

## Metal-organic framework thin films as platforms for atomic layer deposition of cobalt ions to enable electrocatalytic water oxidation.

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### Streszczenie

Thin films of the metal-organic framework (MOF) NU-1000 were grown on conducting glass substrates. The films uniformly cover the conducting glass substrates and are composed of free-standing sub-micrometer rods. Subsequently, atomic layer deposition (ALD) was utilized to deposit  $\text{Co}^{2+}$  ions throughout the entire MOF film via self-limiting surface-mediated reaction chemistry. The Co ions bind at aqua and hydroxo sites lining the channels of NU-1000, resulting in three-dimensional arrays of separated Co ions in the MOF thin film. The Co-modified MOF thin films demonstrate promising electrocatalytic activity for water oxidation.

### Słowa kluczowe

metal organic frameworks, water oxidation, electrocatalyst,  
atomic layer deposition, cobalt oxide, pyrene

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