Lifetime of Organic Photovoltaics: Status and Predictions - DTU Orbit (08/11/2017)

Lifetime of Organic Photovoltaics: Status and Predictions

The results of a meta-analysis conducted on organic photovoltaics (OPV) lifetime data reported in the literature is presented through the compilation of an extensive OPV lifetime database based on a large number of articles, followed by analysis of the large body of data. We fully reveal the progress of reported OPV lifetimes. Furthermore, a generic lifetime marker has been defi ned, which helps with gauging and comparing the performance of different architectures and materials from the perspective of device stability. Based on the analysis, conclusions are drawn on the bottlenecks for stability of device confi gurations and packaging techniques, as well as the current level of OPV lifetimes reported under different aging conditions. The work is summarized by discussing the development of a tool for OPV lifetime prediction and the development of more stable technologies. An online platform is introduced that will aid the process of generating statistical data on OPV lifetimes and further refi nement of the lifetime prediction tool.

General information

State: Published
Organisations: Department of Energy Conversion and Storage, Functional organic materials

Authors: Gevorgyan, S. (Intern), Madsen, M. V. (Intern), Roth, B. (Intern), Corazza, M. (Intern), Hösel, M. (Intern), Søndergaard, R. R. (Intern), Jørgensen, M. (Intern), Krebs, F. C. (Intern)

Number of pages: 17
Publication date: 2016
Main Research Area: Technical/natural sciences

Publication information

Journal: Advanced Energy Materials
Volume: 6
Issue number: 2
Article number: 1501208
ISSN (Print): 1614-6832
Ratings:

BFI (2017): BFI-level 1

Web of Science (2017): Indexed Yes

BFI (2016): BFI-level 1

Scopus rating (2016): CiteScore 12.96 SJR 6.124 SNIP 2.045

Web of Science (2016): Indexed yes

BFI (2015): BFI-level 1

Scopus rating (2015): SJR 6.254 SNIP 2.531 CiteScore 14.2

Web of Science (2015): Indexed yes

BFI (2014): BFI-level 1

Scopus rating (2014): SJR 6.706 SNIP 2.975 CiteScore 15.27

Web of Science (2014): Indexed yes

BFI (2013): BFI-level 1

Scopus rating (2013): SJR 5.979 SNIP 2.936 CiteScore 13.24

ISI indexed (2013): ISI indexed yes

Web of Science (2013): Indexed yes

Scopus rating (2012): SJR 5.571 SNIP 2.216 CiteScore 9.64

ISI indexed (2012): ISI indexed no

ISI indexed (2011): ISI indexed no

Web of Science (2011): Indexed yes
Original language: English
DOIs:

10.1002/aenm.201501208
Source: PublicationPreSubmission
Source-ID: 118364810
Publication: Research - peer-review › Journal article – Annual report year: 2015