

Accepted Manuscript

Title: MgCl_2 activation of CdS films: an alternative for CdCl_2

Authors: W.G.C. Kumarage, R.P. Wijesundera, V.A. Seneviratne, C.P. Jayalath, N. Kaur, E. Comini, B.S. Dassanayake



PII: S1010-6030(18)30781-0
 DOI: <https://doi.org/10.1016/j.jphotochem.2018.08.029>
 Reference: JPC 11443

To appear in: *Journal of Photochemistry and Photobiology A: Chemistry*

Received date: 19-6-2018
Revised date: 20-8-2018
Accepted date: 21-8-2018

Please cite this article as: Kumarage WGC, Wijesundera RP, Seneviratne VA, Jayalath CP, Kaur N, Comini E, Dassanayake BS, MgCl₂ activation of CdS films: an alternative for CdCl₂, *Journal of Photochemistry and amp; Photobiology, A: Chemistry* (2018), <https://doi.org/10.1016/j.jphotochem.2018.08.029>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

MgCl₂ activation of CdS films: an alternative for CdCl₂

W.G.C. Kumarage^{1,2}, R.P. Wijesundera³, V.A. Seneviratne^{1,2},

C.P. Jayalath^{1,2}, N. Kaur⁴, E. Comini⁴ and B.S. Dassanayake^{1,2}

¹Postgraduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka

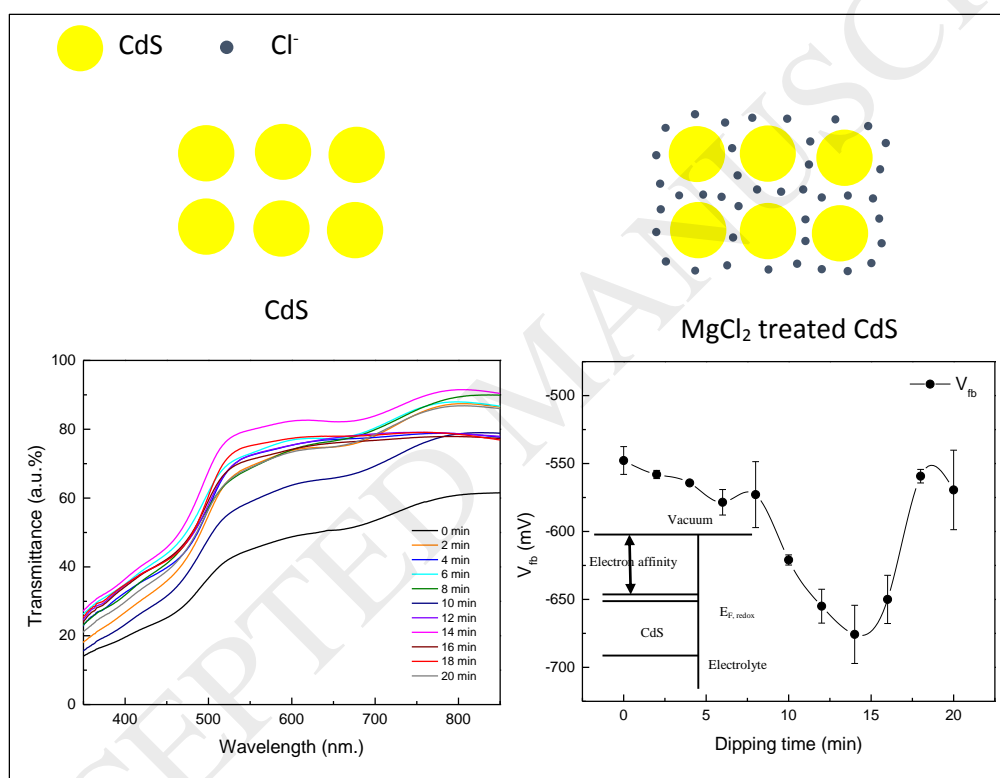
²Department of Physics, Faculty of Science, University of Peradeniya, Peradeniya, Sri Lanka

³Department of Physics, Faculty of Science, University of Kelaniya, Kelaniya, Sri Lanka

⁴Department of Information Engineering, Università Degli Studi Di Brescia, Brescia, Italy

E-mail: buddhikad@pdn.ac.lk

Graphical abstract



Highlights

- Environmental friendly, non-toxic Cl activation using MgCl₂ on CdS thin films is reported.
- MgCl₂ treatment passivates grain boundaries and improves the carrier concentration and effective surface area of CdS.
- Increasing duration of MgCl₂ treatment leads to formation of large and densely packed grain surfaces.
- PEC cell parameters; V_{OC} and I_{SC} of MgCl₂ treated films were higher than untreated CdS films.

Download English Version:

<https://daneshyari.com/en/article/9951587>

Download Persian Version:

<https://daneshyari.com/article/9951587>

[Daneshyari.com](https://daneshyari.com)