

Supplementary data

Amorphous apatite thin film formation on a biodegradable Mg alloy for bone regeneration: Strategy, characterization, biodegradation, and *in vitro* cell study

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	Name	Start BE	Peak BE	End BE	Height CPS	FWHM eV	Area (P) CPS.eV	Area (N) KE^0.6	At. %	PP Height CPS	PP Hgt (N)	PP At. %
T37	Mg2p	59.18	49.23	39.38	2085.31	3.12	8702.93	332.17	24.24	2212.72	12.67	27.72
	P2p	143.18	132.19	123.38	512.6	0.38	2539.45	28.14	2.05	855.39	1.42	3.11
	C1s	297.18	284.68	278.38	3453.86	3.97	23474.24	333.16	24.31	3764.86	8.01	17.54
	Ca2p	359.18	351.19	339.38	4531.45	5.19	27929.18	80.9	5.9	4886.57	2.12	4.65
	O1s	544.18	530.91	524.38	24970.77	3.55	107266.56	596.19	43.5	25753.28	21.47	46.98
	Name	Start BE	Peak BE	End BE	Height CPS	FWHM eV	Area (P) CPS.eV	Area (N) KE^0.6	At. %	PP Height CPS	PP Hgt (N)	PP At. %
T50	Mg2p	54.98	44.97	35.18	3218.67	3.1	12891.9	491.18	30.31	3801.19	21.72	42.44
	P2p	138.98	119.89	119.18	267.2	0.12	1430.79	15.77	0.97	584.23	0.97	1.89
	C1s	292.98	284.46	274.18	2345.42	8.25	19736.76	280.08	17.29	2947.59	6.27	12.26
	Ca2p	354.98	347.88	335.18	5064.33	5.94	33374.91	96.5	5.96	7165.21	3.11	6.07
	O1s	539.98	527.69	520.18	21604.86	6.17	132827.64	736.77	45.47	22967.52	19.11	37.34
	Name	Start BE	Peak BE	End BE	Height CPS	FWHM eV	Area (P) CPS.eV	Area (N) KE^0.6	At. %	PP Height CPS	PP Hgt (N)	PP At. %
T80	Mg2p	59.98	49.2	40.18	5323.27	2	12844.73	490.25	28.09	5312.43	30.41	31.64
	P2p	143.98	127.03	124.18	192.75	0.09	1052.5	11.64	0.67	232.62	0.39	0.4
	C1s	297.98	284.72	279.18	4511.55	3.12	22215.29	315.3	18.07	4960.89	10.56	10.99
	Ca2p	359.98	351.08	340.18	10996.15	3.38	48049.93	139.17	7.98	11223.23	4.88	5.07
	O1s	544.98	530.99	525.18	59189.09	2.11	141901.68	788.73	45.2	59850.74	49.9	51.91

Table S1. Results of the XPS parameters for the different anodized samples

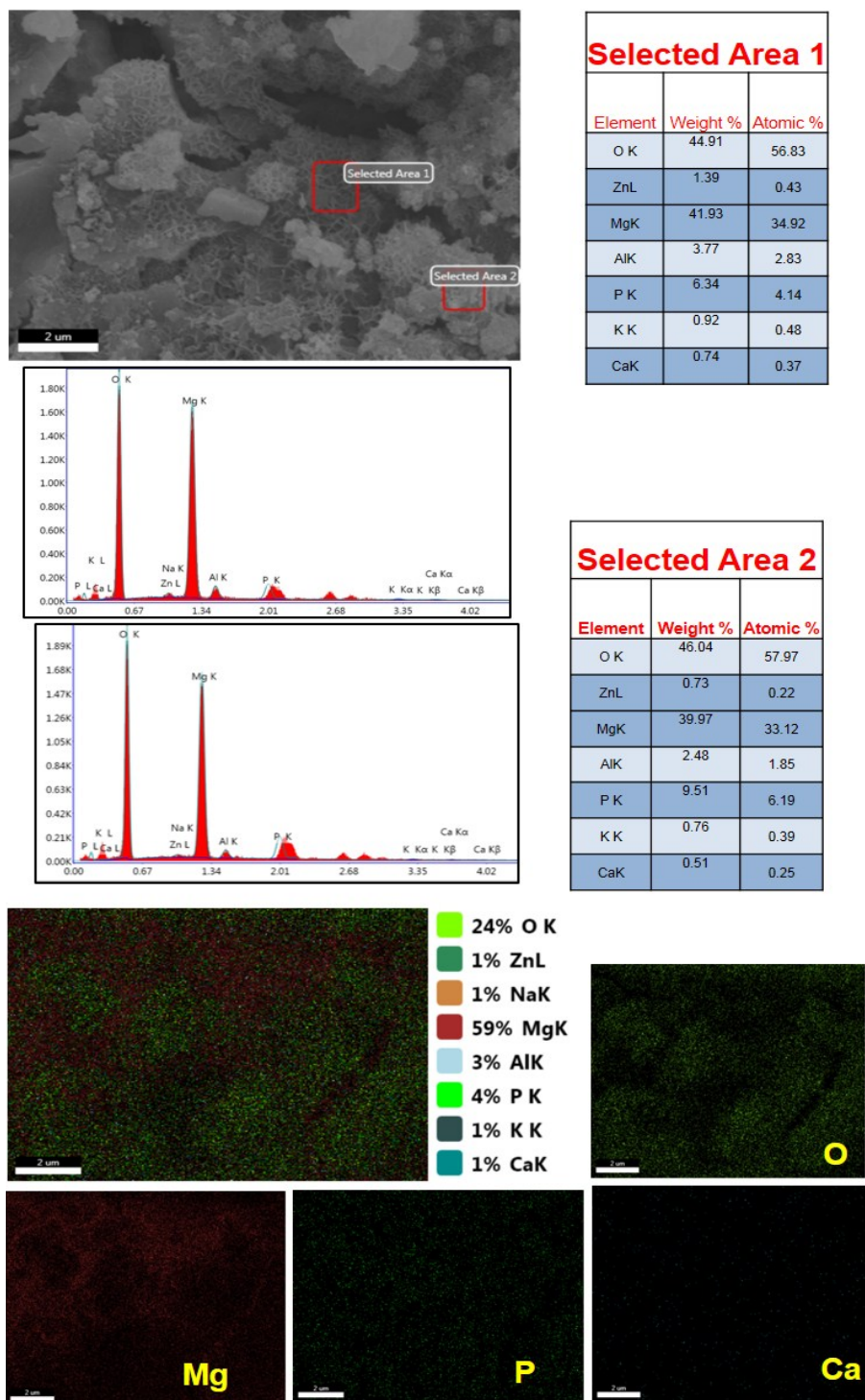


Figure S1. EDS & EDS element mapping results of the anodized samples at 37° C

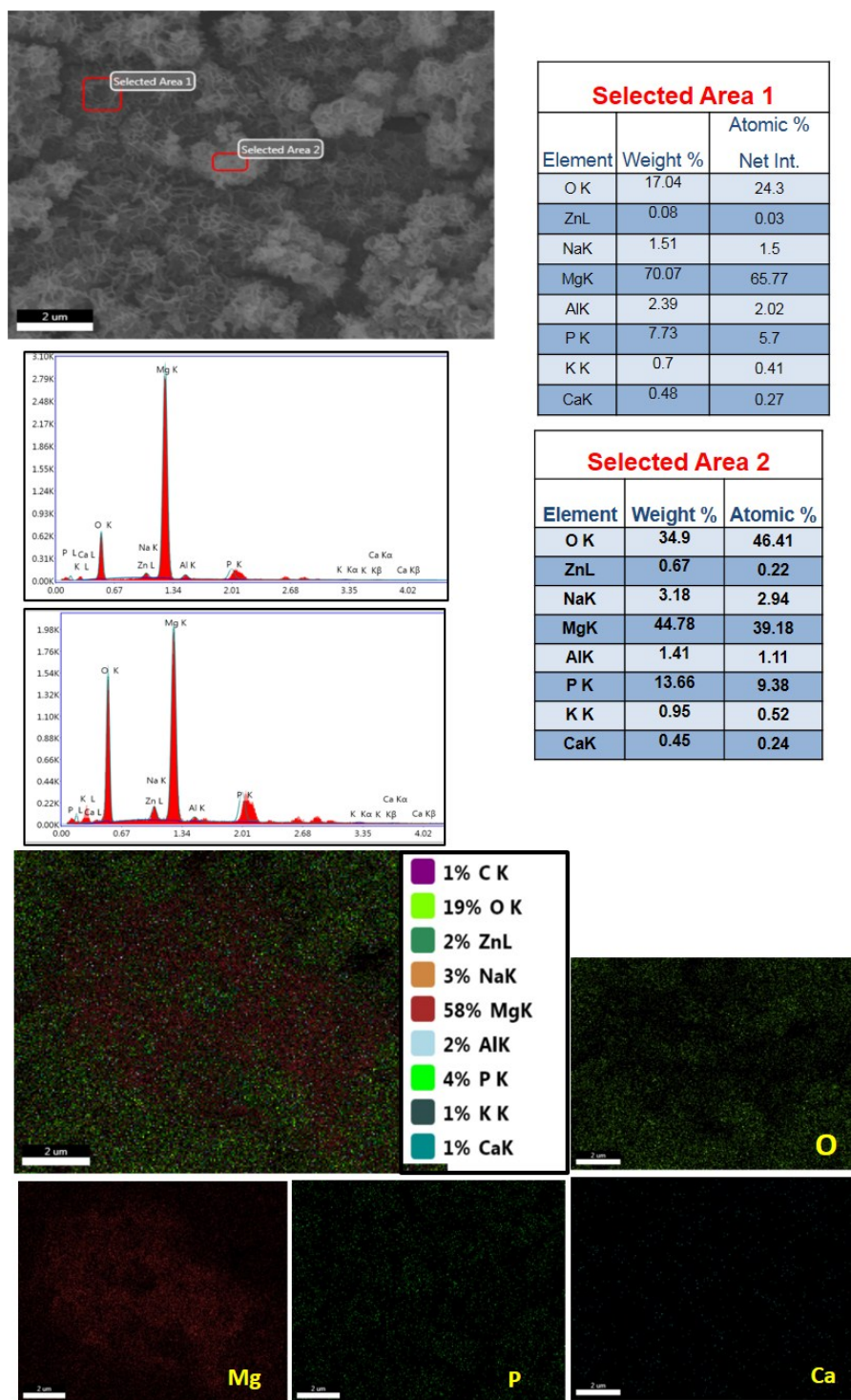


Figure S2. EDS & EDS element mapping results of the anodized samples at 50° C

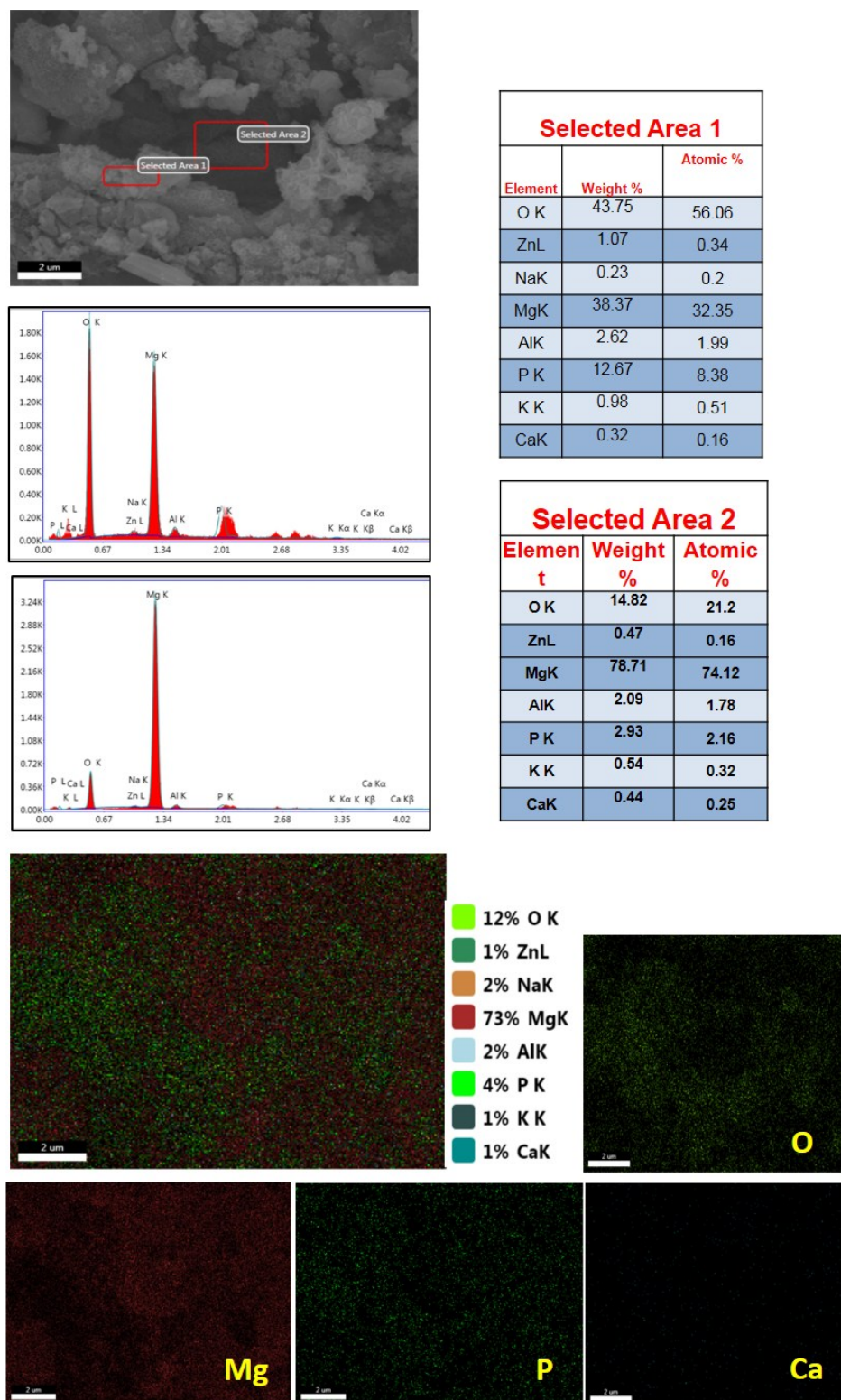


Figure S3. EDS&EDS element mapping results of the anodized samples at 80° C

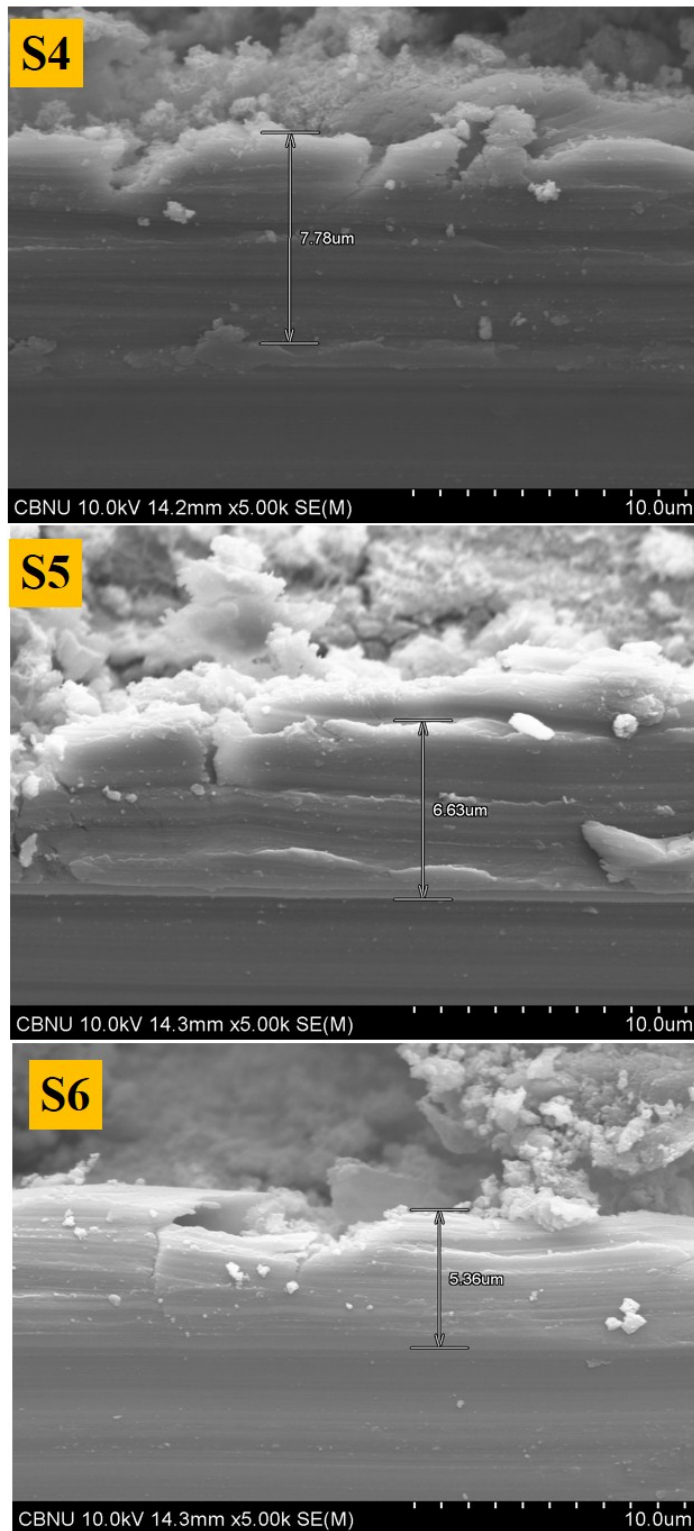


Figure (S4, S5, and S6) Cross sectional view of the different anodized films at 37, 50, and 80 respectively

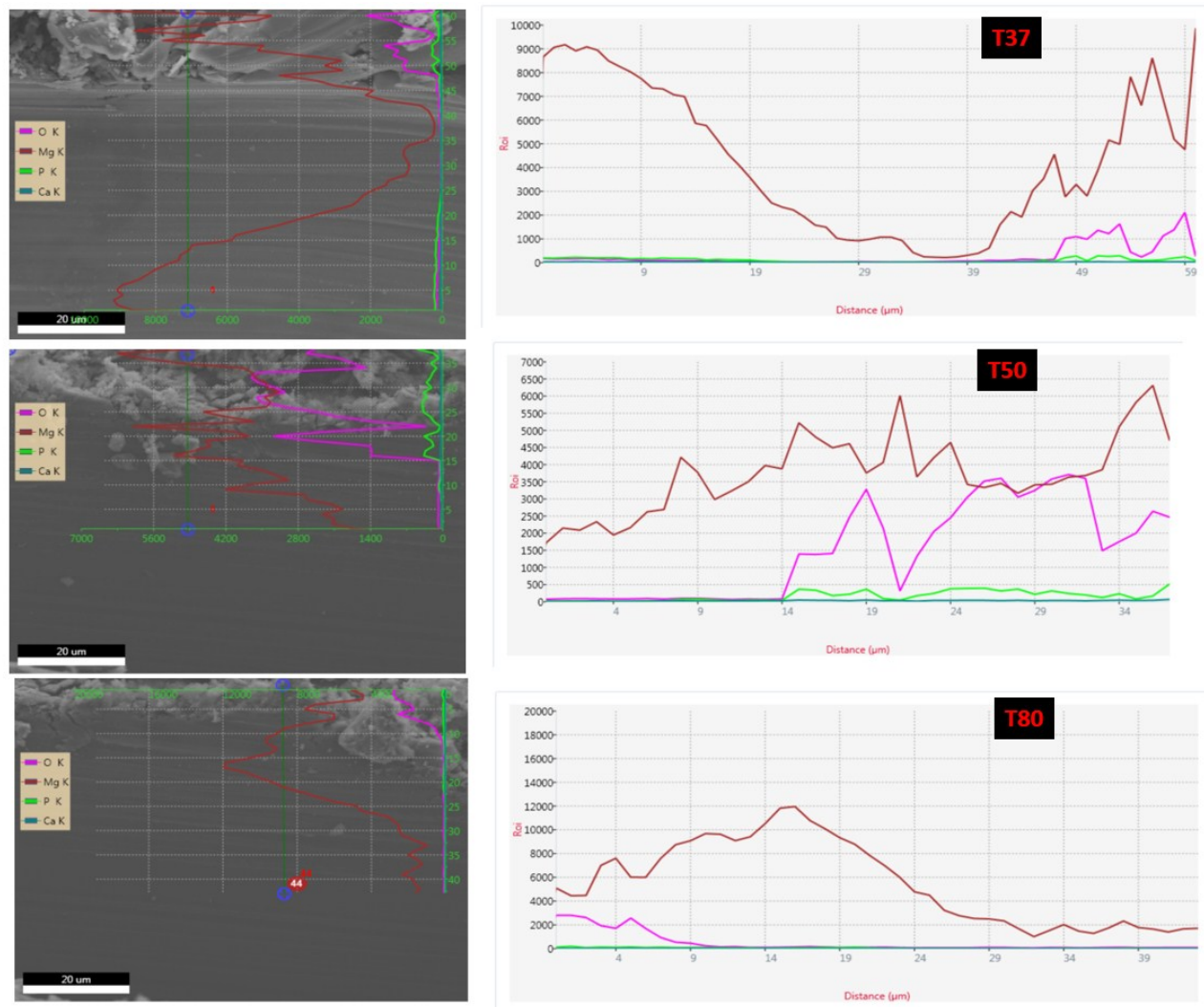


Figure S7. Figure show EDS line scan on the cross section of different samples, pt coating was employed to the samples before characterization.