

see similar files: <http://130.149.60.45/~farbmetrik/VE31/VE31.HTM>
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Ostwald optimal colours (o) of maximum (m) C _{AB} for D50, Y _w =100, Y _m =520_770, LINYAB data															%
i ₁ , λ ₁	i ₂ , λ ₂	Y ₁₀₀	A ₁₀₀	B ₁₀₀	C _{AB}	a	b	h _{AB}	i _d , λ _d	i _c , λ _c	Code		%		
1 405	32 564	57.81	-26.12	-13.56	29.43	0.5124	-0.5646	207.4	17 486	38 592	Cm		%		
7 435	33 565	58.18	-29.76	-6.19	30.4	0.4526	-0.4365	191.7	18 490	46 634			%		
10 450	33 566	58.68	-33.54	2.37	33.63	0.3924	-0.2895	175.9	19 497	-1 497c			%		
12 460	33 567	59.3	-35.7	8.25	36.64	0.3621	-0.1907	166.9	21 506	-1 506c			%		
13 465	33 568	59.95	-36.49	10.91	38.09	0.3555	-0.1478	163.3	22 511	-1 511c			%		
14 470	34 570	61.04	-36.99	13.31	39.32	0.3581	-0.1117	160.1	23 519	-1 519c			%		
15 475	34 573	62.89	-37.08	15.59	40.23	0.3745	-0.0821	157.2	25 527	-1 527c	Gm		%		
15 480	35 578	66.91	-36.91	16.91	40.6	0.4125	-0.0772	155.3	26 531	-1 531c			%		
17 485	37 587	72.24	-34.33	20.9	40.19	0.489	-0.0405	148.6	28 544	-1 544c			%		
18 490	44 620	88.02	-19.26	26.82	33.02	0.7454	-0.0251	125.6	32 561	-1 561c	max		%		
19 495	-1 495c	93.65	-7.19	29.25	30.12	0.8874	-0.0176	103.8	33 568	12 463			%		
20 500	-1 500c	91.98	-5.59	29.14	29.67	0.9033	-0.0131	100.8	33 569	13 466			%		
22 510	-1 510c	87.33	-1.23	28.19	28.22	0.95	-0.0071	92.5	34 571	14 471			%		
23 520	-1 519c	84.29	1.48	27.36	27.41	0.9818	-0.0053	86.8	34 572	14 473	Ym		%		
25 530	-1 529c	76.8	7.64	25.11	26.25	1.0637	-0.0029	73.0	35 575	15 477			%		
27 540	-1 539c	68.0	13.94	22.33	26.32	1.1692	-0.0015	58.0	35 579	16 480			%		
28 545	-1 544c	63.34	16.86	20.82	26.8	1.2304	-0.0011	50.9	36 581	16 481			%		
29 550	-1 549c	58.55	19.56	19.26	27.45	1.2983	-0.0009	44.5	36 583	16 483			%		
30 555	-1 554c	53.72	21.93	17.68	28.17	1.3724	-0.0007	38.8	37 585	16 484			%		
32 560	-1 560c	44.27	25.38	14.58	29.27	1.5375	-0.0005	29.8	38 590	17 486			%		
380	770	100.0	0.0	0.0	0.01	0.9642	-0.3299	0.0					%		

Ostwald optimal colours (o) of maximum (m) C _{AB} for D50, Y _w =100, Y _m =770_520, LINYAB complementary															%
i ₁ , λ ₁	i ₂ , λ ₂	Y ₁₀₀	A ₁₀₀	B ₁₀₀	C _{AB}	a	b	h _{AB}	i _d , λ _d	i _c , λ _c	Code		%		
32 564	1 405	42.18	26.12	13.56	29.43	1.5834	-0.0084	27.4	38 592	17 486	Rm		%		
33 565	7 435	41.81	29.76	6.19	30.4	1.6761	-0.1817	11.7	46 634	18 490			%		
33 566	10 450	41.31	33.54	-2.37	33.63	1.7761	-0.3874	355.9	-1 497c	19 497			%		
33 567	12 460	40.69	35.7	-8.25	36.64	1.8416	-0.5329	346.9	-1 506c	21 506			%		
33 568	13 465	40.04	36.49	-10.91	38.09	1.8756	-0.6026	343.3	-1 511c	22 511			%		
34 570	14 470	38.95	36.99	-13.31	39.32	1.9138	-0.6718	340.1	-1 519c	23 519			%		
34 573	15 475	37.1	37.08	-15.59	40.23	1.9639	-0.7502	337.2	-1 527c	25 527	Mm		%		
35 578	15 480	33.08	36.91	-16.91	40.6	2.0799	-0.8412	335.3	-1 531c	26 531			%		
37 587	17 485	27.75	34.33	-20.9	40.19	2.201	-1.0832	328.6	-1 544c	28 544			%		
44 620	18 490	11.97	19.26	-26.82	33.02	2.572	-2.5696	305.6	-1 561c	32 561	min		%		
-1 495c	19 495	6.34	7.19	-29.25	30.12	2.0975	-4.9398	283.8	12 463	33 568			%		
-1 500c	20 500	8.01	5.59	-29.14	29.67	1.6629	-3.9666	280.8	13 466	33 569			%		
-1 510c	22 510	12.66	1.23	-28.19	28.22	1.0617	-2.5572	272.5	14 471	34 571			%		
-1 519c	23 520	15.7	-1.48	-27.36	27.41	0.8696	-2.073	266.8	14 473	34 572	Bm		%		
-1 529c	25 530	23.19	-7.64	-25.11	26.25	0.6346	-1.4127	253.0	15 477	35 575			%		
-1 539c	27 540	31.99	-13.94	-22.33	26.32	0.5285	-1.0279	238.0	16 480	35 579			%		
-1 544c	28 545	36.65	-16.86	-20.82	26.8	0.504	-0.8982	230.9	16 481	36 581			%		
-1 549c	29 550	41.44	-19.56	-19.26	27.45	0.4922	-0.7949	224.5	16 483	36 583			%		
-1 554c	30 555	46.27	-21.93	-17.68	28.17	0.4903	-0.7122	218.8	16 484	37 585			%		
-1 560c	32 560	55.72	-25.38	-14.58	29.27	0.5087	-0.5917	209.8	17 486	38 590			%		
380	770	100.0	0.0	0.0	0.01	0.9642	-0.3299	0.0					%		

Ostwald optimal colours (o) of maximum (m) C _{AB} for D50, Y _{w,10} =100, Y _m =520_770, LINYAB data														%
i ₁ , λ ₁	i ₂ , λ ₂	Y ₁₀₀	A ₁₀₀	B ₁₀₀	C _{AB}	a	b	h _{AB}	i _d , λ _d	i _c , λ _c	Code		%	
1 405	31 559	55.95	-25.08	-13.86	28.66	0.5189	-0.5733	208.9	15 479	37 589	Cm		%	
7 435	32 561	56.42	-28.9	-5.53	29.42	0.455	-0.4238	190.8	16 484	58 693			%	
10 450	32 562	56.65	-32.28	3.24	32.45	0.3973	-0.2684	174.2	18 493	-1 493c			%	
12 460	32 564	57.41	-33.96	8.98	35.12	0.3757	-0.1691	165.1	20 503	-1 503c			%	
13 465	33 566	58.48	-34.34	11.63	36.25	0.38	-0.1267	161.2	22 512	-1 512c			%	
14 470	34 570	60.63	-34.33	14.23	37.16	0.401	-0.0909	157.4	24 521	-1 521c			%	
15 475	35 576	64.51	-33.34	16.97	37.41	0.4504	-0.0624	153.0	26 531	-1 531c	Gm		%	
16 480	38 590	72.88	-29.2	20.81	35.86	0.5665	-0.04	144.5	28 543	-1 543c			%	
17 485	-1 485c	92.6	-6.09	28.04	28.69	0.9014	-0.0228	102.2	32 563	11 458			%	
18 490	-1 490c	91.1	-4.69	28.13	28.52	0.9157	-0.0168	99.4	32 564	12 460	max		%	
19 495	-1 495c	89.32	-2.98	27.98	28.14	0.9338	-0.0123	96.0	33 565	12 462			%	
20 500	-1 500c	87.23	-1.0	27.62	27.64	0.9556	-0.0089	92.0	33 566	12 464			%	
21 510	-1 509c	84.82	1.2	27.07	27.09	0.9814	-0.0065	87.4	33 567	13 466			%	
24 520	-1 520c	75.59	8.88	24.43	26.0	1.0847	-0.0023	70.0	34 571	14 471	Ym		%	
25 530	-1 529c	71.83	11.6	23.28	26.01	1.1288	-0.0015	63.4	34 573	14 473			%	
28 540	-1 540c	59.32	19.15	19.3	27.19	1.29	-0.0002	45.2	35 579	15 476			%	
29 545	-1 545c	54.91	21.22	17.87	27.75	1.3537	-0.0001	40.1	36 581	15 477			%	
29 550	-1 549c	54.91	21.22	17.87	27.75	1.3537	-0.0001	40.1	36 581	15 477			%	
31 555	-1 555c	46.06	24.31	15.0	28.56	1.4949	0.0	31.6	37 587	15 479			%	
32 560	2 411	41.79	25.61	12.8	28.63	1.5801	-0.0192	26.5	38 591	16 480			%	
380	770	99.99	0.0	0.0	0.01	0.9672	-0.3256	0.0					%	

Ostwald optimal colours (o) of maximum (m) C _{AB} for D50, Y _{w,10} =100, Y _m =770_520, LINYAB complementary															%
i ₁ , λ ₁	i ₂ , λ ₂	Y ₁₀₀	A ₁₀₀	B ₁₀₀	C _{AB}	a	b	h _{AB}	i _d , λ _d	i _c , λ _c	Code		%		
31 559	1 405	44.04	25.08	13.86	28.66	1.5368	-0.0108	28.9	37 589	15 479	Rm		%		
32 561	7 435	43.57	28.9	5.53	29.42	1.6305	-0.1985	10.8	58 693	16 484			%		
32 562	10 450	43.34	32.28	-3.24	32.45	1.7122	-0.4004	354.2	-1 493c	18 493			%		
32 564	12 460	42.58	33.95	-8.98	35.12	1.7646	-0.5366	345.1	-1 503c	20 503			%		
33 566	13 465	41.51	34.34	-11.63	36.25	1.7943	-0.6057	341.2	-1 512c	22 512			%		
34 570	14 470	39.36	34.33	-14.23	37.16	1.8395	-0.6872	337.4	-1 521c	24 521			%		
35 576	15 475	35.48	33.34	-16.97	37.41	1.9067	-0.804	333.0	-1 531c	26 531	Mm		%		
38 590	16 480	27.11	29.2	-20.81	35.86	2.0442	-1.0933	324.5	-1 543c	28 543			%		
-1 485c	17 485	7.39	6.09	-28.04	28.69	1.7911	-4.1155	282.2	11 458	32 563			%		
-1 490c	18 490	8.89	4.69	-28.13	28.52	1.4945	-3.4884	279.4	12 460	32 564	min		%		
-1 495c	19 495	10.67	2.98	-27.98	28.14	1.247	-2.9472	276.0	12 462	33 565			%		
-1 500c	20 500	12.76	1.0	-27.62	27.64	1.0462	-2.49	272.0	12 464	33 566			%		
-1 509c	21 510	15.17	-1.2	-27.07	27.09	0.8876	-2.1102	267.4	13 466	33 567			%		
-1 520c	24 520	24.4	-8.88	-24.43	26.0	0.6033	-1.3269	250.0	14 471	34 571	Bm		%		
-1 529c	25 530	28.16	-11.6	-23.28	26.01	0.555	-1.1521	243.4	14 473	34 573			%		
-1 540c	28 540	40.67	-19.15	-19.3	27.19	0.4963	-0.8002	225.2	15 476	35 579			%		
-1 545c	29 545	45.08	-21.22	-17.87	27.75	0.4964	-0.7221	220.1	15 477	36 581			%		
-1 549c	29 550	45.08	-21.22	-17.87	27.75	0.4964	-0.7221	220.1	15 477	36 581			%		
-1 555c	31 555	53.93	-24.31	-15.0	28.56	0.5164	-0.6038	211.6	15 479	37 587			%		
2 411	32 560	58.2	-25.61	-12.8	28.63	0.5271	-0.5456	206.5	16 480	38 591			%		
380	770	99.99	0.0	0.0	0.01	0.9672	-0.3256	0.0					%		

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technical information: <http://www.ps.bam.de> or <http://130.149.60.45/~farbmetrik>

TUB registration: 20130201-VE31/VE31L0NP.PDF /.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, LINYAB data																%
i ₁ , λ ₁	i ₂ , λ ₂	Y ₁₀₀	A ₁₀₀	B ₁₀₀	C _{AB}	a	b	h _{AB}	i _d , λ _d	i _c , λ _c	Code	%				%
1 405	32 564	57.81	-26.12	-13.56	29.43	0.5124	-0.5646	207.4	17 486	38 592	Cm	%				%
7 435	33 565	58.18	-29.76	-6.19	30.4	0.4526	-0.4365	191.7	18 490	46 634		%				%
10 450	33 566	58.68	-33.54	2.37	33.63	0.3924	-0.2895	175.9	19 497	-1 497c		%				%
12 460	33 567	59.3	-35.7	8.25	36.64	0.3621	-0.1907	166.9	21 506	-1 506c		%				%
13 465	33 568	59.95	-36.49	10.91	38.09	0.3555	-0.1478	163.3	22 511	-1 511c		%				%
14 470	34 570	61.04	-36.99	13.31	39.32	0.3581	-0.1117	160.1	23 519	-1 519c		%				%
15 475	34 573	62.89	-37.08	15.59	40.23	0.3745	-0.0821	157.2	25 527	-1 527c	Gm	%				%
15 480	35 578	66.91	-36.91	16.91	40.6	0.4125	-0.0772	155.3	26 531	-1 531c		%				%
17 485	37 587	72.24	-34.33	20.9	40.19	0.489	-0.0405	148.6	28 544	-1 544c		%				%
18 490	44 620	88.02	-19.26	26.82	33.02	0.7454	-0.0251	125.6	32 561	-1 561c	max	%				%
19 495	-1 495c	93.65	-7.19	29.25	30.12	0.8874	-0.0176	103.8	33 568	12 463		%				%
20 500	-1 500c	91.98	-5.59	29.14	29.67	0.9033	-0.0131	100.8	33 569	13 466		%				%
22 510	-1 510c	87.33	-1.23	28.19	28.22	0.95	-0.0071	92.5	34 571	14 471		%				%
23 520	-1 519c	84.29	1.68	27.36	27.41	0.9818	-0.0053	86.8	34 572	14 473	Ym	%				%
25 530	-1 529c	76.8	7.44	25.11	26.25	1.0637	-0.0029	73.0	35 575	15 477		%				%
27 540	-1 539c	68.0	13.94	22.33	26.32	1.1692	-0.0015	58.0	35 579	16 480		%				%
28 545	-1 544c	63.34	16.86	20.82	26.8	1.2304	-0.0011	50.9	36 581	16 481		%				%
29 550	-1 549c	58.55	19.56	19.26	27.45	1.2983	-0.0009	44.5	36 583	16 483		%				%
30 555	-1 554c	53.72	21.93	17.68	28.17	1.3724	-0.0007	38.8	37 585	16 484		%				%
32 560	-1 560c	44.27	25.38	14.58	29.27	1.5375	-0.0005	29.8	38 590	17 486		%				%
380	770	100.0	0.0	0.0	0.01	0.9642	-0.3299	0.0				%				%

rgb* _{eAB} 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 LINYAB for CIE 2 degree observer																	
Elementary hue circle with 4 intended elementary hue angles: h _{AB} = 13.9, 87.3, 165.9, 266.0 of LINYAB, and 16 intended hue angles:																	
LINYAB data of CIE test colours 9 (R): 12.4 11.3 2.8, 10 (Y): 60.2 0.7 16.0, 11 (G): 19.8 -7.0 1.7, 12 (B): 5.9 -0.4 -6.5																	
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	41.8	0.545	0.328	1.662	-0.153	0.72	29.2	7.3	30.1	14.2	70.7	74.4	33.7	81.7	24.3	1.00 0.00 0.00	% R00Y
001	46.5	0.598	0.401	1.491	0.0	0.622	24.5	15.3	28.9	32.0	73.9	60.6	127.1	140.8	64.4	1.00 0.25 0.00	% R25Y
002	63.0	0.551	0.447	1.233	-0.091	0.425	17.0	20.7	26.8	50.6	83.4	36.7	141.0	145.8	75.4	1.00 0.50 0.00	% R50Y
003	74.3	0.52	0.476	1.091	-0.092	0.351	9.4	24.3	26.1	68.7	89.0	19.1	146.4	147.6	82.5	1.00 0.75 0.00	% R75Y
004	84.6	0.491	0.502	0.978	-0.095	0.325	-1.1	27.4	27.5	87.5	93.7	2.2	141.0	141.0	89.0	1.00 1.00 0.00	% Y00G
005	93.3	0.454	0.52	0.873	-0.018	0.234	-8.4	29.0	30.2	106.2	97.3	-15.8	129.6	121.6	97.4	0.75 1.00 0.00	% Y25G
006	87.4	0.408	0.555	0.735	-0.025	0.38	-19.9	26.6	33.2	126.8	94.9	-41.1	109.6	117.1	110.5	0.50 1.00 0.00	% Y50G
007	73.7	0.32	0.62	0.515	-0.038	0.535	-33.0	21.5	39.4	146.9	88.8	-85.0	92.6	125.8	132.5	0.25 1.00 0.00	% Y75G
008	59.4	0.199	0.557	0.358	-0.174	0.625	-36.0	9.2	37.1	165.6	81.5	-118.1	32.1	122.4	164.7	0.00 1.00 0.00	% G00B
009	58.2	0.178	0.396	0.449	-0.428	0.524	-29.9	-5.7	30.5	190.8	80.8	-93.8	-15.2	95.0	189.2	0.00 1.00 0.50	% G25B
010	49.3	0.156	0.315	0.496	-0.667	0.577	-23.1	-16.6	28.4	215.8	75.6	-78.4	-41.8	88.0	208.0	0.00 1.00 1.00	% G50B
011	30.3	0.127	0.235	0.541	-1.081	0.862	-12.8	-22.8	26.2	240.6	61.9	-58.7	-65.2	87.8	228.0	0.00 0.50 1.00	% G75B
012	16.0	0.123	0.144	0.853	-2.029	1.702	-1.7	-27.2	27.3	266.2	47.0	-10.8	-90.4	91.0	263.1	0.00 0.00 1.00	% B00R
013	7.6	0.18	0.073	2.456	-4.058	4.015	-11.4	-28.5	30.7	291.8	33.3	77.6	-111.1	135.5	304.9	0.50 0.00 1.00	% B25R
014	21.9	0.339	0.147	2.299	-1.388	1.703	29.2	-23.2	37.3	321.6	53.9	101.3	-74.0	125.5	323.8	1.00 0.00 1.00	% B50R
015	40.6	0.441	0.239	1.841	-0.533	0.901	35.7	-8.2	36.6	346.9	69.9	89.2	-25.7	92.8	343.8	1.00 0.00 0.50	% B75R
016	41.8	0.545	0.328	1.662	-0.153	0.72	29.2	7.3	30.1	14.2	70.7	74.4	33.7	81.7	24.3	1.00 0.00 0.00	% R00Y

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																		
5 step equidistant grey scale with intended lightness: L* = 0.0, 25.0, 50.0, 75.0, 100.0																		
000	0.0	0.0	0.0	0.0	0.0	0.0	1.019	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	% N000W
001	4.4	0.345	0.358	0.964	-0.329	0.01	0.0	0.0	0.0	76.4	25.0	0.0	0.0	0.0	0.25	0.25	0.25	% N025W
002	18.4	0.345	0.358	0.964	-0.329	0.01	0.0	0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.50	0.50	0.50	% N050W
003	48.2	0.345	0.358	0.964	-0.329	0.01	0.0	0.0	0.0	17.2	75.0	0.0	0.0	0.0	0.75	0.75	0.75	% N075W
004	100.0	0.345	0.358	0.964	-0.329	0.01	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	1.00	1.00	1.00	% N100W

TUB-test chart VE31; CIE data for 16 Ostwald colours
LINYAB, Yxy, YABCABh, LabCabh data, D50, 2 and 10 degree observer

Ostwald optimal colours (o) of maximum (m) C _{AB} for D50, Y _{w,10} =100, Y _m =520_770, LINYAB data															%
i ₁ , λ ₁	i ₂ , λ ₂	Y ₁₀₀	A ₁₀₀	B ₁₀₀	C _{AB}	a	b	h _{AB}	i _d , λ _d	i _c , λ _c	Code			%	
1 405	31 559	55.95	-25.08	-13.86	28.66	0.5189	-0.5733	208.9	15 479	37 589	Cm			%	
7 435	32 561	56.42	-28.9	-5.53	29.42	0.455	-0.4238	190.8	16 484	58 693				%	
10 450	32 562	56.65	-32.28	3.24	32.45	0.3973	-0.2684	174.2	18 493	-1 493c				%	
12 460	32 564	57.41	-33.96	8.98	35.12	0.3757	-0.1691	165.1	20 503	-1 503c				%	
13 465	33 566	58.48	-34.34	11.63	36.25	0.38	-0.1267	161.2	22 512	-1 512c				%	
14 470	34 570	60.63	-34.33	14.23	37.16	0.401	-0.0909	157.4	24 521	-1 521c				%	
15 475	35 576	64.51	-33.34	16.97	37.41	0.4504	-0.0624	153.0	26 531	-1 531c	Gm			%	
16 480	38 590	72.88	-29.2	20.81	35.86	0.5665	-0.04	144.5	28 543	-1 543c				%	
17 485	-1 485c	92.6	-6.09	28.04	28.69	0.9014	-0.0228	102.2	32 563	11 458				%	
18 490	-1 490c	91.1	-4.69	28.13	28.52	0.9157	-0.0168	99.4	32 564	12 460	max			%	
19 495	-1 495c	89.32	-2.98	27.98	28.14	0.9338	-0.0123	96.0	33 565	12 462				%	
20 500	-1 500c	87.23	-1.0	27.62	27.64	0.9556	-0.0089	92.0	33 566	12 464				%	
21 510	-1 509c	84.82	1.2	27.07	27.09	0.9814	-0.0065	87.4	33 567	13 466				%	
24 520	-1 520c	75.59	8.88	24.43	26.0	1.0847	-0.0023	70.0	34 571	14 471	Ym			%	
25 530	-1 529c	71.83	11.6	23.28	26.01	1.1288	-0.0015	63.4	34 573	14 473				%	
28 540	-1 540c	59.32	19.15	19.3	27.19	1.29	-0.0002	45.2	35 579	15 476				%	
29 545	-1 545c	54.91	21.22	17.87	27.75	1.3537	-0.0001	40.1	36 581	15 477				%	
29 550	-1 549c	54.91	21.22	17.87	27.75	1.3537	-0.0001	40.1	36 581	15 477				%	
31 555	-1 555c	46.06	24.31	15.0	28.56	1.4949	0.0	31.6	37 587	15 479				%	
32 560	2 411	41.79	25.61	12.8	28.63	1.5801	-0.0192	26.5	38 591	16 480				%	
	380 770	99.99	0.0	0.0	0.01	0.9672	-0.3256	0.0						%	