

Multi-Functional Ceramic Hybrid Coatings on Biodegradable AZ31 Mg Implants: Electrochemical, Tribological and Quantum Chemical Aspects for Orthopaedic applications

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Figure S1 weight gain of PEO coatings without and with Ta₂O₅ nanoparticles

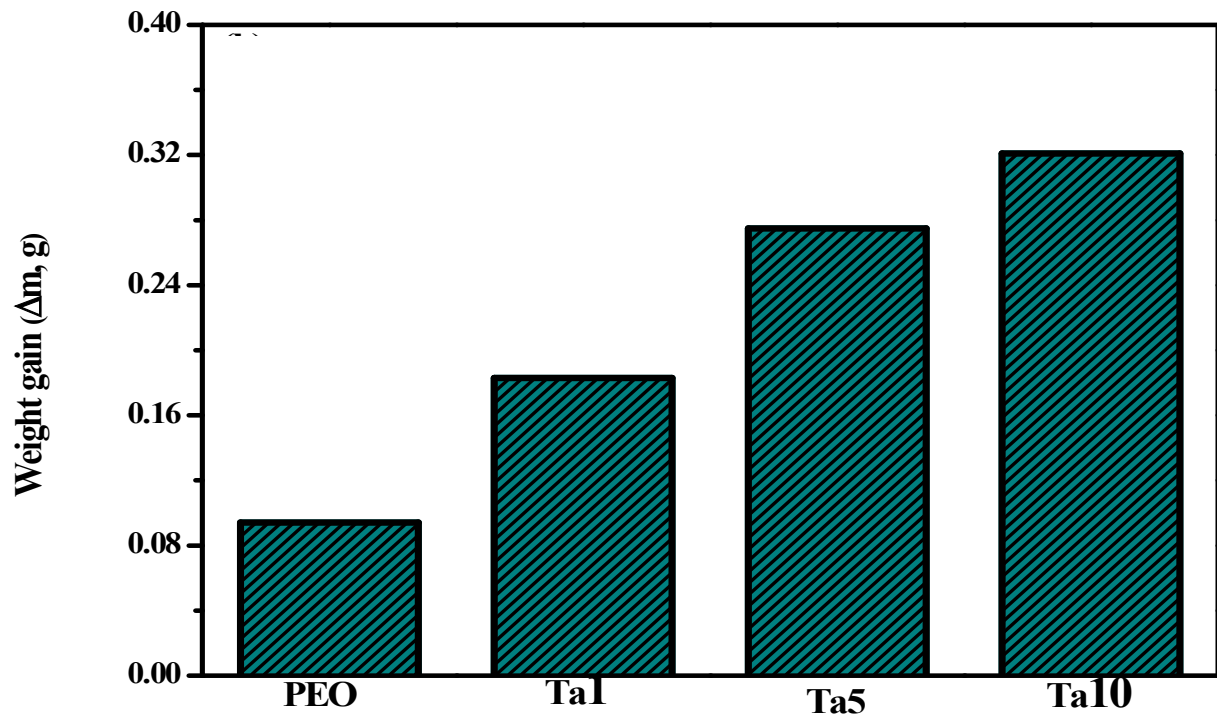


Figure S2 Relative content of MgO, Mg₃(PO₄)₂ and Ta₂O₅ nanoparticles in PEO coating

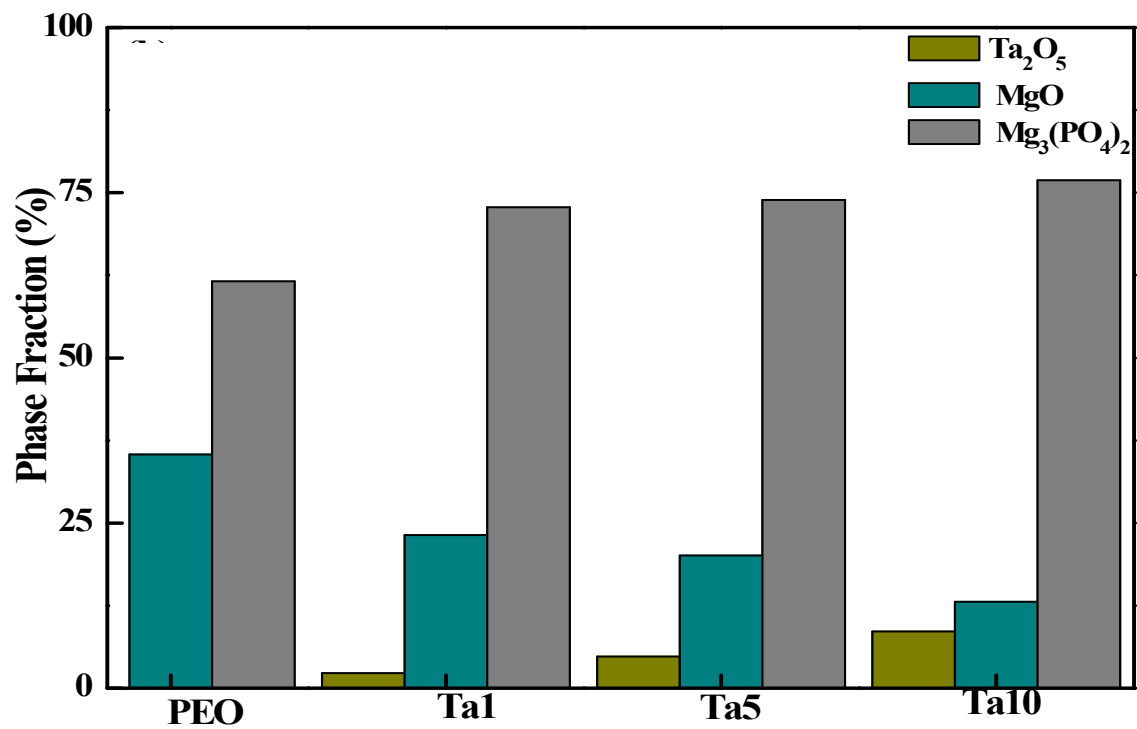


Figure S3 SEM/EDAX mapping results of PEO coatings with Ta₂O₅ nanoparticles

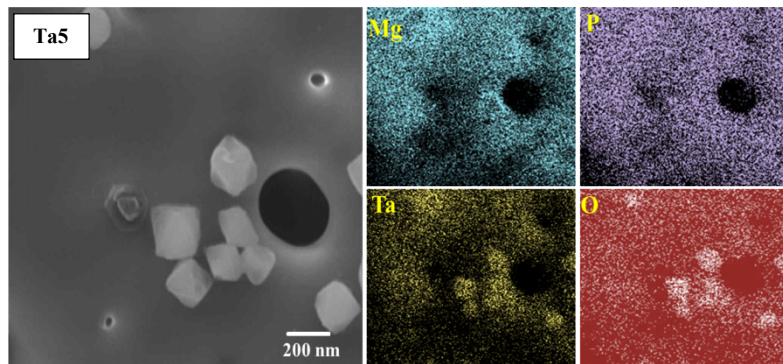


Figure S4 Equivalent circuit model for PEO coated AZ31 Mg substrates

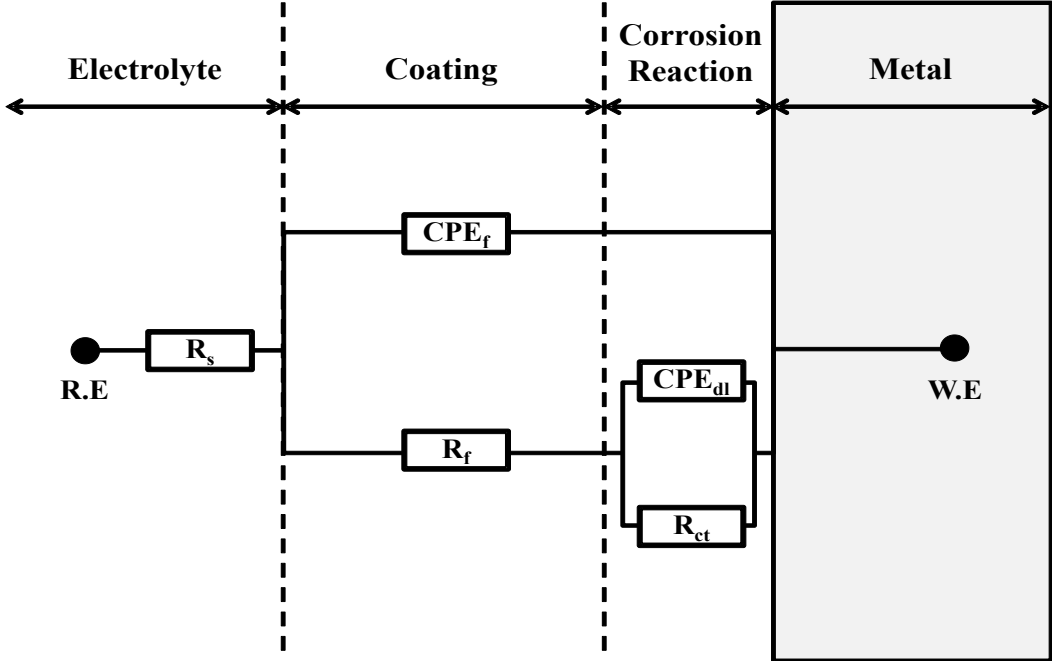


Table S5

S.No.	Samples	Hardness (HV)					Standard (μ)	Standard Deviation (σ)	Range (R)
		1	2	3	4	5			
1	Uncoated	82.5	81.7	85.4	86.4	82.4	83.6	1.860	4.7
2	Pure PEO	254.3	265.4	250.6	260	262.4	258.5	5.387	14.8
3	Ta1	300.1	304.2	306.4	308.4	306.5	305.1	2.840	8.3
4	Ta5	342.6	364.3	357.6	348.8	355.2	353.7	7.446	21.7
5	Ta10	378.5	368.4	372.9	365.4	387.4	374.5	7.810	22