

Supporting information

Discharge and corrosion behaviour of AP65 magnesium anode plates with different rolling reductions

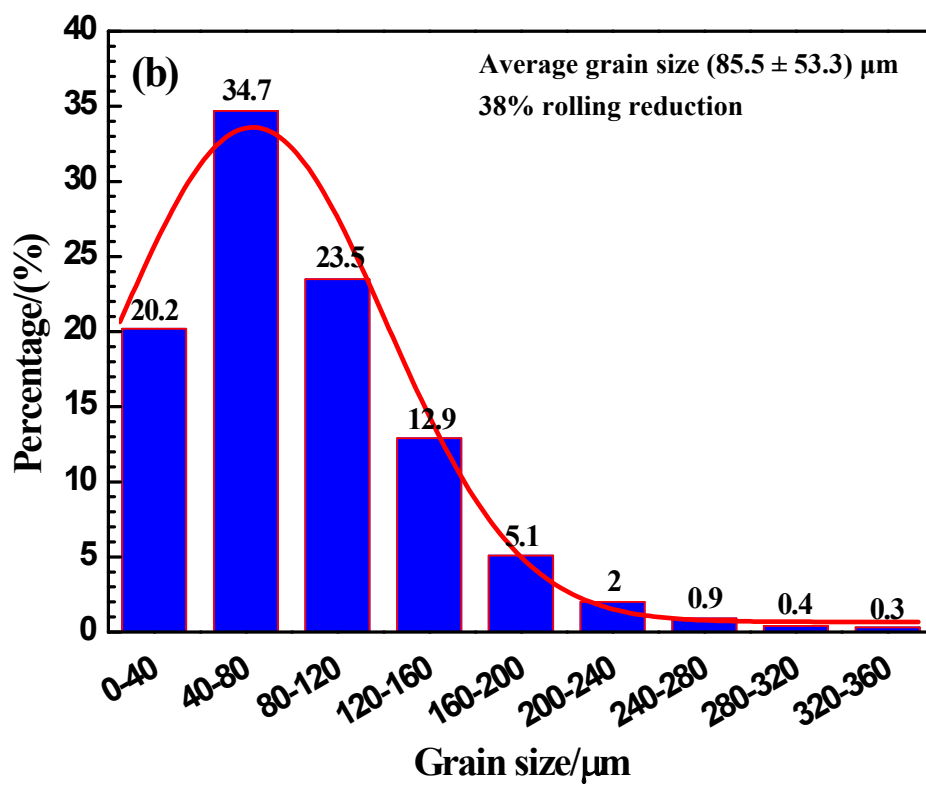
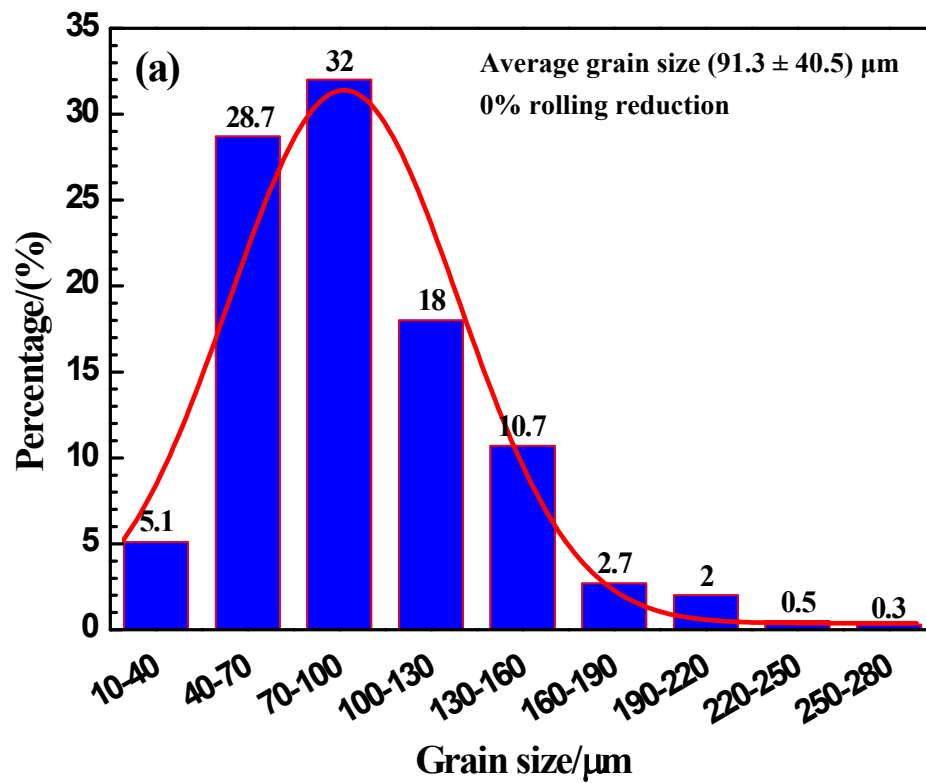
Naiguang Wang¹, Yangchang Mu¹, Qi Li², Zhicong Shi^{1*}

*1. School of Materials and Energy, Guangdong University of Technology, Guangzhou
510006, China*

*2. School of Materials Science and Engineering, Central South University, Changsha
410083, China*

*Corresponding author. Tel: +86 18933958027; fax: + 86 020 39322570.
E-mail address: zhicong@gdut.edu.cn (Zhicong Shi)

Supporting Figures



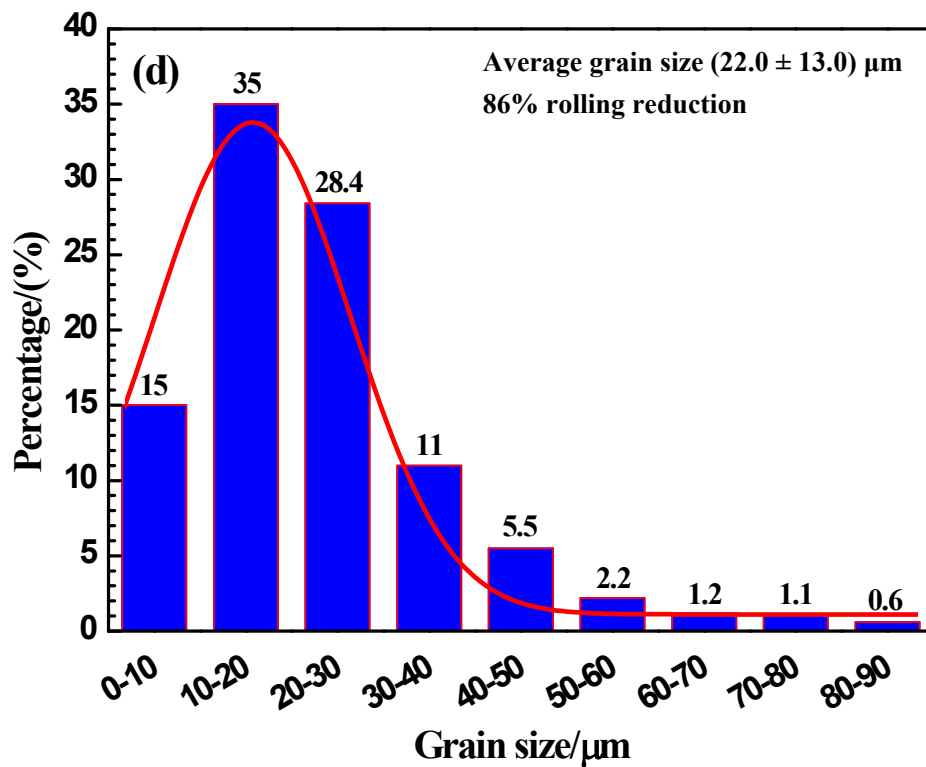
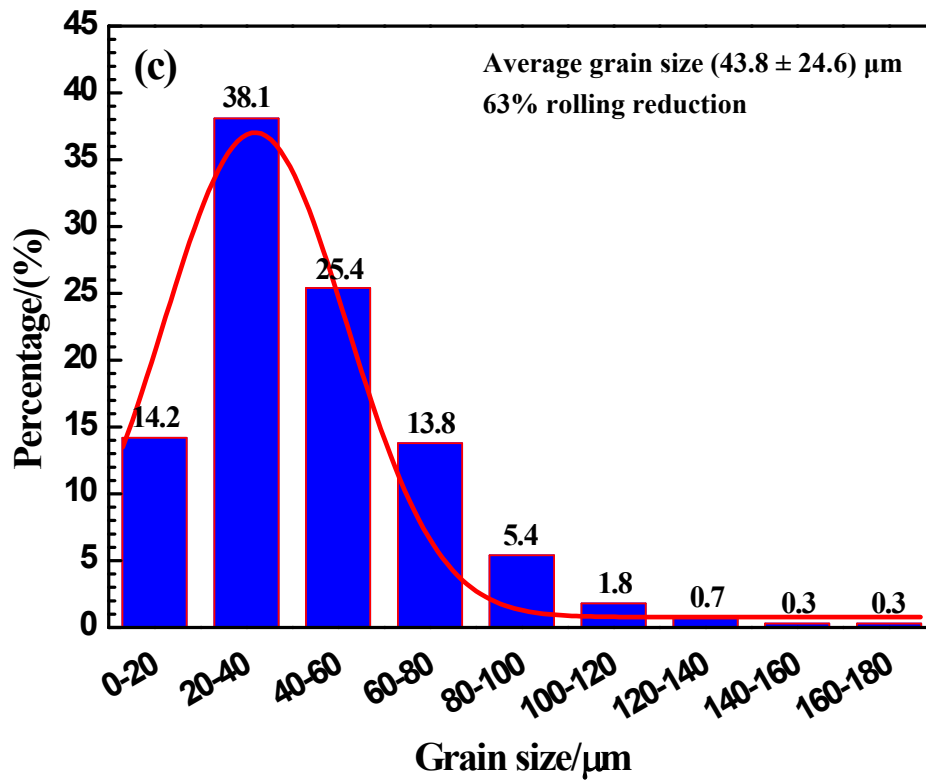


Fig. S1 Grain size distributions of AP65 magnesium alloys with different rolling reductions.

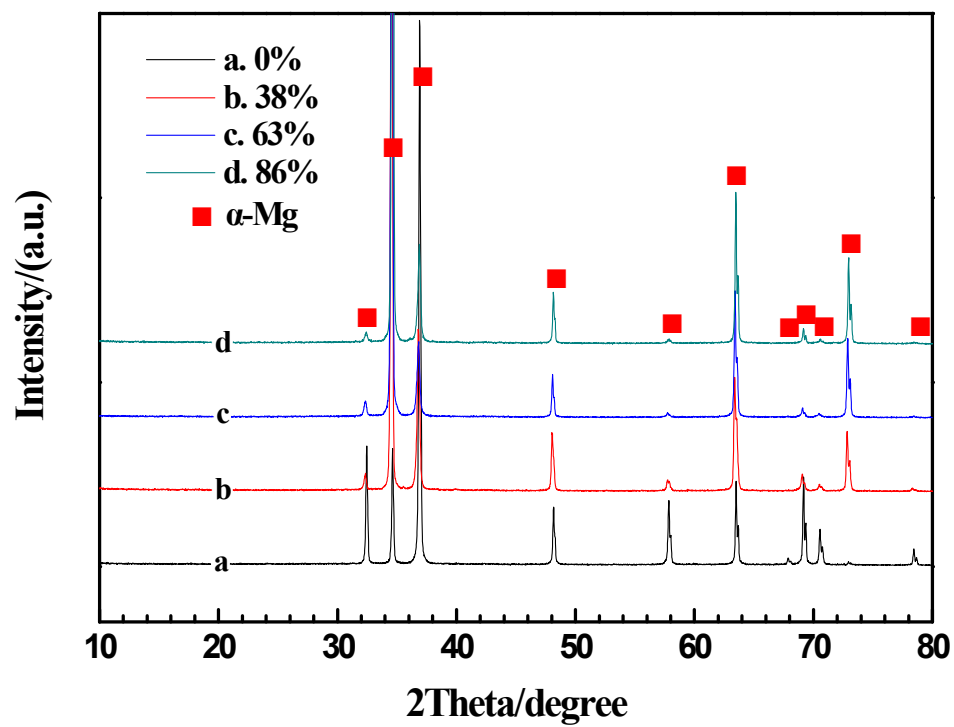


Fig. S2 X-ray diffraction patterns of AP65 magnesium alloys with different rolling reductions.

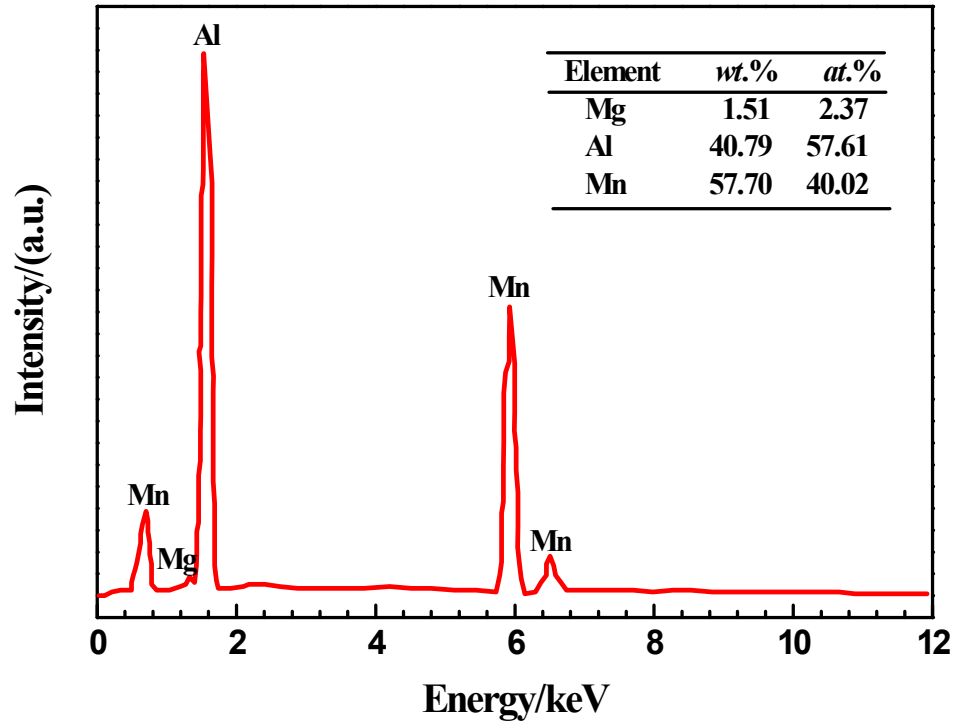
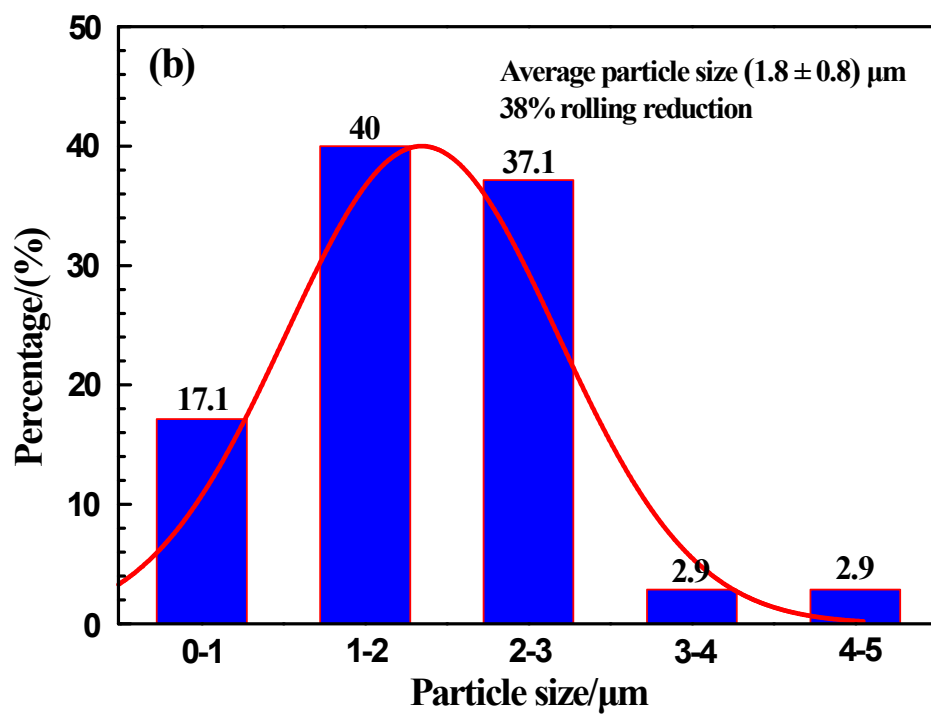
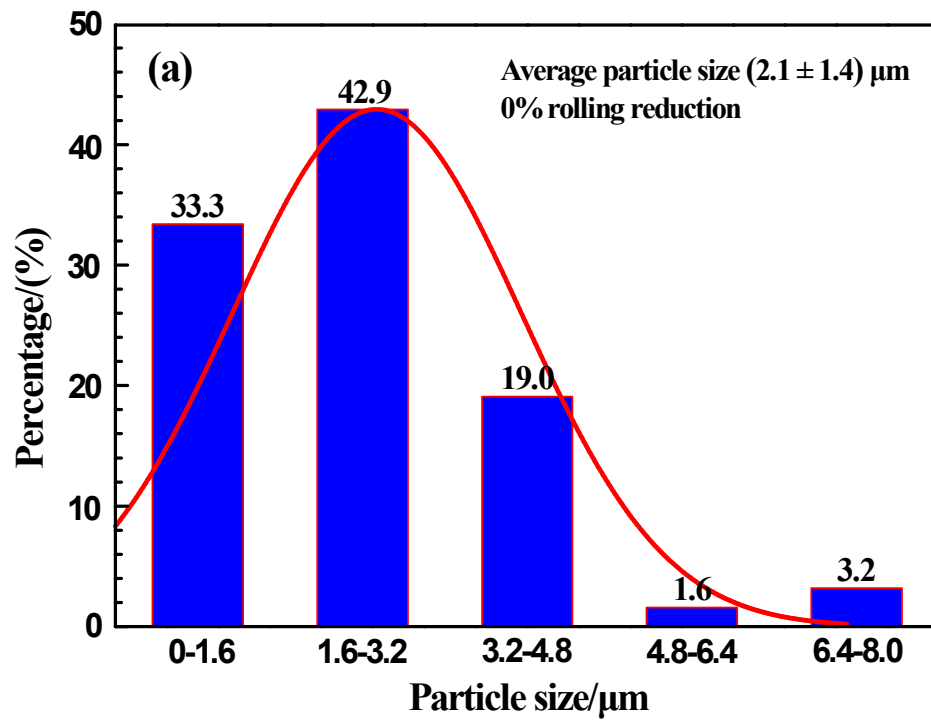


Fig. S3 Energy dispersion spectrum (EDS) of Al_8Mn_5 particle in AP65 magnesium alloys



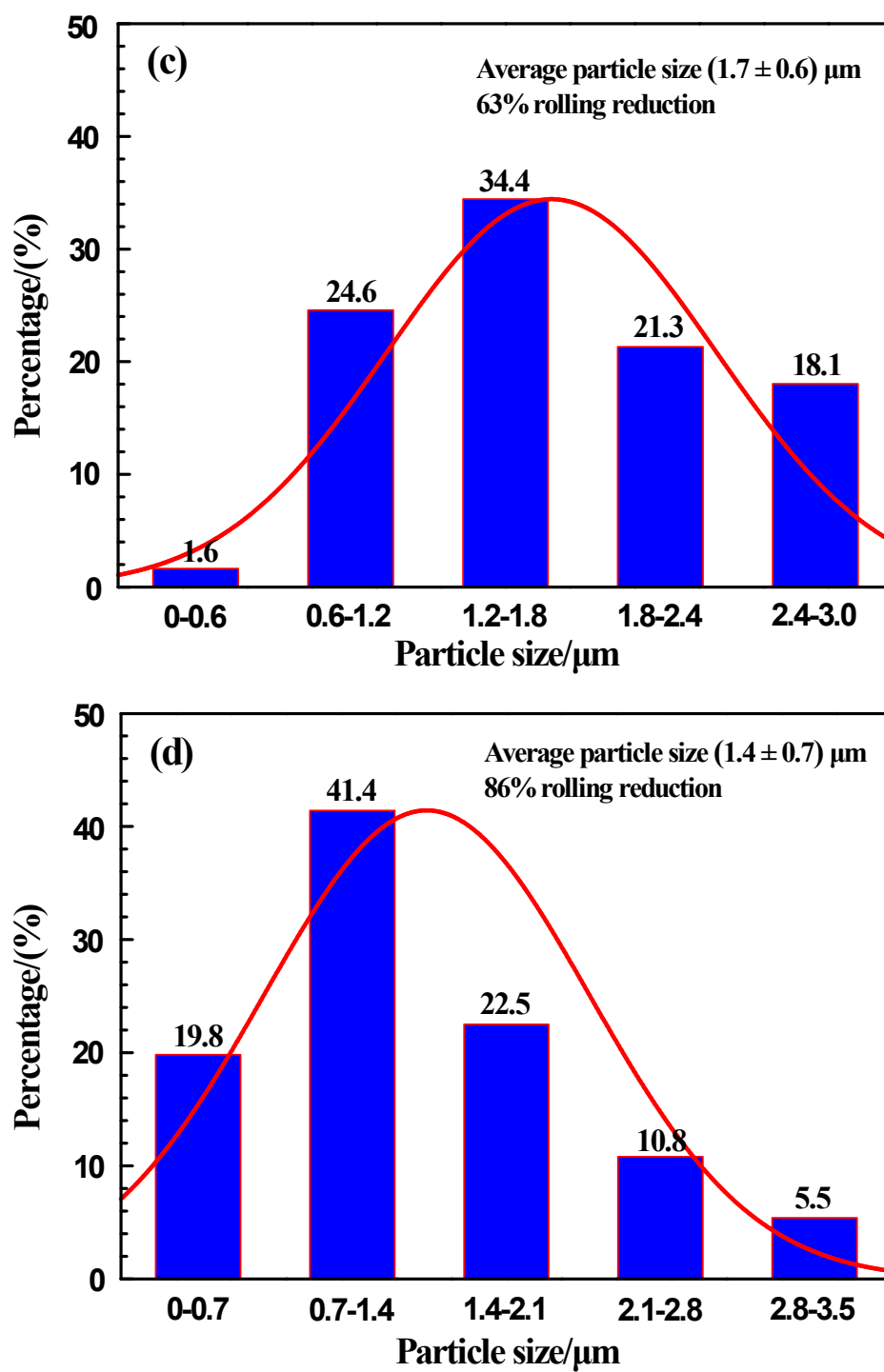


Fig. S4 Particle (Al_8Mn_5) size distributions of AP65 magnesium alloys with different rolling reductions.

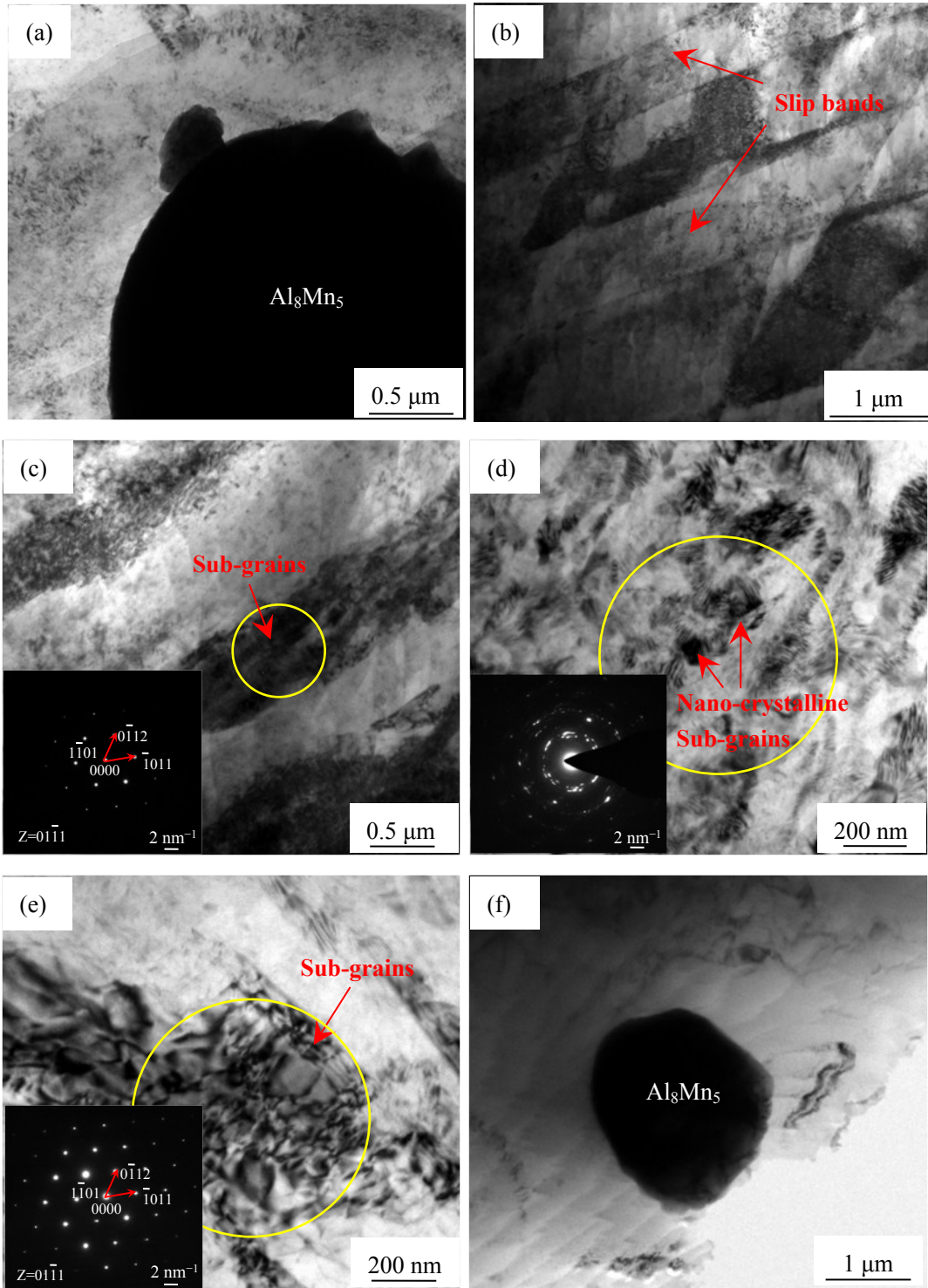


Fig. S5 TEM bright field images and selected area electron diffraction (SAED) spots of AP65 magnesium alloys with different rolling reductions: (a) 0%, (b)-(c) 38%, (d) 63%, and (e)-(f) 86%.

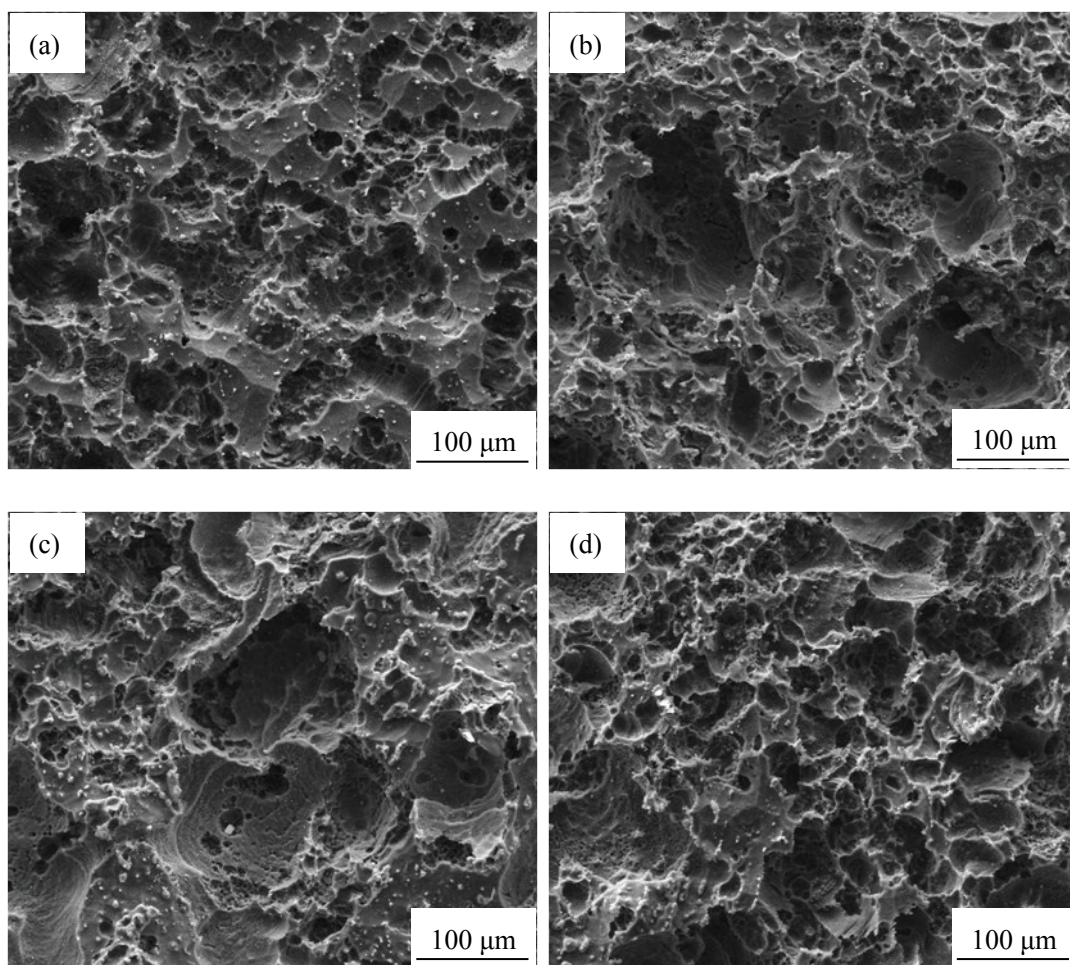


Fig. S6 Surface morphologies of AP65 magnesium alloys with the rolling reductions of (a) 0%, (b) 38%, (c) 63%, and (d) 86% discharged at 10 mA cm^{-2} for 600 s in 3.5 wt.% NaCl solution after removing the oxidation products.

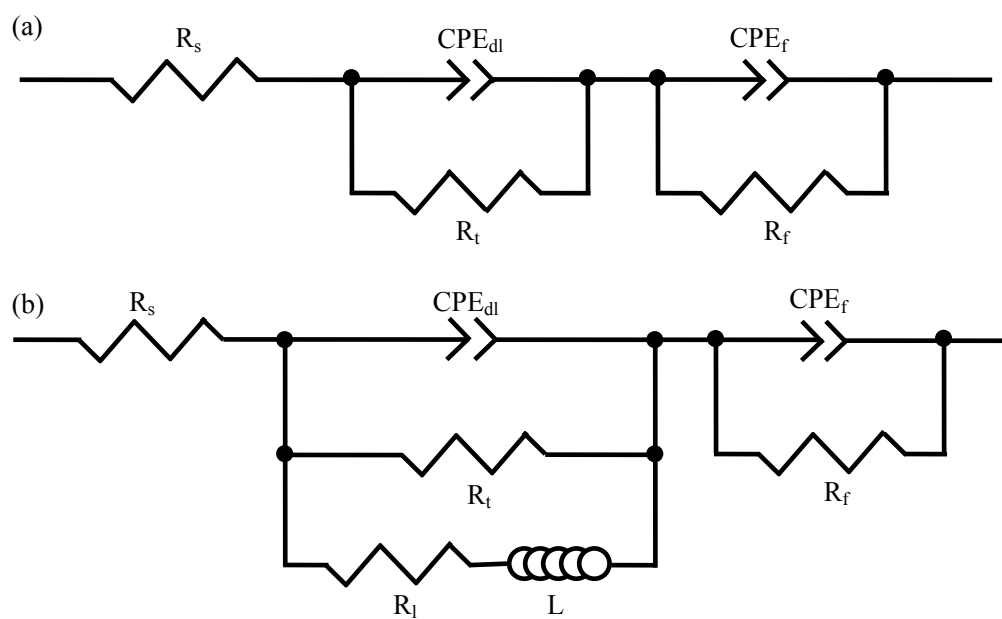


Fig. S7 Equivalent circuits used for fitting the EIS of AP65 magnesium alloys with different rolling reductions at (a) OCPs and (b) the potentials of 100 mV more positive than the OCPs.