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Author I-LING HUANG
Author's Email Address No Public.
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Abstract
In this study, we prepared the TiO2 electrodes by using the method of molecular precursor for dye–sensitized solar cells (DSSCs).
The electrodes were baked in an environment of Ar gas flow. The resulting electrodes were post-annealed for various times in air.
The average photocurrent density (APD) depends on the conditions of post- annealing. XRD, SEM, photocurrent density measurement, performance of DSSC solar cells, and the performance of Photoeletrochemical Fuel cell(PFC) were used to characterize these TiO2 electrodes.
The results of Photoeletrochemical fuel cell performance of these TiO2 electrodes fabricated by the methods of molecular precursor and sol-gel, respectively, reveal that the former is two time higher than the latter. Furthermore, the current increases with increasing the thickness of TiO2 films.
These results showed that the method of molecular precursor is available for fabricating a novel type of TiO2 electrodes.
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