Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

Effect of alcohol addition on the structure and corrosion resistance of plasma electrolytic oxidation films formed on AZ31B magnesium alloy

Hidetaka Asoh*, Kento Asakura, and Hideki Hashimoto

Department of Applied Chemistry, Kogakuin University,

2665-1 Nakano, Hachioji, Tokyo 192-0015, Japan

*Corresponding author. E-mail address: asoh@cc.kogakuin.ac.jp (H. Asoh).

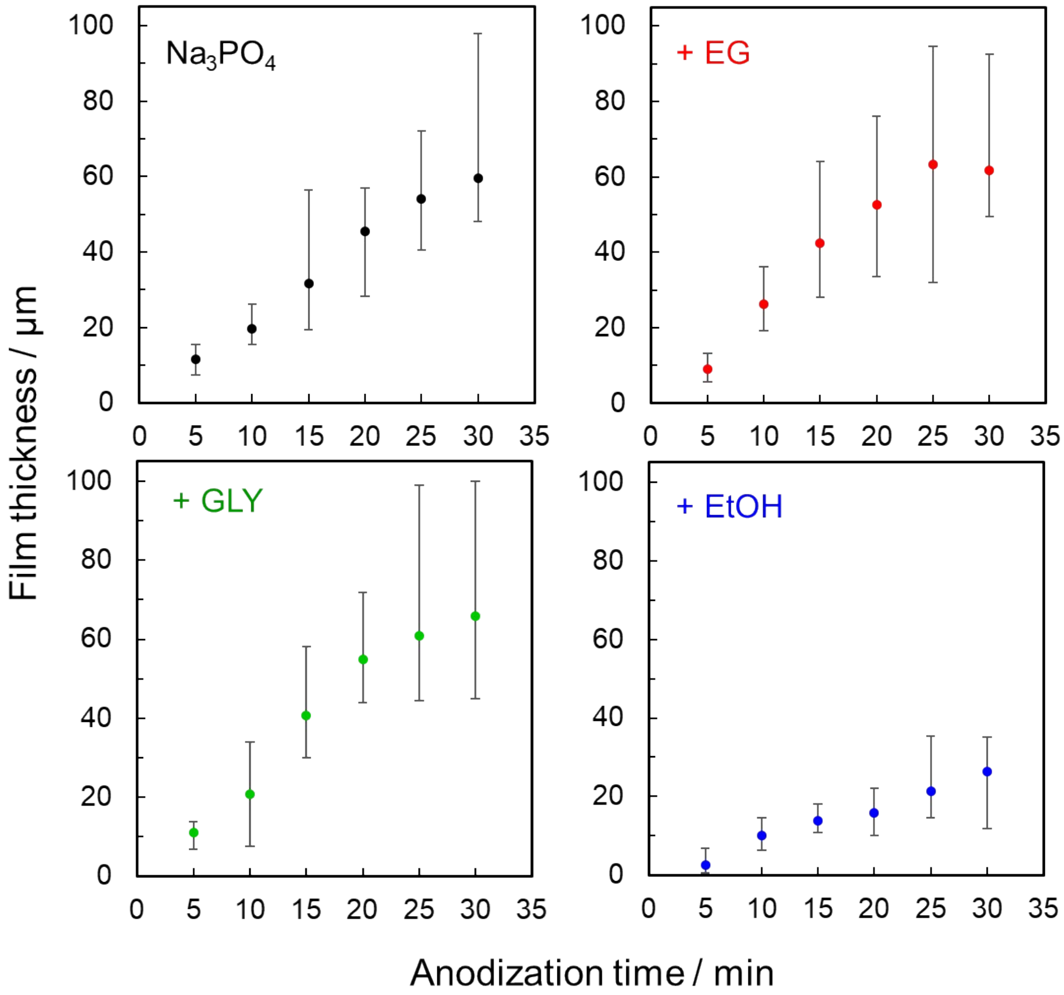

Figure S1 Thickness of the resulting PEO film as a function of anodization time. Anodization conditions were the same as those in Fig. 1(b). The thickness of the anodic films was measured using an eddy-current coating-thickness tester (Kett Electric Laboratory LH-373). The average value of 20 point measurements was used.

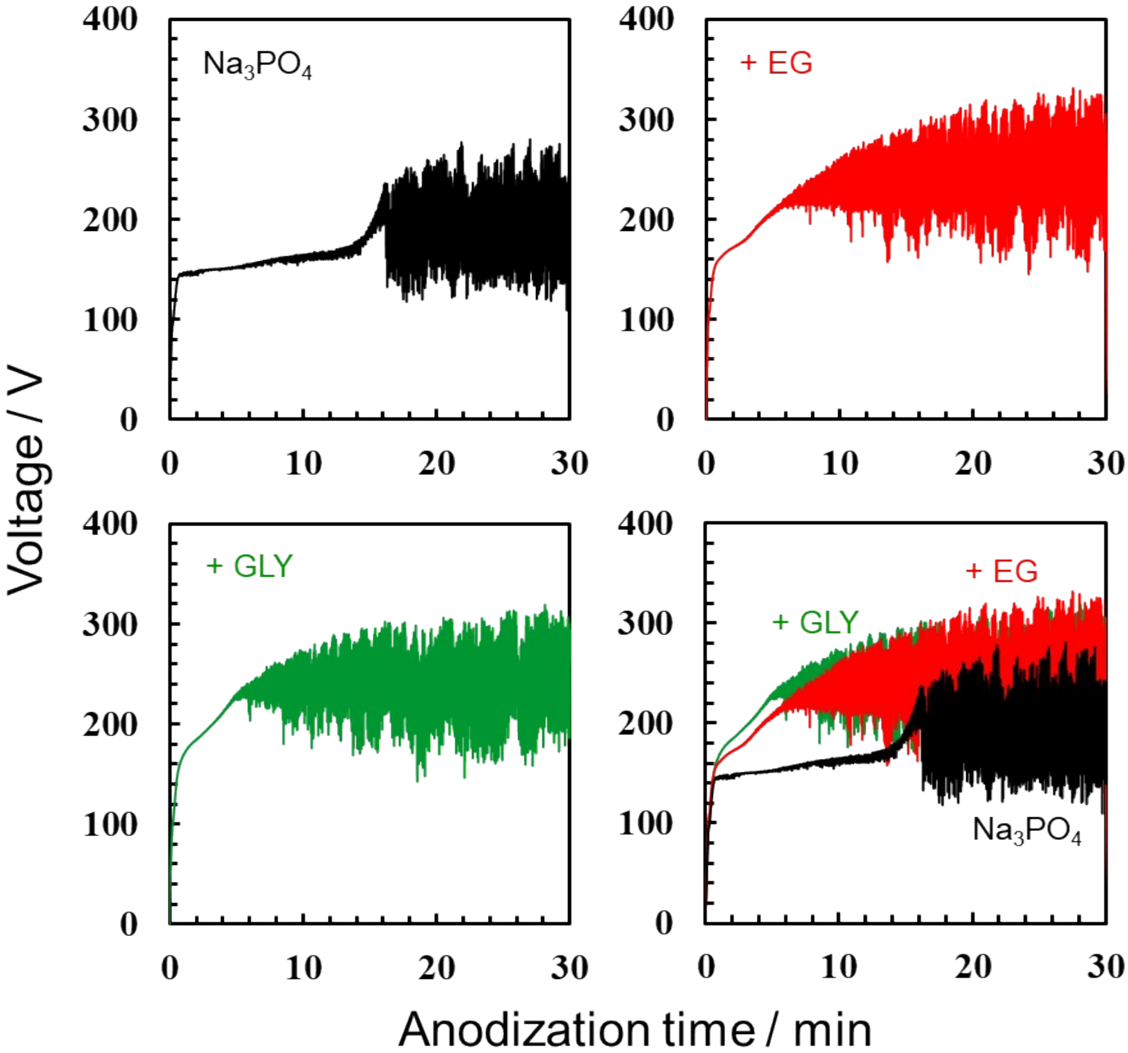

Figure S2 Voltage–time curves for the anodization of AZ31B magnesium alloy in 0.5 mol·dm^{-3} Na_3PO_4 with 5 vol.% various alcohols under a constant current density of 200 A·m^{-2} at 25 °C.

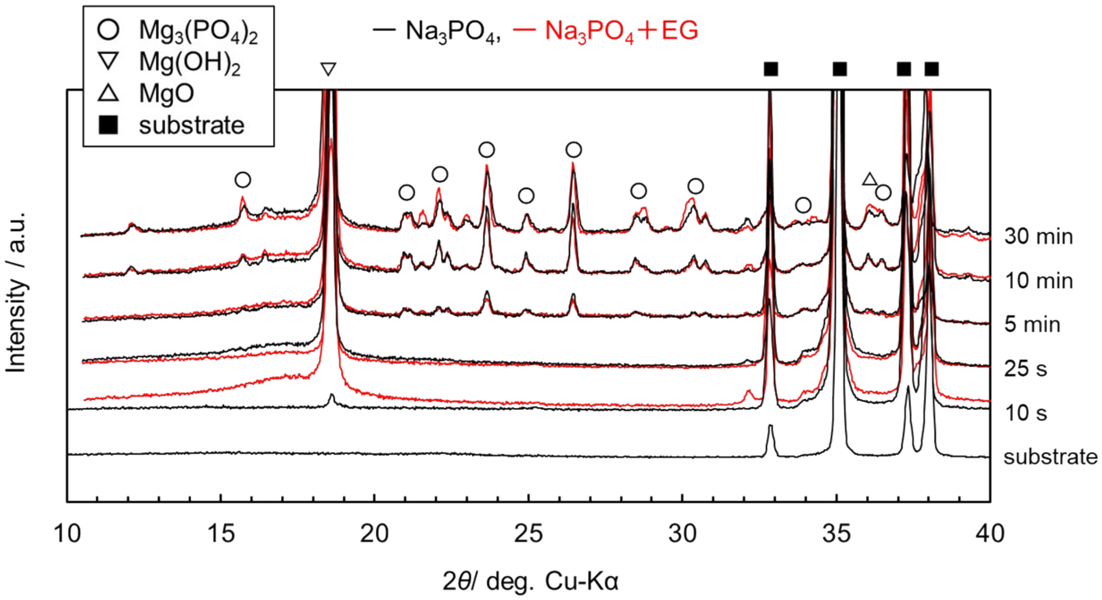

Figure S3 XRD patterns for the specimens after PEO treatment in 0.5 mol·dm^{-3} Na_3PO_4 with 5 vol.% EG addition under a constant current density of 200 A·m^{-2} at 25 °C for different anodization times.