

# Nanopublication — Computational Image Analysis - AQC0587

by Arnaud Quercy · C# minor - Research on Harmony · 2024

## Claim 1: Computational Image Analysis - AQC0587

K-means clustering analysis [3] (10 colors) performed on artwork C# minor - Research [1] on Harmony (AQC0587) [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]: 2728x3637 pixels. Analysis date: 2026-02-04.

### COLOR ANALYSIS

Rank	Color Hex	%	Family	Name
1	9FC5CC	19.5	blue-green	lightsteelblue
2	7FB4D1	16.8	blue	skyblue
3	649EBB	14.5	blue	cadetblue
4	154759	12.6	blue	darkslategray
5	68C4C1	8.8	green	mediumaquamarine
6	C8D6D6	7.6	blue-green	lightgray
7	1B1718	7.2	gray	black
8	F0C42C	5.2	yellow-orange	goldenrod
9	3E7C9C	5.2	blue	steelblue
10	B9A67D	2.7	yellow-orange	ochre
11	8E6425	0.3	orange	burnt sienna [Accent]
12	C8BE6B	0.3	yellow	ochre [Accent]
13	748648	0.3	yellow-green	olivedrab [Accent]
14	EFE2E9	0.3	red-violet	white [Accent]

### Color Families:

Family	%
blue	49.1
blue-green	27.1
green	8.8
yellow-orange	7.9
gray	7.2
orange	0.3
yellow	0.3
yellow-green	0.3
red-violet	0.3

### Accent Colors:

Hex	Family	Name	Chroma
8E6425	orange	burnt sienna	42.4
C8BE6B	yellow	ochre	43.7
748648	yellow-green	olivedrab	35.4
EFE2E9	red-violet	white	6.3

### TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.216
Mean Local Roughness	0.013
Roughness Uniformity	0.028
Edge Density	0.035
Mean Gradient Magnitude	0.101
Gradient Variance	0.07
Gradient Smoothness	0.0
Directional Coherence	0.184
Pattern Complexity	0.108
Pattern Repetition	1.0
Detail Frequency Ratio	0.639
Spatial Variation	0.117
Texture Consistency	0.552

### BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.571
Brightness Variance	0.216
Brightness Uniformity	0.621
Brightness Skewness	-1.021
Brightness Entropy	7.189
Rms Contrast	0.216
Michelson Contrast	1.0
Weber Contrast	0.726
Mean Local Contrast	0.014
Contrast Uniformity	0.0
Dynamic Range	1.0
Effective Dynamic Range	0.702
Shadow Percentage	19.593
Midtone Percentage	35.861
Highlight Percentage	44.545
Shadow Clipping	0.034
Highlight Clipping	0.011
Tonal Balance	0.0
Fine Contrast	0.007
Medium Contrast	0.018
Coarse Contrast	None
Multiscale Contrast Ratio	1.0
Edge Contrast	0.101

Metric	Value
Contrast Clustering	0.448

## SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.77
Color Clustering	0.576
Color Transition Smoothness	0.729
Transition Uniformity	0.5
Sharp Transition Ratio	0.1
Transition Directionality	0.194
Mean Saturation	0.425
Saturation Variance	0.051
Low Saturation Ratio	0.338
Medium Saturation Ratio	0.491
High Saturation Ratio	0.171
Saturation Clustering	0.999
Hue Concentration	0.739
Complementary Balance	0.033
Analogous Dominance	0.866
Temperature Bias	-0.736

## 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# minor - Research on Harmony* — Catalog raisonné. <https://arnaudquercy.art/en/catalogue-raisonne/AQC0587.html>
- [2] Quercy, A. (2024). *C# minor - Research on Harmony - Gallery*. [https://artquamanima.com/en/artworks/2024/01/c-minor-research-on-harmony\\_6ki.html](https://artquamanima.com/en/artworks/2024/01/c-minor-research-on-harmony_6ki.html)
- [3] Quercy, A. (2025). *Computational Image Analysis Standard - MMIDS-CMP-2025* <https://multimodal.institute/en/publications/2025/11/mmids-cmp-2025-computational-image-analysis-standard-dg1.html>

## EPISTEMIC PROFILE

<b>Claim type</b>	computational analysis
<b>Voice</b>	third person
<b>Epistemic status</b>	empirical measurement
<b>Methodology</b>	computational analysis
<b>Certainty</b>	high

## CHECKSUM (SHA-256)

e1721d8386691caf76737147a1e92bfbe3af0080a998f55981a07d-c479631856

<b>Artist</b>	Arnaud Quercy
<b>Date</b>	2024
<b>Collection</b>	Synesthetic Explorations
<b>Certificate</b>	20240602-0083
<b>Asset code</b>	AQC0587
<b>Version</b>	1
<b>Published</b>	2026-02-03