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Solution-processed Molybdenum Oxide for Hole-selective Contacts on Crystalline Silicon Solar Cells

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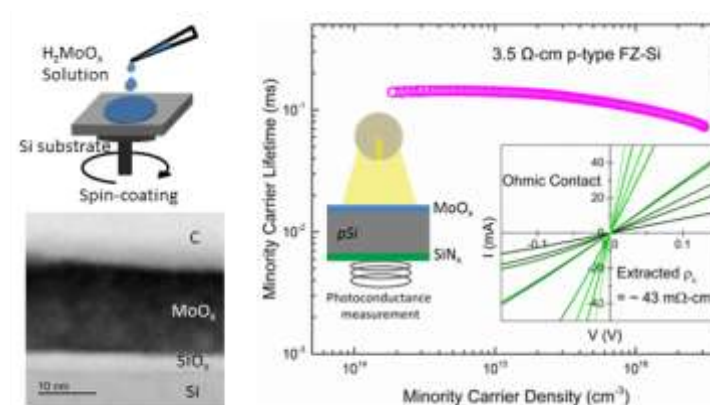
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KEYWORDS: *Hydrogen molybdenum bronzes; molybdenum oxide; silicon photovoltaics; hole-selective contact; surface passivation*

Graphical Abstract:



Highlights:

- Hydrogen molybdenum bronze solution was used to form hole-selective contacting layers for c-Si solar cells.
- An ultra-thin interfacial silicon oxide layer was formed between spin-coated MoO_x film and silicon substrate.
- Solution-processed MoO_x films showed comparable contact resistivity and passivation quality on c-Si wafers to thermally-evaporated MoO_x.

Abstract

Sub-stoichiometric molybdenum oxide (MoO_x) films are commonly deposited on crystalline

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