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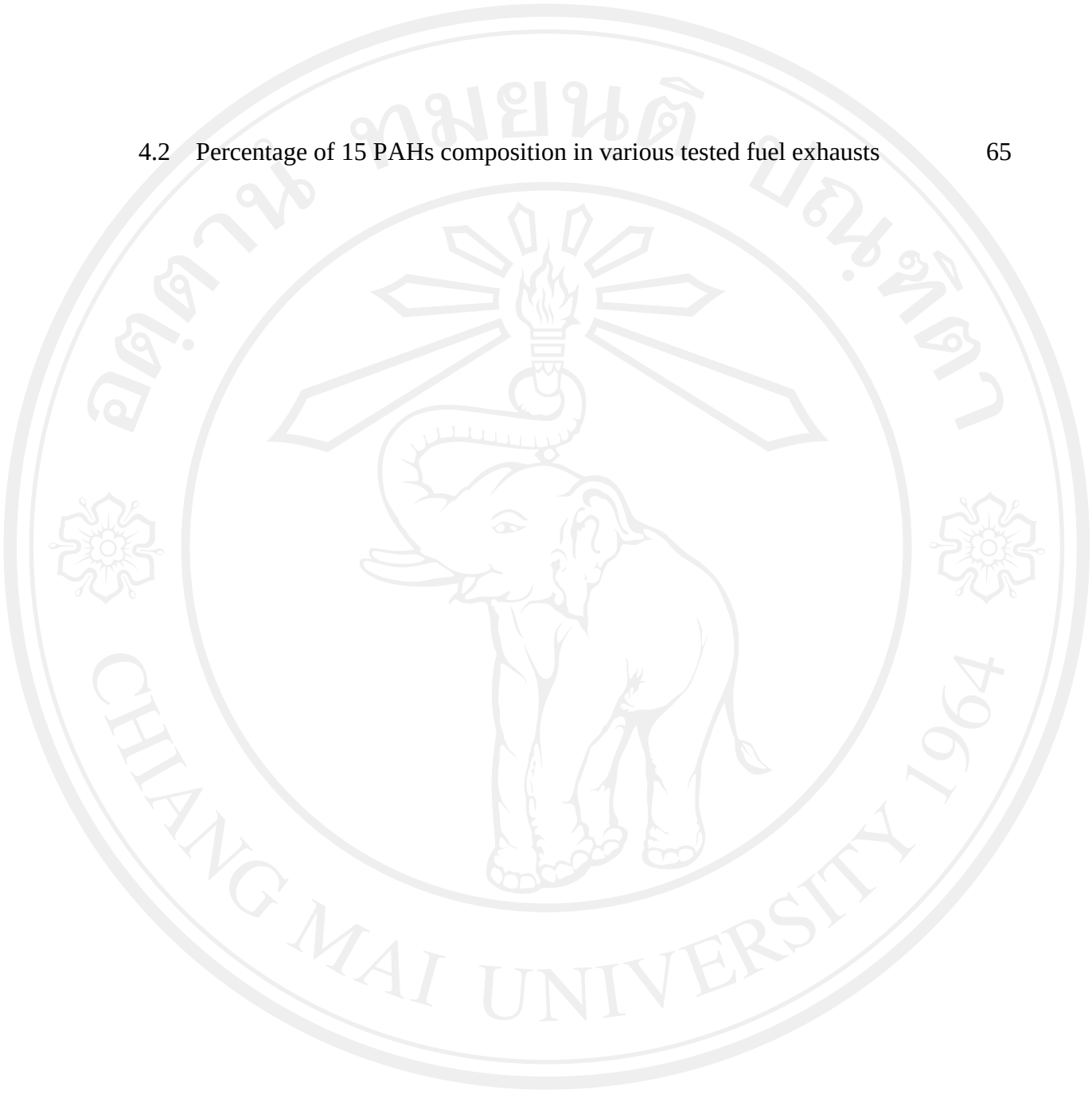

ABBREVATIONS AND SYMBOLS

Ace	Acenaphthene
Acy	Acenaphthylene
Ant	Anthracene
ASTM	American Society for Testing Material
B0	0% biodiesel fuel blended with conventional diesel
B2	2% biodiesel fuel blended with conventional diesel
B3	3% biodiesel fuel blended with conventional diesel
B5	5% biodiesel fuel blended with conventional diesel
B10	10% biodiesel fuel blended with conventional diesel
B20	20% biodiesel fuel blended with conventional diesel
B35	35% biodiesel fuel blended with conventional diesel
B100	Pure biodiesel fuel
BaA	Benz[*a*]anthracene
KOH	Potassium hydroxide
BaP	Benzo[*a*]pyrene
BBDF	Biodiesel blend with diesel fuel
BbF	Benzo[*b*]fluoranthene
BgPe	Benzo[*g*]pyrelene
BkF	Benzo[*k*]fluoranthene
BP	Brake power

BSFC	Brake specific fuel consumption
C_2H_5OH	Ethanol
cc	Cubic centimeter
Chr	Chrysene
CBD	Community biodiesel fuel
CBF	Community biodiesel fuel
CB	Community biodiesel
CDF	Conventional diesel fuel
CN	Cetane number
CPO	Crude palm oil
DBA	Dibenz[a,h]anthracene
DI	Direct injection system
DIE	100% of petroleum diesel
F	Force
FAME	Fatty acid methyl ester
FFA	Free fatty acid
Fle	Fluorene
Flu	Fluoranthene
H_2	Hydrogen
HC	Hydrocarbon
HDDE	Heavy-duty diesel engine
hr	Hour
HHV	Higher heating value

HSD	High speed diesel engine
IDI	Indirect injection system
IDP	Indeno[1,2,3-*cd*]pyrene
Kg	Kilogram
kg/kWh	Kilogram per kilowatt hour
Kg/h	Kilogram per hour
KOH	Potassium hydroxide
kW	Kilowatt
L	Liter
L/min	Liter/minute
LSD	Low speed diesel engine
m	Meter
Max	Maximum
MeOH	Methanol
Min	Minute
mg	Miligram
MJ	Megajoules
mL	Milliliter
mm	Millimeter
$NaOCH_3$	Sodiummethoxide
Nap	Naphthalene
nitro-PAHs	Nitro polycyclic aromatic hydrocarbon
Nm	Newton meter

oxy-PAHs	Oxygenated PAHs
PM	Particulate matter
PAH	Polycyclic aromatic hydrocarbon
Phe	Phenanthrene
PM2.5	Particulate matter (Fine particle)
PM10	Particulate matter (Course particle)
ppm	Part per million
Pyr	Pyrene
REP	Rapeseed methyl ester
RPM	Round per minute
SD	Standard deviation
SO_2	Sulfur dioxide
TE	Thermal efficiency
THC	Total hydrocarbon
TPM	Total particulate matter
TSP	Total suspended particulate
USEPA	United States Environmental Protection Agency
VOC	Volatile organic compound
v/v	Volume by volume
µg	Microgram
µm	Micrometer
m^3	Cubic meter
cSt	Centi stroke

°C	Degree Celsius
τ	Torque
ω	Angular velocity