FIG. 1

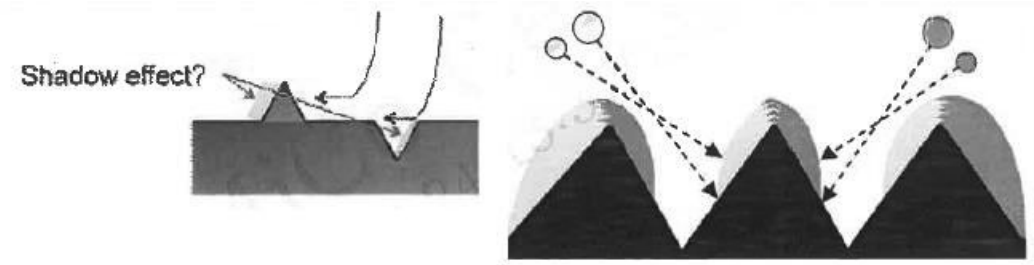


FIG. 2

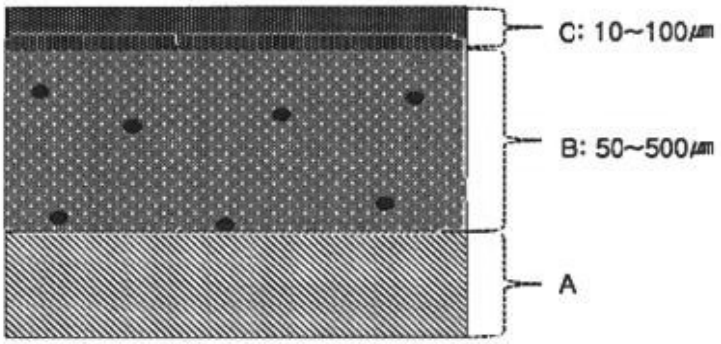


FIG. 3

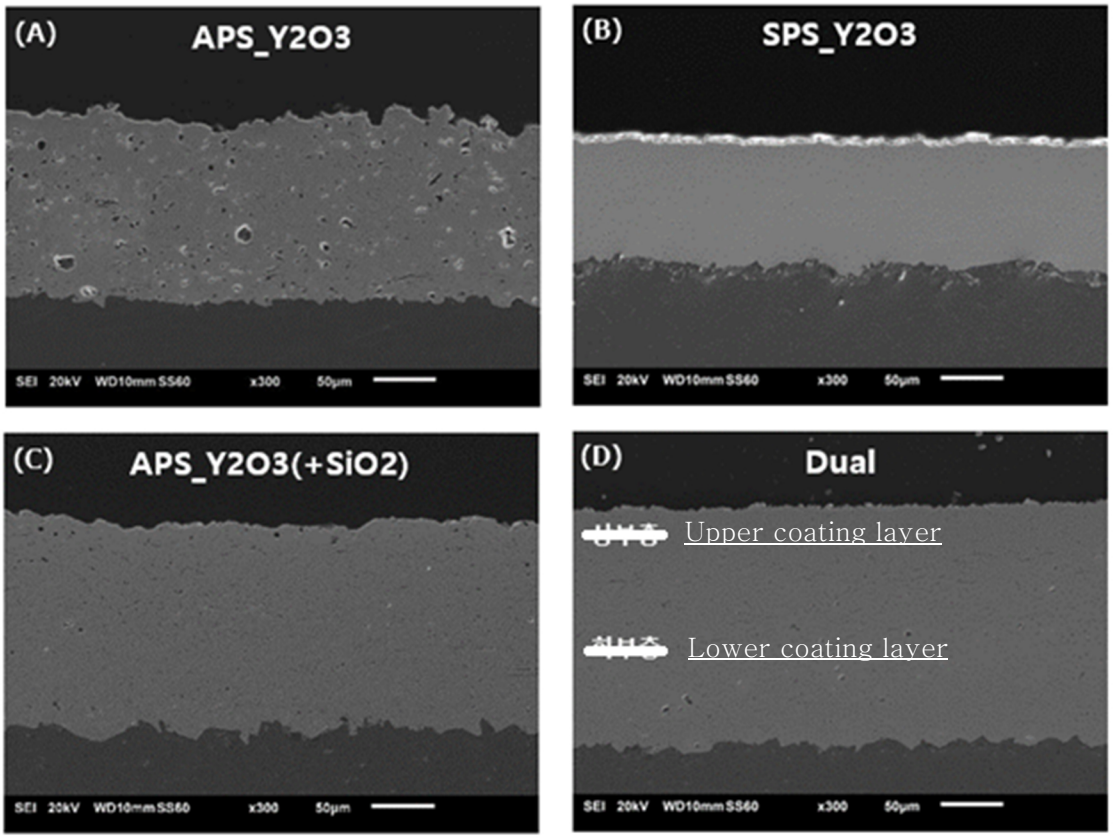
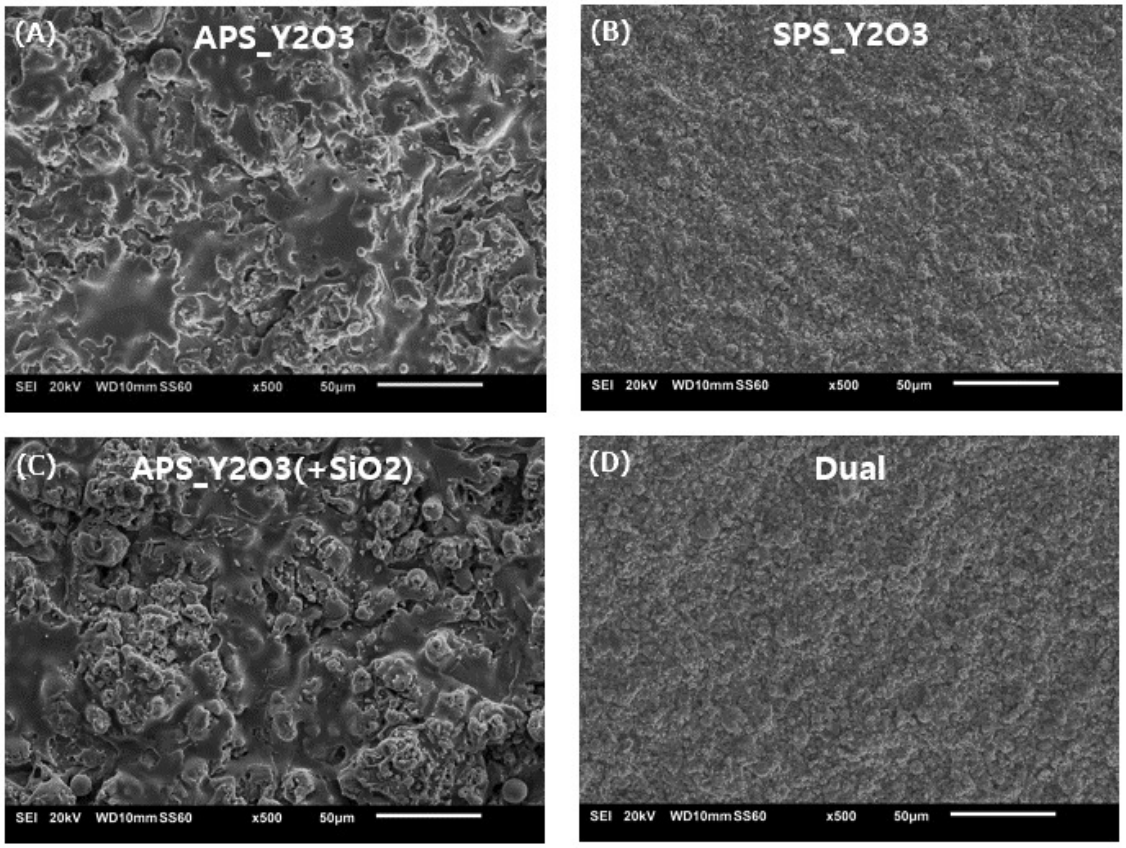

(A)
APS_Y2O3
SEI 20kV WD10mm SS60 x300 50μm
(B)
SPS_Y2O3
SEI 20kV WD10mm SS60 x300 50μm
(C)
APS_Y2O3(+SiO2)
SEI 20kV WD10mm SS60 x300 50μm
(D)
Dual
Upper coating layer
Lower coating layer
SEI 20kV WD10mm SS60 x300 50μm

FIG. 4


(A)
APS_Y2O3
SEI 20kV WD10mm SS60 x500 50μm
(B)
SPS_Y2O3
SEI 20kV WD10mm SS60 x500 50μm
(C)
APS_Y2O3(+SiO2)
SEI 20kV WD10mm SS60 x500 50μm
(D)
Dual
SEI 20kV WD10mm SS60 x500 50μm