

Figure S1 SEM image and EDS content of as-cast AZ91-0.4Ce- x Ca ($x=0, 0.4, 0.8, 1.2$ wt.%) alloys. (a) AZ91-0.4Ce alloy, (b) AZ91-0.4Ce-0.4Ca alloy, (c) AZ91-0.4Ce-0.8Ca alloy, (d) AZ91-0.4Ce-1.2Ca alloy

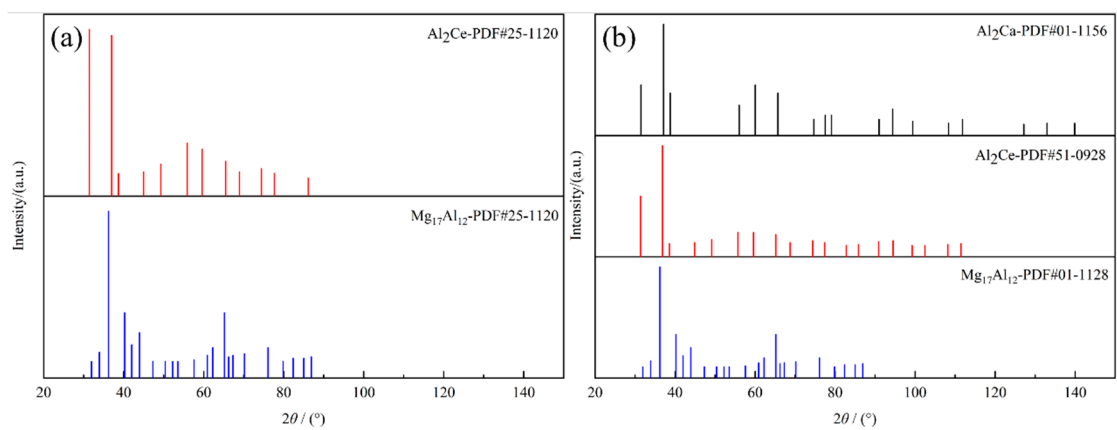


Figure S2 RD standard spectrum. (a) AZ91-0.4Ce; (b) AZ91-0.4Ce-xCa (x=0.4, 0.8, 1.2 wt.%)

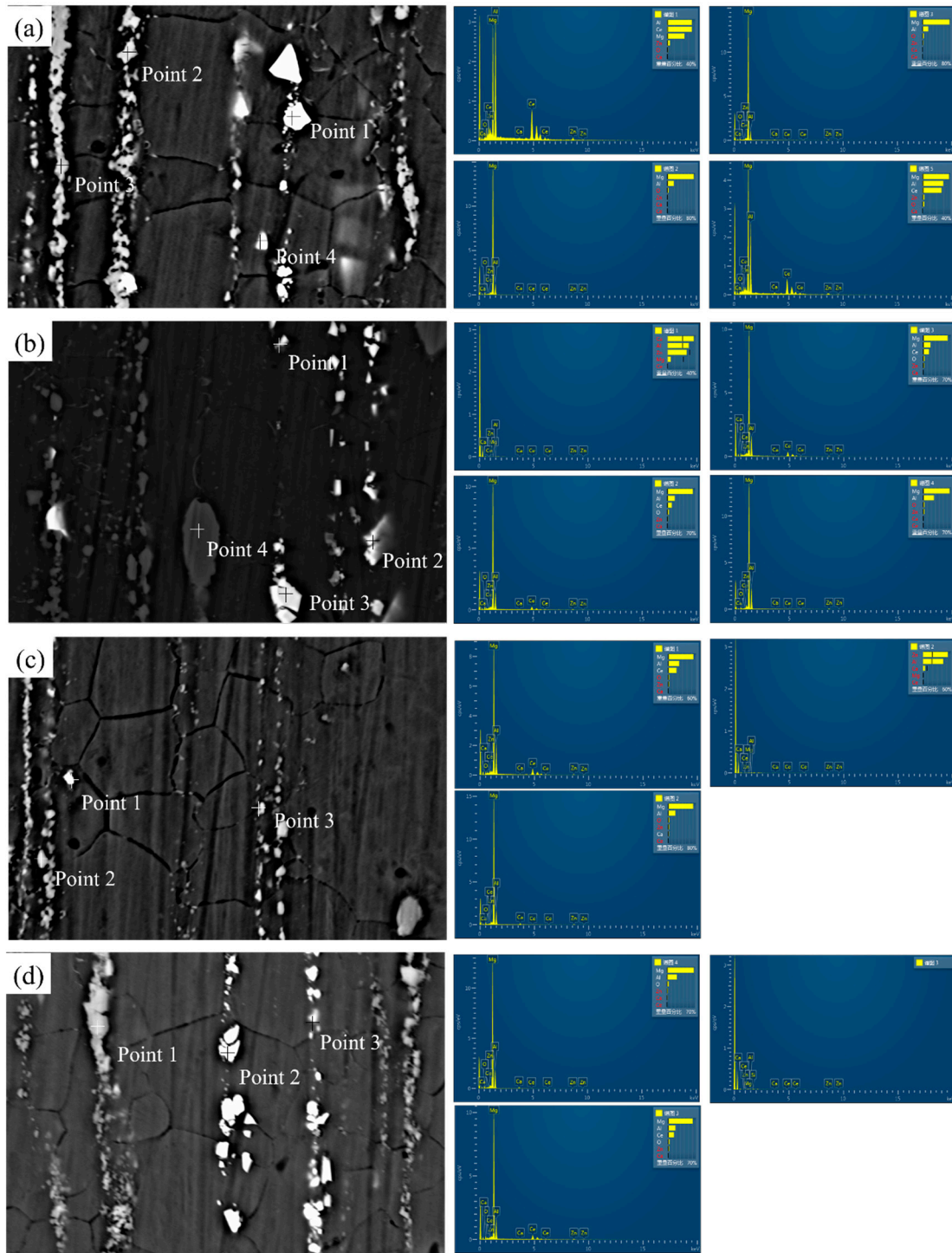


Figure S3 EM image and EDS content of extruded AZ91-0.4Ce- x Ca ($x=0, 0.4, 0.8, 1.2$ wt.%) alloys. (a) AZ91-0.4Ce alloy, (b) AZ91-0.4Ce-0.4Ca alloy, (c) AZ91-0.4Ce-0.8Ca alloy, (d) AZ91-0.4Ce-1.2Ca alloy