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Study on etching-shape of ZnO Film by wet-chemical etching

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In order to fabricate ZnO-based devices, various etchants such as HCl, HNO₃, H₂SO₄ and H₃PO₄ have been studied for the wet etching of ZnO thin film. In this experiment, we introduced two new different chemicals as etchants, ferric chloride (FeCl₃ • 6H₂O) and oxalic acid (C₂H₂O₄) which were controlled with various concentrations, in ZnO etching process. Especially, this presentation is focused on the change of etching shapes of ZnO films depending on the concentration of used etchants. These results show that if wet-chemical etching were performed according to etchant concentration it could be a promising method for processing of ZnO-based TCO devices.