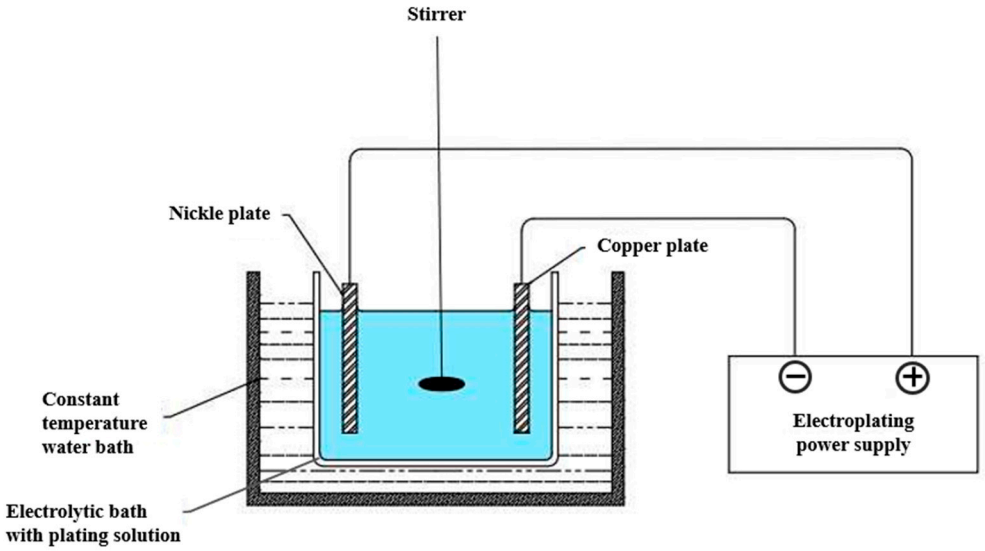

Figure S1. Diagram of electrodeposition experimental device.

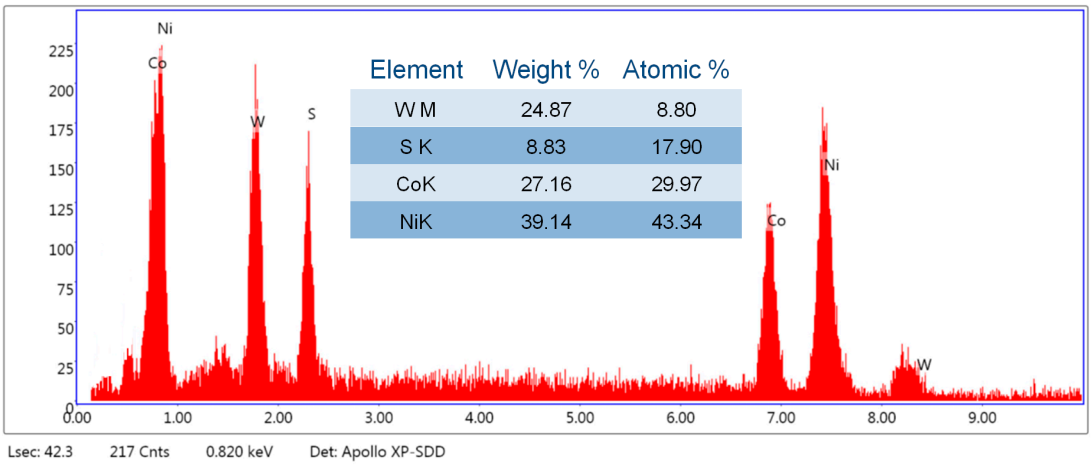

Figure S2. EDS spectrum of Ni-Co/WS_2 nanocomposite coating prepared by DC electrodeposition.

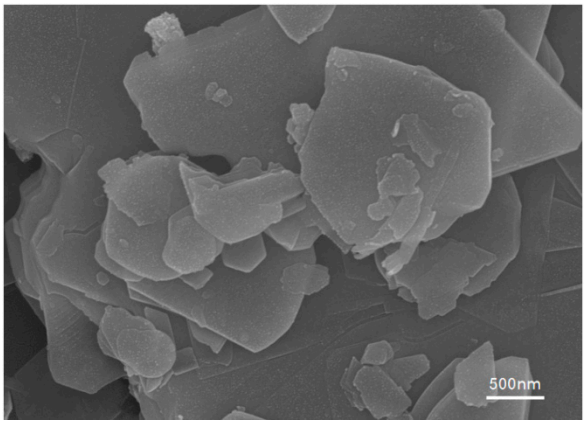

Figure S3. The SEM image of WS2 nanoparticle.

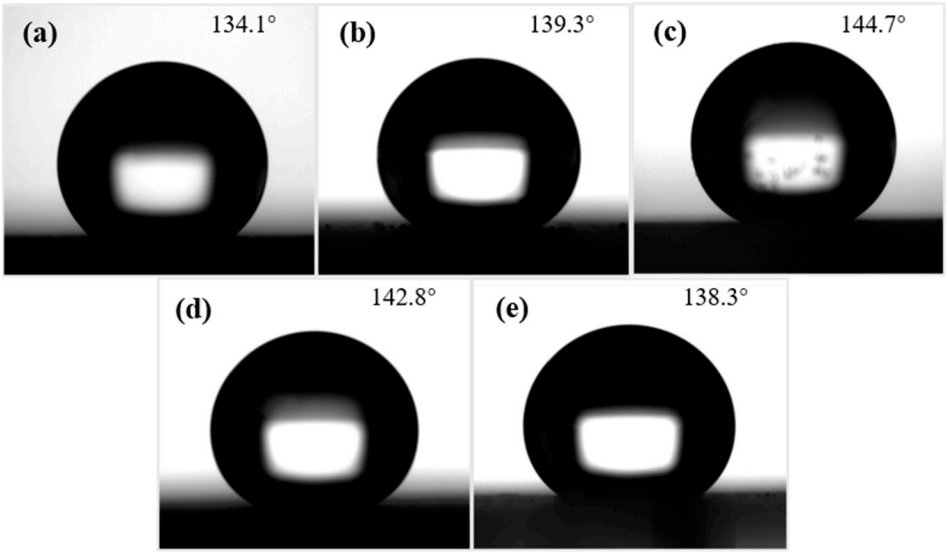

Figure S4. The WCA images of Ni-Co/WS_2 composite coatings prepared by DC electrodeposition, under different current density: (**a**) 1 A/dm^2; (**b**) 2 A/dm^2; (**c**) 3 A/dm^2; (**d**) 4 A/dm^2; (**e**) 5 A/dm^2.

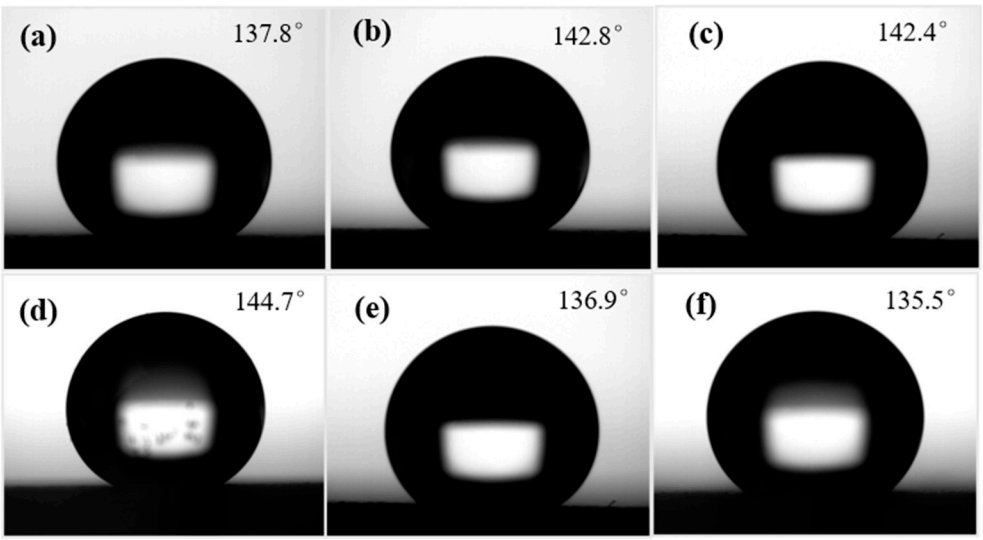

Figure S5. The WCA images of Ni-Co/WS_2 composite coatings prepared by DC electrodeposition, under different electrodeposition time: (**a**) 20 min; (**b**) 30 min; (**c**) 40 min; (**d**) 50 min; (**e**) 60 min; (**f**) 70 min.

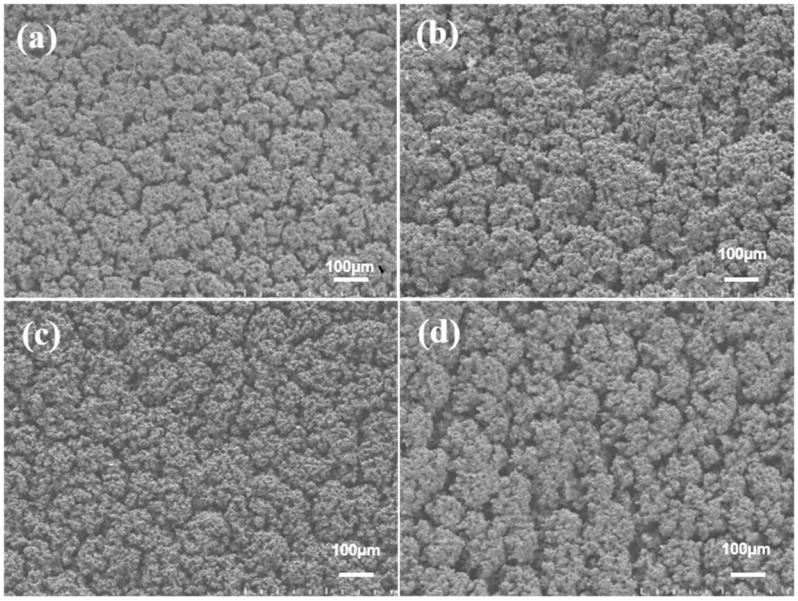

Figure S6. SEM images of the Ni-Co/WS_2 composite coatings prepared at different pulse duty cycles: (**a**) γ: 30%；(**b**) γ: 50%；(**c**) γ: 70%；(**d**) γ: 90%.

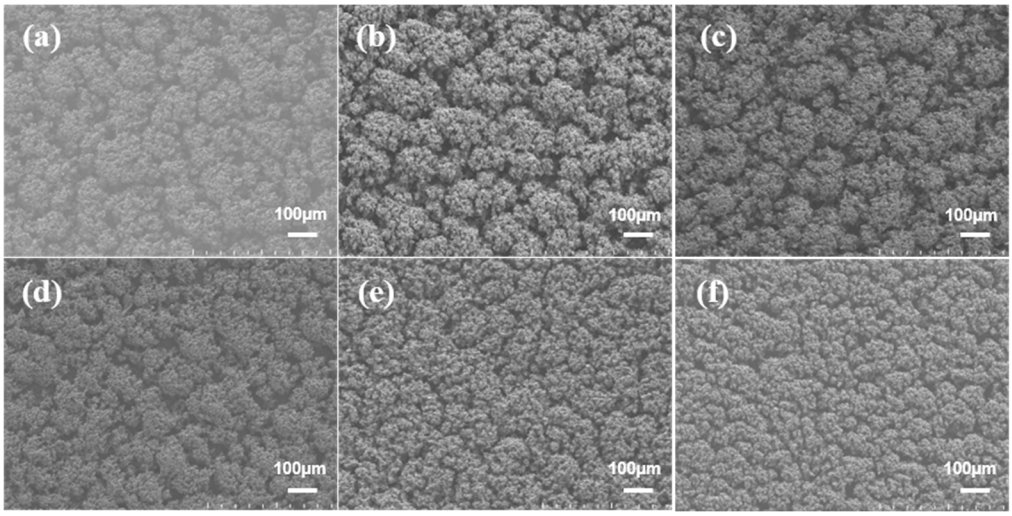

Figure S7. SEM images of the Ni-Co/WS_2 composite coatings prepared at different pulse frequencies: (**a**) 50 Hz；(**b**) 100 Hz；(**c**) 200 Hz；(**d**) 500 Hz；(**e**) 1000 Hz；(**f**) 1250 Hz.

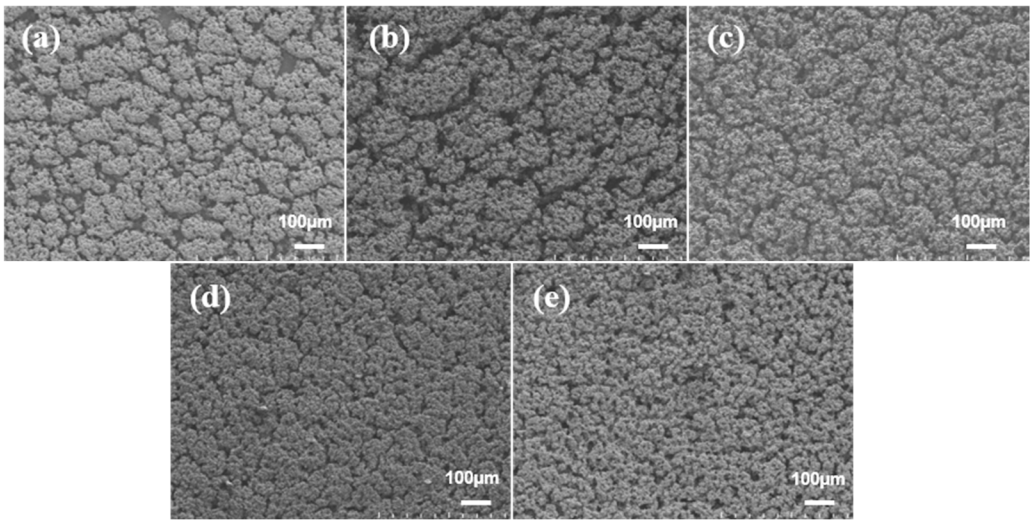

Figure S8. SEM images of the Ni-Co/WS_2 composite coatings prepared at different current densities by PC electrodeposition: (**a**) 1 A/dm^2；(**b**) 2 A/dm^2；(**c**) 3 A/dm^2；(**d**) 4 A/dm^2；(**e**) 5 A/dm^2.