

# Nanopublication — Computational Image Analysis - AQC0631

by Arnaud Quercy · Eb minor - Research on Harmony - Variation 3 · 2024

## Claim 1: Computational Image Analysis - AQC0631

K-means clustering analysis [3] (10 colors) performed on artwork Eb minor - Research [1] on Harmony - Variation 3 (AQC0631) [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]: 2305x3457 pixels. Analysis date: 2026-02-04.

### COLOR ANALYSIS

Rank	Color Hex	%	Family	Name
1	4F4D5E	18.6	violet	dusty mauve
2	64BC70	16.4	yellow-green	mediumseagreen
3	393541	16.3	violet	dusty mauve
4	5E5BA9	12.5	violet	slateblue
5	6B697A	9.8	violet	dusty mauve
6	51A15C	8.2	yellow-green	seagreen
7	8984BD	5.5	violet	dusty mauve
8	171813	5.4	gray	black
9	DBE4E6	3.8	white	gainsboro
10	85D491	3.5	yellow-green	darkseagreen
11	FAF9EC	0.3	yellow	white [Accent]
12	B3BEC4	0.3	blue	silver [Accent]
13	81A09F	0.3	blue-green	lightslategray [Accent]
14	9660AC	0.3	red-violet	mediumpurple [Accent]
15	C0C9D4	0.3	blue-violet	lightsteelblue [Accent]

#### Color Families:

Family	%
violet	62.7
yellow-green	28.2
gray	5.4
white	3.8
yellow	0.3
blue	0.3
blue-green	0.3
red-violet	0.3
blue-violet	0.3

#### Accent Colors:

Hex	Family	Name	Chroma
FAF9EC	yellow	white	6.3
B3BEC4	blue	silver	5.0
81A09F	blue-green	lightslategray	11.4
9660AC	red-violet	mediumpurple	48.2
C0C9D4	blue-violet	lightsteelblue	7.1

### TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.188
Mean Local Roughness	0.041
Roughness Uniformity	0.036
Edge Density	0.194
Mean Gradient Magnitude	0.328
Gradient Variance	0.148
Gradient Smoothness	0.0
Directional Coherence	0.007
Pattern Complexity	0.112
Pattern Repetition	1.0
Detail Frequency Ratio	0.641
Spatial Variation	0.104
Texture Consistency	0.72

### BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.42
Brightness Variance	0.188
Brightness Uniformity	0.552
Brightness Skewness	0.435
Brightness Entropy	7.502
Rms Contrast	0.188
Michelson Contrast	1.0
Weber Contrast	0.693
Mean Local Contrast	0.044
Contrast Uniformity	0.207
Dynamic Range	1.0
Effective Dynamic Range	0.576
Shadow Percentage	34.986
Midtone Percentage	57.383
Highlight Percentage	7.631
Shadow Clipping	0.068
Highlight Clipping	0.075
Tonal Balance	0.193
Fine Contrast	0.022
Medium Contrast	0.056
Coarse Contrast	0.087
Multiscale Contrast Ratio	0.257

Metric	Value
Edge Contrast	0.328
Contrast Clustering	0.28

## SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.704
Color Clustering	0.663
Color Transition Smoothness	0.141
Transition Uniformity	0.017
Sharp Transition Ratio	0.1
Transition Directionality	0.007
Mean Saturation	0.342
Saturation Variance	0.028
Low Saturation Ratio	0.422
Medium Saturation Ratio	0.563
High Saturation Ratio	0.015
Saturation Clustering	0.997
Hue Concentration	0.402
Complementary Balance	0.016
Analogous Dominance	0.523
Temperature Bias	-0.427

## 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). Eb minor - Research on Harmony - Variation 3 — Catalog raisonné. <https://arnaudquercy.art/en/catalogue-raisonne/AQC0631.html>
- [2] Quercy, A. (2025). Untitled - Gallery. [https://artquamanima.com/en/artworks/2024/01/eb-minor-research-on-harmony-variation-3\\_71m.html](https://artquamanima.com/en/artworks/2024/01/eb-minor-research-on-harmony-variation-3_71m.html)
- [3] Quercy, A. (2025). Computational Image Analysis Standard - MMIDS-CMP-2025 h <https://multimodal.institute/en/publications/2025/11/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)

443d3b6416b1188c8c37763f10d0678265a4ff21176c04af17f85f78cee54885

Artist	Arnaud Quercy
Date	2024
Collection	Synesthetic Explorations
Certificate	20240615-0127
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