

Day 1, September 7, 2015

Schedule	Event	
07.00 - 08.30	Registration	
08.30 – 09.30	Opening Ceremony	
09.30 – 10.15	Keynote speaker : Prof.Dr.Ir. Dwisuryo Indroyono Susilo, M.Sc (Former Minister of Coordinating Maritime Affairs)	
10.15-10.30	Coffee break	
	Symposia I Pharmaceutical Sci & Tech	Symposia II Clinical & Social Pharmacy
10.30 – 11.00	<i>High throughput and natural product screening for pharmacologically active lead compounds</i> Dr. Jeroen Kool (Vrije University The Netherlands)	Pharmacoeconomics: Education, Research and Applications in Thailand Assoc. Prof. Dr. Arthorn Riewpaiboon (Faculty of Pharmacy, Mahidol University)
11.00– 11.30	<i>Development of BNCT for Cancer Therapy</i> Prof. Dr. Evamarie Hey-Hawkins (Leipzig University, Germany)	<i>Ensuring Adequate Availability of Controlled Medicine : A Challenge for Responsible Pharmaceutical Care</i> Prof. Dr. Sri Suryawati (Faculty of Medicine, Universitas Gadjah Mada, Indonesia)
11.30– 12.00	<i>Nanostructured porous silica-based materials</i> Dr. Santiago Gomez- Ruiz (Departamento de Biología y Geología, Física y Química Inorgánica, Spain)	
12.00 – 12.30	Discussion	Discussion
12.30 – 13.30	Lunch break	
13.30 – 15.00	Poster/Oral Presentation	Forum Group Discussion Marine Pharmacy
15.00 - 15.30	Coffee break	
15.30 – 17.00	Poster/Oral Presentation	

Day 2, September 8, 2015

Schedule	Event	
	Symposia III Pharmaceutical Sci & Tech	Symposia IV Clinical & Social Pharmacy
08.00 – 08.45	<i>Somitogenesis in Vertebrate as Biological Clock Model</i> Prof. Yasumasas Bessho (NAIST, Japan)	Parallel Poster/Oral presentation
08.45 – 09.30	Neuroscience Prof. Naoyuki Inagaki (NAIST, Japan)	
09.30 – 10.00	Discussion	
10.00-10.30	Cofee break	
	Symposia V Pharmaceutical Sci & Tech	Symposia VI Clinical & Social Pharmacy
10.30 – 11.00	Bioethical Implications on Marine Exploration Prof.Dr. Umar Anggara Jenie., MSc., Apt <i>Faculty of Pharmacy, Universitas Gadjah Mada, Indonesia</i>	Pharmacogenomics of asthma therapy : from Indonesian study Prof. Dr. Zullies Ikawati <i>(Faculty of Pharmacy, Universitas Gadjah Mada, Indonesia)</i>
11.00 – 11.30	Bio-Inspired Leads from Marine Sponges and Mangrove-Endophytes Prof. Dr. Peter Proksch <i>(Heinrich-Heine University, Duesseldorf, Germany)</i>	Clinical Pharmacy Approach to Multi Medication Reviews Dr. Suharjono MS, Apt <i>(Faculty of Pharmacy, Airlangga University)</i>
11.30 – 12.00	Discussion	Discussion
12.00 – 13.00	Lunch break	
13.00 – 15.00	Parallel Poster/Oral presentation	Development and Integration of Pharmacy Clinical Services in Thailand Dr. Puttarapong Kanpukdee <i>(Bumrungrad International Hospital, Thailand)</i>
		Clinical Pharmacy Practice in Indonesia A Step Moving Forward Dr. Widyati, M.Clin.Pharm., Apt. <i>(dr Ramelan Naval Hospital, Surabaya)</i>
		Discussion
15.00 – 15.30	Coffee break	
15.30	Closing ceremony (announcement of the best poster and oral presenters)	

PARALLEL SESSIONS 1 DAY I (13.30 – 15.00)

OP-3	west 1	OP-3.1	Amelia Lorensia	COMPLETENESS OF INFORMATION OF METERED DOSE INHALER (MDI) USE IN ASTHMA PATIENTS IN PHARMACIES
		OP-3.2	M Rifqi Rokhman	MEASURING DRUG RISK RATIO TO REDUCE THE OCCURENCE OF DRUG RELATED PROBLEMS IN OUTPATIENTS
		OP-3.3	Zulfan Zazuli	AN INTERDISCIPLINARY APPROACH THROUGH MEDICATION-USE EVALUATION TO ENHANCE PATIENT SAFETY : FOCUS ON CEPHALOSPORIN THERAPY
		OP-3.4	Tri Murti Andayani	PATIENT RISK FACTORS FOR DEVELOPING A DRUG-RELATED PROBLEM IN OUTPATIENT
		OP-3.5	Hari Ronaldo Tanjung	THE APPROPRIATENESS OF NSAIDS UTILIZATION IN A COMMUNITY PHARMACY AT MEDAN, INDONESIA
OP-4	west 2	OP-4.1	Nia Kurnia Sholihat	COST AVOIDANCE OF ADVERSE DRUG REACTIONS PREVENTION IN OUTPATIENT PHARMACY DEPARTMENT RAMATHIBODI HOSPITAL THAILAND
		OP-4.2	Susi Ari Kristina	Burden of cancers attributable to smoking in ASEAN countries 2012
		OP-4.3	Fithria Dyah Ayu Suryanegara	COST EFFECTIVENESS ANALYSIS BETWEEN DIURETIC AND β BLOCKER IN HYPERTENSION OUTPATIENT IN PRAMBANAN DISTRICT HOSPITAL SLEMAN
		OP-4.4	Yosef Wijoyo	EVALUATION ON PHARMACOTHERAPY LEARNING STRATEGIES BASED ON REFLECTIVE PEDAGOGY PARADIGM IN PHARMACIST EDUCATION PROGRAM SANATA DHARMA UNIVERSITY
		OP-4.5	RITA SUHADI	EVALUATION OF INTER-GUIDELINE AGREEMENT ON HYPERTENSION CLASSIFICATION AMONG ELDERLY SUBJECTS IN THE SLEMAN-DISTRICT OF YOGYAKARTA
OP-12	mataram 1	OP-12.1	Ika Purwidyaningrum	AN ACTIVITY TEST OF MATOA LEAVES (<i>Pometia pinnata</i>) AS ANGIOTENSIN CONVERTING ENZYME INHIBITOR
		OP-12.2	Ika Puspita Sari	EVALUATION OF ANTI-FERTILITY ACTIVITY OF WATER EXTRACT OF <i>COSTUS SPECIOSUS</i> (Koen.) J.E. Smith RHIZOME ON MICE
		OP-12.3	Juliet Tangka	The Effect Of Tuna Fish Oil (<i>Thunnus albacares</i>) On Total Cholesterol, LDL Cholesterol, HDL Cholesterol And Triacylglycerol Level On Hypercholesterolemia Rats (<i>Rattus norvegicus</i>)
		OP-12.4	Lukman Labasy	EFFECTS OF ETHANOL EXTRACT SEEDS MAHOGANY (<i>Swietenia macrophylla</i> King) IN DIABETIC RATS INDUCED BY STREPTOZOTOCIN
		OP-12.5	Lodya Nawangtika	ETHANOLIC EXTRACT OF CORN SILK (<i>Stigma maydis</i>) PREVENTS BONE LOSS IN AN OVARECTOMIZED RAT MODEL OF OSTEOPOROSIS
		OP-12.6	Anand Gaurav	IDENTIFYING THE STRUCTURAL FEATURES REQUIRED FOR SELECTIVE PDE4B INHIBITION BY USING PHARMACOPHORE MODELING APPROACH
OP-18	mataram 2	OP-18.1	Abdul Syakur Mustofa	"MISWAK IS POTENTIALLY TO BE ANTICANCER", IS THAT RIGHT?
		OP-18.2	Agatha Budi Susiana Lestari	THE EFFECT OF SIMPLEX POWDER n-HEXANE PURIFICATION TO ANTIPLATELET ACTIVITY OF GOTU KOLA ETHANOLIC EXTRACT IN VITRO
		OP-18.3	Asri Mega Putri	JURE LEAVES ETHANOLIC EXTRACT (<i>Nerium indicum</i> Mill.) ENHANCES 5-FLUOROURACIL SENSITIVITY ON WIDR COLON CANCER CELLS
		OP-18.4	ATINA YULIANDARI	Potention of Ethyl Acetate Fraction from the Flower of <i>Calotropis gigantea</i> as Anticancer on Human Colon Cancer Cell WiDr and Breast Cancer Cell T47D

		OP-18.5	Hilyatul Fadliyah	HEDYOTIS CORYMBOSA L. ETHANOLIC EXTRACT INHIBITS HER2 PROTEIN EXPRESSION ON MCF-7/HER2 POSITIVE
OP-19	mataram 3	OP-19.1	Riris Istighfari Jenie	LEUNCA (Solanum nigrum L.) HERB SENSITIZES MCF-7 CELL LINE TO DOXORUBICIN
		OP-19.2	Roihatul Mutiah	Comparison The Anticancer Effect of Extract And Fraction Calotropis gigantea Radix On Human Colon Cancer WiDr And Breast Cancer T47D Cell Lines
		OP-19.3	Rosidah	Combination Effect of Ethylacetate Extract of Plectranthus amboinicus (Lour.) Spreng With Doxorubicin Againts HeLa Cell Lines
		OP-19.4	Savalas, L.R.T	The roles of MTb modulator proteins in the development of latent TB infection: an up date
		OP-19.5	Yuni Fajar Esti	ANTIGENOTOXIC EFFECT OF CINNAMON ESSENTIAL OIL (CEO) ON CHO-K1 CELLS USING MICRONUCLEUS ASSAY
OP-20	East 1	OP-20.1	LAELI MUNTAFIAH	PUMPKIN SEED EXTRACT (PSE) INHIBITS SENESENCE ON NIH 3T3 FIBROBLAST CELLS
		OP-20.2	Lalu Rudyat Telly Savalas	The roles of MTb modulator proteins in the development of latent TB infection: an up date
		OP-20.3	Ziana Walidah	COMBINATION OF JURE LEAVES ETHANOLIC EXTRACT AND CINNAMON ESSENTIAL OIL REVEALS ANTIMETASTATIC EFFECT THROUGH WOUND HEALING AND GELATIN ZYMOGRAPHY ASSAY
		OP-20.4	Retno Arianingrum	PARA HYDROXY META METHOXY CHALCONE (pHmMC) INDUCED APOPTOSIS ON T47D BREAST CANCER CELLS
		OP-20.5	Aris Haryanto	Molecular Pathotyping of Newcastle Disease Virus based on Restriction Pattern of Fusion Protein Encoding Gene by using RT-PCR and RFLP Method

PARALLEL SESSIONS 2 DAY I (15.30 – 17.00)

OP-5	East 1	OP-5.1	Asri Darmawati	Profile of Mycolic Acid Cleavage Products of Isoniazid Resistant Mycobacterium tuberculosis Isolate by Gas Chromatography-Mass Spectrometry
		OP-5.2	Dewi Setyaningsih	A NOVEL HIGH PERFORMANCE LIQUID CHROMATOGRAPHY METHOD TO ACCURATELY DETERMINE LOW CONCENTRATIONS OF CURCUMIN IN RAT PLASMA
		OP-5.3	Febri Annuryanti	DEVELOPMENT AND VALIDATION OF HPLC METHOD FOR DETERMINATION OF CURCUMINOIDS IN INDONESIAN HERBAL DRINKS
		OP-5.4	Hudan Taufiq	A Rapid, Simple, and Validated RP-HPLC Method for Quantitative Analysis of Furosemide in Human Plasma
		OP-5.5	Riesta Primaharinastiti	Gas Chromatography-Flame Ionization Method Validation for Organochlorine Residues Analysis in Herbs Using QuEChERS Kit
OP-6	East 2	OP-6.1	Hari Purnomo	IN SILICO AND IN VIVO QUALITATIVE RELATIONSHIPS OF PARA-AMINOPHENOL ANALOGUES
		OP-6.2	I Made Agus Gelgel Wirasuta	Developed TLC-fingerprint quantification method to determinate the stability of Curcumine Derivate from Turmeric rhizome (<i>Curcuma domestica</i> Val.) under influence drying method
		OP-6.3	Marcellino Rudyanto	6-ALLYL-3-(4-METHOXYBENZYL-8-METHOXY-3,4-DIHYDRO-2H-BENZO[e][1,3]OXAZINE AND 4-ALLYL-2-METHOXY-6-(4-METHOXYBENZYL)AMINOMETHYLPHENOL: SYNTHESIS AND CYTOTOXICITY TEST ON MCF-7 CELLS
		OP-6.4	Maria Yolanda	Validation Of An Ion-Pair High Performance Liquid Chromatography For The Determination Of Pseudoephedrine HCl, Guaifenesin And Dexchlorpheniramine Maleat In Cough and Cold Medicines
		OP-6.5	Saptono Hadi	Analysis of selected brominated flame retardants (BFRs) by liquid chromatography-tandem mass spectrometry (LC/MS/MS) with different ion sources
		OP-6.6	Yohanes Martono	Effect of Mobile Phase Composition, Organic Modifier, and Flow Rate On Selectivity and Retention Of Stevioside and Rebaudioside A on Isocratic RP-HPLC Analysis
OP-7	west 1	OP-7.1	Hilda Ismail	Carica Papaya Lipase as Catalyst in the Synthesis of Diethanolamide Surfactants.
		OP-7.2	hosea jaya edy	Identification Flavonoid By Thin Layer Chromatography and Calculation Total Flavonoid, Total Fenolic of <i>Tagetes erecta</i> L leaves By Spectrophotometry
		OP-7.3	I Wayan Mudianta	CHEMISTRY AND CHEMOECOLOGICAL STUDIES OF BIOACTIVE NATURAL PRODUCTS FROM THE BALINESE MARINE SPONGE AND NUDIBRANCHS
		OP-7.4	Muhammad Arba	Molecular Docking Simulation of Imidazolidine Derivatives to Cyclooxygenase-2 Enzyme
		OP-7.5	Rina Handayani	Synthesis and identification of potassium salt of 4-(4'-hydroxy-3'-methoxyphenyl)-3-butene-2-one
		OP-7.6	Witri Wahyu Lestari	Biomedical application of Supramolecular chemistry based on Metal Organic-Frameworks
OP-8	west 2	OP-8.1	Aminah Dalimunthe	SUB-CHRONIC TOXICITY OF WATERCRESS HERB (<i>Nasturtium officinale</i> -R. Br.) ETHANOLIC EXTRACT IN MICE
		OP-8.2	Erindyah R. Wikantyasning	ACUTE TOXICITY STUDY OF NANOEMULSION CONTAINING SAMBILOTO (<i>Andrographis paniculata</i>) LEAVES AND MENIRAN (<i>Phyllanthus niruri</i>) HERBS EXTRACT IN WISTAR RATS

		OP-8.3	Arief Nurrochmad	ETHYL ACETATE FRACTION OF MORINDA CITRIFOLIA L. REVERSE ETHANOL-INDUCED IMPAIRMENT OF LEARNING AND MEMORY IN MICE PASSIVE-AVOIDANCE TEST
		OP-8.4	Ni Kadek W	ANTIATHEROSCLEROSIS EFFECT OF PURIFIED <i>Andrographis paniculata</i> EXTRACT
		OP-8.5	Yusfiati	HISTOLOGICAL STRUCTURE OF LIVER MALE RATS HAVE UROLITHIASIS AFTER GIVING THE EXPERIENCE NATURAL LEAF EXTRACT FROM TWO PLANTS ANTIUROLITHIASIS
OP-9	mataram 1	OP-9.1	Arief Nurrochmad	HEPATOPROTECTIVE AND ANTIOXIDANT ACTIVITY OF COMBINATION OF CURCUMA DOMESTICA VAL AND PHYLLANTUS NIRURI LINN AGAINST PARACETAMOL INDUCED LIVER DAMAGE IN RATS
		OP-9.2	Asadatun Abdullah	Antihyperglycemic Activity of Sarang Semut Extracts a€" a Mangrove Epiphytic Plant
		OP-9.3	Asih Triastuti	INVESTIGATION OF ANTI-INFLAMMATORY ACTIVITIES OF <i>Curcuma aeruginosa</i> Roxb. IN EXPERIMENTAL ANIMALS
		OP-9.4	Denny Satria	Cardioprotective Effect of Ethylacetate Extract of Poguntano (<i>Picria fel-terrae</i> Lour.) Against Doxorubicin-Induced Cardiotoxicity in Rats
		OP-9.5	Hanif Nasiatul Baroroh	EFFECT OF ETHANOLIC EXTRACT OF <i>Psidium guajava</i> LEAVES ON ACTIVE CUTANEOUS ANAPHYLAXIS REACTION INDUCED BY OVALBUMIN
OP-10	mataram 2	OP.10.1	Harwoko	In vivo hypouricemic effect of n-hexane insoluble fraction of <i>Tinospora crispa</i> stem and quantification of bioactive compounds
		OP.10.2	Marianne	HEPATOPROTECTIVE ACTIVITY OF N-HEXANE FRACTION OF PUGUN TANO (<i>Curanga fel-terrae</i> (Lour.) Merr.) LEAVES ETHANOL EXTRACT IN RATS INDUCED BY HIGH DOSE OF PARACETAMOL
		OP.10.3	Marianti Manggau	Antiaging Activity of Nanoemulsion Containing <i>Sargassum</i> Extract
		OP.10.4	Sri Haryanti	THE HYPOGLYCEMIC EFFECT OF FREEZE DRIED EXTRACT AND DECOCTION OF RED BETEL LEAF (<i>Piper crocatum</i> Ruiz & Pav) IN THE WHITE MALE WISTAR RATS INDUCED BY FRUCTOSE AND HIGH-FAT FEED
		OP.10.5	Nurlaila	Saluretic activity of aqueous extract of <i>Eupatorium riparium</i> Reg. herb in male Sprague-Dawley rats
OP-11	mataram 3	OP-11.1	Budi Octasari Susanto	IN VITRO ACE INHIBITORY ASSAY OF FLAVONOID-PHENOLIC COMPOUNDS FROM EDIBLE PLANTS TO TREAT HYPERTENSION
		OP-11.2	Dimas Adhi Pradana	POTENTIAL OF RED SPINACH LEAVES ETHANOLIC EXTRACT (<i>Amaranthus tricolor</i> L.) AS A COMPLEMENTARY THERAPY FOR HIPERLIPIDEMIC : STUDY IN VIVO OF HISTOPATHOLOGIC AND ACTIVITY OF Alanin Aminotransferase (ALT)
		OP-11.3	Devyanto Hadi Triutomo	ETHANOLIC EXTRACT OF PAPAYA PEELS (<i>Carica papaya</i> L.) PREVENTS OSTEOPOROTIC BONE LOSS IN OVARECTOMIZED RATS
		OP-11.4	Rul Afifah Syarif	Effects of <i>Curcuma longa</i> L Ethanollic Extract on Estrogen Secretion and Expression of Estrogen Receptor β in Porcine Granulosa Cells From Medium Follicles
		OP-11.5	Dimas Bintoro Kresna Yustisia Handoyo	POTENCY OF ETHANOLIC EXTRACT <i>Urena lobata</i> LEAVES ON LOWERING CIRCULATING ENDOTHELIAL CELLS (CECs) LEVEL IN DIABETIC RAT

PARALLEL SESSIONS 3 DAY 2 (08.00 – 10.00)

OP-1	East 1	OP-1.1	Sunandar Ihsan	EFFECTIVENESS OF VOICE THERAPY WITH THE AL QUR'AN RECITATION ON DEPRESSION INPATIENTS AT DR. SARDJITO GENERAL HOSPITAL OF YOGYAKARTA
		OP-1.2	Niken Nur Widyakusuma	THE EFFECT OF STATINS ON THE RISK OF ACUTE INFECTIONS IN DIABETIC PATIENTS
		OP-1.3	Woro Harjaningsih	ADVERSE DRUG REACTIONS OF ANTI-TUBERCULOSIS DRUGS AMONG TUBERCULOSIS PATIENTS IN YOGYAKARTA
		OP-1.4	Cindra Tri Yuniar	DRUG THERAPY MONITORING, A SUSTAINABLE PHARMACIST ACTIVITY IN CLINICAL DAILY PRACTICE TO ENHANCE OUTCOME THERAPY IN HYPERTENSIVE PATIENT
		OP-1.5	Victoria Yulita Fitriani	EFFECTIVENESS USUAL COUNSELING BY PHARMACIST OF RSUD A.W. SJAHRANIE SAMARINDA TO IMPROVE MEDICATION COMPLIANCE IN HYPERTENSION
OP-2	East 2	OP-2.1	Pratiwi Wikaningtyas	A Multicenter Surveillance And Reporting Of Antimicrobial Resistance : Focus On Ceftriaxone-Resistant Escherichia Coli in the year 2012 and 2013
		OP-2.2	Amelia Lorensia	COMPARISON OF ELECTROLYTE DISTURBANCE OF USING INTRAVENOUS AMINOPHYLLINE VERSUS NEBULIZATION SALBUTAMOL FOR EXACERBATION ASTHMA IN SURABAYA, INDONESIA
		OP-2.3	Siti Farah Rahmawati	BETA LACTAM-USE EVALUATION, A SOCIAL ENTREPRENEURSHIP ACTIVITY TO REVEAL DRUG RELATED PROBLEM IN ROUTINE CLINICAL PRACTICE
		OP-2.4	Faiqotul Choiroh	THE INFLUENCE OF GIVING DATEâ€™S EXTRACTS WITH INCREASED PLATELETâ€™S NUMBER IN PATIENTS OF DHF (DENGUE FEVER) IN PAMOTAN HEALTH CENTER DAMPIT

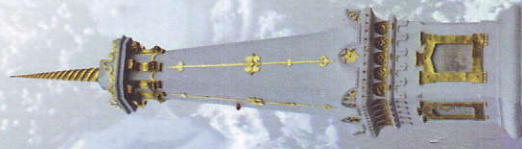
PARALLEL SESSIONS 4 DAY 2 (15.30 – 17.00)

OP-13	East 1	OP-13.1	Andayana Puspitasari	Andrographis paniculata Ness Extract Optimization and Dechlorophyllation
		OP-13.2	anif nur artanti	Polyketide Isolation from Annona muricata's Leaves Enhance p53 Expression on Raji Cell Line
		OP-13.3	Cut Yulvizar	CHARACTERIZATION AND IDENTIFICATION THERMO-HALOFILIK BACTERIA FROM HOT SPRING PRIA LAOT SABANG
		OP-13.4	Hefni Effendi	Potential bioactivity of soft corals Sinularia sp and Lobophytum sp artificial fragmentations
		OP-13.5	Dian Handayani	ANTIBACTERIAL COMPOUNDS FROM Staphylococcus spp. (C1) BACTERIA ASSOCIATED WITH MARINE SPONGE OF Haliclona fascigera
		OP-13.6	Edi Wahyu Sri Mulyono	MANZAMINE A: THE OLD CHEMICAL ENTITY WITH VARIETY OF BIOACTIVITIES
OP-14	East 2	OP-14.1	Elmi Nurhaidah Zainuddin	Broad Spectrum Activity of Indonesian Seaweed Ulvareticulata against Bacterial and Fungal Pathogens in Human, Fish and Plant
		OP-14.2	Endang Dwi Wulansari	ANTIOXIDANT ACTIVITY OF Zingiber cassumunar Roxb. EXTRACT AND ITS FRACTIONS
		OP-14.3	Indah Purwantini	Antiplasmodial activity of Endophytic Fungi isolated from Artemisia annua, L.
		OP-14.4	Prisci Permanasari	Immunomodulatory Effect Of Massoia Bark Extract and The Cytotoxicity Activity Against Fibroblast and Vero Cells In Vitro
		OP-14.5	Shaum Shiyani	ANTIOXIDANT ACTIVITY ASSAY OF N-HEXANE, ETHYL ACETATE AND ETHANOL FRACTION FROM VERNONIA AMYGDALINA BARK WITH DPPH METHOD
		OP-14.6	Anto Budiharjo	Bioprospecting of mangrove sediment bacteria potential as a bioantifouling agent
OP-15	West 1	OP-15.1	Muhammad Bahi	Endophytic Fungi from Two Aceh Medicinal Plants Cassia alata and Plumeria rubra
		OP-15.2	Mulawarman	EVALUATION OF INTERCROPPING PLANT BASED BIOPESTICEDE AGAINST WHITE ROT ROOT FUNGUS (Rigidoporus lignosus) ON THE RUBBER PLANTS
		OP-15.3	Nanang Fakhrudin	Study of Radical Scavenger Activity, Total Phenolic and Flavonoid Content of Artocarpus altilis Extracts
		OP-15.4	Nur Amalia Choironi	LIPOXYGENASE (LOX) INHIBITING ACTIVITY OF CURCUMA ZEDOARIA BERG. ROSCOE
		OP-15.5	Wahyuni Ilham	Spatial Model for habitat of local Herbal Plants in case to integrate the socio-entrepreneurship in Folk Forest Park TAHURA SULTAN ADAM at Sub District Mandiingin " South Kalimantan
		OP-15.6	Triana hertiani	Nanoemulsion enhances biological activities of massoia oil
OP-16	West 2	OP-16.1	Nutrisia Aquariushinta Sayuti	PHYSICAL STABILITY, SPF VALUE, ACCEPTABILITY AND POTENTIAL OF LULUR EMULSION AS ANTIOXIDANT
		OP-16.2	Fuad Soegibudiono Wiradjaja	Preparation and Characterization of Meloxicam-β-Cyclodextrin Inclusion Complex Prepared by Spray Drying Method
		OP-16.3	INDRI KUSUMA DEWI	Formulation Jamu Instant Powder Antioxidant Dragon Fruit Super Red (Hylocereus costaricensis) with Natural Sweetener Stevia Leaf (Stevia rebaudiana bertoni M.
		OP-16.4	Yos Banne	Optimization Using Coconut Flour As Desintegrator In CTM Tablet Formulation Method Direct Print
		OP-16.5	Nining Sugihartini	PROFILE TRANSPORT OF EPIGALLOCATHECIN GALLAT IN GREEN TEA EXTRACT WITH VARIATION COMPOSITION OF OLEIC ACID, PROPYLENE GLYCOL AND VOLATILE OIL OF Curcuma xanthorrhiza AS ENHANCER
		OP-16.6	Yandi Syukri	FORMULATION OF CHLORPHENIRAMINE MALEAT TABLETS USING COPROCESSED EXCIPIENT VIA SPRAY DRYING TO IMPROVE ITS COMPACTIBILITY
OP-17	mataram 1	OP-17.1	Samran	METOCHLOPRAMIDE ORALLY DISINTEGRATING TABLET FORMULATION USING CO-PROCESSED EXCIPIENT OF SOLID TAPAI EXTRACT AND CORN STARCH
		OP-17.2	Ronny Martien	Formulation and Characterization Insulin Nanoparticle Using Low Molecular Weight Chitosan and Pectin Polymers with Ionic Gelation Method
		OP-17.3	Lina Winarti	Bovine Serum Albumin Loaded SNEDDS Template Optimized Using D-optimal Mixture Experimental

		Design
OP-17.4	Nur Fitra Sari	FORMULATION OF SECANG (Caesalpinia sappan) AND TEMULAWAK (Curcuma xanthorrhiza) ETHANOLIC EXTRACT AS NANOEMULSION CREAM
OP-17.5	Renardi Gunawan	Development of Anti-EpCAM Conjugated RIP MJ-C Chitosan Nanoparticles
OP-17.6	Adeltrudis Adelsa Danimayostu	CHARACTERIZATION AND PHYSICAL STABILITY TESTING OF MICROEMULSION BASED HYDROGEL FROM ETHANOL EXTRACT 96% OF TEMU GIRING (CURCUMA HEYNEANA)
OP-17.7	Akhmad Kharis N	PERFORMANCE COMPARISON OF WINSAAM, MONOLIX AND NONMEM AS TOOLS TO DESCRIBE PHARMACOKINETIC OF THEOPHYLLINE USING POPULATION-BASED APPROACH



LUSTRUM XIV REUNI IX
FAKULTAS FARMASI UGM



Faculty of Pharmacy Universitas Gadjah Mada

With high appreciation presents
Certificate
to

I Made Agus Gelgel Wirasuta

As Participant & Oral Presenter

in

THE 4th INTERNATIONAL CONFERENCE ON PHARMACY AND ADVANCED PHARMACEUTICAL SCIENCES

Accredited by Indonesian Pharmacist Association (PP IAI No. 124/SK-SKP/PP.IAIM/2015):
Participant: 12 credits; Oral Presenter/Poster: 3 credits; Speaker: 4.5 credits;
Moderator: 1.5 credits; Committee: 3 credits

Yogyakarta, September 7 - 8, 2015



Subagus Wahyuono

Prof. Dr. Subagus Wahyuono, M.Sc., Apt.
Dean of Faculty of Pharmacy - UGM



Dr. rer. nat. Triana Hertiani, M.Si., Apt.
Chairman



Developed TLC-fingerprint quantification method to determinate the stability of Curcumine Derivate from Turmeric rhizome (*Curcuma domestica* Val.) under influence drying method

I Made Agus Gelgel Wirasuta, Bagus Nyoman Sugiastana, Luh Putu Mirah Kusuma Dewi

Jurusan Farmasi, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Udayana, Bukit Jimbaran, Badung, 80363, Indonesia (E-mail : mgelgel1@yahoo.de)

ABSTRACT

Fingerprint stability is part of herbal medicine standardization. Turmeric (*Curcuma domestica* Val.) rhizome is a part of plant that has been used as herbal medicine in Indonesia. Curcumine derivate is an antioxidant and its stability would be influence by drying method. The stability of the chemical contains induced it's fingerprint profile. The changing of TLC-fingerprint of turmeric rhizome drying under sunlight, room temperature, and oven under various temperature has been studied. The drying rhizome was powdered and extracted with methanol. The extract was spotted on TLC-siGF254 and then eluted with mobile phase of chloroform: methanol (95:5, v/v). The correlation between validation parameters and multivariate analysis results was studied for the quantification of herbal medicine.

The consistency concentration ratio of marker governed variation of similarity cluster and first component loading plot (PC1-loading). The PC1-loading value linear correlated to concentration of marker. To ensure the quantification and efficacy firstly have to control the consistency concentration between biomarkers and then dose control would be done through determinate the range of PC1-loading values, which were reflecting to their concentration level. Drying method induced variation of the fingerprint of turmeric rhizome.

Keywords : TLC fingerprint, multivariate analysis, quantification, stability *Curcuma domestica* Val.



Developed TLC-fingerprint quantification method to determinate the stability of Curcumine Derivate from Turmeric rhizome (*Curcuma domestica* Val.) under influence drying method

I Made Agus Gelgel Wirasuta,
Bagus Nyoman Sugiantana,
Luh Putu Mirah Kusuma Dewi
Pharmacy Department, Faculty of Mathematic and Natural Science,
Udayana University, Denpasar, Indonesia

Introduction

Pharmacological effect of Herbal Medicine

- The overall effect is believed as a resultant of separated each constituent effects and it could be:
 - $E_{all} = \sum_{i=1}^n (a_{mi}D_{mi})$ (zero interaction)
 - $E_{all} \leq \sum_{i=1}^n (a_{mi}D_{mi})$ (antagonist interaction)
 - $E_{all} \geq \sum_{i=1}^n (a_{mi}D_{mi})$ (synergism interaction)
 - where E is pharmacological effect, a is intrinsic pharmacological activity of a marker, and D is a dose.
- the quality control system should could to maintain the consistency of each dose.
 - introduce a constant ratio of each marker dose

Outline

- Introduction
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- Material and Method
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Material and Method

The chopped TR was dried on difference method

- Sun drying
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The TLC numeric parameters were statistically analyzed by multivariate principal component analysis (PCA) and hierarchical cluster analysis (HCA).

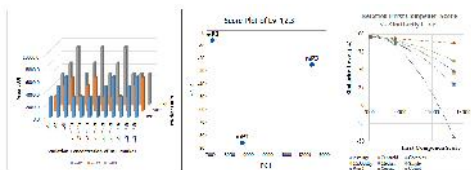
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	mean (%RSD) ; (Range-Ratio)						
	Lv5-15	Lv-5 (n=6)	Lv10 (n=6)	Lv15 (n=6)			
No-Base line correction							
SC	95.65	98.5	99.9	98.9			
BDMC	Y=4595+264x, r=0.973, sd=3.72%	5948.4 (2.0)	1.3-2.4	7389.3 (2.1)	0.9-1.0	8488.3 (4.7)	0.8-1.2
DMC	Y=6824610x, r=0.943, sd=13.17%	12104.1 (2.5)	2.8-5.1	14476.5 (3.4)	1.6-2.0	17504.6 (3.4)	1.6-2.3
Cur	Y=296328+1214x, r=0.956, sd=3.98%	34673.4 (1.8)	8.1-13.5	43832.2 (1.0)	5.2-5.8	46819.6 (0.8)	4.5-5.9
C-dev9	Y=6824610x, r=0.943, sd=13.17%	3005.7 (17.7)	1.0-1.0	7940.8 (4.0)	1.0-1.0	9708.7 (10.1)	1.0-1.0
C-dev10	Y=15905+1086x, r=0.885, sd=9.42%	20026.2 (12.8)	5.2-6.2	28986.7 (1.4)	3.5-3.7	30892.0 (7.5)	3.1-3.4
Base line correction							
SC	98.12	99.97	99.97	99.98			
BDMC	Y=1765+2340x, r=0.994, sd=2.52%	5833.2 (1.6)	1.7-1.9	7313.5 (1.5)	1.0-1.1	8175.4 (0.9)	0.7-0.8
DMC	Y=6885+441x, r=0.985, sd=1.38%	11931.7 (0.9)	3.5-3.7	14006.5 (1.8)	1.9-2.0	16336.5 (1.1)	1.5-1.6
Cur	Y=27960+1233x, r=0.982, sd=2.61%	33073.7 (0.9)	9.8-10.3	41183.3 (0.9)	5.7-5.9	45406.1 (1.1)	4.1-4.4
C-dev9	Y=420+740x, r=0.999, sd=1.71%	3259.8 (1.6)	1.0-1.0	7018.4 (1.3)	1.0-1.0	10659.3 (1.7)	1.0-1.0
C-dev10	Y=10510+1053x, r=0.997, sd=1.71%	15821.2 (1.7)	4.8-5.0	20740.5 (0.8)	2.9-3.0	26460.5 (1.2)	2.4-2.5

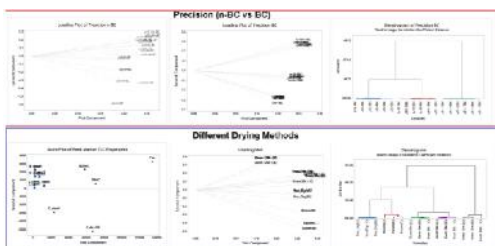
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The theoretical dose variation of three markers (mP1, mP2, and mP3) (left), the PCA score plot graph (middle), and the relation between first component score versus similarity level (right).



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- **Quantification Herbal Medicine through TLC Fingerprint**
 - Control consistency ratio of marker with ward-linkage cluster method
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- **Drying method influenced the consistency ratio of markers and could be influenced the quality of turmeric rhizome.**

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by Gelgel Wirasuta

FILE	ICPAPS2015-_STABILITY-UGM.PDF (240.98K)		
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**Developed TLC-fingerprint quantification method to determinate the stability of Curcumine Derivate
from Turmeric rhizome (*Curcuma domestica* Val.) under influence drying method**

I Made Agus Gelgel Wirasuta, Bagus Nyoman Sugiastana, Luh Putu Mirah Kusuma Dewi

*Jurusan Farmasi, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Udayana, Bukit Jimbaran,
Badung, 80363, Indonesia (E-mail : mgelgel1@yahoo.de)*

ABSTRACT

Fingerprint stability is part of herbal medicine standardization. Turmeric (*Curcuma domestica* Val.) rhizome is a part of plant that has been used as herbal medicine in Indonesia. Curcumine derivate is an antioxidant and its stability would be influence by drying method. The stability of the chemical contains induced it's fingerprint profile. The changing of TLC-fingerprint of turmeric rhizome drying under sunlight, room temperature, and oven under various temperature has been studied. The drying rhizome was powdered and extracted with methanol. The extract was spotted on TLC-siGF254 and then eluted with mobile phase of chloroform: methanol (95:5, v/v). The correlation between validation parameters and multivariate analysis results was studied for the quantification of herbal medicine.

The consistency concentration ratio of marker governed variation of similarity cluster and first component loading plot (PC1-loading). The PC1-loading value linear correlated to concentration of marker. To ensure the quantification and efficacy firstly have to control the consistency concentration between biomarkers and then dose control would be done through determinate the range of PC1-loading values, which were reflecting to their concentration level. Drying method induced variation of the fingerprint of turmeric rhizome.

Keywords : TLC fingerprint, multivariate analysis, quantification, stability *Curcuma domestica* Val.



Developed TLC-fingerprint quantification method to determinate the stability of Curcumine Derivate from Turmeric rhizome (*Curcuma domestica* Val.) under influence drying method

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I Made Agus Gelgel Wirasuta,
Bagoi Nyoman Sugastana,
Luh Putu Mirah Kusuma Dewi
Pharmacy Department, Faculty of Mathematic and Natural Science
Udayana University, Denpasar, Indonesia

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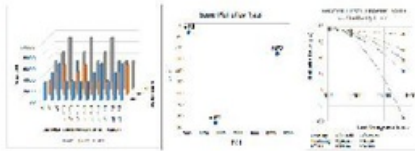
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	mean (RSD) ; (Range-Ratio)						
	lv5-35	lv-5 (n=6)	lv10 (n=6)	lv35 (n=6)			
No-Baseline correction							
SC	95.65	98.5	99.9	98.9			
BDAC	Y=495-29x, r=0.973, sd=0.72%	598.4(2.0)	13.24	7993(2.1)	0.910	8483(4.7)	0.8-12
DMAC	Y=492-610x, r=0.943, sd=0.17%	12704.1(2.8)	2.851	34419.5(3.4)	1.620	17506.6(3.4)	1.6-23
Cor	Y=9326-1216x, r=0.956, sd=0.81%	34072.4(1.8)	8.1-135	43822(1.0)	5.24.8	4619.6(0.8)	45-59
C-deb9	Y=492-610x, r=0.943, sd=0.17%	3857(17.7)	1.0-1.0	7643(4.0)	1.0-1.0	9707(0.1)	1.0-1.0
C-deb35	Y=1932-1000x, r=0.885, sd=0.42%	20282(12.0)	62.42	28961(1.4)	3.5-3.7	3392(2.7.5)	31-34
Baseline correction							
SC	96.12	99.97	99.97	99.98			
BDAC	Y=4785-234x, r=0.996, sd=0.52%	5932(1.6)	1.7-1.9	72135(1.5)	1.0-1.1	8175.4(0.8)	0.7-0.8
DMAC	Y=995-441x, r=0.995, sd=1.38%	1821.7(0.9)	3.5-3.7	14036.5(1.8)	1.9-2.0	16338.5(0.1)	1.5-1.6
Cor	Y=27950-1233x, r=0.982, sd=2.61%	33073.7(0.9)	9.8-10.3	41953(0.9)	5.7-6.9	4540.1(0.1)	41-44
C-deb9	Y=420-740x, r=0.999, sd=1.77%	3259.8(1.6)	1.0-1.0	70184(1.3)	1.0-1.0	1099.3(0.7)	1.0-1.0
C-deb35	Y=1010-1003x, r=0.987, sd=1.77%	19821.2(1.7)	4.8-6.0	25940.5(0.8)	2.9-3.0	2640.5(0.2)	24-25

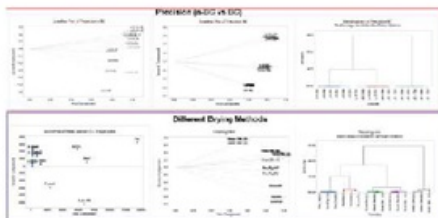
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Wirasuta, I Made Agus Gelgel, Ni Made Amelia Ratnata Dewi, Kadek Duwi Cahyadi, Luh Putu Mirah Kusuma Dewi, Ni Made Widi Astuti, and I Nyoman Kadjeng Widjaja. "Studying Systematic Errors on Estimation Decision, Detection, and Quantification Limit on Micro-TLC", *Chromatographia*, 2013.

Publication

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