LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*
KARYA ILMIAH : PROSIDING

Judul Makalah (Artikel)	:	Blend membrane of succinic acid-crosslinked chitosan grafted with heparin/PVA-PEG (polyvinyl alcoholpolyethylene glycol) and its characterization
Jumlah Penulis	:	3 Orang Penulis ke : 3
Nama Penulis	:	VDA sangkota, R. A. Lusiana, **Yayuk Astuti**
Identitas Makalah		
a. Nama Prosiding	:	IOP conference series: materials science and engineering
b. Nomor ISSN	:	1757-899X
c. Volume, No, Bulan, Tahun	:	349, -, Mei, 2018
d. Penerbit	:	IOP Publishing
e. DOI artikel (jika ada)	:	doi:10.1088/1757-899X/349/1/012065
f. Alamat web	:	https://iopscience.iop.org/article/10.1088/1757-899X/349/1/012065
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	Internasional Terindeks Scopus	Internasional	Nasional	
a. Kelengkapan unsur isi buku (10%)	3			2,5
b. Ruang lingkup dan kedalaman pembahasan (30%)	9			8,5
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	9			8
d. Kelengkapan unsur dan kualitas penerbit (30%)	9			9
Total = (100%)	**30**			**28**
Kontribusi Pengusul (Penulis Anggota)				**(40%x28)/2= 5,6**

Komentar Peer Review:

a. Kelengkapan dan kesesuaian unsur: Lengkap dan sesuai dengan yang dipersyaratkan jurnal internasional.
   Artikel yang dimuat, dibahas dan disusun secara lengkap
b. Ruang lingkup dan kedalaman pembahasan: Ruang lingkup penelitian ini tentang pembuatan membran turunan kitosan dan karakterisasinya. Data yang disajikan dibahas dengan detil dan lengkap, disertai referensi pendukung
c. Kecukupan dan kemutahiran data/informasi dan metodologi: Kualitas dan kuantitas pustaka baik, sebagian besar tahun terbit kurang dari 10 th. Metodologi disajikan detil sehingga bisa diulang peneliti lain.
d. Kelengkapan unsur dan kualitas penerbit: Kualitas terbitan baik dan masuk dalam Q3, hanya ada beberapa gambar yang kurang jelas.
e. Indikasi Plagiasi: tidak ada
f. Kesesuaian bidang ilmu: sesuai

Semarang,
Reviewer 1

Drs. Gunawan, M.Si., Ph.D
NIP. 196408251991031001

Unit kerja :
Departemen Kimia FSM Undip
Jabatan Fungsional:
Lektor Kepala

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Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Prosiding = 30			Nilai Akhir Yang Diperoleh
	Internasional Terindeks Scopus	Internasional	Nasional	
a. Kelengkapan unsur isi buku (10%)	3			2
b. Ruang lingkup dan kedalaman pembahasan (30%)	9			8
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	9			8
d. Kelengkapan unsur dan kualitas penerbit (30%)	9			8
Total = (100%)	**30**			**26**
Kontribusi Pengusul (Penulis Pertama)	**40%x30=6 2**			**40%x26=5,2 2**

Komentar Peer Review:

a. Kelengkapan dan kesesuaian unsur: Artikel telah sesuai dengan template, terdiri dari pendahuluan, metode, hasil dan pembahasan, kesimpulan dan referensi
b. Ruang lingkup dan kedalaman pembahasan: Pembahasan yang dilakukan terlalu singkat dan kurang mendetail dalam membahas data yang diperoleh.
c. Kecukupan dan kemutahiran data/informasi dan metodologi: Data yang disajikan cukup memadai, jumlah referensi yang digunakan kurang dan hanya 50% yang merupakan referensi yang terbit pada 5 tahun terakhir Ketika artikel diterbitkan.
d. Kelengkapan unsur dan kualitas penerbit: Penerbit adalah IOP conference, berkualitas baik dan telah terindeks scopus.
e. Indikasi Plagiasi: tidak ada
f. Kesesuaian bidang ilmu: sesuai

Semarang,
Reviewer 2

Dr.M.Cholid Djunaedi, S.Si, M.Si.
NIP. 197007021996031004

Unit kerja :
Departemen Kimia FSM Undip
Jabatan Fungsional:
Lektor Kepala

LEMBAR
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- [✓] *Prosiding* Internasional Terindeks Scopus
- [ ] *Prosiding* Internasional
- [ ] *Prosiding* Nasional

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Reviewer		Nilai Rata-rata
	Reviewer I	Reviewer II	
a. Kelengkapan unsur isi buku (10%)	2,5	2	2,25
b. Ruang lingkup dan kedalaman pembahasan (30%)	8,5	8	8,25
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	8	8	8
d. Kelengkapan unsur dan kualitas penerbit (30%)	9	8	8,5
Total = (100%)	**28**	**26**	**27**
Kontribusi Pengusul (Penulis Anggota)			**40%x27=5,4 / 2**

Semarang, April 2020

Reviewer 2

Dr. M. Cholid Djunaedi,. S.Si., M.Si.
NIP. 197007021996031004

Unit kerja :
Departemen Kimia FSM Undip

Reviewer 1

Drs. Gunawan, M.Si., Ph.D
NIP. 196408251991031001

Unit kerja :
Departemen Kimia FSM Undip

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Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	**Nilai Maksimal Prosiding** **Internasional Terindeks Scopus** [30]	**Nilai Akhir Yang Diperoleh**
a. Kelengkapan unsur isi buku (10%)	3	2,25
b. Ruang lingkup dan kedalaman pembahasan (30%)	9	8,25
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	9	8
d. Kelengkapan unsur dan kualitas penerbit (30%)	9	8,5
Total = (100%)	**30**	**27**
Kontribusi Pengusul (Penulis Anggota)		**40%x27=5,4 2**

Semarang, April 2020

Reviewer 2

Dr. M. Cholid Djunaedi,. S.Si., M.Si.
NIP. 197007021996031004

Unit kerja :
Departemen Kimia FSM Undip

Reviewer 1

Drs. Gunawan, M.Si., Ph.D
NIP. 196408251991031001

Unit kerja :
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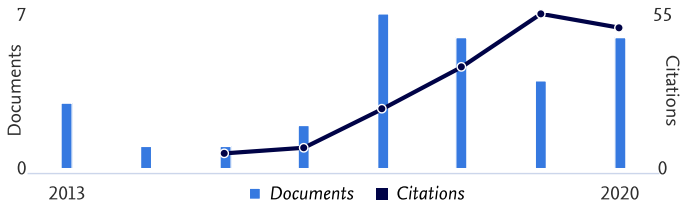

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Document details

IOP Conference Series: Materials Science and Engineering
Volume 349, Issue 1, 2 May 2018, Article number 012065
12th Joint Conference on Chemistry, JCC 2017; Crystall Ballroom, Aston Hotel and Convention CentreSemarang; Indonesia; 19 September 2017 through 20 September 2017; Code 136611

Blend membrane of succinic acid-crosslinked chitosan grafted with heparin/PVA-PEG (polyvinyl alcohol-polyethylene glycol) and its characterization (Conference Paper) (Open Access)

Sangkota, V.D.A.[a], Lusiana, R.A.[b], Astuti, Y.[b]

[a]Post Graduate Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Diponegoro, Semarang, 50275, Indonesia
[b]Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Diponegoro, Semarang, 50275, Indonesia

Abstract

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Crosslinking and grafting reactions are required to modify the functional groups on chitosan to increase the number of its active groups. In this study, crosslinking reaction of succinic acid and grafting reaction of heparin on chitosan were conducted to produce a membrane as a candidate of a hemodialysis membrane. The mole ratio between chitosan and succinate acids was varied to obtain the best composition of modified materials. By blending all the material composition with PVA-PEG, the blend was transformed into a membrane. The resulted membrane was then characterized by various test methods such as tests of thickness, weight, water uptake, pH resistance, tensile strength and membrane hydrophilicity. The results showed that the best composition of the membrane reached in the addition of 0.011 gram of succinic acid proved by its highest mechanical strength compared to the other membranes.

SciVal Topic Prominence

Topic: Polyvinyl Alcohols | Microfiltration | Dyeing

Prominence percentile: 13.010

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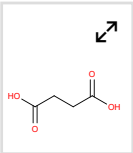

Author keywords

chitosan | cross-linking | grafting | membrane

The 12th Joint Conference on Chemistry

To cite this article: 2018 *IOP Conf. Ser.: Mater. Sci. Eng.* **349** 011001

12th Joint Conference on Chemistry

JOC12

2017

Crystall Ballroom, Aston Hotel and
Convention Centre, Semarang, Indonesia

19-20 September 2017
Semarang, Indonesia

Organized by:

UNNES

IOP Conf. Series: Materials Science and Engineering **349** (2018) 011001 doi:10.1088/1757-899X/349/1/011001

PREFACE

The Joint Conference on Chemistry (JCC) is annual society meeting of the Chemistry department consortium of Universitas Negeri Semarang (UNNES), Universitas Diponegoro (UNDIP), Universitas Sebelas Maret Surakarta (UNS), Universitas Jenderal Soedirman (UNSOED), and Universitas Kristen Satya Wacana (UKSW) in colaboratio with Indonesian Chemical Society or Himpunan Kimiawan Indonesia (HKI). The 12th JCC 2017 meeting was held in Semarang from 19th to 20th September 2017. It was co-organized by Chemistry Department, Faculty of Mathematics and Natural Sciences of UNNES.

The Conference adopts a timely theme Contributions of chemical sciences, engineering, education, and technology in solving global challenges Chemistry is one of the keys to create a sustainable society, and for that purpose we need to reinforce the chemistry science, technology and education and to extend our finding to innovation

Approximately 150 participants have attended the conference. Among the participants, they were 6 plenary speakers, 11 invited speakers, and 115 contributed speakers. Based on the country where the participants came from, they were from 10 (six) countries namely Singapore, Japan, Indonesia, Hong Kong, Malaysia, and Thailand

The speakers of the meeting have submitted their full papers for possible publications in a proceeding of IOP Publishing (Journal of Physics: Conference Series). After peer reviewed by experts in related fields, finally, the scientific boards decide to accept 77 papers.

The JCC acknowledges the enthusiasms of the participants, all members of the committees, the international advisory board, Chemistry Department Faculty of Mathematics and Natural Sciences of UNNES, and all those who have contributed to the success of the 12th JCC 2017.

The next JCC event will be held in 2018. We are looking forward to welcoming you to the 13th JCC 2018!

Cepi Kurniawan, PhD

Chairman of the 12th Joint Conference on Chemistry 2017

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Accepted papers received: 09 April 2018
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W T Eden, D Alighiri, E Cahyono, K I Supardi and N Wijayati

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Transformation of Indonesian Natural Zeolite into Analcime Phase under Hydrothermal Condition

W W Lestari, D N Hasanah, R Putra, R R Mukti and K D Nugrahaningtyas

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Comparison of Conventional and Microwave-assisted Synthesis of Benzimidazole Derivative from Citronellal in Kaffir lime oil (*Citrus hystrix* DC.)

W Warsito, A.S Noorhamdani, Suratmo, R Dwi Sapri, D Alkaroma and A Z Azhar

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Analysis Study of Stevioside and Rebaudioside A from *Stevia rebaudiana* Bertoni by Normal Phase SPE and RP-HPLC

Y Martono, A Rohman, S Riyanto and S Martono

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Analysis Study of Stevioside and Rebaudioside A from *Stevia rebaudiana* Bertoni by Normal Phase SPE and RP-HPLC

Y Martono[1], A Rohman[2], S Riyanto[2] and S Martono[2]

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IOP Conference Series: Materials Science and Engineering, Volume 349, The 12th Joint Conference on Chemistry 19–20 September 2017, Indonesia

yohanes.martono@staff.uksw.edu

[1] Chemistry Department, Faculty of Science and Mathematics, Universitas Kristen Satya Wacana Salatiga, Jl Diponegoro 52-60 Salatiga 50711, Central Java, Indonesia

[2] Faculty of Pharmacy, Universitas Gadjah Mada, Yogyakarta 55221, Indonesia

Y Martono *et al* 2018 *IOP Conf. Ser.: Mater. Sci. Eng.* **349** 012071

https://doi.org/10.1088/1757-899X/349/1/012071

Abstract

Solid Phase Extraction (SPE) method using silica as sorbent for stevioside and rebaudiosida A analysis in *Stevia rebaudiana* Bertoni leaf have not been performed. The aim of this study is to develop SPE method using silica as sorbent for Reverse Phase-High Performance Liquid Chromatography (RP-HPLC) analysis of stevioside and rebaudiosida A in *S. rebaudiana* leaf. The results of this study indicate that the optimal conditions for normal phase SPE (silica) are conditioned with 3.0 mL of hexane. The sample loading volume is 0.1 mL. Cartridge is eluted with 1.0 mL acetonitrile: water (80:

20, v/v) to separate both analytes. The cartridge is washed with chloroform and water of 0.3 mL respectively. The developed SPE sample preparation method meets the accuracy and precision test and can be used for the analysis of stevioside and rebaudioside A by RP-HPLC.

PAPER • OPEN ACCESS

Comparison of Conventional and Microwave-assisted Synthesis of Benzimidazole Derivative from Citronellal in Kaffir lime oil (*Citrus hystrix* DC.)

W Warsito[1,2], A.S Noorhamdani[3], Suratmo[1,2], R Dwi Sapri[1,2], D Alkaroma[1] and A Z Azhar[1]

IOP Conference Series: Materials Science and Engineering, Volume 349, The 12th Joint Conference on Chemistry 19–20 September 2017, Indonesia

warsitoub88@yahoo.com

[1] Department of Chemistry, Faculty of Science, Brawijaya University, Jl Veteran Malang, 65145, Indonesia

[2] Essential Oil's Institute, Brawijaya University, Jl Veteran Malang 65145, Indonesia

[3] Department of Medical Faculty, Brawijaya University, Jl Veteran Malang 65145, Indonesia

W Warsito *et al* 2018 *IOP Conf. Ser.: Mater. Sci. Eng.* **349** 012069

https://doi.org/10.1088/1757-899X/349/1/012069

Abstract

Simple method has been used for the synthesis of benzimidazole derivative from citronellal in kaffir lime oil under microwave irradiation. These compounds were synthesized also by conventional heating for comparison. In addtion, microwave-assited synthesis was also compared between using to dichloromethane and methanol solvents with variation of reaction time for 30 to 70 minutes and 4 to 12 h for conventional heating. The 2-citronellyl benzimidazole compound synthesized were characterised by FT-IR, GC-MS, ^{1}H and ^{13}C NMR spectroscopy. Comparison between conventional and microwave-

assisted synthesis was done by comparing between correlation of reaction time and percentage yield. The time optimum of microwave-assisted and conventional synthesis using dichloromethane solvent respectively at 60 minutes (yield 19.23%) and 8 hours (yield 11.54%). In addition, microwave-assited synthesis increasing 157.81 times compared by conventional heating. While using methanol solvent tends to increase linearly however the percentage of yield only 0.77 times of synthesis using dichloromethane solvent.

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Development of assessment instruments to measure critical thinking skills

W Sumarni[1], K I Supardi[1] and N Widiarti[1]

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W Sumarni *et al* 2018 *IOP Conf. Ser.: Mater. Sci. Eng.* **349** 012066

https://doi.org/10.1088/1757-899X/349/1/012066

Abstract

Assessment instruments that is commonly used in the school generally have not been orientated on critical thinking skills. The purpose of this research is to develop assessment instruments to measure critical thinking skills, to test validity, reliability, and practicality. This type of research is Research and Development. There are two stages on the preface step, which are field study and literacy study. On the development steps, there some parts, which are 1) instrument construction, 2) expert validity, 3) limited scale tryout and 4) narrow scale try-out. The developed assessment instrument are analysis essay and problem solving. Instruments were declared valid, reliable and practical.

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Transformation of Indonesian Natural Zeolite into Analcime Phase under Hydrothermal Condition

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IOP Conference Series: Materials Science and Engineering, Volume 349, The 12th Joint Conference on Chemistry 19–20 September 2017, Indonesia

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W W Lestari *et al* 2018 *IOP Conf. Ser.: Mater. Sci. Eng.* **349** 012068

https://doi.org/10.1088/1757-899X/349/1/012068

Abstract

Natural zeolite is abundantly available in Indonesia and well distributed especially in the volcano area like Java, Sumatera, and Sulawesi. So far, natural zeolite from Klaten, Central Java is one of the most interesting zeolites has been widely studied. This research aims to know the effect of seed-assisted synthesis under a hydrothermal condition at 120 °C for 24 hours of Klaten's zeolite toward the structural change and phase transformation of the original structure. According to XRD and XRF

analysis, seed-assisted synthesis through the addition of aluminosilicate mother solution has transformed Klaten's zeolite which contains (mordenite and clinoptilolite) into analcime type with decreasing Si/Al ratio from 4.51 into 1.38. Morphological analysis using SEM showed the shape changes from irregular into spherical looks like takraw ball in the range of 0.3 to 0.7 micrometer. Based on FTIR data, structure of TO_4 site (T = Si or Al) was observed in the range of 300-1300 cm^{-1} and the occupancy of Brønsted acid site as OH stretching band from silanol groups was detected at 3440-3650 cm^{-1}. Nitrogen adsorption-desorption analysis confirmed that transformation Klaten's zeolite into analcime type has decreased the surface area from 55.41 to 22.89 m^2/g and showed inhomogeneous pore distribution which can be classified as micro-mesoporous aluminosilicate materials.

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