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TUB registration: 20130201-VE43/VE43L0NA.TXT /PS
application for measurement of display output, no separation

TUB material: code=rha4ta

Ostwald optimal colours (o) of maximum (m) C _{AB} for D50, Y _w =100, Y _m =520_770, CIELAB data															%
i ₁ , λ ₁	i ₂ , λ ₂	L* ₁₀₀	a* ₁₀₀	b* ₁₀₀	C* _{ab}	a'	b'	h _{ab}	i _d , λ _d	i _c , λ _c	Code			%	
1 405	32 564	80.64	-79.12	-32.66	85.6	0.1753	-0.0939	202.4	17 486	38 592	Cm	%		%	
7 435	33 565	80.84	-92.99	-16.32	94.41	0.1682	-0.0862	189.9	18 490	46 634		%		%	
10 450	33 566	81.12	-108.35	7.14	108.58	0.1604	-0.0752	176.2	19 497	-1 497c		%		%	
12 460	33 567	81.46	-116.97	28.05	120.29	0.1561	-0.0654	166.5	21 506	-1 506c		%		%	
13 465	33 568	81.81	-119.26	39.57	125.66	0.1552	-0.0601	161.6	22 511	-1 511c		%		%	
14 470	34 570	82.4	-119.23	51.38	129.83	0.1555	-0.0547	156.6	23 519	-1 519c		%		%	
15 475	34 573	83.39	-115.8	63.56	132.1	0.1579	-0.0494	151.2	25 527	-1 527c	Gm	%		%	
15 480	35 578	85.46	-107.76	67.11	126.95	0.1631	-0.0484	148.0	26 531	-1 531c		%		%	
17 485	37 587	88.09	-90.84	90.18	128.01	0.1726	-0.039	135.2	28 544	-1 544c		%		%	
18 490	44 620	95.17	-39.39	110.34	117.16	0.1986	-0.0333	109.6	32 561	-1 561c	max	%		%	
19 495	-1 495c	97.49	-13.34	121.9	122.63	0.2105	-0.0295	96.2	33 568	12 463		%		%	
20 500	-1 500c	96.81	-10.45	127.99	128.42	0.2118	-0.0268	94.6	33 569	13 466		%		%	
22 510	-1 510c	94.88	-2.34	137.84	137.86	0.2153	-0.0218	90.9	34 571	14 471		%		%	
23 520	-1 519c	93.58	2.85	141.13	141.16	0.2177	-0.0198	88.8	34 572	14 473	Ym	%		%	
25 530	-1 529c	90.23	15.24	146.8	147.59	0.2236	-0.0162	84.0	35 575	15 477		%		%	
27 540	-1 539c	86.01	29.18	144.12	147.04	0.2308	-0.0132	78.5	35 579	16 480		%		%	
28 545	-1 544c	83.62	36.35	141.27	145.87	0.2347	-0.012	75.5	36 581	16 481		%		%	
29 550	-1 549c	81.05	43.6	137.66	144.4	0.239	-0.011	72.4	36 583	16 483		%		%	
30 555	-1 554c	78.3	50.75	133.47	142.8	0.2434	-0.0102	69.1	37 585	16 484		%		%	
32 560	-1 560c	72.41	64.12	123.93	139.53	0.2528	-0.0092	62.6	38 590	17 486		%		%	
380	770	100.0	0.0	0.0	0.0	0.2164	-0.0785	0.0				%		%	

Ostwald optimal colours (o) of maximum (m) C _{AB} for D50, Y _w =100, Y _m =770_520, CIELAB complementary															%
i ₁ , λ ₁	i ₂ , λ ₂	L* ₁₀₀	a* ₁₀₀	b* ₁₀₀	C* _{ab}	a'	b'	h _{ab}	i _d , λ _d	i _c , λ _c	Code			%	
32 564	1 405	71.0	67.41	105.72	125.38	0.2553	-0.0231	57.4	38 592	17 486	Rm	%		%	
33 565	7 435	70.74	75.66	26.96	80.32	0.2602	-0.0643	19.6	46 634	18 490		%		%	
33 566	10 450	70.4	84.09	-8.18	84.49	0.2653	-0.0828	354.4	-1 497c	19 497		%		%	
33 567	12 460	69.97	89.18	-25.67	92.8	0.2685	-0.0921	343.9	-1 506c	21 506		%		%	
33 568	13 465	69.5	91.5	-32.76	97.19	0.2702	-0.096	340.2	-1 511c	22 511		%		%	
34 570	14 470	68.72	93.74	-39.06	101.55	0.272	-0.0995	337.3	-1 519c	23 519		%		%	
34 573	15 475	67.36	96.12	-45.25	106.24	0.2743	-0.1032	334.7	-1 527c	25 527	Mm	%		%	
35 578	15 480	64.23	100.99	-50.62	112.97	0.2796	-0.1073	333.3	-1 531c	26 531		%		%	
37 587	17 485	59.67	103.27	-63.42	121.19	0.285	-0.1167	328.4	-1 544c	28 544		%		%	
44 620	18 490	41.19	95.32	-96.8	135.85	0.3001	-0.1557	314.5	-1 561c	32 561	min	%		%	
-1 495c	19 495	30.29	58.93	-116.79	130.82	0.2804	-0.1936	296.7	12 463	33 568		%		%	
-1 500c	20 500	34.03	42.92	-111.26	119.25	0.2595	-0.1799	291.0	13 466	33 569		%		%	
-1 510c	22 510	42.26	8.18	-98.28	98.62	0.2235	-0.1554	274.7	14 471	34 571		%		%	
-1 519c	23 520	46.59	-9.12	-91.17	91.63	0.2091	-0.1449	264.2	14 473	34 572	Bm	%		%	
-1 529c	25 530	55.28	-39.96	-76.64	86.43	0.1882	-0.1275	242.4	15 477	35 575		%		%	
-1 539c	27 540	63.34	-62.09	-62.98	88.44	0.1771	-0.1147	225.4	16 480	35 579		%		%	
-1 544c	28 545	67.02	-69.55	-56.7	89.74	0.1743	-0.1096	219.1	16 481	36 581		%		%	
-1 549c	29 550	70.49	-74.83	-50.77	90.42	0.1729	-0.1053	214.1	16 483	36 583		%		%	
-1 554c	30 555	73.73	-78.04	-45.21	90.19	0.1727	-0.1015	210.0	16 484	37 585		%		%	
-1 560c	32 560	79.46	-78.96	-35.36	86.52	0.1749	-0.0954	204.1	17 486	38 590		%		%	
380	770	100.0	0.0	0.0	0.0	0.2164	-0.0785	0.0				%		%	

Ostwald optimal colours (o) of maximum (m) CAB for D50, Y _w ,10=100, Y _m =520_770, CIELAB data															%
i ₁ , λ ₁	i ₂ , λ ₂	L* ₁₀₀	a* ₁₀₀	b* ₁₀₀	C* _{ab}	a'	b'	h _{ab}	i _d , λ _d	i _c , λ _c	Code		%		
1 405	31 559	79.59	-77.2	-34.19	84.44	0.176	-0.0944	203.8	15 479	37 589	Cm		%		
7 435	32 561	79.86	-91.81	-15.16	93.06	0.1685	-0.0853	189.3	16 484	58 693			%		
10 450	32 562	79.99	-106.14	10.32	106.64	0.161	-0.0733	174.4	18 493	-1 493c			%		
12 460	32 564	80.41	-112.32	32.6	116.95	0.1581	-0.0628	163.8	20 503	-1 503c			%		
13 465	33 566	81.01	-111.86	45.12	120.61	0.1587	-0.0571	158.0	22 512	-1 512c			%		
14 470	34 570	82.18	-107.6	58.61	122.53	0.1615	-0.0511	151.4	24 521	-1 521c			%		
15 475	35 576	84.23	-97.14	73.13	121.59	0.1679	-0.0451	143.0	26 531	-1 531c	Gm		%		
16 480	38 590	88.39	-73.47	90.47	116.54	0.1812	-0.0388	129.0	28 543	-1 543c			%		
17 485	-1 485c	97.06	-11.31	114.51	115.07	0.2116	-0.0322	95.6	32 563	11 458			%		
18 490	-1 490c	96.45	-8.75	121.65	121.97	0.2127	-0.0291	94.1	32 564	12 460	max		%		
19 495	-1 495c	95.71	-5.61	127.93	128.05	0.2141	-0.0262	92.5	33 565	12 462			%		
20 500	-1 500c	94.84	-1.91	133.35	133.36	0.2158	-0.0236	90.8	33 566	12 464			%		
21 510	-1 509c	93.81	2.3	137.86	137.88	0.2177	-0.0212	89.0	33 567	13 466			%		
24 520	-1 520c	89.67	17.74	147.75	148.81	0.2251	-0.015	83.1	34 571	14 471	Ym		%		
25 530	-1 529c	87.89	23.66	147.2	149.09	0.2281	-0.0131	80.8	34 573	14 473			%		
28 540	-1 540c	81.47	42.32	139.84	146.11	0.2385	-0.0073	73.1	35 579	15 476			%		
29 545	-1 545c	78.99	48.54	135.98	144.39	0.2423	-0.0052	70.3	36 581	15 477			%		
29 550	-1 549c	78.99	48.54	135.98	144.39	0.2423	-0.0052	70.3	36 581	15 477			%		
31 555	-1 555c	73.59	60.31	126.89	140.49	0.2505	0.0	64.5	37 587	15 479			%		
32 560	2 411	70.73	66.43	91.22	112.85	0.2551	-0.0304	53.9	38 591	16 480			%		
380	770	100.0	0.0	0.0	0.0	0.2166	-0.0782	0.0					%		

Ostwald optimal colours (o) of maximum (m) C _{AB} for D50, Y _{w,10} =100, Y _m =770_520, CIELAB complementary															%
i ₁ , λ ₁	i ₂ , λ ₂	L* ₁₀₀	a* ₁₀₀	b* ₁₀₀	C* _{ab}	a'	b'	h _{ab}	i _d , λ _d	i _c , λ _c	Code			%	
31 559	1 405	72.26	63.47	103.03	121.01	0.2528	-0.0252	58.3	37 589	15 479	Rm			%	
32 561	7 435	71.95	72.06	23.05	75.66	0.2578	-0.0663	17.7	58 693	16 484				%	
32 562	10 450	71.79	79.33	-10.79	80.06	0.2621	-0.0837	352.2	-1 493c	18 493				%	
32 564	12 460	71.28	83.47	-27.25	87.8	0.2647	-0.0923	341.9	-1 503c	20 503				%	
33 566	13 465	70.54	85.3	-34.29	91.94	0.2662	-0.0961	338.1	-1 512c	22 512				%	
34 570	14 470	69.01	87.54	-41.42	96.85	0.2684	-0.1003	334.6	-1 521c	24 521				%	
35 576	15 475	66.13	89.85	-49.78	102.72	0.2716	-0.1057	331.0	-1 531c	26 531	Mm			%	
38 590	16 480	59.09	91.66	-64.37	112.01	0.278	-0.1171	324.9	-1 543c	28 543				%	
-1 485c	17 485	32.71	47.82	-111.58	121.39	0.266	-0.1821	293.2	11 458	32 563				%	
-1 490c	18 490	35.8	34.81	-107.5	113.0	0.2505	-0.1724	287.9	12 460	32 564	min			%	
-1 495c	19 495	39.04	20.95	-102.82	104.93	0.2358	-0.1629	281.5	12 462	33 565				%	
-1 500c	20 500	42.42	6.67	-97.66	97.89	0.2224	-0.154	273.9	12 464	33 566				%	
-1 509c	21 510	45.88	-7.52	-92.18	92.48	0.2105	-0.1458	265.3	13 466	33 567				%	
-1 520c	24 520	56.5	-45.46	-74.63	87.39	0.1851	-0.1249	238.6	14 471	34 571	Bm			%	
-1 529c	25 530	60.04	-55.36	-68.66	88.2	0.18	-0.1191	231.1	14 473	34 573				%	
-1 540c	28 540	69.95	-73.85	-51.77	90.19	0.1734	-0.1055	215.0	15 476	35 579				%	
-1 545c	29 545	72.95	-76.41	-46.62	89.51	0.1734	-0.1019	211.3	15 477	36 581				%	
-1 549c	29 550	72.95	-76.41	-46.62	89.51	0.1734	-0.1019	211.3	15 477	36 581				%	
-1 555c	31 555	78.42	-76.8	-37.2	85.33	0.1757	-0.096	205.8	15 479	37 587				%	
2 411	32 560	80.85	-76.45	-31.35	82.63	0.1769	-0.0928	202.2	16 480	38 591				%	
380	770	100.0	0.0	0.0	0.0	0.2166	-0.0782	0.0						%	

http://130.149.60.45/~farbmatrik/VE43/VE43L0NA.TXT /PS; transfer output
N: no 3D-linearization (OL) in file (F) or PS-startup (S), page 2/5

rgb^*_{eab} and CIE data of a elementary hue circle according to CIE R1-47 for Ostwald colours for CIE illuminant D50

$Yxy, abc_{AB}, ABC_{AB}, LabC^*_{ab}, h_{ab}$ data for relative spacing of elementary hue h_{ab} of CIELAB for CIE 2 degree observer

Elementary hue circle with 4 intended elementary hue angles: $h_{ab} = 27.1, 88.5, 164.3, 263.9$ of CIELAB, and 90 intended angles:

000, 001, ..., 089, CIELAB data of CIE test colours 9 (R): 41.8 61.9 31.7, 10 (Y): 81.9 17.7 71.5, 11 (G): 51.6 -41.1 11.5, 12 (B): 29.2 -55.2 -49.3

no.ab	Y	x	y	a	b	C _{AB}	A	B	C _{AB}	h _{AB}	L*	a*	b*	C* _{ab}	h _{ab}	rgb* _{eab}	Code _{ab}		
000	41.4	0.483	0.275	1.755	-0.349	0.791	32.7	-0.7	32.7	358.6	70.4	82.3	-2.8	82.4	358.0	1.00	0.00	0.56	0.71R
001	41.4	0.485	0.277	1.751	-0.341	0.786	32.6	-0.7	32.6	358.4	70.4	82.3	-2.8	82.4	358.0	1.00	0.00	0.56	0.71R
002	41.4	0.487	0.279	1.747	-0.334	0.783	32.5	-0.1	32.5	359.6	70.5	81.7	-0.6	81.7	359.5	1.00	0.00	0.52	0.73R
003	41.5	0.489	0.28	1.743	-0.326	0.779	32.3	0.1	32.3	0.2	70.5	81.4	0.4	81.4	0.3	1.00	0.00	0.5	0.74R
004	41.5	0.491	0.282	1.739	-0.318	0.775	32.2	0.4	32.2	0.8	70.5	81.0	1.6	81.1	1.1	1.00	0.00	0.48	0.75R
005	41.5	0.494	0.284	1.735	-0.311	0.771	32.0	0.7	32.0	1.4	70.5	80.7	2.9	80.8	2.2	1.00	0.00	0.46	0.76R
006	41.5	0.496	0.286	1.731	-0.302	0.767	31.9	1.1	31.9	2.0	70.5	80.4	4.1	80.5	2.9	1.00	0.00	0.44	0.77R
007	41.5	0.498	0.288	1.727	-0.294	0.764	31.7	1.4	31.7	2.6	70.5	80.0	5.5	80.2	3.9	1.00	0.00	0.41	0.78R
008	41.6	0.501	0.29	1.723	-0.286	0.76	31.5	1.8	31.6	3.2	70.6	79.7	6.8	80.0	4.9	1.00	0.00	0.39	0.80R
009	41.6	0.503	0.292	1.719	-0.277	0.757	31.4	2.1	31.5	3.9	70.6	79.3	8.3	79.8	5.9	1.00	0.00	0.37	0.81R
010	41.6	0.506	0.295	1.715	-0.269	0.753	31.2	2.5	31.3	4.6	70.6	78.9	9.8	79.6	7.0	1.00	0.00	0.35	0.82R
011	41.6	0.508	0.297	1.711	-0.26	0.75	31.1	2.8	31.2	5.3	70.6	78.7	11.3	79.5	8.1	1.00	0.00	0.33	0.83R
012	41.6	0.511	0.299	1.707	-0.251	0.747	30.9	3.2	31.1	6.0	70.6	78.3	12.9	79.4	9.3	1.00	0.00	0.31	0.84R
013	41.7	0.514	0.302	1.703	-0.242	0.744	30.8	3.6	31.0	6.7	70.6	78.0	14.5	79.3	10.5	1.00	0.00	0.29	0.85R
014	41.7	0.517	0.304	1.699	-0.233	0.741	30.6	4.0	30.9	7.4	70.6	77.6	16.2	79.3	11.8	1.00	0.00	0.27	0.86R
015	41.7	0.52	0.307	1.694	-0.224	0.738	30.5	4.4	30.8	8.2	70.6	77.2	18.0	79.3	13.1	1.00	0.00	0.25	0.87R
016	41.7	0.523	0.309	1.69	-0.215	0.735	30.3	4.7	30.7	8.9	70.7	76.9	19.8	79.4	14.4	1.00	0.00	0.23	0.88R
017	41.7	0.526	0.312	1.686	-0.206	0.73	30.1	5.1	30.6	9.7	70.7	76.5	21.7	79.6	15.8	1.00	0.00	0.21	0.89R
018	41.7	0.53	0.315	1.682	-0.196	0.73	30.0	5.5	30.5	10.5	70.7	76.2	23.6	79.8	17.2	1.00	0.00	0.19	0.90R
019	41.8	0.533	0.317	1.678	-0.187	0.728	29.8	5.9	30.4	11.2	70.7	75.8	25.6	80.1	18.7	1.00	0.00	0.17	0.91R
020	41.8	0.536	0.32	1.674	-0.178	0.726	29.7	6.3	30.3	12.0	70.7	75.5	27.7	80.4	20.1	1.00	0.00	0.14	0.92R
021	41.8	0.539	0.322	1.672	-0.169	0.725	29.6	6.6	30.3	12.7	70.7	75.3	29.7	80.9	21.5	1.00	0.00	0.12	0.93R
022	41.8	0.543	0.325	1.669	-0.161	0.725	29.5	7.0	30.3	13.4	70.7	75.0	31.7	81.5	22.9	1.00	0.00	0.1	0.94R
023	41.8	0.546	0.327	1.666	-0.153	0.724	29.3	7.3	30.3	14.1	70.7	74.8	33.7	82.1	24.2	1.00	0.00	0.08	0.95R
024	41.8	0.549	0.33	1.664	-0.145	0.723	29.2	7.7	30.2	14.7	70.7	74.6	35.8	82.7	25.6	1.00	0.00	0.06	0.96R
025	41.8	0.552	0.332	1.661	-0.137	0.723	29.0	8.1	30.2	15.4	70.7	74.3	37.9	83.4	27.0	1.00	0.00	0.04	0.97R
026	41.8	0.556	0.335	1.658	-0.129	0.722	29.0	8.3	30.2	16.0	70.7	74.1	40.0	84.1	28.3	1.00	0.00	0.02	0.98R
027	41.8	0.559	0.337	1.656	-0.122	0.722	28.9	8.6	30.2	16.7	70.7	73.8	42.1	85.0	29.7	1.00	0.00	0.0	0.99R
028	41.8	0.562	0.34	1.653	-0.115	0.721	28.8	8.9	30.2	17.3	70.7	73.6	44.3	85.9	31.0	1.00	0.01	0.00	0.90Y
029	41.8	0.565	0.342	1.651	-0.108	0.721	28.7	9.2	30.1	17.9	70.7	73.4	46.4	86.8	32.3	1.00	0.02	0.00	0.81Y
030	41.8	0.567	0.344	1.648	-0.101	0.721	28.6	9.5	30.1	18.6	70.8	73.2	48.5	87.7	33.6	1.00	0.03	0.00	0.72Y
031	41.8	0.57	0.346	1.645	-0.095	0.72	28.5	9.8	30.1	19.0	70.7	72.9	50.8	88.8	34.8	1.00	0.06	0.00	0.63Y
032	41.8	0.573	0.349	1.642	-0.088	0.72	28.4	10.0	30.1	19.5	70.7	72.7	52.9	89.9	36.0	1.00	0.07	0.00	0.54Y
033	41.8	0.576	0.351	1.64	-0.082	0.719	28.3	10.3	30.1	20.0	70.7	72.4	55.1	91.1	37.2	1.00	0.09	0.00	0.45Y
034	41.8	0.578	0.353	1.637	-0.077	0.719	28.2	10.6	30.1	20.5	70.7	72.2	57.3	92.2	38.4	1.00	0.11	0.00	0.36Y
035	41.8	0.58	0.355	1.635	-0.071	0.718	28.1	10.8	30.1	21.0	70.7	72.0	59.5	93.4	39.6	1.00	0.12	0.00	0.27Y
036	41.8	0.583	0.357	1.632	-0.066	0.718	28.0	11.0	30.0	21.4	70.7	71.7	61.8	94.7	40.7	1.00	0.14	0.00	0.18Y
037	41.9	0.585	0.359	1.63	-0.061	0.717	27.8	11.2	30.0	21.9	70.8	71.5	64.0	96.0	41.8	1.00	0.16	0.00	0.09Y
038	41.9	0.587	0.36	1.627	-0.057	0.717	27.7	11.4	30.0	22.3	70.8	71.3	66.2	97.3	42.8	1.00	0.17	0.00	0.00Y
039	41.9	0.589	0.362	1.625	-0.052	0.716	27.6	11.6	30.0	22.8	70.8	71.0	68.4	98.4	43.8	1.00	0.19	0.00	0.91B
040	41.9	0.591	0.364	1.622	-0.048	0.716	27.5	11.7	30.0	23.1	70.8	70.8	70.5	100.0	44.8	1.00	0.2	0.00	0.82B
041	41.9	0.593	0.366	1.62	-0.044	0.715	27.5	11.9	29.9	23.4	70.8	70.6	72.7	101.4	45.8	1.00	0.22	0.00	0.73B
042	41.9	0.594	0.367	1.617	-0.041	0.714	27.4	12.1	29.9	23.8	70.8	70.4	74.9	102.8	46.7	1.00	0.24	0.00	0.64B
043	41.9	0.596	0.369	1.615	-0.037	0.713	27.3	12.2	29.9	24.1	70.8	70.2	77.0	104.2	47.6	1.00	0.25	0.00	0.55B
044	41.9	0.597	0.37	1.612	-0.034	0.712	27.2	12.4	29.9	24.5	70.8	70.0	79.1	105.6	48.5	1.00	0.27	0.00	0.46B
045	41.9	0.598	0.371	1.611	-0.031	0.712	27.1	12.5	29.8	24.7	70.8	69.8	81.3	107.2	49.3	1.00	0.29	0.00	0.37B
046	41.9	0.6	0.373	1.608	-0.028	0.711	27.0	12.6	29.8	25.0	70.8	69.6	83.4	108.6	50.1	1.00	0.3	0.00	0.28B
047	41.9	0.601	0.374	1.605	-0.026	0.71	26.9	12.7	29.8	25.3	70.8	69.4	85.5	110.1	50.9	1.00	0.32	0.00	0.19B
048	42.0	0.602	0.375	1.603	-0.023	0.709	26.8	12.8	29.7	25.6	70.8	69.1	87.6	111.6	51.6	1.00	0.33	0.00	0.10B
049	42.0	0.605	0.38	1.599	-0.021	0.708	26.7	13.0	29.7	25.9	70.8	68.9	89.7	113.1	52.4	1.00	0.35	0.00	0.01B
050	42.0	0.604	0.377	1.598	-0.019	0.706	26.6	13.0	29.7	26.0	70.9	68.8	91.6	114.6	53.1	1.00	0.37	0.00	0.93Y
051	42.0	0.604	0.378	1.596	-0.017	0.705	26.6	13.1	29.6	26.2	70.9	68.6	93.6	116.1	53.7	1.00	0.38	0.00	0.84Y
052	42.0	0.605	0.379	1.594	-0.015	0.704	26.5	13.2	29.6	26.4	70.9	68.4	95.6	117.5	54.4	1.00	0.4	0.00	0.75Y
053	42.0	0.606	0.38	1.592	-0.014	0.703	26.4	13.2	29.6	26.6	70.9	68.2	97.5	119.0	55.0	1.00	0.42	0.00	0.66Y
054	42.1	0.608	0.381	1.59	-0.012	0.702	26.3	13.3	29.5	26.8	70.9	68.0	99.4	120.4	55.6	1.00	0.43	0.00	0.57Y
055	42.1	0.607	0.382	1.588	-0.011	0.7	26.2	13.4	29.5	27.0	70.9	67.8	101.2	121.9	56.1	1.00	0.45	0.00	0.48Y
056	42.1	0.607	0.382	1.586	-0.01	0.699	26.2	13.4	29.4	27.2	70.9	67.6	103.1	123.3	56.7	1.00	0.46	0.00	0.39Y
057	42.1	0.607	0.383	1.584	-0.008	0.698	26.1	13.5	29.4	27.3	70.9	67.4	104.8	124.7	57.2	1.00	0.48	0.00	0.30Y
058	42.2	0.608	0.385	1.579	-0.007	0.697	26.0	13.6	29.3	27.4	71.0	67.2	106.5	126.1	57.8	1.00	0.5	0.00	0.21Y
059	42.4	0.609	0.387	1.573	-0.003	0.691	25.8	13.8	29.3	28.1	71.1	66.6	115.0	132.2	59.9	1.00	0.51	0.00	0.12Y
060	42.6	0.609	0.388	1.566	-0.002	0.686	25.7	14.0	29.2	28.5	71.1	66.1.							

http://130.149.60.45/~farbmatrik/VE43/VE43LONA.TXT /PS; transfer output

N: no 3D-linearization (OL) in file (F) or PS-startup (S), page 3/5

see similar files: <http://130.149.60.45/~farbmatrik/VE43/VE43LONA.TXT>
technical information: <http://www.ps.bam.de> or <http://130.149.60.45/~farbmatrik>

TUB registration: 20130201-VE43/VE43LONA.TXT /PS
application for measurement of display output, no separation

rgb^*_{cab} and CIE data of a elementary hue circle according to CIE R1-47 for Ostwald colours for CIE illuminant D50
Yxy, abc_{AB} , ABC_{AB} , $LabC^*_{ab}$, h_{ab} data for relative spacing of elementary hue h_{ab} of CIELAB for CIE 2 degree observer

Elementary hue circle with 4 intended elementary hue angles: $h_{ab} = 27.1, 88.5, 164.3, 263.9$ of CIELAB, and 90 intended hues angles:

090, 091, ..., 179, CIELAB data of CIE test colours 9 (R): 41.8 61.9 31.7, 10 (Y): 81.9 1.7 71.5, 11 (G): 51.6 -41.1 11.5, 12 (B): 29.2 -5.2 -49.6									
no-ab _Y	x	y	a	b	CAB	hAB	L*	a*	b*
090	86.1	0.486	0.505	0.962	-0.086	0.323	-6.1	27.8	27.8
091	87.3	0.472	0.508	0.949	-0.087	0.312	-6.1	28.2	28.2
092	88.6	0.458	0.51	0.936	-0.088	0.322	-2.4	28.5	28.6
093	89.9	0.473	0.513	0.923	-0.01	0.322	-3.6	28.7	29.0
094	91.2	0.469	0.515	0.91	-0.011	0.322	-4.8	29.0	29.4
095	92.7	0.465	0.515	0.895	-0.029	0.321	-5.5	29.2	29.8
096	93.7	0.461	0.516	0.884	-0.016	0.322	-6.5	29.3	30.0
097	93.5	0.457	0.518	0.892	-0.018	0.322	-7.6	29.1	30.1
098	93.4	0.455	0.52	0.875	-0.018	0.323	-8.2	29.1	30.2
099	93.2	0.453	0.521	0.868	-0.018	0.325	-8.9	29.0	30.3
100	92.9	0.45	0.523	0.86	-0.019	0.327	-28.5	29.0	30.3
101	92.7	0.447	0.526	0.851	-0.019	0.33	-10.4	28.7	30.5
102	92.3	0.444	0.528	0.841	-0.02	0.333	-11.3	28.5	30.7
103	91.9	0.441	0.53	0.831	-0.02	0.336	-12.2	28.4	30.9
104	91.5	0.437	0.533	0.82	-0.021	0.34	-13.1	28.2	31.1
105	91.0	0.433	0.536	0.808	-0.022	0.345	-14.1	28.0	31.4
106	90.5	0.429	0.539	0.796	-0.022	0.35	-15.1	27.8	31.6
107	89.8	0.425	0.543	0.783	-0.023	0.356	-16.2	27.5	32.0
108	89.2	0.42	0.546	0.769	-0.024	0.362	-17.3	27.3	32.3
109	88.5	0.415	0.55	0.755	-0.024	0.37	-18.5	27.0	32.7
110	87.8	0.41	0.553	0.741	-0.025	0.377	-19.7	26.8	33.0
111	87.2	0.407	0.556	0.721	-0.025	0.383	-20.2	26.5	33.4
112	86.6	0.403	0.559	0.701	-0.026	0.389	-21.0	26.2	33.7
113	86.0	0.399	0.562	0.71	-0.026	0.395	-21.8	26.0	34.0
114	85.3	0.396	0.565	0.7	-0.027	0.402	-22.5	25.8	34.3
115	84.7	0.392	0.568	0.689	-0.027	0.408	-23.2	25.6	34.6
116	84.1	0.388	0.571	0.678	-0.027	0.415	-24.0	25.4	34.9
117	83.4	0.384	0.575	0.667	-0.028	0.422	-24.7	25.1	35.2
118	82.8	0.38	0.578	0.657	-0.028	0.43	-25.4	24.9	35.5
119	82.1	0.375	0.581	0.646	-0.029	0.437	-26.1	24.6	35.9
120	81.5	0.371	0.584	0.635	-0.029	0.445	-26.7	24.4	36.2
121	80.8	0.367	0.587	0.625	-0.03	0.452	-27.4	24.2	36.5
122	80.2	0.363	0.591	0.614	-0.031	0.46	-28.0	23.9	36.9
123	79.5	0.358	0.594	0.603	-0.031	0.467	-28.6	23.7	37.2
124	78.9	0.357	0.597	0.592	-0.032	0.474	-29.2	23.4	37.6
125	78.2	0.35	0.6	0.583	-0.032	0.483	-29.8	23.2	37.8
126	77.6	0.345	0.603	0.573	-0.033	0.49	-30.3	23.0	38.0
127	77.0	0.341	0.606	0.563	-0.034	0.498	-30.8	22.7	38.3
128	76.3	0.337	0.609	0.553	-0.034	0.506	-31.3	22.5	38.6
129	75.7	0.333	0.612	0.543	-0.035	0.513	-31.8	22.2	38.9
130	75.1	0.328	0.615	0.534	-0.036	0.52	-32.3	22.0	39.1
131	74.5	0.324	0.618	0.525	-0.037	0.527	-32.7	21.8	39.3
132	74.0	0.32	0.62	0.516	-0.037	0.534	-33.1	21.6	39.5
133	73.4	0.316	0.623	0.507	-0.038	0.541	-33.5	21.4	39.7
134	72.9	0.312	0.625	0.498	-0.039	0.548	-33.9	21.2	39.9
135	72.3	0.308	0.628	0.49	-0.04	0.555	-34.2	21.0	40.1
136	71.7	0.303	0.63	0.48	-0.042	0.562	-34.6	20.8	40.3
137	71.1	0.297	0.631	0.471	-0.044	0.569	-35.0	20.6	40.4
138	70.5	0.292	0.632	0.463	-0.047	0.575	-35.3	20.4	40.6
139	69.9	0.287	0.632	0.455	-0.049	0.582	-35.6	20.2	40.8
140	69.3	0.283	0.632	0.448	-0.053	0.585	-35.9	20.0	41.0
141	68.7	0.279	0.631	0.442	-0.056	0.589	-36.1	19.8	41.2
142	68.1	0.275	0.631	0.436	-0.059	0.593	-36.2	19.6	41.4
143	68.4	0.271	0.629	0.431	-0.062	0.596	-36.4	19.3	41.7
144	68.1	0.268	0.628	0.427	-0.065	0.598	-36.5	19.1	41.9
145	67.7	0.265	0.627	0.422	-0.068	0.601	-36.6	18.9	42.1
146	67.4	0.262	0.625	0.419	-0.071	0.603	-36.7	18.7	42.3
147	67.2	0.259	0.624	0.415	-0.074	0.606	-36.8	18.5	42.5
148	66.9	0.257	0.622	0.411	-0.077	0.608	-36.9	18.3	42.7
149	66.5	0.249	0.625	0.398	-0.08	0.618	-37.1	18.3	42.7
150	64.2	0.242	0.629	0.386	-0.081	0.629	-37.1	15.9	40.4
151	63.1	0.238	0.632	0.376	-0.081	0.637	-37.1	15.6	40.2
152	63.1	0.238	0.632	0.376	-0.081	0.637	-37.1	15.6	40.2
153	63.1	0.238	0.632	0.376	-0.081	0.637	-37.1	15.6	40.2
154	63.1	0.238	0.632	0.376	-0.081	0.637	-37.1	15.6	40.2
155	63.1	0.238	0.632	0.376	-0.081	0.637	-37.1	15.6	40.2
156	63.1	0.238	0.632	0.376	-0.081	0.637	-37.1	15.6	40.2
157	63.1	0.238	0.632	0.376	-0.081	0.637	-37.1	15.6	40.2
158	62.7	0.234	0.635	0.365	-0.12	0.642	-36.9	13.1	39.2
159	60.4	0.212	0.596	0.355	-0.127	0.641	-36.8	12.2	38.7
160	60.2	0.209	0.59	0.355	-0.135	0.639	-36.6	11.7	38.5
161	60.0	0.207	0.583	0.355	-0.142	0.637	-36.5	11.2	38.2
162	59.9	0.205	0.577	0.355	-0.15	0.633	-36.4	10.9	38.0
163	59.7	0.203	0.571	0.355	-0.157	0.632	-36.2	10.6	37.7
164	59.6	0.201	0.564	0.356	-0.165	0.629	-36.2	9.9	37.5
165	59.4	0.199	0.557	0.358	-0.174	0.625	-36.0	9.2	37.2
166	59.3	0.197	0.548	0.36	-0.184	0.62	-35.8	8.6	36.8
167	59.2	0.196	0.54	0.363	-0.194	0.616	-35.6	8.0	36.5
168	59.1	0.194	0.534	0.365	-0.202	0.611	-35.5	7.4	36.2
169	59.1	0.194	0.527	0.367	-0.21	0.608	-35.2	7.0	35.9
170	59.0	0.192	0.52	0.37	-0.219	0.604	-35.0	6.5	35.6
171	59.0	0.191	0.513	0.373	-0.229	0.599	-34.8	5.9	35.3
172	58.9	0.189	0.505	0.375	-0.239	0.594	-34.6	5.4	35.0
173	58.8	0.188	0.498	0.379	-0.25	0.59	-34.4	4.6	34.6
174	58.8	0.188	0.49	0.383	-0.261	0.585	-34.1	4.0	34.4
175	58.7	0.186	0.482	0.387	-0.273	0.579	-33.9	3.2	34.0
176	58.7	0.185	0.474	0.391	-0.286	0.574	-33.6	2.5	33.7
177	58.6	0.184	0.465	0.395	-0.297	0.568	-33.3	1.9	33.4
178	58.6	0.184	0.461	0.399	-0.306	0.565	-33.1	1.3	33.1
179	58.5	0.183	0.455	0.403	-0.316	0.561	-32.8	0.7	32.8

CIEXYZ data of CIE test colours 9 (R): 23.3 12.4 3.2, 10 (Y): 58.8 60.2 9.5, 11 (G): 12.0 18.9 11.9, 12 (B): 5.2 5.9 21.2

rgb^*_{cab} and CIE data of a elementary hue circle according to CIE R1-47 for Ostwald colours for CIE illuminant D50
Yxy, abc_{AB} , ABC_{AB} , $LabC^*_{ab}$, h_{ab} data for relative spacing of elementary hue h_{ab} of CIELAB for CIE 10 degree observer

Elementary hue circle with 4 intended elementary hue angles: $h_{ab} = 27.8, 84.4, 160.7, 247.9$ of CIELAB, and 90 intended hues angles:

090, 091, ..., 179, CIELAB data of CIE test colours 9 (R): 41.2 57.0 30.1, 10 (Y): 80.5 6.9 71.5, 11 (G): 51.8 -38.5 13.4, 12 (B): 32.0 -7.6 -43.6

no	a ₁₀	b ₁₀	CAB ₁₀	A ₁₀	B ₁₀	CAB ₁₀	hAB ₁₀	L* ₁₀	a* ₁₀	b* ₁₀
0	0.504	0.963	-0.088	0.317	-9.3	27.5	27.5	96.7	94.5	-0.6
1	0.505	0.953	-0.089	0.316	-1.2	27.7	92.1	94.9	-2.3	132.8
2	0.508	0.94	-0.011	0.315	-2.4	27.9	28.0	94.9	95.4	-4.5
3	0.509	0.927	-0.013	0.314	-3.5	28.0	28.2	95.1	95.6	-6.8
4	0.51	0.916	-0.016	0.313	-4.5	28.1	28.5	95.9	96.4	-9.1
5	0.505	0.929	-0.019	0.308	-3.5	28.5	28.8	97.0	97.4	-6.4
6	0.511	0.898	-0.022	0.31	-6.1	27.9	28.6	102.8	97.0	-11.8
7	0.513	0.889	-0.023	0.312	-7.1	27.8	28.6	104.3	96.8	-13.3
8	0.515	0.88	-0.023	0.314	-7.8	27.6	28.7	105.9	96.8	-14.8
9	0.517	0.871	-0.024	0.316	-8.6	27.4	28.7	107.5	96.3	-16.4
10	0.519	0.862	-0.024	0.319	-9.4	27.2	28.8	109.1	96.1	-18.1
11	0.522	0.852	-0.024	0.321	-10.2	27.0	28.9	110.8	95.9	-19.8
12	0.524	0.843	-0.025	0.325	-11.0	26.8	29.0	112.4	95.7	-21.5
13	0.527	0.833	-0.025	0.328	-11.8	26.6	29.1	114.0	95.5	-23.2
14	0.529	0.823	-0.026	0.332	-12.7	26.4	29.3	115.6	95.2	-25.0
15	0.532	0.812	-0.026	0.336	-13.5	26.2	29.4	117.2	94.9	-26.9
16	0.534	0.802	-0.026	0.341	-14.3	25.9	29.6	118.8	94.7	-28.7
17	0.537	0.792	-0.027	0.346	-15.1	25.7	29.8	120.4	94.4	-30.6
18	0.54	0.781	-0.027	0.351	-15.9	25.5	30.0	122.0	94.1	-32.5
19	0.542	0.771	-0.028	0.356	-16.7	25.3	30.3	123.4	93.9	-34.4
20	0.545	0.76	-0.028	0.361	-17.4	25.0	30.5	124.8	93.6	-36.4
21	0.548	0.749	-0.029	0.367	-18.2	24.8	30.8	126.2	93.4	-38.3
22	0.551	0.738	-0.029	0.373	-19.0	24.6	31.1	127.6	93.1	-40.2
23	0.554	0.728	-0.03	0.379	-19.8	24.4	31.4	129.0	92.8	-42.1
24	0.557	0.717	-0.03	0.386	-20.4	24.1	31.6	130.2	92.5	-44.3
25	0.56	0.706	-0.031	0.393	-21.1	23.9	31.9	131.4	92.2	-46.3
26	0.563	0.696	-0.031	0.399	-21.8	23.7	32.2	132.6	92.0	-48.3
27	0.565	0.685	-0.033	0.406	-22.5	23.4	32.5	133.8	91.7	-50.3
28	0.568	0.675	-0.033	0.413	-23.2	23.2	32.8	135.0	91.4	-52.3
29	0.571	0.664	-0.033	0.42	-23.8	23.0	33.1	136.0	91.1	-54.3
30	0.574	0.654	-0.034	0.427	-24.4	22.7	33.3	137.0	90.8	-56.2
31	0.577	0.644	-0.034	0.434	-25.0	22.5	33.3	138.0	90.6	-58.2
32	0.58	0.633	-0.035	0.441	-25.6	22.3	33.3	139.0	90.4	-60.2
33	0.583	0.623	-0.036	0.448	-26.2	22.1	34.3	139.8	90.0	-62.1
34	0.586	0.614	-0.036	0.456	-26.7	21.9	34.5	140.7	89.7	-64.0
35	0.589	0.604	-0.037	0.463	-27.2	21.6	34.8	141.5	89.4	-65.9
36	0.591	0.594	-0.037	0.47	-27.7	21.4	35.1	142.3	89.2	-67.8
37	0.594	0.584	-0.038	0.477	-28.2	21.2	35.4	143.1	88.9	-69.7
38	0.597	0.576	-0.039	0.484	-28.7	21.0	35.6	143.7	88.6	-71.5
39	0.599	0.567	-0.04	0.491	-29.1	20.8	35.8	144.4	88.4	-73.3
40	0.603	0.554	-0.041	0.501	-29.7	20.4	36.1	145.4	88.0	-75.9
41	0.606	0.541	-0.042	0.51	-30.3	20.2	36.4	146.3	87.7	-78.4
42	0.609	0.529	-0.043	0.52	-30.9	20.0	36.7	147.2	87.2	-80.9
43	0.611	0.519	-0.045	0.527	-31.2	19.8	36.8	147.9	86.8	-82.9
44	0.614	0.509	-0.047	0.535	-31.5	19.7	36.9	148.6	86.5	-84.9
45	0.615	0.501	-0.048	0.542	-31.9	19.5	37.0	149.3	86.2	-86.9
46	0.617	0.492	-0.049	0.549	-32.1	19.4	37.1	150.0	85.9	-88.9
47	0.618	0.485	-0.052	0.554	-32.6	19.2	37.5	150.6	85.6	-90.9
48	0.62	0.478	-0.053	0.559	-32.6	18.8	37.3	150.9	85.3	-91.4
49	0.62	0.471	-0.055	0.564	-32.8	18.7	37.3	151.4	85.1	-92.7
50	0.621	0.465	-0.057	0.568	-32.9	17.6	37.4	151.8	84.8	-94.0
51	0.622	0.458	-0.058	0.573	-33.0	17.4	37.4	152.2	84.6	-95.3
52	0.622	0.455	-0.06	0.578	-33.2	17.2	37.5	153.0	84.4	-96.1
53	0.622	0.45	-0.062	0.579	-33.3	16.9	37.4	153.0	84.2	-97.1
54	0.622	0.45	-0.062	0.579	-33.3	16.9	37.4	153.0	84.2	-97.1
55	0.622	0.45	-0.062	0.579	-33.3	16.9	37.4	153.0	84.2	-97.1
56	0.622	0.45	-0.062	0.579	-33.3	16.9	37.4	153.0	84.2	-97.1
57	0.622	0.45	-0.062	0.579	-33.3	16.9	37.4	153.0	84.2	-97.1
58	0.622	0.45	-0.062	0.579	-33.3	16.9	37.4	153.0	84.2	-97.1
59	0.622	0.45	-0.062	0.579	-33.3	16.9	37.4	153.0	84.2	-97.1
60	0.622	0.45	-0.062	0.579	-33.3	16.9	37.4	153.0	84.2	-97.1
61	0.612	0.398	-0.093	0.614	-34.3	14.0	37.1	157.8	82.0	-108.1
62	0.609	0.394	-0.098	0.616	-34.3	13.6	36.9	158.4	81.8	-109.0
63	0.605	0.39	-0.104	0.618	-34.4	13.2	36.8	158.9	81.6	-109.8
64	0.602	0.387	-0.109	0.619	-34.4	12.8	36.7	159.5	81.4	-110.5
65	0.599	0.384	-0.115	0.621	-34.4	12.4	36.6	160.1	81.2	-111.2
66	0.593	0.382	-0.12	0.62	-34.3	12.0	36.4	160.7	81.1	-111.5
67	0.589	0.38	-0.126	0.619	-34.3	11.6	36.2	161.2	81.0	-111.8
68	0.585	0.378	-0.132	0.62	-34.3	11.2	36.1	161.8	80.8	-112.2
69	0.582	0.376	-0.136	0.62	-34.3	10.8	35.9	162.3	80.7	-112.5
70	0.575	0.375	-0.145	0.618	-34.2	10.4	35.7	162.9	80.6	-112.7
71	0.569	0.374	-0.152	0.617	-34.1	9.9	35.5	163.7	80.5	-112.7
72	0.562	0.375	-0.161	0.614	-34.0	9.4	35.3	164.4	80.4	-112.5
73	0.554	0.375	-0.17	0.611	-33.9	8.9	35.0	165.2	80.4	-112.2
74	0.549	0.376	-0.177	0.61	-33.8	8.4	34.8	166.0	80.3	-111.9
75	0.543	0.377	-0.184	0.608	-33.7	8.0	34.6	166.5	80.1	-111.6
76	0.537	0.379	-0.192	0.602	-33.6	7.6	34.4	167.2	80.2	-111.2
77	0.53	0.38	-0.201	0.599	-33.3	7.1	34.2	168.0	80.2	-110.7
78	0.524	0.382	-0.21	0.595	-33.5	6.5	33.9	168.8	80.1	-110.2
79	0.518	0.384	-0.219	0.591	-33.4	5.9	33.7	169.6	80.1	-109.7
80	0.509	0.387	-0.229	0.588	-32.9	5.4	33.4	170.6	80.1	-109.8
81	0.502	0.389	-0.24	0.583	-32.8	4.8	33.1	171.5	80.0	-108.2
82	0.494	0.392	-0.251	0.579	-32.6	4.2	32.8	172.6	80.0	-107.4
83	0.486	0.395	-0.263	0.574	-32.3	3.5	32.5	173.7	80.0	-106.5
84	0.478	0.398	-0.274	0.569	-32.2	3.2	32.2	174.7	80.0	-105.6
85	0.474	0.402	-0.282	0.566	-31.9	2.4	32.0	175.6	79.9	-104.8
86	0.468	0.405	-0.291	0.562	-31.8	1.9	31.8	176.5	79.9	-104.0
87	0.462	0.408	-0.301	0.558	-31.5	1.3	31.6	177.5	79.9	-103.1

According to CIE R1-47 for *Ostwald* colours for CIE illuminant D50 $rgb^*_{e,ab}$ and CIE data of a elementary hue circle according to CIE R1-47 for Ostwald colours for CIE illuminant D50

$Y_{xy}, abc_{AB}, ABC_{AB}, LabC^*_{ab}h_{ab}$ data for relative spacing of elementary hue h_{ab} of CIELAB for CIE 2 degree observer

Elementary hue circle with 4 intended elementary hue angles: $h_{ab} = 27.1, 88.5, 164.3, 263.9$ of *CIELAB*, and 90 intended hue angles:

270, 271, ..., 360, CIELAB data of CIE test colours 9 (R): 41.8 61.9 31.7, 10 (Y): 81.9 1.7 71.5, 11 (G): 51.6 -41.1 11.5, 12 (B): 29.2 -5.2 -49.3

no.	y	x	y	a _{AB}	A	C _{AB}	a _{AB}	L*	a*	b*	C* _{ab}	h _{ab}	rgb ^a _{ab}	Code _{ab}						
270	13.9	0.124	0.128	0.964	-2.321	1.991	0.0	-27.8	27.8	270.0	44.2	0.0	-95.1	95.1	270.0	0.99	0.00	1.00	1.00	%B04R
271	13.9	0.124	0.124	0.982	-3.365	3.373	0.0	-27.9	27.9	270.0	45.8	0.0	-95.7	95.7	270.0	0.99	0.00	1.00	1.00	%B04R
272	13.4	0.124	0.124	1.00	-2.41	2.081	0.4	-28.0	28.0	271.0	43.4	3.1	-96.3	96.4	271.9	0.13	0.00	1.00	1.00	%B04R
273	13.1	0.124	0.122	1.021	-2.459	2.13	0.7	-28.0	28.0	271.5	43.0	4.9	-97.0	97.1	272.8	0.14	0.00	1.00	1.00	%B07R
274	12.8	0.125	0.12	1.043	-2.512	2.183	1.0	-28.1	28.1	272.0	42.6	6.7	-97.7	97.7	273.9	0.16	0.00	1.00	1.00	%B08R
275	12.5	0.125	0.117	1.067	-2.599	2.242	1.3	-28.2	28.2	272.6	42.1	8.6	-98.4	98.8	275.0	0.17	0.00	1.00	1.00	%B08R
276	12.2	0.126	0.115	1.093	-2.683	2.306	1.6	-28.2	28.2	273.2	41.7	10.5	-99.0	99.2	276.1	0.19	0.00	1.00	1.00	%B09R
277	11.9	0.126	0.112	1.121	-2.698	2.373	1.8	-28.3	28.4	273.7	41.1	12.7	-100.0	100.0	277.2	0.21	0.00	1.00	1.00	%B10R
278	11.6	0.126	0.11	1.15	-2.767	2.444	2.1	-28.4	28.5	274.3	40.6	14.8	-100.0	100.0	278.3	0.22	0.00	1.00	1.00	%B11R
279	11.3	0.127	0.107	1.181	-2.84	2.52	2.4	-28.4	28.6	274.9	40.1	16.9	-101.6	103.0	279.4	0.24	0.00	1.00	1.00	%B12R
280	11.0	0.127	0.105	1.204	-2.913	2.589	2.7	-28.5	28.6	275.5	39.6	19.1	-102.4	104.2	280.5	0.26	0.00	1.00	1.00	%B13R
281	10.7	0.128	0.102	1.228	-2.982	2.663	3.0	-28.6	28.7	276.1	39.1	21.3	-103.0	105.0	281.6	0.28	0.00	1.00	1.00	%B13R
282	10.4	0.128	0.1	1.284	-3.098	2.777	3.3	-28.6	28.8	276.6	38.5	23.5	-104.1	106.7	282.7	0.29	0.00	1.00	1.00	%B14R
283	10.1	0.128	0.097	1.321	-3.169	2.861	3.6	-28.7	28.9	277.1	38.0	25.7	-104.9	108.0	283.8	0.3	0.00	1.00	1.00	%B15R
284	9.8	0.129	0.095	1.359	-3.259	2.955	3.8	-28.8	29.0	277.6	37.5	28.0	-105.7	109.4	284.8	0.32	0.00	1.00	1.00	%B16R
285	9.5	0.129	0.092	1.399	-3.352	3.053	4.1	-28.8	29.1	278.1	36.9	30.2	-106.5	108.7	285.8	0.34	0.00	1.00	1.00	%B17R
286	9.2	0.13	0.089	1.433	-3.445	3.154	4.4	-28.9	29.1	278.6	36.5	32.4	-107.1	109.0	286.9	0.36	0.00	1.00	1.00	%B17R
287	9.0	0.13	0.088	1.482	-3.545	3.257	4.6	-28.9	29.3	279.1	36.0	34.8	-108.1	113.5	287.7	0.37	0.00	1.00	1.00	%B18R
288	8.7	0.131	0.085	1.525	-3.645	3.363	4.9	-29.0	29.4	279.6	35.5	36.6	-108.9	114.9	288.6	0.39	0.00	1.00	1.00	%B19R
289	8.5	0.131	0.083	1.569	-3.747	3.47	5.1	-29.0	29.5	279.9	35.0	38.7	-109.7	116.3	289.4	0.4	0.00	1.00	1.00	%B20R
290	8.2	0.131	0.081	1.613	-3.849	3.579	5.3	-29.1	29.6	280.4	34.5	40.9	-110.7	117.8	290.3	0.41	0.00	1.00	1.00	%B21R
291	8.0	0.132	0.079	1.657	-3.952	3.688	5.5	-29.1	29.6	280.8	34.0	42.7	-111.2	119.1	291.0	0.43	0.00	1.00	1.00	%B21R
292	7.4	0.13	0.074	1.738	-4.241	3.987	5.7	-29.2	29.8	281.1	32.8	45.5	-113.1	122.0	292.0	0.45	0.00	1.00	1.00	%B22R
293	6.9	0.128	0.07	1.817	-4.529	4.285	5.9	-29.3	29.9	281.4	31.7	48.4	-114.8	124.6	292.8	0.47	0.00	1.00	1.00	%B23R
294	6.6	0.127	0.067	1.892	-4.77	4.536	6.1	-29.3	30.0	281.8	30.9	50.6	-116.1	126.8	293.6	0.48	0.00	1.00	1.00	%B24R
295	6.3	0.128	0.065	1.967	-4.989	4.789	6.3	-29.4	30.1	282.2	30.2	52.9	-117.4	129.1	294.4	0.5	0.00	1.00	1.00	%B25R
296	6.3	0.131	0.064	2.038	-4.982	4.775	6.7	-29.3	30.1	283.0	30.1	56.4	-117.1	130.0	295.7	0.52	0.00	1.00	1.00	%B26R
297	6.3	0.136	0.064	2.104	-4.912	4.721	7.2	-29.2	30.1	283.9	30.3	59.3	-116.6	130.9	296.9	0.53	0.00	1.00	1.00	%B26R
298	6.5	0.141	0.065	2.143	-4.813	4.635	7.6	-29.1	30.1	284.1	30.6	61.3	-116.0	131.3	297.8	0.55	0.00	1.00	1.00	%B27R
299	6.6	0.146	0.066	2.181	-4.793	4.539	8.0	-29.0	30.1	285.5	31.0	63.3	-115.4	131.6	298.7	0.56	0.00	1.00	1.00	%B28R
300	6.7	0.151	0.067	2.219	-4.751	4.443	8.4	-29.0	30.1	286.8	31.4	65.3	-114.7	132.0	299.6	0.57	0.00	1.00	1.00	%B29R
301	7.0	0.156	0.069	2.256	-4.457	4.324	9.0	-28.9	30.3	287.3	31.8	67.5	-113.9	132.4	300.6	0.6	0.00	1.00	1.00	%B30R
302	7.2	0.162	0.07	2.293	-4.323	4.208	9.5	-28.8	30.3	288.4	32.2	69.6	-113.0	132.7	301.6	0.61	0.00	1.00	1.00	%B30R
303	7.4	0.168	0.072	2.328	-4.184	4.088	10.1	-28.7	30.4	289.4	32.8	71.8	-112.0	133.1	302.6	0.63	0.00	1.00	1.00	%B31R
304	7.7	0.175	0.074	2.361	-4.037	3.966	10.7	-28.5	30.5	289.6	33.0	74.0	-111.4	133.4	303.6	0.65	0.00	1.00	1.00	%B32R
305	8.0	0.181	0.076	2.392	-3.896	3.842	11.4	-28.4	30.5	289.9	33.3	76.1	-109.9	133.7	304.6	0.67	0.00	1.00	1.00	%B33R
306	8.2	0.189	0.078	2.422	-3.75	3.718	12.0	-28.3	30.8	290.3	34.5	78.3	-108.8	134.1	305.7	0.68	0.00	1.00	1.00	%B34R
307	8.6	0.196	0.08	2.449	-3.694	3.595	12.7	-28.1	30.9	294.4	35.2	80.9	-107.6	134.0	306.7	0.69	0.00	1.00	1.00	%B34R
308	8.9	0.204	0.082	2.474	-3.458	3.473	13.3	-28.0	31.1	295.7	35.9	82.6	-106.6	134.6	307.8	0.71	0.00	1.00	1.00	%B35R
309	9.3	0.211	0.084	2.497	-3.313	3.355	14.3	-27.8	31.3	297.1	36.6	84.7	-105.3	134.9	308.8	0.73	0.00	1.00	1.00	%B36R
310	9.7	0.218	0.087	2.517	-3.168	3.238	15.1	-27.7	31.5	298.4	37.1	86.9	-104.1	135.1	309.8	0.75	0.00	1.00	1.00	%B37R
311	10.1	0.227	0.089	2.534	-3.032	3.125	16.0	-27.5	31.8	300.1	38.1	88.7	-102.2	135.4	310.9	0.76	0.00	1.00	1.00	%B38R
312	10.6	0.236	0.092	2.548	-2.896	3.016	16.8	-27.3	32.1	301.6	38.9	90.6	-100.7	135.5	311.9	0.78	0.00	1.00	1.00	%B39R
313	11.1	0.244	0.095	2.559	-2.764	2.91	17.7	-27.1	32.4	303.2	39.5	92.5	-99.2	135.7	312.9	0.79	0.00	1.00	1.00	%B39R
314	11.6	0.252	0.098	2.569	-2.632	2.809	19.0	-26.9	32.7	304.7	40.2	94.5	-98.0	135.9	313.9	0.8	0.00	1.00	1.00	%B40R
315	12.3	0.261	0.102	2.562	-2.489	2.686	19.7	-26.6	33.2	306.5	41.7	95.9	-95.7	135.5	315.0	0.82	0.00	1.00	1.00	%B41R
316	13.2	0.271	0.107	2.54	-2.32	2.539	20.8	-26.2	33.6	308.3	43.1	97.1	-93.3	134.7	316.1	0.84	0.00	1.00	1.00	%B42R
317	14.1	0.281	0.112	2.516	-2.163	2.402	22.0	-26.0	34.0	310.2	44.5	98.2	-90.9	133.8	317.2	0.86	0.00	1.00	1.00	%B43R
318	15.2	0.291	0.117	2.489	-2.018	2.275	23.1	-25.6	34.5	312.0	45.9	99.2	-88.4	132.9	318.2	0.87	0.00	1.00	1.00	%B43R
319	16.3	0.301	0.122	2.458	-1.879	2.152	24.4	-25.3	34.9	313.9	47.3	99.9	-85.9	132.0	319.2	0.89	0.00	1.00	1.00	%B44R
320	17.3	0.31	0.127	2.432	-1.761	2.05	25.5	-24.8	35.6	315.7	48.7	100.8	-83.4	130.8	320.3	0.9	0.00	1.00	1.00	%B45R
321	18.5	0.319	0.132	2.403	-1.649	1.952	26.6	-24.4	36.1	317.4	50.1	101.4	-80.9	129.9	321.4	0.92	0.00	1.00	1.00	%B46R
322	19.7	0.327	0.138	2.373	-1.546	1.862	27.6	-24.0	36.7	319.2	51.5	101.9	-78.4	128.6	322.4	0.94	0.00	1.00	1.00	%B47R
323	20.9	0.335	0.143	2.344	-1.453	1.779	28.9	-23.5	37.2	320.8	52.9	102.3	-75.9	127.2	323.4	0.95	0.00	1.00	1.00	%B47R
324	22.3	0.343	0.148	2.313	-1.367	1.696	30.2	-23.1	37.7	322.5	54.2	102.7	-73.4	126.0	324.4	0.97	0.00	1.00	1.00	%B48R
325	23.5	0.35	0.153	2.288	-1.292	1.636	31.0	-22.5	38.4	323.9	55.5	102.9	-71.1	125.1	325.3	1.00	0.00	1.00	1.00	%B49R
326	24.7	0.357	0.158	2.261	-1.223	1.574	32.0	-22.1	38.9	325.8	56.8	103.1	-68.7	123.9	326.3	1.00	0.00	0.99	1.00	%B50R
327	25.9	0.364	0.162	2.235	-1.161	1.519	33.0	-21.6	39.4	326.4	58.0	103.2	-66.5	122.8	327.2	1.00	0.00	0.97	1.00	%B51R
328	27.2	0.37	0.167	2.211	-1.105	1.468	33.9	-21.1	39.9	328.1	59.1	103.2	-64.3	121.6	328.0	1.00	0.00	0.96	1.00	%B51R
329	28.7	0.378	0.17	2.187	-1.052	1.417	34.8	-20.6	40.1	329.6	60.2	103.2	-62.1	120.4	328.9	1.00	0.00	0.94	1.00	%B52R
330	30.4	0.387	0.179	2.153	-0.964	1.347	36.1	-19.2	40.1	331.9	62.0	103.2	-57.7	118.3	329.7	1.00	0.00	0.92	1.00	%B53R
331	32.5	0.393	0.184	2.129	-0.913	1.303	36.7	-18.4	41.1	333.3	62									

CIEXYZ data of CIE test colours 9 (R): 23.3 12.4 3.2, 10 (Y): 58.8 60.2 9.5, 11 (G): 12.0 19.8 11.9, 12 (B): 5.2 5.9 21.2

and CIE data of a elementary hue circle according to CIE R1-47 for *Ostwald* colours for CIE illuminant D50 $bc_{AB}, ABC_{AB}, LabC^*_{ab}h_{ab}$ data for relative spacing of elementary hue h_{ab} of CIELAB for CIE 10 degree observer

primary hue circle with 4 intended elementary hue angles: $h_{ab} = 27.8, 84.4, 160.7, 247.9$ of *CIELAB*, and 90 intended hue angles:

71, ..., 360, CIELAB data of CIE test colours 9 (R): 41.2 57.0 30.1, 10 (Y): 80.5 6.9 71.5, 11 (G): 51.8 -38.5 13.4, 12 (B): 32.0 -17.6 -43.6

	A0	B0	C0	A10	B10	C10	A20	B20	C20	A30	B30	C30	A40	B40	C40	A50	B50	C50	A60	B60	C60	A70	B70	C70	A80	B80	C80	A90	B90	C90	A100	B100	C100	A110	B110	C110	A120	B120	C120	A130	B130	C130	A140	B140	C140	A150	B150	C150	A160	B160	C160	A170	B170	C170	A180	B180	C180	A190	B190	C190	A200	B200	C200	A210	B210	C210	A220	B220	C220	A230	B230	C230	A240	B240	C240	A250	B250	C250	A260	B260	C260	A270	B270	C270	A280	B280	C280	A290	B290	C290	A300	B300	C300	A310	B310	C310	A320	B320	C320	A330	B330	C330	A340	B340	C340	A350	B350	C350	A360	B360	C360	A370	B370	C370	A380	B380	C380	A390	B390	C390	A400	B400	C400	A410	B410	C410	A420	B420	C420	A430	B430	C430	A440	B440	C440	A450	B450	C450	A460	B460	C460	A470	B470	C470	A480	B480	C480	A490	B490	C490	A500	B500	C500	A510	B510	C510	A520	B520	C520	A530	B530	C530	A540	B540	C540	A550	B550	C550	A560	B560	C560	A570	B570	C570	A580	B580	C580	A590	B590	C590	A600	B600	C600	A610	B610	C610	A620	B620	C620	A630	B630	C630	A640	B640	C640	A650	B650	C650	A660	B660	C660	A670	B670	C670	A680	B680	C680	A690	B690	C690	A700	B700	C700	A710	B710	C710	A720	B720	C720	A730	B730	C730	A740	B740	C740	A750	B750	C750	A760	B760	C760	A770	B770	C770	A780	B780	C780	A790	B790	C790	A800	B800	C800	A810	B810	C810	A820	B820	C820	A830	B830	C830	A840	B840	C840	A850	B850	C850	A860	B860	C860	A870	B870	C870	A880	B880	C880	A890	B890	C890	A900	B900	C900	A910	B910	C910	A920	B920	C920	A930	B930	C930	A940	B940	C940	A950	B950	C950	A960	B960	C960	A970	B970	C970	A980	B980	C980	A990	B990	C990	A1000	B1000	C1000	A1010	B1010	C1010	A1020	B1020	C1020	A1030	B1030	C1030	A1040	B1040	C1040	A1050	B1050	C1050	A1060	B1060	C1060	A1070	B1070	C1070	A1080	B1080	C1080	A1090	B1090	C1090	A1100	B1100	C1100	A1110	B1110	C1110	A1120	B1120	C1120	A1130	B1130	C1130	A1140	B1140	C1140	A1150	B1150	C1150	A1160	B1160	C1160	A1170	B1170	C1170	A1180	B1180	C1180	A1190	B1190	C1190	A1200	B1200	C1200	A1210	B1210	C1210	A1220	B1220	C1220	A1230	B1230	C1230	A1240	B1240	C1240	A1250	B1250	C1250	A1260	B1260	C1260	A1270	B1270	C1270	A1280	B1280	C1280	A1290	B1290	C1290	A1300	B1300	C1300	A1310	B1310	C1310	A1320	B1320	C1320	A1330	B1330	C1330	A1340	B1340	C1340	A1350	B1350	C1350	A1360	B1360	C1360	A1370	B1370	C1370	A1380	B1380	C1380	A1390	B1390	C1390	A1400	B1400	C1400	A1410	B1410	C1410	A1420	B1420	C1420	A1430	B1430	C1430	A1440	B1440	C1440	A1450	B1450	C1450	A1460	B1460	C1460	A1470	B1470	C1470	A1480	B1480	C1480	A1490	B1490	C1490	A1500	B1500	C1500	A1510	B1510	C1510	A1520	B1520	C1520	A1530	B1530	C1530	A1540	B1540	C1540	A1550	B1550	C1550	A1560	B1560	C1560	A1570	B1570	C1570	A1580	B1580	C1580	A1590	B1590	C1590	A1600	B1600	C1600	A1610	B1610	C1610	A1620	B1620	C1620	A1630	B1630	C1630	A1640	B1640	C1640	A1650	B1650	C1650	A1660	B1660	C1660	A1670	B1670	C1670	A1680	B1680	C1680	A1690	B1690	C1690	A1700	B1700	C1700	A1710	B1710	C1710	A1720	B1720	C1720	A1730	B1730	C1730	A1740	B1740	C1740	A1750	B1750	C1750	A1760	B1760	C1760	A1770	B1770	C1770	A1780	B1780	C1780	A1790	B1790	C1790	A1800	B1800	C1800	A1810	B1810	C1810	A1820	B1820	C1820	A1830	B1830	C1830	A1840	B1840	C1840	A1850	B1850	C1850	A1860	B1860	C1860	A1870	B1870	C1870	A1880	B1880	C1880	A1890	B1890	C1890	A1900	B1900	C1900	A1910	B1910	C1910	A1920	B1920	C1920	A1930	B1930	C1930	A1940	B1940	C1940	A1950	B1950	C1950	A1960	B1960	C1960	A1970	B1970	C1970	A1980	B1980	C1980	A1990	B1990	C1990	A2000	B2000	C2000	A2010	B2010	C2010	A2020	B2020	C2020	A2030	B2030	C2030	A2040	B2040	C2040	A2050	B2050	C2050	A2060	B2060	C2060	A2070	B2070	C2070	A2080	B2080	C2080	A2090	B2090	C2090	A2100	B2100	C2100	A2110	B2110	C2110	A2120	B2120	C2120	A2130	B2130	C2130	A2140	B2140	C2140	A2150	B2150	C2150	A2160	B2160	C2160	A2170	B2170	C2170	A2180	B2180	C2180	A2190	B2190	C2190	A2200	B2200	C2200	A2210	B2210	C2210	A2220	B2220	C2220	A2230	B2230	C2230	A2240	B2240	C2240	A2250	B2250	C2250	A2260	B2260	C2260	A2270	B2270	C2270	A2280	B2280	C2280	A2290	B2290	C2290	A2300	B2300	C2300	A2310	B2310	C2310	A2320	B2320	C2320	A2330	B2330	C2330	A2340	B2340	C2340	A2350	B2350	C2350	A2360	B2360	C2360	A2370	B2370	C2370	A2380	B2380	C2380	A2390	B2390	C2390	A2400	B2400	C2400	A2410	B2410	C2410	A2420	B2420	C2420	A2430	B2430	C2430	A2440	B2440	C2440	A2450	B2450	C2450	A2460	B2460	C2460	A2470	B2470	C2470	A2480	B2480	C2480	A2490	B2490	C2490	A2500	B2500	C2500	A2510	B2510	C2510	A2520	B2520	C2520	A2530	B2530	C2530	A2540	B2540	C2540	A2550	B2550	C2550	A2560	B2560	C2560	A2570	B2570	C2570	A2580	B2580	C2580	A2590	B2590	C2590	A2600	B2600	C2600	A2610	B2610	C2610	A2620	B2620	C2620	A2630	B2630	C2630	A2640	B2640	C2640	A2650	B2650	C2650	A2660	B2660	C2660	A2670	B2670	C2670	A2680	B2680	C2680	A2690	B2690	C2690	A2700	B2700	C2700	A2710	B2710	C2710	A2720	B2720	C2720	A2730	B2730	C2730	A2740	B2740	C2740	A2750	B2750	C2750	A2760	B2760	C2760	A2770	B2770	C2770	A2780	B2780	C2780	A2790	B2790	C2790	A2800	B2800	C2800	A2810	B2810	C2810	A2820	B2820	C2820	A2830	B2830	C2830	A2840	B2840	C2840	A2850	B2850	C2850	A2860	B2860	C2860	A2870	B2870	C2870	A2880	B2880	C2880	A2890	B2890	C2890	A2900	B2900	C2900	A2910	B2910	C2910	A2920	B2920	C2920	A2930	B2930	C2930	A2940	B2940	C2940	A2950	B2950	C2950	A296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TUB registration: 20130201-VE43/VE43L0NA.TXT /PS TUB material: code=rha4tr