

Visible-Light Active Flexible and Durable Photocatalytic Antibacterial Ethylene-co-vinyl acetate—Ag/AgCl/ α -Fe₂O₃ Composite Coating

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1.1. pH of the Ag/AgCl/ α -Fe₂O₃ composite in 1:500 NB.

Ag/AgCl/ α -Fe₂O₃ composite in 1:500 NB solution 4 g/L - pH 6.27.

1.2. FESEM images and XRD pattern of EVA-hematite coating and hematite particles.

FESEM images show that synthesized hematite particles have nanowire shape (Figure S1 A-B). The XRD studies indicate that the hematite phase was successfully obtained by so-precipitation synthesis and annealing at 800 °C (Figure S1 C).

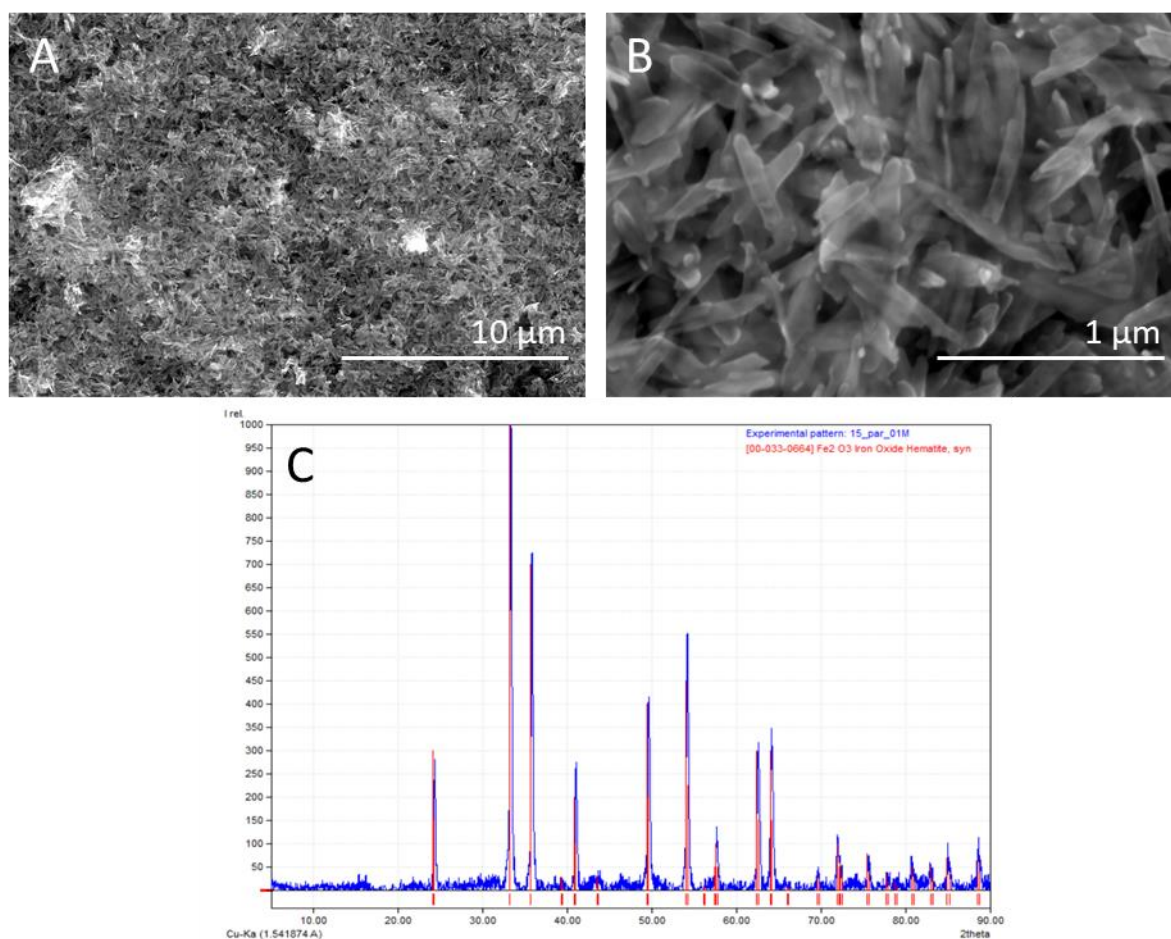


Figure S1. FESEM images EVA-hematite coating (A), α-Fe₂O₃ nanowires at high resolution (B) and XRD pattern of the α-Fe₂O₃ nanowires (C).

1.3. Bacteria in Suspension after Photocatalytic Tests.

To evaluate the presence of bacteria in suspensions after the photocatalytic test 200 μl of suspension from 24-well with EVA and EVA-Ag/AgCl/α-Fe₂O₃ coated surfaces in the absence of illumination [D], and upon visible-light illumination [L] (Figure S2) was transferred to tube with 3 ml of undiluted Nutrient Broth, afterwards bacteria were grown on rotating shaker for 8 h at 30 °C. After 8 h tubes were evaluated visually and OD (600 nm) were measured. Results show that tube with suspension from EVA-Ag/AgCl/α-Fe₂O₃-L - upon visible-light illumination remain transparent with unchanged OD.

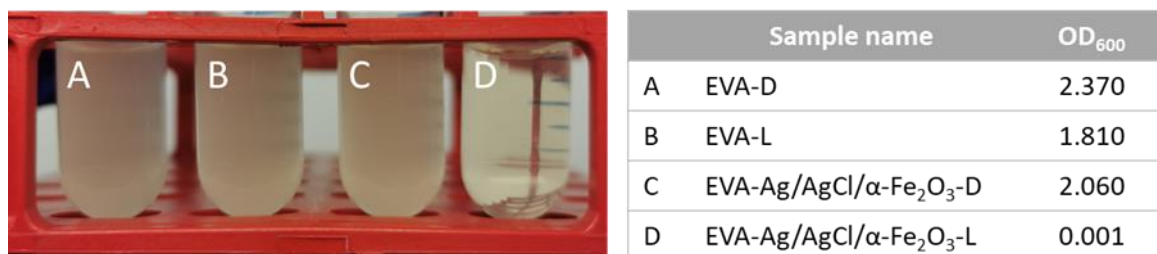


Figure S2. Visualization of the tubes and OD density after 8 h incubation at 30 °C temperature.