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ARTICLE

Corrosion resistance of layer-by-layer assembled polyvinylpyrrolidone/polyacrylic acid and amorphous silica films on AZ31 magnesium alloys

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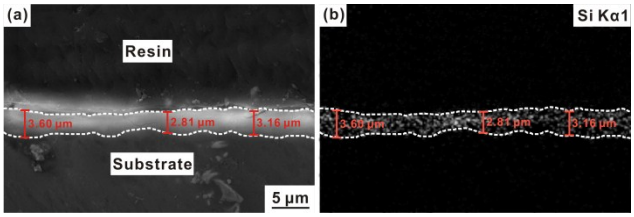
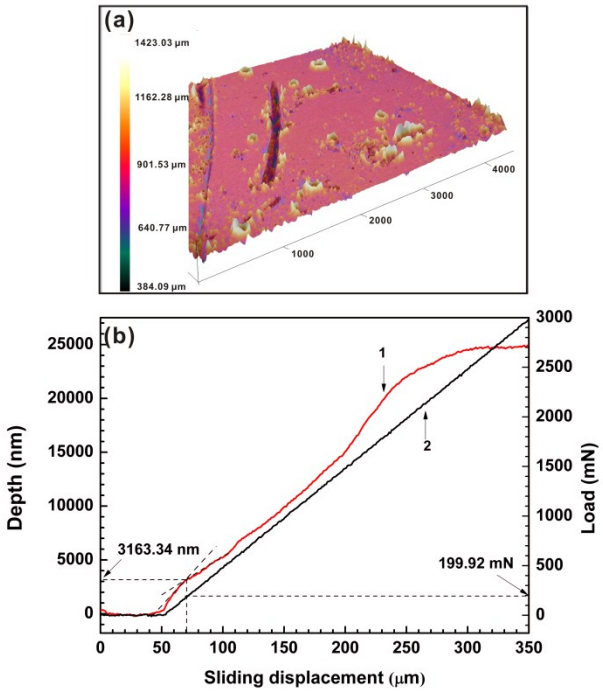


ESI Figure 1. (a) Cross-sectional image of the SiO2/(PVP/PAA)5 film and (b) the corresponding elemental mapping of the Si element.



ESI Figure 2. (a) 3D optical profilometry images of nanoscratches made on the $SiO_2/(PVP/PAA)_5$ film; (b) relationships between depth/load and sliding displacement for the $SiO_2/(PVP/PAA)_5$ film.

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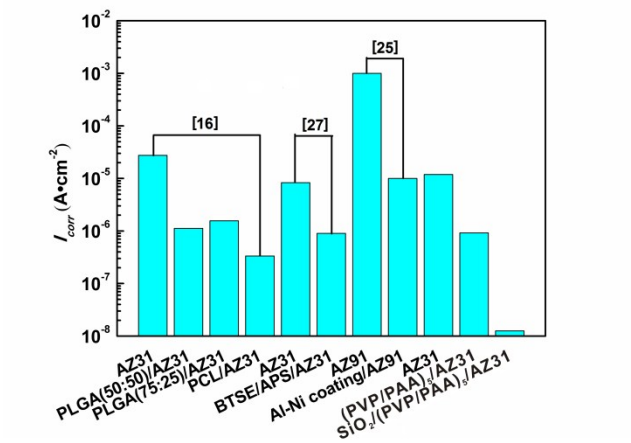
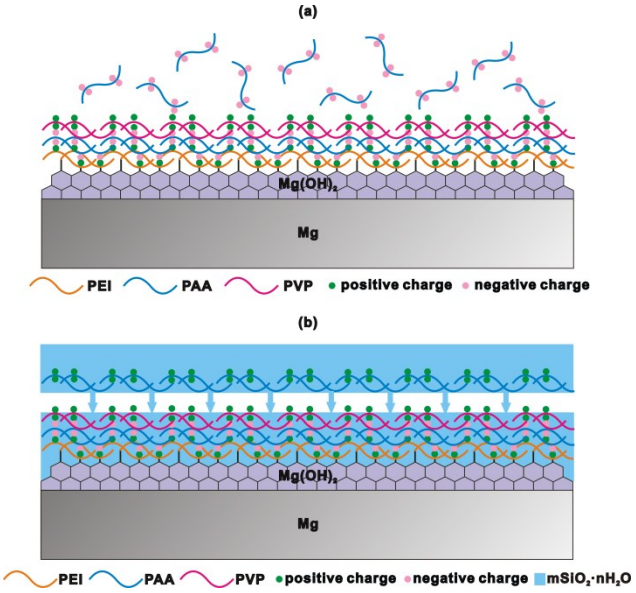
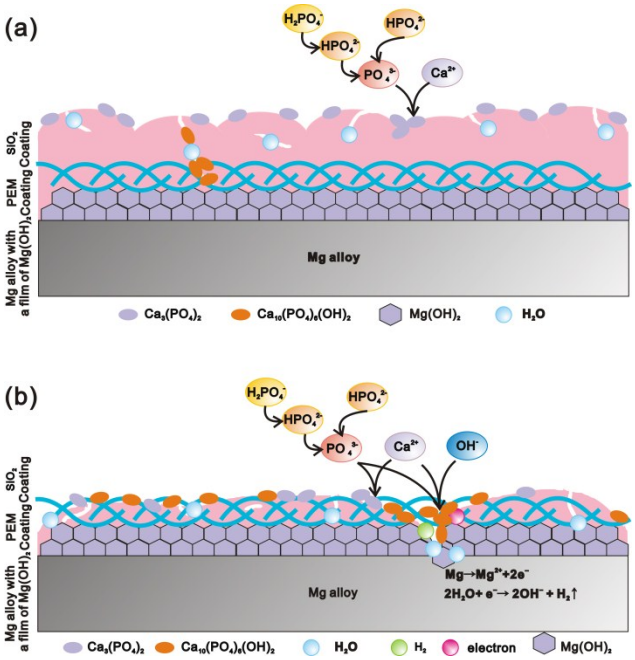
Electronic Supplementary Information (ESI) available: [details of any supplementary information available should be included here]. See DOI: 10.1039/x0xx00000x



ESI Figure 3. I_{corr} of the similar coatings and their substrates compared with the SiO_2/(PVP/PAA)$_5$ film.



ESI Figure 4. Schematic illustrations of the deposition mechanisms of the (a) (PVP/PAA)$_5$ and (b) SiO_2/(PVP/PAA)$_5$ coatings on the AZ31 substrate.



ESI Figure 5. Schematic illustration of the corrosion mechanism of the SiO_2/(PVP/PAA)$_5$ film on the AZ31 substrate in HBSS.