Supporting Information

Interference-Driven Structural Colors in Anodized Niobium Oxide Thin Films: Mechanism Analysis and Multi-Chromatic Optical Response

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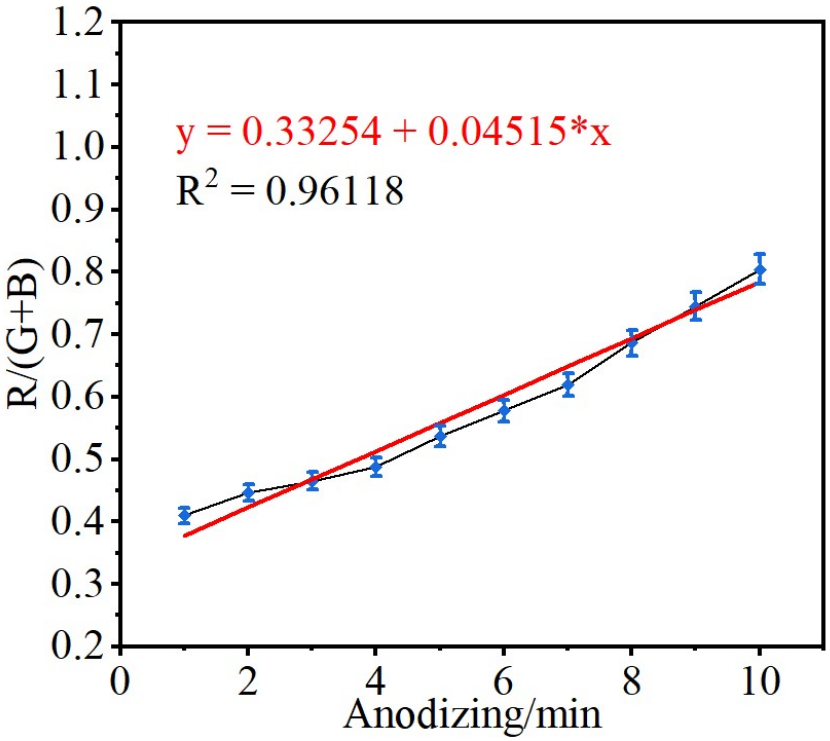

Fig. S1. Linear relationship between R/(G + B) and anodic oxidation time in different oxide films measured by ColorPiker application.

Table. S1. R/(G+B) values in different oxide films measured by the ColorPiker application

	1 min	2 min	3 min	4 min	5 min	6 min	7 min	8 min	9 min	10 min
R	159	150	146	157	168	208	197	201	216	252
G	189	170	166	172	174	207	197	199	209	238
B	199	166	162	160	139	134	121	112	81	47
R/(G+B)	0.4098	0.4464	0.4451	0.4729	0.5367	0.6100	0.6195	0.6463	0.7448	0.8842

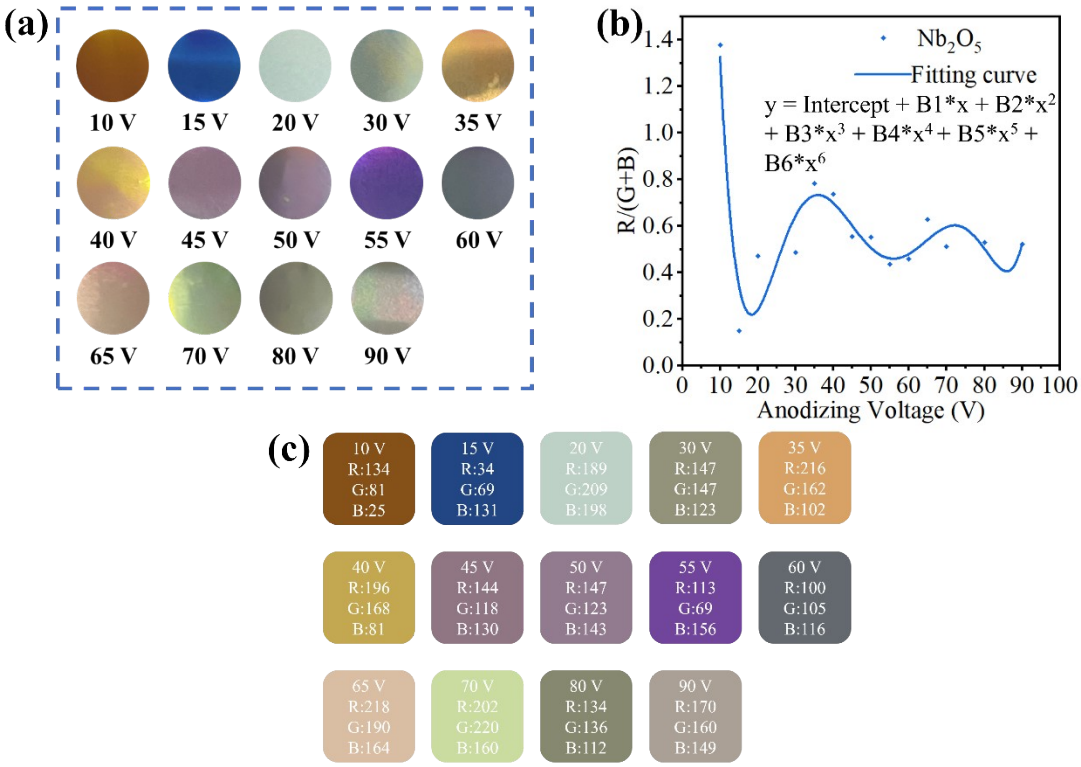

Fig. S2. Nb_2O_5 films formed by anodization at different voltages (10–90 V): (a) Digital images of the samples, (b) Relationship between R/(G + B) and the anodizing voltage, (c) Sample RGB values measured using a smartphone-based colorimetry method.

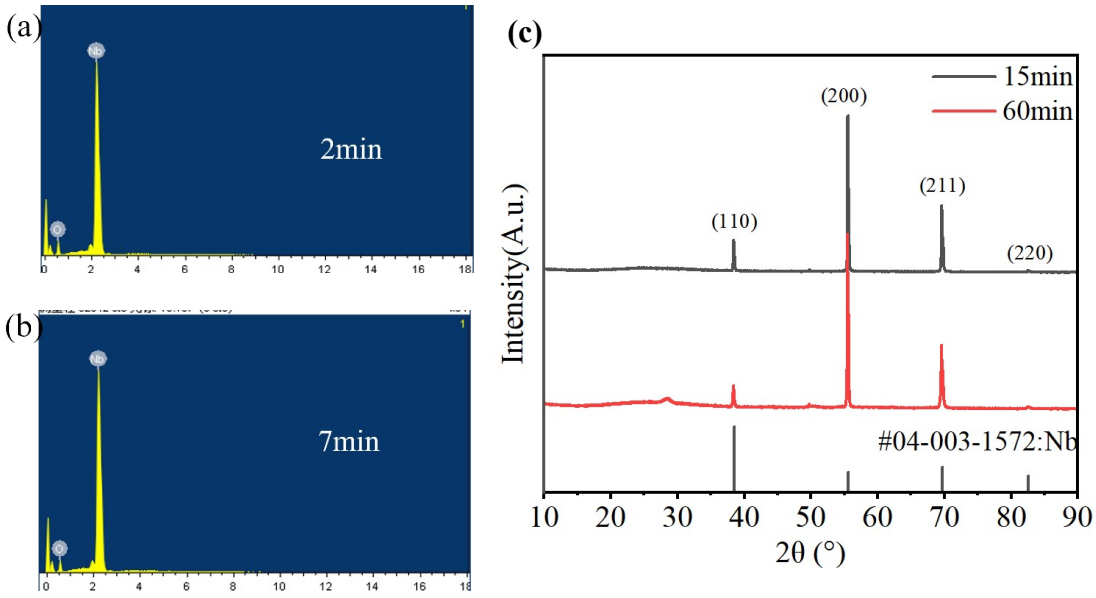

Fig. S3. EDS spectra of the films synthesized with anodization times of 2 min (a)and 7 min (b). (c) XRD patterns for anodizing times of 15 min and 60 min.

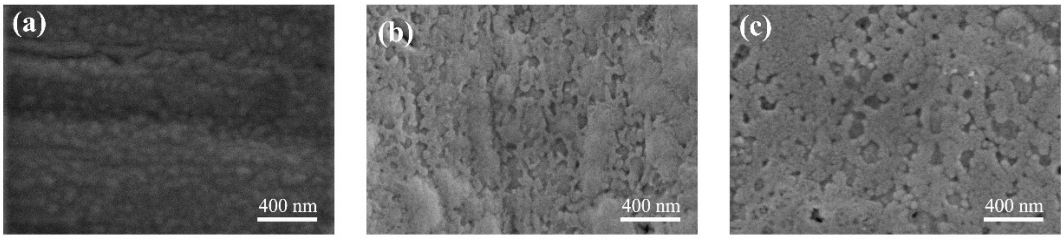

Fig. S4. SEM images of the samples synthesized under different anodic oxidation voltages: (a)20V(b)35V(c)50V

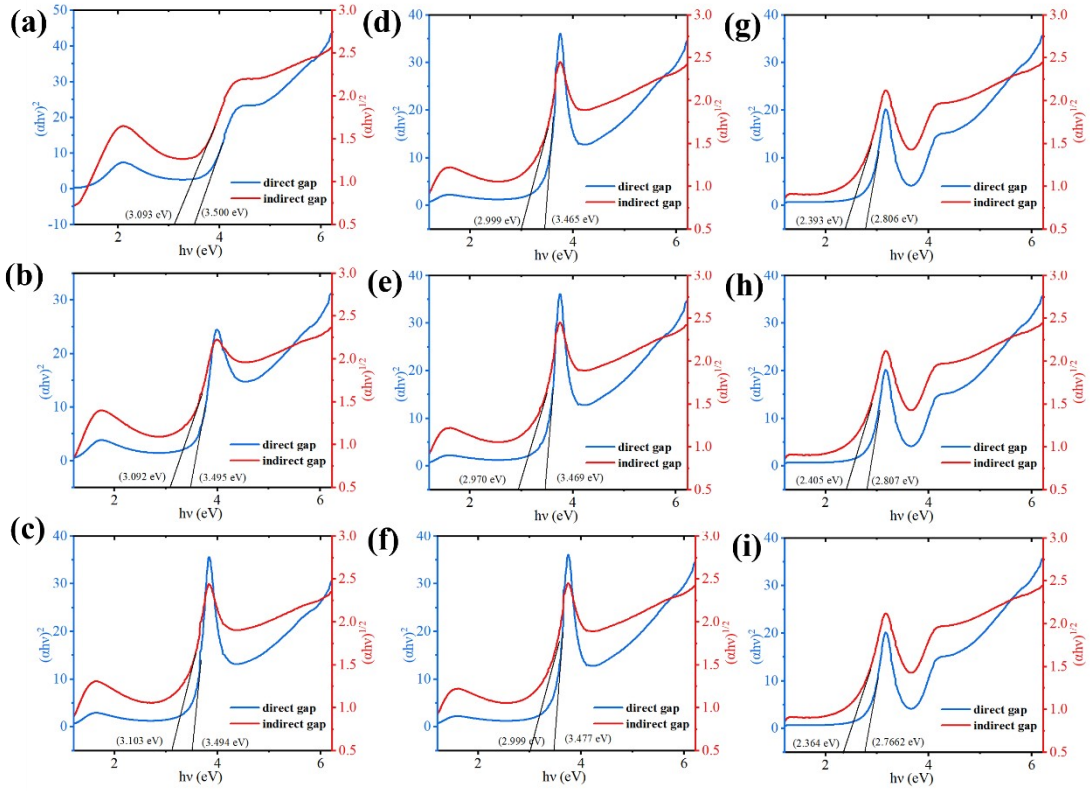

Fig. S5. Direct and indirect bandgap diagrams of samples with different anodizing times, (a) 20s, (b) 30s, (c) 1min, (d) 2min, (e) 3min, (f) 4min, (g) 5min, (h) 7min, (i) 9min