Supporting Information

Corrosion protection properties of poly(4-vinyl pyridine) containing multilayer polymeric coatings on magnesium alloy AZ31

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Figure S1: a) AFM image, b) SKPM image, c) FESEM image of bare AZ31 and EDX map showing d) Al, and e) Mn corresponding (c).
Figure S2: a) Bode modulus plot and b) Bode phase plot of AZ31, AZ31_{(P4)}_6, AZ31_{(PA)}_6 and AZ31_{(PA/P4)}_3.

Figure S3: FTIR spectra of AZ31, AZ31_{(P4)}_6, AZ31_{(PA)}_6 and AZ31_{(PA/P4)}_3 after corrosion.
Figure S4: a) FESEM image of the corroded region and b) AFM topography of the uncorroded region of AZ31_(P4)₆ after the anodic polarization.

Figure S5: Vinyl ring vibrations identified in FTIR spectra of AZ31_(PA/P4)₃ and AZ31_(P4)₆.
Figure S6: AFM image of AZ31_(PA)$_6$.

Figure S7: a) FESEM image of AZ31_(PA)$_6$ and corresponding EDX map showing b) Al and c) Mn.
Figure S8: a) AFM image of the uncorroded region of AZ31_(PA/P4)₃.