

# Nanopublication — Computational Image Analysis - AQC0552

by Arnaud Quercy · C Major9 - Research on Harmony - Variation 4 · 2024

## Claim 1: Computational Image Analysis - AQC0552

K-means clustering analysis [3] (10 colors) performed on artwork C Major9 - Research [1] on Harmony - Variation 4 (AQC0552) [2] by Arnaud Quercy [2] on 2026-02-04. Documentation includes: color families, texture roughness, brightness distribution, spatial coherence.

### CONTEXT

Analysis performed according to MMIDS-CMP-2025 [3] includes four metric categories: (1) Color distribution via k-means (10 colors), (2) Texture analysis using Haralick features, (3) Brightness and contrast measurements, (4) Spatial pattern characterization. Source image [5]: 3024x4032 pixels. Analysis date: 2026-02-04.

### COLOR ANALYSIS

Rank	Color Hex	%	Family	Name
1	D3B289	24.6	yellow-orange	tan
2	38321F	14.3	yellow-orange	darkslategray
3	E2C39A	13.8	yellow-orange	burlywood
4	9E6E13	10.6	yellow-orange	darkgoldenrod
5	C99A7B	10.4	orange	rosybrown
6	BE8B2C	6.4	yellow-orange	peru
7	B97665	6.1	red-orange	indianred
8	414456	5.6	violet	dusty mauve
9	5A503C	4.6	yellow-orange	dark brown
10	DCCECC	3.6	red-orange	lightgray

### Color Families:

Family	%
yellow-orange	74.3
orange	10.4
red-orange	9.7
violet	5.6

### TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.214
Mean Local Roughness	0.019
Roughness Uniformity	0.014
Edge Density	0.115
Mean Gradient Magnitude	0.187
Gradient Variance	0.029
Gradient Smoothness	0.088
Directional Coherence	0.029
Pattern Complexity	0.118
Pattern Repetition	1.0

### Metric Value

Detail Frequency Ratio	0.62
Spatial Variation	0.178
Texture Consistency	0.447

### BRIGHTNESS & CONTRAST ANALYSIS

### Metric Value

Mean Brightness	0.558
Brightness Variance	0.214
Brightness Uniformity	0.617
Brightness Skewness	-0.562
Brightness Entropy	7.326
Rms Contrast	0.214
Michelson Contrast	1.0
Weber Contrast	0.729
Mean Local Contrast	0.023
Contrast Uniformity	0.334
Dynamic Range	1.0
Effective Dynamic Range	0.627
Shadow Percentage	22.407
Midtone Percentage	31.657
Highlight Percentage	45.936
Shadow Clipping	0.0
Highlight Clipping	0.0
Tonal Balance	0.005
Fine Contrast	0.01
Medium Contrast	0.028
Coarse Contrast	0.051
Multiscale Contrast Ratio	0.196
Edge Contrast	0.187
Contrast Clustering	0.553

### SPATIAL DISTRIBUTION ANALYSIS

### Metric Value

Spatial Coherence	0.787
Color Clustering	0.644
Color Transition Smoothness	0.525
Transition Uniformity	0.806
Sharp Transition Ratio	0.1
Transition Directionality	0.028
Mean Saturation	0.438
Saturation Variance	0.044
Low Saturation Ratio	0.185
Medium Saturation Ratio	0.647
High Saturation Ratio	0.168
Saturation Clustering	0.999
Hue Concentration	0.88

Metric	Value
Complementary Balance	0.053
Analogous Dominance	0.946
Temperature Bias	0.894

## Methodology

This analysis employs standardized computational methods for objective image characterization. Color extraction uses k-means clustering algorithm. Texture analysis applies Haralick feature extraction. Brightness metrics include mean, variance, and distribution analysis. Spatial patterns are characterized through coherence and clustering measurements. All methods are deterministic and reproducible. Analysis performed by Multimodal Institute's computational imaging systems.

## REFERENCES

- [1] Arnaud Quercy (2024). C Major9 - Research on Harmony - Variation 4 — Catalog raisonné. <https://arnaudquercy.art/en/catalogue-raisonne/AQC0552.html>
- [2] Quercy, A. (2025). Untitled - Gallery. [https://artquamanima.com/en/artworks/2024/01/c-major9-research-on-harmony-variation-4\\_66w.html](https://artquamanima.com/en/artworks/2024/01/c-major9-research-on-harmony-variation-4_66w.html)

[3] Quercy, A. (2025). Computational Image Analysis Standard - MMIDS-CMP-2025 h  
<https://multimodal.institute/en/publications/2025/10/mmids-cmp-2025-computational-image-analysis-standard-dg1.html>

## EPISTEMIC PROFILE

Claim type	computational analysis
Voice	third person
Epistemic status	empirical measurement
Methodology	computational analysis
Certainty	high

## CHECKSUM (SHA-256)

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