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**APPENDICES**

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APPENDIX A

CHROMATOGRAM OF 16 PAH

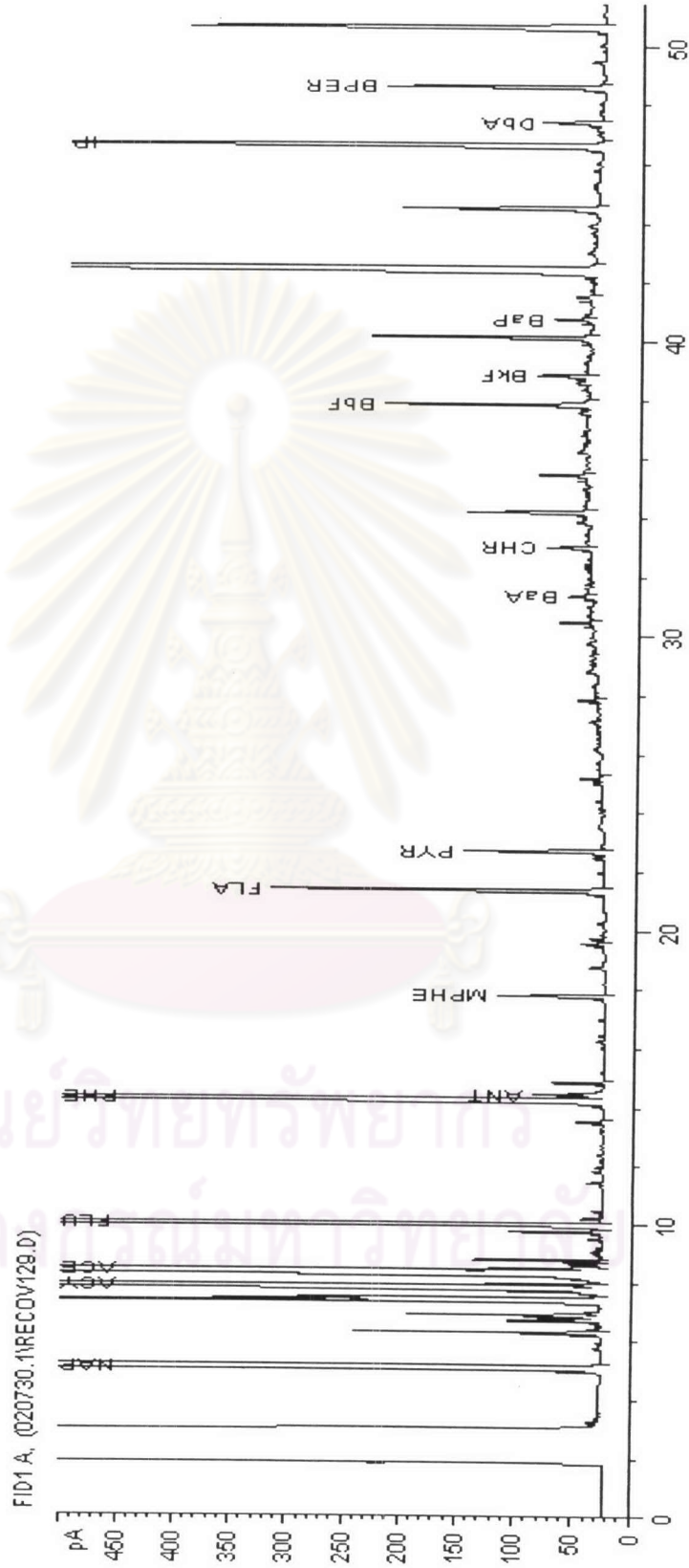


Figure A-1 Chromatogram of 16 PAH

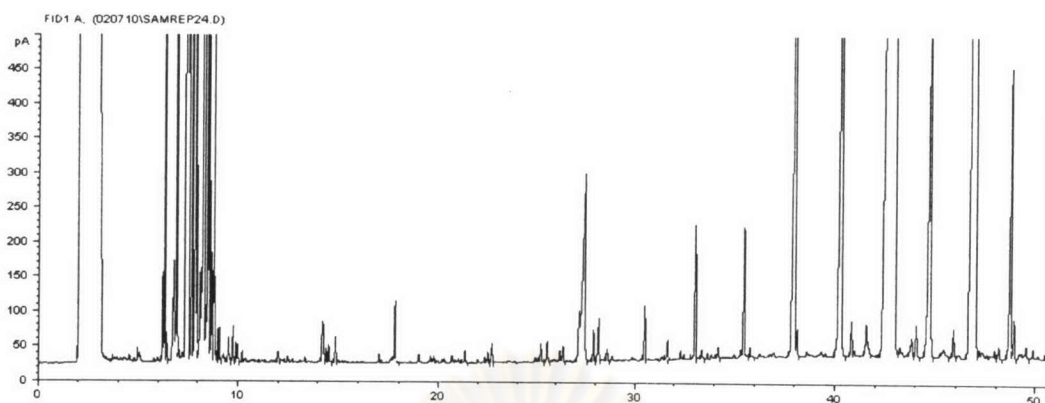


Figure A-2 Chromatogram of leaf sample at Patumwan site

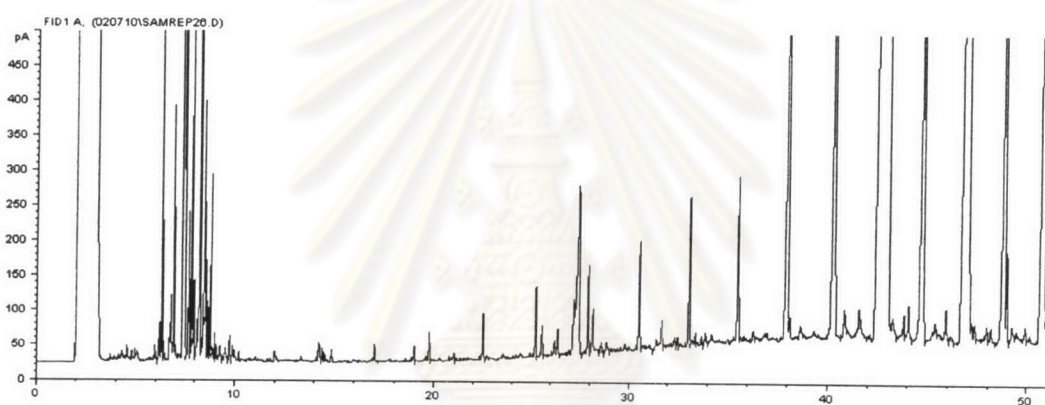


Figure A-3 Chromatogram of leaf sample at Saphan Khwai site

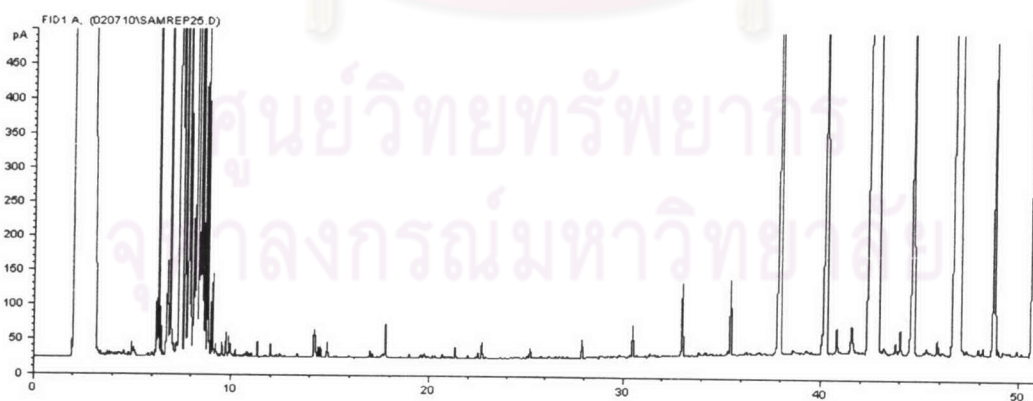


Figure A-4 Chromatogram of leaf sample at Phongphet site

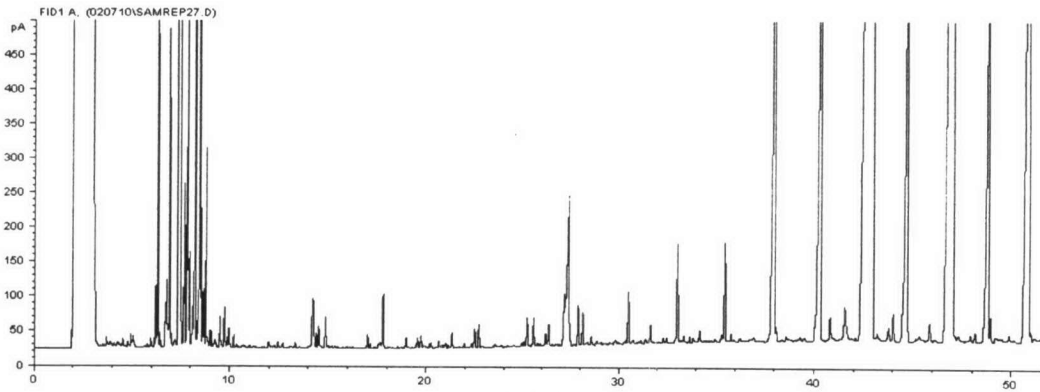


Figure A-5 Chromatogram of leaf sample at Kasemraj site

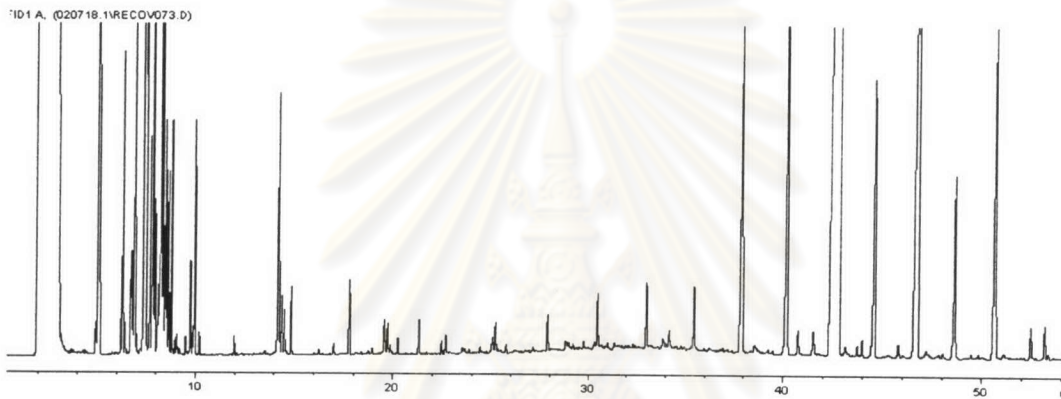


Figure A-6 Chromatogram of standard 16 PAH 0.05S in leaf sample

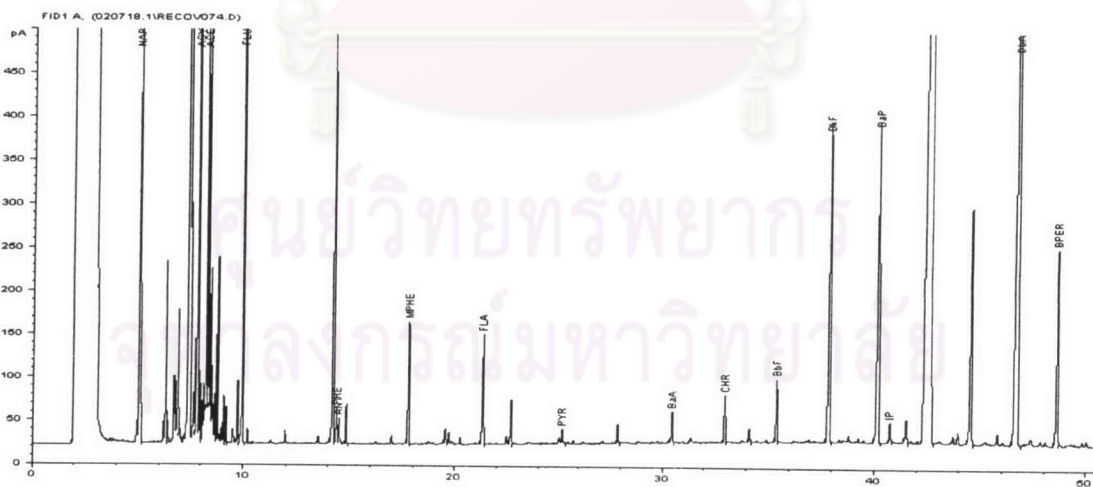


Figure A-7 Chromatogram of standard 16 PAH 0.12S in leaf sample

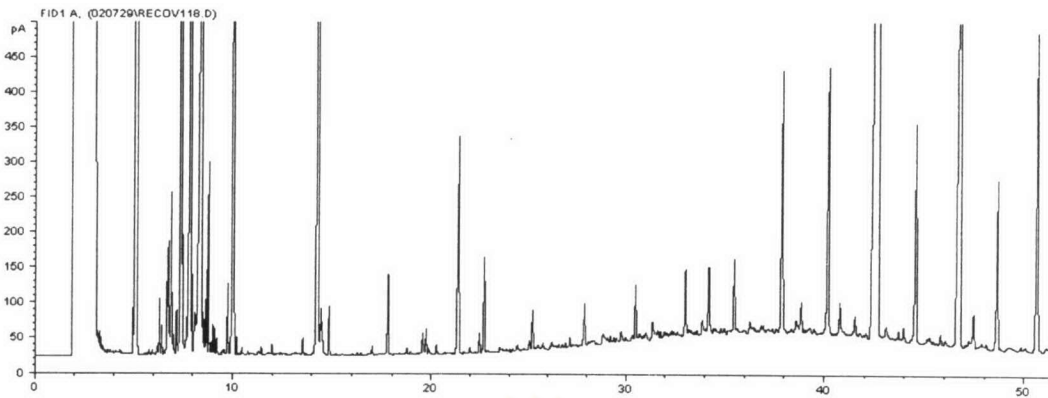


Figure A-8 Chromatogram of standard 16 PAH 0.18S in leaf sample

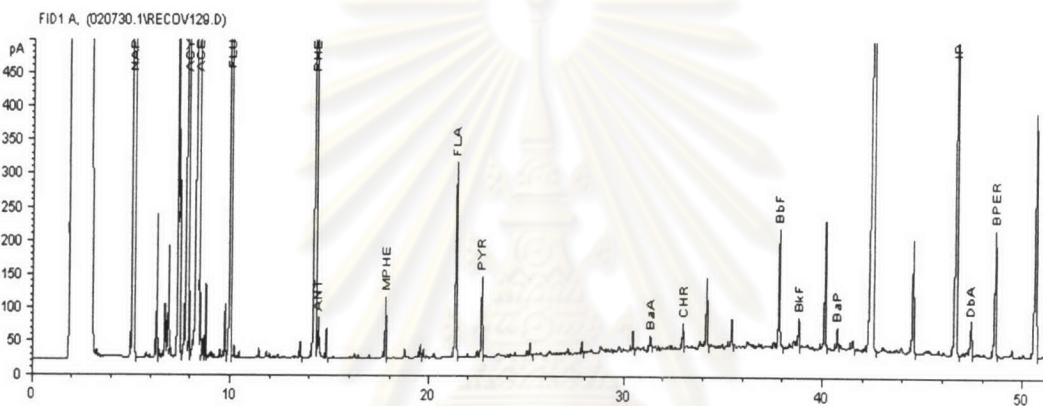


Figure A-9 Chromatogram of standard 16 PAH 0.25S in leaf sample

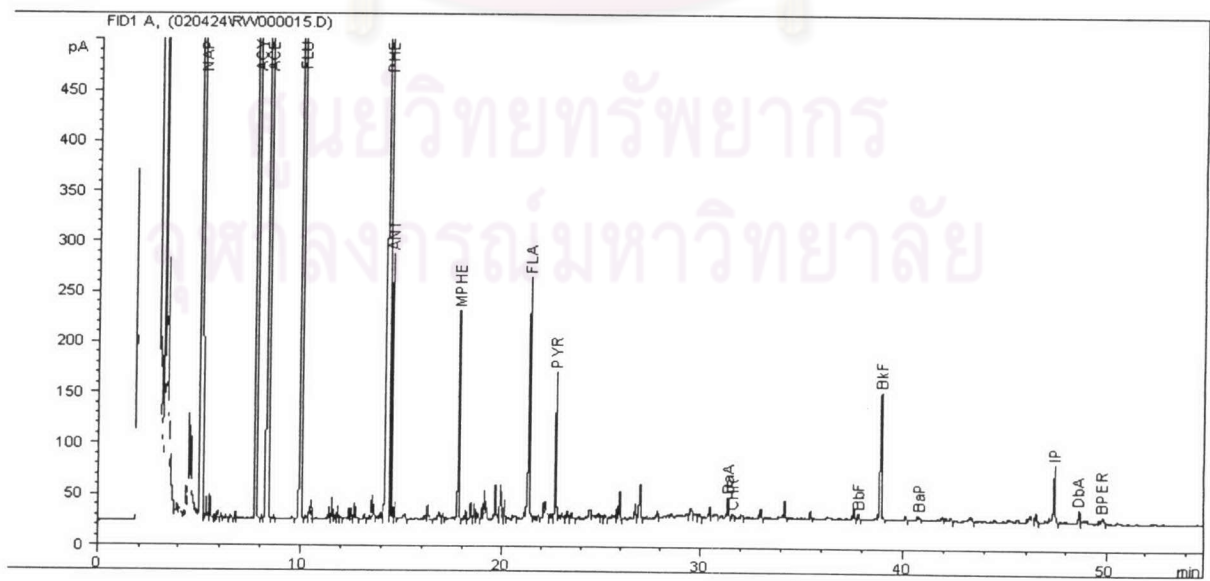


Figure A-10 Chromatogram of standard 16 PAH 0.05S in water sample



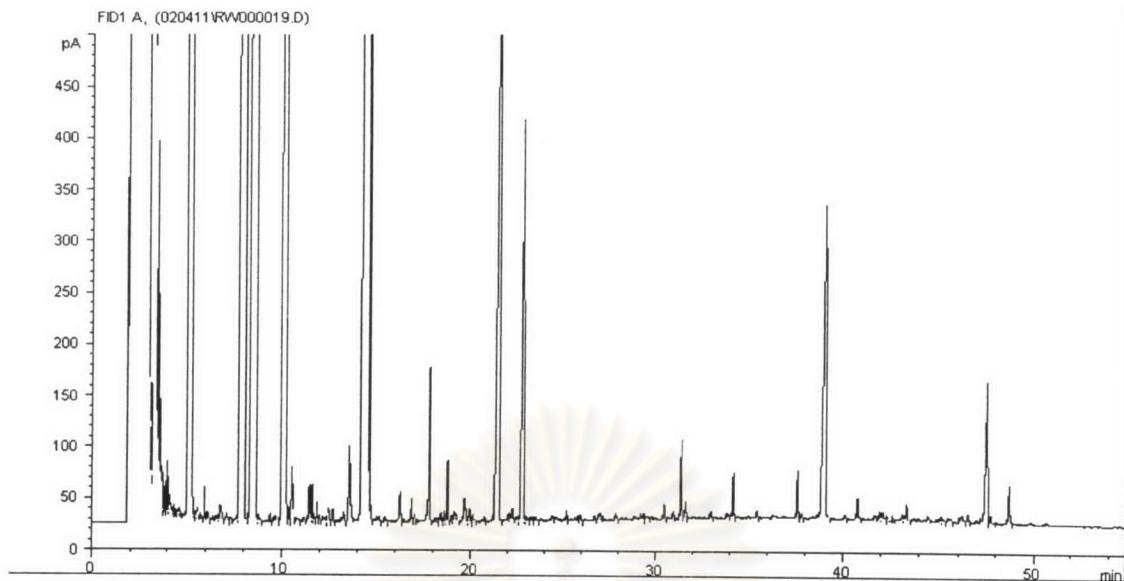


Figure A-11 Chromatogram of standard 16 PAH 0.18S in water sample

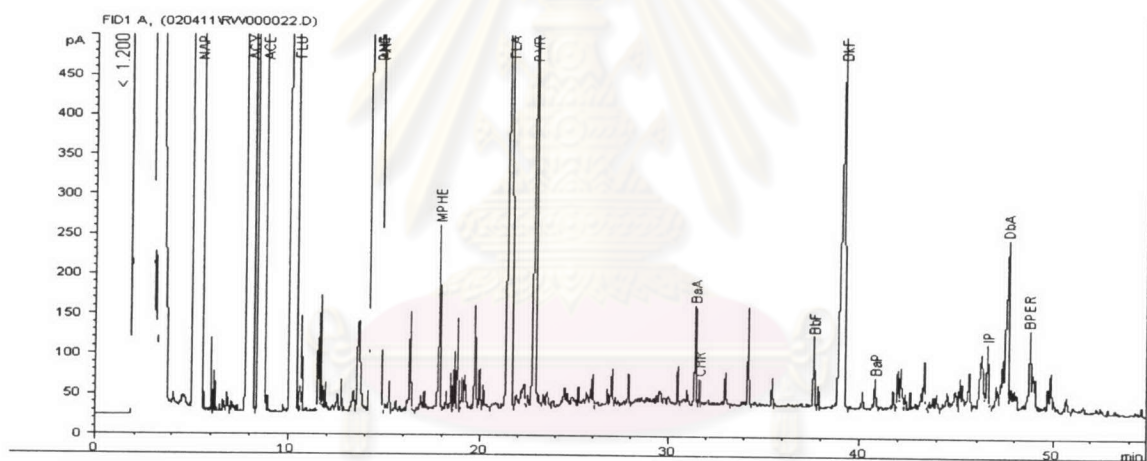


Figure A-12 Chromatogram of standard 16 PAH 0.25S in water sample

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## APPENDIX B

### EQUILIBRIUM TIME

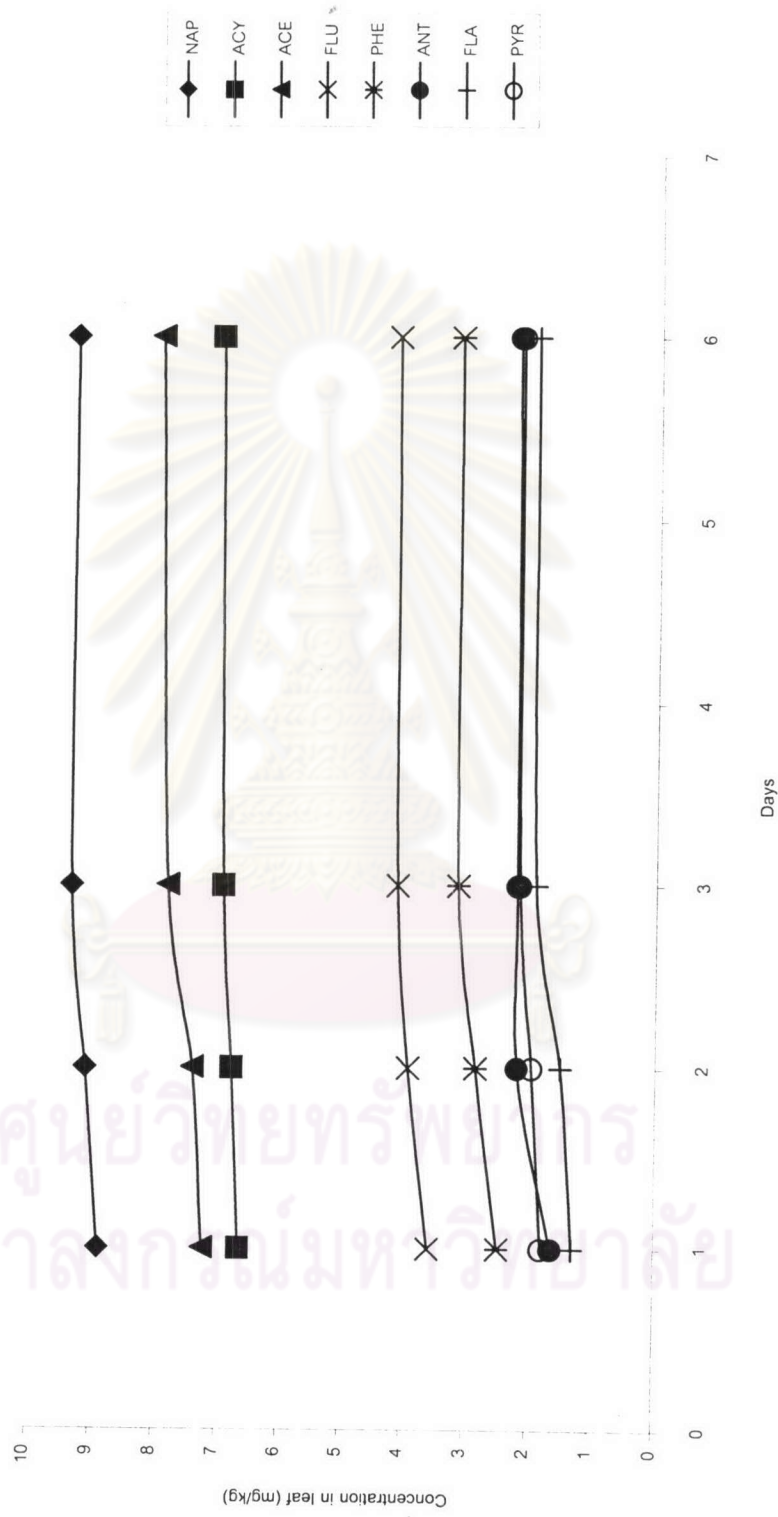


Figure B-1 Equilibrium time

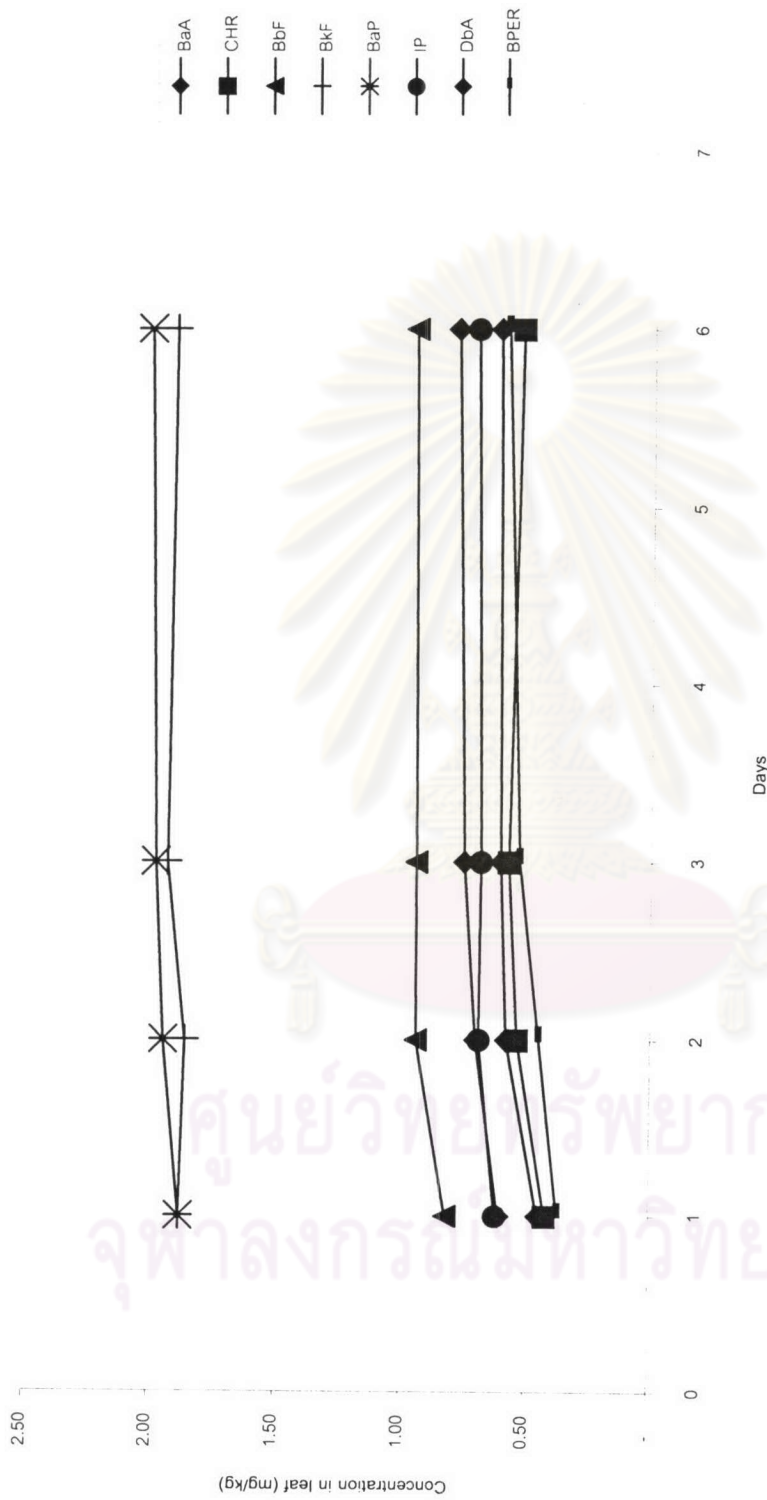
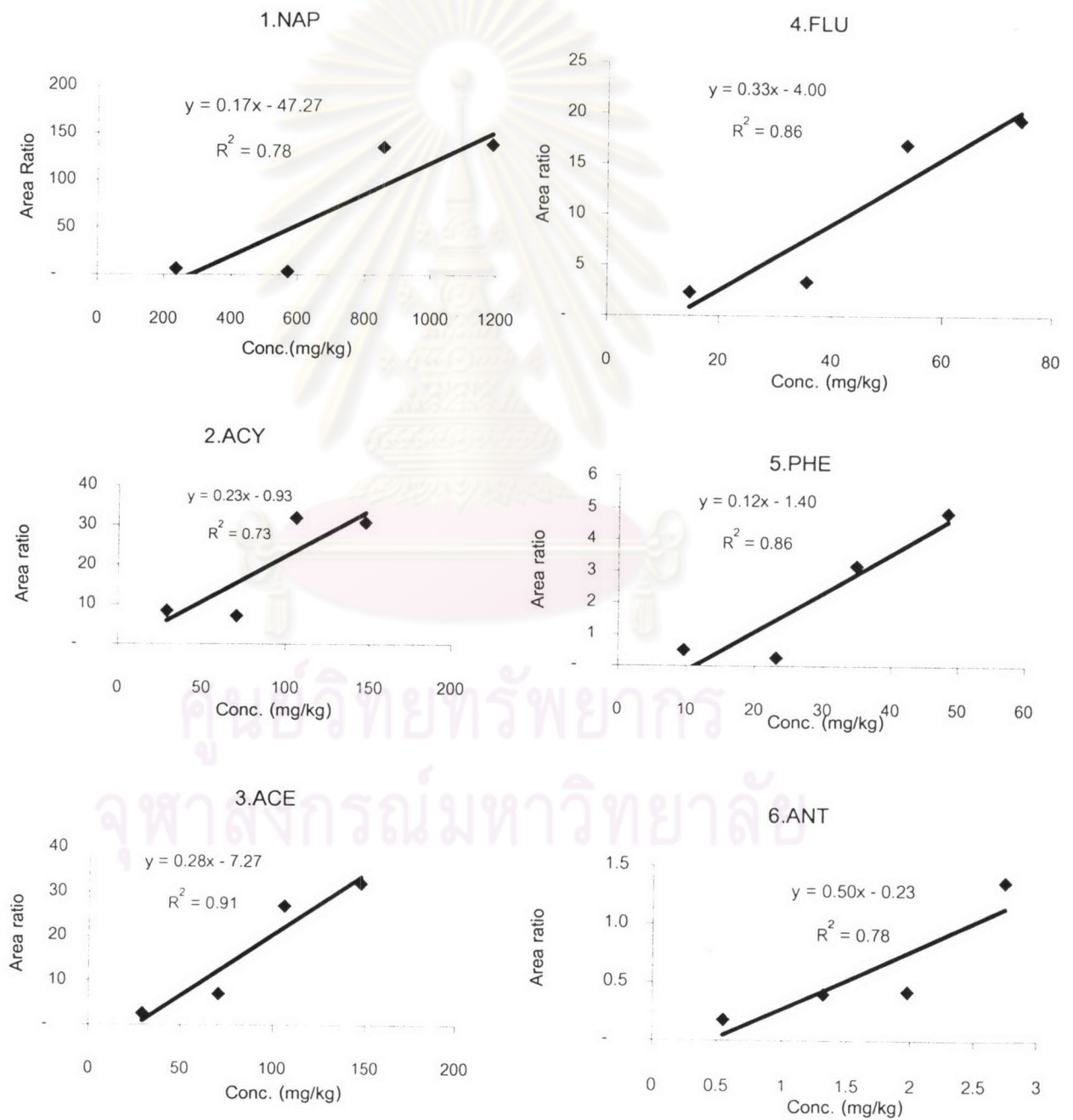


Figure B-1 Equilibrium time (continued)

## APPENDIX C

## CALIBRATION CURVES

Figure C-1 Calibration curves of 16 PAH in leaf samples





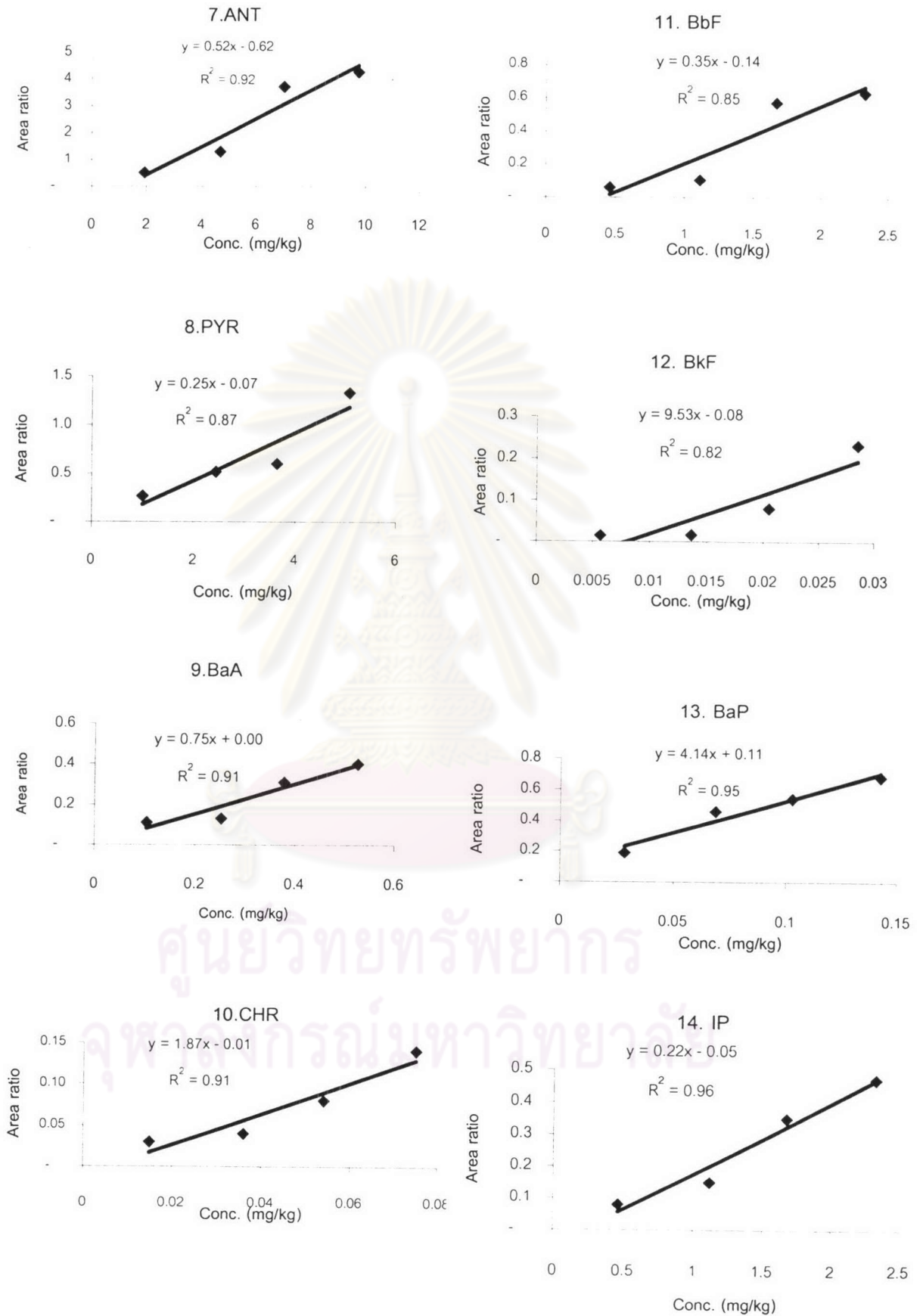


Figure C-1 Calibration curves of 16 PAH in leaf samples (continued)

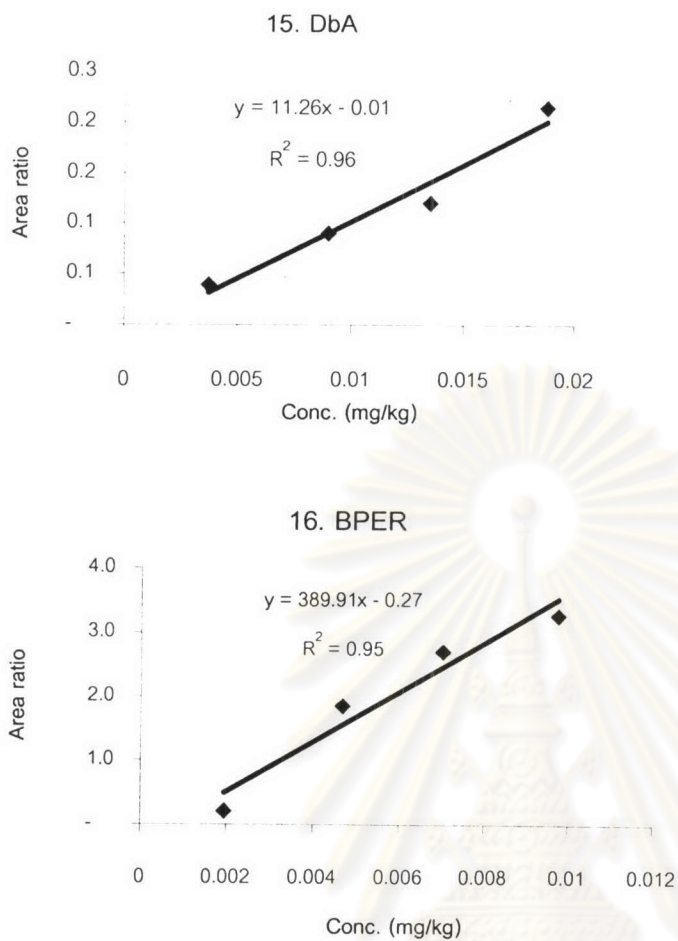
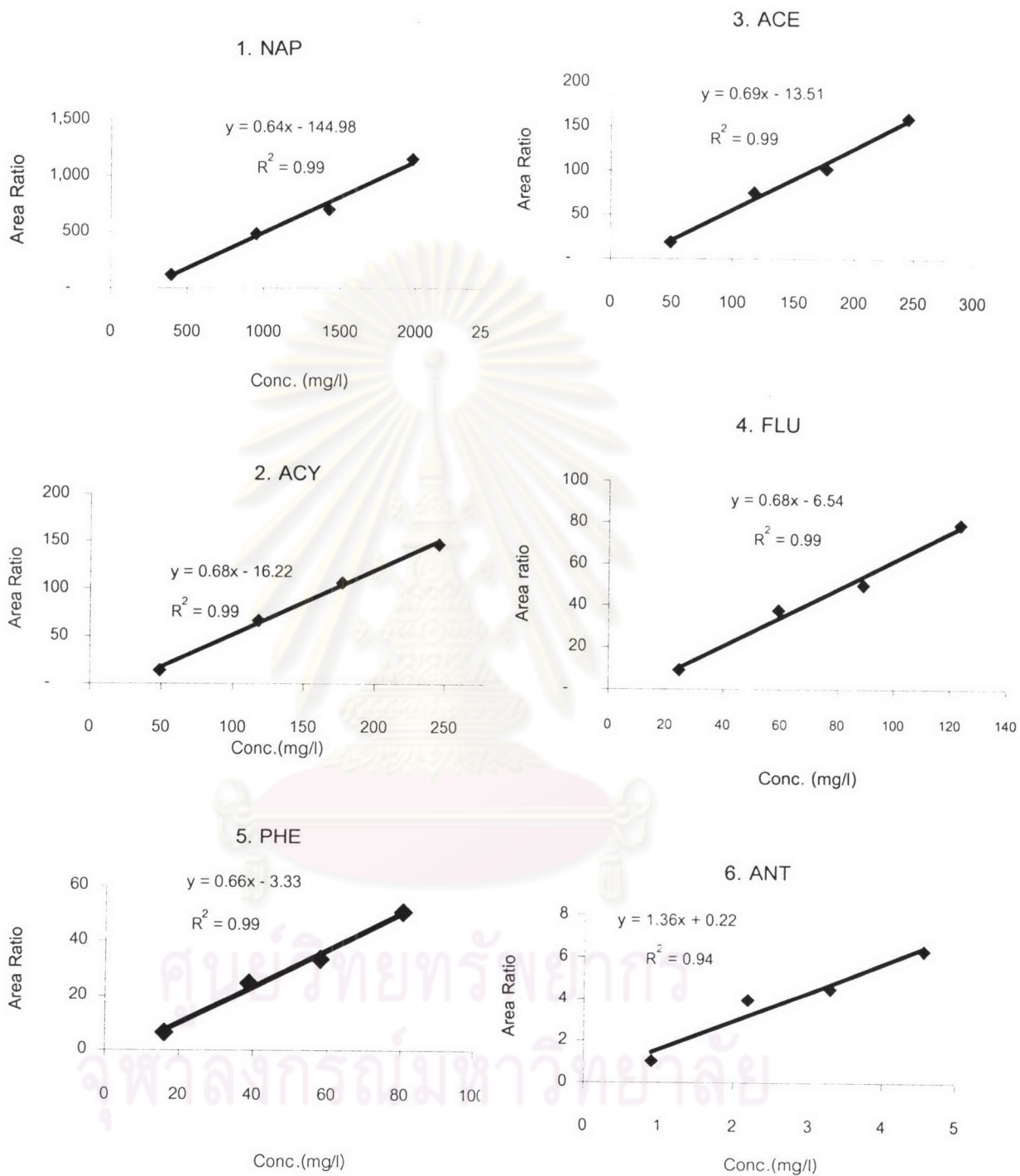


Figure C-1 Calibration curves of 16 PAH in leaf samples (continued)

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Figure C-2 Calibration curves of 16 PAH in water samples



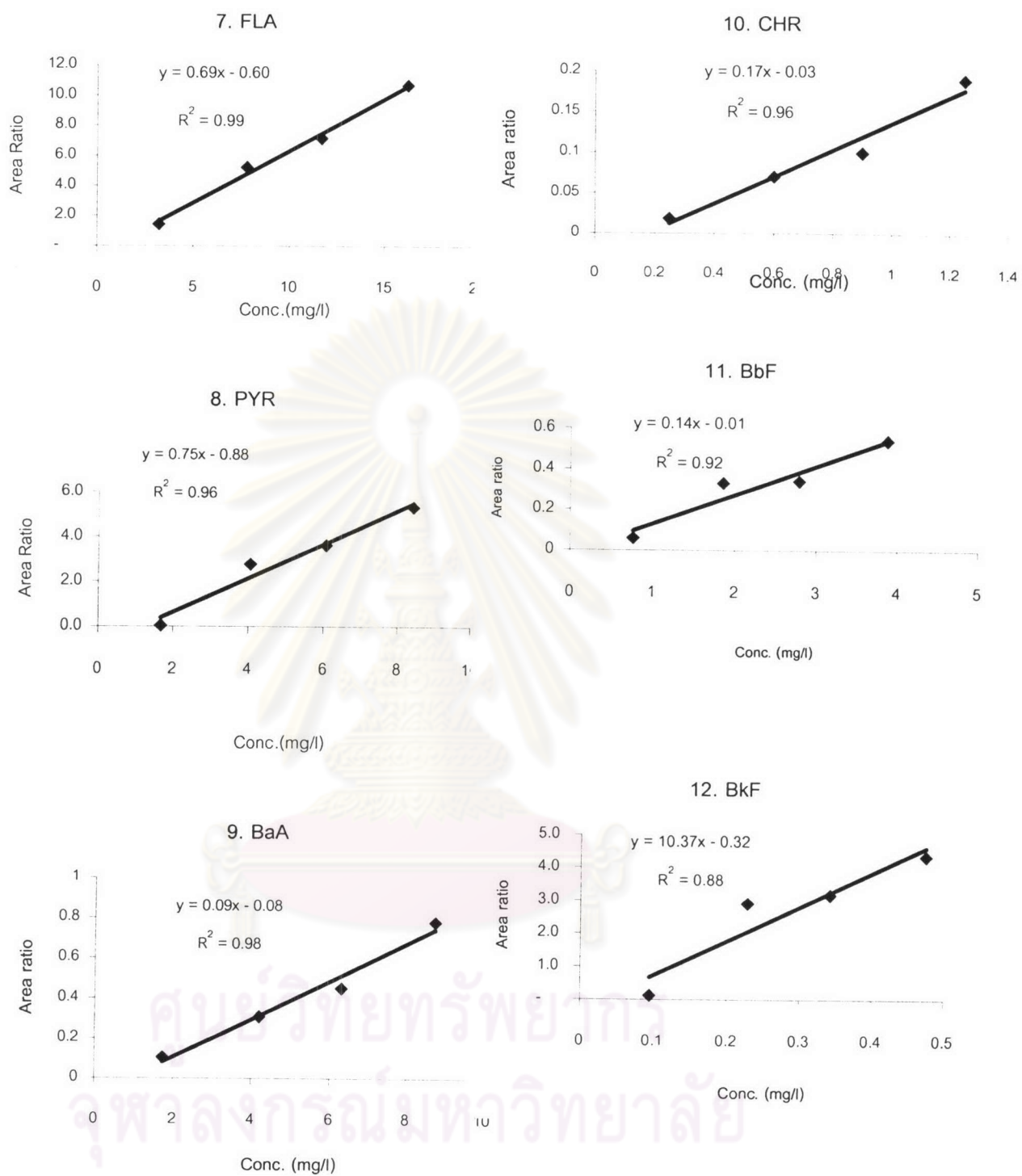
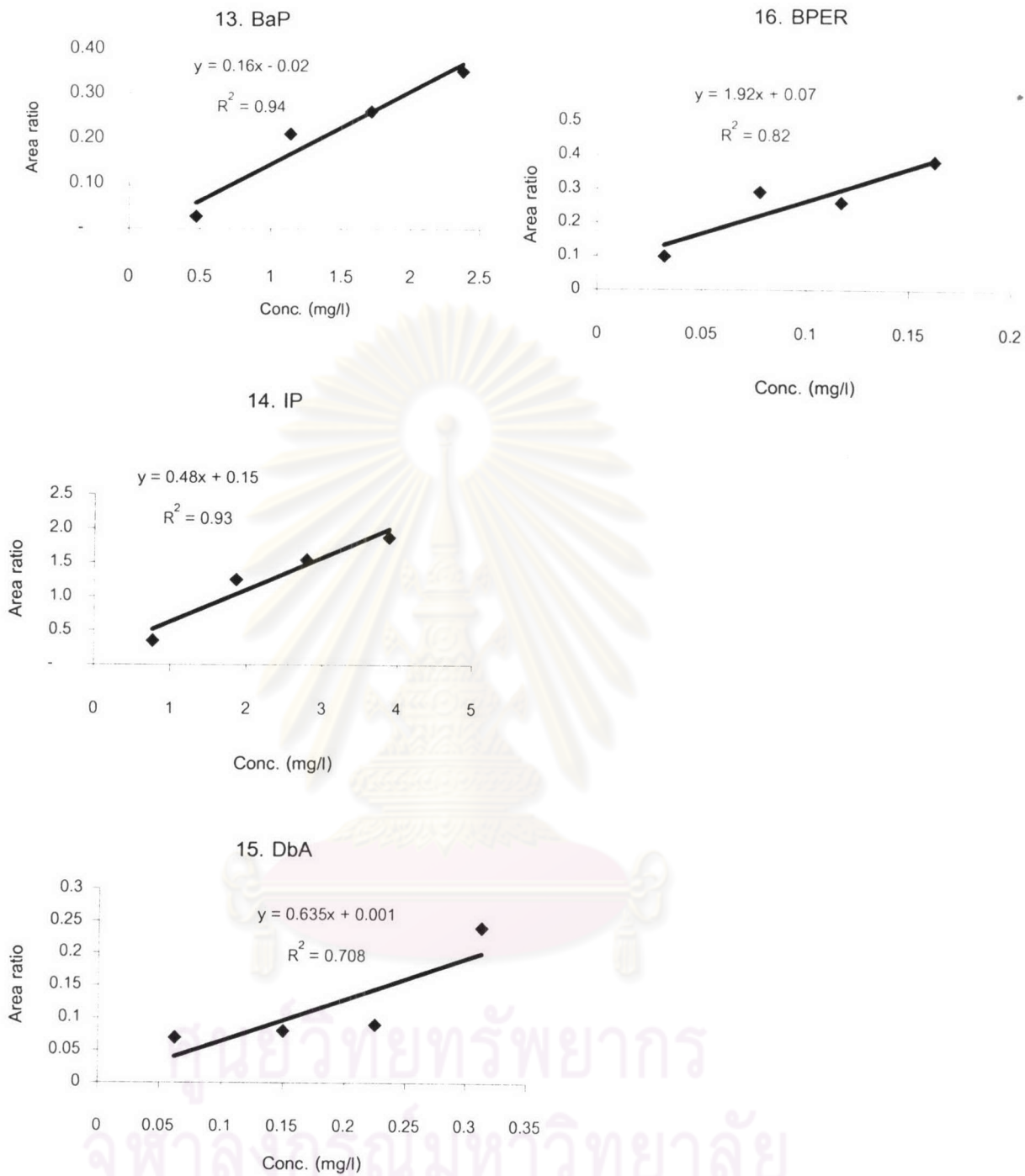


Figure C-2 Calibration curves of 16 PAH in water samples (continued)





**Figure C-2 Calibration curves of 16 PAH in water samples (continued)**

## APPENDIX D

### CALCULATED LEAF/WATER PARTITION COEFFICIENT

**Table D-1 leaf/water and leaf lipid/water partition coefficient ( $K_{LW}$  and  $K_{LLW}$ )**

Cpd. Name		$C_L$ (mg/kg)	$C_w$ (mg/l)	$K_{LW}=C_L/C_w$	$K_{LW}$ (unitless)	$K_{LLW}$ (unitless)
1. NAP	0.05	454.68	2.3269	195.4029	146.55	2,231.99
	0.12	465.57	3.0259	153.8648	115.40	1,757.52
	0.18	657.99	2.9496	223.0803	167.31	2,548.13
	0.25	615.95	9.0385	68.1478	51.11	778.42
	Average	548.55	4.3352	160.12	120.09	1,829.01
2. ACY	0.05	17.62	0.2758	63.89	47.92	729.77
	0.12	5.80	0.3538	16.40	12.30	187.30
	0.18	80.52	0.4411	182.55	136.91	2,085.20
	0.25	221.42	0.9353	236.73	177.55	2,704.09
	Average	81.34	0.5015	124.89	93.67	1,426.59
3. ACE	0.05	81.96	0.2284	358.86	269.15	4,099.09
	0.12	59.78	0.3115	191.91	143.93	2,192.07
	0.18	115.79	0.3830	302.36	226.77	3,453.65
	0.25	289.48	0.7474	387.29	290.47	4,423.84
	Average	136.75	0.4176	310.10	232.58	3,542.16
4. FLU	0.05	37.38	0.1160	322.17	241.63	3,680.02
	0.12	40.08	0.1433	279.60	209.70	3,193.73
	0.18	49.73	0.1994	249.36	187.02	2,848.32
	0.25	161.13	0.3987	404.14	303.11	4,616.31
	Average	72.08	0.2144	313.82	235.36	3,584.59

**Table D-1  $K_{LW}$  and  $K_{LLW}$  (continued)**

Cpd. Name		$C_L$ (mg/kg)	$C_W$ (mg/l)	$K_{LW}=C_L/C_W$	$K_{LW}$ (unitless)	$K_{LLW}$ (unitless)
5. PHE	0.05	89.35	0.0488	1830.29	1372.72	20,906.49
	0.12	90.14	0.0639	1410.94	1058.21	16,116.47
	0.18	128.70	0.0773	1664.17	1248.13	19,008.98
	0.25	440.86	0.0264	16691.19	12518.39	190,654.75
<b>Average</b>		<b>187.26</b>	<b>0.0541</b>	<b>5,399.15</b>	<b>4049.36</b>	<b>61,671.67</b>
6. ANT	0.05	2.23	0.0017	1341.42	1006.06	15,322.34
	0.12	1.64	0.0015	1058.49	793.87	12,090.57
	0.18	1.43	0.0013	1090.76	818.07	12,459.17
	0.25	7.74	0.0011	7063.02	5297.27	80,677.25
		3.26	0.0014	2,638.42	1978.82	30,137.33
7. FLA	0.05	5.06	0.0058	866.82	650.11	9,901.21
	0.12	6.47	0.0074	877.85	658.39	10,027.23
	0.18	5.22	0.0082	634.52	475.89	7,247.77
	0.25	24.72	0.0121	2047.75	1535.81	23,390.37
<b>Average</b>		<b>10.37</b>	<b>0.0084</b>	<b>1,106.73</b>	<b>830.05</b>	<b>12,641.64</b>
8. PYR	0.05	3.78	0.0053	707.23	530.43	8,078.37
	0.12	4.24	0.0058	730.58	547.94	8,345.08
	0.18	4.89	0.0061	803.29	602.47	9,175.57
	0.25	25.40	0.0082	3111.65	2333.74	35,542.79
<b>Average</b>		<b>9.58</b>	<b>0.0064</b>	<b>1,338.19</b>	<b>1003.64</b>	<b>15,285.45</b>
9. BaA	0.05	0.09	0.0020	44.47	33.35	507.92
	0.12	0.14	0.0009	151.56	113.67	1,731.19
	0.18	0.01	0.0051	2.38	1.78	27.14
	0.25	0.97	0.0015	644.39	483.29	7,360.57
<b>Average</b>		<b>0.30</b>	<b>0.0024</b>	<b>210.70</b>	<b>158.02</b>	<b>2,406.71</b>

**Table D-1  $K_{LW}$  and  $K_{LLW}$  (continued)**

Cpd. Name		$C_L$ (mg/kg)	$C_W$ (mg/l)	$K_{LW}=C_L/C_W$	$K_{LW}$ (unitless)	$K_{LLW}$ (unitless)
10. CHR	0.05	0.085	0.0010	87.56	65.67	1,000.21
	0.12	0.022	0.0002	98.18	73.63	1,121.41
	0.18	0.123	0.0033	37.60	28.20	429.47
	0.25	0.087	0.0013	66.08	49.56	754.83
Average		0.08	0.0014	72.36	54.27	826.48
11. BbF	0.05	0.65	0.0143	45.51	34.13	519.86
	0.12	3.60	0.0004	8874.60	6655.95	101,369.92
	0.18	0.47	0.0143	33.13	24.84	378.38
	0.25	0.47	0.0229	20.42	15.31	233.25
Average		1.30	0.0130	2,243.41	1682.56	25,625.35
12. BkF	0.05	0.32	0.00002	15,667.21	11750.40	178,958.34
	0.12	0.20	0.00003	7631.03	5723.27	87,165.30
	0.18	0.0093	0.00006	151.47	113.60	1,730.13
	0.25	0.39	0.00002	16123.30	12092.48	184,168.11
Average		0.23	0.00003	9,893.25	7419.94	113,005.47
13. BaP	0.05	0.29	0.0007	435.27	326.45	4,971.82
	0.12	0.21	0.0003	707.34	530.51	8,079.58
	0.18	0.02	0.0010	17.97	13.48	205.27
	0.25	0.14	0.0007	216.14	162.11	2,468.89
Average		0.17	0.0007	344.18	258.14	3,931.39
14. IP	0.05	0.23	0.0039	58.71	44.03	657.17
	0.12	0.23	0.0021	109.06	81.80	1,220.85
	0.18	0.23	0.0003	729.96	547.47	8,171.16
	0.25	6.68	0.0002	29449.46	22087.10	329,658.15
Average		1.84	0.0016	7,586.80	5690.10	84,926.83



**Table D-1  $K_{LW}$  and  $K_{LLW}$  (continued)**

Cpd. Name		$C_L$ (mg/kg)	$C_W$ (mg/l)	$K_{LW}=C_L/C_W$	$K_{LW}$ (unitless)	$K_{LLW}$ (unitless)
15. DbA	0.05	0.0009	-	-	-	-
	0.12	0.0027	0.00002	130.20	97.65	1,487.16
	0.18	0.0026	0.00029	9.14	6.85	104.38
	0.25	0.0097	-	-	-	-
Average		0.010	0.0002	69.67	26.13	397.88
16. BPER	0.05	0.0049	-	-	-	-
	0.12	0.0041	0.00002	177.45	133.08	2,026.87
	0.18	0.0043	0.00003	145.34	109.00	1,660.09
	0.25	0.0040	0.00005	73.17	54.88	835.84
Average		0.0043	0.00004	131.99	74.24	1,130.70

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## APPENDIX E

### PERCENTAGE OF MOISTURE

Table E-1 Percentage of moisture

Sample	Before	After	% moisture
1	100.8306	98.7469	2.07
2	82.7525	80.7026	2.48
3	83.8364	81.7707	2.46
4	90.2160	88.1226	2.32
5	86.4036	84.3481	2.38
6	74.5893	72.4971	2.80
<b>Average</b>			<b>2.42</b>

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## BIOGRAPHY

Arpapan Satayavibul was born on the 23<sup>rd</sup> of February 1978 in Bangkok. She started her study at Mahidol University in 1996 and received the Bachelor's Degree of Environmental Science and Technology in 1999 from Faculty of Environmental and Resource Studies. Then, she continued her further education for Master's Degree in Inter-department in Environmental Science at Chulalongkorn University in 2000.



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