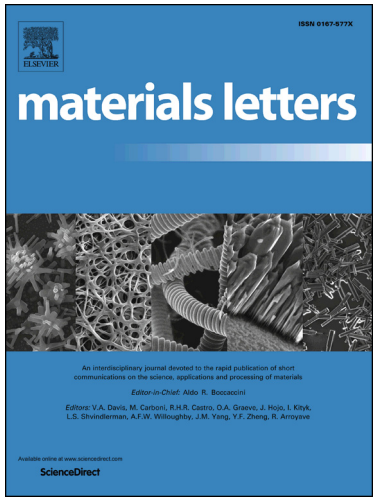

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Synthesis of Pt-Co micro/nanoporous array with high activity for methanol electrooxidation

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Abstract:

Pt-Co micro/nanoporous array was fabricated by electrochemical deposition with the aid of a colloidal monolayer as a template. Morphology observation revealed that the prepared Pt-Co array was composed of ordered, hexagonal and spherical hollow holes with uniform nanogaps on the inner pore walls. The average Co content in the array was about 20 at%. The electrochemical measurements showed that the Pt-Co porous array exhibited high catalytic activity and stability for methanol electrooxidation in alkaline medium, which made it more attractive for fuel cell applications.

Keywords: Electrodeposition; Metals and alloys; Porous materials; Energy storage and conversion

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