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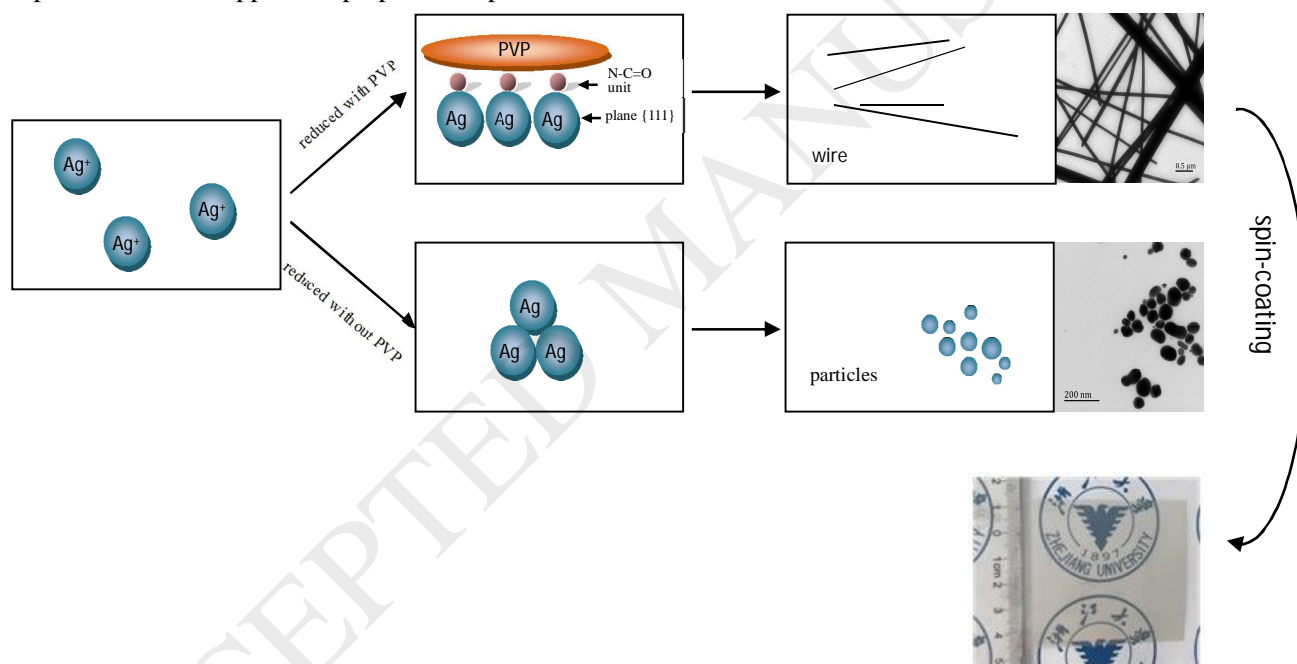
One-pot rapid synthesis of high aspect ratio silver nanowires for transparent conductive electrodes

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Graphical Abstract: Silver nanowires (AgNWs) with high aspect ratio were rapidly one-pot synthesized by a polyol process in the presence of polyvinylpyrrolidone (PVP) as a stabilizer as well as the anisotropic agent, and corresponding transparent conductive films were prepared by spin-coating method. The resultant AgNWs with high aspect ratio can be applied to prepare transparent conductive electrodes.



Highlights

- We improved a method of preparation of silver nanowires
- The effects of PVP molecular weight and concentration on the morphology and aspect ratio of AgNWs were investigated.
- The preferred orientation growth mechanism of AgNWs was also discussed briefly.
- We got transparent conductive films by spin-coating silver nanowires dispersion which is compared to ITO films.
- The effects of silver nanowires dispersion's density and heating time on the sheet resistance and transmittance were investigated.

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