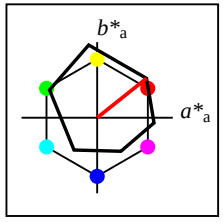
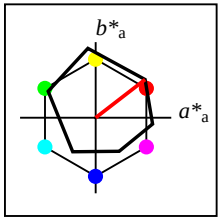


%Gamut
u*rel = 94
%Regularity
g*H,rel = 58
g*C,rel = 54

ORS18

	L*=L*a	a*	b*	C*ab	hab
OM	47.94	65.31	52.07	83.53	39
YM	90.37	−11.15	96.17	96.82	97
LM	50.9	−62.96	36.71	72.89	150
CM	58.62	−30.62	−42.74	52.59	234
VM	25.72	31.45	−44.35	54.38	305
MM	48.13	75.2	−6.79	75.51	355
NM	18.01	0.5	−0.46	0.69	317
WM	95.41	−0.98	4.76	4.86	102
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 93
%Regularity
g*H,rel = 57
g*C,rel = 59

ORS18a; adapted CIELAB data

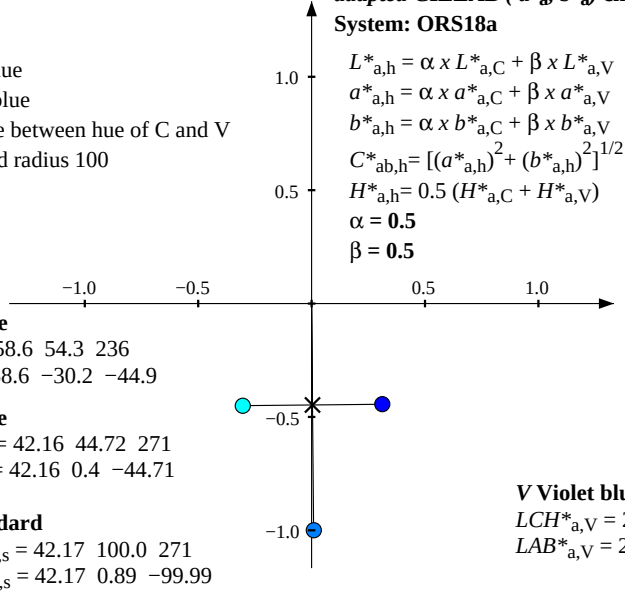
	L*=L*a	a*a	b*a	C*ab,a	hab,a
OMa	47.94	65.39	50.52	82.63	38
YMa	90.37	−10.26	91.75	92.32	96
LMa	50.9	−62.83	34.96	71.91	151
CMa	58.62	−30.34	−45.01	54.3	236
VMa	25.72	31.1	−44.4	54.22	305
MMa	48.13	75.28	−8.36	75.74	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.57	25
JCIE	81.26	−2.16	67.76	67.79	92
GCIE	52.23	−42.25	11.76	43.87	164
BCIE	30.57	1.15	−46.84	46.86	271

n	System	u*	o*3	l*3	v*3	e*	t*	c*	h*	n*	w*	LCH*a,CIE			a*b*a,CIE		XYZa,CIE			xya,CIE		XYZRGB			RGB'sRGB			RGB'AdobeRGB		
0	ORS18a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	18.01	0.0	0	0.0	0.0	2.4	2.52	2.74	0.313	0.329	0.027	0.028	0.031	0.184	0.184	0.184	0.198	0.198	0.198
1	ORS18a	b28r	0.0	0.0	1.0	0.822	0.5	1.0	0.847	0.0	0.0	25.72	54.22	305	31.1	−44.4	7.14	4.65	21.44	0.215	0.14	0.081	0.053	0.242	0.271	0.192	0.537	0.259	0.205	0.523
2	ORS18a	j84g	0.0	1.0	0.0	0.461	0.5	1.0	0.419	0.0	0.0	50.9	71.91	151	−62.83	34.96	8.72	19.18	7.07	0.249	0.548	0.098	0.217	0.08	−0.691	0.596	0.237	0.259	0.591	0.271
3	ORS18a	g67b	0.0	1.0	1.0	0.669	0.5	1.0	0.656	0.0	0.0	58.62	54.3	236	−30.34	−45.01	18.79	26.62	71.32	0.161	0.228	0.212	0.3	0.805	−2.27	0.659	0.907	−0.143	0.653	0.895
4	ORS18a	r18j	1.0	0.0	0.0	0.047	0.5	1.0	0.105	0.0	0.0	47.94	82.63	38	65.39	50.52	30.15	16.75	2.9	0.605	0.336	0.34	0.189	0.033	0.904	0.177	0.128	0.779	0.191	0.15
5	ORS18a	b72r	1.0	0.0	1.0	0.931	0.5	1.0	0.982	0.0	0.0	48.13	75.74	354	75.28	−8.36	33.08	16.9	22.9	0.454	0.232	0.373	0.191	0.258	0.9	0.077	0.542	0.772	0.102	0.527
6	ORS18a	j05g	1.0	1.0	0.0	0.264	0.5	1.0	0.268	0.0	0.0	90.37	92.32	96	−10.26	91.75	68.47	77.1	10.48	0.439	0.494	0.773	0.87	0.118	1.046	0.949	−0.122	1.02	0.948	0.195
7	ORS18a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a**a, *b**a) chroma diagram**
System: ORS18a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = **0.5**
β = **0.5**



***C* Cyan blue**
*LCH**a,C = 58.6 54.3 236
*LAB**a,C = 58.6 −30.2 −44.9

Mean hue
*LCH**a,h = 42.16 44.72 271
*LAB**a,h = 42.16 0.4 −44.71

***S* Standard**
*LCH**a,s = 42.17 100.0 271
LAB**a,s = 42.17 0.89 −99.99

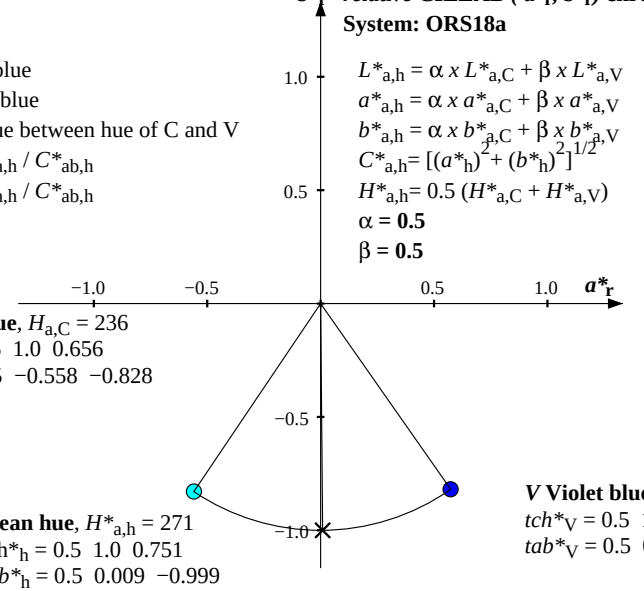
***V* Violet blue**
*LCH**a,V = 25.7 54.2 305
*LAB**a,V = 25.7 31.1 −44.3

***adapted* CIELAB data for the two hue angles of C and V; data *LAB**a*LCH**a, *LAB**a*LAB**a**

***relative* CIELAB (*a**r, *b**r) chroma diagram**
System: ORS18a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = **0.5**
β = **0.5**



***C* Cyan blue**, $H_{a,C}$ = 236
*tch**C = 0.5 1.0 0.656
*tab**C = 0.5 −0.558 −0.828

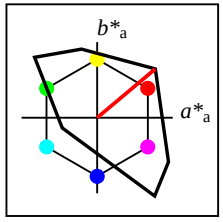
mean hue, $H^*_{a,h}$ = 271
tch**h = 0.5 1.0 0.751
*tab**h = 0.5 0.009 −0.999

***V* Violet blue**, $H^*_{a,V}$ = 305
*tch**V = 0.5 1.0 0.847
*tab**V = 0.5 0.574 −0.818

relative* CIELAB data for the two hue angles of C and V; data *lab**lch**, lab**lab**, LAB**a*H**a

BAM-test chart YE04; Colorimetry for colours M of: ORS18
Device CIELAB data for C, V and mean hue h; page 1/24

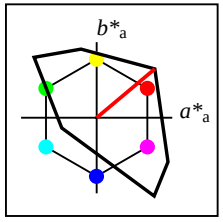
input: *olv* setrgbcolor*
output: no change compared to input



%Gamut
u*rel = 158
%Regularity
g*H,rel = 20
g*C,rel = 37

TLS00

	L*=L*a	a*	b*	C*ab	hab
OM	50.5	76.92	64.55	100.42	40
YM	92.66	−20.69	90.75	93.08	103
LM	83.63	−82.75	79.9	115.04	136
CM	86.88	−46.16	−13.55	48.12	196
VM	30.39	76.06	−103.59	128.52	306
MM	57.3	94.35	−58.41	110.97	328
NM	0.01	0.0	0.0	0.0	0
WM	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 158
%Regularity
g*H,rel = 20
g*C,rel = 37

TLS00a; adapted CIELAB data

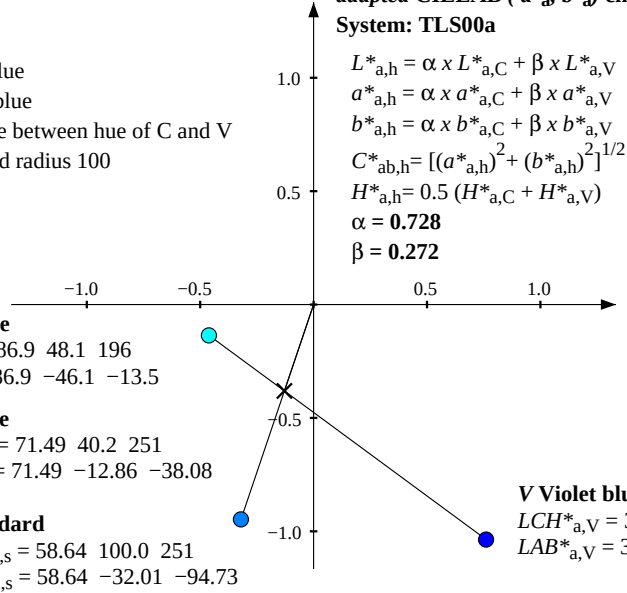
	L*=L*a	a*a	b*a	C*ab,a	hab,a
OMa	50.5	76.92	64.55	100.42	40
YMa	92.66	−20.69	90.75	93.08	103
LMa	83.63	−82.75	79.9	115.04	136
CMa	86.88	−46.16	−13.55	48.12	196
VMa	30.39	76.06	−103.59	128.52	306
MMa	57.3	94.35	−58.41	110.97	328
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272

n	System	u*	o*3	l*3	v*3	e*	t*	c*	h*	n*	w*	LCH*a,CIE			a*b*a,CIE		XYZa,CIE			xya,CIE		XYZRGB			RGB'sRGB			RGB'AdobeRGB		
0	TLS00a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.01	0.0	0	0.0	0.0	0.0	0.0	0.0	0.328	0.322	0.0	0.0	0.0	0.0	0.0	0.0	0.006	0.006	0.006
1	TLS00a	b29r	0.0	0.0	1.0	0.825	0.5	1.0	0.851	0.0	0.0	30.39	128.52	306	76.06	−103.59	15.99	6.4	84.22	0.15	0.06	0.18	0.072	0.951	0.0	0.001	1.0	−0.008	0.005	0.981
2	TLS00a	j62g	0.0	1.0	0.0	0.406	0.5	1.0	0.378	0.0	0.0	83.63	115.04	136	−82.75	79.9	31.68	63.36	10.56	0.3	0.6	0.358	0.715	0.119	0.002	1.0	0.0	0.565	1.0	0.234
3	TLS00a	g31b	0.0	1.0	1.0	0.578	0.5	1.0	0.545	0.0	0.0	86.88	48.12	196	−46.16	−13.55	47.68	69.76	94.76	0.225	0.329	0.538	0.787	1.07	0.003	1.0	1.0	0.565	1.0	1.0
4	TLS00a	r22j	1.0	0.0	0.0	0.056	0.5	1.0	0.111	0.0	0.0	50.5	100.42	40	76.92	64.55	36.54	18.84	1.71	0.64	0.33	0.412	0.213	0.019	1.0	0.003	0.0	0.859	−0.002	−0.003
5	TLS00a	b50r	1.0	0.0	1.0	0.875	0.5	1.0	0.912	0.0	0.0	57.3	110.97	328	94.35	−58.41	52.52	25.23	85.91	0.321	0.154	0.593	0.285	0.97	1.0	0.003	1.0	0.859	−0.008	0.981
6	TLS00a	j15g	1.0	1.0	0.0	0.289	0.5	1.0	0.286	0.0	0.0	92.66	93.08	103	−20.69	90.75	68.22	82.19	12.27	0.419	0.505	0.77	0.928	0.138	1.0	1.0	0.0	1.0	1.0	0.234
7	TLS00a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a**a, *b**a) chroma diagram**
System: TLS00a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha \times L^*_{a,C} + \beta \times L^*_{a,V}$
$a^*_{a,h} = \alpha \times a^*_{a,C} + \beta \times a^*_{a,V}$
$b^*_{a,h} = \alpha \times b^*_{a,C} + \beta \times b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = 0.728
β = 0.272



***C* Cyan blue**
*LCH**a,C = 86.9 48.1 196
*LAB**a,C = 86.9 −46.1 −13.5

Mean hue
*LCH**a,h = 71.49 40.2 251
*LAB**a,h = 71.49 −12.86 −38.08

***S* Standard**
*LCH**a,s = 58.64 100.0 251
LAB*a,s = 58.64 −32.01 −94.73

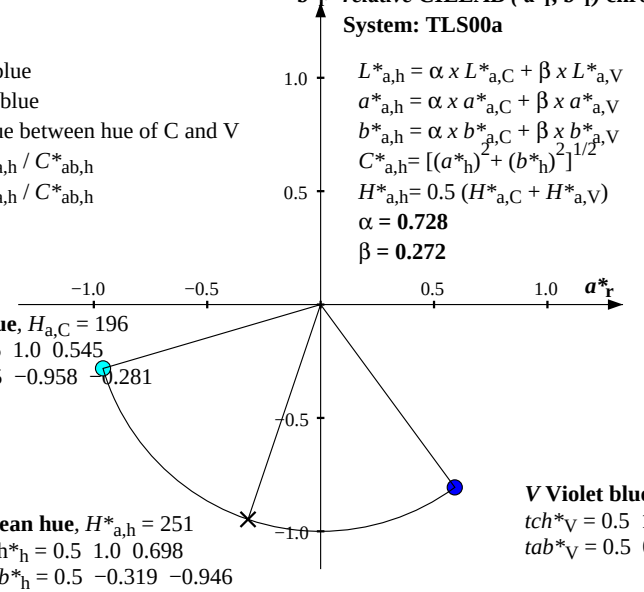
***V* Violet blue**
*LCH**a,V = 30.4 128.5 306
*LAB**a,V = 30.4 76.1 −103.5

***adapted* CIELAB data for the two hue angles of C and V; data *LAB**a*LCH**a, *LAB**a*LAB**a**

***relative* CIELAB (*a**r, *b**r) chroma diagram**
System: TLS00a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha \times L^*_{a,C} + \beta \times L^*_{a,V}$
$a^*_{a,h} = \alpha \times a^*_{a,C} + \beta \times a^*_{a,V}$
$b^*_{a,h} = \alpha \times b^*_{a,C} + \beta \times b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = 0.728
β = 0.272

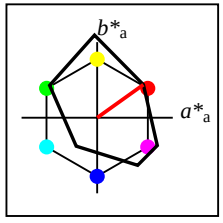


***C* Cyan blue**, $H_{a,C}$ = 196
*tch**C = 0.5 1.0 0.545
*tab**C = 0.5 −0.958 −0.281

mean hue, $H^*_{a,h}$ = 251
tch*h = 0.5 1.0 0.698
*tab**h = 0.5 −0.319 −0.946

***V* Violet blue**, $H^*_{a,V}$ = 306
*tch**V = 0.5 1.0 0.851
*tab**V = 0.5 0.592 −0.805

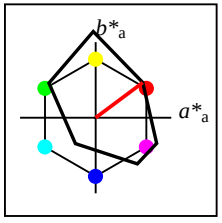
***relative* CIELAB data for the two hue angles of C and V; data *lab**lch**, lab**lab**, LAB**a*H**a**



%Gamut
u*rel = 114
%Regularity
g*H,rel = 28
g*C,rel = 38

FRS06

	L*=L*a	a*	b*	C*ab	hab
OM	32.57	61.14	43.72	75.16	36
YM	82.73	−3.5	109.24	109.3	92
LM	39.43	−62.86	42.8	76.06	146
CM	47.86	−27.72	−37.61	46.74	234
VM	10.16	53.56	−62.91	82.63	310
MM	34.5	79.53	−36.76	87.62	335
NM	6.25	−1.62	−1.72	2.38	227
WM	91.97	−0.17	−5.1	5.11	268
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 115
%Regularity
g*H,rel = 28
g*C,rel = 38

FRS06a; adapted CIELAB data

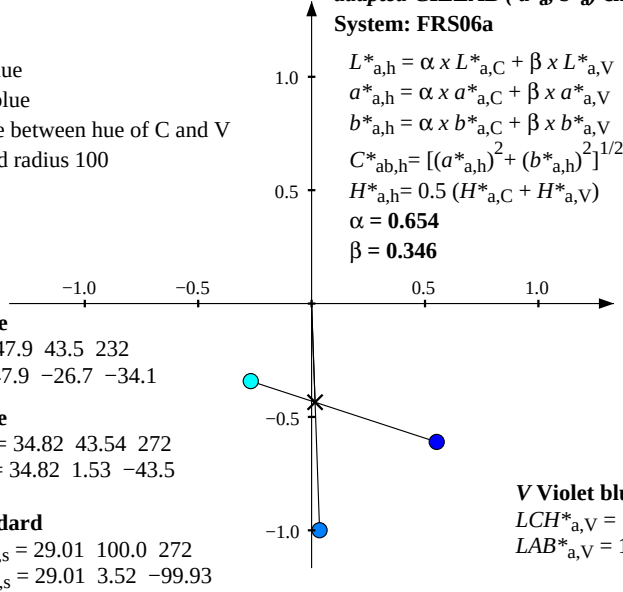
	L*=L*a	a*a	b*a	C*ab,a	hab,a
OMa	32.57	62.32	46.49	77.75	37
YMa	82.73	−3.16	113.99	114.03	92
LMa	39.43	−61.79	45.84	76.95	143
CMa	47.86	−26.79	−34.24	43.49	232
VMa	10.16	55.12	−61.03	82.24	312
MMa	34.5	80.68	−33.92	87.52	337
NMa	6.25	0.0	0.0	0.0	0
WMa	91.97	0.0	0.0	0.0	0
RCIE	39.92	59.8	31.05	67.38	27
JCIE	81.26	−2.52	76.25	76.29	92
GCIE	52.23	−41.56	17.14	44.96	158
BCIE	30.57	2.63	−43.77	43.86	273

n	System	u*	o*3	l*3	v*3	e*	t*	c*	h*	n*	w*	LCH*a,CIE			a*b*a,CIE		XYZa,CIE			xya,CIE			XYZRGB			RGB'sRGB			RGB'AdobeRGB		
0	FRS06a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	6.25	0.0	0	0.0	0.0	0.66	0.69	0.75	0.313	0.329	0.007	0.008	0.009	0.085	0.085	0.085	0.11	0.11	0.11
1	FRS06a	b35r	0.0	0.0	1.0	0.839	0.5	1.0	0.867	0.0	0.0	10.16	82.24	312	55.12	−61.03	3.6	1.15	16.28	0.171	0.055	0.041	0.013	0.184	0.152	−0.095	0.477	0.135	−0.107	0.465
2	FRS06a	j72g	0.0	1.0	0.0	0.431	0.5	1.0	0.398	0.0	0.0	39.43	76.95	143	−61.79	45.84	4.23	10.91	1.67	0.251	0.649	0.048	0.123	0.019	−0.57	0.468	−0.031	0.174	0.465	0.092
3	FRS06a	g63b	0.0	1.0	1.0	0.658	0.5	1.0	0.644	0.0	0.0	47.86	43.49	232	−26.79	−34.24	11.66	16.68	40.95	0.168	0.241	0.132	0.188	0.462	−1.205	0.532	0.707	0.071	0.527	0.695
4	FRS06a	r17j	1.0	0.0	0.0	0.044	0.5	1.0	0.102	0.0	0.0	32.57	77.75	37	62.32	46.49	15.25	7.34	0.68	0.655	0.316	0.172	0.083	0.008	0.685	−0.141	0.01	0.58	−0.128	0.023
5	FRS06a	b57r	1.0	0.0	1.0	0.894	0.5	1.0	0.937	0.0	0.0	34.5	87.52	337	80.68	−33.92	20.19	8.25	24.11	0.384	0.157	0.228	0.093	0.272	0.708	−0.449	0.567	0.595	−0.217	0.55
6	FRS06a	j00g	1.0	1.0	0.0	0.25	0.5	1.0	0.254	0.0	0.0	82.73	114.03	92	−3.16	113.98	57.3	61.65	2.42	0.472	0.508	0.647	0.696	0.027	1.005	0.843	−0.994	0.962	0.839	−0.245
7	FRS06a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	91.97	0.0	0	0.0	0.0	76.65	80.64	87.81	0.313	0.329	0.865	0.91	0.991	0.959	0.96	0.959	0.958	0.958	0.958

***adapted* CIELAB (*a*a*, *b*a*) chroma diagram**
System: FRS06a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha \times L^*_{a,C} + \beta \times L^*_{a,V}$
$a^*_{a,h} = \alpha \times a^*_{a,C} + \beta \times a^*_{a,V}$
$b^*_{a,h} = \alpha \times b^*_{a,C} + \beta \times b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = 0.654
β = 0.346



***C* Cyan blue**
*LCH*a,C* = 47.9 43.5 232
*LAB*a,C* = 47.9 −26.7 −34.1

Mean hue
*LCH*a,h* = 34.82 43.54 272
*LAB*a,h* = 34.82 1.53 −43.5

***S* Standard**
*LCH*a,s* = 29.01 100.0 272
LAB*a,s = 29.01 3.52 −99.93

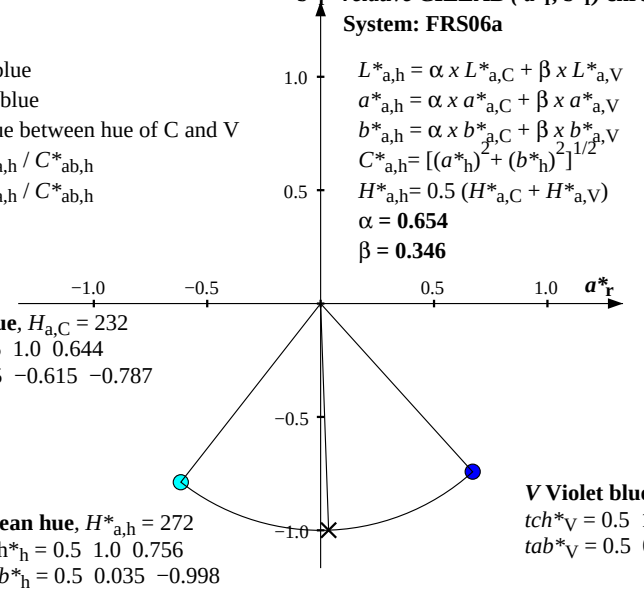
***V* Violet blue**
*LCH*a,V* = 10.2 82.2 312
*LAB*a,V* = 10.2 55.1 −60.9

adapted* CIELAB data for the two hue angles of C and V; data *LAB*aLCH*a*, *LAB*aLAB*a

***relative* CIELAB (*a*r*, *b*r*) chroma diagram**
System: FRS06a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha \times L^*_{a,C} + \beta \times L^*_{a,V}$
$a^*_{a,h} = \alpha \times a^*_{a,C} + \beta \times a^*_{a,V}$
$b^*_{a,h} = \alpha \times b^*_{a,C} + \beta \times b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = 0.654
β = 0.346

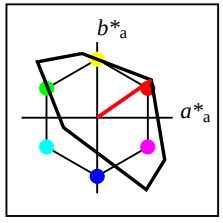


***C* Cyan blue**, $H_{a,C}$ = 232
*tch*C* = 0.5 1.0 0.644
*tab*C* = 0.5 −0.615 −0.787

mean hue, $H^*_{a,h}$ = 272
tch*h = 0.5 1.0 0.756
*tab*h* = 0.5 0.035 −0.998

***V* Violet blue**, $H^*_{a,V}$ = 312
*tch*V* = 0.5 1.0 0.867
*tab*V* = 0.5 0.67 −0.741

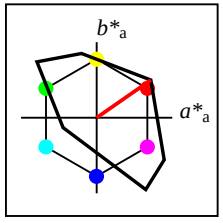
relative* CIELAB data for the two hue angles of C and V; data *lab*lch*, lab*lab*, LAB*aH*a



%Gamut
u*rel = 118
%Regularity
g*H,rel = 22
g*C,rel = 40

TLS18

	L*=L*a	a*	b*	C*ab	hab
OM	52.76	71.63	49.88	87.29	35
YM	92.74	−20.02	84.97	87.3	103
LM	84.0	−78.98	73.94	108.2	137
CM	87.14	−44.41	−13.11	46.32	196
VM	35.47	64.92	−95.06	115.12	304
MM	59.01	89.33	−55.67	105.26	328
NM	18.01	0.0	0.0	0.0	0
WM	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 118
%Regularity
g*H,rel = 22
g*C,rel = 40

TLS18a; adapted CIELAB data

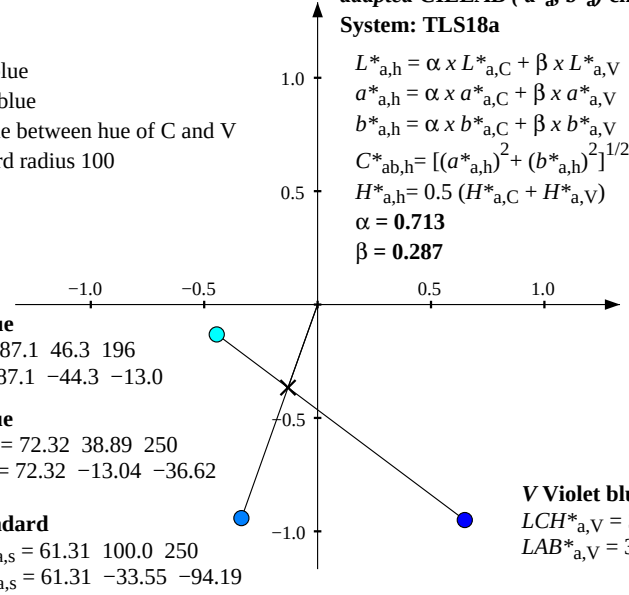
	L*=L*a	a*a	b*a	C*ab,a	hab,a
OMa	52.76	71.63	49.88	87.29	35
YMa	92.74	−20.02	84.97	87.3	103
LMa	84.0	−78.98	73.94	108.2	137
CMa	87.14	−44.41	−13.11	46.32	196
VMa	35.47	64.92	−95.06	115.12	304
MMa	59.01	89.33	−55.67	105.26	328
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272

n	System	u*	o*3	l*3	v*3	e*	t*	c*	h*	n*	w*	LCH*a,CIE			a*b*a,CIE		XYZa,CIE			xya,CIE		XYZRGB			RGB'sRGB			RGB'AdobeRGB		
0	TLS18a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	18.01	0.0	0	0.0	0.0	2.4	2.52	2.74	0.313	0.329	0.027	0.028	0.031	0.184	0.184	0.184	0.198	0.198	0.198
1	TLS18a	b28r	0.0	0.0	1.0	0.822	0.5	1.0	0.845	0.0	0.0	35.47	115.12	304	64.92	−95.06	17.93	8.74	84.54	0.161	0.079	0.202	0.099	0.954	0.185	0.185	1.0	0.199	0.198	0.981
2	TLS18a	j64g	0.0	1.0	0.0	0.411	0.5	1.0	0.38	0.0	0.0	84.0	108.2	137	−78.98	73.94	33.18	64.07	13.0	0.301	0.581	0.374	0.723	0.147	0.186	1.0	0.184	0.583	1.0	0.295
3	TLS18a	g31b	0.0	1.0	1.0	0.578	0.5	1.0	0.546	0.0	0.0	87.14	46.32	196	−44.41	−13.11	48.72	70.29	94.77	0.228	0.329	0.55	0.793	1.07	0.187	1.0	1.0	0.583	1.0	1.0
4	TLS18a	r14j	1.0	0.0	0.0	0.036	0.5	1.0	0.097	0.0	0.0	52.76	87.29	35	71.63	49.88	37.9	20.83	4.41	0.6	0.33	0.428	0.235	0.05	1.0	0.185	0.184	0.863	0.198	0.198
5	TLS18a	b50r	1.0	0.0	1.0	0.875	0.5	1.0	0.911	0.0	0.0	59.01	105.26	328	89.33	−55.67	53.43	27.04	86.2	0.321	0.162	0.603	0.305	0.973	1.0	0.185	1.0	0.863	0.198	0.981
6	TLS18a	j15g	1.0	1.0	0.0	0.289	0.5	1.0	0.287	0.0	0.0	92.74	87.3	103	−20.02	84.97	68.68	82.37	14.66	0.414	0.497	0.775	0.93	0.166	1.0	1.0	0.184	1.0	1.0	0.295
7	TLS18a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a**a, *b**a) chroma diagram**
System: TLS18a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = **0.713**
β = **0.287**



***C* Cyan blue**
*LCH**a,C = 87.1 46.3 196
*LAB**a,C = 87.1 −44.3 −13.0

Mean hue
*LCH**a,h = 72.32 38.89 250
*LAB**a,h = 72.32 −13.04 −36.62

***S* Standard**
*LCH**a,s = 61.31 100.0 250
LAB*a,s = 61.31 −33.55 −94.19

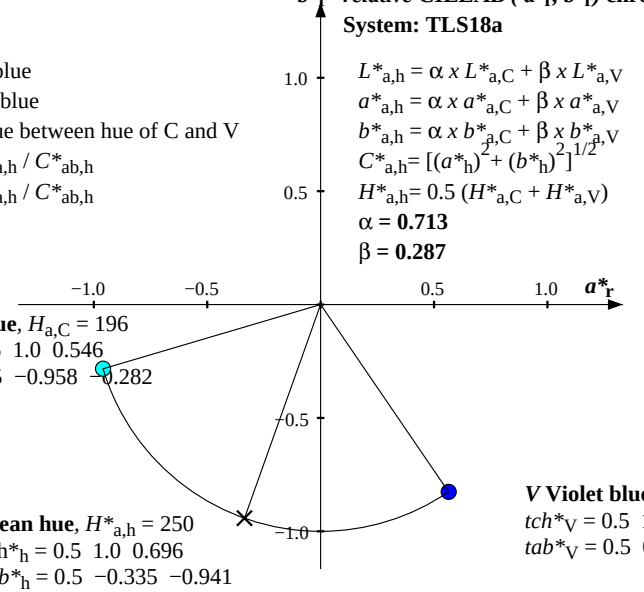
***V* Violet blue**
*LCH**a,V = 35.5 115.1 304
*LAB**a,V = 35.5 64.9 −95.0

***adapted* CIELAB data for the two hue angles of C and V; data *LAB**a*LCH**a, *LAB**a*LAB**a**

***relative* CIELAB (*a**r, *b**r) chroma diagram**
System: TLS18a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = **0.713**
β = **0.287**

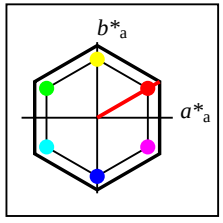


***C* Cyan blue**, $H_{a,C}$ = 196
*tch**C = 0.5 1.0 0.546
*tab**C = 0.5 −0.958 −0.282

mean hue, $H^*_{a,h}$ = 250
tch*h = 0.5 1.0 0.696
*tab**h = 0.5 −0.335 −0.941

***V* Violet blue**, $H^*_{a,V}$ = 304
*tch**V = 0.5 1.0 0.845
*tab**V = 0.5 0.564 −0.825

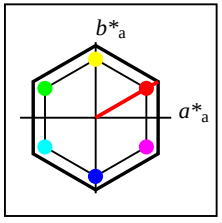
relative* CIELAB data for the two hue angles of C and V; data *lab**lch**, lab**lab**, LAB**a*H**a



%Gamut
u*rel = 152
%Regularity
g*H,rel = 100
g*C,rel = 100

NLS00

	L*=L*a	a*	b*	C*ab	hab
OM	31.81	82.62	47.7	95.4	30
YM	63.61	0.0	95.4	95.4	90
LM	31.81	−82.61	47.7	95.4	150
CM	63.61	−82.61	−47.69	95.4	210
VM	31.81	0.0	−95.39	95.4	270
MM	63.61	82.62	−47.69	95.4	330
NM	0.01	0.0	0.0	0.0	0
WM	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 152
%Regularity
g*H,rel = 100
g*C,rel = 100

NLS00a; adapted CIELAB data

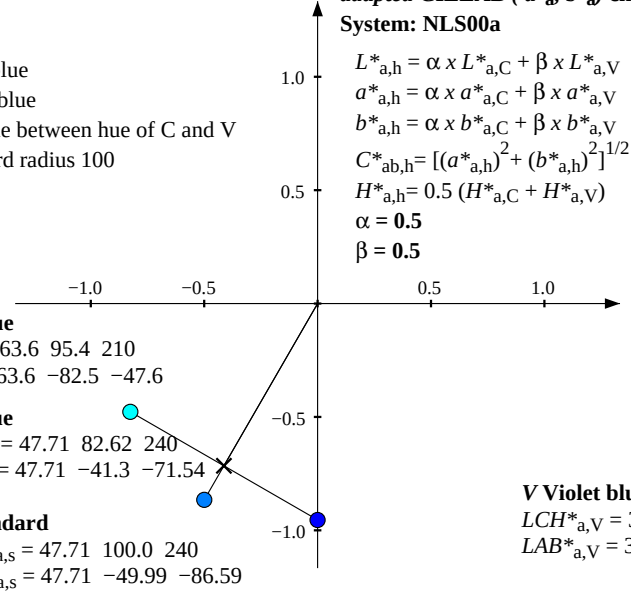
	L*=L*a	a*a	b*a	C*ab,a	hab,a
OMa	31.81	82.62	47.7	95.4	30
YMa	63.61	0.0	95.4	95.4	90
LMa	31.81	−82.61	47.7	95.4	150
CMa	63.61	−82.61	−47.69	95.4	210
VMa	31.81	0.0	−95.39	95.4	270
MMa	63.61	82.62	−47.69	95.4	330
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272

n	System	u*	o*3	l*3	v*3	e*	t*	c*	h*	n*	w*	LCH*a,CIE			a*b*a,CIE		XYZa,CIE			xya,CIE		XYZRGB			RGB'sRGB			RGB'AdobeRGB		
0	NLS00a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.01	0.0	0	0.0	0.0	0.0	0.0	0.0	0.328	0.322	0.0	0.0	0.0	0.0	0.0	0.0	0.006	0.006	0.006
1	NLS00a	g98b	0.0	0.0	1.0	0.747	0.5	1.0	0.75	0.0	0.0	31.81	95.4	270	0.0	−95.39	6.65	7.0	76.55	0.074	0.078	0.075	0.079	0.864	−3.99	0.368	0.955	−0.468	0.369	0.938
2	NLS00a	j82g	0.0	1.0	0.0	0.456	0.5	1.0	0.417	0.0	0.0	31.81	95.4	150	−82.61	47.7	1.43	7.0	0.5	0.16	0.784	0.016	0.079	0.006	−0.929	0.4	−0.119	−0.141	0.399	−0.075
3	NLS00a	g43b	0.0	1.0	1.0	0.608	0.5	1.0	0.583	0.0	0.0	63.61	95.4	210	−82.61	−47.69	13.45	32.32	86.13	0.102	0.245	0.152	0.365	0.972	−7.153	0.784	0.983	−0.513	0.779	0.975
4	NLS00a	r06j	1.0	0.0	0.0	0.017	0.5	1.0	0.083	0.0	0.0	31.81	95.4	30	82.62	47.7	18.3	7.0	0.5	0.709	0.271	0.207	0.079	0.006	0.764	−0.665	0.017	0.64	−0.259	−0.039
5	NLS00a	b51r	1.0	0.0	1.0	0.878	0.5	1.0	0.917	0.0	0.0	63.61	95.4	330	82.62	−47.69	58.69	32.32	86.13	0.331	0.182	0.662	0.365	0.972	1.043	0.319	0.996	0.909	0.322	0.978
6	NLS00a	r96j	1.0	1.0	0.0	0.242	0.5	1.0	0.25	0.0	0.0	63.61	95.4	90	0.0	95.4	30.72	32.32	1.0	0.48	0.505	0.347	0.365	0.011	0.772	0.625	−0.557	0.728	0.619	−0.193
7	NLS00a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a**a, *b**a) chroma diagram**
System: NLS00a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = **0.5**
β = **0.5**



***C* Cyan blue**
*LCH**a,C = 63.6 95.4 210
*LAB**a,C = 63.6 −82.5 −47.6

Mean hue
*LCH**a,h = 47.71 82.62 240
*LAB**a,h = 47.71 −41.3 −71.54

***S* Standard**
*LCH**a,s = 47.71 100.0 240
LAB**a,s = 47.71 −49.99 −86.59

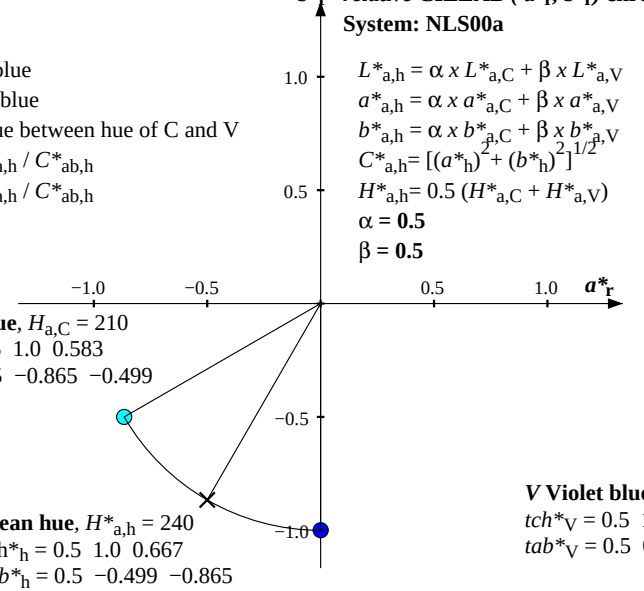
***V* Violet blue**
*LCH**a,V = 31.8 95.4 270
*LAB**a,V = 31.8 0.0 −95.3

***adapted* CIELAB data for the two hue angles of C and V; data *LAB**a*LCH**a, *LAB**a*LAB**a**

***relative* CIELAB (*a**r, *b**r) chroma diagram**
System: NLS00a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = **0.5**
β = **0.5**

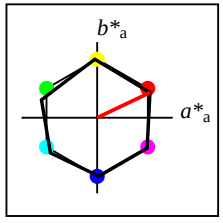


***C* Cyan blue**, $H_{a,C}$ = 210
*tch**C = 0.5 1.0 0.583
*tab**C = 0.5 −0.865 −0.499

mean hue, $H^*_{a,h}$ = 240
tch**h = 0.5 1.0 0.667
*tab**h = 0.5 −0.499 −0.865

***V* Violet blue**, $H^*_{a,V}$ = 270
*tch**V = 0.5 1.0 0.75
*tab**V = 0.5 0.0 −0.999

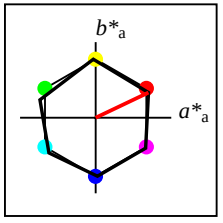
***relative* CIELAB data for the two hue angles of C and V; data *lab*lch*, lab*lab*, LAB**a*H**a**



%Gamut
u*rel = 100
%Regularity
g*H,rel = 78
g*C,rel = 100

NRS18

	L*=L*a	a*	b*	C*ab	hab
OM	56.71	69.87	33.29	77.4	25
YM	56.71	−3.1	77.34	77.4	92
LM	56.71	−73.68	23.63	77.39	162
CM	56.71	−61.81	−46.54	77.39	217
VM	56.71	2.35	−77.34	77.39	272
MM	56.71	66.07	−40.3	77.4	329
NM	18.01	0.0	0.0	0.0	0
WM	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 100
%Regularity
g*H,rel = 78
g*C,rel = 100

NRS18a; adapted CIELAB data

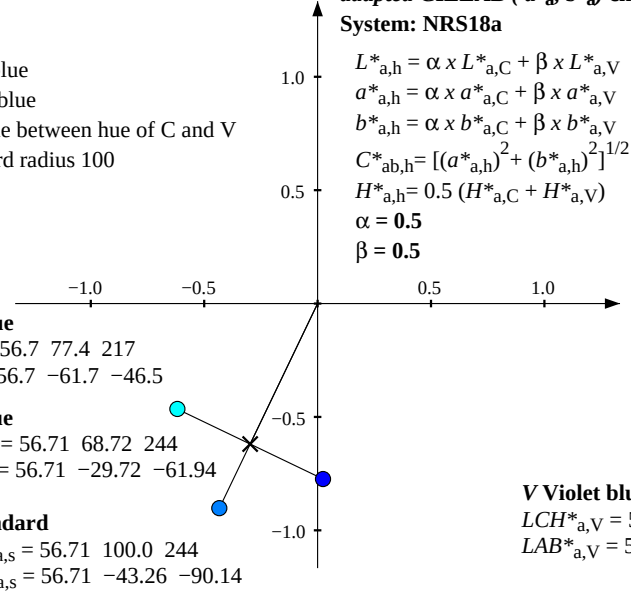
	L*=L*a	a*a	b*a	C*ab,a	hab,a
OMa	56.71	69.87	33.29	77.4	25
YMa	56.71	−3.1	77.34	77.4	92
LMa	56.71	−73.68	23.63	77.39	162
CMa	56.71	−61.81	−46.54	77.39	217
VMa	56.71	2.35	−77.34	77.39	272
MMa	56.71	66.07	−40.3	77.4	329
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272

n	System	u*	o*3	l*3	v*3	e*	t*	c*	h*	n*	w*	LCH*a,CIE			a*b*a,CIE		XYZa,CIE			xya,CIE		XYZRGB			RGB'sRGB			RGB'AdobeRGB		
0	NRS18a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	18.01	0.0	0	0.0	0.0	2.4	2.52	2.74	0.313	0.329	0.027	0.028	0.031	0.184	0.184	0.184	0.198	0.198	0.198
1	NRS18a	b00r	0.0	0.0	1.0	0.75	0.5	1.0	0.755	0.0	0.0	56.71	77.39	272	2.35	−77.34	23.94	24.63	113.39	0.148	0.152	0.27	0.278	1.28	−2.452	0.595	1.126	−0.247	0.589	1.115
2	NRS18a	g00b	0.0	1.0	0.0	0.5	0.5	1.0	0.451	0.0	0.0	56.71	77.39	162	−73.68	23.63	10.47	24.63	14.33	0.212	0.498	0.118	0.278	0.162	−1.612	0.675	0.382	0.198	0.669	0.399
3	NRS18a	g50b	0.0	1.0	1.0	0.625	0.5	1.0	0.603	0.0	0.0	56.71	77.39	217	−61.81	−46.54	12.11	24.63	69.16	0.114	0.233	0.137	0.278	0.781	−4.826	0.681	0.894	−0.417	0.675	0.883
4	NRS18a	r00j	1.0	0.0	0.0	1.0	0.5	1.0	0.071	0.0	0.0	56.71	77.4	25	69.87	33.29	42.81	24.63	10.62	0.548	0.315	0.483	0.278	0.12	1.034	0.268	0.344	0.897	0.274	0.343
5	NRS18a	b50r	1.0	0.0	1.0	0.875	0.5	1.0	0.913	0.0	0.0	56.71	77.4	329	66.07	−40.3	41.55	24.63	61.9	0.324	0.192	0.469	0.278	0.699	0.878	0.343	0.859	0.768	0.344	0.841
6	NRS18a	j00g	1.0	1.0	0.0	0.25	0.5	1.0	0.256	0.0	0.0	56.71	77.4	92	−3.1	77.34	22.72	24.63	1.51	0.465	0.504	0.256	0.278	0.017	0.662	0.56	−0.315	0.629	0.555	−0.134
7	NRS18a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a**a, *b**a) chroma diagram**
System: NRS18a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha \; x \; L^*_{a,C} + \beta \; x \; L^*_{a,V}$
$a^*_{a,h} = \alpha \; x \; a^*_{a,C} + \beta \; x \; a^*_{a,V}$
$b^*_{a,h} = \alpha \; x \; b^*_{a,C} + \beta \; x \; b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5 \; (H^*_{a,C} + H^*_{a,V})$
α = **0.5**
β = **0.5**



***C* Cyan blue**
*LCH**a,C = 56.7 77.4 217
*LAB**a,C = 56.7 −61.7 −46.5

Mean hue
*LCH**a,h = 56.71 68.72 244
*LAB**a,h = 56.71 −29.72 −61.94

***S* Standard**
*LCH**a,s = 56.71 100.0 244
LAB**a,s = 56.71 −43.26 −90.14

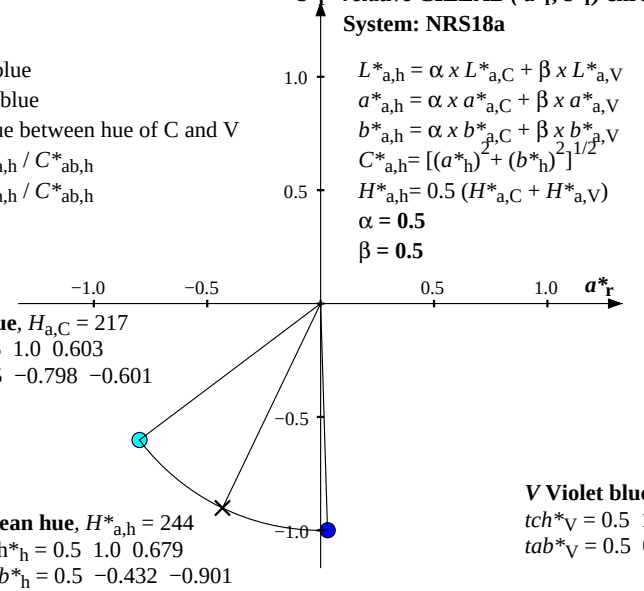
***V* Violet blue**
*LCH**a,V = 56.7 77.4 272
*LAB**a,V = 56.7 2.3 −77.2

***adapted* CIELAB data for the two hue angles of C and V; data *LAB**a*LCH**a, *LAB**a*LAB**a**

***relative* CIELAB (*a**r, *b**r) chroma diagram**
System: NRS18a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha \; x \; L^*_{a,C} + \beta \; x \; L^*_{a,V}$
$a^*_{a,h} = \alpha \; x \; a^*_{a,C} + \beta \; x \; a^*_{a,V}$
$b^*_{a,h} = \alpha \; x \; b^*_{a,C} + \beta \; x \; b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5 \; (H^*_{a,C} + H^*_{a,V})$
α = **0.5**
β = **0.5**

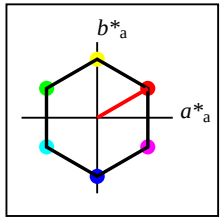


***C* Cyan blue**, $H_{a,C}$ = 217
*tch**C = 0.5 1.0 0.603
*tab**C = 0.5 −0.798 −0.601

mean hue, $H^*_{a,h}$ = 244
tch**h = 0.5 1.0 0.679
*tab**h = 0.5 −0.432 −0.901

***V* Violet blue**, $H^*_{a,V}$ = 272
*tch**V = 0.5 1.0 0.755
*tab**V = 0.5 0.03 −0.999

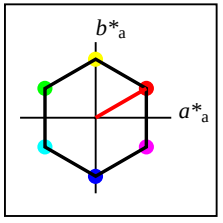
***relative* CIELAB data for the two hue angles of C and V; data *lab**lch**, lab**lab**, LAB**aH**a**



%Gamut
u*rel = 100
%Regularity
g*H,rel = 100
g*C,rel = 100

SRS18

	L*=L*a	a*	b*	C*ab	hab
OM	56.71	67.03	38.7	77.4	30
YM	56.71	0.0	77.4	77.4	90
LM	56.71	−67.02	38.7	77.4	150
CM	56.71	−67.02	−38.69	77.4	210
VM	56.71	0.0	−77.39	77.4	270
MM	56.71	67.03	−38.69	77.4	330
NM	18.01	0.0	0.0	0.0	0
WM	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 100
%Regularity
g*H,rel = 100
g*C,rel = 100

SRS18a; adapted CIELAB data

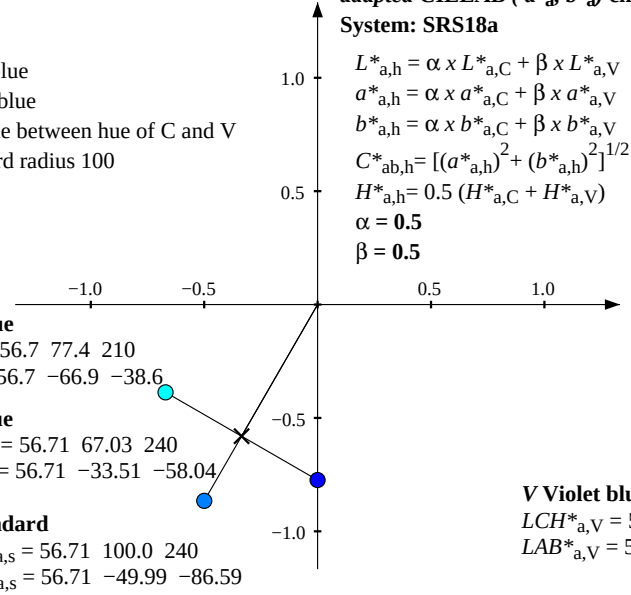
	L*=L*a	a*a	b*a	C*ab,a	hab,a
OMa	56.71	67.03	38.7	77.4	30
YMa	56.71	0.0	77.4	77.4	90
LMa	56.71	−67.02	38.7	77.4	150
CMa	56.71	−67.02	−38.69	77.4	210
VMa	56.71	0.0	−77.39	77.4	270
MMa	56.71	67.03	−38.69	77.4	330
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272

n	System	u*	o*3	l*3	v*3	e*	t*	c*	h*	n*	w*	LCH*a,CIE			a*b*a,CIE		XYZa,CIE			xya,CIE		XYZRGB			RGB'sRGB			RGB'AdobeRGB		
0	SRS18a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	18.01	0.0	0	0.0	0.0	2.4	2.52	2.74	0.313	0.329	0.027	0.028	0.031	0.184	0.184	0.184	0.198	0.198	0.198
1	SRS18a	g98b	0.0	0.0	1.0	0.747	0.5	1.0	0.75	0.0	0.0	56.71	77.4	270	0.0	−77.39	23.41	24.63	113.47	0.145	0.152	0.264	0.278	1.281	−2.708	0.6	1.126	−0.275	0.594	1.115
2	SRS18a	j82g	0.0	1.0	0.0	0.456	0.5	1.0	0.417	0.0	0.0	56.71	77.4	150	−67.02	38.7	11.37	24.63	8.86	0.254	0.549	0.128	0.278	0.1	−0.79	0.666	0.263	0.299	0.66	0.299
3	SRS18a	g43b	0.0	1.0	1.0	0.608	0.5	1.0	0.583	0.0	0.0	56.71	77.4	210	−67.02	−38.69	11.37	24.63	60.11	0.118	0.256	0.128	0.278	0.678	−4.516	0.684	0.837	−0.393	0.678	0.826
4	SRS18a	r06j	1.0	0.0	0.0	0.017	0.5	1.0	0.083	0.0	0.0	56.71	77.4	30	67.03	38.7	41.87	24.63	8.86	0.556	0.327	0.473	0.278	0.1	1.023	0.289	0.304	0.89	0.294	0.308
5	SRS18a	b51r	1.0	0.0	1.0	0.878	0.5	1.0	0.917	0.0	0.0	56.71	77.4	330	67.03	−38.69	41.87	24.63	60.11	0.331	0.195	0.473	0.278	0.678	0.889	0.335	0.847	0.777	0.337	0.829
6	SRS18a	r96j	1.0	1.0	0.0	0.242	0.5	1.0	0.25	0.0	0.0	56.71	77.4	90	0.0	77.4	23.41	24.63	1.5	0.473	0.497	0.264	0.278	0.017	0.68	0.553	−0.31	0.641	0.548	−0.134
7	SRS18a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a**a, *b**a) chroma diagram**
System: SRS18a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = **0.5**
β = **0.5**



***C* Cyan blue**
*LCH**a,C = 56.7 77.4 210
*LAB**a,C = 56.7 −66.9 −38.6

Mean hue
*LCH**a,h = 56.71 67.03 240
*LAB**a,h = 56.71 −33.51 −58.04

***S* Standard**
*LCH**a,s = 56.71 100.0 240
LAB**a,s = 56.71 −49.99 −86.59

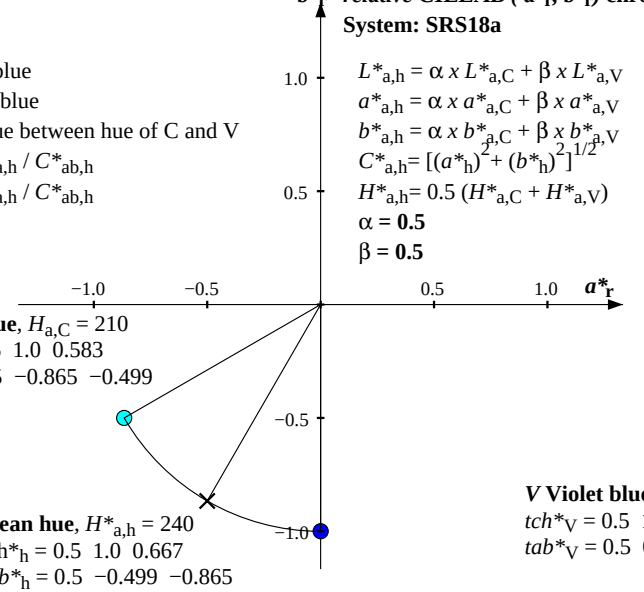
***V* Violet blue**
*LCH**a,V = 56.7 77.4 270
*LAB**a,V = 56.7 0.0 −77.3

***adapted* CIELAB data for the two hue angles of C and V; data *LAB**a*LCH**a, *LAB**a*LAB**a**

***relative* CIELAB (*a**r, *b**r) chroma diagram**
System: SRS18a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = **0.5**
β = **0.5**



***C* Cyan blue**, $H_{a,C} = 210$
*tch**C = 0.5 1.0 0.583
*tab**C = 0.5 −0.865 −0.499

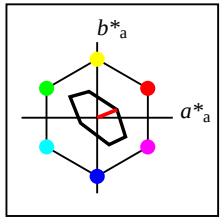
mean hue, $H^*_{a,h} = 240$
tch**h = 0.5 1.0 0.667
*tab**h = 0.5 −0.499 −0.865

***V* Violet blue**, $H^*_{a,V} = 270$
*tch**V = 0.5 1.0 0.75
*tab**V = 0.5 0.0 −0.999

relative* CIELAB data for the two hue angles of C and V; data *lab**lch**, lab**lab**, LAB**a*H**a

BAM-test chart YE04; Colorimetry for colours M of: SRS18
Device CIELAB data for C, V and mean hue h; page 7/24

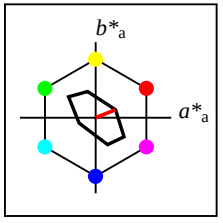
input: *olv* setrgbcolor*
output: no change compared to input



%Gamut
u*$_{rel}$ = 16
%Regularity
g*$_{H,rel}$ = 34
g*$_{C,rel}$ = 51

TLS70

	L*=L*$_a$	a*	b*	C*$_{ab}$	h$_{ab}$
O$_M$	76.43	26.27	10.57	28.32	22
Y$_M$	93.93	−10.76	34.63	36.27	107
L$_M$	89.32	−35.8	27.64	45.24	142
C$_M$	90.93	−21.95	−7.07	23.07	198
V$_M$	72.1	15.76	−35.63	38.97	294
M$_M$	78.5	37.52	−25.23	45.22	326
N$_M$	69.7	0.0	0.0	0.0	0
W$_M$	95.41	0.0	0.0	0.0	0
R$_{CIE}$	39.92	58.74	27.99	65.07	25
J$_{CIE}$	81.26	−2.88	71.56	71.62	92
G$_{CIE}$	52.23	−42.41	13.6	44.55	162
B$_{CIE}$	30.57	1.41	−46.46	46.49	272



%Gamut
u*$_{rel}$ = 16
%Regularity
g*$_{H,rel}$ = 34
g*$_{C,rel}$ = 51

TLS70a; adapted CIELAB data

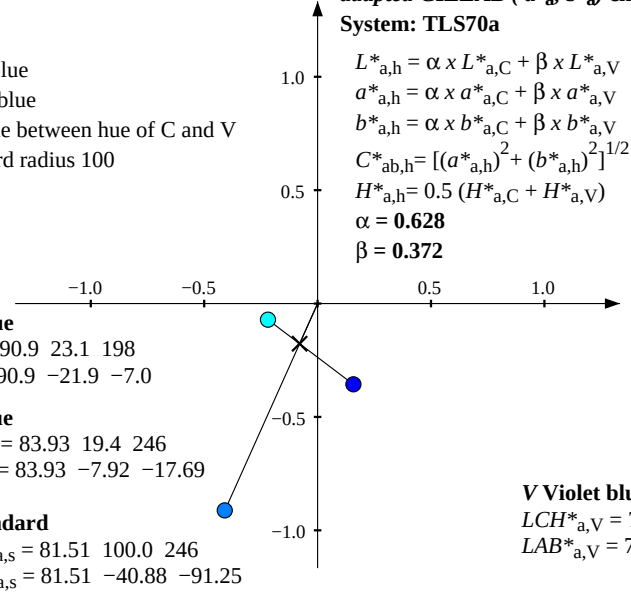
	L*=L*$_a$	a*$_a$	b*$_a$	C*$_{ab,a}$	h$_{ab,a}$
O$_{Ma}$	76.43	26.27	10.57	28.32	22
Y$_{Ma}$	93.93	−10.76	34.63	36.27	107
L$_{Ma}$	89.32	−35.8	27.64	45.24	142
C$_{Ma}$	90.93	−21.95	−7.07	23.07	198
V$_{Ma}$	72.1	15.76	−35.63	38.97	294
M$_{Ma}$	78.5	37.52	−25.23	45.22	326
N$_{Ma}$	69.7	0.0	0.0	0.0	0
W$_{Ma}$	95.41	0.0	0.0	0.0	0
R$_{CIE}$	39.92	58.74	27.99	65.07	25
J$_{CIE}$	81.26	−2.88	71.56	71.62	92
G$_{CIE}$	52.23	−42.41	13.6	44.55	162
B$_{CIE}$	30.57	1.41	−46.46	46.49	272

n	*System*	*u**	*o*$_3$	*l*$_3$	*v*$_3$	*e**	*t**	*c**	*h**	*n**	*w**	*LCH**$_{a,CIE}$			*a*b**$_{a,CIE}$		*XYZ*$_{a,CIE}$			*xy*$_{a,CIE}$		*XYZ*$_{RGB}$			*RGB'*$_{sRGB}$			*RGB'*$_{AdobeRGB}$		
0	TLS70a	r00j	0.0	0.0	0.0	0.0	0.5	0.0	0.0	1.0	0.0	69.7	0.0	0	0.0	0.0	38.33	40.32	43.91	0.313	0.329	0.433	0.455	0.496	0.705	0.705	0.705	0.699	0.699	0.699
1	TLS70a	b20r	0.0	0.0	1.0	0.8	0.5	1.0	0.816	0.0	0.0	72.1	38.97	294	15.76	−35.63	47.04	43.81	89.78	0.26	0.243	0.531	0.494	1.013	0.705	0.705	1.0	0.699	0.699	0.99
2	TLS70a	j71g	0.0	1.0	0.0	0.428	0.5	1.0	0.395	0.0	0.0	89.32	45.24	142	−35.8	27.64	55.6	74.84	49.66	0.309	0.416	0.628	0.845	0.561	0.705	1.0	0.705	0.799	1.0	0.715
3	TLS70a	g32b	0.0	1.0	1.0	0.581	0.5	1.0	0.55	0.0	0.0	90.93	23.07	198	−21.95	−7.07	64.31	78.33	95.51	0.27	0.329	0.726	0.884	1.078	0.705	1.0	1.0	0.799	1.0	1.0
4	TLS70a	b96r	1.0	0.0	0.0	0.992	0.5	1.0	0.061	0.0	0.0	76.43	28.32	22	26.27	10.57	58.24	50.59	44.84	0.379	0.329	0.657	0.571	0.506	1.0	0.705	0.705	0.926	0.699	0.699
5	TLS70a	b47r	1.0	0.0	1.0	0.869	0.5	1.0	0.906	0.0	0.0	78.5	45.22	326	37.52	−25.23	66.94	54.07	90.7	0.316	0.255	0.756	0.61	1.024	1.0	0.705	1.0	0.926	0.699	0.99
6	TLS70a	j21g	1.0	1.0	0.0	0.303	0.5	1.0	0.298	0.0	0.0	93.93	36.27	107	−10.76	34.63	75.5	85.11	50.6	0.357	0.403	0.852	0.961	0.571	1.0	1.0	0.705	1.0	1.0	0.715
7	TLS70a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a*$_a$*, *b*$_a$*) chroma diagram**
System: TLS70a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha \times L^*_{a,C} + \beta \times L^*_{a,V}$
$a^*_{a,h} = \alpha \times a^*_{a,C} + \beta \times a^*_{a,V}$
$b^*_{a,h} = \alpha \times b^*_{a,C} + \beta \times b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = 0.628
β = 0.372



***C* Cyan blue**
*LCH**$_{a,C}$ = 90.9 23.1 198
*LAB**$_{a,C}$ = 90.9 −21.9 −7.0

Mean hue
*LCH**$_{a,h}$ = 83.93 19.4 246
*LAB**$_{a,h}$ = 83.93 −7.92 −17.69

***S* Standard**
*LCH**$_{a,s}$ = 81.51 100.0 246
LAB**$_{a,s}$ = 81.51 −40.88 −91.25

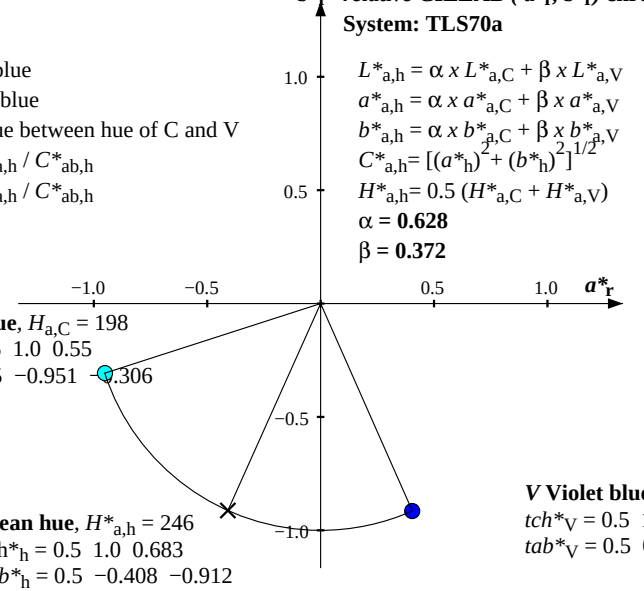
***V* Violet blue**
*LCH**$_{a,V}$ = 72.1 39.0 294
*LAB**$_{a,V}$ = 72.1 15.8 −35.5

adapted* CIELAB data for the two hue angles of C and V; data *LAB*$_a$LCH*$_a$*, *LAB*$_a$LAB*$_a$

***relative* CIELAB (*a*$_r$*, *b*$_r$*) chroma diagram**
System: TLS70a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha \times L^*_{a,C} + \beta \times L^*_{a,V}$
$a^*_{a,h} = \alpha \times a^*_{a,C} + \beta \times a^*_{a,V}$
$b^*_{a,h} = \alpha \times b^*_{a,C} + \beta \times b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = 0.628
β = 0.372



***C* Cyan blue**, $H_{a,C}$ = 198
*tch**$_C$ = 0.5 1.0 0.55
*tab**$_C$ = 0.5 −0.951 −0.306

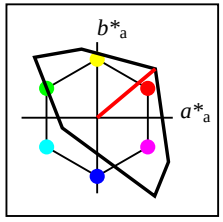
mean hue, $H^*_{a,h}$ = 246
tch**$_h$ = 0.5 1.0 0.683
*tab**$_h$ = 0.5 −0.408 −0.912

***V* Violet blue**, $H^*_{a,V}$ = 294
*tch**$_V$ = 0.5 1.0 0.816
*tab**$_V$ = 0.5 0.404 −0.914

relative* CIELAB data for the two hue angles of C and V; data *lab*lch*, lab*lab*, LAB*$_a$H*$_a$

BAM-test chart YE04; Colorimetry for colours M of: TLS70
Device CIELAB data for C, V and mean hue h; page 8/24

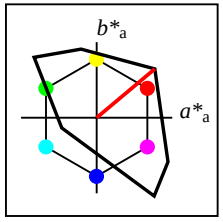
input: *olv* setrgbcolor*
output: no change compared to input



%Gamut
u*rel = 158
%Regularity
g*H,rel = 20
g*C,rel = 37

TLS00

	L*=L*a	a*	b*	C*ab	hab
OM	50.5	76.91	64.55	100.41	40
YM	92.66	−20.67	90.75	93.08	103
LM	83.62	−82.73	79.9	115.02	136
CM	86.88	−46.14	−13.53	48.1	196
VM	30.39	76.06	−103.59	128.52	306
MM	57.31	94.35	−58.39	110.96	328
NM	0.01	0.0	0.0	0.0	0
WM	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 158
%Regularity
g*H,rel = 20
g*C,rel = 37

TLS00a; adapted CIELAB data

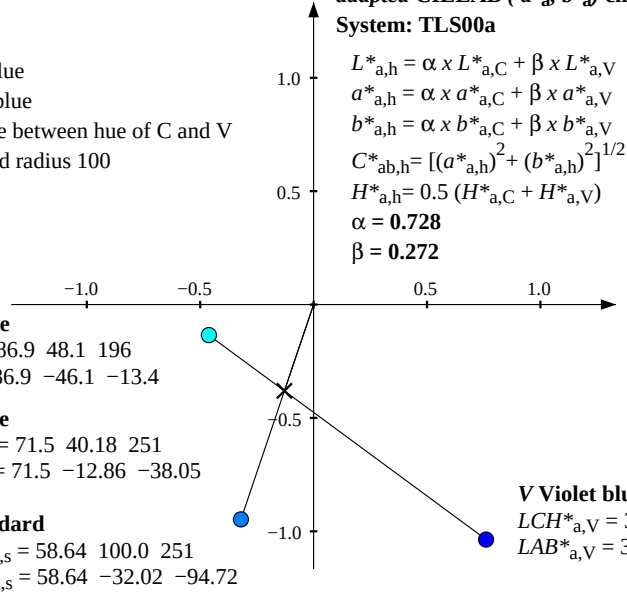
	L*=L*a	a*a	b*a	C*ab,a	hab,a
OMa	50.5	76.91	64.55	100.41	40
YMa	92.66	−20.67	90.75	93.08	103
LMa	83.62	−82.73	79.9	115.02	136
CMa	86.88	−46.14	−13.53	48.1	196
VMa	30.39	76.06	−103.59	128.52	306
MMa	57.31	94.35	−58.39	110.96	328
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272

n	System	u*	o*3	l*3	v*3	e*	t*	c*	h*	n*	w*	LCH*a,CIE			a*b*a,CIE		XYZa,CIE			xya,CIE		XYZRGB			RGB'sRGB			RGB'AdobeRGB		
0	TLS00a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.01	0.0	0	0.0	0.0	0.0	0.0	0.0	0.328	0.322	0.0	0.0	0.0	0.0	0.0	0.0	0.006	0.006	0.006
1	TLS00a	b29r	0.0	0.0	1.0	0.825	0.5	1.0	0.851	0.0	0.0	30.39	128.52	306	76.06	−103.59	15.99	6.4	84.22	0.15	0.06	0.18	0.072	0.951	0.0	0.001	1.0	−0.008	0.005	0.981
2	TLS00a	j62g	0.0	1.0	0.0	0.406	0.5	1.0	0.378	0.0	0.0	83.62	115.02	136	−82.73	79.9	31.68	63.34	10.55	0.3	0.6	0.358	0.715	0.119	0.004	1.0	0.0	0.565	1.0	0.234
3	TLS00a	g31b	0.0	1.0	1.0	0.578	0.5	1.0	0.545	0.0	0.0	86.88	48.1	196	−46.14	−13.53	47.69	69.76	94.73	0.225	0.329	0.538	0.787	1.069	0.009	1.0	1.0	0.565	1.0	1.0
4	TLS00a	r22j	1.0	0.0	0.0	0.056	0.5	1.0	0.111	0.0	0.0	50.5	100.41	40	76.91	64.55	36.54	18.84	1.71	0.64	0.33	0.412	0.213	0.019	1.0	0.003	0.0	0.859	0.009	−0.003
5	TLS00a	b50r	1.0	0.0	1.0	0.875	0.5	1.0	0.912	0.0	0.0	57.31	110.96	328	94.35	−58.39	52.54	25.24	85.91	0.321	0.154	0.593	0.285	0.97	1.0	0.004	1.0	0.859	0.003	0.981
6	TLS00a	j15g	1.0	1.0	0.0	0.289	0.5	1.0	0.286	0.0	0.0	92.66	93.08	103	−20.67	90.75	68.22	82.19	12.27	0.419	0.505	0.77	0.928	0.138	1.0	1.0	0.0	1.0	1.0	0.234
7	TLS00a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a**a, *b**a) chroma diagram**
System: TLS00a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = 0.728
β = 0.272



***C* Cyan blue**
*LCH**a,C = 86.9 48.1 196
*LAB**a,C = 86.9 −46.1 −13.4

Mean hue
*LCH**a,h = 71.5 40.18 251
*LAB**a,h = 71.5 −12.86 −38.05

***S* Standard**
*LCH**a,s = 58.64 100.0 251
LAB*a,s = 58.64 −32.02 −94.72

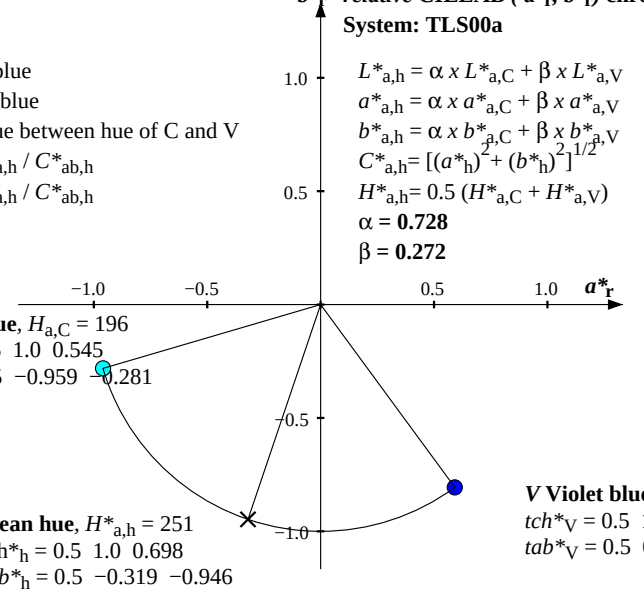
***V* Violet blue**
*LCH**a,V = 30.4 128.5 306
*LAB**a,V = 30.4 76.1 −103.5

***adapted* CIELAB data for the two hue angles of C and V; data *LAB**a*LCH**a, *LAB**a*LAB**a**

***relative* CIELAB (*a**r, *b**r) chroma diagram**
System: TLS00a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = 0.728
β = 0.272

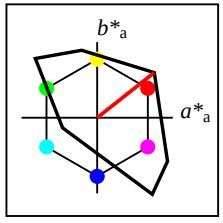


***C* Cyan blue**, $H_{a,C}$ = 196
*tch**C = 0.5 1.0 0.545
*tab**C = 0.5 −0.959 −0.281

mean hue, $H^*_{a,h}$ = 251
tch*h = 0.5 1.0 0.698
*tab**h = 0.5 −0.319 −0.946

***V* Violet blue**, $H^*_{a,V}$ = 306
*tch**V = 0.5 1.0 0.851
*tab**V = 0.5 0.592 −0.805

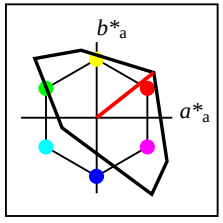
***relative* CIELAB data for the two hue angles of C and V; data *lab**lch**, lab**lab**, LAB**a*H**a**



%Gamut
u*rel = 146
%Regularity
g*H,rel = 21
g*C,rel = 38

TLS06

	L*=L*a	a*	b*	C*ab	hab
OM	51.08	75.54	59.69	96.28	38
YM	92.68	−20.5	89.24	91.57	103
LM	83.72	−81.78	78.32	113.24	136
CM	86.94	−45.71	−13.42	47.65	196
VM	31.77	72.91	−101.29	124.81	306
MM	57.74	93.06	−57.7	109.5	328
NM	5.69	0.0	0.0	0.0	0
WM	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 146
%Regularity
g*H,rel = 21
g*C,rel = 38

TLS06a; adapted CIELAB data

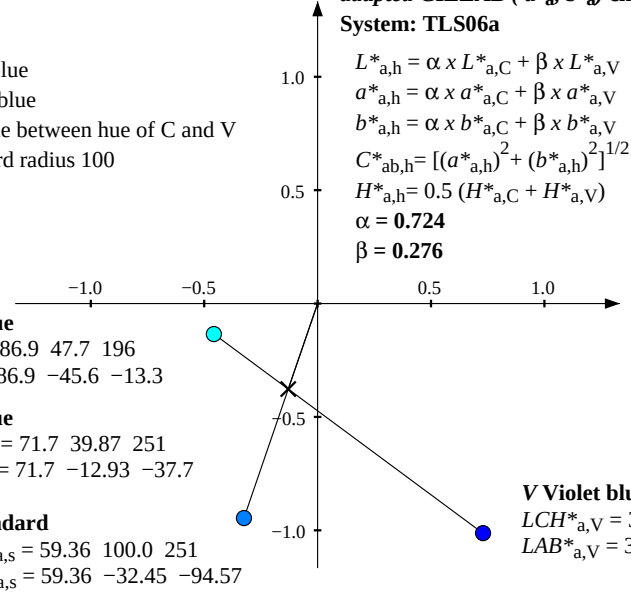
	L*=L*a	a*a	b*a	C*ab,a	hab,a
OMa	51.08	75.54	59.69	96.28	38
YMa	92.68	−20.5	89.24	91.57	103
LMa	83.72	−81.78	78.32	113.24	136
CMa	86.94	−45.71	−13.42	47.65	196
VMa	31.77	72.91	−101.29	124.81	306
MMa	57.74	93.06	−57.7	109.5	328
NMa	5.69	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272

n	System	u*	o*3	l*3	v*3	e*	t*	c*	h*	n*	w*	LCH*a,CIE			a*b*a,CIE		XYZa,CIE			xya,CIE		XYZRGB			RGB'sRGB			RGB'AdobeRGB		
0	TLS06a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	5.69	0.0	0	0.0	0.0	0.6	0.63	0.69	0.313	0.329	0.007	0.007	0.008	0.079	0.079	0.079	0.106	0.105	0.105
1	TLS06a	b29r	0.0	0.0	1.0	0.825	0.5	1.0	0.849	0.0	0.0	31.77	124.81	306	72.91	−101.29	16.48	6.98	84.33	0.153	0.065	0.186	0.079	0.952	0.079	0.08	1.0	0.106	0.106	0.981
2	TLS06a	j62g	0.0	1.0	0.0	0.406	0.5	1.0	0.378	0.0	0.0	83.72	113.24	136	−81.78	78.32	32.06	63.53	11.17	0.3	0.595	0.362	0.717	0.126	0.082	1.0	0.079	0.57	1.0	0.251
3	TLS06a	g31b	0.0	1.0	1.0	0.578	0.5	1.0	0.545	0.0	0.0	86.94	47.65	196	−45.71	−13.42	47.93	69.88	94.72	0.226	0.329	0.541	0.789	1.069	0.084	1.0	1.0	0.57	1.0	1.0
4	TLS06a	r18j	1.0	0.0	0.0	0.047	0.5	1.0	0.106	0.0	0.0	51.08	96.28	38	75.54	59.69	36.88	19.34	2.39	0.629	0.33	0.416	0.218	0.027	1.0	0.081	0.079	0.86	0.106	0.105
5	TLS06a	b50r	1.0	0.0	1.0	0.875	0.5	1.0	0.912	0.0	0.0	57.74	109.5	328	93.06	−57.7	52.76	25.69	85.98	0.321	0.156	0.595	0.29	0.97	1.0	0.082	1.0	0.86	0.106	0.981
6	TLS06a	j15g	1.0	1.0	0.0	0.289	0.5	1.0	0.286	0.0	0.0	92.68	91.57	103	−20.5	89.24	68.34	82.24	12.87	0.418	0.503	0.771	0.928	0.145	1.0	1.0	0.079	1.0	1.0	0.251
7	TLS06a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a**a, *b**a) chroma diagram**
System: TLS06a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = **0.724**
β = **0.276**



***C* Cyan blue**
*LCH**a,C = 86.9 47.7 196
*LAB**a,C = 86.9 −45.6 −13.3

Mean hue
*LCH**a,h = 71.7 39.87 251
*LAB**a,h = 71.7 −12.93 −37.7

***S* Standard**
*LCH**a,s = 59.36 100.0 251
LAB**a,s = 59.36 −32.45 −94.57

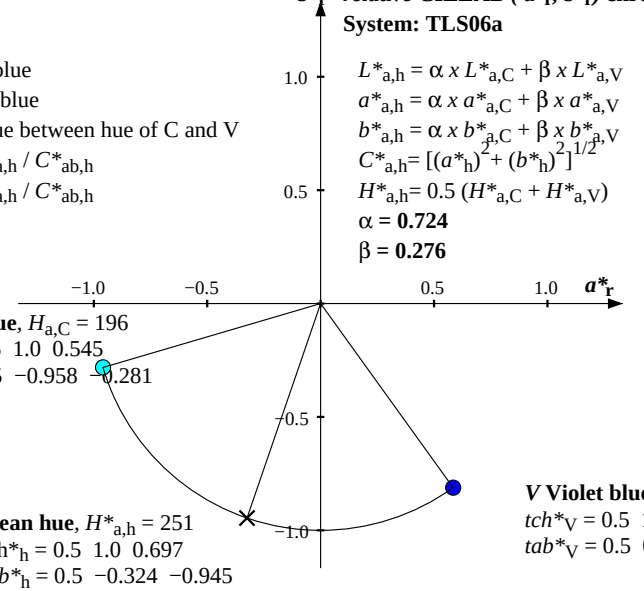
***V* Violet blue**
*LCH**a,V = 31.8 124.8 306
*LAB**a,V = 31.8 72.9 −101.2

***adapted* CIELAB data for the two hue angles of C and V; data *LAB**a*LCH**a, *LAB**a*LAB**a**

***relative* CIELAB (*a**r, *b**r) chroma diagram**
System: TLS06a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = **0.724**
β = **0.276**



***C* Cyan blue**, $H_{a,C}$ = 196
*tch**C = 0.5 1.0 0.545
*tab**C = 0.5 −0.958 −0.281

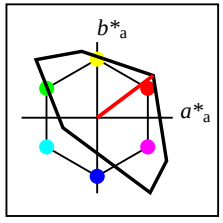
mean hue, $H^*_{a,h}$ = 251
tch**h = 0.5 1.0 0.697
*tab**h = 0.5 −0.324 −0.945

***V* Violet blue**, $H^*_{a,V}$ = 306
*tch**V = 0.5 1.0 0.849
*tab**V = 0.5 0.584 −0.811

***relative* CIELAB data for the two hue angles of C and V; data *lab**lch**, lab**lab**, LAB**a*H**a**

BAM-test chart YE04; Colorimetry for colours M of: TLS06
Device CIELAB data for C, V and mean hue h; page 10/24

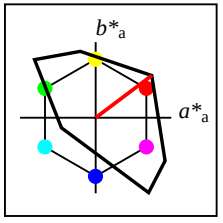
input: *olv* setrgbcolor*
output: no change compared to input



%Gamut
u*rel = 134
%Regularity
g*H,rel = 21
g*C,rel = 39

TLS11

	L*=L*a	a*	b*	C*ab	hab
O_M	51.65	74.2	55.83	92.86	37
Y_M	92.7	−20.34	87.77	90.1	103
L_M	83.81	−80.84	76.81	111.52	136
C_M	87.01	−45.27	−13.32	47.2	196
V_M	33.06	70.03	−99.08	121.34	305
M_M	58.17	91.8	−57.02	108.07	328
N_M	10.99	0.0	0.0	0.0	0
W_M	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 134
%Regularity
g*H,rel = 21
g*C,rel = 39

TLS11a; adapted CIELAB data

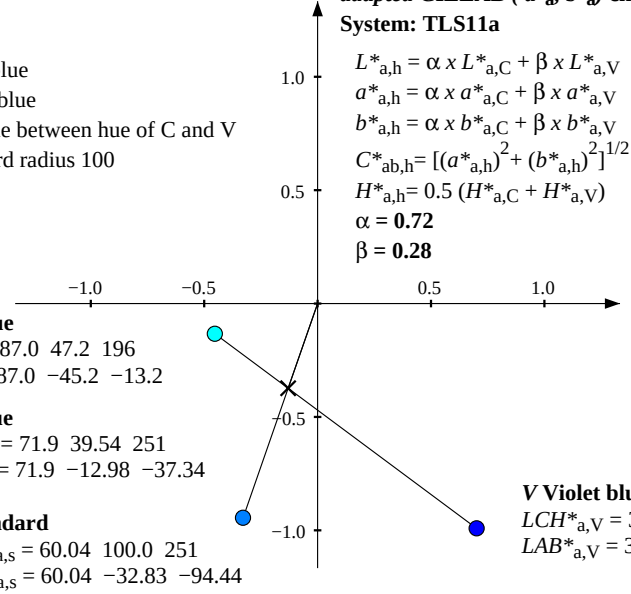
	L*=L*a	a*a	b*a	C*ab,a	hab,a
O_{Ma}	51.65	74.2	55.83	92.86	37
Y_{Ma}	92.7	−20.34	87.77	90.1	103
L_{Ma}	83.81	−80.84	76.81	111.52	136
C_{Ma}	87.01	−45.27	−13.32	47.2	196
V_{Ma}	33.06	70.03	−99.08	121.34	305
M_{Ma}	58.17	91.8	−57.02	108.07	328
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

n	*System*	*u**	*o*3*	*l*3*	*v*3*	*e**	*t**	*c**	*h**	*n**	*w**	*LCH*a,CIE*			*a*b*a,CIE*		*XYZa,CIE*			*xya,CIE*		*XYZRGB*			*RGB'sRGB*			*RGB'AdobeRGB*		
0	TLS11a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	10.99	0.0	0	0.0	0.0	1.2	1.26	1.37	0.313	0.329	0.014	0.014	0.015	0.124	0.124	0.124	0.145	0.145	0.145
1	TLS11a	b28r	0.0	0.0	1.0	0.822	0.5	1.0	0.848	0.0	0.0	33.06	121.34	305	70.03	−99.08	16.96	7.57	84.35	0.156	0.069	0.191	0.085	0.952	0.125	0.124	1.0	0.145	0.144	0.981
2	TLS11a	j62g	0.0	1.0	0.0	0.406	0.5	1.0	0.379	0.0	0.0	83.81	111.52	136	−80.84	76.81	32.43	63.7	11.77	0.301	0.59	0.366	0.719	0.133	0.126	1.0	0.124	0.574	1.0	0.267
3	TLS11a	g31b	0.0	1.0	1.0	0.578	0.5	1.0	0.546	0.0	0.0	87.01	47.2	196	−45.27	−13.32	48.2	70.03	94.75	0.226	0.329	0.544	0.79	1.069	0.128	1.0	1.0	0.574	1.0	1.0
4	TLS11a	r17j	1.0	0.0	0.0	0.044	0.5	1.0	0.103	0.0	0.0	51.65	92.86	37	74.2	55.83	37.22	19.83	3.06	0.619	0.33	0.42	0.224	0.035	1.0	0.126	0.124	0.861	0.145	0.145
5	TLS11a	b50r	1.0	0.0	1.0	0.875	0.5	1.0	0.912	0.0	0.0	58.17	108.07	328	91.8	−57.02	52.98	26.14	86.06	0.321	0.158	0.598	0.295	0.971	1.0	0.126	1.0	0.861	0.145	0.981
6	TLS11a	j15g	1.0	1.0	0.0	0.289	0.5	1.0	0.286	0.0	0.0	92.7	90.1	103	−20.34	87.77	68.45	82.28	13.47	0.417	0.501	0.773	0.929	0.152	1.0	1.0	0.124	1.0	1.0	0.267
7	TLS11a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a*a*, *b*a*) chroma diagram**
System: TLS11a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = **0.72**
β = **0.28**



***C* Cyan blue**
*LCH*a,C* = 87.0 47.2 196
*LAB*a,C* = 87.0 −45.2 −13.2

Mean hue
*LCH*a,h* = 71.9 39.54 251
*LAB*a,h* = 71.9 −12.98 −37.34

***S* Standard**
*LCH*a,s* = 60.04 100.0 251
LAB*a,s = 60.04 −32.83 −94.44

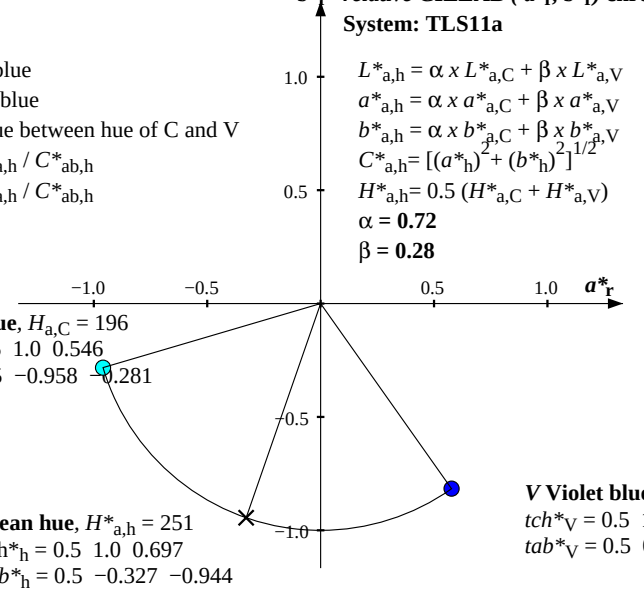
***V* Violet blue**
*LCH*a,V* = 33.1 121.3 305
*LAB*a,V* = 33.1 70.0 −99.0

adapted* CIELAB data for the two hue angles of C and V; data *LAB*aLCH*a*, *LAB*aLAB*a

***relative* CIELAB (*a*r*, *b*r*) chroma diagram**
System: TLS11a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = **0.72**
β = **0.28**



***C* Cyan blue**, $H_{a,C}$ = 196
*tch*C* = 0.5 1.0 0.546
*tab*C* = 0.5 −0.958 −0.281

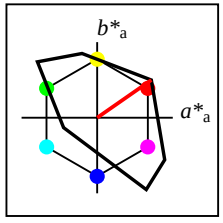
mean hue, $H^*_{a,h}$ = 251
tch*h = 0.5 1.0 0.697
*tab*h* = 0.5 −0.327 −0.944

***V* Violet blue**, $H^*_{a,V}$ = 305
*tch*V* = 0.5 1.0 0.848
*tab*V* = 0.5 0.577 −0.816

relative* CIELAB data for the two hue angles of C and V; data *lab*lch*, lab*lab*, LAB*aH*a

BAM-test chart YE04; Colorimetry for colours M of: TLS11
Device CIELAB data for C, V and mean hue h; page 11/24

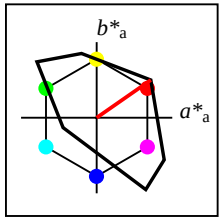
input: *olv* setrgbcolor*
output: no change compared to input



%Gamut
u*rel = 118
%Regularity
g*H,rel = 22
g*C,rel = 40

TLS18

	L*=L*a	a*	b*	C*ab	hab
OM	52.76	71.63	49.88	87.29	35
YM	92.74	−20.02	84.97	87.3	103
LM	84.0	−78.98	73.94	108.2	137
CM	87.14	−44.41	−13.11	46.32	196
VM	35.47	64.92	−95.06	115.12	304
MM	59.01	89.33	−55.67	105.26	328
NM	18.01	0.0	0.0	0.0	0
WM	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 118
%Regularity
g*H,rel = 22
g*C,rel = 40

TLS18a; adapted CIELAB data

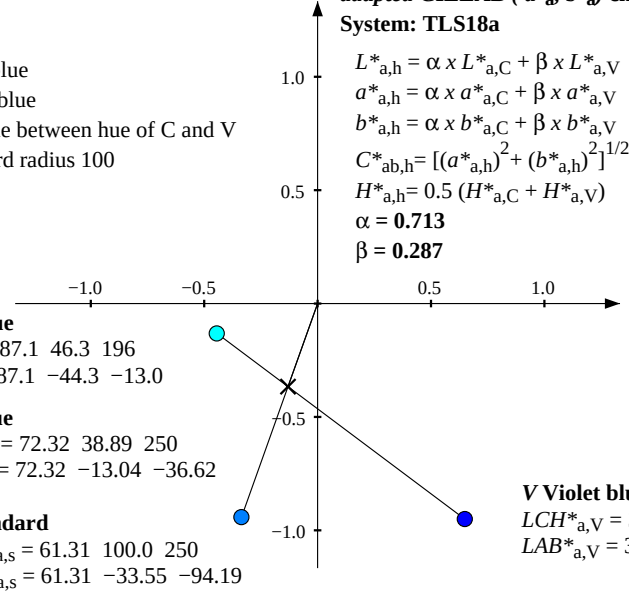
	L*=L*a	a*a	b*a	C*ab,a	hab,a
OMa	52.76	71.63	49.88	87.29	35
YMa	92.74	−20.02	84.97	87.3	103
LMa	84.0	−78.98	73.94	108.2	137
CMa	87.14	−44.41	−13.11	46.32	196
VMa	35.47	64.92	−95.06	115.12	304
MMa	59.01	89.33	−55.67	105.26	328
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272

n	System	u*	o*3	l*3	v*3	e*	t*	c*	h*	n*	w*	LCH*a,CIE			a*b*a,CIE		XYZa,CIE			xya,CIE		XYZRGB			RGB'sRGB			RGB'AdobeRGB		
0	TLS18a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	18.01	0.0	0	0.0	0.0	2.4	2.52	2.74	0.313	0.329	0.027	0.028	0.031	0.184	0.184	0.184	0.198	0.198	0.198
1	TLS18a	b28r	0.0	0.0	1.0	0.822	0.5	1.0	0.845	0.0	0.0	35.47	115.12	304	64.92	−95.06	17.93	8.74	84.54	0.161	0.079	0.202	0.099	0.954	0.185	0.185	1.0	0.199	0.198	0.981
2	TLS18a	j64g	0.0	1.0	0.0	0.411	0.5	1.0	0.38	0.0	0.0	84.0	108.2	137	−78.98	73.94	33.18	64.07	13.0	0.301	0.581	0.374	0.723	0.147	0.186	1.0	0.184	0.583	1.0	0.295
3	TLS18a	g31b	0.0	1.0	1.0	0.578	0.5	1.0	0.546	0.0	0.0	87.14	46.32	196	−44.41	−13.11	48.72	70.29	94.77	0.228	0.329	0.55	0.793	1.07	0.187	1.0	1.0	0.583	1.0	1.0
4	TLS18a	r14j	1.0	0.0	0.0	0.036	0.5	1.0	0.097	0.0	0.0	52.76	87.29	35	71.63	49.88	37.9	20.83	4.41	0.6	0.33	0.428	0.235	0.05	1.0	0.185	0.184	0.863	0.198	0.198
5	TLS18a	b50r	1.0	0.0	1.0	0.875	0.5	1.0	0.911	0.0	0.0	59.01	105.26	328	89.33	−55.67	53.43	27.04	86.2	0.321	0.162	0.603	0.305	0.973	1.0	0.185	1.0	0.863	0.198	0.981
6	TLS18a	j15g	1.0	1.0	0.0	0.289	0.5	1.0	0.287	0.0	0.0	92.74	87.3	103	−20.02	84.97	68.68	82.37	14.66	0.414	0.497	0.775	0.93	0.166	1.0	1.0	0.184	1.0	1.0	0.295
7	TLS18a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a**a, *b**a) chroma diagram**
System: TLS18a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = **0.713**
β = **0.287**



***C* Cyan blue**
*LCH**a,C = 87.1 46.3 196
*LAB**a,C = 87.1 −44.3 −13.0

Mean hue
*LCH**a,h = 72.32 38.89 250
*LAB**a,h = 72.32 −13.04 −36.62

***S* Standard**
*LCH**a,s = 61.31 100.0 250
LAB**a,s = 61.31 −33.55 −94.19

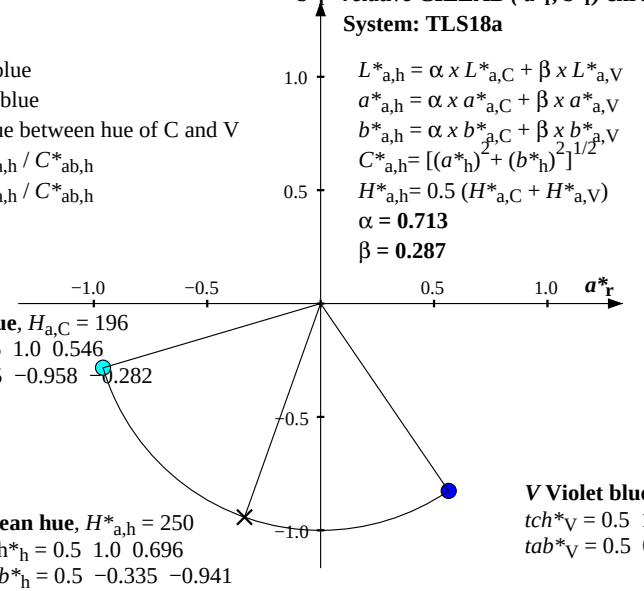
***V* Violet blue**
*LCH**a,V = 35.5 115.1 304
*LAB**a,V = 35.5 64.9 −95.0

***adapted* CIELAB data for the two hue angles of C and V; data *LAB**a*LCH**a, *LAB**a*LAB**a**

***relative* CIELAB (*a**r, *b**r) chroma diagram**
System: TLS18a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = **0.713**
β = **0.287**



***C* Cyan blue**, $H_{a,C}$ = 196
*tch**C = 0.5 1.0 0.546
*tab**C = 0.5 −0.958 −0.282

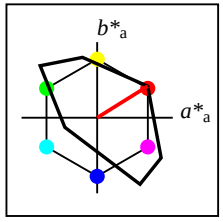
mean hue, $H^*_{a,h}$ = 250
tch**h = 0.5 1.0 0.696
*tab**h = 0.5 −0.335 −0.941

***V* Violet blue**, $H^*_{a,V}$ = 304
*tch**V = 0.5 1.0 0.845
*tab**V = 0.5 0.564 −0.825

***relative* CIELAB data for the two hue angles of C and V; data *lab*lch*, lab*lab*, LAB**a*H**a**

BAM-test chart YE04; Colorimetry for colours M of: TLS18
Device CIELAB data for C, V and mean hue h; page 12/24

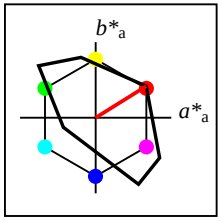
input: *olv* setrgbcolor*
output: no change compared to input



%Gamut
u*rel = 98
%Regularity
g*H,rel = 24
g*C,rel = 43

TLS28

	L*=L*a	a*	b*	C*ab	hab
OM	54.88	66.84	41.69	78.78	32
YM	92.82	−19.38	79.81	82.13	104
LM	84.37	−75.38	68.76	102.04	138
CM	87.4	−42.71	−12.69	44.57	197
VM	39.7	56.66	−88.01	104.68	303
MM	60.64	84.61	−53.07	99.88	328
NM	26.85	0.0	0.0	0.0	0
WM	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 98
%Regularity
g*H,rel = 24
g*C,rel = 43

TLS28a; adapted CIELAB data

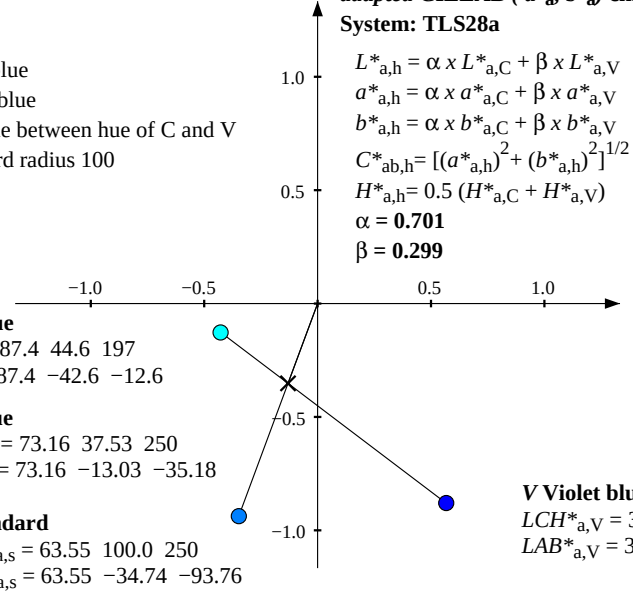
	L*=L*a	a*a	b*a	C*ab,a	hab,a
OMa	54.88	66.84	41.69	78.78	32
YMa	92.82	−19.38	79.81	82.13	104
LMa	84.37	−75.38	68.76	102.04	138
CMa	87.4	−42.71	−12.69	44.57	197
VMa	39.7	56.66	−88.01	104.68	303
MMa	60.64	84.61	−53.07	99.88	328
NMa	26.85	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272

n	System	u*	o*3	l*3	v*3	e*	t*	c*	h*	n*	w*	LCH*a,CIE			a*b*a,CIE		XYZa,CIE			xya,CIE		XYZRGB			RGB'sRGB			RGB'AdobeRGB		
0	TLS28a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	26.85	0.0	0	0.0	0.0	4.79	5.04	5.49	0.313	0.329	0.054	0.057	0.062	0.265	0.265	0.265	0.272	0.272	0.272
1	TLS28a	b27r	0.0	0.0	1.0	0.819	0.5	1.0	0.841	0.0	0.0	39.7	104.68	303	56.66	−88.01	19.87	11.07	84.87	0.172	0.096	0.224	0.125	0.958	0.265	0.265	1.0	0.272	0.272	0.982
2	TLS28a	j65g	0.0	1.0	0.0	0.414	0.5	1.0	0.382	0.0	0.0	84.37	102.04	138	−75.38	68.76	34.67	64.78	15.44	0.302	0.564	0.391	0.731	0.174	0.265	1.0	0.264	0.6	1.0	0.344
3	TLS28a	g32b	0.0	1.0	1.0	0.581	0.5	1.0	0.546	0.0	0.0	87.4	44.57	197	−42.71	−12.69	49.76	70.83	94.81	0.231	0.329	0.562	0.799	1.07	0.266	1.0	1.0	0.601	1.0	1.0
4	TLS28a	r10j	1.0	0.0	0.0	0.025	0.5	1.0	0.089	0.0	0.0	54.88	78.78	32	66.84	41.69	39.26	22.81	7.11	0.567	0.33	0.443	0.257	0.08	1.0	0.265	0.265	0.867	0.272	0.272
5	TLS28a	b50r	1.0	0.0	1.0	0.875	0.5	1.0	0.911	0.0	0.0	60.64	99.88	328	84.61	−53.07	54.33	28.84	86.49	0.32	0.17	0.613	0.326	0.976	1.0	0.265	1.0	0.867	0.272	0.982
6	TLS28a	j16g	1.0	1.0	0.0	0.292	0.5	1.0	0.288	0.0	0.0	92.82	82.13	104	−19.38	79.81	69.13	82.56	17.06	0.41	0.489	0.78	0.932	0.193	1.0	1.0	0.264	1.0	1.0	0.344
7	TLS28a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a**a, *b**a) chroma diagram**
System: TLS28a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha \; x \; L^*_{a,C} + \beta \; x \; L^*_{a,V}$
$a^*_{a,h} = \alpha \; x \; a^*_{a,C} + \beta \; x \; a^*_{a,V}$
$b^*_{a,h} = \alpha \; x \; b^*_{a,C} + \beta \; x \; b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5 \; (H^*_{a,C} + H^*_{a,V})$
α = **0.701**
β = **0.299**



***C* Cyan blue**
*LCH**a,C = 87.4 44.6 197
*LAB**a,C = 87.4 −42.6 −12.6

Mean hue
*LCH**a,h = 73.16 37.53 250
*LAB**a,h = 73.16 −13.03 −35.18

***S* Standard**
*LCH**a,s = 63.55 100.0 250
LAB**a,s = 63.55 −34.74 −93.76

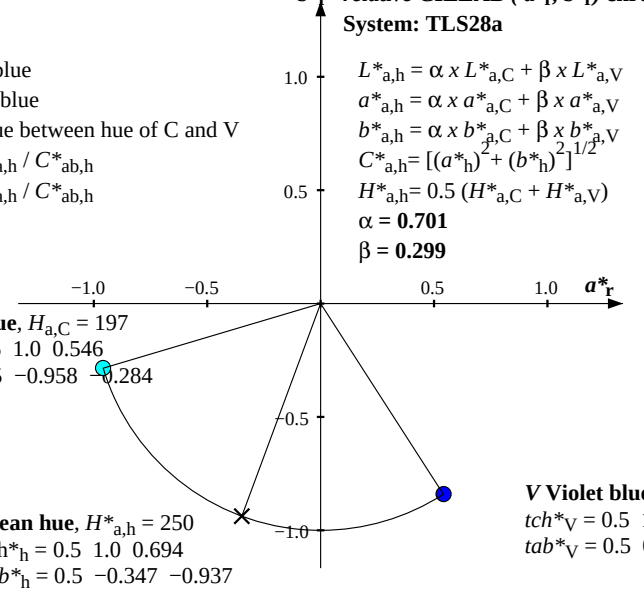
***V* Violet blue**
*LCH**a,V = 39.7 104.7 303
*LAB**a,V = 39.7 56.7 −87.9

***adapted* CIELAB data for the two hue angles of C and V; data *LAB**a*LCH**a, *LAB**a*LAB**a**

***relative* CIELAB (*a**r, *b**r) chroma diagram**
System: TLS28a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha \; x \; L^*_{a,C} + \beta \; x \; L^*_{a,V}$
$a^*_{a,h} = \alpha \; x \; a^*_{a,C} + \beta \; x \; a^*_{a,V}$
$b^*_{a,h} = \alpha \; x \; b^*_{a,C} + \beta \; x \; b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5 \; (H^*_{a,C} + H^*_{a,V})$
α = **0.701**
β = **0.299**



***C* Cyan blue**, $H_{a,C}$ = 197
*tch**C = 0.5 1.0 0.546
*tab**C = 0.5 −0.958 −0.284

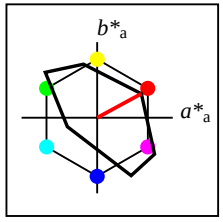
mean hue, $H^*_{a,h}$ = 250
tch**h = 0.5 1.0 0.694
*tab**h = 0.5 −0.347 −0.937

***V* Violet blue**, $H^*_{a,V}$ = 303
*tch**V = 0.5 1.0 0.841
*tab**V = 0.5 0.541 −0.84

***relative* CIELAB data for the two hue angles of C and V; data *lab*lch*, lab*lab*, LAB**a*H**a**

BAM-test chart YE04; Colorimetry for colours M of: TLS28
Device CIELAB data for C, V and mean hue h; page 13/24

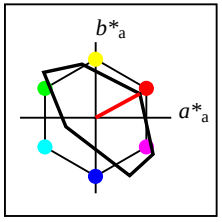
input: *olv* setrgbcolor*
output: no change compared to input



%Gamut
u*rel = 72
%Regularity
g*H,rel = 26
g*C,rel = 45

TLS38

	L*=L*a	a*	b*	C*ab	hab
OM	58.77	58.45	31.73	66.51	28
YM	92.98	−18.1	70.81	73.09	104
LM	85.11	−68.57	60.02	91.14	139
CM	87.92	−39.41	−11.86	41.17	197
VM	46.64	44.93	−76.55	88.77	300
MM	63.71	75.92	−48.21	89.94	328
NM	37.99	0.0	0.0	0.0	0
WM	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 72
%Regularity
g*H,rel = 26
g*C,rel = 45

TLS38a; adapted CIELAB data

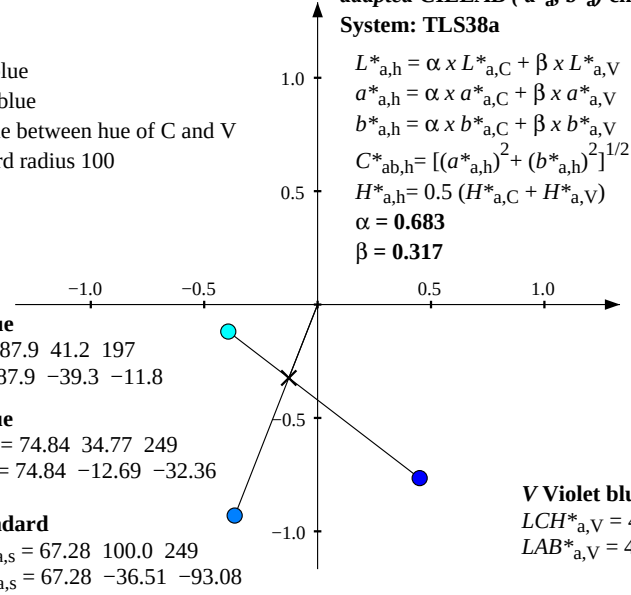
	L*=L*a	a*a	b*a	C*ab,a	hab,a
OMa	58.77	58.45	31.73	66.51	28
YMa	92.98	−18.1	70.81	73.09	104
LMa	85.11	−68.57	60.02	91.14	139
CMa	87.92	−39.41	−11.86	41.17	197
VMa	46.64	44.93	−76.55	88.77	300
MMa	63.71	75.92	−48.21	89.94	328
NMa	37.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272

n	System	u*	o*3	l*3	v*3	e*	t*	c*	h*	n*	w*	LCH*a,CIE			a*b*a,CIE		XYZa,CIE			xya,CIE		XYZRGB			RGB'sRGB			RGB'AdobeRGB		
0	TLS38a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	37.99	0.0	0	0.0	0.0	9.58	10.08	10.98	0.313	0.329	0.108	0.114	0.124	0.372	0.372	0.372	0.372	0.372	0.372
1	TLS38a	b24r	0.0	0.0	1.0	0.811	0.5	1.0	0.834	0.0	0.0	46.64	88.77	300	44.93	−76.55	23.75	15.75	85.58	0.19	0.126	0.268	0.178	0.966	0.372	0.372	1.0	0.372	0.372	0.983
2	TLS38a	j66g	0.0	1.0	0.0	0.417	0.5	1.0	0.386	0.0	0.0	85.11	91.13	139	−68.57	60.02	37.66	66.22	20.33	0.303	0.533	0.425	0.747	0.229	0.372	1.0	0.371	0.633	1.0	0.422
3	TLS38a	g32b	0.0	1.0	1.0	0.581	0.5	1.0	0.547	0.0	0.0	87.92	41.17	197	−39.41	−11.86	51.84	71.9	94.91	0.237	0.329	0.585	0.812	1.071	0.373	1.0	1.0	0.634	1.0	1.0
4	TLS38a	r03j	1.0	0.0	0.0	0.008	0.5	1.0	0.079	0.0	0.0	58.77	66.51	28	58.45	31.73	41.97	26.78	12.49	0.517	0.33	0.474	0.302	0.141	1.0	0.372	0.372	0.876	0.372	0.372
5	TLS38a	b50r	1.0	0.0	1.0	0.875	0.5	1.0	0.91	0.0	0.0	63.71	89.94	328	75.92	−48.21	56.13	32.45	87.1	0.32	0.185	0.634	0.366	0.983	1.0	0.372	1.0	0.876	0.372	0.983
6	TLS38a	j16g	1.0	1.0	0.0	0.292	0.5	1.0	0.29	0.0	0.0	92.98	73.09	104	−18.1	70.81	70.05	82.92	21.85	0.401	0.474	0.791	0.936	0.247	1.0	1.0	0.372	1.0	1.0	0.422
7	TLS38a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a**a, *b**a) chroma diagram**
System: TLS38a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = **0.683**
β = **0.317**



***C* Cyan blue**
*LCH**a,C = 87.9 41.2 197
*LAB**a,C = 87.9 −39.3 −11.8

Mean hue
*LCH**a,h = 74.84 34.77 249
*LAB**a,h = 74.84 −12.69 −32.36

***S* Standard**
*LCH**a,s = 67.28 100.0 249
LAB**a,s = 67.28 −36.51 −93.08

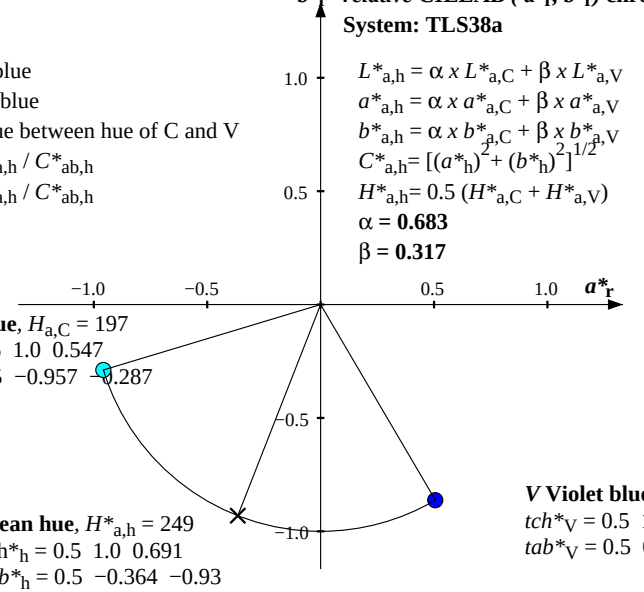
***V* Violet blue**
*LCH**a,V = 46.6 88.8 300
*LAB**a,V = 46.6 44.9 −76.5

***adapted* CIELAB data for the two hue angles of C and V; data *LAB**a*LCH**a, *LAB**a*LAB**a**

***relative* CIELAB (*a**r, *b**r) chroma diagram**
System: TLS38a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = **0.683**
β = **0.317**

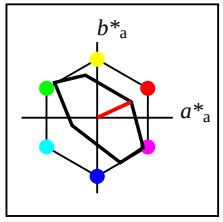


***C* Cyan blue**, $H_{a,C}$ = 197
*tch**C = 0.5 1.0 0.547
*tab**C = 0.5 −0.957 −0.287

mean hue, $H^*_{a,h}$ = 249
tch**h = 0.5 1.0 0.691
*tab**h = 0.5 −0.364 −0.93

***V* Violet blue**, $H^*_{a,V}$ = 300
*tch**V = 0.5 1.0 0.834
*tab**V = 0.5 0.506 −0.861

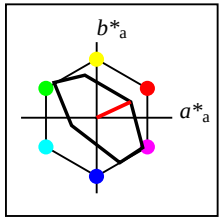
***relative* CIELAB data for the two hue angles of C and V; data *lab*lch*, lab*lab*, LAB**a*H**a**



%Gamut
u*rel = 43
%Regularity
g*H,rel = 30
g*C,rel = 48

TLS50

	L*=L*a	a*	b*	C*ab	hab
OM	65.53	45.06	20.98	49.7	25
YM	93.3	−15.6	56.27	58.4	106
LM	86.55	−56.3	46.52	73.04	140
CM	88.94	−33.18	−10.23	34.73	197
VM	57.17	30.66	−59.39	66.85	297
MM	69.22	60.95	−39.56	72.67	327
NM	52.02	0.0	0.0	0.0	0
WM	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 43
%Regularity
g*H,rel = 30
g*C,rel = 48

TLS50a; adapted CIELAB data

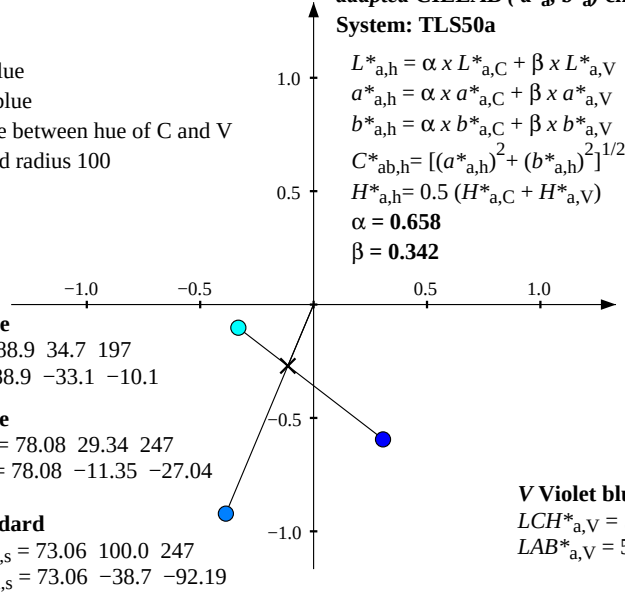
	L*=L*a	a*a	b*a	C*ab,a	hab,a
OMa	65.53	45.06	20.98	49.7	25
YMa	93.3	−15.6	56.27	58.4	106
LMa	86.55	−56.3	46.52	73.04	140
CMa	88.94	−33.18	−10.23	34.73	197
VMa	57.17	30.66	−59.39	66.85	297
MMa	69.22	60.95	−39.56	72.67	327
NMa	52.02	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272

n	System	u*	o*3	l*3	v*3	e*	t*	c*	h*	n*	w*	LCH*a,CIE			a*b*a,CIE		XYZa,CIE			xya,CIE		XYZRGB			RGB'sRGB			RGB'AdobeRGB		
0	TLS50a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	52.02	0.0	0	0.0	0.0	19.16	20.16	21.96	0.313	0.329	0.216	0.228	0.248	0.514	0.514	0.514	0.51	0.51	0.51
1	TLS50a	b22r	0.0	0.0	1.0	0.806	0.5	1.0	0.826	0.0	0.0	57.17	66.85	297	30.66	−59.39	31.51	25.1	86.97	0.219	0.175	0.356	0.283	0.982	0.514	0.514	1.0	0.51	0.51	0.985
2	TLS50a	j67g	0.0	1.0	0.0	0.419	0.5	1.0	0.39	0.0	0.0	86.55	73.04	140	−56.3	46.52	43.64	69.09	30.11	0.305	0.484	0.493	0.78	0.34	0.515	1.0	0.514	0.694	1.0	0.541
3	TLS50a	g32b	0.0	1.0	1.0	0.581	0.5	1.0	0.548	0.0	0.0	88.94	34.73	197	−33.18	−10.23	55.99	74.04	95.11	0.249	0.329	0.632	0.836	1.073	0.515	1.0	1.0	0.694	1.0	1.0
4	TLS50a	r00j	1.0	0.0	0.0	1.0	0.5	1.0	0.069	0.0	0.0	65.53	49.71	25	45.06	20.98	47.39	34.72	23.28	0.45	0.329	0.535	0.392	0.263	1.0	0.515	0.514	0.893	0.51	0.51
5	TLS50a	b48r	1.0	0.0	1.0	0.872	0.5	1.0	0.908	0.0	0.0	69.22	72.67	327	60.95	−39.56	59.73	39.65	88.3	0.318	0.211	0.674	0.448	0.997	1.0	0.515	1.0	0.893	0.51	0.985
6	TLS50a	j20g	1.0	1.0	0.0	0.3	0.5	1.0	0.293	0.0	0.0	93.3	58.39	106	−15.6	56.27	71.87	83.65	31.43	0.384	0.447	0.811	0.944	0.355	1.0	1.0	0.514	1.0	1.0	0.541
7	TLS50a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a**a, *b**a) chroma diagram**
System: TLS50a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = 0.658
β = 0.342



***C* Cyan blue**
*LCH**a,C = 88.9 34.7 197
*LAB**a,C = 88.9 −33.1 −10.1

Mean hue
*LCH**a,h = 78.08 29.34 247
*LAB**a,h = 78.08 −11.35 −27.04

***S* Standard**
*LCH**a,s = 73.06 100.0 247
LAB*a,s = 73.06 −38.7 −92.19

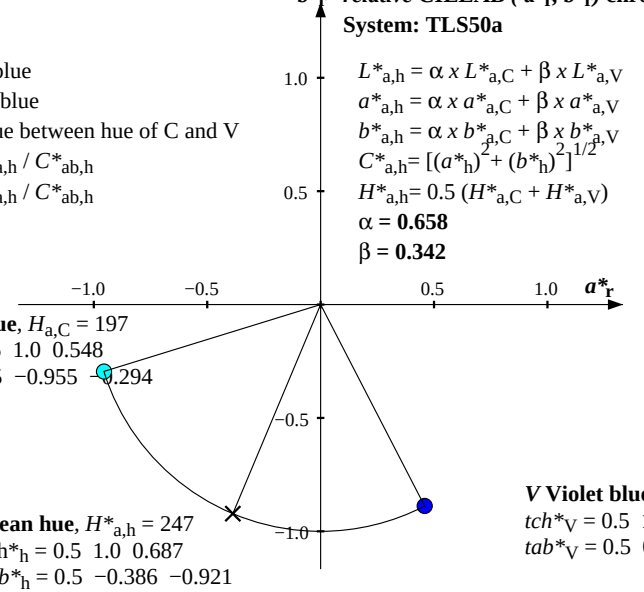
***V* Violet blue**
*LCH**a,V = 57.2 66.8 297
*LAB**a,V = 57.2 30.7 −59.3

***adapted* CIELAB data for the two hue angles of C and V; data *LAB**a*LCH**a, *LAB**a*LAB**a**

***relative* CIELAB (*a**r, *b**r) chroma diagram**
System: TLS50a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = 0.658
β = 0.342

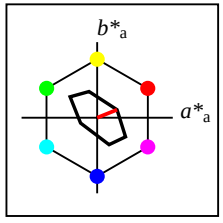


***C* Cyan blue**, $H_{a,C}$ = 197
*tch**C = 0.5 1.0 0.548
*tab**C = 0.5 −0.955 −0.294

mean hue, $H^*_{a,h}$ = 247
tch*h = 0.5 1.0 0.687
*tab**h = 0.5 −0.386 −0.921

***V* Violet blue**, $H^*_{a,V}$ = 297
*tch**V = 0.5 1.0 0.826
*tab**V = 0.5 0.459 −0.888

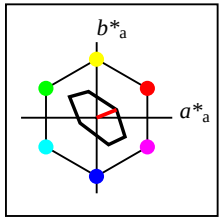
relative* CIELAB data for the two hue angles of C and V; data *lab**lch**, lab**lab**, LAB**a*H**a



%Gamut
u*rel = 16
%Regularity
g*H,rel = 34
g*C,rel = 51

TLS70

	L*=L*a	a*	b*	C*ab	hab
OM	76.43	26.27	10.57	28.32	22
YM	93.93	−10.76	34.63	36.27	107
LM	89.32	−35.8	27.64	45.24	142
CM	90.93	−21.95	−7.07	23.07	198
VM	72.1	15.76	−35.63	38.97	294
MM	78.5	37.52	−25.23	45.22	326
NM	69.7	0.0	0.0	0.0	0
WM	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 16
%Regularity
g*H,rel = 34
g*C,rel = 51

TLS70a; adapted CIELAB data

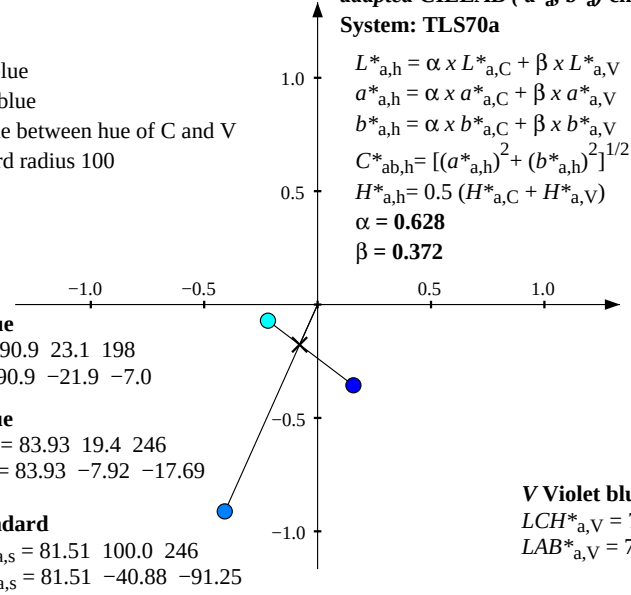
	L*=L*a	a*a	b*a	C*ab,a	hab,a
OMa	76.43	26.27	10.57	28.32	22
YMa	93.93	−10.76	34.63	36.27	107
LMa	89.32	−35.8	27.64	45.24	142
CMa	90.93	−21.95	−7.07	23.07	198
VMa	72.1	15.76	−35.63	38.97	294
MMa	78.5	37.52	−25.23	45.22	326
NMa	69.7	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272

n	System	u*	o*3	l*3	v*3	e*	t*	c*	h*	n*	w*	LCH*a,CIE			a*b*a,CIE		XYZa,CIE			xya,CIE		XYZRGB			RGB'sRGB			RGB'AdobeRGB		
0	TLS70a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	69.7	0.0	0	0.0	0.0	38.33	40.32	43.91	0.313	0.329	0.433	0.455	0.496	0.705	0.705	0.705	0.699	0.699	0.699
1	TLS70a	b20r	0.0	0.0	1.0	0.8	0.5	1.0	0.816	0.0	0.0	72.1	38.97	294	15.76	−35.63	47.04	43.81	89.78	0.26	0.243	0.531	0.494	1.013	0.705	0.705	1.0	0.699	0.699	0.99
2	TLS70a	j71g	0.0	1.0	0.0	0.428	0.5	1.0	0.395	0.0	0.0	89.32	45.24	142	−35.8	27.64	55.6	74.84	49.66	0.309	0.416	0.628	0.845	0.561	0.705	1.0	0.705	0.799	1.0	0.715
3	TLS70a	g32b	0.0	1.0	1.0	0.581	0.5	1.0	0.55	0.0	0.0	90.93	23.07	198	−21.95	−7.07	64.31	78.33	95.51	0.27	0.329	0.726	0.884	1.078	0.705	1.0	1.0	0.799	1.0	1.0
4	TLS70a	b96r	1.0	0.0	0.0	0.992	0.5	1.0	0.061	0.0	0.0	76.43	28.32	22	26.27	10.57	58.24	50.59	44.84	0.379	0.329	0.657	0.571	0.506	1.0	0.705	0.705	0.926	0.699	0.699
5	TLS70a	b47r	1.0	0.0	1.0	0.869	0.5	1.0	0.906	0.0	0.0	78.5	45.22	326	37.52	−25.23	66.94	54.07	90.7	0.316	0.255	0.756	0.61	1.024	1.0	0.705	1.0	0.926	0.699	0.99
6	TLS70a	j21g	1.0	1.0	0.0	0.303	0.5	1.0	0.298	0.0	0.0	93.93	36.27	107	−10.76	34.63	75.5	85.11	50.6	0.357	0.403	0.852	0.961	0.571	1.0	1.0	0.705	1.0	1.0	0.715
7	TLS70a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a**a, *b**a) chroma diagram**
System: TLS70a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha \times L^*_{a,C} + \beta \times L^*_{a,V}$
$a^*_{a,h} = \alpha \times a^*_{a,C} + \beta \times a^*_{a,V}$
$b^*_{a,h} = \alpha \times b^*_{a,C} + \beta \times b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = 0.628
β = 0.372



***C* Cyan blue**
*LCH**a,C = 90.9 23.1 198
*LAB**a,C = 90.9 −21.9 −7.0

Mean hue
*LCH**a,h = 83.93 19.4 246
*LAB**a,h = 83.93 −7.92 −17.69

***S* Standard**
*LCH**a,s = 81.51 100.0 246
LAB**a,s = 81.51 −40.88 −91.25

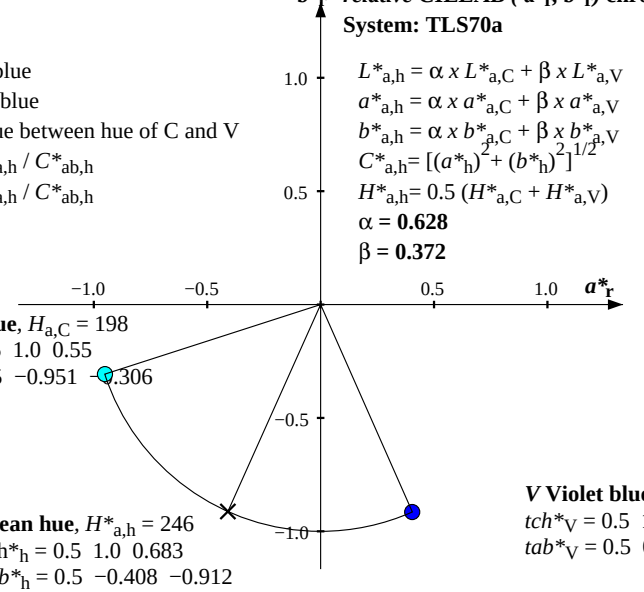
***V* Violet blue**
*LCH**a,V = 72.1 39.0 294
*LAB**a,V = 72.1 15.8 −35.5

***adapted* CIELAB data for the two hue angles of C and V; data *LAB**a*LCH**a, *LAB**a*LAB**a**

***relative* CIELAB (*a**r, *b**r) chroma diagram**
System: TLS70a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha \times L^*_{a,C} + \beta \times L^*_{a,V}$
$a^*_{a,h} = \alpha \times a^*_{a,C} + \beta \times a^*_{a,V}$
$b^*_{a,h} = \alpha \times b^*_{a,C} + \beta \times b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = 0.628
β = 0.372

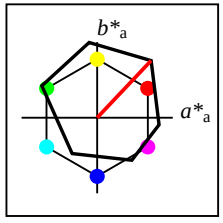


***C* Cyan blue**, $H_{a,C}$ = 198
*tch**C = 0.5 1.0 0.55
*tab**C = 0.5 −0.951 −0.306

mean hue, $H^*_{a,h}$ = 246
tch**h = 0.5 1.0 0.683
*tab**h = 0.5 −0.408 −0.912

***V* Violet blue**, $H^*_{a,V}$ = 294
*tch**V = 0.5 1.0 0.816
*tab**V = 0.5 0.404 −0.914

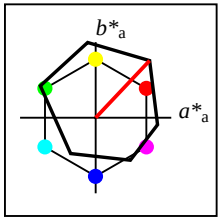
***relative* CIELAB data for the two hue angles of C and V; data *lab*lch*, lab*lab*, LAB**a*H**a**



%Gamut
u*rel = 133
%Regularity
g*H,rel = 52
g*C,rel = 56

OLS00

	L*=L*a	a*	b*	C*ab	hab
OM	45.14	71.37	75.54	103.92	47
YM	90.22	−10.59	99.51	100.07	96
LM	48.45	−73.18	42.21	84.49	150
CM	56.88	−33.1	−47.4	57.83	235
VM	16.48	45.84	−56.21	72.54	309
MM	45.36	81.85	−9.28	82.38	354
NM	0.01	0.0	0.0	0.0	0
WM	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 133
%Regularity
g*H,rel = 52
g*C,rel = 56

OLS00a; adapted CIELAB data

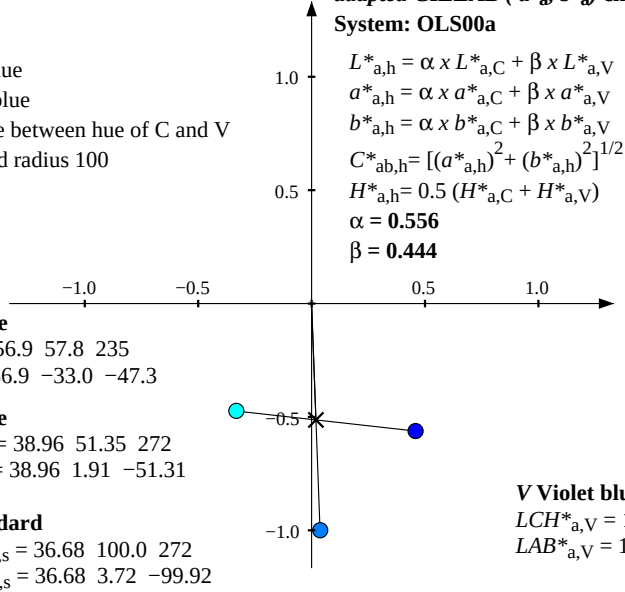
	L*=L*a	a*a	b*a	C*ab,a	hab,a
OMa	45.14	71.37	75.54	103.92	47
YMa	90.22	−10.59	99.51	100.07	96
LMa	48.45	−73.18	42.21	84.49	150
CMa	56.88	−33.1	−47.4	57.83	235
VMa	16.48	45.84	−56.21	72.54	309
MMa	45.36	81.85	−9.28	82.38	354
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272

n	System	u*	o*3	l*3	v*3	e*	t*	c*	h*	n*	w*	LCH*a,CIE			a*b*a,CIE		XYZa,CIE			xya,CIE		XYZRGB			RGB'sRGB			RGB'AdobeRGB		
0	OLS00a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.01	0.0	0	0.0	0.0	0.0	0.0	0.0	0.328	0.322	0.0	0.0	0.0	0.0	0.0	0.0	0.006	0.006	0.006
1	OLS00a	b32r	0.0	0.0	1.0	0.831	0.5	1.0	0.859	0.0	0.0	16.48	72.54	309	45.84	−56.21	4.88	2.2	19.24	0.185	0.083	0.055	0.025	0.217	0.197	0.028	0.514	0.182	0.061	0.5
2	OLS00a	j82g	0.0	1.0	0.0	0.456	0.5	1.0	0.417	0.0	0.0	48.45	84.49	150	−73.18	42.21	6.51	17.15	4.45	0.232	0.61	0.074	0.194	0.05	−1.089	0.578	0.142	0.181	0.573	0.2
3	OLS00a	g66b	0.0	1.0	1.0	0.667	0.5	1.0	0.653	0.0	0.0	56.88	57.83	235	−33.1	−47.4	16.88	24.8	70.56	0.15	0.221	0.19	0.28	0.796	−2.713	0.645	0.904	−0.24	0.639	0.892
4	OLS00a	r32j	1.0	0.0	0.0	0.081	0.5	1.0	0.13	0.0	0.0	45.14	103.92	47	71.37	75.54	28.56	14.64	0.16	0.659	0.338	0.322	0.165	0.002	0.901	−0.027	−0.178	0.771	−0.063	−0.14
5	OLS00a	b72r	1.0	0.0	1.0	0.931	0.5	1.0	0.982	0.0	0.0	45.36	82.38	354	81.85	−9.28	31.59	14.8	20.75	0.471	0.22	0.357	0.167	0.234	0.897	−0.287	0.52	0.764	−0.177	0.505
6	OLS00a	j05g	1.0	1.0	0.0	0.264	0.5	1.0	0.267	0.0	0.0	90.22	100.07	96	−10.59	99.51	68.02	76.78	7.96	0.445	0.503	0.768	0.867	0.09	1.047	0.948	−0.503	1.021	0.946	−0.043
7	OLS00a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a**a, *b**a) chroma diagram**
System: OLS00a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha \times L^*_{a,C} + \beta \times L^*_{a,V}$
$a^*_{a,h} = \alpha \times a^*_{a,C} + \beta \times a^*_{a,V}$
$b^*_{a,h} = \alpha \times b^*_{a,C} + \beta \times b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = **0.556**
β = **0.444**



***C* Cyan blue**
*LCH**a,C = 56.9 57.8 235
*LAB**a,C = 56.9 −33.0 −47.3

Mean hue
*LCH**a,h = 38.96 51.35 272
*LAB**a,h = 38.96 1.91 −51.31

***S* Standard**
*LCH**a,s = 36.68 100.0 272
LAB*a,s = 36.68 3.72 −99.92

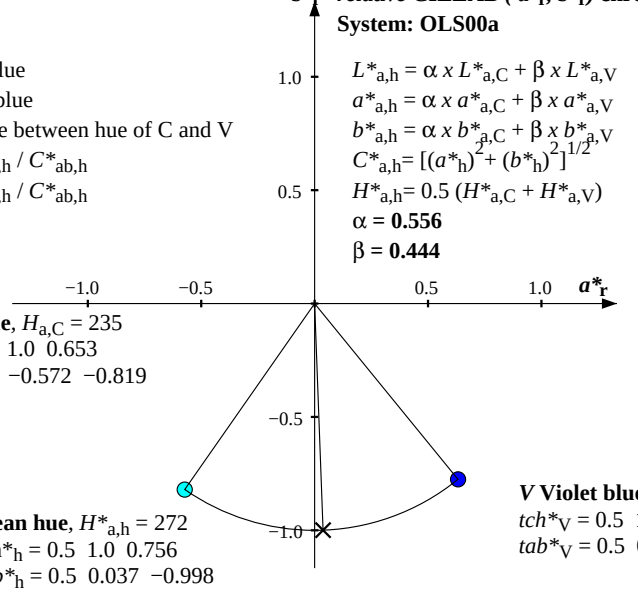
***V* Violet blue**
*LCH**a,V = 16.5 72.5 309
*LAB**a,V = 16.5 45.8 −56.1

***adapted* CIELAB data for the two hue angles of C and V; data *LAB**a*LCH**a, *LAB**a*LAB**a**

***relative* CIELAB (*a**r, *b**r) chroma diagram**
System: OLS00a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha \times L^*_{a,C} + \beta \times L^*_{a,V}$
$a^*_{a,h} = \alpha \times a^*_{a,C} + \beta \times a^*_{a,V}$
$b^*_{a,h} = \alpha \times b^*_{a,C} + \beta \times b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = **0.556**
β = **0.444**



***C* Cyan blue**, $H^*_{a,C}$ = 235
*tch**C = 0.5 1.0 0.653
*tab**C = 0.5 −0.572 −0.819

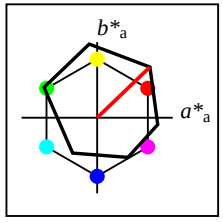
mean hue, $H^*_{a,h}$ = 272
tch*h = 0.5 1.0 0.756
*tab**h = 0.5 0.037 −0.998

***V* Violet blue**, $H^*_{a,V}$ = 309
*tch**V = 0.5 1.0 0.859
*tab**V = 0.5 0.632 −0.774

relative* CIELAB data for the two hue angles of C and V; data *lab**lch**, lab**lab**, LAB**a*H**a

BAM-test chart YE04; Colorimetry for colours M of: OLS00
Device CIELAB data for C, V and mean hue h; page 17/24

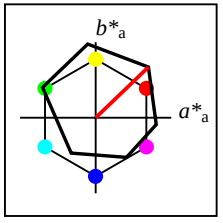
input: *olv* setrgbcolor*
output: no change compared to input



%Gamut
u*rel = 120
%Regularity
g*H,rel = 54
g*C,rel = 58

OLS06

	L*=L*a	a*	b*	C*ab	hab
OM	45.87	69.79	66.99	96.74	44
YM	90.25	−10.5	97.42	97.99	96
LM	49.08	−70.27	40.08	80.91	150
CM	57.33	−32.37	−46.79	56.91	235
VM	19.26	40.73	−52.46	66.42	308
MM	46.07	80.12	−9.03	80.63	354
NM	5.69	0.0	0.0	0.0	0
WM	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 120
%Regularity
g*H,rel = 54
g*C,rel = 58

OLS06a; adapted CIELAB data

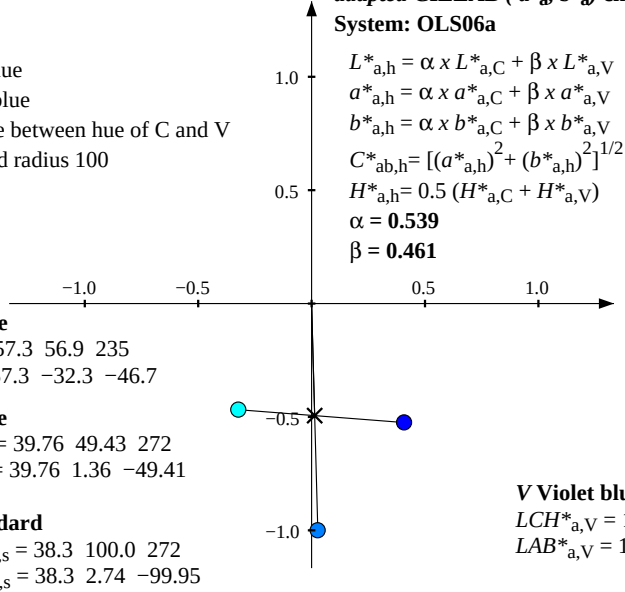
	L*=L*a	a*a	b*a	C*ab,a	hab,a
OMa	45.87	69.79	66.99	96.74	44
YMa	90.25	−10.5	97.42	97.99	96
LMa	49.08	−70.27	40.08	80.91	150
CMa	57.33	−32.37	−46.79	56.91	235
VMa	19.26	40.73	−52.46	66.42	308
MMa	46.07	80.12	−9.03	80.63	354
NMa	5.69	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272

n	System	u*	o*3	l*3	v*3	e*	t*	c*	h*	n*	w*	LCH*a,CIE			a*b*a,CIE		XYZa,CIE			xya,CIE		XYZRGB			RGB'sRGB			RGB'AdobeRGB		
0	OLS06a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	5.69	0.0	0	0.0	0.0	0.6	0.63	0.69	0.313	0.329	0.007	0.007	0.008	0.079	0.079	0.079	0.106	0.105	0.105
1	OLS06a	b32r	0.0	0.0	1.0	0.831	0.5	1.0	0.855	0.0	0.0	19.26	66.42	308	40.73	−52.46	5.44	2.81	19.78	0.194	0.1	0.061	0.032	0.223	0.218	0.095	0.52	0.205	0.119	0.506
2	OLS06a	j82g	0.0	1.0	0.0	0.456	0.5	1.0	0.418	0.0	0.0	49.08	80.91	150	−70.27	40.08	7.07	17.66	5.11	0.237	0.592	0.08	0.199	0.058	−0.99	0.583	0.171	0.204	0.578	0.221
3	OLS06a	g66b	0.0	1.0	1.0	0.667	0.5	1.0	0.654	0.0	0.0	57.33	56.91	235	−32.37	−46.79	17.36	25.26	70.76	0.153	0.223	0.196	0.285	0.799	−2.602	0.649	0.905	−0.221	0.643	0.893
4	OLS06a	r27j	1.0	0.0	0.0	0.069	0.5	1.0	0.122	0.0	0.0	45.87	96.74	44	69.79	66.99	28.97	15.17	0.85	0.644	0.337	0.327	0.171	0.01	0.902	0.061	−0.085	0.773	0.088	−0.098
5	OLS06a	b72r	1.0	0.0	1.0	0.931	0.5	1.0	0.982	0.0	0.0	46.07	80.63	354	80.12	−9.03	31.95	15.32	21.28	0.466	0.223	0.361	0.173	0.24	0.898	−0.193	0.526	0.766	−0.148	0.511
6	OLS06a	j05g	1.0	1.0	0.0	0.264	0.5	1.0	0.267	0.0	0.0	90.25	97.99	96	−10.5	97.42	68.12	76.84	8.59	0.444	0.5	0.769	0.867	0.097	1.047	0.948	−0.408	1.021	0.946	0.098
7	OLS06a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a**a, *b**a) chroma diagram**
System: OLS06a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha \; x \; L^*_{a,C} + \beta \; x \; L^*_{a,V}$
$a^*_{a,h} = \alpha \; x \; a^*_{a,C} + \beta \; x \; a^*_{a,V}$
$b^*_{a,h} = \alpha \; x \; b^*_{a,C} + \beta \; x \; b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5\,(H^*_{a,C} + H^*_{a,V})$
α = **0.539**
β = **0.461**



***C* Cyan blue**
*LCH**a,C = 57.3 56.9 235
*LAB**a,C = 57.3 −32.3 −46.7

Mean hue
*LCH**a,h = 39.76 49.43 272
*LAB**a,h = 39.76 1.36 −49.41

***S* Standard**
*LCH**a,s = 38.3 100.0 272
LAB**a,s = 38.3 2.74 −99.95

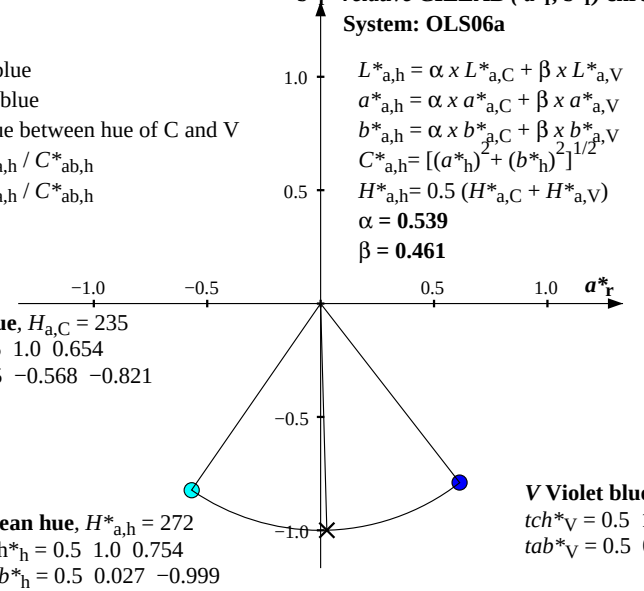
***V* Violet blue**
*LCH**a,V = 19.3 66.4 308
*LAB**a,V = 19.3 40.7 −52.4

***adapted* CIELAB data for the two hue angles of C and V; data *LAB**a*LCH**a, *LAB**a*LAB**a**

***relative* CIELAB (*a**r, *b**r) chroma diagram**
System: OLS06a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha \; x \; L^*_{a,C} + \beta \; x \; L^*_{a,V}$
$a^*_{a,h} = \alpha \; x \; a^*_{a,C} + \beta \; x \; a^*_{a,V}$
$b^*_{a,h} = \alpha \; x \; b^*_{a,C} + \beta \; x \; b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5\,(H^*_{a,C} + H^*_{a,V})$
α = **0.539**
β = **0.461**



***C* Cyan blue**, $H_{a,C}$ = 235
*tch**C = 0.5 1.0 0.654
*tab**C = 0.5 −0.568 −0.821

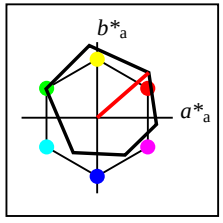
mean hue, $H^*_{a,h}$ = 272
tch**h = 0.5 1.0 0.754
*tab**h = 0.5 0.027 −0.999

***V* Violet blue**, $H^*_{a,V}$ = 308
*tch**V = 0.5 1.0 0.855
*tab**V = 0.5 0.613 −0.789

relative* CIELAB data for the two hue angles of C and V; data *lab**lch**, lab**lab**, LAB**a*H**a

BAM-test chart YE04; Colorimetry for colours M of: OLS06
Device CIELAB data for C, V and mean hue h; page 18/24

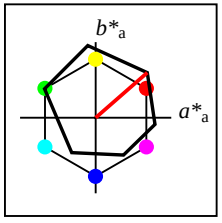
input: *olv* setrgbcolor*
output: no change compared to input



%Gamut
u*rel = 108
%Regularity
g*H,rel = 55
g*C,rel = 58

OLS11

	L*=L*a	a*	b*	C*ab	hab
OM	46.57	68.27	59.62	90.64	41
YM	90.29	−10.42	95.45	96.02	96
LM	49.7	−67.59	38.19	77.64	151
CM	57.76	−31.67	−46.18	56.01	236
VM	21.67	36.81	−49.36	61.58	307
MM	46.77	78.45	−8.79	78.94	354
NM	10.99	0.0	0.0	0.0	0
WM	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 108
%Regularity
g*H,rel = 55
g*C,rel = 58

OLS11a; adapted CIELAB data

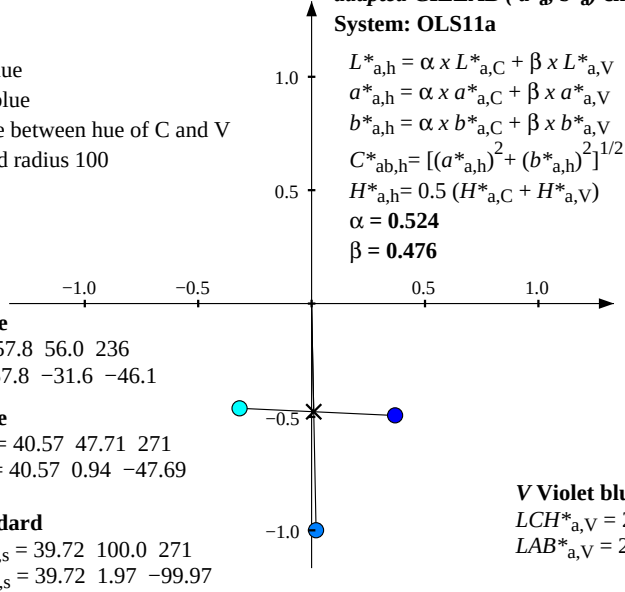
	L*=L*a	a*a	b*a	C*ab,a	hab,a
OMa	46.57	68.27	59.62	90.64	41
YMa	90.29	−10.42	95.45	96.02	96
LMa	49.7	−67.59	38.19	77.64	151
CMa	57.76	−31.67	−46.18	56.01	236
VMa	21.67	36.81	−49.36	61.58	307
MMa	46.77	78.45	−8.79	78.94	354
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272

n	System	u*	o*3	l*3	v*3	e*	t*	c*	h*	n*	w*	LCH*a,CIE			a*b*a,CIE		XYZa,CIE			xya,CIE		XYZRGB			RGB'sRGB			RGB'AdobeRGB		
0	OLS11a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	10.99	0.0	0	0.0	0.0	1.2	1.26	1.37	0.313	0.329	0.014	0.014	0.015	0.124	0.124	0.124	0.145	0.145	0.145
1	OLS11a	b31r	0.0	0.0	1.0	0.828	0.5	1.0	0.852	0.0	0.0	21.67	61.58	307	36.81	−49.36	6.01	3.42	20.34	0.202	0.115	0.068	0.039	0.23	0.237	0.135	0.526	0.225	0.154	0.512
2	OLS11a	j84g	0.0	1.0	0.0	0.461	0.5	1.0	0.418	0.0	0.0	49.7	77.64	151	−67.59	38.19	7.62	18.17	5.76	0.242	0.576	0.086	0.205	0.065	−0.89	0.587	0.195	0.224	0.582	0.239
3	OLS11a	g67b	0.0	1.0	1.0	0.669	0.5	1.0	0.654	0.0	0.0	57.76	56.01	236	−31.67	−46.18	17.84	25.71	70.93	0.156	0.225	0.201	0.29	0.801	−2.491	0.652	0.905	−0.199	0.646	0.894
4	OLS11a	r23j	1.0	0.0	0.0	0.058	0.5	1.0	0.114	0.0	0.0	46.57	90.64	41	68.27	59.62	29.35	15.69	1.53	0.63	0.337	0.331	0.177	0.017	0.903	0.112	0.007	0.775	0.133	0.044
5	OLS11a	b72r	1.0	0.0	1.0	0.931	0.5	1.0	0.982	0.0	0.0	46.77	78.94	354	78.45	−8.79	32.33	15.84	21.82	0.462	0.226	0.365	0.179	0.246	0.899	−0.099	0.531	0.768	−0.11	0.516
6	OLS11a	j05g	1.0	1.0	0.0	0.264	0.5	1.0	0.267	0.0	0.0	90.29	96.02	96	−10.42	95.45	68.24	76.93	9.22	0.442	0.498	0.77	0.868	0.104	1.047	0.949	−0.313	1.021	0.947	0.14
7	OLS11a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a**a, *b**a) chroma diagram**
System: OLS11a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha \; x \; L^*_{a,C} + \beta \; x \; L^*_{a,V}$
$a^*_{a,h} = \alpha \; x \; a^*_{a,C} + \beta \; x \; a^*_{a,V}$
$b^*_{a,h} = \alpha \; x \; b^*_{a,C} + \beta \; x \; b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5\,(H^*_{a,C} + H^*_{a,V})$
α = **0.524**
β = **0.476**



***C* Cyan blue**
*LCH**a,C = 57.8 56.0 236
*LAB**a,C = 57.8 −31.6 −46.1

Mean hue
*LCH**a,h = 40.57 47.71 271
*LAB**a,h = 40.57 0.94 −47.69

***S* Standard**
*LCH**a,s = 39.72 100.0 271
LAB**a,s = 39.72 1.97 −99.97

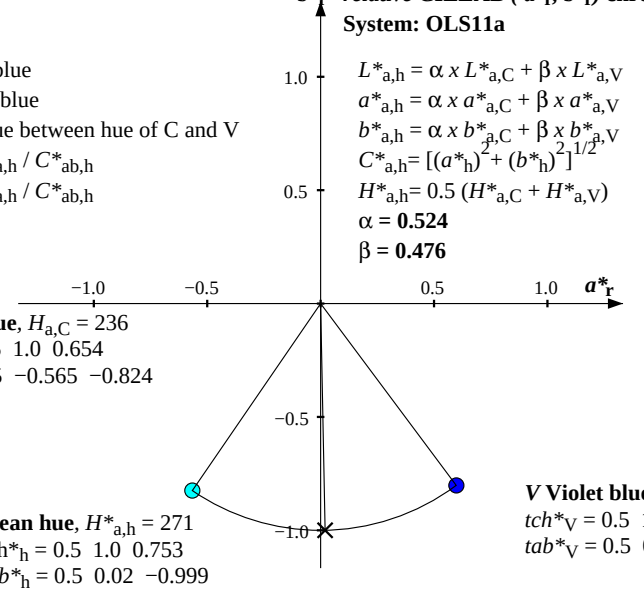
***V* Violet blue**
*LCH**a,V = 21.7 61.6 307
*LAB**a,V = 21.7 36.8 −49.3

***adapted* CIELAB data for the two hue angles of C and V; data *LAB**a*LCH**a, *LAB**a*LAB**a**

***relative* CIELAB (*a**r, *b**r) chroma diagram**
System: OLS11a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha \; x \; L^*_{a,C} + \beta \; x \; L^*_{a,V}$
$a^*_{a,h} = \alpha \; x \; a^*_{a,C} + \beta \; x \; a^*_{a,V}$
$b^*_{a,h} = \alpha \; x \; b^*_{a,C} + \beta \; x \; b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5\,(H^*_{a,C} + H^*_{a,V})$
α = **0.524**
β = **0.476**



***C* Cyan blue**, $H_{a,C}$ = 236
*tch**C = 0.5 1.0 0.654
*tab**C = 0.5 −0.565 −0.824

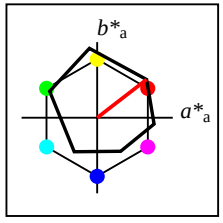
mean hue, $H^*_{a,h}$ = 271
tch**h = 0.5 1.0 0.753
*tab**h = 0.5 0.02 −0.999

***V* Violet blue**, $H^*_{a,V}$ = 307
*tch**V = 0.5 1.0 0.852
*tab**V = 0.5 0.598 −0.801

relative* CIELAB data for the two hue angles of C and V; data *lab**lch**, lab**lab**, LAB**a*H**a

BAM-test chart YE04; Colorimetry for colours M of: OLS11
Device CIELAB data for C, V and mean hue h; page 19/24

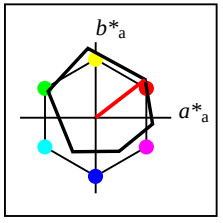
input: *olv* setrgbcolor*
output: no change compared to input



%Gamut
u*rel = 93
%Regularity
g*H,rel = 57
g*C,rel = 59

OLS18

	L*=L*a	a*	b*	C*ab	hab
OM	47.94	65.39	50.52	82.63	38
YM	90.37	−10.25	91.75	92.32	96
LM	50.9	−62.82	34.96	71.9	151
CM	58.62	−30.33	−45.0	54.28	236
VM	25.72	31.1	−44.39	54.21	305
MM	48.13	75.28	−8.35	75.74	354
NM	18.01	0.0	0.0	0.0	0
WM	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 93
%Regularity
g*H,rel = 57
g*C,rel = 59

OLS18a; adapted CIELAB data

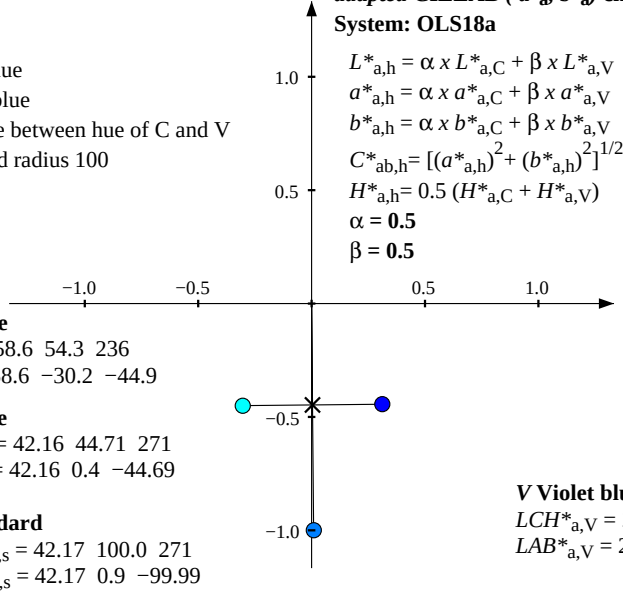
	L*=L*a	a*a	b*a	C*ab,a	hab,a
OMa	47.94	65.39	50.52	82.63	38
YMa	90.37	−10.25	91.75	92.32	96
LMa	50.9	−62.82	34.96	71.9	151
CMa	58.62	−30.33	−45.0	54.28	236
VMa	25.72	31.1	−44.39	54.21	305
MMa	48.13	75.28	−8.35	75.74	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272

n	System	u*	o*3	l*3	v*3	e*	t*	c*	h*	n*	w*	LCH*a,CIE			a*b*a,CIE		XYZa,CIE			xya,CIE		XYZRGB			RGB'sRGB			RGB'AdobeRGB		
0	OLS18a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	18.01	0.0	0	0.0	0.0	2.4	2.52	2.74	0.313	0.329	0.027	0.028	0.031	0.184	0.184	0.184	0.198	0.198	0.198
1	OLS18a	b28r	0.0	0.0	1.0	0.822	0.5	1.0	0.847	0.0	0.0	25.72	54.21	305	31.1	−44.39	7.14	4.65	21.43	0.215	0.14	0.081	0.053	0.242	0.271	0.192	0.537	0.259	0.205	0.523
2	OLS18a	j84g	0.0	1.0	0.0	0.461	0.5	1.0	0.419	0.0	0.0	50.9	71.9	151	−62.82	34.96	8.72	19.18	7.07	0.249	0.548	0.098	0.217	0.08	−0.691	0.596	0.237	0.259	0.591	0.271
3	OLS18a	g67b	0.0	1.0	1.0	0.669	0.5	1.0	0.656	0.0	0.0	58.62	54.28	236	−30.33	−45.0	18.8	26.62	71.3	0.161	0.228	0.212	0.3	0.805	−2.268	0.659	0.907	−0.143	0.653	0.895
4	OLS18a	r18j	1.0	0.0	0.0	0.047	0.5	1.0	0.105	0.0	0.0	47.94	82.63	38	65.39	50.52	30.15	16.75	2.9	0.605	0.336	0.34	0.189	0.033	0.904	0.177	0.128	0.779	0.191	0.15
5	OLS18a	b72r	1.0	0.0	1.0	0.931	0.5	1.0	0.982	0.0	0.0	48.13	75.74	354	75.28	−8.35	33.08	16.9	22.9	0.454	0.232	0.373	0.191	0.258	0.9	0.077	0.542	0.772	0.102	0.527
6	OLS18a	j05g	1.0	1.0	0.0	0.264	0.5	1.0	0.268	0.0	0.0	90.37	92.32	96	−10.25	91.75	68.48	77.1	10.48	0.439	0.494	0.773	0.87	0.118	1.046	0.949	−0.121	1.02	0.948	0.195
7	OLS18a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a**a, *b**a) chroma diagram**
System: OLS18a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = **0.5**
β = **0.5**



***C* Cyan blue**
*LCH**a,C = 58.6 54.3 236
*LAB**a,C = 58.6 −30.2 −44.9

Mean hue
*LCH**a,h = 42.16 44.71 271
*LAB**a,h = 42.16 0.4 −44.69

***S* Standard**
*LCH**a,s = 42.17 100.0 271
LAB**a,s = 42.17 0.9 −99.99

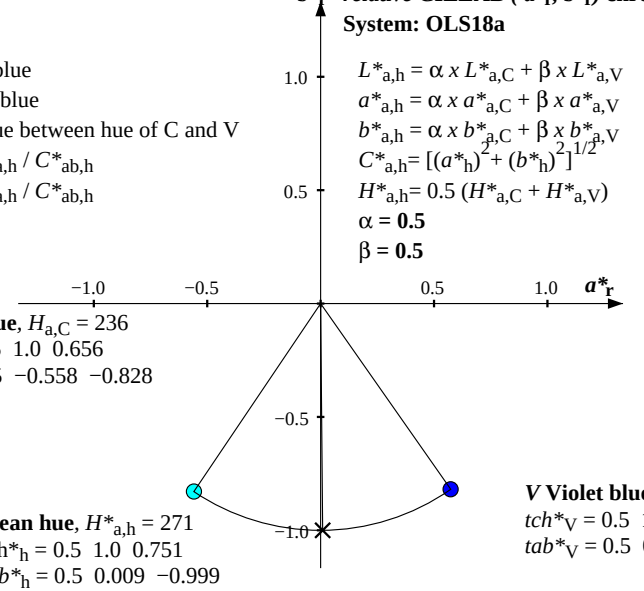
***V* Violet blue**
*LCH**a,V = 25.7 54.2 305
*LAB**a,V = 25.7 31.1 −44.3

***adapted* CIELAB data for the two hue angles of C and V; data *LAB**a*LCH**a, *LAB**a*LAB**a**

***relative* CIELAB (*a**r, *b**r) chroma diagram**
System: OLS18a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = **0.5**
β = **0.5**



***C* Cyan blue**, $H_{a,C}$ = 236
*tch**C = 0.5 1.0 0.656
*tab**C = 0.5 −0.558 −0.828

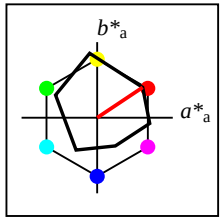
mean hue, $H^*_{a,h}$ = 271
tch**h = 0.5 1.0 0.751
*tab**h = 0.5 0.009 −0.999

***V* Violet blue**, $H^*_{a,V}$ = 305
*tch**V = 0.5 1.0 0.847
*tab**V = 0.5 0.574 −0.818

relative* CIELAB data for the two hue angles of C and V; data *lab**lch**, lab**lab**, LAB**a*H**a

BAM-test chart YE04; Colorimetry for colours M of: OLS18
Device CIELAB data for C, V and mean hue h; page 20/24

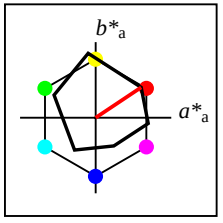
input: *olv* setrgbcolor*
output: no change compared to input



%Gamut
u*rel = 74
%Regularity
g*H,rel = 60
g*C,rel = 52

OLS28

	L*=L*a	a*	b*	C*ab	hab
O_M	50.51	60.17	40.13	72.32	34
Y_M	90.52	−9.91	85.2	85.78	97
L_M	53.18	−55.03	30.0	62.68	151
C_M	60.28	−27.9	−42.74	51.05	237
V_M	32.06	24.02	−37.31	44.38	303
M_M	50.68	69.5	−7.56	69.91	354
N_M	26.85	0.0	0.0	0.0	0
W_M	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 74
%Regularity
g*H,rel = 60
g*C,rel = 52

OLS28a; adapted CIELAB data

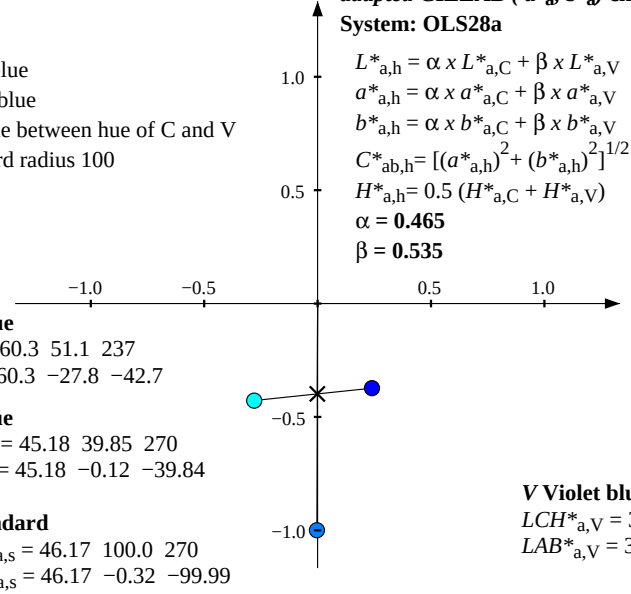
	L*=L*a	a*a	b*a	C*ab,a	hab,a
O_{Ma}	50.51	60.17	40.13	72.32	34
Y_{Ma}	90.52	−9.91	85.2	85.78	97
L_{Ma}	53.18	−55.03	30.0	62.68	151
C_{Ma}	60.28	−27.9	−42.74	51.05	237
V_{Ma}	32.06	24.02	−37.31	44.38	303
M_{Ma}	50.68	69.5	−7.56	69.91	354
N_{Ma}	26.85	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

n	*System*	*u**	*o*3*	*l*3*	*v*3*	*e**	*t**	*c**	*h**	*n**	*w**	*LCH*a,CIE*			*a*b*a,CIE*		*XYZa,CIE*			*xya,CIE*		*XYZRGB*			*RGB'sRGB*			*RGB'AdobeRGB*		
0	OLS28a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	26.85	0.0	0	0.0	0.0	4.79	5.04	5.49	0.313	0.329	0.054	0.057	0.062	0.265	0.265	0.265	0.272	0.272	0.272
1	OLS28a	b27r	0.0	0.0	1.0	0.819	0.5	1.0	0.841	0.0	0.0	32.06	44.38	303	24.02	−37.31	9.39	7.11	23.63	0.234	0.177	0.106	0.08	0.267	0.327	0.269	0.558	0.316	0.276	0.545
2	OLS28a	j84g	0.0	1.0	0.0	0.461	0.5	1.0	0.421	0.0	0.0	53.18	62.69	151	−55.03	30.0	10.93	21.21	9.69	0.261	0.507	0.123	0.239	0.109	−0.292	0.613	0.301	0.315	0.607	0.325
3	OLS28a	g67b	0.0	1.0	1.0	0.669	0.5	1.0	0.658	0.0	0.0	60.28	51.05	237	−27.9	−42.74	20.71	28.44	72.04	0.171	0.235	0.234	0.321	0.813	−1.823	0.672	0.91	0.151	0.666	0.899
4	OLS28a	r12j	1.0	0.0	0.0	0.031	0.5	1.0	0.094	0.0	0.0	50.51	72.32	34	60.17	40.13	31.73	18.85	5.64	0.564	0.335	0.358	0.213	0.064	0.907	0.26	0.232	0.786	0.267	0.242
5	OLS28a	b72r	1.0	0.0	1.0	0.931	0.5	1.0	0.983	0.0	0.0	50.68	69.91	354	69.5	−7.56	34.57	18.99	25.05	0.44	0.242	0.39	0.214	0.283	0.903	0.209	0.563	0.779	0.22	0.548
6	OLS28a	j06g	1.0	1.0	0.0	0.267	0.5	1.0	0.268	0.0	0.0	90.52	85.78	97	−9.91	85.2	68.93	77.43	12.99	0.433	0.486	0.778	0.874	0.147	1.045	0.951	0.152	1.02	0.949	0.269
7	OLS28a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a*a*, *b*a*) chroma diagram**
System: OLS28a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = 0.465
β = 0.535



***C* Cyan blue**
*LCH*a,C* = 60.3 51.1 237
*LAB*a,C* = 60.3 −27.8 −42.7

Mean hue
*LCH*a,h* = 45.18 39.85 270
*LAB*a,h* = 45.18 −0.12 −39.84

***S* Standard**
*LCH*a,s* = 46.17 100.0 270
LAB*a,s = 46.17 −0.32 −99.99

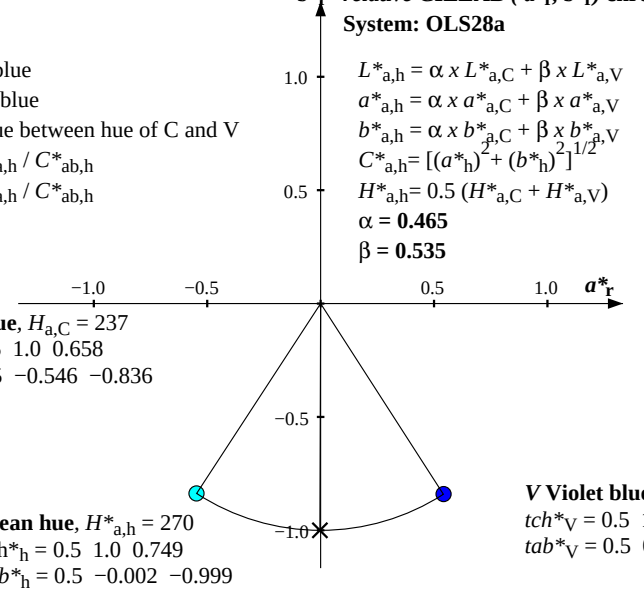
***V* Violet blue**
*LCH*a,V* = 32.1 44.4 303
*LAB*a,V* = 32.1 24.0 −37.2

adapted* CIELAB data for the two hue angles of C and V; data *LAB*aLCH*a*, *LAB*aLAB*a

***relative* CIELAB (*a*r*, *b*r*) chroma diagram**
System: OLS28a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = 0.465
β = 0.535

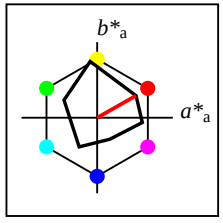


***C* Cyan blue**, $H_{a,C}$ = 237
*tch*C* = 0.5 1.0 0.658
*tab*C* = 0.5 −0.546 −0.836

mean hue, $H^*_{a,h}$ = 270
tch*h = 0.5 1.0 0.749
*tab*h* = 0.5 −0.002 −0.999

***V* Violet blue**, $H^*_{a,V}$ = 303
*tch*V* = 0.5 1.0 0.841
*tab*V* = 0.5 0.541 −0.84

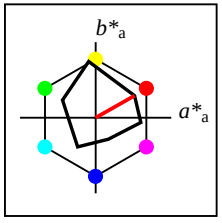
relative* CIELAB data for the two hue angles of C and V; data *lab*lch*, lab*lab*, LAB*aH*a



%Gamut
u*rel = 51
%Regularity
g*H,rel = 62
g*C,rel = 44

OLS38

	L*=L*a	a*	b*	C*ab	hab
OM	55.13	51.42	29.16	59.11	30
YM	90.83	−9.24	74.37	74.94	97
LM	57.35	−43.83	23.35	49.67	152
CM	63.39	−23.82	−38.55	45.33	238
VM	41.26	16.67	−28.48	33.01	300
MM	55.27	59.74	−6.31	60.07	354
NM	37.99	0.0	0.0	0.0	0
WM	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 51
%Regularity
g*H,rel = 62
g*C,rel = 44

OLS38a; adapted CIELAB data

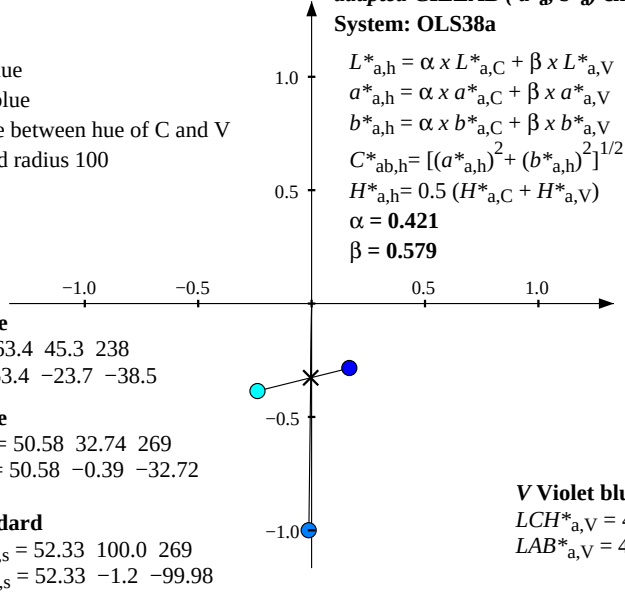
	L*=L*a	a*a	b*a	C*ab,a	hab,a
OMa	55.13	51.42	29.16	59.11	30
YMa	90.83	−9.24	74.37	74.94	97
LMa	57.35	−43.83	23.35	49.67	152
CMa	63.39	−23.82	−38.55	45.33	238
VMa	41.26	16.67	−28.48	33.01	300
MMa	55.27	59.74	−6.31	60.07	354
NMa	37.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272

n	System	u*	o*3	l*3	v*3	e*	t*	c*	h*	n*	w*	LCH*a,CIE			a*b*a,CIE		XYZa,CIE			xya,CIE		XYZRGB			RGB'sRGB			RGB'AdobeRGB		
0	OLS38a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	37.99	0.0	0	0.0	0.0	9.58	10.08	10.98	0.313	0.329	0.108	0.114	0.124	0.372	0.372	0.372	0.372	0.372	0.372
1	OLS38a	b24r	0.0	0.0	1.0	0.811	0.5	1.0	0.834	0.0	0.0	41.26	33.01	300	16.67	−28.48	13.91	12.03	28.02	0.258	0.223	0.157	0.136	0.316	0.413	0.375	0.597	0.402	0.375	0.585
2	OLS38a	j85g	0.0	1.0	0.0	0.464	0.5	1.0	0.422	0.0	0.0	57.35	49.67	152	−43.83	23.35	15.36	25.28	14.93	0.276	0.455	0.173	0.285	0.168	0.218	0.646	0.395	0.402	0.64	0.408
3	OLS38a	g68b	0.0	1.0	1.0	0.672	0.5	1.0	0.662	0.0	0.0	63.39	45.33	238	−23.82	−38.55	24.54	32.06	73.51	0.189	0.246	0.277	0.362	0.83	−0.934	0.698	0.916	0.308	0.692	0.905
4	OLS38a	r06j	1.0	0.0	0.0	0.017	0.5	1.0	0.082	0.0	0.0	55.13	59.11	30	51.42	29.16	34.89	23.06	11.12	0.505	0.334	0.394	0.26	0.125	0.913	0.369	0.352	0.801	0.369	0.354
5	OLS38a	b72r	1.0	0.0	1.0	0.931	0.5	1.0	0.983	0.0	0.0	55.27	60.07	354	59.74	−6.31	37.57	23.19	29.36	0.417	0.257	0.424	0.262	0.331	0.91	0.339	0.602	0.795	0.341	0.588
6	OLS38a	j06g	1.0	1.0	0.0	0.267	0.5	1.0	0.27	0.0	0.0	90.83	74.94	97	−9.24	74.37	69.86	78.11	18.03	0.421	0.471	0.788	0.882	0.203	1.042	0.954	0.312	1.019	0.952	0.371
7	OLS38a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a**a, *b**a) chroma diagram**
System: OLS38a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = 0.421
β = 0.579



***C* Cyan blue**
*LCH**a,C = 63.4 45.3 238
*LAB**a,C = 63.4 −23.7 −38.5

Mean hue
*LCH**a,h = 50.58 32.74 269
*LAB**a,h = 50.58 −0.39 −32.72

***S* Standard**
*LCH**a,s = 52.33 100.0 269
LAB*a,s = 52.33 −1.2 −99.98

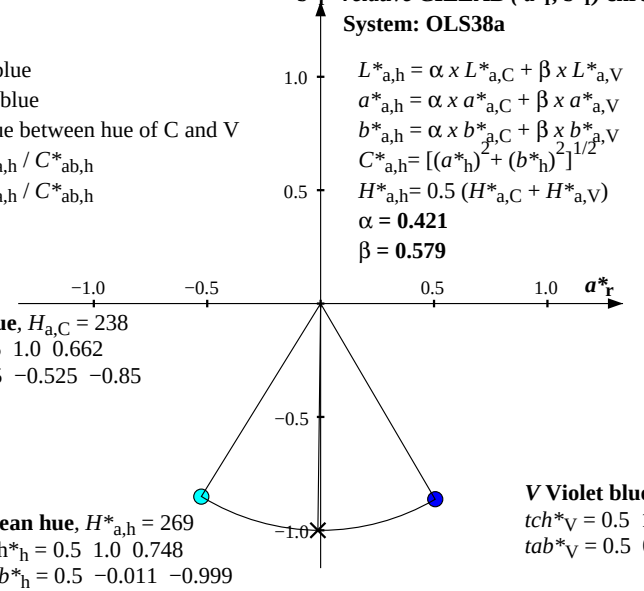
***V* Violet blue**
*LCH**a,V = 41.3 33.0 300
*LAB**a,V = 41.3 16.7 −28.4

***adapted* CIELAB data for the two hue angles of C and V; data *LAB**a*LCH**a, *LAB**a*LAB**a**

***relative* CIELAB (*a**r, *b**r) chroma diagram**
System: OLS38a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha\ x\ L^*_{a,C} + \beta\ x\ L^*_{a,V}$
$a^*_{a,h} = \alpha\ x\ a^*_{a,C} + \beta\ x\ a^*_{a,V}$
$b^*_{a,h} = \alpha\ x\ b^*_{a,C} + \beta\ x\ b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = 0.421
β = 0.579



***C* Cyan blue**, $H_{a,C}$ = 238
*tch**C = 0.5 1.0 0.662
*tab**C = 0.5 −0.525 −0.85

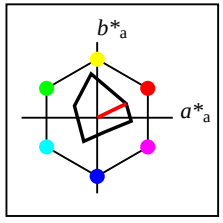
mean hue, $H^*_{a,h}$ = 269
tch*h = 0.5 1.0 0.748
*tab**h = 0.5 −0.011 −0.999

***V* Violet blue**, $H^*_{a,V}$ = 300
*tch**V = 0.5 1.0 0.834
*tab**V = 0.5 0.505 −0.862

relative* CIELAB data for the two hue angles of C and V; data *lab**lch**, lab**lab**, LAB**a*H**a

BAM-test chart YE04; Colorimetry for colours M of: OLS38
Device CIELAB data for C, V and mean hue h; page 22/24

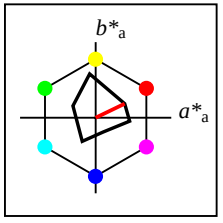
input: *olv* setrgbcolor*
output: no change compared to input



%Gamut
u*rel = 29
%Regularity
g*H,rel = 62
g*C,rel = 37

OLS50

	L*=L*a	a*	b*	C*ab	hab
OM	62.9	38.38	18.55	42.63	26
YM	91.44	−7.94	57.91	58.45	98
LM	64.49	−30.05	15.67	33.9	152
CM	68.98	−17.73	−31.23	35.93	240
VM	53.87	10.09	−18.83	21.37	298
MM	63.0	44.96	−4.55	45.19	354
NM	52.02	0.0	0.0	0.0	0
WM	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 29
%Regularity
g*H,rel = 62
g*C,rel = 37

OLS50a; adapted CIELAB data

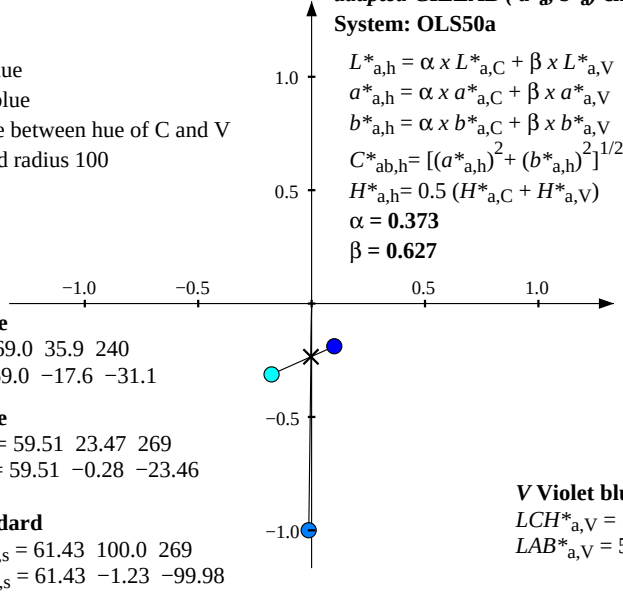
	L*=L*a	a*a	b*a	C*ab,a	hab,a
OMa	62.9	38.38	18.55	42.63	26
YMa	91.44	−7.94	57.91	58.45	98
LMa	64.49	−30.05	15.67	33.9	152
CMa	68.98	−17.73	−31.23	35.93	240
VMa	53.87	10.09	−18.83	21.37	298
MMa	63.0	44.96	−4.55	45.19	354
NMa	52.02	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272

n	System	u*	o*3	l*3	v*3	e*	t*	c*	h*	n*	w*	LCH*a,CIE			a*b*a,CIE		XYZa,CIE			xya,CIE		XYZRGB			RGB'sRGB			RGB'AdobeRGB		
0	OLS50a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	52.02	0.0	0	0.0	0.0	19.16	20.16	21.96	0.313	0.329	0.216	0.228	0.248	0.514	0.514	0.514	0.51	0.51	0.51
1	OLS50a	b23r	0.0	0.0	1.0	0.808	0.5	1.0	0.828	0.0	0.0	53.87	21.37	298	10.09	−18.83	22.93	21.85	36.8	0.281	0.268	0.259	0.247	0.415	0.539	0.516	0.668	0.528	0.512	0.656
2	OLS50a	j85g	0.0	1.0	0.0	0.464	0.5	1.0	0.424	0.0	0.0	64.49	33.9	152	−30.05	15.67	24.2	33.41	25.4	0.292	0.403	0.273	0.377	0.287	0.44	0.705	0.528	0.528	0.699	0.532
3	OLS50a	g71b	0.0	1.0	1.0	0.678	0.5	1.0	0.668	0.0	0.0	68.98	35.93	240	−17.73	−31.23	32.2	39.32	76.46	0.218	0.266	0.363	0.444	0.863	0.283	0.746	0.927	0.474	0.74	0.918
4	OLS50a	r01j	1.0	0.0	0.0	0.003	0.5	1.0	0.072	0.0	0.0	62.9	42.63	26	38.38	18.55	41.22	31.47	22.07	0.435	0.332	0.465	0.355	0.249	0.925	0.513	0.503	0.83	0.508	0.499
5	OLS50a	b72r	1.0	0.0	1.0	0.931	0.5	1.0	0.984	0.0	0.0	63.0	45.19	354	44.96	−4.55	43.56	31.59	37.97	0.385	0.279	0.492	0.357	0.429	0.922	0.496	0.671	0.825	0.492	0.659
6	OLS50a	j07g	1.0	1.0	0.0	0.269	0.5	1.0	0.272	0.0	0.0	91.44	58.45	98	−7.94	57.91	71.7	79.45	28.1	0.4	0.443	0.809	0.897	0.317	1.037	0.96	0.482	1.016	0.959	0.509
7	OLS50a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a**a, *b**a) chroma diagram**
System: OLS50a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha \times L^*_{a,C} + \beta \times L^*_{a,V}$
$a^*_{a,h} = \alpha \times a^*_{a,C} + \beta \times a^*_{a,V}$
$b^*_{a,h} = \alpha \times b^*_{a,C} + \beta \times b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = 0.373
β = 0.627



***C* Cyan blue**
*LCH**a,C = 69.0 35.9 240
*LAB**a,C = 69.0 −17.6 −31.1

Mean hue
*LCH**a,h = 59.51 23.47 269
*LAB**a,h = 59.51 −0.28 −23.46

***S* Standard**
*LCH**a,s = 61.43 100.0 269
LAB*a,s = 61.43 −1.23 −99.98

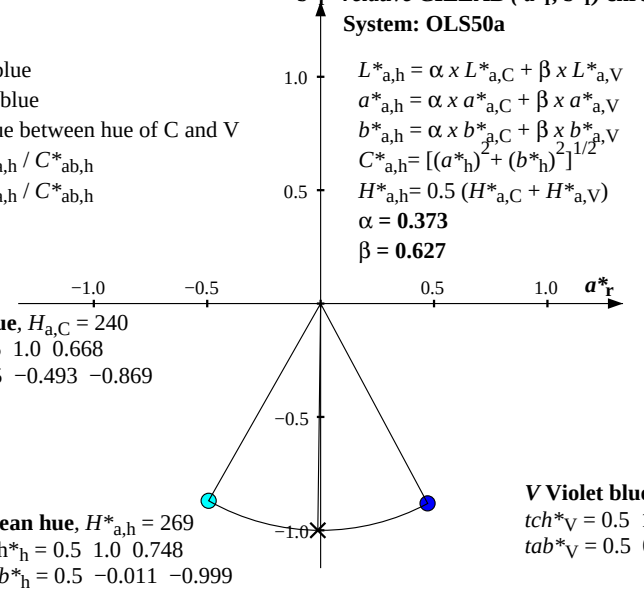
***V* Violet blue**
*LCH**a,V = 53.9 21.4 298
*LAB**a,V = 53.9 10.1 −18.7

***adapted* CIELAB data for the two hue angles of C and V; data *LAB**a*LCH**a, *LAB**a*LAB**a**

***relative* CIELAB (*a**r, *b**r) chroma diagram**
System: OLS50a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha \times L^*_{a,C} + \beta \times L^*_{a,V}$
$a^*_{a,h} = \alpha \times a^*_{a,C} + \beta \times a^*_{a,V}$
$b^*_{a,h} = \alpha \times b^*_{a,C} + \beta \times b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = 0.373
β = 0.627



***C* Cyan blue**, $H_{a,C}$ = 240
*tch**C = 0.5 1.0 0.668
*tab**C = 0.5 −0.493 −0.869

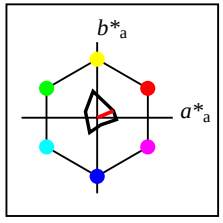
mean hue, $H^*_{a,h}$ = 269
tch*h = 0.5 1.0 0.748
*tab**h = 0.5 −0.011 −0.999

***V* Violet blue**, $H^*_{a,V}$ = 298
*tch**V = 0.5 1.0 0.828
*tab**V = 0.5 0.472 −0.881

relative* CIELAB data for the two hue angles of C and V; data *lab**lch**, lab**lab**, LAB**a*H**a

BAM-test chart YE04; Colorimetry for colours M of: OLS50
Device CIELAB data for C, V and mean hue h; page 23/24

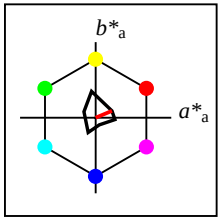
input: *olv* setrgbcolor*
output: no change compared to input



%Gamut
u*rel = 10
%Regularity
g*H,rel = 59
g*C,rel = 30

OLS70

	L*=L*a	a*	b*	C*ab	hab
OM	75.01	21.53	9.07	23.36	23
YM	92.64	−5.44	34.85	35.27	99
LM	75.86	−15.49	7.96	17.42	153
CM	78.37	−9.89	−19.5	21.88	243
VM	70.54	4.74	−9.46	10.59	297
MM	75.07	25.47	−2.45	25.59	354
NM	69.7	0.0	0.0	0.0	0
WM	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272



%Gamut
u*rel = 10
%Regularity
g*H,rel = 59
g*C,rel = 30

OLS70a; adapted CIELAB data

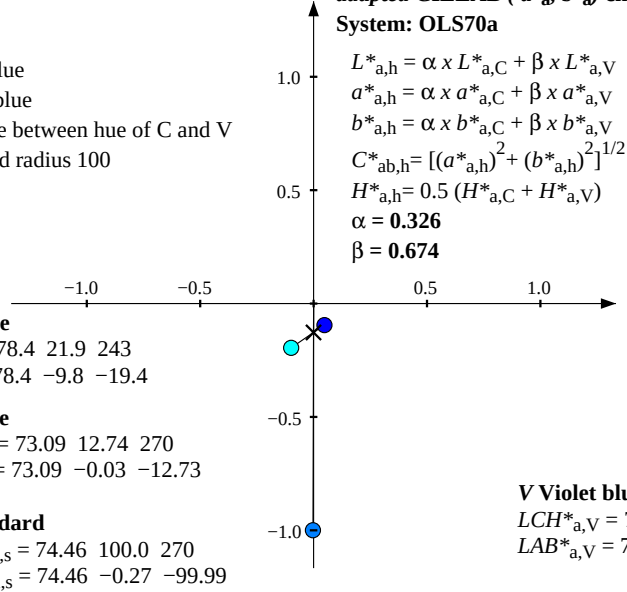
	L*=L*a	a*a	b*a	C*ab,a	hab,a
OMa	75.01	21.53	9.07	23.36	23
YMa	92.64	−5.44	34.85	35.27	99
LMa	75.86	−15.49	7.96	17.42	153
CMa	78.37	−9.89	−19.5	21.88	243
VMa	70.54	4.74	−9.46	10.59	297
MMa	75.07	25.47	−2.45	25.59	354
NMa	69.7	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	−2.88	71.56	71.62	92
GCIE	52.23	−42.41	13.6	44.55	162
BCIE	30.57	1.41	−46.46	46.49	272

n	System	u*	o*3	l*3	v*3	e*	t*	c*	h*	n*	w*	LCH*a,CIE			a*b*a,CIE		XYZa,CIE			xya,CIE		XYZRGB			RGB'sRGB			RGB'AdobeRGB		
0	OLS70a	r00j	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	69.7	0.0	0	0.0	0.0	38.33	40.32	43.91	0.313	0.329	0.433	0.455	0.496	0.705	0.705	0.705	0.699	0.699	0.699
1	OLS70a	b22r	0.0	0.0	1.0	0.806	0.5	1.0	0.824	0.0	0.0	70.54	10.59	297	4.74	−9.46	40.99	41.52	54.38	0.299	0.303	0.463	0.469	0.614	0.717	0.706	0.785	0.708	0.7	0.777
2	OLS70a	j86g	0.0	1.0	0.0	0.467	0.5	1.0	0.424	0.0	0.0	75.86	17.42	153	−15.49	7.96	41.87	49.66	46.33	0.304	0.36	0.473	0.561	0.523	0.672	0.807	0.712	0.708	0.802	0.71
3	OLS70a	g73b	0.0	1.0	1.0	0.683	0.5	1.0	0.675	0.0	0.0	78.37	21.88	243	−9.89	−19.5	47.53	53.84	82.36	0.259	0.293	0.536	0.608	0.93	0.619	0.832	0.949	0.682	0.827	0.943
4	OLS70a	b97r	1.0	0.0	0.0	0.994	0.5	1.0	0.063	0.0	0.0	75.01	23.36	23	21.53	9.07	53.88	48.29	43.99	0.369	0.33	0.608	0.545	0.496	0.948	0.704	0.7	0.884	0.698	0.694
5	OLS70a	b72r	1.0	0.0	1.0	0.931	0.5	1.0	0.985	0.0	0.0	75.07	25.59	354	25.47	−2.45	55.54	48.39	55.21	0.349	0.304	0.627	0.546	0.623	0.946	0.697	0.787	0.881	0.691	0.778
6	OLS70a	j10g	1.0	1.0	0.0	0.275	0.5	1.0	0.275	0.0	0.0	92.64	35.27	99	−5.44	34.85	75.39	82.15	48.24	0.366	0.399	0.851	0.927	0.544	1.026	0.972	0.69	1.012	0.971	0.699
7	OLS70a	r00j	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	95.41	0.0	0	0.0	0.0	84.21	88.59	96.48	0.313	0.329	0.95	1.0	1.089	1.0	1.0	1.0	1.0	1.0	1.0

***adapted* CIELAB (*a**a, *b**a) chroma diagram**
System: OLS70a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
S = standard radius 100

$L^*_{a,h} = \alpha \times L^*_{a,C} + \beta \times L^*_{a,V}$
$a^*_{a,h} = \alpha \times a^*_{a,C} + \beta \times a^*_{a,V}$
$b^*_{a,h} = \alpha \times b^*_{a,C} + \beta \times b^*_{a,V}$
$C^*_{ab,h} = [(a^*_{a,h})^2 + (b^*_{a,h})^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = 0.326
β = 0.674



***C* Cyan blue**
*LCH**a,C = 78.4 21.9 243
*LAB**a,C = 78.4 −9.8 −19.4

Mean hue
*LCH**a,h = 73.09 12.74 270
*LAB**a,h = 73.09 −0.03 −12.73

***S* Standard**
*LCH**a,s = 74.46 100.0 270
LAB**a,s = 74.46 −0.27 −99.99

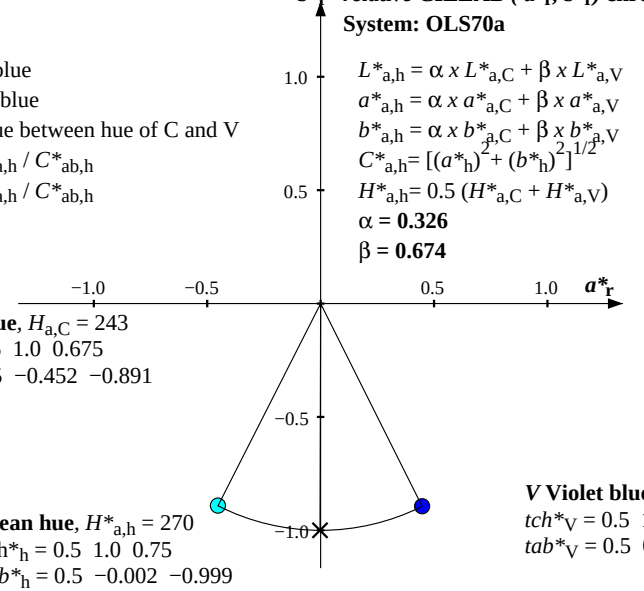
***V* Violet blue**
*LCH**a,V = 70.5 10.6 297
*LAB**a,V = 70.5 4.7 −9.4

***adapted* CIELAB data for the two hue angles of C and V; data *LAB**a*LCH**a, *LAB**a*LAB**a**

***relative* CIELAB (*a**r, *b**r) chroma diagram**
System: OLS70a

C = cyan blue
V = violet blue
h = half hue between hue of C and V
$a^*_{r,h} = a^*_{a,h} / C^*_{ab,h}$
$b^*_{r,h} = b^*_{a,h} / C^*_{ab,h}$
$t^*_h = 0.5$
$c^*_h = 1$

$L^*_{a,h} = \alpha \times L^*_{a,C} + \beta \times L^*_{a,V}$
$a^*_{a,h} = \alpha \times a^*_{a,C} + \beta \times a^*_{a,V}$
$b^*_{a,h} = \alpha \times b^*_{a,C} + \beta \times b^*_{a,V}$
$C^*_{a,h} = [(a^*_h)^2 + (b^*_h)^2]^{1/2}$
$H^*_{a,h} = 0.5\ (H^*_{a,C} + H^*_{a,V})$
α = 0.326
β = 0.674



***C* Cyan blue**, $H_{a,C}$ = 243
*tch**C = 0.5 1.0 0.675
*tab**C = 0.5 −0.452 −0.891

mean hue, $H^*_{a,h}$ = 270
tch**h = 0.5 1.0 0.75
*tab**h = 0.5 −0.002 −0.999

***V* Violet blue**, $H^*_{a,V}$ = 297
*tch**V = 0.5 1.0 0.824
*tab**V = 0.5 0.448 −0.893

***relative* CIELAB data for the two hue angles of C and V; data *lab*lch*, lab*lab*, LAB**a*H**a**