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

Judul Publikasi Ilmiah (Artikel)		: Ab initio computational study of -N-C and -O-C bonding formation : functional group modification reaction based chitosan
Jumlah Penulis		: 6 orang
Status Pengusul		: penulis anggota
Identitas Jurnal Ilmiah	a. Nama Jurnal Ilmiah:	: IOP Conference Series: Materials Science and Engineering
	b. Nomor ISBN /ISSN	: ISSN: 17578981
	c. Volume, Nomor, Bulan, Tahun	: Volume 349, Issue 1, 2 May 2018, Article number 012049
	d. Penerbit	: IOP Publishing
	e. DOI artikel (jika ada)	https://doi.org/10.1088/1757-899X/349/1/012049
	f. Alamat web jurnal	http://iopscience.iop.org/issue/1757-899X/349/1
	g. Terindeks di SCOPUS (CiteScore is 0.53), Scimago journal Rank (**H-index 24, SJR 0.192**), Google Scholar, dll	
	e. Jumlah Halaman	: 10 (1-10) halaman

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☐ Jurnal Ilmiah Nasional/Nasional Terindeks di DOAJ, CABI, COPERNICUS**

Hasil Penilaian *Peer Review*

Komponen Yang Dinilai	Nilai Reviewer		Nilai Rata-rata
	Reviewer I	Reviewer II	
a. Kelengkapan unsur isi prosiding (10%)	3	3	3
b. Ruang lingkup dan kedalaman pembahasan (30%)	8	9	8,5
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	8	9	8,5
d. Kelengkapan unsur dan kualitas penerbit (30%)	9	9	9
Total = (100%)	28	30	29
Nilai Pengusul = (40% x total)/5=	2,24	2,4	2,32

Semarang,

Reviewer 2

Prof. Dr. rer. nat Nuryono, M.S.
NIP. 196407141988111001

Unit kerja : Universitas Gadjah Mada Yogyakarta
Jabatan Fungsional : Guru Besar
Bidang ilmu : Kimia

Reviewer 1

Prof. Dr. Moh Djaeni, ST, M.Eng
NIP 197102071995121001

Unit Kerja : Universitas Diponegoro Semarang
Jabatan Fungsional : Guru Besar
Bidang Ilmu : Teknik Kimia

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Hasil Penilaian *Peer Review*

Komponen Yang Dinilai	Nilai Maksimal Jurnal Ilmiah			Nilai Akhir yang diperoleh
	Internasional Bereputasi Berimpact factor (Prosiding)	Nasional Terakreditasi	Nasional	
	(30)			
a. Kelengkapan unsur isi prosiding (10%)	3			3
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			9
Total = (100 %)	30			28
Nilai Pengusul = (40% x 28)/5= 2.24				**2.24**

Catatan Penilaian artikel oleh Reviewer :

1. **Kesesuaian dan kelengkapan unsur isi artikel:**
   Artikel sangat lengkap, dimana analisis tentang studi komputasi Ab initio pembentukan ikatan -N-C dan -O-C: reaksi modifikasi gugus fungsional berdasarkan kitosan disajikan dengan terperinci, disitasi dan dibahas. Topik dan materi sesuai dengan jurnal yang bersangkutan. Tata penulisan tersaji dengan sangat baik.
2. **Ruang lingkup dan kedalaman pembahasan:**
   Artikel ini membahas tentang studi komputasi Ab initio pembentukan ikatan -N-C dan -O-C: reaksi modifikasi gugus fungsional berdasarkan kitosan. Berdasrkan studi tersebut diketahui bahwa sintesis N, O-CMC pertama terbentuk -O-CH2COOH, kemudian berlanjut bentuk -NH-CH2COOH. Informasi ini berharga untuk lebih mengoptimalkan kondisi reaksi
   Sintesis CMC. Beberapa rumus bangun dan struktur molekul yang ditampilkan perlu diberi referensi pendukung. Secara umum isi pembahasan cukup baik dan komprehensif, karena beberapa statemen penting ditunjang dengan referensi.
3. **Kecukupan dan kemutakhiran data/informasi dan metodologi:**
   Referensi yang dicitasi dalam artikel ini ada **16** dimana **7** Baru (dalam 10 tahun terakhir). Nilai novelty/kebaruan artikel sangat baik. Analisa dan Metode disajikan dengan tahapan yang jelas, dan mudah diikuti.
4. **Kelengkapan unsur dan kualitas terbitan:**
   Penerbit adalah IOP Publishing dan terindeks Scopus, SJR 0.19, H-index 24. Nilai similaritas artikel berdasarkan Turnitin hanya 4%, sehingga orisinalitas sangat baik.

Semarang, November 2019
Reviewer

Prof. Dr. Moh Djaeni, ST, M.Eng
NIP 197102071995121001
Unit Kerja : Universitas Diponegoro
Jabatan Fungsional : Guru Besar
Bidang Ilmu : Teknik Kimia

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	Internasional Bereputasi Berimpact factor (Prosiding)	Nasional Terakreditasi	Nasional	
	(30)			
a. Kelengkapan unsur isi prosiding (10%)	3			3
b. Ruang lingkup dan kedalaman pembahasan (30%)	9			9
c. Kecukupan dan kemutahiran data/ informasi dan metodologi (30%)	9			9
d. Kelengkapan unsur dan kualitas penerbit (30%)	9			9
Total = (100 %)	30			30

Nilai Pengusul = (40% x 30)/5= 2,4

Catatan Penilaian artikel oleh Reviewer :

a. **Kelengkapan unsur isi Jurnal:**
Proseding diterbitkan dalam IOP Conference Series: Materials Science and Engineering. Artikel yang diterbitkan dalam proseding ini sangat lengkap, yaitu studi komputasi Ab initio pembentukan ikatan -N-C dan -O-C: reaksi modifikasi gugus fungsional berdasarkan kitosan. Tata penulisan cukup baik. Similaritas artikel berdasarkan Turnitin rendah (4%), orisinalitas sangat baik.

b. **Ruang lingkup dan kedalaman pembahasan:**
Ruang lingkup sesuai dengan Artikel ini membahas tentang studi komputasi Ab initio pembentukan ikatan -N-C dan -O-C: reaksi modifikasi gugus fungsional berdasarkan kitosan. Pembahasan diuraikan secara detail berdasarkan konsep/teori sahih dan didukung dengan referensi.

c. **Kecukupan dan kemutakhiran data/informasi dan metodologi:**
Data yang disajikan sangat cukup dan layak untuk dipublikasikan di proseding. Kemutakhiran cukup, referensi yang disitasi sebanyak 16, 10 (62%) terbit dalam 10 tahun terakhir dan 11 dari jurnal. Kebaruan artikel cukup baik. Metode dan prosedur disajikan dengan tahapan yang jelas untuk penelitian dengan kmputasi kimia.

d. **Kelengkapan unsur dan kualitas Penerbit:**
Penerbit adalah IOP Publishing (bereputasi) dan terindeks Scopus, SJR 0.19, H-index 24.

Yogyakarta, November 2019
Reviewer

Prof. Dr. rer. nat Nuryono, M.S.
NIP. 196407141988111001
Bidang ilmu/Unit kerja :
Departemen Kimia pada Fakultas MIPA UGM Yogyakarta

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Volume 349, Issue 1, 2 May 2018, Article number 012049
12th Joint Conference on Chemistry, JCC 2017; Crystall Ballroom, Aston Hotel and Convention CentreSemarang; Indonesia; 19 September 2017 through 20 September 2017; Code 136611

Ab initio computational study of -N-C and -O-C bonding formation : functional group modification reaction based chitosan (Conference Paper)

(Open Access)

Siahaan, P.[a] ✉, Salimah, S.N.M.[a], Sipangkar, M.J.[a], Hudiyanti, D.[a], Djunaidi, M.C.[a], Laksitorini, M.D.[b]

Save all to author list

[a]Department of Chemistry, Diponegoro University, Semarang, Indonesia
[b]Department of Pharmaceutics, Faculty of Pharmacy, Gadjah Mada University, Sekip Utara, Yogjakarta, Indonesia

Abstract

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Chitosan application in pharmaceutics and cosmeceutics industries is limited by its solubility issue. Modification of -NH_2 and -OH fuctional groups of chitosan by adding carboxyl group has been shown to improve its solubility and application. Attempt to synthesize carboxymethyl chitosan (CMC) from monocloroacetic acid (MCAA) has been done prior this report. However no information is available wether -OH (-O-C bonding formation) or -NH_2 (-N-C bonding formation) is the preference for - CH_2COOH to attach. In the current study, the reaction mechanism between chitosan and MCAA reactants into carboxymethyl chitosan (CMC) was examined by computational approach. Dimer from of chitosan used as a molecular model in calculation All the molecular structure involved in the reaction mechanism was optimized by ab initio computational on the theory and basis set HF/6-31G(d,p). The results showed that the - N-C bonding formation via S_N2 than the -O-C bonding formation via S_N2 which have activation energy 469.437 kJ/mol and 533.219 kJ/mol respectively. However, the -O-C bonding formation more spontaneous than the -N-C bonding formation because ΔG the formation of O-CMC-2 reaction is more negative than ΔG of formation N-CMC-2 reaction is -4.353 kJ/mol and -1.095 kJ/mol respectively. The synthesis of N,O-CMC first forms -O-CH_2COOH, then continues to form -NH-CH_2COOH. This information is valuable to further optimize the reaction codition for CMC synthesis. © 2018 Institute of Physics Publishing. All rights reserved.

SciVal Topic Prominence

Topic: Chitosan | Adsorption | Langmuir model

Prominence percentile: 99.317

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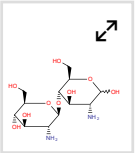

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Optimization of carboxymethyl chitosan synthesis using

Indexed keywords

Engineering controlled terms: Activation energy | Calculations | Chitosan | Computation theory | Computational chemistry | Dimers | Solubility

Engineering uncontrolled terms: Ab initio | Basis sets | Carboxyl groups | Carboxymethyl chitosan | Computational approach | Computational studies | Modification reactions | Reaction mechanism

Engineering main heading: Chemical bonds

Funding details

Funding text

Thanks to Prof. Teruna J. Siahaan, Ph.D. (Pharmacy Department, University of Kansas, US), for the valuable direction and discussion of encapsulation and drug delivery systems. Thanks to the Directorate General of Higher Education. Last but not least Faculty of Science and Mathematics, which has funded this research through the Research Funding Scheme 2016.

ISSN: 17578981
Source Type: Conference Proceeding
Original language: English
DOI: 10.1088/1757-899X/349/1/012049
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1 Abou-Zied, N.Y., Waly, A.I., Kandile, N.G., Rushdy, A.A., El-Sheikh, M.A., Ibrahim, H.M.
(2013) *J. Mater. Sci. Eng. with Adv. Technol.*, 7, pp. 93-123. Cited 8 times.

2 Mohanasrinivasan, V., Mishra, M., Paliwal, J.S., Singh, S.K., Selvarajan, E., Suganti, V., Subathra, D.
(2013) *Biotech*, pp. 1-9.

3 Muzzarelli, R.A.A., Muzzarelli, C.
Chitosan chemistry: Relevance to the biomedical sciences
(2005) *Advances in Polymer Science*, 186, pp. 151-209. Cited 437 times.
doi: 10.1007/b136820
View at Publisher

4 Upadhyaya, L., Singh, J., Agarwal, V., Tewari, R.P.
The implications of recent advances in carboxymethyl chitosan based targeted drug delivery and tissue engineering applications
(2014) *Journal of Controlled Release*, 186, pp. 54-87. Cited 123 times.
www.elsevier.com/locate/jconrel
doi: 10.1016/j.jconrel.2014.04.043
View at Publisher

response surface methodology and desirability function
Bukzem, A.L. , Signini, R. , dos Santos, D.M.
(2016) International Journal of Biological Macromolecules

Development of andrographolide-carboxymethyl chitosan nanoparticles: Characterization, in vitro release and in vivo antimalarial activity study | Andrografolid karboksimetil kitosan nanopartiküllerinin geliştirilmesi: Karakterizasyon, in vitro salım ve in vivo antimalaryal aktivite çalışması
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(2018) Turkish Journal of Pharmaceutical Sciences

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5 Mourya, V.K., Inamdar, N.N., Tiwari, A.
Carboxymethyl chitosan and its applications

(2010) *Advanced Materials Letters*, 1 (1), pp. 11-33. Cited 259 times.
http://amlett.org/uploads/20812.pdf
doi: 10.5185/amlett.2010.3108

View at Publisher

6 Siahaan, P., Mentari, N.C., Wiedyanto, U.O., Hudiyanti, D., Hildayani, S.Z., Laksitorini, M.D.
The optimum conditions of carboxymethyl chitosan synthesis on drug delivery application and its release of kinetics study (Open Access)

(2017) *Indonesian Journal of Chemistry*, 17 (2), pp. 291-300. Cited 6 times.
http://pdm-mipa.ugm.ac.id/ojs/index.php/ijc/article/download/1272/1291
doi: 10.22146/ijc.24252

View at Publisher

7 Anslyn, E.V., Dougherty, D.A.
(2006) *Modern Physical Organic Chemistry*. Cited 1792 times.
(United States of America: Wilsted amp; Taylor Publishing Services)

8 Siahaan, P., Lalita, M.N.T., Cahyono, B., Laksitorini, M.D., Hildayani, S.Z.
Ab initio computational study of reaction mechanism of peptide bond formation on HF/6-31G(d,p) level (Open Access)

(2017) *IOP Conference Series: Materials Science and Engineering*, 172 (1), art. no. 012040. Cited 2 times.
http://www.iop.org/EJ/journal/mse
doi: 10.1088/1757-899X/172/1/012040

View at Publisher

9 Nhlabatsi, Z.P., Bhasi, P., Sitha, S.
(2016) *Physical Chemistry Chemical Physics*

10 Foresman, J.B., Frisch, A.
(1996) *Exploring Chemistry with Electronic Structure Methods*, 2, pp. 3-297.
(Pittsburgh)

11 Cramer, C.J.
(2004) *Essentials of Computational Chemistry Theories and Models*. Cited 2751 times.
(England: JohnWileyamp;Sons)

12 Amorim, M.L., Max, G., Ferreira, D., Soares, L.D.S.
(2016) *Food Biophysics*, pp. 1-12.

13 Jones, P.G., Kirby, A.J.
Simple Correlation between Bond Length and Reactivity. Combined Use of Crystallographic and Kinetic Data To Explore a Reaction Coordinate

(1984) *Journal of the American Chemical Society*, 106 (21), pp. 6207-6212. Cited 120 times.
doi: 10.1021/ja00333a015

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14 Vilhelmsen, M.H., Hashmi, A.S.K.
Reaction mechanism for the dual gold-catalyzed synthesis of dibenzopentalene: A DFT study

(2014) *Chemistry - A European Journal*, 20 (7), pp. 1901-1908. Cited 65 times.
doi: 10.1002/chem.201303636

View at Publisher

15 Grabowski, Sł.J.
Tetrel bond-σ-hole bond as a preliminary stage of the S_N2 reaction

(2014) *Physical Chemistry Chemical Physics*, 16 (5), pp. 1824-1834. Cited 263 times.
doi: 10.1039/c3cp53369g

View at Publisher

16 Fessenden, R.J., Fessenden, J.S.
(1997) *Kimia Organik*. Cited 4 times.
(Jakarta: Erlangga)

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IOP Conference Series: Materials Science and Engineering

Country	United Kingdom - SIR Ranking of United Kingdom
Subject Area and Category	Engineering Engineering (miscellaneous) Materials Science Materials Science (miscellaneous)
Publisher	
Publication type	Conferences and Proceedings
ISSN	17578981, 1757899X
Coverage	2009-ongoing
Scope	The open access IOP Conference Series provides a fast, versatile and cost-effective proceedings publication service for your conference. Key publishing subject areas include: physics, materials science, environmental science, bioscience, engineering, computational science and mathematics.

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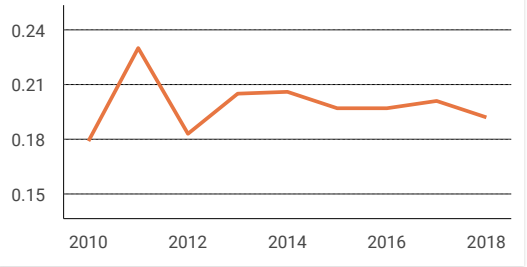

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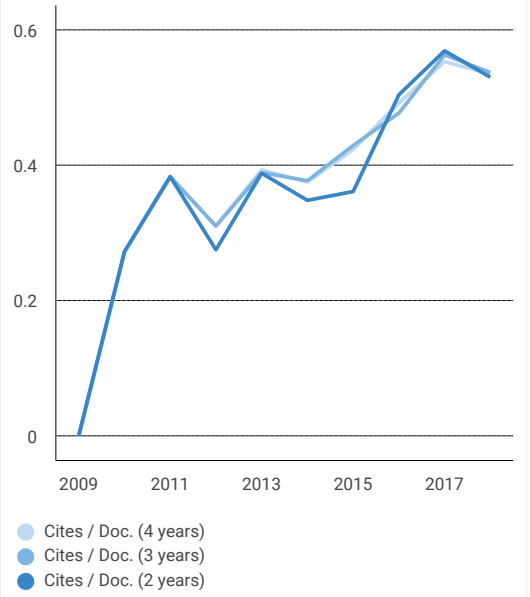

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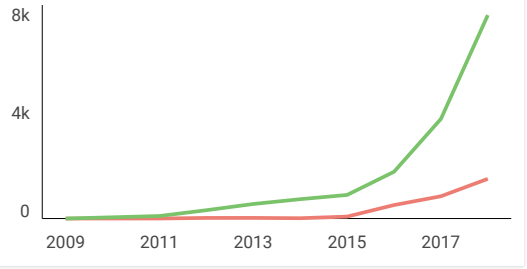

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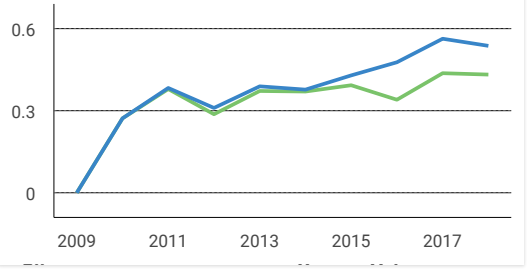

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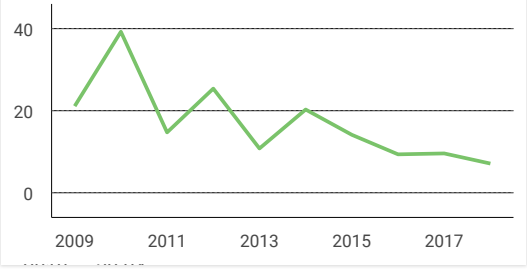

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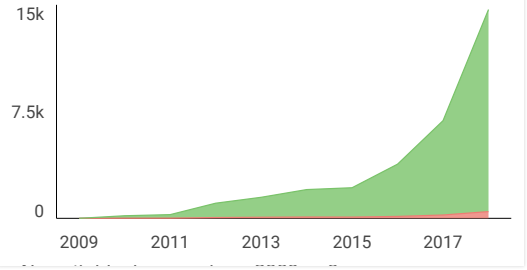

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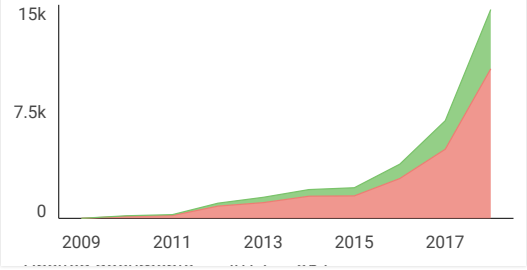

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18.30 – 21.00	**Wecloming Dinner**	**Aston Hotel ballroom**

19 September 2017

07.00-08.15	Registration
08.15-08.35	Opening Ceremony
	Indonesia National Athem
	Welcoming Dance
08.35-08.40	Chairman speech **Cepi Kurniawan, PhD**
08.40-08.50	Welcoming from the head of department
08.50-09.00	Welcoming speech and opening the conference by the Dean **Prof. Dr. Zaenuri M., S.E, M.Si, Akt.**
09.00-09.20	Coffee Break
09.20-10.00	**Prof. Guoping Chen** Hybrid Scaffolds of Biodegradable Polymers and Biomimetic Matrices for Tissue Engineering Applications
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10.00-11.00	**Prof. David Harding** Designing Molecular Switches: A Molecular Magnetism Approach
	Prof. Hadariah Bahron Imines and Metals: Marriage Made in Heavens
	Chair: M. Alauhdin, PhD
11.00-12.00	**Prof. Kasmadi Imam Kasmadi** The Cultivation of Religious Characters in Chemical Science Learning
	Prof. Subramaniam Ramanathan
	Chair: Sri Kadarwati, PhD
12.00-13.00	Lunch Break
13.00-14.00	**Prof. Ni Nyoman Tri Puspaningsih** Strengthening The Academic Network on Bioresource Technology Research towards Green Industry
	Prof. Hajime Hirao Computationally Exploring Complex Molecular Systems
	Chair: M. Alauhdin, PhD

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JCC2017167

Golden Wattle (Acacia pycnantha) Flower: Is it Only Floral Emblem of Australia?

Rudi Hendra[1,2], **Paul Keller**[2]
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Acacia pycnantha, commonly known as the golden wattle, belongs to the Fabaceae family. Typically, it grows from 3 to 8 meters in height, and is native to New South Wales, Victoria, and South Australia.[1]Despite their bright colourful flowers, and that it is regarded as Australia's national flower, there are no reports on the structures present within the flower. Therefore, we present the phytochemical constituents in the flower, as well as correlations to their biological activities. The crude methanol were subjected to liquid-liquid extraction to provide hexane, ethyl acetate, and residual fractions. RP-HPLC profiles of both the ethyl acetate and residual fractions produced similar profiles. Thus, the ethyl acetate fraction was selected, and subjected to HPLC separation. Utilising the optimized preparative HPLC method, eight known compounds were isolated, and identified as (2*S*)-isohemiphloin (**1**),(2*S*)-naringenin-5-*O*-glucoside (**2**), kaempferol 3-rutinoside (**3**), quercetin 3-glucoside (**4**), myricetin 3-rhamnodise (**5**), kaempferol-3-rhamnoside (**6**), isosalipurposide (**7**), naringenin (**8**) by comparison of their spectral data with those reported in the literature. Furthermore, the extract and all isolated compounds were assessed for antibacterial activities against several human pathogenic bacteria by Hit-confirmation method with various results.

References

1. 1) Ndlovu, J.; Richardson, D. M.; Wilson, J. R. U.; O'Leary, M.; Le Roux, J. J., Elucidating the native sources of an invasive tree species, *Acacia pycnantha*, reveals unexpected native range diversity and structure. *Ann. Bot.* **2013,***111* (5), 895-904.

JCC2017179
The Effect of Mangoosteen Extract (Gracinia Mangostana L.) on Synthesis of Ag3PO4 Photocatalyst

Mohammad Afif[1], Alfa Marcorius[1], Khusnul Afifah[1], Siti Nurfiah[1], Khanifudin Khanifudin[2], Febiyanto Febiyanto[2], Uyi Sulaeman[1*]
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Today, silver orthophosphate has been developed as phocatalyst for dye removal under visible light irradiation due to owing small-band gap energy of ~2.42 eV (1), strong photooxidative (2,3) and high quantum yield (3). The morphology and composites design have been applied to improve this photocatalyst. Morphology of saddle-like tetrahedron (4), coral-like microspheres (5), branched Ag_3PO_4 crystal with porous structure (6) and truncated tetragonal bipyramids (7) had improved the photocatalytic activity.

The big challenge of Ag_3PO_4 development is improvement the surface area and stability of photoreaction. The photocatalytic activity of Ag_3PO_4 is strongly affected by the size and surface area (8). Previous work showed that the synthesis of Ag_3PO_4 using PEG and PVP increased the specific surface area and enhanced the photocatalytic activity (9). Most of the preparation of Ag_3PO_4 catalyst using co-precipitation method resulted in low surface area. The poor performance of Ag_3PO_4 is attributed to the large particle size, which results in a low surface area, and thus low photocatalytic activity. Therefore, the development of the Ag_3PO_4 synthesis to design the small particle size is very important.

Herein, the Ag_3PO_4 prepared under mangoosteen (*Gracinia mangostana* L.) extract addition to the starting solution of $AgNO_3$ and $Na_2HPO_4.12H_2O$ could significantly decrease the particle size and increase the crystalline of Ag_3PO_4. This result enhances the photocatalytic activity. The mangoosteen extract solution of 0%, 1% and 1.5% were applied to producing the Ag_3PO_4 using the starting material of $AgNO_3$ and $Na_2HPO_4.12H_2O$. Samples were characterized using x-ray diffraction and scanning electron microscopy. Photocatalytic activities were evaluated using Rhodamine B photooxidation under blue light irradiation. The mangoosteen extract addition greatly decreases the particle size and increases the crystallinity of Ag_3PO_4 which significantly enhances the photocatalytic activity.

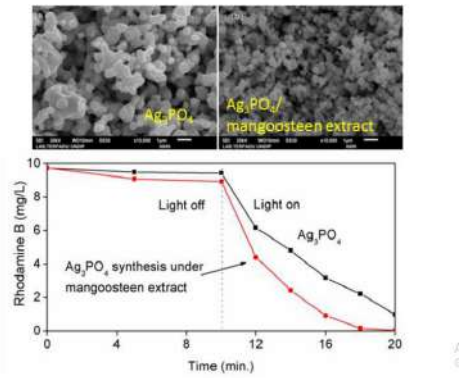

Fig. 1Morphology and Catalytic Activity

References

1. U. Sulaeman, I. R. Nisa, A. Riapanitra, P. Iswanto, S. Yin, T. Sato,*Adv. Mater. Res.***896** (2014) 141–144
2. U. Sulaeman, F. Febiyanto, S.Yin, T. Sato,*Catal. Commun.***85** (2016) 22–25.
3. P. Dong, Y. Wang, H. Li, H. Li, X. Maa, L. Hana,*J. Mater. Chem.A***1** (2013) 4651–4656.
4. Y. Xu, W. Zhang, *CrystEngComm***15** (2013) 5407-5411.
5. X. Guo, C. Chen, S. Yin, L. Huang, W. Qin,*J. Alloy. Compd.* **619** (2015)293-297.
6. U. Sulaeman, B. Liu, S.Yin, T.Sato,BCREC12 (2017) 206–211.

JCC2017212

Supramolecular Assembly of Group 11 Phosphorescent Metal Complexes for Chemosensors of Alcohol Derivatives

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Transition metal complexes with phosphorescent properties have been utilized as chemical sensors (chemosensors) with high sensing capability for sensing different kinds of volatile organic compounds (VOCs). However, there is no study on molecular design of metal complexes toward high sensing capability. Therefore, by using 4-(3,5-dimethoxybenzyl)-3,5-dimethyl pyrazole ligand[1)] (**1e**) and group 11 metal ions (Cu(I), Ag(I), Au(I)), we report the systematic study on vapochromic sensing of VOCs such as alcohol derivatives using phosphorescent trinuclear pyrazolate complexes with supramolecular assembly of a weak intermolecular metal-metal interactions. Previously, the resulting trinuclear copper(I) 4-(3,5-dimethoxybenzyl)-3,5-dimethyl pyrazolate complex **2e**(**Cu**) revealed positive response to ethanol vapors by blue-shifting its emission band from 616 to 555 nm and emitting bright orange to green where the original intensity can be easily recovered and then reused without external stimuli.[2)] Moreover, **2e**(**Cu**) still showed the best performance for chemosensor of ethanol vapors compared to the same complexes synthesized from different side-chains at the pyrazole rings such as non-side chain, 3,5-dimethyl, 3,5-bis(trifluoromethyl), and 3,5-diphenyl pyrazole ligands.[3)] In this lecture, we particularly discuss the sensing capability of group 11 metal ions with the same ligand **1e**. Upon excitation at 284, the resulting complexes showed emission bands with a peak centered at 616, 473 and 612 nm for **2e**(**Cu**), **2e**(**Ag**) and **2e**(**Au**), respectively. Comparing to **2e**(**Cu**) with shorter metal-metal distance for sensing ethanol vapors in 5 mins, **2e**(**Au**) gave shifting from its emission band centered at 612 to 587 nm with $\Delta\lambda$ of 25 nm and color changes from red-orange to light green-orange. This blue-shifting was 41% compared to **2e**(**Cu**) with the same exposure time while the reusability testing required the presence of external stimuli. On the other hands, **2e**(**Ag**) with longer metal-metal distance showed quenching in its original emission intensity at 473 nm in 40% with color changes from dark green to less emissive. These results demonstrate that shifting phenomenon in **2e**(**Cu**) with the shorter metal-metal distance compared to **2e**(**Au**) from the same ligand is due to a weak intermolecular hydrogen bonding interaction of O atom at the methoxy of the benzyl ring with the OH of the vapors at the outside of the molecules. Such sensing phenomenon cannot be achieved for the detection of propanol, butanol, pentanol and hexanol vapors with decreasing in the performance to 37%, 28%, 23% and 18%, respectively, indicating suitable molecular design of ligand and metal ion in pyrazolate complex as chemosensor **2e**(**Cu**) for sensing ethanol vapors.

References

1. Lintang, H.O., Kinbara, K., Tanaka, K., Yamashita, T., et al., *Angewandte Chemie International Edition***49**., 4241-4245, 2010.
2. Ghazalli, N.F., Yuliati, L., Endud, S., Shamsuddin, M., et al., *Advanced Materials Research***970**., 44-47, 2014.

JCC2017306

Effect of Potentials and Electric Charges Copper and Indium Depositions to The Photocurrent Responses of CuInS2 Thin Film Fabricated By Stack Electrodeposition Followed by Sulfurization

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Effect of potentials and electric charges copper and indium depositions to the photocurrent responses of $CuInS_2$ thin film fabricated by electrodeposition followed by sulfurizationwere investigated. The characterization and elemental compositions of as-deposited Cu/In and $CuInS_2$ thin films used X-RD and EDAX. Photocurrent responses of the obtained $CuInS_2$ thin films were analyzed by linear sweep voltammograms (*LSV*s) in europium solution under chopped irradiation. Photocurrent responses showed that fabricated $CuInS_2$ thin films had *p*-type photoresponses. Improving potentials and electric charges reduced the photocurrent responses of the semiconductor films, alhough from XRD and EDAX data had no significant different.

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