

Discriminant functions for colors to its assignation to the correspond Munsell Hues.
(hab is the CIELAB angle of hue, L*, a*, b* are the CIELAB coordinates, calculated with Illuminant D65 and CIE64 Observer)

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if ( 10.76 ≤ hab ≤ 32.62) then hab = Red
if (32.62 < hab < 44.42) then
function1 = 0.360 L* + 1.710 a* - 1.441 b* - 18.872
function2 = 0.269 L* + 0.693 a* - 0.522 b* - 9.267
if function1 > function2 then hab = Red
else hab = Orange
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if ( 44.42 ≤ hab ≤ 69.81) then hab = Orange
if (69.81 < hab < 79.01) then
function1 = 0.387 L* + 1.240 a* - 0.329 b* - 15.425
function2 = 0.312 L* + 0.640 a* - 0.159 b* - 10.497
if function1 > function2 then hab = Orange
else hab = Yellow
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if ( 79.01 ≤ hab ≤ 96.01) then hab = Yellow
if (96.01 < hab < 98.96) then
function1 = 0.335 L* + 1.206 a* + 0.121 b* - 12.964
function2 = 0.256 L* + 0.016 a* + 0.076 b* - 11.121
if function1 > function2 then hab = Yellow
else hab = Green-Yellow
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if ( 98.96 ≤ hab ≤ 133.60) then
hab = Green-Yellow
if (133.60 < hab < 141.34) then
function1 = 0.219 L* - 1.033 a* - 0.783 b* - 8.559
function2 = 0.281 L* - 2.237 a* - 1.819 b* - 16.165
if function1 > function2 then hab = Green-Yellow
else hab = Green
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if ( 141.34 ≤ hab ≤ 170.91) then hab = Green
if (170.91 < hab < 180) then
function1 = 0.430 L* - 1.676 a* - 9.809 b* - 12.289
function2 = 0.787 L* - 3.048 a* - 18.254 b* - 38.323
if function1 > function2 then hab = Green
else hab = Blue-Green
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if ( 180 ≤ hab ≤ 205.17) then hab = Blue-Green
if (205.17 < hab < 218.31) then
function1 = 0.173 L* - 0.234 a* + 0.130 b* - 6.037
function2 = 0.201 L* - 0.163 a* - 0.238 b* - 9.442
if function1 > function2 then hab = Blue-Green
else hab = Blue
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if ( 218.31 ≤ hab ≤ 238.63) then hab = Blue
if (238.63 < hab < 255.29) then
function1 = 0.255 L* - 1.547 a* + 0.476 b* - 10.107
function2 = 0.299 L* - 0.594 a* - 0.114 b* - 13.820
if function1 > function2 then hab = Blue
else hab = Purple-Blue
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if ( 255.29 ≤ hab ≤ 285.52) then hab = Purple-Blue
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if (285.52 < hab < 291.72) then
function1 = 0.228 L* + 0.450 a* - 0.176 b* - 9.259
function2 = 0.301 L* + 1.335 a* + 0.227 b* - 12.299
if function1 > function2 then hab = Purple-Blue
else hab = Purple

if ( 291.72 ≤ hab ≤ 326.98) then hab = Purple
if (326.98 < hab < 328.62) then
function1 = 0.224 L* + 0.091 a* - 0.310 b* - 9.300
function2 = 0.204 L* + 0.272 a* - 0.014 b* - 8.633
if function1 > function2 then hab = Purple
else hab = Red-Purple

if ( 328.62 ≤ hab ≤ 1.15) then hab = Red-Purple
if (1.15 < hab < 10.76) then
function1 = 0.255 L* + 0.265 a* - 0.506 b* - 10.336
function2 = 0.205 L* + 0.153 a* + 0.080 b* - 7.724
if function1 > function2 then hab = Red-Purple
else hab = Red
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