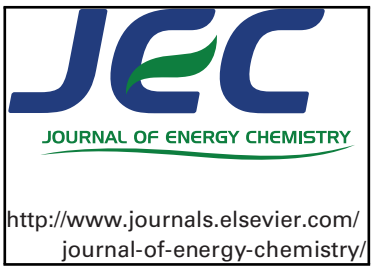

Flexible perovskite solar cells based on green, continuous roll-to-roll printing technology

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PII: S2095-4956(17)31125-7
DOI: 10.1016/j.jechem.2018.01.027
Reference: JECHEM 541

To appear in: *Journal of Energy Chemistry*

Received date: 17 December 2017
Revised date: 24 January 2018
Accepted date: 27 January 2018

Please cite this article as: Wei Zi , Zhiwen Jin , Shengzhong (Frank) Liu , Baomin Xu , Flexible perovskite solar cells based on green, continuous roll-to-roll printing technology, *Journal of Energy Chemistry* (2018), doi: 10.1016/j.jechem.2018.01.027

Review

Flexible perovskite solar cells based on green, continuous roll-to-roll printing technology

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Abstract

By designing and fabricating thin film electronic devices on a flexible substrate instead of more commonly used rigid substrate, flexible electronics produced has opened a field of special applications. In this article, we first reviewed available products that may be used as flexible substrates, their characteristics and unique advantages as supporting material for flexible electronic devices. Secondly, flexible perovskite solar cell is examined in detail, with special focus on its potential large-scale fabrication processes. In particular, a comprehensive review is provided on low cost solution printing techniques that is viewed highly as a viable tool for potential commercialization of the perovskite solar cells. Furthermore, a summary is given on green processing for the solution printing production of flexible perovskite devices.

Keywords: Flexible substrate; Perovskite solar cell; Doctor blading; Slot-die coating; Inkjet printing