

Figure 1 As-cast microstructures of experimental alloys

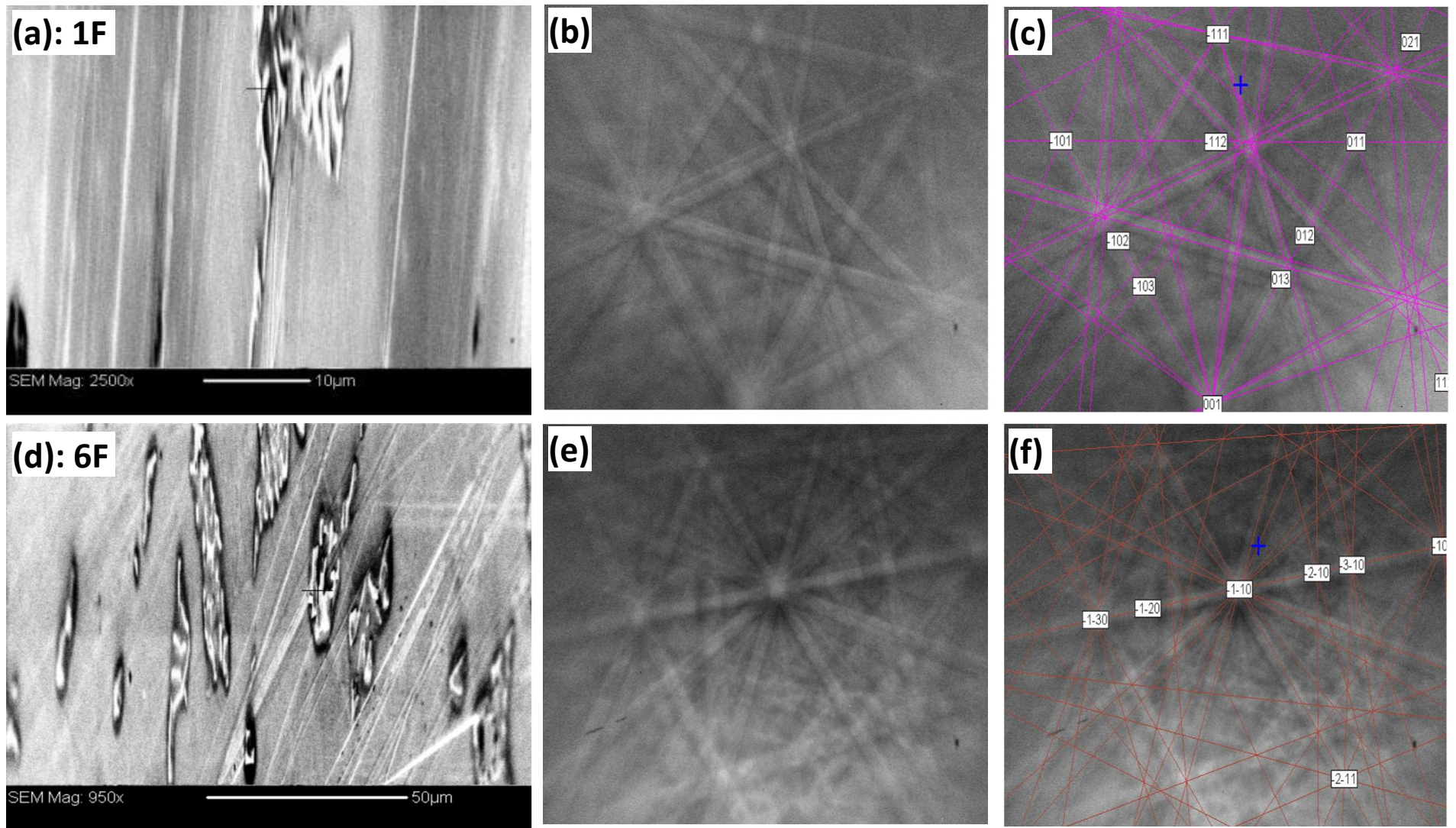


Figure 2 - Intermetallics, EBSD patterns and simulated results for Alloys 1F and 6F:  
 (a), (b) and (c) is for  $\alpha$ -Al(MnFe)Si from Alloy 1F ( MAD = 0.205); and  
 (d), (e) and (f) is for  $Al_6$ (MnFe) from Alloy 6F ( MAD = 0.347)

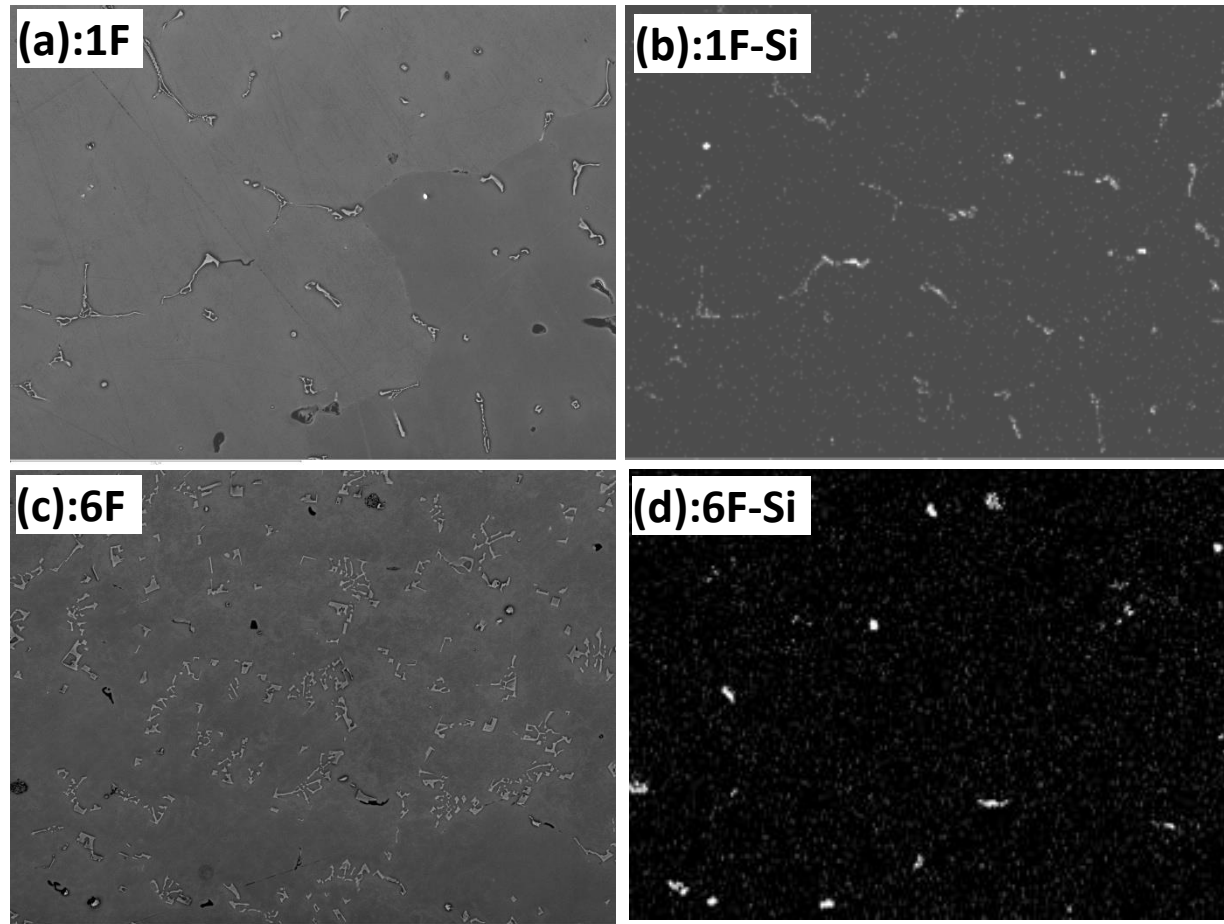


Figure 3 – SEM backscatter images (a and c) and element mapping for Si distribution (b and d) in intermetallics in Alloys 1F and 6F

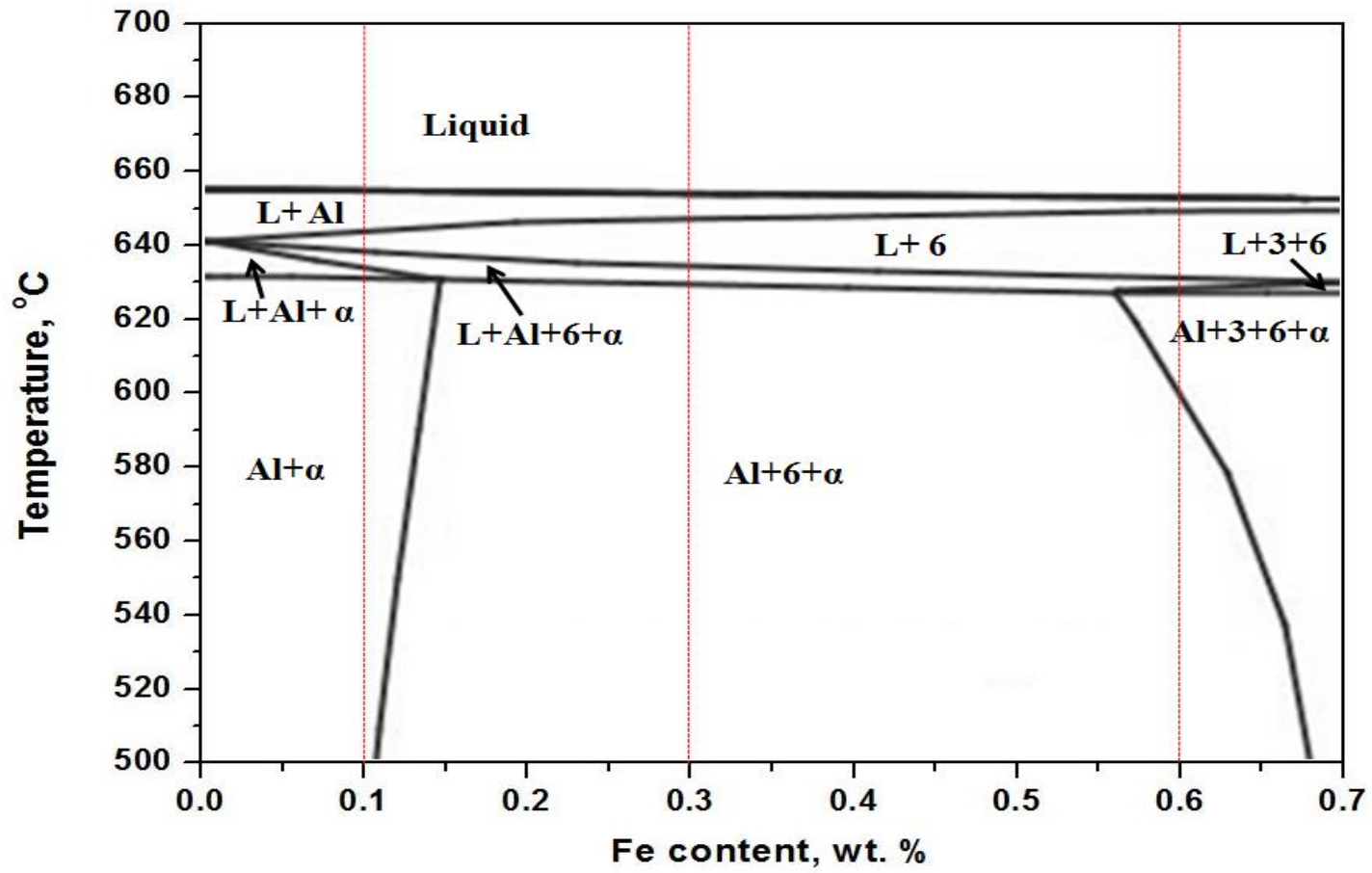


Figure 4 - Simulated Al-Mn-Mg-Fe-Si phase diagram using Thermo-Calc:  
 L-Liquid;  $\alpha$ - $\text{Al}_{15}(\text{MnFe})_3\text{Si}_2$ ; 6- $\text{Al}_6(\text{MnFe})$ ; 3- $\text{Al}_3(\text{MnFe})$



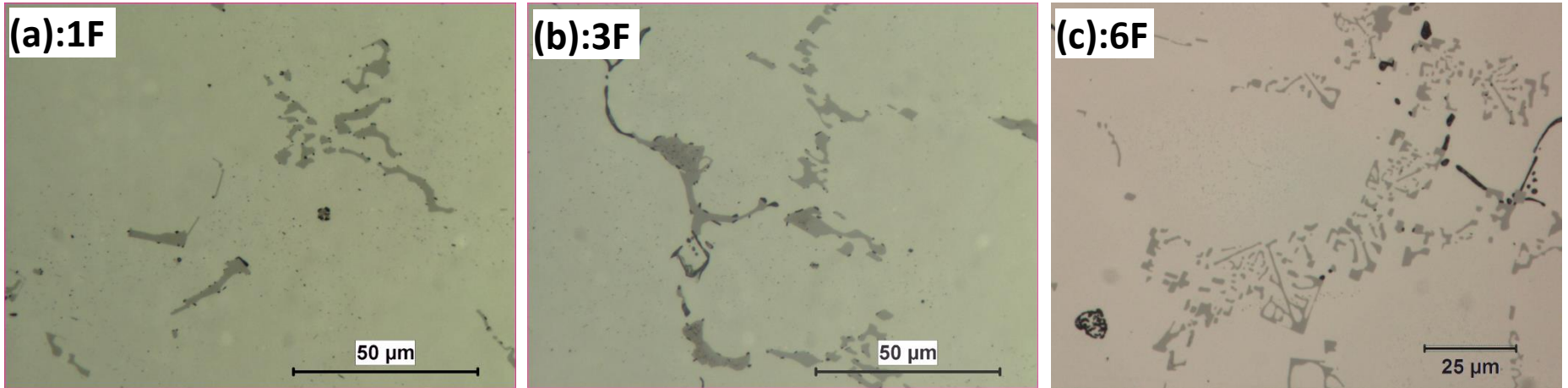


Figure 5 - Microstructures of experimental alloys after 648K (375°C)/48 h (before etched)

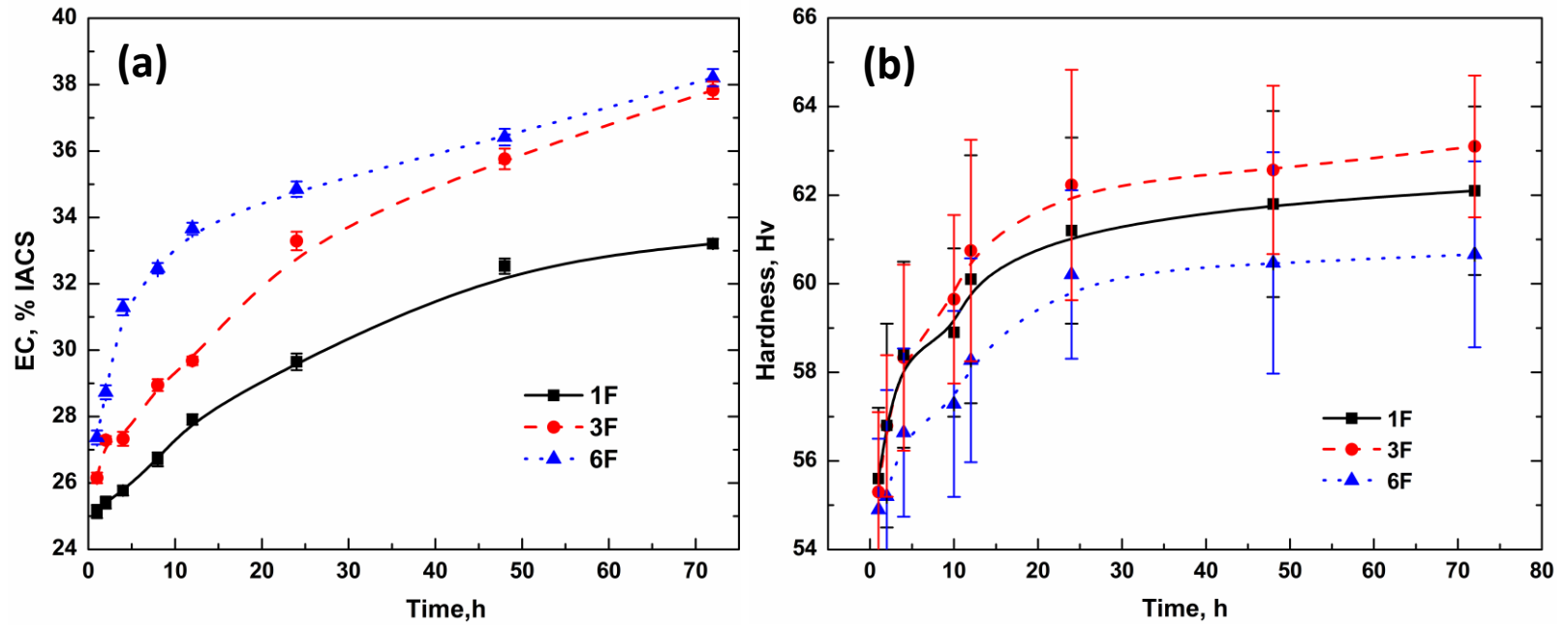


Figure 6 - Evolution of EC (a) and microhardness (b) during the precipitation treatment

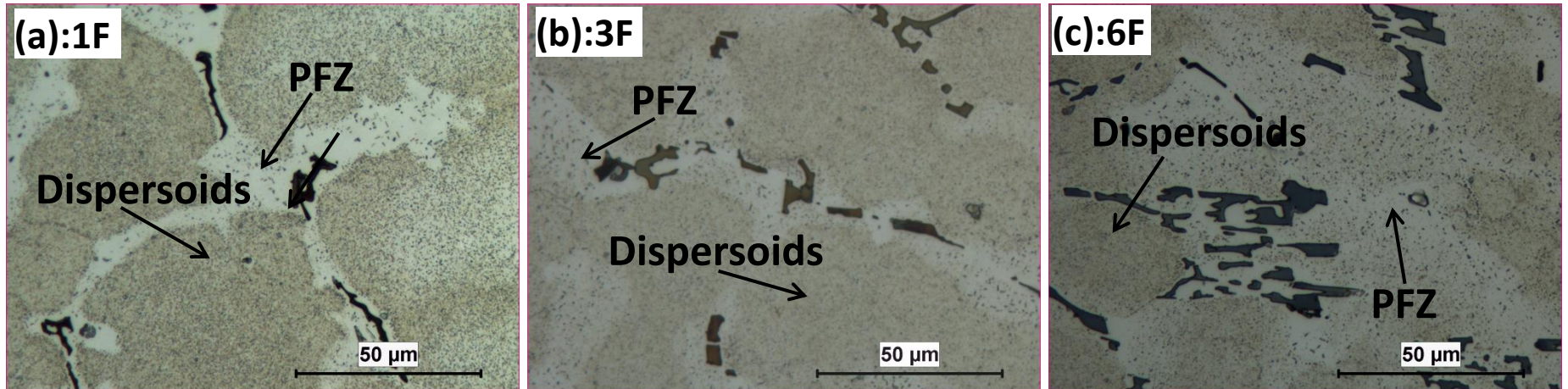


Figure 7 - Microstructure of experimental alloys after 648K (375°C)/48h (after etched)

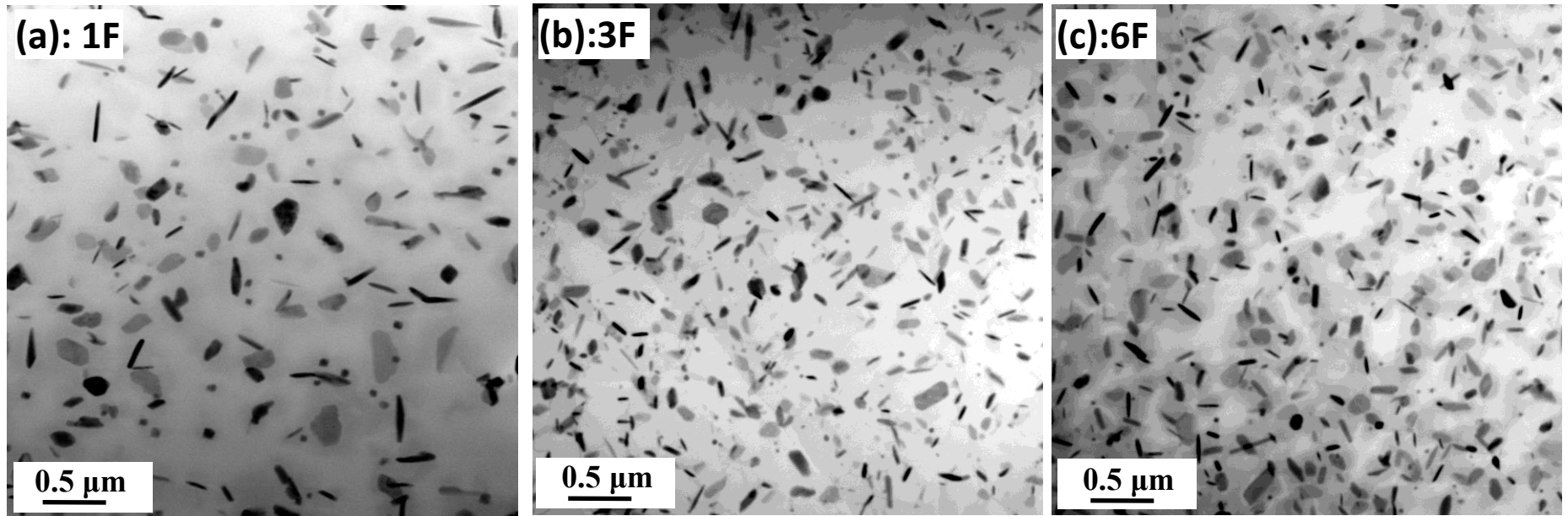


Figure 8 - TEM images of dispersoids in experimental alloys after 648K (375°C)/48h



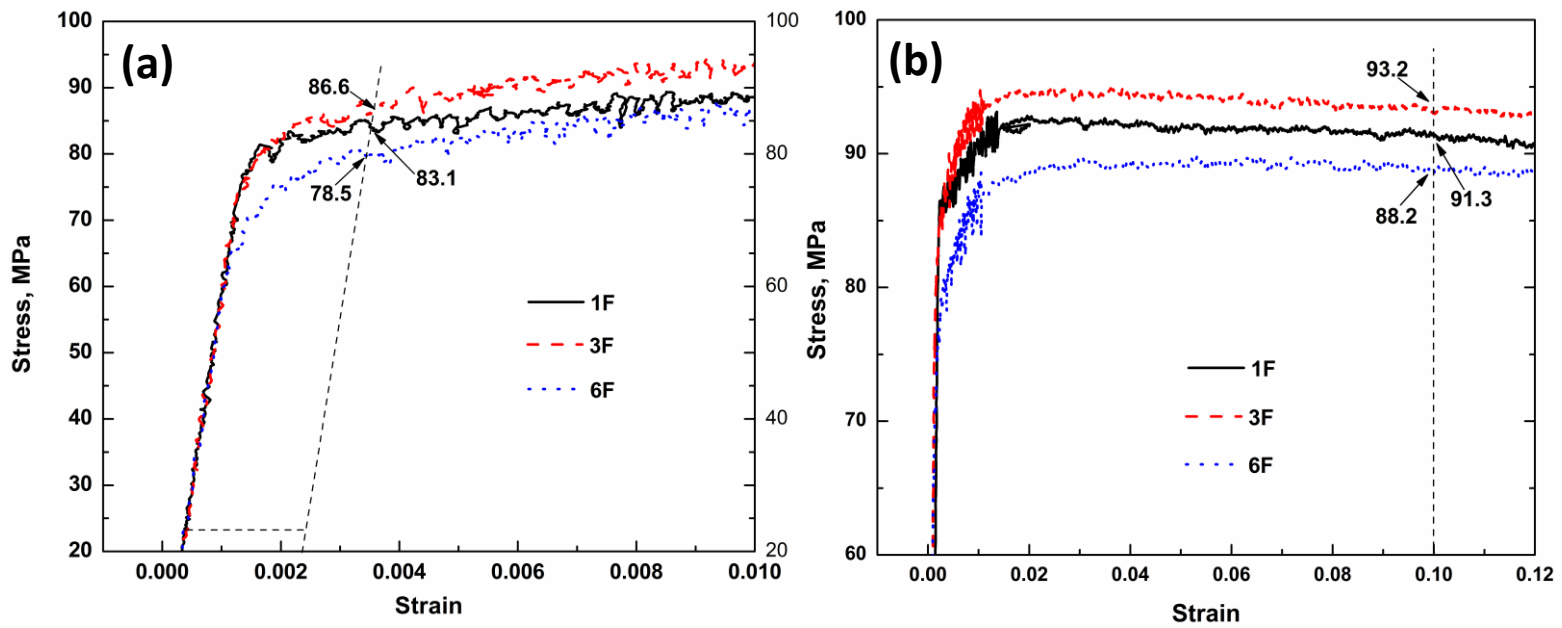


Figure 9 - Evolution of compression strengths at 573K (300°C) after 648K (375°C)/48h:  
 (a) YS at 0.002 strain and (b) compression strength at 0.1 strain

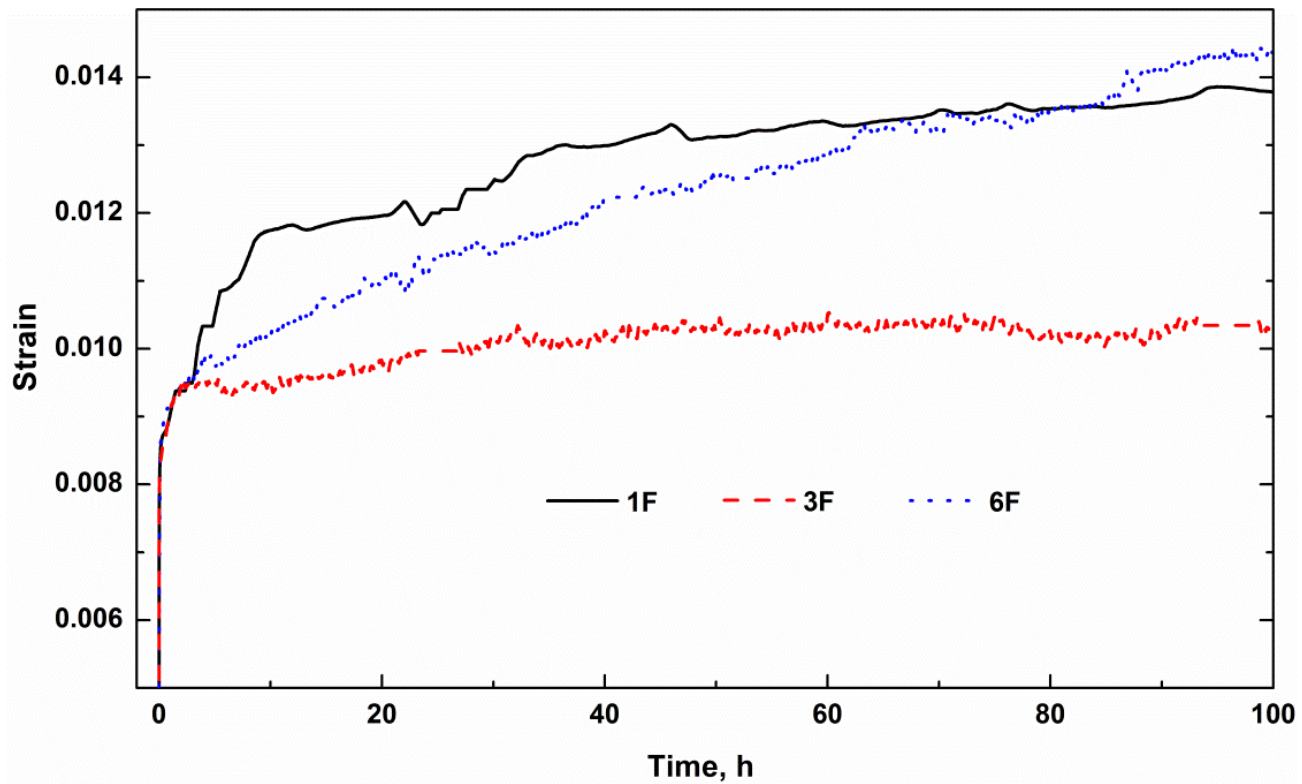


Figure 10 - Creep curves of experimental alloys at 573K (300°C) after 648K (375°C)/48h