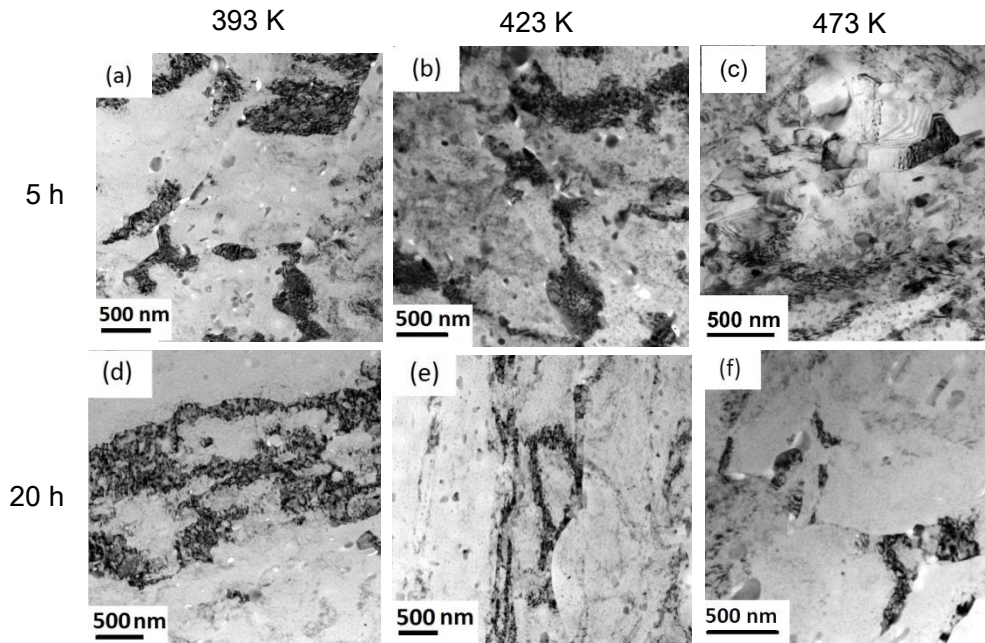
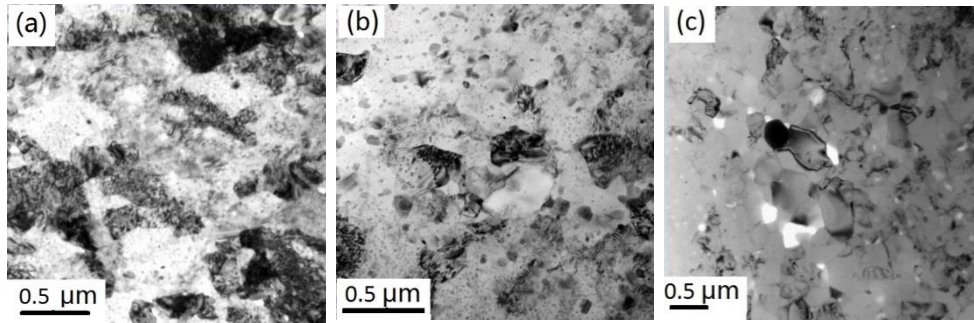


**Figure 1.** Vickers Microhardness vs. annealing time curves at different temperatures for the Al-Zn-Mg alloy after post-ECAP annealing for (a) 1 pass, (b) 4 passes and (c) 8 passes.

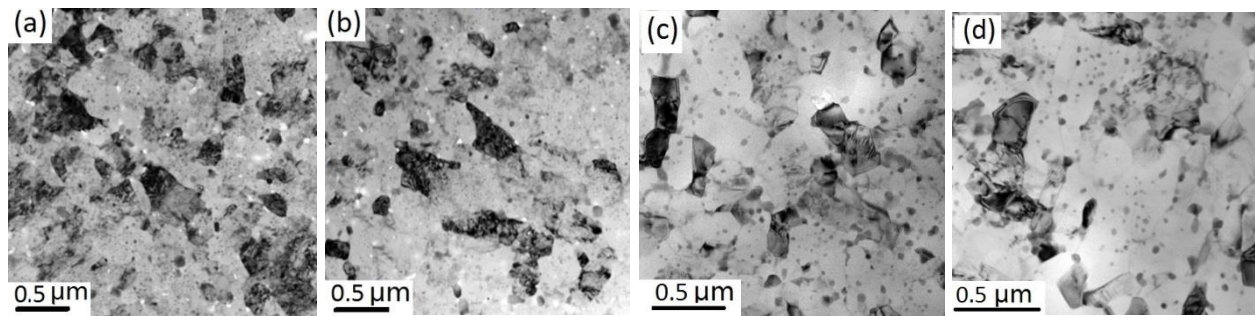


**Figure 2.** TEM images of the Al-Zn-Mg alloy after post-ECAP annealing for 1 pass at (a) 393 K, (b) 423 K and (c) 473 K for 5 h and at (d) 393 K, (e) 423 K and (f) 473 K for 20 h.

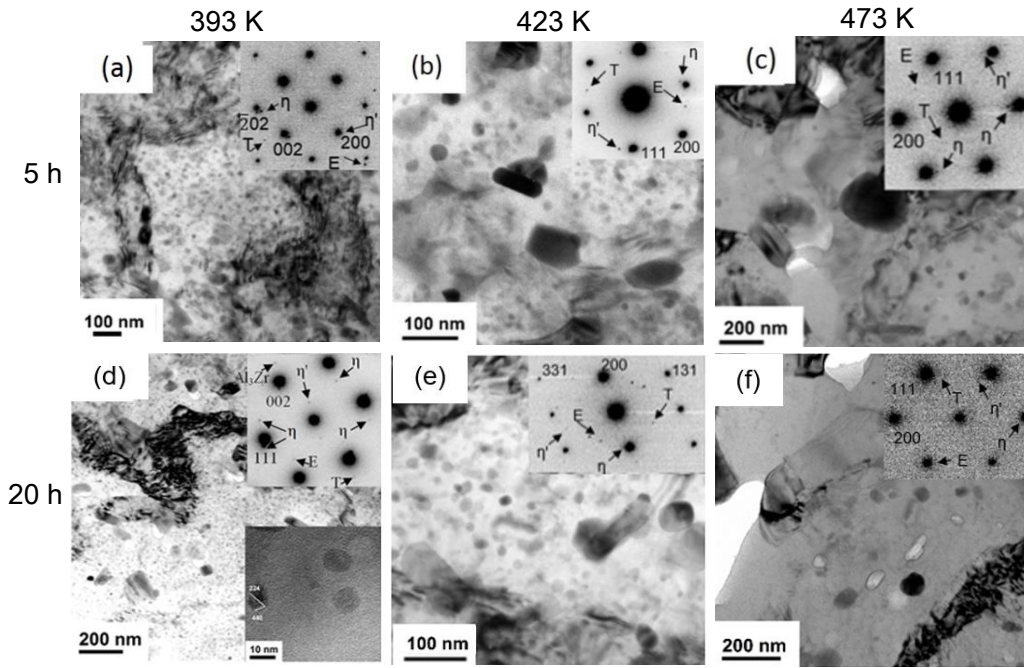




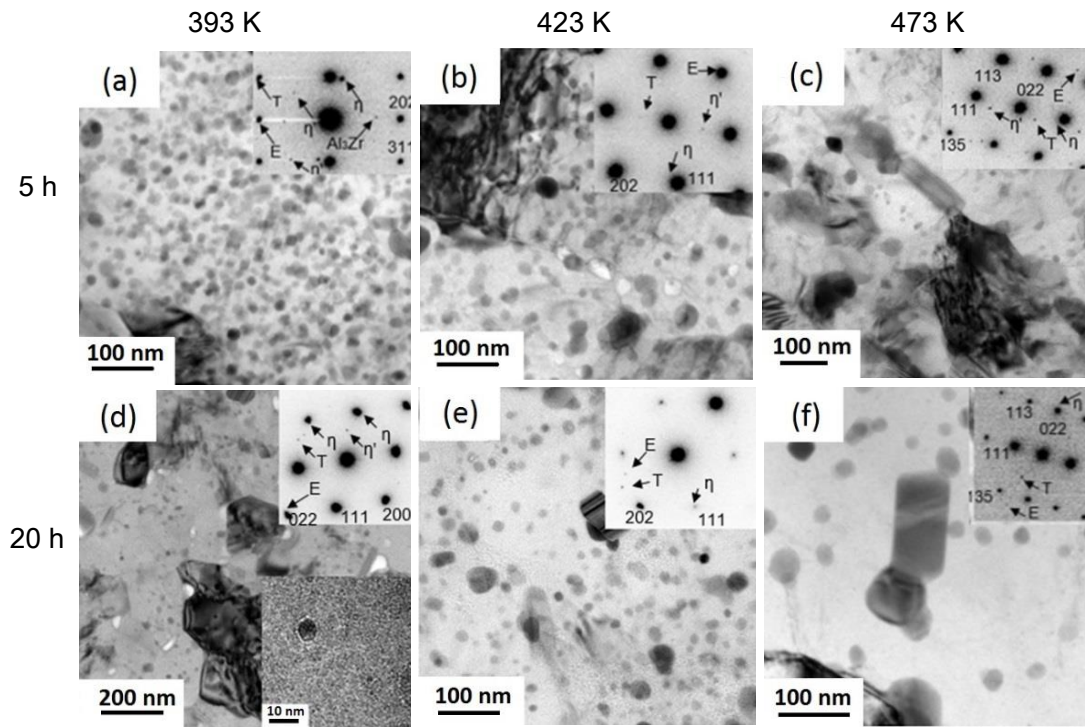
**Figure 4.** TEM images of the Al-Zn-Mg alloy after post-ECAP annealing for 4 passes at (a) 393K, (b) 423 K and (c) 473 K for 20 h.



**Figure 5.** TEM images of the Al-Zn-Mg alloy after post-ECAP annealing for 8 passes at (a) 393 K for 5 h, (b) 423 K for 5 h, (c) 473 K for 5 h and (d) 473 K for 20 h.

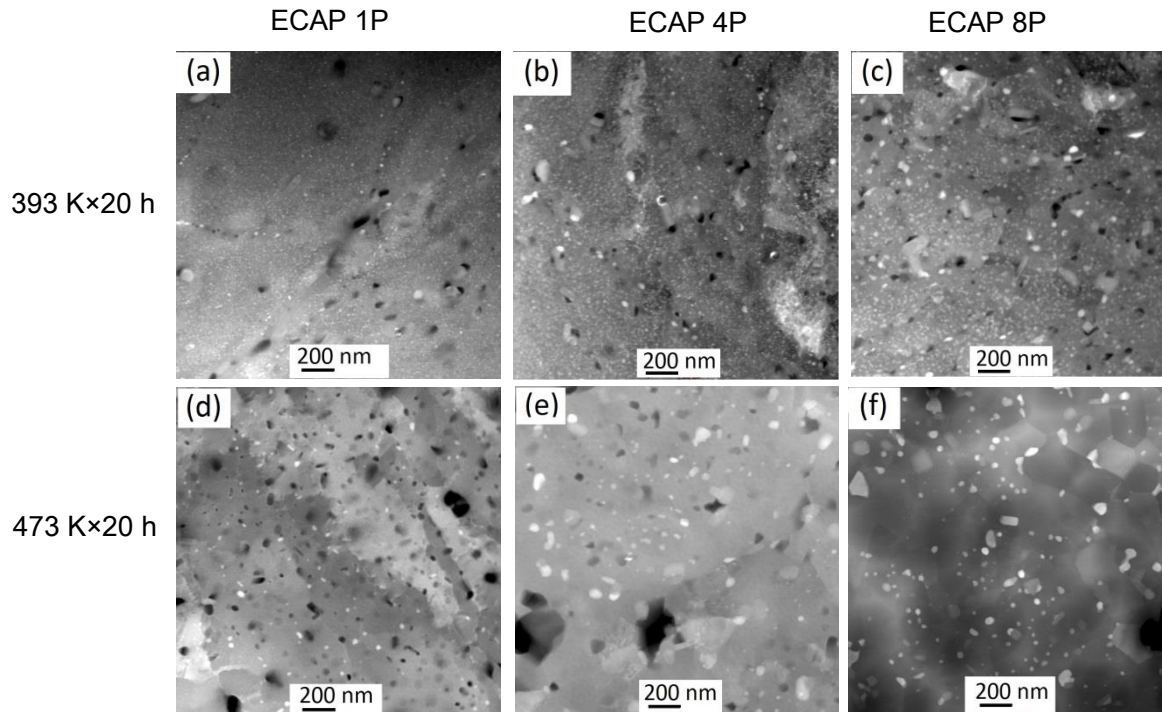


**Figure 6.** TEM images of the Al-Zn-Mg alloy showing precipitate characteristic after post-ECAP annealing for 4 passes annealing at (a) 393 K, (b) 423 K, (c) 473 K for 5 h and at (d) 393 K, (e) 423 K, and (f) 473 K for 20 h.



**Figure 7.** TEM images of the Al-Zn-Mg alloy showing precipitate characteristic after post-ECAP annealing for 8 passes at (a) 393 K, (b) 423 K, (c) 473 K for 5 h and at (d) 393 K, (e) 423 K, (f) 473 K for 20 h.





**Figure 8.** STEM images of the Al-Zn-Mg alloy showing precipitate characteristic after post-ECAP annealing for (a) 1 pass, (b) 4 passes and (c) 8 passes at 393 K for 20 h and after post-ECAP annealing for (d) 1 pass, (e) 4 passes and (f) 8 passes at 473K for 20 h.



**Table 1.** Summary of microstructural features in ECAP-processed Al alloy followed by annealing at different temperatures for 5 h.

	ECAP 1P 5 h			ECAP 4P-5 h			ECAP 8P-5 h		
	393 K	423 K	473 K	393 K	423 K	473 K	393 K	423 K	473 K
Grain size (nm)	870	900	950	210	220	225	200	215	220
Precipitates type (size/nm)	G.P., $\eta'$ , T, E	$\eta'$ , $\eta$ , T, E	$\eta'$ , $\eta$ , T, E	G.P., $\eta'$ , $\eta$ , T, E	$\eta'$ , $\eta$ , T, E	$\eta'$ , $\eta$ , T, E	$\eta'$ , $\eta$ , T, E	$\eta'$ , $\eta$ , T, E	$\eta'$ , $\eta$ , T, E
Precipitates size (nm)	D ~22 L~50	D ~28 L~60	D ~35 L~100	D~30	D~37 L~50	D~42 L~75	D~25	D~35	D~40

**Table 2.** Summary of microstructural features in ECAP-processed Al alloy followed by annealing at different temperatures for 20 h.

	ECAP 1P-20 h			ECAP 4P-20 h			ECAP 8P-20 h		
	393 K	423 K	473 K	393 K	423 K	473 K	393 K	423 K	473 K
Grain size (nm)	900	920	1000	230	230	240	210	220	230
Precipitates type	$\eta'$ , T, E	$\eta'$ , $\eta$ , T, E	$\eta'$ , $\eta$ , T, E	$\eta'$ , $\eta$ , T, E	$\eta'$ , $\eta$ , T, E	$\eta'$ , $\eta$ , T, E	$\eta'$ , $\eta$ , T, E	$\eta'$ , $\eta$ , T, E	$\eta$ , T, E
Precipitates size (nm)	D ~8 L~70	D ~30 L~90	D ~42 L~110	D ~14 L~60	D ~40 L~75	D ~50 L~80	D ~21 L~75	D ~45 L~85	D ~60 L~140