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Sulfur supported by carbon nanotubes and coated with polyaniline: Preparation and performance as cathode of lithium-sulfur cell

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Highlights

Composite of MWCNTs-S@PANI was developed as cathode of Li/S battery.

MWCNTs-S was prepared by direct chemical deposition of S on MWCNTs.

PANI was coated on S via in situ polymerization under control of ascorbic acid.

The composite exhibits excellent cyclic stability and rate capability.

Abstract

We report a novel composite, sulfur supported by multi-walled carbon nanotubes and coated with polyaniline (denoted as MWCNTs-S@PANI), as cathode of lithium-sulfur battery. MWCNTs-S is prepared by loading sulfur on MWCNTs via

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