

Accepted Manuscript

Full Length Article

Preparation of environmental friendly phenol-formaldehyde wood adhesive modified with kenaf lignin

M. Hazwan Hussin, Hau Han Zhang, Nurul Azila Aziz, Noraini Abd Samad, Abbas Hassan Faris, Mohamad Nasir Mohamad Ibrahim, Anwar Iqbal, Ahmad Faiz Abdul Latip, M.K. Mohamad Haafiz

PII: S2314-8535(17)30132-4

DOI: <http://dx.doi.org/10.1016/j.bjbas.2017.06.004>

Reference: BJBAS 215

To appear in: *Beni-Suef University Journal of Basic and Applied Sciences*

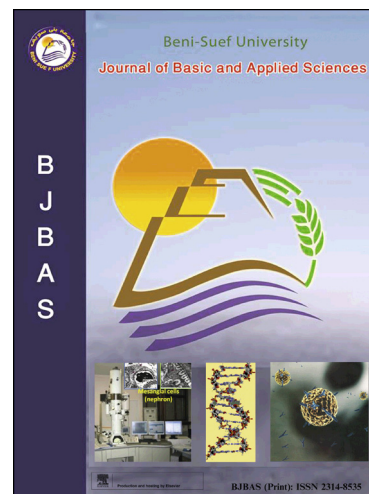
Received Date: 24 March 2017

Revised Date: 3 May 2017

Accepted Date: 23 June 2017

Please cite this article as: M.H. Hussin, H. Han Zhang, N.A. Aziz, N.A. Samad, A.H. Faris, M.N. Mohamad Ibrahim, A. Iqbal, A.F.A. Latip, M.K. Mohamad Haafiz, Preparation of environmental friendly phenol-formaldehyde wood adhesive modified with kenaf lignin, *Beni-Suef University Journal of Basic and Applied Sciences* (2017), doi: <http://dx.doi.org/10.1016/j.bjbas.2017.06.004>

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.



Preparation of environmental friendly phenol-formaldehyde wood adhesive modified with kenaf lignin

M. Hazwan Hussin^{a*}, Hau Han Zhang^a, Nurul Azila Aziz^a, Noraini Abd Samad^a, Abbas Hassan Faris^b, Mohamad Nasir Mohamad Ibrahim^a, Anwar Iqbal^a, Ahmad Faiz Abdul Latip^a, M.K. Mohamad Haafiz^c

^aLignocellulosic and Materials Technology Research Group, School of Chemical Sciences, Universiti Sains Malaysia, 11800, Minden, Penang, Malaysia.

^bDirectorate of Materials Research, Ministry of Higher Education and Scientific Research, Baghdad, Iraq.

^cSchool of Industrial Technology, Universiti Sains Malaysia, 11800, Minden, Penang, Malaysia.

*Corresponding author. Tel: +60 4 653 6378 Fax: +60 4 657 4854

Email address: mhh@usm.my; mhh.usm@gmail.com

Download English Version:

<https://daneshyari.com/en/article/7211464>

Download Persian Version:

<https://daneshyari.com/article/7211464>

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