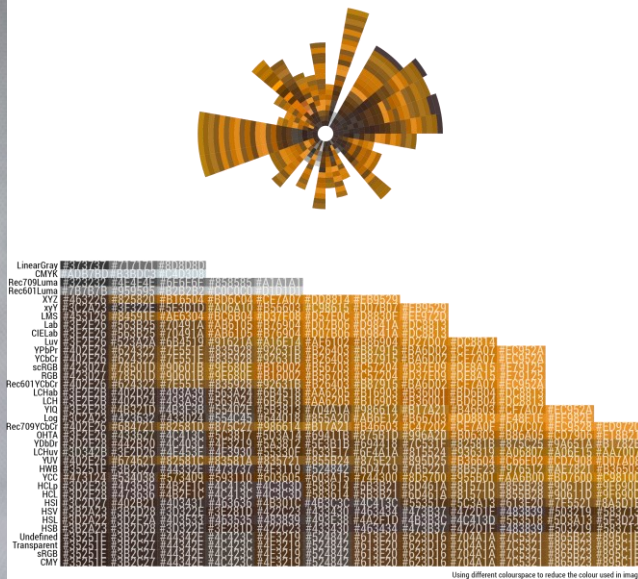
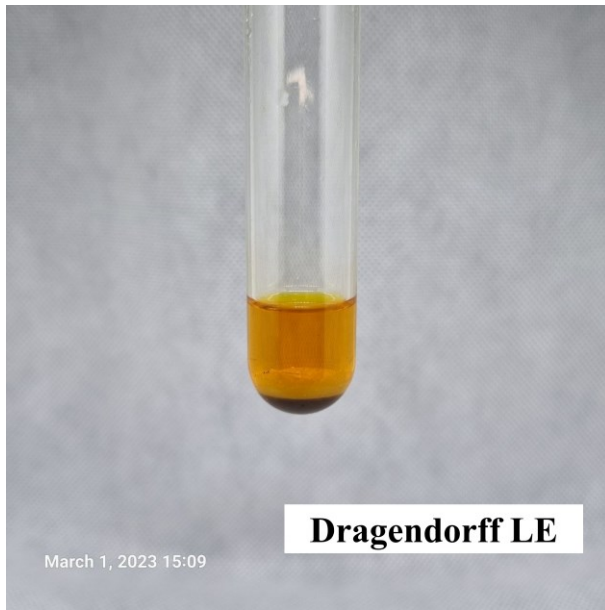
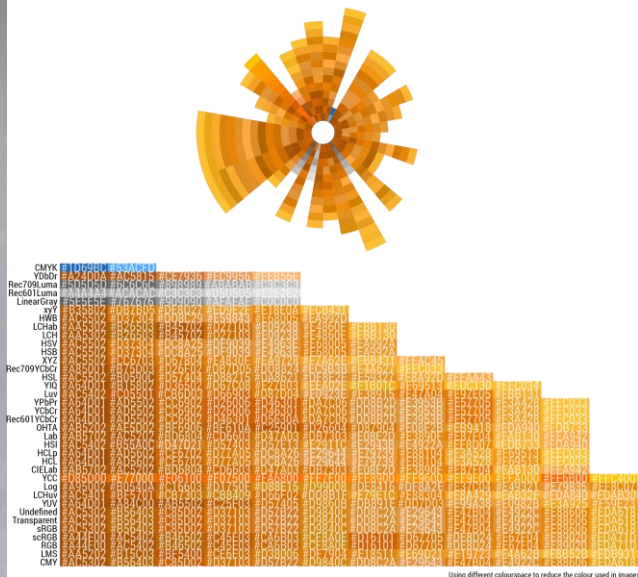
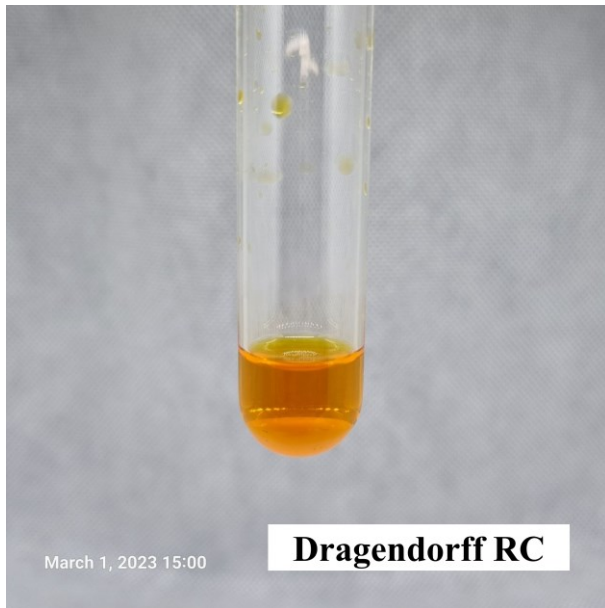


COLOR QUANTIFICATION R STUDIO



colorspace hex hue sat value n

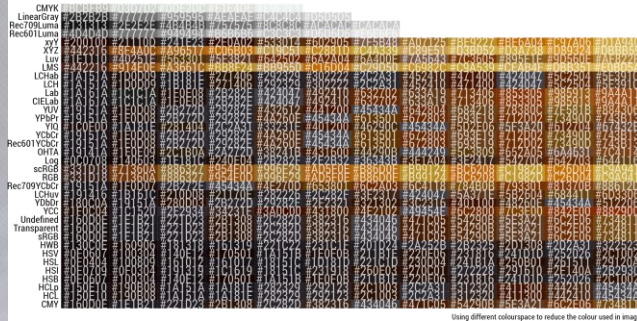
- 1 RGB #B26504 33.44828 0.9775281 0.6980392 594338 → In a RGB color space, hex #b26504 is composed of 69.8% red, 39.6% green and 1.6% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 43.3% magenta, 97.8% yellow and 30.2% black. It has a hue angle of 33.4 degrees, a saturation of 95.6% and a lightness of 35.7%. **Dark orange [Brown tone]. POSITIVE.** <https://www.colorhexa.com/b26504>
- 2 RGB #C87506 34.32990 0.9700000 0.7843137 155594
- 3 RGB #493426 24.00000 0.4794521 0.2862745 122585
- 4 RGB #DE8A15 34.92537 0.9054054 0.8705882 24670
- 5 RGB #E79125 33.40206 0.8398268 0.9058824 413



colorspace hex hue sat value n

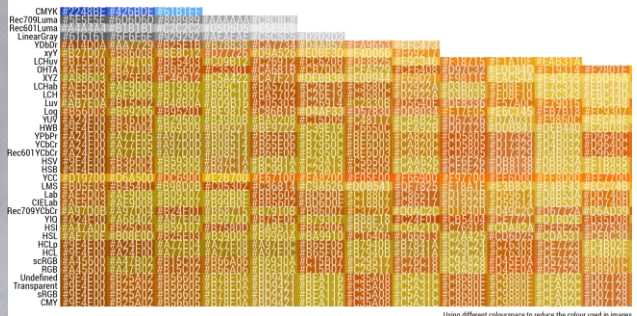
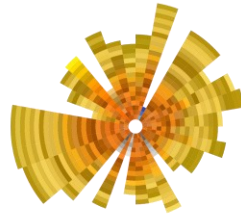
- 1 RGB #AC5502 29.29412 0.9883721 0.6745098 246961 → In a RGB color space, hex #ac5502 is composed of 67.5% red, 33.3% green and 0.8% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 50.6% magenta, 98.8% yellow and 32.5% black. It has a hue angle of 29.3 degrees, a saturation of 97.7% and a lightness of 34.1%. **Dark orange [Brown tone]. POSITIVE.** <https://www.colorhexa.com/ac5502>
- 2 RGB #D27304 32.33010 0.9809524 0.8235294 98637
- 3 RGB #DE8D24 33.87097 0.8378378 0.8705882 36607
- 4 RGB #E67F04 32.65487 0.9826087 0.9019608 35596
- 5 RGB #EC9522 34.15842 0.8559322 0.9254902 4672
- 6 RGB #FDC032 41.97044 0.8023715 0.9921569 1127

COLOR QUANTIFICATION R STUDIO



colorspace hex hue sat value n

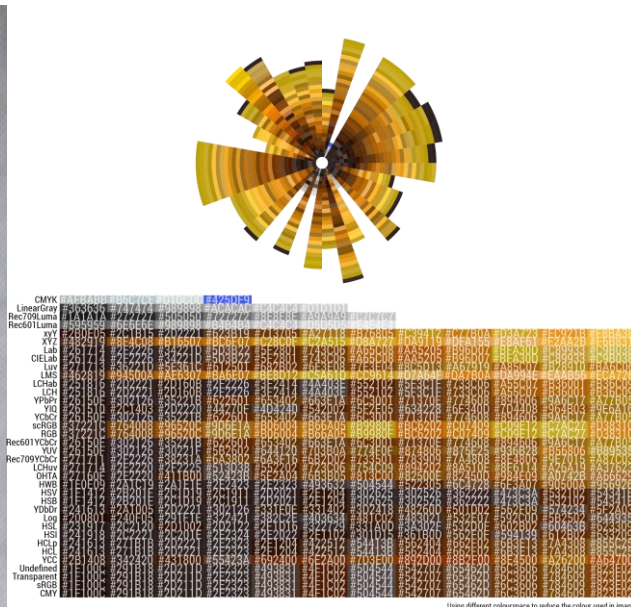
- 1 RGB #452316 16.59574 0.6811594 0.2705882 231389 → In a RGB color space, hex #452316 is composed of 27.1% red, 13.7% green and 8.6% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 49.3% magenta, 68.1% yellow and 72.9% black. It has a hue angle of 16.6 degrees, a saturation of 51.6% and a lightness of 17.8%. **Very dark orange [Brown tone]. POSITIVE.** <https://www.colorhexa.com/452316>
- 2 RGB #C26D04 33.15789 0.9793814 0.7607843 228084
- 3 RGB #AF6711 32.65823 0.9028571 0.6862745 63423
- 4 RGB #B99124 43.89262 0.8054054 0.7254902 25268
- 5 RGB #C59C33 43.15068 0.7411168 0.7725490 21828
- 6 RGB #EBAD38 39.21788 0.7617021 0.9215686 10530
- 7 RGB #F0C856 44.41558 0.6416667 0.9411765 4478



colorspace hex hue sat value n

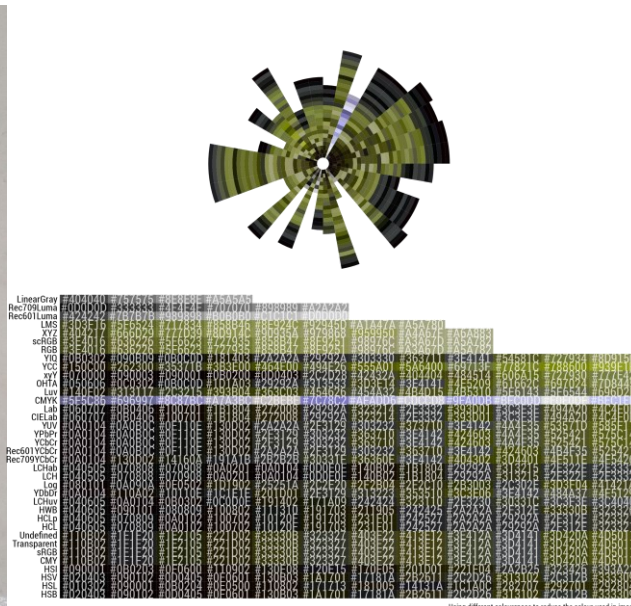
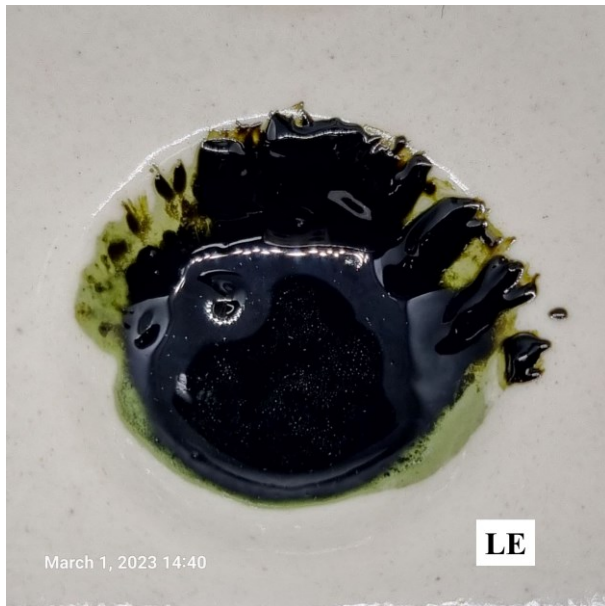
- 1 RGB #B26003 31.88571 0.9831461 0.6980392 441139 → In a RGB color space, hex #b26003 is composed of 69.8% red, 37.6% green and 1.2% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 46.1% magenta, 98.3% yellow and 30.2% black. It has a hue angle of 31.9 degrees, a saturation of 96.7% and a lightness of 35.5%. **Dark orange [Brown tone]. POSITIVE.** <https://www.colorhexa.com/b26003>
- 2 RGB #C76717 27.27273 0.8844221 0.7803922 248478
- 3 RGB #B6930A 47.79070 0.9450549 0.7137255 36040
- 4 RGB #ED7D1A 28.15166 0.8902954 0.9294118 31203
- 5 RGB #C99A1E 43.50877 0.8507463 0.7882353 14202
- 6 RGB #F29616 34.90909 0.9090909 0.9490196 3753
- 7 RGB #ECC74B 46.21118 0.6822034 0.9254902 2785

COLOR QUANTIFICATION R STUDIO



colorspace hex hue sat value n

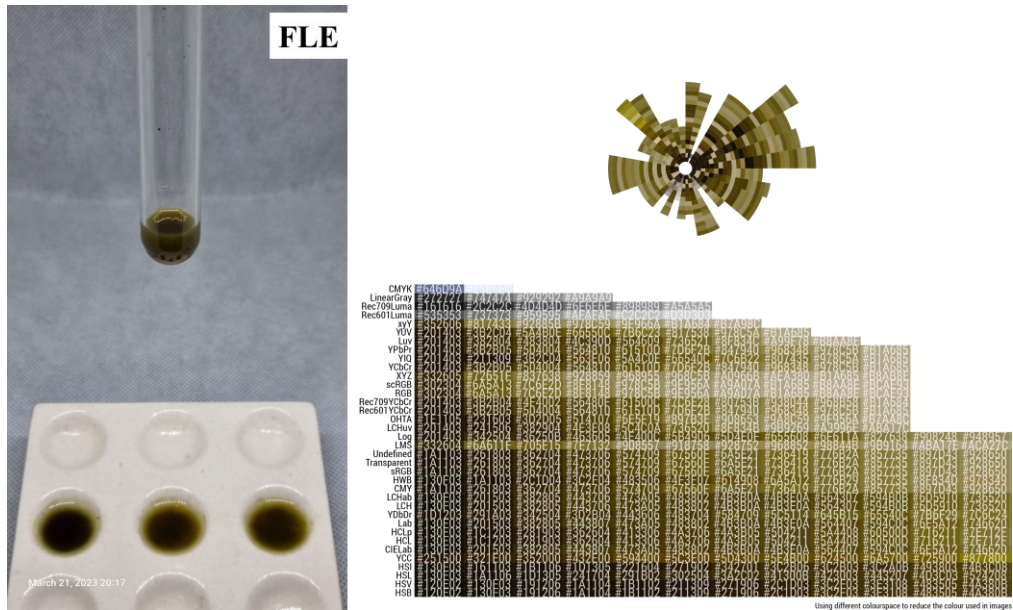
- 1 RGB #B26606 33.48837 0.9662921 0.6980392 289058 → In a RGB color space, hex #b26606 is composed of 69.8% red, 40% green and 2.4% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 42.7% magenta, 96.6% yellow and 30.2% black. It has a hue angle of 33.5 degrees, a saturation of 93.5% and a lightness of 36.1%. **Dark orange [Brown tone]. POSITIVE.** <https://www.colorhexa.com/b26606>
- 2 RGB #492A19 21.25000 0.6575342 0.2862745 219160
- 3 RGB #C17409 34.89130 0.9533679 0.7568627 188122
- 4 RGB #B9980F 48.35294 0.9189189 0.7254902 36272
- 5 RGB #C79F1A 46.12717 0.8693467 0.7803922 19855
- 6 RGB #EBA526 38.68020 0.8382979 0.9215686 14457
- 7 RGB #FCC440 42.12766 0.7460317 0.9882353 2276



colorspace hex hue sat value n

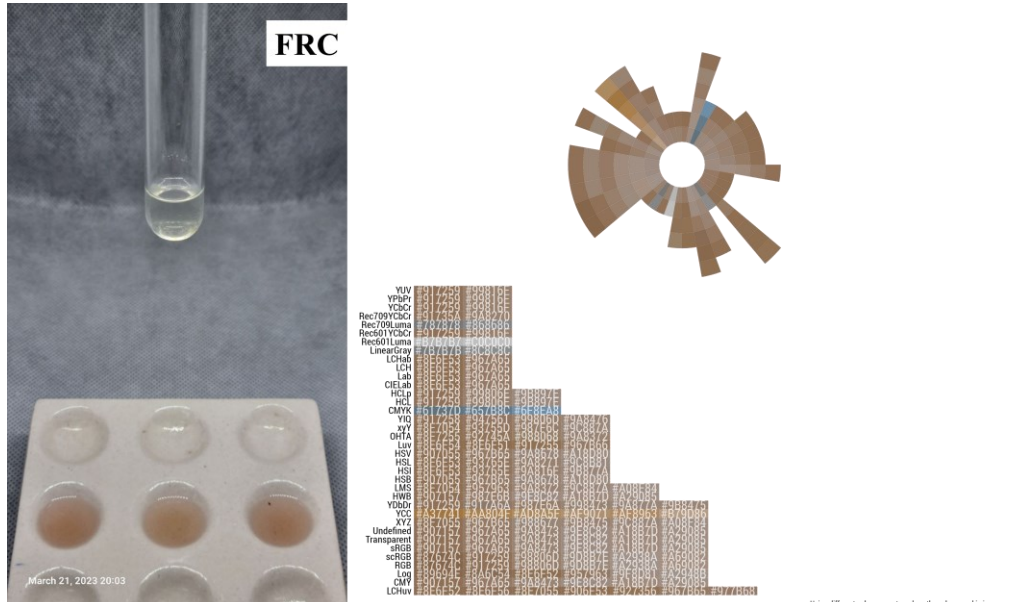
- 1 RGB #5C6028 64.28571 0.5833333 0.3764706 877583 → In a RGB color space, hex #5c6028 is composed of 36.1% red, 37.6% green and 15.7% blue. Whereas in a CMYK color space, it is composed of 4.2% cyan, 0% magenta, 58.3% yellow and 62.4% black. It has a hue angle of 64.3 degrees, a saturation of 41.2% and a lightness of 26.7%. **Very dark desaturated yellow. POSITIVE STEROID.** <https://www.colorhexa.com/5c6028>
- 2 RGB #858B47 65.29412 0.4892086 0.5450980 287416
- 3 RGB #909355 62.90323 0.4217687 0.5764706 162801

COLOR QUANTIFICATION R STUDIO



colorspace hex hue sat value n

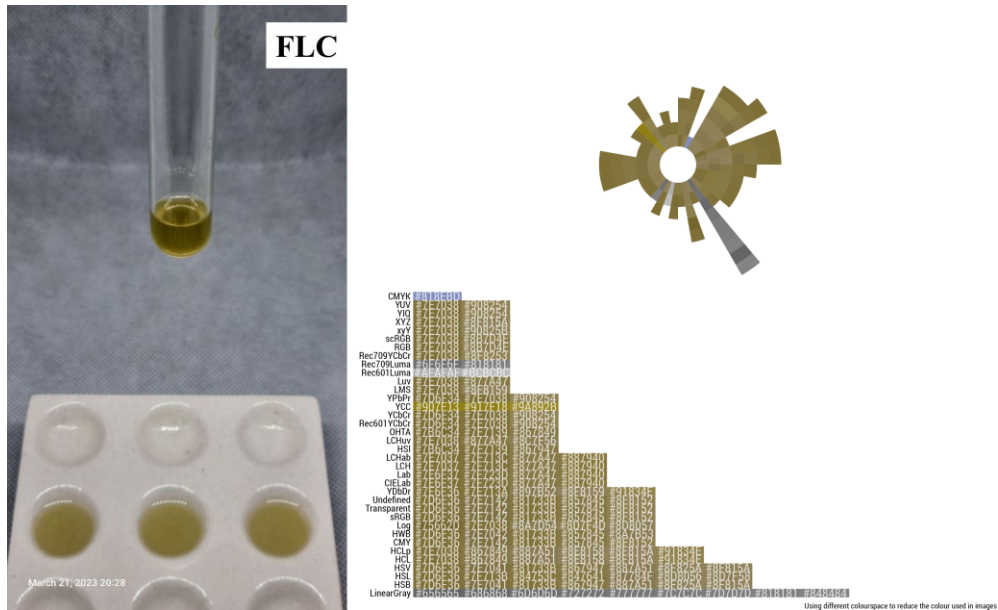
- 1 RGB #372b07 45.00000 0.8727273 0.2156863 273553 → In a RGB color space, hex #372b07 is composed of 21.6% red, 16.9% green and 2.7% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 21.8% magenta, 87.3% yellow and 78.4% black. It has a hue angle of 45 degrees, a saturation of 77.4% and a lightness of 12.2%. **Very dark yellow [Olive tone]. NEGATIVE.** <https://www.colorhexa.com/372b07>
- 2 RGB #8f8148 48.16901 0.4965035 0.5607843 21326
- 3 RGB #9d9367 48.88889 0.3439490 0.6156863 1838
- 4 RGB #b8aa8e 40.00000 0.2282609 0.7215686 269
- 5 RGB #bcae93 39.51220 0.2180851 0.7372549 14



colorspace hex hue sat value n

- 1 RGB #947760 26.53846 0.3513514 0.5803922 183589 → In a RGB color space, hex #947760 is composed of 58% red, 46.7% green and 37.6% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 19.6% magenta, 35.1% yellow and 42% black. It has a hue angle of 26.5 degrees, a saturation of 21.3% and a lightness of 47.8%. **Mostly desaturated dark orange. POSITIVE.** <https://www.colorhexa.com/947760>
- 2 RGB #9e8b7e 24.37500 0.2025316 0.6196078 64307
- 3 RGB #87674c 27.45763 0.4370370 0.5294118 52553
- 4 RGB #a2938a 22.50000 0.1481481 0.6352941 2551

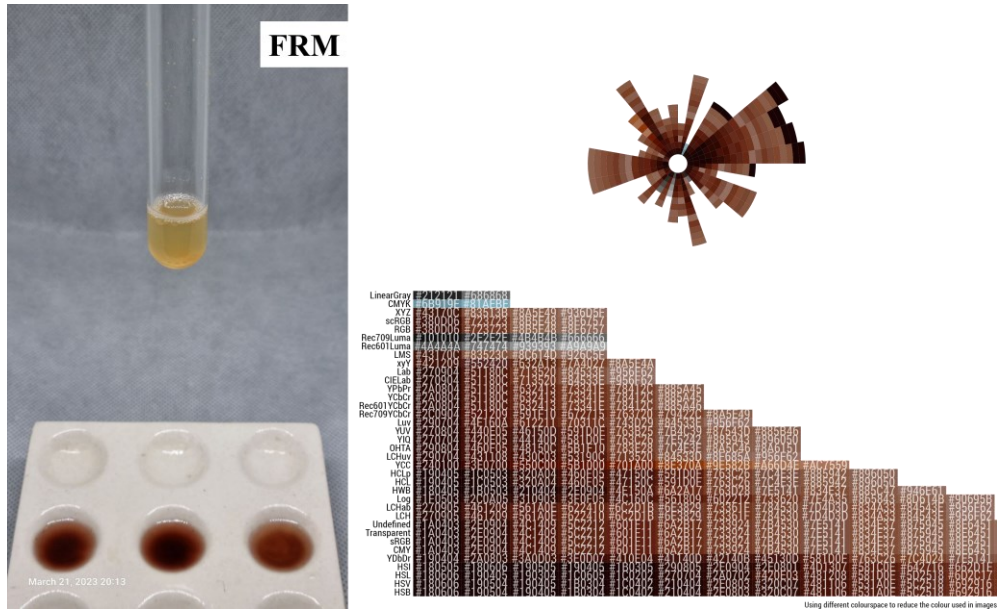
COLOR QUANTIFICATION R STUDIO



colorspace hex hue sat value n

1 RGB #7E7038 48.00000 0.5555556 0.4941176 199939 → In a RGB color space, hex #7e7038 is composed of 49.4% red, 43.9% green and 22% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 11.1% magenta, 55.6% yellow and 50.6% black. It has a hue angle of 48 degrees, a saturation of 38.5% and a lightness of 35.7%. **Dark moderate yellow. NEGATIVE.** <https://www.colorhexa.com/7e7038>

2 RGB #8B7D4E 46.22951 0.4388489 0.5450980 23861

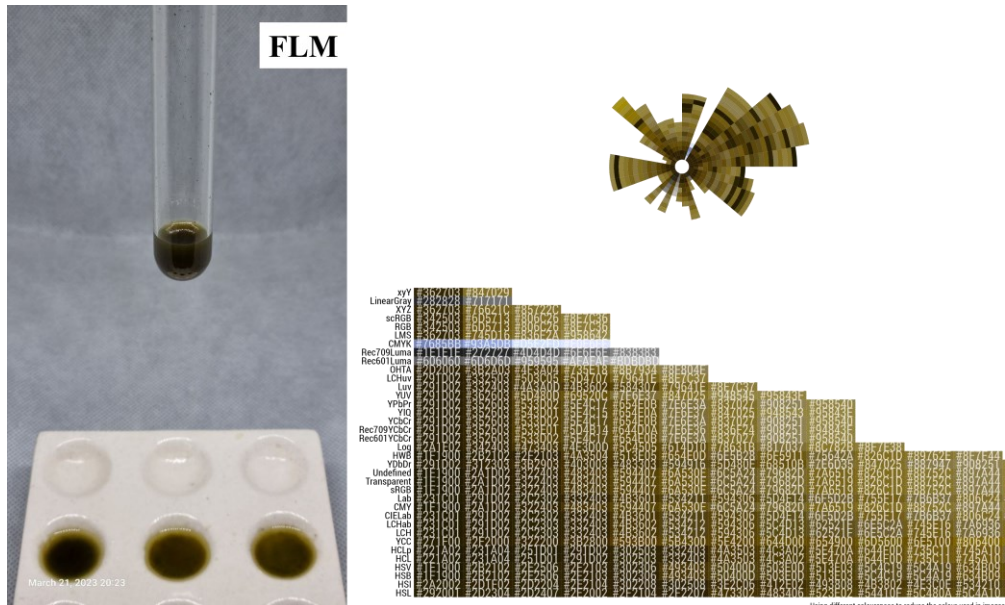


colorspace hex hue sat value n

1 RGB #44180D 12.00000 0.8088235 0.2666667 272021 → In a RGB color space, hex #44180d is composed of 26.7% red, 9.4% green and 5.1% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 64.7% magenta, 80.9% yellow and 73.3% black. It has a hue angle of 12 degrees, a saturation of 67.9% and a lightness of 15.9%. **Very dark red. POSITIVE.** <https://www.colorhexa.com/44180d>

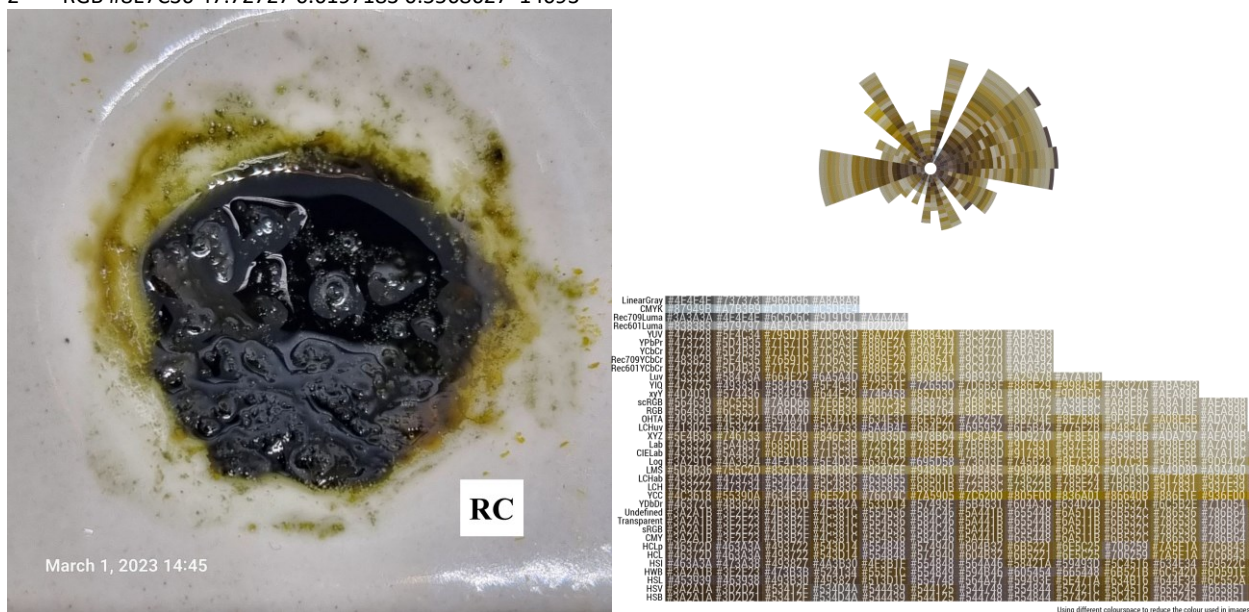
2 RGB #8C614C 19.6875 0.4571429 0.5490196 32779

COLOR QUANTIFICATION R STUDIO



colorspace hex hue sat value n

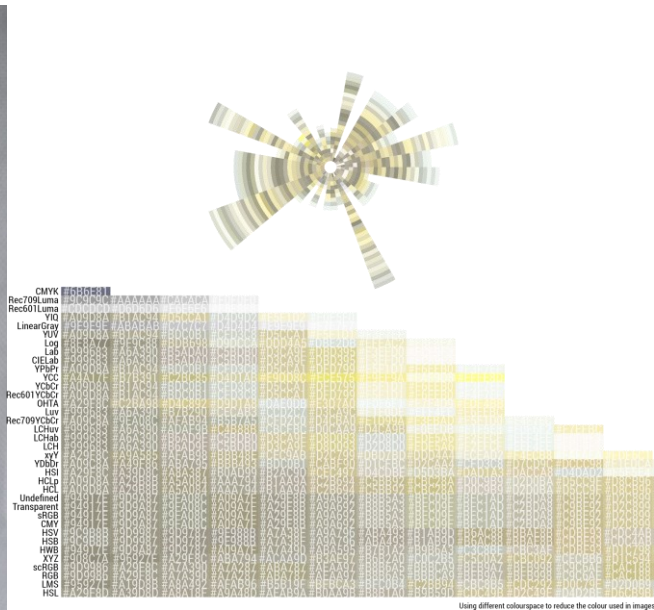
- 1 RGB #382904 42.69231 0.9285714 0.2196078 264907 → In a RGB color space, hex #382904 is composed of 22% red, 16.1% green and 1.6% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 26.8% magenta, 92.9% yellow and 78% black. It has a hue angle of 42.7 degrees, a saturation of 86.7% and a lightness of 11.8%. **Very dark orange [Brown tone]. NEGATIVE.** <https://www.colorhexa.com/382904>
- 2 RGB #8E7C36 47.72727 0.6197183 0.5568627 14093



colorspace hex hue sat value n

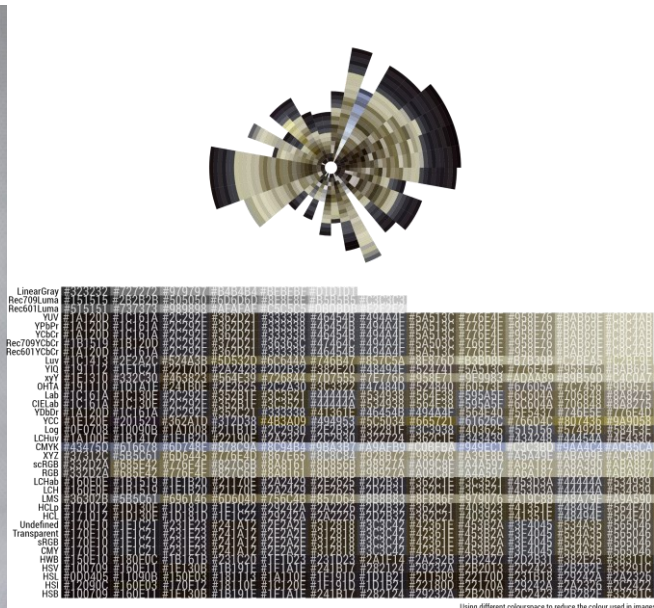
- 1 RGB #604E36 34.28571 0.4375000 0.3764706 327806 → In a RGB color space, hex #604e36 is composed of 37.6% red, 30.6% green and 21.2% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 18.8% magenta, 43.8% yellow and 62.4% black. It has a hue angle of 34.3 degrees, a saturation of 28% and a lightness of 29.4%. **Very dark desaturated orange. POSITIVE TRITERPENOID.** <https://www.colorhexa.com/604e36>
- 2 RGB #907D46 44.59459 0.5138889 0.5647059 48110
- 3 RGB #9D9372 46.04651 0.2738854 0.6156863 32541
- 4 RGB #AAA392 42.50000 0.1411765 0.6666667 31343

COLOR QUANTIFICATION R STUDIO



colorspace hex hue sat value n

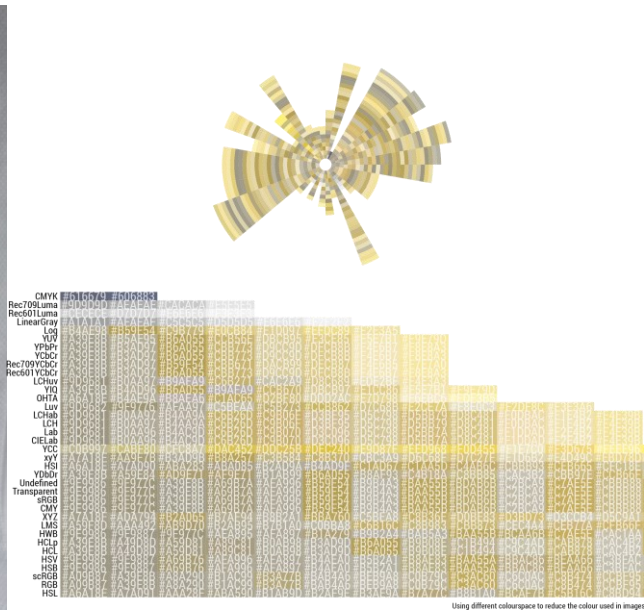
- 1 RGB #D3CA9E 49.81132 0.25118483 0.8274510 134922 → In a RGB color space, hex #d3ca9e is composed of 82.7% red, 79.2% green and 62% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 4.3% magenta, 25.1% yellow and 17.3% black. It has a hue angle of 49.8 degrees, a saturation of 37.6% and a lightness of 72.4%. **Slightly desaturated yellow. POSITIVE.** <https://www.colorhexa.com/d3ca9e>
- 2 RGB #A7A491 51.81818 0.13173653 0.6549020 121584
- 3 RGB #9E9A86 50.00000 0.15189873 0.6196078 75425
- 4 RGB #BFB99C 49.71429 0.18324607 0.7490196 70327
- 5 RGB #EAE9D9 56.47059 0.07264957 0.9176471 23513
- 6 RGB #ECE2AF 50.16393 0.25847458 0.9254902 21693
- 7 RGB #F3EFCB 54.00000 0.16460905 0.9529412 4336



colorspace hex hue sat value n

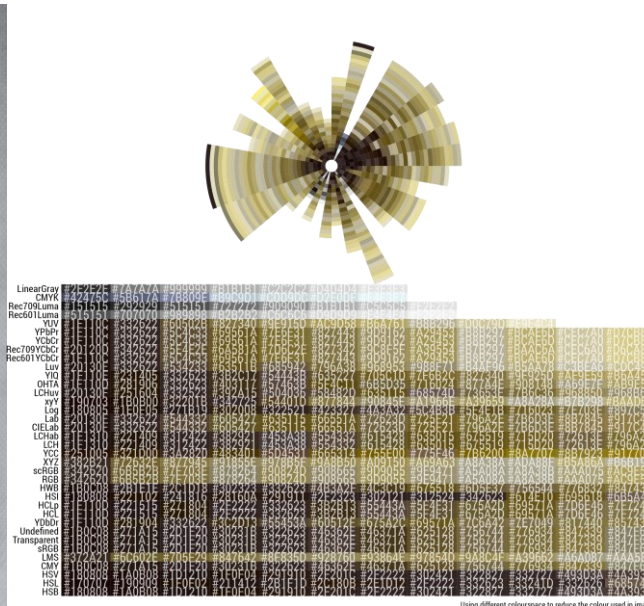
- 1 RGB #443E33 38.82353 0.2500000 0.2666667 253419 → In a RGB color space, hex #443e33 is composed of 26.7% red, 24.3% green and 20% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 8.8% magenta, 25% yellow and 73.3% black. It has a hue angle of 38.8 degrees, a saturation of 14.3% and a lightness of 23.3%. **Very dark grayish orange. NEGATIVE.** <https://www.colorhexa.com/443e33>
- 2 RGB #B6B29B 51.11111 0.1483516 0.7137255 134977
- 3 RGB #BEB9A0 50.00000 0.1578947 0.7450980 101984
- 4 RGB #C4BFA6 50.00000 0.1530612 0.7686275 67891
- 5 RGB #968F76 46.87500 0.2133333 0.5882353 53931
- 6 RGB #D9D5BC 51.72414 0.1336406 0.8509804 3398

COLOR QUANTIFICATION R STUDIO



colorspace hex hue sat value n

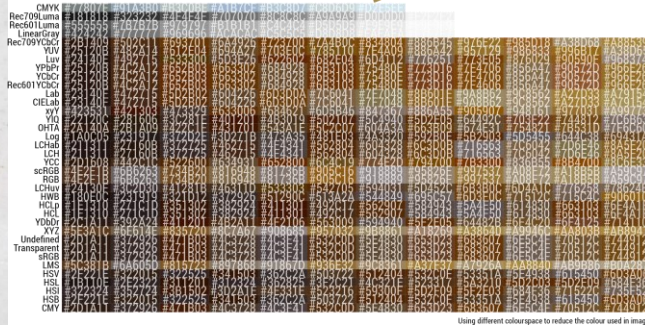
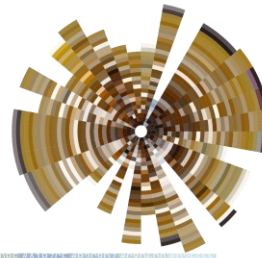
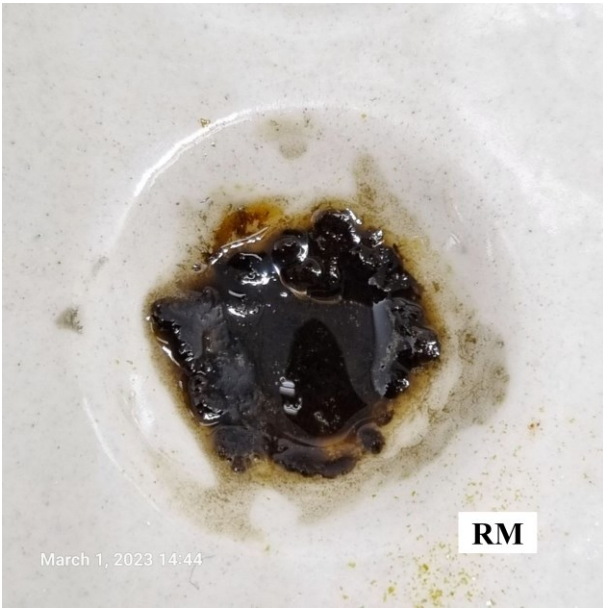
- 1 RGB #FAAA97 47.50000 0.1371429 0.6862745 297948 → In a RGB color space, hex #faaa97 is composed of 68.6% red, 66.7% green and 59.2% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 2.9% magenta, 13.7% yellow and 31.4% black. It has a hue angle of 47.5 degrees, a saturation of 13% and a lightness of 63.9%. **Dark grayish yellow. NEGATIVE.** <https://www.colorhexa.com/faaa97>
- 2 RGB #BFB8A2 45.51724 0.1518325 0.7490196 114526
- 3 RGB #C9B573 46.04651 0.4278607 0.7882353 93871
- 4 RGB #D5C180 45.88235 0.3990610 0.8352941 93299
- 5 RGB #ACA280 46.36364 0.2558140 0.6745098 60941
- 6 RGB #D6C898 46.45161 0.2897196 0.8392157 49485
- 7 RGB #EAD99B 47.08861 0.3376068 0.9176471 47638
- 8 RGB #EFE4C1 45.65217 0.1924686 0.9372549 12692



colorspace hex hue sat value n

- 1 RGB #B3AE95 50.00000 0.1675978 0.7019608 241731 → In a RGB color space, hex #b3ae95 is composed of 70.2% red, 68.2% green and 58.4% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 2.8% magenta, 16.8% yellow and 29.8% black. It has a hue angle of 50 degrees, a saturation of 16.5% and a lightness of 64.3%. **Grayish yellow. NEGATIVE.** <https://www.colorhexa.com/b3ae95>
- 2 RGB #BEB99E 50.62500 0.1684211 0.7450980 179146
- 3 RGB #4A3E28 38.82353 0.4594595 0.2901961 166805
- 4 RGB #A29561 48.00000 0.4012346 0.6352941 92918
- 5 RGB #C1B477 49.45946 0.3834197 0.7568627 34495
- 6 RGB #D2C687 50.40000 0.3571429 0.8235294 26161
- 7 RGB #C9C2A1 49.50000 0.1990050 0.7882353 22501
- 8 RGB #E0DBBF 50.90909 0.1473214 0.8784314 13243

COLOR QUANTIFICATION R STUDIO

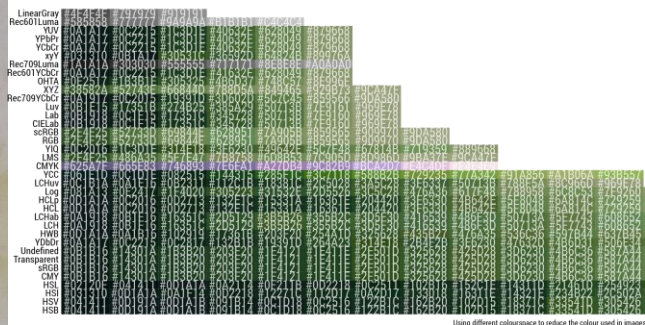
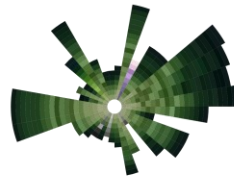
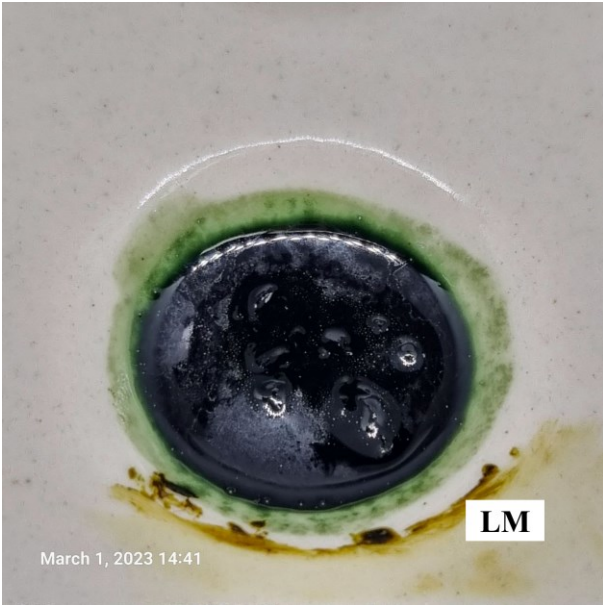


colorspace hex hue sat value n

1 RGB #634122 28.61538 0.65656566 0.3882353 129922 → In a RGB color space, hex #634122 is composed of 38.8% red, 25.5% green and 13.3% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 34.3% magenta, 65.7% yellow and 61.2% black. It has a hue angle of 28.6 degrees, a saturation of 48.9% and a lightness of 26.1%. **Very dark orange [Brown tone]. POSITIVE TRITERPENOID.**

<https://www.colorhexa.com/634122>

- 2 RGB #9A7538 37.34694 0.63636364 0.6039216 55109
- 3 RGB #AB966E 39.34426 0.35672515 0.6705882 23835
- 4 RGB #918889 353.33333 0.06206897 0.5686275 10757
- 5 RGB #B4A690 36.66667 0.20000000 0.7058824 7430
- 6 RGB #C4AD93 31.83673 0.25000000 0.7686275 4223
- 7 RGB #F2EBE2 33.75000 0.06611570 0.9490196 2975
- 8 RGB #DOC1B3 28.96552 0.13942308 0.8156863 1549

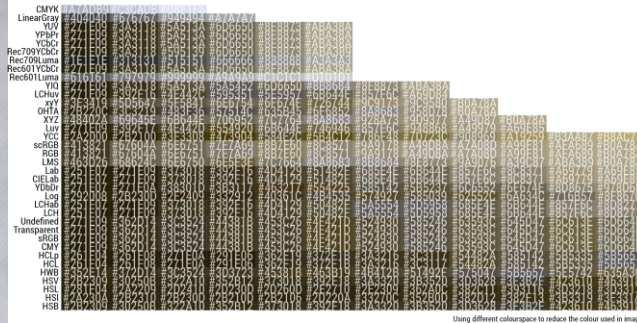
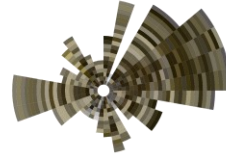


colorspace hex hue sat value n

1 RGB #4E6D3A 96.47059 0.4678899 0.4274510 129016 → In a RGB color space, hex #4e6d3a is composed of 30.6% red, 42.7% green and 22.7% blue. Whereas in a CMYK color space, it is composed of 28.4% cyan, 0% magenta, 46.8% yellow and 57.3% black. It has a hue angle of 96.5 degrees, a saturation of 30.5% and a lightness of 32.7%. **Very dark desaturated green. POSITIVE STEROID.** <https://www.colorhexa.com/4e6d3a>

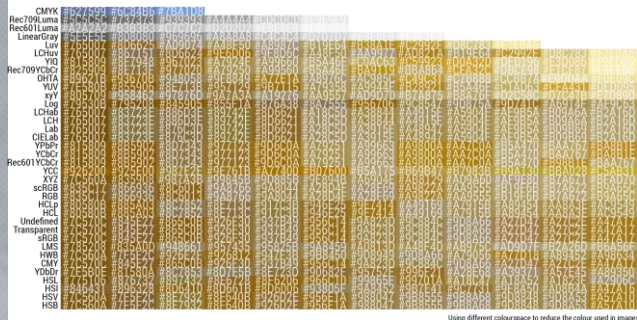
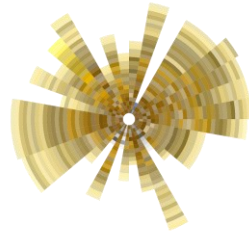
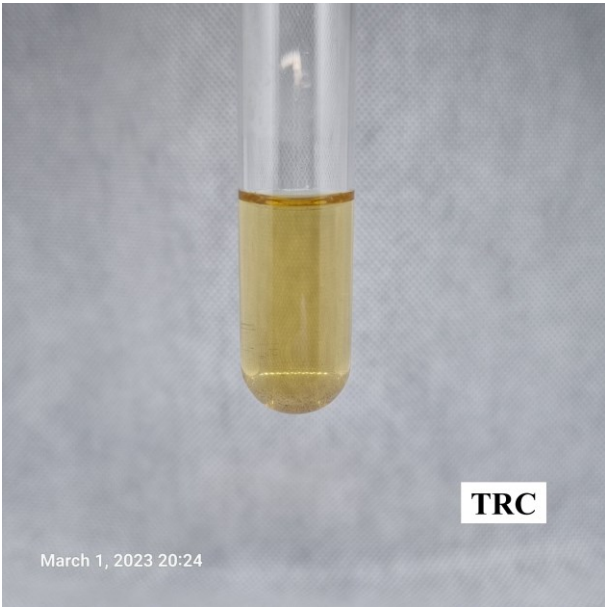
- 2 RGB #7D915E 83.52941 0.3517241 0.5686275 107497
- 3 RGB #909A70 74.28571 0.2727273 0.6039216 97687

COLOR QUANTIFICATION R STUDIO



colorspace hex hue sat value n

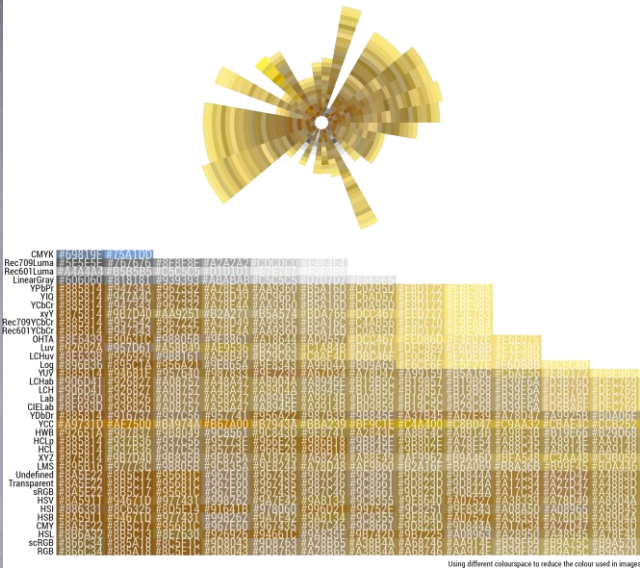
- 1 RGB #534C36 45.51724 0.3493976 0.3254902 651284 → In a RGB color space, hex #534c36 is composed of 32.5% red, 29.8% green and 21.2% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 8.4% magenta, 34.9% yellow and 67.5% black. It has a hue angle of 45.5 degrees, a saturation of 21.2% and a lightness of 26.9%. **Very dark grayish yellow. POSITIVE TANNIN.** <https://www.colorhexa.com/534c36>
- 2 RGB #8C846F 43.44828 0.2071429 0.5490196 108153
- 3 RGB #9B9379 45.88235 0.2193548 0.6078431 83
- 4 RGB #A8A18C 45.00000 0.1666667 0.6588235 80



colorspace hex hue sat value n

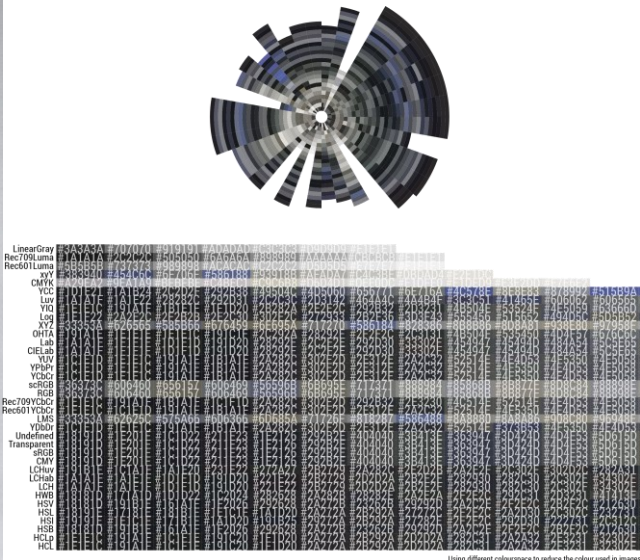
- 1 RGB #AB975B 45.00000 0.4678363 0.6705882 742595 → In a RGB color space, hex #ab975b is composed of 67.1% red, 59.2% green and 35.7% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 11.7% magenta, 46.8% yellow and 32.9% black. It has a hue angle of 45 degrees, a saturation of 32.3% and a lightness of 51.4%. **Dark moderate yellow. NEGATIVE TANNIN.** <https://www.colorhexa.com/ab975b>
- 2 RGB #9B7F42 41.12360 0.5741935 0.6078431 168439
- 3 RGB #CCBA8B 43.38462 0.3186275 0.8000000 71946
- 4 RGB #C2AC68 45.33333 0.4639175 0.7607843 44223
- 5 RGB #846126 37.65957 0.7121212 0.5176471 37888
- 6 RGB #E3D390 48.43373 0.3656388 0.8901961 3788
- 7 RGB #FEF5C0 51.29032 0.2440945 0.9960784 921

COLOR QUANTIFICATION R STUDIO



colorspace hex hue sat value n

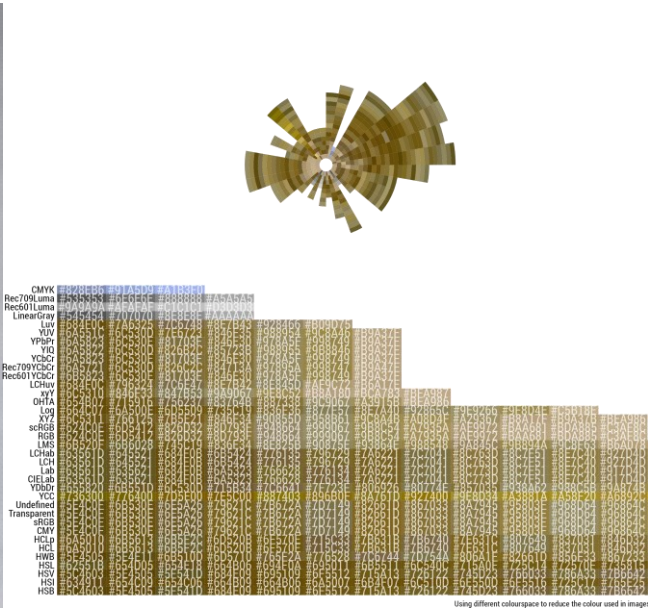
- 1 RGB #AB9353 43.63636 0.5146199 0.6705882 614300 → In a RGB color space, hex #ab9353 is composed of 67.1% red, 57.6% green and 32.5% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 14% magenta, 51.5% yellow and 32.9% black. It has a hue angle of 43.6 degrees, a saturation of 34.6% and a lightness of 49.8%. **Dark moderate orange. NEGATIVE TANNIN.** <https://www.colorhexa.com/ab9353>
- 2 RGB #9D8043 40.66667 0.5732484 0.6156863 280815
- 3 RGB #DAC266 47.58621 0.5321101 0.8549020 34716
- 4 RGB #875F22 36.23762 0.7481481 0.5294118 19449
- 5 RGB #C5AC55 46.60714 0.5685279 0.7725490 13908
- 6 RGB #EDD677 48.30508 0.4978903 0.9294118 1012



colorspace hex hue sat value n

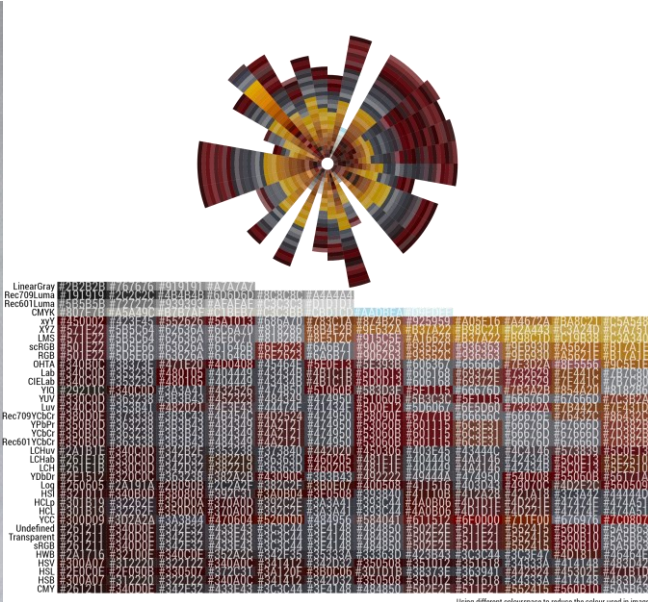
- 1 RGB #3D3F43 220.00000 0.08955224 0.2627451 658478 → In a RGB color space, hex #3d3f43 is composed of 23.9% red, 24.7% green and 26.3% blue. Whereas in a CMYK color space, it is composed of 9% cyan, 6% magenta, 0% yellow and 73.7% black. It has a hue angle of 220 degrees, a saturation of 4.7% and a lightness of 25.1%. **Very dark grayish blue. POSITIVE TANNIN.** <https://www.colorhexa.com/3d3f43>
- 2 RGB #85868B 230.00000 0.04316547 0.5450980 53290
- 3 RGB #8B877F 40.00000 0.08633094 0.5450980 17123
- 4 RGB #888984 72.00000 0.03649635 0.5372549 12079
- 5 RGB #9C9B96 50.00000 0.03846154 0.6117647 1622
- 6 RGB #8D8C84 53.33333 0.06382979 0.5529412 851
- 7 RGB #88898E 230.00000 0.04225352 0.5568627 327
- 8 RGB #C8C7C2 50.00000 0.03000000 0.7843137 230

COLOR QUANTIFICATION R STUDIO



colorspace hex hue sat value n

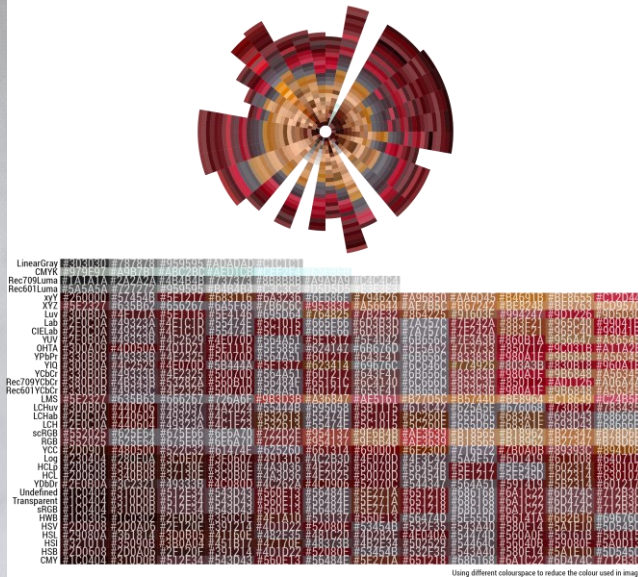
- 1 RGB #735B1E 43.05882 0.7391304 0.4509804 636595 → In a RGB color space, hex #735b1e is composed of 45.1% red, 35.7% green and 11.8% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 20.9% magenta, 73.9% yellow and 54.9% black. It has a hue angle of 43.1 degrees, a saturation of 58.6% and a lightness of 28.4%. **Dark orange [Brown tone]. NEGATIVE TANNIN.** <https://www.colorhexa.com/735b1e>
- 2 RGB #8D793F 44.61538 0.5531915 0.5529412 163303
- 3 RGB #9D8E5D 45.93750 0.4076433 0.6156863 25271
- 4 RGB #BDA885 37.50000 0.2962963 0.7411765 422
- 5 RGB #C3AF8C 38.18182 0.2820513 0.7647059 9



colorspace hex hue sat value n

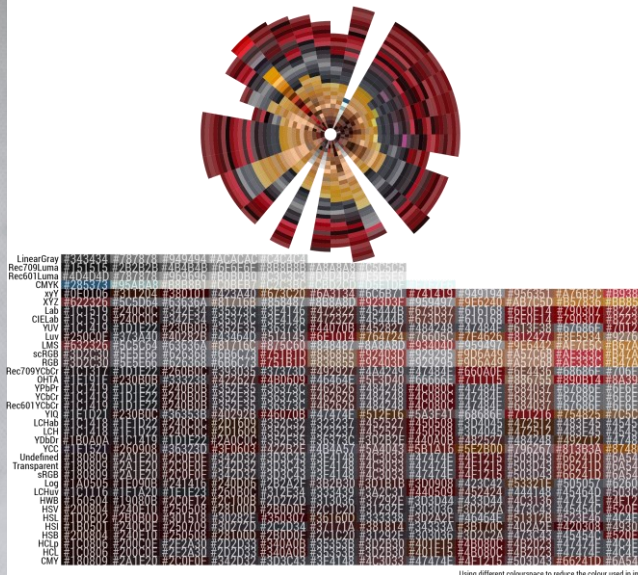
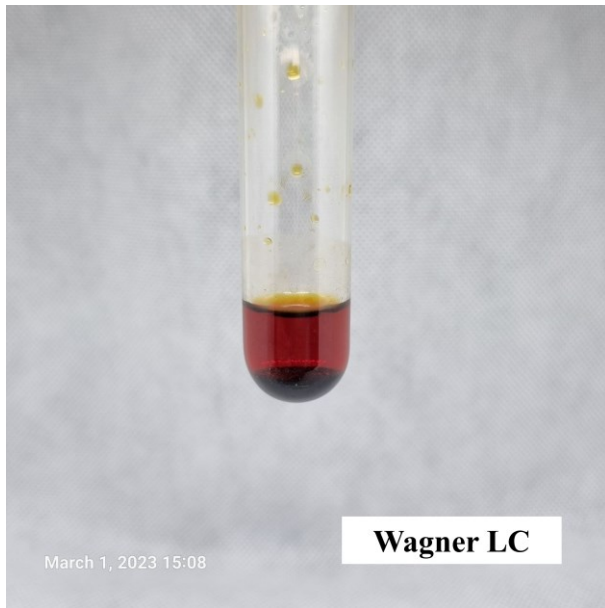
- 1 RGB #572124 356.66667 0.6206897 0.3411765 715381 → In a RGB color space, hex #572124 is composed of 34.1% red, 12.9% green and 14.1% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 62.1% magenta, 58.6% yellow and 65.9% black. It has a hue angle of 356.7 degrees, a saturation of 45% and a lightness of 23.5%. **Very dark red. NEGATIVE.** <https://www.colorhexa.com/572124>
- 2 RGB #A36927 31.93548 0.7607362 0.6392157 69250
- 3 RGB #C19737 41.73913 0.7150259 0.7568627 21278
- 4 RGB #B78E15 44.81481 0.8852459 0.7176471 10594
- 5 RGB #BF853E 33.02326 0.6753927 0.7490196 9097

COLOR QUANTIFICATION R STUDIO



colorspace hex hue sat value n

- 1 RGB #5E2528 356.84211 0.6063830 0.3686275 461902 → In a RGB color space, hex #5e2528 is composed of 36.9% red, 14.5% green and 15.7% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 60.6% magenta, 57.4% yellow and 63.1% black. It has a hue angle of 356.8 degrees, a saturation of 43.5% and a lightness of 25.7%. **Very dark red. NEGATIVE.** <https://www.colorhexa.com/5e2528>
- 2 RGB #A76343 19.20000 0.5988024 0.6549020 45834
- 3 RGB #B78D6B 26.84211 0.4153005 0.7176471 35788
- 4 RGB #C0794E 22.63158 0.5937500 0.7529412 14948
- 5 RGB #CD956D 25.00000 0.4682927 0.8039216 6316
- 6 RGB #E6B18D 24.26966 0.3869565 0.9019608 2044
- 7 RGB #F6BF9C 23.33333 0.3658537 0.9647059 168



colorspace hex hue sat value n

- 1 RGB #612527 358.00000 0.61855670 0.3803922 360525 → In a RGB color space, hex #612527 is composed of 38% red, 14.5% green and 15.3% blue. Whereas in a CMYK color space, it is composed of 0% cyan, 61.9% magenta, 59.8% yellow and 62% black. It has a hue angle of 358 degrees, a saturation of 44.8% and a lightness of 26.3%. **Very dark red. NEGATIVE.** <https://www.colorhexa.com/612527>
- 2 RGB #9B523C 13.89474 0.61290323 0.6078431 123480
- 3 RGB #929295 240.00000 0.02013423 0.5843137 18976
- 4 RGB #BF803D 30.92308 0.68062827 0.7490196 17342
- 5 RGB #B88E54 34.80000 0.54347826 0.7215686 9439
- 6 RGB #C49758 35.00000 0.55102041 0.7686275 5789
- 7 RGB #E9B389 26.25000 0.41201717 0.9137255 1291
- 8 RGB #F4C096 26.80851 0.38524590 0.9568627 158

COLOR QUANTIFICATION R STUDIO

Produced by using color quantification algorithm in the environment of R Studio written as follows.

RStudio/2023.03.1+446 © 2009-2023 Posit Software, PBC.

"Cherry Blossom" Release (6e31ffc3, 2023-05-09) for windows

```
library(purrr)
library(tidyverse)
library(magick)
library(scales)
library(imager)
library(extrafont)
library(ggplot2)
#font_import(paths = "C:/Users/ASUS/AppData/Local/Microsoft/Windows/Fonts")
loadfonts(device = "win")

im <- image_read("Crop_W_MD_A.jpg")
im %>%
  image_resize("600") %>%
  image_quantize(max=100)
colorspace_types()
get_colorPal <- function(im, n=8, cs="RGB"){
  tmp <-im %>% image_resize("600") %>%
  image_quantize(max=n, colorspace=cs) %>%
  magick2cimg() %>%
  RGBtoHSV() %>%
  as.data.frame(wide="c") %>%
  mutate(hex=hsv(rescale(c.1, from=c(0,360)),c.2,c.3),
    hue = c.1,
    sat = c.2,
    value = c.3) %>%
  count(hex, hue, sat,value, sort=T) %>%
  mutate(colorspace = cs)

  return(tmp %>% select(colorspace,hex,hue,sat,value,n))
}

get_colorPal(im)

get_colorPal(im) %>% pull(hex)

params <- list(im=list(im),
  n=30,
  cs=colorspace_types()[1:5])
my_colors <- pmap_df(params,get_colorPal)
my_colors %>%
  group_by(colorspace) %>%
  mutate(ypos=row_number(value)) %>%
  ggplot(aes(x=fct_infreq(colorspace),y=ypos, fill=hex)) +
  geom_tile() +
  geom_text(aes(label=hex), color="#ffffff",
    size=5, family="Roboto Condensed") +
  scale_fill_identity() +
  scale_y_continuous(breaks=NULL) +
  theme_void(base_family="Roboto Condensed") +
  coord_flip(ylim=c(1,12)) +
  theme(axis.text = element_text(color = "black", family="Roboto Condensed", hjust=1)) +
  labs(caption="Using different colourspace to reduce the colour used in images")
#ggsave("FMD_21.tiff", width = 10, height = 5)

#polarized
polar1 <-my_colors %>%
  group_by(colorspace) %>%
  mutate(ypos=row_number(hue)) %>%
  ggplot(aes(x=colorspace, y=ypos, fill=hex)) +
```


COLOR QUANTIFICATION R STUDIO

```
geom_tile() +  
scale_fill_identity() +  
scale_y_continuous(breaks=NULL) +  
theme_void() +  
coord_polar() +  
expand_limits(y=-1)
```

```
polar2 <-my_colors %>%  
group_by(colorspace) %>%  
mutate(ypos=row_number(hue)) %>%  
ggplot(aes(x=colorspace, y=hue, fill=hex,  
          height=sat*hue, width=value, alpha=value)) +  
geom_tile() +  
scale_fill_identity() +  
scale_y_continuous(breaks=NULL) +  
theme_void() +  
coord_polar() +  
expand_limits(y=0) +  
scale_alpha_continuous(guide="none")
```

```
polar3 <-my_colors %>%  
group_by(colorspace) %>%  
mutate(ypos=row_number(hue)) %>%  
ggplot(aes(x=colorspace, y=ypos, fill=hex, height=sat*value)) +  
geom_tile() +  
scale_fill_identity() +  
scale_y_continuous(breaks=NULL) +  
theme_void() +  
coord_polar() +  
expand_limits(y=0)
```

```
fig_polar <- image_graph(width=600, height=600)  
polar1  
#polar2  
#polar3  
dev.off()  
image_append(fig_polar)  
ggsave("W_MD_A2.tiff", width = 10, height = 5)
```