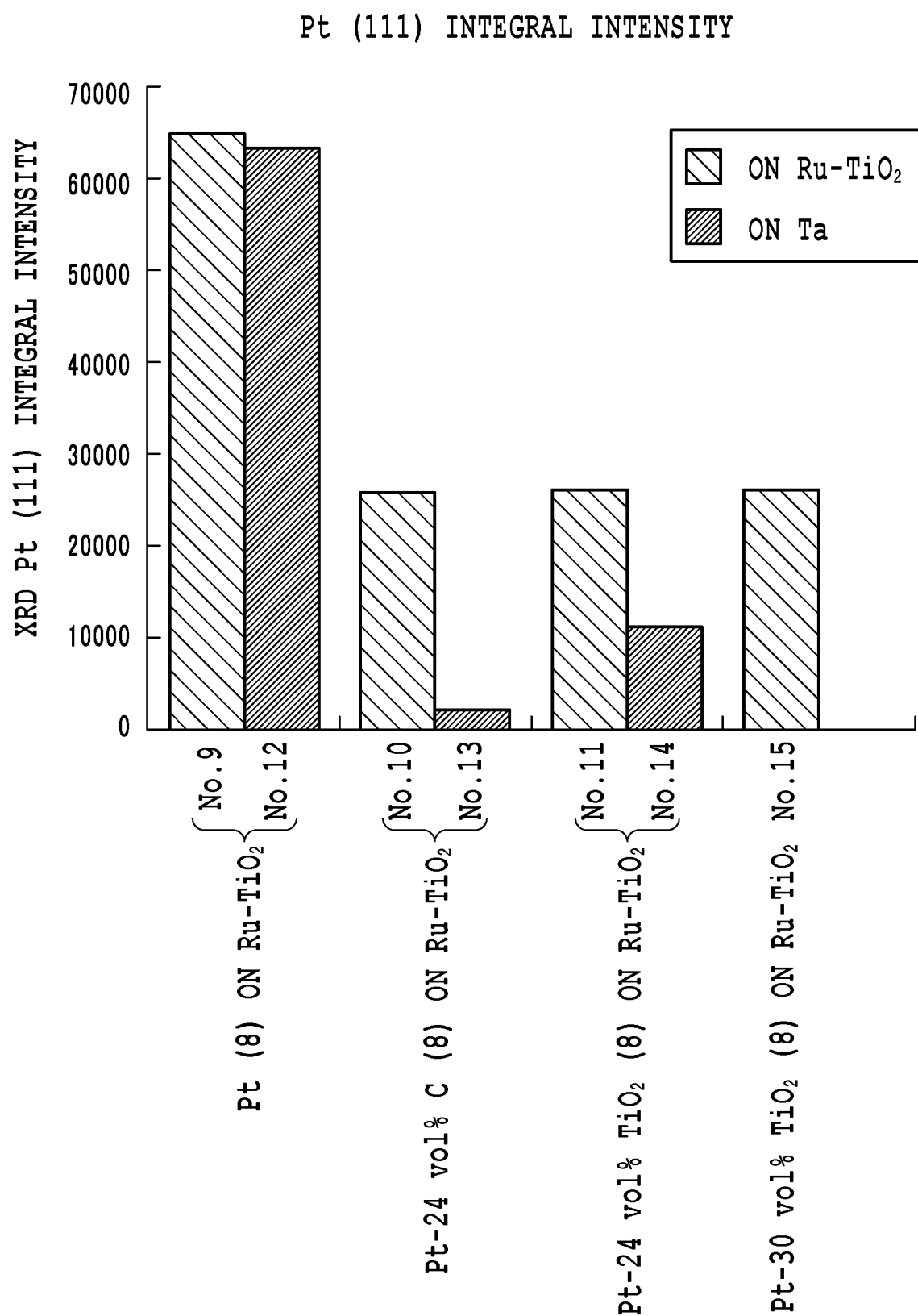


FIG.7

**FIG. 8**

**FIG. 9**

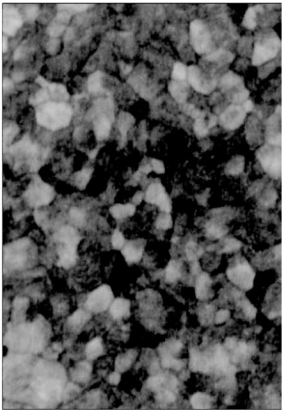
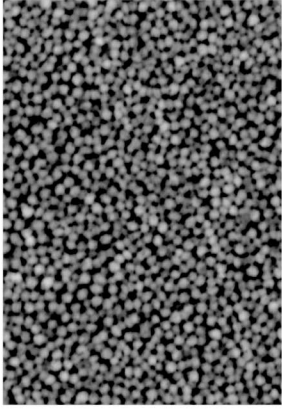
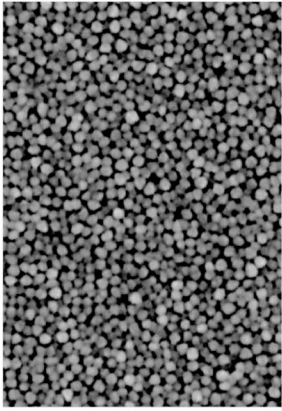
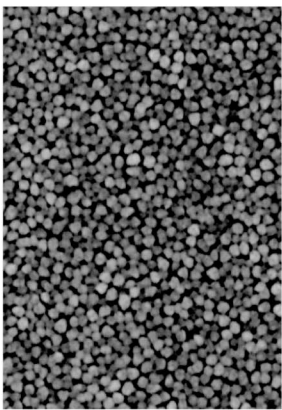
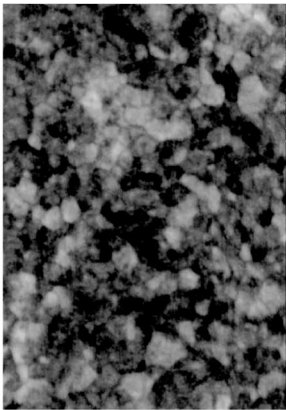
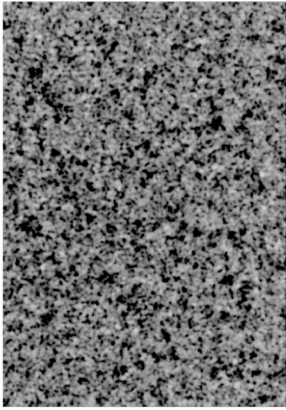
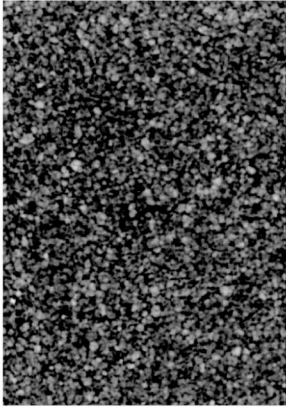
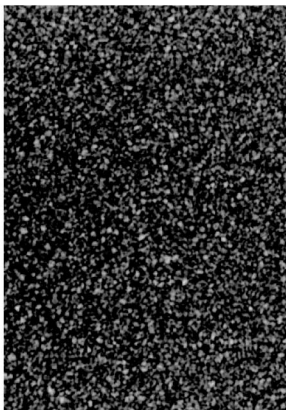
UP TO Pt LAYER				
UNDER-LAYER OF Pt LAYER	Pt	Pt-24vol%C	Pt-24vol%TiO ₂	Pt-30vol%TiO ₂
Ru-TiO ₂	 No. 9 COARSE GRAIN	 No. 10 GOOD	 No. 11 GOOD	 No. 15 GOOD
	 No. 12 COARSE GRAIN	 No. 13 AGGLOMERATED (MINUTE)	 No. 14 AGGLOMERATED (MINUTE)	 No. 16 AGGLOMERATED (MINUTE)

FIG.10

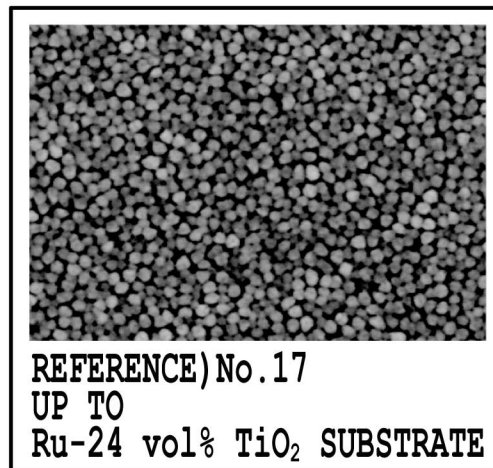


FIG.11

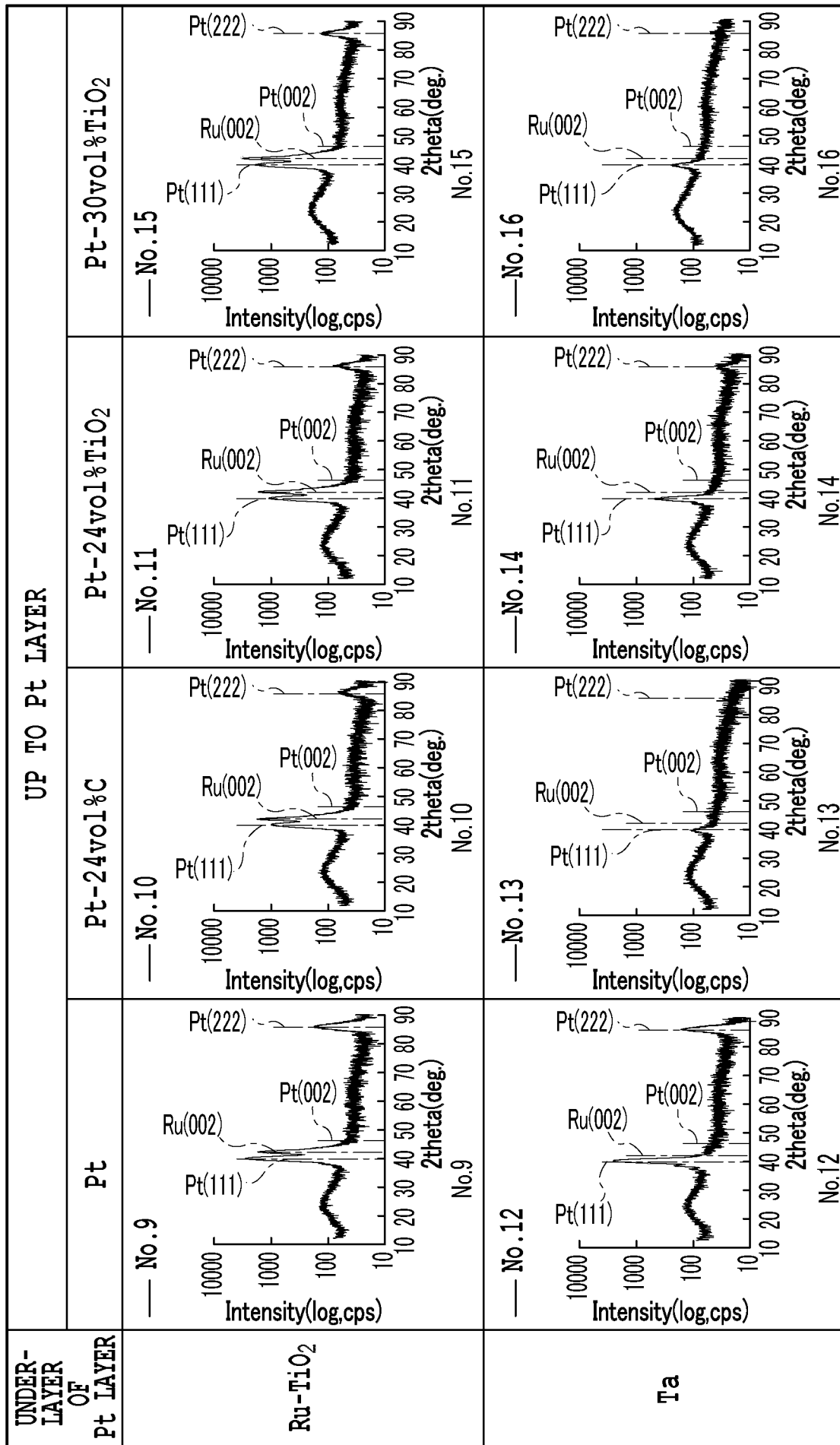
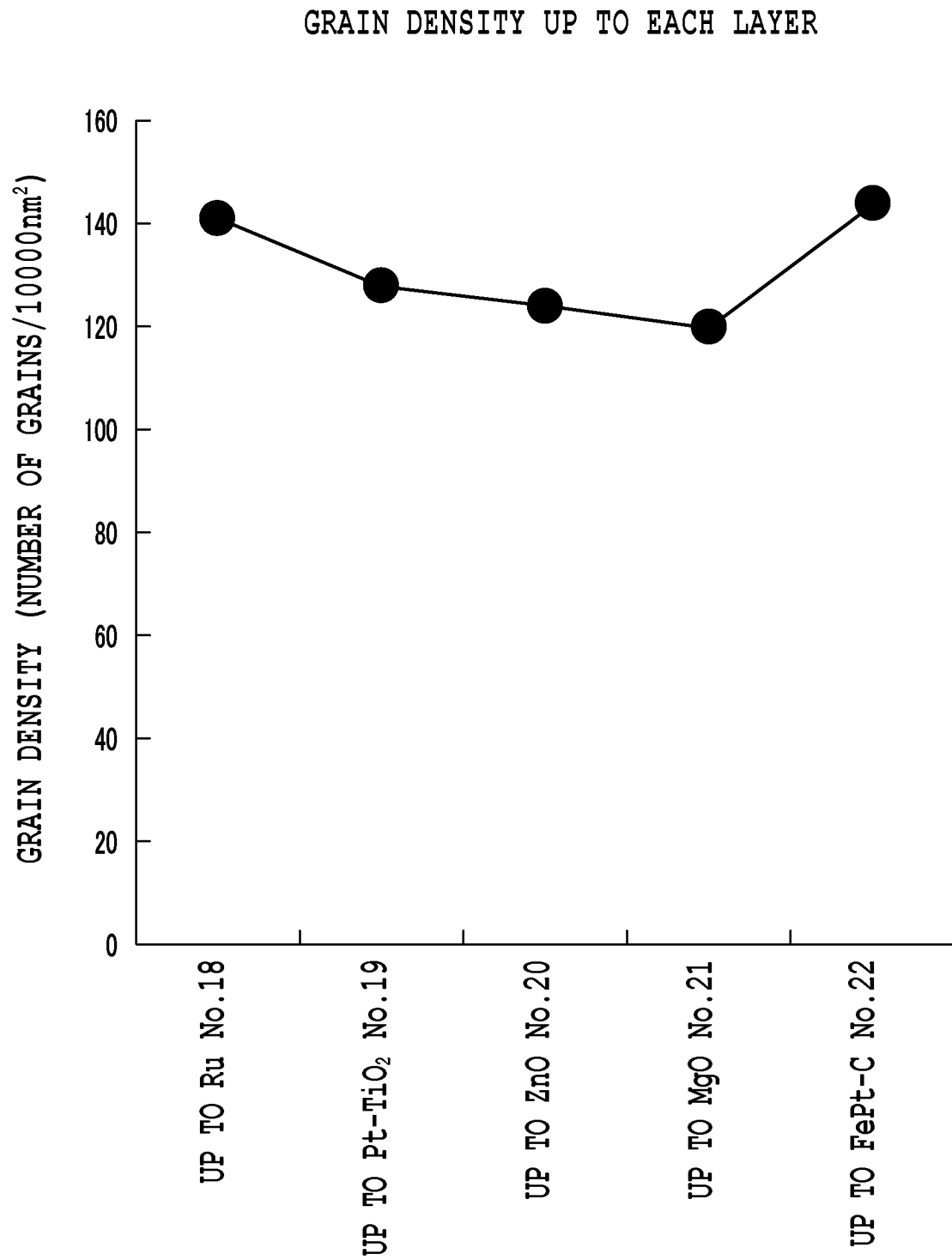
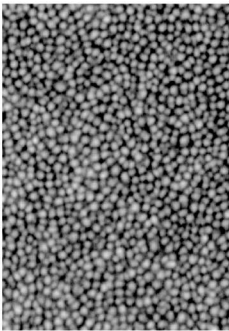
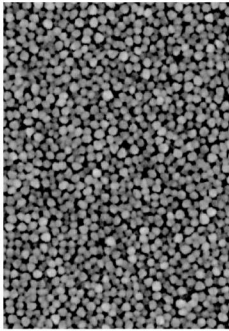
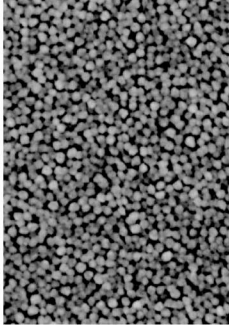
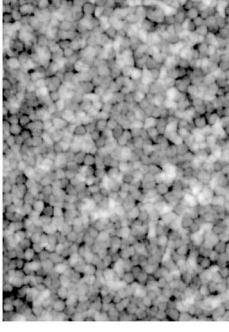
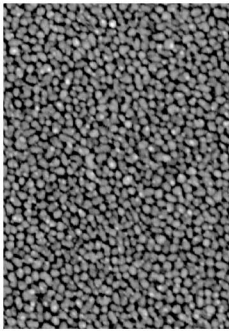


FIG. 12

**FIG.13**

LAYER CON- FIGURA- TION	UP TO Ru-TiO ₂ SUBSTRATE	Pt-TiO ₂ (8) ON Ru-TiO ₂	ZnO (2) /Pt-TiO ₂ (8) ON Ru-TiO ₂	MgO (5) /ZnO (2) /Pt-TiO ₂ (8) ON Ru-TiO ₂	FePt-30 vol% C (4) /MgO (5) /ZnO (2) /Pt-TiO ₂ (8) ON Ru-TiO ₂
SAMPLE No.	18	19	20	21	22
SEM					
	141	128	124	120	144

GRAIN DENSITY
(NUMBER OF GRAINS/10000nm²)

FIG.14

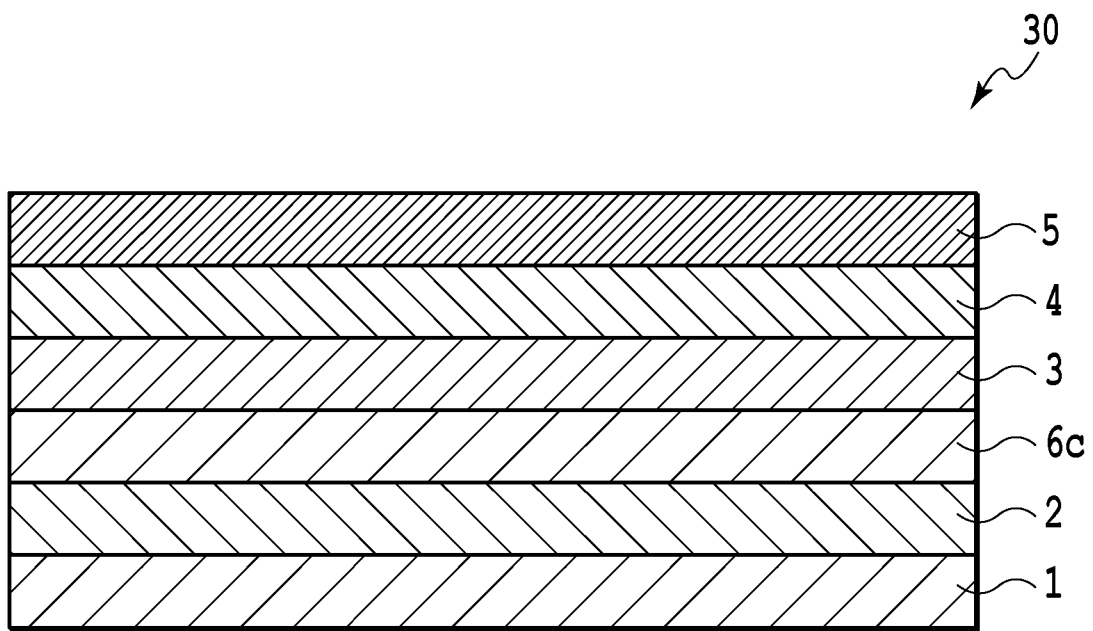
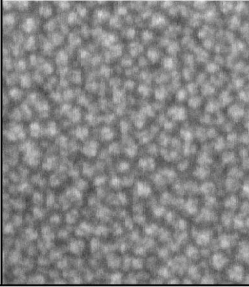
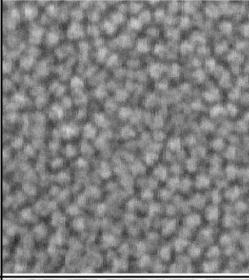
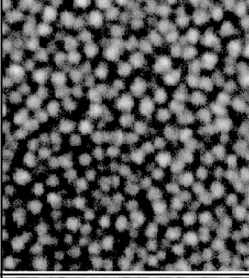
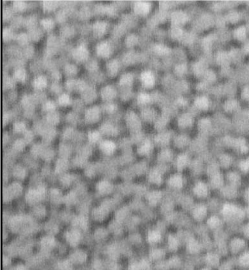
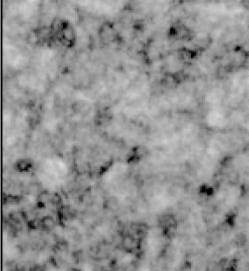
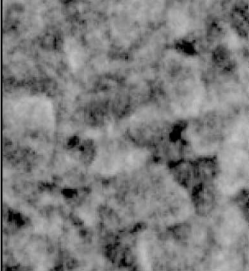
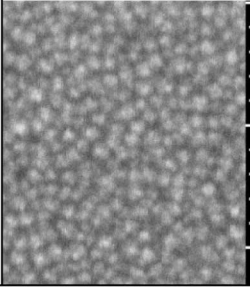
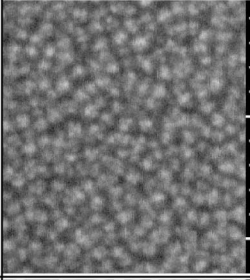
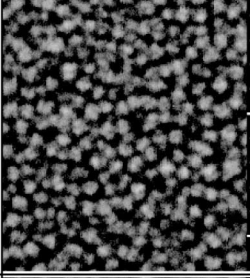
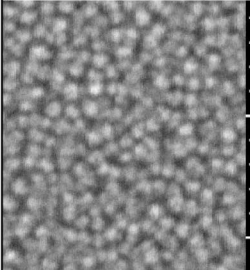
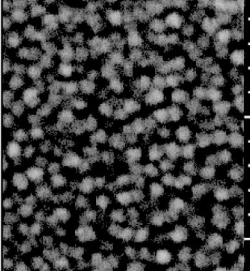
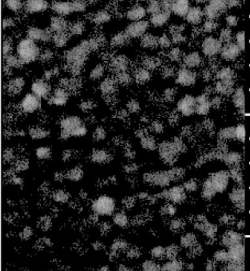
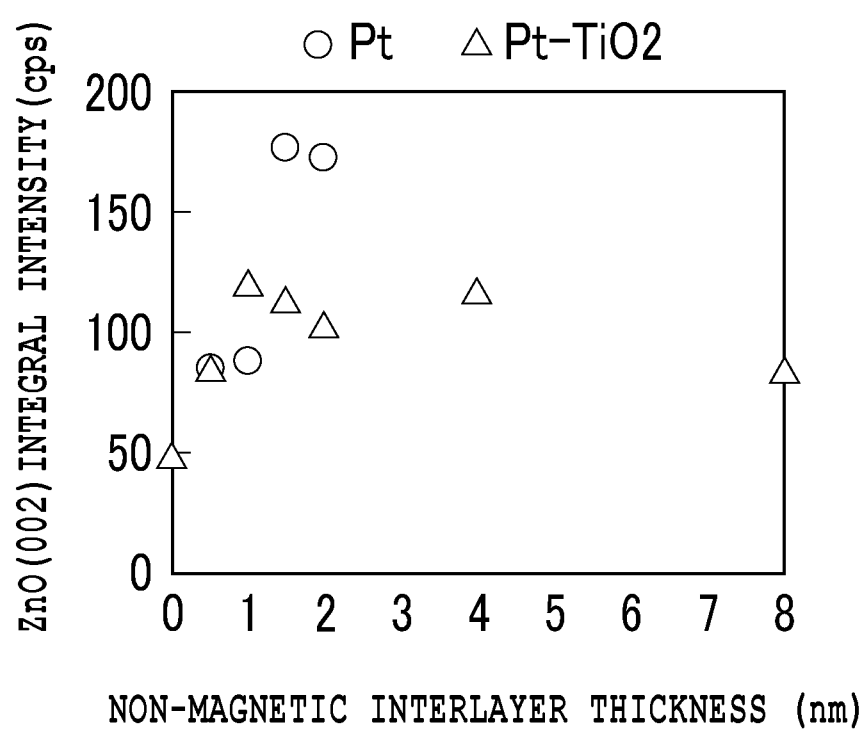


FIG. 15

NON-MAGNETIC INTERLAYER THICKNESS	0.5nm	1.0nm	1.5nm	2.0nm	4.0nm	8.0nm
Pt	D:5.6nm σ /D:21.9%	D:5.6nm σ /D:22.5%	D:5.8nm σ /D:22.0%	D:6.0nm σ /D:23.4%	※	※
	 100nm	 100nm	 100nm	 100nm	 100nm	 100nm
Pt-TiO ₂	D:5.6nm σ /D:21.6%	D:5.8nm σ /D:23.1%	D:5.8nm σ /D:21.7%	D:5.9nm σ /D:22.3%	D:6.1nm σ /D:22.3%	D:6.9nm σ /D:26.3%
	 100nm	 100nm	 100nm	 100nm	 100nm	 100nm

※: UNMEASURABLE BECAUSE OF INDISTINCT GRAINS

FIG.16

**FIG. 17**