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Title: Electrosynthesis of ZnO nanorods and nanotowers: morphology and X-ray Absorption Near Edge Spectroscopy Studies

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Highlights

- Deposition mechanism of nano-structured ZnO films has been investigated in the absence and presence of chloride ions from aqueous solution.
- Uniform and well-defined ZnO nano-towers and rods have been obtained via electrochemical deposition.
- The presence of chloride ions altered the nucleation rate of ZnO particles on ITO substrates and resulting crystallographic properties.
- Comparing the rod and tower nano-structured ZnO thin films, the excitation behavior of valance band electrons is different.

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