

MAKALAH ILMIAH

**AN EXPERIMENTAL STUDY ON THERMAL CATALYTIC
DECOMPOSITION OF INULIN TO 5-HYDROXYMETHYLFURFURAL
AND LEVULINIC ACID AND EFFECT OF C6 ON FURFURAL
DURING DECOMPOSITION PROCESS**



OLEH:
Boy Arief Fachri

Makalah disajikan pada “The 1st International Symposium of Indonesian Chemical Engineering (ISIChem)” pada tanggal 4-6 Oktober 2018 di Hotel Kyriad Bumiminang, Padang, Sumatra Barat, Indonesia.

Diselenggarakan oleh Asosiasi Pendidikan Tinggi Teknik Kimia (APTEKIM) Indonesia.

ISIChem 2018

1st International Symposium of Indonesian Chemical Engineering 2018

4-6 Oktober 2018

...



Biaya Seminar

Presenter

Praktisi Industri

Rp 5.000.000

Rp 4.500.000*

Akademisi/Peneliti

Rp 3.000.000

Rp 2.500.000*

Mahasiswa

Rp 1.500.000

Rp 1.000.000*

[Daftar Seminar \(https://registration.aptekim.org\)](https://registration.aptekim.org)
[Lihat Sub-topik](#)

Internasional (Akademisi)

USD 350

[Unduh Template Abstrak \(http://www.aptekim.org/download/abstract-isichem\)](http://www.aptekim.org/download/abstract-isichem)
~~USD 300*~~
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Internasional (Mahasiswa)

USD 250

~~USD 200*~~

1st International Symposium of Indonesian Chemical Engineering (ISIChem) 2018 adalah simposium internasional pertama yang diselenggarakan oleh APTEKIM. ISIChem memfasilitasi para peneliti, akademisi dan praktisi industri untuk menyajikan hasil penelitian / studi di dalam forum ilmiah bidang teknik kimia sehingga terjadi sharing knowledge antar peserta simposium.

Luaran dari ISIChem 2018

- Artikel terpilih akan dipublikasikan dalam jurnal/proceeding terindeks scopus
- *Non selected paper* dipublikasikan ke Proceeding IPTEK

International Journal of Technology (IJTech)

- *Template* dapat diunduh pada link berikut

[Unduh Template \(http://ijtech.eng.ui.ac.id/about/3/online-submission\)](http://ijtech.eng.ui.ac.id/about/3/online-submission)

- *Author guidelines* dapat diunduh pada link berikut

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Peserta

Akademisi/Peneliti

Rp 1.500.000

Mahasiswa

Rp 1.000.000

Internasional

USD 150

Additional Paper

National Presenter

Rp 1.500.000

Internasional Presenter

USD 125

*early bird payment

Keynote Speakers

...



Ir. Airlangga Hartarto, MBA, MMT

**to be confirmed*

Menteri Perindustrian RI

Plenary Speakers

...

- Juwari Poerwo Sutikno, ST., M.Eng., PhD. (Ketua Aptekim)
- Amalia Adininggar Widyasanti, ST., MSi., PhD. (Direktur Perencanaan makro dan analisis, BAPPENAS)

- Ir. Ricky Hikmawan Wargakusuma, IPU (Ketua Badan Kejuruan Kimia Persatuan Insinyur Indonesia/BKKPII)
- Ir. Suhat Miyarso (Direktur Eksekutif Federasi Industri Kimia Indonesia/FIKI, *to be confirmed*)
- Prof. Meng-Jiy Wang, PhD (National Taiwan University of Science and Technology/NTUST, Taiwan)
- Prof. Dr. Manabu Shimada (Hiroshima University, Jepang)
- Prof. Dr. Fusheng Li (Gifu University, Jepang)
- Prof. Soorathep Kheawhom, Ph.D (Chulalongkorn University, Thailand)

Invited Speakers

...

- Prof. Motonobu Goto (Nagoya University, Jepang)
- Prof. Jyng Chern Liu (Taiwan Tech, Taiwan)
- Prof. Shinji Kambara (Gifu University, Jepang)
- Dr. Chihiro Yoshimura (Tokyo Institute of Technology, Jepang)
- Prof. Dr. Ir. Arief Widjaja, M.Eng (ITS, Indonesia)
- Dr. Eng. Reni Desmiarti, MT. (UBH, Indonesia)

Narahubung

...

Informasi seputar Musyawarah Nasional (MUNAS) APTEKIM, Seminar Nasional Teknik Kimia Indonesia (SNTKI) dan 1st International Symposium of Indonesian Chemical Engineering (ISiChem) 2018 dapat ditanyakan melalui narahubung di bawah ini



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Padang, Sumatra Barat



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Masrizal

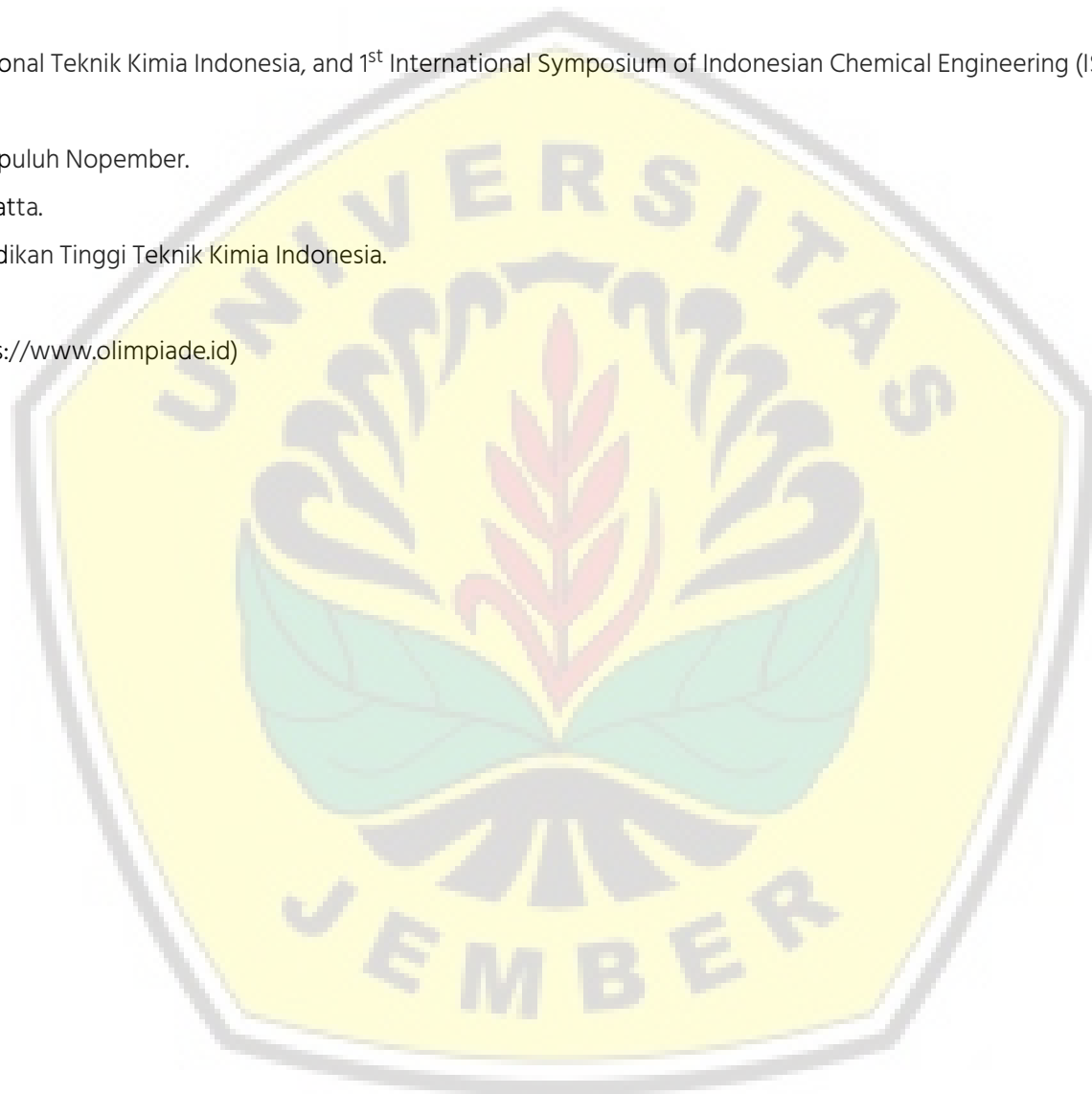
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PROGRAM at a GLANCE

Thursday, October 4, 2018

Ballroom

(07.30 - 08.00) Registration

(08.00 - 08.30) Opening Ceremony

- Conference Chairman
- Chairman of APTEKIM
- Rector of Universitas Bung Hatta

Session Chair : Juwari, PhD

(08.30 - 09.00) IS-KS-001

(09.00 - 09.30) IS-PS-005

(09.30 - 10.00) IS-PS-006

(10.00 - 10.15) Coffee Break

Session Chair : Prof. Gede Wibawa

(10.15 - 10.45) IS-PS-007

(10.45 - 11.15) IS-PS-001



October 4, 2018

Chair: Dr. Emma Savitri		Chair: Donny Bhuana		Chair: Dr. Widiyastuti		Chair: Dr. Candra Wahyu P.	
Ballroom		Gumarang Room		Mentawai Room		Pagaruyung Room	
11.30-12.30	Musyawarah Nasional APTEKIM	11.30-11.45	IS-FT-008	11.30-11.45	IS-MN-004	11.30-11.45	IS-RN-001
		11.45-12.00	IS-FT-010	11.45-12.00	IS-MN-029	11.45-12.00	IS-RN-003
		12.00-12.15	IS-FT-005	12.00-12.15	IS-MN-040	12.00-12.15	IS-RN-005
		12.15-12.30	IS-FT-031	12.15-12.30	IS-MN-041	12.15-12.30	IS-RN-007
12.30-13.30 LUNCH							
Chair: Dr. Emma Savitri		Chair: Firman K, Ph.D		Chair: Dr. Raden Darmawan		Chair: Dr. Maria Ulfa	
Ballroom		Gumarang Room		Mentawai Room		Pagaruyung Room	
13.30-15.35	Musyawarah Nasional APTEKIM	13.30-13.50	IS-IS-002	13.30-13.50	IS-IS-003	13.30-13.50	IS-IS-004
		13.50-14.05	IS-FT-028	13.50-14.05	IS-BT-010	13.50-14.05	IS-CR-001
		14.05-14.20	IS-FT-024	14.05-14.20	IS-BT-011	14.05-14.20	IS-CR-016
		14.20-14.35	IS-FT-027A	14.20-14.35	IS-BT-012A	14.20-14.35	IS-CR-006
		14.35-14.50	IS-FT-011	14.35-14.50	IS-BT-004	14.35-14.50	IS-CR-014
		14.50-15.05	IS-FT-020	14.50-15.05	IS-BT-006	14.50-15.05	IS-CR-015
		15.05-15.20	IS-SP-002	15.05-15.20	IS-MN-008	15.05-15.20	IS-RN-004
		15.20-15.35	IS-SP-011	15.20-15.35	IS-MN-033A	15.20-15.35	IS-RN-086
15.35-15.50 Coffee Break							



Chair: Dr. Emma Savitri		Chair: Dr. Firdaus		Chair: Siti Nurkhamidah, Ph.D		Chair: Dr. Raden Darmawan	
Ballroom		Gumarang Room		Mentawai Room		Pagaruyung Room	
15.50-17.20	Musyawarah Nasional APTEKIM	15.50-16.05	IS-CR-002	15.50-16.05	IS-MN-034A	15.50-16.05	IS-RN-015
		16.05-16.20	IS-CR-007	16.05-16.20	IS-MN-035A	16.05-16.20	IS-RN-016
		16.20-16.35	IS-CR-011	16.20-16.35	IS-MN-036A	16.20-16.35	IS-RN-018
		16.35-16.50	IS-FT-038	16.35-16.50	IS-MN-059	16.35-16.50	IS-RN-022
		16.50-17.05	IS-FT-032	16.50-17.05	IS-MN-031A	16.50-17.05	IS-RN-034
		17.05-17.20	IS-SP-038	17.05-17.20	IS-MN-034	17.05-17.20	IS-RN-028
19.00-21.00 GALA DINNER							

October 4, 2018

Chair: Dr. Kusdianto		Chair: Hikmatun Ni'mah Ph.D		Chair: Hakun Wirawasista A., Ph.D		Chair: Dr. S. R. Juliastuti	
Binuang Room		Kinantan Room		Harau Room		Anai Room	
11.30-11.45	IS-RN-049	11.30-11.45	IS-FT-023	11.30-11.45	IS-CR-012	11.30-11.45	IS-PE-009
11.45-12.00	IS-RN-050	11.45-12.00	IS-FT-026A	11.45-12.00	IS-CR-013	11.45-12.00	IS-PE-010
12.00-12.15	IS-RN-051	12.00-12.15	IS-PE-013	12.00-12.15	IS-FT-035	12.00-12.15	IS-PE-015
12.15-12.30	IS-RN-052	12.15-12.30	IS-PE-014	12.15-12.30	IS-FT-029	12.15-12.30	IS-FT-004
12.30-13.30 LUNCH							



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4th-6th October 2018, Padang, West Sumatera, Indonesia

Chair: Endarto Y. W., Ph.D		Chair: F. Taufany, Ph.D		Chair: Donny Bhuana		Chair: Elllyta Sari	
Binuang Room		Kinantan Room		Harau Room		Anai Room	
13.30-13.50	IS-IS-005	13.30-13.50	IS-IS-001	13.30-13.50	IS-IS-009	13.30-13.50	SN-IS-002
13.50-14.05	IS-WT-008	13.50-14.05	IS-PE-003	13.50-14.05	IS-FT-033	13.50-14.05	SN-MN-001
14.05-14.20	IS-WT-010	14.05-14.20	IS-PE-004	14.05-14.20	IS-FT-036	14.05-14.20	SN-MN-002
14.20-14.35	IS-WT-001	14.20-14.35	IS-PE-012	14.20-14.35	IS-FT-025	14.20-14.35	SN-MN-005
14.35-14.50	IS-WT-020	14.35-14.50	IS-PE-019	14.35-14.50	IS-FT-034	14.35-14.50	SN-MN-007
14.50-15.05	IS-WT-014	14.50-15.05	IS-PE-020	14.50-15.05	IS-MN-021	14.50-15.05	SN-MN-009
15.05-15.20	IS-WT-029A	15.05-15.20	IS-PE-027	15.05-15.20	IS-MN-007	15.05-15.20	SN-CE-001
15.20-15.35	IS-WT-031	15.20-15.35	IS-PE-001	15.20-15.35	IS-MN-057	15.20-15.35	SN-SP-004
15.35-15.50 Coffee Break							
Chair: Dr. Siti Machmudah		Chair: Setiyo Gunawan, Ph.D		Chair: Vivi Nurhadianty		Chair: Nuniek H.	
Binuang Room		Kinantan Room		Harau Room		Anai Room	
15.50-16.05	IS-MN-058	15.50-16.05	IS-SP-039	15.50-16.05	IS-SP-041	15.50-16.05	SN-FT-001
16.05-16.20	IS-MN-060	16.05-16.20	IS-MN-062	16.05-16.20	IS-SP-046	16.05-16.20	SN-FT-004
16.20-16.35	IS-MN-042	16.20-16.35	IS-MN-061	16.20-16.35	IS-SP-047	16.20-16.35	SN-FT-005
16.35-16.50	IS-TS-007	16.35-16.50	IS-MN-047A	16.35-16.50	IS-SP-042	16.35-16.50	SN-FT-002
16.50-17.05	IS-BT-015	16.50-17.05	IS-MN-050	16.50-17.05	IS-SP-001	16.50-17.05	SN-RN-002
17.05-17.20	IS-CR-028	17.05-17.20	IS-MN-064	17.05-17.20	IS-FT-028A	17.05-17.20	
19.30-21.30 GALA DINNER							



October 5, 2018

Session Chair : Prof. Misri Gozan

08.00-08.30 IS-PS-004							
08.30-09.00 IS-PS-003							
09.00-09.30 IS-PS-002							
09.30-09.45 Coffee Break							
Chair: Dr. Widiyastuti		Chair: Dr. Siti Machmudah		Chair: Siti Nurkhamidah, Ph.D		Chair: Dr. Reni Desmiarti	
Ballroom		Gumarang Room		Mentawai Room		Pagaruyung Room	
09.45-10.00	IS-MN-025	09.45-10.00	IS-FT-002	09.45-10.00	IS-MN-037A	09.45-10.00	IS-WT-032
10.00-10.15	IS-MN-026	10.00-10.15	IS-FT-003	10.00-10.15	IS-MN-043	10.00-10.15	IS-WT-026
10.15-10.30	IS-MN-031	10.15-10.30	IS-FT-022	10.15-10.30	IS-MN-048	10.15-10.30	IS-WT-027
10.30-10.45	IS-MN-032	10.30-10.45	IS-FT-037	10.30-10.45	IS-MN-049	10.30-10.45	IS-WT-033
10.45-11.00	IS-MN-033	10.45-11.00	IS-FT-039	10.45-11.00	IS-MN-055	10.45-11.00	IS-WT-037
11.00-11.15	IS-MN-044	11.00-11.15	IS-FT-030	11.00-11.15	IS-MN-036	11.00-11.15	IS-WT-044
11.15-11.30	IS-MN-032A	11.15-11.30	IS-FT-012	11.15-11.30	IS-MN-045A	11.15-11.30	IS-WT-034
11.30-13.30 FRIDAY PRAYER and LUNCH							
Chair: Dr. Widiyastuti		Chair: Eduardus B. N. Ph.D		Chair: Ni Made Intan P.S		Chair: Rama Oktavian	
Ballroom		Gumarang Room		Mentawai Room		Pagaruyung Room	
13.30-13.50	IS-IS-008	13.30-13.50	IS-IS-006	13.30-13.45	IS-IS-007	13.30-13.45	IS-WT-005
13.50-14.05	IS-MN-030	13.50-14.05	IS-MT-002	13.45-14.00	IS-BT-003	13.45-14.00	IS-WT-024
14.05-14.20	IS-MN-003	14.05-14.20	IS-MT-003	14.00-14.15	IS-BT-011A	14.00-14.15	IS-WT-028



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4th-6th October 2018, Padang, West Sumatera, Indonesia

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14.20-14.35	IS-MN-022	14.20-14.35	IS-CE-001	14.15-14.30	IS-BT-017	14.15-14.30	IS-WT-009
14.35-14.50	IS-MN-024	14.35-14.50	IS-PE-018	14.30-14.45	IS-BT-019	14.30-14.45	IS-WT-021
14.50-15.05	IS-MN-052	14.50-15.05	IS-PE-022	14.45-15.00	IS-FT-026	14.45-15.00	IS-WT-022
15.05-15.20	IS-MN-054	15.05-15.20	IS-PE-025	15.00-15.15	IS-FT-040	15.00-15.15	IS-WT-025
15.20-15.35	IS-MN-063	15.20-15.35	IS-PE-006	15.15-15.30	IS-SP-037	15.15-15.30	IS-WT-045

15.35-15.50 Coffee Break

Chair: Dr. La Ifa		Chair: Eduardus B. N. Ph.D		Chair: Dr. Firdaus		Chair: Dr. S. R. Juliastuti	
Ballroom		Gumarang Room		Mentawai Room		Pagaruyung Room	
15.50-16.05	IS-MN-056	15.50-16.05	IS-RN-083	15.50-16.05	IS-SP-005	15.50-16.05	IS-WT-040
16.05-16.20	IS-BT-018	16.05-16.20	IS-RN-084	16.05-16.20	IS-SP-009	16.05-16.20	IS-WT-039
16.20-16.35	IS-BT-012	16.20-16.35	IS-RN-092	16.20-16.35	IS-SP-026B	16.20-16.35	IS-WT-042
16.35-16.50	IS-BT-022	16.35-16.50	IS-RN-093	16.35-16.50	IS-PE-023	16.35-16.50	IS-WT-015
16.50-17.05	IS-SP-048	16.50-17.05	IS-RN-088	16.50-17.05	IS-PE-026	16.50-17.05	IS-RN-095

17.05-17.20 CLOSING CEREMONY

October 5, 2018

Chair: Rama Oktavian		Chair : Putu D.S., Ph.D		Chair: Setiyo Gunawan Ph.D		Chair: Prof. Kuswandi	
Binuang Room		Kinantan Room		Harau Room		Anai Room	
09.45-10.00	IS-CR-021	09.45-10.00	IS-BT-013	09.45-10.00	IS-RN-069	09.45-10.05	SN-IS-003
10.00-10.15	IS-CR-022	10.00-10.15	IS-BT-014	10.00-10.15	IS-RN-072	10.05-10.20	SN-BT-001
10.15-10.30	IS-CR-025	10.15-10.30	IS-BT-020	10.15-10.30	IS-RN-075	10.20-10.35	SN-BT-002
10.30-10.45	IS-CR-026	10.30-10.45	IS-BT-008	10.30-10.45	IS-RN-078	10.35-10.50	SN-SP-002
10.45-11.00	IS-CR-027A	10.45-11.00	IS-BT-016	10.45-11.00	IS-RN-079	10.50-11.05	SN-SP-003



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4th-6th October 2018, Padang, West Sumatera, Indonesia

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11.00-11.15	IS-CR-020	11.00-11.15	IS-RN-053	11.00-11.15	IS-RN-080	11.05-11.20	SN-MN-006
11.15-11.30	IS-CR-015A	11.15-11.30	IS-RN-053A	11.15-11.30	IS-RN-082	11.20-11.35	SN-MN-008
11.30-13.30 LUNCH							
Chair: Dr. Emma Savitri		Chair: Donny Bhuana		Chair: Dr. Kusdianto		Chair: Tun Sriana, Ph.D	
Binuang Room		Kinantan Room		Harau Room		Anai Room	
13.30-13.45	IS-CR-003	13.30-13.45	IS-RN-036	13.30-13.45	IS-SP-018	13.30-13.50	SN-IS-001
13.45-14.00	IS-CR-023	13.45-14.00	IS-RN-037	13.45-14.00	IS-SP-022	13.50-14.05	SN-PE-001
14.00-14.15	IS-CR-017	14.00-14.15	IS-RN-039	14.00-14.15	IS-SP-023	14.05-14.20	SN-PE-002
14.15-14.30	IS-RN-054	14.15-14.30	IS-RN-040	14.15-14.30	IS-SP-025	14.20-14.35	SN-WT-002
14.30-14.45	IS-RN-055A	14.30-14.45	IS-RN-043	14.30-14.45	IS-SP-027	14.35-14.50	SN-WT-003
14.45-15.00	IS-RN-060	14.45-15.00	IS-RN-044	14.45-15.00	IS-SP-030	14.50-15.05	SN-WT-004
15.00-15.15	IS-RN-061	15.00-15.15	IS-RN-046	15.00-15.15	IS-SP-036	15.05-15.20	SN-WT-005
15.15-15.30	IS-RN-063	15.15-15.30	IS-RN-047	15.15-15.30	IS-SP-043	15.20-15.35	SN-WT-006
15.30-15.50 Coffee Break							
Chair: Dr. Emma Savitri		Chair: Hikmatun Ni'mah Ph.D		Chair: Dr. Kusdianto		Chair: Ni Made Intan P.S	
Binuang Room		Kinantan Room		Harau Room		Anai Room	
15.50-16.05	IS-SP-016	15.50-16.05	IS-TS-010	15.50-16.05	IS-TS-006	15.50-16.05	IS-SP-045
16.05-16.20	IS-SP-040	16.05-16.20	IS-SP-044	16.05-16.20	IS-TS-005	16.05-16.20	IS-TS-003
16.20-16.35	IS-SP-010	16.20-16.35	IS-RN-033	16.20-16.35	IS-TS-012	16.20-16.35	IS-TS-008
16.35-16.50	IS-SP-012	16.35-16.50	IS-RN-089	16.35-16.50	IS-TS-004	16.35-16.50	IS-TS-009
16.50-17.05	IS-MN-037	16.50-17.05	IS-RN-068	16.50-17.05	IS-SP-034	16.50-17.05	IS-MN-038A
17.05-17.20		17.05-17.20	IS-RN-035	17.05-17.20		17.05-17.20	
17.20-17.35 CLOSING CEREMONY							

**TECHNICAL PROGRAM SCHEDULE****Thursday, October 4, 2018 - Ballroom**

07.30 - 08.00	Registration
08.00 - 08.30	Opening Ceremony
	<ul style="list-style-type: none"> ■ Conference Chairman ■ Chairman of APTEKIM ■ Rector of Universitas Bung Hatta
Session Chair : Juwari, PhD	
(08.30 - 09.00)	IS-KS-001 Airlangga Hartanto (Minister of Industry of Republic Indonesia)
(09.00 - 09.30)	IS-PS-005 Amalia Adininggar Widyasanti, PhD. “The Importance of Chemical Industries to Support The Better Indonesian Economic Growth”
(09.30 - 10.00)	IS-PS-006 Ir. Ricky Hikmawan Wargakusuma
(10.00 - 10.15)	Coffee Break
Session Chair : Prof. Gede Wibawa	
(10.15 - 10.45)	IS-PS-007 Ir. Suhat Miyarso “Industri Petrokimia Indonesia”
(10.45 - 11.15)	IS-PS-001 Prof. Soorathep Kheawhom “Zinc-air Flow Battery as Promising Energy Storage”

Thursday, October 4, 2018 - Ballroom**ROOM : Ballroom # Gumarang**

Chair : Dr.Emma Savitri		Chair : Donny Bhuana	
Ballroom		Gumarang Room	
11.30-12.30	Musyawarah Nasional APTEKIM	11.30-11.45	IS-FT-008 Effect of Variation of Time Culture in Production of AA, DHA and EPA from <i>Aspergillus oryzae</i> with Three-stages Fermentation Strategy



			(C Nayanda, S Tania, R Arbianti*, TS Utami , & H Hermansyah)
		11.45-12.00	IS-FT-010 Effects of Variation in Glucose Concentration in Medium for All Fermentation Stages in the Production of Arachidonic Acid from <i>Aspergillus oryzae</i> (Shaina Tania, Cindyara N., Tania Surya Utami, Rita Arbianti, Heri Hermansyah)
		12.00-12.15	IS-FT-005 Processing of Pharmaceuticals for Pulmonary Delivery by Supercritical Technology (Firman Kurniawansyah, Neil R Foster)
		12.15-12.30	IS-FT-031 Heat Resistance Analysis of <i>Talaromyces sp.</i> Ascospores for Pineapple Juice Pasteurization (Evelyn, Sri Rezeki Muria, & Doni Fozla)
12.30-13.30 LUNCH			
Chair : Dr. Emma Savitri		Chair : Firman Kurniawansyah, PhD	
Ballroom		Gumarang Room	
13.30-15.35	Musyawarah Nasional APTEKIM	13.30-13.50	IS-IS-002 <u>Prof. Motonobu Goto</u> Micronization of Pytochemicals by Supercritical Anti-Solvent Process
		13.50-14.05	IS-FT-028 Characteristics of Spray-Dried Eugenol Encapsulated in Whey



			Protein-Maltodextrin- Chitosan (Iceu Agustinisari, Kamarza Mulia, & Mohammad Nasikin)
		14.05-14.20	IS-FT-024 The Utilization of Gadung (Dioscorea hispida Dennst) Starch for Edible Coating Making and Its Tomatoes Packaging Characteristics (Pocut Nurul Alam*, Mukhlisnien, Husni Husin, Teku Muhammad Asnawi, Santia & Ayuni Yustira)
		14.20-14.35	IS-FT-027A Calcium Soap from Palm Fatty Acid Distillate for Ruminant Feed: The Influence of Free Fatty Acid Source Temperature (Lienda A. Handojo, Antonius Indarto, Dian Shofinita, Muhammad Reyhan Saadi, Dea Yulistia, & Fathinah I. Hasyiyati)
		14.35-14.50	IS-FT-011 Modification of Sago Starch for Edible Coating (Dewi Sondari & Imad Iltizam)
		14.50-15.05	IS-FT-020 In vivo Immunomodulant Test of Anti-Atherosclerosis Herbs Using White Male Rats: Hematology Review (Dewi Tristantini & Adi Mulya Prawira)
		15.05-15.20	IS-SP-002 Adsorption – Desorption Cycle



			Optimization in Oryzanol Recovery from Rice Bran Oil by Silica Gel Column via Dimensional Analysis (Ari Diana Susanti, Wahyudi Budi Sediawan, Budhijanto, & Sang Kompiang Wirawan)
		15.20-15.35	IS-SP-011 Improving The Quality of Liquid Smoke from Oil Palm Fronds through Adsorption and Distillation Processes (Seri Maulina & Fadhil Al Faruq Sinaga)
15.35-15.50 Coffee Break			
Chair : Dr. Emma Savitri		Chair : Dr. Firdaus	
Ballroom		Gumarang Room	
15.50-17.20	Musyawahar Nasional APTEKIM	15.50-16.05	IS-CR-002 An Experimental Study on Thermal Catalytic Decomposition of Inulin to 5 Hydroxymethylfurfural and Levulinic Acid and Effect of C6 on Furfural during Decomposition Process (Boy Arief Fachri)
		16.05-16.20	IS-CR-007 Synthesis of Palm Oil Based Bio-Polymer Ester through Cationic Addition Polymerization Method for Application of Enhanced Oil Recovery (Yan Irawan, Ika Juliana, Emil Budianto)



		16.20-16.35	IS-CR-011 The Effect of Temperature and H ₂ O ₂ Concentration on The Amount of Water Soluble Materials In Coal Oxidation (Suprihastuti Sri Rahayu*, Adhitya Nugraha, & Rifqy Adli Fadillah)
		16.35-16.50	IS-FT-038 Thermal Stability and Reusability of Home-made Co-Immobilized Lipase from <i>Mucor Miehei</i> in Polyurethane Foam for the Production of Bio-flavor (Dwina Moentamaria, Maktum Muharja, Tri Widjaja, Arief Widjaja)
		16.50-17.05	IS-FT-032 Comparison of Microwave and Conventional Extraction Methods for Natural Dyes in Wood Waste Mahogany (<i>Swietenia mahagoni</i>) (Selfina Gala, Sumarno Sumarno, Mahfud Mahfud)
		17.05-17.20	IS-SP-038 Simultaneous Sulfur dioxide and Mercury Removal during Low-rank Coal Combustion by Natural Zeolite (Asri Gani, Yuanda Wattimena, & Medyan Riza)

**Thursday, October 4, 2018 - Ballroom****ROOM : Mentawai # Pagaruyung**

Chair : Dr. Widiyastuti		Chair : Dr. Candra Wahyu P.	
Mentawai Room		Pagaruyung Room	
11.30-11.45	IS-MN-004 Characterization of Nano Crystalline Cellulose from Sugarcane Bagasse using HCl Hydrolysis Combined with Ultrasonication (Sri Aprilia)	11.30-11.45	IS-RN-001 Evaluation of COD Removal using Dielectric Barrier Discharge to Produce Biogas from POME (Reni Desmiarti, Primas Emeraldi, Muhammad Imran Hamid and Ariadi Hazmi)
11.45-12.00	IS-MN-029 Hydrothermal and Solvothermal Synthesis of Ceria-Zirconia Oxides for Catalyst Application (Siti Machmudah, Muhamad Risky Ceaser, Muhammad Fareid Alwajdy, Widiyastuti, Sugeng Winardi, Wahyudiono, Hideki Kanda, Motonobu Goto)	11.45-12.00	IS-RN-003 Biobutanol Production from Bagasse Using Ammonia Pre-treatment and Acid Hydrolysis Method (Asyeni Miftahul Jannah, Dwi Utari Amelia, Naya Septri Hana)
12.00-12.15	IS-MN-040 Properties of Nanocomposite from PLA and Clays by Melt Extrusion Technique (Tika Paramitha, Johnner P. Sitompul, Hyung Woo Lee)	12.00-12.15	IS-RN-005 Biodiesel Production from Calophyllum inophyllum Using Ultrasound-Assisted Transesterification (Hemas Hafidh Bachtiar, Boy Arief Fachri, Nasrul Ilminnafik)
12.15-12.30	IS-MN-041 Characterization on cassava bagasse starch-based biocomposite reinforced by acetylated microfibrillated	12.15-12.30	IS-RN-007 Increasing Oxidation Stability of Biodiesel Kemiri Sunan through Partially Hydrogenated Reaction



	cellulose of bamboo and plasticized by epoxidized waste cooking oil (Silviana Silviana, Siti Susanti, Agus Subagio)		(Muhammad Jamaludin)
12.30-13.30 LUNCH			
Chair : Dr. Raden Darmawan		Chair : Dr. Maria Ulfah	
Mentawai Room		Pagaruyung Room	
13.30-13.50	IS-IS-003 Prof. Masato Tominaga Mud Microbial Fuel Cell: Effect of External Resistance on Bioelectricity Power Geeration	13.30-13.50	IS-IS-004 Dr. Yukio Hayakawa Hydrogen Production System by A Plasma Membrane Reactor From Ammonia
13.50-14.05	IS-BT-010 Use of montmorillonite clay and flocculating bacteria for acid mine drainage bioremediation) (Elvi Restiawaty, Siti Khodijah Chaerun, Saadatul Bidayah, and Moch Agung Gunandar)	13.50-14.05	IS-CR-001 Valorization and Optimization of the HMF Hydrogenation Derivative Products (Angela J. Kumalaputri, Giovanni Bottari, Katalin Barta, H. J. Heeres)
14.05-14.20	IS-BT-011 Single Cell Protein Production by a Local Aspergillus niger in Solid State Fermentation Using Rice Straw Pulp as Carbon Source: Effects of Initial pH and C/N Ratio (Syahiddin Dahlan Said, Muhammad Zaki, Teku M. Asnawi, Eva Novita)	14.05-14.20	IS-CR-016 Kinetic Modelling of Esterification of Glycerol with Acetic Acid Catalyzed by Lewatite (Lucky Wahyu N. S., Tintin Mutiara, Achmad Chafidz, Ariany Zulkania, Muhamad Alfian Andrianto, Nur Lailly Farikha)



14.20-14.35	IS-BT-012A Free vs Immobilized Lipase from Frangipani (<i>Plumeria Rubra</i>) Latex Particulate and the Utilization in Palm Oil Lipolysis (Astri Nur Istyami, Ronny Purwadi, Made Tri Ari Penia Kresnowati, Tirto Prakoso, Tatang Hernas Soerawidjaja)	14.20-14.35	IS-CR-006 Anodic Plasma Depth Influence on Synthesis of Biodiesel Using Plasma Electrolysis Method (Nelson Saksono Ratih Anditashafardiani Trisutanti Budikania)
14.35-14.50	IS-BT-004 Influence of Steam Distillation Time on Antimicrobial Activity of Hydrosol of Kaffir Lime Oil to Positive and Negative Gram Bacteria (Luthfi Kurnia Dewi, Riza Ayu Permatasari, Rizka Amelia Situmorang, Vivi Nurhadianty, Chandrawati Cahyani)	14.35-14.50	IS-CR-014 Synthesis of Sulfonated Carbon Based Solid Acid Catalyst from Palm Empty Fruit Bunch Waste for Cassava Peel Hydrolysis (Iryanti Fatyasari Nata, Chairul Irawan, Meilana Dharma Putra, Alfian, Galacaesar A. Khambali, and Hidetaka Kawakita)
14.50-15.05	IS-BT-006 Utilization of Cocopeat And Goat of Dirt In Marking of Solid Organic Fertilizer To Quality Macro Nurient (NPK) (Eddy Kurniawan, Ishak, & Suryani)	14.50-15.05	IS-CR-015 One-step Synthesis to Enhance the Acidity of Biocarbon-based Sulfonated Solid Acid Catalyst (Yulia Nurul Ma'rifah, Hesti Wijayanti, Agus Mirwan, Chairul Irawan, Meilana Dharma Putra and Iryanti Fatyasari Nata)
15.05-15.20	IS-MN-008 Synthesis of nickel – hydroxyapatite by electrochemical method	15.05-15.20	IS-RN-004 Behavior of <i>Nannochloropsis oculata</i> in Indoor Cultivation: The Effects of



	(Adrian Nur, Arif Jumari, Anatta Wahyu Budiman, Aan Hanung Wicaksono, Anis Yuliana Kusumaningrum, Nazriati Nazriati, and Fauziatul Fajarah)		Flue Gas Exposure and Illumination Period on the Growth and Lipid Content (Margono)
15.20-15.35	IS-MN-033A Nano Carbon Produced by Advanced Mild Hydrothermal Process of Oil Palm Biomass for Supercapacitor Material (Tantra Diwa Larasati, Tirto Prakoso, Jenny Rizkiana, Hary Devianto, Pramudjo Widyatmoko, and Isdiriyani Nurdin)	15.20-15.35	IS-RN-086 Bubble Column Application On Purification of Biogas and Production of Nano-Calcium Carbonate in Continuous Process (Yukh Ihsana, Ratri Puspita, Putu Adi Rama, Suci Madhania, Kusdianto, Siti Machmudah, Tantular Nurtono & Sugeng Winardi)
15.35-15.50 Coffee Break			
Chair : Siti Nurkhamidah, PhD		Chair : Dr. Raden Darmawan	
Mentawai Room		Pagaruyung Room	
15.50-16.05	IS-MN-034A Increasing Yield of Graphene Synthesis from Oil Palm Empty Fruit Bunch via Two-stages Pyrolysis (Pramujo Widiatmoko*, Ira F. Sukmana, Isdiriyani Nurdin, Tirto Prakoso and Hary Devianto)	15.50-16.05	IS-RN-015 Hydrocarbon Biofuel Production by Hydrocracking Process with Nickel-Iron Supported On HZSM-5 Catalyst (Muhammad Al-Muttaqii, Firman Kurniawansyah, Danawati Hari Prajitno, Achmad Roesyadi)
16.05-16.20	IS-MN-035A Study on Corrosion Behavior of Storage Tanks filled with Biodiesel and the	16.05-16.20	IS-RN-016 Catalytic Pyrolysis of Asbuton Into Liquid Fuel with Zeolite as Catalyst



	Blends (Leily Nurul Komariah, Tri Kurnia Dewi, & Cindi Ramayanti)		(Nurullafina Saadah, Susianto, Ali Altway, Azka A.F. Nugroho, Eldira N. Wena, Aldy H. Wibisono, Redina A.N.Q. Putri)
16.20-16.35	IS-MN-036A Effect of The Addition of Rice Straw Nanofiber and Zinc Oxide on The Mechanical Properties and Biodegradability of Bioplastic (Haryanto, Regina H.N., Angga. Y.S.)	16.20-16.35	IS-RN-018 Production of Bioethanol from Colocasia Esculenta (L.) Schott (Talas Liar) by Hydrolysis Process (Erti Praputri, and Elmi Sundari)
16.35-16.50	IS-MN-059 Volume Fraction Dependent Morphological Transition of Silica Particle Derived from Sodium Silicate (Lailatul Qomariyah, W. Widiyastuti, Sugeng Winardi)	16.35-16.50	IS-RN-022 Effect of Temperature in Coal Conversion Process Using Solar Sulfatic Acid (H ₂ SO ₄) (Lince Muis, Edwin Permana, ahmad Taufik)
16.50-17.05	IS-MN-031A Carbonization of Lignin Extracted from Liquid Waste of Coconut Mesocarp Delignification (W. Widiyastuti, Mahardika Fahrudin Rois, Heru Setyawan, Siti Machmudah, and Diky Anggoro)	16.50-17.05	IS-RN-034 Effect of n-Hexane as Co-solvent on In situ Transesterification from Spirulina platensis using Microwave (Ummu Kalsum, Ahmad Roesyadi, Mahfud Mahfud)
17.05-17.20	IS-MN-034 Photocatalytic Activity of ZnO-Ag Nanocomposites Prepared by One-Step Process Using Flame Pyrolysis (K. Kusdianto*, W. Widiyastuti1), Manabu	17.05-17.20	IS-RN-028 Study of Severity Behavior of N ₂ -Assisted Subcritical Water Hydrolysis for Biohydrogen Production from Coconut Husk (Maktum Muharja, Dimas



	Shimada, Tantular Nurtono, Siti Machmudah, and Sugeng Winardi*)		Khoirul Umam, Dini Pertiwi, Jayyid Zuhdan, Tantular Nurtono, Arief Widjaja)
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Thursday, October 4, 2018 - Ballroom**ROOM : Binuang # Kinantan**

Chair : Dr. Kusdianto		Chair : Hikmatun Ni'mah, PhD	
Binuang Room		Kinantan Room	
11.30-11.45	IS-RN-049 Electricity Generation from Tofu Wastewater and Palm Oil Mill Effluent (POME) using Microbial Fuel Cell (Ardiyan Harimawan, Kenny Zephaniah Suryaga, Hary Devianto, and Tjandra Setiadi)	11.30-11.45	IS-FT-023 Comparative on the Chemical Characteristics of Pectin Isolated from Indonesian Various Fruit Peels (Siti Susanti, Silviana Silviana, Fahmi Arifan, Anang M Legowo, and Nurwantoro)
11.45-12.00	IS-RN-050 Effects of the Origin on the Composition of Bio-hydrocarbons Produced by Decarboxylation of Pongamia Pinnata L. Oils (Godlief Fredrik Neonufa, Tirto Prakoso, Meiti Pratiwi Tatang Hernas Soerawidjaja)	11.45-12.00	IS-FT-026A Antimicrobial Effect of Curcuminoids in Natural Deep Eutectic Solvent (NADES) and Its Application as An Antimicrobial Photodynamic Therapy (aPDT) (Orchidea Rachmaniah*, Galang Ramdhani Fitra Gama, Zandhika Alfi Pratama, and M. Rachimoellah)
12.00-12.15	IS-RN-051 Preparation of Catalyst Cu-ZnO-MgO-Al ₂ O ₃ for Direct Synthesis of DME (Titis Swastika, Aisyah Ardy,	12.00-12.15	IS-PE-013 Thermal Pyrolysis of Polypropylene Plastic Waste Into Liquid Fuel: Reactor Performance Evaluation



	Herri Susanto)		(Munas Martynis, Mulyazmi, Eddo Winanda, and Afrina Nuratika)
12.15-12.30	IS-RN-052 Activation of Coconut Shell and Randu Wood Biochar as Heterogeneous Catalyst Support for Biodiesel Production (Yano Surya Pradana, Hafid Sahli Mukafa, Nur Rochim, Humam Budi Satriawan, Arif Hidayat, Arief Budiman)	12.15-12.30	IS-PE-014 Testing Instrument For Water Quality and Drinking Water Using Oxidation and Electromagnetic Methods (Case Study: Local Water Company at Bangka Barat) (Veny Luvita, Nur Tjahyo Eka Darmayanti, Ghuftron Zaid, Dyah Setyarini)
12.30-13.30 LUNCH			
Chair : Endarto Y.W., PhD		Chair : F. Taufany, PhD	
Binuang Room		Kinantan Room	
13.30-13.50	IS-IS-005 <u>Dr. Chihiro Yoshimura</u> Potential of Nano-carbon Materials for Treating Organic Compound in Effluent Water	13.30-13.50	IS-IS-001 <u>Dr. Miftahul Huda</u> Implementation of Coal Gasification Technology In Indonesia, Its Opportunitis And Challenges
13.50-14.05	IS-WT-008 The Effect of Flow Rate on Performance Analysis of Fixed Bed Column and Adsorption Model: Dye Removal of Jumptan Wastewater with Activated Carbon Made from Betel Nuts (Lia Cundari, Bazlina D. Afrah, Asyeni M. Jannah, Mulkan Hambali, Patrick R. Meizakh, M. A. Aziz)	13.50-14.05	IS-PE-003 Technology Selection of LNG Receiving Terminal in Gresik East Java (Rahmat Wicaksono & Mahmud Sudibandriyo)



14.05-14.20	IS-WT-010 Synthesis and Performance Assessment of Coconut Fiber Solid Adsorbent for Waste Cooking Oil Purification as Biodiesel Feedstock (Rama Oktavian, Bambang Poerwadi, Mochamad Reza Pahleva, Mochammad Wahyu Muharyanto, & Supriyono)	14.05-14.20	IS-PE-004 Alternative of LNG Cold Exergy Utilization for Generating Electrical Energy at Gresik LNG Receiving Terminal (Septarro Brilliant Aji Putra and Mahmud Sudibandriyo)
14.20-14.35	IS-WT-001 Preparation of Activated Carbon from Mangrove Waste by KOH Chemical Activation (Paryanto, Wusana Agung Wibawa, Dwi Hantoko, Muhammad Eko Saputro)	14.20-14.35	IS-PE-012 Hydrodynamic of Hydrolysis of the Rice Husk Cellulose by Using CFD Modelling (Ansys Fluent 16) (Novia Novia, Lia Cundari, Asyeni Mifathul Jannah, Mollina Kenanga Haphsari, Melda Zulfani)
14.35-14.50	IS-WT-020 Performance of Interlayer-free Pectin Template Silica Membranes for Brackish Water Desalination (Aulia Raha, Muthia Elma, Mahmud, Chairul Irawan, Amalia E. Pratiwi dan Erdina L. A. Rampun)	14.35-14.50	IS-PE-019 Parametric Modelling of Selective H ₂ S Absorption form H ₂ S-CO ₂ Gas Mixture using Sodium Hydroxide Solution (Anggit Raksajati, Antonius Indarto, Danu Ariono)
14.50-15.05	IS-WT-014 Influence of Shewanella oneidensis MR-1 Bacterial Metabolism Process on Waste Treatment of Cr and Mn Metals In Reactor Microbial Fuel Cell (MFC)	14.50-15.05	IS-PE-020 Root Cause Analysis of Explosion Accident at a Spray LPG Usage Plant (Jenny Rizkiana, Yogi Wibisono Budhi, Hary Devianto, Pramujo)



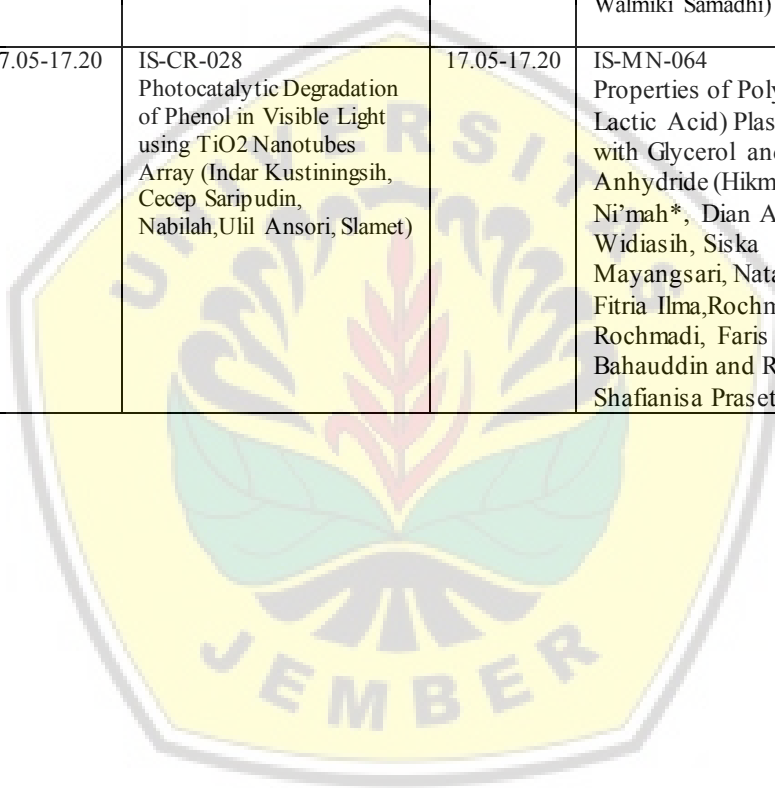
	(S.R. Juliastuti*, Raden Darmawan, Nuniek H, Ginanjar Adi P, Tommy Adam B)		Widyatmoko, Zulkarnain Yunus, Elfano Eneilmly, Yazid Bindar)
15.05-15.20	IS-WT-029A Graphene Oxide (GO) Membrane in Removing Heavy Metals from Wastewater: A Review (Megawati Zunita, Ratri Irawanti, Graecia Lugito, T A Koesmawati)	15.05-15.20	IS-PE-027 Water and Power Consumption Reduction by Gas Conditioning Tower System Modification in Cement Industry (Chandra Wahyu Purnomo* , Rochim Bakti Cahyono, Aris Setiawan, Nur Amin, Triyono)
15.20-15.35	IS-WT-031 Alkali Modified Jackfruit wood sawdust as Bio Adsorbent for removal of Pb(II) ions from Wastewaters (Tintin Mutiara, Lucky Wahyu Nuzulia Setyaningsih, Achmad Chafidz, Budi Satria Panandita, and Riantoro Raharjo)	15.20-15.35	IS-PE-001 Potassium Enrichment of Treated Palm Oil Mill Effluent in a Fixed Bed Contactor (Sunu Herwi Pranolo, Abdurachman Muizuddin, Kresna Thufail Ayyubbiru)
15.35-15.50 Coffee Break			
Chair : Dr. Siti Machmudah		Chair : Setiyo Gunawan, Ph.D	
Binuang Room		Kinantan Room	
15.50-16.05	IS-MN-058 The Effects of The Starting Material Composition on Synthesis of Zeolite Y from Leached Metakaolin (Endang Sri Rahayu*, Gatot	15.50-16.05	IS-SP-039 Effect of Activated Alkanolamine for CO ₂ Absorption/Desorption using Hollow Fiber Membran Contactor(Yeni Rahmawati,



	Subiyanto, Soerya Soelarta, Septian Hardi, and Alwin)		Siti Nurkhamidah, Susianto, Nidia Intan Listiyana, M. Aziz Rahmatullah, Izhar Mirza Hardian)
16.05-16.20	IS-MN-060 Differential Scanning Calorimetry as a Thermoanalytical Technique in Observing the Evolution Dispersed Droplets of Concentrated W/O Emulsion (Endarto Y Wardhono*, Mohammad Effendy*, Nufus Kanani)	16.05-16.20	IS-MN-062 The Utilization of Bagasse Fly Ash for Mesoporous Silica Synthesis (Chandra Wahyu Purnomo, Sang Kompiang Wirawan, Hirofumi Hinode)
16.20-16.35	IS-MN-042 Natural Rubber Powder Production from Latex (A. Z. Abidin, N. R. Winartha, I. Rahardi, D. A. Trirahayu)	16.20-16.35	IS-MN-061 Blend Composition Dependent Adsorption of Cationic Dye on Cellulose Acetate/Poly(L-Lactic Acid) Porous Beads (Hikmatun Ni'mah, Natasya Fitria Ilma, Rieza Shafianisa Prasetyarani, Faris Bahauddin, Ardha Fanani Aslam, Achmad Roesyadi, Eva Oktavia Ningrum)
16.35-16.50	IS-TS-007 Hydrate Formation Calculation in The Natural Gas Purification Unit (Juniar AryaPrajaka, Jodi Himawan, Juwari, Renanto)	16.35-16.50	IS-MN-047A Themosensitive Sulfobetaine Gel Based Adsorbent: Effect of Cation and Anion Species on Transition and Adsorption Behaviors (Eva Oktavia Ningrum, Shuji Sakohara, Takehiko Gotoh, Soeprapto, Nurlaili Humaidah)



16.50-17.05	IS-BT-015 Treatment of Palm Oil Mill Effluent Using Anaerobic Consortium Bacteria (Muhammad Said, Andika Septian S., Riski Julianda, Sri P. E.)	16.50-17.05	IS-MN-050 Effect of Alkali roasting pretreatment on Limonite Ore for Nickel Extraction Using Dissolved SO ₂ -Air (Meiyer Marthen Kinda, Winny Wulandari, Tjokorde Walmiki Samadhi)
17.05-17.20	IS-CR-028 Photocatalytic Degradation of Phenol in Visible Light using TiO ₂ Nanotubes Array (Indar Kustiningsih, Cecep Saripudin, Nabilah, Ulil Ansori, Slamet)	17.05-17.20	IS-MN-064 Properties of Poly(L-Lactic Acid) Plasticized with Glycerol and Maleic Anhydride (Hikmatun Ni'mah*, Dian Amalia Widiasih, Siska Mayangsari, Natasya Fitria Ilma, Rochmadi Rochmadi, Faris Bahauddin and Rieza Shafianisa Prasetyarani)



**Thursday, October 4, 2018 - Ballroom****ROOM : Harau # Anai**

Chair : Hakun W., PhD		Chair : Dr. Sri Rachmania Juliastuti	
Harau Room		Anai Room	
11.30-11.45	IS-CR-012 Utilization of Glycerol by Ketalization Reaction with Acetone to Produce Solketal Using Indion 225 Na as Cataly (Hary Sulisty, Didan Prasiabda Priadana, Yasinta Wahyu Fitriandini, Indri Hapsari)	11.30-11.45	IS-PE-009 Heterogeneous Model of a Trickle Bed Reactor for Upgrading Biodiesel (Yuswan Muharam, Taqi Aufa)
11.45-12.00	IS-CR-013 Characterization of Alumina Supported Cobalt and Chromium Catalysts: Effect of Calcination Temperatures (Mardwita Mardwita, Eka Sri Yusmartini, Nidya Wisudawati)	11.45-12.00	IS-PE-010 Scale up of a Stirred Batch Reactor for Vegetable Oil Transesterification Using Computational Fluid Dynamics (Yuswan Muharam; Muhammad Ruby Mujakki)
12.00-12.15	IS-FT-035 The Influence of Strong Reduced Water and Fresh Coconut Oil in Viscosity of Liquid Hand Soap (Endah Sulistiawati, Erna Astuti & Imam Santosa)	12.00-12.15	IS-PE-015 Study of the Time-Dependent Flow Field of Water-Molasses System Inside the Conical-Bottomed Cylindrical Stirred Vessel Computationally (Suci Madhania, Sugeng Winard, Yuswan Muharam, Widodo Wahyu Purwanto)
12.15-12.30	IS-FT-029 The Improvement of Soy Milk Nutrition by Addition of Drumstick Tree	12.15-12.30	IS-FT-004 Evaluation of OPEFB Hydrothermal Pre-treatment Effect on Xylanase



	(Moringaoleifera) Leaves Extract as a Fortificant (Orchidea Rachmaniah, Eva Oktavia Ningrum, Firman Kurniawansyah, Sari Kusumahati, Galang Ramdhani Fitra Gama, Zandhika Alfi Pratama, Siti Zulaikah, Nikmatun Ni'mah, Soeprapto, and Soeprijanto)		Production (Diah Meilany, MTA Penia Kresnowati, Tjandra Setiadi)
12.30-13.30 LUNCH			
Chair : Donny Bhuana		Chair : Ellyta Sari	
Harau Room		Anai Room	
13.30-13.50	IS-IS-009 <u>Dr Ir Sumarno, M.Eng</u> High Intensity Energy Application in Biopolymer Degradation	13.30-13.50	SN-IS-002 Dr. Tantular Nurtono Pembelajaran Teknik Kimia Berbasis Komputer Menggunakan Perangkat Lunak Tidak Berbayar
13.50-14.05	IS-FT-033 Defatted Rice Bran A Byproduct of Oil Extraction with Ultrasonic Method for Protein Supplement in Cassava-Flour Biscuits (Ratri Ariatmi Nugrahani , Tri Yuni Hendrawati , Nurul Hidayati Fithriyah, Nelfiyanti)	13.50-14.05	SN-MN-001 Matrik Pengontrol Pelepasan Urea Berbasis Karagenan: Pengaruh Konsentrasi Glutaraldehyd (Sperisa Distantina dan Mujtahid Kaavessina)
14.05-14.20	IS-FT-036 Heat Transfer Evaluation on Microwave Sterilization: Case Study of Oil Palm	14.05-14.20	SN-MN-002 Peningkatan Kuat Tarik Bioplastik dengan Filler Microfibrilated Cellulose



	Fruit (Maya Sarah)		dari Batang Sorgum (Yuli Darni, Lia Lismeri, Muhammad Hanif, Sarkowi, Dita Sintauli)
14.20-14.35	IS-FT-025 Effect of Hydrocolloid on Characteristics of Gluten Free Bread from Rice Flour and Fermented Cassava Flour (Fercaf) (Dianika Lestari, Afina Rahmani, M.T.A.P. Kresnowati, Lienda Aliwarga, Yazid Bindar)	14.20-14.35	SN-MN-005 <i>Precipitated Calcium Carbonate</i> (PCC) dari Terumbu Karang sebagai Bahan Baku Sintesis Nanopartikel Hidroksiapatit (Yelmida Azis*, Komalasari, Cory Dian Alfarisi, Rozanna Sri Irianty)
14.35-14.50	IS-FT-034 Enhanced Extraction of Phenolic Compounds From Moringa Oleifera Leaves Using Subcritical Water Ethanol Mixture (Siti Zullaikah, Rosada Yulianti, Putri Meinawati, Khoirunina Fauziyah, M. Rachimoallah, Orchidea Rachmaniah, Siti Nurkhamidah, Ni Made Intan Putri Suari, Endry Nugroho Prasetyo)	14.35-14.50	SN-MN-007 Ekstrak Daun Teh sebagai Inhibitor Organik Korosi Baja Dalam Larutan Asam (Wahyu Budi Utomo, dan Octovianus SR Pasanda.)
14.50-15.05	IS-MN-021 Deposition of Ultrasonic Nebulized Aerosols onto a Hydrophilic Surface (K. Kusdianto, Masao Gen, Mitsuki Wada, Sugeng Winardi, and Wuled Lenggoro)	14.50-15.05	SN-MN-009 Penggunaan Kembali Limbah Cair Dari Sintesis Zeolit Y Sebagai Sumber Silika untuk Sintesis Zeolit Y Secara Hidrotermal (Endang Sri Rahayu*, Desi Bentang, Ghina Fauziyyah)



15.05-15.20	IS-MN-007 The Effect of Air Exposure on the Polyethersulfone (PES) Membrane Impregnated Carbon Based Nanomaterials Characters (Jono Suhartono, Agus Saptoro, Carlina Noersalim, Dyah Setyo Pertiwi, Devi Yulianingsih, Falashiva Sofianti)	15.05-15.20	SN-CE-001 Sistem Pembelajaran Mata Kuliah “Metode Pengukuran Dan Analisis Kimia” pada Program Studi Teknik Kimia – ITB (Melia L. Gunawan, C.B. Rasrendra, Megawati Zunita, Graecia Lugito, dan Kevin Yonathan)
15.20-15.35	IS-MN-057 Carbon-coated single-phase Ti ₄ O ₇ Nanoparticles As Electrocatalyst Support (Aditya Farhan Arif*, Osi Arutanti, and Takashi Ogi)	15.20-15.35	SN-SP-004 Pengaruh Penambahan Surfaktan SIs dan Mes Pada Proses Dewaxing Slack Waxes (Tun Sriana, Woro Rukmi H, Sri Lestari, Bambang Pramudono)
15.35-15.50 Coffee Break			
Chair : Vivi Nurhadianty		Chair : Nuniek Hendrianie	
Harau Room		Anai Room	
15.50-16.05	IS-SP-041 Separation of Hydrogen Sulfide from Biogas Using ZnO-CuO Adsorbent Impregnated on Activated Carbon (Sanggono Adisasmito*, Carolus B. Rasrendra, I Wayan Eka Prapta, Carissa L. Teraja)	15.50-16.05	SN-FT-001 Aktivitas Antioksidan dari Ting-Ting Jahe dengan Menggunakan Jahe Merah dan Jahe emprit (Firdausni & Kamsina)
16.05-16.20	IS-SP-046 The Effect of Cutting Point Distillation Variations Regarding to Reusing Aniline Solution (Tun	16.05-16.20	SN-FT-004 Sabun Kalsium dari PFAD untuk Pakan Ruminansia: Kualitas Pfd sebagai Sumber Asam Lemak Bebas



	Sriana and Basit Budiana)		(Lienda A. Handoyo, Antonius Indarto, Dian Shofinita, Muhammad Reyhan Saadi, Dea Yulistia & Fathinah I. Hasyiyati)
16.20-16.35	IS-SP-047 Comparison of Performance Characteristic Prediction of Sieve Tray with and without Downcomer (Soejoto Gondosurohardjo, Ali Altway*, Fadlilatul Taufany, Siti Nurkhamidah)	16.20-16.35	SN-FT-005 Variasi Antioksidan dalam Pembuatan <i>Protected Active Dried Yeast</i> (Ronny Purwadi, Vita Wonoputri, Febri Ulfa Fitriana & Najwa Shufia Choliq)
16.35-16.50	IS-SP-042 A Novel Development Iodization of Local Salt Based on Purification Technique Using Saturated Brine Washing Method (Tri Widjaja*, Ali Altway, Ignatius Gunardi, Niken Prasetyawati, Moh. Saifulloh, Lily Pudjiastuti, Dennis Farina Nurya, Aulia Faizatul Nabila)	16.35-16.50	SN-FT-002 Pengaruh Aditif <i>α-Tocoferol</i> (Vitamin. E) Terhadap Sifat-Sifat Material Edibel Film Kitosan Asal Udang Windu (Irwana Sofia, Mohammad Badai, Swastanti Brotowati)
16.50-17.05	IS-SP-001 Temperature-dependent Kinetics of Aluminum Leaching from Peat Clay (Agus Mirwan, Susianto, Ali Altway, Renanto Handogo)	16.50-17.05	SN-RN-002 Konversi <i>Syngas</i> Menjadi Metanol Menggunakan Katalis $\text{Cu/ZnO/Al}_2\text{O}_3$ (Edwin Permana*, Randi Maulana, S.D. Sumbogo Murti, Fusia Mirda Yanti, Lince Muis)



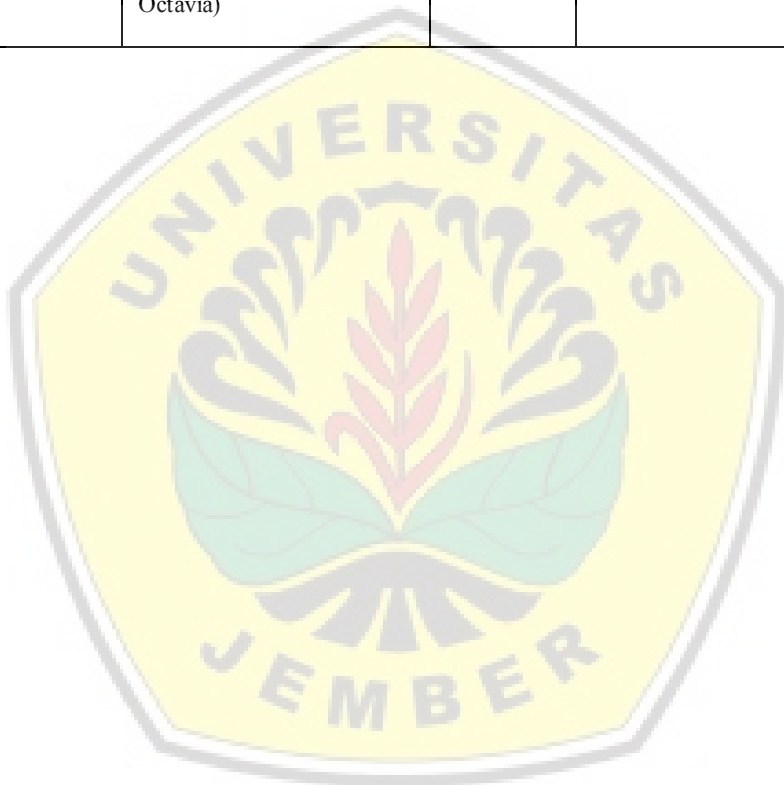
MUNAS APTEKIM

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SNTKI

4th-6th October 2018, Padang, West Sumatera, Indonesia

17.05-17.20	IS-FT-028A Effect of Extraction Time on <i>Averrhoa bilimbi</i> Leaf Ethanollic Extracts Using Soxhlet Apparatus (Helda Niawanti, Yulius Sitama Lewar, Nanda Novita Octavia)		
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**Friday, October 5, 2018 - Ballroom****Session Chair : Prof. Misri Gozan**

08.00-08.30 IS-PS-004 Prof. Fusheng Li "Activation Carbon Adsorption for Advanced Drinking Water Treatment"
08.30-09.00 IS-PS-003 Prof. Manabu Shimada "Generation and Processing of Fine Particle in Gas-phase Environment"
09.00-09.30 IS-PS-002 Prof. Meng-Jiy Wang "Synergetic Structural and Chemical Effects on the Modulation of Bioresponses by Chemical Methods and Plasma Technology"
09.30-09.45 Coffee Break

Friday, October 5, 2018**ROOM : Ballroom # Gumarang**

Chair : Dr. Widiyastuti		Chair : Dr. Siti Machmudah	
Ballroom		Gumarang Room	
09.45-10.00	IS-MN-025 The Effect of Total Sulfur Content and Total Acid Number (TAN) on Small Scale Oil Refinery (Hary Devianto, Mitra Eviani, Ryan A. Rahardi, Fauzi Yusupandi)	09.45-10.00	IS-FT-002 Thin Layer Modeling of Paddy Drying in Fluidized Bed Dryer (Suherman, Evan Eduard Susanto)
10.00-10.15	IS-MN-026 Synthesis and Characterization of Stimuli-Responsive Chitosan-Based Hydrogels for The Controlled Drug Release (Dhena Ria Barleany, Hafid Alwan, Agus Rochmat,	10.00-10.15	IS-FT-003 Refining and Physicochemicals of Tengkawang Oil Shorea stenoptera Origin Sintang District West Kalimantan (Nurul Hidayat, Muhammad Arif



	Andriano Suryawan Utama, Ukas Riyupi, Erizal)		Darmawan, dan Misri Gozan)
10.15-10.30	IS-MN-031 Comparative Characterization of Chitosan/Gelatin/Geotherma l Silica Biocomposites in Two-Dimensional Film and Three-Dimensional Scaffold Forms (Yuni Kusumastuti, Francisca Larasati, Dwi Reinaldy Gunawan, Mazaya Najmina, Nur Rofiqoh Eviana Putri, Himawan Tri Bayu Murti Petrus, and Mime Kobayashi)	10.15-10.30	IS-FT-022 The Effects of Vacuum Evaporation on Amino Acid Contents in Pured Aloe Chinensis Baker Gel using HPLC (Tri Yuni Hendrawati, Ratri Ariatmi Nugrahani, Anwar Ilmar Ramadhan, Susanty, Agung Siswahyu)
10.30-10.45	IS-MN-032A Formation of Carbon Fibers from Polymer Poly(vinyl alcohol)/Acetylene Black Composite (Rizka Ayu Yuniar, Widiyastuti, H Setyawan, H Purwaningsih, Ni Made Intan Putri Suari)	10.30-10.45	IS-FT-037 A Novel Development Iodization of Local Salt Based on Purification Technique Using Saturated Brine Washing Method (Tri Widjajaa*, Ali Altwaya, Ignatius Gunardia, Niken Prasetyawatib, Moh. Saifullohb, Lily Pudjiastutia, Dennis Farina Nurya, Aulia Faizatun Nabilaa)
10.45-11.00	IS-MN-032 CNT Synthesis from POME by Pyrolysis Using Tubular Furnace (Isdiriyani Nurdin, Hary Devianto, Pramujo Widiatmoko, Tirto Prakoso,	10.45-11.00	IS-FT-039 Feasibility of Biopesticide Production Plant from Extract Tobacco (Ahmad Fauzantoro, Pratiwi, Yuszda, Misri Gozan)



	Nurizal Furqon Nugraha, and Sy Srimurti)		
11.00-11.15	IS-MN-033 Synthesis of Biodegradable Plastic from Banana Weevil Starch with Carboxy Methyl Cellulose and Lemongrass Oil using Glycerol as Plasticizer (Syaubari, Irmayanti, Hisbullah and Medyan Riza)	11.00-11.15	IS-FT-030 The Extraction of Essential Oil from <i>Pogostemon cablin</i> Benth using Microwave Hydrodistillation: Pilot Scale (Iqbal Kamar, Heri Septya Kusuma, Lailatul Qadaryah, and Mahfud Mahfud)
11.15-11.30	IS-MN-044 Effect of Curcuma Extract and Surfactant Concentration on o/w Curcuma Extract Nano-emulsion Characteristics (Niken Harimurti, Iceu Agustinisari, Hoerudin)	11.15-11.30	IS-FT-012 In <i>vivo</i> Reduction of Inflammation of Anti-Atherosclerotic Herbs to White Rats <i>Rattus norvegicus</i> (Dewi Trisnantini and Riska Amalia)
11.30-13.30 FRIDAY PRAYER AND LUNCH			
Chair : Dr. Widiyastuti		Chair : Eduardus Budi Nursanto, Ph.D	
Ballroom		Gumarang Room	
13.30-13.50	IS-IS-008 <u>Prof. Heru Setyawan</u> The Electrochemical Method for The Production of Magnetite Nanoparticles and Its Scale Up	13.30-13.50	IS-IS-007 <u>Prof. Renanto Handogo</u> Light Fraction Separation from used Lube Oil Using Atmospheric Batch Distillation and Vacuum Batch Distillation
13.50-14.05	IS-MN-030 Synthesis and Characterization of	13.50-14.05	IS-MT-002 Optimization of LNG Logistics System to Meet



	Hydroxyapatite from Duck Eggshell by Wet Precipitation Process (Yelmida Azis, M. Adrian Tanjung, Fajril Akbar, Yusnimar Sahan, Cory Dian Alfarsi, Toni Arissaputra)		Gas Supply at Gresik LNG Receiving Terminal (Muhlison Raharjo and Mahmud Sudibandriyo)
14.05-14.20	IS-MN-003 Potential of Strong Acid Process for Urea-Formaldehyde Resin Preparation (Dicky Dermawan, Lucky William Kusnadi, Jemmy Lesmana)	14.05-14.20	IS-MT-003 Scenario of LNG Logistic Transportation Schemes for Gas Fired Power Plant in Papua and West Papua Province (Yusuf Kusdinar and Mahmud Sudibandriyo)
14.20-14.35	IS-MN-022 Effect of H ₂ S Concentration in Produced Water Environment on Carbon Steel Corrosion (Festi Irmayani, Isdiriyani Nurdin, Pramujo Widiatmoko, Hary Devianto)	14.20-14.35	IS-CE-001 Learning From Merapi Eruptions: Influence of Ash Particle Size on Heat Transfer Between Gas and Particle in The Pyroclastic Ash Claude Surge (ACS) (Moh Fahrurrozi, Wahyudi B. Sediawan, and Wahyu Wilopo)
14.35-14.50	IS-MN-024 Optimization of Non-autoclaved Aerated Concrete using Phosphogypsum of Industrial Waste based on Taguchi Method (Ndaru Candra Sukmana, Mohammad Izzudin Khifdilah, Avan Sugeng Nurkholil, Ufafa Anggarini)	14.35-14.50	IS-PE-018 Numerical Study of the Hydrodynamic Characteristics in Agitated Tank with Side-Entry Mixer: The Effect of Stirrer Entry Angle (Ni'am Nisbatul Fathonah, Tantular Nurtono, and Sugeng Winardi)



14.50-15.05	IS-MN-052 Melt Rheological Behavior of High Density Polyethylene/Poly(Vinyl Alcohol) Fiber Composites Prepared via Melt Compounding Method (Achmad Chafidz, Wara Dyah Pita Rengga, Nur Indah, Lucky Setyaningsih, Ajeng Y.D. Lestari, Mujtahid Kaavessina)	14.50-15.05	IS-PE-022 Modelling and Optimization of a Rotary Cement Kiln (Serlya Aldina, Juwari Purwo Sutikno, Renanto Handogo)
15.05-15.20	IS-MN-054 Fabrication of Porous Hydroxyapatite/Chitosan Composite Bodies Through Dip-Coating Method (Ahmad Fadli, Edy Saputra, Komalasari, Arosyidin)	15.05-15.20	IS-PE-025 Process Dynamic and Control for Nonconventional Column/Rectifier Configuration with Aspen Hysys v10.0 (Riza Aris Hikmadiyar, Juwari Purwo Sutikno, Renanto Handogo, Zahrotul Azizah.)
15.20-15.35	IS-MN-063 Mixing Solvent's Effect to the Characterization of Cellulose Acetate/Polyethylene Glycol Membrane (Siti Nurkhamidah, Yeni Rahmawati, Fadlilatul Taufany, Yusril Eka Fahrizal, Irham Hikmawan Ramadhan)	15.20-15.35	IS-PE-006 Cooking Ability of Singkong Gajah Wood (Manihot esculenta crantz) as Pulp Raw Material with Eucalyptus and Acacia Mangium Wood Comparison using Kraft Pulping Method (Bambang Irawan, Vebria Ardina, Danawati Hari Prajitno, Achmas Roesyadi)



15.35-15.50 Coffee Break			
Chair : Dr. La Ifa		Chair : Eduardus Budi Nursanto, Ph.D	
Ballroom		Gumarang Room	
15.50-16.05	IS-MN-056 The Economics Analysis of Submerged Membrane Palmoil Wastewater Filtration (Erna Yuliwati*, Elfidiah, Kiagus Ahmad Roni, Ahmad Fauzi Ismail, Ani Melani)	15.50-16.05	IS-RN-083 Development of Integrated Renewable Energy System Model for Rural Productivity Zone in East Nusa Tenggara (Nabila Putri Salsabila, Widodo Wahyu Purwanto)
16.05-16.20	IS-BT-018 Cyanide Degradation in Cassava Leaves by Solid-State Fermentation using <i>Saccharomyces Cerevisiae</i> (Mohamed Hawashi, Hakun W. Aparamarta, Tri Widjaja, Setiyo Gunawan)	16.05-16.20	IS-RN-084 The Comparison of Solvent Combination for Lipid Extraction of <i>Nannochloropsis sp.</i> using Hydrodynamic Cavitations (Martomo Setyawan, Panut Mulyono, Sutijan, dan Arief Budiman)
16.20-16.35	IS-BT-012 The Effect of Two-Stage Pretreatment to Enhance the Production of Reducing Sugar from <i>Arenga pinnata</i> Waste (Tri Widjaja, Ali Altway, Lily Pudjiastuti, Fibrillian Zata Lini, Dennis Farina Nury, and Toto Iswanto)	16.20-16.35	IS-RN-092 Utilization of Emission Carbon Dioxide Gas into High Economic Value Chemicals: Diethyl Carbonate (Dina Aslya, Siska Febriani, Fransiskus Adian, Rizky Tetrisyanda, Annas Wiguno, Setiyo Gunawan, Firman Kurniawansyah, Gede Wibawa)
16.35-16.50	IS-BT-022 Utilization of Molasses to Produce Lactic Acid by	16.35-16.50	IS-RN-093 Calcium Carbonate-Catalyzed Microwave-



	using <i>Lactobacillus delbrueckii</i> and <i>Lactobacillus plantarum</i> (Siti Nurkhamidah, Ali Altway, Susianto, Yeni Rahmawati, Fadhilatul Taufany, Nuniek Hendrianie, Hikmatun Ni'mah, Ignatius Gunardi, Siti Zulaikah, Eva Oktavia Ningrum, Retno Dwi Nyamiati, Arnesya Ramadhani)		Assisted Production of Biodiesel from Calophyllum Inophyllum Oil (Lailatul Qadaryah*, Raka Selaksa, Ansori Ansori, Sasmitha Ayu Wibowo, Donny Satria Bhuana, and Mahfud Mahfud*)
16.50-17.05	IS-SP-048 Temperature and Sodium Dodecylbenzene Sulfonate Effect in Separation of Bitumen from Asbuton using Hot Water Process (Susianto, Ali Altway, Yosita D. Anindita, Ika Y. Rachmawati, Novira Dewanti)	16.50-17.05	IS-RN-088 Effect of External Resistance and Molasses Supplemented within Lapindo Mud to Generate Electricity using Microbial Fuel Cells (Raden Darmawan, Sri Rachmania Juliastuti, Nuniek Hendrianie, Veby Saragih, Kelita Mea Melaca, Sandra Sopian, and Masato Tominaga)

***Friday, October 5, 2018*****ROOM : Mentawai # Pagaruyung**

Chair :Siti Nurkhamidah, PhD		Chair : Dr. Reni Desmiarti	
Mentawai Room		Pagaruyung Room	
09.45-10.00	IS-MN-037A Characterization of Zeolite a from Coal Fly Ash via Fusion-Hydrothermal Synthesis Method (Winny Wulandari, Tifa Paramitha, Jenny Rizkiana, Dwiwahju Sasongko)	09.45-10.00	IS-WT-032 Oil Palm Empty Fruit Bunch Ash Valorization through Potassium Extraction (Tjokorde Walmiki Samadhi, Kezia R. Tirtabudi, Winny Wulandari)
10.00-10.15	IS-MN-043 Melt Rheological Properties of Polypropylene/Clay Nanocomposites Prepared from Masterbatch: Effect of Nanoclay Loadings and Reprocessing (Achmad Chafidz, Arif Hidayat, Sholeh Ma'mun, Bachrun Sutrisno, Faisal RM, Mujtahid Kaavessina)	10.00-10.15	IS-WT-026 Study of Nanoparticle Distribution in Water Treated with Combined Filtration-Inductively Coupled Plasma System (Yenni Trianda, Reni Desmiarti, Ariadi Hazmi, Munas Martynis, and Fusheng Li)
10.15-10.30	IS-MN-048 Biobriquette from Biochar by-Products of Liquid Smoke Production from Cashew Nut Waste (La Ifa, Setyawati Yani, Nurjannah Nurjannah, Zakir Sabara, Yuliana Yuliana and Mahfud Mahfud)	10.15-10.30	IS-WT-027 Treatment of Raw Sources Water of Drinking Water by Biopolymer Chitosan-Clay Minerals Composite (Chairul Irawan, Iryanti Fatyasari Nata, Meilana Dharma Putra, Maulana Wahyu N., Luthfan and Yulian Firmana Arifin)
10.30-10.45	IS-MN-049 Thermal Analysis and Kinetic Study of Low	10.30-10.45	IS-WT-033 Performance Evaluation of Coal Fly Ash Based Zeolite



	Density Polyethylene (LDPE)- Chitosan Biocomposite (Yuni Kusumastuti*, Daniel Timotius, Nur Rofiqoh Eviana Putri, Muh Wahyu Syahbani, and Rochmadi)		A for Heavy Metal Ions Adsorption of Wastewater (Tifa Paramitha, Winny Wulandari, Jenny Rizkiana, Dwiwahju Sasongko)
10.45-11.00	IS-MN-055 Synthesis Optimization and Characterization of CoAl_2O_4 Nanoparticles as Blue Pigment (Nurul Hidayati Fithriyah, Erdawati, Athiek Sri Redjeki)	10.45-11.00	IS-WT-037 Activated Carbons from Palm Kernel Shells Prepared by Physical and Chemical Activation for Copper Removal from Aqueous Solution (Teku Muhammad Asnawi, Husni Husin*, Adisalamun, Wahyu Rinaldi, Abubakar, and Fikri Hasfita)
11.00-11.15	IS-MN-036 Electrophoresis Deposition of Silica on Stainless Steel for Corrosion Protection (Ni Made Intan Putri Suari, Delyana Ratnasari, Sahara Tulaini, Widiyastuti Widiyastuti and Heru Setyawan*)	11.00-11.15	IS-WT-044 Recycled Flow Study for Biosorption of Pb(II) Ion from aqueous Solutions by Soybean Waste Biomass (<i>Glycine Max</i>) (Harmiwati, Zulkarnain Chaidir, Reni Desmiarti, and Rahmiana Zein)
11.15-11.30	IS-MN-045A Reversible Adsorption-Desorption of Zn (II) and Pb (II) in Aqueous Solution by Themosensitive-Sulfobetaine Gel Based Adsorbent (Eva Oktavia Ningrum, Agus Purwanto, Galuh Chynintya Rosita,	11.15-11.30	IS-WT-034 Liquid Organic Fertilizer from Waste of Coconut Porridge Manufacturer and Molasses using Various Microorganisms (Raden Darmawan, Fariz Hidayat, Sri Rachmania Juliastuti, Nuniek Hendrianie, Setiyo



	Asep Bagus, Toni Suharto)		Gunawan, and Hakun Wirawasista A)
11.30-13.30 FRIDAY PRAYER AND LUNCH			
Chair : Ni Made Intan P.S.		Chair : Rama Oktavian	
Mentawai Room		Pagaruyung Room	
13.30-13.50	IS-IS-006 <u>Prof. Arief Widjaja</u> Cellulases and Xylanase Immobilized on Chitosan Magnetic Particles in Application for Coconut Husk Hydrolysis (Afan Hamzah and Arief Widjaja)	13.30-13.45	IS-WT-005 Enhancement of Drinking Water Treatment by Combined Filtration-ICPS: Integrated Evaluation Based on EEMs, DOC, UV260 and Removal of Pathogenic Bacteria (Reni Desmiarti, Ariadi Hazmi, Yenni Trianda, Ramayandi, Devi Winarni, Fusheng Li)
13.50-14.05	IS-BT-003 Improving Yield and Quality Characteristics of Kaffir Lime Oil (Citrus Hystrix D.C.) by Solid Fermentation Pretreatment using Tempeh's Yeast (Vivi Nurhadianty, Aji Hendra Sarosa, Ida Wahyuningsih, Anisa Uly Ulya, and Chandrawati Cahyani)	13.45-14.00	IS-WT-024 The Treatment of Hospital Wastewater with Electrocoagulation using Iron Electrodes: Analysis by Response Surface Methodology (Darmadi, Husni Husin, Mirna Rahmah Lubis, Adisalamun)
14.05-14.20	IS-BT-011A Bioconversion Study of Dodecanedioic Acid from Fatty Acid and Its Ester Derivatives using Candida Tropicalis (Vita Wonoputri, Jati Putra Maharaja, The Arif Setio Nugroho, Johnner Sitompul)	14.00-14.15	IS-WT-028 The Utilization of Fiddle-Leaf Fig Waste into Food Preservative (Erna Astuti and Zahrul Mufrodi)



14.20-14.35	IS-BT-017 Evaluation of Glutathione Production Method using <i>Saccharomyces cerevisiae</i> (M.T.A.P. Kresnowati, Natasha Agustina Ikhsan, Restu Siti Nursa'adah, Nikita Nadya Santoso, and Yeremia William Susanto)	14.15-14.30	IS-WT-009 Comparative Study of Reactive Red 2 Removal using Fenton/TiO ₂ , Fenton/UV, and Fenton/TiO ₂ /UV and It's Application for Treatment of Wastewater from Jumpunan Fabric (Tuty E. Agustina, Dedi Teguh, Yourdan Wijaya, Febrian Mermaliandi, Ahmad Bustomi, Jantan Manalaloon, Gita Theodora, and Tessa Rebecca)
14.35-14.50	IS-BT-019 Biosolubilization of Indonesia's Subbituminous Coal using <i>Neurospora intermedia</i> (Elvi Restiawaty, Dwiwahju Sasongko, Ahmad Furqan Hala, Ryan Fitriani Sofwan Fauzan, and Nendry Nurramdani Solihah)	14.30-14.45	IS-WT-021 The Role of Calcium Compound on Fluorine Leaching Concentration (Farrah Fadhillah Hanum, Erda Rahmilaila Desfitri, Yukio Hayakawa, and Shinji Kambara)
14.50-15.05	IS-FT-026 Innovation of Cooking Juice in Process Production of Red-Cane Sugar in Lawang Village of Agam District (Firdaus, Elmi Sundari, Erti Praputri)	14.45-15.00	IS-WT-022 Calcium Performance in Paper Sludge Ash as Suppressing Material (Erda Rahmilaila Desfitri, Farrah Fadhillah Hanum, Yukio Hayakawa Shinji Kambaraa)
15.05-15.20	IS-FT-040 Application of Response Surface Methodology For Tannin Reduction of	15.00-15.15	IS-WT-025 Interlayer-Free Silica Pectin Membrane for Seawater Desalination (Erdina L. A.



	Cassava Leaves using Saccharomyces Under Solid State Fermentation using (Mohamed Hawashi, Hakun W. Aparamarta, Tri Widjaja, Setiyo Gunawan)		Rampun, Muthia Elma, Isna Syauqiah, Meilana Dharma Putra, Aulia Rahma, and Amalia E. Pratiwi)
15.20-15.35	IS-SP-037 Effect of Hexane and Carbon Disulfide Extraction on The Bioactive Compounds Separation from <i>Calophyllum inophyllum</i> Leaves (David F. Susanto, Hakun Wirawasista Aparamarta, Arief Widjaja, and Setiyo Gunawan)	15.15-15.30	IS-WT-045 Adsorption Cadmium and Lead Onto Natural Manganese Dioxide (Yunus Fransiscus, McFlorence W.B. Kembie, Natalia M. Tanusaputra)
15.35-15.50 Coffee Break			
Chair : Dr. Firdaus		Chair : Dr. S. R. Juliastuti	
Mentawai Room		Pagaruyung Room	
15.50-16.05	IS-SP-005 Extraction of natural dye from Ketapang leaf (<i>Terminalia catappa</i>) as an alternative to synthetic dyes for coloring textile materials (Faisal RM)	15.50-16.05	IS-WT-040 Biogas production from wastes of tofu industry with effects of water hyacinth and cow manure additions (Sharah Sa'diah and Meilana Dharma Putra)
16.05-16.20	IS-SP-009 NOx Removal from Air through Super Hydrophobic Hollow Fiber Membrane Contactors (Sutrasno Kartohardjono, Nelson Saksono and Popphy Prawati)	16.05-16.20	IS-WT-039 Bentonite Coated Chitosan Nanoparticles as a Novel Adsorbent for Mercury (II) Ions Removal from Aqueous Solution (Muhammad Zaki, Teuku Muhammad Asnawi, Veneza Aulia Sugianto, Nomi



			Soraya, Fikri Hasfita, Syawaliah and Husni Husin*)
16.20-16.35	IS-SP-026B The Development of Curcuminoids Extraction Process from Curcuma zedaria with Solids Mixture of Solvent (Orchidea Rachmaniah*, Rizqa Fauziyah, Wiwit Widiana, Elok Trilydia Ningrum, Rachma Amelinda, Masrurroh, Farichatul Maulida, and M. Rachimoellah)	16.20-16.35	IS-WT-042 Treatment of Oily Wastewaters from Tanjung Perak Port by Electrocoagulation using Aluminum Electrodes (Soeprijanto, Dennis Farina Nury and Lily Pudjiastuti)
16.35-16.50	IS-PE-023 Inverted Decoupling 2DoF Internal Model Control Using Mp-GM Tuning for 2×2 MIMO Process (Zahrotul Azizah, Juwari Purwo Sutikno, Renanto Handogo Riza Aris Hikmadiyahar)	16.35-16.50	IS-WT-015 Utilization of Waste Plastic with Mix Plastic Softening Agregate Method as Performance of Stability and Quality Asphalt Concrete (Nuniek Hendrianie*, S.R. Juliasuti, Raden Darmawan, Widjonarko, Ferry Ida Nur Aini, Muhammad Luqman Hakim)
16.50-17.05	IS-PE-026 Heavy Fraction Separation from used Lube Oil using Thin Film Evaporator (Alghifari Jabbar Rifliansah, Robbi Habibi Malik Utomo, Juwari, Renanto)	16.50-17.05	IS-RN-095 Biodiesel Production from Microalgae with Transesterification Method using Microwave (Fatkhulloh Mujaddid, Donny Bhuana, Mahfud Mahfud, Lailatul Qadaryiah)

***Friday, October 5, 2018*****ROOM : Binuang # Kinantan**

Chair : Rama Oktavian		Chair : Putu Doddy Sutrisna, PhD	
Binuang Room		Kinantan Room	
09.45-10.00	IS-CR-021 Hydrogenation of Unsaturated Aldehydes to Alcohol with Nickel/Alumina Catalyst (Melia L. Gunawan, Subagio, IGBN Makertihartha, Iyan W. Kurniawan, Harry H. Japranata)	09.45-10.00	IS-BT-013 Production of Reducing Sugar from Coffee Pulp Waste using Mixture of Microorganisms, Enzymes, and Surfactants (Tri Widjaja, Nuniek Hendrianie, Eva S. Ningrum, Whiny Hardiyati Erliana, Toto Iswanto)
10.00-10.15	IS-CR-022 A Kinetic Study 2-Ethyl-2-Hexanal Hydrogenation to 2-Ethyl-Hexanol Over Nickel Based Catalyst (Stephanie Virgana*, Subagio, Melia Laniwati G)	10.00-10.15	IS-BT-014 Mixed Biological Pretreatment for Effective Reducing Lignin and Pectin Content in Coffee Pulp Waste (Toto Iswanto, Maya Shovitri, Ali Altway, Nuniek Hendrianie, Atikah Badriya H., Dwi Ayu P., and Tri Widjaja*)
10.15-10.30	IS-CR-025 Rate Modelling of Desorption of Carbon Dioxide from Promoted MDEA Solution in An Industrial Stripper (Ariani, Ali Altway*, Suprpto, Susianto, Siti Nurkhamidah, Muhammad R. Aqil Y., Karris Gussilvia R.,	10.15-10.30	IS-BT-020 Encapsulation of Agarwood Essential Oil with Maltodextrin and Gum Arabic (Adam Muhammad Fadhan, Diah Kartika Pratami, and Muhamad Sahlan)



	Muhammad F. Kurniawan, Gilang A. Setyawan)		
10.30-10.45	IS-CR-026 Ozonisation of Chitosan on the Continuous System (Emma Savitri, Edy Purwanto)	10.30-10.45	IS-BT-008 Preminary Study of Reducing Sugar Production from Coconut Husk by Enzymatic Hydrolysis Using Chitosan Immobilized Crude and Commercial Cellulase (Afan Hamzah, Gek Ela Kumala, Dwi Ramadhani Tardan, Nurul Mayizah, Laila Nur Rahmah, Yeni Rahmawati, Soeprijanto, Arief Widjaja)
10.45-11.00	IS-CR-027A Kinetics Study of Fatty Acid Esterification of Palm Fatty Acid Distillate using Biomass Waste Catalyst (Sholeh Ma'mun, Bachrun Sutrisno, Achmad Chafidz Mas Sahid, and Arif Hidayat)	10.45-11.00	IS-BT-016 The Effect of PEG 4000 on Reducing Sugar Production from Coffee Pulp Waste (Parchment Hull / Endocarp) using Co-Culture (Tri Widjaja, Toto Iswanto, Atikah Badriya H., Dwi Ayu P., Dennis Farina Nury, Nuniek Hendriani*)
11.00-11.15	IS-CR-020 Effect of Operation Condition on the Catalytic Activity of Co-K/ γ -Al ₂ O ₃ Catalyst for Fischer Tropsch Synthesis (Fadhli, Zaky Al-Fatony, Subagio, I.G.B.N Makertihartha and Melia L. Gunawan, Subagio)	11.00-11.15	IS-RN-053 The Influence of Demineralization via Washing Treatment to The Physicochemical Structure and Thermal Degradation of Rice Husk (Hesti Wijayanti, Iryanti Fatyasari Nata, Chairul Irawan, Yuli Ristianingsih, Rinny Jelita)



11.15-11.30	IS-CR-015A Dynamic Response of a Square Wave Inlet Perturbation in the Lean Methane Combustion Using Reverse Flow Reactor: Stability and Operability (Yogi Wibisono Budhi, Intan Clarissa Sophiana, Yazid Bindar, Subagio)	11.15-11.30	IS-RN-053A Microwave Assisted Hydrolysis of Oil Palm Empty Fruit Bunch: Effect of Wave Distance Sources, Power, Time and Acid Concentration (Isti Madinah dan Maya Sarah)
11.30-13.30 FRIDAY PRAYER AND LUNCH			
Chair : Dr. Emma Savitri		Chair : Donny Bhuana	
Binuang Room		Kinantan Room	
13.30-13.45	IS-CR-003 Biodiesel Production Through Waste Cooking Oil (WCO) Esterification using Sulfated Alumina as Catalyst (Maria Ulfah*, Erti Praputri, Elmi Sundari, Silvi Octavia, Firdaus, Hendra Suherman and Subagio)	13.30-13.45	IS-RN-036 The Effect of Diethyl Carbonate in Light Naphtha Blending to Utilize New Energy Resource (Rendra Panca Anugraha, Rizky Tetrisyanda, Ali Altway, and Gede Wibawa)
13.45-14.00	IS-CR-023 Effect of Mg/Al Molar Ratio and NaOH/Na ₂ CO ₃ Ratio on the Production of Hydrotalcites (Nafisa F Ruchyana, Hartati A Arial and Maya R Musadi)	13.45-14.00	IS-RN-037 Effect of grain size, temperature, and amount of catalyst on characteristics of pyrolysis products from spirulina platensis residue (SPR) (Siti Jamilatun, Budhijanto, Rochmadi, Avido Yuliestyan and Arief Budiman)
14.00-14.15	IS-CR-017 Effect of Catalyst Activity on Increased Synloop Pressure at Ammonia	14.00-14.15	IS-RN-039 Production of Diethyl Ether Over Cr-Co/ γ -Al ₂ O ₃



	Converter Reactor (Tri Partono Adhi, Muhammad Baihaqi*, Rahayu Ginanjar Siwi)		Catalyst (Maja Pranata Marbun, Riza Alviany, Brian Feranando, Maulana Ardyansyah, Firman Kurniawansyah, Danawati Hari Prajitno, and Achmad Roesyadi)
14.15-14.30	IS-RN-054 Effect of Temperature on Yield and Hydrocarbon Product Compositions of the Unsaturated Fatty Acid Basic Soap Pyrolysis (Puspawiningtyas E, Devianto H., Pratiwi M., Subagio, Soerawidjaja T. H., Prakoso T, Krisnawan, Zaki U, Elizabeth)	14.15-14.30	IS-RN-040 A Sustainability Assessment of Biogas Plant Based on Fruit Waste in Indonesia: Case Study of Biogas Plant Gamping, Yogyakarta (Fajar Marendra, Agus Prasetya, Rochim Bakti Cahyono, Teguh Ariyanto)
14.30-14.45	IS-RN-055A Effects of the Origin on Composition of Biohydrocarbons Produced by Decarboxylation of Pongamia Pinnata L. Oils (Godlief F. Neonufa, Tirto Prakoso, Meiti Pratiwi and Tatang H. Soerawidjaja)	14.30-14.45	IS-RN-043 Techno-economic Analysis of Dimethyl Ether Production using Oil Palm Empty Fruit Bunches as Feedstock – a Case Study for Riau (Herdadi Supriyo Parbowo, Aisyah Ardy, Herri Susanto)
14.45-15.00	IS-RN-060 Steam Gasification of Hydrothermal Pretreated Palm Kernel Shell – Effect of Hydrothermal Temperature (Muflih Arisa Adnan, Dwi Hantoko, Mi Yan, Herri Susanto)	14.45-15.00	IS-RN-044 Hydrothermal Treatment, Pelletization and Characterization of Oil Palm Empty Fruit Bunches as Solid Fuel (Yusuf Ahda, Tirto Prakoso, C.B Rasrendra, Herri Susanto)



15.00-15.15	IS-RN-061 Effects on Biomass Composition and Co-pyrolysis Retention Time on Reduction of Non-neutral CO ₂ Emission from Combustion of Hybrid Coal in Power Plant (Slamet Handoko, Dwiwahju Sasongko, Winny Wulandari, Jenny Rizkiana, Muhammad Afif Ridha, HENDI AVIANO PRASETYO)	15.00-15.15	IS-RN-046 A Superstructure based Enviro-Economic Optimization for Production Strategy of Oil Palm Derivatives (Silva Amanat Taqwa Widodo Wahyu Purwanto)
15.15-15.30	IS-RN-063 Pretreatment of Coal by Acid Leaching as Feedstock Preparation for Cogasification with Biomass (Jenny Rizkiana, Ryzka Pranata, Hasna Nisrina Fauzi, Winny Wulandari, Dwiwahju Sasongko)	15.15-15.30	IS-RN-047 Liquid Water Content on the Chatode Side to the Performance of Single Cell PEM Fuel Cell (Mulyazmi*, WRW Daud, Elly D.R, Purwantika, Putri A.M, Nia G.S)
15.35-15.50 Coffee Break			
Chair : Dr. Emma Savitri		Chair : Hikmatun Ni'mah, PhD	
Binuang Room		Kinantan Room	
15.50-16.05	IS-SP-016 Fabrication of Interlayer-free P12 Carbonised Template Silica Membranes for Water Desalination: Conventional Versus Rapid Thermal Processing (CTP Vs RTP) Techniques (Muthia Elma*, Heru Setyawan, Aulia Rahma,	15.50-16.05	IS-TS-010 Vapor Liquid Equilibria of Gasoline (Petrosol CA/ Petrosol CB/ Petrosol CC) and Ethanol System (Rizky Tetrisyanda, Achmad Mubarah, Annas Wiguno and Gede Wibawa)



	Amalia Enggar Pratiwi, Erdina Lulu A. Rampun)		
16.05-16.20	IS-SP-040 Lignocellulosic Properties of Coffee Pulp Waste After Alkaline Hydrogen Peroxide Treatment (Lily Pudjiastuti*, Ali Altway, Eva Setiani N., Toto Iswanto, Tri Widjaja)	16.05-16.20	IS-SP-044 The Effect of Power and Extraction Time in Purification of Triglycerides from Crude Nyamplung (<i>Calophyllum Inophyllum</i>) Oil for Biodiesel Feedstock by Microwave Extraction Method (Hakun Wirawasista Aparamarta, Badril Azhar, Hanggoro Tri Aditya, Setiyo Gunawan, Yi Hsu Ju)
16.20-16.35	IS-SP-010 Interfacial of Bitumen Recovery from Asbuton using Sodium Dodecylbenzene Sulfonate and Sodium Carbonate (Susianto*, Yosita Dyah, Ali Altway, Zakiyah Irfin)	16.20-16.35	IS-RN-033 Effect of Hydrothermal Pretreatment of Rice Straw on Biomass Composition and Biogas Production (Abas Sato, Arief Widjaja*)
16.35-16.50	IS-SP-012 Production of Liquid Smoke from the Process of Carbonization of Durian Skin Biomass, Coconut Shell and Palm Shell for Preservation of Tilapia Fish (Ellyta Sari, Umar Khatab, Burmawi, Elly Desni Rahman, Aulia Maulidita and Vandra Desti)	16.35-16.50	ISORN-089 Preparation Co-Ni/HZSM-5 Catalist to Produce Biofuel by Hydrocracking of Cerbera Manghas Oil (Agrina Lisma and Lenny Marlinda)
16.50-17.05	IS-MN-037 Preparation of Water in Oil in Water (W/O/W)	16.50-17.05	IS-RN-068 Production of Methyl ester from Coconut Oil using



	Nanoemulsion Containing Curcuma and Red Dragon Fruit Extract (Niken Harimurti, Kamarza Mulia, Mohamad Nasikin)		Heterogeneous K/Al ₂ O ₃ under Microwave Irradiation (Andi Suryanto, Ummu Kalsum, Lailatul Qadariah, Mahfud Mahfud)
17.05-17.20		17.05-17.20	IS-RN-035 Comparative Study with Batchwise Solvent Extraction and Microwave Assisted Extraction Method for Purification of Triglyceride for Biodiesel Feedstock from Crude Calophyllum Inophyllum Oil (CCIO) (Hakun Wirawasista Aparamarta, Badril Azhar, Hanggoro Tri Aditya, Setiyo Gunawan)

Friday, October 5, 2018

ROOM : Harau # Anai

Chair : Setiyo Gunawan, Ph.D		Chair : Prof Kuswandi	
Harau Room		Anai Room	
09.45-10.00	IS-RN-069 A Continuous Production of Biodiesel from Jatropa Oil and Methanol using a Fixed Bed Reactor with Palm Bunch Ash as Heterogeneous Catalyst (Husni Husin*, Darmadi, Pocut Nurul Alam, Lia Mairiza, and Fikri Hasfita)	09.45-10.05	SN-IS-003 Dr. Khoiruddin Membran Penukar Ion Nanokomposit untuk Redox Flow Battery
10.00-10.15	IS-RN-072 Functionalization of Heterogeneous Catalyst	10.05-10.20	SN-BT-001 Pengaruh Konsentrasi Ragi Tempe dan Waktu



	Prepared from Peat Clay and Eggshell (Meilana D Putra, Iryanti Nata, Chairul Irawan, Keisuke Ohto)		Fermentasi pada Pembuatan Pakan Ikan Lele dari Ampas Tahu (Eddy Kurniawan, Syamsul Bahri, YUPIYANTI)
10.15-10.30	IS-RN-075 An Improvement Study of Biodiesel Production from Rice Bran via Non-Catalytic In-Situ Transesterification Using a Subcritical Water-Methanol Mixture (Siti Zullaikah*, Medina Yasmin, Fermi Dio Alfaty, Hanindito Saktya Pradipta, and M. Rachimoellah)	10.20-10.35	SN-BT-002 Produksi Metil 12-Hidroksistearat Melalui Proses Hidrogenasi Ester Minyak Jarak (Indra G. Pasaribu*, Arry K. Rizky, Mario C. Gultom, Retno Gumilang Dewi, Johnner P. Sitompul)
10.30-10.45	IS-RN-078 Production and Characterization of the Basic Soaps Obtained by Double Decomposition and Direct Process of Palm Stearin Oils (Neonufa G.F, Pratiwi M, Purwadi R, Prakoso T, Soerawidjaja T.H, and Elizabeth L)	10.35-10.50	SN-SP-002 Studi Waktu Kesetimbangan pada Proses Pemisahan Minyak Atsiri Daun Jeruk Perut dan Air (Aji Hendra Sarosa, Vivi Nurhadianty, Luthfi Kurnia Dewi dan Chandrawati Cahyani)
10.45-11.00	IS-RN-079 Effects of Cu and K, Addition on the Acidity of Support Pretreatment-Modified Co based Fischer-Tropsch Catalyst for the Synthesis of Long Chain Hydrocarbons (Zaky A. fatony, Fadhli, IGBN Makertihartha, Melia L. Gunawan, Subagjo*)	10.50-11.05	SN-SP-003 Pengawetan Ekstrak Zat Warna Alami dari Gambir (<i>Uncaria gambir Roxb.</i>) dengan Pelarut Air (Edia Rahayuningsih*, Wiratni, Rizal Imam Rosyid, dan Yosephine Intan Ayuningtyas)



11.00-11.15	IS-RN-080 Bioethanol Production via Syngas Fermentation of <i>Clostridium ljungdahlii</i> in a Hollow Fiber Membrane supported Bioreactor (Irika Devi Anggraini, Keryanti, Made Tri Ari Penia Kresnowati, Ronny Purwadi, Tjandra Setiadi)	11.05-11.20	SN-MN-006 Sintesis Merkaptotetil Karboksilat sebagai Bahan Baku Stabiliser Termal PVC (I Dewa Gede Arsa Putrawan, Adli Azharuddin, Dendy Adityawarman, dan Dicka Ar Rahim)
11.15-11.30	IS-RN-082 Bio-oil Production from Eucalyptus Bark & Empty Fruit Bunch of Palm Oil using Pyrolysis Process (Susila A Rachman*, Syaiful, Marwan Asof, Camelia Maharani, Yosua Aristides)	11.20-11.35	SN-MN-008 Pengaruh Alkanolamina Teraktivasi Terhadap Pembasahan Membran Pada Pemisahan CO ₂ (Yeni Rahmawati, Siti Nurkhamidah, Nidia Intan Listiyana, Dewi Puspita Sari)
11.30-13.30 FRIDAY PRAYER AND LUNCH			
Chair : Dr. Kusdianto		Chair : Tun Sriana, PhD	
Harau Room		Anai Room	
13.30-13.45	IS-SP-018 Reactive Extraction of Solute from Slab Solid Material (Indah Hartati, Wahyudi Budi Sediawan, Hary Sulisty, Muhammad Mufti Azis, Moh Fahrurrozi)	13.30-13.50	SN-IS-001 <u>Prof. Mahfud</u> Teknologi Ekstraksi Berbantuan Microwave untuk Pengembangan Minyak Atsiri Indonesia
13.45-14.00	IS-SP-022 Zeolitic Imidazolate Framework -8 (ZIF-8) Membranes on Polymeric Substrates for Gas	13.50-14.05	SN-PE-001 Simulasi Proses Biometil Akrilat-Air menggunakan Metode Pressure Swing Distillation (PSD) pada



	Separation Processes: A Mini Review (Putu Doddy Sutrisna, Nurul F. Himma, and I Gede Wenten)		Aspen Hysys V8.8 (Indah Lestari, Fika Dwi Oktavia, Ari Susandy Sanjaya, Yazid Bindar)
14.00-14.15	IS-SP-023 Deconvolution of Carbon-Silica Thin Film Templated by Carbon from Pectin: Synthesis and Characterization Amalia Enggar Pratiwi, Muthia Elma, Agus Mirwan, (Meilana Dharma Putra, Aulia Rahma and Erdina Lulu A. Rampun)	14.05-14.20	SN-PE-002 Pemanfaatan Limbah Oil sebagai Bahan Bakar Pengolahan Limbah Cair (Yarnubi, Tiara Pradita, Apriliana Dwijayanti)
14.15-14.30	IS-SP-025 Absorption of CO ₂ using Ethylene Glycol for Biogas Purification (Aswati Mindaryani, Rania, Riski Pardomuan, Rico Kurniawan)	14.20-14.35	SN-WT-002 Pengaruh Suhu dan Injeksi Gelembung Udara pada Degradasi Limbah Pewarna Tekstil Remazol Red dengan Metode Contact Glow Discharge Electrolysis (Tri Sutanti Budikania Dian Ratna Suminar Nelson Saksono Eva Fathul Karamah)
14.30-14.45	IS-SP-027 CO ₂ Freezing Area Concept for Improved Cryogenic Distillation of Natural Gas (Tri Partono Adhi, Eldo Pratama Putra, Rendra Bayu)	14.35-14.50	SN-WT-003 Pengaruh Penambahan H ₂ O ₂ dan Na ₂ S ₂ O ₅ pada Proses Detoksifikasi Tailing Hasil Pelindian Emas (Tiara Triana, Mhd. Yasin Siregar)
14.45-15.00	IS-SP-030 Combined Filtration and Flocculation for Microalgae	14.50-15.05	SN-WT-004 Evaluasi Rangkaian Anaerobic Fluidized Bed



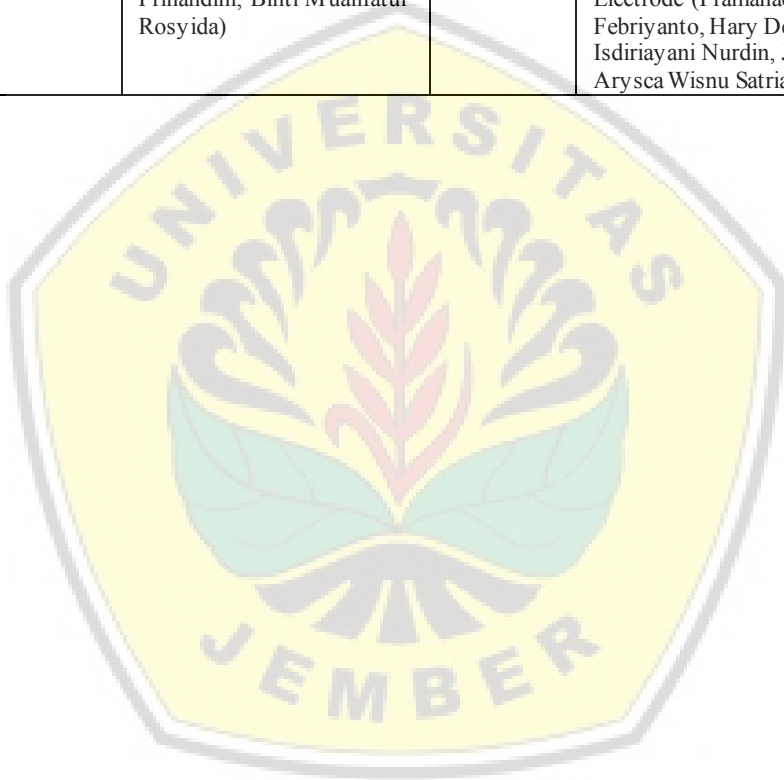
	Harvesting (Lisendra Marbelia, Muhammad R. Bilad, Pieter Rens, Ivo Vankelecom)		Reactor (AFBR) dan Micro Bubble Generator (MBG) untuk Pengolahan Air Lindi Sampah (Wiratni Budhijanto, Sholahuddin Al Ayyubi, Khalid Abdul Latif)
15.00-15.15	IS-SP-036 Microfiltration of Oily Waste Water: A Study of Flux Decline and Feed Types (Putu Doddy Sutrisna, Julius Candrawan, and Wira Wibisono Tangguh)	15.05-15.20	SN-WT-005 Pengolahan Air Limbah Cr(VI) dengan Menggunakan Reagen Fenton (Tuty Emilia Agustina, Mutiara Rizki Prayesi, Ulfa Fitrializa, dan Dedi Teguh)
15.15-15.30	IS-SP-043 The Extraction of Natural Dyes from Henna Leaves (<i>Lawsonia inermis</i> L.) by Ultrasound assisted Method (Lailatul Qadariah*, Ni'matul Azizah, and Achmad Q. Syafa'atullah, Donny Satria Bhuana, Mahfud Mahfud)	15.20-15.35	SN-WT-006 Life Cycle Assessment (LCA) Kantong Belanja Berbahan Plastik HDPE Virgin 100%, Oxo-Biodegradable, dan Daur Ulang (A. Z. Abidin, M, Nathania, D. A. Trirahayu)
15.35-15.50 Coffee Break			
Chair : Dr Kusdianto		Chair : Ni Made Intan P.S.	
Harau Room		Anai Room	
15.50-16.05	IS-TS-006 Process Optimization in Petrokimia Gresik's Ammonia IA: Installation of Methanator Effluent Cooler 2 (115-C2) to Decrease Suction Temperature of Synthesis Gas Compressor	15.50-16.05	IS-SP-045 The Effect of Crude <i>C. inophyllum</i> Seed Oil to Silica Gel Mass Ratio and Number of Stages on Isolation of Wax (Setiyo Gunawan, Safrina Hapsari, Hakun Wirawasista Aparamarta, Yi-Hsu Ju)



	(103-J) (Widodo Heru Sulistyo, Muh Makki Maulana)		
16.05-16.20	IS-TS-005 Liquid-Liquid Equilibrium of The Ternary System Diethyl Carbonate + 1-Propanol + H ₂ O at Temperature Range 303,15 – 333,15 K and Atmospheric Pressure (Diana Rachmawati, Ianatul Khoiroh, Rizky Tetrisyanda, and Gede Wibawa*)	16.05-16.20	IS-TS-003 The Effect of NaOH addition in Ternary Liquid-Liquid Equilibrium of β -Caryophyllene + Eugenol + Water System at 303.15K and Atmospheric Pressure (Retno Kumala Hesti Sucipto, Rizky Tetrisyanda, Kuswandi Kuswandi, Gede Wibawa)
16.20-16.35	IS-TS-012 Ternary Liquid-Liquid Equilibria for β -Caryophyllene(1) + 1-Propanol (2) + Water (3) System at Temperatures 303.15, 313.15 and 323.15 K (Kuswandi Kuswandi*, Gede Wibawa, Irwan Hidayatulloh, Clarashinta Mahardhikawati, and Annisa Dian Pratiwi)	16.20-16.35	IS-TS-008 Mathematical Modelling of Supercritical CO ₂ Extraction for <i>Eucheuma Cottonii</i> and <i>Gracilaria Sp</i> (Dwila N. Rizkiyah, Nazla, Farah Nadhifah, Siti Machmudah*, Sugeng Winardi)
16.35-16.50	IS-TS-004 Vapor Pressure of 2-Butanol + Diethyl Carbonate and Tert-Butanol + Diethyl Carbonate Mixtures at Temperature Range of 303.15-323.15 K (Annas Wiguno, Rizky Tetrisyanda, Asalil Mustain, Kuswandi	16.35-16.50	IS-TS-009 Ultrasound Pre-treatment for Instensification of Hydrothermal Process in Reducing Sugar Production from Cassava Starch (Sumarno*, Bramantyo Airlangga., Febriyati Puspasari., and Prida N.



	Kuswandi and Gede Wibawa)		Trisanti)
16.50-17.05	IS-SP-034 Wet Extraction of γ -Oryzanol from Rice Bran (Siti Zullaikah*, Yunita Ali Pujiastuti, Ghuzrina Prihandini, Binti Mualifatul Rosyida)	16.50-17.05	IS-MN-038A Activated Carbon from Durian Shell Waste Application as Electrochemical Capacitor Electrode (Pramahadi Febriyanto, Hary Devianto, Isdiriyani Nurdin, Jerry, and Arysca Wisnu Satria)



State of Art

• HMF synthesis

• Inulin structure

Fructose, HMF, Levulinic acid, Formic acid

Overview of studies on the conversion of oligo/polysaccharides to HMF excluding inulin

Substrate	Concentration (wt %)	Solvent	Catalyst	Conditions	HMF Yield (%) ^a
Starch	10	3/7 water:DMSO (w/w)/ dichloromethane	None	140 °C, 11 h,	30 ^b
Starch	5	water	TiO ₂	180 °C, 2 min, extraction solvent MIBK	15 ^b
Starch	10	[O(Mim)]Cl/0.5 M HCl/ESDac	None	120 °C, 1 h	30 (wt%)
Starch	10	Water-MIBK	silicocalminophosphate (SAP0)	175 °C, 6 h	68 (mol%)
Starch	10	NaCl-H ₂ O/THF	InCl ₃	200 °C, 2 h	46 (mol%)
Cellulose (MCC)	10	NaCl-H ₂ O/THF	InCl ₃	200 °C, 2 h	40 (mol%)
Cellulose	4	water	None	280 °C, 4 min	12 ^b
Cellulose	3	water	None	300 °C	10 ^b
Cellulose	3	water	HCl	300 °C	21 ^b
Cellulose	2	water	None	350 °C, 8.8 s	11 ^b
Cellulose	5	Steam 1.8 MPa	Na ₂ SO ₄	280 °C, 3 h	30 (mol%)
Cellulose	17	[BMim]Cl	CrCl ₃	120 °C, 6 h	89 ^b
Cellulose	5	[BMim]Cl	CrCl ₃	150 °C, 10 min	56 ^a
Cellulose (MCC)	67	LiCl-DMAc	[TfMSDF, Cr]([PSMim])(H ₂ O) ₂	114-140 °C, 1 h, microwave irradiation	26 (mol%)
Cellulose (MCC)	5	[BMim]Cl	Cr([PSMim])(H ₂ O) ₂	120 °C, 5 h	53 ^b
Chitin	3	water	ZnCl ₂	120 °C, 90 min	22 (mol%)
Agarose	10	water	HgCl ₂	200 °C, 25 min	41 ^b
Agarose	10	DMSO	Dowex 50 wt %	110 °C, 5 h with CrCl ₃	20 ^b
Older lees (lignin polymers)	10	water	None	250 °C, <2 min	12 (mol%)

^a wt% or mol% not provided

Overview of studies on inulin conversion to HMF

C _{inulin} (wt %)	Solvent	Catalyst	Condition	Yield (%) ^a
5	water	none	100 °C, 4 h	38 ^b
5	water	none	200 °C, 1 h	49 ^b
5	water	none	180 °C, 2 h	41 ^b
5	water	none	200 °C, 45 min	41 ^b
5	water	CO ₂ (6 MPa)	160 °C, 4 min	45 ^b
5	water	CO ₂ (9 MPa)	160 °C, 2 min	42 ^b
5	water	CO ₂ (4 MPa)	160 °C, 2 min	45 ^b
5	water	CO ₂ (6 MPa)	180 °C, 2 min	50 ^b
5	water	CO ₂ (11 MPa)	180 °C, 2 min	52 ^b
5	water	CO ₂ (6 MPa)	200 °C, 45 min	53 ^b
5	water	CO ₂ (9 MPa)	200 °C, 45 min	49 ^b
6	water	Cubic	100 °C, 0.5 h	26 (wt%)
6	water	ZrP ₂ O ₇ (SCR=1.8)	100 °C, 4 h	38 ^b
6	water	Cubic	100 °C, 1 h	35 (wt%)
6	water	ZrP ₂ O ₇ (SCR=1.8)	180 °C, 2 h	36 (wt%)
6	water	Cubic	180 °C, 2 h	36 (wt%)
6	water	ZrP ₂ O ₇ (SCR=1.8)	100 °C, 1 h	41 (wt%)
6	water	Ti(PO ₄)(H ₂ PO ₄) ₂ H ₂ O (SCR=1.8)	100 °C, 1 h	41 (wt%)
6	water	Ti(PO ₄)(H ₂ PO ₄) ₂ H ₂ O (SCR=1.8)	100 °C, 2 h	65 (wt%)
6	water	FeVOP (SCR=1.8)	80 °C, 2 h	35 (mol%)
6	water	CrVOP (SCR=18.1)	80 °C, 2h	35 (mol%)
6	water	ANVOP (SCR=19.7)	80 °C, 2h	34 (mol%)
6	water	MnVOP (SCR=22.2)	80 °C, 2h	34 (mol%)
6	water	GaVOP (SCR=21.2)	80 °C, 2h	37 (mol%)
10	water	HfNb ₂ O ₇ (SCR=50)	155 °C, 18 min	43 (mol%)

^a wt% or mol% in brackets after entries. ^b wt% or mol% not provided

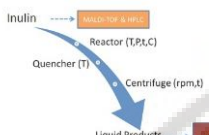
Overview of studies on inulin conversion to HMF (ctnd)

C _{inulin} (wt %)	Solvent	Catalyst	Condition	Yield (%) ^a
10	water-THF	Graphite oxide	160 °C, 100 min	61 ^b
n/a	water-acetone (50/10)	SCR= 2.5 wt%	H ₂ SO ₄ (10mmol/L), 180 °C, 20MPa, 120s	78 ^b
10	water-DMSO (5/5 w/w)	HCl	170 °C, 5 min	75 ^b
10	water-DMSO (3/7 w/w)	MIBK-2-BuOH (7/3 w/w)	none	70 ^b
10	water-DMSO (3/7 w/w)	DCM	140 °C, 2.5 h	70 ^b
10	water-MIBK	various zeolites (30 wt%)	165, 1 h	39
6	water-MIBK	Cubic ZrP ₂ O ₇ (SCR=1.8)	100 °C, 1 h	70 (wt%)
6	water-MIBK	Ti(PO ₄)(H ₂ PO ₄) ₂ H ₂ O (SCR=1.8)	100 °C, 1 h	67 (wt%)
6	water-2-butanol	modified hydrated tantalum oxide	160 °C, 2.5 h	87 ^b
10	DMSO	Graphite oxide	160 °C, 100 min	58 ^b
10	DMSO	SnCl ₄ /TBAB	140 °C, 2 h	62 ^b
5	[Hmim][HSO ₄]	none	80 °C, 3 h	59 ^b
8	[BMim]Cl	none	130 °C, 20 min	53 ^b
5	ChCl	Oxalic Acid	80 °C, 2 h	64 ^b

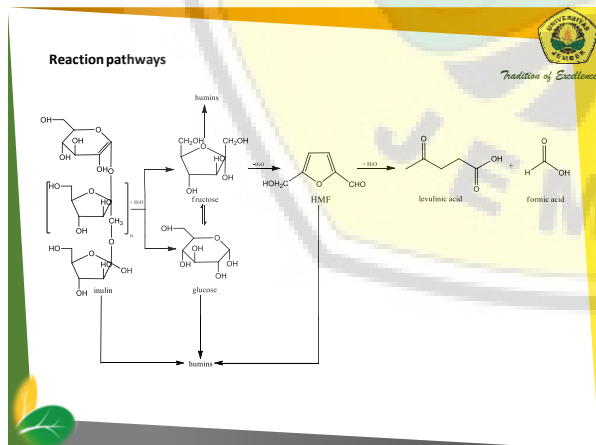
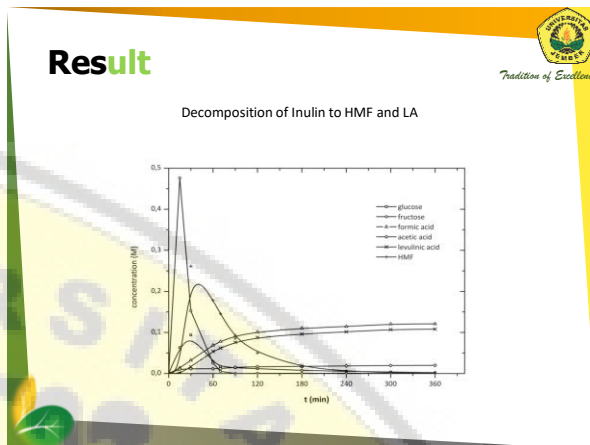
^a wt% or mol% in brackets after entries. ^b wt% or mol% not provided

Methodology

- Chemical: Inulin from Dahlia Tuber
- Procedure:



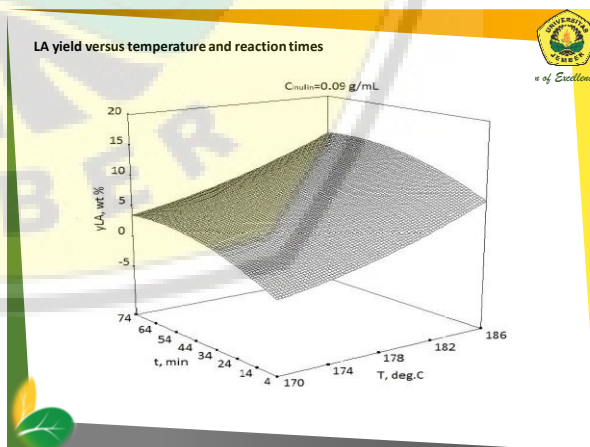
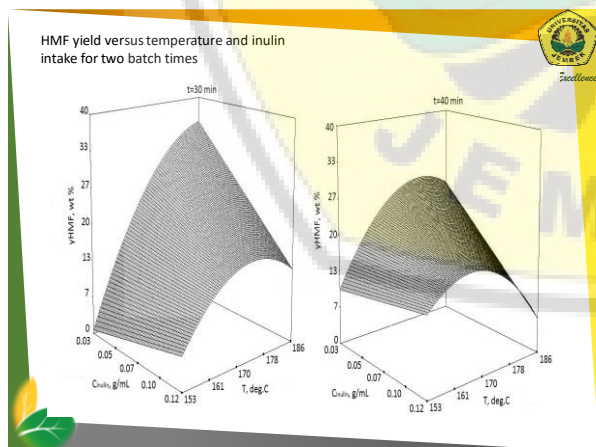
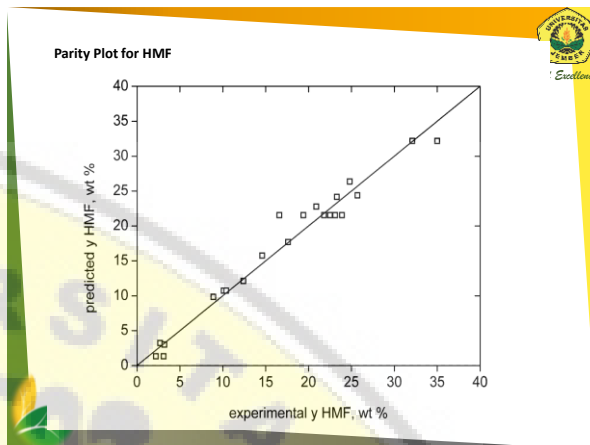
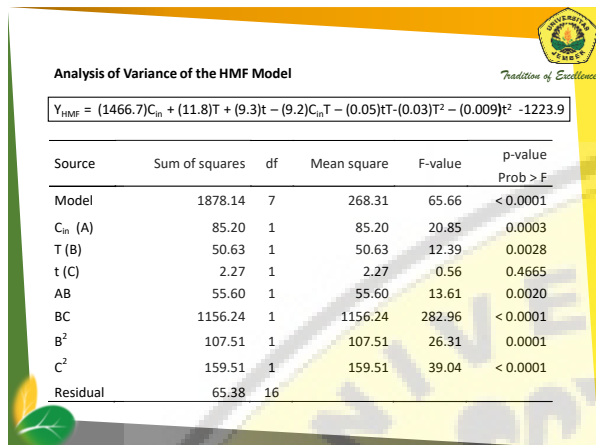
$$Y_{HMF} = \frac{C_{HMF} \times M_{HMF} \times V}{W_{in}} \times 100\% \text{ (wt\%)}$$

$$Y_{LA} = \frac{C_{LA} \times M_{LA} \times V}{W_{in}} \times 100\% \text{ (wt\%)}$$


Overview of experiments

Run	C_{in} , g/mL	$T_{reactor}$, °C	t, min	Y_{HMF} , wt %	Y_{LA} , wt %
1	0.08	170	39	22.8	4.0
2	0.05	160	18	2.7	-
3	0.08	170	39	23.1	3.1
4	0.08	170	39	23.9	3.2
5	0.05	180	18	32.1	5.6
6	0.05	180	18	35.0	6.1
7	0.12	170	39	17.6	6.1
8	0.08	170	39	23.1	3.3
9	0.08	187	39	14.6	13.4
10	0.08	170	39	22.5	1.1
11	0.08	170	39	21.8	1.5
12	0.08	170	39	19.4	1.8
13	0.08	170	39	16.6	2.2
14	0.08	170	74	8.9	1.9
15	0.1	180	18	20.9	5.5
16	0.03	170	39	24.8	3.6
17	0.05	160	60	25.7	3.1
18	0.1	160	60	23.3	3.6
19	0.1	160	18	3.2	-
20	0.05	180	60	10.1	9.4
21	0.05	180	60	10.4	9.0
22	0.1	180	60	3.1	9.5
23	0.1	180	60	2.2	9.8
24	0.08	153	39	12.4	0.3

^aThe yield of HMF is defined in equation 1; ^bThe yield of LA is defined in equation 2

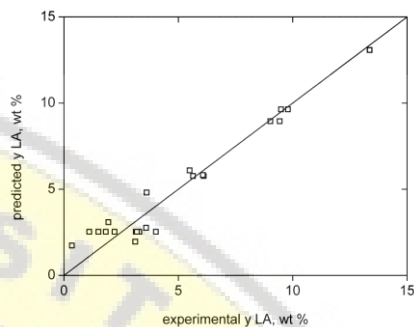


Analysis of Variance of the LA Model

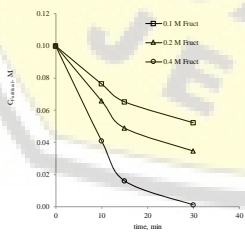
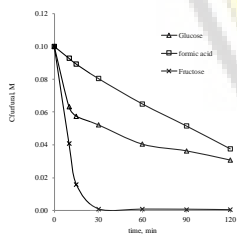
Source	Sum of squares	df	Mean square	F-value	p-value Prob > F
Model	273.91	9	30.43	27.44	< 0.0001
C_{in} (A)	1.29	1	1.29	1.16	0.2989
T (B)	157.95	1	157.95	142.42	< 0.0001
t (C)	25.28	1	25.28	22.79	0.0003
AB	8.95×10^{-3}	1	8.95×10^{-3}	8.07×10^{-3}	0.9297
AC	0.08	1	0.09	0.079	0.7829
BC	0.15	1	0.15	0.14	0.7151
A^2	14.29	1	14.29	12.88	0.0030
B^2	43.84	1	43.84	39.53	< 0.0001
C^2	4.97	1	4.97	4.48	0.0527
Residual	15.53	14	1.11		

$$y_{LA} = 437.51 - (188.89)C_{in} - (5.41)T + (0.09)t - (0.12)C_{in}T + (0.17)C_{in}t + (5.88.10^{-4})Tt + (1422.29)C_{in}^2 + (0.02)T^2 - (1.69.10^{-3})t^2$$

Parity plot for LA



Effect of C6 on Furfural



Conclusions

1. The uncatalysed thermal conversion of inulin to HMF in water was studied for a wide range of reaction conditions, giving the highest HMF yield of 35 wt%, corresponding to a 45% yield on a molar basis (180 °C, inulin intake of 0.05 g/mL and a reaction time of 18 min).
2. The experimental data were modelled using a statistical approach. The model shows a good fit with the experimental data and allows estimation of the HMF yield as a function of temperature, inulin intake and reaction time.
3. The C6s plays the role to furfural disappearance during the reaction.

Acknowledgement



Tradition of Excellence

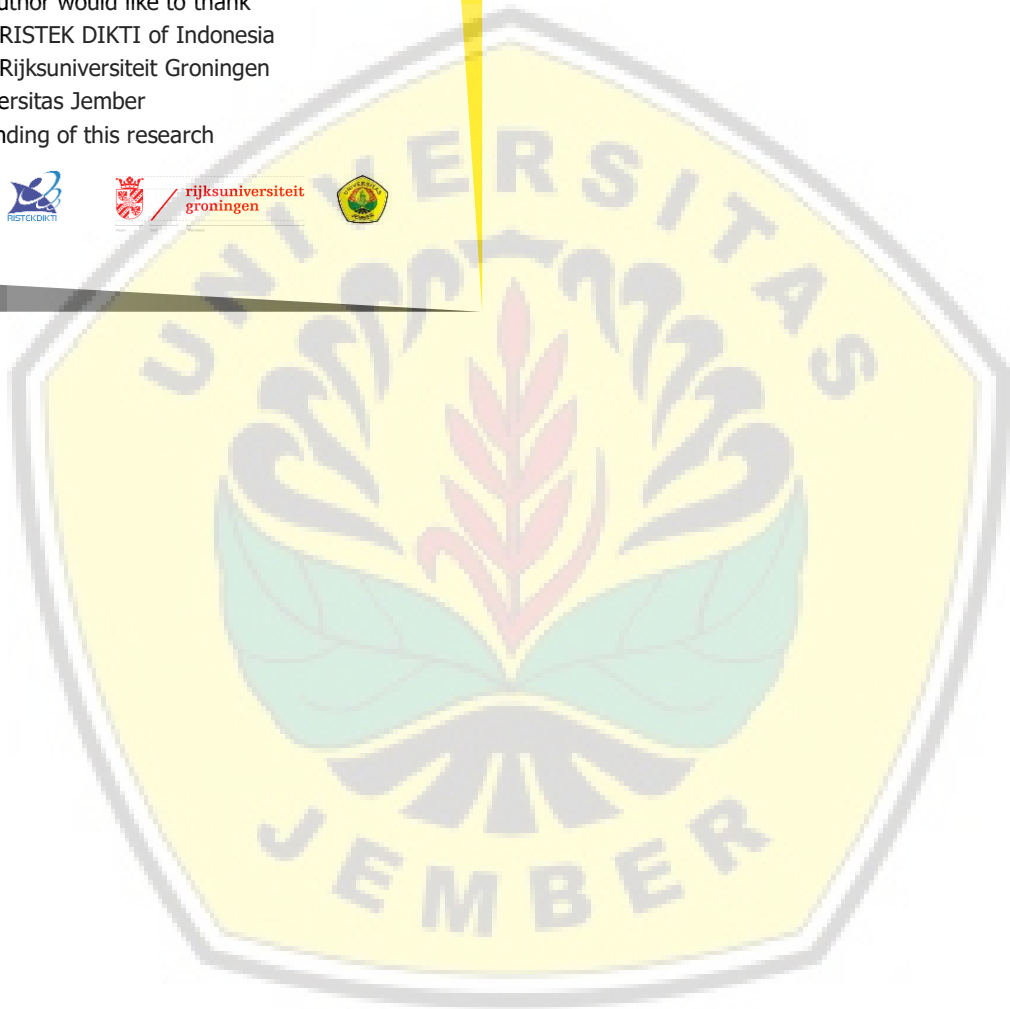
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An Experimental Study on Thermal Catalytic Decomposition of Inulin to 5-Hydroxymethylfurfural and Levulinic Acid and Effect of C6 on Furfural during Decomposition Process

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Abstract. The attractive biobased platform chemicals, 5-Hydroxymethylfurfural (HMF) and Levulinic Acid (LA), are commonly produced by the conversion of monomeric sugars. However, a polymeric sugar such as inulin shows promising. This work reports the study on the thermal catalytic decomposition of inulin to HMF and LA. This work also investigated the effect of C6 on furfural during the process. The decomposition reactions were conducted in a batch reactor in a temperature (153-187)°C, an inulin loading (0.03- 0.12) g/mL and reaction times (18 -74) minutes using a central composite experimental design. Furthermore, to study the effect of fructose on furfural, some additional experiments were also performed in the batch system. The decomposition process gained 35 wt% yield of HMF and 13 wt % yield of LA. The HMF model was statistically formulated and a good fit between the experimental data and model was shown. The fructose particularly plays a role in furfural disappearance during the process.

Keywords. inulin; HMF; levulinic acid;furfural;thermal catalytic.

INTRODUCTION

5-hydroxymethylfurfural (HMF), a biobased chemical product [1], has been clarified as one of the top 12 biobased chemicals from biomass by the US Department of Energy (DOE) [2,3]. The HMF is generally synthesized from hexoses by the elimination of three water molecules in the presence of Brønsted acids such as Hydrochloric acid and sulfuric acid [4]. The yield and selectivity are low due to the formation of insoluble polymers and consecutive reactions. To increase the yield, nowadays, some methods using heterogeneous catalyst and organic solvents were proposed and reported in the literature. However, due to catalyst lifetime, catalyst deactivation and down-stream processing, using water leads to benefits compare to a heterogeneous system and organic solvents [5,6,15–19,7–14].