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HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW
KARYA ILMIAH : JURNAL ILMIAH

Judul Karya Ilmiah (artikel) : A Biodegradable Film from Jackfruit (*Artocarpus heterophyllus*) and Durian (*Durio zibethinus*) Seed Flours

Jumlah Penulis : 3 orang (Diah S. Retnowati, **Ratnawati Ratnawati**, Aprilina Purbasari)

Status Pengusul : penulis kedua

Identitas Jurnal Ilmiah : a. Nama Jurnal : Scientific Study & Research Chemistry & Chemical Engineering, Biotechnology, Food Industry

b. Nomor ISSN : 1582-540X

c. Vol., No., Bln., Thn. : Vol. 16, No. 4, 2015

d. Penerbit : ALMA MATER Publishing House, University of Bacău, Romania

e. DOI artikel (jika ada) :

f. Alamat web Jurnal : <http://pubs.ub.ro/?pg=revues&rev=csc6&num=201504&vol=4&aid=4345>

g. Terindeks di : Scopus (Q3) dengan SJR 2014 = 0,151; 2015 = 0,204

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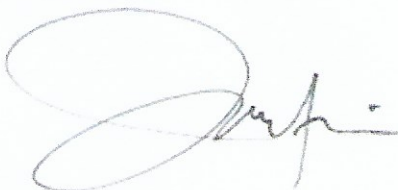
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Hasil Penilaian *Peer Review* :

Komponen yang dinilai	Nilai Reviewer		Nilai rata-rata
	Reviewer 1	Reviewer 2	
a. Kelengkapan unsur isi artikel (10%)	4,0	4,0	4,0
b. Ruang lingkup dan kedalaman pembahasan (30%)	11,0	11,5	11,25
c. Kecukupan dan kemutakhiran data /informasi dan metodologi (30%)	10,0	11,5	10,75
d. Kelengkapan unsur dan kualitas terbitan/jurnal (30%)	11,0	11,5	11,25
Total (100%)	36,0	38,5	37,25
Nilai Pengusul (40% / 2 × total nilai)	7,2	7,7	7,45

Semarang, Januari 2020

Reviewer 1,



Prof. Dr. Mohamad Djaeni, ST, M.Eng

NIP 197102071995121001

Unit Kerja : Fak. Teknik Universitas Diponegoro

Bidang Ilmu : Teknik Kimia

Reviewer 2



Prof. Dr. Ir. Bakti Jos, DEA

NIP 196005011986031003

Unit Kerja : Fak. Teknik Universitas Diponegoro

Bidang Ilmu : Teknik Kimia

Jurnal dicontinue di Scopus tertanggal Desember 2019 (Vol.21 issue 2)

Nilai maximum 30: $3/4 \times 7.45 = 5.6$

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Prof. Han Ay Lie

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g. Terindeks di : Scopus (Q3) dengan SJR 2014 = 0,151; 2015 = 0,204

Kategori Publikasi Jurnal Ilmiah (beri ☒ pada kategori yang tepat)

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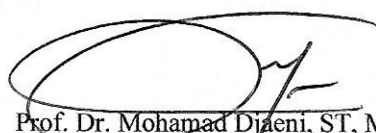
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	International/International Bereputasi*	Nasional Terakreditasi	Nasional/Nasional terindeks di DOAJ, CABI, COPENICUS*	
a. Kelengkapan unsur isi artikel (10%)	4,0			4,0
b. Ruang lingkup dan kedalaman pembahasan (30%)	12,0			11,0
c. Kecukupan dan kemutakhiran data / informasi dan metodologi (30%)	12,0			10,0
d. Kelengkapan unsur dan kualitas terbitan/jurnal (30%)	12,0			11,0
Total (100%)	40,0			36,0

Nilai Pengusul = $40\% / 2 \times 36,0 = 7,2$

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- Ruang lingkup dan kedalaman pembahasan (30%).** Artikel ini berisi tentang pembuatan biofilm dari tepung biji durian dan nangka. Lingkup pembahasan terdiri dari eksperimen pembuatan biofilm (formulasi tepung nangka dan durian dengan tambahan gliserol) dilanjutkan analisis kekuatan fisik dan morfologi. Hasil menunjukkan bahwa biofilm dari tepung biji nangka dan durian lebih kuat dibandingkan dengan biofilm dari tepung beras. Data yang ditampilkan juga cukup banyak, serta ditunjang beberapa referensi dalam pembahasannya.
- Kecukupan dan kemutakhiran data/informasi dan metodologi (30%).** Kebaruan informasi cukup baik, dimana ada 38 referensi yang digunakan dalam artikel tersebut (24 di antaranya adalah baru dalam 10 tahun terakhir). Metode sangat sederhana dan dideskripsikan cukup jelas. Beberapa data juga dilengkapi dengan analisis instrumen terutama SEM untuk menjelaskan morfologi lapisan film yang dihasilkan.
- Kelengkapan unsur dan kualitas terbitan/jurnal (30%).** Jurnal ini diterbitkan oleh ALMA MATER Publishing House, Rumania dan masuk dalam kategori jurnal terindeks Scopus dengan SJR (2015) = 0,204. Pada saat ini nilai SJR jurnal tersebut menurun (SJR 2018 = 0,15). Secara umum kualitas terbitan masih cukup baik.

Semarang, Januari 2020
 Reviewer 1,



Prof. Dr. Mohamad Djani, ST, M.Eng

NIP 197102071995121001

Unit Kerja : Fak. Teknik Universitas Diponegoro

Bidang Ilmu : Teknik Kimia

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g. Terindeks di : Scopus (Q3) dengan SJR 2014 = 0,151; 2015 = 0,204

Kategori Publikasi Jurnal Ilmiah (beri $\checkmark$ pada kategori yang tepat)

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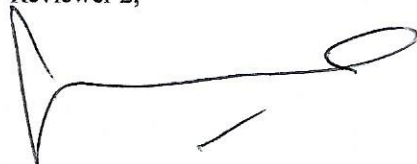
Komponen yang dinilai	Nilai Maksimal Jurnal Ilmiah			Nilai Akhir yang Diperoleh
	International/International Bereputasi*	Nasional Terakreditasi	Nasional/Nasional terindeks di DOAJ, CABI, COPERNICUS*	
a. Kelengkapan unsur isi artikel (10%)	4,0			4,0
b. Ruang lingkup dan kedalaman pembahasan (30%)	12,0			11,5
c. Kecukupan dan kemutakhiran data / informasi dan metodologi (30%)	12,0			11,5
d. Kelengkapan unsur dan kualitas terbitan/jurnal (30%)	12,0			11,5
Total (100%)	40,0			38,5

Nilai Pengusul = $40\% / 2 \times 38,5 = 7,7$

Catatan Penilaian Artikel oleh Reviewer:

- 1- Kelengkapan unsur isi artikel (10%):** Sesuai dengan "Instruction for Author", yaitu: Abstrack dan keywords, Introduction, Materials and Method, Results and Discussion, Conclusions, Acknowledgement, References. (nilai 4,0)
- 2- Ruang lingkup dan kedalaman pembahasan (30%):** Sesuai dengan ruang lingkup jurnal (Chemistry & Chemical Engineering, Biochemistry, Food Industry) serta sesuai dengan kompetensi penulis. Pembahasan cukup baik dan dibandingkan dengan hasil penelitian lain. (nilai 11,5)
- 3- Kecukupan dan kemutakhiran data /informasi dan metodologi (30%):** Kemutakhiran referensi 10 tahun terakhir dari jurnal dan buku sebanyak 25 dari 38 daftar pustaka, atau 65,8%. Metode penelitian singkat dan cukup bagus dan jelas. (nilai 11,5)
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Semarang, Desember 2019
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Prof. Dr. Ir. Bakti Jos, DEA
 NIP 196005011986031003
 Unit Kerja : Fak. Teknik Universitas Diponegoro
 Bidang Ilmu : Teknik Kimia

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Scientific Study and Research: Chemistry and Chemical Engineering, Biotechnology, Food Industry **Open Access**
 Volume 16, Issue 4, 2015, Pages 395-404

A biodegradable film from jackfruit (*Artocarpus heterophyllus*) and durian (*Durio zibethinus*) seed flours (Article)

Retnowati, D.S., Ratnawati, R., Purbasari, A.

Diponegoro University, Faculty of Engineering, Department of Chemical Engineering, Jl. Prof. H. Soedarto, SH, Semarang, 50275, Indonesia

Abstract

View references (38)

The jackfruit (*Artocarpus heterophyllus*) and durian (*Durio zibethinus*) seeds contain high portion of amylose, which makes them potential materials for biodegradable films. The objective of this study is to develop biodegradable films composed of jackfruit and durian seed flours and glycerol as plasticizer. The films were prepared by dispersing flours in water, adding glycerol, heating the mixture, casting the solution on an acrylic plate, and drying the films at 50 °C for 20 hours. Glycerol contributes to the flexibility of the film, while reduces the strength of the film. The Young's modulus, tensile strength, and elongation at break increase as the ratio of jackfruit to durian seed flour increases. The films made from jackfruit and durian seed flours in this work are stronger than the film made from rice flour obtained by other researcher. Therefore, jackfruit and durian seed flours are potential raw material for biodegradable films. © 2015 ALMA MATER Publishing House, "VASILE ALECSANDRI" University of Bacău. All rights reserved.

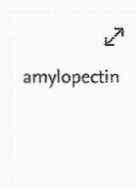
SciVal Topic Prominence

Topic: Edible Film | Active Food Packaging | Elongation At Break

Prominence percentile: 99.928

Chemistry database information

Substances



Author keywords

Biodegradable films Durian seeds Jackfruit seeds Mechanical properties Morphology

Indexed keywords

Engineering controlled terms:

Biodegradable polymers Glycerol Mechanical properties Morphology Tensile strength

Engineering uncontrolled terms:

Acrylic plates Artocarpus heterophyllus Biodegradable film Durian seeds Elongation at break
 Potential materials Rice flour Seed flour

Engineering main heading:

Films

Funding details

Funding sponsor

Funding number

Acronym

Metrics

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 0.42 Field-Weighted
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Characterisation of polysaccharide composite incorporated with turmeric oil for application on fresh-cut apples
 Sharif, Z.I.M., Jai, J., Subuki, I.
 (2019) *Journal of Physics: Conference Series*

Effect of jackfruit rind-based cellulose (JR-CEL) on physical and mechanical properties of the biodegradable glycerol/gelatine matrix film

Razak, S.F.A., Rahman, W.A., Majid, N.A.
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The effects of glycerol addition to the mechanical properties of thermoplastic films based on jackfruit seed starch | Kesan penambahan gliserol pada sifat mekanik filem termoplastik berdasarkan kanji biji nangka

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Comparative study on the properties of flour and starch films of plantain bananas (*Musa paradisiaca*)

Pelissari, F.M., Andrade-Mahecha, M.M., Sobral, P.J.D.A.
 (2013) *Food Hydrocolloids*

Edible films based on chia flour: Development and characterization

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The authors would like to acknowledge the Faculty of Engineering, Diponegoro University, Indonesia for the financial support for this research.			Authors > Keywords >

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A BIODEGRADABLE FILM FROM JACKFRUIT (*ARTOCARPUS HETEROPHYLLUS*) AND DURIAN (*DURIO ZIBETHINUS*) SEED FLOURS

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Abstract: The jackfruit (*Artocarpus heterophyllus*) and durian (*Durio zibethinus*) seeds contain high portion of amylose, which makes them potential materials for biodegradable films. The objective of this study is to develop biodegradable films composed of jackfruit and durian seed flours and glycerol as plasticizer. The films were prepared by dispersing flours in water, adding glycerol, heating the mixture, casting the solution on an acrylic plate, and drying the films at 50 °C for 20 hours. Glycerol contributes to the flexibility of the film, while reduces the strength of the film. The Young's modulus, tensile strength, and elongation at break increase as the ratio of jackfruit to durian seed flour increases. The films made from jackfruit and durian seed flours in this work are stronger than the film made from rice flour obtained by other researcher. Therefore, jackfruit and durian seed flours are potential raw material for biodegradable films.

Keywords: jackfruit seeds, durian seeds, mechanical properties, morphology, biodegradable films

A GREEN APPROACH FOR THE SELECTIVE REDUCTION OF AROMATIC CARBONYL COMPOUNDS USING RANEY Ni-Al ALLOY

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Abstract: Given the significant environmental risk associated with the use of organic solvents and catalysts in the classic reduction reaction catalysts, we are interested in adapting the reaction medium and in developing an eco-friendly methodology for the synthesis of corresponding alcohols in reasonably yields. In this study, the reduction of some aromatic carbonyl compounds with Ni-Al alloy in aqueous alkaline medium was carried out in two versions: with 20 wt% aq NaOH and with 1 wt% aq NaOH without organic solvent. The structures of the reaction products are rigorously proven by gas chromatography-mass spectrometry (GC-MS). There was observed an increase of the reduction reaction rate when we used 1 wt% aq NaOH without addition of organic solvent. For a good part of the studied substrates high conversion and selectivity were achieved by employing mild reaction conditions, minimal environmental pollution and simple work up procedure, foreshadowing yields above 90 % and representing candidates for convenient preparative applications.

Keywords: acetophenones, aqueous reduction, GC-MS, substituted benzaldehydes

NEW ADDUCTS BETWEEN N-[FERROCENYLMETHYL] DIMETHYLAMMONIUM AND HALOMETALLATES: SYNTHESIS AND INFRARED STUDY

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Abstract: Eight new adducts between N-[ferrocenylmethyl]dimethylammonium and halometallates were obtained in ethanolic media. From an infrared study, the suggested structures are monomeric or dimeric for tin compounds which contain $[\text{SnCl}_4(\text{OH})_2]^{2-}$, $[(\text{SnCl}_5)]^-$ and $[(\text{SnI}_5)]^-$, $[\text{SnCl}_3(\text{OH})_2]^-$ and $[(\text{SnI}_6)]^{2-}$ complex anions, interacting through hydrogen bonds with the cation, the environments around tin (IV) centers being trigonal bipyramidal or octahedral. For hydrated Cu(II) and Cd(II) adducts, we proposed dimeric structures with hydrogen bridges between cation and water H_2O , the environments around Cu(II) being trigonal and trigonal bipyramidal, respective octahedral around Cd(II). One of the compounds may contain the hydrogen bis [N-ferrocenylmethyldimethylamine] captive cation with a hydrogen bond (N-H...N), the cation interacting electrostatically with $[\text{ZnBr}_4]^{2-}$. The crucial role of the cation in all the compounds is outlined. The molecules of cyclopentadiene obtained *in situ* are lattice.

Keywords: polyhalostannic - chlorocuprates - chlorocadmate and bromozincate species, trigonal bipyramidal, tetrahedral, trigonal or octahedral environments

**ISOLATION AND CHARACTERIZATION OF A MOLYBDENUM-
REDUCING, PHENOL- AND CATECHOL-DEGRADING
PSEUDOMONAS PUTIDA STRAIN AMR-12 IN SOILS
FROM EGYPT**

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Abstract: Sites contaminated with both heavy metals and organic xenobiotic pollutants warrants the effective use of either a multitude of bacterial degraders or bacteria having the capacity to detoxify numerous toxicants simultaneously. A molybdenum-reducing bacterium with the capacity to degrade phenolics is reported. Molybdenum (sodium molybdate) reduction was optimum between pH 6.0 and 7.0 and between 20 and 30 °C. The most suitable electron donor was glucose. A narrow range of phosphate concentrations between 5.0 and 7.5 mM was required for optimal reduction, while molybdate between 20 and 30 mM were needed for optimal reduction. The scanning absorption spectrum of the molybdenum blue produced indicated that Mo-blue is a reduced phosphomolybdate. Molybdenum reduction was inhibited by the heavy metals mercury, silver and chromium. Biochemical analysis identified the bacterium as *Pseudomonas putida* strain Amr-12. Phenol and phenolics cannot support molybdenum reduction. However, the bacterium was able to grow on the phenolic compounds (phenol and catechol) with observable lag periods. Maximum growth on phenol and catechol occurred around the concentrations of 600 mg·L⁻¹. The ability of this bacterium to detoxify molybdenum and grown on toxic phenolic makes this bacterium an important tool for bioremediation.

Keywords: catechol, molybdenum blue, molybdenum-reducing bacteria, phenol, *Pseudomonas putida*