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## APPENDIX I

- ❖ Individual absolute melanin and erythema values in guinea pigs appraised by mexameter for 5 groups

Group A received 0.25% Puag-Haad

Group B received 1% Niacinamide

Group C received 1% Lactic acid

Group D received 0.25% Puag-Haad + 1% Niacinamide

Group E received 0.25% Puag-Haad + 1% Niacinamide + 1% Lactic acid

- ❖ Individual melanin reduction and erythema change in guinea pigs

**Table 1. The absolute melanin values taken in guinea pigs before and after applying propylene glycol as a self control on the left flank and each substance on the right flank (n = 5 readings / area). The data shows the average values (in bold letter) and SD.**

**The melanin value of Group A (Propylene glycol)**

code	Left					
	Before UVB	week 0*	week1	week2	week3	week4
<b>A1</b>	<b>666.2</b>	<b>773.8</b>	<b>775.8</b>	<b>752.8</b>	<b>747.6</b>	<b>745.2</b>
SD	9.54	3.9	3.96	6.87	6.22	5.26
<b>A2</b>	<b>702.6</b>	<b>766</b>	<b>730.4</b>	<b>724.2</b>	<b>721.6</b>	<b>689.6</b>
SD	7.16	1.63	4.16	2.59	6.11	5.68
<b>A3</b>	<b>651.7</b>	<b>739.6</b>	<b>735.2</b>	<b>737</b>	<b>738.4</b>	<b>723.4</b>
SD	2.22	2.3	7.19	10.96	2.97	9.23
<b>A4</b>	<b>704.6</b>	<b>763.5</b>	<b>746.6</b>	<b>726.4</b>	<b>715.2</b>	<b>712.6</b>
SD	3.71	10.84	3.28	2.3	3.96	2.19
<b>A5</b>	<b>702.2</b>	<b>760</b>	<b>734.4</b>	<b>731.8</b>	<b>696.4</b>	<b>692.2</b>
SD	5.22	4.7	3.36	1.79	1.14	1.92
<b>A6</b>	<b>712</b>	<b>735.6</b>	<b>705</b>	<b>696</b>	<b>691.4</b>	<b>695.2</b>
SD	1.83	3.91	4.64	1.73	3.58	2.49

**The melanin value of Group A (0.25% Puag-Haad)**

code	Right					
	Before UVB	week 0*	week1	week2	week3	week4
<b>A1</b>	<b>666.2</b>	<b>769.5</b>	<b>772.8</b>	<b>737.4</b>	<b>725.8</b>	<b>719.8</b>
SD	9.54	7.05	3.56	10.09	6.5	6.06
<b>A2</b>	<b>702.6</b>	<b>745.4</b>	<b>721.4</b>	<b>702.8</b>	<b>693.6</b>	<b>669.4</b>
SD	7.16	4.93	2.97	9.88	8.2	9.42
<b>A3</b>	<b>651.7</b>	<b>734.4</b>	<b>733.2</b>	<b>714.6</b>	<b>708</b>	<b>705.6</b>
SD	2.22	5.18	1.48	9.48	3.39	2.97
<b>A4</b>	<b>704.6</b>	<b>756.6</b>	<b>725.6</b>	<b>719.4</b>	<b>690.6</b>	<b>693.4</b>
SD	3.71	3.05	6.87	3.91	5.98	1.67
<b>A5</b>	<b>702.2</b>	<b>761</b>	<b>738.8</b>	<b>723.8</b>	<b>677.8</b>	<b>682.8</b>
SD	5.22	6.16	10.99	4.87	5.8	4.38
<b>A6</b>	<b>712</b>	<b>735.5</b>	<b>700.8</b>	<b>686.8</b>	<b>674.2</b>	<b>674</b>
SD	1.83	3.41	1.92	2.05	6.46	5.15

\* The value at week 0 = initial value measured immediately before application. Application was started at the 3<sup>rd</sup> week after irradiation.

**The melanin value of Group B (Propylene glycol)**

code	Left					
	Before UVB	week 0*	week1	week2	week3	week4
B1	605	724.4	728	721	701.6	686
SD	2	1.52	3.54	1.58	1.82	6.12
B2	691.6	725.6	721.6	714.2	706	714
SD	1.95	8.26	2.88	2.16	3.94	2.74
B3	662.4	755.6	732.8	727.2	708	698.4
SD	5.59	4.8	3.35	4.97	3.6	2.19
B4	709.8	718.2	724.8	720	697.6	698.2
SD	4.32	4.27	4.32	2.55	3.85	6.83
B5	753.6	741.8	739.6	725.4	701.6	701.8
SD	6.43	4.44	6.99	3.43	3.58	3.49
B6	664.8	762.4	722.4	722.8	680	684.4
SD	5.76	8.8	7.8	3.03	6.75	2.89

**The melanin value of Group B (1% Niacinamide)**

code	Right					
	Before UVB	week 0*	week1	week2	week3	week4
B1	605	725.5	704.4	682.6	688.4	678.6
SD	2	3.24	3.85	2.3	3.97	6.31
B2	691.6	725.6	718.6	708.6	690.4	693.2
SD	1.95	1.67	3.36	1.82	2.41	6.02
B3	662.4	756	684.6	673.8	671.8	662.4
SD	5.59	3	7.27	2.95	9.96	4.39
B4	709.8	724.8	717	691.8	676.6	660
SD	4.32	9.19	5.24	10.35	3.58	4.18
B5	753.6	740.4	711.4	706	672.6	669.8
SD	6.43	8.24	8.29	4.53	4.67	6.02
B6	664.8	743.2	710.2	703	660	677.8
SD	5.76	1.79	3.03	3.16	6.78	10.08

\* The value at week 0 = initial value measured immediately before application. Application was started at the 3<sup>rd</sup> week after irradiation.

**The melanin value of Group C (Propylene glycol)**

code	Left					
	Before UVB	week 0*	week1	week2	week3	week4
<b>C1</b>	<b>748</b>	<b>829.2</b>	<b>790.7</b>	<b>770.2</b>	<b>758</b>	<b>758.8</b>
SD	3.39	4.38	7.89	7.73	5.43	5.26
<b>C2</b>	<b>739.2</b>	<b>752</b>	<b>742.4</b>	<b>741.4</b>	<b>691.6</b>	<b>710.8</b>
SD	4.32	6.04	6.58	4.88	2.61	6.76
<b>C3</b>	<b>680</b>	<b>719.8</b>	<b>673.4</b>	<b>674.2</b>	<b>679</b>	<b>663.6</b>
SD	8.72	7.82	4.4	3.42	6.22	2.88
<b>C4</b>	<b>726.8</b>	<b>728.6</b>	<b>723.4</b>	<b>722</b>	<b>685.5</b>	<b>696.6</b>
SD	5.17	4.34	2.97	2.74	9.67	2.41
<b>C5</b>	<b>699.8</b>	<b>743.4</b>	<b>718</b>	<b>714.2</b>	<b>695.8</b>	<b>680.6</b>
SD	2.17	7.2	5.43	3.19	4.82	7.34
<b>C6</b>	<b>790</b>	<b>790</b>	<b>785.4</b>	<b>739.8</b>	<b>756.6</b>	<b>754.4</b>
SD	7.26	7.26	8.79	7.05	6.88	6.43

**The melanin value of Group C (1% Lactic acid)**

code	Right					
	Before UVB	week 0*	week1	week2	week3	week4
<b>C1</b>	<b>748</b>	<b>798.8</b>	<b>784.8</b>	<b>765.4</b>	<b>741.2</b>	<b>744</b>
SD	3.39	7.05	6.69	4.72	5.01	6.4
<b>C2</b>	<b>739.2</b>	<b>768.5</b>	<b>742</b>	<b>715.4</b>	<b>680.4</b>	<b>680.6</b>
SD	4.32	6.35	6.78	7.27	2.51	8.53
<b>C3</b>	<b>680</b>	<b>701</b>	<b>647</b>	<b>647</b>	<b>654.4</b>	<b>646.3</b>
SD	8.72	1.54	8.89	7.31	5.73	7.32
<b>C4</b>	<b>726.8</b>	<b>732.2</b>	<b>723.2</b>	<b>705.8</b>	<b>675</b>	<b>668.8</b>
SD	5.17	8.16	4.32	9.42	2.65	6.61
<b>C5</b>	<b>699.8</b>	<b>737.8</b>	<b>706.2</b>	<b>697.8</b>	<b>686</b>	<b>675.6</b>
SD	2.17	7.39	2.95	3.19	6.71	4.83
<b>C6</b>	<b>774.6</b>	<b>774.6</b>	<b>772.4</b>	<b>775.4</b>	<b>731.8</b>	<b>707.4</b>
SD	2.89	2.89	6.66	6.77	5.81	4.22

\* The value at week 0 = initial value measured immediately before application. Application was started at the 3<sup>rd</sup> week after irradiation.



**The melanin value of Group D (Propylene glycol)**

code	Left					
	Before UVB	week 0*	week1	week2	week3	week4
<b>D1</b>	<b>663</b>	<b>733.4</b>	<b>733</b>	<b>731.2</b>	<b>725.4</b>	<b>734.2</b>
SD	2.48	4.28	4.43	0.84	1.52	3.35
<b>D2</b>	<b>702.8</b>	<b>756.8</b>	<b>751</b>	<b>751.6</b>	<b>751.4</b>	<b>760.8</b>
SD	3.42	6.61	7.84	6.19	5.22	8.23
<b>D3</b>	<b>717.8</b>	<b>777.4</b>	<b>740.8</b>	<b>735.6</b>	<b>714.4</b>	<b>710.8</b>
SD	2.59	8.9	1.1	2.7	4.04	5.07
<b>D4</b>	<b>791</b>	<b>791</b>	<b>782.4</b>	<b>771.2</b>	<b>758.8</b>	<b>761.6</b>
SD	5.78	5.78	5.5	5.07	6.42	7.92
<b>D5</b>	<b>745.5</b>	<b>821.5</b>	<b>802.6</b>	<b>789.5</b>	<b>801.5</b>	<b>790.2</b>
SD	10.66	6.24	4.39	7.89	6.55	6.5
<b>D6</b>	<b>711.4</b>	<b>770.4</b>	<b>774.8</b>	<b>779.2</b>	<b>766</b>	<b>763.6</b>
SD	3.13	9.74	4.87	4.66	5.2	5.32

**The melanin value of Group D ( 0.25% Puag-Haad +1 % Niacinamide)**

code	Right					
	Before UVB	week 0*	week1	week2	week3	week4
<b>D1</b>	<b>663</b>	<b>735.6</b>	<b>718.6</b>	<b>711.6</b>	<b>705.6</b>	<b>700.6</b>
SD	2.48	6.1	5.5	2.6	2.6	7.3
<b>D2</b>	<b>701.6</b>	<b>755</b>	<b>753</b>	<b>742.6</b>	<b>721.4</b>	<b>728.8</b>
SD	7.23	8.37	5.61	4.39	5.73	14.11
<b>D3</b>	<b>717.8</b>	<b>771.4</b>	<b>735.2</b>	<b>721.4</b>	<b>687.6</b>	<b>687.2</b>
SD	2.59	9.25	5.93	4.88	4.16	2.95
<b>D4</b>	<b>793.2</b>	<b>793.2</b>	<b>763</b>	<b>744.8</b>	<b>736</b>	<b>743</b>
SD	8.66	8.66	8.28	8.7	6.89	9.61
<b>D5</b>	<b>731.6</b>	<b>803.2</b>	<b>782.2</b>	<b>783.5</b>	<b>769</b>	<b>731.4</b>
SD	7.89	8.23	6.91	5.2	5.72	5.27
<b>D6</b>	<b>715</b>	<b>770.2</b>	<b>767.2</b>	<b>740.7</b>	<b>738.2</b>	<b>724.2</b>
SD	5.57	2.59	4.92	6.13	5.19	6.5

\* The value at week 0 = initial value measured immediately before application. Application was started at the 3<sup>rd</sup> week after irradiation.

**The melanin value of Group E (Propylene glycol)**

code	Left					
	Before UVB	week 0*	week1	week2	week3	week4
<b>E1</b>	<b>670.6</b>	<b>752.6</b>	<b>771.2</b>	<b>793.4</b>	<b>771.4</b>	<b>770</b>
SD	2.41	4.28	7.63	9.4	7.09	5.52
<b>E2</b>	<b>677.2</b>	<b>761</b>	<b>756.6</b>	<b>762.4</b>	<b>761.2</b>	<b>760.6</b>
SD	6.13	9.06	7.23	9.86	9.36	7.67
<b>E3</b>	<b>682.8</b>	<b>743</b>	<b>764.2</b>	<b>764.8</b>	<b>765.2</b>	<b>768.2</b>
SD	5.54	6.04	8.41	7.85	6.06	3.77
<b>E4</b>	<b>726</b>	<b>737.4</b>	<b>701</b>	<b>702.6</b>	<b>693.8</b>	<b>690.2</b>
SD	4.85	6.73	6.56	4.04	3.63	2.86
<b>E5</b>	<b>676</b>	<b>726.8</b>	<b>698.6</b>	<b>696.8</b>	<b>673</b>	<b>668.2</b>
SD	3.67	4.92	7.16	5.45	4.36	6.94

**The melanin value of Group E ( 0.25% Puag-Haad +1% Niacinamide+1% Lactic acid)**

code	Right					
	Before UVB	week 0*	week1	week2	week3	week4
<b>E1</b>	<b>665.4</b>	<b>750.8</b>	<b>773.8</b>	<b>753.4</b>	<b>744.8</b>	<b>737.4</b>
SD	5.86	8.17	6.69	6.19	7.09	4.39
<b>E2</b>	<b>689.4</b>	<b>764.2</b>	<b>749.8</b>	<b>754.2</b>	<b>741.8</b>	<b>739.4</b>
SD	1.81	3.7	7.29	9.86	2.49	2.97
<b>E3</b>	<b>685.2</b>	<b>759.6</b>	<b>746.6</b>	<b>739</b>	<b>721</b>	<b>716</b>
SD	6.01	5.81	7.64	3.94	7.21	3.24
<b>E4</b>	<b>726</b>	<b>735</b>	<b>694.6</b>	<b>678.8</b>	<b>660.8</b>	<b>668.8</b>
SD	4.85	7.67	4.39	8.75	6.7	3.63
<b>E5</b>	<b>676</b>	<b>725.1</b>	<b>701.2</b>	<b>681</b>	<b>649.2</b>	<b>652</b>
SD	3.67	7.14	5.4	5.52	6.06	8.69

\* The value at week 0 = initial value measured immediately before application. Application was started at the 3<sup>rd</sup> week after irradiation.

**Table 2.** The absolute erythema values taken in guinea pigs before and after applying propylene glycol as a self control on the left flank and each substance on the right flank (n = 5 readings / area). The data shows the average values (in bold letter) and SD.

**The erythema value of Group A (Propylene glycol)**

code	Left					
	Before UVB	week 0*	week1	week2	week3	week4
<b>A1</b>	<b>574.6</b>	<b>559.8</b>	<b>575.6</b>	<b>577.4</b>	<b>573.2</b>	<b>590.4</b>
SD	8.5	4.87	1.34	4.39	5.93	2.88
<b>A2</b>	<b>577.4</b>	<b>573.8</b>	<b>568</b>	<b>568.2</b>	<b>573.6</b>	<b>591</b>
SD	3.36	7.4	1	2.39	3.85	6.48
<b>A3</b>	<b>583.8</b>	<b>577.8</b>	<b>566.2</b>	<b>569.8</b>	<b>571</b>	<b>592.6</b>
SD	4.08	26.19	1.3	8.53	7.11	3.44
<b>A4</b>	<b>574.8</b>	<b>601</b>	<b>580.6</b>	<b>587</b>	<b>585</b>	<b>595.6</b>
SD	3.27	4.3	7.06	9.14	5.48	5.13
<b>A5</b>	<b>570</b>	<b>584.4</b>	<b>585.6</b>	<b>583.8</b>	<b>578.2</b>	<b>589</b>
SD	2.23	11.7	4.34	7.63	5.54	7.18
<b>A6</b>	<b>576.4</b>	<b>582.8</b>	<b>591</b>	<b>600</b>	<b>594.4</b>	<b>605.2</b>
SD	1.67	5.12	3.16	4.64	3.85	8.14

**The erythema value of Group A (0.25% Puag-Haad)**

code	Right					
	Before UVB	week 0*	week1	week2	week3	week4
<b>A1</b>	<b>574.6</b>	<b>575.6</b>	<b>575.6</b>	<b>584.4</b>	<b>575.8</b>	<b>595.4</b>
SD	8.5	18.36	1.14	5.5	7.16	4.72
<b>A2</b>	<b>577.4</b>	<b>570.6</b>	<b>566.8</b>	<b>557</b>	<b>573.6</b>	<b>595.6</b>
SD	3.36	5.13	0.84	3.94	3.97	6.11
<b>A3</b>	<b>583.8</b>	<b>563.3</b>	<b>570</b>	<b>573</b>	<b>575.2</b>	<b>585.6</b>
SD	4.08	3.7	2.74	3.39	3.42	2.3
<b>A4</b>	<b>574.8</b>	<b>602.1</b>	<b>578.6</b>	<b>592.2</b>	<b>591</b>	<b>585</b>
SD	3.27	8.88	4.39	4.49	6	8.31
<b>A5</b>	<b>570</b>	<b>583.4</b>	<b>586.4</b>	<b>587.8</b>	<b>578.6</b>	<b>586.6</b>
SD	2.23	14.29	3.05	3.27	2.61	7.02
<b>A6</b>	<b>576.4</b>	<b>584.3</b>	<b>596.8</b>	<b>598</b>	<b>593.6</b>	<b>606.6</b>
SD	1.67	4.52	4.76	2.45	4.62	4.39

\* The value at week 0 = initial value measured immediately before application. Application was started at the 3<sup>rd</sup> week after irradiation.

**The erythema value of Group B (Propylene glycol)**

code	Left					
	Before UVB	week 0*	week1	week2	week3	week4
<b>B1</b>	<b>588</b>	<b>554.4</b>	<b>565.6</b>	<b>565.8</b>	<b>564</b>	<b>579.6</b>
SD	13.17	1.52	0.89	0.84	3.24	1.14
<b>B2</b>	<b>559.2</b>	<b>562</b>	<b>576.6</b>	<b>573</b>	<b>574</b>	<b>591.4</b>
SD	5.72	6.16	1.14	11.05	2	6.23
<b>B3</b>	<b>566</b>	<b>575.4</b>	<b>583.4</b>	<b>590.4</b>	<b>590.6</b>	<b>581</b>
SD	2.35	9.29	3.51	4.98	10.33	15.92
<b>B4</b>	<b>581</b>	<b>572.4</b>	<b>585.8</b>	<b>592.2</b>	<b>578.6</b>	<b>592.2</b>
SD	3.39	4.93	7.12	3.42	5.18	6.06
<b>B5</b>	<b>575.8</b>	<b>585.2</b>	<b>585.8</b>	<b>594.2</b>	<b>577</b>	<b>605</b>
SD	7.29	4.82	6.1	3.11	10.86	3.85
<b>B6</b>	<b>568.6</b>	<b>592.6</b>	<b>580.4</b>	<b>589.6</b>	<b>579</b>	<b>594.4</b>
SD	0.55	12.62	6.8	2.19	3.46	8.38

**The erythema value of Group B (1% Niacinamide)**

code	Right					
	Before UVB	week 0*	week1	week2	week3	week4
<b>B1</b>	<b>588</b>	<b>556.6</b>	<b>566</b>	<b>566</b>	<b>563</b>	<b>586</b>
SD	13.17	5.32	0.71	1.22	2.53	10.56
<b>B2</b>	<b>559.2</b>	<b>553.6</b>	<b>575.6</b>	<b>563.8</b>	<b>555.6</b>	<b>575.8</b>
SD	5.72	6.5	3.97	1.79	4.16	9.63
<b>B3</b>	<b>566</b>	<b>573.9</b>	<b>578.2</b>	<b>580.6</b>	<b>582.8</b>	<b>581</b>
SD	2.35	7.02	2.68	1.34	3.63	7
<b>B4</b>	<b>581</b>	<b>570.6</b>	<b>584</b>	<b>586.8</b>	<b>595.8</b>	<b>580.2</b>
SD	3.39	9.24	5.05	3.96	18.4	7.19
<b>B5</b>	<b>575.8</b>	<b>578.6</b>	<b>590.6</b>	<b>584.6</b>	<b>573.2</b>	<b>594.2</b>
SD	7.29	7.18	6.1	5.68	8.47	8.7
<b>B6</b>	<b>568.6</b>	<b>587.2</b>	<b>576.2</b>	<b>585</b>	<b>582</b>	<b>596.2</b>
SD	0.55	10.28	2.59	4.69	7.58	7.05

\* The value at week 0 = initial value measured immediately before application. Application was started at the 3<sup>rd</sup> week after irradiation.

**The erythema value of Group C (Propylene glycol)**

code	Left					
	Before UVB	week 0*	week1	week2	week3	week4
<b>C1</b>	<b>575.2</b>	<b>616</b>	<b>607.4</b>	<b>598.6</b>	<b>606.2</b>	<b>622.2</b>
SD	2.77	8.09	3.05	8.91	5.26	5.4
<b>C2</b>	<b>579.4</b>	<b>589.4</b>	<b>581.6</b>	<b>582</b>	<b>573.2</b>	<b>598.6</b>
SD	1.52	4.93	2.4	15.28	2.17	7.4
<b>C3</b>	<b>565.2</b>	<b>594.6</b>	<b>581.6</b>	<b>585.4</b>	<b>596.4</b>	<b>581.8</b>
SD	2.49	7.57	2.88	7.64	6.23	2.49
<b>C4</b>	<b>555</b>	<b>580.5</b>	<b>590.4</b>	<b>583.8</b>	<b>578.4</b>	<b>97</b>
SD	4.06	3.2	3.78	6.38	1.82	17.72
<b>C5</b>	<b>575.4</b>	<b>587</b>	<b>594.8</b>	<b>590.2</b>	<b>590.8</b>	<b>604</b>
SD	2.07	2.74	1.1	1.79	14.64	5.57
<b>C6</b>	<b>579.6</b>	<b>579.6</b>	<b>598</b>	<b>595.2</b>	<b>576</b>	<b>580.6</b>
SD	7.16	7.16	8.6	2.95	5.67	8.53

**The erythema value of Group C (1% Lactic acid)**

code	Right					
	Before UVB	week 0*	week1	week2	week3	week4
<b>C1</b>	<b>575.2</b>	<b>613.6</b>	<b>600.6</b>	<b>599.8</b>	<b>596.6</b>	<b>623.6</b>
SD	2.77	10.22	5.27	4.76	11.35	10.01
<b>C2</b>	<b>579.4</b>	<b>591.5</b>	<b>582.2</b>	<b>585</b>	<b>592</b>	<b>598.4</b>
SD	1.52	4.53	3.96	4.42	2.74	1.34
<b>C3</b>	<b>565.2</b>	<b>588.3</b>	<b>583.6</b>	<b>587.8</b>	<b>591.6</b>	<b>584.5</b>
SD	2.49	9.55	3.78	1.92	6.15	12.66
<b>C4</b>	<b>555</b>	<b>580.9</b>	<b>581.4</b>	<b>586</b>	<b>582</b>	<b>599.6</b>
SD	4.06	3.45	6.5	6.93	1	5.5
<b>C5</b>	<b>575.4</b>	<b>586.4</b>	<b>595.6</b>	<b>590.8</b>	<b>586.4</b>	<b>595</b>
SD	2.07	3.3	2.7	3.96	8.82	4.63
<b>C6</b>	<b>575.4</b>	<b>575.4</b>	<b>604.4</b>	<b>592</b>	<b>574.2</b>	<b>574.8</b>
SD	9.91	9.91	9.81	5.05	11.43	3.19

\* The value at week 0 = initial value measured immediately before application. Application was started at the 3<sup>rd</sup> week after irradiation.

**The erythema value of Group D (Propylene glycol)**

code	Left					
	Before UVB	week 0*	week1	week2	week3	week4
<b>D1</b>	<b>574.4</b>	<b>573.5</b>	<b>567</b>	<b>566.4</b>	<b>577</b>	<b>587.8</b>
SD	3.85	9.52	1.41	1.67	7.68	3.42
<b>D2</b>	<b>581.8</b>	<b>575</b>	<b>580.2</b>	<b>562.2</b>	<b>564.4</b>	<b>566.4</b>
SD	5.85	17	8.26	9.34	7.89	6.54
<b>D3</b>	<b>576.4</b>	<b>583.4</b>	<b>584.6</b>	<b>588.8</b>	<b>590.3</b>	<b>604.8</b>
SD	1.95	3.13	7.64	4.44	5.44	3.03
<b>D4</b>	<b>580.4</b>	<b>580.4</b>	<b>596.2</b>	<b>587.2</b>	<b>581</b>	<b>584</b>
SD	6.88	6.88	9.04	3.19	7.97	4.64
<b>D5</b>	<b>597.8</b>	<b>569.8</b>	<b>597.8</b>	<b>587</b>	<b>585.2</b>	<b>582.6</b>
SD	17.58	7.29	13.54	17.2	17.9	9.8
<b>D6</b>	<b>586.2</b>	<b>575.5</b>	<b>580.2</b>	<b>580.8</b>	<b>577.8</b>	<b>569.6</b>
SD	8.64	13.07	9.09	9.5	12.5	4.88

**The erythema value of Group D ( 0.25% Puag-Haad+1% Niacinamide)**

code	Right					
	Before UVB	week 0*	week1	week2	week3	week4
<b>D1</b>	<b>574.4</b>	<b>567.6</b>	<b>566.8</b>	<b>565.2</b>	<b>575.8</b>	<b>586.4</b>
SD	3.85	3.29	1.4	1.48	5.02	2.41
<b>D2</b>	<b>588</b>	<b>566</b>	<b>577.8</b>	<b>574</b>	<b>553.4</b>	<b>566.1</b>
SD	4.69	4.47	6.65	9.41	7.3	6.4
<b>D3</b>	<b>576.4</b>	<b>581.1</b>	<b>584.2</b>	<b>587.2</b>	<b>590.4</b>	<b>594.4</b>
SD	1.95	4.01	1.3	4.87	5.32	1.52
<b>D4</b>	<b>572</b>	<b>572</b>	<b>591.2</b>	<b>580.6</b>	<b>560.8</b>	<b>583</b>
SD	6.2	6.2	9.63	12.46	2.95	5.05
<b>D5</b>	<b>604.2</b>	<b>593.8</b>	<b>595.8</b>	<b>584.6</b>	<b>571.8</b>	<b>559.4</b>
SD	14.89	17.57	11.01	5.77	7.4	12.14
<b>D6</b>	<b>583.6</b>	<b>572.4</b>	<b>580.6</b>	<b>581.2</b>	<b>564.6</b>	<b>572.8</b>
SD	7.83	4.28	3.91	8.07	8.02	13.03

\* The value at week 0 = initial value measured immediately before application .  
Application was started at the 3<sup>rd</sup> week after irradiation.

**The erythema value of Group E (Propylene glycol)**

code	Left					
	Before UVB	week 0*	week1	week2	week3	week4
<b>E1</b>	<b>582.4</b>	<b>561</b>	<b>591.6</b>	<b>581.6</b>	<b>573.6</b>	<b>573</b>
SD	2.61	7.1	6.23	12.14	7.34	14.858
<b>E2</b>	<b>585.6</b>	<b>562.2</b>	<b>576.3</b>	<b>573.6</b>	<b>558.4</b>	<b>561.8</b>
SD	5.27	5.55	9.75	10.57	4.5	7.4
<b>E3</b>	<b>578.4</b>	<b>552.6</b>	<b>579</b>	<b>572.6</b>	<b>563.4</b>	<b>565.4</b>
SD	6.29	5.94	6.63	8.99	9.18	6.84
<b>E4</b>	<b>565.4</b>	<b>587.2</b>	<b>582.4</b>	<b>577.8</b>	<b>577</b>	<b>593.6</b>
SD	3.29	6.38	6.99	3.11	5.52	8.91
<b>E5</b>	<b>584.8</b>	<b>589.4</b>	<b>594.2</b>	<b>597.4</b>	<b>598.4</b>	<b>610.2</b>
SD	2.86	8.2	6.02	4.77	5.55	2.39

**The erythema value of Group E ( 0.25% Puag-Haad+1% Niacinamide+1% Lactic acid)**

code	Right					
	Before UVB	week 0*	week1	week2	week3	week4
<b>E1</b>	<b>592</b>	<b>566.8</b>	<b>589</b>	<b>582.6</b>	<b>579</b>	<b>575.4</b>
SD	2.35	16.36	5.05	4.51	2	9.63
<b>E2</b>	<b>585.5</b>	<b>559</b>	<b>570</b>	<b>570.4</b>	<b>553</b>	<b>568.4</b>
SD	5.1	7.07	13.38	7.09	12.94	3.13
<b>E3</b>	<b>589.6</b>	<b>561.4</b>	<b>576.4</b>	<b>579.4</b>	<b>553.4</b>	<b>564.2</b>
SD	4.34	2.7	9.56	9.1	2.97	5.4
<b>E4</b>	<b>565.4</b>	<b>585.9</b>	<b>570.4</b>	<b>576.6</b>	<b>576.6</b>	<b>587</b>
SD	3.29	5.63	2.79	4.16	5.22	2.28
<b>E5</b>	<b>584.8</b>	<b>590.6</b>	<b>599.8</b>	<b>598.4</b>	<b>606</b>	<b>612</b>
SD	2.86	5.68	2.49	3.21	5.34	6.2

\* The value at week 0 = initial value measured immediately before application.  
Application was started at the 3<sup>rd</sup> week after irradiation.

**Table 3. The individual melanin reduction ( $X_c - X_{tr}$ ) compared between controlled area and each substance in guinea pigs.**

**Group A (0.25% Puag-Haad)**

code	Xc - Xtr				
	week 0*	week 1	week 2	week 3	week 4
A1	4.3	3	15.4	21.8	25.4
A2	20.6	9	21.4	28	20.2
A3	5.2	2	22.4	30.4	17.8
A4	6.9	21	7	24.6	19.2
A5	-1	-4.4	8	18.6	9.4
A6	0.1	4.2	9.2	17.2	21.2
$\bar{X}$	6.02	5.80	13.90	23.43	18.87
SD	7.76	8.60	6.86	5.21	5.31

\* The value at week 0 = initial value measured immediately before application. Application was started at the 3<sup>rd</sup> week after irradiation.



**Group B (1% Niacinamide)**

code	Xc - Xtr				
	week 0*	week 1	week 2	week 3	week 4
B1	-1.1	23.6	38.4	13.2	7.4
B2	0	3	5.6	15.6	20.8
B3	-0.4	48.2	53.4	36.2	36
B4	-6.6	7.8	28.2	21	38.2
B5	1.4	28.2	19.4	29	32
B6	19.2	12.2	19.8	20	6.6
$\bar{X}$	2.08	20.50	27.47	22.50	23.50
SD	8.83	16.57	16.70	8.63	14.12

\* The value at week 0 = initial value measured immediately before application. Application was started at the 3<sup>rd</sup> week after irradiation.

**Group C (1% Lactic acid)**

code	Xc - Xtr				
	week 0*	week 1	week 2	week 3	week 4
C1	30.4	5.9	4.8	16.8	14.8
C2	-16.5	0.4	26	11.2	30.2
C3	18.8	26.4	27.2	24.6	17.3
C4	-3.6	0.2	16.2	10.5	27.8
C5	5.6	11.8	16.4	9.8	5
C6	15.4	13	-35.6	24.8	47
$\bar{X}$	8.35	9.62	9.17	16.28	23.68
SD	16.81	9.85	23.38	6.98	14.64

\* The value at week 0 = initial value measured immediately before application. Application was started at the 3<sup>rd</sup> week after irradiation.

**Group D ( 0.25% Puag-Haad +1 % Niacinamide)**

code	Xc - Xtr				
	week 0*	week 1	week 2	week 3	week 4
D1	-2.2	14.4	19.6	19.8	33.6
D2	1.8	-2	9	30	32
D3	6	5.6	14.2	26.8	23.6
D4	-2.2	19.4	26.4	22.8	18.6
D5	18.3	20.4	6	32.5	58.8
D6	0.2	7.6	38.5	27.8	39.4
$\bar{X}$	3.65	10.90	18.95	26.62	34.33
SD	7.80	8.72	12.06	4.66	14.09

\* The value at week 0 = initial value measured immediately before application. Application was started at the 3<sup>rd</sup> week after irradiation.

**Group E**  
**( 0.25% Puag-Haad +1% Niacinamide+1% Lactic acid)**

code	Xc - Xtr				
	week 0*	week 1	week 2	week 3	week 4
E1	1.8	-2.6	40	26.6	32.6
E2	-3.2	6.8	8.2	19.4	21.2
E3	-16.6	17.6	25.8	44.2	52.2
E4	2.4	6.4	23.8	33	21.4
E5	1.7	-2.6	15.8	23.8	16.2
E6	0	0	0	0	0
$\bar{X}$	-2.32	4.27	18.93	24.50	23.93
SD	7.29	7.76	14.13	14.77	17.44

\* The value at week 0 = initial value measured immediately before application. Application was started at the 3<sup>rd</sup> week after irradiation.

**Table 4. The individual erythema change ( $E_c - E_{tr}$ ) compared between controlled area and treated area of each substance in guinea pigs.**

**Group A (0.25% Puag-Haad)**

code	Ec – Etr				
	week 0*	week 1	Week 2	week 3	week 4
A1	-15.8	0	-7	-2.6	-5
A2	3.2	1.2	11.2	0	-4.6
A3	14.5	-3.8	-3.2	-4.2	7
A4	-1.1	2	-5.2	-6	10.6
A5	1	-0.8	-4	-0.4	2.4
A6	-1.5	-5.8	2	0.8	-1.4
$\bar{X}$	0.05	-1.20	-1.03	-2.07	1.50
SD	9.74	3.02	6.71	2.67	6.35

\* The value at week 0 = initial value measured immediately before application. Application was started at the 3<sup>rd</sup> week after irradiation.

**Group B (1% Niacinamide)**

code	Ec – Etr				
	week 0*	week 1	week 2	week 3	week 4
B1	-2.2	-0.4	-0.2	1	-6.4
B2	8.4	1	9.2	18.4	15.6
B3	1.5	5.2	9.8	7.8	0
B4	1.8	1.8	5.4	-17.2	12
B5	6.6	-4.8	9.6	3.8	10.8
B6	5.4	4.2	4.6	-3	-1.8
$\bar{X}$	3.58	1.17	6.40	1.80	5.03
SD	3.91	3.58	3.94	11.83	8.90

\* The value at week 0 = initial value measured immediately before application. Application was started at the 3<sup>rd</sup> week after irradiation.

**Group C (1% Lactic acid)**

code	Ec – Etr				
	week 0*	week 1	week 2	week 3	week 4
C1	2.4	6.8	-1.2	9.6	-1.4
C2	-2.1	-0.6	-3	-18.8	0.2
C3	6.3	-2	-2.4	4.8	-2.7
C4	-0.4	9	-2.2	-3.6	-2.6
C5	0.6	-0.8	-0.6	4.4	9
C6	4.2	-6.4	3.2	1.8	5.8
$\bar{X}$	1.83	1.00	-1.03	-0.30	1.38
SD	3.09	5.78	2.25	10.04	4.88

\* The value at week 0 = initial value measured immediately before application. Application was started at the 3<sup>rd</sup> week after irradiation.

**Group D ( 0.25% Puag-Haad+1% Niacinamide)**

code	Ec – Etr				
	week 0*	week 1	week 2	week 3	week 4
D1	5.9	0.2	1.2	1.2	1.4
D2	9	2.4	-11.8	11	0.3
D3	2.3	0.4	1.6	-0.1	10.4
D4	8.4	5	6.6	20.2	1
D5	-24	2	2.4	13.4	23.2
D6	3.1	-0.4	-0.4	13.2	-3.2
$\bar{X}$	0.78	1.60	-0.07	9.82	5.52
SD	12.44	1.99	6.21	7.82	9.77

\* The value at week 0 = initial value measured immediately before application. Application was started at the 3<sup>rd</sup> week after irradiation.



**Group E**  
**( 0.25% Puag-Haad+1% Niacinamide+1% Lactic acid)**

code	Ec – Etr				
	week 0*	week 1	week 2	week 3	week 4
E1	5.9	0.2	1.2	1.2	1.4
E2	9	2.4	-11.8	11	0.3
E3	2.3	0.4	1.6	-0.1	10.4
E4	8.4	5	6.6	20.2	1
E5	-24	2	2.4	13.4	23.2
E6	3.1	-0.4	-0.4	13.2	-3.2
X	0.78	1.60	-0.07	9.82	5.52
SD	12.44	1.99	6.21	7.82	9.77

\* The value at week 0 = initial value measured immediately before application. Application was started at the 3<sup>rd</sup> week after irradiation.

## APPENDIX II

- ❖ The overview of the ingredients and compositions of commercial product (L'ORÉAL, Lot no.C3/A 1650, Mfd. 06/07/01)
- ❖ Individual melanin (M) and erythema (E) values in 84 human volunteers appraised by mexameter for 5 groups

Group A received 0.25% Puag-Haad

Group B received 1% Niacinamide

Group C received 2.5% Tranexamic acid

Group D received 0.25% Puag-Haad + 1% Niacinamide

Group E received 0.25% Puag-Haad + 2.5% Tranexamic acid

Group F received commercial product (L'ORÉAL, Lot no.C3/A 1650, Mfd. 06/07/01)

- ❖ Individual melanin reduction and erythema change in 84 human volunteers

**Table 5. The overview of the ingredients and compositions of commercial product(L'ORÉAL, Lot no.C3/A 1650, Mfd. 06/07/01)**

<b>Ingredients</b>	<b>Basic Ingredients.(W/W)</b>
Terephthalylidene Dicamphor Sulfonic Acid (Mexoryl SX)	0.7
2-Ethylhexyl-2-Cyano-3,3-Diphenylacrylate	1.0
Mulberry Root Extract	0.001
Scutellaria Baicalensis Extract	0.001
Capryloyl Salicylic acid	0.3
Glycerin	3.0

**Table 6. The melanin measurements before and after applying the lotion base (control) and the test lotion to the individual subjects of each group (ns = 5 reading/ person). The data shows average values (in bold letter) and SD.**

<b>The melanin value of Group A (0.25% Puag-Haad)</b>							
<b>code</b>	<b>Left (A1-A7 = Control ; A8-A14 = Treatment)</b>						
	<b>week 0</b>	<b>week 2</b>	<b>week 4</b>	<b>week 6</b>	<b>week 8</b>	<b>week 10</b>	<b>week 12</b>
<b>A1</b>	<b>501.4</b>	<b>503.2</b>	<b>499.2</b>	<b>498</b>	<b>497</b>	<b>501</b>	<b>496</b>
SD	1.14	2.59	1.64	2.12	1.89	2.92	1.58
<b>A2</b>	<b>498</b>	<b>493.4</b>	<b>492.6</b>	<b>494.6</b>	<b>497.4</b>	<b>497.4</b>	<b>493.4</b>
SD	4.24	1.82	2.07	3.29	3.05	3.91	2.3
<b>A3</b>	<b>489</b>	<b>485.5</b>	<b>484.4</b>	<b>483</b>	<b>484</b>	<b>483.8</b>	<b>481.4</b>
SD	4.64	1	2.83	3.16	1.22	2.39	1.52
<b>A4</b>	<b>473</b>	<b>472.4</b>	<b>477.2</b>	<b>478</b>	<b>477.2</b>	<b>477.6</b>	<b>478</b>
SD	1.58	3.65	1.79	2.74	2.49	2.07	1.22
<b>A5</b>	<b>474.2</b>	<b>477.4</b>	<b>477.6</b>	<b>472.2</b>	<b>474.4</b>	<b>474.6</b>	<b>476.4</b>
SD	1.3	1.14	2.19	1.92	2.7	1.14	1.14
<b>A6</b>	<b>542.4</b>	<b>535.8</b>	<b>530.2</b>	<b>536</b>	<b>531</b>	<b>538.2</b>	<b>538.2</b>
SD	6.39	3.49	4.87	8.09	3.54	3.7	2.95
<b>A7</b>	<b>482.6</b>	<b>480.6</b>	<b>482.6</b>	<b>478.6</b>	<b>482.4</b>	<b>482.8</b>	<b>484.6</b>
SD	1.14	1.14	2.07	1.67	1.82	4.97	1.14
<b>A8</b>	<b>501.8</b>	<b>511</b>	<b>507.2</b>	<b>501.2</b>	<b>504.2</b>	<b>506.2</b>	<b>501.2</b>
SD	1.48	0.71	1.64	2.39	1.79	2.68	2.77
<b>A9</b>	<b>489.8</b>	<b>489.2</b>	<b>485.2</b>	<b>479.8</b>	<b>485.6</b>	<b>485.6</b>	<b>484.4</b>
SD	2.77	1.48	0.84	1.64	3.05	2.7	2.88
<b>A10</b>	<b>524.4</b>	<b>522.2</b>	<b>524.2</b>	<b>522.2</b>	<b>521.8</b>	<b>520.4</b>	<b>516.2</b>
SD	3.21	2.05	3.7	3.56	3.83	3.05	2.28
<b>A11</b>	<b>552</b>	<b>536.4</b>	<b>549.2</b>	<b>546.2</b>	<b>545.6</b>	<b>540.2</b>	<b>529.2</b>
SD	5.7	2.88	1.92	5.26	2.88	4.97	2.77
<b>A12</b>	<b>513</b>	<b>515.2</b>	<b>512</b>	<b>513.4</b>	<b>511</b>	<b>514.8</b>	<b>506.6</b>
SD	3.74	5.26	3.54	3.97	4.8	5.36	1.67
<b>A13</b>	<b>532</b>	<b>529.4</b>	<b>530.6</b>	<b>530.8</b>	<b>515.4</b>	<b>513.6</b>	<b>513</b>
SD	2	1.34	5.81	4.27	2.07	3.58	0.71
<b>A14</b>	<b>509.2</b>	<b>507.6</b>	<b>502.4</b>	<b>506.6</b>	<b>506</b>	<b>502.4</b>	<b>501.4</b>
SD	1.79	2.88	3.97	3.21	2.92	1.95	4.45

The melanin value of Group A (0.25% Puag-Haad)

code	Right (A1-A7 =Treatment ; A8-A14 = Control)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>A1</b>	<b>503.2</b>	<b>497.6</b>	<b>495.8</b>	<b>498.4</b>	<b>496.4</b>	<b>495.6</b>	<b>494</b>
SD	3.56	1.95	1.92	1.52	2.79	1.14	1.58
<b>A2</b>	<b>497.8</b>	<b>491</b>	<b>490.2</b>	<b>492.8</b>	<b>496.2</b>	<b>497</b>	<b>497</b>
SD	1.64	5.24	2.77	3.56	2.39	2.55	1.73
<b>A3</b>	<b>489.2</b>	<b>481.75</b>	<b>486.4</b>	<b>485.8</b>	<b>482.8</b>	<b>489.8</b>	<b>485.4</b>
SD	0.84	0.96	1.71	3.03	1.79	2.77	2.61
<b>A4</b>	<b>471.6</b>	<b>474.6</b>	<b>476</b>	<b>475.4</b>	<b>476.6</b>	<b>472.6</b>	<b>471.6</b>
SD	1.52	1.67	1.87	2.3	2.51	1.14	1.82
<b>A5</b>	<b>475.4</b>	<b>478.8</b>	<b>479</b>	<b>471.8</b>	<b>472.8</b>	<b>475</b>	<b>470.8</b>
SD	3.29	2.77	3.16	1.64	2.28	1.41	1.92
<b>A6</b>	<b>544.6</b>	<b>535.4</b>	<b>537.4</b>	<b>535.8</b>	<b>534</b>	<b>530.2</b>	<b>526.4</b>
SD	3.29	0.89	3.44	2.59	7.84	4.66	3.51
<b>A7</b>	<b>484.8</b>	<b>485.8</b>	<b>484.8</b>	<b>482.6</b>	<b>486.2</b>	<b>488.4</b>	<b>484</b>
SD	2.39	2.95	2.49	2.19	1.79	3.29	2.24
<b>A8</b>	<b>512.8</b>	<b>518.2</b>	<b>517</b>	<b>504.8</b>	<b>511.8</b>	<b>516.4</b>	<b>512.4</b>
SD	2.59	4.44	4	5.07	3.35	2.97	3.05
<b>A9</b>	<b>486.8</b>	<b>485.2</b>	<b>484.8</b>	<b>483</b>	<b>482.4</b>	<b>488.4</b>	<b>490.6</b>
SD	1.3	1.48	3.19	3	2.07	1.82	2.3
<b>A10</b>	<b>526.6</b>	<b>527.4</b>	<b>525.8</b>	<b>525.4</b>	<b>523.4</b>	<b>527.2</b>	<b>526.6</b>
SD	3.05	1.52	1.79	3.05	3.65	2.39	1.52
<b>A11</b>	<b>552.6</b>	<b>539.8</b>	<b>552</b>	<b>538.8</b>	<b>544.2</b>	<b>533.6</b>	<b>536.6</b>
SD	4.39	1.3	5.61	4.55	5.02	4.04	2.07
<b>A12</b>	<b>515.8</b>	<b>518.8</b>	<b>520.8</b>	<b>511.8</b>	<b>517.2</b>	<b>513</b>	<b>515.6</b>
SD	1.92	4.09	1.48	1.79	1.92	2.92	3.71
<b>A13</b>	<b>522.2</b>	<b>516.6</b>	<b>525.4</b>	<b>515.8</b>	<b>517.4</b>	<b>515.8</b>	<b>511</b>
SD	2.28	1.82	3.21	3.7	1.52	1.3	1
<b>A14</b>	<b>501.4</b>	<b>508.4</b>	<b>505</b>	<b>505</b>	<b>510.4</b>	<b>511</b>	<b>508.8</b>
SD	2.07	1.82	2.55	2.65	4.04	0.71	0.84

**The melanin value of Group B (1% Niacinamide)**

code	Left (A1-A7 = Control ; A8-A14 = Treatment)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>B1</b>	495	495.4	494.4	495.6	498.4	498.4	493
SD	2.24	1.52	3.65	2.51	3.36	4.39	3.08
<b>B2</b>	492.4	497	494.8	492.8	495.6	499.4	488.4
SD	1.52	4.06	1.92	2.86	1.52	1.67	0.89
<b>B3</b>	483.2	482.4	483.4	480.2	483.8	481.4	483.6
SD	1.3	2.7	2.07	4.09	1.48	2.7	1.82
<b>B4</b>	480.2	474.4	476.6	472.4	474.6	473	476.8
SD	3.03	2.88	5.13	2.88	3.05	5.43	1.48
<b>B5</b>	473.4	475.8	474.2	474.4	474.6	476.8	475.4
SD	1.52	2.59	1.1	1.52	2.7	1.1	1.52
<b>B6</b>	478.6	475.8	484	477	481.2	486.2	485.6
SD	2.7	2.77	2	3.08	2.77	3.27	1.82
<b>B7</b>	493.8	489.2	491	490.6	486.8	488.2	488.4
SD	1.1	0.84	3.32	1.14	2.17	2.39	2.51
<b>B8</b>	520.8	513.8	521	511.2	523.4	523.2	503.2
SD	3.11	1.3	5.7	6.26	2.41	3.56	2.39
<b>B9</b>	513.4	510.6	513.8	520.2	516.2	512.2	507.4
SD	3.21	5.77	3.11	6.38	5.67	3.77	2.07
<b>B10</b>	502.4	504.4	504.4	505.8	507	506	496.2
SD	1.14	2.97	2.51	2.17	3.74	1.73	2.39
<b>B11</b>	514	517.2	512.8	520.4	512.4	517.4	514.6
SD	1	4.15	1.92	1.34	1.67	2.07	1.67
<b>B12</b>	515.6	515.4	511.8	507.6	515.6	508.6	508.8
SD	3.05	2.07	2.95	4.39	2.3	2.51	2.28
<b>B13</b>	516.6	519.2	512.8	520.6	521.4	525.4	519.2
SD	2.3	2.39	2.17	0.89	3.91	3.78	1.64
<b>B14</b>	519.4	515.8	509.6	518.4	524.2	515	509
SD	3.78	2.77	2.41	4.22	2.68	4	3.08

**The melanin value of Group B (1% Niacinamide)**

code	Right (A1-A7 = Treatment ; A8-A14 = Control)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>B1</b>	<b>494.2</b>	<b>503.2</b>	<b>503</b>	<b>493.8</b>	<b>497.6</b>	<b>493.8</b>	<b>488.2</b>
SD	2.17	1.64	4.3	2.39	3.13	3.42	1.92
<b>B2</b>	<b>492.6</b>	<b>497.4</b>	<b>499.8</b>	<b>490.4</b>	<b>495.2</b>	<b>495</b>	<b>490.2</b>
SD	2.61	1.14	2.59	3.21	1.3	1.58	1.48
<b>B3</b>	<b>474.6</b>	<b>483.4</b>	<b>476.4</b>	<b>474</b>	<b>478.6</b>	<b>482.2</b>	<b>477.2</b>
SD	3.36	0.89	2.19	2.74	1.52	0.45	2.17
<b>B4</b>	<b>477.2</b>	<b>478.6</b>	<b>477.6</b>	<b>471</b>	<b>476.2</b>	<b>477.6</b>	<b>470.6</b>
SD	1.79	1.52	3.85	3.08	3.27	2.07	1.52
<b>B5</b>	<b>478</b>	<b>479.4</b>	<b>480.8</b>	<b>476.6</b>	<b>479.2</b>	<b>477.4</b>	<b>477.8</b>
SD	2.45	1.52	0.84	1.14	1.3	2.41	1.64
<b>B6</b>	<b>478.6</b>	<b>487.2</b>	<b>481.2</b>	<b>480.4</b>	<b>481.4</b>	<b>480.8</b>	<b>475.8</b>
SD	3.85	2.28	3.19	2.3	1.14	1.79	2.28
<b>B7</b>	<b>498</b>	<b>490.8</b>	<b>492.2</b>	<b>495.4</b>	<b>500.6</b>	<b>495</b>	<b>493.6</b>
SD	1.87	1.92	3.27	2.79	2.07	2.65	0.89
<b>B8</b>	<b>517.6</b>	<b>524.4</b>	<b>521.4</b>	<b>518.6</b>	<b>520</b>	<b>520.4</b>	<b>515.6</b>
SD	2.3	3.91	2.79	4.93	2.45	1.82	5.22
<b>B9</b>	<b>509</b>	<b>501.6</b>	<b>505.8</b>	<b>506.2</b>	<b>505.6</b>	<b>505</b>	<b>503.2</b>
SD	3.54	3.58	8.44	1.3	4.83	3.67	7.05
<b>B10</b>	<b>505</b>	<b>509.4</b>	<b>504.2</b>	<b>509</b>	<b>507.2</b>	<b>507.4</b>	<b>502.2</b>
SD	1.41	1.82	5.22	1.87	3.03	1.52	2.59
<b>B11</b>	<b>517.8</b>	<b>516</b>	<b>515.2</b>	<b>520</b>	<b>520.2</b>	<b>525.4</b>	<b>522</b>
SD	1.92	1.22	3.63	5.24	1.48	2.61	3.08
<b>B12</b>	<b>515.4</b>	<b>512.4</b>	<b>511</b>	<b>510.6</b>	<b>516.6</b>	<b>515.6</b>	<b>508</b>
SD	2.61	1.52	2.45	2.3	2.7	4.39	2.83
<b>B13</b>	<b>519</b>	<b>523.4</b>	<b>518.6</b>	<b>538</b>	<b>534.2</b>	<b>534</b>	<b>526.6</b>
SD	2.45	3.21	1.14	4.9	3.96	4.06	3.65
<b>B14</b>	<b>519.2</b>	<b>533</b>	<b>513.2</b>	<b>519.6</b>	<b>524.8</b>	<b>523.4</b>	<b>525.2</b>
SD	2.17	5.7	3.27	5.55	3.11	3.91	3.42

**The melanin value of Group C (2.5% Tranexamic acid)**

code	Left (A1-A7 = Control ; A8-A14 = Treatment)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>C1</b>	<b>494</b>	<b>494</b>	<b>493</b>	<b>496.2</b>	<b>498.2</b>	<b>500.2</b>	<b>499.6</b>
SD	2.74	3.39	2.45	3.56	4.44	4.32	3.65
<b>C2</b>	<b>543.6</b>	<b>544</b>	<b>544</b>	<b>555.8</b>	<b>564.4</b>	<b>559.2</b>	<b>555.6</b>
SD	2.97	2.74	6.2	4.49	1.82	5.5	2.3
<b>C3</b>	<b>487.4</b>	<b>491</b>	<b>485.6</b>	<b>493</b>	<b>494.4</b>	<b>496.4</b>	<b>501.4</b>
SD	3.05	1.87	1.34	2.35	4.67	2.51	2.41
<b>C4</b>	<b>501.6</b>	<b>498.4</b>	<b>501</b>	<b>513</b>	<b>516</b>	<b>509.4</b>	<b>506.6</b>
SD	3.44	2.51	3.46	4	6.4	7.44	1.14
<b>C5</b>	<b>548.2</b>	<b>566</b>	<b>551.4</b>	<b>556.6</b>	<b>564.4</b>	<b>552.8</b>	<b>547.4</b>
SD	3.49	2.92	5.94	9.29	4.22	7.12	5.86
<b>C6</b>	<b>494.4</b>	<b>486</b>	<b>486.8</b>	<b>488</b>	<b>487.8</b>	<b>486.4</b>	<b>488.8</b>
SD	2.61	2.74	1.48	1.22	0.84	1.67	3.83
<b>C7</b>	<b>513.4</b>	<b>512.2</b>	<b>507</b>	<b>516.2</b>	<b>512.6</b>	<b>513.2</b>	<b>510</b>
SD	3.21	3.49	0.71	4.27	3.21	2.28	3.39
<b>C8</b>	<b>537.2</b>	<b>529</b>	<b>526.2</b>	<b>519.8</b>	<b>526.4</b>	<b>526.4</b>	<b>522</b>
SD	1.1	3.16	4.15	5.81	3.29	3.97	4.42
<b>C9</b>	<b>517.6</b>	<b>511.4</b>	<b>512.2</b>	<b>515.8</b>	<b>515.6</b>	<b>503</b>	<b>506.8</b>
SD	3.65	1.34	2.39	3.27	2.51	5.22	4.15
<b>C10</b>	<b>494.8</b>	<b>493.4</b>	<b>492.2</b>	<b>491.2</b>	<b>492.2</b>	<b>488.4</b>	<b>486.4</b>
SD	2.17	1.34	1.1	3.63	1.48	2.51	1.14
<b>C11</b>	<b>508</b>	<b>506.8</b>	<b>508</b>	<b>500.6</b>	<b>512.8</b>	<b>505</b>	<b>499.2</b>
SD	1.87	4.6	4.18	2.88	1.79	2	6.38
<b>C12</b>	<b>492.6</b>	<b>496.2</b>	<b>491.6</b>	<b>489</b>	<b>488</b>	<b>489.8</b>	<b>487.2</b>
SD	2.07	2.86	3.13	4.58	2.24	3.77	1.92
<b>C13</b>	<b>492.8</b>	<b>496.2</b>	<b>497</b>	<b>491.2</b>	<b>495.8</b>	<b>495.6</b>	<b>491.8</b>
SD	2.77	4.21	1.87	4.44	2.59	2.88	5.72
<b>C14</b>	<b>533.6</b>	<b>526</b>	<b>525.6</b>	-	-	-	-
SD	1.14	1	3.85	-	-	-	-



**The melanin value of Group C (2.5% Tranexamic acid)**

code	Right (A1-A7 = Treatment ; A8-A14 = Control)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>C1</b>	<b>498.6</b>	<b>499.4</b>	<b>496.4</b>	<b>494.8</b>	<b>501.2</b>	<b>501.6</b>	<b>500</b>
SD	2.51	2.79	3.29	1.64	4.6	3.21	1.87
<b>C2</b>	<b>542.2</b>	<b>541.8</b>	<b>539</b>	<b>551.6</b>	<b>554.6</b>	<b>550.6</b>	<b>545.6</b>
SD	1.48	2.28	4.18	4.93	3.29	8.02	3.78
<b>C3</b>	<b>496.8</b>	<b>490.4</b>	<b>485.8</b>	<b>498.6</b>	<b>496.2</b>	<b>494.8</b>	<b>495.6</b>
SD	1.3	1.82	1.48	5.03	3.35	2.59	1.34
<b>C4</b>	<b>503.2</b>	<b>503.4</b>	<b>509.8</b>	<b>514.8</b>	<b>513.4</b>	<b>509.6</b>	<b>503</b>
SD	2.17	1.82	6.06	3.35	2.88	1.52	2
<b>C5</b>	<b>544.6</b>	<b>558.2</b>	<b>552.8</b>	<b>553.2</b>	<b>550</b>	<b>545.8</b>	<b>548</b>
SD	2.41	5.07	3.77	1.79	4.3	4.66	4.95
<b>C6</b>	<b>494</b>	<b>496</b>	<b>493</b>	<b>493.2</b>	<b>495.4</b>	<b>492</b>	<b>485</b>
SD	2.92	1.58	1.58	3.42	0.89	1	1.87
<b>C7</b>	<b>512.8</b>	<b>516.2</b>	<b>514</b>	<b>505.6</b>	<b>513</b>	<b>504.4</b>	<b>504.4</b>
SD	3.7	2.05	3.61	2.7	1.22	2.61	2.41
<b>C8</b>	<b>540.2</b>	<b>543</b>	<b>532.6</b>	<b>530.4</b>	<b>543.2</b>	<b>534.6</b>	<b>529.2</b>
SD	1.79	2.24	3.36	5.32	4.32	4.51	3.56
<b>C9</b>	<b>518.4</b>	<b>509</b>	<b>518.2</b>	<b>512.6</b>	<b>517.8</b>	<b>513.6</b>	<b>512.2</b>
SD	3.13	3.32	3.77	3.29	2.39	4.83	1.48
<b>C10</b>	<b>493.4</b>	<b>497.4</b>	<b>492</b>	<b>485.6</b>	<b>489.4</b>	<b>490.2</b>	<b>490</b>
SD	1.52	1.67	1.87	2.61	2.88	1.48	4.18
<b>C11</b>	<b>510.75</b>	<b>510.6</b>	<b>512.6</b>	<b>504.6</b>	<b>510.6</b>	<b>508.4</b>	<b>505.4</b>
SD	2.06	2.19	5.81	3.65	1.52	5.03	1.67
<b>C12</b>	<b>492.2</b>	<b>492</b>	<b>482</b>	<b>487.4</b>	<b>487.6</b>	<b>486</b>	<b>487.8</b>
SD	2.28	3.16	3.24	3.78	1.95	3.54	1.3
<b>C13</b>	<b>501</b>	<b>501</b>	<b>499.4</b>	<b>493.6</b>	<b>501.8</b>	<b>500.2</b>	<b>504.8</b>
SD	1.87	1.87	0.55	4.77	3.96	2.49	1.3
<b>C14</b>	<b>528</b>	<b>531.8</b>	<b>529.8</b>	-	-	-	-
SD	2	1.92	5.36	-	-	-	-

**The melanin value of Group D (0.25% Puag-Haad + 1% Niacinamide)**

code	Left (A1-A7 = Control ; A8-A14 = Treatment)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>D1</b>	<b>527.2</b>	<b>522.6</b>	<b>521.6</b>	<b>516.6</b>	<b>525.6</b>	<b>519.2</b>	<b>534.2</b>
SD	2.17	1.34	3.51	4.88	4.72	1.3	3.63
<b>D2</b>	<b>474.8</b>	<b>476.6</b>	<b>473.4</b>	<b>473</b>	<b>473.6</b>	<b>478</b>	<b>474.4</b>
SD	1.79	2.61	3.21	1.22	0.89	1.87	2.7
<b>D3</b>	<b>506.2</b>	<b>503.2</b>	<b>507</b>	<b>499.4</b>	<b>504.5</b>	<b>504.8</b>	<b>503.4</b>
SD	2.28	2.05	6.44	3.97	4.36	3.46	2.58
<b>D4</b>	<b>510</b>	<b>501.6</b>	<b>503.2</b>	<b>505.6</b>	<b>501.6</b>	<b>503</b>	<b>504.2</b>
SD	2.92	2.3	3.35	3.21	3.21	2	1.3
<b>D5</b>	<b>523.4</b>	<b>527.6</b>	<b>530.8</b>	<b>538</b>	<b>531</b>	<b>518.4</b>	<b>524.2</b>
SD	1.82	4.62	4.27	4.58	4.42	4.77	2.95
<b>D6</b>	<b>520</b>	<b>528</b>	<b>517.4</b>	<b>518.6</b>	<b>521.6</b>	<b>519.8</b>	<b>511.6</b>
SD	4.36	5.79	4.39	2.3	3.58	6.57	3.05
<b>D7</b>	<b>506.6</b>	<b>508.4</b>	<b>504.2</b>	<b>505.4</b>	<b>505.2</b>	<b>506.4</b>	<b>505.8</b>
SD	3.21	1.82	2.17	1.82	2.17	2.3	3.9
<b>D8</b>	<b>484.6</b>	<b>483.4</b>	<b>487.6</b>	<b>484</b>	<b>484.8</b>	<b>482.4</b>	<b>483.4</b>
SD	1.82	2.27	2.07	3.46	1.92	2.19	0.89
<b>D9</b>	<b>514.6</b>	<b>512.4</b>	<b>517.8</b>	<b>505.4</b>	<b>509.4</b>	<b>508.2</b>	<b>506.2</b>
SD	5.03	4.16	2.39	0.89	3.21	2.17	1.3
<b>D10</b>	<b>484.4</b>	<b>487</b>	<b>487.4</b>	<b>484.4</b>	<b>483.2</b>	<b>483.6</b>	<b>478</b>
SD	3.65	2.92	4.62	3.91	1.92	1.14	1.41
<b>D11</b>	<b>500</b>	<b>498.2</b>	<b>501.4</b>	<b>498.2</b>	<b>494.8</b>	<b>598.4</b>	<b>496.8</b>
SD	1.58	3.42	2.88	4.92	3.35	2.88	1.64
<b>D12</b>	<b>501.8</b>	<b>500.2</b>	<b>504.2</b>	<b>497.6</b>	<b>494.6</b>	<b>500.2</b>	<b>497.2</b>
SD	2.05	1.1	3.11	1.67	3.44	4.44	2.86
<b>D13</b>	<b>497.2</b>	<b>503</b>	<b>504.6</b>	<b>503.8</b>	<b>508.2</b>	<b>506.4</b>	<b>504.2</b>
SD	1.48	2.55	3.97	3.11	4.32	2.19	1.92
<b>D14</b>	<b>493</b>	<b>488.8</b>	<b>490.4</b>	<b>487.8</b>	<b>493.4</b>	<b>487.6</b>	<b>483.4</b>
SD	2.65	2.17	0.89	3.35	2.3	1.14	3.21

**The melanin value of Group D (0.25% Puag-Haad + 1% Niacinamide)**

code	Right (A1-A7 = Treatment ; A8-A14 = Control)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>D1</b>	<b>527.8</b>	<b>527.2</b>	<b>522.4</b>	<b>527.2</b>	<b>526.8</b>	<b>530.4</b>	<b>533</b>
SD	1.92	6.53	6.91	4.87	5.89	2.07	3.08
<b>D2</b>	<b>477</b>	<b>476.6</b>	<b>474.2</b>	<b>468.2</b>	<b>471.2</b>	<b>473.6</b>	<b>470.6</b>
SD	4.36	2.97	1.48	0.84	1.3	3.05	1.14
<b>D3</b>	<b>504.2</b>	<b>500.8</b>	<b>506.2</b>	<b>496.2</b>	<b>500.75</b>	<b>498.2</b>	<b>497.4</b>
SD	2.59	3.27	3.35	4.02	2.22	2.87	3.77
<b>D4</b>	<b>510.6</b>	<b>516.4</b>	<b>511</b>	<b>512.4</b>	<b>502.2</b>	<b>509.6</b>	<b>503.8</b>
SD	0.89	3.36	3.74	1.95	2.39	3.36	0.84
<b>D5</b>	<b>526</b>	<b>521.6</b>	<b>524.2</b>	<b>539</b>	<b>533.2</b>	<b>515.6</b>	<b>514.4</b>
SD	1.87	2.07	2.49	6.16	3.03	2.41	3.05
<b>D6</b>	<b>520</b>	<b>524.2</b>	<b>520.6</b>	<b>524.6</b>	<b>516.8</b>	<b>522</b>	<b>505.8</b>
SD	4.53	4.6	3.36	4.67	6.46	3.74	2.28
<b>D7</b>	<b>507.8</b>	<b>510.4</b>	<b>509.4</b>	<b>508.4</b>	<b>505.6</b>	<b>506.8</b>	<b>504.6</b>
SD	0.84	3.78	3.21	1.67	2.07	1.48	0.89
<b>D8</b>	<b>485.2</b>	<b>476.4</b>	<b>479.4</b>	<b>483.8</b>	<b>482</b>	<b>479</b>	<b>481</b>
SD	1.48	2.7	2.07	1.92	3.16	1	3.46
<b>D9</b>	<b>524.8</b>	<b>511</b>	<b>516.2</b>	<b>508.4</b>	<b>509.8</b>	<b>513</b>	<b>507.4</b>
SD	2.17	3.39	1.1	1.67	3.11	2.92	2.61
<b>D10</b>	<b>491.4</b>	<b>491.2</b>	<b>490.8</b>	<b>490.6</b>	<b>487.4</b>	<b>488.8</b>	<b>488.2</b>
SD	1.95	1.92	2.95	2.07	2.51	0.45	0.84
<b>D11</b>	<b>514</b>	<b>510.6</b>	<b>505.8</b>	<b>508.4</b>	<b>512</b>	<b>511.8</b>	<b>512.2</b>
SD	2.55	1.67	1.1	1.82	3.16	3.96	1.64
<b>D12</b>	<b>504</b>	<b>496.6</b>	<b>502</b>	<b>503</b>	<b>500.8</b>	<b>501.8</b>	<b>503.4</b>
SD	2.55	1.34	6.08	3.54	4.76	2.17	2.07
<b>D13</b>	<b>504.4</b>	<b>502.8</b>	<b>507</b>	<b>501.4</b>	<b>510.8</b>	<b>505.8</b>	<b>506.6</b>
SD	1.14	2.39	3.39	2.61	3.7	1.64	3.21
<b>D14</b>	<b>496.4</b>	<b>494.4</b>	<b>496.6</b>	<b>495.6</b>	<b>495.2</b>	<b>493.4</b>	<b>491.2</b>
SD	1.67	1.52	3.51	4.83	4.15	1.34	1.3

**The melanin value of Group E (0.25% Puag-Haad + 2.5% Tranexamic acid)**

code	Left (A1-A7 = Control ; A8-A14 = Treatment)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>E1</b>	<b>536.4</b>	<b>530</b>	<b>527.4</b>	<b>526.6</b>	<b>523.8</b>	<b>527.2</b>	<b>523.6</b>
SD	2.7	3.08	4.72	2.7	3.03	1.92	3.58
<b>E2</b>	<b>517.4</b>	<b>513</b>	<b>520</b>	<b>517.6</b>	<b>513.4</b>	<b>513</b>	<b>518.4</b>
SD	2.88	1.58	1.41	1.14	1.52	2.12	1.95
<b>E3</b>	<b>519.4</b>	<b>507.6</b>	<b>513.8</b>	<b>511</b>	<b>506.8</b>	<b>515</b>	<b>513</b>
SD	1.67	2.3	1.48	3.78	2.59	2	2
<b>E4</b>	<b>528.4</b>	<b>532.2</b>	<b>517.6</b>	<b>533</b>	<b>525.2</b>	<b>525.2</b>	<b>517.6</b>
SD	2.79	2.86	3.78	2.55	4.97	4.15	0.89
<b>E5</b>	<b>482.4</b>	<b>482.2</b>	<b>484.2</b>	<b>482.2</b>	<b>482.4</b>	<b>482.4</b>	<b>480.4</b>
SD	2.7	2.39	2.49	5.63	2.88	3.21	1.52
<b>E6</b>	<b>523.8</b>	<b>528.6</b>	<b>527.2</b>	<b>519.6</b>	<b>524.6</b>	<b>522.8</b>	<b>525.2</b>
SD	3.27	1.34	2.59	4.04	1.95	2.95	1.79
<b>E7</b>	<b>459</b>	<b>459.2</b>	<b>458</b>	<b>459.6</b>	<b>463.2</b>	<b>458.8</b>	<b>461.4</b>
SD	2.35	2.59	2.24	1.82	3.19	2.86	2.19
<b>E8</b>	<b>489.8</b>	<b>494.4</b>	<b>495.8</b>	<b>489.8</b>	<b>491.6</b>	<b>486.2</b>	<b>492</b>
SD	1.92	1.14	1.1	1.48	1.52	1.3	2.65
<b>E9</b>	<b>545.4</b>	<b>539</b>	<b>541.6</b>	<b>539.4</b>	<b>544</b>	<b>536.2</b>	<b>533.8</b>
SD	2.41	4.3	7.73	5.46	2.55	3.9	3.42
<b>E10</b>	<b>495</b>	<b>490.6</b>	<b>493.4</b>	<b>493.6</b>	<b>485.2</b>	<b>492.4</b>	<b>490.6</b>
SD	1.22	0.55	3.29	1.14	3.11	4.16	0.89
<b>E11</b>	<b>487.6</b>	<b>491.8</b>	<b>494.4</b>	<b>481.6</b>	<b>497.6</b>	<b>495.4</b>	<b>491</b>
SD	1.67	4.21	2.88	7.3	2.41	2.07	1.41
<b>E12</b>	<b>534.4</b>	<b>543.8</b>	<b>547.6</b>	-	-	-	-
SD	2.41	1.64	5.64	-	-	-	-
<b>E13</b>	<b>522.6</b>	<b>511.8</b>	<b>509.8</b>	<b>506</b>	<b>504.8</b>	<b>502.8</b>	<b>501.4</b>
SD	3.44	1.92	4.09	3.74	3.27	1.79	0.89
<b>E14</b>	<b>540.4</b>	<b>533.2</b>	<b>529.8</b>	<b>535.2</b>	<b>535</b>	<b>527</b>	<b>534.8</b>
SD	2.97	3.35	4.02	3.35	3.67	2.74	1.92

**The melanin value of Group E (0.25% Puag-Haad + 2.5% Tranexamic acid)**

code	Right (A1-A7 = Treatment ; A8-A14 = Control)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>E1</b>	<b>537.4</b>	<b>535.8</b>	<b>531</b>	<b>534.4</b>	<b>530.2</b>	<b>532.2</b>	<b>525.4</b>
SD	2.3	1.92	4.06	3.44	2.28	2.49	2.7
<b>E2</b>	<b>516.6</b>	<b>518.6</b>	<b>517.2</b>	<b>518.4</b>	<b>517.2</b>	<b>514.6</b>	<b>513.8</b>
SD	3.13	4.93	2.86	2.7	3.77	2.3	1.3
<b>E3</b>	<b>514.6</b>	<b>516.4</b>	<b>514</b>	<b>506.4</b>	<b>512</b>	<b>508.4</b>	<b>508.6</b>
SD	1.52	1.67	2.45	1.82	2.92	2.3	1.14
<b>E4</b>	<b>527.4</b>	<b>533.2</b>	<b>518.8</b>	<b>525.4</b>	<b>524.6</b>	<b>526.2</b>	<b>521.6</b>
SD	3.05	2.39	3.49	3.51	3.58	1.92	0.89
<b>E5</b>	<b>483.4</b>	<b>479.8</b>	<b>480.8</b>	<b>480</b>	<b>479.6</b>	<b>478.6</b>	<b>477.4</b>
SD	1.67	1.1	1.92	0.71	1.82	1.82	1.82
<b>E6</b>	<b>523.4</b>	<b>531.4</b>	<b>525.4</b>	<b>525</b>	<b>528.4</b>	<b>520.6</b>	<b>525.6</b>
SD	2.88	5.73	3.36	4.64	3.78	3.78	3.21
<b>E7</b>	<b>455.8</b>	<b>461.8</b>	<b>460.6</b>	<b>461.2</b>	<b>462.6</b>	<b>461.2</b>	<b>464.4</b>
SD	2.05	1.1	1.14	1.3	1.95	1.3	1.52
<b>E8</b>	<b>495.4</b>	<b>493</b>	<b>487.2</b>	<b>485</b>	<b>487.2</b>	<b>482.2</b>	<b>488.2</b>
SD	1.14	1.41	1.79	1.87	2.59	2.39	0.84
<b>E9</b>	<b>541.6</b>	<b>537.6</b>	<b>537.8</b>	<b>534.4</b>	<b>535.6</b>	<b>533.8</b>	<b>533.6</b>
SD	2.19	3.13	6.98	3.05	2.88	2.68	1.67
<b>E10</b>	<b>495.2</b>	<b>494.6</b>	<b>500.2</b>	<b>490.8</b>	<b>493</b>	<b>492.4</b>	<b>491.6</b>
SD	1.79	1.52	2.17	1.1	2.65	3.97	3.13
<b>E11</b>	<b>486.8</b>	<b>493.8</b>	<b>492.2</b>	<b>486.8</b>	<b>489.4</b>	<b>492.4</b>	<b>492</b>
SD	1.3	1.92	1.64	2.95	2.07	3.71	3.32
<b>E12</b>	<b>531</b>	<b>543.2</b>	<b>545.8</b>	-	-	-	-
SD	3.87	3.56	4.32	-	-	-	-
<b>E13</b>	<b>504.6</b>	<b>502.8</b>	<b>505.2</b>	<b>505.6</b>	<b>507.4</b>	<b>502.8</b>	<b>502.4</b>
SD	3.13	4.92	2.05	5.03	3.36	1.64	2.61
<b>E14</b>	<b>540.6</b>	<b>532.6</b>	<b>534.6</b>	<b>536.6</b>	<b>533.8</b>	<b>531.6</b>	<b>537</b>
SD	2.97	3.21	3.78	3.51	4.44	3.65	2.55

**The melanin value of Group F (Commercial product)**

code	Left (A1-A7 = Control ; A8-A14 = Treatment)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>F1</b>	<b>498.2</b>	<b>496.8</b>	<b>498.4</b>	<b>494.2</b>	<b>501.2</b>	<b>497.4</b>	<b>494.4</b>
SD	1.79	1.64	2.88	1.92	3.03	2.3	1.67
<b>F2</b>	<b>504</b>	<b>500.6</b>	<b>498</b>	<b>499.8</b>	<b>500.2</b>	<b>499</b>	<b>497.8</b>
SD	2.45	1.52	2.92	2.77	2.05	1.87	3.42
<b>F3</b>	<b>525.8</b>	<b>523</b>	<b>517.4</b>	<b>516.6</b>	<b>515.4</b>	<b>514.4</b>	<b>514.6</b>
SD	1.3	2.55	3.65	2.51	2.97	3.91	1.82
<b>F4</b>	<b>500.2</b>	<b>496.8</b>	<b>499</b>	<b>502.2</b>	<b>500</b>	<b>497.2</b>	<b>505</b>
SD	1.64	4.15	1.58	3.35	1	2.59	2.45
<b>F5</b>	<b>490</b>	<b>492.4</b>	<b>489</b>	<b>490.4</b>	<b>488.2</b>	<b>490.6</b>	<b>487</b>
SD	1.73	1.34	2.55	1.14	2.39	1.95	3.24
<b>F6</b>	<b>505.4</b>	<b>502.8</b>	<b>503.6</b>	<b>507.6</b>	<b>507.2</b>	<b>497.4</b>	<b>498.6</b>
SD	2.61	2.59	1.52	1.82	1.3	1.52	2.07
<b>F7</b>	<b>483.8</b>	<b>483</b>	<b>481.8</b>	<b>487.2</b>	<b>483</b>	<b>483.8</b>	<b>493.4</b>
SD	2.77	1.87	1.3	3.56	3.46	3.11	7.16
<b>F8</b>	<b>524.2</b>	<b>527.8</b>	<b>522</b>	<b>518</b>	<b>524.4</b>	<b>522.6</b>	<b>520.2</b>
SD	3.7	1.1	1.58	4.69	1.52	2.3	0.84
<b>F9</b>	<b>493.6</b>	<b>493.6</b>	<b>495.2</b>	<b>495.4</b>	<b>493</b>	<b>492.6</b>	<b>493</b>
SD	3.91	3.36	3.35	4.34	2.35	2.79	2
<b>F10</b>	<b>516.4</b>	<b>512.8</b>	<b>518.8</b>	<b>507.8</b>	<b>515.4</b>	<b>511.6</b>	<b>509</b>
SD	0.89	1.92	4.09	3.27	2.88	4.67	3.08
<b>F11</b>	<b>524.6</b>	<b>516.4</b>	<b>514.4</b>	<b>512.2</b>	<b>519.8</b>	<b>517.8</b>	<b>515.6</b>
SD	2.07	3.85	2.19	2.77	1.64	2.95	0.55
<b>F12</b>	<b>544</b>	<b>531.8</b>	<b>536</b>	<b>544.6</b>	<b>529.4</b>	<b>531</b>	<b>525.2</b>
SD	1	5.93	2	5.27	1.67	1	4.97
<b>F13</b>	<b>475</b>	-	-	-	-	-	-
SD	0.71	-	-	-	-	-	-
<b>F14</b>	<b>503.6</b>	<b>500.2</b>	<b>497.8</b>	<b>495.2</b>	<b>500.2</b>	<b>499.8</b>	<b>500.4</b>
SD	1.67	2.77	1.48	3.27	2.86	3.7	2.07

**The melanin value of Group F (Commercial product)**

code	Right (A1-A7 = Treatment ; A8-A14 = Control)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>F1</b>	<b>506.8</b>	<b>504.8</b>	<b>503.8</b>	<b>505.8</b>	<b>500.8</b>	<b>503.2</b>	<b>495.4</b>
SD	3.27	3.9	3.96	2.59	2.68	1.92	1.48
<b>F2</b>	<b>509.4</b>	<b>512.6</b>	<b>505.4</b>	<b>503.4</b>	<b>502.2</b>	<b>501.8</b>	<b>496.2</b>
SD	2.07	1.95	2.3	1.52	4.97	2.77	1.92
<b>F3</b>	<b>520.6</b>	<b>520</b>	<b>512.4</b>	<b>518.6</b>	<b>509</b>	<b>508.8</b>	<b>505.4</b>
SD	3.36	3.83	2.3	2.97	4.12	2.77	3.78
<b>F4</b>	<b>498.4</b>	<b>498.6</b>	<b>498.6</b>	<b>497.8</b>	<b>495.8</b>	<b>502</b>	<b>497.2</b>
SD	2.19	1.95	2.07	3.7	1.64	2.74	1.3
<b>F5</b>	<b>488.4</b>	<b>491</b>	<b>491.4</b>	<b>486.4</b>	<b>488.4</b>	<b>489.2</b>	<b>486</b>
SD	2.07	1.58	1.67	0.55	2.3	1.92	1.58
<b>F6</b>	<b>507</b>	<b>504.4</b>	<b>502.4</b>	<b>499.4</b>	<b>503</b>	<b>499.6</b>	<b>496.4</b>
SD	2.24	2.7	3.5	1.67	1.22	2.97	1.14
<b>F7</b>	<b>494.4</b>	<b>498.6</b>	<b>497</b>	<b>489.8</b>	<b>491.6</b>	<b>486.6</b>	<b>489.2</b>
SD	1.82	4.88	3	5.5	4.39	5.41	2.95
<b>F8</b>	<b>531.4</b>	<b>535.2</b>	<b>526</b>	<b>521.8</b>	<b>527</b>	<b>524.8</b>	<b>526.2</b>
SD	2.41	6.69	4	2.77	2.92	4.44	2.17
<b>F9</b>	<b>497.4</b>	<b>489.8</b>	<b>496.6</b>	<b>494.2</b>	<b>496.4</b>	<b>499.2</b>	<b>496</b>
SD	2.97	3.27	4.98	4.02	2.7	2.59	1.87
<b>F10</b>	<b>525.8</b>	<b>519.2</b>	<b>530</b>	<b>526.2</b>	<b>534.4</b>	<b>531.2</b>	<b>527.4</b>
SD	4.02	2.17	3.61	2.77	2.88	3.83	2.97
<b>F11</b>	<b>523.4</b>	<b>514.8</b>	<b>515.6</b>	<b>523.8</b>	<b>516.4</b>	<b>516.4</b>	<b>514.4</b>
SD	3.21	2.39	2.3	4.92	2.79	3.51	1.95
<b>F12</b>	<b>547.8</b>	<b>543.4</b>	<b>543.6</b>	<b>552.6</b>	<b>529.6</b>	<b>538.2</b>	<b>535.2</b>
SD	2.59	4.56	2.19	5.5	1.67	0.45	2.77
<b>F13</b>	<b>476.2</b>	-	-	-	-	-	-
SD	1.92	-	-	-	-	-	-
<b>F14</b>	<b>494.8</b>	<b>498.6</b>	<b>489.6</b>	<b>481.6</b>	<b>497.4</b>	<b>495.4</b>	<b>495.8</b>
SD	2.68	3.05	3.29	4.04	3.29	2.51	2.28

**Table 7. The erythema measurements before and after applying the lotion base (control) and the test lotion to the individual subjects of each group (ns = 5 reading/ person). The data shows average values (in bold letter) and SD.**

**The erythema value of Group A (0.25% Puag-Haad)**

code	Left (A1-A7 = Control ; A8-A14 = Treatment)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>A1</b>	<b>597.4</b>	<b>580.2</b>	<b>582</b>	<b>601.8</b>	<b>586.4</b>	<b>589.6</b>	<b>585.6</b>
SD	7.33	5.63	5.24	5.81	3.36	8.99	6.15
<b>A2</b>	<b>586.4</b>	<b>587.2</b>	<b>572</b>	<b>587.8</b>	<b>597.6</b>	<b>593.2</b>	<b>587.2</b>
SD	9.94	8.93	3.54	4.66	2.88	4.66	8.76
<b>A3</b>	<b>597</b>	<b>584.2</b>	<b>586</b>	<b>587.8</b>	<b>573.2</b>	<b>567.2</b>	<b>555.6</b>
SD	5.15	5.38	6.56	6.3	5.4	6.83	5.68
<b>A4</b>	<b>566.8</b>	<b>561.2</b>	<b>565.4</b>	<b>572.6</b>	<b>574.8</b>	<b>582</b>	<b>571.2</b>
SD	4.6	5.31	6.19	7.13	4.92	2.45	7.33
<b>A5</b>	<b>567</b>	<b>561</b>	<b>560.2</b>	<b>570.6</b>	<b>552.2</b>	<b>551.2</b>	<b>573.2</b>
SD	7.07	7.25	9.01	7.23	7.46	4.02	5.45
<b>A6</b>	<b>617.6</b>	<b>611.8</b>	<b>604.8</b>	<b>601.8</b>	<b>607.4</b>	<b>601.4</b>	<b>618.6</b>
SD	5.03	5.12	8.11	7.6	5.13	4.39	5.55
<b>A7</b>	<b>572.4</b>	<b>570.2</b>	<b>568.6</b>	<b>579.4</b>	<b>581.2</b>	<b>571.8</b>	<b>584.2</b>
SD	3.65	4.97	6.58	6.27	4.02	8.29	6.98
<b>A8</b>	<b>622</b>	<b>605.2</b>	<b>622.4</b>	<b>609</b>	<b>617.6</b>	<b>615</b>	<b>603.4</b>
SD	2.35	2.77	4.93	6.4	6.07	3.94	5.18
<b>A9</b>	<b>569.8</b>	<b>559.4</b>	<b>563.2</b>	<b>560.4</b>	<b>566.8</b>	<b>562.6</b>	<b>561.2</b>
SD	3.96	3.21	4.66	7.89	5.5	7.4	5.67
<b>A10</b>	<b>606</b>	<b>588.6</b>	<b>600.6</b>	<b>586.4</b>	<b>596.2</b>	<b>590.6</b>	<b>591.2</b>
SD	5.1	3.21	5.03	1.52	3.11	4.56	2.86
<b>A11</b>	<b>622</b>	<b>612.2</b>	<b>626</b>	<b>624</b>	<b>624.8</b>	<b>615.6</b>	<b>600.2</b>
SD	5.7	4.27	2.35	4.3	5.02	5.55	3.83
<b>A12</b>	<b>622.8</b>	<b>627.8</b>	<b>624</b>	<b>625.4</b>	<b>634.6</b>	<b>624.2</b>	<b>614.6</b>
SD	3.11	8.01	6.28	6.43	5.37	7.33	7.8
<b>A13</b>	<b>612.6</b>	<b>607.2</b>	<b>612</b>	<b>609.2</b>	<b>583</b>	<b>582.4</b>	<b>580</b>
SD	4.51	3.42	8.46	8.58	6.52	5.03	5.43
<b>A14</b>	<b>601.8</b>	<b>607.6</b>	<b>597.6</b>	<b>610.8</b>	<b>602.2</b>	<b>596.4</b>	<b>591.2</b>
SD	7.05	2.97	8.08	8.14	3.63	4.83	4.97



**The erythema value of Group A (0.25% Puag-Haad)**

code	Right (A1-A7 = Treatment ; A8-A14 = Control)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>A1</b>	<b>606.6</b>	<b>586</b>	<b>588.6</b>	<b>610</b>	<b>595.8</b>	<b>596.8</b>	<b>581.6</b>
SD	7.37	7.21	7.7	8.86	3.27	6.69	6.35
<b>A2</b>	<b>589.2</b>	<b>591.8</b>	<b>573.8</b>	<b>592</b>	<b>593.4</b>	<b>583.6</b>	<b>578.6</b>
SD	7.46	6.98	8.04	5.1	6.62	5.5	6.06
<b>A3</b>	<b>594</b>	<b>581.5</b>	<b>573</b>	<b>582</b>	<b>573.2</b>	<b>572.8</b>	<b>570.6</b>
SD	4.53	5.92	4.69	8.86	2.95	8.93	6.19
<b>A4</b>	<b>569.8</b>	<b>573.8</b>	<b>573.8</b>	<b>582.6</b>	<b>576</b>	<b>566.6</b>	<b>568</b>
SD	6.61	3.35	4.38	1.67	4.64	6.77	7.78
<b>A5</b>	<b>564.8</b>	<b>574.6</b>	<b>559.4</b>	<b>560.8</b>	<b>565.6</b>	<b>556.2</b>	<b>557</b>
SD	8.53	4.45	5.13	4.38	1.52	4.38	8.97
<b>A6</b>	<b>629</b>	<b>618</b>	<b>614.8</b>	<b>614</b>	<b>611.2</b>	<b>605</b>	<b>595.2</b>
SD	4.18	7.97	8.98	4.06	6.94	5.1	6.02
<b>A7</b>	<b>584</b>	<b>571.4</b>	<b>579.4</b>	<b>593.6</b>	<b>589</b>	<b>583.2</b>	<b>588.4</b>
SD	3.67	6.66	4.72	5.68	4.95	6.76	5.46
<b>A8</b>	<b>619</b>	<b>606.8</b>	<b>609</b>	<b>623.2</b>	<b>630.2</b>	<b>616.6</b>	<b>618</b>
SD	6.4	9.18	6.67	7.95	3.42	3.51	5.52
<b>A9</b>	<b>562.8</b>	<b>562.4</b>	<b>568</b>	<b>555.8</b>	<b>562.2</b>	<b>557.4</b>	<b>572.2</b>
SD	7.56	7.09	6.24	5.81	6046	6.88	7.46
<b>A10</b>	<b>608.6</b>	<b>600.6</b>	<b>604.4</b>	<b>595.4</b>	<b>603.4</b>	<b>599.6</b>	<b>599.6</b>
SD	5.27	4.22	3.85	8.59	6.99	4.72	3.13
<b>A11</b>	<b>634.6</b>	<b>625.2</b>	<b>638.4</b>	<b>618.2</b>	<b>620.6</b>	<b>604.4</b>	<b>609.8</b>
SD	7.6	8.29	4.39	5.07	5.77	6.84	3.7
<b>A12</b>	<b>625.6</b>	<b>631.4</b>	<b>635</b>	<b>617.4</b>	<b>637.6</b>	<b>625</b>	<b>618.4</b>
SD	2.88	6.27	4.36	7.96	8.53	5.66	5.08
<b>A13</b>	<b>601.2</b>	<b>606.4</b>	<b>606.2</b>	<b>595</b>	<b>590.6</b>	<b>584.8</b>	<b>571.2</b>
SD	5.63	3.44	5.81	6.96	7.6	3.03	3.35
<b>A14</b>	<b>590.2</b>	<b>606.6</b>	<b>597</b>	<b>600.8</b>	<b>605.2</b>	<b>607.8</b>	<b>603.8</b>
SD	3.96	6.58	4.74	3.96	2.59	6.02	2.39

**The Erythema value of Group B (1% Niacinamide)**

code	Left (A1-A7 = Control ; A8-A14 = Treatment)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>B1</b>	<b>600.2</b>	<b>600.4</b>	<b>588.2</b>	<b>605.2</b>	<b>599.8</b>	<b>597.2</b>	<b>587.4</b>
SD	2.59	4.04	6.72	1.92	7.66	7.89	8.17
<b>B2</b>	<b>586.4</b>	<b>594.6</b>	<b>586.2</b>	<b>586.4</b>	<b>593.8</b>	<b>576.6</b>	<b>579</b>
SD	5.18	7.23	5.4	6.43	6.1	7.02	7.97
<b>B3</b>	<b>601.8</b>	<b>611</b>	<b>603.2</b>	<b>582.2</b>	<b>595.6</b>	<b>581.6</b>	<b>599.6</b>
SD	5.31	3.74	5.89	8.76	8.5	4.72	6.88
<b>B4</b>	<b>571</b>	<b>580.6</b>	<b>587.2</b>	<b>562.8</b>	<b>573.4</b>	<b>570.2</b>	<b>586.2</b>
SD	8.6	6.66	6.91	6.42	3.78	6.34	4.82
<b>B5</b>	<b>565.2</b>	<b>567</b>	<b>562.4</b>	<b>553.4</b>	<b>572.6</b>	<b>561.6</b>	<b>553.8</b>
SD	8.58	5.1	9.91	4.88	4.56	6.66	4.97
<b>B6</b>	<b>611.4</b>	<b>588.6</b>	<b>582</b>	<b>582.4</b>	<b>590</b>	<b>569.6</b>	<b>580.6</b>
SD	4.16	5.94	5.15	4.62	6.75	6.91	6.15
<b>B7</b>	<b>579.8</b>	<b>571</b>	<b>577.2</b>	<b>568.4</b>	<b>577.4</b>	<b>574.2</b>	<b>573</b>
SD	4.6	5.1	4.09	4.83	6.54	7.05	6.86
<b>B8</b>	<b>614.6</b>	<b>612.8</b>	<b>622.4</b>	<b>608.6</b>	<b>617.8</b>	<b>606.4</b>	<b>594</b>
SD	2.3	9.44	8.73	6.69	5.26	6.8	4.53
<b>B9</b>	<b>613.2</b>	<b>593.4</b>	<b>600.2</b>	<b>608.2</b>	<b>607.4</b>	<b>588.2</b>	<b>588.8</b>
SD	6.91	5.59	9.23	7.4	4.5	7.01	6.61
<b>B10</b>	<b>582</b>	<b>577.2</b>	<b>582.6</b>	<b>586.6</b>	<b>588</b>	<b>587.8</b>	<b>580.6</b>
SD	6.52	7.98	7.4	5.68	4.64	5.45	8.14
<b>B11</b>	<b>610.2</b>	<b>602.8</b>	<b>593.4</b>	<b>603.6</b>	<b>608</b>	<b>600.2</b>	<b>606.8</b>
SD	6.3	6.1	8.73	4.83	6.18	5.81	5.22
<b>B12</b>	<b>627</b>	<b>630.8</b>	<b>619.2</b>	<b>601.4</b>	<b>606</b>	<b>600.6</b>	<b>601</b>
SD	6.63	4.6	7.33	1.14	6.52	2.19	7.52
<b>B13</b>	<b>612</b>	<b>605.4</b>	<b>607.2</b>	<b>613.6</b>	<b>614.6</b>	<b>617.4</b>	<b>618</b>
SD	5.83	3.65	7.05	7.92	7.44	8.05	6.2
<b>B14</b>	<b>615.4</b>	<b>609.8</b>	<b>596.2</b>	<b>633.4</b>	<b>614.8</b>	<b>605</b>	<b>603</b>
SD	4.51	3.35	3.42	6.02	4.66	5.34	4.06

**The Erythema value of Group B (1% Niacinamide)**

code	Right (A1-A7 = Treatment ; A8-A14 = Control)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>B1</b>	<b>597.6</b>	<b>601.6</b>	<b>591.6</b>	<b>599.6</b>	<b>595</b>	<b>590.4</b>	<b>585.4</b>
SD	7.8	6.35	7.7	4.16	4.47	5.5	8.76
<b>B2</b>	<b>586.2</b>	<b>593.2</b>	<b>591</b>	<b>587.4</b>	<b>590</b>	<b>579.6</b>	<b>589.8</b>
SD	4.6	7.66	6.78	6.39	3.39	8.53	5.26
<b>B3</b>	<b>584.6</b>	<b>595</b>	<b>598</b>	<b>578.4</b>	<b>592.2</b>	<b>591.4</b>	<b>604.8</b>
SD	4.28	5.52	6.16	5.55	7.85	4.83	5.36
<b>B4</b>	<b>572.6</b>	<b>581.2</b>	<b>588</b>	<b>571</b>	<b>576.6</b>	<b>567.6</b>	<b>567.4</b>
SD	6.77	3.27	7.62	8.34	7.83	4.51	6.5
<b>B5</b>	<b>573.6</b>	<b>566</b>	<b>571</b>	<b>554.8</b>	<b>565.8</b>	<b>567.8</b>	<b>549.8</b>
SD	5.64	4.36	7.52	8.67	3.7	7.29	5.54
<b>B6</b>	<b>581.6</b>	<b>600</b>	<b>594.8</b>	<b>589.8</b>	<b>598.2</b>	<b>563.6</b>	<b>563.2</b>
SD	5.9	6.4	5.07	8.9	7.53	5.03	3.27
<b>B7</b>	<b>589</b>	<b>577.4</b>	<b>578.8</b>	<b>580.2</b>	<b>583.4</b>	<b>579.6</b>	<b>578.8</b>
SD	2.92	4.16	5.81	9.86	4.51	5.86	7.36
<b>B8</b>	<b>617.8</b>	<b>618.6</b>	<b>614</b>	<b>613.2</b>	<b>615.8</b>	<b>604.4</b>	<b>606.2</b>
SD	5.22	7.77	5.7	6.87	5.5	5.18	7.69
<b>B9</b>	<b>634.8</b>	<b>611.2</b>	<b>601.2</b>	<b>603</b>	<b>612.8</b>	<b>587.4</b>	<b>589.8</b>
SD	3.63	4.92	7.19	6.67	3.35	6.43	7.76
<b>B10</b>	<b>594.4</b>	<b>588.2</b>	<b>579.6</b>	<b>598.8</b>	<b>595.2</b>	<b>576.8</b>	<b>587</b>
SD	5.77	5.17	8.88	7.19	6.76	6.53	7.81
<b>B11</b>	<b>621.2</b>	<b>609.2</b>	<b>595.4</b>	<b>608.2</b>	<b>611</b>	<b>611.2</b>	<b>607.6</b>
SD	7.12	8.17	9.37	7.33	5.05	2.77	6.91
<b>B12</b>	<b>637.2</b>	<b>635</b>	<b>620.2</b>	<b>612.8</b>	<b>609.8</b>	<b>599</b>	<b>602.6</b>
SD	6.38	6.4	6.38	3.03	6.3	7.78	6.91
<b>B13</b>	<b>607.4</b>	<b>614.6</b>	<b>606</b>	<b>629.2</b>	<b>627.8</b>	<b>628.6</b>	<b>612.6</b>
SD	5.13	6.88	8.66	9.5	6.87	4.83	4.39
<b>B14</b>	<b>626</b>	<b>631.4</b>	<b>601.2</b>	<b>618.6</b>	<b>610.8</b>	<b>602.8</b>	<b>619.2</b>
SD	4.95	3.97	7.12	2.61	1.3	8.7	7.01

**The Erythema value of Group C (2.5% Tranexamic acid)**

code	Left (A1-A7 = Control ; A8-A14 = Treatment)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>C1</b>	<b>577.6</b>	<b>577.4</b>	<b>569.2</b>	<b>575.4</b>	<b>579.6</b>	<b>574.6</b>	<b>581.6</b>
SD	7.4	2.51	3.9	6.5	7.64	5.03	5.86
<b>C2</b>	<b>639.8</b>	<b>629.6</b>	<b>626.8</b>	<b>638.2</b>	<b>646.6</b>	<b>633.6</b>	<b>642.2</b>
SD	6.8	1.14	3.56	3.56	5.9	4.72	4.92
<b>C3</b>	<b>578.2</b>	<b>589.2</b>	<b>575.2</b>	<b>585.4</b>	<b>598.6</b>	<b>591.4</b>	<b>591.6</b>
SD	5.63	6.14	7.43	7.54	4.93	6.15	2.61
<b>C4</b>	<b>599.2</b>	<b>585</b>	<b>583</b>	<b>605.4</b>	<b>611.8</b>	<b>595.6</b>	<b>594.6</b>
SD	7.29	3.54	6.16	5.03	5.07	3.97	8.91
<b>C5</b>	<b>623.2</b>	<b>635.4</b>	<b>607.2</b>	<b>631.2</b>	<b>621.2</b>	<b>611.4</b>	<b>608</b>
SD	4.44	6.58	4.44	3.49		7.96	4.85
<b>C6</b>	<b>599</b>	<b>593</b>	<b>582.4</b>	<b>590.6</b>	<b>594.2</b>	<b>580</b>	<b>583.2</b>
SD	7.81	7.87	6.35	8.32	7.95	7.68	6.53
<b>C7</b>	<b>602.6</b>	<b>601.2</b>	<b>595.6</b>	<b>608.8</b>	<b>600.8</b>	<b>603.8</b>	<b>603.2</b>
SD	7.5	8.47	3.51	4.38	3.83	5.17	3.83
<b>C8</b>	<b>616.4</b>	<b>603.8</b>	<b>601.8</b>	<b>607.6</b>	<b>602.2</b>	<b>596.6</b>	<b>600</b>
SD	5.81	7.85	3.9	7.09	3.96	3.5	4.24
<b>C9</b>	<b>604</b>	<b>601.2</b>	<b>599</b>	<b>604</b>	<b>603.2</b>	<b>590.2</b>	<b>591.6</b>
SD	5.92	7.76	1.58	4.3	5.26	7.01	8.62
<b>C10</b>	<b>588.6</b>	<b>582.4</b>	<b>581.6</b>	<b>577.8</b>	<b>581.2</b>	<b>573.2</b>	<b>570.8</b>
SD	6.43	4.45	3.65	8.98	6.5	3.7	4.02
<b>C11</b>	<b>607.4</b>	<b>609.2</b>	<b>609</b>	<b>610</b>	<b>627.6</b>	<b>610</b>	<b>598.8</b>
SD	4.04	8.53	8.89	6.44	8.71	6.04	3.56
<b>C12</b>	<b>622.2</b>	<b>589.6</b>	<b>597.8</b>	<b>592</b>	<b>597.4</b>	<b>585.8</b>	<b>585.8</b>
SD	6.14	5.81	8.47	8.94	4.72	2.28	4.66
<b>C13</b>	<b>607.2</b>	<b>603</b>	<b>594.4</b>	<b>591.6</b>	<b>593.6</b>	<b>589.6</b>	<b>598.2</b>
SD	6.02	8.37	5.9	6.8	7.64	6.43	3.42
<b>C14</b>	<b>616.6</b>	<b>594.6</b>	<b>615.8</b>	-	-	-	-
SD	3.65	6.66	5.26	-	-	-	-

**The erythema value of Group C (2.5% Tranexamic acid)**

code	Right (A1-A7 = Treatment ; A8-A14 = Control)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>C1</b>	<b>572.4</b>	<b>573</b>	<b>571.6</b>	<b>571</b>	<b>584.4</b>	<b>577.4</b>	<b>571.8</b>
SD	4.77	4.64	7.37	7.25	7.4	5.03	6.61
<b>C2</b>	<b>637.2</b>	<b>625</b>	<b>626</b>	<b>629.4</b>	<b>641.6</b>	<b>621</b>	<b>628</b>
SD	2.68	7.58	7.11	3.21	4.93	6.78	4.64
<b>C3</b>	<b>588.8</b>	<b>580.8</b>	<b>576.4</b>	<b>594</b>	<b>584.6</b>	<b>581</b>	<b>587.8</b>
SD	5.45	7.05	8.65	5	2.07	7.45	2.77
<b>C4</b>	<b>603.4</b>	<b>592.2</b>	<b>585.2</b>	<b>608.6</b>	<b>606.6</b>	<b>605.6</b>	<b>593.6</b>
SD	5.37	3.27	4.09	5.13	6.8	4.72	7.99
<b>C5</b>	<b>616.8</b>	<b>630</b>	<b>613.8</b>	<b>619.4</b>	<b>618.6</b>	<b>611</b>	<b>619.8</b>
SD	7.19	2.74	5.54	3.44	4.39	3.39	6.06
<b>C6</b>	<b>600.6</b>	<b>598.4</b>	<b>585.4</b>	<b>595.4</b>	<b>598.8</b>	<b>586.4</b>	<b>578.2</b>
SD	7.96	8.68	5.94	6.19	8.84	7.09	5.4
<b>C7</b>	<b>608.4</b>	<b>605.4</b>	<b>607.2</b>	<b>611</b>	<b>612.4</b>	<b>593.4</b>	<b>589.4</b>
SD	8.65	7.16	6.83	8.6	4.04	8.44	7.23
<b>C8</b>	<b>608.8</b>	<b>604.4</b>	<b>610</b>	<b>614.2</b>	<b>616.6</b>	<b>598</b>	<b>603.4</b>
SD	7.46	5.77	8.72	5.5	8.56	3.81	7.2
<b>C9</b>	<b>600.2</b>	<b>594.8</b>	<b>600.6</b>	<b>600.2</b>	<b>601.8</b>	<b>588.4</b>	<b>599.8</b>
SD	7.19	3.11	4.77	6.18	6.18	6.47	7.29
<b>C10</b>	<b>589.2</b>	<b>581.6</b>	<b>576.6</b>	<b>578.4</b>	<b>569.4</b>	<b>573.2</b>	<b>580.4</b>
SD	5.07	4.83	6.02	7.37	5.32	6.61	8.32
<b>C11</b>	<b>610.4</b>	<b>610</b>	<b>609.2</b>	<b>607.4</b>	<b>606.6</b>	<b>608.6</b>	<b>600.6</b>
SD	7.8	7.07	7.05	3.36	8.14	8.14	7.4
<b>C12</b>	<b>620.6</b>	<b>596.8</b>	<b>590.6</b>	<b>592.4</b>	<b>592.8</b>	<b>591</b>	<b>593.8</b>
SD	7.16	2.05	5.81	7.02	4.32	3.67	5.02
<b>C13</b>	<b>600.8</b>	<b>607.6</b>	<b>609.8</b>	<b>578</b>	<b>589.6</b>	<b>586.4</b>	<b>595.2</b>
SD	6.14	8.44	5.5	6.12	2.7	4.62	5.63
<b>C14</b>	<b>603</b>	<b>602.4</b>	<b>612</b>	-	-	-	-
SD	5.24	7.09	7.35	-	-	-	-

**The erythema value of Group D (0.25% Puag-Haad + 1% Niacinamide)**

code	Left (A1-A7 = Control ; A8-A14 = Treatment)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>D1</b>	<b>628.4</b>	<b>607.2</b>	<b>614.8</b>	<b>610.6</b>	<b>625.2</b>	<b>617.4</b>	<b>618.2</b>
SD	8.17	3.11	7.33	7.54	4.66	4.67	4.09
<b>D2</b>	<b>564.8</b>	<b>558.6</b>	<b>550.6</b>	<b>561.8</b>	<b>550.4</b>	<b>554</b>	<b>547.6</b>
SD	5.17	5.13	3.65	6.83	7.73	7.58	4.67
<b>D3</b>	<b>611.6</b>	<b>610.2</b>	<b>613.4</b>	<b>595.4</b>	<b>606</b>	<b>609.4</b>	<b>598</b>
SD	4.51	7.05	8.44	7.3	6.53	6.65	8.22
<b>D4</b>	<b>608.6</b>	<b>582.6</b>	<b>575.6</b>	<b>581</b>	<b>580.8</b>	<b>580</b>	<b>572</b>
SD	6.77	5.08	7.16	8.28	7.56	6.04	2.45
<b>D5</b>	<b>649.6</b>	<b>623</b>	<b>625</b>	<b>631.4</b>	<b>623</b>	<b>589</b>	<b>613.6</b>
SD	5.22	5	6.2	8.44	9.46	6.56	4.56
<b>D6</b>	<b>608.2</b>	<b>611.4</b>	<b>608.4</b>	<b>607</b>	<b>614</b>	<b>596.8</b>	<b>605.8</b>
SD	4.09	7.09	4.34	2.74	7	4.76	4.66
<b>D7</b>	<b>588.2</b>	<b>582.8</b>	<b>586.2</b>	<b>586.6</b>	<b>584.2</b>	<b>578.8</b>	<b>579.2</b>
SD	6.14	5.07	6.8	3.13	7.01	6.5	5.36
<b>D8</b>	<b>594</b>	<b>582.8</b>	<b>591.4</b>	<b>590.8</b>	<b>598.6</b>	<b>580</b>	<b>568.8</b>
SD	3.54	2.05	7.8	4.6	2.5	4.3	5.02
<b>D9</b>	<b>606.8</b>	<b>600.6</b>	<b>603</b>	<b>585.4</b>	<b>598.2</b>	<b>590.8</b>	<b>591.8</b>
SD	3.56	6.35	8.31	6.88	3.27	7.01	1.92
<b>D10</b>	<b>575</b>	<b>581.2</b>	<b>583.6</b>	<b>581.4</b>	<b>572.8</b>	<b>559.4</b>	<b>554.8</b>
SD	8.72	6.06	1.67	8.02	5.17	5.18	2.59
<b>D11</b>	<b>596.2</b>	<b>566.2</b>	<b>591.8</b>	<b>572.2</b>	<b>577</b>	<b>579.4</b>	<b>565.8</b>
SD	5.36	7.85	7.26	2.39	4.06	6.66	3.96
<b>D12</b>	<b>604.4</b>	<b>583.8</b>	<b>604.2</b>	<b>586</b>	<b>584.4</b>	<b>598</b>	<b>586.6</b>
SD	4.51	5.63	6.3	5.1	5.03	6.78	6.31
<b>D13</b>	<b>599.4</b>	<b>606.2</b>	<b>598.8</b>	<b>599.4</b>	<b>604.6</b>	<b>606.2</b>	<b>600</b>
SD	7.44	7.92	6.61	7.67	8.02	5.89	7.55
<b>D14</b>	<b>604.8</b>	<b>597.6</b>	<b>595.2</b>	<b>604.2</b>	<b>606.8</b>	<b>600.2</b>	<b>585.8</b>
SD	1.92	8.73	6.3	3.7	5.07	8.76	6.46

**The erythema value of Group D (0.25% Puag-Haad + 1% Niacinamide)**

code	Right (A1-A7 = Treatment ; A8-A14 = Control)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>D1</b>	<b>607.8</b>	<b>623.2</b>	<b>616.6</b>	<b>606</b>	<b>621.8</b>	<b>605</b>	<b>606.4</b>
SD	3.7	4.97	3.29	2.74	6.63	3.46	7.44
<b>D2</b>	<b>577</b>	<b>564.8</b>	<b>549.2</b>	<b>556.8</b>	<b>549.2</b>	<b>554.2</b>	<b>544.6</b>
SD	6.44	5.17	4.32	7.46	4.09	7.98	3.13
<b>D3</b>	<b>610</b>	<b>602.6</b>	<b>610.4</b>	<b>607.6</b>	<b>608.25</b>	<b>600.4</b>	<b>600</b>
SD	6.44	4.77	7.44	7.3	6.99	5.57	7.91
<b>D4</b>	<b>597.8</b>	<b>587.4</b>	<b>580</b>	<b>588.6</b>	<b>580.6</b>	<b>588</b>	<b>578.6</b>
SD	4.66	4.88	7.28	4.39	7.83	7.71	6.27
<b>D5</b>	<b>630.2</b>	<b>604.8</b>	<b>615</b>	<b>621.4</b>	<b>620.6</b>	<b>613.4</b>	<b>592.6</b>
SD	7.01	6.06	7.31	6.35	2.88	6.43	6.54
<b>D6</b>	<b>619</b>	<b>600.2</b>	<b>618.2</b>	<b>619.8</b>	<b>610.8</b>	<b>608.4</b>	<b>598</b>
SD	7.18	8.01	3.49	8.35	8.04	7.02	7.42
<b>D7</b>	<b>595.8</b>	<b>578.2</b>	<b>594.4</b>	<b>580.8</b>	<b>576.6</b>	<b>567.8</b>	<b>579.6</b>
SD	8.64	3.56	5.55	4.09	7.3	4.66	3.29
<b>D8</b>	<b>602</b>	<b>590.4</b>	<b>582.4</b>	<b>595.4</b>	<b>596</b>	<b>583.2</b>	<b>574.8</b>
SD	2.35	6.88	6.02	7.7	6.08	3.11	4.6
<b>D9</b>	<b>612.8</b>	<b>597.6</b>	<b>604.4</b>	<b>598.6</b>	<b>596.2</b>	<b>585.6</b>	<b>592</b>
SD	6.53	5.46	6.35	3.71	6.1	8.73	5.15
<b>D10</b>	<b>574.4</b>	<b>573</b>	<b>582.8</b>	<b>578.6</b>	<b>572.4</b>	<b>566.2</b>	<b>565.8</b>
SD	4.34	5.15	5.4	5.03	5.37	3.11	7.01
<b>D11</b>	<b>608</b>	<b>588.4</b>	<b>592.2</b>	<b>591.6</b>	<b>588.6</b>	<b>589.8</b>	<b>578.4</b>
SD	5.7	2.3	5.26	4.04	7.54	3.35	4.83
<b>D12</b>	<b>607</b>	<b>596.2</b>	<b>597.2</b>	<b>593.6</b>	<b>598.2</b>	<b>595</b>	<b>596.8</b>
SD	5.57	6.46	6.76	6.02	3.96	5.24	4.76
<b>D13</b>	<b>602.2</b>	<b>590.2</b>	<b>599</b>	<b>603.4</b>	<b>607</b>	<b>607.6</b>	<b>608.8</b>
SD	3.27	6.94	7.35	2.51	5.79	6.11	5.89
<b>D14</b>	<b>600</b>	<b>596.6</b>	<b>594</b>	<b>591.8</b>	<b>600.2</b>	<b>594.8</b>	<b>595.4</b>
SD	5.39	7.33	7.58	6.98	2.77	7.33	5.46

**The erythema value of Group E (0.25% Puag-Haad + 2.5% Tranexamic acid)**

code	Left (A1-A7 = Control ; A8-A14 = Treatment)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>E1</b>	<b>607</b>	<b>593.8</b>	<b>593.8</b>	<b>588.8</b>	<b>602.8</b>	<b>591.8</b>	<b>593.4</b>
SD	7.55	4.76	6.38	8.58	6.87	4.97	5.5
<b>E2</b>	<b>613</b>	<b>588.6</b>	<b>599.8</b>	<b>595.2</b>	<b>594.4</b>	<b>592.4</b>	<b>597.8</b>
SD	6.04	6.02	7.16	5.54	3.65	7.64	6.14
<b>E3</b>	<b>621.8</b>	<b>610</b>	<b>610.6</b>	<b>610.8</b>	<b>597.8</b>	<b>606.6</b>	<b>604.4</b>
SD	4.27	6.36	6.95	5.12	8.56	7.02	3.36
<b>E4</b>	<b>628.6</b>	<b>622.6</b>	<b>613.6</b>	<b>635.8</b>	<b>625.6</b>	<b>615</b>	<b>608.2</b>
SD	5.94	7.02	5.43	5.63	5.86	5.7	6.83
<b>E5</b>	<b>571.2</b>	<b>562.4</b>	<b>568.6</b>	<b>573.8</b>	<b>596.4</b>	<b>562.2</b>	<b>559.2</b>
SD	2.59	6.66	7.2	7.33	5.94	8.5	4.97
<b>E6</b>	<b>616.2</b>	<b>628.8</b>	<b>611.6</b>	<b>605</b>	<b>613.8</b>	<b>606.2</b>	<b>616.4</b>
SD	5.13	4.87	6.35	8.69	4.44	7.5	9.13
<b>E7</b>	<b>558</b>	<b>555</b>	<b>552.4</b>	<b>553.2</b>	<b>557</b>	<b>552.8</b>	<b>558.2</b>
SD	3.67	2.45	5.32	6.53	6.04	1.3	8.32
<b>E8</b>	<b>580.2</b>	<b>573.8</b>	<b>573</b>	<b>570</b>	<b>573.8</b>	<b>562.8</b>	<b>567.6</b>
SD	7.26	2.68	7.31	7.58	1.3	8.32	5.08
<b>E9</b>	<b>612.8</b>	<b>600.4</b>	<b>611.4</b>	<b>595</b>	<b>610.2</b>	<b>608.4</b>	<b>623</b>
SD	4.55	6.66	8.88	8.28	4.76	6.11	4.64
<b>E10</b>	<b>597.4</b>	<b>585.4</b>	<b>586</b>	<b>588.2</b>	<b>594.8</b>	<b>585</b>	<b>591.8</b>
SD	5.59	7.92	2.83	4.44	6.42	7.52	6.38
<b>E11</b>	<b>596.6</b>	<b>594.6</b>	<b>586.2</b>	<b>583.4</b>	<b>583.6</b>	<b>578.2</b>	<b>581.6</b>
SD	3.91	6.88	6.46	5.77	5.59	4.09	5.9
<b>E12</b>	<b>613.6</b>	<b>611.2</b>	<b>617</b>	-	-	-	-
SD	5.73	2.05	7.11	-	-	-	-
<b>E13</b>	<b>649.6</b>	<b>621</b>	<b>629</b>	<b>603</b>	<b>612.2</b>	<b>593.8</b>	<b>607.6</b>
SD	3.78	5.45	5.52	6.67	8.87	6.76	6.95
<b>E14</b>	<b>610.2</b>	<b>596.4</b>	<b>602.8</b>	<b>606</b>	<b>608</b>	<b>587.8</b>	<b>599.8</b>
SD	7.6	4.93	8.04	4.95	5.05	8.58	3.19



**The erythema value of Group E (0.25% Puag-Haad + 2.5% Tranexamic acid)**

code	Right (A1-A7 = Treatment ; A8-A14 = Control)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>E1</b>	<b>606.6</b>	<b>602.6</b>	<b>597.6</b>	<b>605.2</b>	<b>604</b>	<b>604.2</b>	<b>597.8</b>
SD	5.68	5.03	6.5	6.38	3.81	8.5	7.69
<b>E2</b>	<b>613.8</b>	<b>594.4</b>	<b>594.4</b>	<b>602.2</b>	<b>593.2</b>	<b>588</b>	<b>591.8</b>
SD	6.76	5.13	8.65	6.91	3.83	4.85	5.63
<b>E3</b>	<b>612</b>	<b>607.4</b>	<b>614.4</b>	<b>602</b>	<b>598</b>	<b>604.2</b>	<b>591</b>
SD	5.96	5.37	6.62	8.46	7.74	6.72	8.77
<b>E4</b>	<b>619</b>	<b>631</b>	<b>617.6</b>	<b>626.6</b>	<b>620.2</b>	<b>622.2</b>	<b>612.6</b>
SD	5.79	6.75	4.72	3.29	3.63	6.38	4.93
<b>E5</b>	<b>568.2</b>	<b>567.8</b>	<b>563</b>	<b>561.8</b>	<b>566.8</b>	<b>559</b>	<b>565</b>
SD	7.46	2.77	8.28	6.22	8.5	4.85	7.37
<b>E6</b>	<b>612.2</b>	<b>627.6</b>	<b>607.6</b>	<b>624</b>	<b>615.8</b>	<b>608.8</b>	<b>616.2</b>
SD	5.89	2.61	8.2	3.67	3.03	5.76	7.89
<b>E7</b>	<b>559.6</b>	<b>560</b>	<b>554.6</b>	<b>556.4</b>	<b>562.8</b>	<b>558.8</b>	<b>549.4</b>
SD	5.03	4.58	3.58	7.09	6.02	8.23	4.39
<b>E8</b>	<b>584.4</b>	<b>576.2</b>	<b>567.4</b>	<b>571.4</b>	<b>580.8</b>	<b>565.8</b>	<b>568.6</b>
SD	3.51	3.35	5.86	5.81	7.16	2.68	4.56
<b>E9</b>	<b>607.2</b>	<b>607</b>	<b>603.6</b>	<b>599.8</b>	<b>603.8</b>	<b>600.6</b>	<b>595.4</b>
SD	6.53	8.86	7.83	6.94	3.56	3.91	6.66
<b>E10</b>	<b>604.4</b>	<b>601.4</b>	<b>596.4</b>	<b>604</b>	<b>613</b>	<b>601</b>	<b>599.4</b>
SD	4.04	6.35	6.91	6.04	4.06	5.79	6.27
<b>E11</b>	<b>591.4</b>	<b>592.2</b>	<b>579.6</b>	<b>582.2</b>	<b>582.6</b>	<b>577.6</b>	<b>588.2</b>
SD	7.83	8.07	2.7	6.22	7.89	4.98	4.97
<b>E12</b>	<b>615.2</b>	<b>607.8</b>	<b>617</b>	-	-	-	-
SD	5.4	5.45	4.85	-	-	-	-
<b>E13</b>	<b>635</b>	<b>611.2</b>	<b>621.6</b>	<b>610.6</b>	<b>613</b>	<b>614.2</b>	<b>605.8</b>
SD	4.36	4.55	6.39	5.03	6.78	4.6	7.98
<b>E14</b>	<b>605.2</b>	<b>599.8</b>	<b>605.4</b>	<b>606.6</b>	<b>607.8</b>	<b>597.4</b>	<b>602</b>
SD	4.21	2.49	4.51	5.73	5.17	6.11	7.48

**The erythema value of Group F (Commercial product)**

code	Left (A1-A7 = Control ; A8-A14 = Treatment)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>F1</b>	<b>603</b>	<b>592.2</b>	<b>586.4</b>	<b>584.6</b>	<b>592.2</b>	<b>582.8</b>	<b>583</b>
SD	6.04	7.26	6.62	3.36	6.63	4.92	6.75
<b>F2</b>	<b>571.2</b>	<b>562.6</b>	<b>558.2</b>	<b>564.2</b>	<b>563.4</b>	<b>564.4</b>	<b>562.8</b>
SD	3.42	5.86	3.35	1.92	4.62	4.04	5.45
<b>F3</b>	<b>617.2</b>	<b>606.2</b>	<b>600</b>	<b>603.4</b>	<b>610.6</b>	<b>597.4</b>	<b>586.6</b>
SD	5.07	8.07	2.24	7.27	3.85	7.99	3.36
<b>F4</b>	<b>598</b>	<b>592.8</b>	<b>586.8</b>	<b>592.6</b>	<b>586.8</b>	<b>580.4</b>	<b>584.2</b>
SD	6.82	5.89	7.6	6.02	3.77	3.85	5.54
<b>F5</b>	<b>611.8</b>	<b>597.6</b>	<b>603.8</b>	<b>591</b>	<b>596.4</b>	<b>579.4</b>	<b>578.6</b>
SD	5.5	2.88	6.22	5.24	5.68	0.55	6.73
<b>F6</b>	<b>601</b>	<b>599.6</b>	<b>603.2</b>	<b>595.2</b>	<b>605.2</b>	<b>594.8</b>	<b>593.8</b>
SD	7.31	7.02	3.9	2.95	7.76	3.27	3.35
<b>F7</b>	<b>587.8</b>	<b>577.6</b>	<b>586.2</b>	<b>588</b>	<b>587.8</b>	<b>562</b>	<b>586</b>
SD	3.77	4.45	4.27	7.58	6.87	5.96	6.44
<b>F8</b>	<b>612.8</b>	<b>602</b>	<b>609</b>	<b>603.8</b>	<b>615</b>	<b>597.4</b>	<b>598.6</b>
SD	5.72	3.94	2.74	3.11	7.07	2.88	4.93
<b>F9</b>	<b>589.8</b>	<b>590</b>	<b>583.8</b>	<b>592.8</b>	<b>586.4</b>	<b>582.8</b>	<b>581.6</b>
SD	7.43	8.28	4.09	6.06	5.59	2.28	7.16
<b>F10</b>	<b>599.6</b>	<b>599.8</b>	<b>603.2</b>	<b>591.4</b>	<b>607.2</b>	<b>595.4</b>	<b>600.6</b>
SD	7.77	3.42	8.11	4.93	5.81	3.78	6.27
<b>F11</b>	<b>598.2</b>	<b>595.8</b>	<b>594.6</b>	<b>600.4</b>	<b>606.6</b>	<b>601.6</b>	<b>603.2</b>
SD	5.36	7.01	3.97	3.29	5.41	3.97	5.36
<b>F12</b>	<b>641.8</b>	<b>621.6</b>	<b>641.8</b>	<b>636.6</b>	<b>615.6</b>	<b>634.2</b>	<b>640.2</b>
SD	8.07	4.16	3.11	6.8	3.65	5.36	6.38
<b>F13</b>	<b>569.6</b>	-	-	-	-	-	-
SD	2.09	-	-	-	-	-	-
<b>F14</b>	<b>593.6</b>	<b>591</b>	<b>589.2</b>	<b>585.2</b>	<b>594.8</b>	<b>584.2</b>	<b>576.2</b>
SD	6.27	7.11	3.11	8.44	4.15	3.63	4.27

**The erythema value of Group F (Commercial product)**

code	Right (A1-A7 = Treatment ; A8-A14 = Control)						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
<b>F1</b>	<b>611.4</b>	<b>607</b>	<b>597.6</b>	<b>601.4</b>	<b>604.2</b>	<b>584.4</b>	<b>582</b>
SD	8.17	5.05	5.13	6.77	6.91	5.98	5.1
<b>F2</b>	<b>585.6</b>	<b>579</b>	<b>566.4</b>	<b>562.8</b>	<b>569</b>	<b>573.8</b>	<b>562</b>
SD	3.36	4.85	5.41	3.42	7.71	1.92	3.08
<b>F3</b>	<b>619.6</b>	<b>611.2</b>	<b>604</b>	<b>601</b>	<b>595.2</b>	<b>592.6</b>	<b>593.2</b>
SD	4.51	5.07	6.04	0.83	8.76	4.98	5.72
<b>F4</b>	<b>605.4</b>	<b>602.4</b>	<b>596.2</b>	<b>597.4</b>	<b>595.6</b>	<b>585.2</b>	<b>586</b>
SD	4.62	3.44	6.18	4.34	5.18	6.42	8.66
<b>F5</b>	<b>596.8</b>	<b>590.6</b>	<b>604.4</b>	<b>598.6</b>	<b>595.2</b>	<b>569.2</b>	<b>577.6</b>
SD	5.63	2.41	4.51	7.7	7.66	8.01	7.77
<b>F6</b>	<b>614.2</b>	<b>601</b>	<b>595.6</b>	<b>588.8</b>	<b>594.8</b>	<b>588.6</b>	<b>590.2</b>
SD	6.46	3.39	6.02	6.83	3.83	3.58	5.36
<b>F7</b>	<b>596.4</b>	<b>598.8</b>	<b>591</b>	<b>593.8</b>	<b>597</b>	<b>582.6</b>	<b>588.4</b>
SD	8.38	5.5	3.67	7.69	5.96	2.07	8.68
<b>F8</b>	<b>622.8</b>	<b>605</b>	<b>608.2</b>	<b>603.2</b>	<b>604.6</b>	<b>599</b>	<b>610.8</b>
SD	3.77	7.52	5.93	4.09	5.27	5.29	1.92
<b>F9</b>	<b>595.4</b>	<b>597.4</b>	<b>587</b>	<b>595</b>	<b>593.8</b>	<b>598.2</b>	<b>585.6</b>
SD	7.37	2.97	8.6	4.64	6.61	4.76	3.91
<b>F10</b>	<b>607</b>	<b>601.8</b>	<b>605.6</b>	<b>612.6</b>	<b>613.2</b>	<b>607.8</b>	<b>605.6</b>
SD	3.61	8.44	2.7	4.04	6.14	4.32	7.4
<b>F11</b>	<b>600.2</b>	<b>589.4</b>	<b>599</b>	<b>616</b>	<b>603</b>	<b>596</b>	<b>598</b>
SD	7.98	5.55	4.42	4.18	7.25	8.63	5.34
<b>F12</b>	<b>647.2</b>	<b>629.2</b>	<b>638.8</b>	<b>639</b>	<b>627.6</b>	<b>626.8</b>	<b>643.6</b>
SD	6.06	4.38	7.36	8.4	2.61	5.45	7.67
<b>F13</b>	<b>579.8</b>	-	-	-	-	-	-
SD	4.02	-	-	-	-	-	-
<b>F14</b>	<b>592.6</b>	<b>594.6</b>	<b>587.2</b>	<b>587.4</b>	<b>591.8</b>	<b>591</b>	<b>573</b>
SD	8.99	3.44	6.53	7.57	3.49	5.15	1.58

**Table 8. The individual melanin reduction ( $X_c - X_{tr}$ ) compared between controlled area and treated area of each substance in human volunteer.**

**Group A (0.25% Puag-Haad)**

code	$X_c - X_{tr}$						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
A1	-1.8	5.6	3.4	-0.4	0.6	5.4	2
A2	0.2	2.4	2.4	1.8	1.2	0.4	-3.6
A3	-0.2	3.75	-2	-2.8	1.2	-6	-4
A4	1.4	-2.2	1.2	2.6	0.6	5	6.4
A5	-1.2	-1.4	-1.4	0.4	1.6	-0.4	5.6
A6	-2.2	0.4	-7.2	0.2	-3	8	11.8
A7	-2.2	-5.2	-2.2	-4	-3.8	-5.6	0.6
A8	11	7.2	9.8	3.6	7.6	10.2	11.2
A9	-3	-4	-0.4	3.2	-3.2	2.8	6.2
A10	2.2	5.2	1.6	3.2	1.6	6.8	10.4
A11	0.6	3.4	2.8	-7.4	-1.4	-6.6	7.4
A12	2.8	3.6	8.8	-1.6	6.2	-1.8	9
A13	-9.8	-12.8	-5.2	-15	2	2.2	-2
A14	-7.8	0.8	2.6	-1.6	4.4	8.6	7.4
$\bar{X}$	-0.71	0.48	1.01	-1.27	1.11	2.07	4.89
SD	4.88	5.30	4.68	5.04	3.36	5.61	5.39

## Group B (1% Niacinamide)

code	Xc - Xtr						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
B1	0.8	-7.8	-8.6	1.8	0.8	4.6	4.8
B2	-0.2	-0.4	-5	2.4	0.4	4.4	-1.8
B3	8.6	-1	7	6.2	5.2	-0.8	6.4
B4	3	-4.2	-1	1.4	-1.6	-4.6	6.2
B5	-4.6	-3.6	-6.6	-2.2	-4.6	-0.6	-2.4
B6	0	-11.4	2.8	-3.4	-0.2	5.4	9.8
B7	-4.2	-1.6	-1.2	-4.8	-13.8	-6.8	-5.2
B8	-3.2	10.6	0.4	7.4	-3.4	-2.8	12.4
B9	-4.4	-9	-8	-14	-10.6	-7.2	-4.2
B10	2.6	5	-0.2	3.2	0.2	1.4	6
B11	3.8	-1.2	2.4	-0.4	7.8	8	7.4
B12	-0.2	-3	-0.8	3	1	7	-0.8
B13	2.4	4.2	5.8	17.4	12.8	8.6	7.4
B14	-0.2	17.2	3.6	1.2	0.6	8.4	16.2
$\bar{X}$	0.30	-0.44	-0.67	1.37	-0.39	1.79	4.44
SD	3.70	7.67	4.90	7.00	6.74	5.63	6.43

## Group C (2.5% Tranexamic acid)

code	Xc - Xtr						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
C1	-4.6	-5.4	-3.4	1.4	-3	-1.4	-0.4
C2	1.4	2.2	5	4.2	9.8	8.6	10
C3	-9.4	0.6	-0.2	-5.6	-1.8	1.6	5.8
C4	-1.6	-5	-8.8	-1.8	2.6	-0.2	3.6
C5	3.6	7.8	-1.4	3.4	14.4	7	-0.6
C6	0.4	-10	-6.2	-5.2	-7.6	-5.6	3.8
C7	0.6	-4	-7	10.6	-0.4	8.8	5.6
C8	3	14	6.4	10.6	16.8	8.2	7.2
C9	0.8	-2.4	6	-3.2	2.2	10.6	5.4
C10	-1.4	4	-0.2	-5.6	-2.8	1.8	3.6
C11	2.75	3.8	4.6	4	-2.2	3.4	6.2
C12	-0.4	-4.2	-9.6	-1.6	-0.4	-3.8	0.6
C13	8.2	4.8	2.4	2.4	6	4.6	13
C14	-5.6	5.8	4.2	0	0	0	0
$\bar{X}$	-0.16	0.86	-0.59	0.97	2.40	3.11	4.56
SD	4.34	6.40	5.63	5.34	6.99	5.04	3.96

## (0.25% Puag-Haad + 1% Niacinamide)

code	Xc - Xtr						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
D1	-0.6	-4.6	-0.8	-10.6	-1.2	-11.2	1.2
D2	-2.2	0	-0.8	4.8	2.4	4.4	3.8
D3	2	2.4	0.8	3.2	3.75	6.6	6
D4	-0.6	-14.8	-7.8	-6.8	-0.6	-6.6	0.4
D5	-2.6	6	6.6	-1	-2.2	2.8	9.8
D6	0	3.8	-3.2	-6	4.8	-2.2	5.8
D7	-1.2	-2	-5.2	-3	-0.4	-0.4	1.2
D8	0.6	-7	-8.2	-0.2	-2.8	-3.4	-2.4
D9	10.2	-1.4	-1.6	3	0.4	4.8	1.2
D10	7	4.2	3.4	6.2	4.2	5.2	10.2
D11	14	12.4	4.4	10.2	17.2	-86.6	15.4
D12	2.2	-3.6	-2.2	5.4	6.2	1.6	6.2
D13	7.2	-0.2	2.4	-2.4	2.6	-0.6	2.4
D14	3.4	5.6	6.2	7.8	1.8	5.8	7.8
$\bar{X}$	2.81	0.06	-0.43	0.76	2.58	-5.70	4.93
SD	5.00	6.60	4.73	6.06	5.01	23.84	4.78

## Group E (0.25% Puag-Haad + 2.5% Tranexamic acid)

code	Xc - Xtr						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
E1	-1	-5.8	-3.6	-7.8	-6.4	-5	-1.8
E2	0.8	-5.6	2.8	-0.8	-3.8	-1.6	4.6
E3	4.8	-8.8	-0.2	4.6	-5.2	6.6	4.4
E4	1	-1	-1.2	7.6	0.6	-1	-4
E5	-1	2.4	3.4	2.2	2.8	3.8	3
E6	0.4	-2.8	1.8	-5.4	-3.8	2.2	-0.4
E7	3.2	-2.6	-2.6	-1.6	0.6	-2.4	-3
E8	5.6	-1.4	-8.6	-4.8	-4.4	-4	-3.8
E9	-3.8	-1.4	-3.8	-5	-8.4	-2.4	-0.2
E10	0.2	4	6.8	-2.8	7.8	0	1
E11	-0.8	2	-2.2	5.2	-8.2	-3	1
E12	-3.4	-0.6	-1.8	0	0	0	0
E13	-18	-9	-4.6	-0.4	2.6	0	1
E14	0.2	-0.6	4.8	1.4	-1.2	4.6	2.2
X	-0.84	-2.23	-0.64	-0.54	-1.93	-0.16	0.29
SD	5.61	3.92	4.16	4.45	4.64	3.38	2.76



## Group F (Commercial product)

code	Xc - Xtr						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
F1	-8.6	-8	-5.4	-11.6	0.4	-5.8	-1
F2	-5.4	-12	-7.4	-3.6	-2	-2.8	1.6
F3	5.2	3	5	-2	6.4	5.6	9.2
F4	1.8	-1.8	0.4	4.4	4.2	-4.8	7.8
F5	1.6	1.4	-2.4	4	-0.2	1.4	1
F6	-1.6	-1.6	1.2	8.2	4.2	-2.2	2.2
F7	-10.6	-15.6	-15.2	-2.6	-8.6	-2.8	4.2
F8	7.2	7.4	4	3.8	2.6	2.2	6
F9	3.8	-3.8	1.4	-1.2	3.4	6.6	3
F10	9.4	6.4	11.2	18.4	19	19.6	18.4
F11	-1.2	-1.6	1.2	11.6	-3.4	-1.4	-1.2
F12	3.8	11.6	7.6	8	0.2	7.2	10
F13	1.2	0	0	0	0	0	0
F14	-8.8	-1.6	-8.2	-13.6	-2.8	-4.4	-4.6
$\bar{X}$	-0.16	-1.16	-0.47	1.70	1.67	1.31	4.04
SD	6.20	7.33	6.87	8.59	6.29	6.75	5.88

**Table 9. The individual erythema change (Ec – Etr) compared between controlled area and treated area of each substance in human volunteer.**

**Group A (0.25% Puag-Haad)**

code	Ec – Etr						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
A1	-9.2	-5.8	-6.6	-8.2	-9.4	-7.2	4
A2	-2.8	-4.6	-1.8	-4.2	4.2	9.6	8.6
A3	3	2.7	13	5.8	0	-5.6	-15
A4	-3	-12.6	-8.4	-10	-1.2	15.4	3.2
A5	2.2	-13.6	0.8	9.8	-13.4	-5	16.2
A6	-11.4	-6.2	-10	-12.2	-3.8	-3.6	23.4
A7	-11.6	-1.2	-10.8	-14.2	-7.8	-11.4	-4.2
A8	-3	1.6	-13.4	14.2	12.6	1.6	14.6
A9	-7	3	4.8	-4.6	-4.6	-5.2	11
A10	2.6	12	3.8	9	7.2	9	8.4
A11	12.6	13	12.4	-5.8	-4.2	-11.2	9.6
A12	2.8	3.6	11	-8	3	0.8	3.8
A13	-11.4	-0.8	-5.8	-14.2	7.6	2.4	-8.8
A14	-11.6	-1	-0.6	-10	3	11.4	12.6
$\bar{X}$	-3.41	-0.71	-0.83	-3.76	-0.49	0.07	6.24
SD	7.40	7.74	8.86	9.49	7.25	8.56	10.21

## Group B (1% Niacinamide)

code	Ec – Etr						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
B1	2.6	-1.2	-3.4	5.6	4.8	6.8	2
B2	0.2	1.4	-4.8	-1	3.8	-3	-10.8
B3	17.2	16	5.2	3.8	3.4	-9.8	-5.2
B4	-1.6	-0.6	-0.8	-8.2	-3.2	2.6	18.8
B5	-8.4	1	-8.6	-1.4	6.8	-6.2	4
B6	29.8	-11.4	-12.8	-7.4	-8.2	6	17.4
B7	-9.2	-6.4	-1.6	-11.8	-6	-5.4	-5.8
B8	3.2	5.8	-8.4	4.6	-2	-2	12.2
B9	21.6	17.8	1	-5.2	5.4	-0.8	1
B10	12.4	11	-3	12.2	7.2	-11	6.4
B11	11	6.4	2	4.6	3	11	0.8
B12	10.2	4.2	1	11.4	3.8	-1.6	1.6
B13	-4.6	9.2	-1.2	15.6	13.2	11.2	-5.4
B14	10.6	21.6	5	-14.8	-4	-2.2	16.2
$\bar{X}$	6.79	5.34	-2.17	0.57	2.00	-0.31	3.80
SD	11.41	9.25	5.18	9.27	5.89	7.02	9.35

## Group C (2.5% Tranexamic acid)

code	Ec – Etr						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
C1	5.2	4.4	-2.4	4.4	-4.8	-2.8	9.8
C2	2.6	4.6	0.8	8.8	5	12.6	14.2
C3	-10.6	8.4	-1.2	-8.6	14	10.4	3.8
C4	-4.2	-7.2	-2.2	-3.2	5.2	-10	1
C5	6.4	5.4	-6.6	11.8	2.6	0.4	-11.8
C6	-1.6	-5.4	-3	-4.8	-4.6	-6.4	5
C7	-5.8	-4.2	-11.6	-2.2	-11.6	10.4	13.8
C8	-7.6	0.6	8.2	6.6	14.4	1.4	3.4
C9	-3.8	-6.4	1.6	-3.8	-1.4	-1.8	8.2
C10	0.6	-0.8	-5	0.6	-11.8	0	9.6
C11	3	0.8	0.2	-2.6	-21	-1.4	1.8
C12	-1.6	7.2	-7.2	0.4	-4.6	5.2	8
C13	-6.4	4.6	15.4	-13.6	-4	-3.2	-3
C14	-13.6	7.8	-3.8	0	0	0	0
$\bar{X}$	-2.67	1.41	-1.20	-0.44	-1.61	1.06	4.56
SD	5.89	5.46	6.67	6.77	9.70	6.52	6.93

## Group D (0.25% Puag-Haad + 1% Niacinamide)

code	Ec – Etr						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
D1	20.6	-16	-1.8	4.6	3.4	12.4	11.8
D2	-12.2	-6.2	1.4	5	1.2	-0.2	3
D3	1.6	7.6	3	-12.2	-2.25	9	-2
D4	10.8	-4.8	-4.4	-7.6	0.2	-8	-6.6
D5	19.4	18.2	10	10	2.4	-24.4	21
D6	-10.8	11.2	-9.8	-12.8	3.2	-11.6	7.8
D7	-7.6	4.6	-8.2	5.8	7.6	11	-0.4
D8	8	7.6	-9	4.6	-2.6	3.2	6
D9	6	-3	1.4	13.2	-2	-5.2	0.2
D10	-0.6	-8.2	-0.8	-2.8	-0.4	6.8	11
D11	11.8	22.2	0.4	19.4	11.6	10.4	12.6
D12	2.6	12.4	-7	7.6	13.8	-3	10.2
D13	2.8	-16	0.2	4	2.4	1.4	8.8
D14	-4.8	-1	-1.2	-12.4	-6.6	-5.4	9.6
$\bar{X}$	3.40	2.04	-1.84	1.89	2.28	-0.26	6.64
SD	10.22	11.87	5.43	10.03	5.58	10.31	7.18

**Group E (0.25% Puag-Haad + 2.5% Tranexamic acid)**

code	Ec – Etr						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
E1	0.4	-8.8	-3.8	-16.4	-1.2	-12.4	-4.4
E2	-0.8	-5.8	5.4	-7	1.2	4.4	6
E3	9.8	2.6	-3.8	8.8	-0.2	2.4	13.4
E4	9.6	-8.4	-4	9.2	5.4	-7.2	-4.4
E5	3	-5.4	5.6	12	29.6	3.2	-5.8
E6	4	1.2	4	-19	-2	-2.6	0.2
E7	-1.6	-5	-2.2	-3.2	-5.8	-6	8.8
E8	4.2	2.4	-5.6	1.4	7	3	1
E9	-5.6	6.6	-7.8	4.8	-6.4	-7.8	-27.6
E10	7	16	10.4	15.8	18.2	16	7.6
E11	-5.2	-2.4	-6.6	-1.2	-1	-0.6	6.6
E12	1.6	-3.4	0	0	0	0	0
E13	-14.6	-9.8	-7.4	7.6	0.8	20.4	-1.8
E14	-5	3.4	2.6	0.6	-0.2	9.6	2.2
$\bar{X}$	0.49	-1.20	-0.94	0.96	3.24	1.60	0.13
SD	6.67	7.09	5.68	10.06	9.69	9.12	9.76

## Group F (Commercial product)

code	Ec – Etr						
	week 0	week 2	week 4	week 6	week 8	week 10	week 12
F1	-8.4	-14.8	-11.2	-16.8	-12	-1.6	1
F2	-14.4	-16.4	-8.2	1.4	-5.6	-9.4	0.8
F3	-2.4	-5	-4	2.4	15.4	4.8	-6.6
F4	-7.4	-9.6	-9.4	-4.8	-8.8	-4.8	-1.8
F5	15	7	-0.6	-7.6	1.2	10.2	1
F6	-13.2	-1.4	7.6	6.4	10.4	6.2	3.6
F7	-8.6	-21.2	-4.8	-5.8	-9.2	-20.6	-2.4
F8	10	3	-0.8	-0.6	-10.4	1.6	12.2
F9	5.6	7.4	3.2	2.2	7.4	15.4	4
F10	7.4	2	2.4	21.2	6	12.4	5
F11	2	-6.4	4.4	15.6	-3.6	-5.6	-5.2
F12	5.4	7.6	-3	2.4	12	-7.4	3.4
F13	10.2	0	0	0	0	0	0
F14	-1	3.6	-2	2.2	-3	6.8	-3.2
$\bar{X}$	0.01	-3.16	-1.89	1.30	-0.01	0.57	0.84
SD	9.35	9.39	5.39	9.32	8.98	9.71	4.78

### APPENDIX III

- ❖ Individual melanin (M) and erythema (E) values in 42 human volunteers appraised by mexameter for 5 groups conducted at Nakornratchasima

Group A received 0.25% Puag-Haad

Group B received 1% Niacinamide

Group C received 2.5% Tranexamic acid

Group D received 0.25% Puag-Haad + 1% Niacinamide

Group E received 0.25% Puag-Haad + 2.5% Tranexamic acid

Group F received commercial product (L'ORÉAL, Lot no.C3/A 1650, Mfd. 06/07/01)

- ❖ Individual melanin reduction and erythema change in 42 human volunteers at Nakornratchasima



**Table 10. The extra-experiment conducted at Nakornratchasima. The melanin measurements before and after applying the lotion base (control) and the test lotion to the individual subjects of each group (ns = 5 reading/ person). The data shows average values (in bold letter) and SD.**

**The melanin value of Group A (0.25% Puag-Haad)**

code	Left (Control)				
	week 0	week 2	week 4	week 6	week 8
<b>A1</b>	<b>601.6</b>	<b>572.4</b>	<b>575.2</b>	<b>576.2</b>	<b>566.2</b>
SD	4.34	3.38	5.81	1.3	3.96
<b>A2</b>	<b>532.8</b>	<b>511.4</b>	<b>511.6</b>	<b>511.8</b>	<b>511.6</b>
SD	1.48	2.7	2.79	2.68	2.19
<b>A3</b>	<b>581</b>	<b>597.8</b>	<b>582.2</b>	<b>590</b>	<b>592.2</b>
SD	2.74	2.56	3.25	2.25	4.71
<b>A4</b>	<b>599.6</b>	<b>592.2</b>	<b>591.8</b>	<b>590.2</b>	<b>590.2</b>
SD	1.34	2.59	1.1	2.05	1.1
<b>A5</b>	<b>563.4</b>	<b>561</b>	<b>559.6</b>	<b>562.8</b>	<b>567.2</b>
SD	2.61	1.87	3.58	1.79	3.19
<b>A6</b>	<b>505</b>	<b>507.6</b>	<b>504.2</b>	<b>500.4</b>	<b>502</b>
SD	2	3.05	1.64	2.19	2.55
<b>A7</b>	<b>635.6</b>	<b>579.4</b>	<b>579.6</b>	<b>582.2</b>	<b>582.6</b>
SD	9.86	5.55	1.14	2.49	6.62

**The melanin value of Group A (0.25% Puag-Haad)**

code	Right (Treatment)				
	week 0	week 2	week 4	week 6	week 8
<b>A1</b>	<b>582</b>	<b>578.2</b>	<b>568</b>	<b>563.2</b>	<b>559.4</b>
SD	2.12	2.49	3	2.77	1.34
<b>A2</b>	<b>522.4</b>	<b>521.2</b>	<b>517.2</b>	<b>511</b>	<b>505.6</b>
SD	7.83	1.79	3.03	3.87	5.56
<b>A3</b>	<b>580.2</b>	<b>575.8</b>	<b>572.2</b>	<b>567</b>	<b>563.6</b>
SD	5.45	4.87	2.88	3.5	4.34
<b>A4</b>	<b>604.4</b>	<b>591</b>	<b>581.4</b>	<b>584.6</b>	<b>577.2</b>
SD	3.64	4.18	3.36	2.51	3.11
<b>A5</b>	<b>549.6</b>	<b>551.8</b>	<b>550.8</b>	<b>548.2</b>	<b>552.4</b>
SD	2.07	1.3	3.11	2.59	5.94
<b>A6</b>	<b>513</b>	<b>513.8</b>	<b>510.2</b>	<b>505.8</b>	<b>500.2</b>
SD	1.87	2.17	0.84	4.09	1.3
<b>A7</b>	<b>630.6</b>	<b>584.8</b>	<b>587.2</b>	<b>579.4</b>	<b>555.8</b>
SD	8.26	3.42	3.27	5.55	3.27

**The melanin value of Group B (1% Niacinamide)**

code	Left (Control)				
	week 0	week 2	week 4	week 6	week 8
<b>B1</b>	<b>534.2</b>	<b>528.4</b>	<b>531.8</b>	<b>526.4</b>	<b>559.4</b>
SD	3.9	4.34	1.79	1.34	1.58
<b>B2</b>	<b>550.4</b>	<b>543.4</b>	<b>549.4</b>	<b>546</b>	<b>546.4</b>
SD	1.34	3.85	0.55	2.35	1.52
<b>B3</b>	<b>573.2</b>	<b>568.8</b>	<b>571.6</b>	<b>570.4</b>	<b>570.8</b>
SD	3.27	3.7	4.51	3.97	1.1
<b>B4</b>	<b>560.4</b>	<b>558.4</b>	<b>587.2</b>	<b>567</b>	<b>561.2</b>
SD	1.81	0.89	1.92	4	3.19
<b>B5</b>	<b>581.4</b>	<b>585.4</b>	<b>586.2</b>	<b>591.4</b>	<b>586.4</b>
SD	1.14	6.11	1.79	3.78	1.67
<b>B6</b>	<b>558.6</b>	<b>555</b>	<b>551</b>	<b>549.8</b>	<b>551.4</b>
SD	5.03	3.24	3.54	2.86	0.89
<b>B7</b>	was found skin irritation at right hand side at week 4				

**The melanin value of Group B (1% Niacinamide)**

code	Right (Treatment)				
	week 0	week 2	week 4	week 6	week 8
<b>B1</b>	<b>543.8</b>	<b>531.2</b>	<b>533.6</b>	<b>527.6</b>	<b>523</b>
SD	1.3	1.79	1.95	1.52	1.87
<b>B2</b>	<b>545.2</b>	<b>536.4</b>	<b>538.8</b>	<b>538.6</b>	<b>526.2</b>
SD	5.54	0.89	1.48	1.82	4.6
<b>B3</b>	<b>581.8</b>	<b>586</b>	<b>584.6</b>	<b>572</b>	<b>573</b>
SD	2.28	7.81	5.03	2.45	1.87
<b>B4</b>	<b>557</b>	<b>557.8</b>	<b>571.2</b>	<b>557.2</b>	<b>555</b>
SD	1	0.84	3.56	2.49	3
<b>B5</b>	<b>585</b>	<b>587.6</b>	<b>587.8</b>	<b>583.4</b>	<b>570.4</b>
SD	3.08	2.61	2.59	3.05	1.52
<b>B6</b>	<b>565.2</b>	<b>561.6</b>	<b>556.2</b>	<b>553.4</b>	<b>530.4</b>
SD	1.79	5.18	1.92	2.41	2.61
<b>B7</b>	was found skin irritation at right hand side at week 4				

**The melanin value of Group C (2.5% Tranexamic acid)**

code	Left (Control)				
	week 0	week 2	week 4	week 6	week 8
<b>C1</b>	<b>513.8</b>	<b>521.4</b>	<b>526</b>	<b>519.2</b>	<b>518.6</b>
SD	3.27	3.58	2.35	2.39	2.07
<b>C2</b>	<b>568.8</b>	<b>565.6</b>	<b>569</b>	<b>563.4</b>	<b>557.8</b>
SD	1.64	4.62	3	3.97	4.02
<b>C3</b>	<b>562</b>	<b>546.8</b>	<b>549</b>	<b>550.4</b>	<b>539.8</b>
SD	3.87	3.9	2.45	1.14	5.26
<b>C4</b>	<b>570.8</b>	<b>564.6</b>	<b>551.2</b>	<b>552.6</b>	<b>554.4</b>
SD	4.71	1.82	6.69	4.93	1.14
<b>C5</b>	<b>526.8</b>	<b>526.6</b>	<b>524.8</b>	<b>519.8</b>	<b>524.8</b>
SD	3.11	2.41	2.28	1.79	2.17
<b>C6</b>	<b>543.6</b>	<b>539.2</b>	<b>523.8</b>	<b>524.6</b>	<b>520.4</b>
SD	3.91	2.59	3.7	4.16	1.14
<b>C7</b>	<b>584.8</b>	<b>572.6</b>	<b>572</b>	<b>572.8</b>	<b>573.2</b>
SD	3.56	0.55	0.71	1.64	5.54

**The melanin value of Group C (2.5% Tranexamic acid)**

code	Right (Treatment)				
	week 0	week 2	week 4	week 6	week 8
<b>C1</b>	<b>517.8</b>	<b>521</b>	<b>528.2</b>	<b>518.2</b>	<b>513.8</b>
SD	0.84	2.83	6.98	3.11	4.76
<b>C2</b>	<b>567</b>	<b>567.6</b>	<b>572.8</b>	<b>573.2</b>	<b>573.4</b>
SD	2	2.61	1.3	3.49	4.04
<b>C3</b>	<b>570.8</b>	<b>553.4</b>	<b>553.6</b>	<b>556.8</b>	<b>562.8</b>
SD	4.87	3.29	3.36	1.92	3.27
<b>C4</b>	<b>567</b>	<b>567</b>	<b>549.2</b>	<b>555.6</b>	<b>554.4</b>
SD	2.74	3.54	4.32	3.71	6.58
<b>C5</b>	<b>544</b>	<b>541.8</b>	<b>547.4</b>	<b>536.4</b>	<b>542.4</b>
SD	1.22	5.76	3.21	1.52	3.44
<b>C6</b>	<b>536</b>	<b>519.8</b>	<b>525</b>	<b>527.8</b>	<b>528</b>
SD	1.41	1.48	2.35	3.96	2.45
<b>C7</b>	<b>595.4</b>	<b>591.8</b>	<b>585</b>	<b>586</b>	<b>586.2</b>
SD	4.04	0.84	1.22	2.24	3.7

**The melanin value of Group D ( 0.25% Mahad+1% Niacinamide)**

code	Left (Control)				
	week 0	week 2	week 4	week 6	week 8
<b>D1</b>	was found skin irritation on both upper arms at week 4				
SD	-	-	-	-	-
<b>D2</b>	<b>572.8</b>	<b>569.4</b>	<b>569.6</b>	<b>573.6</b>	<b>571.4</b>
SD	3.11	1.67	1.52	2.3	2.88
<b>D3</b>	<b>604.2</b>	<b>596.6</b>	<b>596.2</b>	<b>594.4</b>	<b>590.4</b>
SD	3.03	2.3	1.48	1.52	2.41
<b>D4</b>	<b>605.6</b>	<b>593.8</b>	<b>593.4</b>	<b>595.4</b>	<b>591.6</b>
SD	3.36	3.03	2.88	3.58	2.19
<b>D5</b>	<b>564.8</b>	<b>558</b>	<b>544.6</b>	<b>549.4</b>	<b>546</b>
SD	1.64	1.87	2.61	1.82	2.55
<b>D6</b>	<b>585</b>	<b>582.2</b>	<b>571.8</b>	<b>576.8</b>	<b>580.6</b>
SD	6	6.57	3.11	3.9	3.29
<b>D7</b>	<b>555.6</b>	<b>546</b>	<b>550.2</b>	<b>549</b>	<b>552</b>
SD	3.5	2.74	4.21	4.18	3.39

**The melanin value of Group D ( 0.25% Puag-Haad + 1% Niacinamide)**

code	Right (Treatment)				
	week 0	week 2	week 4	week 6	week 8
<b>D1</b>	was found skin irritation on both upper arms at week 4				
<b>D2</b>	<b>568.4</b>	<b>563.8</b>	<b>565.4</b>	<b>563.8</b>	<b>530.2</b>
SD	2.07	3.49	4.28	4.32	1.92
<b>D3</b>	<b>604.6</b>	<b>600</b>	<b>587.8</b>	<b>582.2</b>	<b>571.8</b>
SD	1.52	5.39	1.79	1.79	0.45
<b>D4</b>	<b>600</b>	<b>590.2</b>	<b>582.8</b>	<b>575</b>	<b>561.4</b>
SD	2.12	1.64	2.39	2	2.61
<b>D5</b>	<b>565.8</b>	<b>552</b>	<b>548.6</b>	<b>547.8</b>	<b>541.2</b>
SD	5.18	2.12	2.97	3.9	2.17
<b>D6</b>	<b>586.2</b>	<b>578</b>	<b>571.8</b>	<b>574.4</b>	<b>568.6</b>
SD	2.19	2.65	3.27	3.36	1.82
<b>D7</b>	<b>546.6</b>	<b>546.6</b>	<b>543.8</b>	<b>543.2</b>	<b>537.8</b>
SD	5.6	1.52	1.79	1.92	2.05

**The melanin value of Group E ( 0.25% Puag-Haad + 2.5% Tranexamic acid)**

code	Left (Control )				
	week 0	week 2	week 4	week 6	week 8
<b>E1</b>	<b>521</b>	<b>531.8</b>	<b>524</b>	<b>522.4</b>	<b>521.6</b>
SD	2.34	1.92	3.87	3.36	3.78
<b>E2</b>	<b>517.2</b>	<b>514.6</b>	<b>514.2</b>	<b>515.8</b>	<b>506.8</b>
SD	3.42	2.61	1.79	4.44	2.59
<b>E3</b>	<b>549</b>	<b>533.2</b>	<b>546.8</b>	<b>536.6</b>	<b>527.8</b>
SD	2.34	1.79	1.79	2.95	2.68
<b>E4</b>	<b>538.6</b>	<b>537.4</b>	<b>534.2</b>	<b>539.6</b>	<b>524.8</b>
SD	1.52	1.52	2.59	3.21	1.92
<b>E5</b>	<b>535.2</b>	<b>536.6</b>	<b>533.8</b>	<b>529.2</b>	<b>524.8</b>
SD	1.79	3.36	2.95	3.77	1.92
<b>E6</b>	<b>525</b>	<b>520.8</b>	<b>519.8</b>	<b>524</b>	<b>527.4</b>
SD	3.09	1.48	4.27	2	4.62
<b>E7</b>	<b>526.8</b>	<b>530.2</b>	<b>524.2</b>	<b>527</b>	<b>525.2</b>
SD	3.35	2.28	3.27	4.06	3.56

**The melanin value of Group E ( 0.25% Puag-Haad + 2.5% Tranexamic acid)**

code	Right (Treatment)				
	week 0	week 2	week 4	week 6	week 8
<b>E1</b>	<b>524.2</b>	<b>522.2</b>	<b>520.6</b>	<b>515.6</b>	<b>513</b>
SD	4.92	3.11	4.34	3.39	2.12
<b>E2</b>	<b>532</b>	<b>530.2</b>	<b>525.6</b>	<b>525.2</b>	<b>513.6</b>
SD	1	1.3	2.97	2.05	1.14
<b>E3</b>	<b>549.8</b>	<b>536.2</b>	<b>533.2</b>	<b>535.4</b>	<b>524.4</b>
SD	2.68	2.59	4.55	1.52	4.04
<b>E4</b>	<b>561.6</b>	<b>552.8</b>	<b>539.6</b>	<b>551.6</b>	<b>515</b>
SD	2.07	3.56	2.3	4.39	1
<b>E5</b>	<b>544.4</b>	<b>529.4</b>	<b>521</b>	<b>519.8</b>	<b>515</b>
SD	4.98	2.7	1.87	2.95	1
<b>E6</b>	<b>525.2</b>	<b>517.6</b>	<b>508.4</b>	<b>511.2</b>	<b>521.4</b>
SD	1.64	2.3	1.67	5.72	5.37
<b>E7</b>	<b>535.8</b>	<b>533.8</b>	<b>523.4</b>	<b>525.8</b>	<b>527.4</b>
SD	2.28	2.39	3.36	1.1	0.89

**The melanin value of Group F (Commercial product)**

code	Left (Control)				
	week 0	week 2	week 4	week 6	week 8
<b>F1</b>	<b>522.8</b>	<b>520.4</b>	<b>510.8</b>	<b>510.8</b>	<b>510.6</b>
SD	2.28	4.04	3.7	1.79	3.05
<b>F2</b>	<b>562.8</b>	<b>549</b>	<b>535</b>	<b>538.6</b>	<b>532</b>
SD	2.59	4.47	3.16	1.14	4.64
<b>F3</b>	<b>540.4</b>	<b>552.2</b>	<b>540.2</b>	<b>549.8</b>	<b>538.6</b>
SD	1.67	5.26	3.27	3.77	1.52
<b>F4</b>	<b>571.2</b>	<b>557.2</b>	<b>549.8</b>	<b>555</b>	<b>551.6</b>
SD	5.54	2.28	4.02	2.92	1.52
<b>F5</b>	<b>527</b>	<b>526.6</b>	<b>528.6</b>	<b>529.6</b>	<b>524.2</b>
SD	5.1	4.51	3.05	2.19	2.17
<b>F6</b>	<b>518.8</b>	<b>514</b>	<b>502.2</b>	<b>505.4</b>	<b>501</b>
SD	2.59	3.18	2.77	5.32	1.41
<b>F7</b>	<b>528.2</b>	<b>520</b>	<b>510.2</b>	<b>522.4</b>	<b>519.6</b>
SD	1.64	2.74	3.35	3.51	1.14

**The melanin value of Group F (Commercial product)**

code	Right (Treatment)				
	week 0	week 2	week 4	week 6	week 8
<b>F1</b>	<b>524</b>	<b>516.6</b>	<b>516.8</b>	<b>510.6</b>	<b>509.4</b>
SD	6.7	2.3	2.17	1.67	1.14
<b>F2</b>	<b>560.4</b>	<b>555</b>	<b>536.4</b>	<b>542.8</b>	<b>527.8</b>
SD	3.65	1.87	4.51	2.28	2.49
<b>F3</b>	<b>567.4</b>	<b>548.4</b>	<b>541.4</b>	<b>537.8</b>	<b>528.6</b>
SD	1.82	2.07	1.82	1.79	1.67
<b>F4</b>	<b>563.2</b>	<b>553.8</b>	<b>543.8</b>	<b>538</b>	<b>530.8</b>
SD	2.05	2.68	2.86	1.22	2.95
<b>F5</b>	<b>522.4</b>	<b>520.2</b>	<b>515.2</b>	<b>513</b>	<b>501.2</b>
SD	3.21	2.77	3.7	2.55	2.39
<b>F6</b>	<b>518.4</b>	<b>518.6</b>	<b>502.8</b>	<b>496</b>	<b>489.8</b>
SD	2.88	0.89	3.7	2.55	1.92
<b>F7</b>	<b>523.6</b>	<b>521.4</b>	<b>511.8</b>	<b>519</b>	<b>504.6</b>
SD	3.29	4.04	2.68	3.54	2.07

**Table 11. The extra-experiment conducted at Nakornratchasrma. The erythema measurement before and after applying lotion base as a control and treated substance in each group (n = 5 reading/ person). The data shows average values (in bold letter) and SD.**

**The erythema value of Group A (0.25% Puag-Haad)**

code	Left (Control)				
	week 0	week 2	week 4	week 6	week 8
<b>A1</b>	<b>662.8</b>	<b>651.2</b>	<b>639.6</b>	<b>647</b>	<b>648.2</b>
SD	5.02	4.15	4.45	7.52	10.23
<b>A2</b>	<b>627.4</b>	<b>624.4</b>	<b>621.6</b>	<b>643.2</b>	<b>628.2</b>
SD	3.85	4.72	5.94	17.06	11.63
<b>A3</b>	<b>640</b>	<b>648.4</b>	<b>635.8</b>	<b>674</b>	<b>659</b>
SD	3.16	3.05	1.8	3.5	8.03
<b>A4</b>	<b>654</b>	<b>646.2</b>	<b>644.6</b>	<b>670</b>	<b>664.6</b>
SD	6.89	4.27	1.67	4.64	4.51
<b>A5</b>	<b>647</b>	<b>648.6</b>	<b>633.8</b>	<b>648</b>	<b>666.8</b>
SD	2.12	1.95	3.56	1.58	4.49
<b>A6</b>	<b>602.8</b>	<b>603</b>	<b>599.6</b>	<b>608.4</b>	<b>620.4</b>
SD	10.03	6.08	8.02	12.72	3.78
<b>A7</b>	<b>666.4</b>	<b>640.8</b>	<b>661.2</b>	<b>646.8</b>	<b>655.2</b>
SD	10.16	11.39	5.36	5.17	11.01

**The erythema value of Group A (0.25% Puag-Haad)**

code	Right (Treatment)				
	week 0	week 2	week 4	week 6	week 8
<b>A1</b>	<b>654.4</b>	<b>647</b>	<b>630.4</b>	<b>637</b>	<b>638.8</b>
SD	2.12	5.57	6.19	7.14	1.92
<b>A2</b>	<b>628.4</b>	<b>635.4</b>	<b>626.8</b>	<b>637</b>	<b>634.8</b>
SD	5.03	9.02	5.26	4.64	9.6
<b>A3</b>	<b>645.8</b>	<b>641</b>	<b>634.4</b>	<b>642</b>	<b>653.8</b>
SD	3.56	4.18	4.34	3.5	7.35
<b>A4</b>	<b>654.8</b>	<b>648.2</b>	<b>643.2</b>	<b>668</b>	<b>664.2</b>
SD	5.07	6.26	4.49	9.64	5.02
<b>A5</b>	<b>638.8</b>	<b>645</b>	<b>631.2</b>	<b>643.2</b>	<b>637.4</b>
SD	5.8	2.55	2.59	7.4	6.11
<b>A6</b>	<b>613.4</b>	<b>626.4</b>	<b>620.2</b>	<b>626.8</b>	<b>617.8</b>
SD	5.5	4.22	4.09	14.1	9.2
<b>A7</b>	<b>659</b>	<b>643.6</b>	<b>665.8</b>	<b>653.6</b>	<b>642.4</b>
SD	6.28	3.13	11.97	4.93	9.02

**The erythema value of Group B (1% Niacinamide)**

code	Left (Control)				
	week 0	week 2	week 4	week 6	week 8
<b>B1</b>	<b>612.8</b>	<b>613</b>	<b>629.4</b>	<b>625</b>	<b>633.6</b>
SD	7.82	9.11	5.13	7.52	9.71
<b>B2</b>	<b>653.4</b>	<b>643.8</b>	<b>652.2</b>	<b>651.4</b>	<b>651.4</b>
SD	3.43	11.65	4.66	12.4	4.77
<b>B3</b>	<b>645.8</b>	<b>642.2</b>	<b>641.4</b>	<b>642</b>	<b>649.2</b>
SD	6.9	4.44	6.88	5.34	2.17
<b>B4</b>	<b>661.4</b>	<b>667.6</b>	<b>669.6</b>	<b>680.4</b>	<b>676.2</b>
SD	9.91	8.05	11.78	5.27	13.97
<b>B5</b>	<b>652.2</b>	<b>652</b>	<b>650.2</b>	<b>662.2</b>	<b>649.4</b>
SD	1.48	5.92	2.39	3.19	7.8
<b>B6</b>	<b>658.4</b>	<b>637.6</b>	<b>642.6</b>	<b>636.2</b>	<b>646.6</b>
SD	3.5	3.29	4.39	4.66	3.21
<b>B7</b>	was found the skin irritation on right hand side at week 4				

**The erythema value of Group B (1% Niacinamide)**

code	Right (Treatment)				
	week 0	week 2	week 4	week 6	week 8
<b>B1</b>	<b>628.4</b>	<b>614.2</b>	<b>628.6</b>	<b>624.8</b>	<b>630.2</b>
SD	5.41	5.76	4.72	3.96	6.87
<b>B2</b>	<b>650.8</b>	<b>632.6</b>	<b>640.6</b>	<b>645.8</b>	<b>649.2</b>
SD	4.02	7.23	4.1	4.27	9.01
<b>B3</b>	<b>650.2</b>	<b>653.6</b>	<b>641.6</b>	<b>645</b>	<b>650</b>
SD	8.87	5.5	6.11	6.78	7.52
<b>B4</b>	<b>674</b>	<b>666.6</b>	<b>674.4</b>	<b>672</b>	<b>664.2</b>
SD	8.06	10.26	6.99	8.06	4.76
<b>B5</b>	<b>653</b>	<b>649.8</b>	<b>651.4</b>	<b>651.6</b>	<b>651.4</b>
SD	7.97	4.97	7.64	1.82	7.3
<b>B6</b>	<b>644.8</b>	<b>642.4</b>	<b>643.2</b>	<b>641.8</b>	<b>642.8</b>
SD	6.72	4.88	6.91	7.19	10.92
<b>B7</b>	was found the skin irritation on right hand side at week 4				



**The erythema value of Group C (2.5% Tranexamic acid)**

code	Left (Control)				
	week 0	week 2	week 4	week 6	week 8
<b>C1</b>	<b>614</b>	<b>607</b>	<b>608.2</b>	<b>614.4</b>	<b>620.8</b>
SD	3.74	8.57	2.77	4.16	2.17
<b>C2</b>	<b>643.8</b>	<b>634</b>	<b>642.8</b>	<b>645.4</b>	<b>640.6</b>
SD	4.55	6.2	5.54	10.01	5.41
<b>C3</b>	<b>651</b>	<b>637.6</b>	<b>637</b>	<b>653.8</b>	<b>660.2</b>
SD	7.04	3.91	11.34	7.33	3.83
<b>C4</b>	<b>672.6</b>	<b>667</b>	<b>657.8</b>	<b>661.6</b>	<b>554.4</b>
SD	7.16	3.67	5.63	4.62	6.58
<b>C5</b>	<b>646.4</b>	<b>634</b>	<b>643.2</b>	<b>638.4</b>	<b>643.8</b>
SD	1.51	5.7	3.63	7.96	5.54
<b>C6</b>	<b>621.2</b>	<b>605.8</b>	<b>602.2</b>	<b>619.8</b>	<b>620.2</b>
SD	6.98	6.87	3.49	6.94	6.06
<b>C7</b>	<b>666.8</b>	<b>654.6</b>	<b>666</b>	<b>666.4</b>	<b>664.2</b>
SD	4.69	2.79	2.55	10.67	3.56

**The erythema value of Group C (2.5% Tranexamic acid)**

code	Right (Treatment)				
	week 0	week 2	week 4	week 6	week 8
<b>C1</b>	<b>610.6</b>	<b>604.8</b>	<b>605.2</b>	<b>609.2</b>	<b>624.6</b>
SD	3.36	2.77	7.19	7.79	4.16
<b>C2</b>	<b>644.4</b>	<b>637.4</b>	<b>632.6</b>	<b>636</b>	<b>642.6</b>
SD	4.1	10.31	3.36	6.89	3.51
<b>C3</b>	<b>641.6</b>	<b>635.2</b>	<b>625.4</b>	<b>656.2</b>	<b>636.8</b>
SD	8.99	9.47	5.13	2.77	5.63
<b>C4</b>	<b>657.4</b>	<b>655.2</b>	<b>660</b>	<b>662.8</b>	<b>680.8</b>
SD	5.9	2.59	8.06	5.4	6.61
<b>C5</b>	<b>642</b>	<b>618.8</b>	<b>639.4</b>	<b>631.2</b>	<b>628.2</b>
SD	8.37	3.9	3.78	4.32	4.82
<b>C6</b>	<b>629.8</b>	<b>623.2</b>	<b>606.2</b>	<b>625</b>	<b>642.8</b>
SD	7.05	10.03	4.6	6.86	10.92
<b>C7</b>	<b>665.4</b>	<b>650.4</b>	<b>660.8</b>	<b>664.2</b>	<b>658.4</b>
SD	8.29	3.36	2.86	9.86	3.71

**The erythema value of Group D ( 0.25% Puag-Haad +1% Niacinamide)**

code	Left (Control )				
	week 0	week 2	week 4	week 6	week 8
<b>D1</b>	<b>was found skin irritation on both upper arms at week 4</b>				
<b>D2</b>	<b>637.6</b>	<b>627.2</b>	<b>646.8</b>	<b>652</b>	<b>646.8</b>
SD	3.36	3.63	5.26	7.97	7.05
<b>D3</b>	<b>652</b>	<b>652.6</b>	<b>641.8</b>	<b>651.8</b>	<b>658.6</b>
SD	6.93	2.88	3.7	3.27	1.95
<b>D4</b>	<b>673</b>	<b>656.2</b>	<b>664.2</b>	<b>670.2</b>	<b>670.6</b>
SD	2	1.92	3.77	1.79	1.52
<b>D5</b>	<b>645.8</b>	<b>637.4</b>	<b>637.4</b>	<b>643.4</b>	<b>636</b>
SD	3.35	6.77	9.34	3.65	2.92
<b>D6</b>	<b>647.6</b>	<b>640.2</b>	<b>641.6</b>	<b>658.4</b>	<b>656.2</b>
SD	5.41	7.66	3.05	6.27	6.72
<b>D7</b>	<b>640.6</b>	<b>632.8</b>	<b>621.2</b>	<b>630.6</b>	<b>643</b>
SD	9.37	7.12	7.53	4.62	11.58

**The erythema value of Group D ( 0.25% Puag-Haad + 1% Niacinamide)**

code	Right (Treatment)				
	week 0	week 2	week 4	week 6	week 8
<b>D1</b>	<b>was found skin irritation on both upper arms at week 4</b>				
<b>D2</b>	<b>640</b>	<b>640.2</b>	<b>632.6</b>	<b>638.8</b>	<b>638.8</b>
SD	3.54	5.17	7.57	2.39	1.64
<b>D3</b>	<b>642.2</b>	<b>657.2</b>	<b>630.4</b>	<b>644.6</b>	<b>646.4</b>
SD	3.83	2.8	2.19	7.8	5.86
<b>D4</b>	<b>681.8</b>	<b>669</b>	<b>655</b>	<b>659.6</b>	<b>661.6</b>
SD	1.48	9.57	3.87	1.95	6.11
<b>D5</b>	<b>646.4</b>	<b>631.2</b>	<b>633.2</b>	<b>635</b>	<b>632.6</b>
SD	7.64	7.69	2.77	3.94	6.35
<b>D6</b>	<b>634.8</b>	<b>637.2</b>	<b>630.8</b>	<b>649</b>	<b>643.2</b>
SD	4.15	8.41	3.56	10.1	2.28
<b>D7</b>	<b>626</b>	<b>629.4</b>	<b>615.2</b>	<b>643.6</b>	<b>649</b>
SD	7.68	6.66	3.56	10.21	2.92

**The erythema value of Group E  
( 0.25% Puag-Haad + 2.5% Tranexamic acid)**

code	Left (Control )				
	week 0	week 2	week 4	week 6	week 8
<b>E1</b>	<b>615</b>	<b>616.8</b>	<b>604.8</b>	<b>626</b>	<b>641.6</b>
SD	8.71	10.64	8.56	2.35	9.24
<b>E2</b>	<b>643.8</b>	<b>627.4</b>	<b>645.6</b>	<b>628.4</b>	<b>631.4</b>
SD	6.76	4.67	3.78	12.03	7.06
<b>E3</b>	<b>579.2</b>	<b>607.8</b>	<b>616.4</b>	<b>619.2</b>	<b>622.6</b>
SD	5.8	7.6	3.97	3.7	5.73
<b>E4</b>	<b>632.8</b>	<b>626.4</b>	<b>632.2</b>	<b>639.8</b>	<b>642.8</b>
SD	2.59	3.21	1.48	3.11	10.38
<b>E5</b>	<b>627</b>	<b>635.8</b>	<b>641.4</b>	<b>637.8</b>	<b>642.8</b>
SD	5.87	8.32	11.35	3.96	10.38
<b>E6</b>	<b>681</b>	<b>663.6</b>	<b>686.4</b>	<b>669</b>	<b>675.2</b>
SD	6.04	10.55	1.82	10.02	5.89
<b>E7</b>	<b>617.2</b>	<b>622.8</b>	<b>615.2</b>	<b>641</b>	<b>618.8</b>
SD	6.76	4.82	5.89	10.7	4.44

**The erythema value of Group E  
( 0.25% Puag-Haad + 2.5% Tranexamic acid)**

code	Right (Treatment)				
	week 0	week 2	week 4	week 6	week 8
<b>E1</b>	<b>611.4</b>	<b>611.6</b>	<b>616.8</b>	<b>617.8</b>	<b>613.8</b>
SD	4.09	4.16	8.84	5.85	4.09
<b>E2</b>	<b>651.4</b>	<b>639.6</b>	<b>654.2</b>	<b>639.2</b>	<b>635.8</b>
SD	11.06	10.36	2.05	8.04	10.03
<b>E3</b>	<b>624</b>	<b>611</b>	<b>603.2</b>	<b>618.2</b>	<b>627.2</b>
SD	6.93	6.6	5.54	4.21	7.12
<b>E4</b>	<b>642.2</b>	<b>630.4</b>	<b>642</b>	<b>643.8</b>	<b>633.8</b>
SD	5.4	3.65	1.41	6.61	10.57
<b>E5</b>	<b>634.8</b>	<b>622.8</b>	<b>648.4</b>	<b>636.2</b>	<b>633.8</b>
SD	6.98	8.93	2.88	9.78	10.57
<b>E6</b>	<b>640.6</b>	<b>656.8</b>	<b>672.6</b>	<b>645</b>	<b>650.8</b>
SD	6.23	7.69	3.51	12.51	9.12
<b>E7</b>	<b>626.8</b>	<b>621.6</b>	<b>618.8</b>	<b>620.6</b>	<b>627.4</b>
SD	5.26	7.3	6.22	6.5	2.07

**The erythema value of Group F (Commercial product)**

code	Left (Control)				
	week 0	week 2	week 4	week 6	week 8
<b>F1</b>	<b>614.6</b>	<b>615.8</b>	<b>613</b>	<b>614.4</b>	<b>619.6</b>
SD	3.85	3.42	7.71	8.88	3.97
<b>F2</b>	<b>660</b>	<b>644.4</b>	<b>641.8</b>	<b>630</b>	<b>632.2</b>
SD	1.58	5.32	7.22	12.71	4.6
<b>F3</b>	<b>628.4</b>	<b>642.2</b>	<b>641.8</b>	<b>634.4</b>	<b>618</b>
SD	6.19	5.93	4.02	3.78	3.08
<b>F4</b>	<b>657.2</b>	<b>650.2</b>	<b>647.4</b>	<b>646.6</b>	<b>657.6</b>
SD	10.06	6.38	4.51	9.94	3.36
<b>F5</b>	<b>628</b>	<b>630.6</b>	<b>634.6</b>	<b>628.8</b>	<b>625.4</b>
SD	5.79	6.21	6.35	10.83	7.4
<b>F6</b>	<b>627.2</b>	<b>621.6</b>	<b>618</b>	<b>643.2</b>	<b>638.6</b>
SD	9.2	8.38	5.33	12.07	5.68
<b>F7</b>	<b>635.6</b>	<b>624.4</b>	<b>618.2</b>	<b>624.8</b>	<b>646.4</b>
SD	2.41	2.74	3.35	3.96	4.16

**The erythema value of Group F (Commercial product)**

code	Right (Treatment)				
	week 0	week 2	week 4	week 6	week 8
<b>F1</b>	<b>612.2</b>	<b>604.6</b>	<b>620.8</b>	<b>609.4</b>	<b>618.6</b>
SD	6.22	9.69	10.71	3.13	6.19
<b>F2</b>	<b>635.4</b>	<b>654.4</b>	<b>640.4</b>	<b>635.2</b>	<b>634.8</b>
SD	5.55	6.58	5.08	3.96	6.18
<b>F3</b>	<b>651.2</b>	<b>620.8</b>	<b>624.8</b>	<b>625</b>	<b>620.8</b>
SD	4.21	5.26	4.6	4.69	3.83
<b>F4</b>	<b>649.2</b>	<b>645.2</b>	<b>641.4</b>	<b>636</b>	<b>638.2</b>
SD	7.26	4.49	4.39	10.3	4.97
<b>F5</b>	<b>622.6</b>	<b>640.8</b>	<b>626.6</b>	<b>616.2</b>	<b>624.4</b>
SD	7.83	8.47	2.79	3.7	6.5
<b>F6</b>	<b>643</b>	<b>641.8</b>	<b>635.2</b>	<b>638.4</b>	<b>654.8</b>
SD	8.15	8.67	8.11	3.51	6.83
<b>F7</b>	<b>630</b>	<b>618.6</b>	<b>615</b>	<b>631</b>	<b>632</b>
SD	8.46	6.8	6.6	8.51	7.45

**Table 12.** The extra-experiment conducted at Nakornratchasima. The individual melanin reduction ( $X_c - X_{tr}$ ) compared between controlled area and treated area of each substance in human volunteer.

**Group A (0.25% Puag-Haad)**

code	Xc - Xtr				
	week 0	week 1	week 2	week 3	week 4
A1	19.6	-5.8	7.2	13	6.8
A2	10.4	-9.8	-5.6	0.8	6
A3	0.8	22	10	23	28.6
A4	-4.8	1.2	10.4	5.6	13
A5	13.8	9.2	8.8	14.6	14.8
A6	-8	-6.2	-6	-5.4	1.8
A7	5	-5.4	-7.6	2.8	26.8
$\bar{X}$	5.26	0.74	2.46	7.77	13.97
SD	10.02	11.28	8.37	9.64	10.35

**Group B (1% Niacinamide)**

code	Xc - Xtr				
	week 0	week 1	week 2	week 3	week 4
B1	-9.6	-2.8	-1.8	-1.2	36.4
B2	5.2	7	10.6	7.4	20.2
B3	-8.6	-17.2	-13	-1.6	-2.2
B4	3.4	0.6	16	9.8	6.2
B5	-3.6	-2.2	-1.6	8	16
B6	-6.6	-6.6	-5.2	-3.6	21
B7	0	0	0	0	0
$\bar{X}$	-2.83	-3.03	0.71	2.69	13.94
SD	5.85	7.50	9.72	5.50	13.62

## Group C (2.5% Tranexamic acid)

code	Xc - Xtr				
	week 0	week 1	week 2	week 3	week 4
C1	4	-0.4	2.2	-1	-4.8
C2	-1.8	2	3.8	9.8	15.6
C3	8.8	6.6	4.6	6.4	23
C4	-3.8	2.4	-2	3	0
C5	17.2	15.2	22.6	16.6	17.6
C6	-7.6	-19.4	1.2	3.2	7.6
C7	10.6	19.2	13	13.2	13
$\bar{X}$	3.91	3.66	6.49	7.31	10.29
SD	8.85	12.49	8.48	6.23	9.93

**Group D ( 0.25% Puag-Haad + 1% Niacinamide)**

code	Xc - Xtr				
	week 0	week2	week4	week6	week8
D1	0	0	0	0	0
D2	4.4	5.6	4.2	9.8	41.2
D3	-0.4	-3.4	8.4	12.2	18.6
D4	5.6	3.6	10.6	20.4	30.2
D5	-1	6	-4	1.6	4.8
D6	-1.2	4.2	0	2.4	12
D7	9.00	-0.60	6.40	5.80	14.20
$\bar{X}$	2.34	2.20	3.66	7.46	17.29
SD	4.00	3.56	5.23	7.23	14.33



**Group E ( 0.25% Puag-Haad + 2.5% Tranexamic acid)**

code	Xc - Xtr				
	week 0	week 1	week 2	week 3	week 4
E1	-3.2	9.6	3.4	6.8	8.6
E2	-14.8	-15.6	-11.4	-9.4	-6.8
E3	-0.8	-3	13.6	1.2	3.4
E4	-23	-15.4	-5.4	-12	9.8
E5	-9.2	7.2	12.8	9.4	9.8
E6	-0.2	3.2	11.4	12.8	6
E7	-9	-3.6	0.8	1.2	-2.2
$\bar{X}$	-8.60	-2.51	3.60	1.43	4.09
SD	8.23	10.10	9.66	9.30	6.43

**Group F (Commercial product)**

code	Xc - Xtr				
	week 0	week 1	week 2	week 3	week 4
F1	-1.2	3.8	-6	0.2	1.2
F2	2.4	-6	-1.4	-4.2	4.2
F3	-27	3.8	-1.2	12	10
F4	8	3.4	6	17	20.8
F5	4.6	6.4	13.4	16.6	23
F6	0.4	-4.6	-0.6	9.4	11.2
F7	4.6	-1.4	-1.6	3.4	15
$\bar{X}$	-1.17	0.77	1.23	7.77	12.20
SD	11.78	4.77	6.42	8.20	8.05

**Table 13. The extra-experiment conducted at Nakornratchasima. The individual erythema change (Ec – Etr) compared between controlled area and treated area of each substance in human volunteer.**

**Group A (0.25% Puag-Haad)**

code	Ec – Etr				
	week 0	week 2	week 4	week 6	week 8
A1	8.4	4.2	9.2	10	9.4
A2	-1	-11	-5.2	6.2	-6.6
A3	-5.8	7.4	1.4	32	5.2
A4	-0.8	-2	1.4	2	0.4
A5	8.2	3.6	2.6	4.8	29.4
A6	-10.6	-23.4	-20.6	-18.4	2.6
A7	7.4	-2.8	-4.6	-6.8	12.8
$\bar{X}$	0.83	-3.43	-2.26	4.26	7.60
SD	7.48	10.67	9.42	15.53	11.47

**Group B (1% Niacinamide)**

code	Ec – Etr				
	week 0	week 2	week 4	week 6	week 8
B1	-15.6	-1.2	0.8	0.2	3.4
B2	2.6	11.2	11.6	5.6	2.2
B3	-4.4	-11.4	-0.2	-3	-0.8
B4	-12.6	1	-4.8	8.4	12
B5	-0.8	2.2	-1.2	10.6	-2
B6	13.6	-4.8	-0.6	-5.6	3.8
B7	0	0	0	0	0
$\bar{X}$	-2.46	-0.43	0.80	2.31	2.66
SD	9.76	6.89	5.09	6.02	4.66

**Group C (2.5% Tranexamic acid)**

code	Ec – Etr				
	week 0	week 2	week 4	week 6	week 8
D1	0	0	0	0	0
D2	-2.4	-13	14.2	13.2	8
D3	9.8	-4.6	11.4	7.2	12.2
D4	-8.8	-12.8	9.2	10.6	9
D5	-0.6	6.2	4.2	8.4	3.4
D6	12.8	3	10.8	9.4	13
D7	14.6	3.4	6	-13	-6
$\bar{X}$	3.63	-2.54	7.97	5.11	5.66
SD	8.80	7.83	4.86	8.97	6.91

**Group E ( 0.25% Puag-Haad + 2.5% Tranexamic acid)**

code	Ec – Etr				
	week 0	week 2	week 4	week 6	week 8
E1	3.6	5.2	-12	8.2	27.8
E2	-7.6	-12.2	-8.6	-10.8	-4.4
E3	-44.8	-3.2	13.2	1	-4.6
E4	-9.4	-4	-9.8	-4	9
E5	-7.8	13	-7	1.6	9
E6	40.4	6.8	13.8	24	24.4
E7	-9.6	1.2	-3.6	20.4	-8.6
$\bar{X}$	-5.03	0.97	-2.00	5.77	7.51
SD	25.08	8.29	10.90	12.67	14.43

## Group F (Commercial product)

code	Ec – Etr				
	week 0	week 2	week 4	week 6	week 8
F1	2.4	11.2	-7.8	5	1
F2	24.6	-10	1.4	-5.2	-2.6
F3	-22.8	21.4	17	9.4	-2.8
F4	8	5	6	10.6	19.4
F5	5.4	-10.2	8	12.6	1
F6	-15.8	-20.2	-17.2	4.8	-16.2
F7	5.6	5.8	3.2	-6.2	14.4
$\bar{X}$	1.06	0.43	1.51	4.43	2.03
SD	15.80	14.45	11.12	7.48	11.79

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