

Ecologically Green Conversion Coatings with Special Wetting Behaviors for Wax Prevention

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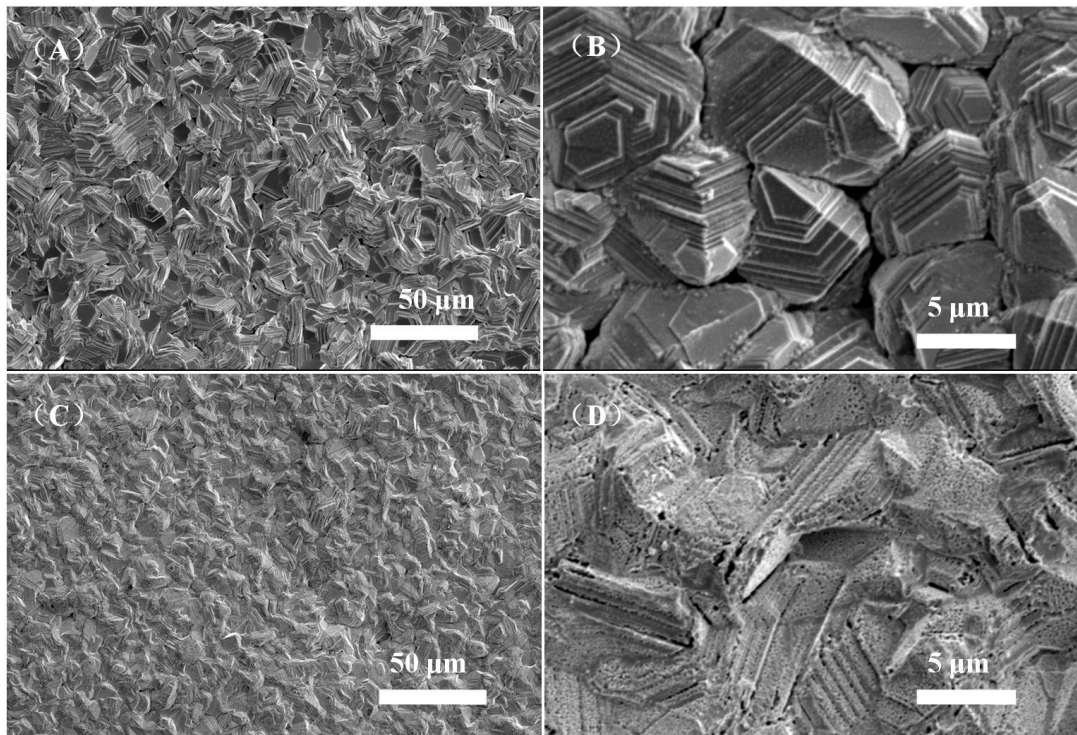


Figure S1. SEM images of the specimen surface attained with different conversion solution pH value:
(A) SEM image and (B) high-resolution SEM image with the pH value of 1.0; (C) SEM image and (D)
high-resolution SEM image with the pH value of 6.0.

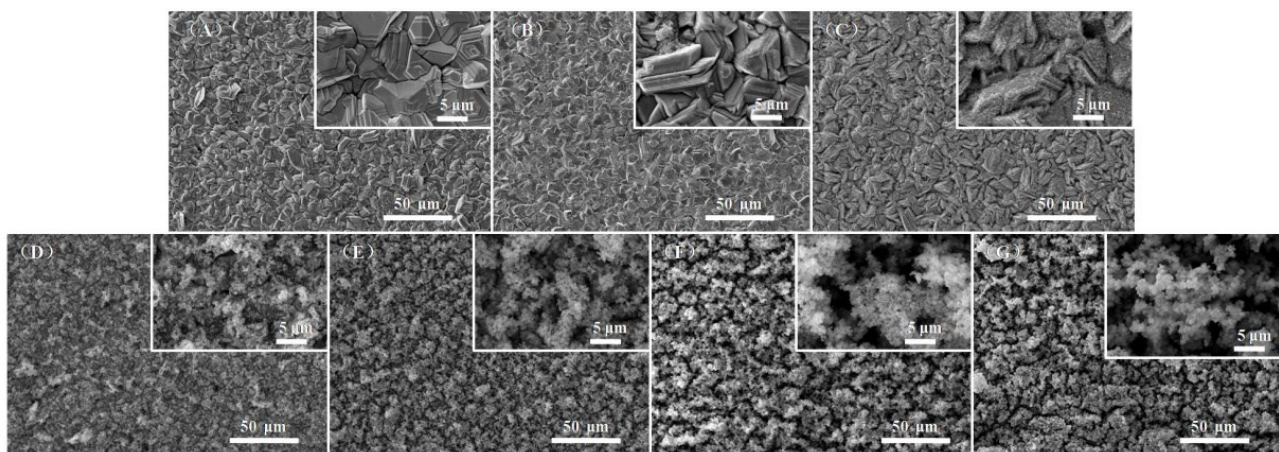


Figure S2. Detailed SEM images of the phytic acid conversion coatings with different conversion time of: (A) 0 min; (B) 1 min; (C) 5 min; (D) 10 min; (E) 20 min; (F) 30 min; (G) 60 min. Insets are high-resolution SEM images of the corresponding images.

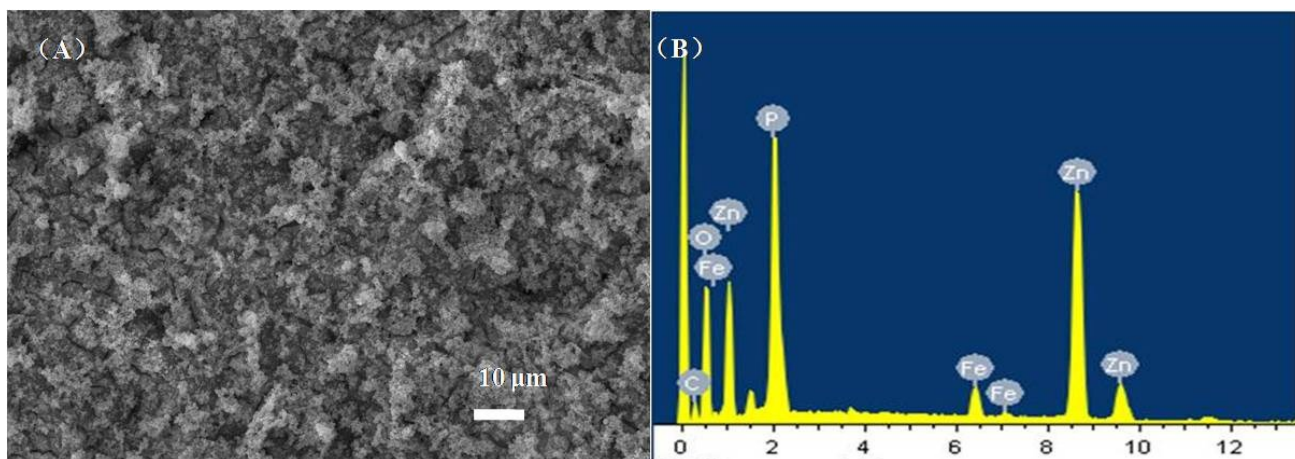


Figure S3. SEM image and corresponding EDS pattern of the new particles in section 3.3.

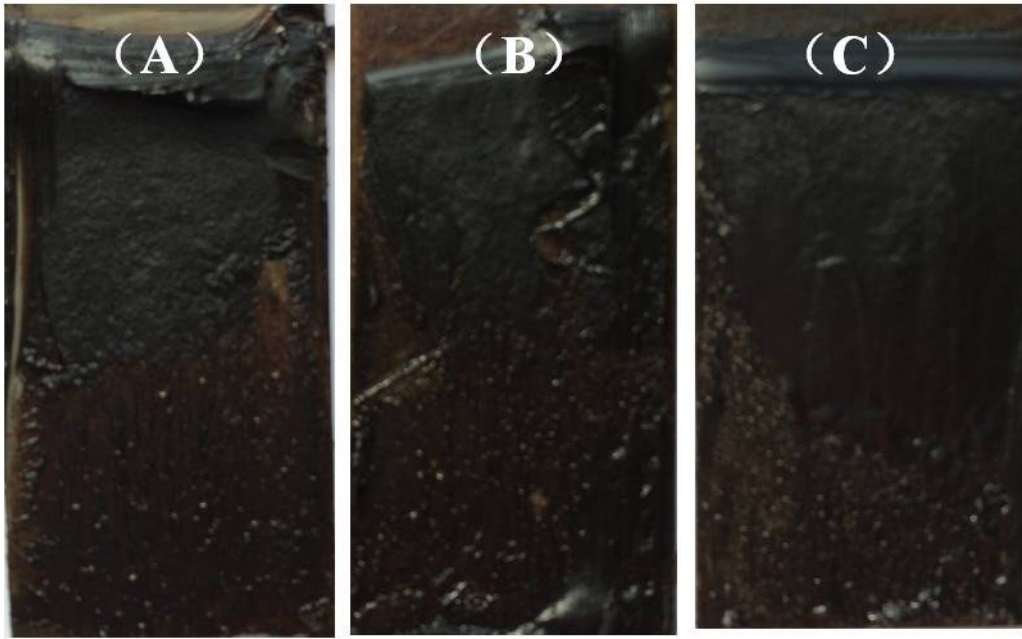


Figure S4. Digital images of the pure A3 carbon steels after wax deposition test. (A), (B) and (C) are three identical parallel samples.

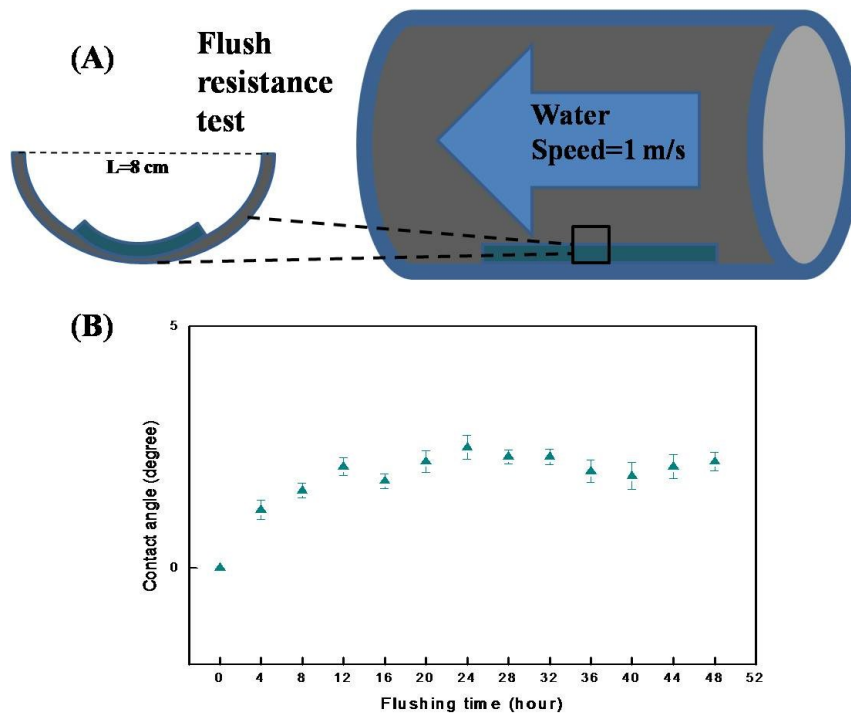


Figure S5. (A) Schematic diagram of the pipe-like model for the flush resistance test; (B) Results of the flushing test.